

Appendix M Southern Palmdale Rail
Station (Rail Options 1 and 7)
Design Variation Impact
Analysis

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Southern Palmdale Rail Station (Rail Options 1 and 7) Design Variation Impact Analysis



High Desert Corridor Palmdale to Apple Valley (State Route 14 to State Route 18)

July 2014

PARSONS

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Contract No.: 07A3145
Caltrans Project No.: 0700000080 (EA: 16720)



Southern Palmdale Rail Station (Rail Options 1 and 7) Design Variation Impact Analysis

High Desert Corridor
Palmdale to Apple Valley (State Route 14 to State Route 18)
Project ID# 07-0000-0080

July 2014

STATE OF CALIFORNIA
Department of Transportation

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1 INTRODUCTION

1.1 Background

The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), proposes construction of the High Desert Corridor (HDC) as a new transportation facility in the High Desert region of Los Angeles and San Bernardino counties. The proposed 63-mile-long west-east facility would provide route continuity and relieve traffic congestion between State Route (SR) 18 and United States Highway 395 (US 395) in San Bernardino County with SR-14 in Los Angeles County. The project would comprise of one or more of the following major components, including highway, tollway, rail transit, bikeway, and recommendation for green energy facilities. Figures 1-1 and 1-2 are project vicinity and location maps, respectively. Caltrans is the lead agency for the project pursuant to both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

The proposed project would consist of one or more of the following major components: highway, tollway, rail transit, bikeway, and recommendation for green energy facilities. The actions for the proposed project would be (1) to provide route continuity between SR-14 in Los Angeles County and SR-18 and Interstate 15 (I-15) in San Bernardino County; and (2) to relieve traffic congestion between SR-18 and US 395 in San Bernardino County.

As part of the project development process, Caltrans is in the process of preparing a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) in compliance with CEQA and NEPA. Four build alternatives and a No Build Alternative were selected for evaluation in the Draft EIR/EIS. The build alternatives are briefly described below:

- The Freeway/Expressway Alternative (four physical variations) would combine a controlled-access freeway and an expressway. The alignment would generally follow Avenue P-8 in Los Angeles County and just south of El Mirage Road in San Bernardino County, then extend east to Air Expressway Road near I-15, and finally curve south, ending at Bear Valley Road.
 - Variation A – Near Palmdale, the freeway/expressway would dip slightly south of the main alignment, approximately between 15th Street East and Little Rock Wash.
 - Variation B – East of the county line, the freeway/expressway would flare out slightly south of the main alignment between Oasis Road and Coughlin Road. Variation B1 would be at the same location, but it would flare out a little less and pass through Krey Field.
 - Variation D – Near Lake Los Angeles, the freeway/expressway would dip south of the main alignment, just south of Avenue R approximately between 180th Street East and 230th Street East.
 - Variation E – Near Adelanto and Victorville, the freeway/expressway would dip south of the federal prison.

- The Freeway/Tollway Alternative would follow the same alignment as the Freeway/Expressway Alternative (including Variations A, B, D, and E), but the section between 100th Street East and US 395 would be operated as a tollway.
- The Freeway/Expressway Alternative with High-Speed Rail (HSR) Feeder/Connector Service would be the same as the Freeway/Expressway Alternative, but with an HSR Feeder/Connector Service between the cities of Palmdale and Victorville. The HSR Feeder/Connector Service would utilize proven steel wheel-on-steel track technology with design and operating speeds of 180 miles per hour (mph) and 160 mph, respectively.
- The Freeway/Tollway Alternative with HSR Feeder/Connector Service would be the same as the Freeway/Tollway Alternative, but it would include an HSR Feeder/Connector Service (as described above) between the cities of Palmdale and Victorville.

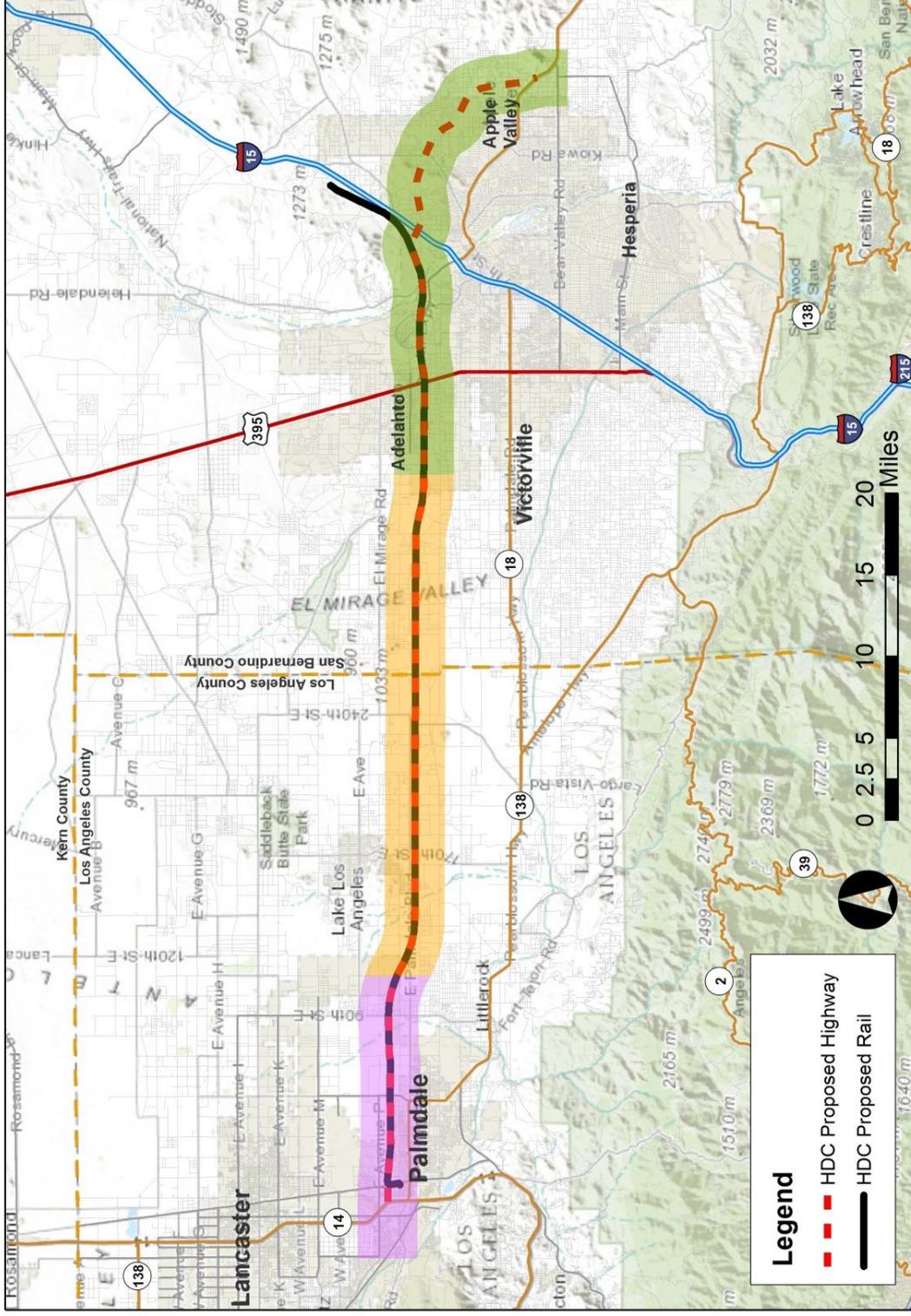
1.2 Purpose of this Report

During preparation of the Administrative Draft EIR/EIS, some design variations are being proposed. This report provides supplemental impact analysis to the proposed relocation of the Southern Palmdale Rail Station from the originally proposed location analyzed in the Administrative Draft EIR/EIS.

1.3 Methodology and Report Format

As a result of the proposed design variations, the technical studies prepared for various environmental resources were reviewed and additional technical memoranda were prepared to address the impacts to the resources as a supplement to the previously prepared impact analysis. No additional analysis was performed for the resources of the affected areas covered in the previous analysis. The technical memorandum for each resource prepared as part of this design variation scope is provided as an attachment to this report.

High Desert Corridor
 Southern Palmdale Rail Station (Rail Options 1 and 7)
 Design Variation Impact Analysis



ANTELOPE VALLEY Los Angeles County Lancaster, Palmdale	HIGH DESERT Los Angeles County–San Bernardino County Lake Los Angeles, El Mirage	VICTOR VALLEY San Bernardino County Adelanto, Victorville, Apple Valley, Hesperia
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Figure 1-2. Project Location Map

2 DESIGN VARIATION DESCRIPTION

2.1 Background

The HDC includes two HSR alternatives: (1) Freeway/Expressway Alternative with HSR Feeder/Connector Service; and (2) Freeway/Tollway Alternative with HSR Feeder/Connector Service. For the Palmdale rail connection, two rail connection approaches, Options 1 and 7, are proposed for connecting the HDC to the California HSR network (see Figure 2-1). Both options allow eastbound and westbound tracks on the HDC to connect to the California HSR network northbound and southbound tracks by using a combination of aerial and cut-and-cover or tunneling structures. The locations of these two platforms are subject to change as project design proceeds. Environmental effects resulting from the new platform locations will be addressed and incorporated into the environmental document.

Option 1

Option 1 would shift the existing Palmdale Transportation Center south approximately 800 feet and would require a cut-and-cover box and mined tunnels configuration. This option would encroach into the Air Force Plant 42 parking lot associated with the Palmdale Airport. The alignment would also cross under commercial development at Rancho Vista Boulevard and 15th Street East. This option would diverge outside of the HDC median and would require only two rail tracks to cross under the HDC westbound lanes, reducing the right-of-way (ROW) needed for the HDC.

Option 7

Option 7 would require a mix of aerial structures and tunneling, and it would allow the Palmdale Transportation Center to remain at its current location. This option would encroach into a small residential area near 10th Street East and would require a four-track section within the HDC median, necessitating a larger ROW section for the HDC in this area.

2.2 Proposed Design Variations

As part of the design refinement, the California High-Speed Rail Authority has proposed the modification to the “wye” (track splits) connections associated with HDC Rail Options 1 and 7 and parking associated with three station variations (for each rail option) as outlined below and graphically presented in Figures 2-2 to 2-7.

- Variation A – This variation would place the HDC and Metrolink station platforms on the west side of SR-14 inside the Union Pacific Railroad (UPRR) ROW. The HDC platforms would be approximately 20 feet in width and 1,400 feet in length. The Metrolink platforms would be approximately 50 feet in width and 500 feet in length. The HDC platforms would extend from Transportation Drive to about 700 feet north of Avenue Q. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would provide 6,200 surface parking spaces. The existing Palmdale Transportation Center would be shifted approximately 800 feet south of its current location.
- Variation B – This variation is the same as Variation A with the following exceptions: (1) HDC station platforms would extend from just north of Avenue Q and immediately north of Avenue

Q3; and (2) this option would not affect the location of the existing Palmdale Transportation Center.

- Variation C –This option would place the HDC and Metrolink station platforms on the west side of Clock Tower Plaza East and outside of the UPRR ROW. The HDC platforms would extend from East Avenue Q to East Avenue Q4. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would provide 6,200 parking spaces (via an above-grade structure). This option would not affect the location of the existing Palmdale Transportation Center.

Station location variations are the same for Rail Options 1 and 7, although the “wye” connections differ, as well as the corresponding details on location and tunnel/aerial configurations.

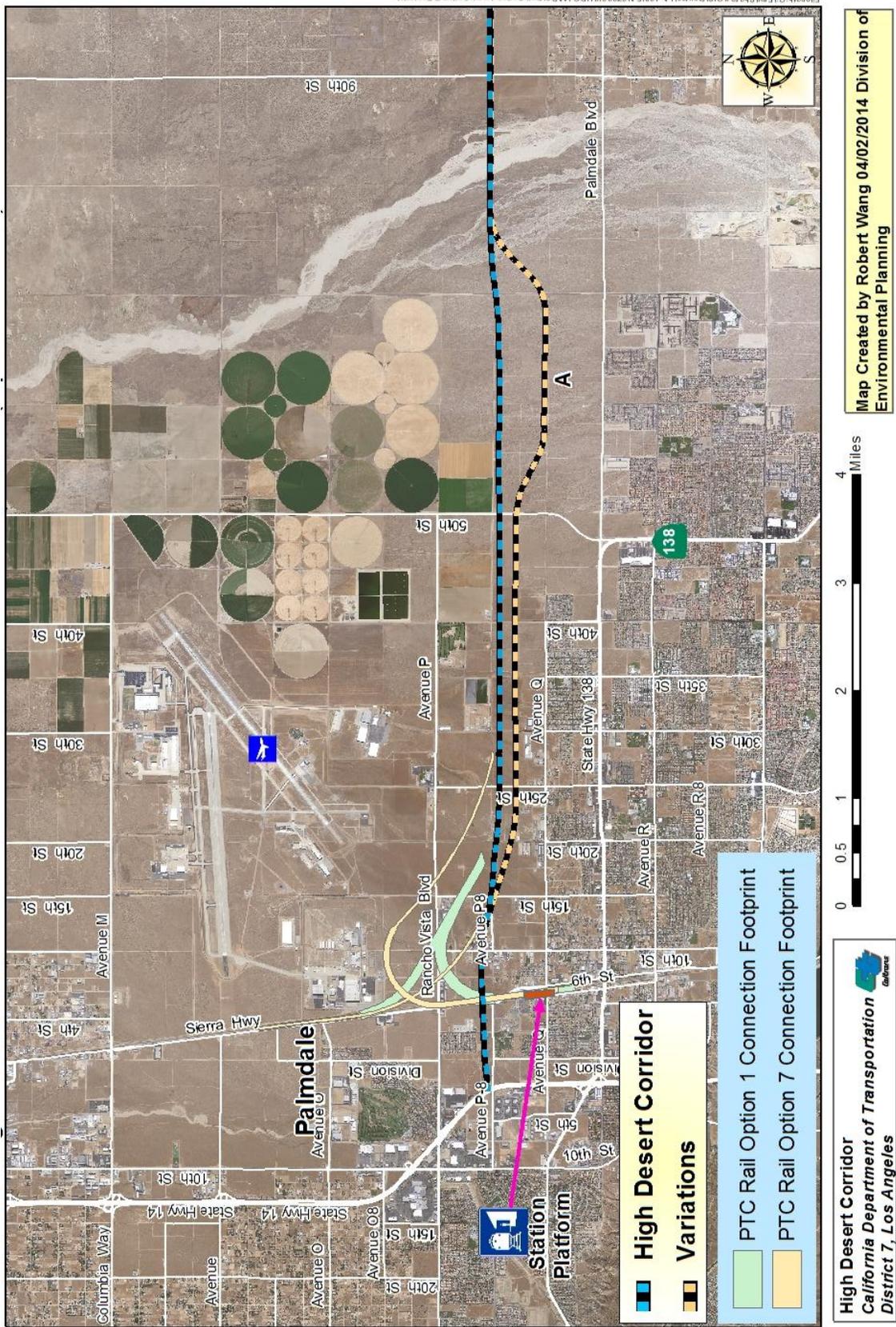


Figure 2-1. Palmdale Rail Connection Options 1 and 7

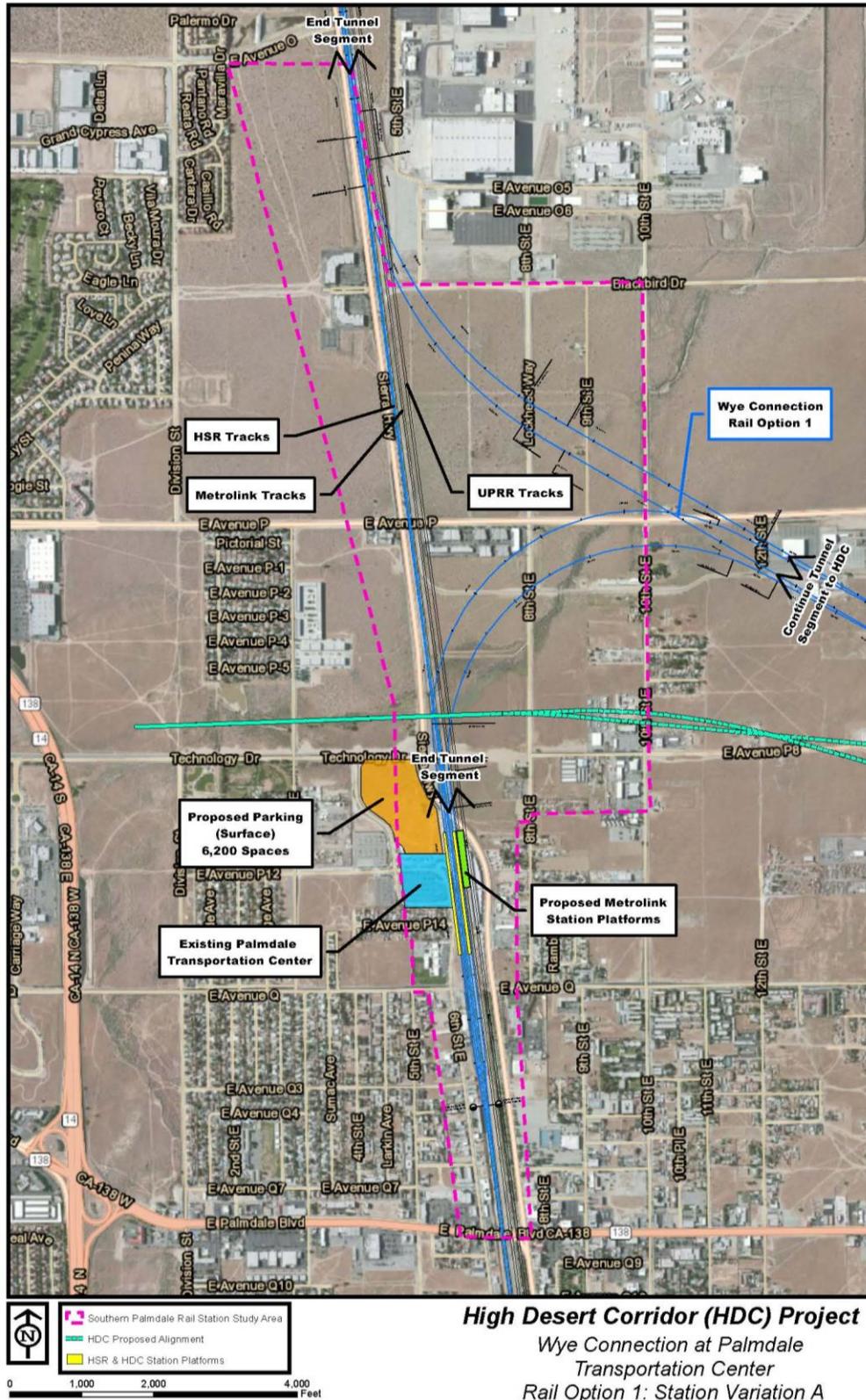


Figure 2-2. HDC Rail Option 1 Variation A

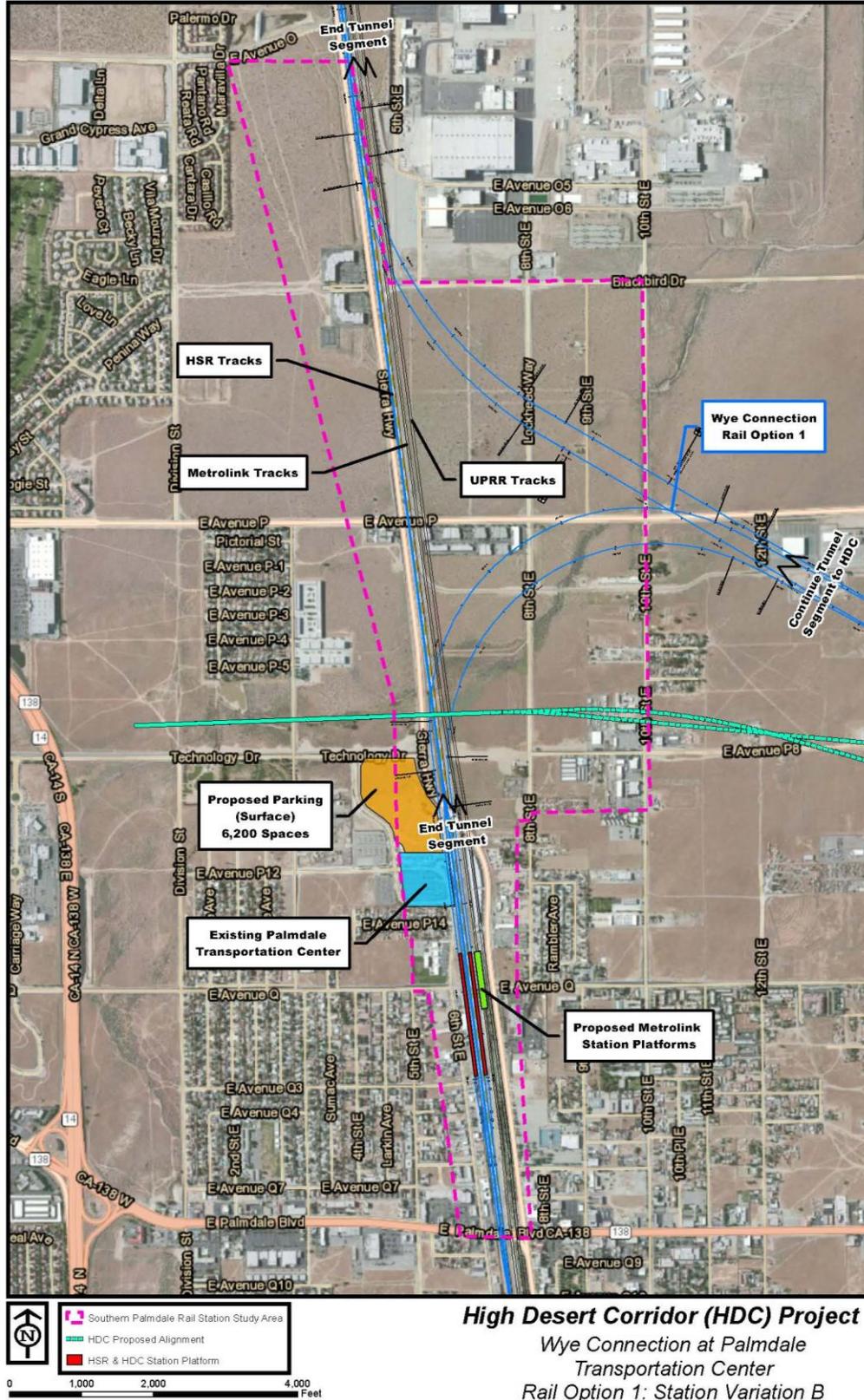


Figure 2-3. HDC Rail Option 1 Variation B

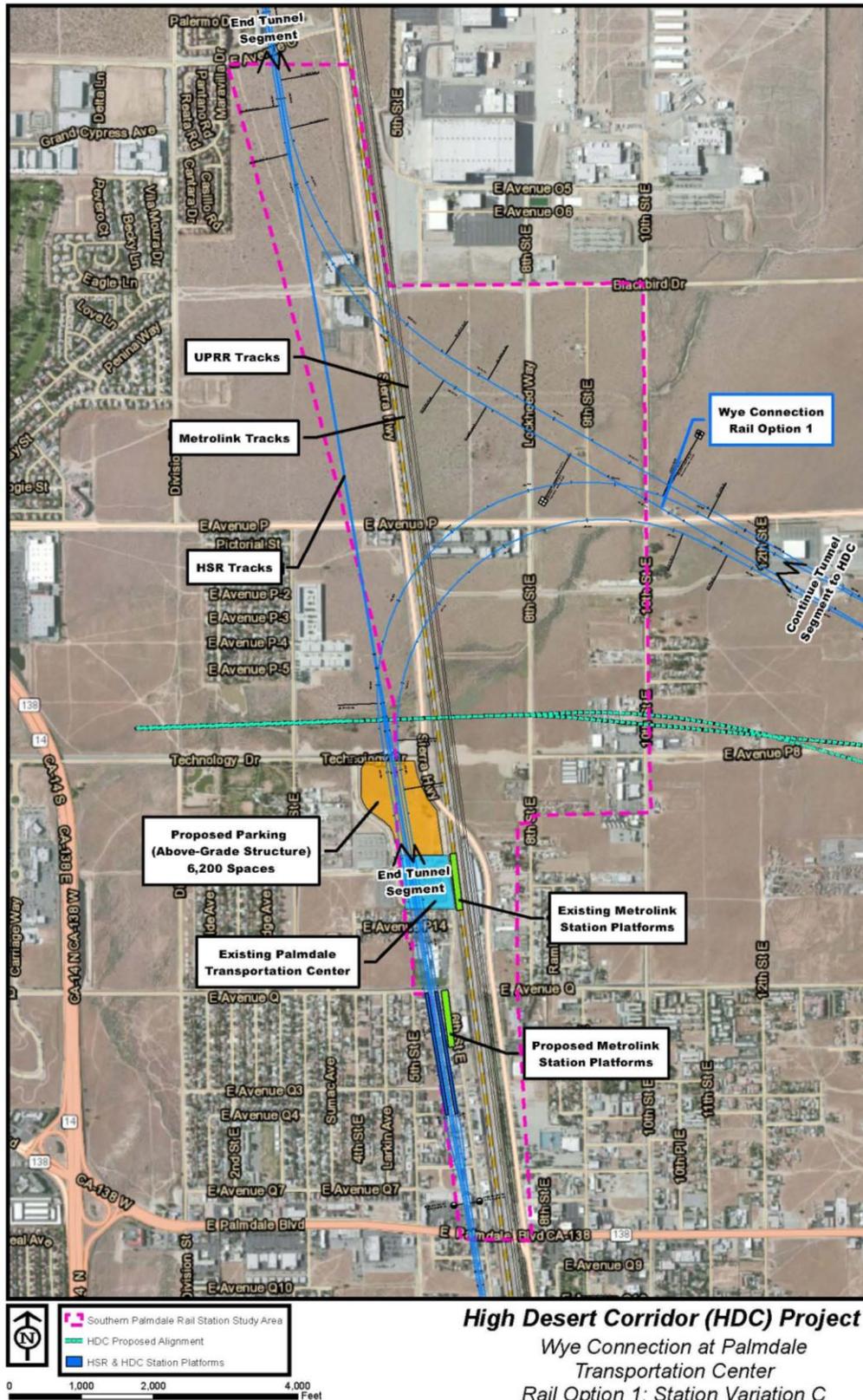
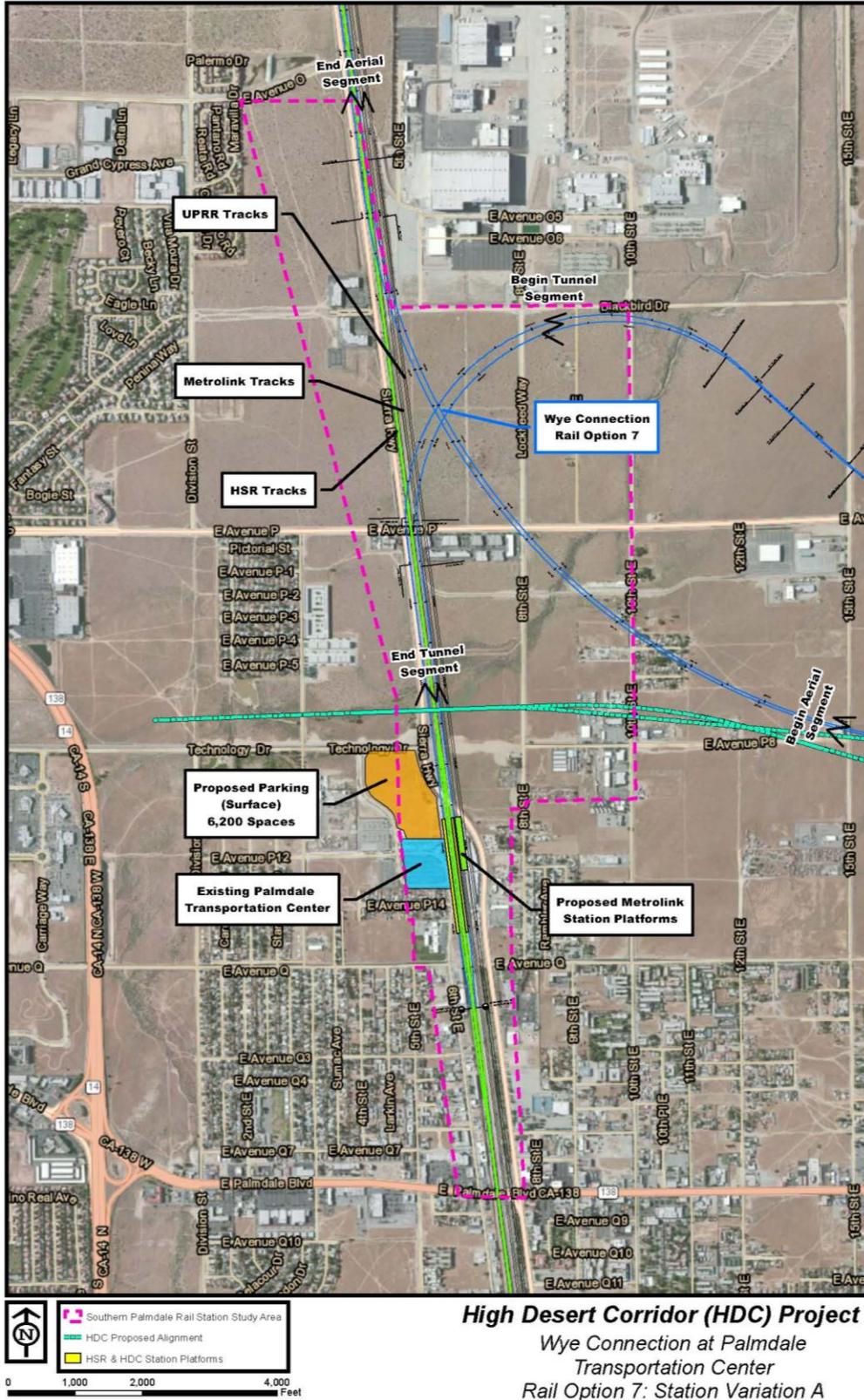


Figure 2-4. HDC Rail Option 1 Variation C



High Desert Corridor (HDC) Project
Wye Connection at Palmdale
Transportation Center
Rail Option 7: Station Variation A

Figure 2-5. HDC Rail Option 7 Variation A

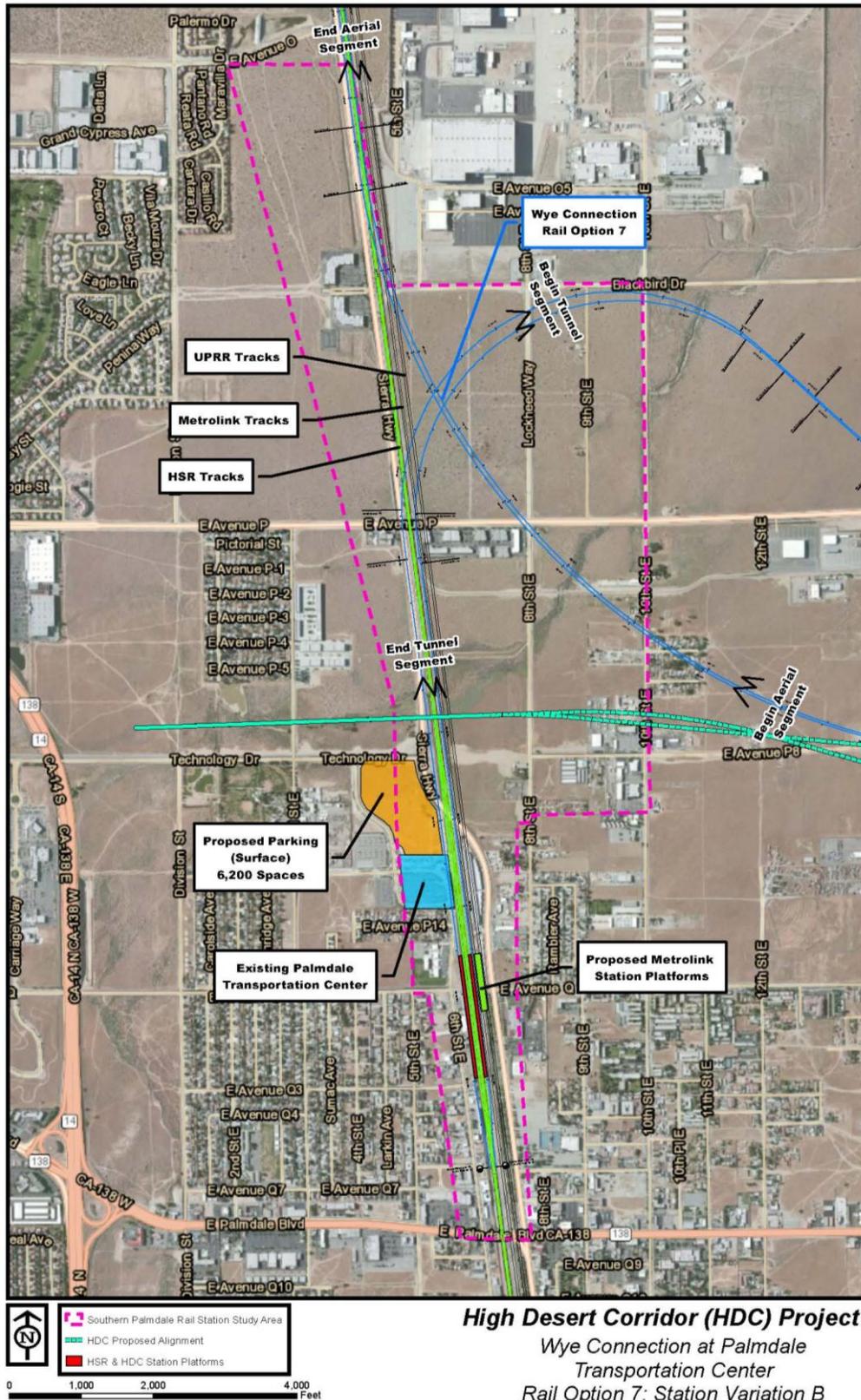


Figure 2-6. HDC Rail Option 7 Variation B

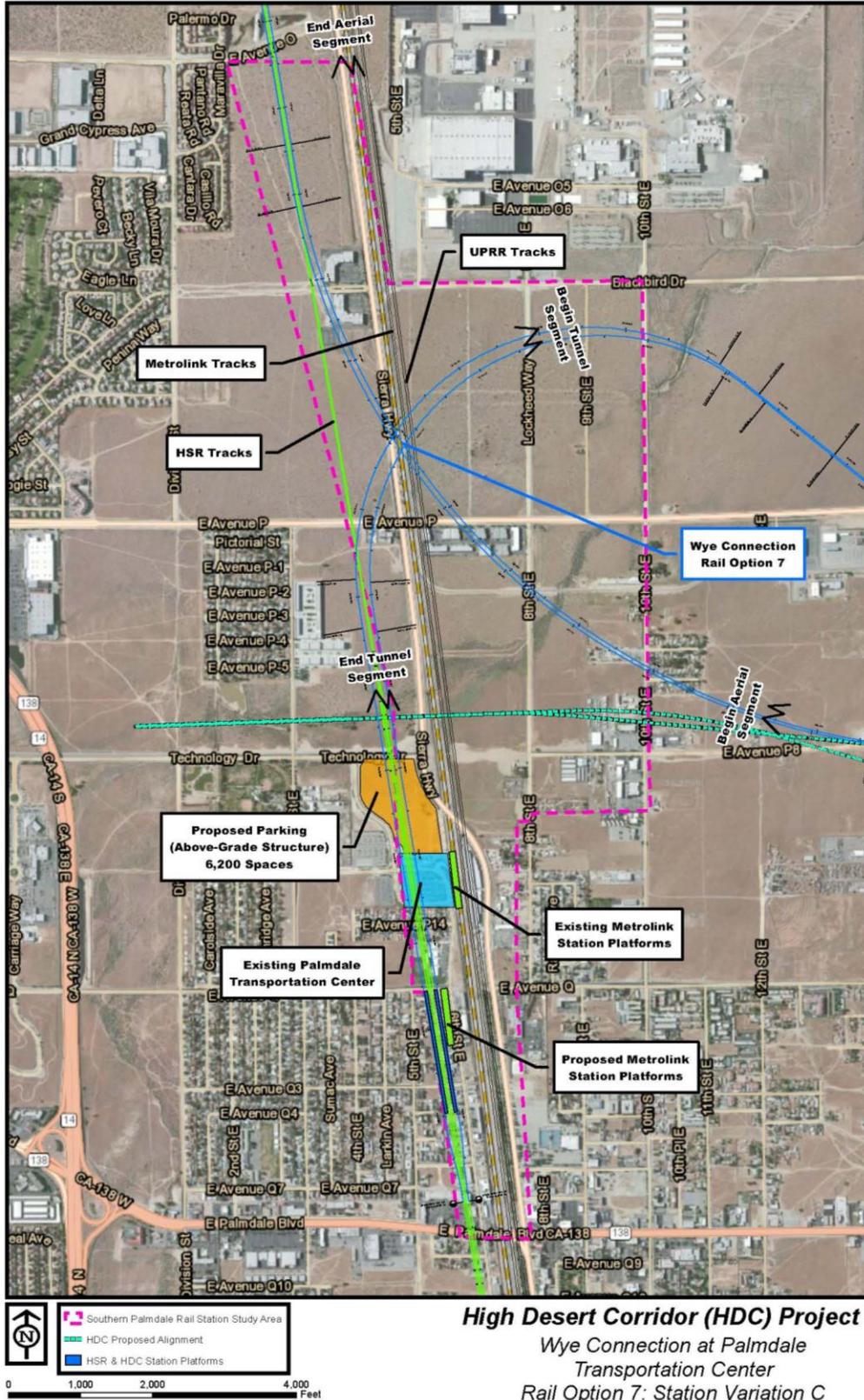


Figure 2-7. HDC Rail Option 7 Variation C

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3 IMPACT ANALYSIS

Review of the current technical studies conducted as part of the Administrative Draft EIR/EIS for the HDC Project indicated that impact analysis under the original scope of the following resources does not cover the potentially affected area caused by the proposed design variations of the Southern Palmdale Rail Station; therefore, additional analysis is required:

- Land Use and Community Impacts (including Utilities)
- Visual and Aesthetics
- Hydrology/Water Quality/Stormwater Runoff
- Hazardous Waste or Materials
- Noise
- Biological Resources

The attached technical memoranda present the impact analysis of the proposed design variations. The information presented in each memorandum will be incorporated into the Draft EIR/EIS before circulating for public review.

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ATTACHMENT

TECHNICAL MEMORANDA

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DATE: July 9, 2014
TO: File
FROM: Julio Rodriguez

SUBJECT: Land Use, Relocation, and Utilities Assessment for High Desert Corridor – Southern Palmdale Rail Station Design Variation

PURPOSE OF STUDY

The purpose of this document is to provide supplemental information to the High Desert Corridor’s (HDC) Community Impact Assessment (CIA) in order to evaluate potential land use, relocation, and utilities impacts as a result of a design variation introduced to the project, as described in the attached main report (Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis) (July 2014).

PROJECT LOCATION AND SETTING

The entire HDC project is located in the Mojave Desert of Southern California; however, the design variation analyzed in this technical memorandum is located entirely in Palmdale, California. Palmdale is primarily residential with some commercial buildings. In the area of the design variation, there are numerous commercial automotive facilities, residential housing, vacant lots, an industrial park, and a school.

RAIL OPTIONS EVALUATED

There are two rail options being evaluated with three proposed design variations. These are described in full detail in the main report (Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis) in Section 2, Design Variation Description.

ASSESSMENT METHOD

This supplemental analysis is performed in accordance with the methodology that was utilized in the *High Desert Corridor Project (HDC) Community Impact Assessment (CIA) (July 2014)*, as described in *Section 1.3, Assessment Process and Methodology Used*. The Palmdale study area that was analyzed for the supplemental analysis is illustrated in Figures 2-2 through 2-7 of the attached main report.

AFFECTED ENVIRONMENT

Land Use and Relocation

This study focuses on the Southern Palmdale rail station study area near the existing Palmdale Transportation Center and surrounding area.

According to the Land Use Element of the *City of Palmdale General Plan*, as well as the *Palmdale Transit Village Specific Plan*, land use categories within the study area include business park, commercial manufacturing, community commercial, downtown commercial, industrial, other jurisdiction (Los Angeles County), public facility, and specific plan. However, a large portion of the study area is comprised of industrial and business park land uses, although many of these lots are currently vacant. **Table 1** provides an allocation of general plan land uses within the southern Palmdale rail station study area. The total land area within the southern Palmdale rail station study area is approximately 1.53 square miles, or 981.77 acres.

Table 1 – Existing General Plan Land Use in Southern Palmdale Rail Station Study Area

Existing Land Use	Acres	Percentage
Business Park	154.71	27.8%
Commercial Manufacturing	14.79	2.7%
Community Commercial	5.89	1.1%
Industrial	304.71	54.7%
Other Jurisdiction	50.63	9.1%
Public Facility	19.00	3.4%
Specific Plan	7.25	1.3%
Total	556.98	100.0%

Source: City of Palmdale General Plan, 1993

The majority of the commercial manufacturing and industrial land uses are densely located within the northern portion of the study area. Towards the west of the study area, primary land uses include Business Park, commercial manufacturing, community commercial, and specific plan designations. To the south, major land uses include commercial manufacturing, community commercial, and public facility designations located north of East Palmdale Boulevard and east of State Route 14. To the north of the study area there is undeveloped land currently owned by the Los Angeles World Airports (LAWA), which is designated for industrial use according to the City of Palmdale general plan.

The western portion of the study area has a mixture of industrial and commercial uses, which includes one community retail center, *Plaza Del Centro*. Also, located within the central portion of the study area is *The Palmdale Transit Village Specific Plan* planning area, whose specific plan calls for the implementation of transit-oriented development (TOD), which includes the development of a transit center located north of Avenue Q and west of Sierra Highway. The land in the northern half of the study area is largely underdeveloped or vacant, and is located north of the proposed HDC alignment. Land use in the eastern portion of the study area primarily includes industrial, other jurisdiction (Los Angeles County), and public facility uses.

General plan land use in the area of Rail Options 1 and 7 (Wye Connection) primarily includes industrial and business park uses, as designated in the City of Palmdale’s general plan., Airport and public facility land uses are located towards the north of the study area, but are beyond the study area limits. In the area of the proposed Wye Connection, industrial and business park land uses are centralized along Sierra Highway, Technology Drive, and Rancho Vista Boulevard. Commercial and residential uses within the study area are less dominant near the proposed Wye Connection, and are spread out along Sierra Highway, mainly in the southern portion of the study area. There are several residences throughout the study area which are located on parcels that are designated with a general plan land use of Industrial or

Business Park. As such, no general plan residential land use was observed within the design variation study area. Although commercial uses are not dominant near the rail connection under both rail options, commercial uses in the vicinity consist of one commercial retail center located at the southwest corner of Sierra Highway and Rancho Vista Boulevard.

General plan land use designations indicate that the land adjacent to the proposed Wye Connection track split is designated for Industrial and Business Park uses. A majority of this land is currently vacant or undeveloped. This area mainly includes the land between Sierra Highway to the west and 10th Street East to the east, and Technology Drive to the south and Blackbird Drive to the north. Although a majority of the land in this vicinity is undeveloped, there are existing light manufacturing uses along Rancho Vista Boulevard, between Sierra Highway and 8th Street East, and from 12th Street East to 15th Street East. According to general plan land use designations, these areas are currently designated as Industrial.

Utilities

Public and private utilities in the design variation study area include electrical power, natural gas, telephone service, cable television services, and communication services. Electricity is provided by Southern California Edison (SCE) and the Southern California Gas Company provides gas service to Palmdale and the surrounding communities. Telephone services are provided by AT&T. Time Warner Cable provides services to Palmdale. The Palmdale Water District provides water in the general vicinity of the study area.

Sewer service to Palmdale is provided by the Los Angeles County Sanitation District Number 20. Water treatment is provided by the Palmdale Water District treatment plant. Six disposal companies that use the Antelope Valley Landfill for solid waste disposal serve the City of Palmdale.

Table 2 lists utility providers whose facilities either cross the study area or transportation improvements associated with construction of the proposed Wye Connection, parking, and relocation of the Metrolink rail platform. These service providers have utility lines or facilities in areas that would become the right-of-way for the HDC Project. No major power transmission lines, such as power line corridors or major natural gas lines were found within the study area.

Table 2 – Utilities within Palmdale Rail Platform Study Area

Utility Company	Category	Utility Description
MCI	Telecommunications	Telecommunications Line
City of Palmdale	Water	6-inch Water Line 8-inch Water Line (Abandoned) 12-inch Water Line 14-inch Water Line 16-inch Water Line 20-inch Water Line
City of Palmdale	Sewer	12-inch Sewer Lines 15-inch Sewer Lines 18-inch Sewer Line 24-inch Sewer Line 42-inch Sewer Line
AT&T	Telephone	Telecommunications Line
Level 3 Communications	Communications/Internet	Fiber-Optic Line Telecommunications Line
SCE	Electricity	Overhead Power Lines (approximately 66 kV to 500 kV) Lighting Conduits
Southern California Gas Company	Gas	4-inch Gas Lines
Sprint	Telephone	Fiber-Optic Line
Time Warner Cable	Cable	Telecommunications Line

ENVIRONMENTAL CONSEQUENCES

Land Use and Relocation

Potential impacts to land use may occur as a result of implementing the proposed design variation under rail options 1 and 7. Direct land use impacts may occur through the acquisition of right-of-way required for the construction of the project. Since the proposed Wye Connection is a new facility, existing land uses directly within the project footprint would be converted to transportation related use.

Indirect impacts as defined by CEQA are effects that are reasonably foreseeable and caused by a project, but occur at a different time or place. Under NEPA, indirect impacts are defined as effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Indirect land use impacts as a result of the project are most likely to occur within close vicinity of access points to the HDC corridor, such as the proposed Wye Connection. Access points include points of entry into the facility, which include on and off ramp locations and rail station locations. Over a period of time, adjacent land uses at these locations may potentially see changes from existing use towards commercial, business, and/or residential based land uses. However, development and growth are

dependent on market demand. Shifts in land use are expected to occur along interchanges and other ingress/egress points located within developed areas. However, a majority of the land adjacent to the proposed Wye Connection and proposed parking location is currently vacant or undeveloped; thereby reducing potential land use impacts through relocation, or permanent land use shifts related to existing uses. As growth and development continues in these areas, vacant land will continue to be in adequate supply within close proximity, and shifts in land use are not anticipated to produce significant land use impacts.

Rail Option 1

Under Rail Option 1, the project would directly affect existing land use within the southern Palmdale rail station study area. Changes in land use towards transportation related use may prove to be beneficial by providing infrastructure for surrounding land uses, improved access, and linkages between various residential communities, businesses, and facilities. With the development of infrastructure, the project also has the potential to provide development for local businesses and industries, which may provide local employment opportunities within the community.

In addition, under this option there is a potential for existing land uses located along Sierra Highway and the Palmdale Transportation Center to shift towards greater commercial and industrial use – uses which large portions of land are currently designated for, especially industrial use. Based on the general plans for local municipalities, including Palmdale, growth and economic development are encouraged within the incorporated cities that are part of the HDC Project. Therefore, the proposed project under this rail option is consistent with Palmdale’s existing and future general plan land use designations in the project area and should not pose an adverse effect on surrounding existing land uses.

Indirect impacts affecting land use outside of the affected parcels may occur, in which land use shifts towards commercial and industrial use may occur within close proximity to the proposed Wye Connection, proposed parking, and relocated Metrolink rail station platform locations. However, the proposed project under this rail option is generally consistent with existing general land use designations in the vicinity of the project, and is not anticipated to pose an adverse effect on surrounding land uses.

Station Variation A

Under this station variation, potential direct land use impacts within the southern Palmdale rail station study area includes the acquisition of right-of-way beginning at Technology Drive moving south along Transportation Center Drive through Clock Tower Plaza Drive/6th Street East, to approximately 450 feet north of East Avenue Q.

Within this segment, approximately 50.7 acres would potentially be acquired to accommodate the right-of-way for the construction of the rail connection, proposed parking, and relocation of the existing Palmdale Transportation Center and Metrolink rail platforms. However, approximately 3.97 acres are designated for Transportation ROW, thus leaving approximately 46.74 acres that would be fully or partially acquired. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would require changing land use from industrial to transportation related use. Furthermore, the relocated Metrolink rail platform would require changing land use from Industrial and Other Jurisdiction (Los Angeles County) to transportation related use.

Existing general plan land uses shown in **Table 3**, would be changed to transportation related use, except for those uses already designated as Transportation right-of-way. Indirect impacts affecting

existing land use outside of the affected parcels may occur, in which land use shifts towards commercial and industrial use may occur within close proximity to the proposed Wye Connection and Palmdale Transportation Center locations. However, specific plan use designation is also located near the study area for a trade and commerce center entitled, *The Palmdale Trade and Commerce Center Specific Plan* (2004). As such, it is anticipated that development of commercial and industrial use will continue in the general vicinity of the proposed Wye Connection and Palmdale Transportation Center. Parcels that would require a shift in land use are listed below.

It is anticipated that either a partial or full acquisition would be necessary from the following parcels:

AIN: 3006005803, 3006005804, 3006006027, 3006006029, 3006006034, 3006006035, 3006006038, 3006006039, 3006006912, 3006006913, 3006006914, 3022024817, 3006005004, 3006005005, 3022023002, 3022023016, 3022023022, 3022023023, 3006005900, 3006005901, 3006005902, 3006005903, 3022024818, and 3022024904.

Table 3 – Land Use/Relocation Impacts: Rail Option 1 Station Variation A

Location	Land Use Impacts
Technology Drive/Transportation Center Drive to Transportation Center Drive/6 th Street East	Industrial
	Transportation ROW
	Other Jurisdiction (Los Angeles County)
Transportation Center Drive/6 th Street East to 6 th Street East/East Avenue Q	Industrial
	Transportation ROW
	Other Jurisdiction (Los Angeles County)
Sierra Highway/Technology Drive	Industrial
	Transportation ROW
	Other Jurisdiction (Los Angeles County)

Additionally, the proposed Wye Connection under Rail Option 1 Station Variation A would need several permanent easements from the parcels listed in below in order to construct the tunnel segment of the proposed Wye Connection, as illustrated in Figure 2-2 of the attached main report.

It is anticipated that a permanent underground easement will be necessary from the following parcels in order to construct the proposed Wye Connection tunnel segment:

AIN: 3022001005, 3022001006, 3022001008, 3022001009, 3022001010, 3022001018, 3022001025, 3022001027, 3022002005, 3022002023, 3022002916, 3022004002, 3022004003, 3022004004, 3022004005, 3022004023, 3022004024, 3022004028, 3022004032, 3022004034, 3022004035, 3022004036, 3022004908, 3022005288, 3022005289, 3022005292, 3022005293, 3022005295, 3022005296, 3022024815, 3022024816, 3022024903, 3022025002, 3022025003, 3022025004, 3022025006, 3022025007, 3022025008, 3022025011, 3022025012, 3022025014, 3022025015, 3022025016, 3022026001, 3022026005, 3022026008, 3022026009, 3022026010, 3022026011, 3022026012, 3022026013, 3022027017, 3022027911, 3022035801, 3022035901, 3022035902, and 3022035009.

Station Variation B

Potential land use and relocation impacts would generally be similar to those under Station Variation A, except for slight differences in right-of-way impacts associated with the relocated Metrolink rail platform near 6th Street East and East Avenue Q. The discussion below highlights the potential land use impacts associated with Variation B where it differs from Variation A.

Under Rail Option 1 Station Variation B, potential direct land use impacts within the southern Palmdale rail station study area includes the acquisition of right-of-way beginning at Technology Drive moving south along Transportation Center Drive through Clock Tower Plaza Drive/6th Street East, to immediately north of East Avenue Q3.

Within this segment, approximately 60.82 acres would potentially be acquired to accommodate the right-of-way for the construction of the rail connection, proposed parking, and relocation of the existing Metrolink rail platforms. However, approximately 6.92 acres are designated for Transportation ROW, thus leaving approximately 53.90 acres that would be fully or partially acquired. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would require changing land use from industrial to transportation related use. Furthermore, the relocated Metrolink rail platform would require changing land use from Industrial, Other Jurisdiction (Los Angeles County), and Public Facility to transportation related use. Uses designated as Transportation right-of-way would remain designated for transportation related uses.

Existing general plan land uses shown in **Table 4**, would be changed to transportation related use, except for those uses already designated as Transportation right-of-way. In general, land use direct impacts are similar to Station Variation A under Rail Option 1, with the exception of several additional parcels that would be affected by potential right-of-way acquisition. Indirect impacts affecting existing land use outside of the affected parcels may occur, in which land use shifts towards commercial and industrial use may occur within close proximity to the proposed Wye Connection and relocated Metrolink rail station platform locations. Therefore, the proposed project under this station variation is generally consistent with the local existing and future land use designations and is not anticipated to pose an adverse effect on surrounding existing land uses. Parcels that would require a shift in land use are listed below.

It is anticipated that either a partial of full acquisition will be necessary from the following parcels:

AIN: 3006005004, 3006005005, 3006005803, 3006005804, 3006005900, 3006005901, 3006005902, 3006005903, 3006006027, 3006006029, 3006006034, 3006006035, 3006006038, 3006006039, 3006006912, 3006006913, 3006006914, 3006008902, 3008029802, 3008029803, 3008029804, 3008029805, 3008029900, 3008029901, 3008029919, 3008029920, 3022023002, 3022023016, 3022023022, 3022023023, 3022024817, 3022024818, 3022024904, and 3006008904.

Table 4 – Land Use/Relocation Impacts: Rail Option 1 Station Variation B

Location	Land Use Impacts
Technology Drive/Transportation Center Drive to Transportation Center Drive/6 th Street East	Industrial
	Transportation ROW
	Other Jurisdiction (Los Angeles County)
Transportation Center Drive/6 th Street East to 6 th Street East/East Avenue Q3	Industrial

	Transportation ROW
	Other Jurisdiction (Los Angeles County)
	Public Facility
Sierra Highway/Technology Drive	Industrial
	Transportation ROW
	Other Jurisdiction (Los Angeles County)

Similar to Station Variation A, the proposed Wye Connection under Rail Option 1 Station Variation B would need several permanent easements from the parcels listed below in order to construct the tunnel segment of the proposed Wye Connection, as illustrated in Figure 2-3.

It is anticipated that a permanent underground easement will be necessary from the following parcels in order to construct the proposed Wye Connection tunnel segment:

AIN: 3022001005, 3022001006, 3022001008, 3022001009, 3022001010, 3022001018, 3022001025, 3022001027, 3022002005, 3022002023, 3022002916, 3022004002, 3022004003, 3022004004, 3022004005, 3022004023, 3022004024, 3022004028, 3022004032, 3022004034, 3022004035, 3022004036, 3022004908, 3022005288, 3022005289, 3022005292, 3022005293, 3022005295, 3022005296, 3022024815, 3022024816, 3022024903, 3022025002, 3022025003, 3022025004, 3022025006, 3022025007, 3022025008, 3022025011, 3022025012, 3022025014, 3022025015, 3022025016, 3022026001, 3022026005, 3022026008, 3022026009, 3022026010, 3022026011, 3022026012, 3022026013, 3022027017, 3022027911, 3022035801, 3022035901, 3022035902, and 3022035009.

Station Variation C

Under Rail Option 1 Station Variation C, potential direct land use impacts within the southern Palmdale rail station study area include the acquisition of right-of-way beginning at Technology Drive moving south along Transportation Center Drive through Clock Tower Plaza Drive/6th Street East, and south along 6th Street East to approximately 500 feet north of East Avenue Q3, where the proposed Metrolink rail station platform is proposed under Station Variation C. This configuration is illustrated in Figure 2-4.

Within this segment, approximately 45.39 acres would potentially be partially or fully acquired to accommodate the right-of-way for the construction of the HDC to CHSR rail connection, proposed parking, and relocation of the existing Metrolink rail platforms. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would require changing land use on nine (9) parcels from Industrial to transportation related use. Additionally, relocation of the Metrolink rail platform would require changing land use from Commercial Manufacturing across 11 parcels to transportation related use. Similar to Station Variations A and B, the Wye Connection track split portion is proposed under Rail Option 1 as a tunnel segment connecting the HDC to the CHSR, and is therefore not anticipated to result in the permanent acquisition of right-of-way, with the exception of required permanent underground easements, as discussed below.

Existing general plan land uses shown in **Table 5**, would be changed to transportation related use, except for uses already designated as Transportation right-of-way. As the location of Station Variation C is located to the west of Station Variations A and B, outside the existing UPRR right-of-way, direct land

use impacts would thus differ relative to Station Variations A and B – but primarily consist of relocation impacts also. Parcels that would require a shift in land use are listed below.

It is anticipated that either a partial or full acquisition will be necessary at the following parcels:

AIN: 3006006027, 3006006029, 3006006034, 3006006035, 3006006038, 3006006039, 3006006903, 3006006904, 3006006905, 3006006906, 3006006908, 3006006912, 3006006913, 3006006914, 3006007023, 3006007024, 3006007025, 3006007026, 3006007027, 3006007028, 3006007029, 3006007030, 3006007031, 3006007032, 3006007033, 3006007034, 3006008903, 3008011001, 3008011002, 3008011003, 3008011004, 3008011005, 3008011006, 3008011007, 3008011008, 3008011009, 3008011010, 3008011011, and 3006008905.

Table 5 – Land Use/Relocation Impacts: Rail Option 1 Station Variation C

Location	Land Use Impacts
Technology Drive/Transportation Center Drive to Transportation Center Drive/6 th Street East	Business Park
	Industrial
Transportation Center Drive/6 th Street East to 6 th Street East/East Avenue Q3	Business Park
	Commercial Manufacturing
	Industrial

Similar to Station Variations A and B, the proposed Wye Connection under Rail Option 1 Station Variation C would need several permanent easements from the parcels listed below in order to construct the tunnel segment of the proposed Wye Connection without permanent right-of-way acquisition resulting in relocation and/or displacement, as illustrated in Figure 2-4.

It is anticipated that a permanent underground easement will be necessary from the following parcels in order to construct the proposed Wye Connection tunnel segment under Station Variation C:

AIN: 3006003036, 3006003039, 3006003040, 3006003041, 3006003044, 3006003049, 3006004002, 3006004006, 3006004008, 3006004009, 3006004011, 3006004012, 3006004014, 3006004027, 3006004039, 3006004040, 3006004042, 3006004052, 3006004053, 3006027001, 3006027005, 3022001011, 3022001012, 3022001013, 3022001014, 3022001015, 3022001016, 3022001017, 3022001018, 3022001019, 3022001020, 3022001021, 3022001022, 3022001024, 3022001025, 3022001027, 3022002023, 3022004002, 3022004003, 3022004023, 3022004024, 3022004032, 3022004034, 3022004035, 3022004036, 3022004908, 3022024001, 3022024002, 3022024809, 3022024811, 3022024816, 3022024818, 3022024819, 3022024900, 3022024901, 3022024903, 3022024904, 3022024906, 3022024907, 3022025001, 3022025002, 3022025003, 3022025005, 3022025006, 3022025007, 3022025008, 3022025009, 3022025011, 3022025012, 3022025013, 3022025014, 3022025016, 3022026001, 3022026005, 3022026008, 3022026009, 3022026010, 3022026013, 3022027017, and 3022027911.

Rail Option 7

Under Rail Option 7, the project would directly affect existing land use within the southern Palmdale rail station study area. Changes in land use towards transportation related use may prove to be beneficial by providing infrastructure for surrounding land uses, improved access, and linkages between various residential communities, businesses, and facilities. With the development of infrastructure, the project

also has the potential to provide development for local businesses and industries, which may provide local employment opportunities within the community.

In addition, under this option there is a potential for existing land uses located along Sierra Highway and the Palmdale Transportation Center to shift towards greater commercial and industrial use – uses which large portions of land are currently designated for, especially industrial use. Based on the general plans for local municipalities, including Palmdale, growth and economic development are encouraged within the incorporated cities that are part of the HDC Project. Therefore, the proposed project under this rail option is consistent with Palmdale’s existing and future general plan land use designations in the project area and should not pose an adverse effect on surrounding existing land uses.

Indirect impacts affecting land use outside of the affected parcels may occur, in which land use shifts towards commercial and industrial use may occur within close proximity to the proposed Wye Connection, proposed parking, and relocated Metrolink rail station platform locations. However, the proposed project under this rail option is generally consistent with existing general land use designations in the vicinity of the project, and is not anticipated to pose an adverse effect on surrounding land uses.

Station Variation A

Under this station variation, potential direct land use impacts within the southern Palmdale rail station study area includes the acquisition of right-of-way beginning along eastern side of Sierra Highway approximately 1,300 feet north of Technology Drive, moving south along Sierra Highway, and south along Transportation Center Drive through Clock Tower Plaza Drive/6th Street East, to East Avenue Q.

Within this segment, approximately 79.31 acres would potentially be acquired to accommodate the right-of-way for the construction of the rail connection, proposed parking, and relocation of the existing Palmdale Transportation Center and Metrolink rail platforms. However, approximately 6.14 acres currently have a general plan land use designation of Transportation ROW, thus leaving approximately 73.16 acres that would be fully or partially acquired, and would be shifted to transportation related use. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would require shifting general plan land use from Industrial to transportation related use. Furthermore, the relocated Metrolink rail platform would require changing general plan land use from Industrial and Other Jurisdiction (Los Angeles County) to transportation related use.

Existing general plan land uses shown in **Table 6**, would be changed to transportation related use, except for those uses already designated as Transportation right-of-way according to Palmdale’s general plan land use. Indirect impacts affecting existing land use outside of the affected parcels may occur, in which land use shifts towards commercial and industrial use may occur within close proximity to the proposed Wye Connection and Palmdale Transportation Center locations. However, specific plan use designation is also located near the study area for a trade and commerce center entitled, *The Palmdale Trade and Commerce Center Specific Plan* (2004), and for a transit oriented residential village, *The Palmdale Transit Village Specific Plan* (2007). As such, it is anticipated that development of commercial and industrial use will continue in the general vicinity of the proposed Wye Connection and Palmdale Transportation Center. Parcels that would require a shift in land use are listed below.

It is anticipated that either a partial of full acquisition will be necessary from the following parcels:

AIN: 3022001008, 3022001009, 3022001010, 3022024815, 3006005803, 3006005804, 3006006027, 3006006029, 3006006034, 3006006035, 3006006038, 3006006039, 3006006912, 3006006913, 3006006914, 3022024817, 3022001005, 3022001006, 3006005004, 3006005005, 3022023002, 3022023016, 3022023022, 3022023023, 3006005900, 3006005901, 3006005902, 3006005903, 3022024818, 3022024904, 3022024816, 3022024903.

Table 6 – Land Use/Relocation Impacts: Rail Option 7 Station Variation A

Location	Land Use Impacts
Sierra Highway/north of Technology Drive to Sierra Highway/East Avenue Q	Business Park
	Industrial
	Other Jurisdiction (Los Angeles County)
	Transportation ROW
Technology Drive/ Transportation Center Drive to Transportation Center Drive/6 th Street East	Industrial
Transportation Center Drive/6 th Street East to 6 th Street East/East Avenue Q	Industrial
	Transportation ROW

Additionally, the proposed Wye Connection under Rail Option 7 Station Variation A would at least require permanent easements from the parcels listed below in order to construct the aerial and tunnel segments of the proposed Wye Connection, as illustrated in Figure 2-5.

It is anticipated that permanent aerial easements will be necessary from the following parcels in order to construct the proposed Wye Connection aerial segment:

AIN: 3022003001, 3022003003, 3022003004, 3022003005, 3022003006, 3022003013, 3022003014, 3022003015, 3022003016, 3022003017, 3022003018, 3022003019, 3022003035, 3022003036, 3022004011, 3022004015, 3022004016, 3022004025, 3022004026, 3022002006, 3022002008, 3022002011, 3022002012, 3022002023, 3022002916, 3022004007, 3022004010, 3022004908, 3022024811, 3022025001, 3022025005, 3022025006, 3022025010, 3022025013, 3022026008, 3022026013, 3022035801, 3022035901, 3022035902, 3022035009.

Additionally, it is anticipated that permanent underground easements will be necessary from the following parcels in order to construct the proposed Wye Connection tunnel segment:

AIN: 3022024809, 3022024811, 3022024813, 3022025001, 3022025005, 3022025006, 3022025009, 3022025010, 3022025013, 3022026001, 3022026002, 3022026003, 3022026004, 3022026005, 3022026008, 3022026010, 3022026013, 3022024819, 3022024900, 3022024902, 3022024906, 3022024908.

Station Variation B

Potential land use and relocation impacts would generally be similar to those under Station Variation A, except for slight differences in right-of-way impacts associated with the relocated Metrolink rail platform near 6th Street East and East Avenue Q. The discussion below highlights the potential land use impacts associated with Variation B where it differs from Variation A.

Under this station variation, potential direct land use impacts within the southern Palmdale rail station study area includes the acquisition of right-of-way beginning along eastern side of Sierra Highway

approximately 1,300 feet north of Technology Drive, moving south along Sierra Highway, and south along Transportation Center Drive through Clock Tower Plaza Drive/6th Street East, to approximately 400 feet south of East Avenue Q3.

Within this segment, approximately 88 acres would potentially be acquired to accommodate the right-of-way for the construction of the rail connection, proposed parking, and relocation of the existing Metrolink rail platforms. However, approximately 9.10 acres currently have a general plan designation of Transportation ROW, thus leaving approximately 78.91 acres that would be fully or partially acquired, and would be shifted to transportation related use. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would require shifting general plan land use from Industrial to transportation related use. Furthermore, the relocated Metrolink rail platform would require changing general plan land use from Industrial, Other Jurisdiction (Los Angeles County), and Public Facility to transportation related use. Uses with a general plan land use designation of Transportation right-of-way would remain designated for transportation related uses.

Existing general plan land uses shown in **Table 7**, would be changed to transportation related use, except for those uses already designated as Transportation right-of-way according to Palmdale's general plan land use. In general, land use direct impacts are similar to Station Variation A under Rail Option 7, with the exception of several additional parcels between East Avenue Q and East Avenue Q3, which would be affected by potential right-of-way acquisition, and currently have general plan land use designations of Public Facility and Transportation ROW. Indirect impacts affecting existing land use outside of the affected parcels may occur, in which land use shifts towards commercial and industrial use may occur within close proximity to the proposed Wye Connection, proposed parking and relocated Metrolink rail station platform locations. However, specific plan use designation is also located near the study area for a trade and commerce center entitled, *The Palmdale Trade and Commerce Center Specific Plan* (2004), and for a transit oriented residential village, *The Palmdale Transit Village Specific Plan* (2007). As such, it is anticipated that development of commercial and industrial use will continue in the general vicinity of the proposed Wye Connection and Palmdale Transportation Center. Therefore, the proposed project under this station variation is generally consistent with the local existing and future land use designations and is not anticipated to pose an adverse effect on surrounding existing land uses. Parcels that would require a shift in land use are listed below.

It is anticipated that either a partial or full acquisition will be necessary from the following parcels:

AIN: 3006005004, 3006005005, 3006005803, 3006005804, 3006005900, 3006005901, 3006005902, 3006005903, 3006006027, 3006006029, 3006006034, 3006006035, 3006006038, 3006006039, 3006006912, 3006006913, 3006006914, 3022023002, 3022023016, 3022023022, 3022023023, 3022024817, 3022024818, 3022024904, 3022001005, 3022001006, 3022001008, 3022001009, 3022001010, 3022024815, 3022024816, 3022024903, 3008029802, 3008029803, 3008029804, 3008029805, 3008029900, 3008029901, 3008029919, 3008029920.

Under this station variation, potential direct land use impacts within the southern Palmdale rail station study area includes the acquisition of right-of-way beginning along eastern side of Sierra Highway approximately 1,300 feet north of Technology Drive, moving south along Sierra Highway, and south along Transportation Center Drive through Clock Tower Plaza Drive/6th Street East, to approximately 400 feet south of East Avenue Q3.

Table 7 – Land Use/Relocation Impacts: Rail Option 7 Station Variation B

Location	Land Use Impacts
Sierra Highway/north of Technology Drive to Sierra Highway/East Avenue Q	Business Park
	Industrial
	Other Jurisdiction (Los Angeles County)
	Transportation ROW
Technology Drive/ Transportation Center Drive to Transportation Center Drive/6 th Street East	Industrial
Transportation Center Drive/6 th Street East to 6 th Street East/East Avenue Q3	Industrial
	Public Facility
	Transportation ROW

Additionally, the proposed Wye Connection under Rail Option 7 Station Variation B would at least require permanent easements from the parcels listed below in order to construct the aerial and tunnel segments of the proposed Wye Connection, as illustrated in Figure 2-6. It is noted that potential aerial and underground easement requirements under Rail Option 7 Station Variation B are similar to those under Station Variation A.

As such, it is anticipated that permanent aerial easements will be necessary from the following parcels in order to construct the proposed Wye Connection aerial segment:

AIN: 3022003001, 3022003003, 3022003004, 3022003005, 3022003006, 3022003013, 3022003014, 3022003015, 3022003016, 3022003017, 3022003018, 3022003019, 3022003035, 3022003036, 3022004011, 3022004015, 3022004016, 3022004025, 3022004026, 3022002006, 3022002008, 3022002011, 3022002012, 3022002023, 3022002916, 3022004007, 3022004010, 3022004908, 3022024811, 3022025001, 3022025005, 3022025006, 3022025010, 3022025013, 3022026008, 3022026013, 3022035801, 3022035901, 3022035902, 3022035009.

Additionally, it is anticipated that permanent underground easements will be necessary from the following parcels in order to construct the proposed Wye Connection tunnel segment:

AIN: 3022024809, 3022024811, 3022024813, 3022025001, 3022025005, 3022025006, 3022025009, 3022025010, 3022025013, 3022026001, 3022026002, 3022026003, 3022026004, 3022026005, 3022026008, 3022026010, 3022026013, 3022024819, 3022024900, 3022024902, 3022024906, 3022024908.

Station Variation C

Under this station variation, potential direct land use impacts within the southern Palmdale rail station study area include the acquisition of right-of-way beginning at approximately 900 feet north of Technology Drive moving south along Transportation Center Drive through Clock Tower Plaza Drive/6th Street East, and south along 6th Street East to approximately to approximately 500 feet north of East Avenue Q3, where the proposed Metrolink rail station platform is proposed under Station Variation C. This configuration is illustrated in Figure 2-7.

Within this segment, approximately 56.79 acres would potentially be partially or fully acquired to accommodate the right-of-way for the construction of the HDC to CHSR Wye Connection, proposed parking, and relocation of the existing Metrolink rail platforms. Station area parking is proposed at the terminus of 6th Street (UPRR/Sierra Highway) and would require shifting general plan land use on ten

(10) parcels from Industrial to transportation related use. Additionally, relocation of the Metrolink rail station platform would require changing general plan land use on 11 parcels from Commercial Manufacturing to transportation related use. Similar to Station Variations A and B, the Wye Connection track split portion is proposed under Rail Option 7 with aerial and tunnel segments connecting the HDC to the CHSR, and is therefore not anticipated to result in the permanent acquisition of right-of-way, with the exception of required permanent aerial and underground easements, as discussed below.

Existing general plan land uses shown in **Table 8**, would be changed to transportation related use, except for uses already designated as Transportation right-of-way according to Palmdale’s general plan land use. As the location of Station Variation C is located to the west of Station Variations A and B, outside the existing UPRR right-of-way, direct land use impacts would thus differ relative to Station Variations A and B – but mainly consist of right-of-way impacts as well; primarily between Technology Drive and approximately 500 feet north of East Avenue Q3.

Indirect impacts affecting existing land use outside of the affected parcels may occur, in which land use shifts towards commercial and industrial use may occur within close proximity to the proposed Wye Connection, proposed parking and relocated Metrolink rail station platform locations. However, specific plan use designation is also located near the study area for a trade and commerce center entitled, *The Palmdale Trade and Commerce Center Specific Plan (2004)*, and for a transit oriented residential village, *The Palmdale Transit Village Specific Plan (2007)*. As such, it is anticipated that development of commercial and industrial uses will continue in the general vicinity of the proposed Wye Connection and Palmdale Transportation Center. Therefore, the proposed project under this station variation is generally consistent with the local existing and future land use designations and is not anticipated to pose an adverse effect on surrounding existing land uses. Parcels that would require a shift in land use are listed below.

It is anticipated that either a partial of full acquisition will be necessary at the following parcels:

AIN: 3006004002, 3006004027, 3006004039, 3006004040, 3006006027, 3006006029, 3006006034, 3006006035, 3006006038, 3006006039, 3006006903, 3006006904, 3006006905, 3006006906, 3006006908, 3006006912, 3006006913, 3006006914, 3006007025, 3006007026, 3006007027, 3006007028, 3006007029, 3006007030, 3006007031, 3006007032, 3006007033, 3006008903, 3008011001, 3008011002, 3008011003, 3008011004, 3008011005, 3008011006, 3008011007, 3008011008, 3008011009, 3008011010, 3008011011, 3006008905.

Table 8 – Land Use/Relocation Impacts: Rail Option 7 Station Variation C

Location	Land Use Impacts
Technology Drive/Transportation Center Drive to Transportation Center Drive/6 th Street East	Business Park
	Industrial
Transportation Center Drive/6 th Street East to 6 th Street East/East Avenue Q3	Business Park
	Commercial Manufacturing
	Industrial

Additionally, the proposed Wye Connection, parking, and relocation of Metrolink rail platform under Rail Option 7 Station Variation C would at least require permanent easements from the parcels listed below in order to construct the aerial and tunnel segments of the proposed Wye Connection, as illustrated in Figure 2-7.

As such, it is anticipated that permanent aerial easements would be required from the following parcels in order to construct the proposed Wye Connection aerial segment:

AIN: 3006003036, 3006003039, 3006003040, 3006003041, 3006003044, 3006003049, 3006003050, 3006027005, 3022003025, 3022003026, 3022003027, 3022003028, 3022003037, 3022003038, 3022003039, 3022003040, 3022003041, 3022003042, 3022003043, 3022003044, 3022003045, 3022004011, 3022004015, 3022004016, 3022004018, 3022004025, 3022004026, 3022001013, 3022001014, 3022001015, 3022001020, 3022001021, 3022001022, 3022001023, 3022001025, 3022002012, 3022002013, 3022002014, 3022002015, 3022002916, 3022024811, 3022025001, 3022025005, 3022025009, 3022024901, 3022024907.

Additionally, it is anticipated that permanent underground easements would be required from the following parcels in order to construct the proposed Wye Connection tunnel segment:

AIN: 3006004006, 3006004008, 3006004009, 3006004011, 3006004012, 3006004014, 3006004052, 3006004053, 3006027001, 3006027005, 3006004041, 3006004042, 3006004047, 3022024811, 3022025001, 3022026005, 3022026006, 3022026007, 3022026008, 3022026009, 3022026010, 3022024901, 3022024907.

Utilities

Potential impacts to public and private utilities and services were determined by inventorying those facilities that were within the southern Palmdale rail station study area. The assessment was based on such factors as safety, circulation, accessibility, and disruption of operation during construction and operation of the proposed project. Facilities were evaluated to determine which ones would be directly or indirectly affected by the components of the HDC Project's Wye connection.

Utilities are allowed in Caltrans ROW with an encroachment permit. Utility facilities (e.g., water lines, sewer laterals, electrical connections/lines/poles, natural gas service lines, streetlights, fire hydrants, and cable television lines and utility boxes) in the ROW would be subject to abandonment, removal, and/or relocation or replacement as a result of project construction. Utility companies would be given enough notice to relocate their facilities before construction or at a later stage of construction, as appropriate.

Coordination with utility companies is a standard procedure during the final design phase. Utility relocation would be done using standard engineering practices to avoid substantial service disruption, hence, substantial service interruptions are not anticipated as a result of implementing the proposed Wye connection, parking, and relocation of the Metrolink rail station platform.

Rail Option 1

It is estimated that station variations under Rail Option 1 would have a potential impact on up to 33 utility facilities within the study area that was evaluated for the proposed Wye connection, parking, and relocation of Metrolink rail station platforms. Appendix A of this memo provides information on the owners, type of utility, and the general location of the utility affected by Rail Option 1. In addition, Appendix B of this memo provides the Utility Plan sheets which illustrate the locations of potentially affected utilities within the study area.

Utility relocation plans would be prepared during the final design phase of the HDC Project. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources, and avoid permanent impacts to utilities and facilities. Generally, utilities, with the exception of the large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

Rail Option 7

It is estimated that station variations under Rail Option 7 would have a potential impact on up to 42 utility facilities within the study area that was evaluated for the proposed Wye connection, parking, and relocation of Metrolink rail station platforms. Appendix A of this memo provides information on the owners, type of utility, and the general location of the utility affected by Rail Option 7. In addition, Appendix B of this memo provides the Utility Plan sheets which illustrate the locations of affected utilities within the study area.

Utility relocation plans would be prepared during the final design phase of the HDC Project. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impact to the various resources, and avoid permanent impacts to utilities and facilities. Generally, utilities, with the exception of the large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed so adverse impacts are not expected and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts to resources, additional environmental clearance will be required.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

No additional avoidance, minimization or mitigation measures for land use, relocation, and utilities impacts would be required in addition those already committed in the High Desert Corridor (HDC) Project *Community Impact Assessment (CIA)* and environmental document. Hence, the following measures remain applicable: LU-1, LU-2, LU-3, and LU-4. No mitigation measures were identified for utilities, as permanent impacts to utilities would be avoided through design coordination with utility owners during the final design phase of the project.

CONCLUSION

There are no new regulatory settings or changes to the affected environment. Both rail options 1 and 7 would directly affect existing land use within the southern Palmdale rail station study area, through the acquisition of right-of-way and the permanent conversion of existing non-transportation related land use to transportation related uses. Impacts would vary by rail option and station variation, as discussed earlier in this memo.

Furthermore, indirect impacts affecting existing land use outside the affected parcels may occur, in which land use shifts would towards commercial and industrial may occur within close proximity to the proposed Wye Connection and Palmdale Transportation Center locations. Such changes in land use towards transportation related use may prove to be beneficial by providing infrastructure for

surrounding land uses, improved access, and linkages between various residential communities, businesses, and facilities. With the development of infrastructure, the project also has the potential to provide development for local businesses and industries, which may provide local employment opportunities within the community.

With regard to utilities, both rail options 1 and 7 could potentially affect existing public and private utilities in the southern Palmdale rail station study area. However, potential impacts to utilities and facilities would be avoided as part of the project's final design. Implementation of standard conditions of approval and close coordination with the utility providers will further minimize potential impacts to utilities. Because there would be no impacts to utility systems over the long term, no mitigation measures are required.

REFERENCES

California Department of Transportation, 2014. *Community Impact Assessment, High Desert Corridor Project, Los Angeles and San Bernardino Counties, California*. June 16.

California Department of Transportation, 2014. *Southern Palmdale Rail Station (Rail Options 1 and 7) Design Variation Impact Analysis, Los Angeles and San Bernardino Counties, California*. July.

Attachment A
Utility Matrix

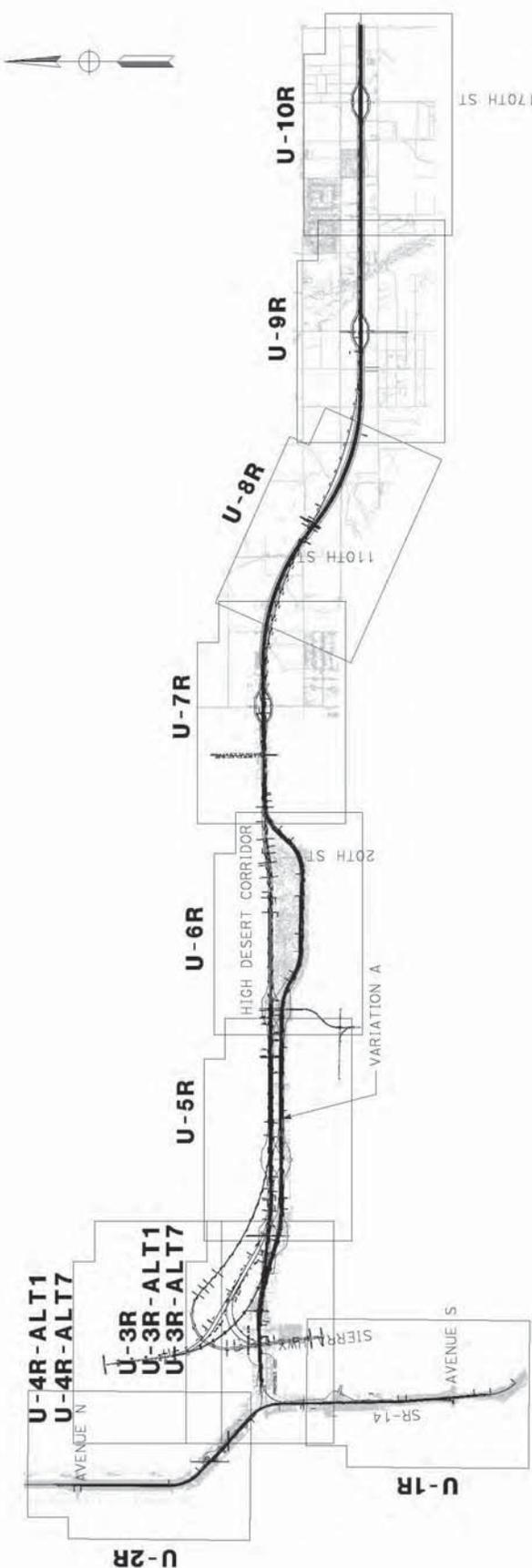
Conflict #	Utility Pole/Sign No.	Owner	Utility Description	Number of Utility Poles	Conflict Station	Conflict Location	Length (ft) (Measure of way limits)	Affected Alternative	Investigation			USP to US		Risk Level		Action			Required Completion Date	Comments
									Pothole	Manhole	Overhead	(ft)	High	Low	YN	Remove	Relocate	Protect in Place		
131	3R	N/A	12" Water Line	-	276+10	18th Street	300	P	N/A	N/A	NO	N/A	-	Y				PC		Pothole required for vert clearance
132	3R	N/A	Telecommunications Cable Line	-	276+40	18th Street	535	P	N/A	N/A	YES	N/A	LOW	Y	X			RB		
133	3R	N/A	Overhead Power Line	4	276+40	15th Street	535	P	N/A	N/A	YES	N/A	-	Y	X			RB		
134	3R	N/A	Telecommunications Cable Line	-	297+00	17th Street	650	P	N/A	N/A	NO	2.5	LOW	Y		X		PC		
135	3R	N/A	2" Gas Line	-	289+80	17th Street	620	P	N/A	N/A	NO	N/A	LOW	Y		X		PC		
136	3R	N/A	12" Water Line	-	290+00	17th Street	450	P	N/A	N/A	NO	N/A	-	Y		X		PC		
137	3R	N/A	4" Gas Line	-	302+80	20th Street	1025	P	N/A	N/A	NO	N/A	LOW	Y	X			RD		Pothole required to confirm (vert) (why need to be (recognition vertical))
138	3R	N/A	Telecommunications Cable Line	-	302+80	20th Street	1060	P	N/A	N/A	NO	3.5	LOW	Y		X		RD		
139	3R	N/A	12" Water Line	-	303+10	20th Street	1035	P	N/A	N/A	NO	N/A	-	Y		X		RD		
140	3R	N/A	44" Overhead Power Line	5	303+20	20th Street	2240	P	N/A	N/A	YES	N/A	-	Y		X		RB		
142	3R	N/A	4" Gas Line	-	303+10	20th Street	520	P	N/A	N/A	NO	N/A	LOW	Y		X		RD		
143	3R	N/A	4" Gas Line	-	302+60	Avenue P-8	765	P	N/A	N/A	NO	N/A	LOW	Y		X		RD		
144	3R	N/A	66 kv and 4 kv Transmission Overhead Power Line	2	3176+30	Avenue Q	360	P	N/A	N/A	YES	N/A	HIGH	Y		X		PC		
145	3R	N/A	Underground Communication	-	3176+00	Avenue Q	360	P	N/A	N/A	NO	N/A	-	N				NC		
146	3R	N/A	Underground Power Line	-	3189+00	Between Avenue Q and Avenue P-8	115	P	N/A	N/A	NO	N/A	-	N				NC		
147	3R	N/A	12" Water Line	-	177+15	Avenue Q	100	P	N/A	N/A	NO	N/A	-	N				NC		
148	3R	N/A	16" Water Line	-	309+25	Avenue P-8/Division St	290	P	N/A	N/A	NO	N/A	-	Y		X		PC		
149	3R	N/A	12" Water Line	-	221+40	Avenue P-4	265	P	N/A	N/A	NO	N/A	-	N				NC		Pothole required for vert clearance
US-RS-ALTY																				
540	3R1	N/A	12" Sewer Line	-	113+70	Avenue Q	130	RI	N/A	N/A	NO	N/A	-	Y				PC		
541	3R1	N/A	Fiber Optic Line	-	114+60	Avenue Q	50	RI	N/A	N/A	NO	N/A	-	Y				PC		
542	3R1	N/A	Telecommunications Line	5	110+00	Sierra Highway	3000	RI	N/A	N/A	NO	N/A	5	W	X			RD		
543	3R1	N/A	Telecommunications Line	5	110+00	Sierra Highway	3000	RI	N/A	N/A	NO	N/A	5	W	X			RD		
544	3R1	N/A	Fiber Optic Line	5	110+00	Sierra Highway	3000	RI	N/A	N/A	NO	N/A	5	W	X			RD		
545	3R1	N/A	8" Water Line (Abandoned)	5	122+20	Sierra Highway	1420	RI	N/A	N/A	NO	N/A	5	W	X			RD		
546	3R1	N/A	Overhead Power Line	5	132+20	Sierra Highway	200	RI	N/A	N/A	YES	N/A	5	W	X			RD		
547	3R1	N/A	16" Sewer Line	5	140+40	Avenue P-8	165	RI	N/A	N/A	NO	N/A	5	W	X			RD		
548	3R1	N/A	4" Sewer Line	5	140+80	Avenue P-8	165	RI	N/A	N/A	NO	N/A	5	W	X			RD		
549	3R1	N/A	Telecommunications Line	5	155+50	North Avenue P-4	560	RI	N/A	N/A	NO	N/A	5	W	X			RD		
550	3R1	N/A	Telecommunications Line	5	155+80	8th Street	520	RI	N/A	N/A	NO	N/A	5	W	X			RD		
551	3R1	N/A	Fiber Optic Line	5	157+00	8th Street	520	RI	N/A	N/A	NO	N/A	5	W	X			RD		
552	3R1	N/A	Telecommunications Line	5	157+00	Avenue P	1480	RI	N/A	N/A	NO	N/A	5	W	X			RD		
553	3R1	N/A	Overhead Power Line	3	157+00	Avenue P	1480	RI	N/A	N/A	YES	N/A	5	W	X			RD		
554	3R1	N/A	Overhead Power Line	3	156+50	Avenue P	220	RI	N/A	N/A	YES	N/A	5	W	X			RD		
555	3R1	N/A	Telecommunications Line	5	200+00	North Avenue P-4	600	RI	N/A	N/A	NO	N/A	5	W	X			RD		
556	3R1	N/A	Overhead Power Line	2	210+50	10th Street	320	RI	N/A	N/A	YES	N/A	5	W	X			RD		
557	3R1	N/A	16" Sewer Line	2	210+50	10th Street	320	RI	N/A	N/A	NO	N/A	5	W	X			RD		
558	3R1	N/A	Overhead Power Line	2	210+50	10th Street	320	RI	N/A	N/A	YES	N/A	5	W	X			RD		
559	3R1	N/A	12" Water Line	5	101+80	Avenue P-8	200	RI	N/A	N/A	NO	N/A	5	W	X			RD		
560	3R1	N/A	4" Gas Line	5	1015+50	20th Street	525	RI	N/A	N/A	NO	N/A	5	W	X			RD		
561	3R1	N/A	Telecommunications Line	5	1015+50	20th Street	520	RI	N/A	N/A	NO	N/A	5	W	X			RD		
562	3R1	N/A	12" Water Line	5	1015+50	20th Street	100	RI	N/A	N/A	NO	N/A	5	W	X			RD		
563	3R1	N/A	Overhead Power Line	4	1015+50	20th Street	920	RI	N/A	N/A	YES	N/A	5	W	X			RD		
564	3R1	N/A	16" Sewer Line	5	156+10	8th Street	160	RI	N/A	N/A	NO	N/A	5	W	X			RD		
565	3R1	N/A	12" Sewer Line	5	156+10	8th Street	128	RI	N/A	N/A	NO	N/A	5	W	X			RD		
566	3R1	N/A	Lighting Conduit	5	168+00	8th Street	128	RI	N/A	N/A	NO	N/A	5	W	X			RD		
567	3R1	N/A	15" Sewer Line	5	175+00	Avenue P	1200	RI	N/A	N/A	NO	N/A	5	W	X			RD		
568	3R1	N/A	8" Water Line	5	173+70	Avenue P	1560	RI	N/A	N/A	NO	N/A	5	W	X			RD		
569	3R1	N/A	5" Water Line	5	1019+00	East Avenue P-4	270	RI	N/A	N/A	NO	N/A	5	W	X			RD		
570	3R1	N/A	12" Water Line	5	1016+80	10th Street	500	RI	N/A	N/A	NO	N/A	5	W	X			RD		
US-RS-ALTY																				
580	3R2	N/A	12" Sewer Line	-	1005+60	Avenue Q	120	R7	N/A	N/A	NO	N/A	-	Y				PC		
581	3R2	N/A	Fiber Optic Line	-	1006+00	Avenue Q	35	R7	N/A	N/A	NO	N/A	-	Y				PC		
582	3R2	N/A	Telecommunications Line	5	1000+00	Sierra Highway	3000	R7	N/A	N/A	NO	N/A	5	W	X			RD		

P - Proposed Alternative
A - Variation A
B - Variation B
D - Variation D
E - Variation E
R - High Speed Rail (HSR)
R1 - HSR Alt 1
R2 - HSR Alt 2
R3 - HSR Alt 3
R4 - HSR Alt 4
R5 - HSR Alt 5
R6 - HSR Alt 6
R7 - HSR Alt 7
Notes:
CH-65k/4kv assigned to High risk
RD - For UG Utilities
RB - For CH Utilities

Attachment B
Utility Plan

7	LA/SBD	HDC	ROUTE	POST MILES	SHEET TOTAL
				TOTAL PROJECT	SHEETS

REGISTERED CIVIL ENGINEER DATE _____
 PLANS APPROVAL DATE _____
 THE STATE OF CALIFORNIA ON ITS OFFICIAL SEAL
 THE ACCURACY OR COMPLETENESS OF SCANNED
 COPIES OF THIS PLAN SHEET.



**100% SUBMITTAL
 KEY MAP**
 NOT TO SCALE

K-1R

THIS PLAN ACCURATE FOR EXISTING UTILITIES ONLY



PROJECT NUMBER & PHASE

UNIT 0000

000000000001

USERNAME => USER
 DGN FILE => REQUEST

BORDER LAST REVISED 7/2/2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE REVISED
		CHECKED BY	DESIGNED BY	DATE REVISED

DATE PLOTTED => 01/16/10
 LAST REVISION
 00-00-00

DATE	REGISTERED CIVIL ENGINEER	DATE
NO.	PROFESSIONAL ENGINEER	NO.
DIS.	CIVIL	DIS.

REGISTERED CIVIL ENGINEER DATE

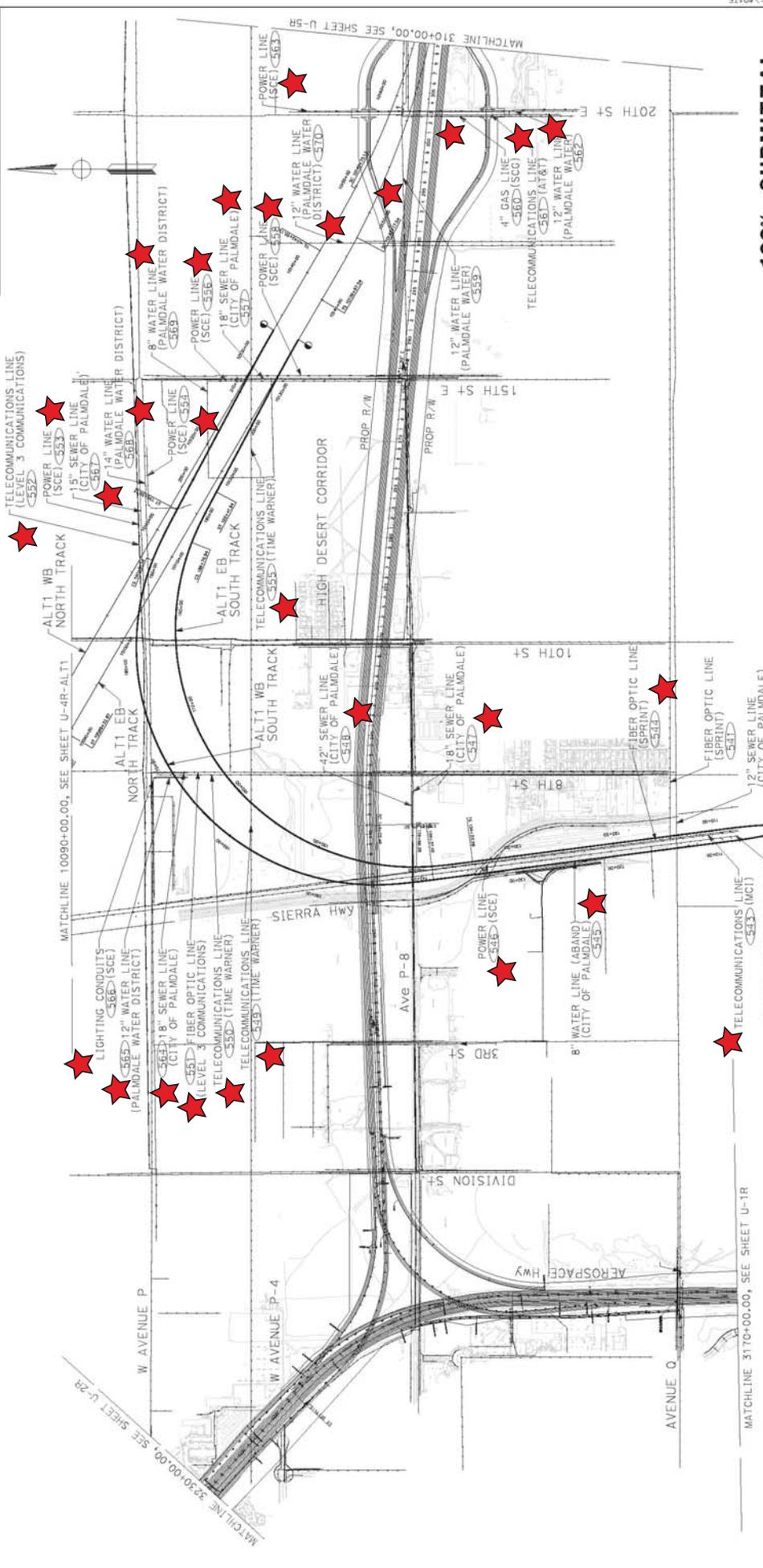
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS
 SHALL BE RESPONSIBLE FOR THE ACCURACY OF THESE PLANS
 AND THE CONTRACTOR SHALL VERIFY THE EXISTENCE OF ALL UTILITIES
 SHOWN ON THIS PLAN SHEET.

7	LA/SBD	HDC	PROJECT TOTAL SHEETS
7	COUNTY	ROUTE	SHEET NO.

NOTES:

- FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT RIGHT-OF-WAY ENGINEERING AT THE DISTRICT OFFICE.
- LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.



**100% SUBMITTAL
 UTILITY PLAN**

SCALE: 1"=500'

U-3R-ALT1

PROJECT NUMBER & PHASE: 0000000001

UNIT: 0000

RELATIVE BORDER SCALE: 15 IN INCHES

THIS PLAN ACCURATE FOR EXISTING UTILITIES ONLY

ABBREVIATIONS:
 DWP DEPARTMENT OF WATER AND POWER
 SCE SOUTHERN CALIFORNIA EDISON
 SCG SOUTHERN CALIFORNIA GAS
 VVWPA VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
 LACWD LOS ANGELES COUNTY WATERWORKS DISTRICT

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 FUNCTIONAL SUPERVISOR

CALCULATED BY: DESIGNED BY: CHECKED BY: DATE REVISED BY: DATE REVISED BY:

USER: USER DON FILE: BREQUST

BORDER LAST REVISED: 7/2/2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CHECKED BY	DATE REVISIED
		DESIGNED BY	REVISIED BY

BORDER LAST REVISED 7/2/2010

USERNAME -> USER
JOB FILE -> PROJECT

RELATIVE HORIZ SCALE
1" = 25' IN DIMS

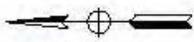
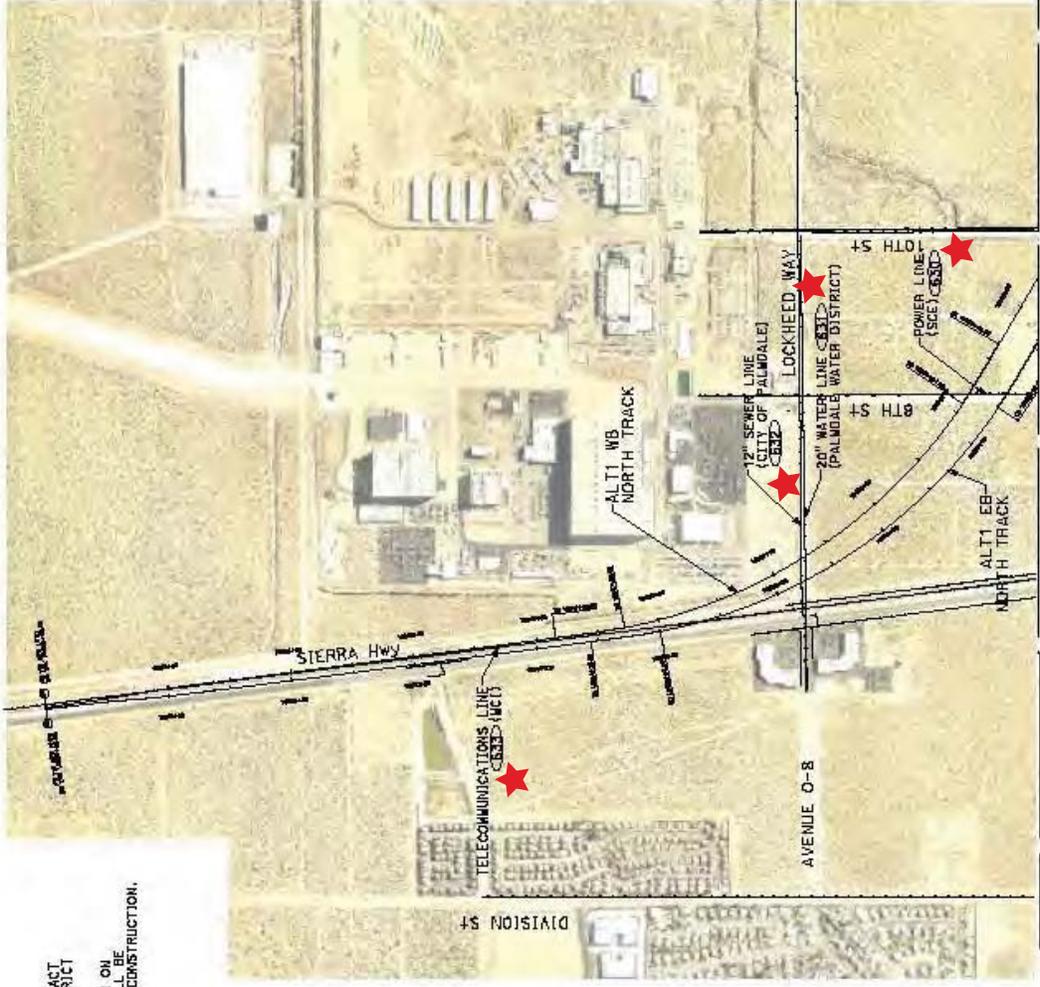
THIS PLAN ACCURATE FOR EXISTING UTILITIES ONLY

UNIT 0000

PROJECT NUMBER & PHASE

006000000001

- NOTES:**
- FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT RIGHT-OF-WAY ENGINEERING AT THE DISTRICT OFFICE.
 - LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.



MATCHLINE 10090+00.00, SEE SHEET U-3R-ALT1

100% SUBMITTAL UTILITY PLAN

SCALE: 1"=500'

U-4R-ALT1

ABBREVIATIONS:
 DWP DEPARTMENT OF WATER AND POWER
 SCE SOUTHERN CALIFORNIA EDISON
 SCG SOUTHERN CALIFORNIA GAS
 VVWRA VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
 LACWD LOS ANGELES COUNTY WATERWORKS DISTRICT

DATE	COUNTY	ROUTE	TOTAL SHEETS	SHEET NO.
7	LA./SBD	HDC		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVED DATE

THE SEAL OF THE CALIFORNIA BOARD OF PROFESSIONAL ENGINEERS IS HEREBY APPLIED TO THESE PLANS BY THE BOARD OF PROFESSIONAL ENGINEERS OF THE STATE OF CALIFORNIA.

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

DATE: [Date]

PROJECT: [Project Name]

SCALE: [Scale]

PROJECT NUMBER: [Project Number]

DATE	PROJECT	SHEET TOTAL
7/14/2010	LA/SBD	7/10
REGISTERED CIVIL ENGINEER	DATE	
PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICIALS SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THESE PLANS OR THIS PLAN SHEET.		

COUNTY: LA/SBD
 ROUTE: HDC
 PROJECT: 0000000001

100% SUBMITTAL
 UTILITY PLAN
 SCALE: 1"=500'

DEPARTMENT OF WATER AND POWER
 SOUTHERN CALIFORNIA EDISON
 SOUTHERN CALIFORNIA GAS
 VVWPA
 LACWD
 LOS ANGELES COUNTY WATERWORKS DISTRICT

THIS PLAN ACCURATE FOR EXISTING UTILITIES ONLY

RELATIVE BORDER SCALE
 15 IN INCHES

PROJECT NUMBER & PHASE
 0000000001

UNIT 0000

0 1 2 3

USERNAME >>> USER
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BORDER LAST REVISED 7/2/2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 FUNCTIONAL SUPERVISOR

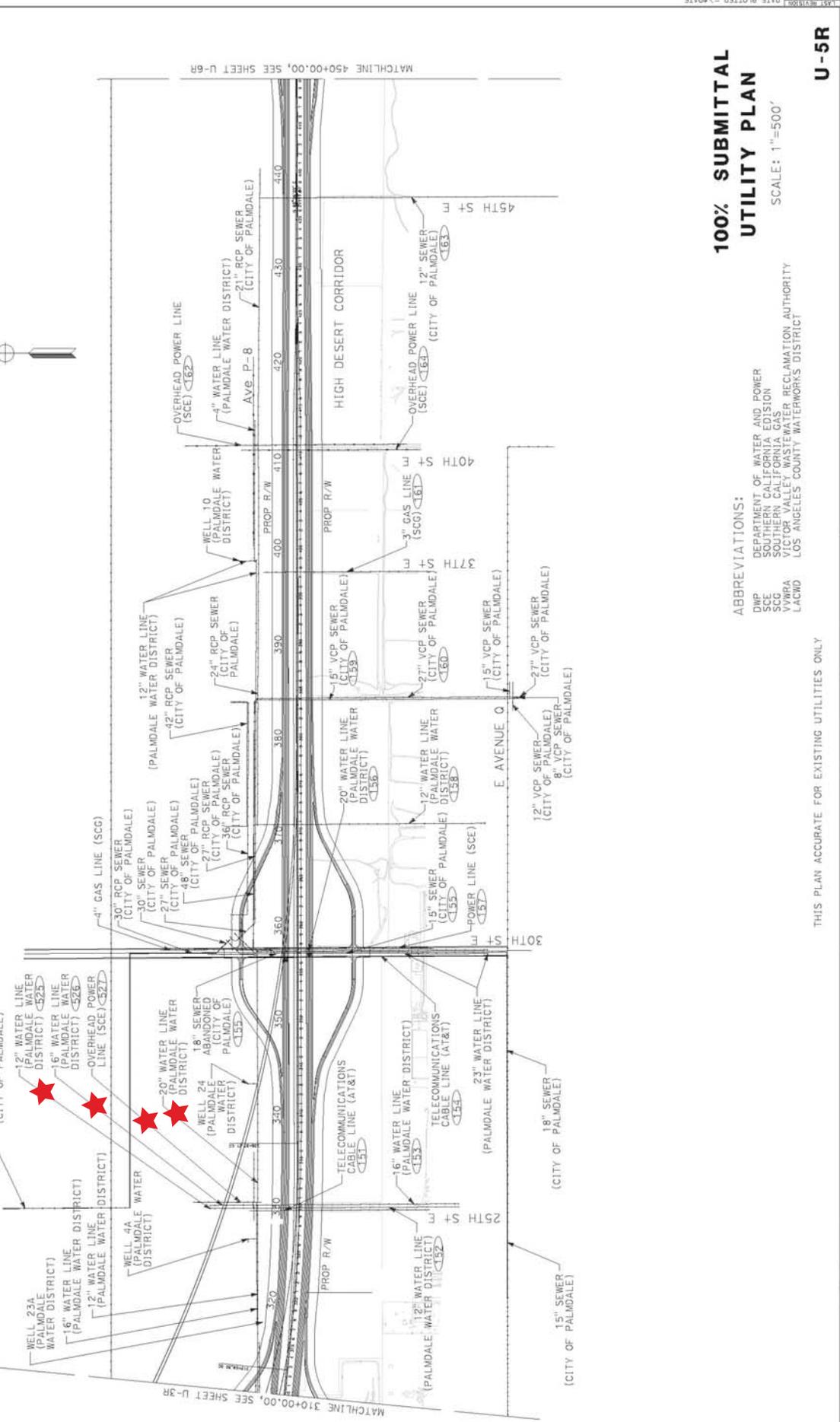
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 DATE REVISED

NOTES:

1. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT RIGHT-OF-WAY ENGINEERING AT THE DISTRICT OFFICE.

2. LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.



MATCHLINE 310+00.00, SEE SHEET U-3R
 MATCHLINE 450+00.00, SEE SHEET U-6R

HIGH DESERT CORRIDOR
 E AVENUE Q

25TH ST, 30TH ST, 37TH ST, 40TH ST, 45TH ST

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DATE: July 14, 2014
TO: File
FROM: Andrea Reeves Engelman, Senior Environmental Planner

SUBJECT: Visual Impact Assessment for High Desert Corridor – Southern Palmdale Rail Station Design Variation

PURPOSE OF STUDY

The purpose of this document is to provide supplemental information to the High Desert Corridor’s (HDC) Visual Impact Assessment a result of a design variation introduced to the project.

PROJECT LOCATION AND SETTING

The project location and setting provides the context for determining the type and severity of changes to the existing visual environment. The terms *visual character* and *visual quality* are defined below and are used to further describe the visual environment. The visual project setting is also referred to as the study area, which is defined as the area of land that is visible from, adjacent to, and outside the right-of-way, and is determined by topography, vegetation, and viewing distance.

Visual character includes attributes such as form, line, color, texture. Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor.

The entire HDC project is located in the Mojave Desert of Southern California; however, the design variation is located entirely within Palmdale, California. The landscape is characterized by desert chaparral consisting of desert scrub, mixed with Joshua trees and California Junipers. Palmdale is located in the High Desert, a name which comes from its higher elevations and more northern latitude than the Low Desert. The summers here are very hot and dry, and winters are cold and windy. The area has over 300 days of sunshine per year. Palmdale is primarily residential with some commercial buildings. The most prominent facility is the Palmdale Regional Airport that is expected to expand in the future.

RAIL OPTIONS EVALUATED

There are two rail options being evaluated with three proposed design variations. These are described in full detail in the main report (Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis) in Section 2, Design Variation Description.

ASSESSMENT METHOD

This visual impact assessment is performed in accordance with the guidance outlined in the publication *Visual Impact Assessment for Highway Projects* published by the Federal Highway Administration (FHWA) in March 1981.

The following steps were followed to assess the potential visual impacts of the proposed project:

- A. Define the project location and setting.
- B. Identify visual assessment units and key views.
- C. Analyze existing visual resources, resource change and viewer response.
- D. Depict (or describe) the visual appearance of project alternatives.
- E. Assess the visual impacts of project alternatives.
- F. Propose measures to offset visual impacts.

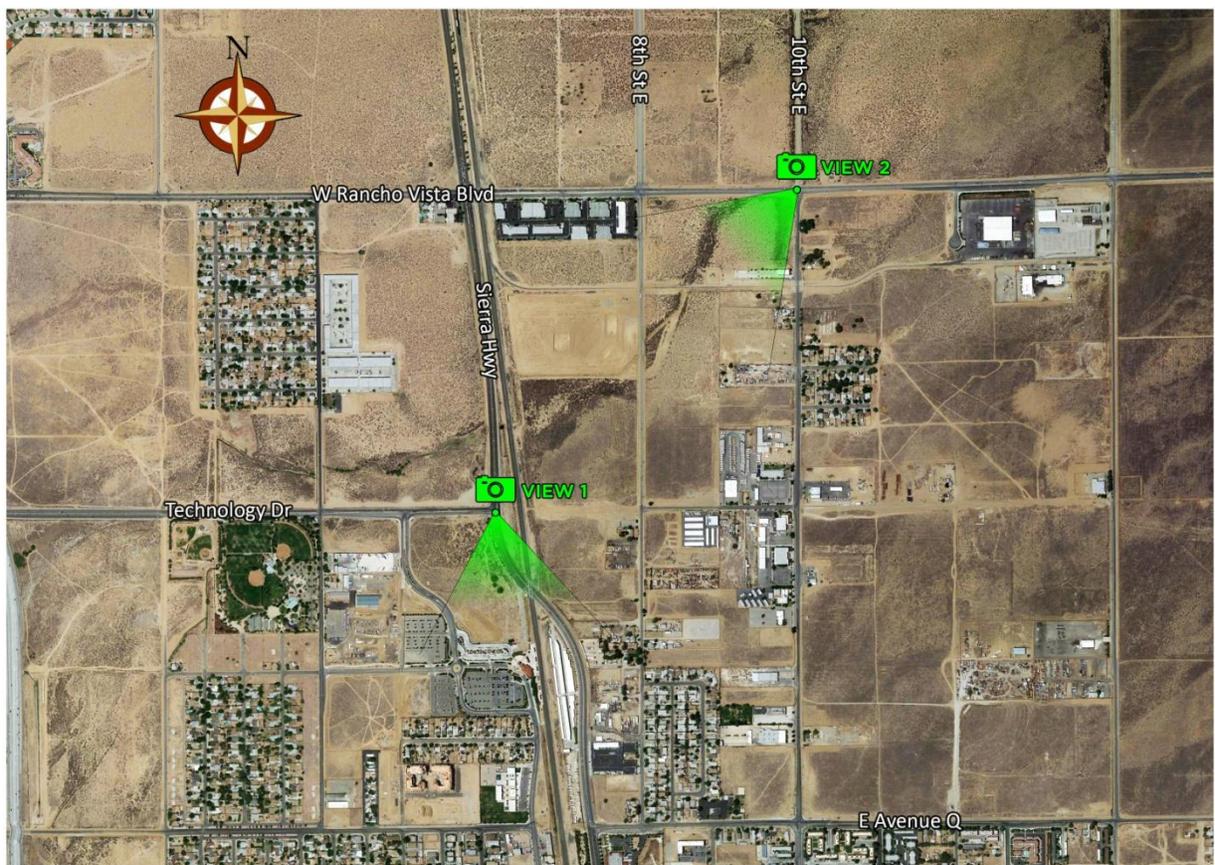
TYPICAL VIEWS AND KEY VIEWPOINTS

Photographs depicting typical views to and from the project area were taken within the study area and two key viewpoints were identified. Key viewpoints were identified to best demonstrate potential changes in the project's visual resources as a result of the proposed design variations of the Southern Palmdale rail station.

Key viewpoint 1 – Technology Drive/Sierra Highway. View of transportation center, parking lot or parking structure.

Key viewpoint 2a – 10th Street East/East Avenue P. View residents see when entering/exiting their neighborhood.

Key Viewpoint Locations



VISUAL RESOURCES AND RESOURCE CHANGE

Visual resources of the project setting are defined and identified by assessing visual character and visual quality in the project corridor.

Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after the construction of the proposed project. Resource change is one of the two major variables in the equation that determine visual impacts (the other is *viewer response*, discussed below in *Viewers and Viewer Response*).

Existing visual quality from the key viewpoints is judged by three criteria: vividness, intactness, and unity.

Low-Minor change to the existing visual resource, with low viewer response to change in the visual environment. May or may not require mitigation.

Moderate-Moderate change to the visual resource with moderate viewer response. Impact can be mitigated within five years using conventional practices.

High - A high level of change to the resource or a high level of viewer response to visual change such that design treatments cannot mitigate the impacts. Viewer response level is high. An alternative project design may be required to avoid highly adverse impacts.

Visual Resources

VISUAL CHARACTER

Visual character includes attributes such as form, line, color, texture, and is used to describe, not evaluate. These attributes are neither considered good nor bad. A change in visual character can be evaluated when it is compared with the viewer response to that change. Changes in visual character can be quantified by identifying how visually compatible a proposed project would be with the existing visual condition by using visual character attributes as an indicator.

The visual character of the project will be mostly consistent with the existing visual character of the study area. Rail facilities are currently located within the study area for the design variations and would be expanded with the proposed project.

VISUAL QUALITY

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. Public attitudes validate the assessed level of visual quality and predict how changes to the project corridor can affect these attitudes. This process helps identify specific methods for addressing each visual impact that may occur as a result of the project. The three criteria for evaluating visual quality are defined below:

Vividness is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.

Intactness is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.

Unity is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

The study area would have minor alterations in visual quality with the proposed design variations. Structures would block views of the mountains from some viewpoints. The structures associated with Rail Option 7 would become the most vivid element in some of those viewpoints.

Resource Change

Resource change of Rail Option 1 would be low on the existing visual resources since the alignment is contained within a tunnel segment.

Resource change of Rail Option 7 is moderate due to the aerial structures required for the alignment. The addition of the rail structures would become the most vivid element in some of the viewpoints.

Station variations A, B, and C would have a low resource change on the existing visual resources within the study area. While the station variations would be in slightly different configurations, rail stations are currently located within the study area and the proposed project would not result in major changes to visual resources.

VIEWERS AND VIEWER RESPONSE

The population affected by the project is composed of *viewers*. Viewers are people whose views of the landscape may be altered by the proposed project—either because the landscape itself has changed or their perception of the landscape has changed.

Viewers, or more specifically the response viewers have to changes in their visual environment, are one of two variables that determine the extent of visual impacts that will be caused by the construction and operation of the proposed project. The other variable is the change to visual resources discussed earlier in *Visual Resources and Resource Change*.

Types of Viewers

There are two major types of viewer groups for transportation projects: highway neighbors and highway users. Each viewer group has their own particular level of *viewer exposure* and *viewer sensitivity*, resulting in distinct and predictable visual concerns for each group which help to predict their responses to visual changes.

NEIGHBORS (*Views to the Highway Alignment*)

Neighbors are people who have views *to* the rail facility. They can be subdivided into different viewer groups by land use. For example, residential, commercial, industrial, retail, institutional, civic, educational, recreational, and agricultural land uses may generate neighbors or viewer groups with distinct reasons for being in the study area and therefore having distinct responses to changes in visual resources. For this project the following highway neighbors were considered:

- **Resident Viewer Group and Pedestrian Viewer Group.** The resident viewer group includes people who may have views of the project area from their homes. The new facility may block views of mountains or expansive desert landscape views for those residents. The pedestrian viewer group consists of people walking in the neighborhood. Residents typically have a high concern about the visual effect of the project on the community.

HIGHWAY or RAIL USERS (*Views from the Highway or Rail Alignment*)

Rail users are people who have views *from* the rail facility. For the design variations considered, the following users were considered:

- **Motorist Viewer Group.** The motorist viewer group consists of commuters, local residents, commercial truck drivers and tourists made up of regional, national and international travelers

who come to see the renowned Mojave Desert landscape or passing through on their way to Las Vegas. Motorist awareness of surrounding views varies based on travel speed, purpose of the drive, and visual quality of surrounding views. With frequent travel through the area, commuters are primarily focused on the commute and the task of navigating through traffic. Commuters usually see the views as a secondary focus. Unlike local residents, commuters do not have the same sense of ownership and awareness of views because they do not reside within that environment, they only pass through it. Whereas, commuters and residents gain familiarity with surrounding views through repetitive exposure, tourists have less familiarity with existing views. Yet, because they are generally traveling at a slower pace, they tend to focus more on the visual environment. Passengers in the car are more aware of a wider range of views. For the most part, the motorist viewer group along the local streets is anticipated to be regular commuters and residents whose travels have become routine, with their awareness of the surrounding environment being limited to the drive.

- **High Speed Rail Passenger Viewer Group.** The HSR passenger viewer group consists of commuters and tourists made up of regional, national and international travelers. Part of the train ride experience is enjoying the scenery. Passenger awareness of surrounding views varies based on travel speed and visual quality of surrounding views. The train will move slower upon leaving and entering the station located in Palmdale thereby increasing the exposure time and awareness of the viewer. Whereas, commuters gain familiarity with surrounding views through repetitive exposure, tourists have less familiarity with existing views.

Viewer Response

Viewer response is a measure or prediction of the viewer's reaction to changes in the visual environment and has two dimensions as previously mentioned, viewer exposure and viewer sensitivity.

VIEWER EXPOSURE

Viewer exposure is a measure of the viewer's ability to see a particular object. Viewer exposure has three attributes: location, quantity, and duration. *Location* relates to the position of the viewer in relationship to the object being viewed. The closer the viewer is to the object, the more exposure. *Quantity* refers to how many people see the object. The more people who can see an object or the greater frequency an object is seen, the more exposure the object has to viewers. *Duration* refers to how long a viewer is able to keep an object in view. The longer an object can be kept in view, the more exposure. High viewer exposure helps predict that viewers will have a response to a visual change.

- For residents and pedestrians, viewer exposure is high due to their long-term and constant presence in the area. Residents are stationary and usually have more time to take in their surrounding views, and at a fairly leisurely pace. They observe the visual environment on a daily basis and for an extended period of time. They become very familiar with the local environment and may take ownership of it.
- Rail Passenger viewer group exposure is only a relatively short time span spent along the proposed project area.

VIEWER SENSITIVITY

Viewer sensitivity is a measure of the viewer's recognition of a particular object. It has three attributes: activity, awareness, and local values. *Activity* relates to the preoccupation of viewers—are they preoccupied, thinking of something else, or are they truly engaged in observing their surroundings. The more they are actually observing their surroundings, the more sensitivity viewers will have of changes to visual resources. *Awareness* relates to the focus of view—the focus is wide

and the view general or the focus is narrow and the view specific. The more specific the awareness, the more sensitive a viewer is to change. *Local values* and attitudes also affect viewer sensitivity. If the viewer group values aesthetics in general or if a specific visual resource has been protected by local, state, or national designation, it is likely that viewers will be more sensitive to visible High viewer sensitivity helps predict that viewers will have a high concern for any visual change.

- For residents and pedestrians, viewer sensitivity is high due to their long-term and constant presence in the area.
- Rail Passengers viewer group sensitivity is lower due to the relatively short time span spent along the proposed project area.

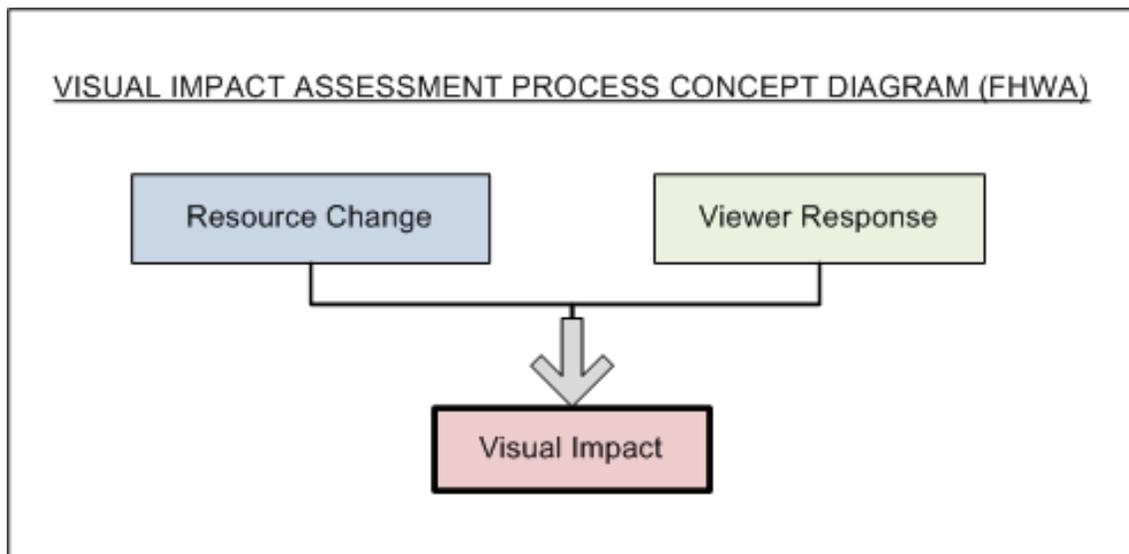
GROUP VIEWER RESPONSE

The narrative descriptions of viewer exposure and viewer sensitivity for each viewer group were merged to establish the overall viewer response of each group.

- Residents and pedestrians have a high level of exposure and high level of sensitivity resulting in a high overall viewer response to the visual environment.
- Overall viewer response for high speed rail passengers is low due to a low level of exposure and also sensitivity.

VISUAL IMPACT

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. These impacts can be beneficial or detrimental. Cumulative impacts and temporary impacts due to the contractor's operations are also considered. A generalized visual impact assessment process is illustrated in the following diagram:



Visual Impacts by Key Viewpoints and Options

Because it is not feasible to analyze all the views in which the proposed design variations would be seen, it is necessary to select a number of key views associated with the visual assessment units that would most clearly demonstrate the change in the project's visual resources. Key views also represent the

viewer groups that have the highest potential to be affected by the project considering viewer's exposure and sensitivity.

KEY VIEWPOINT (KV) #1–Technology Drive/Sierra Highway

KV-#1 Existing Condition



The existing view of the intersection of Technology Drive and Sierra Highway looking south is of an undeveloped parcel, existing rail facilities, and commercial buildings in the foreground. Mid-ground views are of the existing Palmdale Transportation Center. Distant views are of the mountains.. The overall view is low to moderate in visual quality.

Viewer Response



Motorist Viewer Group – The viewer response of the motorist viewer group for both rail options would be low due to the short duration of exposure. The foreground view would change from undeveloped desert to a parking lot or parking structure. The mid-ground views of the existing Palmdale Transportation Center would be blocked by the realigned Sierra Highway over the rail facilities.

Rail Passenger Group – The viewer response of the rail passenger group would be low to both Rail Option 1 and 7, and station variations A, B, and C. Rail Option 1, Station Variation A is depicted in the photograph above.

KEY VIEWPOINT (KV) #2–10th Street East/East Avenue P

KV-#2 Existing Condition



The existing view of the intersection of 10th Street East/East Avenue P is of undeveloped desert and a local roadway. Mountain views are in the distance. This viewpoint is seen by residents traveling to and from their homes located adjacent to 10th Street East, south of East Avenue P. The overall view is low to moderate in visual quality.

Viewer Response



Resident Viewer Group – The viewer response of the resident viewer group would be moderate to high. For Rail Option 1, station variations A, B, and C the response would be moderate since the rail facility would be below existing grade.

The viewer response for Rail Option 7, station variations A, B, and C would be moderate-high with the addition of a 40-foot high rail structure. Distant views of the mountains and sense of openness would be blocked by the rail structure.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Caltrans and the FHWA mandate that a qualitative/aesthetic approach should be taken to address visual quality loss in the project area. This approach fulfills the letter and the spirit of FHWA requirements because it addresses the actual cumulative loss of visual quality due to a project. This approach also results in avoidance, minimization, and/or mitigation measures that can lessen or compensate for a loss in visual quality. The inclusion of aesthetic features in the project design can help generate public acceptance of a project. This section describes additional avoidance, minimization, and/or mitigation measures to address specific visual impacts. These will be designed and implemented with concurrence of the District Landscape Architects.

Avoidance, minimization, and/or mitigation measures identified in the HDC's *Visual Impact Assessment* will apply to the design variations and are listed below. No additional measures have been identified.

Structures

1. Context sensitive aesthetic standards, including features that provide an expression of the "sense of place" for the High Desert Corridor communities shall be considered for the structures to meet the desired goals of Palmdale and Caltrans.
2. Provide context sensitive design through color incorporated into the project elements as much as possible. The aesthetic features shall be developed in coordination with Caltrans Landscape Architecture
3. The planting of trees will be extremely important for the "softening" of structures including walls & bridges, to bring down the scale of these very large urbanized structures.

REFERENCES

California Department of Transportation, 2014. *Visual Impact Assessment – High Desert Corridor*. April.

Federal Highway Administration, 1981. *Visual Impact Assessment for Highway Projects*.

DATE: July 8, 2014
TO: File
FROM: Angela Schnapp, LEED AP, Principal Environmental planner

SUBJECT: Initial Site Assessment for High Desert Corridor – Southern Palmdale Rail Station Design Variation

PURPOSE OF STUDY

The purpose of this document is to provide supplemental information to the High Desert Corridor’s (HDC) Initial Site Assessment (ISA) as a result of a design variation introduced to the project.

PROJECT LOCATION AND SETTING

The entire HDC project is located in the Mojave Desert of Southern California; however, the design variation is located entirely in Palmdale, California. Palmdale is primarily residential with some commercial buildings. In the area of the design variation, there are numerous commercial automotive facilities, residential housing, vacant lots, an industrial park, and a school.

RAIL OPTIONS EVALUATED

There are two rail options being evaluated with three proposed design variations. These are described in full detail in the main report (Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis) in Section 2, Design Variation Description.

ASSESSMENT METHOD

This supplemental Initial Site Assessment is performed in accordance with the American Society for Testing and Materials (ASTM) Standard Practice E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, as applicable.

An updated environmental database search was conducted along with a new site reconnaissance.

UPDATED DATABASE REVIEW

Parsons has retained the services of an environmental database company (Environmental Data Resources, Inc.) to search applicable regulatory agency lists and standard environmental record sources to identify locations of potential concern within the ASTM Standard Practice E 1527-13 (Standard) minimum search distances. The following summarizes the environmental database reports, dated May 16, 2014. The database report is attached to this memorandum.

The environmental database report was reviewed to identify Recognized Environmental Conditions (RECs). According to the ASTM Standard Practice E 1527-13, the term REC means “the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate

an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.”

Over 100 databases were searched. Of those databases searched, 73 databases had no mapped sites. Table 1 summarizes those sites. The remaining 30 databases identified 306 sites within the ASTM required search distances. Table 2 summarizes the database search results.

Table 1: Databases with No Mapped Sites

FEDERAL RECORDS	
Database Name	Database Description
NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Treatment, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System

RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
2020 COR ACTION	2020 Corrective Action Program List
LEAD SMELTERS	Lead Smelter Sites
PRP	Potentially Responsible Parties
US AIRS	Aerometric Information Retrieval System Facility Subsystem
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
US HIST CDL	National Clandestine Laboratory Register
PCB TRANSFORMER	PCB Transformer Registration Database
FEMA UST	Underground Storage Tank Listing
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
FEDERAL FACILITY	Federal Facility Site Information listing
COAL ASH DOE	Steam-Electric Plant Operation Data
EPA WATCH LIST	EPA WATCH LIST
STATE AND LOCAL RECORDS	
Toxic Pits	Toxic Pits Cleanup Act Sites
WMUDS/SWAT	Waste Management Unit Database
WDS	Waste Discharge System
UIC	UIC Listing
SLIC	Statewide SLIC Cases
LIENS	Environmental Liens Listing
CUPA Listings	CUPA Resources List
LDS	Land Disposal Sites Listing
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing
CDL	Clandestine Drug Labs
HAULERS	Registered Waste Tire Haulers Listing
HWT	Registered Hazardous Waste Transporter Database
MWMP	Medical Waste Management Program Listing
TRIBAL RECORDS	
INDIAN RESERV	Indian Reservations
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land
INDIAN VCP	Voluntary Cleanup Priority Listing
EDR PROPRIETARY RECORDS	
EDR MGP	EDR Proprietary Manufactured Gas Plants

Table 2. Summary of Databases with Sites Identified within the Required ASTM Search Distances

Database Name	Number of Sites Identified within Required
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	ASTM Search Distances
FEDERAL RECORDS	
RCRA-SQG	18
RCRA NonGen / NLR	6
FINDS	30
STATE AND LOCAL RECORDS	
HIST Cal-Sites	1
CA BOND EXP. PLAN	1
SCH	3
SWF/LF	2
NPDES	1
Cortese	1
HIST CORTESE	12
SWRCY	4
LUST	23
CA FID UST	8
UST	7
HIST UST	14
SWEEPS UST	17
CHMIRS	4
AST	1
MCS	1
DRYCLEANERS	1
RESPONSE	1
HAZNET	62
EMI	20
ENVIROSTOR	4
RGA LUST	3
RGA LF	1
HWP	1
PROC	1
EDR PROPRIETARY RECORDS	
EDR US Hist Auto Stat	42
EDR US Hist Cleaners	14
Totals:	306

No additional RECs were identified with the new database search; however, there are properties which would be acquired for the design variation.

The following sites appear to be within the footprint of the “wye”, HDC footprint or the station footprint. If any of these sites are to be acquired, it is recommended that soil samples be taken to ensure no contamination exists.

Table 3: Sites Within the Footprint of the “Wye”, High Desert Corridor Footprint or the Station Footprint

Owner	Address	Footprint	Recommended Actions	Rail	Variation
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		Affected		Option	
Not reported	636 E Rancho Vista Blvd	Wye	Conduct soil sampling for petroleum hydrocarbons	1	C
Not reported	636 E Avenue P	Wye	Conduct soil sampling for petroleum hydrocarbons	1	C
Not reported	636 Rancho Vista Blvd (duplicate listing)	Wye	Conduct soil sampling for petroleum hydrocarbons	1	C
Not reported	624 E Rancho Vista Blvd	Wye	Conduct soil sampling for petroleum hydrocarbons	1, 7	C
Not reported	520 E Rancho Vista Blvd	Wye	Conduct soil sampling for petroleum hydrocarbons	1	C
Not reported	520 Rancho Vista Blvd (duplicate listing)	Wye	Conduct soil sampling for petroleum hydrocarbons	1	C
Not reported	39261 10th St E	HDC	Conduct soil sampling for petroleum hydrocarbons	1, 7	C
Not reported	38715 6th St E	Station	Conduct soil sampling for petroleum hydrocarbons	1, 7	C
Not reported	38743 6th St E	Station	Conduct soil sampling for petroleum hydrocarbons	1, 7	C
Not reported	38744 6th St E	Station	Conduct soil sampling for petroleum hydrocarbons	1, 7	C

SITE RECONNAISSANCE SUMMARY

Parsons conducted a site reconnaissance on June 25, 2014. The objective of the site reconnaissance was to observe site conditions for obvious visual indications of activities in the general project area that might represent a hazardous materials or waste concern for the project. The site reconnaissance was conducted by driving the project site. Adjacent properties located outside the project site were observed externally.

The location of each Proposed Metrolink Station Platform for each Variation appears to be in the same location for each Option. In other words, Rail Option 1: Station Variation A appears to be in the same proposed location as Rail Option 7: Station Variation A. As a result, observations noted below for each Variation will apply to both Rail Option 1 and Rail Option 7.

The following observations were made for each Variation:

Variation A: The location of the platform for Variation A is currently occupied by open right-of-way for the railroad and public, available for rent, storage units. Since it is unknown what the contents of the storage units may be, there may be the possibility of hazardous materials stored on site to have leaked into the concrete flooring of the units. As a result, if staining is present on the floors of the storage units, those areas should be sampled for hazardous materials, most likely petroleum hydrocarbons. While this site does not constitute an REC, if this site is to be acquired, it is recommended that soil samples be taken to ensure no contamination exists.

Variation B: The location of the platform for Variation B is currently occupied by open right-of-way for the railroad and public, available for rent, open space. On the date of the site visit, this area was entirely covered by Recreational Vehicle (RV) parking. Again, the possibility of gasoline, oil, or other automotive

type hazardous materials may leak onto the asphalt and dirt area where the RVs are parked. As a result, if staining is present on the asphalt or dirt area, those areas should be sampled for hazardous materials, most likely petroleum hydrocarbons. While this site does not constitute an REC, if this site is to be acquired, it is recommended that soil samples be taken to ensure no contamination exists.

Variation C: The location of the platform for Variation C is currently occupied by automotive businesses (Industrial Radiator & Muffler and Palmdale Wheels & Tire – Brakes), two empty lots and an apartment building (consisting of a single-story brick building with 4 or 5 units). Both of the automotive business were identified in the database search report; however, neither of these businesses had violations, open investigations or enforcement actions against them. While these sites do not constitute RECs, it is recommended that soil samples be taken to ensure no contamination exists.

ENVIRONMENTAL CONSEQUENCES

Additional sites may require soil sampling to determine if the sites are contaminated with petroleum hydrocarbons. These sites are listed in detail in Table 3 above.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

No additional avoidance, minimization or mitigation measures would be required other than conducting soil sampling at the sites listed in Table 3 above and those mentioned in the Site Reconnaissance Summary section.

CONCLUSION

There are no new regulatory settings or changes to the affected environment. There are additional sites which may require soil sampling to determine whether or not petroleum hydrocarbons are present in soils. There would be no additional avoidance, minimization, and mitigation measures except to conduct soil sampling where petroleum hydrocarbons may be present. After reviewing the updated database records search and performing new site reconnaissance, no new RECs were identified for the project location.

REFERENCES

California Department of Transportation, 2011. *Initial Site Assessment, New LA-138 Highway between 100th Street and San Bernardino County Line, Palmdale, California*. August 31.

California Department of Transportation, 2011. *Revised Initial Site Assessment from Route 14 to 100th Street, Proposed SR-138, Palmdale, California*. September 1.

California Department of Transportation, 2013. *Supplemental Initial Site Assessment, New LA-138 Highway between 100th Street and San Bernardino County Line, Palmdale, California*. December 1.

California Department of Transportation, 2014. *Initial Site Assessment Update from Route 14 to 100th Street, Proposed SR-138, Palmdale, California*. January 31.

DATE: July 8, 2014
TO: File
FROM: Veronica Seyde, Water Quality Manager

SUBJECT: Hydrology, Water Quality, Stormwater Runoff for High Desert Corridor – Southern Palmdale Rail Station Design Variation

This Technical Memorandum provides a supplemental impact analysis for the proposed relocation of the Southern Palmdale Rail Station from the originally proposed location analyzed in the Administrative Draft EIR/EIS for the High Desert Corridor (HDC). The HDC includes two High Speed Rail (HSR) alternatives: (1) Freeway/Expressway Alternative with HSR Feeder/Connector Service; and (2) Freeway/Tollway Alternative with HSR Feeder/Connector Service. For the Palmdale rail connection, there are two rail options being evaluated with three proposed design variations. These are described in full detail in the main report (Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis) in Section 2, Design Variation Description (Parsons 2014). Both options allow eastbound and westbound tracks on the HDC to connect to the California HSR network northbound and southbound tracks by using a combination of aerial and cut-and-cover or tunneling structures. The locations of these two platforms are subject to change as project design proceeds. Environmental effects resulting from the new platform locations will be addressed and incorporated into the environmental document.

Regulatory Setting

Federal Laws and Requirements

Refer to Water Quality Assessment Report (WQAR) for a discussion regarding Federal Laws and Requirements (Parsons 2014a).

State Laws and Requirements

Refer to the WQAR for a discussion regarding State Laws and Requirements (Parsons 2014a).

Regional and Local Requirements

Dewatering Activities

If temporary excavations require dewatering, there is the potential of discharging pollutants (primarily by entraining silt and clay, but also from encountering chemicals and other contaminants) through release of construction water directly to the environment, which could possibly violate the Lahontan Regional Water Quality Control Board (RWQCB) water quality objectives (WQOs). Lahontan RWQCB's Order No. R6T-2008-0023, Renewed Waste Discharge Requirements and NPDES General Permit for Limited Threat Discharges to Surface Waters, covers discharges to surface water from dewatering activities.

Refer to the WQAR for a discussion regarding other regional and local requirements (Parsons 2014a).

Project Location and Setting

The HDC project is located in the Mojave Desert; however, this Technical Memorandum focuses on the Palmdale area where the design variations occur.

Affected Environment

General Setting

Refer to the WQAR for information regarding the water quality setting for the Palmdale area.

Receiving water bodies within the Palmdale area where the design variations would occur include an unnamed creek north of East Rancho Vista Boulevard. This creek has a distribution type function typical of alluvial fan areas and receives shallow flooding and/or sheet flow.

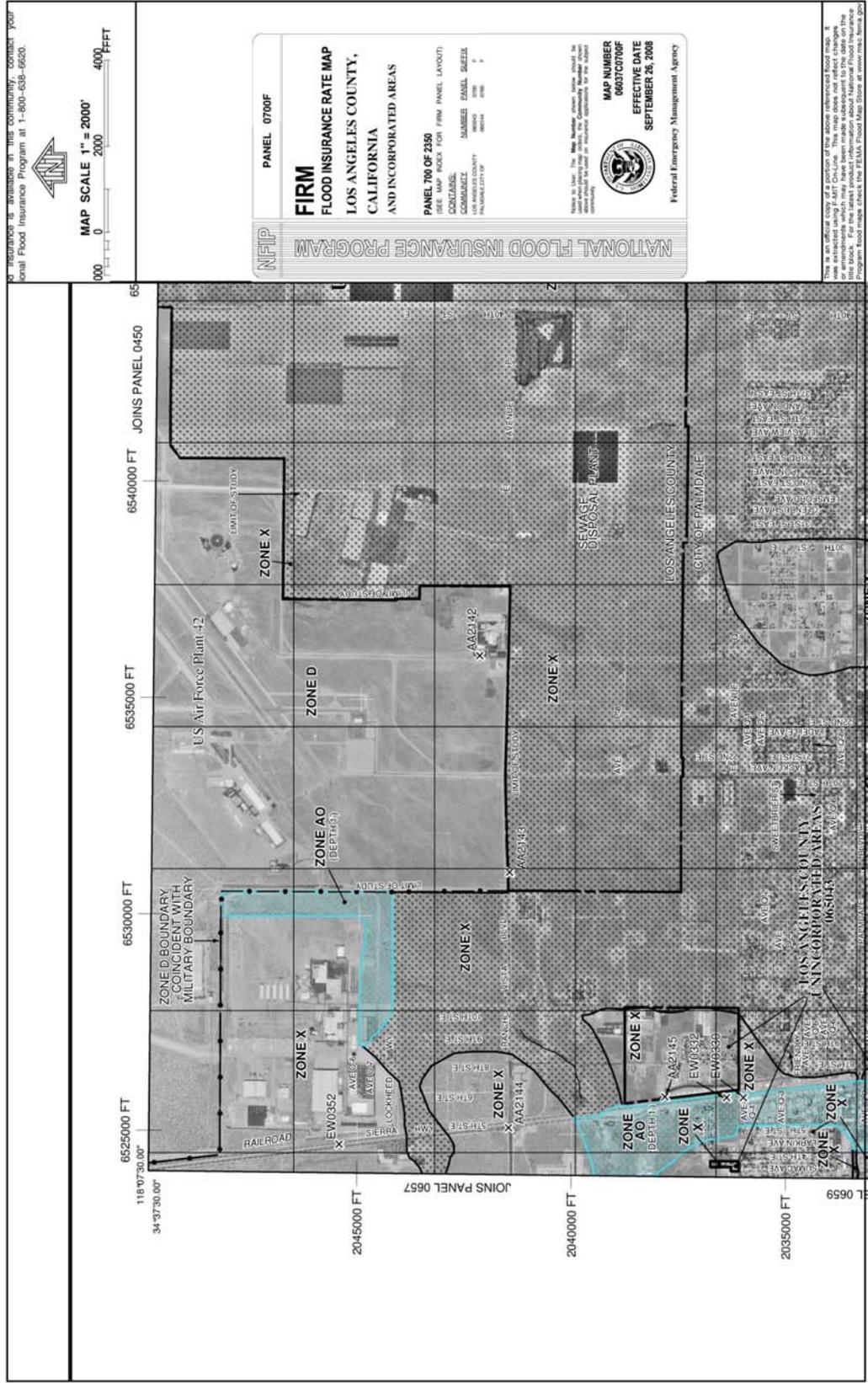
Groundwater Basins

Refer to the WQAR for information regarding groundwater basins within the Palmdale area (Parsons 2014a).

Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), which generally define the 100-year based floodplain, consider only major streams with drainage areas greater than 1 square mile. Streams with tributary areas larger than 1 square mile have floodplains designated as Zone A (an area inundated by 100-year flooding, for which no base flood elevations [BFEs] have been established), and flood insurance is generally required for at-risk structures in the floodplain. Streams with smaller tributary areas have floodplains designated as Zone B or X and generally do not require flood insurance. The Southern Palmdale Rail Station options and design variations are located within Zone X. Zone X areas are outside the 0.2 percent annual chance floodplain (see Figure 1), therefore no floodplain impacts are anticipated with implementation of the HDC rail options and station variations.

Figure 1. Flood Insurance Rate Map



Precipitation and Climate

Refer to the WQAR for information regarding precipitation and climate in the Palmdale area (Parsons 2014a).

Soil Erosion Potential

According to the Natural Resource Conservation Service soils maps (U.S. Department of Agriculture 2014), soils within the Palmdale area are classified predominantly into Hydrologic Soils Groups (HSG) A and B (see Appendix A), indicating that infiltration characteristics would support the use of infiltration basins. Specifically, soils classified into HSG A typically exhibit a low runoff potential coupled with a high transmission rate. Soils classified into HSG B exhibit a moderately low runoff potential and a moderate transmission rate.

Surface Water Quality Objectives and Beneficial Uses

The document for each region in the State Water Resource Control Board’s (SWRCB’s) jurisdiction is the Water Quality Control Plan, commonly referred to as the Basin Plan. The Basin Plan designates beneficial uses for surface and ground waters, and it sets qualitative and quantitative objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State’s antidegradation policy. The Basin Plan also describes implementation programs to protect the beneficial uses of all waters in the region and surveillance and monitoring activities to evaluate its effectiveness (Lahontan RWQCB, 1995). To protect beneficial uses, the RWQCB has set forth WQOs that are described in the Basin Plan. WQOs are intended to (1) protect public health and welfare; and (2) maintain or enhance water quality in relation to the designated existing and potential beneficial uses of the water. Waters not mentioned by name in the Lahontan Basin Plan are included in the categories “Minor Surface Waters,” and beneficial uses are designated for these categories; however, the Basin Plan does not provide WQOs for minor surface waters. Table 1 provides beneficial uses for Minor Surface Waters within the Antelope and Lancaster hydrologic units, which may include the unnamed stream north of East Rancho Vista Boulevard in the Palmdale area.

Table 1. Beneficial Uses for Minor Surface Waters

HU No.	HU Name	MUN	AGR	GWR	REC-1	REC-2	COMM	WARM	COLD	WILD
626.00	Antelope									
	Minor Surface Waters	X	X	X	X	X	X	X	X	X
626.50	Lancaster									
	Minor Surface Waters	X	X	X	X	X	X	X	X	X

MUN = Municipal and Domestic Supply; AGR = Agricultural Supply; GWR = Ground Water Recharge; REC-1 = Water Contact Recreation; REC-2 = Noncontact Water Recreation; COMM = Commercial and Sportfishing; WARM = Warm Freshwater Habitat; COLD = Cold Freshwater Habitat; WILD = Wildlife Habitat.

Groundwater Water Quality Objectives and Beneficial Uses

Refer to the WQAR for information regarding groundwater quality objectives and beneficial uses in the Palmdale area (Parsons 2014a).

Existing Water Quality

Surface Waters

The unnamed stream north of East Rancho Vista Boulevard as well as minor surface waters in the Palmdale area are not designated as impaired under Section 303(d) of the CWA (SWRCB, 2011) and TMDLs have not been established (SWRCB, 2011a).

Groundwater

Refer to the WQAR for information regarding groundwater quality in the Palmdale area (Parsons 2014a).

Environmental Consequences

Potential Impacts to Water Quality

Construction Phase

Although the proposed station variations are within a developed urban area in Palmdale, construction of the station could provide additional sources of polluted runoff to the local stormwater system or degrade water quality.

The Southern Palmdale Rail options also have the potential to affect water quality, existing drainage and local groundwater quality and quantity from dewatering. Potential impacts to water quality and existing drainage, however, are the same anticipated impacts associated with the build alternatives that were analyzed in the Administrative Draft EIR/EIS for the HDC project. A discussion regarding potential impacts to water quality during construction are provided in the WQAR (Parsons 2014a). A discussion regarding potential impacts to existing drainage are provided in the Preliminary Hydrology and Hydraulics Report (Parsons 2014b).

Tunneling may require removal of groundwater from excavations during construction. Pile driving, dewatering, and other construction activities that would encounter groundwater could potentially occur. While the insertion of support and foundation structures in the groundwater may reduce the storage capacity of groundwater, the displaced volume would not be substantial relative to the volume of the groundwater in the Antelope Valley groundwater basins (Parsons 2014a). Furthermore, this loss would be mitigated by groundwater recharge programs that have already been designed and implemented within the Antelope Valley groundwater basin area to ensure that groundwater will continue to be a viable water supply. In addition, the selected Rail option and station variation would be required to implement Treatment BMPs to the maximum extent practicable. Treatment BMPs, such as infiltration devices, augment groundwater by retaining stormwater runoff, which subsequently infiltrates into the groundwater regime. Any impact to the storage capacity of groundwater would be minimized by implementing project design features described in the following section.

Tunneling and construction of any aerial support structure in areas of shallow groundwater would require excavation and dewatering. Dewatering activities for excavations below the water table could result in the discharge of unsuitable and untreated water if discharged directly to the environment. If slurry is used as part of a drilling method, any groundwater encountered would

be disposed of according to the requirements of the NPDES dewatering permit from the Lahontan RWQCB.

Temporary (i.e., construction phase) best management practices (BMPs), would be evaluated and implemented to address potential water quality impacts during the construction phase. A discussion regarding the Temporary Construction BMP strategy that would be implemented during the construction phase to mitigate potential water quality impacts is provided in the WQAR (Parsons 2014a).

Operational Phase

Operation of the HSR system in the Palmdale area would not require large amounts of lubricants or hazardous materials for operation. The electric trains would use a regenerative braking technology, resulting in reduced physical braking and associated wear when arriving at the Palmdale station. Runoff from the at-grade tracks and the aerial structures would have minimal pollutants.

The proposed rail options and station variations will create more impervious area than what was analyzed in the Administrative Draft EIR/EIS for the HDC. This additional impervious area would generate additional runoff within the Palmdale area watershed. This increase in runoff would be mitigated through the use of project design features which are discussed in the next section.

The Station Variations (including parking structures) would be in the existing urban area of Palmdale. Under Station Variations A and B, HSR users would park in surface parking or in an above-grade structure under Station Variation C. Station Variation C would have less surface area for the generation of pollutants. Station activities are similar to activities currently conducted in the Palmdale area, such as office use, pedestrian use and parking. Therefore, few, if any new potential pollution sources would be constructed and there would be minimal impact on existing water quality.

Project Design Features

Each of the rail options and station variations would include project design features such as the design and installation of Treatment BMPs to the Maximum Extent Practicable (MEP). The targeted design constituent (TDC) approach, outlined in the Project Planning and Design Guide (Caltrans 2010), would be used to determine the prioritization for potential Treatment BMPs. The applicability of all nine Caltrans-approved Treatment BMPs would be analyzed for the Southern Palmdale Rail Options and Station Variations from a water quality perspective in relation to the receiving water bodies within the Palmdale area.

Preliminary engineering has indicated that the Southern Palmdale Rail Options and Station Variations present opportunities for the implementation of Treatment BMPs. All nine Caltrans-approved Treatment BMPs were analyzed to determine their feasibility for implementation in the Palmdale area. Two infiltration basins are proposed for the Palmdale area within the Caltrans right of way. Infiltration basins were selected based on their ability to treat the TDCs and meet the feasibility and siting criteria identified in the Project Planning and Design Guide.

These infiltration basins would treat and partially contain the onsite pavement runoff of the impervious surface areas. The infiltration basins treat runoff by retaining the Water Quality

Volume (WQV) and enough flow volume to ensure flow rates mimic existing conditions.¹ Once the required volume has been retained, runoff outlets through spillways or pipe risers where the excess runoff is conveyed to the natural flow path.

For each of the rail options and station variations, the WQV would be routed away from local drainage courses and into the infiltration basin; therefore, at the onset of a design storm event,² it is expected that there would be no observable increase in the surface water quality constituent loadings at each of the local drainage areas. The locations of the proposed infiltration basins are shown in Appendix B.

Avoidance and Minimization Measures

Impact: Construction Discharges

Minimization Measures. If construction of the Southern Palmdale Rail Options and Station Variations requires the discharge of groundwater to the environment, the following measures to minimize potential water quality and hydrological impacts associated with construction would be required.

WQ-1: Discharge of Construction Water. If dewatering is expected for tunneling or development of aerial support structures in the Palmdale area, the contractor shall fully conform to the requirements specified Order No. R6T-2008-0023, Renewed Waste Discharge Requirements and NPDES General Permit for Limited Threat Discharges to Surface Waters. This NPDES permit regulates specified low threat discharges of waste to land, including construction dewatering and dredge spoils dewatering. To obtain authorization for discharges under this General Permit, the contractor would be required to submit a Notice of Intent (NOI) with an appropriate fee and a Best Management Practices Plan to control the discharge.

Refer to the WQAR (Parsons 2014a) for a discussion regarding additional avoidance and minimization measures pertaining to water quality.

References:

- | | |
|-----------------------|--|
| Caltrans. 2010. | Caltrans Storm Water Quality Handbooks Project Planning and Design Guide (PPDG). July 2010. |
| Lahontan RWQCB. 1995. | Water Quality Control Plan for the Lahontan Region North and South Basins. Effective March 31, 1995, amendments effective August 1995 through December 2005. |
| Parsons.2014. | Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis. July 2014. |
| Parsons. 2014a. | Water Quality Assessment Report. High Desert Corridor (HDC) Project. June 2014. |

¹ Infiltration basins also provide an additional benefit of retaining trash.

² The “Design Storm” is defined by Caltrans as the particular rain event that generates runoff rates or volumes that the drainage facilities are designed to handle (Caltrans, 2010).

- Parsons. 2014b Hydrology and Hydraulics Report. High Desert Corridor (HDC) Project. June 2014.
- SWRCB. 2011 California 305(b) Report on Water Quality. Prepared as Required by Federal Clean Water Act Section 305(b) State Water Resources Control Board. Accessed via Web site at: http://www.swrcb.ca.gov/water_issues/programs/tmdl/305b.shtml. June 2014.
- SWRCB. 2011a. Total Maximum Daily Load. Accessed via Web site at: http://www.swrcb.ca.gov/water_issues/programs/tmdl/integrated2010.shtml. June 2014.
- U.S. Department of Agriculture Service. 2014. Web Soil Survey, last modified February 27, 2012. Accessed via web site: <http://websoilsurvey.nrcs.usda.gov/app/>. June 2014.

Appendix A

Soil Map—Antelope Valley Area, California
(HDC Soil Map)



Map Scale: 1:116,900 if printed on 8 portrait (11" x 17") sheet.
 0 250 500 1000 1500 Meters
 0 500 1000 2000 3000 Feet
 Map projection: Web Mercator Corner coordinates: WGS84 EdgeTics: UTM Zone 11N WGS84

MAP LEGEND

- Area of Interest (AOI)
- Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features**
- Water Features**
- Streams and Canals
- Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads
- Background**
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Antelope Valley Area, California
 Survey Area Data: Version 6, Dec 17, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

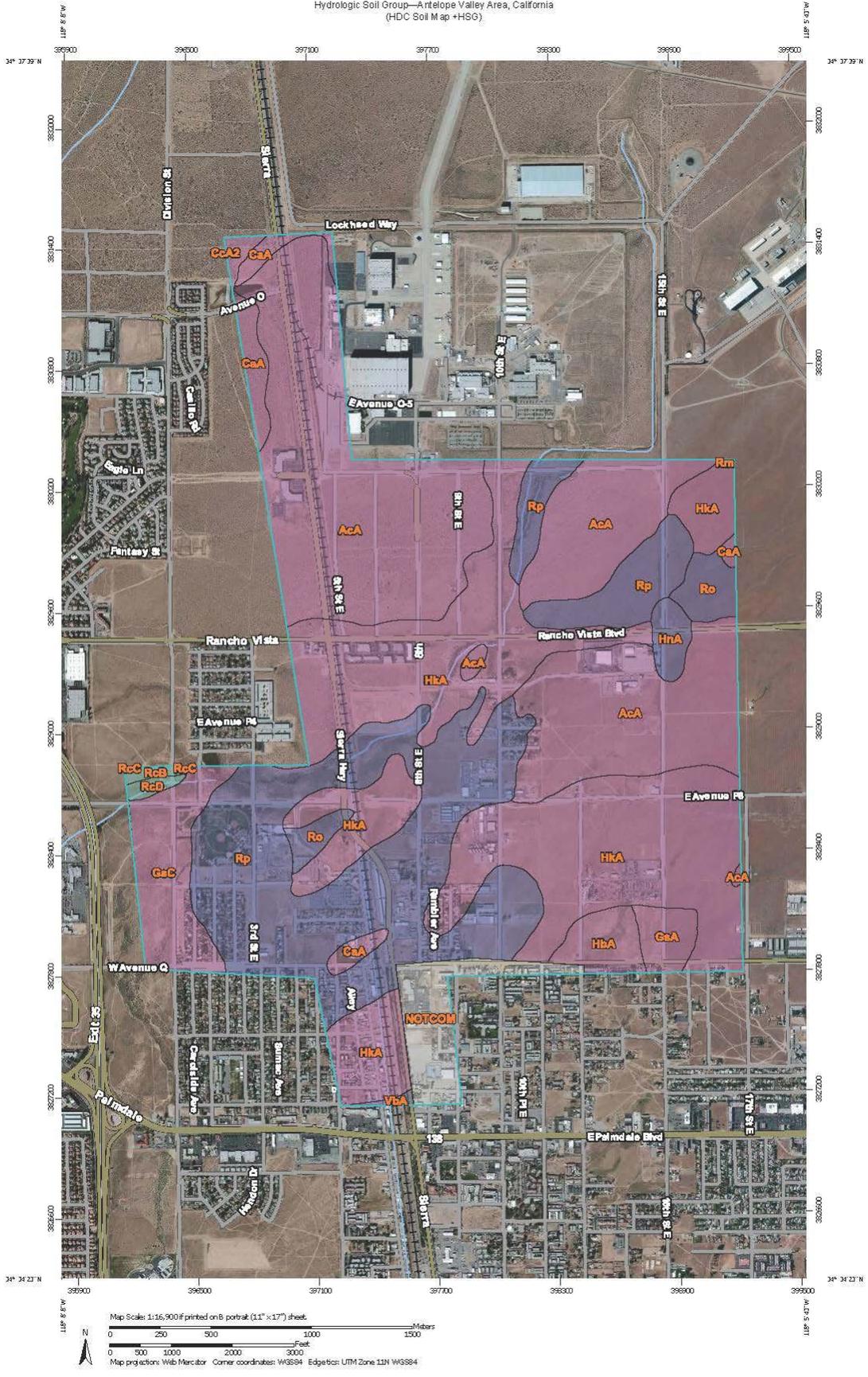
Date(s) aerial images were photographed: May 5, 2010—Oct 29, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Antelope Valley Area, California (CA675)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AcA	Adelanto coarse sandy loam, 2 to 5 percent slopes	578.5	31.2%
CaA	Cajon loamy sand, 0 to 2 percent slopes	36.3	2.0%
CcA2	Cajon loamy fine sand, 0 to 2 percent slopes, hummocky	5.7	0.3%
GsA	Greenfield sandy loam, 0 to 2 percent slopes	21.3	1.1%
GsC	Greenfield sandy loam, 2 to 9 percent slopes	76.5	4.1%
HbA	Hanford coarse sandy loam, 0 to 2 percent slopes	28.1	1.5%
HkA	Hesperia fine sandy loam, 0 to 2 percent slopes	562.3	30.3%
HnA	Hesperia loam, 0 to 2 percent slopes	15.8	0.9%
NOTCOM	No Digital Data Available	54.5	2.9%
RcB	Ramona coarse sandy loam, 2 to 5 percent slopes	4.0	0.2%
RcC	Ramona coarse sandy loam, 5 to 9 percent slopes	0.4	0.0%
RcD	Ramona coarse sandy loam, 9 to 15 percent slopes	5.2	0.3%
Rm	Rosamond loamy fine sand	0.7	0.0%
Ro	Rosamond fine sandy loam	32.4	1.7%
Rp	Rosamond loam	431.3	23.2%
VbA	Vernalis loam, 0 to 2 percent slopes	2.4	0.1%
Totals for Area of Interest		1,855.4	100.0%

Hydrologic Soil Group—Antelope Valley Area, California
(HDC Soil Map + HSG)

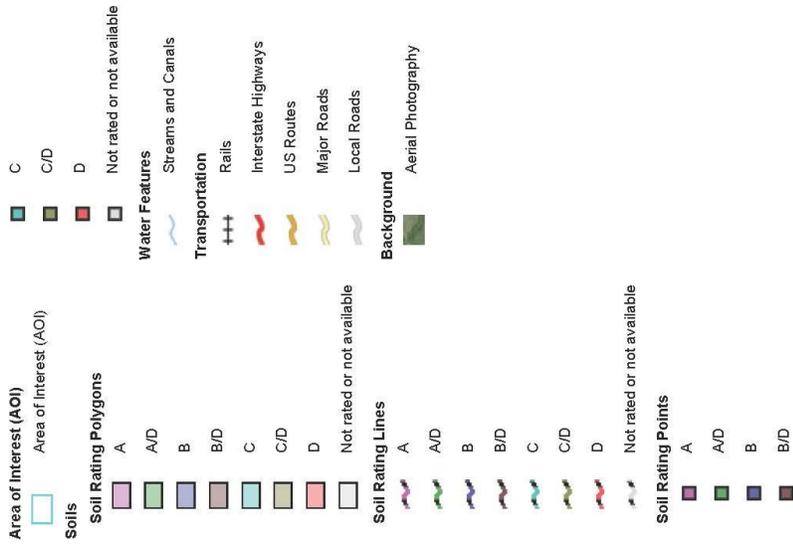


USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

6/24/2014
Page 1 of 4

MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Antelope Valley Area, California
Survey Area Data: Version 6, Dec 17, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2010—Oct 29, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Antelope Valley Area, California (CA675)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AcA	Adelanto coarse sandy loam, 2 to 5 percent slopes	A	578.5	31.2%
CaA	Cajon loamy sand, 0 to 2 percent slopes	A	36.3	2.0%
CcA2	Cajon loamy fine sand, 0 to 2 percent slopes, hummocky	A	5.7	0.3%
GsA	Greenfield sandy loam, 0 to 2 percent slopes	A	21.3	1.1%
GsC	Greenfield sandy loam, 2 to 9 percent slopes	A	76.5	4.1%
HbA	Hanford coarse sandy loam, 0 to 2 percent slopes	A	28.1	1.5%
HkA	Hesperia fine sandy loam, 0 to 2 percent slopes	A	562.3	30.3%
HnA	Hesperia loam, 0 to 2 percent slopes	B	15.8	0.9%
NOTCOM	No Digital Data Available		54.5	2.9%
RcB	Ramona coarse sandy loam, 2 to 5 percent slopes	C	4.0	0.2%
RcC	Ramona coarse sandy loam, 5 to 9 percent slopes	C	0.4	0.0%
RcD	Ramona coarse sandy loam, 9 to 15 percent slopes	C	5.2	0.3%
Rm	Rosamond loamy fine sand	B	0.7	0.0%
Ro	Rosamond fine sandy loam	B	32.4	1.7%
Rp	Rosamond loam	B	431.3	23.2%
VbA	Vernalis loam, 0 to 2 percent slopes	B	2.4	0.1%
Totals for Area of Interest			1,855.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B



High Desert Corridor Infiltration Basin Layout 1

DATE: July 10, 2014

TO: File

FROM: Thanh T. Luc

SUBJECT: Noise and Vibration Impact Assessment for High Desert Corridor – Southern Palmdale Rail Station Design Variations

PURPOSE OF STUDY

The purpose of this document is to provide supplemental analysis to the High Desert Corridor’s (HDC) Noise and Vibration Impact Assessment as a result of a design variation introduced to the project.

PROJECT LOCATION AND SETTING

The entire HDC project is located in the Mojave Desert of Southern California; however, the design variation is located entirely in Palmdale, California. Palmdale is primarily residential with some commercial buildings. In the area of the design variation, there are numerous commercial automotive facilities, residential housing, vacant lots, an industrial park, and a school.

RAIL OPTIONS EVALUATED

There are two rail options being evaluated with three proposed design variations. These are described in full detail in the main report (Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis) in Section 2, Design Variation Description.

ASSESSMENT METHOD

This supplemental Noise and Vibration Impact Assessment is performed in accordance with the guidelines and procedures outlined in the latest Federal Railroad Administration’s *High Speed Ground Transportation Noise and Vibration Impact Assessment* manual and the California Department of Transportation’s *Traffic Noise Analysis Protocol*. The assessment method is consistent with that of the original HDC Noise and Vibration Impact Assessment.

Procedures outlined in the FRA High-Speed Ground Transportation Noise and Vibration Impact Assessment were used to predict high-speed train pass-by noise levels at representative noise-sensitive locations along the various design options/variations. Per discussion in the original HDC Noise and Vibration Impact Assessment, due to the special circumstance of this project where the freeway noise would be the dominant noise source along a majority of the project corridor, it has been concurred with the FRA that rail noise impact would be assessed using Category 3 (Leq) criterion for all noise sensitive land uses.

RAIL NOISE ANALYSIS UPDATE AND REVIEW OF TRAFFIC NOISE ANALYSIS

Future project noise levels, which include the projected traffic and rail noise, were determined and presented in Table 1 to 6 for the various design options and variations.

Review of the design options/variations revealed that the new sensitive receptor locations (Receptors P1, P1A, and P2 in Exhibit A) associated with the design variations of the two options would not be affected by the traffic noise along the main project corridor as these areas are too distant from the freeway component of the project along the main project corridor.

To be consistent with the original HDC Noise and Vibration Impact Assessment, train pass-by noise levels at the sensitive locations were calculated using the operation schedule, speed, distance to track alignment that were available at the time of the study. Some of the parameters used in the analysis are as follows:

- A 10-car EMU train would be operating.
- Operating speed of 125 mph assumed throughout the length of the corridor for worst-case scenario analysis.
- The operating times for the proposed service would be between 6 AM and midnight. The operating plan for high-speed rail service specifies mid-day headways of 20 minutes, morning and evening headways of 30 minutes and early morning and late night headways of one hour. Ten-car trains would operate throughout the day.

Table 1: Projected Noise Levels for Option 1 Variation A

Receiver	Land Use	FHWA Noise Abatement Criteria (dBA)	Existing Noise Level, dBA	TRAFFIC NOISE		TRAIN NOISE			TRAFFIC + TRAIN NOISE
				Future Worst-Hour Traffic Noise Level, Leq, dBA	FHWA/ Caltrans Impact Type (Approach/ Exceed, Substantial)	Future Peak Hour Train Noise Level, Leq, dBA	FRA Noise Impact Criteria (Moderate/ Severe), dBA	FRA Train Noise impact Type (None, Moderate, Severe)	Future Peak Hour Overall Project Noise Level, Leq, dBA
P2	R	B (67)	48	N/A	None	51	58 / 64	None	51
B0	R	B (67)	49	68	A/E	39	58 / 64	None	68
BM0	R	B (67)	49	68	A/E	39	58 / 64	None	68
B5	CH	B (67)	48	66	A/E	43	58 / 64	None	66
B6	R	B (67)	53	68	A/E	37	59 / 65	None	68

Land Use: Impact Type:
R = Residential A/E = Approach/Exceed
CH = Church

Table 2: Projected Noise Levels for Option 1 Variation B

Receiver	Land Use	FHWA Noise Abatement Criteria (dBA)	Existing Noise Level. dBA	TRAFFIC NOISE		TRAIN NOISE			TRAFFIC + TRAIN NOISE
				Future Worst-Hour Traffic Noise Level, Leq, dBA	FHWA/ Caltrans Impact Type (Approach/ Exceed, Substantial)	Future Peak Hour Train Noise Level, Leq, dBA	FRA Noise Impact Criteria (Moderate/ Severe), dBA	FRA Train Noise impact Type (None, Moderate, Severe)	Future Peak Hour Overall Project Noise Level, Leq, dBA
P1	R	B (67)	48	N/A	None	47	58 / 64	None	47
P2	R	B (67)	48	N/A	None	51	58 / 64	None	51
B0	R	B (67)	49	68	A/E	39	58 / 64	None	68
BM0	R	B (67)	49	68	A/E	39	58 / 64	None	68
B5	CH	B (67)	48	66	A/E	43	58 / 64	None	66
B6	R	B (67)	53	68	A/E	37	59 / 65	None	68

Land Use: Impact Type:
R = Residential A/E = Approach/Exceed
CH = Church

Table 3: Projected Noise Levels for Option 1 Variation C

Receiver	Land Use	FHWA Noise Abatement Criteria (dBA)	Existing Noise Level. dBA	TRAFFIC NOISE		TRAIN NOISE			TRAFFIC + TRAIN NOISE
				Future Worst-Hour Traffic Noise Level, Leq, dBA	FHWA/ Caltrans Impact Type (Approach/ Exceed, Substantial)	Future Peak Hour Train Noise Level, Leq, dBA	FRA Noise Impact Criteria (Moderate/ Severe), dBA	FRA Train Noise impact Type (None, Moderate, Severe)	Future Peak Hour Overall Project Noise Level, Leq, dBA
P1A	R	B (67)	48	N/A	None	51	58 / 64	None	51
P2	R	B (67)	48	N/A	None	53	58 / 64	None	53
B0	R	B (67)	49	68	A/E	38	58 / 64	None	68
BM0	R	B (67)	49	68	A/E	38	58 / 64	None	68
B5	CH	B (67)	48	66	A/E	40	58 / 64	None	66
B6	R	B (67)	53	68	A/E	38	59 / 65	None	68

Land Use: Impact Type:
R = Residential A/E = Approach/Exceed
CH = Church

Table 4: Projected Noise Levels for Option 7 Variation A

Receiver	Land Use	FHWA Noise Abatement Criteria (dBA)	Existing Noise Level. dBA	TRAFFIC NOISE		TRAIN NOISE			TRAFFIC + TRAIN NOISE
				Future Worst-Hour Traffic Noise Level, Leq, dBA	FHWA/ Caltrans Impact Type (Approach/ Exceed, Substantial)	Future Peak Hour Train Noise Level, Leq, dBA	FRA Noise Impact Criteria (Moderate/ Severe), dBA	FRA Train Noise impact Type (None, Moderate, Severe)	Future Peak Hour Overall Project Noise Level, Leq, dBA
P2	R	B (67)	48	N/A	None	51	58 / 64	None	51
B0	R	B (67)	49	68	A/E	47	58 / 64	None	68
BM0	R	B (67)	49	68	A/E	49	58 / 64	None	68
B5	CH	B (67)	48	66	A/E	43	58 / 64	None	66
B6	R	B (67)	53	68	A/E	37	59 / 65	None	68

Land Use: Impact Type:
R = Residential A/E = Approach/Exceed
CH = Church

Table 5: Projected Noise Levels for Option 7 Variation B

Receiver	Land Use	FHWA Noise Abatement Criteria (dBA)	Existing Noise Level. dBA	TRAFFIC NOISE		TRAIN NOISE			TRAFFIC + TRAIN NOISE
				Future Worst-Hour Traffic Noise Level, Leq, dBA	FHWA/ Caltrans Impact Type (Approach/ Exceed, Substantial)	Future Peak Hour Train Noise Level, Leq, dBA	FRA Noise Impact Criteria (Moderate/ Severe), dBA	FRA Train Noise impact Type (None, Moderate, Severe)	Future Peak Hour Overall Project Noise Level, Leq, dBA
P1	R	B (67)	48	N/A	None	47	58 / 64	None	47
P2	R	B (67)	48	N/A	None	51	58 / 64	None	51
B0	R	B (67)	49	68	A/E	47	58 / 64	None	68
BM0	R	B (67)	49	68	A/E	49	58 / 64	None	68
B5	CH	B (67)	48	66	A/E	43	58 / 64	None	66
B6	R	B (67)	53	68	A/E	37	59 / 65	None	68

Land Use: Impact Type:
R = Residential A/E = Approach/Exceed
CH = Church

Table 6: Projected Noise Levels for Option 7 Variation C

Receiver	Land Use	FHWA Noise Abatement Criteria (dBA)	Existing Noise Level. dBA	TRAFFIC NOISE		TRAIN NOISE			TRAFFIC + TRAIN NOISE
				Future Worst-Hour Traffic Noise Level, Leq, dBA	FHWA/ Caltrans Impact Type (Approach/ Exceed, Substantial)	Future Peak Hour Train Noise Level, Leq, dBA	FRA Noise Impact Criteria (Moderate/ Severe), dBA	FRA Train Noise impact Type (None, Moderate, Severe)	Future Peak Hour Overall Project Noise Level, Leq, dBA
P1A	R	B (67)	48	N/A	None	51	58 / 64	None	51
P2	R	B (67)	48	N/A	None	52	58 / 64	None	52
B0	R	B (67)	49	68	A/E	N.A	58 / 64	None	68
BM0	R	B (67)	49	68	A/E	N.A	58 / 64	None	68
B5	CH	B (67)	48	66	A/E	40	58 / 64	None	66
B6	R	B (67)	53	68	A/E	39	59 / 65	None	68

Land Use: Impact Type:
R = Residential A/E = Approach/Exceed
CH = Church

Tables 1 through 3 present the results of the project noise projection for Variations A, B, and C of Rail Option 1, respectively. As the results indicated, rail noise levels are not expected to exceed 51 dBA for Variations A and B and 53 dBA for Variation C. The FHWA noise criteria are not exceeded and traffic noise would be negligible at the residential areas represented by Receptors P1, P1A, and P2, along the north-south tracks leading to the proposed Palmdale Station platform for the design variations. Therefore, no noise impacts are anticipated as a result of the design variations. The impacts shown for Receptors B0, BM0 and B5, which are located along the main project corridor where there would be the freeway component to co-exist, are due to the projected traffic noise and not the high speed rail noise. This is unchanged from the original design as analyzed in HDC Noise and Vibration Impact Assessment.

Tables 4 through 6 show the noise project results for Design Variations A, B, and C of Rail Option 7, respectively. The rail noise levels are not expected to exceed 51 dBA for Variations A and B and 52 dBA for Variation C. And as for the Option 1 variations discussed above, no impacts are anticipated at the residential areas near the north-south tracks leading up to the proposed platform for the various variations, and no changes in impacts are expected for the rest of sensitive receptor locations analyzed under this design option’s variations.

RAIL VIBRATION ANALYSIS UPDATE

Per FRA general assessment procedure, the FRA impact limits for ground-borne vibration related to high-speed rail pass-bys with operation parameters for this proposed project would be 75 VdB and 78 VdB for Residential and Institutional land uses, respectively. For worst-case scenario analysis, assuming that the HSR would be operating at maximum speed of 125 mph throughout the entire length of the project corridor, unless there are residential land uses that are located within 100 feet of the nearest

track centerline, or institutional land uses (with primarily daytime use) located within 75 feet, there would be no anticipated vibration impact due to the HSR operation. It is not anticipated that any type of sensitive land uses, including any homes or the Plant 42/Lockheed/LAWA facilities, would be located within these distances. Therefore, no vibration impact is anticipated.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

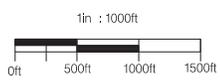
No additional avoidance, minimization or mitigation measures would be required.

EXHIBIT A

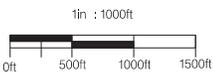
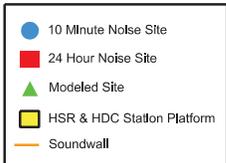
NOISE RECEIVER AND BARRIER LOCATIONS



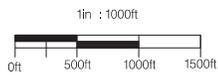
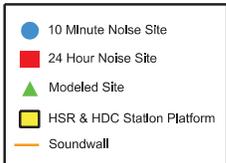
- 10 Minute Noise Site
- 24 Hour Noise Site
- ▲ Modeled Site
- HSR & HDC Station Platform
- Soundwall



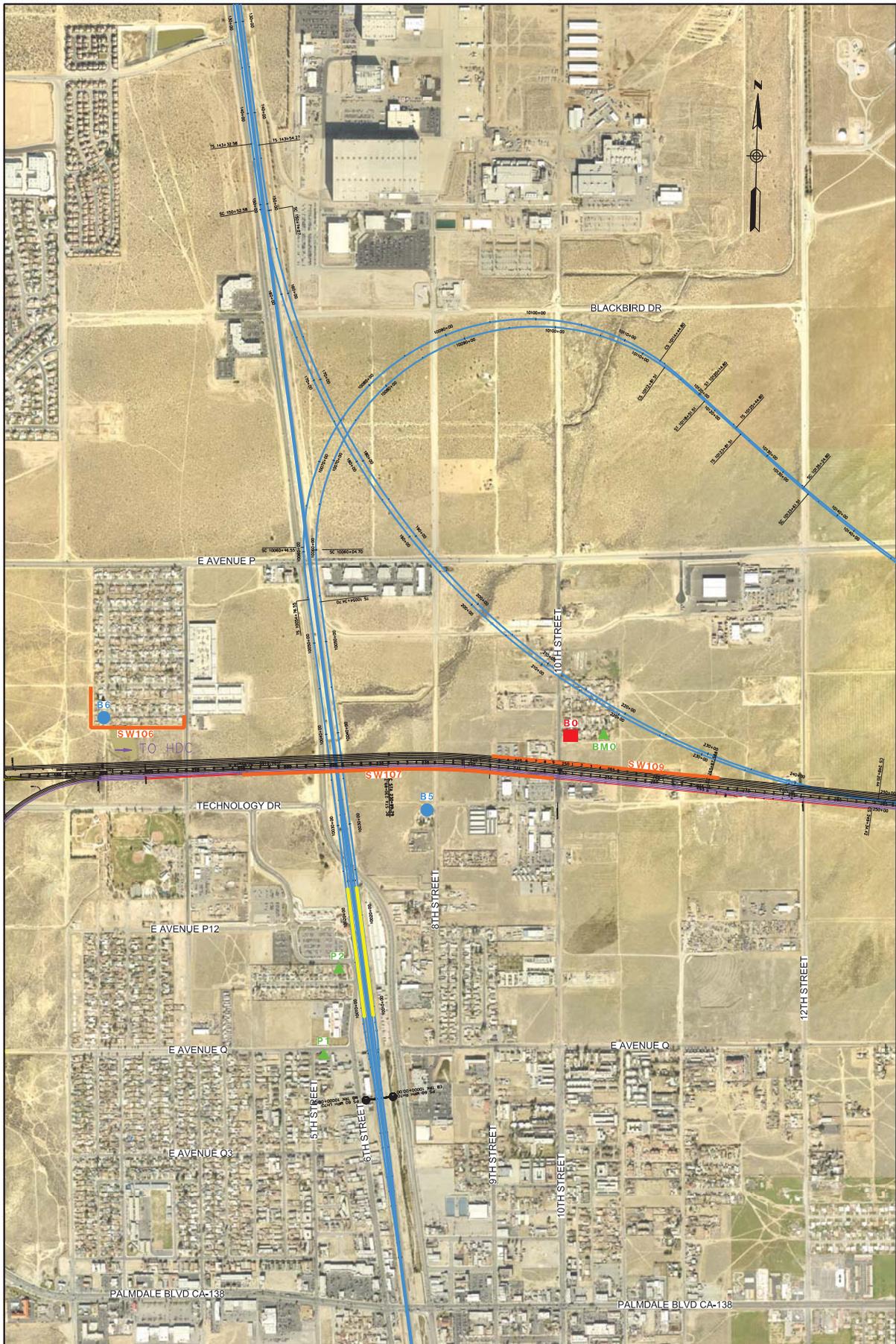
HIGH DESERT CORRIDOR (HDC) PROJECT
 Wye Connection at Palmdale
 Transportation Center
 Rail Option 1: Station Variation A
NOISE RECEIVER AND BARRIER LOCATIONS



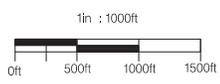
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 Wye Connection at Palmdale
 Transportation Center
 Rail Option 1: Station Variation B
NOISE RECEIVER AND BARRIER LOCATIONS



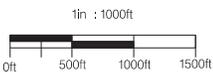
HIGH DESERT CORRIDOR (HDC) PROJECT
 Wye Connection at Palmdale
 Transportation Center
 Rail Option 1: Station Variation C
NOISE RECEIVER AND BARRIER LOCATIONS



- 10 Minute Noise Site
- 24 Hour Noise Site
- ▲ Modeled Site
- HSR & HDC Station Platform
- Soundwall



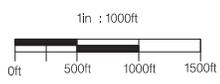
HIGH DESERT CORRIDOR (HDC) PROJECT
 Wye Connection at Palmdale
 Transportation Center
 Rail Option 7: Station Variation A
NOISE RECEIVER AND BARRIER LOCATIONS



HIGH DESERT CORRIDOR (HDC) PROJECT
 Wye Connection at Palmdale
 Transportation Center
 Rail Option 7: Station Variation B
NOISE RECEIVER AND BARRIER LOCATIONS



- 10 Minute Noise Site
- 24 Hour Noise Site
- ▲ Modeled Site
- HSR & HDC Station Platform
- Soundwall



HIGH DESERT CORRIDOR (HDC) PROJECT
 Wye Connection at Palmdale
 Transportation Center
 Rail Option 7: Station Variation C
NOISE RECEIVER AND BARRIER LOCATIONS

DATE: July 11, 2014

TO: File

FROM: Brad Haley

SUBJECT: Biological Resources Assessment for High Desert Corridor – Southern Palmdale Rail Station Design Variation

PURPOSE OF STUDY

The purpose of this document is to provide supplemental information to the High Desert Corridor's (HDC) Biological Survey Results Report for the State Route 138 New Freeway Construction Project (ECORP 2012) as a result of a design variation introduced to the project.

PROJECT LOCATION AND SETTING

The entire HDC project is located in the Mojave Desert of Southern California; however, the design variation is located entirely in Palmdale, California. Palmdale is primarily residential with some commercial buildings. In the area of the design variation, there are numerous commercial automotive facilities, residential housing, vacant lots, an industrial park, and a school. Refer to the Section 3.2 in ECORP (2012) for more site characteristics, as the introduced design variations occur in an area previously analyzed.

RAIL OPTIONS EVALUATED

There are two Rail Options being evaluated with three proposed Station Variations. These are described in full detail in the main report (Southern Palmdale Rail Station [Rail Options 1 and 7] Design Variation Impact Analysis) in Section 2, Design Variation Description. The area evaluated, as shown in Figures 2-2 through 2-7 in the main report, will be referred to as the Project Study Area in this memorandum.

ASSESSMENT METHOD

The survey methods generally followed those described in Sections 2.1 and 2.2 titled *Literature Review* and *Site Characterization and Vegetation Mapping* found in ECORP (2012). A biologist drove along existing roads and surveyed areas on foot that were not accessible by vehicle to adequately characterize and map the existing vegetation communities present in and around the Project Study Area. Vegetation community type descriptions followed the designations in Sawyer and Keeler-Wolf (1995) and all plant and wildlife species observed during the reconnaissance survey were documented on data sheets. The Project Study Area was evaluated for its potential to support special-status species. The biologist evaluated the biological resources discussed in the 2012 report in the Project Study Area. For proposed impacts within the Project Study Area, a 250 foot buffer was applied from the outer edge of Rail Options 1 and 7 and the three Station Variations.

Focused surveys, such as those that require specific protocols (e.g., desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), burrowing owl (*Athene cunicularia*), or sensitive plants) were not conducted as part of this survey effort.

An updated database review was conducted along with a new site reconnaissance.

UPDATED DATABASE REVIEW

Parsons has retained the services of an environmental consulting company (ECORP Consulting, Inc.) to conduct an updated database review. The database review methods generally followed those described in Section 2.1 titled *Literature Review* found in ECORP (2012). Prior to conducting the biological reconnaissance survey, a database review was conducted. The review included CDFW's California Natural Diversity Database (CNDDDB), CDFW's Special Animals List, and California Native Plant Society's (CNPS) Electronic Inventory for the Palmdale 7.5-minute topographical USGS quadrangle in order to identify sensitive plant and wildlife species in the area (CDFW 2014; CDFW 2011; CNPS 2014).

No new resources were recorded since the search was completed by ECORP (2012). Tables 4 and 5 in ECORP (2012) provide the results of the database review for plants and wildlife. The plant and wildlife species identified in the database review and their potential to occur in the Project Study Area is described in more detail in the following sections.

SITE RECONNAISSANCE SUMMARY

ECORP biologist Phillip Wasz conducted the biological survey of the Project Study Area on May 22, 2014. The survey was conducted in all areas not previously evaluated in ECORP (2012). In total, approximately 375 acres were evaluated in the Project Study Area that had not already been evaluated in ECORP (2012). Although the survey was primarily conducted from a vehicle, no special-status plant or wildlife species were observed. The natural history and specific habitat requirements for each of the species evaluated are included in ECORP (2012). Each of the biological resources identified in ECORP (2012) were also relevant within the Project Study Area, and will be discussed below.

All vegetation communities, except for Nevada joint fir scrub, were described previously in ECORP (2012). Nevada joint fir scrub is described below.

Nevada joint fir scrub

Nevada joint fir scrub is characterized by open to intermittent stands of the dominant shrub Nevada joint fir (*Ephedra nevadensis*). Typically, this community occurs on well-drained gravelly or rocky soils between 3,280 and 5,905 feet above mean sea level. Associated species in the Study Area included rubber rabbitbrush (*Ericameria nauseosa*), cheesebush (*Ambrosia salsola*), allscale (*Atriplex polycarpa*), Anderson's peach thorn (*Lycium andersonii*), California buckwheat (*Eriogonum fasciculatum*), and occasional Joshua trees (*Yucca brevifolia*).

This community mostly intergrades with creosote bush scrub or Joshua tree series in the HDC Project Area, but a relatively pure stand of Nevada joint fir scrub is found in the extreme western portion of the Project Study Area between Sierra Highway and 3rd Street East, north of Rancho Vista Boulevard. A representative photo of Nevada joint fir scrub is included in Figure 1.



Figure 1. Nevada joint fir scrub.

Rail Option and Station Variation Analysis

The location of each Station Variation appears to be in the same location for each Rail Option. In other words, Rail Option 1: Station Variation A appears to be in the same proposed location as Rail Option 7: Station Variation A. As a result, observations noted below for each Station Variation will apply to both Rail Option 1 and Rail Option 7. Also, because Station Variation A and B overlap each other, they are presented on the same map and have the same impact calculations, as shown below. Please refer to the main report for design variation description.

The vegetation communities were mapped in the Project Study Area for Rail Option 1, Variations A and B (Attachment 1-1), Rail Option 1, Variation C (Attachment 1-2), Rail Option 7, Variations A and B (Attachment 1-3), Rail Option 7, Variation C (Attachment 1-4). For reference, the communities previously mapped in ECORP (2012) and outside of the Project Study Area were also included. The acreages of each community in HDC Alternatives 2 and 3 were included in ECORP (2012).

Table 1 provides the impact calculations to each vegetation community as shown in Attachments 1-1 through 1-4. These calculations include a 250 foot buffer around each of the Rail Options and Station Variations. Each of the biological resources evaluated for each Rail Option are discussed below. Please refer to ECORP (2012) for further information on survey methodology, survey areas, results, and pre-construction recommendations.

Table 1. Rail Option and Station Variation Vegetation Impacts

	Big Sagebrush Series	Nevada Joint Fir Scrub	Rabbitbrush Series	Ornamental	Developed / Disturbed	Total
Rail Option 1: Variation A	15.14	5.85	110.36	6.51	177.44	315.3
Rail Option 1: Variation B	15.14	5.85	110.36	6.51	177.44	315.3
Rail Option 1: Variation C	2.61	56.04	82.95	0	133.82	275.42
Rail Option 7: Variation A	6.02	6.70	107.41	6.51	145.86	272.5
Rail Option 7: Variation B	6.02	6.70	107.41	6.51	145.86	272.5
Rail Option 7: Variation C	1.90	67.73	91.77	0	86.01	247.41

Rail Option 1, Variations A, B, and C

Vegetation communities – Approximately 15.14 acres of Big Sagebrush Series, 5.85 acres of Nevada joint fir scrub, 110.36 acres of Rabbitbrush Series, 6.51 acres of ornamental vegetation, and 177.44 acres of Developed/Disturbed land would be impacted by Rail Option 1, Station Variations A and B (Table 1). Approximately 2.61 acres of Big Sagebrush Series, 56.04 acres of Nevada joint fir scrub, 82.95 acres of Rabbitbrush Series, and 133.82 acres of Developed/Disturbed land would be impacted by Rail Option 1, Station Variation C (Table 1).

Sensitive plants – Rail Option 1, Station Variations A, B, and C contained vegetation communities (Big Sagebrush Series, Nevada joint fir scrub, and Rabbitbrush Series) that provide suitable habitat for sensitive plant species and are shown on Attachments 1-1 and 1-2. The potential for occurrence designations in Table 4 (ECORP 2012) would remain the same for the Project Study Area.

Joshua trees (*Yucca brevifolia*) – A formal Joshua tree inventory was not a part of this reconnaissance survey, therefore it is not known if Joshua trees occur within Rail Option 1. However, Joshua trees were observed in the fields north of Rancho Vista Boulevard, of which Rail Option 1, Station Variations A, B, and C are a part of.

Desert tortoise – Rail Option 1, Station Variations A, B, and C did not contain high quality suitable habitat for this species. These areas are nearly surrounded on all sides by disturbed or developed areas. Focused desert tortoise surveys were only conducted in areas that contained high quality, undisturbed, native vegetation communities, generally between 35th and 90th Streets East, and also a small area between 95th and 100th Streets East. These survey areas were determined in consultation with United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (now California Department of Fish and Wildlife; CDFW). Focused survey results for this species were negative.

Mohave Ground Squirrel (MGS) – Rail Option 1, Station Variations A, B, and C did not contain suitable habitat for this species. Focused MGS trapping surveys were only conducted in areas that contained high quality, undisturbed, native vegetation communities, generally between 45th and 75th Streets East.

These survey areas were determined in consultation with CDFW. Focused survey results for this species were negative.

Burrowing owl – Rail Option 1, Station Variations A, B, and C contained suitable habitat for this species. While individuals were not observed within the proposed impact areas, suitable habitat is present within 500 feet of the proposed project boundaries, the currently recommended survey distance by CDFW. Focused surveys for burrowing owl were conducted previously (ECORP 2012), a portion of which was in the Project Study Area. The closest observation of this species was along 17th Street East north of Avenue P-8 (ECORP 2012), approximately one mile east of the Project Study Area. Due to the close proximity of known burrowing owl populations within the vicinity, and this species' known tolerance to disturbance-associated sites, a burrowing owl may occupy the site or vicinity prior to construction.

Silvery legless lizard (*Anniella pulchra pulchra*), Mountain Plover (*Charadrius montanus*), Loggerhead shrike (*Lanius ludovicianus*), and Coast horned lizard (*Phrynosoma blainvillii*) – The potential for occurrence of these species remains high based on presence of suitable habitat in Rail Option 1, Station Variations A, B, and C (Table 5 ECORP 2012).

Tri-colored blackbird (*Agelaius tricolor*) – Rail Option 1, Station Variations A, B, and C did not contain suitable habitat for this species.

Short-eared owl (*Asio flammeus*) – Rail Option 1, Station Variations A, B, and C did not contain suitable nesting habitat for this species, although it could utilize the Project Study Area temporarily during the winter. This species was observed during the winter on the western portion of the HDC, over six miles to the east along Avenue P-8 and 60th Street East (ECORP 2012). This species typically nests in the northern-most parts of North America (ECORP 2012).

Swainson's hawk (*Buteo swainsoni*) – Although potential for occurrence remains the same (Moderate) because of foraging potential, the species is unlikely to nest in Rail Option 1, Station Variations A, B, and C.

LeConte's thrasher (*Toxostoma lecontei*) – The Mojave Desert population is no longer considered sensitive, only the San Joaquin population is still considered sensitive.

Pallid bat (*Antrozus pallidus*), San Diego pocket mouse (*Chaetodipus fallax pallidus*), southern grasshopper mouse (*Onychomys torridus ramona*), American badger (*Taxidea taxus*) – Potential for occurrence of these species is considered low, based on lack of suitable habitat and nearby records.

Western mastiff bat (*Eumops perotis californicus*) – Although potential for occurrence remains the same (Moderate) because of foraging potential, the species is unlikely to roost in Rail Option 1, Station Variations A, B, and C. However, there is potential roosting habitat in the buildings and other man-made structures within the 250 foot buffer areas.

Wildlife crossing – Two tracking stations (#2 and 4) from ECORP (2012) were conducted in the vicinity of the Project Study Area. Tracking station 2 was on the west side of Sierra Highway, north of Avenue P-8, and was a linear tracking station. Tracking station 2 appeared to have a high level of wildlife activity, with 30 coyote detections, despite its urban location and high traffic volumes. It was concluded that Sierra Highway and the railroad did not impede wildlife movement. Tracking station 4 was along 8th Street East and north of Avenue P-8. Tracking station 4 also had a high volume of wildlife activity, with

43 detections of coyote, and 2 detections of desert kit fox. Wildlife movement did not appear associated with the drainage or the roadway, as animals were detected heading in multiple directions throughout the linear tracking station.

Rail Option 7, Variations A, B, and C

Vegetation communities – Approximately 6.02 acres of Big Sagebrush Series, 6.7 acres of Nevada joint fir scrub, 107.41 acres of Rabbitbrush Series, 6.51 acres of ornamental vegetation, and 145.86 acres of Developed/Disturbed land would be impacted by Rail Option 7, Station Variations A and B (Table 1). Approximately 1.9 acres of Big Sagebrush Series, 67.73 acres of Nevada joint fir scrub, 91.77 acres of Rabbitbrush Series, and 86.01 acres of Developed/Disturbed land would be impacted by Rail Option 7, Station Variation C (Table 1).

Sensitive plants – Rail Option 7, Station Variations A, B, and C contained vegetation communities (Big Sagebrush Series, Nevada joint fir scrub, and Rabbitbrush Series) that provide suitable habitat for sensitive plant species and are shown on Attachments 1-3 and 1-4. The potential for occurrence designations in Table 4 (ECORP 2012) would remain the same for the Project Study Area.

Joshua trees (*Yucca brevifolia*) – A formal Joshua tree inventory was not a part of this reconnaissance survey, therefore it is not known if Joshua trees occur within Rail Option 7. However, Joshua trees were observed in the fields north of Rancho Vista Boulevard, of which Rail Option 7, Station Variations A, B, and C are a part of.

Desert tortoise – Rail Option 7, Station Variations A, B, and C did not contain high quality suitable habitat for this species. These areas are nearly surrounded on all sides by disturbed or developed areas. Please refer to explanation under Rail Option 1 for further information.

Mohave Ground Squirrel (MGS) – Rail Option 7, Station Variations A, B, and C did not contain suitable habitat for this species. Please refer to explanation under Rail Option 1 for further information.

Burrowing owl – Rail Option 7, Station Variations A, B, and C contained suitable habitat for this species. While individuals were not observed within the proposed impact areas, suitable habitat is present within 500 feet of the proposed project boundaries. Please refer to explanation under Rail Option 1 for further information.

Silvery legless lizard (*Anniella pulchra pulchra*), Mountain Plover (*Charadrius montanus*), Loggerhead shrike (*Lanius ludovicianus*), and Coast horned lizard (*Phrynosoma blainvillii*) – The potential for occurrence of these species remains high based on presence of suitable habitat in Rail Option 7, Station Variations A, B, and C (Table 5 ECORP 2012).

Tri-colored blackbird (*Agelaius tricolor*) – Rail Option 7, Station Variations A, B, and C did not contain suitable habitat for this species.

Short-eared owl (*Asio flammeus*) – Rail Option 7, Station Variations A, B, and C did not contain suitable nesting habitat for this species, although it could utilize the Project Study Area temporarily during the winter. Please refer to explanation under Rail Option 1 for further information.

Swainson's hawk (*Buteo swainsoni*) – Although potential for occurrence remains the same (Moderate) because of foraging potential, the species is unlikely to nest in Rail Option 7, Station Variations A, B, and C (Table 5 ECORP 2012).

LeConte's thrasher (*Toxostoma lecontei*) – The Mojave Desert population is no longer considered sensitive, only the San Joaquin population is still considered sensitive.

Pallid bat (*Antrozus pallidus*), San Diego pocket mouse (*Chaetodipus fallax pallidus*), southern grasshopper mouse (*Onychomys torridus ramona*), American badger (*Taxidea taxus*) – Potential for occurrence of these species is considered low, based on lack of suitable habitat and nearby records.

Western mastiff bat (*Eumops perotis californicus*) – Although potential for occurrence remains the same (Moderate) because of foraging potential, the species is unlikely to roost in Rail Option 7, Station Variations A, B, and C (Table 5 ECORP 2012). However, there is potential roosting habitat in the buildings and other man-made structures within the 250 foot buffer areas.

Wildlife crossing – Please refer to explanation under Rail Option 1 for further information, as the discussion is pertinent to both Rail Options.

CHANGE IN REGULATORY SETTING

No changes to the environmental regulations related to biological resources have occurred.

CHANGE IN AFFECTED ENVIRONMENT

No changes to the environmental setting related to biological resources have occurred.

CHANGE IN ENVIRONMENTAL CONSEQUENCES

Environmental consequences to biological resources are similar to what was previously reported in ECORP (2012), as discussed in the Site Reconnaissance Summary above.

CHANGE TO AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

The recommendations and possible need for mitigation measures described in ECORP (2012) for vegetation communities, sensitive plants, Joshua trees, desert tortoise, Mohave ground squirrel, burrowing owl, wildlife crossing, and incidental sensitive species are still valid and applicable for the Southern Palmdale Rail Station (Rail Options 1 and 7) and Station Variations.

Suitable habitat for sensitive plants was identified for Rail Options 1 and 7 in the Project Study Area. Focused rare plant surveys were not conducted in these areas, as described in ECORP (2012). Subsequent sensitive plant surveys are recommended in the areas proposed for impacts prior to construction in a year where targeted sensitive plant species have a high likelihood of detection.

Desert kit foxes were detected during the various surveys, however recommendations on avoidance, minimizations, and mitigation measures were not made (ECORP 2012). The desert kit fox (DKF) is not a

federal- or state-listed species, but is considered a furbearing mammal that is protected in California. As a result, there is no mechanism for the CDFW to issue an Incidental Take Permit (ITP). The following recommendations and mitigation measure is proposed to avoid impacts to desert kit fox:

To avoid construction delays, it is recommended that preconstruction surveys occur outside of breeding season. That way the animal can be passively relocated (den collapse after burrow scoping) outside of breeding season (August 1 to January 1) through CDFW coordination. Construction of the project should avoid the DKF breeding season because a permit cannot be issued for the take of the species, which includes direct mortality (dozer crushes occupied den), indirect mortality (pups can't jump over project fencing and get stuck inside project area), or capture and relocation of DKF outside of project site.

During the preconstruction surveys, biologists shall survey for desert kit fox dens. Identified active dens shall be flagged for avoidance and protected from ground-disturbing activities with a buffer distance determined through monitoring the behavior of the fox(es) and coordination with CDFW. During the pup-rearing season, maternity dens shall be protected and avoided (1 January through 31 July). If avoidance of a non-maternity den is not feasible, CDFW shall be contacted about approved kit fox passive relocation measures (den collapse after burrow scoping) outside of breeding and pup-rearing season (August 1 to January 1).

CONCLUSION

There are no new regulatory settings or changes to the affected environment. There are additional sites which may require pre-construction presence/absence surveys. There would be no additional avoidance, minimization, and mitigation measures from ECORP (2012) except to include the sensitive plant and desert kit fox pre-construction surveys and mitigation measures. After reviewing the updated database records search and performing new site reconnaissance, no new special-status species were identified in the project location.

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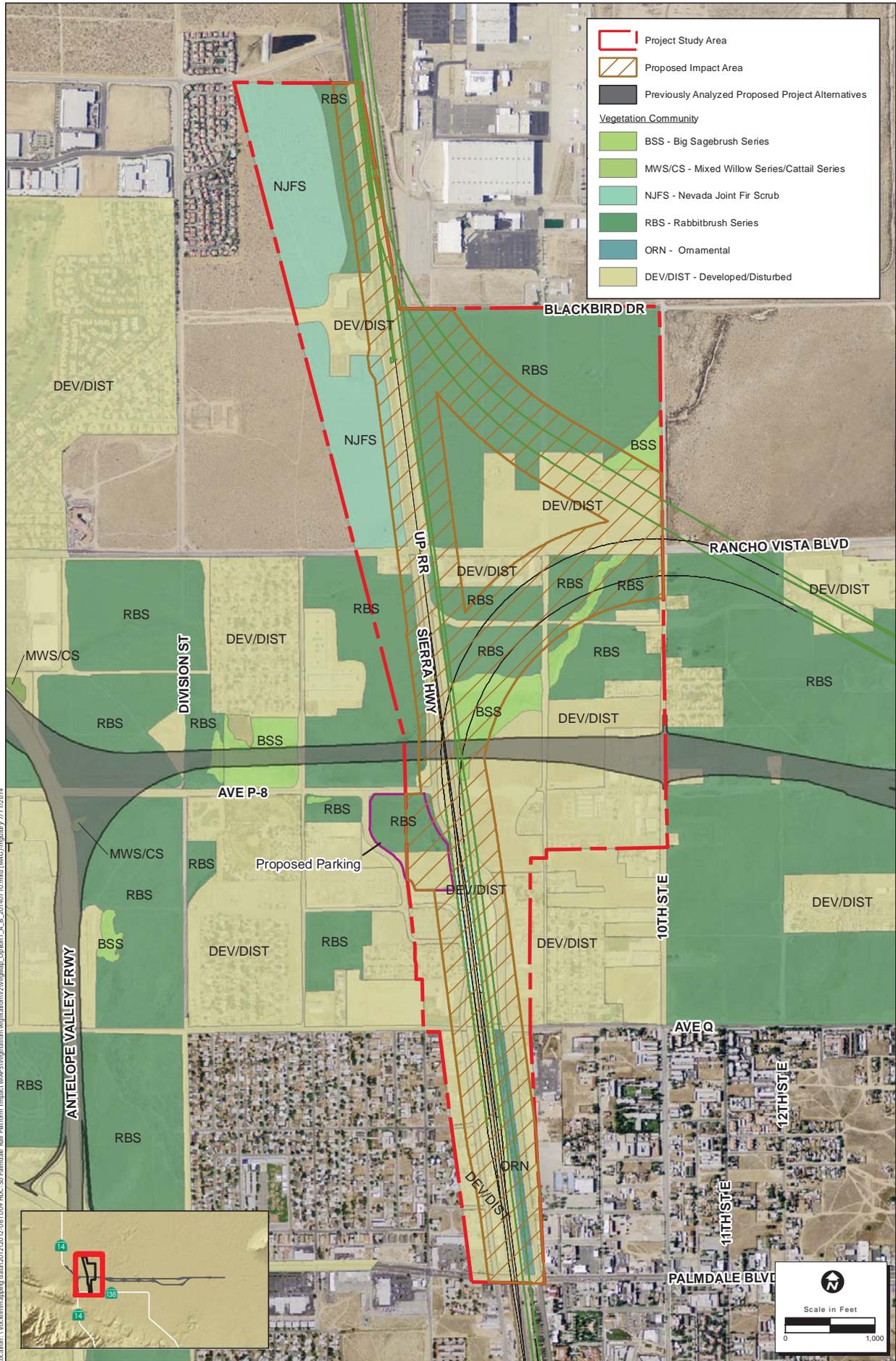
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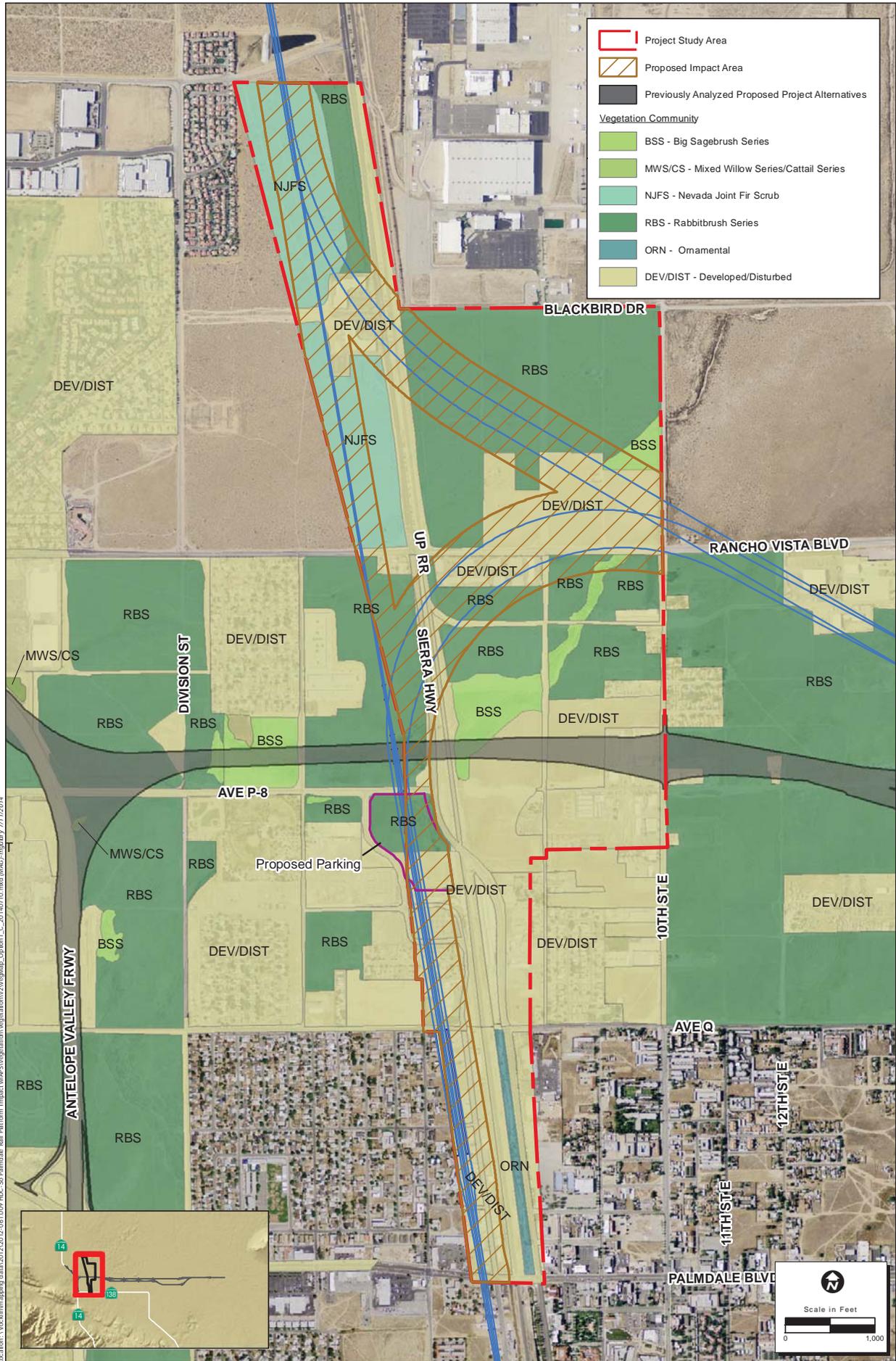
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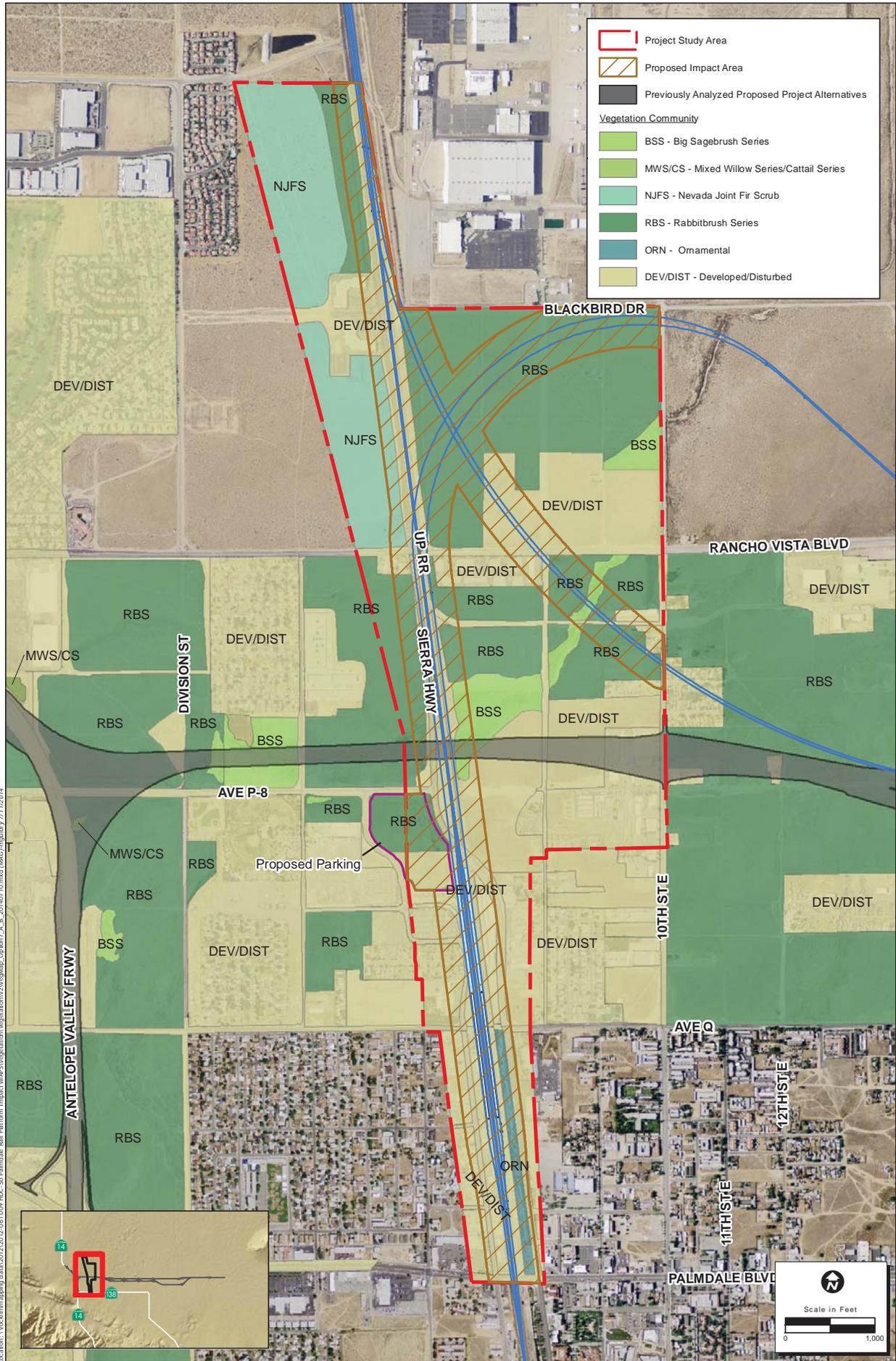
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Map Date: 7/10/2014
Photo Source: NAIP 2012



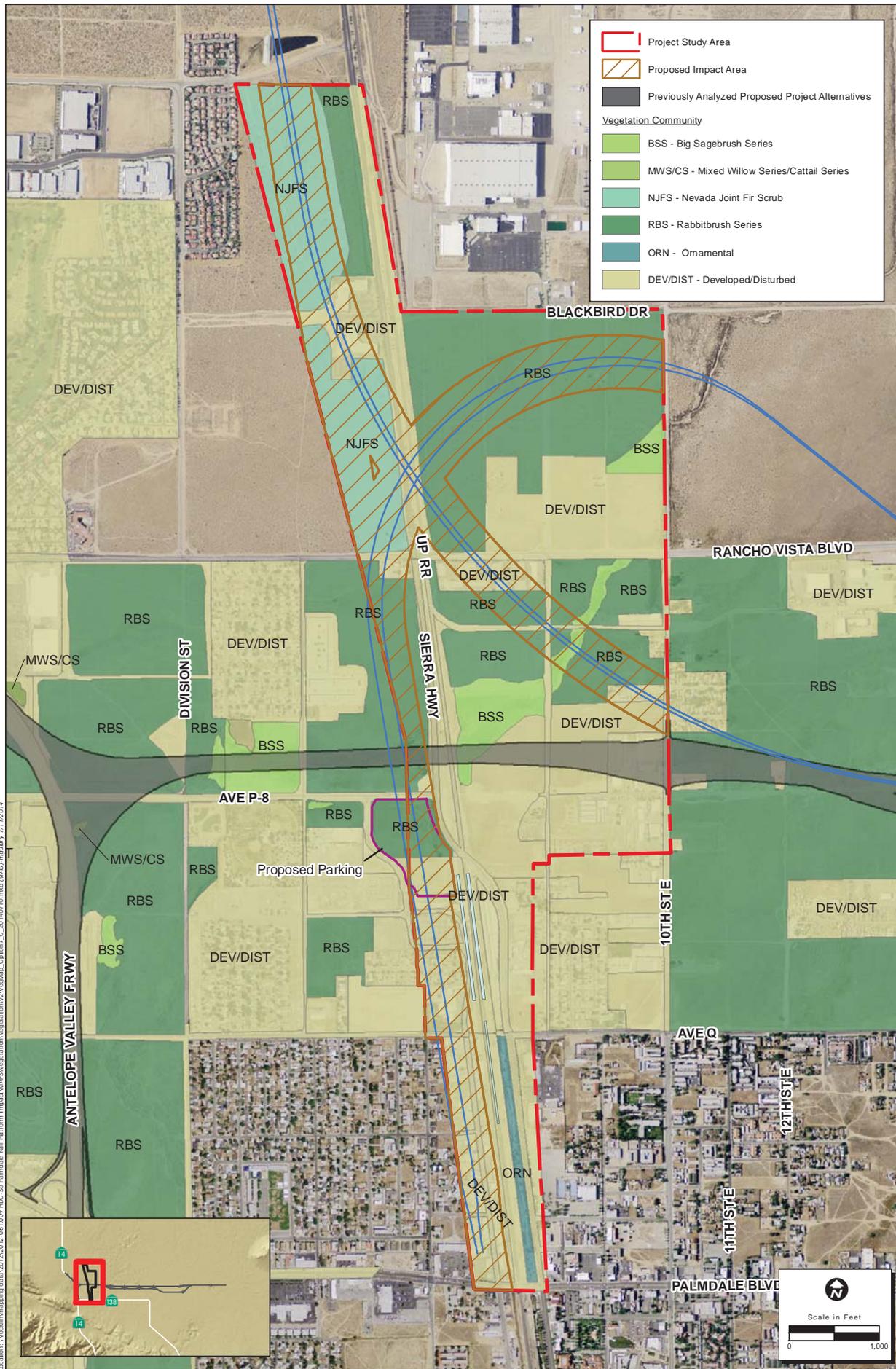
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 Photo Source: NAIP 2012

Map Date: 7/10/2014
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Map Date: 7/10/2014
Photo Source: NAIP 2012



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PARSONS TECHNICAL MEMORANDUM

100 West Walnut Street ♦ Pasadena, CA 91124

• www.parsons.com

DATE: July 2, 2014
TO: File
FROM: Rabindra Puttagunta, Traffic Specialist

SUBJECT: Traffic Impact Analysis for High Desert Corridor – Southern Palmdale Rail Station Design Variation

We have reviewed the Revised Southern Palmdale Rail Station Plans and Options. The proposed parking location and traffic circulation has been addressed in the current HDC traffic report and it is not necessary to prepare another technical memorandum at this time. For your quick reference, we are sending you the scanned copy of section 4.8 and 4.9 of the HDC Traffic Analysis Report (June 2014) which addresses the traffic implications of High Speed Rail and local roadway access modifications/circulation impacts.

Table 4-51. Year 2040 Highway Segment Level of Service

HIGHWAY SEGMENT	NO BUILD (2040)						TSM ALTERNATIVE (2040)						
	AM PEAK			PM PEAK			AM PEAK			PM PEAK			
	LOS	SPEED	DENSITY	LOS	SPEED	DENSITY	LOS	SPEED	DENSITY	LOS	SPEED	DENSITY	
SR 138													
Longview Rd to 165th Street East	EB	B	16.4	55	B	16.5	55	B	17.9	55	C	18.2	55
	WB	B	11.6	55	B	17.2	55	B	12.8	55	C	18.6	55
165th Street East to Largo Vista Rd	EB	C	23.8	55	C	21.5	55	D	27.0	55	C	24.4	55
	WB	B	12.4	55	D	26.4	55	B	13.6	55	D	30.3	54
SR 138/SR 18 junction to Sheep Creek Rd	EB	C	25.6	55	C	22.1	55	D	27.8	55	C	24.6	55
	WB	B	12.4	55	D	28.9	54	B	13.6	55	D	31.2	54
Sheep Creek Rd to Aster Rd	EB	A	7.0	55	A	7.4	55	B	15.2	55	B	15.5	55
	WB	A	5.2	55	A	8.3	55	A	9.2	55	B	17.4	55

PTSF = percent time spent following
 ATS = average travel speed

The intersection level of service analysis was undertaken for 55 study intersections. The intersection lane configurations assumed for this analysis are illustrated on Figure 4-41, while the traffic volumes are listed in Volume II of this report. The results of this analysis are listed in Table 4-52.

4.8 Traffic Implications of High Speed Rail Feeder Service for the High Desert Corridor

Section 3.13 of this report provides a general description of the proposed high speed rail feeder service, ridership estimates for the Palmdale and Victorville train stations, vehicle trip generation volumes for the two stations, and freeway mainline and ramp volumes for the High Desert Corridor freeway/tollway, SR 14 and I-15.

Section 4.5 presents the operational performance of the freeway mainline and ramps for all alternatives, including the build freeway alternative with high speed rail feeder service and the build freeway with tolls and the feeder rail service. The generalized level of service performance along the freeway mainline components of the feeder rail service alternatives is illustrated on Figures 4-19, 4-20, 4-24, and 4-25 for the initial round of testing and on Figures 4-30 through 32 for the revised Palmdale access definition of the project. Tables 4-14 through 4-17, Tables 4-24 through 4-27, and Tables 4-36 through 4-41 report the detailed results of the CORSIM micro-traffic simulation for the freeway mainline segments and ramp junctions. **The operational analysis indicates that the performance of the freeway system is virtually unchanged when comparing the no feeder rail service alternatives with those which include rail feeder service.** These results reflect weekday, morning (0700 to 0800 hours) and afternoon (1700 to 1800 hours) time periods. Rail ridership for the Palmdale–Victorville–Las Vegas XpressWest service is projected to be significantly higher during the midday, on Fridays, weekends and holidays. The performance of the highway system is not addressed for those higher rail ridership time of the day and day of the week periods.

The traffic operational performance of key study intersections was reported earlier in Table 4-42 for the 2020 High Desert Corridor opening year and Table 4-44 for the 2040 High Desert Corridor design year. The operational performance for most of these intersections under the rail feeder service alternatives will be the same as reported for the build alternative and the build alternative with tolls. Key study intersections located near the Palmdale and Victorville train stations will be affected, however.

Figure 4-42 illustrates the location of the Palmdale XpressWest Station assumed for this traffic study. Locational options for the station, platform(s) and parking supplies are preliminary and are subject to change. The station platform(s) are assumed to be located immediately east of the Metrolink/Palmdale Transportation Center. Parking supplies are assumed to be located to the west of all rail trackage along with other ground transportation elements (passenger drop off, bus).⁴²

The vast majority of rail passengers using the Palmdale station are assumed to arrive from the south along SR 14, exiting this facility at the Palmdale Boulevard interchange. Sierra Highway, Sixth Street East and Technology Drive will provide secondary access to the train station via Transportation Center Drive, as illustrated on Figure 4-43.

Tables 4-53 and 4-54 list the key study intersections in the immediate vicinity of the Palmdale Transportation Center, and the forecast level of service for those intersections, for the opening year (2020) and the design year (2040), respectively.

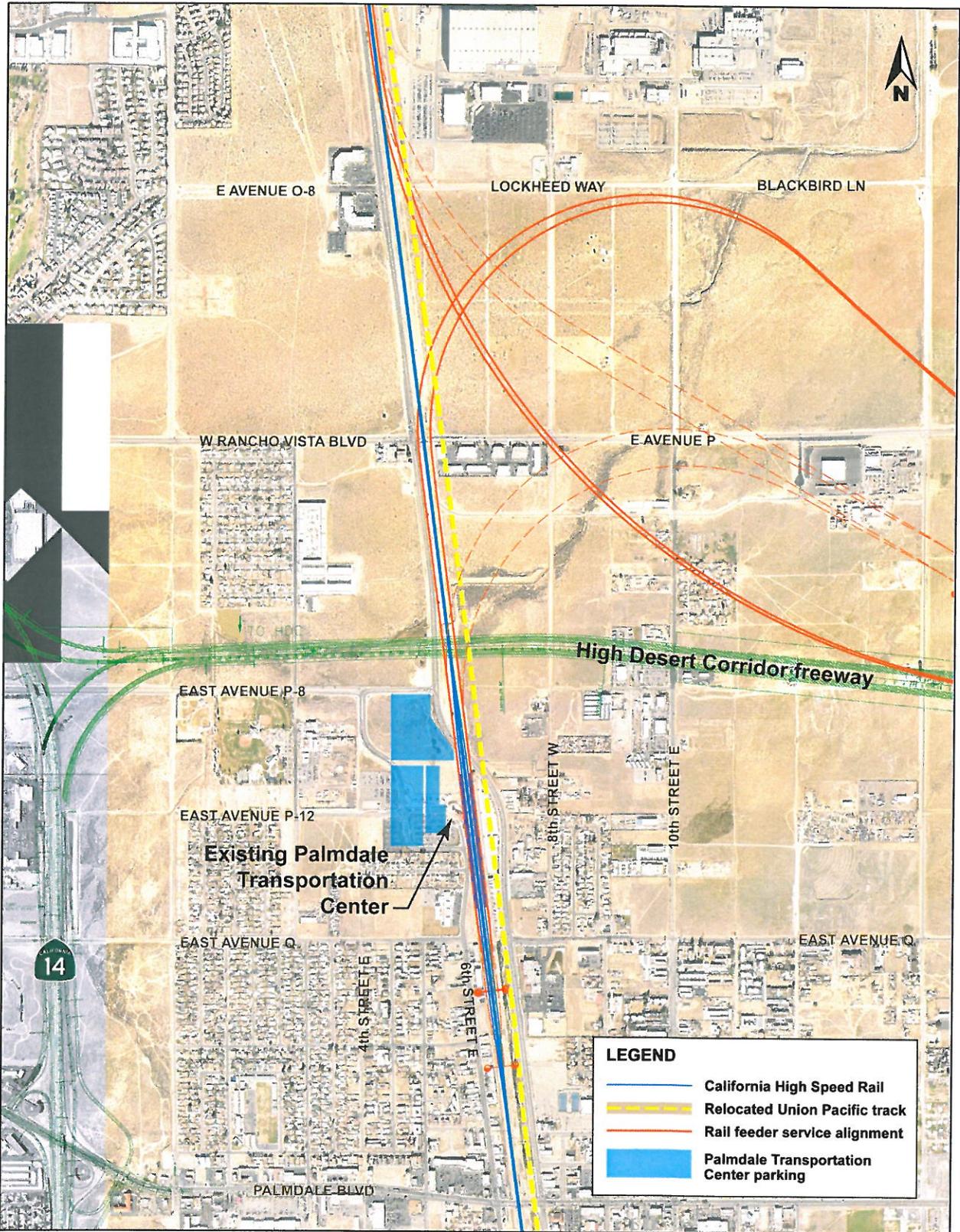
4.9 Local Roadway Access Modifications and Circulation Impacts

The build High Desert Corridor Freeway/Expressway project will construct freeway to freeway “system” interchanges at I-15 and SR 14, local “service” interchanges at north–south crossings of arterial streets, grade separations (overcrossings or undercrossings) of local streets having no freeway access, and at-grade, traffic signal-controlled intersections along the expressway portion of the project east of Dale Evans Parkway.

Within the Antelope Valley segment of the project, new local interchanges are currently proposed at 20th Street East, 30th Street East, 50th Street East, and 90th Street East. The resulting grade separations from the first viaduct include freeway undercrossings at Division Street (when paved), Third Street, Sierra Highway, Eighth Street and 10th Street. Additional grade separations are proposed at 15th Street, 25th Street, 40th Street, and 70th Street.

Within the High Desert segment, new local interchanges are currently proposed at 140th Street, 170th Street, 210th Street, and 240th Street in Los Angeles County; and a future Oasis Road, midway between Avenue P Road and Saint George Avenue, Sheep Creek Road and Caughlin Road in San Bernardino County. Additional freeway grade separations (overcrossing or undercrossing) are also proposed at 110th Street, Palmdale Boulevard, Longview Road and 165th Street. Grade separations may also be proposed at Avenue Q, 200th Street, 230th Street, Saint Anthony Avenue, Palmer Road, and Tanner Road at a later date when land development warrants additional north–south circulation capacity.

⁴² Detailed station plans are not available. A parking requirement of 6,200 spaces is assumed for preliminary space planning.



Source: Parsons

Figure 4-42: Palmdale High Speed Train Station Location
 (Option 2–Alternative B–Phase 1)



Figure 4-43: Study Intersections near Palmdale High Speed Train Station

Within the Victor Valley segment, new local interchanges are currently proposed at Caughlin Road, as mentioned previously, Koala Road, U.S. 395, Phantom Road West, Phantom Road East, National Trails Highway, Choco Road and Dale Evans Parkway. Additional grade separations are proposed at Bellflower Road, Adelanto Road, New Stoddard Wells Road and Apple Valley Road. Grade separations at Richardson Road, Beaver Road, Raccoon Avenue, Aster Road, Verbena Road, Evado Road/Majeta Avenue (south alternative alignment), Village Drive (south alternative alignment), Rancho Road (south alternative alignment), and Quarry Road may be proposed at a later date when local circulation needs warrant their construction. For the access-controlled, expressway portion of the project east of Dale Evans Parkway, at-grade, traffic signal controlled intersections are proposed at Waalew Road, Central Road, Joshua Road, Standing Rock Road and Yucca Loma Road.

Table 4-53. Year 2020 Intersection Level of Service near Palmdale and Victorville High Speed Train Stations

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION			OPEN YEAR 2020 NO-BUILD CONDITION			OPEN YEAR 2020 REVISED PALMDALE ACCESS ALTERNATIVE WITH TOLL			OPEN YEAR 2020 REVISED PALMDALE ACCESS ALTERNATIVE WITH RAIL			OPEN YEAR 2020 REVISED PALMDALE ACCESS ALTERNATIVE WITH TOLL AND RAIL														
			AM PEAK LOS	PM PEAK LOS	DELAY	AM PEAK LOS	PM PEAK LOS	DELAY	AM PEAK LOS	PM PEAK LOS	DELAY	AM PEAK LOS	PM PEAK LOS	DELAY	AM PEAK LOS	PM PEAK LOS	DELAY												
13	SR 14 SB off/on-ramps and West Palmdale Blvd	Signal	B	11.3	B	11.1	C	26.7	C	24.3	A	7.4	B	14.5	A	7.5	B	15.1	A	8.0	B	14.3	A	7.4	B	15.2			
14	SR 14 NB off/on-ramps and East Palmdale Boulevard	Signal	A	7.4	B	10.1	B	11.3	B	10.8	C	27.3	C	23.7	C	29.0	C	22.4	C	27.6	C	23.6	C	28.7	C	22.6			
15*	Division St and East Palmdale Blvd	Signal	C	27.9	C	28.0	D	37.8	D	38.0	C	22.5	C	24.7	C	22.3	C	24.6	C	23.0	C	25.1	C	22.9	C	25.0			
19*	Sierra Hwy and Technology Drive	Signal	B	14.3	B	16.8	D	43.6	E	78.5	B	13.1	B	16.7	B	13.1	B	16.7	B	14.0	B	16.8	B	14.0	B	16.8			
20*	Sierra Hwy and East Ave Q	Signal	B	16.0	B	15.4	B	14.1	B	15.2	B	16.0	B	15.3	B	16.0	B	15.3	B	16.0	B	15.3	B	16.0	B	15.3			
21*	5th St East and East Palmdale Blvd	Signal	C	22.1	C	23.8	B	17.9	C	24.0	C	23.1	C	26.3	C	22.8	C	26.5	C	23.2	C	26.0	C	23.2	C	26.8			
22*	6th St East and East Palmdale Blvd	Signal	C	20.7	C	25.3	D	39.9	D	44.4	C	27.9	C	28.2	C	27.7	C	28.2	C	27.7	C	28.3	C	27.7	C	28.3			
23*	Sierra Hwy and East Palmdale Blvd	Signal	C	25.5	C	27.3	D	39.8	E	71.4	C	26.8	C	29.6	C	26.9	C	29.4	C	31.0	C	29.6	C	26.9	C	29.4			
27*	10th St East and East Ave Q	Existing-4-way stop Future-signal	B*	10.3	B*	12.6	C*	22.0	C*	23.2	C	32.8	C	23.2	C	31.9	C	25.5	C	24.7	C	26.1	C	25.6	C	26.0			
28*	10th St East and East Palmdale Blvd	Signal	B	17.2	C	20.0	C	28.4	D	37.6	C	27.3	C	28.4	C	29.9	C	26.9	C	31.0	D	40.3	C	25.7	C	33.3			
32	20th St East and WB High Desert Corridor ramps	Signal	Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist		
33	20th St East and EB High Desert Corridor ramps	Signal	Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist			Does not exist		
138	I-15 SB off/on-ramps and Dale Evans Pkwy	Existing-stop NB/SB Future-signal	A	4.7	A	3.1	A	7.2	B	10.3	C	21.0	C	22.9	C	20.5	C	22.9	A	7.2	C	20.3	A	6.9	C	15.5			
139	I-15 NB off/on-ramps and Dale Evans Pkwy	Existing-stop NB/SB Future-signal	A	4.3	A	3.1	A	8.6	A	8.2	C	20.3	B	16.3	C	20.2	B	16.4	A	8.3	B	11.8	B	11.8	A	7.2			

Source: Parsons

Notes:

1. Two-way stop control level of service reported for worst approach
2. 4-way stop reported for overall level of service
3. Intersection level of service calculations are based on HCM 2000, except where noted with *

*Intersection level of service was calculated using TRAFFIX software

Level of service E

Level of service F

Table 4-54. Year 2040 Intersection Level of Service near Palmdale and Victorville High Speed Train Stations

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION		DESIGN YEAR 2040 NO-BUILD CONDITION				DESIGN YEAR 2040 REVISED PALMDALE ACCESS ALTERNATIVE				DESIGN YEAR 2040 REVISED PALMDALE ACCESS ALTERNATIVE WITH TOLL				OPEN YEAR 2040 REVISED PALMDALE ACCESS ALTERNATIVE WITH RAIL				DESIGN YEAR 2040 REVISED PALMDALE ACCESS ALTERNATIVE WITH TOLL AND RAIL			
			AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS		
13	SR 14 SB off-/on-ramps and West Palmdale Blvd	Signal	B	11.3 B	C	27.6 C	30.1 A	8.0 B	16.2 A	7.3 B	11.6 A	8.6 B	16.0 A	8.0 B	14.8 B									
14	SR 14 NB off-/on-ramps and East Palmdale Blvd	Signal	A	7.4 B	A	7.6 B	17.3 C	29.6 C	26.5 A	8.6 B	14.4 C	29.7 C	29.4 C	29.1 C	26.2 C									
15*	Division St and East Palmdale Blvd	Signal	C	27.9 C	E	64.1 E	71.4 E	29.4 C	31.1 C	33.0 E	66.3 E	31.3 C	32.2 C	29.3 C	29.9 C									
19*	Sierra Hwy and Technology Dr	Signal	B	14.3 B	D	50.9 F	115.4 B	14.1 B	18.0 B	13.9 B	17.7 B	14.7 B	17.7 B	14.6 B	16.8 B									
20*	Sierra Hwy and East Ave Q	Signal	B	16.0 B	B	15.0 B	15.3 B	17.1 B	16.0 B	16.9 B	15.8 B	17.7 B	15.8 B	17.5 B	15.3 B									
21*	5th St East and East Palmdale Blvd	Signal	C	22.1 C	C	21.4 C	31.4 C	25.4 C	28.7 C	25.0 C	27.3 C	25.5 C	28.7 C	24.9 C	26.0 C									
22*	6th St East and East Palmdale Blvd	Signal	C	20.7 C	E	55.7 E	78.0 E	29.4 C	32.3 C	28.7 C	30.5 C	29.4 C	32.3 C	28.8 C	28.3 C									
23*	Sierra Hwy and East Palmdale Blvd	Signal	C	25.5 C	F	82.1 F	94.6 F	29.7 C	32.2 C	30.9 D	35.1 C	29.7 C	32.2 C	27.5 C	29.6 C									
27*	10th St East and East Ave Q	Existing-4-way stop Future-signal	B*	10.3 B*	C*	22.7 C*	29.3 C	28.1 C	24.8 C	26.3 C	26.5 C	25.3 C	27.5 C	24.5 C	26.1 C									
28*	10th St East and East Palmdale Blvd	Signal	B	17.2 C	C	31.3 D	50.6 C	32.3 E	60.8 E	29.1 D	49.5 C	32.3 D	52.2 C	30.3 D	40.3 C									
32	20th St East and WB High Desert Corridor ramps	Signal	Does not exist		Does not exist				Does not exist				Does not exist				Does not exist							
33	20th St East and EB High Desert Corridor ramps	Signal	Does not exist		Does not exist				Does not exist				Does not exist				Does not exist							
138	I-15 SB off-/on-ramps and Dale Evans Pkwy	Existing-stop NB/SB Future-signal	A	4.7 A	C	28.2 C	24.8 C	23.7 C	26.7 C	23.9 C	25.4 C	29.4 C	30.9 C	29.2 C	30.9 C									
139	I-15 NB off-/on-ramps and Dale Evans Pkwy	Existing-stop NB/SB Future-signal	A	4.3 A	B	13.1 B	12.8 C	22.5 B	17.7 C	21.7 B	18.3 B	14.7 A	8.5 B	18.7 A	9.1 A									

Source: Parsons

Notes:

- Two-way stop control level of service reported for worst approach
- 4-way stop reported for overall level of service
- Intersection level of service calculations are based on HCM 2000, except where noted with *
- Intersection level of service was calculated using TRAFFIX software

Level of service E

Level of service F

Memorandum

To: Anne Kochoan
Parsons

Date: July 9, 2014
File: 07-LA-
EA2600U0
EFIS 0712000035
HDC

Attention: Gilberto Ruiz
Parsons

From: ALEX KIRKISH
Associate Environmental Planner (Archaeologist)
Cultural Resources Unit

Subject: Southern Palmdale Rail Station

I have reviewed the proposed modifications for the Southern Palmdale Rail Station and have found that there will be no affect to archaeological resources. As such, no further archaeological evaluation is required at this time. However, if buried cultural materials are encountered during construction, all work in that area must stop until a qualified archaeologist can evaluate the nature and significance of the find. In addition, further survey may be necessary if project plans are altered or expanded.

cc: Kelly Ewing-Toledo, D7 HRC
D7 Project File

Ruiz, Gilberto

From: Harbert, Claudia A@DOT [claudia.harbert@dot.ca.gov]
Sent: Thursday, June 26, 2014 10:13 AM
To: Ruiz, Gilberto
Cc: Ewing-Toledo, Kelly@DOT
Subject: RE: HDC - Southern Palmdale Rail Station - Revised

Good morning,

The Southern Palmdale Rail Station (including the “wye” connections, approaches, and station variations) was incorporated into the study area (APE) of the Historic Property Survey Report that was recently submitted to the State Historic Preservation Officer for concurrence. There were no historically significant buildings or structures found in the area. Unless Alex has some changes he wants to see made to the document, there is no reason to complete any further studies on the area.

Claudia Harbert
Associate Environmental Planner
Principal Architectural Historian

From: Ruiz, Gilberto [<mailto:Gilberto.Ruiz@parsons.com>]
Sent: Thursday, June 26, 2014 9:18 AM
To: Harbert, Claudia A@DOT
Cc: Kirkish, Alex N@DOT
Subject: FW: HDC - Southern Palmdale Rail Station - Revised
Importance: High

Claudia:

See attached and below. Alex indicates that you will be preparing the built environment analysis for this project component of the HDC. Please call me to discuss and provide greater explanation. Thanks.

Gilberto Ruiz
Senior Project Manager
Parsons
100 West Walnut Street
Pasadena, CA 91124
P: 626-440-2573
F: 626-440-6155
C: 323-482-0350
gilberto.ruiz@parsons.com

From: Ruiz, Gilberto
Sent: Monday, June 16, 2014 3:57 PM
To: Rodriguez, Julio; Schnapp, Angela; Puttagunta, Rabindra; Luc, Thanh; Reeves, Andrea; Seyde, Veronica; Hinds, Christopher; 'alex.kirkish@dot.ca.gov'; Don Mitchell; 'BHaley@ecorpconsulting.com'
Subject: HDC - Southern Palmdale Rail Station - Revised
Importance: High

See attached and below.

Since the last time I communicated with you, the assignment has changed slightly. In essence, the focus of the analysis is now on the Rail Options (“wye” connections), their approach to the stations, and to a lesser extent on the station variations (excepting parking location).

Review the attached and let me know if it is confusing to you or if you have additional questions. Also, if I have not already indicated this, your analysis should be prepared in a technical memorandum format that would facilitate the inclusion of the analysis into your existing technical report (or one for which you are providing components [to others]). If you did not prepare a technical report, contact me and I will provide guidance.

I would like the draft analysis within two weeks (June 30th).

Don/Brad: Give me a call (323) 482-0350 when you have a chance to discuss your bio analysis and how to incorporate this revised assignment.

Thanks.

Gilberto Ruiz
Senior Project Manager
Parsons
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Pasadena, CA 91124
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