California High-Speed Rail Authority

# Bakersfield to Palmdale Project Section

## Final Environmental Impact Report/ Environmental Impact Statement

## Appendix 3.1-B: Evaluation of Engineering and Design Refinements since the Publication of the Draft EIR/EIS

**May 2021**


CALIFORNIA High-Speed Rail Authority

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

**This page intentionally left blank**

# TABLE OF CONTENTS



## Tables

## Attachments

# LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| APE | area of potential effects |
| Authority | California High-Speed Rail Authority |
| Caltrans | California Department of Transportation |
| CEQA | California Environmental Quality Act |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| HSR | high-speed rail |
| LMF | light maintenance facility |
| MOWF | maintenance-of-way facility |
| NEPA | National Environmental Policy Act |
| PCT | Pacific Crest Trail |
| SR | State Route |
| UPRR | Union Pacific Railroad |

**This page intentionally left blank**

# APPENDIX 3.1-B: EVALUATION OF ENGINEERING AND DESIGN REFINEMENTS SINCE THE PUBLICATION OF THE DRAFT EIR/EIS

## 3.1-B-1 INTRODUCTION

This appendix provides an evaluation of the engineering and design refinements incorporated into the project plans following the publication of the Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS). The revised project plans are provided in Volume 3 of this Final EIR/EIS. Refinements to the project design were considered and incorporated for several reasons, including modifications made in response to comments on the Draft EIR/EIS from agencies, stakeholders, and the general public and modifications made to further avoid or minimize environmental impacts. In addition, other design revisions were made to improve safety or reduce construction costs.

The analysis in Volume 1 has been updated to include the engineering and design refinements.

This appendix includes:

- A summary of the engineering and design refinements
- A summary of changes to the environmental impacts analysis in Chapters 3 through 5 resulting from the engineering and design refinements, or an explanation of why there is no change
- Consideration of the requirements for recirculating a Draft EIR under the California Environmental Quality Act (CEQA) and supplementing a Draft EIS under the National Environmental Policy Act (NEPA)

This appendix includes the following attachments:

- Attachment A: A table containing a detailed environmental review of the engineering and design refinements
- Attachment B: A mapbook providing an overview of the footprint modifications associated with the engineering and design refinements

## 3.1-B-2 SUMMARY OF ENGINEERING AND DESIGN REFINEMENTS

Since the initiation of scoping in 2009 for the Bakersfield to Palmdale Project Section EIR/EIS, the California High-Speed Rail Authority (Authority) has provided members of the public, interested organizations and stakeholders, and public agencies with ongoing opportunities to participate in the environmental review process, culminating in the public review period for the Draft EIR/EIS between February 28, 2020, and April 28, 2020. In addition to the public comment period, the Authority has continued to consult with local jurisdictions and property owners in the area, and worked closely with regulatory agencies having jurisdiction and/or permit authority over components of the project. These ongoing consultations and public comments have resulted in the engineering and design refinements, which are summarized below. Most of the refinements are small in scope and result in minor increases or decreases to the project footprint.

### 3.1-B-2-1 Design Revisions to Address Public Review Comments

During the public review period for the Draft EIR/EIS in 2020, comments on the project were submitted by agencies, stakeholders, and the general public, many of which requested modifications to the project design. In order to be responsive to these comments on the Draft EIR/EIS, the Authority has addressed many of these requests by incorporating revisions into the project design. These revisions were determined to be consistent with the project design criteria, would represent a design improvement, and would reduce or have no change to environmental impacts and/or cost.

## Kern Council of Governments/Greater Bakersfield Separation of Grade District

In response to the Kern Council of Governments and the Greater Bakersfield Separation of Grade District, the high-speed rail (HSR) alignment profile was lowered in the area of Morning Drive (Weedpatch Highway/State Route [SR] 184) in the community of Edison, thereby shortening the HSR viaduct structure and realigning Edison Highway in the vicinity of Morning Drive. In addition to reducing the project footprint, this modification also provides a design that is preferred by stakeholders, has a reduced construction cost, and avoids a sensitive AT&T communication facility near the proposed HSR alignment.

## California Department of Transportation District 6

The relocation of SR 58 in the Marcel area under the Refined CCNM Design Option was refined in response to input from California Department of Transportation (Caltrans) District 6 to address the minimum desirable slope ratio and to allow for rock slope protection for cross-drainage. In the Marcel area, the HSR alignment crosses over SR 58 from north of the highway to south of the highway, and then back to the north side of SR 58. At the first crossing from north to south, the footprint was revised to provide the area needed to accommodate the straddle bent for the HSR viaduct over SR 58. In response to a comment from Caltrans District 6 on the Draft EIR/EIS, a straddle bent was added to the design of the HSR viaduct crossing back over SR 58 from the south side to the north side.

## City of Tehachapi

Several modifications to the design were made in response to comments from the City of Tehachapi on the Draft EIR/EIS. These included the addition of an access road around the tunnel portal just northeast of the Adventist Health Tehachapi Valley facility, a revised tunnel portal grading in the same general area, and shifting the Challenger Drive Traction Power Substation site to a different location north and east of the alignment. The shifting of the Traction Power Substation site also shifted the location of the access road and the electrical interconnect needed at the site.

The City of Tehachapi also requested that the profile of the HSR alignment within the Tehachapi Valley be lowered to reduce the visual impact of the alignment in the area. This adjustment resulted in an overall footprint reduction due to the lower profile of the HSR alignment from near the south portal of Tunnel 7, north of the City of Tehachapi, extending through Tehachapi, and rejoining the original profile at the southern portal of Tunnel 8. The lowering of the profile also resulted in adjustments of other elements of the design. The maintenance of infrastructure siding facility site in Tehachapi, near the Tehachapi Willow Springs Road crossing location, was shifted from the west side of the alignment to the east side of the alignment. Also as a direct result of the lowered profile, two existing roadways that were intended to pass under the HSR alignment on a viaduct structure (Highline Road and Tehachapi Willow Springs Road) are now proposed to cross over the HSR alignment. Additionally, the realignment of Valley Boulevard was needed to tie into Steuber Road, maintaining the existing traffic circulation patterns.

The City of Tehachapi also requested the addition of a bridge to allow connectivity from Challenger Drive/Dennison Road to the east side of the HSR alignment, where a future development is planned. Therefore, the associated revisions to access roads were also made, including the adjustment of the access road where it ties into Voyager Drive in north Tehachapi, connection of the HSR access road to Challenger Drive in Tehachapi, and provision of an access road from the relocated paralleling station to Tehachapi Willow Springs Road. Each of these revisions slightly increases the project footprint in that area compared to what was analyzed in the Draft EIR/EIS.

## CalPortland Cement Company

In response to a comment on the Draft EIR/EIS from CalPortland Cement Company indicating that the north portal of Tunnel 9 (located immediately south of the Pacific Crest Trail [PCT] crossing and Oak Creek Road) was within the potential flyrock zone of their active mining operations, the project design for Alternatives 1, 2, and 5 was revised to provide for construction

of a cover extending 1,700 feet from the northerly terminus of Tunnel 9 to protect the HSR infrastructure from the potential for damage from flyrock. This design refinement was not made for Alternative 3 because the Alternative 3 alignment is located outside the potential flyrock zone.

### U.S. Department of the Interior, Bureau of Land Management

In one of its comments on the Draft EIR/EIS, the Bureau of Land Management expressed concern regarding the proposed design, which would require PCT users (including equestrians) to cross under the HSR viaduct in an 80-foot-long, 15x15-foot box culvert. In response to this comment, the Authority developed a revised design of the HSR crossing of the PCT. Under Alternatives 1, 2 and 5, in the area where the HSR alignment crosses the PCT, the alignment of Tehachapi Willow Springs Road was shifted to the west of the HSR alignment, added a connection from Tehachapi Willow Springs Road to the existing dirt Oak Creek Road near the creek, realigned the PCT, and replaced the existing at-grade PCT crossing across Tehachapi Willow Springs Road with a grade-separated crossing. This engineering refinement eliminates impacts to a PCT parking area, which would no longer require relocation as previously described in the Draft EIR/EIS. This engineering refinement also replaces the existing at-grade crossing of the PCT across Tehachapi Willow Springs Road with a new grade-separated crossing (Tehachapi Willow Springs Road bridge over the PCT). This engineering refinement would increase safety for PCT users because they would no longer have to cross Tehachapi Willow Springs Road, which has a posted speed limit of 55 miles per hour. This shift in the alignment of Tehachapi Willow Springs Road eliminated a complex crossing of the HSR alignment over Tehachapi Willow Springs Road but resulted in a direct impact to the existing PCT in this area, as well as a minor increase to the previously defined footprint. Mitigation Measure PCT-MM#1, described in Section 3.15 (Parks, Recreation, and Open Space) of the EIR/EIS, provides for replacement of the impacted portion of the PCT on a new alignment. In addition, with the new design, PCT users would now cross under the HSR viaduct (and the new Tehachapi Willow Springs Road bridge) in an open crossing adjacent to the creek with more than 57 feet of vertical clearance, which would improve the experience for the trail users as they cross under the HSR viaduct. The design revisions at this location also eliminated project impacts to a PCT parking area along Oak Creek Road (including removal of an oak tree).

### City of Lancaster

In response to comments on the Draft EIR/EIS from the City of Lancaster, some modifications were made to roadway crossings within the city limits. As described in Chapter 2 of the Draft EIR/EIS, W Lancaster Boulevard was proposed to be closed between the intersection of Sierra Highway and the Union Pacific Railroad (UPRR) tracks, and the HSR alignment would be between Sierra Highway and the UPRR. Further, Milling Street was proposed to be connected across the HSR and UPRR by the construction of a new roadway overpass spanning Beech Avenue, Sierra Highway, the HSR alignment, the Metrolink and UPRR tracks, and Yucca Avenue. However, in response to comments on the Draft EIR/EIS by the City of Lancaster, the Authority has revised the project design to retain the connectivity of Lancaster Boulevard as an underpass across the rail corridor. With the connection across the rail corridor maintained at Lancaster Boulevard, the connection of Milling Street across the HSR alignment was removed from the project design.

Additionally, W Avenue I had been proposed in the Draft EIR/EIS to be grade-separated with an overpass spanning Sierra Highway, HSR, and UPRR, and further modifications made to retain access between W Avenue I and Sierra Highway via a signalized intersection. Per the request of the City of Lancaster, the design of the W Avenue I crossing has been modified to become an underpass rather than an overpass. As part of the design modifications at W Avenue I, the footprint at the underpass has been reduced in order to avoid a low-income housing development in the immediate vicinity.

Also in response to comments from the City of Lancaster, modifications were made to the design at the W Avenue H/7th Street W intersection to allow for the relocation of an existing driveway to the parking lot at the northeast corner of that intersection.

### City of Palmdale

In response to comments on the Draft EIR/EIS from the City of Palmdale, the Authority consulted with the City of Palmdale and modified the local grade separation at Palmdale Boulevard to be an undercrossing, rather than an overcrossing as was identified in the Draft EIR/EIS. The reconfiguration of the grade separation entails adjusting the profile of Palmdale Boulevard, Sierra Highway, and the UPRR and Metrolink track corridor, which in turn requires modifications to the project footprint. For reprofiled portions of Sierra Highway to conform with existing ground levels, the project footprint was expanded to accommodate a portion of E Avenue Q-7 north of Palmdale Boulevard, and a portion of Sierra Highway south of Avenue Q-10 E. In addition, the reconfiguration of the Palmdale Boulevard grade separation would also result in reduction of permanent footprint east of Sierra Highway. The original project footprint included surface parking lots between Sierra Highway and 10th Street. The reconfigured project design no longer includes parking east of Sierra Highway, resulting in reduction of the project footprint at this location, but results in the need to relocate 171 parking stalls and 6 Americans with Disabilities Act-compliant parking stalls that were originally planned along E Palmdale Boulevard, between Sierra Highway and 10th Place E. These parking stalls would be replaced by adding spaces to multiple surface lots along 5th Street E, west of the HSR, Metrolink, and UPRR tracks.

### Los Angeles Department of Water and Power

Footprint adjustments were also made to provide additional room for the relocation of and perpendicular crossings of high-voltage power lines. These design changes were made to address comments on the Draft EIR/EIS from the Los Angeles Department of Water and Power related to the safety and protection of critical facilities and the provision of sufficient rights-of-way for various activities.

### California Department of Fish and Wildlife

In response to general comments on the Draft EIR/EIS to maintain hydrological function upstream and downstream of the proposed alignment, the Authority has incorporated design improvements involving the installation of rock slope protection at drainage outlets and to size the on-site drainage basins to address potential downstream effects. Although this refinement resulted in an increase in needed footprint at the drainage outlet areas, the addition of rock slope protection helps to attenuate downstream hydraulic impacts identified in the Draft EIR/EIS. Similarly, refinements to the typical cross-section were made to increase the size of drainage ditches and maintenance access. These refinements also serve as a design improvement to attenuate downstream hydraulic impacts. The increase in footprint acreage associated with the addition of rock slope protection throughout the alignment is approximately 160 acres.

### Multiple Local Jurisdictions—Local Design Standards

The Authority has also committed to meeting local jurisdiction design standards to the greatest extent feasible. Therefore, revisions to the project design have been made for consistency with local government requirements and HSR standards to address comments from agencies such as the Kern County Public Works Department. These revisions consist of realigning access roads, adjustments to grade and profiles, addition of cul-de-sacs, radius adjustments, addition of hammerhead turnarounds (a T- or L-shaped dead-end street that allows sufficient space for emergency or access vehicles to make a U-turn) at viaduct locations for emergency and/or maintenance vehicle access, and Americans with Disabilities Act compliance improvements.

## 3.1-B-2-2 Design Revisions to Reduce Environmental Impacts

In addition to refinements to address public comments, other project design refinements were made throughout the project limits to remove portions of the footprint that were determined to be unnecessary to construct, operate, and maintain the HSR project. In doing so, the potential environmental impacts of the footprint evaluated in the Draft EIR/EIS and future right-of-way costs were reduced in many locations. For example, the elimination of the Caliente Creek Traction Power Substation site, along with the associated elimination of 6 miles of interconnect run, resulted in a footprint reduction of roughly 72 acres. The elimination of the Caliente Creek

Traction Power Substation site required moving some of the other traction power facilities to new locations and changing some of these facilities from a paralleling station to a switching station or vice versa. These systems changes were made to reduce impacts. While there are increases or decreases in the footprint at individual locations, the net result of the systems changes is a reduction in footprint and a reduction in impacts, as well as a reduction in capital cost.

### 3.1-B-2-3 Other Minor Design Revisions

Other refinements to the project design have been made since the release of the Draft EIR/EIS for various reasons, to further improve the safety of the design, or to reduce cost where possible.

To provide for safer operation of emergency and maintenance vehicles, the design of the access road where it ties into Voyager Road near the Adventist Health Tehachapi Valley facility was adjusted. Similarly, the footprint was revised throughout the alignment to allow for emergency/ maintenance access road adjustments, hammerhead turnarounds, and grading limit adjustments, and also to provide additional room for the safe operation of maintenance vehicles.

Minor footprint modifications were made to accurately represent the permanent impact area of the removal of wind turbines. It should be noted that the removal of the wind turbines was identified as an impact in the Draft EIR/EIS. Four of the wind turbines were not within the original project footprint, but were identified for removal because they posed a safety hazard due to their proximity to the HSR alignment. The footprint additions to account for the removal of these four wind turbines total approximately 0.25 acre.

Similarly, the footprint associated with Alternative 2 was modified to accommodate the revised Edison Highway roadway section in Bakersfield to be consistent with Alternatives 1, 3, and 5, as this is a location in which the HSR alignment is common to all B-P Build Alternatives.

Minor modifications to the footprint were also made to more accurately reflect the area needed for tunnel portal grading at some locations.

The footprint was also adjusted to pave existing dirt roads for emergency access in some areas, including Highgate Avenue just north of the community of Rosamond, and to prevent erosion due to flooding. This adjustment is a design improvement to allow for the safe operation of emergency and maintenance vehicles in various weather conditions and provide access to the entire alignment.

### 3.1-B-2-4 Selection of Preferred Maintenance Facility Location

Two maintenance facility site options, the Lancaster North site and the Avenue M site, were evaluated in the Draft EIR/EIS. The Lancaster North site was evaluated as both a maintenance-of-way (MOWF) facility and a combined light maintenance facility (LMF)/MOWF, whereas the Avenue M site was evaluated only as an LMF. As part of the design refinements considered following publication of the Draft EIR/EIS, the Authority revised the design and expanded the project footprint of the Avenue M site to accommodate a combined LMF/MOWF. The Final EIR/EIS evaluates impacts of the combined LMF/MOWF at the Avenue M site.

The Authority has evaluated the Lancaster North and Avenue M maintenance facility locations with regard to the criteria for maintenance sites provided in Section 2 of its *Right-of-Way Infrastructure Maintenance Facility Requirements, Revision 3* (August 2018). Based on this evaluation, the Authority determined that the Preferred Alternative should include an MOWF at Avenue M in the Cities of Lancaster and Palmdale with additional footprint provided to accommodate a potential LMF at the site in the future. The reasons for the Avenue M site being chosen as the preferred MOWF facility include (1) the Authority's requirement for maintenance facilities to have freight rail access for delivery of materials, (2) the southerly location of the MOWF at Avenue M rather than Lancaster North would improve connectivity to the Palmdale Station and to HSR project sections to the south of Palmdale, and (3) the Avenue M footprint area is of sufficient size to accommodate an LMF in the future. Although the footprint at the Avenue M site has been expanded by approximately 17 acres to accommodate the potentially combined facility, the Avenue M site requires 177 acres of permanent footprint compared to the Lancaster

North LMF/MOWF site, which would have required 212 acres of permanent footprint. The footprint defined in the Draft EIR/EIS for the Lancaster North site is now proposed as a potential construction staging area; therefore, this footprint area has been retained in the environmental impact analysis.

## 3.1-B-3 CHANGES IN ENVIRONMENTAL IMPACTS DUE TO ENGINEERING AND DESIGN REFINEMENTS

This section summarizes the changes to environmental impacts analysis resulting from the engineering and design refinements for each resource section presented in Volume 1 (Chapters 3 through 5) of this Final EIR/EIS in comparison to the impacts presented in the Draft EIR/EIS. Tabular data showing the difference in impacts between the Draft EIR/EIS and Final EIR/EIS are provided here for key resources to provide representative examples of the changes resulting from the engineering and design refinements. While the refinements resulted in some increases and decreases to the previously defined footprint area that was evaluated in the Draft EIR/EIS, the refinements result in an overall reduction of 100 acres (approximately 1 percent of the total acreage) of the footprint required for the project compared to the B-P Build Alternatives and Design Options analyzed in the Draft EIR/EIS. Attached to this appendix is a table providing a detailed overview of each individual refinement and a summary of the environmental resources associated with the changes in footprint, as well as a mapbook illustrating the footprint modifications associated with the engineering and design refinements.

### 3.1-B-3-1 Transportation

As a result of modifications to construct a Lancaster Boulevard underpass under the HSR alignment and existing railroad corridor, Lancaster Boulevard would be temporarily closed for construction. However, because TR-IAMF#2 (Construction Transportation Plan) addresses temporary road closures during construction, the conclusions presented under Impact TR #1 in Chapter 3, Section 3.2, of the Draft EIR/EIS did not change.

After circulation of the Draft EIR/EIS, several changes were made in the project design that would modify roadways. In cases where these changes included relocations of existing roadways, additions of new grade separations, changes from overcrossings of the project to undercrossings, changes from undercrossings of the project to overcrossings, or minor access changes, there would be no effect on roadway operations, since study area roadways would operate as determined prior to the design change. One roadway design change was made in the City of Lancaster that would change roadway operations. The overcrossing of the HSR line that was previously planned for Milling Street has been eliminated and an undercrossing of the HSR line has been proposed for Lancaster Boulevard. This change would not result in an LOS of E or F at any study area roadway segment or intersection in any existing or future scenario. These design changes did not create a new transportation impact that was not disclosed in the Draft EIR/EIS.

Table 3.2-21 and Table 3.2-22 in the Final EIR/EIS were updated to reflect changes to traffic operations at intersections or roadways resulting from the engineering and design refinements. The text of Impact TR #6 included in Section 3.2.6.3 of this Final EIR/EIS was updated to account for the adjustments to roadway operations that resulted from the engineering and design refinements. None of the refinements creates a new transportation impact that was not disclosed in the Draft EIR/EIS, and the impact conclusions under CEQA and NEPA presented in Sections 3.2.8 and 3.2.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

### 3.1-B-3-2 Air Quality and Global Climate Change

The engineering and design refinements were evaluated to determine if they would alter the impact conclusions within Section 3.3.6.3 of the Draft EIR/EIS as a result.

The revised design would result in slightly more earthwork (approximately 0.25 percent more), which would translate to an incremental increase in construction emissions, along with a slight reduction in spoils hauling, which would have an incremental reduction in construction emissions. These changes would not result in a change to any of the impact conclusions for construction

emissions within this Final EIR/EIS, including: regional air quality impacts, compliance with air quality plans, greenhouse gas emissions during construction, and cumulative impacts during construction. The revised roadway segment capacity analysis described in Section 3.1-B-3-1 related to Lancaster Boulevard and Milling Street did not change any of the impact conclusions for operational emissions within this Final EIR/EIS. Impact conclusions related to the localized air quality impacts during construction would be consistent with those identified in the Final EIR/EIS. The new design would not change the conclusions related to localized air quality impacts from concrete batch plants. Operational impacts would remain consistent with the less than significant impacts identified for asbestos and lead-based paint exposure, statewide regional criteria pollutant emissions, and greenhouse gas emissions during project operations. Once operational, the new design would also not result in changes to the conclusions for localized mobile source air toxics, microscale carbon monoxide impacts, or localized particulate matter less than 10 microns in diameter and particulate matter less than 2.5 microns in diameter hot spots, odors, or compliance with air quality plans or cumulative impacts during project operations.

### 3.1-B-3-3 Noise and Vibration

The horizontal alignment of the B-P Build Alternatives has not changed as a result of the engineering and design refinements; therefore, the distances between the HSR alignments and sensitive receptors for noise and vibration have not changed.

The noise and vibration modeling has been revised to account for the engineering and design refinements, which lowered the profile of the track centerline near Morning Drive in the community of Edison and in the Tehachapi Valley. The revised modeling indicates that changes in noise levels would be very minor (ranging from -0.4 to 0.1 A-weighted decibels) as a result of the profile modifications. These minor noise level changes did not result in any changes to impact determinations or recommended noise mitigation measures. Similarly, the lower profile of the track centerline would not change the vibration impact calculations and conclusions presented in Section 3.4.6.3 of the Draft EIR/EIS.

The changes in noise associated with the reconfiguration of Palmdale Boulevard to become an undercrossing were also assessed. Although the profile of the UPRR and Metrolink tracks would be raised, the associated increase in noise would be nominal and would not change any of the impact conclusions. Furthermore, the proposed refinements would eliminate the need for sounding train horns, as there would no longer be an at-grade crossing of UPRR and Metrolink trains at Palmdale Boulevard, resulting in an overall reduction in noise. Additionally, traffic noise impacts associated with the refinements to the Palmdale Boulevard undercrossing have been updated, but no new impacts were identified beyond those presented in Section 3.4.6.3 of the Draft EIR/EIS. The conclusions presented in Sections 3.4.8 and 3.4.9 of the Draft EIR/EIS would not change as a result of these refinements to the analysis.

### 3.1-B-3-4 Electromagnetic Interference and Electromagnetic Fields

None of the sensitive receptors identified (medical laboratories, research and technology parks, U.S. Air Force Plant 42, dense housing developments, schools and colleges, employees, underground pipelines and cables, fences, and existing railroads) would be affected by the engineering and design refinements. This is because (1) the refinements themselves would not result in any changes in electromagnetic interference/electromagnetic field emissions, and (2) there were no changes to the track centerline that would place the HSR alignment closer to the identified sensitive facilities.

### 3.1-B-3-5 Public Utilities and Energy

Text modifications have been made to Impacts PUE #8 and PUE #10 in Section 3.6.6.3 of this Final EIR/EIS to account for the adjustments to various traction power sites and associated interconnect runs (including the removal of the Caliente Creek Traction Power Substation and interconnect) and to account for changes to acreages resulting from the footprint modifications. Although the locations of various traction power sites and associated interconnect runs would change, the effects from the upgrade or relocation of electric power lines would be avoided or

minimized through the implementation of PUE-IAMF#3, which would require the contractor to notify the public within the jurisdiction and affected service providers prior to construction in areas where utility services interruptions are unavoidable. In addition, per the requirements of California Public Utilities Commission General Order 131-D, potential impacts from the construction of additional utility facilities would be assessed under separate environmental documentation specific to the equipment and location of the additional utility facilities as part of the California Public Utilities Commission permit application process. The impact conclusions under CEQA and NEPA presented in Sections 3.6.8 and 3.6.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

## 3.1-B-3-6 Biological and Aquatic Resources

The evaluation of impacts to biological resources are largely based on a geographic information systems analysis using an overlay of the project footprint with the various biological resource study area maps. Although the engineering and design refinements result in revisions to habitat impact acreages, the refinements generally result in small changes distributed along the 80-mile alignment, with similar impacts across the biological resource study areas. Tables 3.7-2, 3.7-5, 3.7-6, 3.7-7, 3.7-8, 3.7-9, 3.7-10, and 3.7-11 were updated in this Final EIR/EIS to reflect the modified project footprint resulting from the engineering and design refinements. Three tables from Section 3.7 of this Final EIR/EIS (Table 3.7-6, Comparison of Estimated Potential Effects on Suitable Habitat for Special-Status Wildlife Species within the Resource Study Area; Table 3.7-8, Comparison of Potential Estimated Effects on Aquatic Resources—Ordinary High Water Mark or Edge of Wetland; and Table 3.7-9, Comparison of Potential Estimated Effects on Aquatic Resources—Top of Bank or Edge of Riparian) are included below to show the changes in acreage impacts described above. The impact conclusions under CEQA and NEPA presented in Sections 3.7.8 and 3.7.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

## 3.1-B-3-7 Hydrology and Water Resources

The engineering and design refinements, including those related to drainage features, were included in the updated analysis of impacts to hydrology and water resources presented in this Final EIR/EIS. The rock slope protection pads and larger drainage basins included in the engineering and design refinements are design improvements intended to further minimize downstream drainage impacts. The rock slope protection pads are placed at the downstream ends of culverts to dissipate energy from the concentrated stormwater flows prior to releasing to drainages crossing the HSR alignment in order to reduce erosion and downstream impacts. The larger drainage basins will better capture, retain, and treat stormwater before the flow is released downstream. These design improvements will further ensure that discharges will occur at a rate that mimics the existing flow rates and volumes. Incorporation of these larger drainage basins reduces downstream impacts associated with increased flows and pollutants.

**Table 3.7-6 Comparison of Estimated Potential Effects on Suitable Habitat for Special-Status Wildlife Species within the Resource Study Area**

| Special-Status Wildlife Species | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 5 | | CCNM Design Option | | Refined CCNM Design Option | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) |
| American badger (*Taxidea taxus*) | 2746.3 [2616.0] | 698.2 [687.3] | 2680.1 [2562.1] | 713.1 [696.7] | 2700.6 [2600.8] | 686.0 [673.7] | 2715.7 [2587.7] | 704.8 [696.8] | -50.8 [-14.0] | 20.7 [20.9] | 688.4 [789.0] | -78.2 [-67.6] |
| Bendire's thrasher (*Toxostoma bendirei*) | 319.8 [299.3] | 24.7 [25.6] | 319.8 [299.3] | 24.7 [25.6] | 284.9 [268.0] | 15.1 [15.8] | 317.8 [300.2] | 25.7 [28.2] | No Change[No Change] | No Change[No Change] | No Change[No Change] | No Change[No Change] |
| Blainville's horned lizard (*Phrynosoma blainvilli*) | 4078.9 [3877.4] | 1389.6 [1393.5] | 3996.7 [3821.0] | 1401.4 [1384.1] | 4037.6 [3891.5] | 1371.5 [1369.1] | 4078.9 [3877.4] | 1389.6 [1393.5] | -50.3 [-11.6] | 14.6 [15.2] | 670.1 [783.0] | -86.0 [-81.2] |
| California legless lizard (*Anniella pulchra pulchra*) | 1030.3 [911.1] | 312.3 [290.5] | 1034.4 [916.2] | 311.0 [290.5] | 992.8 [910.4] | 301.6 [283.3] | 1030.3 [911.1] | 312.3 [290.5] | -50.7 [-13.9] | 13.5 [13.9] | 473.0 [552.3] | -59.3 [-47.5] |
| Crotch bumblebee (*Bombus crotchii*) | 5,451.7 [5279.9] | 1,359.3 [1309.5] | 5,385.6 [5226.1] | 1,374.2 [1319.0] | 5,510.2 [5323.2] | 1,352.3 [1280.8] | 5,399.5 [5228.8] | 1,359.3 [1327.2] | -48.0 [-9.0] | 14.3 [15.1] | 688.9 [801.3] | -84.8 [-80.5] |
| Golden eagle (Aquila chrysaetos) | 5,495.2 [5,321.9] | 1,369.0 [1,320.0] | 5,430.5 [5,266.0] | 1,383.7 [1,329.3] | 5,552.7 [5,364.4] | 1,362.5 [1,292.1] | 5,439.8 [5,267.6] | 1,369.0 [1,338.0] | -47.9 [-9.0] | 14.3 [15.1] | 682.1 [794.0] | -85.7 [-81.1] |
| Grasshopper sparrow (*Ammodramus savannarum*) | 768.0 [708.9] | 222.7 [223.4] | 697.8 [650.0] | 238.8 [232.8] | 768.0 [708.9] | 222.7 [223.4] | 768.0 [708.9] | 222.7 [223.4] | No Change [No Change] | No Change [No Change] | 216.0 [219.4] | -13.1 [-15.4] |
| Le Conte's thrasher (*Toxostoma lecontei*) | 265.4 [249.0] | 9.1 [10.3] | 265.4 [249.0] | 9.1 [10.3] | 265.4 [249.0] | 9.1 [10.3] | 263.4 [249.9] | 10.1 [12.9] | No Change [No Change] | No Change [No Change] | No Change [No Change] | No Change [No Change] |
| Loggerhead shrike (*Lanius ludovicianus*) | 3,210.1 [3094.0] | 1,069.8 [1063.0] | 3,170.8 [3089.7] | 1,066.9 [1047.1] | 3,171.7 [3077.6] | 1,056.6 [1048.7] | 3,178.8 [3064.9] | 1,076.4 [1072.5] | -50.8 [-14.0] | 20.7 [20.9] | 689.1 [789.2] | -78.1 [67.3] |
| Long-eared owl (*Asio otus*) | 784.8 [691.8] | 254.7 [233.9] | 784.8 [691.8] | 254.7 [233.9] | 783.5 [721.5] | 253.9 [236.4] | 784.8 [691.8] | 254.7 [233.9] | -50.7 [-13.9] | 13.5 [13.9] | 226.2 [296.3] | -52.2 [-39.9] |
| Mountain lion (*Puma concolor*) range | 1,956.0 | 673.2 | 1,956.0 | 673.2 | 1,991.4 | 677.8 | 1,956.0 | 673.2 | No Change | No Change | No Change | No Change |
| Mountain plover (*Charadrius montanus*) | 269.2 [334.5] | 55.2 [48.1] | 269.2 [334.5] | 55.2 [48.1] | 282.1 [333.5] | 55.6 [48.8] | 240.7 [305.3] | 60.9 [55.0] | No Change [No Change] | No Change [No Change] | No Change [No Change] | No Change [No Change] |
| Northern harrier (*Circus cyaneus*) | 1465.1 [1471.4] | 380.4 [390.8] | 1,394.9 [1412.4] | 396.5 [400.2] | 1,458.4 [1457.2] | 380.3 [385.1] | 1,436.6 [1442.1] | 386.1 [397.7] | 0.0 [-0.1] | 7.3 [7.0] | 214.6 [235.2] | -18.4 [-19.3] |
| Oregon vesper sparrow (*Pooecetes gramineus affinis*) | 1,203.5 [1160.7] | 443.2 [445.8] | 1,164.2 [1156.4] | 440.3 [429.8] | 1,203.5 [1160.7] | 443.2 [445.8] | 1,203.5 [1160.7] | 443.2 [445.8] | No Change [No Change] | No Change [No Change] | 216.0 [219.4] | -13.1 [-15.4] |
| Pallid bat (*Antrozous pallidus*) | 5,708.9 [5542.6] | 1,479.5 [1424.4] | 5,680.7 [5532.5] | 1,468.5 [1405.8] | 5,766.4 [5585.1] | 1,473.0 [1396.5] | 5,653.6 [5488.3] | 1,479.5 [1442.4] | -47.9 [-9.0] | 14.3 [15.1] | 689.2 [801.1] | -84.2 [-79.6] |
| Purple martin (*Progne subis*) | 855.8 [751.7] | 265.5 [245.4] | 855.8 [751.7] | 265.5 [245.4] | 854.4 [781.4] | 264.7 [247.9] | 855.8 [751.7] | 265.5 [245.4] | -50.7 [-13.9] | 13.5 [13.9] | 473.5 [552.8] | -60.4 [-48.9] |
| Redhead (*Aythya americana*) | 6.2 [5.0] | 0 [0.2] | 6.2 [5.0] | 0 [0.2] | 6.2 [5.0] | 0 [0.2] | 3.8 [2.7] | 0 [0.5] | No Change [No Change] | No Change [No Change] | No Change [No Change] | No Change [No Change] |
| San Joaquin whipsnake (*Masticophis flagellum ruddocki*) | 794.9 [733.5] | 228.6 [228.8] | 728.8 [679.6] | 243.4 [238.3] | 794.9 [733.5] | 228.6 [228.8] | 794.9 [733.5] | 228.6 [228.8] | No Change [No Change] | No Change [No Change] | 216.0 [219.4] | -13.1 [-15.4] |
| Short-eared owl (*Asio flammeus*) | 1932.6 [1952.3] | 749.9 [765.5] | 1,890.8 [1940.9] | 748.1 [749.3] | 1,933.0 [1936.6] | 748.3 [758.3] | 1,901.7 [1920.7] | 755.6 [772.7] | 0.0 [-0.1] | 7.3 [7.0] | 214.6 [235.2] | -18.4 [-19.3] |
| Spotted bat (*Euderma maculatum*) | 4,546.3 [4452.9] | 1,105.1 [1055.3] | 4,546.3 [4452.9] | 1,105.1 [1055.3] | 4,603.9 [4495.4] | 1,098.6 [1027.5] | 4,491.0 [4398.6] | 1,105.1 [1073.3] | -47.9 [-9.0] | 14.3 [15.1] | 225.9 [325.0] | -62.9 [-55.2] |
| Tehachapi pocket mouse (*Perognathus alticolus inexpectatus*) | 427.2 [394.4] | 53.0 [51.8] | 431.3 [399.5] | 51.7 [51.8] | 389.6 [363.7] | 41.6 [41.4] | 425.2 [395.3] | 53.9 [54.4] | No Change [No Change] | No Change [No Change] | 0.0 [0.6] | 0.0 [0.1] |
| Townsend's big-eared bat (*Corynorhinus townsendii*) | 869.3 [766.5] | 268.5 [249.0] | 869.3 [766.5] | 268.5 [249.0] | 869.4 [796.4] | 269.0 [252.2] | 868.5 [765.7] | 268.5 [249.0] | -50.7 [-13.9] | 13.5 [13.9] | 473.1 [551.7] | -59.8 [-48.1] |
| Tricolored blackbird (*Agelaius tricolor*) | 1,699.6 [1713.6] | 637.4 [658.2] | 1,619.7 [1658.4] | 661.6 [670.1] | 1,700.0 [1697.8] | 635.8 [651.1] | 1,671.1 [1684.3] | 643.1 [665.1] | 0.0 [-0.1] | 7.3 [7.0] | 212.8 [233.4] | -18.4 [-19.1] |
| Tulare grasshopper mouse (*Onychomys torridus tularensis*) | 2,661.0 [2558.9] | 930.5 [929.3] | 2,585.1 [2508.8] | 953.4 [941.2] | 2,657.4 [2573.4] | 926.4 [924.1] | 2,632.5 [2529.6] | 936.2 [936.3] | -50.8 [-14.0] | 20.7 [20.9] | 688.4 [789.0] | -78.7 [-68.0] |
| Vermillion flycatcher (*Pyrocephalus rubinus*) | 59.8 [57.2] | 16.1 [12.1] | 59.8 [57.2] | 16.1 [12.1] | 66.9 [54.4] | 14.6 [11.9] | 59.8 [57.2] | 16.1 [12.1] | No Change [No Change] | No Change [No Change] | No Change [No Change] | No Change [No Change] |
| Western burrowing owl (*Athene cunicularia*) | 2,126.9 [2108.0] | 690.4 [710.2] | 2,051.0 [2057.9] | 713.3 [722.1] | 2,089.7 [2061.6] | 677.5 [692.7] | 2,096.3 [2079.6] | 697.0 [719.7] | 0.0 [-0.1] | 7.3 [7.0] | 214.6 [235.9] | 214.6 [-19.2] |
| Western mastiff bat (*Eumops perotis californicus*) | 7,404.6 [7374.9] | 1,949.0 [1892.0] | 7,322.4 [7318.5] | 1,960.8 [1882.6] | 7,469.8 [7421.1] | 1,942.7 [1863.8] | 7,315.5 [7269.9] | 1,950.6 [1915.0] | -50.3 [-11.6] | 14.6 [15.2] | 670.1 [783.0] | -86.0 [-81.2] |
| Western pond turtle (*Actinemys marmorata*) | 875.0 [769.8] | 267.4 [248.1] | 876.6 [767.8] | 267.2 [247.8] | 873.7 [799.5] | 266.6 [250.5] | 872.6 [767.4] | 267.4 [248.3] | -50.7 [-13.9] | 13.5 [13.9] | 473.5 [552.8] | -59.9 [-48.4] |
| Western red bat *(Lasiurus blossevillii*) | 2,596.5 [2621.7] | 602.1 [562.5 [ | 2,594.3 [2620.5] | 589.6 [541.1] | 2,593.7 [2657.5] | 601.7 [566.1] | 2,559.6 [2567.9] | 603.7[567.8] | -53.2 [-16.6] | 13.8 [14.0] | 455.1 [534.9] | -61.2 [-49.3] |

| Special-Status Wildlife Species | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 5 | | CCNM Design Option | | Refined CCNM Design Option | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) |
| Western snowy plover (*Charadrius alexandrinus nivosus*) | 6.2 [5.0] | 0 [0.2] | 6.2 [5.0] | 0 [0.2] | 6.2 [5.0] | 0 [0.2] | 3.8 [2.7] | 0 [0.5] | No Change [No Change] | No Change [No Change] | No Change [No Change] | No Change [No Change] |
| Yellow warbler (*Dendroica petechia brewsteri*) | 798.3 [706.2] | 257.9 [237.6] | 798.3 [706.2] | 257.9 [237.6] | 798.4 [736.2] | 258.4 [240.9] | 798.3 [706.2] | 257.9 [237.6] | -50.7 [-13.9] | 13.5 [13.9] | 226.9 [296.4] | -51.7 [-39.1] |
| Yellow-blotched salamander (*Ensatina eschscholtzii croceator*) | 855.8 [751.7] | 265.5 [245.4] | 855.8 [751.7] | 265.5 [245.4] | 854.4 [781.4] | 264.7 [247.9] | 855.8 [751.7] | 265.5 [245.4] | -50.7 [-13.9] | 13.5 [13.9] | 473.5 [552.8] | -59.9 [-48.4] |
| Yellow-breasted chat (*Icteria virens*) | 16.6 [15.9] | 4.6 [4.4] | 16.6 [15.9] | 4.6 [4.4] | 16.7 [16.2] | 5.0 [5.2] | 16.6 [15.9] | 4.6 [4.4] | 0.1 [0.0] | 0.0 [0.0] | 0.3 [-0.2] | 0.3 [0.7] |
| Yellow-headed blackbird (*Xanthocephalus xanthocephalus*) | 0 [0] | 0 [0] | 0 [0] | 0 [0] | 0 [0] | 0 [0] | 0 [0] | 0 [0] | No Change [No Change] | No Change [No Change] | No Change [No Change] | No Change [No Change] |

*Source: California High-Speed Rail Authority, 2020*
Data for both CCNM Design Options are applicable to all of the B-P Build Alternatives, and the values represent the increase/decrease compared to the B-P Build Alternatives.
Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the updated information provided in this Final EIR/EIS.
B-P = Bakersfield to Palmdale Project Section
CCNM = César E. Chávez National Monument
EIR/EIS = Environmental Impact Report/Environmental Impact Statement

**Table 3.7-8 Comparison of Potential Estimated Effects on Aquatic Resources – Ordinary High Water Mark or Edge of Wetland[1]**

| Jurisdictional Wetlands and Waters | | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 5 | | CCNM Design Option* | | CCNM Refined Design Option* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) |
| Seasonal Wetland | | 2.1 [2.1] | 0.2 [0.2] | 2.1 [2.1] | 0.2 [0.2] | 1.2 [1.1] | 0.1 [0.1] | 2.1 [2.1] | 0.1 [0.2] | 0.00 [0.00] | 0.00 [0.00] | -0.01 [-0.09] | 0.0 [+0.02] |
| Forested Wetland | | 0.9 [0.9] | 0.0 [0.0] | 0.9 [0.9] | 0.0 [0.0] | 0.8 [0.8] | 0.2 [0.2] | 0.9 [0.9] | 0.0 [0.0] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| Claypans | Natural Claypans | 6.7 [7.0] | 2.6 [1.3] | 6.7 [7.0] | 2.6 [1.3] | 6.7 [7.0] | 2.6 [1.3] | 6.5 [6.9] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| | Ponding in Desert Developed Areas | 0.6 [0.5] | 0.1 [0.1] | 0.6 [0.5] | 0.1 [0.1] | 0.6 [0.5] | 0.1 [0.1] | 0.6 [0.5] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| Streams and washes | Ephemeral Stream | 7.6 [7.2] | 1.8 [1.7] | 7.6 [7.3] | 1.7 [1.6] | 8.2 [7.8] | 2.0 [1.9] | 7.6 [7.2] | 1.8 [1.7] | +0.1 [+0.18] | +0.03 [0.00] | +1.5 [+1.51] | -0.2 [-0.05] |
| | Desert Wash | 7.1 [6.6] | 1.0 [1.1] | 7.1 [6.6] | 1.0 [1.1] | 7.2 [6.7] | 1.0 [1.1] | 7.1 [6.6] | 1.0 [1.1] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| | Intermittent Stream | 5.0 [4.8] | 1.0 [0.8] | 5.0 [4.8] | 1.0 [0.8] | 4.9 [4.7] | 0.9 [0.8] | 5.0 [4.8] | 1.0 [0.8] | -0.01 [-0.09] | +0.02 [+0.10] | +0.6 [+0.40] | +0.6 [+0.66] |
| | Perennial Stream | 0.1 [0.1] | 0.1 [0.1] | 0.1 [0.1] | 0.1 [0.1] | 0.1 [0.1] | 0.1 [0.1] | 0.1 [0.1] | 0.1 [0.1] | 0.00 [0.00] | 0.00 [0.00] | -0.01 [-0.01] | -0.01 [+0.02] |
| Artificial Watercourses—In-Stream Impoundments | | 0.5 [0.2] | 0.1 [0.3] | 0.6 [0.1] | 0.0 [0.3] | 0.5 [0.2] | 0.1 [0.3] | 0.5 [0.2] | 0.1 [0.3] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| Artificial Watercourse—Canals | | 0.0 [0.1] | 0.7 [0.0] | 0.0 [0.1] | 0.7 [0.0] | 0.0 [0.1] | 0.7 [0.0] | 0.0 [0.1] | 0.7 [0.0] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| Artificial Watercourse—Ditches | | 3.9 [4.0] | 0.7 [0.7] | 3.9 [4.0] | 0.7 [0.6] | 3.9 [4.1] | 0.7 [0.7] | 3.6 [4.6] | 0.7 [0.1] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.0 [+0.04] |
| Artificial Watercourse—Detention/Retention Basins | | 24.1 [23.5] | 2.8 [2.9] | 25.2 [21.2] | 2.9 [2.9] | 24.1 [23.5] | 2.8 [2.9] | 20.1 [19.6] | 2.8 [3.0] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| **Total Effects** | | **58.6 [56.9]** | **11.0 [9.1]** | **59.8 [54.7]** | **11.0 [9.0]** | **58.1 [56.6]** | **11.3 [9.5]** | **54.2 [53.3]** | **11.0 [8.7]** | **+0.1 [+0.1]** | **+0.1 [+0.1]** | **+2.0 [+1.81]** | **+0.4 [+0.68]** |

*Source: California High-Speed Rail Authority, 2016, 2018, 2020*

[1] Acreage values are calculated in the ARSA, which included all project alternatives known at the time plus a 250-foot buffer. Acreage totals are derived from raw GIS data and, as a result, may not exactly equal the sum of the rounded values presented in the table.

[2] CCNM Design Option columns show the change in impact should that Design Option be selected. "+" indicates increased impact; "-" indicates decreased impact. For these columns, the "Total" row depicts overall change in impact.

The CCNM Design Option data is applicable to all of the B-P Build Alternatives, and the values represent the increase/decrease compared to the B-P Build Alternatives.

Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.

ARSA = Aquatic Resource Study Area

B-P = Bakersfield to Palmdale Project Section

CCNM = César E. Chávez National Monument

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

GIS = geographic information systems

**Table 3.7-9 Comparison of Potential Estimated Effects on Aquatic Resources – Top of Bank or Edge of Riparian[1]**

| Jurisdictional Wetlands and Waters | | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 5 | | CCNM Design Option* | | Refined CCNM Design Option* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) | Permanent (acres) | Temporary (acres) |
| Streams and Washes | Ephemeral Stream | 16.7 [15.5] | 3.8 [3.4] | 16.6 [15.6] | 3.7 [3.3] | 17.7 [16.5] | 4.2 [3.9] | 16.7 [15.5] | 3.8 [3.4] | +0.2 [+0.43] | +0.03 [-0.02] | +3.1 [+3.18] | -0.04 [+0.02] |
| | Desert Wash | 18.4 [17.1] | 1.9 [2.0] | 18.4 [17.1] | 1.9 [2.0] | 18.4 [17.3] | 1.9 [2.0] | 18.4 [17.1] | 1.9 [2.2] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.0 [+0.01] |
| | Intermittent Stream | 9.1 [8.4] | 1.9 [1.9] | 9.1 [8.4] | 1.9 [1.7] | 9.0 [8.5] | 1.7 [1.8] | 9.1 [8.4] | 1.9 [1.9] | -0.1 [-0.24] | +0.1 [+0.24] | +0.5 [+0.68] | +0.2 [+0.16] |
| | Perennial Stream | 0.0 [0.0] | 0.1 [0.0] | 0.0 [0.0] | 0.1 [0.0] | 0.0 [0.0] | 0.1 [0.0] | 0.0 [0.0] | 0.1 [0.0] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | -0.01 [+0.04] |
| Riparian | | 11.6 [11.3] | 4.0 [3.8] | 11.6 [11.3] | 4.0 [3.8] | 11.7 [11.3] | 4.3 [4.5] | 11.6 [11.3] | 4.0 [3.8] | -0.1 [0.00] | +0.1 [0.00] | +2.0 [+1.69] | +0.1 [+0.33] |
| Artificial Watercourses—In-Stream Impoundments | | 0.5 [0.2] | 0.1 [0.3] | 0.4 [0.1] | 0.0 [0.3] | 0.5 [0.2] | 0.1 [0.3] | 0.5 [0.2] | 0.1 [0.3] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| Artificial Watercourses—Canals | | 0.0 [0.1] | 0.7 [0.0] | 0.0 [0.1] | 0.7 [0.0] | 0.0 [0.1] | 0.7 [0.0] | 0.0 [0.1] | 0.7 [0.0] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| Artificial Watercourses—Ditches | | 9.3 [9.3] | 0.9 [0.9] | 9.3 [9.3] | 0.9 [0.9] | 9.3 [9.3] | 0.9 [0.9] | 8.6 [9.6] | 1.0 [0.2] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| Artificial Watercourses—Detention/Retention Basins | | 27.2 [25.8] | 2.8 [3.0] | 28.3 [23.5] | 2.9 [3.0] | 27.2 [25.8] | 2.8 [3.0] | 23.2 [21.8] | 2.8 [3.8] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] | 0.00 [0.00] |
| **Total Effects** | | **96.5 [87.6]** | **16.4 [15.3]** | **97.5 [85.3]** | **16.2 [15.2]** | **96.3 [89.0]** | **17.0 [16.4]** | **91.9 [84.0]** | **16.3 [15.6]** | **+0.1 [+0.20]** | **+0.2 [+0.22]** | **+5.4 [+5.54]** | **-0.02 [+0.56]** |

*Source: California High-Speed Rail Authority, 2016, 2018, 2020*

[1] Acreage values are calculated in the ARSA, which included all project alternatives known at the time plus a 250-foot buffer. Acreage totals are derived from raw GIS data and, as a result, may not exactly equal the sum of the rounded values presented in the table.

[2] CCNM Design Options columns show the change in impact should that design option be selected. "+" indicates increased impact; "-" indicates decreased impact. For these columns, the "Total" row depicts the overall change in impact.

Both CCNM Design Options data is applicable to all of the B-P Build Alternatives, and the values represent the increase/decrease as compared to the B-P Build Alternatives.

Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.

ARSA = Aquatic Resource Study Area

B-P = Bakersfield to Palmdale Project Section

CCNM = César E. Chávez National Monument

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

GIS = geographic information systems

The engineering and design refinement to the project along the west side of the SR 58 relocation in the Marcel area to add rock slope protection pads results in additional impacts to the Tehachapi Creek floodplain. In the Draft EIR/EIS, impacts were analyzed in this area and determined to cause more than 1 foot of water surface elevation rise in the proposed condition relative to the existing condition. The conclusion of the previous study was that a detailed analysis would be required and provided by the future engineer/contractor in the Flood Protection Plan as required per HYD-IAMF#2. The refinement will slightly increase the Proposed Water Surface Elevation at the Tehachapi Creek floodplain, but will not change the conclusion in the Draft EIR/EIS. As such, Table 3.8-13 in this Final EIR/EIS reflects analysis done only on the original Alternative 1 design in this area. The future designer will be responsible for completing a detailed hydraulic study and coordinating project impacts with the local Floodplain Administrator and FEMA and complying with all applicable FEMA guidelines in addition to the HSR requirements described in HYD-IAMF#2, and Mitigation Measure WQ-MM#4, which will ensure that impacts are less than significant after mitigation under CEQA.

Engineering and design refinements in the Antelope Valley include refinements such as adding basins and rock slope protection pads throughout the region. Additionally, track profile changes have caused associated changes to grading limits and the closure of two previously designed grade separations. These refinements will slightly increase the Proposed Water Surface Elevation; however, the studies done on this area are preliminary in nature and highly variable depending on the designer's judgment in many engineering factors. The analysis performed previously determined that there are several locations where the project will cause more than 1 foot of water surface rise relative to the existing condition. The conclusion of the previous study was that a detailed analysis would be required and provided by the contractor in the flood protection plan as required per HYD-IAMF#2. The refinements will not change the conclusion drawn previously. As such, Table 3.8-13 in this Final EIR/EIS reflects analysis done only on the original Alternative 1 and Alternative 3 design in this area. The future designer will be responsible for completing a detailed hydraulic study and coordinating project impacts with the local Floodplain Administrator and FEMA and complying with all applicable FEMA guidelines in addition to the HSR requirements outlined in HYD-IAMF#2, and Mitigation Measure WQ-MM#4, which will ensure impacts are less than significant after mitigation under CEQA.

As shown in the tables provided in Section 3.8.6 of this Final EIR/EIS, the updated impact calculations show minimal changes from the impact calculations presented in the Draft EIR/EIS. The impact conclusions under CEQA and NEPA presented in Sections 3.8.8 and 3.8.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

## 3.1-B-3-8 Geology, Soils, Seismicity, and Paleontological Resources

The engineering and design refinements related to improvements to alignment profile/elevation (at Morning Drive in the community of Edison and in the Tehachapi Valley) would result in small increases in earthwork quantities in these areas. However, the 100-acre footprint reduction resulting from the engineering and design refinements would result in a reduction in overall earthwork required. For the Preferred Alternative (Alternative 2 with the Refined CCNM Design Option), the estimated excess material that would need to be stockpiled is now 2.4 million cubic yards compared to 2.5 million cubic yards estimated in the Draft EIR/EIS.

Because the engineering and design refinements do not change the horizontal alignment of the HSR track centerline, the project is located in the same geological areas evaluated in the Draft EIR/EIS. The refinements do not shift the alignment closer to Alquist-Priolo Fault Zones or other earthquake faults, and are not in new areas of liquefaction or soil subsidence. Similarly, the engineering and design refinements do not affect any additional areas that are sensitive for paleontological resources. The impact conclusions under CEQA and NEPA presented in Sections 3.9.8 and 3.9.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

## 3.1-B-3-9 Hazardous Materials and Wastes

The number of existing hazardous material and waste sites has been updated in this Final EIR/EIS to reflect the revised footprint resulting from the engineering and design refinements.

Table 3.10-3, Summary of Potential Environmental Concern Sites by Ranking and Bakersfield to Palmdale Project Section Build Alternative, from this Final EIR/EIS is included below to show the changes. The number of existing hazardous materials and wastes sites within the resource study area decreased by 23 to 27 sites, depending on the B-P Build Alternative, and decreased by seven sites for the Avenue M maintenance facility; however, the impacts remain the same as those presented in the Draft EIR/EIS.

The number of schools within 0.25 mile of the alignment was updated based on the engineering and design refinements and decreased by one. Additionally, the number of oil and gas wells in the resource study area was updated and decreased by 8 to 11 sites, depending on the B-P Build Alternative. The impacts related to schools and oil and gas wells also remain the same as those presented in the Draft EIR/EIS.

| Type of PEC Site | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 5 | CCNM Design Option[2] | Refined CCNM Design Option[3] |
|---|---|---|---|---|---|---|
| High | 52 [50] | 50 [50] | 52 [50] | 48 [48] | +/- 0 [0] | +/- 0 [+1] |
| Moderate | 17 [46] | 18 [45] | 17 [46] | 16 [39] | +/- 0 [0] | +/- 0 [0] |
| Low | N/A[N/A] | N/A[N/A] | N/A[N/A] | N/A[N/A] | N/A[N/A] | N/A[N/A] |
| **Total PEC Sites** | **69 [96]** | **68 [95]** | **69 [96]** | **64 [87]** | **+/- 0 [0]** | **+/- 0 [+1]** |

[1] Totals in this table do not include PEC sites in the Bakersfield or Palmdale Station areas (north of Oswell Street in Bakersfield and south of Avenue O in Palmdale), which are discussed below. They do include PEC sites in the maintenance facility RSAs.
[2] This column shows the change in the number of PEC sites with the addition of the CCNM Design Option to Alternative 1, 2, 3, or 5.
[3] This column shows the change in the number of PEC sites with the addition of the Refined CCNM Design Option to Alternative 1, 2, 3, or 5.
As discussed in Section 3.10.4, low-ranked sites, where abatement of building materials would not be required, could not be identified at this time and would be investigated prior to property acquisition.
Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.
CCNM = César E. Chávez National Monument
EIR/EIS = Environmental Impact Report/Environmental Impact Statement
N/A = not available PEC = potential environmental concern RSA = resource study area

## 3.1-B-3-10 Safety and Security

Because the engineering and design refinements do not change the horizontal HSR alignment, there was no change to the environmental impact conclusions in Section 3.11.6 of this Final EIR/EIS related to public facilities that maintain safety within the project service area, such as fire stations, government buildings, sheriff and police stations, etc. The engineering and design refinements related to changes in alignment profile/elevation (at Morning Drive in the community of Edison and in the Tehachapi Valley) would not preclude implementation of safety design features that would maintain trainsets within their tracks if derailment should occur, or would shut down the HSR system in the event of intrusion onto the alignment.

The refinement providing for construction of a cover extending 1,700 feet from the northerly terminus of Tunnel 9 to protect HSR infrastructure would improve safety by eliminating potential exposure of HSR trainsets to flyrock resulting from blasting activities at the CalPortland Cement Company's Mojave quarry. The impact conclusions under CEQA and NEPA presented in Sections 3.11.8 and 3.11.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

## 3.1-B-3-11 Socioeconomics and Communities

The discussion of impacts related to socioeconomics and communities was updated in Section 3.12.6 of this Final EIR/EIS to reflect the engineering and design refinements, including those related to changes in access. The removal of a new Milling Street connection as a grade-separated crossing and addition of a grade-separated crossing at Lancaster Boulevard were assessed. The provision of a new grade-separated crossing at Lancaster Boulevard would retain the existing community connectivity/cohesion and would improve safety of the existing at-grade Lancaster Boulevard crossing of the existing railroad corridor.

The engineering and design refinements resulted in minor revisions to the right-of-way necessary for construction of the HSR project and changes to the numbers of displacements/relocations that

would occur. These revisions are discussed under Impacts SO #4 through SO #8 in Section 3.12.6.5 of this Final EIR/EIS. In addition, revisions were made to sales tax and property tax losses and employment generation analyses as a result of the engineering and design refinements. The impact conclusions under CEQA and NEPA presented in Sections 3.12.8 and 3.12.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

## 3.1-B-3-12 Station Planning, Land Use, and Development

Due to the modifications to the project footprint resulting from the engineering and design refinements, land use conversion acreages were updated in Section 3.13.6 of this Final EIR/EIS. Table 3.13-4, Temporary Conversion of Existing Land Uses; Table 3.13-5, Permanent Conversion of Existing Land Uses; Table 3.13-6, Permanent Conversion of Planned Land Uses; and Table 3.13-7, Temporary Conversion of Planned Land Uses from this Final EIR/EIS, are provided below to show the changes.

**Table 3.13-4 Temporary Conversion of Existing Land Uses**

| Alternative | Acres of Existing Land Uses Subject to Temporary Conversion[1] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Agriculture | Commercial | Public | Industrial | Institutional | Railroads/ Utilities | Natural Resources | Recreational | Residential | Vacant Land | Grand Total |
| Alternative 1 | 927 [896] | 13 [17] | 15 [18] | 80 [88] | 0 [1] | 61 [59] | 22 [20] | 1 [1] | 40 [26] | 592 [546] | **1,750 [1,672]** |
| Alternative 2 | 913 [870] | 12 [13] | 14 [15] | 78 [88] | 0 [1] | 61 [59] | 19 [20] | 1 [1] | 39 [25] | 591 [545] | **1,728 [1,637]** |
| Alternative 3 | 919 [886] | 13 [17] | 16 [20] | 72 [80] | 0 [1] | 75 [65] | 10 [9] | 1 [1] | 40 [28] | 597 [537] | **1,745 [1,644]** |
| Alternative 5 | 927 [896] | 15 [20] | 15 [17] | 85 [93] | 0 [1] | 63 [58] | 22 [20] | 1 [1] | 43 [30] | 586 [558] | **1,758 [1,694]** |
| CCNM Design Option[2] | +14 [15] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | **+14 [15]** |
| Refined CCNM Design Option[2] | -69 [-98] | –[-] | -1 [-1] | –[-] | –[-] | –[-] | –[-] | –[-] | -2 [-2] | -3 [35] | **-75 [66]** |
| Lancaster North B MOWF | N/A [N/A] | 0 [0] | N/A [N/A] | 0 [0] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | 3 [3] | 130 [130] | **133 [133]** |
| Avenue M LMF/MOWF | N/A [N/A] | 9 [9] | N/A [N/A] | 7 [7] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | 92 [92] | **108 [108]** |
| Palmdale Station[3] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] | N/A [N/A] |

*Source: California High-Speed Rail Authority, 2017, 2020*

[1] Values are rounded to the nearest whole number; therefore, the grand totals are rounded as well.

[2] Because the CCNM Design Option and the Refined CCNM Design Option are variations on the common alignment of Alternatives 1, 2, 3, and 5 in the Keene area, impacts are presented as being either greater (+) or less than (-) the values presented above for Alternatives 1, 2, 3, and 5.

[3] All construction and staging activities for the Palmdale Station area would take place within the permanent footprint. Therefore, any land in the Palmdale Station area that would be temporarily used to construct the project would ultimately be the site of permanent project-related improvements (e.g., parking lots, drainage basins).

Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.

CCNM = César E. Chávez National Monument MOWF = maintenance-of-way facility

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

LMF = light maintenance facility N/A = not applicable

## Table 3.13-5 Permanent Conversion of Existing Land Uses

| Alternative | Acres of Existing Land Uses Subject to Permanent Conversion[1,2] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Agriculture | Commercial | Public | Industrial | Institutional | Railroads/ Utilities | Natural Resources | Recreational | Residential[3] | Vacant Land | Grand Total |
| Alternative 1 | 2,803 [2,626] | 116 [125] | 58 [86] | 346 [429] | 2 [5] | 302 [542] | 57 [52] | 3 [4] | 91 [87] | 2,184 [1,860] | **5,962 [5,816]** |
| Alternative 2 | 2,831 [2,674] | 115 [124] | 58 [86] | 334 [421] | 2 [5] | 302 [342] | 59 [56] | 3 [4] | 91 [87] | 2,183 [1,859] | **5,979 [5,658]** |
| Alternative 3 | 2,963 [2,778] | 116 [125] | 69 [97] | 327 [405] | 2 [5] | 314 [344] | 41 [36] | 3 [4] | 98 [96] | 2,114 [1,780] | **6,046 [5,670]** |
| Alternative 5 | 2,803 [2,626] | 124 [130] | 52 [81] | 327 [411] | 4 [6] | 245 [288] | 57 [52] | 2 [3] | 98 [91] | 2,145 [1,822] | **5,858 [5,510]** |
| CCNM Design Option[4] | -51 [12] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | -1 [–] | –[-] | **-52 [12]** |
| Refined CCNM Design Option[4] | +667 [658] | –[-1] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | -2 [+1] | 8[+116] | **+673 [+774]** |
| Lancaster North B MOWF | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | –[-] | 2[3] | 70[130] | **72[134]** |
| Avenue M LMF/MOWF | –[-] | 9[9] | –[-] | 8[7] | –[-] | –[-] | –[-] | –[-] | –[-] | 156[92] | **173 [112]** |
| Palmdale Station Site | –[-] | 32 [32] | 2 [2] | 44 [44] | 1 [1] | 68 [68] | –[-] | 7 [7] | 32 [32] | 343 [343] | **528 [528][4]** |

*Source: California High-Speed Rail Authority, 2017, 2020*

1 Values are rounded to the nearest whole number; therefore, the grand totals are rounded as well.

2 This acreage includes land affected by both full and partial parcel acquisitions within the permanent footprint.

3 Includes single-family and multifamily residential uses.

4 Because the CCNM Design Option and the Refined CCNM Design Option are variations on the common alignment of Alternatives 1, 2, 3, and 5 in the Keene area, impacts are presented as being either greater (+) or less than (-) the values presented above for Alternatives 1, 2, 3, and 5.

Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.

CCNM = César E. Chávez National Monument MOWF = maintenance-of-way facility

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

LMF = light maintenance facility

**Table 3.13-6 Permanent Conversion of Planned Land Uses**

| Alternative | Acres of General Plan Designated Land Uses Subject to Permanent Conversion[1,2] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Agriculture | Commercial | Industrial | Mixed Use[3] | Natural Resources | Public | Residential[4] | Transportation/ Utilities | Miscellaneous[5] | Grand Total |
| Alternative 1 | 3,031 [2,853] | 461 [346] | 827 [699] | 132 [262] | 935 [908] | 24 [35] | 874 [639] | 87 [96] | 94 [273] | **6,464 [6,111]** |
| Alternative 2 | 2,973 [2,810] | 461 [346] | 833 [713] | 132 [262] | 940 [914] | 23 [35] | 868 [633] | 87 [69] | 64 [273] | **6,381 [6,056]** |
| Alternative 3 | 3,022 [2,830] | 461 [346] | 827 [699] | 132 [262] | 992 [959] | 41 [53] | 874 [640] | 87 [96] | 94 [279] | **6,529 [6,164]** |
| Alternative 5 | 3,031 [2,853] | 504 [385] | 716 [584] | 89 [224] | 940 [914] | 23 [35] | 875 [640] | 87 [95] | 94 [368] | **6,359 [6,098]** |
| CCNM Design Option[6] | -24 [+11] | – [–] | – [–] | – [–] | -26 [-23] | – [–] | – [–] | – [–] | – [–] | **-50 [-12]** |
| Refined CCNM Design Option[6] | +637 [+732] | – [–] | –[+4] | –[-1] | +20 [36] | – [–] | –[+1] | +13 [+12] | – [–] | **+670 [784]** |
| Lancaster North B MOWF | – [–] | – [–] | – [–] | – [–] | – [–] | – [–] | 72[134] | – [–] | – [–] | **72[134]** |
| Avenue M LMF/ MOWF | – [–] | 153 [88] | 20 [24] | – [–] | – [–] | – [–] | – [–] | – [–] | – [–] | **173[112]** |
| Palmdale Station Site | – [–] | 161 [161] | 184 [184] | 41 [41] | – [–] | 29 [29] | 113 [113] | 1 [1] | – [–] | **529 [529]** |

*Source: California High-Speed Rail Authority, 2017, 2020*

1 Values are rounded to the nearest whole number; therefore, the grand totals are rounded as well.

2 This acreage includes land affected by both full and partial parcel acquisitions within the permanent footprint.

3 Includes the Specific Plan category in the City of Palmdale General Plan.

4 Includes single-family and multifamily residential uses.

5 Includes the Incorporated Cities, Natural, Neighborhood Edge, Neighborhood General, Rural General, and Special District 1 categories in the City of Tehachapi General Plan.

6 Because the CCNM Design Option and the Refined CCNM Design Option are variations on the common alignment of Alternatives 1, 2, 3, and 5 in the Keene area, impacts are presented as being either greater (+) or less than (-) the values presented above for Alternatives 1, 2, 3, and 5.

Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.

CCNM = César E. Chávez National Monument

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

LMF = light maintenance facility

MOWF = maintenance-of-way facility

**Table 3.13-7 Temporary Conversion of Planned Land Uses**

| Alternative | Acres of General Plan Designated Land Uses Subject to Temporary Conversion[1] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Agriculture | Commercial | Industrial | Mixed Use[2] | Natural Resources | Public | Residential[3] | Transportation/ Utilities | Miscellaneous[4] | Grand Total |
| Alternative 1 | 1,050 [1,034] | 42 [39] | 168 [149] | 14 [8] | 261 [257] | 11 [12] | 244 [205] | 18 [33] | 39 [58] | **1,837 [1,795]** |
| Alternative 2 | 1,075 [1,040] | 42 [39] | 161 [133] | 14 [8] | 255 [253] | 10 [11] | 241 [205] | 18 [37] | 42 [58] | **1,849 [1,784]** |
| Alternative 3 | 1,054 [1,017] | 42 [39] | 168 [150] | 14 [8] | 246 [242] | 14 [16] | 244 [205] | 18 [33] | 39 [58] | **1,831 [1,768]** |
| Alternative 5 | 1,050 [1,034] | 51 [54] | 160 [149] | 12 [7] | 262 [259] | 11 [12] | 237 [214] | 18 [33] | 39 [58] | **1,845 [1,820]** |
| CCNM Design Option | +9 [15] | – [–] | – [–] | – [–] | +6 [–] | – [–] | 233 [–] | – [–] | – [–] | **+15 [+15]** |
| Refined CCNM Design Option | -67 [58] | – [–] | –[2] | –[–] | –[-21] | –[0] | 237 [-2] | –[-2] | –[–] | **-86 [-81]** |
| Lancaster North B MOWF | –[–] | 88 [88] | 20 [20] | –[–] | –[–] | –[–] | 244[–] | –[–] | –[–] | **108 [108]** |
| Avenue M LMF/MOWF | –[–] | –[–] | –[–] | –[–] | –[–] | –[–] | [134] | –[–] | –[–] | **134 [134]** |
| Palmdale Station[5] | –[–] | –[–] | –[–] | –[–] | –[–] | –[–] | –[–] | –[–] | –[–] | **–**[–] |

*Source: California High-Speed Rail Authority, 2017, 2020*

1 Values are rounded to the nearest whole number; therefore, the grand totals are rounded as well.

2 Includes the Specific Plan category in the City of Palmdale General Plan.

3 Includes single-family and multifamily residential uses.

4 Includes the Incorporated Cities, Natural, Neighborhood Edge, Neighborhood Central, Neighborhood General, Rural General, Special District 1, and Special District 3 categories in the City of Tehachapi General Plan.

5 All construction and staging activities for the Palmdale Station area would take place within the permanent footprint. Therefore, any land in the Palmdale Station area that would be temporarily used to construct the project would ultimately be the site of permanent project-related improvements (e.g., parking lots, drainage basins).

Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.

CCNM = César E. Chávez National Monument

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

LMF = light maintenance facility

MOWF = maintenance-of-way facility

In addition to the quantitative changes shown in these tables, the discussion of impacts on planned development in Section 3.13.6.4 of this Final EIR/EIS was updated to reflect the proposed construction of a viaduct to allow connectivity from Challenger Drive and Dennison Road to the east side of the HSR alignment in the City of Tehachapi.

The impact conclusions under CEQA and NEPA presented in Sections 3.13.8 and 3.13.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

## 3.1-B-3-13 Agricultural Farmland and Forest Land

Tables 3.14-1, 3.14-11, 3.14-12, 3.14-13, 3.14-15, 3.14-17, 3.14-19, and 3.14-20 in this Final EIR/EIS were updated to reflect changes to the acreages of impacts to Important Farmland based on the revised footprint resulting from the engineering and design refinements. Overall, compared to the impacts discussed in the same tables in the Draft EIR/EIS, the refinements resulted in reduced impacts to Important Farmlands (by approximately 200 acres), including Important Farmlands that are under a Williamson Act contract (by approximately 20 acres) and Important Farmlands zoned for agricultural use (by approximately 100 acres). Table 3.14-1 of this Final EIR/EIS, which summarizes the permanent conversion of Important Farmland in acres, is provided below to show the changes in impacts resulting from the engineering and design refinements. The impact conclusions under CEQA and NEPA presented in Sections 3.14.8 and 3.14.9 of the Draft EIR/EIS did not change in this Final EIR/EIS.

**Table 3.14-1 Permanent Conversion of Important Farmland (acres)**

| Alternative | Important Farmland | | | Total Important Farmland | Converted Important Farmland under Williamson Act Contract | Converted Important Farmland Zoned for Agricultural Use |
|---|---|---|---|---|---|---|
| | Prime Farmland | Unique Farmland | Farmland of Statewide Importance | | | |
| Alternative 1 | 422 [551] | 85 [119] | 96 [92] | 604 [762] | 71 [93] | 552 [674] |
| Alternative 2 | 398 [577] | 70 [111] | 97 [93] | 565 [781] | 86 [106] | 621 [721] |
| Alternative 3 | 422 [551] | 85 [119] | 104 [89] | 611 [760] | 71 [93] | 559 [671] |
| Alternative 5 | 422 [551] | 85 [119] | 96 [92] | 604 [762] | 71 [93] | 552 [674] |
| CCNM Design Option | No change [No change] | No change [No change] | No change [No change] | No change [No change] | No change [No change] | No change [No change] |
| Refined CCNM Design Option | No change [No change] | No change [No change] | No change [No change] | No change [No change] | No change [No change] | No change [No change] |

*Sources: California High-Speed Rail Authority, 2020; California Department of Conservation, 2014f*
Information provided in brackets represents the information provided in the Draft EIR/EIS. Information outside of the brackets is the information provided in this Final EIR/EIS.
CCNM = César E. Chávez National Monument
EIR/EIS = Environmental Impact Report/Environmental Impact Statement

## 3.1-B-3-14 Parks, Recreation, and Open Space

No new parks, recreation, or open space resources were impacted as a result of the engineering and design refinements. Further, the severity of impacts described in Section 3.15.6 of the Draft EIR/EIS has not increased. At the PCT crossing of the HSR, the refinements resulted in a revision to the design that was evaluated in the Draft EIR/EIS. The following changes resulted from this revised design: (1) impacts to the parking lot on Oak Creek Road are avoided, (2) the need for PCT users to cross Tehachapi Willow Springs Road at grade is eliminated, and (3) the need for PCT users to cross under the HSR viaduct in an 80-foot-long, 15x15-foot box culvert was replaced with a design allowing PCT users to cross under a structure over 50 feet above ground. The refinements improve conditions for PCT users compared to what was evaluated in the Draft EIR/EIS. The impact conclusions included in Sections 3.15.8 and 3.15.9 of the Draft EIR/EIS have not changed in this Final EIR/EIS.

## 3.1-B-3-15 Aesthetics and Visual Quality

As a result of the engineering and design refinements, new visual simulations have been included for the following key viewpoints (refer to Section 3.16.6.3 of the Administrative Final EIR/EIS) and

the associated analysis is included in this Final EIR/EIS. As outlined below, the overall impact conclusions have not changed beyond what was included in the Draft EIR/EIS:

- **Key Viewpoint 2 (View from SR 184/Morning Drive Looking South):** The HSR profile would be lowered in this area, resulting in slightly less impact. The impacts would remain less than significant under CEQA, the same as reported in the Draft EIR/EIS.
- **Key Viewpoint 16 (View from Arabian Drive Looking South-Southwest):** The HSR viaduct would be lowered in this area, resulting in slightly less impact. The impacts would remain significant and unavoidable under CEQA, the same as reported in the Draft EIR/EIS.
- **Key Viewpoints 18a and 18b (Views from the PCT):** New view simulations have been prepared showing the relocated Tehachapi Willow Springs Road. Although there is a slight visual improvement to the PCT user due to this refinement, the findings and conclusions in the vicinity of the PCT did not change because of the visual impact of the new HSR viaduct over the PCT. Under CEQA, the impacts would remain significant and unavoidable after mitigation, as stated in the Draft EIR/EIS.
- **Key Viewpoint 23 (View from Downtown Lancaster):** The new undercrossing at Lancaster Boulevard has been reflected in the analysis. This refinement eliminates the addition of the Milling Street overpass, which would have introduced a new structure into the existing visual environment. The impacts would remain less than significant under CEQA, the same as reported in the Draft EIR/EIS.
- **Key Viewpoint 29 (Avenue Q7, Looking West):** The reconfiguration of the Palmdale Boulevard undercrossing has been reflected in the analysis. The project refinements would result in a slight elevation of the track and bridge structures at this key viewpoint, but the structures would not block existing views. The HSR guideway would be visually compatible with the existing views, and the project features would remain near ground level and would remain mostly hidden behind existing trees in the area. The impacts would remain less than significant under CEQA, the same as reported in the Draft EIR/EIS.
- **Key Viewpoint 30 (E Palmdale Boulevard, Looking West):** The reconfiguration of the Palmdale Boulevard undercrossing has been reflected in the analysis. This refinement would block disorderly background development and enhance the immediate landscaping, resulting in an increase to uniformity and natural harmony of the viewscape and creating a beneficial change in visual quality (from low to moderate). The impacts would remain less than significant under CEQA, the same as reported in the Draft EIR/EIS.

Revisions have also been made to the analysis included in this Final EIR/EIS related to Key Viewpoint (KVP) 2, KVP 16, KVP 17, KVP 18a, KVP 18b, KVP 23, KVP 29, and KVP 30. The revised analysis and visual simulations demonstrate a reduction in visual effects for KVP 2 and KVP 17, as indicated above, but do not result in changes to the impact conclusions presented in the Draft EIR/EIS.

The impact conclusions included in Sections 3.16.8 and 3.16.9 of the Draft EIR/EIS have not changed in this Final EIR/EIS.

## 3.1-B-3-16 Cultural Resources

Due to the change in footprint resulting from the engineering and design refinements, the area of potential effects (APE) for both archaeological resources and built environment resources was modified. Section 3.16 of this Final EIR/EIS was updated to present the effect conclusions for new properties within the APE, as well as effects conclusions for properties previously analyzed where the refinements could have potentially resulted in changes to the effects.

For the built environment, the revised APE added 12 built environment properties that are more than 50 years old. One of the added properties, the Cedar Avenue Complex/Cedar Avenue Historic District, is listed in the National Register of Historic Places. Four properties required full evaluation on Department of Parks and Recreation 523 forms (DPR 523 form). Two of the properties evaluated on DPR 523 forms met the criteria for listing in the National Register of

Historic Places and California Register of Historical Resources, and two did not meet the criteria. Seven of the newly added built resources are highly altered or common and ubiquitous property types that do not meet the criteria for listing in either register and were recorded using streamlined documentation. All other parcels added to the APE were either vacant, contained built environment less than 50 years old, or contained property types that are exempt from further study. The Section 106 Addendum Finding of Effect (Authority 2021) analyzed seven built environment historic properties for adverse effects, and concluded that one property would be adversely affected by the project (the Big Creek Hydroelectric System Historic District, which was determined to be adversely affected under the original project design). The other six properties would not be adversely affected (including the Cedar Avenue Complex/Cedar Avenue Historic District and two additional properties determined to be eligible).

For archaeological historic properties within the APE, 43 known properties were assessed in the Supplemental Findings of Effects. Two previously recorded archaeological resources and one isolate were identified within the revised APE, and 10 archaeological sites that were previously included are no longer within the revised APE. Three of those known properties would not be adversely affected by the project as they are situated above segments of the Preferred Alternative that are deeply tunneled through hilly terrain, and evaluation and effects assessment for the remaining 40 archaeological properties will be evaluated in accordance with the Memorandum of Agreement and Archaeological Treatment Plan. If they are determined eligible for the National Register of Historic Places, these archaeological properties may be subject to direct adverse effects from construction. As such, the effects assessment for these properties will be phased.

Because the project was already determined to have adverse effects on archaeological resources and built environment resources, the overall impact conclusions included in Sections 3.17.8 and 3.17.9 of the Draft EIR/EIS have not changed in this Final EIR/EIS. Impacts to the added archaeological and built environment resources would be less than significant under CEQA.

## 3.1-B-3-17 Regional Growth

The RIMS II modeling performed in support of the construction analysis of regional growth impacts in the Draft EIR/EIS is based on construction costs and construction schedule. Based on the updated cost estimate described below under Project Costs and Operations, it is not anticipated that the engineering and design refinements described above would appreciably change either construction costs or the construction schedule. Further, operations impacts related to regional growth are regional in nature and do not vary by B-P Build Alternative. Therefore, the overall impact conclusions included in Sections 3.18.8 and 3.18.9 of the Draft EIR/EIS have not changed in this Final EIR/EIS.

## 3.1-B-3-18 Cumulative Impacts

The changes in impacts resulting from the engineering and design refinements described above have been included in the cumulative impacts analysis, and the updated analysis did not materially affect the conclusions presented in the Draft EIR/EIS. The cumulative impact conclusions included in Section 3.19.5 of the Draft EIR/EIS have not changed in this Final EIR/EIS.

## 3.1-B-3-19 Section 4(f)/6(f) Evaluations

As discussed above, no new parks or recreation resources were impacted as a result of the engineering and design refinements; therefore, no new resources were added to the discussion of parks and recreation resources under Section 4(f) in this Final EIR/EIS. Refinements to the APE as a result of the engineering and design refinements did result in the inclusion of three historic properties that are listed or eligible for listing in the National Register of Historic Places and California Register of Historical Resources in the APE (the Cedar Avenue Historic District/Cedar Avenue Complex and two residential properties in Lancaster). However, the engineering and design refinements do not result in a “use” of these historic properties under Section 4(f). The refinements did reduce impacts at the PCT compared to what was discussed in

Chapter 4 of the Draft EIR/EIS, and the project still results in a *de minimis* impact to the PCT. The engineering and design refinements did not impact any lands or facilities acquired with Land and Water Conservation Act Funds; therefore, the discussion under Section 6(f) in this Final EIR/EIS has not changed.

## 3.1-B-3-20 Environmental Justice

The engineering and design refinements were incorporated into the analysis of disproportionately high and adverse environmental and health impacts to minority and low-income populations. Because there were only minor modifications and refinements to the various analyses included in Chapters 3 through 5 of this Final EIR/EIS, no change was made to the overall impact conclusions for any resource discussed in Chapter 3 of this Final EIR/EIS. The overall conclusions presented in Section 5.9, California High-Speed Rail Authority's Environmental Justice Determination, of the Draft EIR/EIS remain valid. No revisions to the overall conclusions and determinations were made in this Final EIR/EIS.

## 3.1-B-3-21 Project Costs and Operations

Based on the relatively minor adjustments to the design resulting from the engineering and design refinements compared to the magnitude of the costs of the entirety of the Bakersfield to Palmdale Project Section, and because several refinements resulted in cost savings, the costs shown in Table 6-1 of this Final EIR/EIS are similar to the costs presented in Table 6-1 of the Draft EIR/EIS. Table 6-1, which has been modified to show the costs provided in the Draft EIR/EIS in brackets along with the updated costs, is provided below. It is important to note that the costs presented in the Draft EIR/EIS were in 2016 dollars, whereas the updated costs presented in this Final EIR/EIS are in 2020 dollars.

**Table 6-1 Capital Costs of the B-P Build Alternatives from Bakersfield Station to Palmdale Station[1] (2020$ and [2016$] in millions)**

| Cost Category | Alternative 1[1] | Alternative 2[1] | Alternative 3[1] | Alternative 5[1] | CCNM Design Option[2] | Refined CCNM Design Option[3] |
|---|---|---|---|---|---|---|
| 10 Track structures and track | $9,891 [9,308] | $9,995 [9,516] | $10,366 [9,880] | $9,995 [9,262] | +$9 [+35] | +$576 [+422] |
| 20 Stations,[4] terminals, intermodal | $806 [745] | $731 [675] | $807 [745] | $862 [760] | -$6 [0] | +$48 [+7] |
| 30 Support facilities: yards, shops, administration buildings | $508 [490] | $508 [490] | $508 [490] | $508 [482] | $0 [0] | $0 [0] |
| 40 Site work, right-of-way, land, existing improvements | $3,339 [3,668] | $3,074 [3,487] | $3,348 [3,731] | $3,316 [3,638] | -$9 [+4] | +$59 [-24] |
| 50 Communications and signaling | $259 [247] | $259 [248] | $259 [248] | $259 [248] | $0 [0] | $0 [0] |
| 60 Electric traction | $641 [614] | $641 [615] | $641 [615] | $641 [614] | $0 [0] | $0 [0] |
| 70 Vehicles | Considered a systemwide cost and not included as part of individual B-P Build Alternatives or design options | | | | | |
| 80 Professional services | $2,423 [2,239] | $2,388 [2,182] | $2,515 [2,303] | $2,444 [2,165] | -$11 [+6] | +$106 [+80] |
| 90 Unallocated contingency[5] | $710 [933] | $700 [933] | $734 [965] | $714 [930] | -$1 [+2] | +$26 [+24] |
| 100 Finance Charges | Estimate to be developed prior to project construction | | | | | |

| Cost Category | Alternative 1[1] | Alternative 2[1] | Alternative 3[1] | Alternative 5[1] | CCNM Design Option[2] | Refined CCNM Design Option[3] |
|---|---|---|---|---|---|---|
| **Total** | **$19,191 [18,244]** | **$18,910 [18,146]** | **$19,797 [18,977]** | **$19,318 [18,099]** | -$18 [+47] | +$815 [+509] |

*1*

[1] Includes costs from Bakersfield Station to Palmdale Station, including the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street and Avenue O to Spruce Court in Palmdale.
[2] Numbers reflect changes brought by the addition of the CCNM Design Option to any of the B-P Build Alternatives.
[3] Numbers reflect changes brought by the addition of the Refined CCNM Design Option to any of the B-P Build Alternatives.
[4] Station costs overlap with Bakersfield to Palmdale and Palmdale to Burbank project sections, respectively.
[5] All cost categories include allocated contingencies. Category 90 is only unallocated monies.

## 3.1-B-4 CEQA/NEPA CONSIDERATIONS OF THE ENGINEERING AND DESIGN REFINEMENTS

As discussed above, the engineering and design refinements resulted in refinements to certain project design features, some of which in turn resulted in minor changes to the environmental impacts discussed in Chapters 3 through 5 of this Final EIR/EIS. As discussed below, the Authority gave careful consideration to whether the engineering and design refinements themselves or the changes to the environmental impacts warranted recirculation of the Draft EIR under CEQA and/or supplementation of the Draft EIS under NEPA.

### 3.1-B-4-1 CEQA

CEQA Guidelines Section 15088.5, Recirculation of an EIR Prior to Certification, states that "a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR for public review under Section 15087 but before circulation…new information added to an EIR is not '"significant' unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect…" The Guidelines go on to specifically cite examples of significant new information requiring recirculation, which include:

- A new significant environmental impact would result from the project or from implementation of a new mitigation measure.
- There would be a substantial increase in the severity of an environmental impact (unless mitigation is adopted that reduces the level to insignificant).
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the project's significant environmental impacts, but the project's proponents decline to adopt it.
- The Draft EIR was so inadequate that meaningful public review and comment could not occur.

The engineering and design refinements described above in Section 3.1-B-2 of this appendix include refinements to the B-P Build Alternatives described in the Draft EIR/EIS. These refinements were made in response to public review comments, to minimize environmental impacts, to further improve the safety of the design, or to reduce cost where possible. These modifications refine the design features of the B-P Build Alternatives and Design Options evaluated in the Draft EIR/EIS, but they do not change the fundamental project description of the construction, operation, and maintenance of an electrified high-speed train between Bakersfield and Palmdale presented in Chapter 2 of the Draft EIR/EIS. The engineering and design refinements do not change the horizontal alignment of any of the B-P Build Alternatives and Design Options, nor do they change the two stations in Bakersfield and Palmdale. The engineering and design refinements lower the profile of the track centerline near Morning Drive in the community of Edison and in the Tehachapi Valley, but these changes reduce visual impacts

and were made in response to comments on the Draft EIR/EIS. The refinements also change the proposed Avenue M maintenance facility from an LMF, as described in the Draft EIR/EIS, to a combinedn LMF/MOWF facility. However, as discussed in Chapters 2 and 8 of this Final EIR/EIS, this provides benefits for the future maintenance of the HSR system and also reduces the permanent footprint impacts associated with constructing an LMF at the Avenue M site and an MOWF at the Lancaster North site.

As discussed in Section 3.1-B-3 of this appendix and demonstrated in Volume 1 of this Final EIR/EIS, although some updates to impact data and calculations have been made in this Final EIR/EIS, the overall analysis, conclusions, and CEQA significance determinations have not changed from those presented in the Draft EIR/EIS. No new significant environmental impacts have been identified, and no substantial increase in the severity of an environmental impact already identified has resulted from the incorporation of the engineering and design refinements into the project design.

Based on the above considerations, the Authority concluded that the Draft EIR did not need to be recirculated.

### 3.1-B-4-2 NEPA

Under NEPA, a supplemental Draft EIS is required if the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or there are significant new circumstances or new information relevant to environmental concerns and bearing on the proposed action and its impacts (Code of Federal Regulations Title 40, Part 1502.9(c)).[1]

The engineering and design refinements are within the spectrum of alternatives discussed in the Draft EIS. The refinements resulted in some increases and decreases to the previously defined footprint area that was evaluated in the Draft EIR/EIS. The refinements result in an overall reduction of 100 acres (approximately 1 percent of the total acreage) of the footprint required for the project compared to the B-P Build Alternatives and Design Options analyzed in the Draft EIR/EIS. For example, the Lancaster North A combined maintenance facility site analyzed in the Draft EIR/EIS had a footprint area of roughly 212 acres. The maintenance facility proposed in this Final EIR/EIS at the Avenue M site has a footprint area of roughly 177 acres, an approximate 16 percent decrease in permanent footprint. As such, the modified maintenance facilities proposed at the Avenue M site are within the spectrum of maintenance facility alternatives evaluated in the Draft EIR/EIS.

The engineering and design refinements consist of modifications to facilities already proposed and evaluated in the Draft EIR/EIS, including expansion of drainage basins and addition of rock slope protection, provision of a combined maintenance facility at a site that had been previously evaluated as a light maintenance facility, and provision of grade separations at modified locations. The engineering and design refinements do not alter the northern or southern termini or the horizontal alignment of the Bakersfield to Palmdale Project Section. The engineering and design refinements do result in slight adjustments to the vertical alignment in three locations and adjustments to local road realignments where needed. The engineering and design refinements do not introduce any new project elements or substantially alter the range of alternatives analyzed in the Draft EIR/EIS, and many of the refinements were in response to public comments or intended to reduce environmental impacts or project costs. As such, the refinements are qualitatively within the spectrum of the alternatives analyzed in the Draft EIR/EIS.

As discussed in Section 3.1-B-3 of this appendix and demonstrated in Volume 1, although some updates to impact data and calculations have been made in this Final EIR/EIS, the overall analysis and conclusions have not changed from those presented in the Draft EIR/EIS. No new

[1] The Council on Environmental Quality (CEQ) issued new regulations, effective September 14, 2020, updating the NEPA implementing procedures at 40 CFR 1500-1508. However, because this project initiated the NEPA process before September 14, 2020, it is not subject to the new regulations. The Authority is relying on the regulations as they existed prior to September 14, 2020. Therefore, all citations to CEQ regulations in this environmental document refer to the 1978 regulations, pursuant to 40 CFR 1506.13 (2020) and the preamble at 85 Fed. Reg. 43340.

significant environmental impacts have been identified, and no substantial increase in the context or intensity of an environmental impact already identified has resulted from the incorporation of the engineering and design refinements into the project design.

Based on the above considerations, the Authority concluded that the Draft EIS did not need to be supplemented.

**This page intentionally left blank**

# ATTACHMENT A: ENGINEERING AND DESIGN REFINEMENTS TABLE

**This page intentionally left blank**


SOURCE: Bing Maps (12/2003); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020, 2/2021)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VERCompare_DraftEIREIS_July2020_Index.mxd (3/19/2021)

Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Footprint Mapbook Index

Project Footprint Comparison for Palmdale Boulevard (from Draft EIR/EIS Volume 3 PEPD to 2021 Engineering and Design Refinements)

Palmdale Boulevard Location

0 3 6
Miles

0 4.75 9.5
Kilometers

**Bakersfield to Palmdale**
**Footprint Mapbook**
Index
Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 and 2021 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

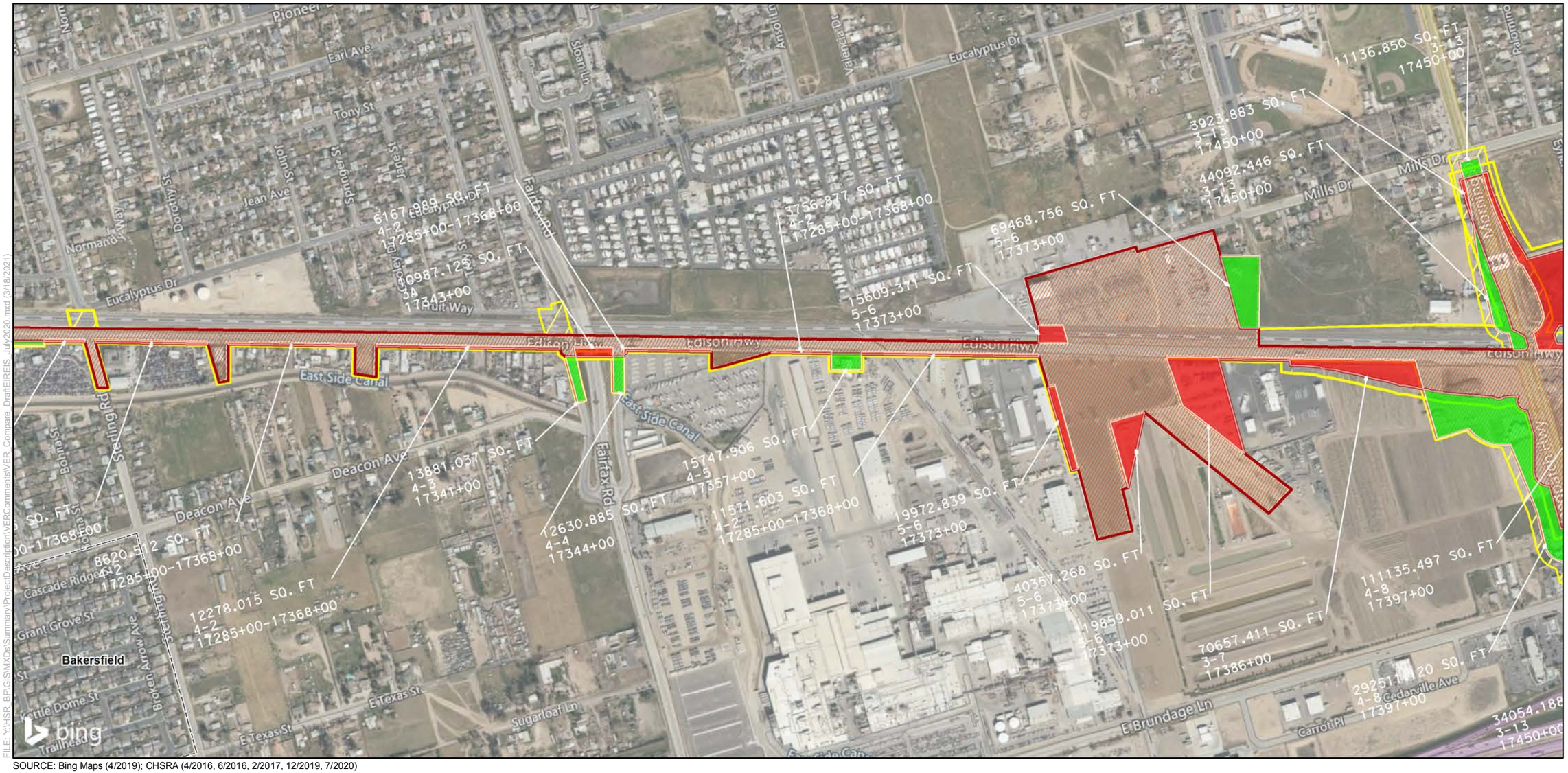
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 1 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescriptionVERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

N

0 300 600
Feet

0 90 180
Meters

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

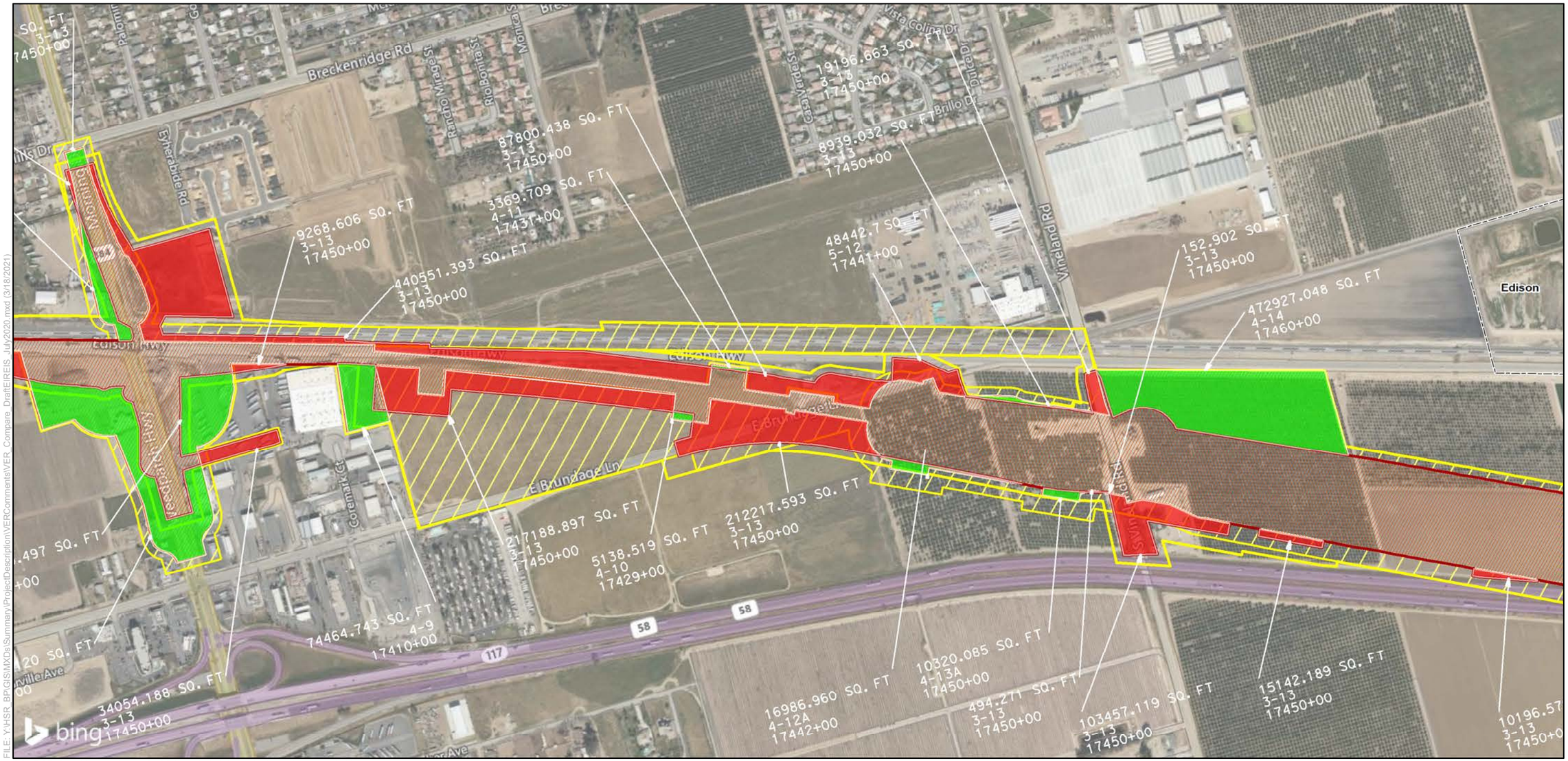
Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 2 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

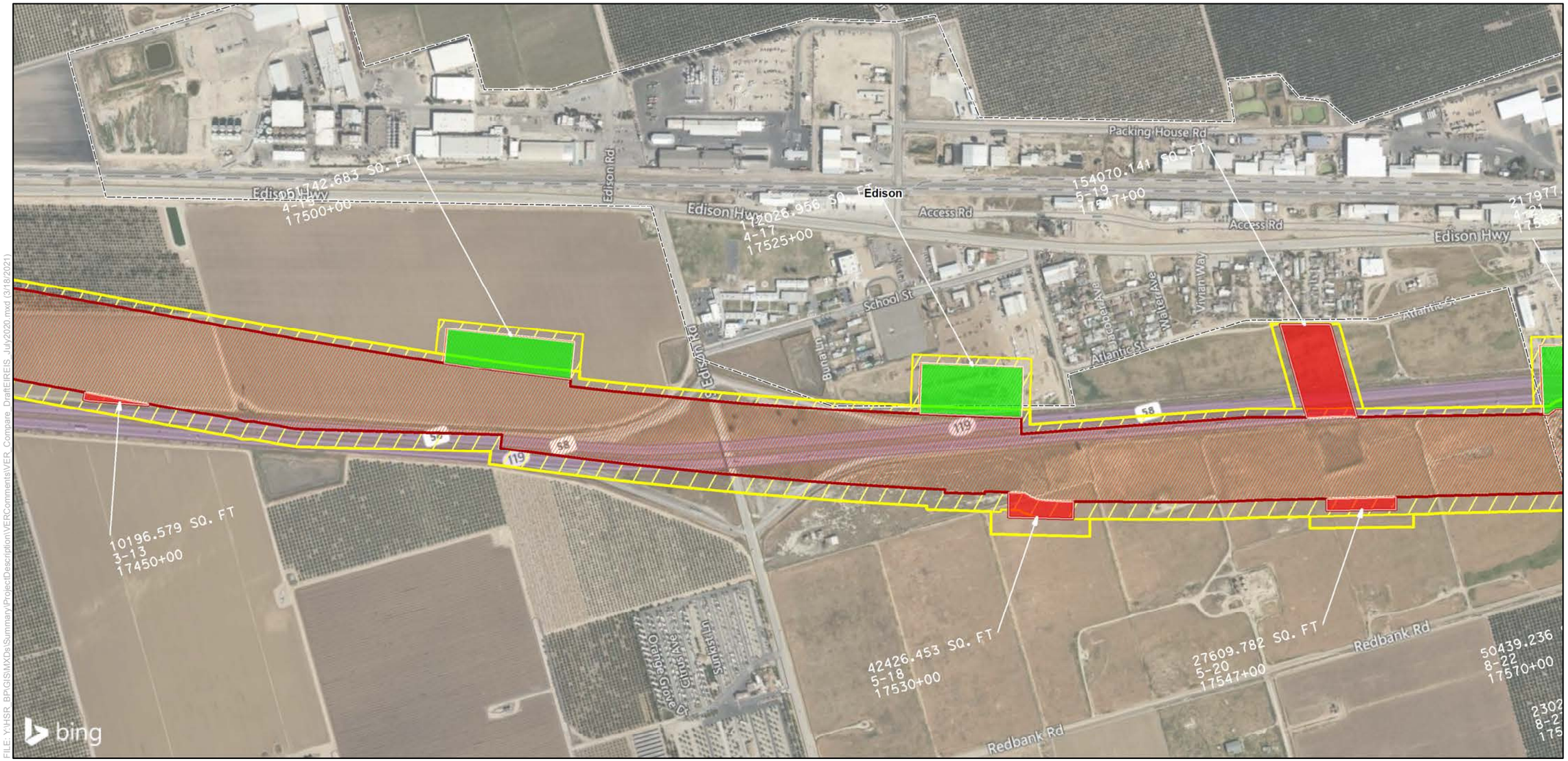
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 3 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsIVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

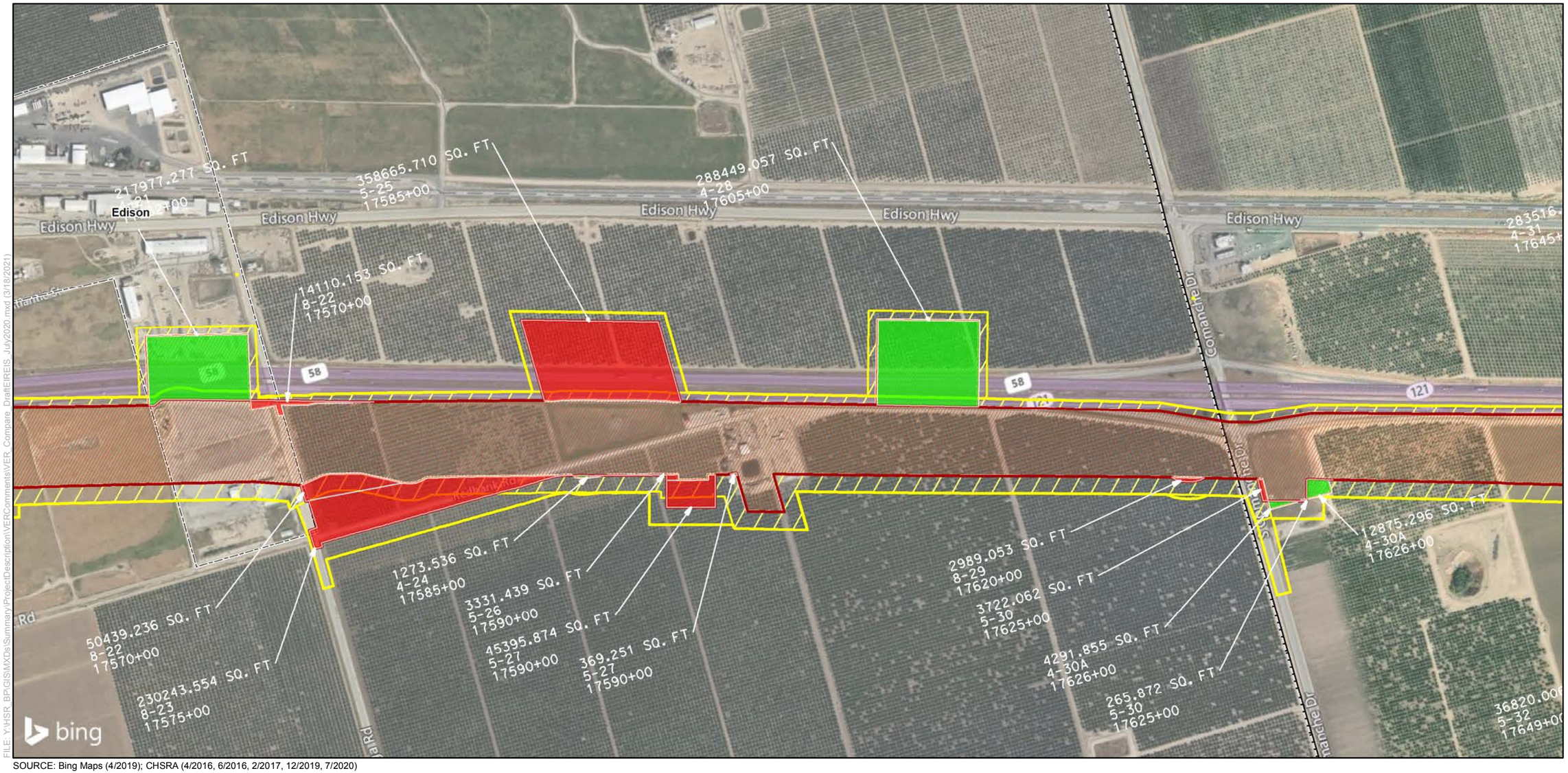
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 4 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

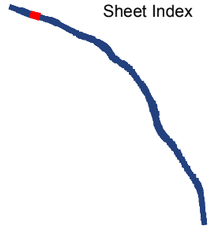
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 5 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

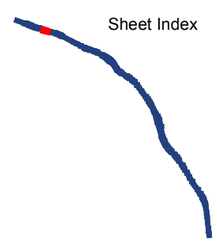
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 6 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

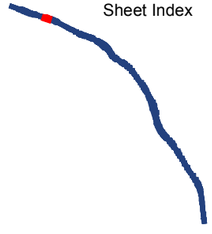
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

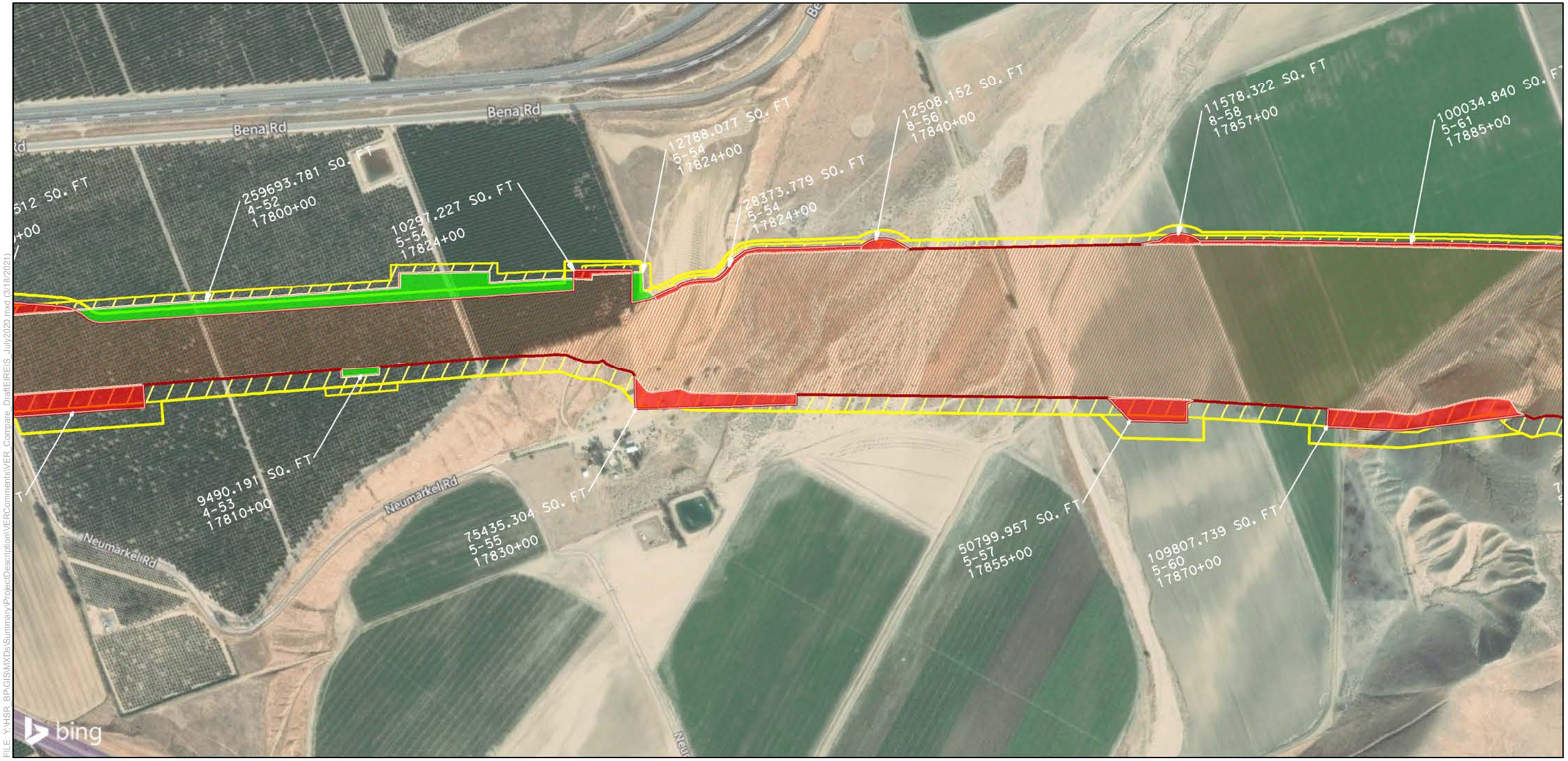
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 7 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCompare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

N

0 300 600
Feet

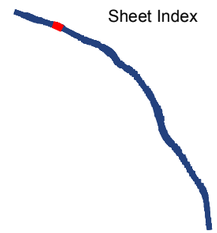
0 90 180
Meters

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 8 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

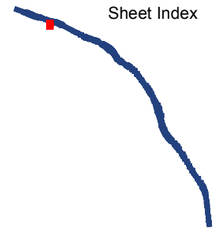
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

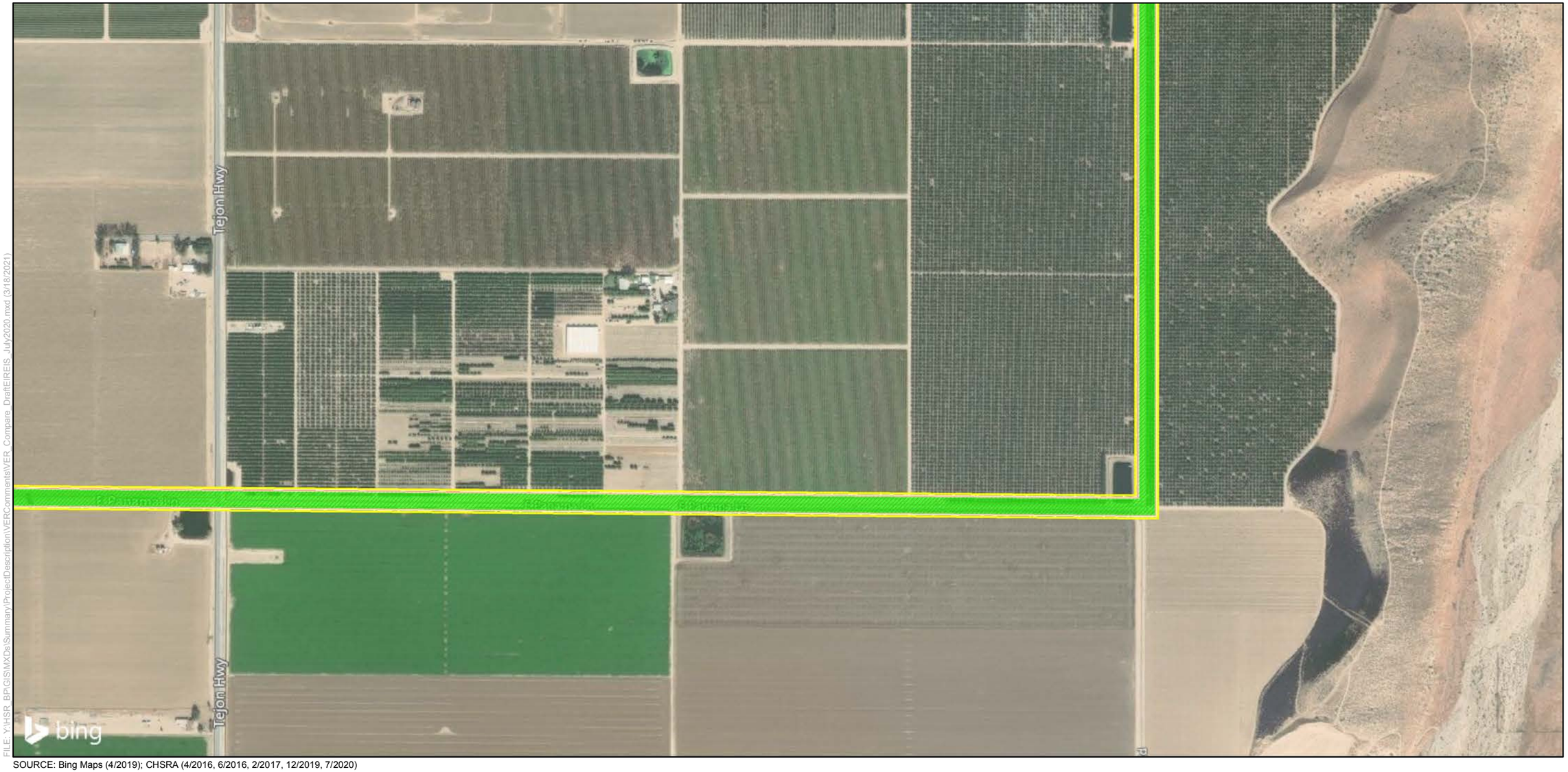
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 9 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescriptionVERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

N

0 300 600
Feet

0 90 180
Meters

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

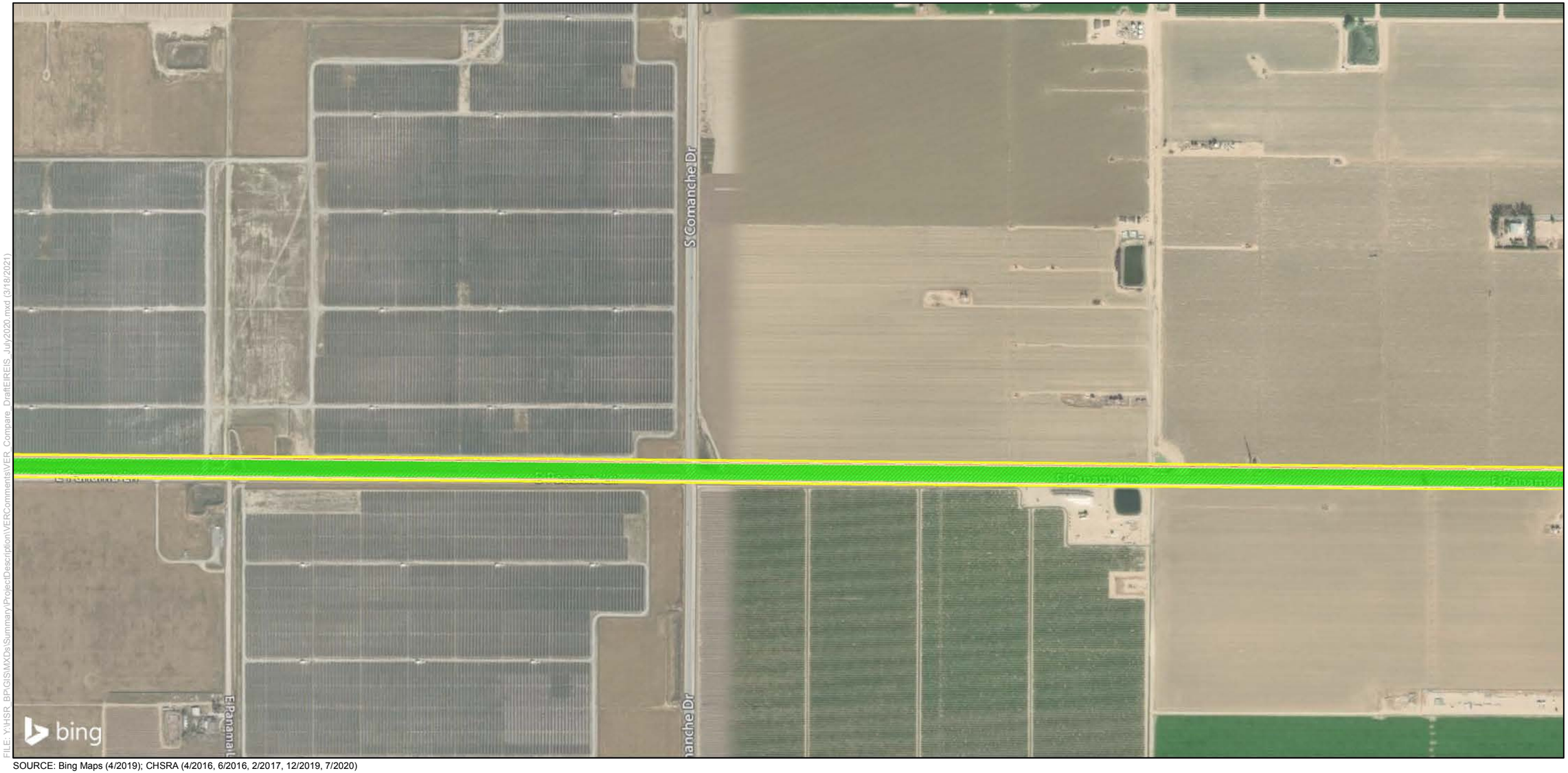
Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 10 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescriptionVERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

N

0 300 600
Feet

0 90 180
Meters

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

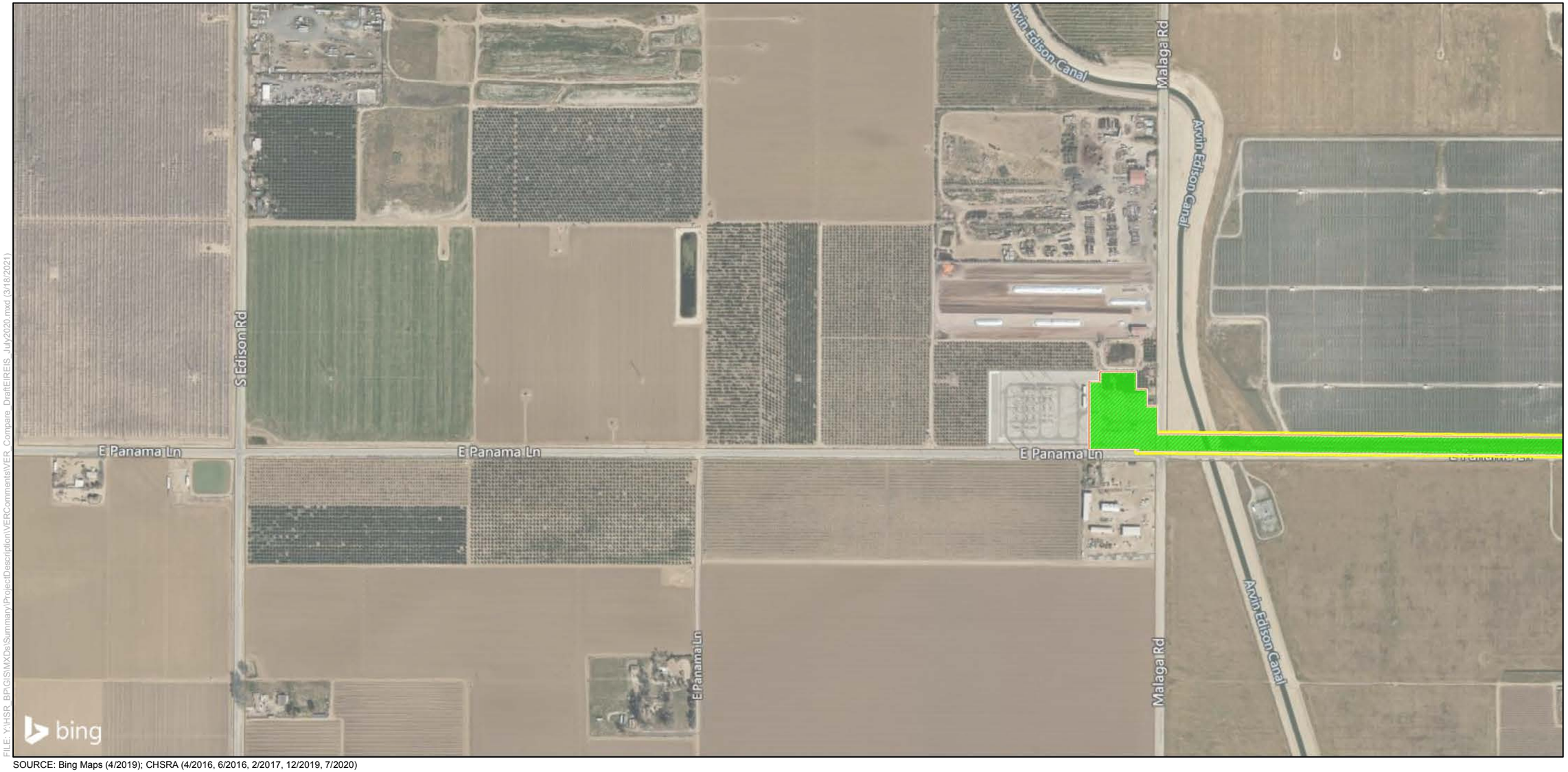
Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 11 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

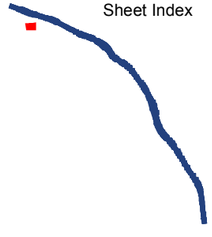
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

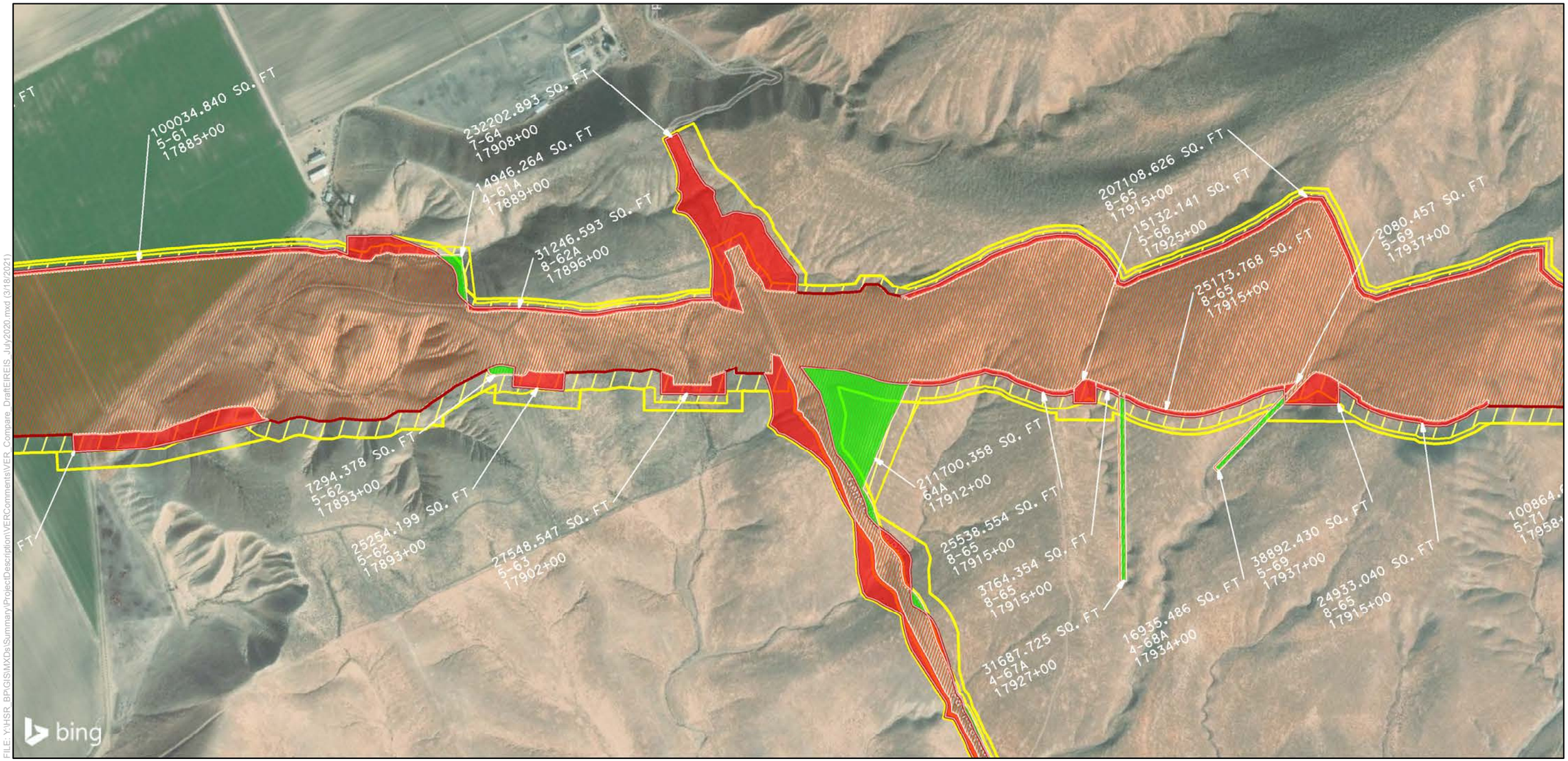
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 12 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

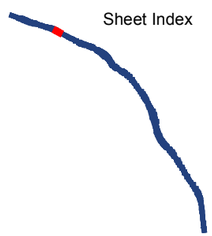
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

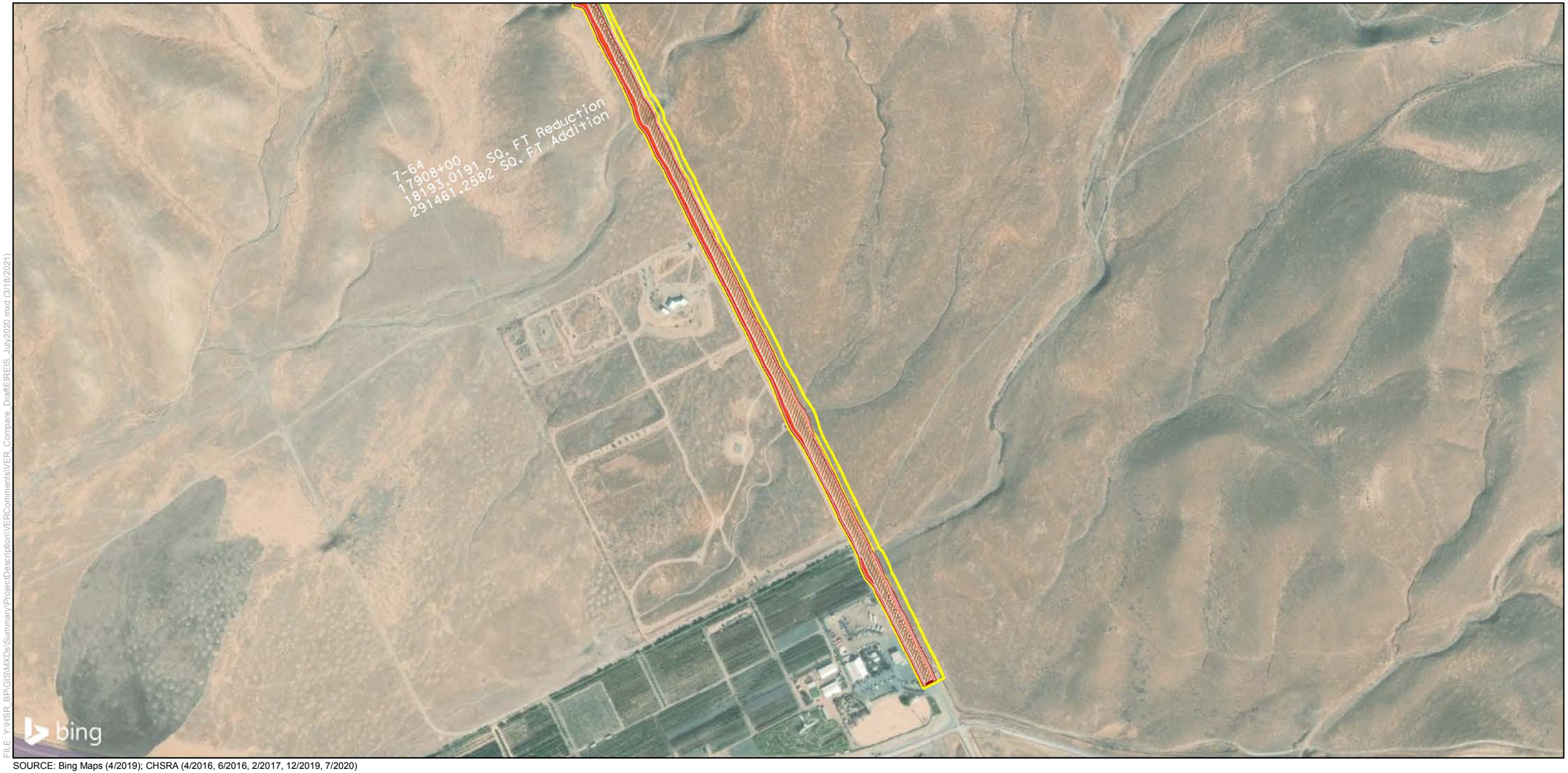
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 13 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

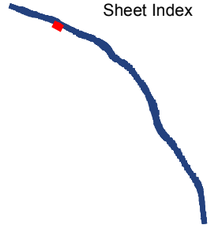
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

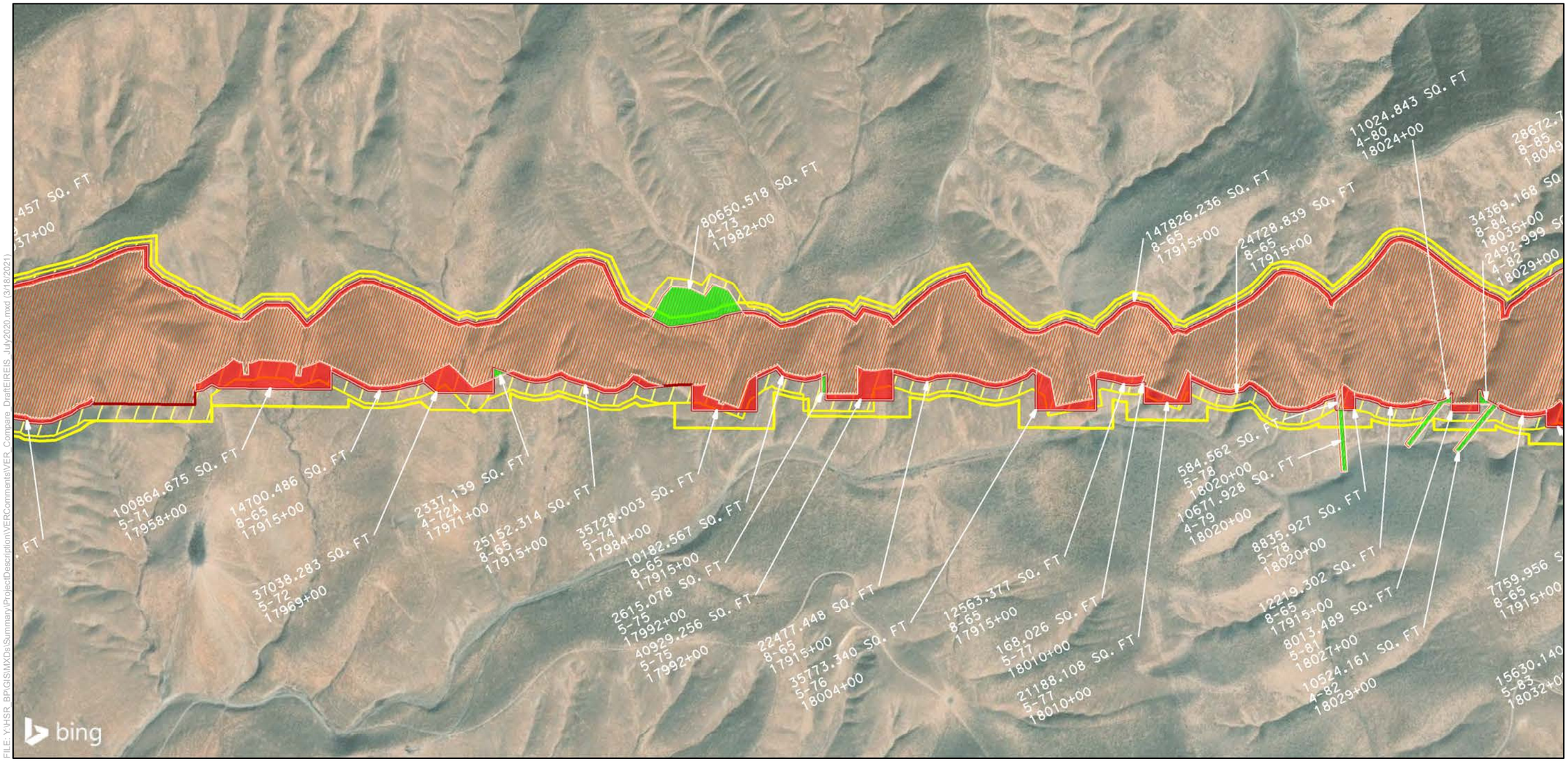
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 14 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

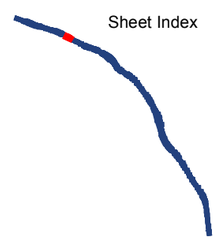
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

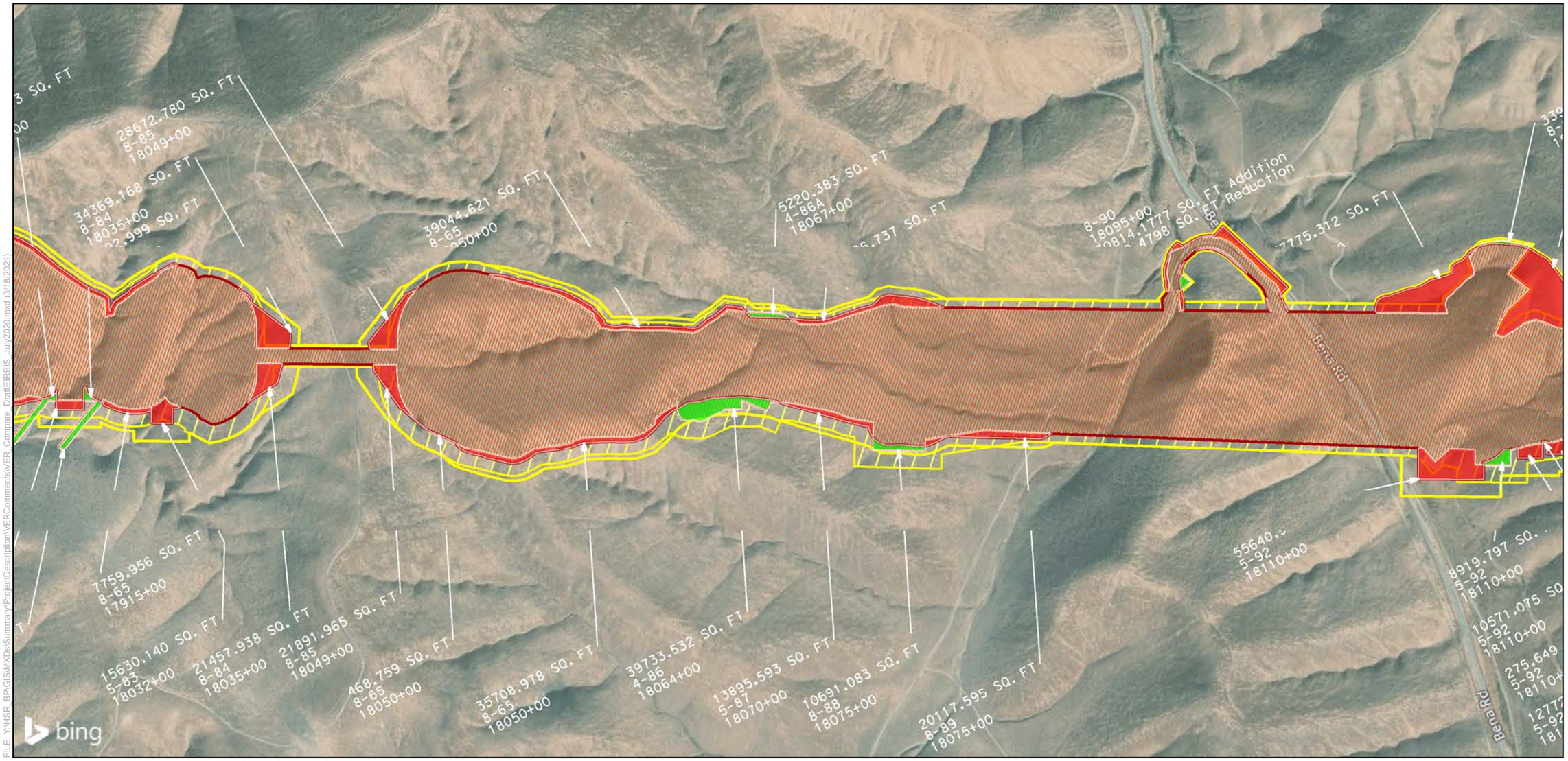
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 15 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

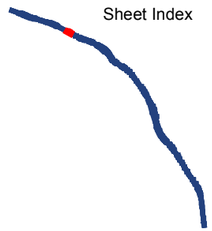
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

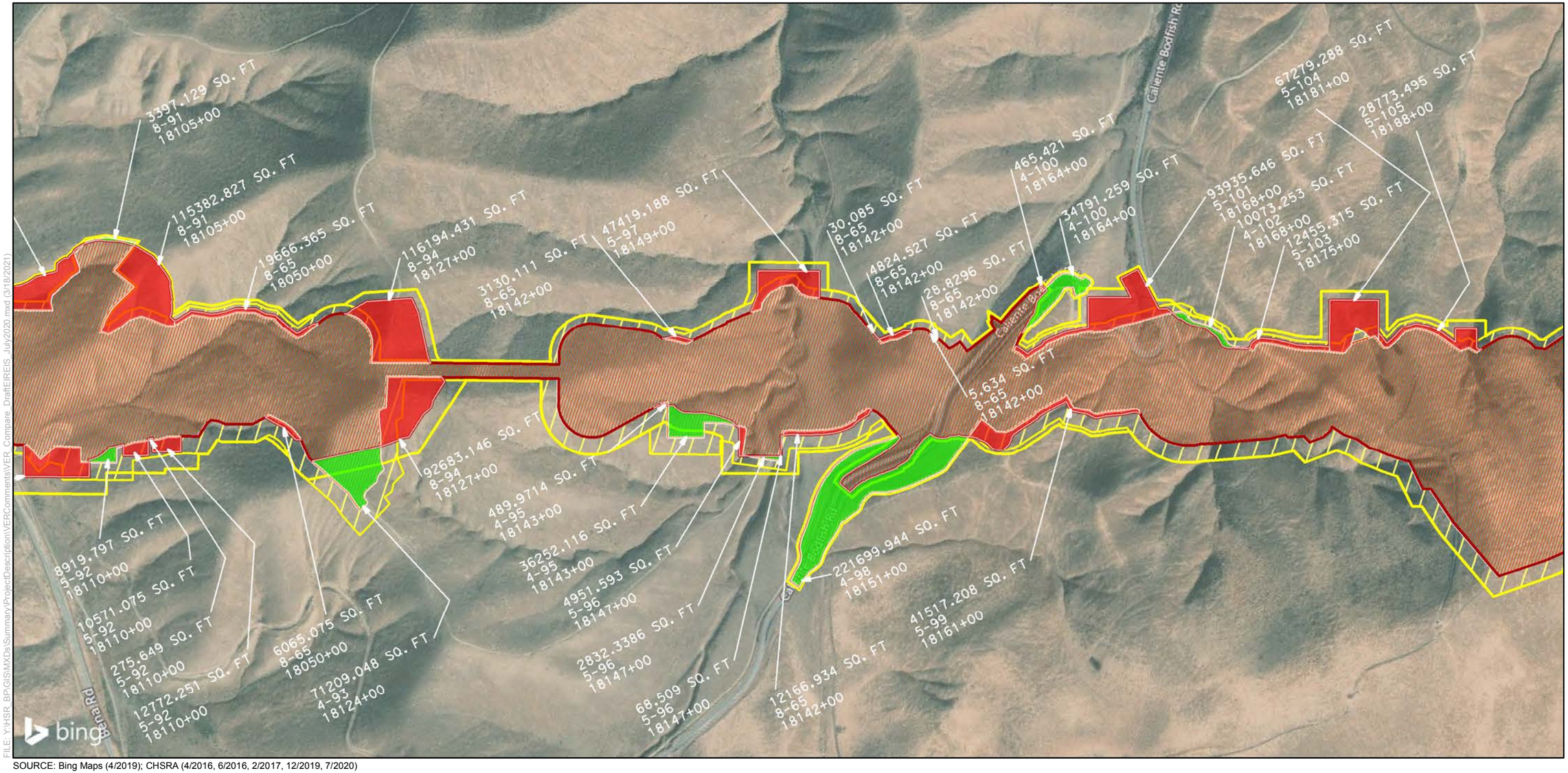
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 16 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

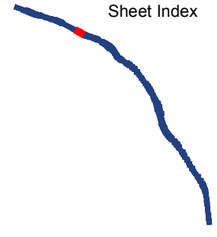
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

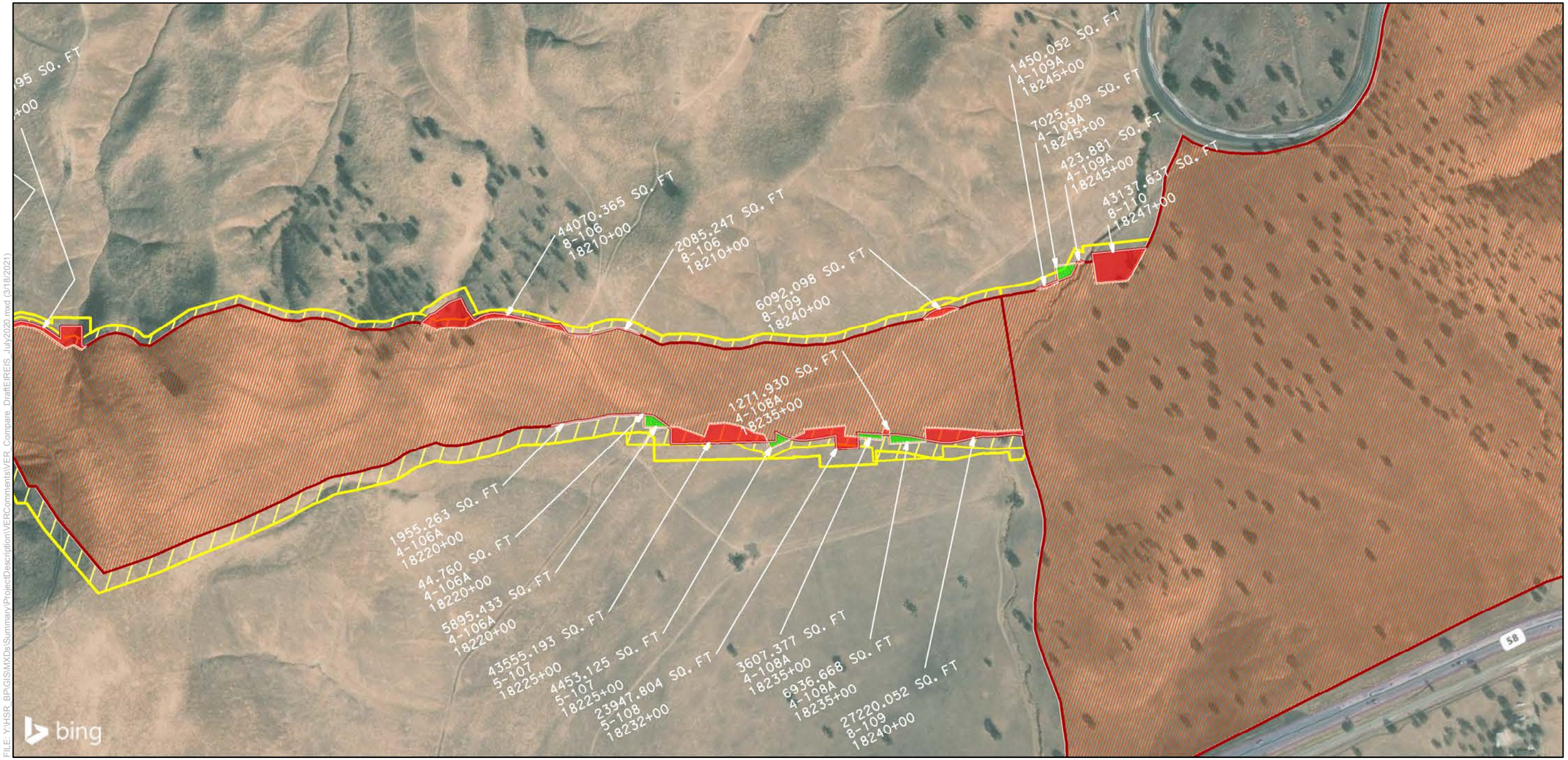
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 17 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\Project\Description\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

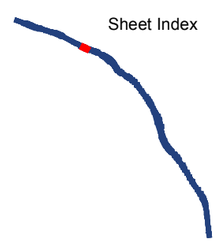
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

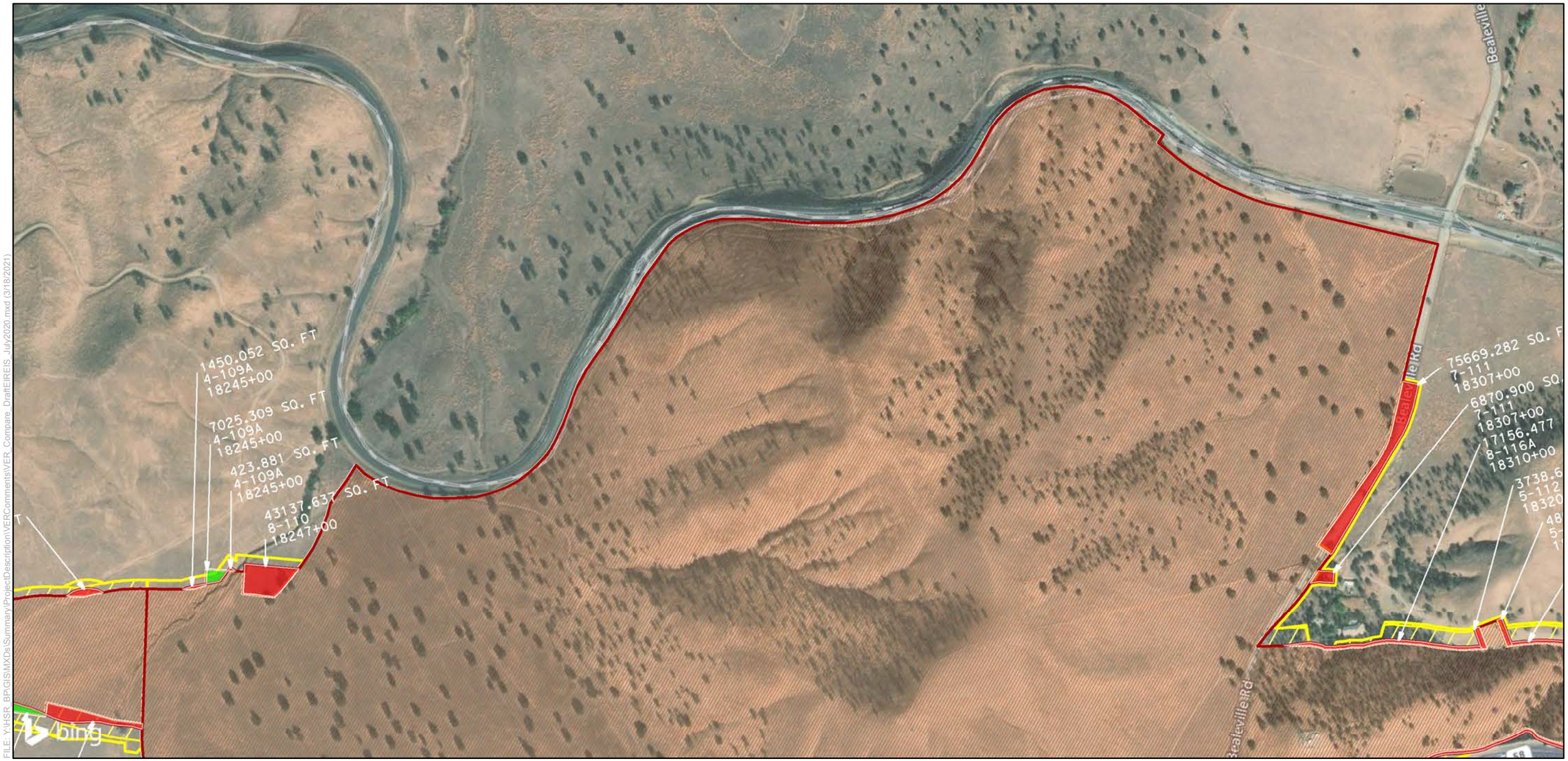
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 18 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsIVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 19 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCo

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 20 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

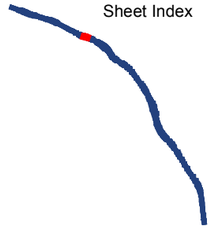
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

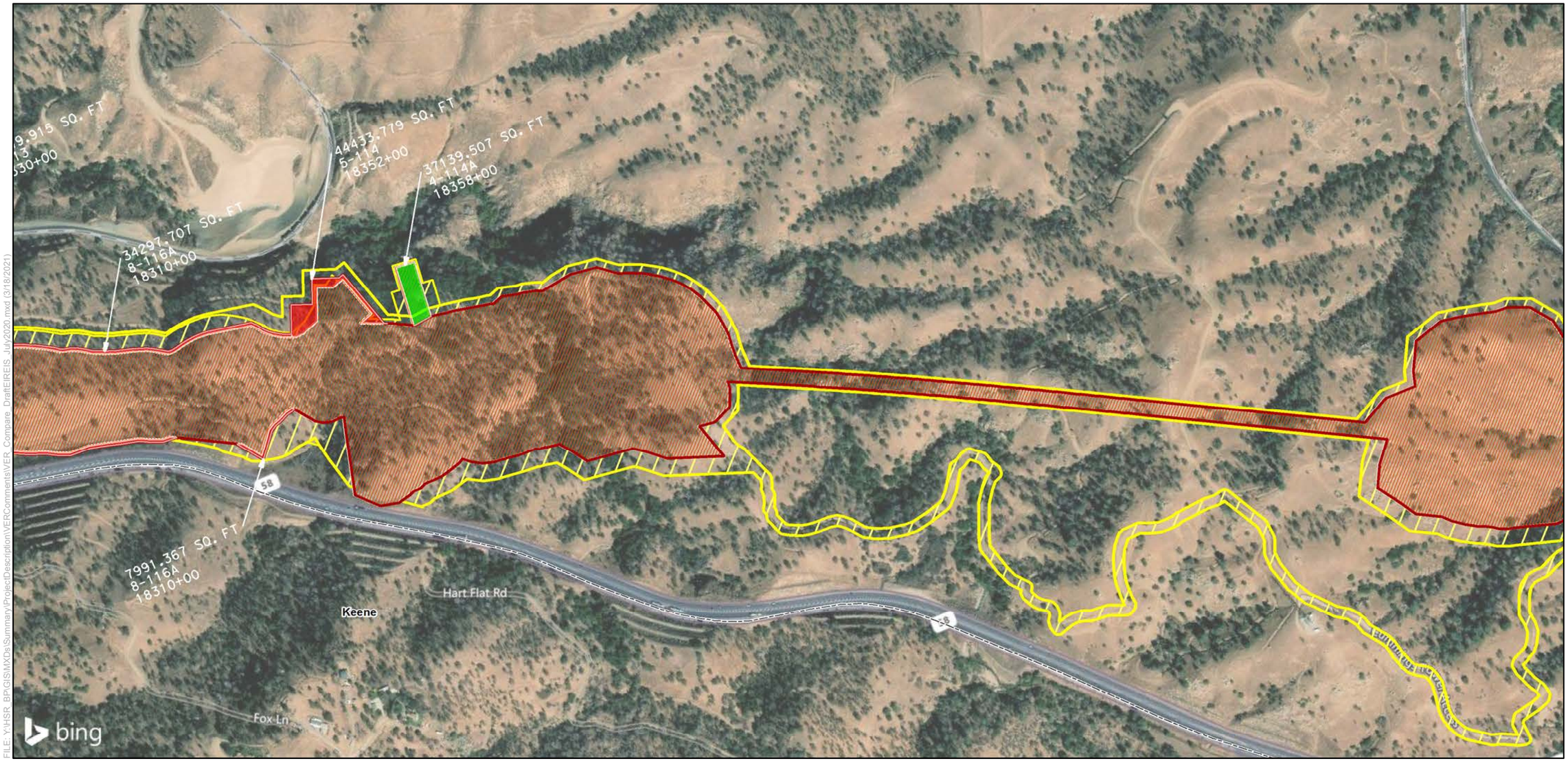
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 21 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

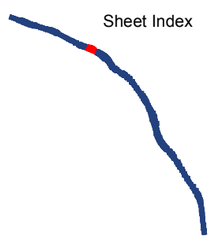
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 22 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

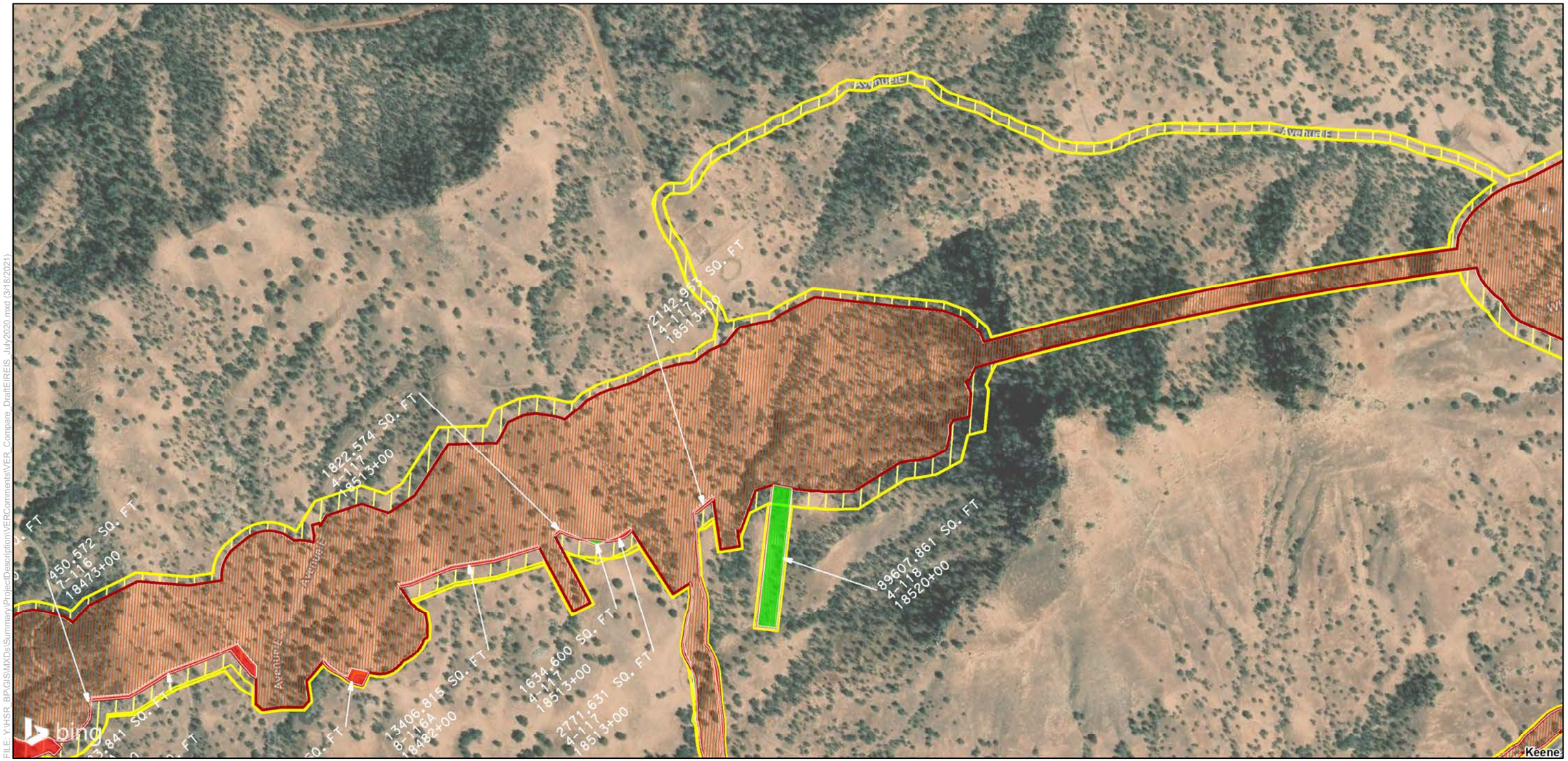
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 23 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 24 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

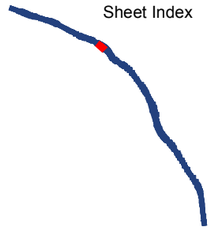
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

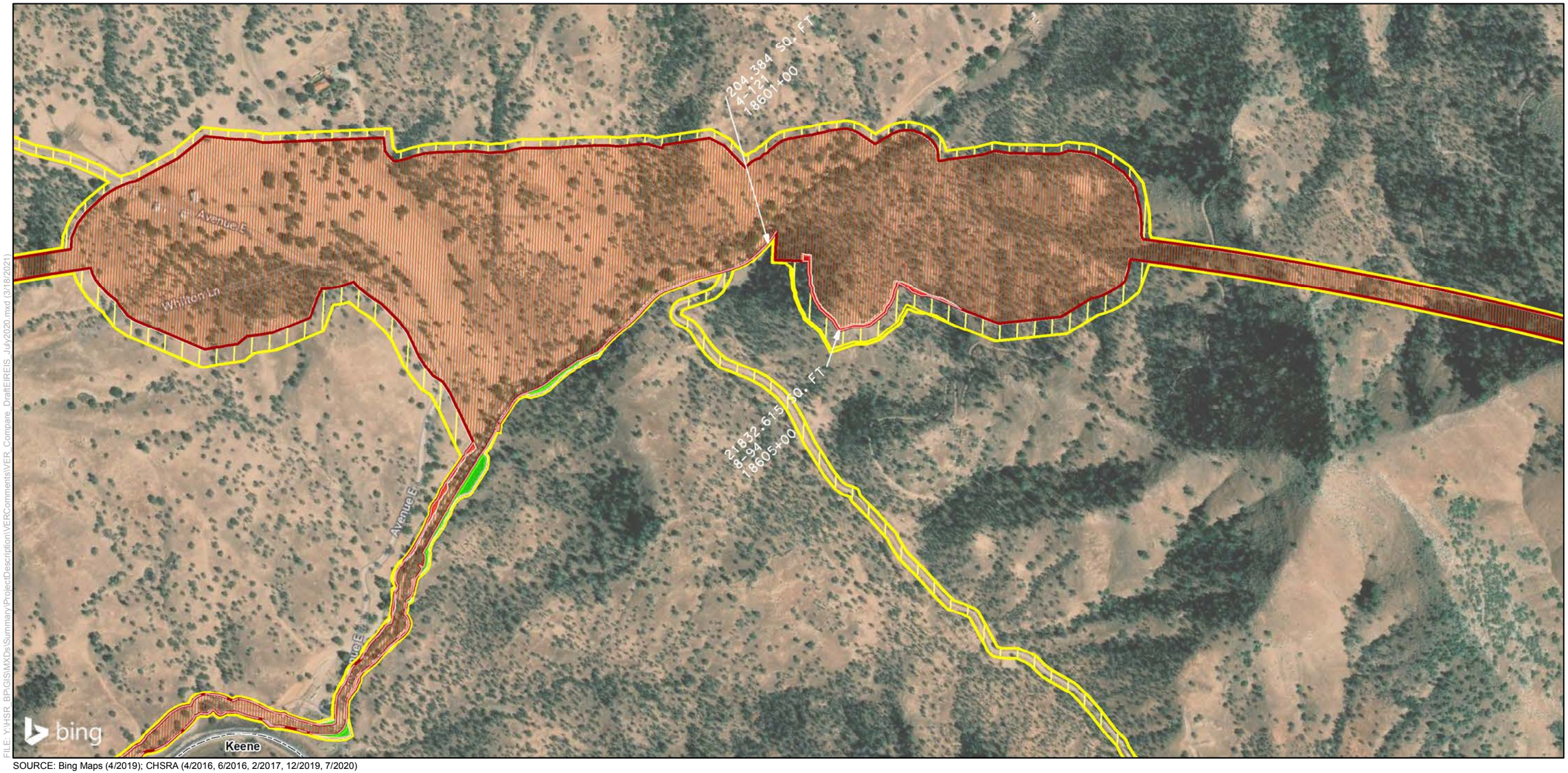
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 25 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BPGIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

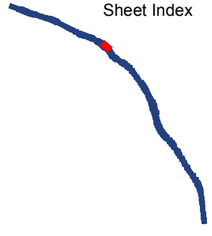
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 26 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

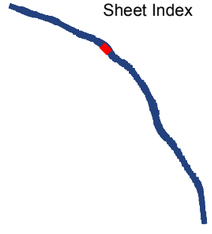
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 27 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

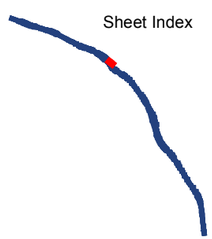
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

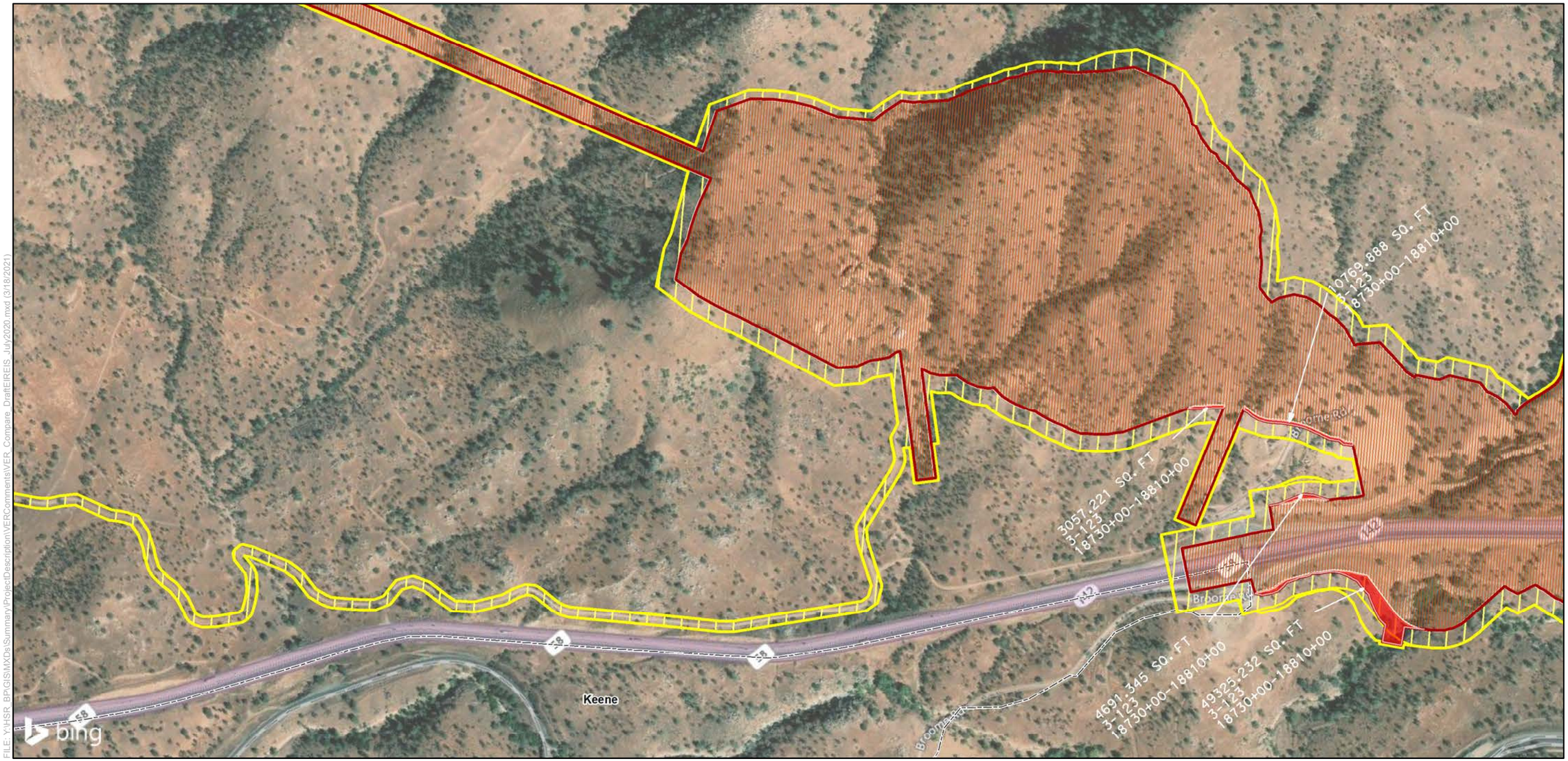
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 28 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescriptionVERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

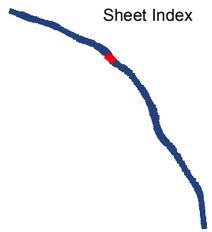
Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

0 300 600
Feet

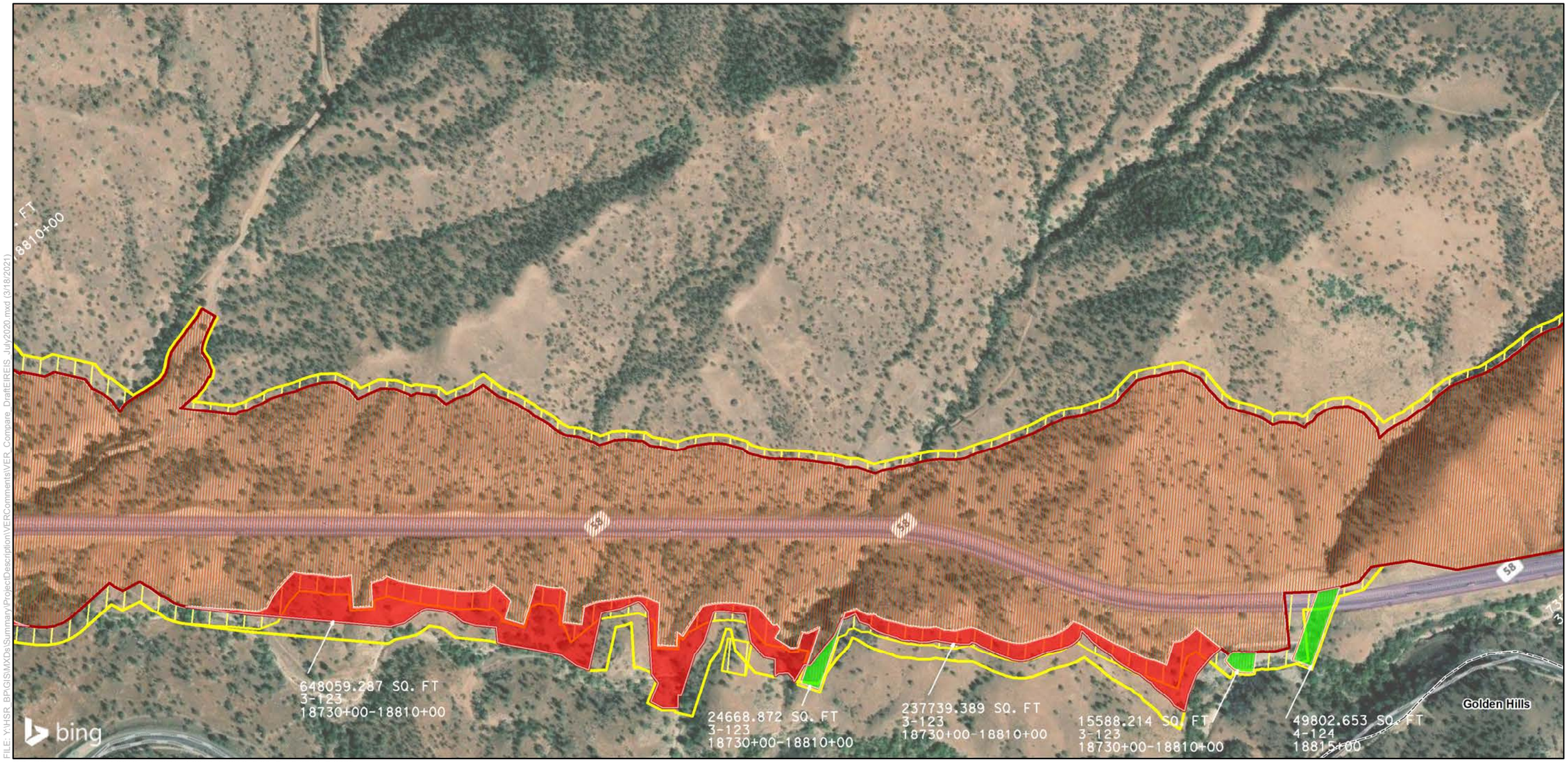
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 29 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

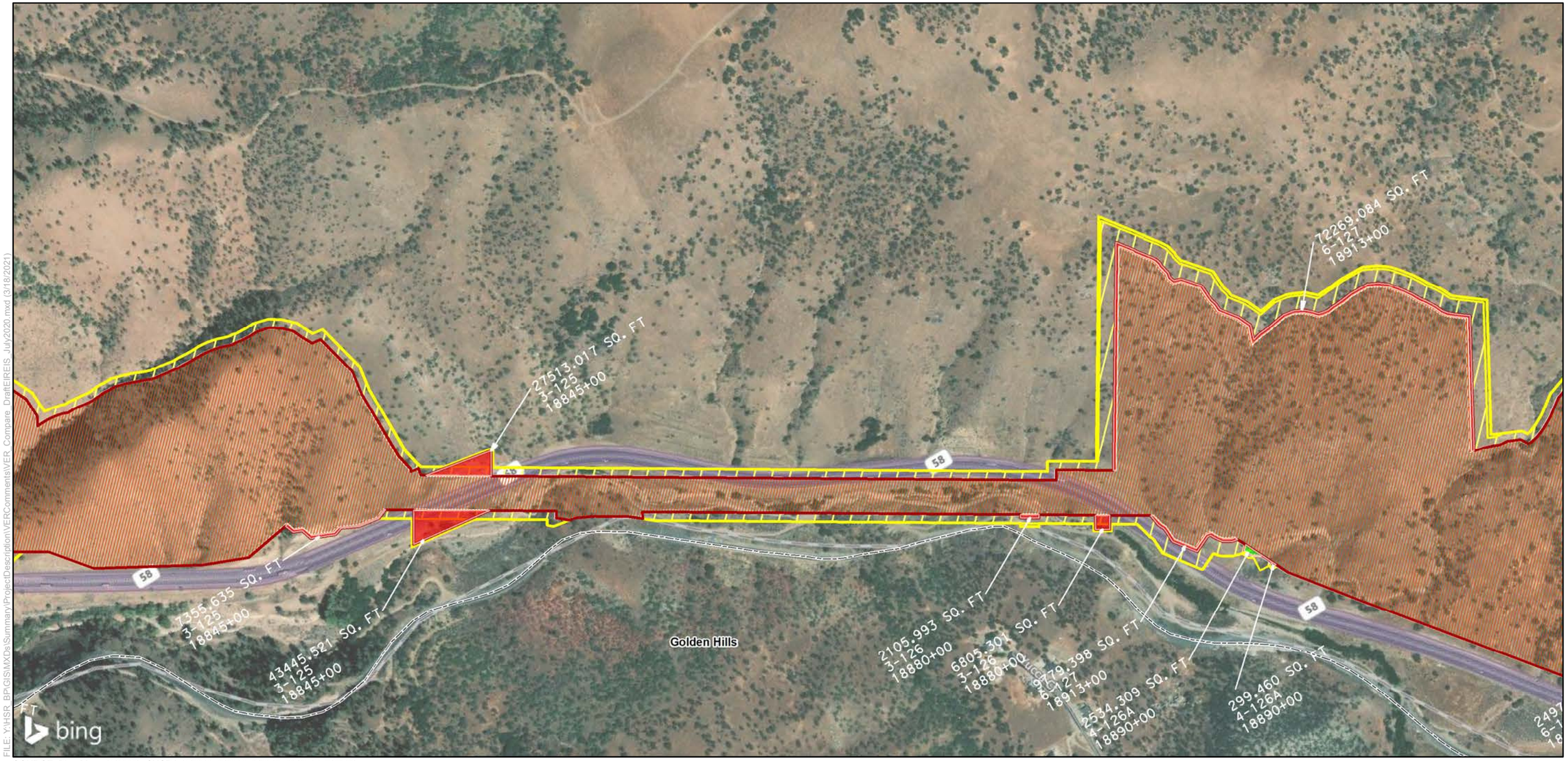
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 30 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

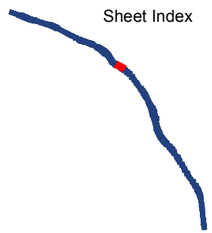
Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

0 300 600
Feet

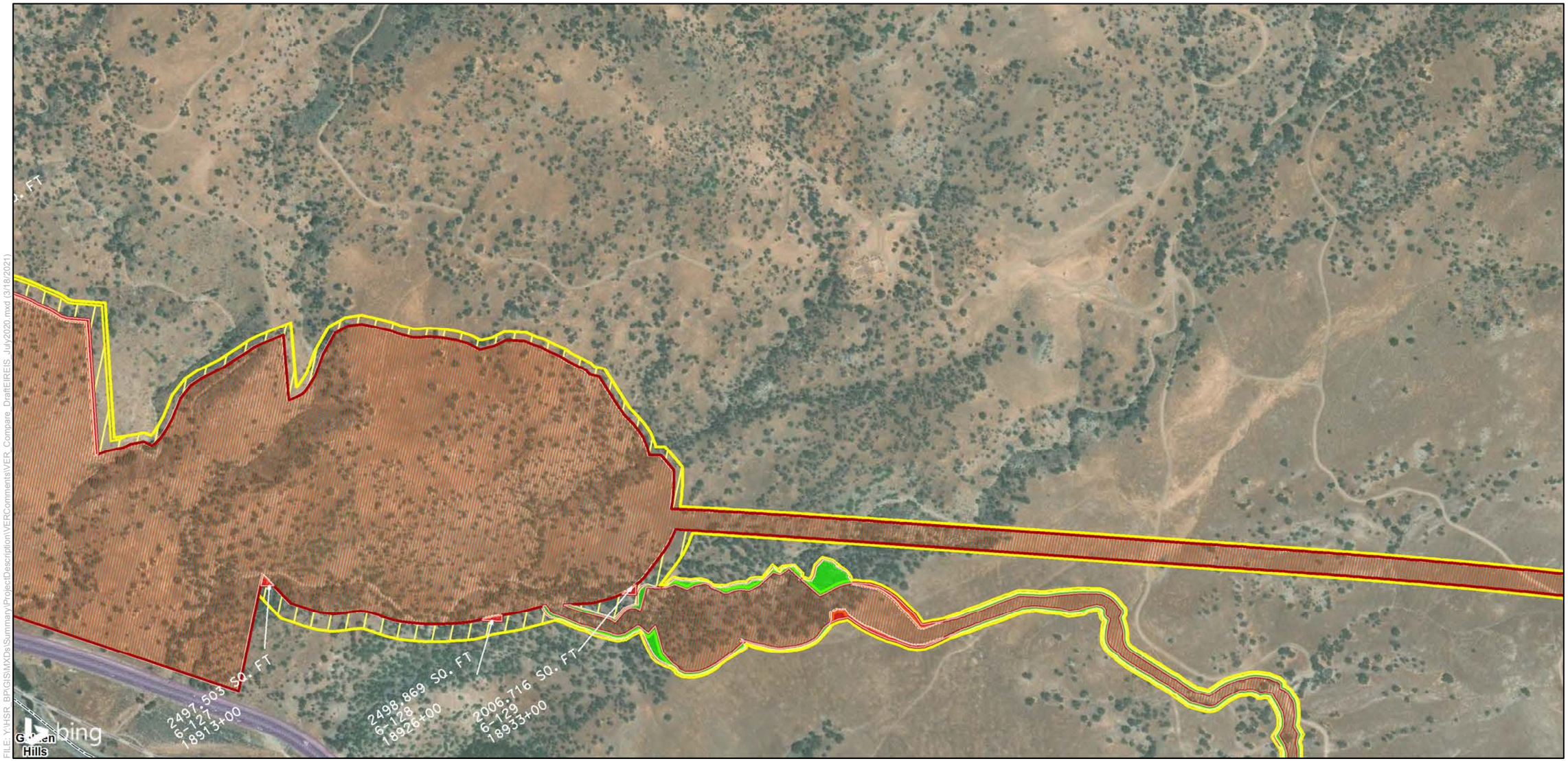
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 31 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

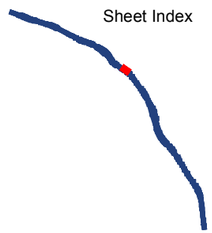
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 32 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

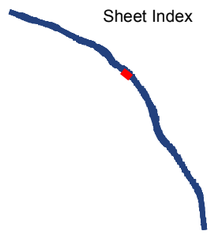
Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

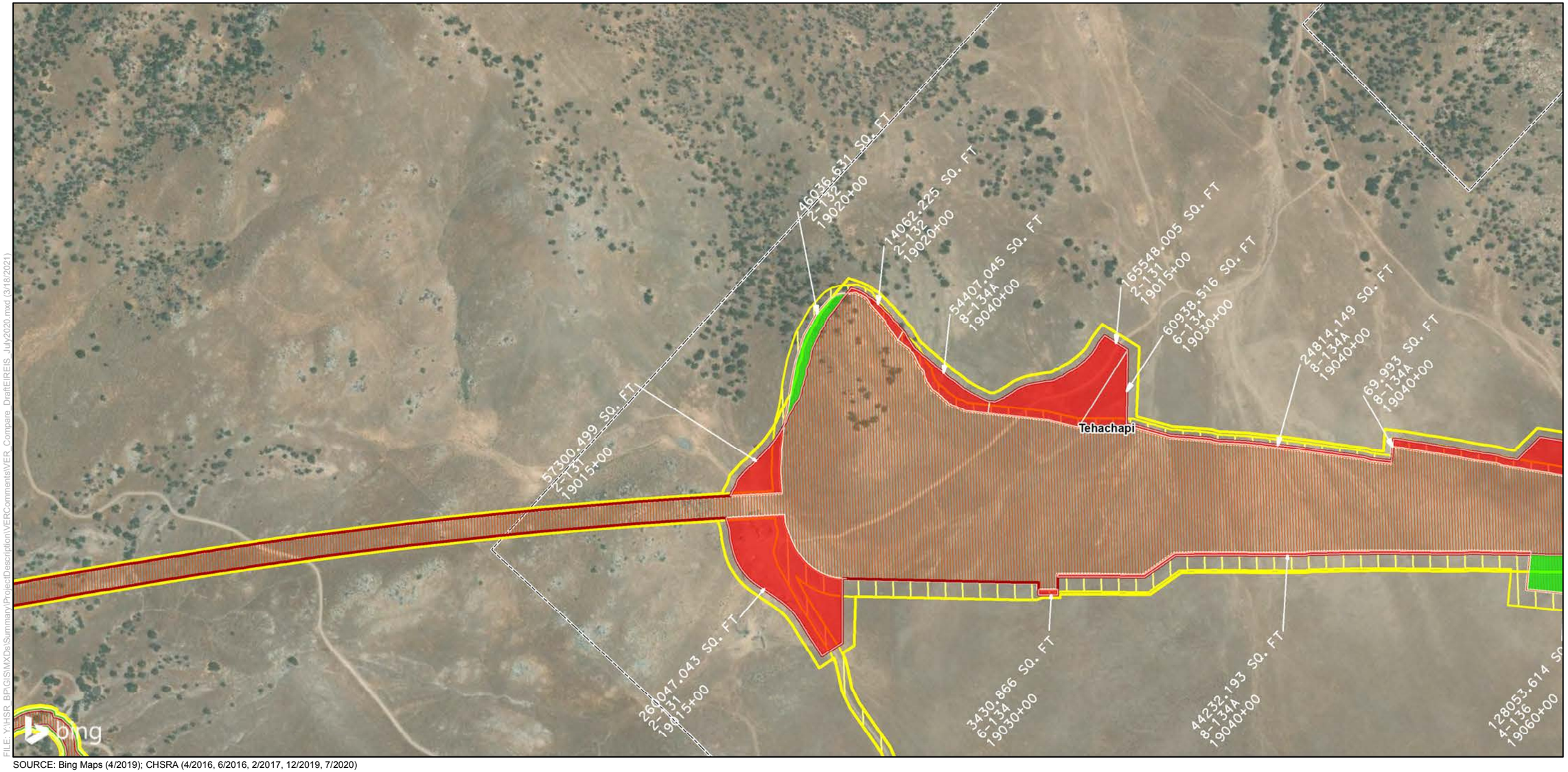
0 300 600
Feet
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 33 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

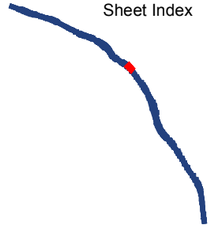
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

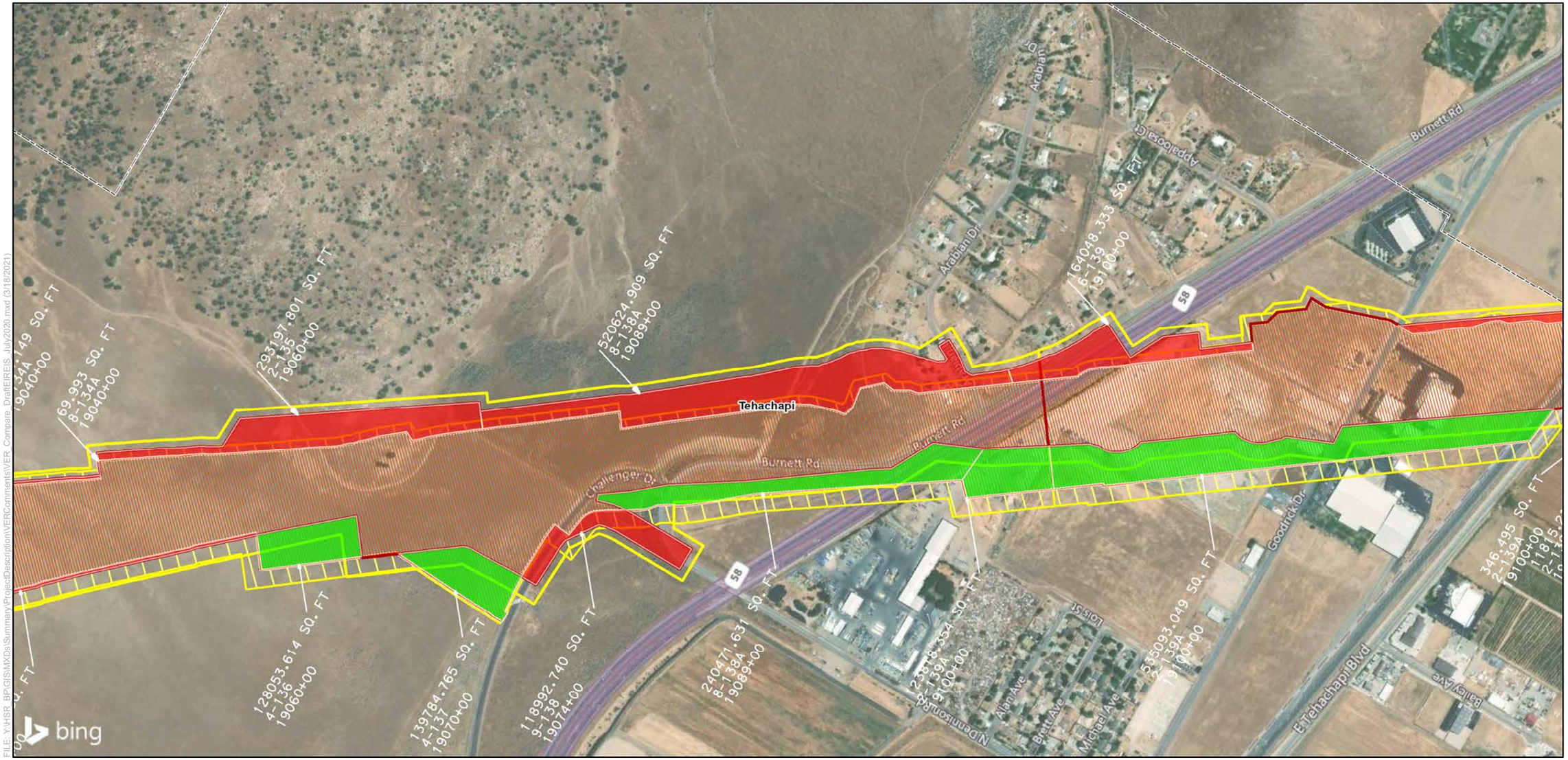
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 34 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

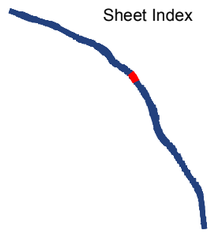
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

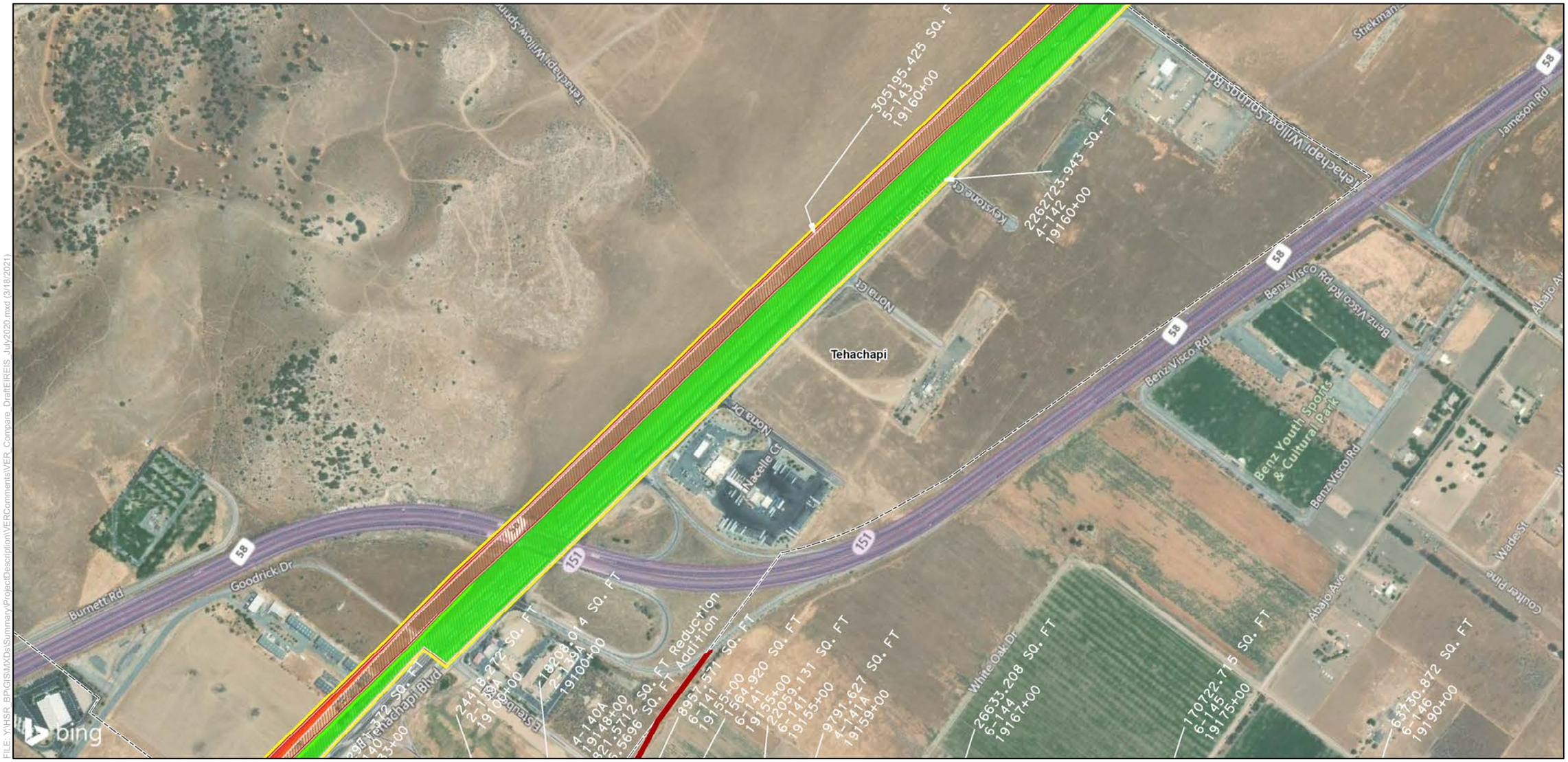
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 35 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

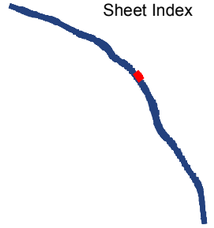
Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

0 300 600
Feet

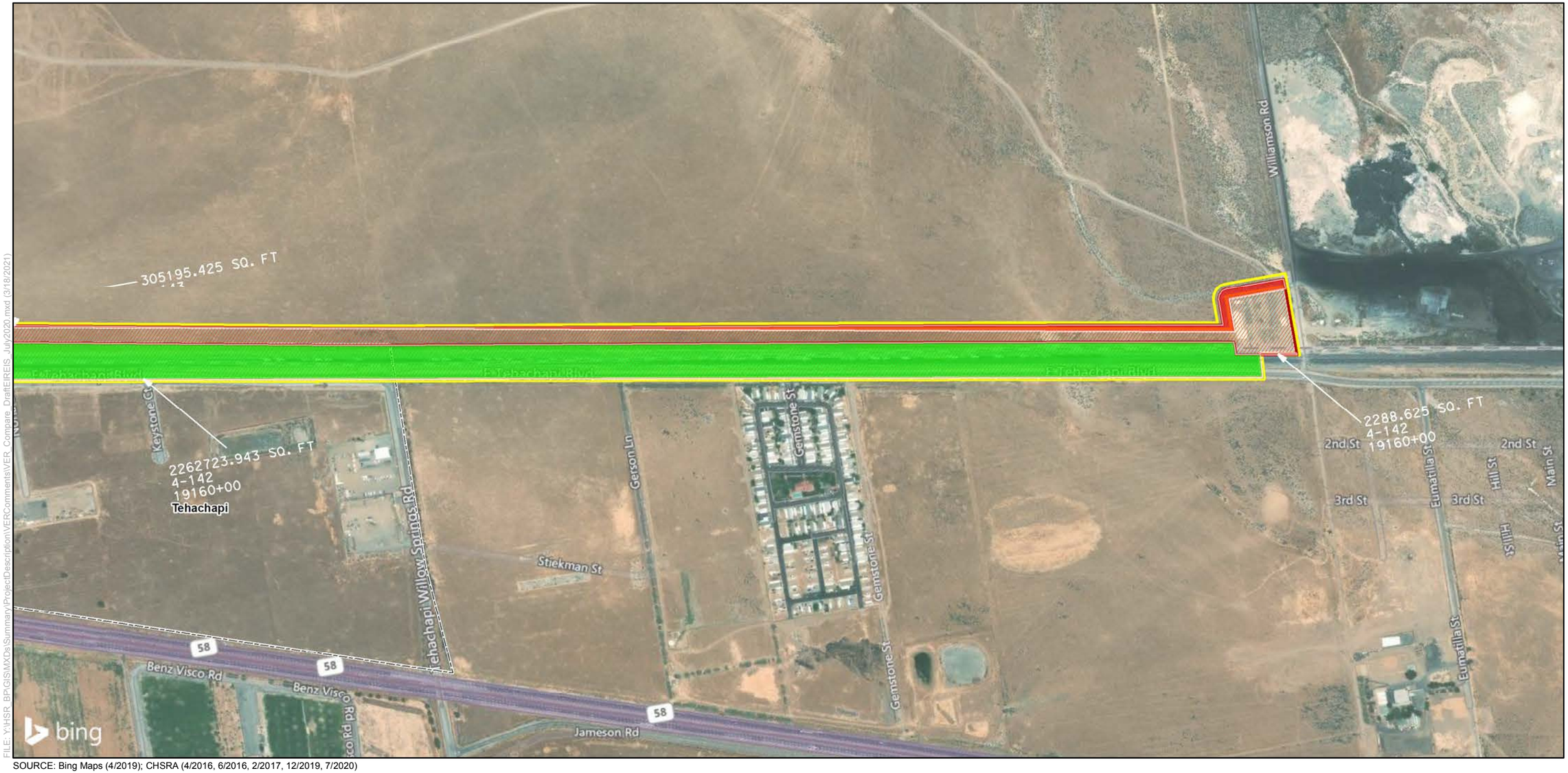
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 36 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

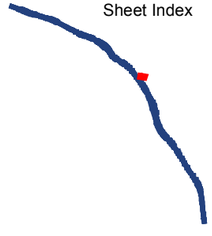
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 37 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsIVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

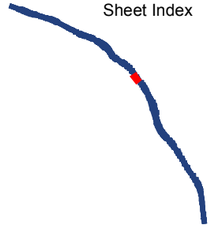
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

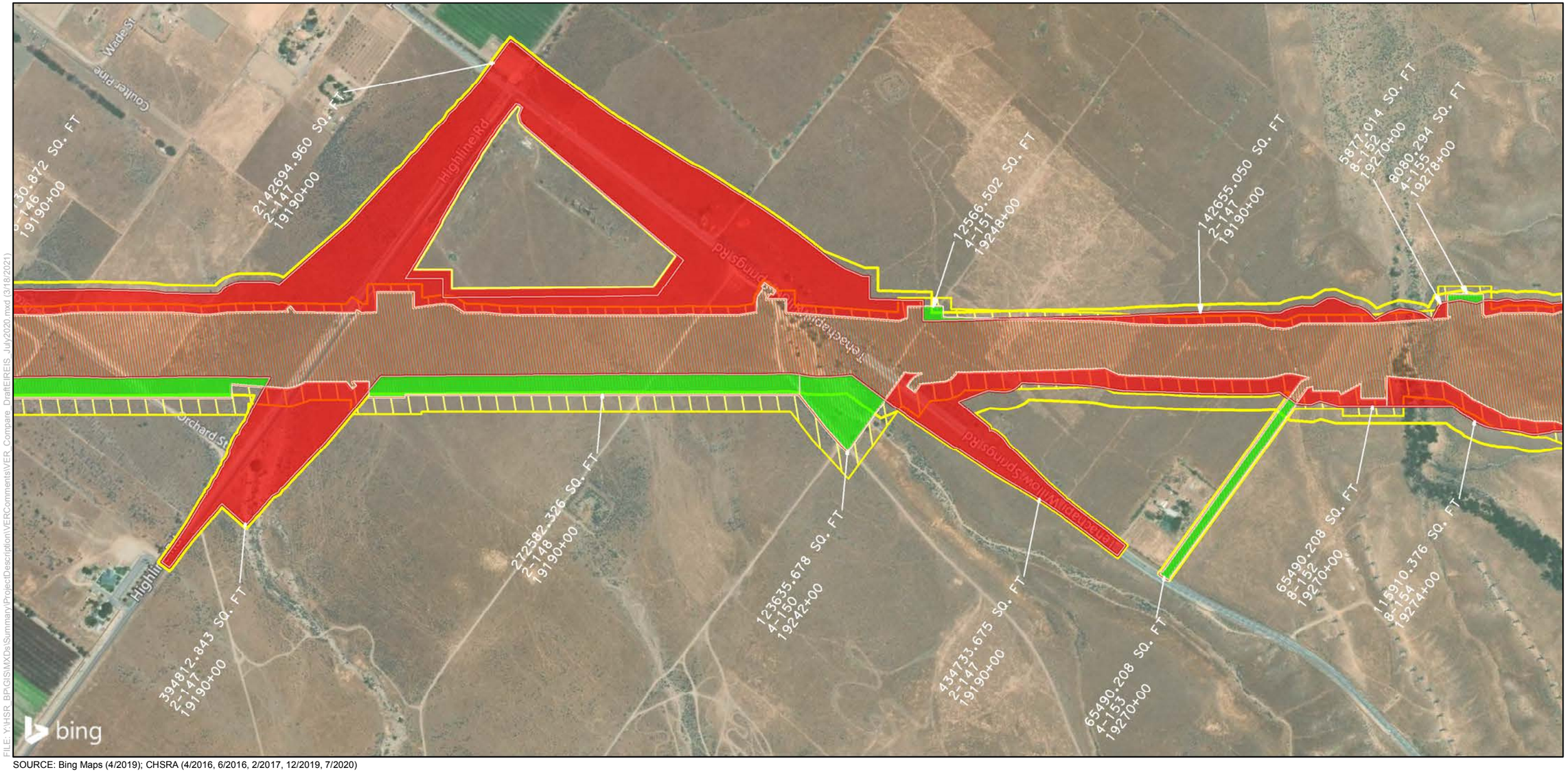
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 38 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

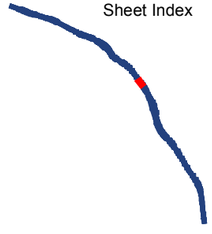
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

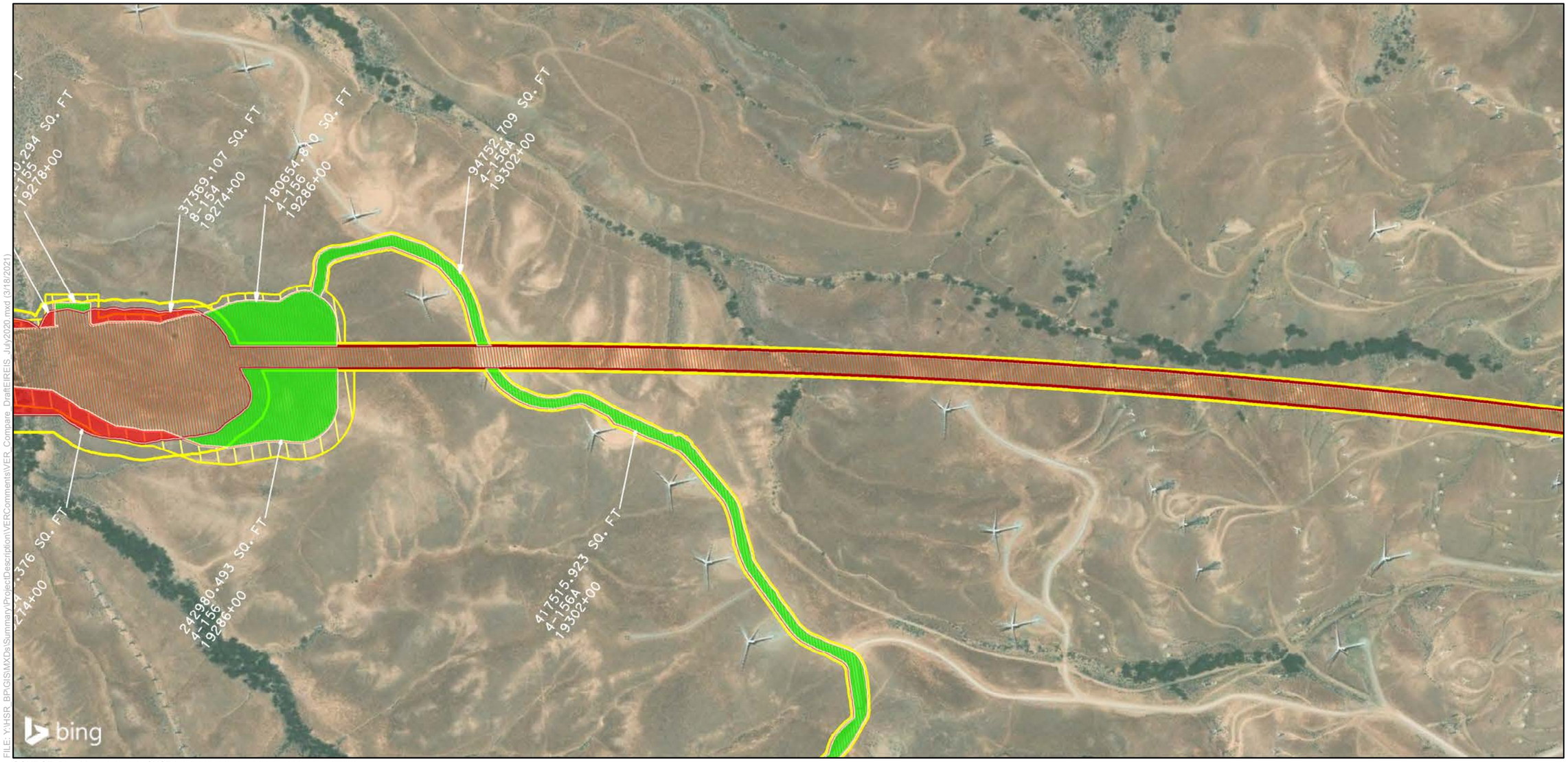
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 39 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

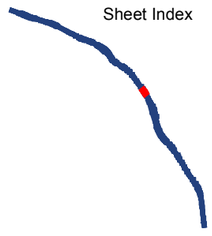
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 40 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

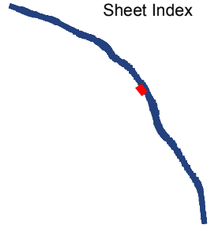
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

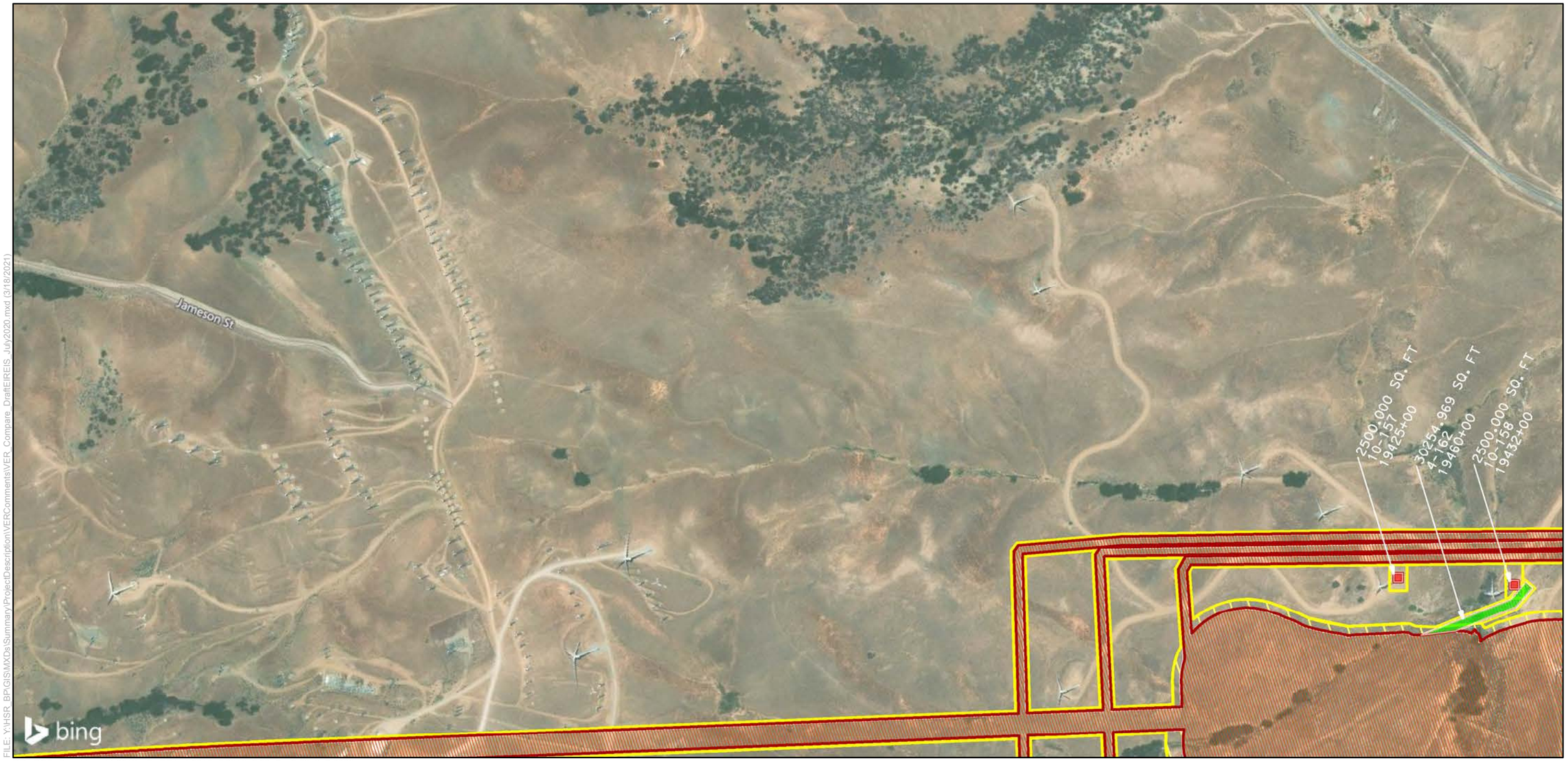
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 41 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

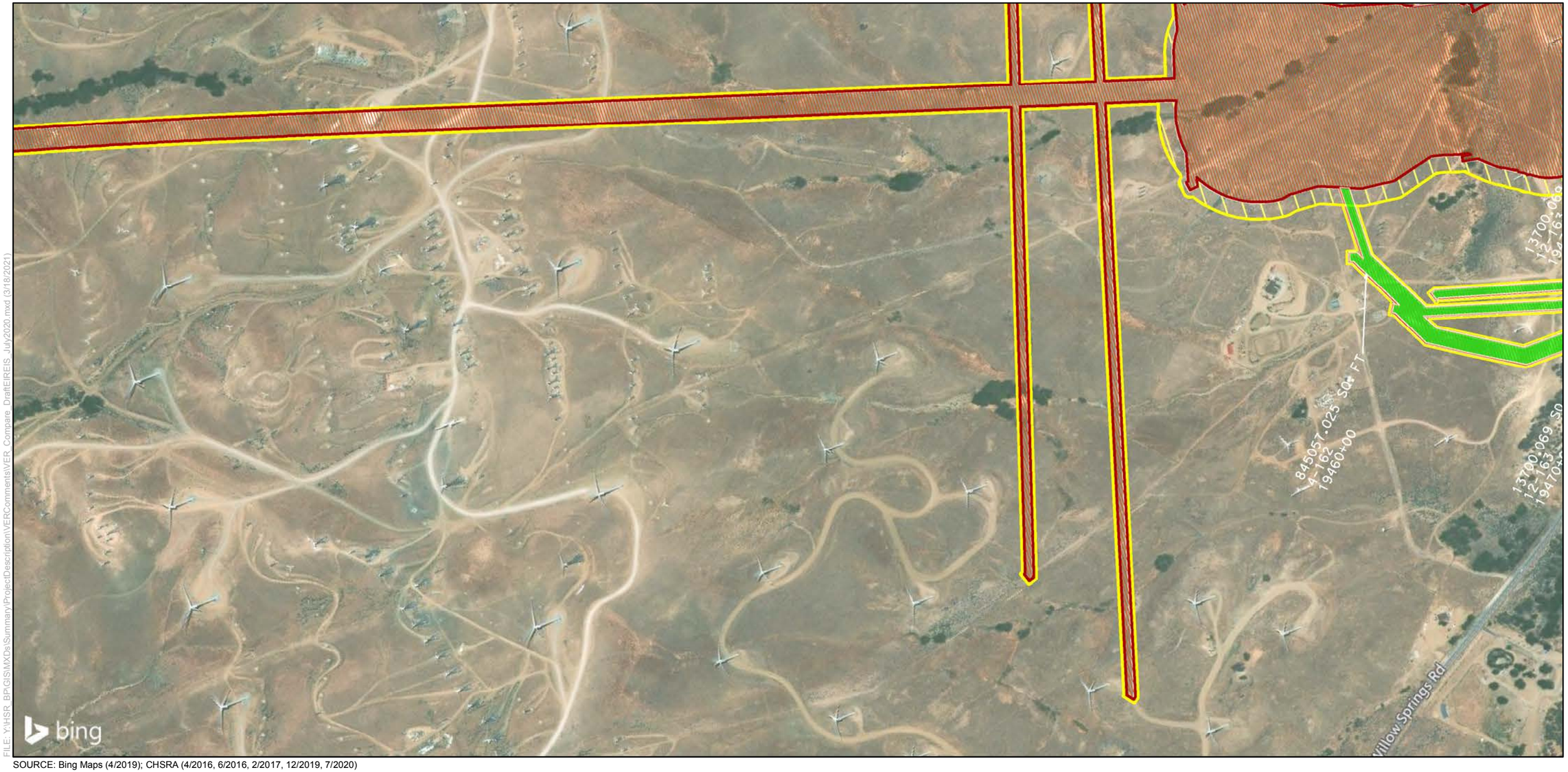
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 42 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

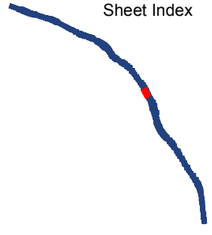
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

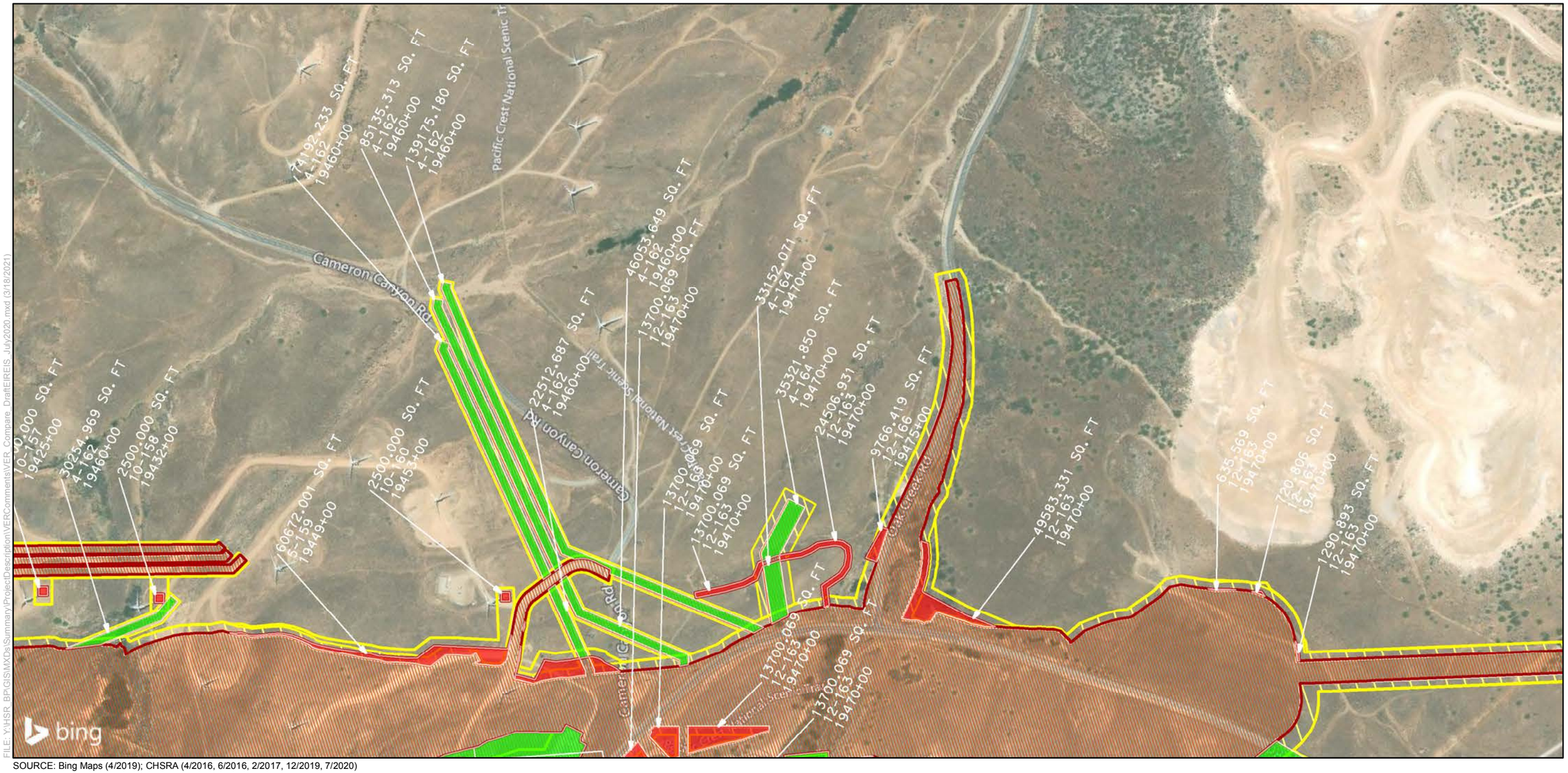
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 43 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

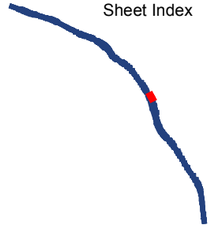
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

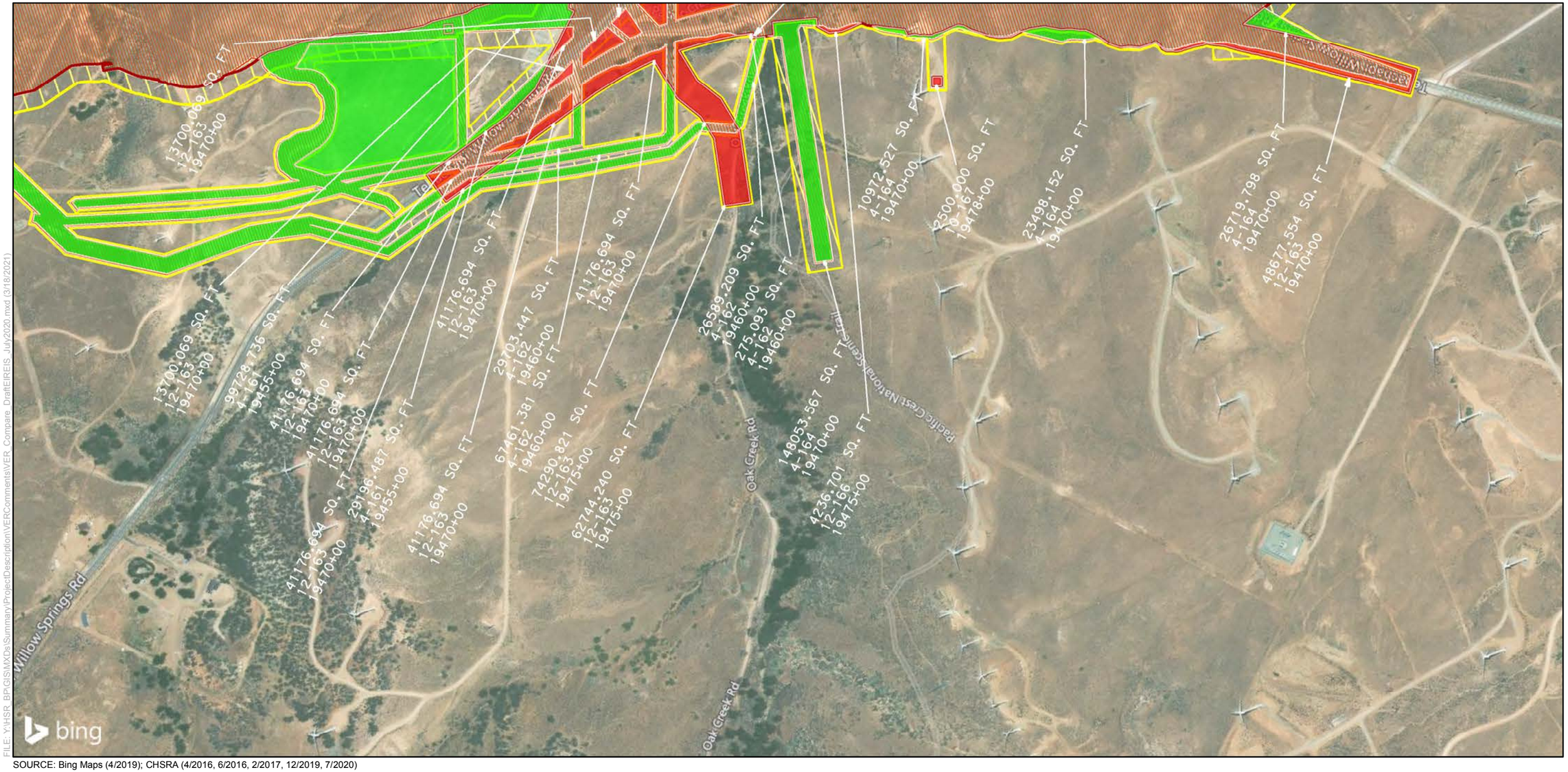
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 44 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

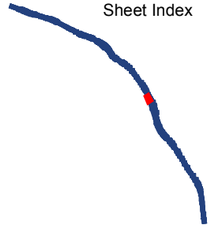
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

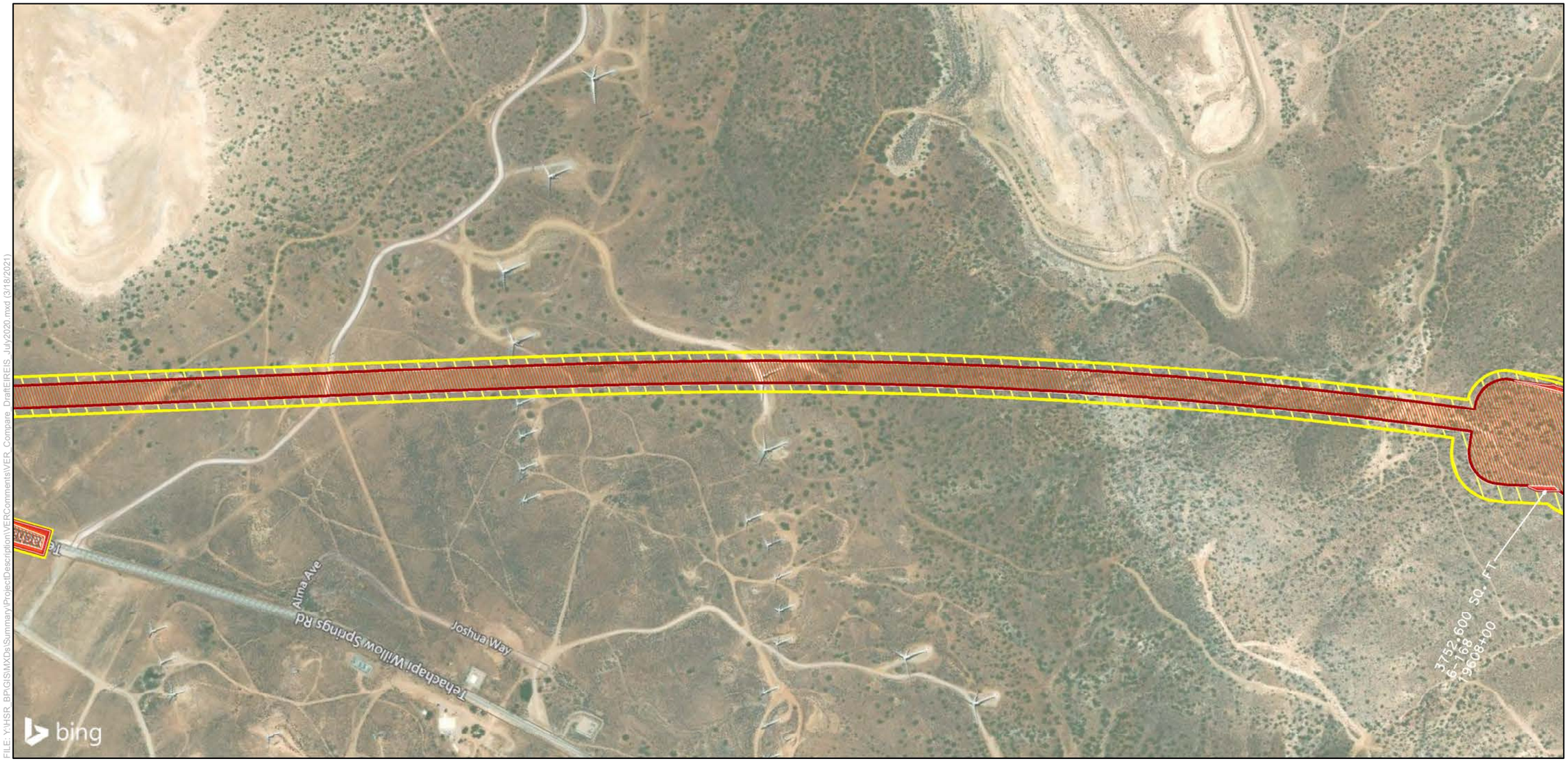
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 45 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

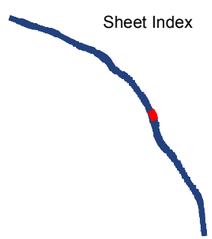
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

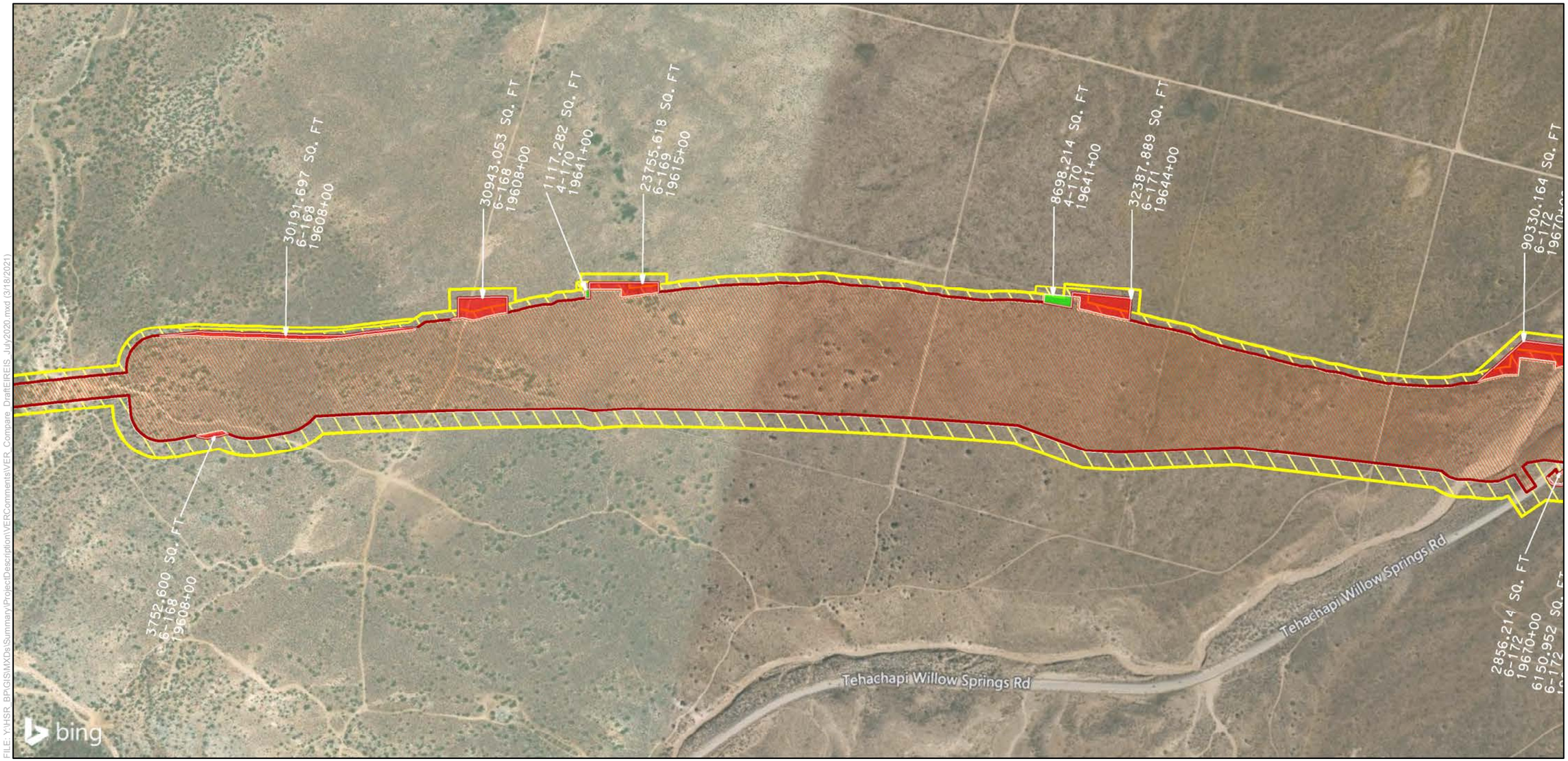
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 46 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

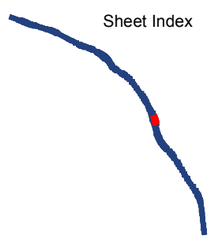
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

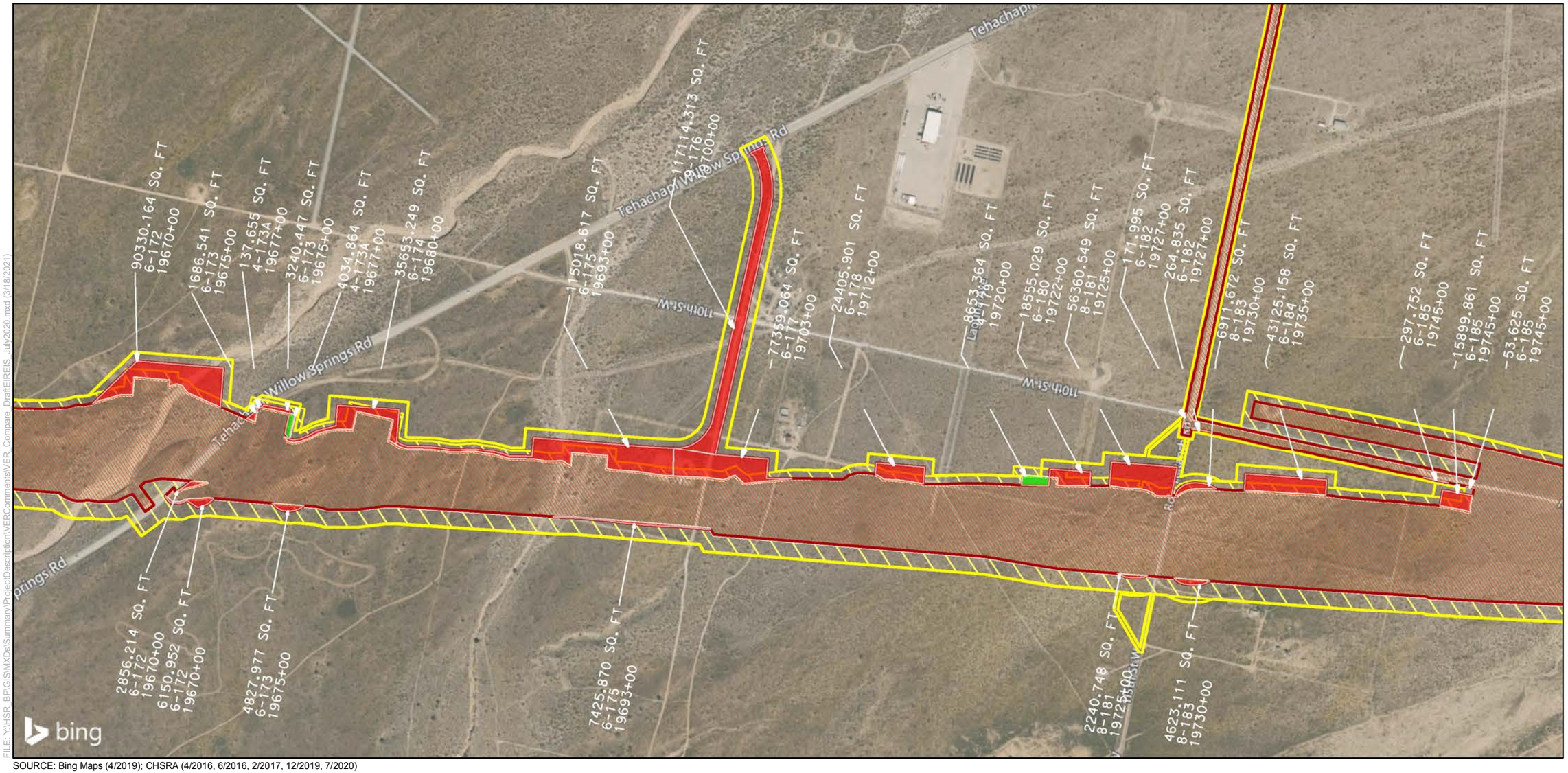
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 47 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

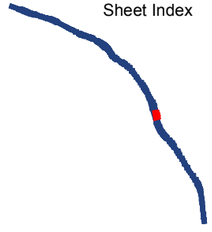
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

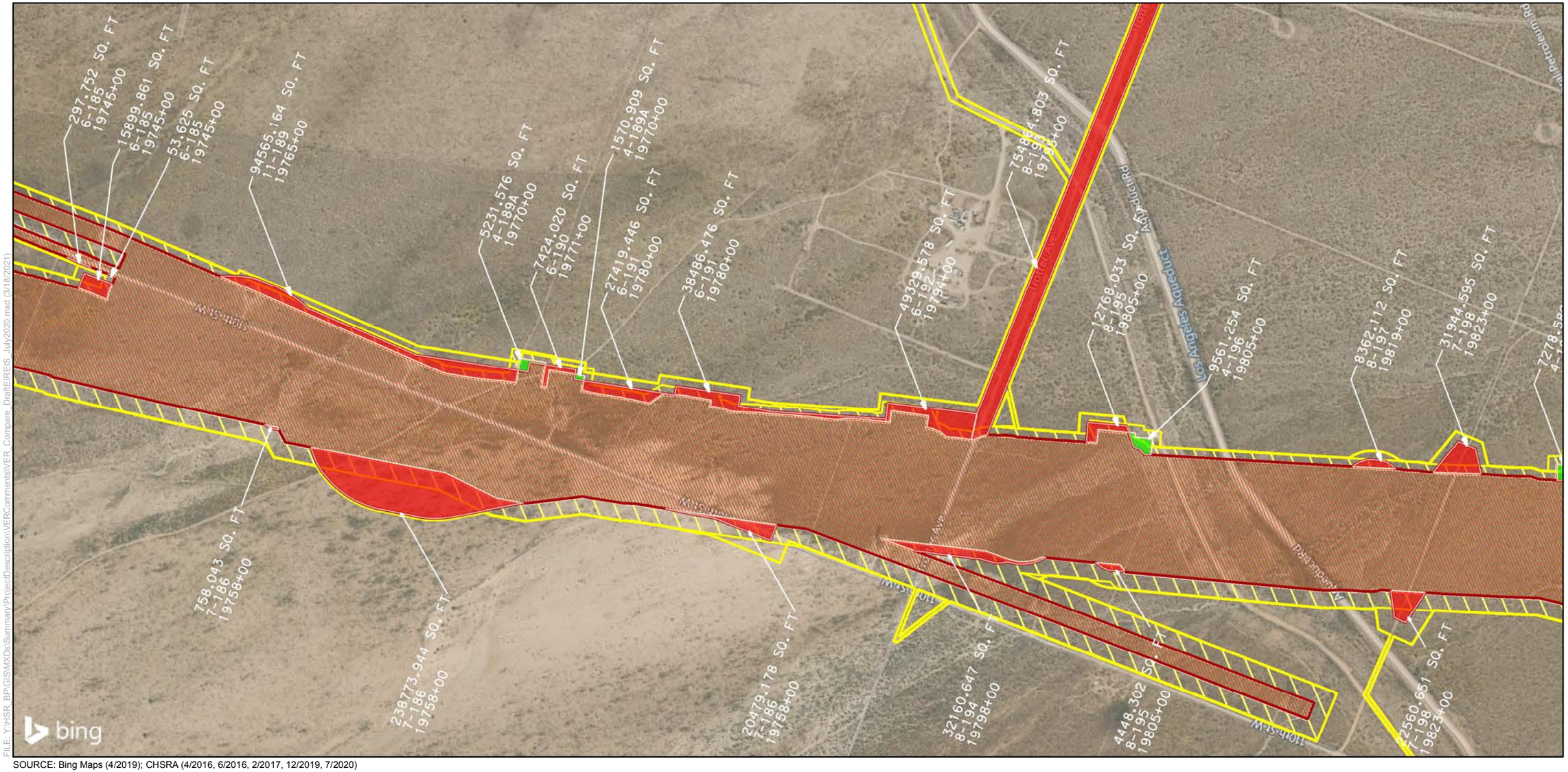
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 48 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

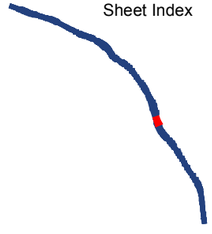
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

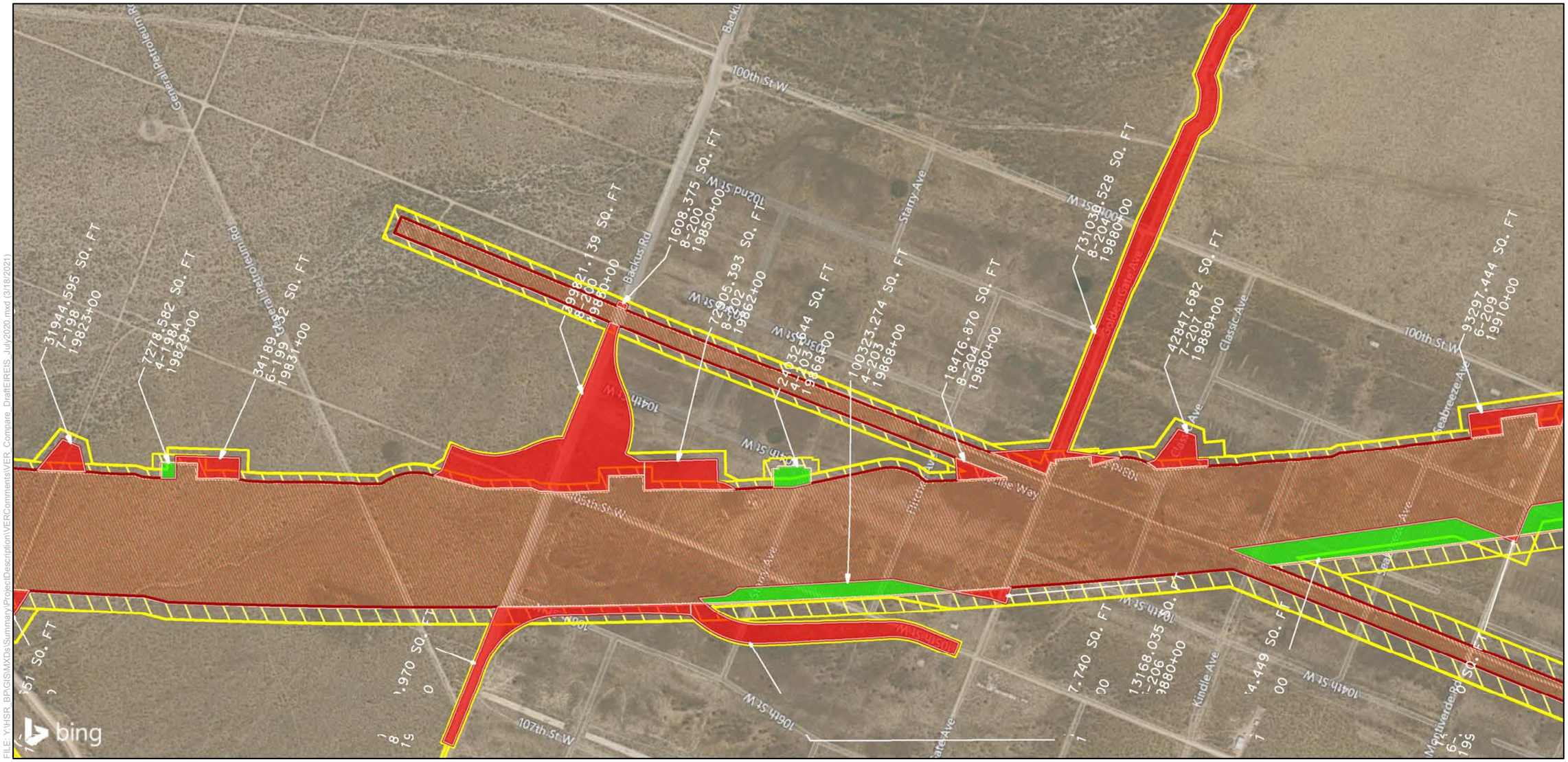
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 49 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

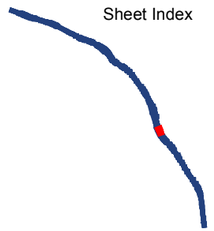
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

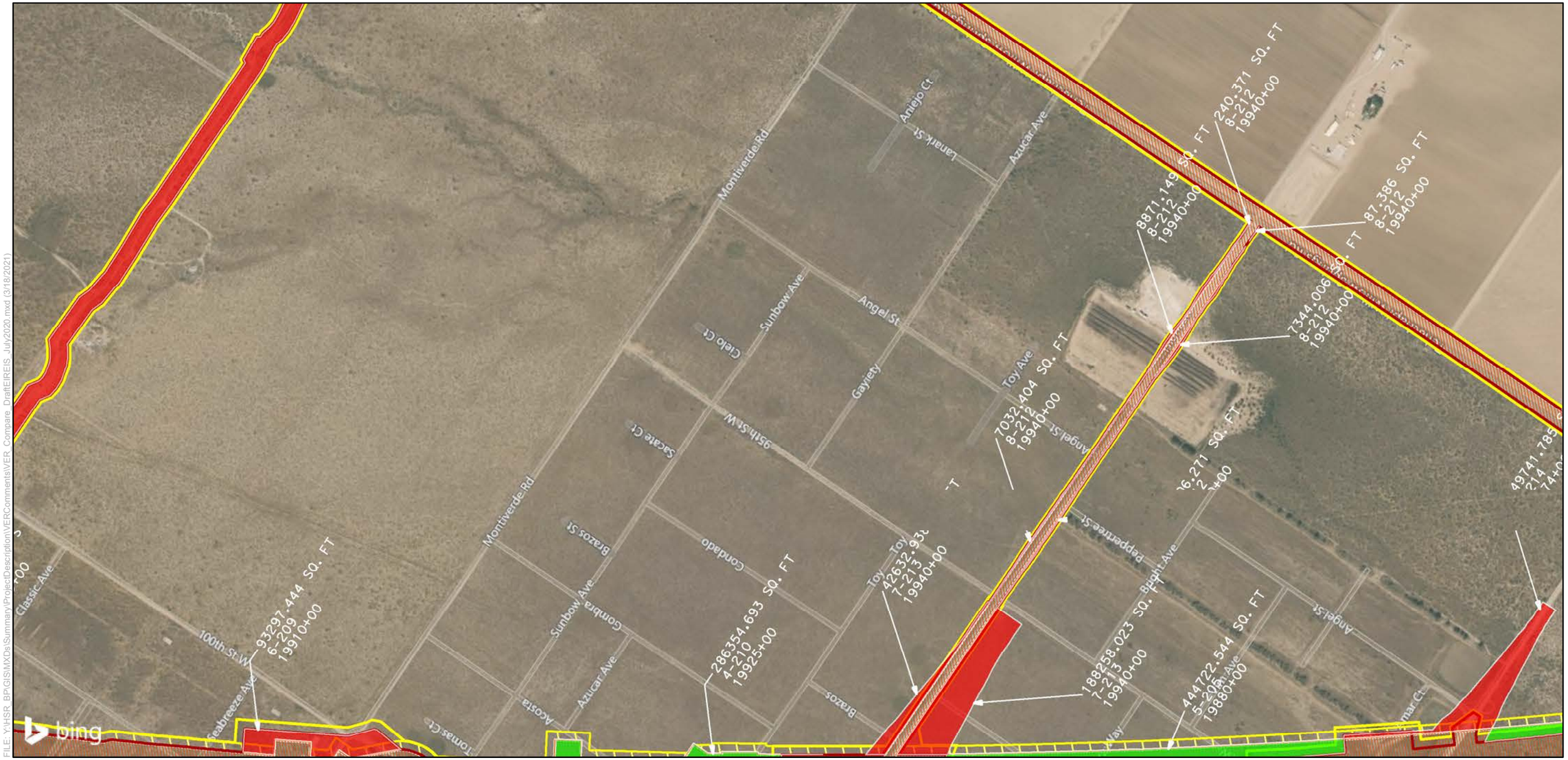
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 50 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

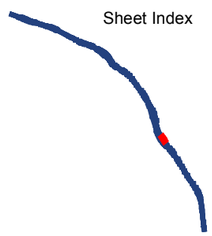
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

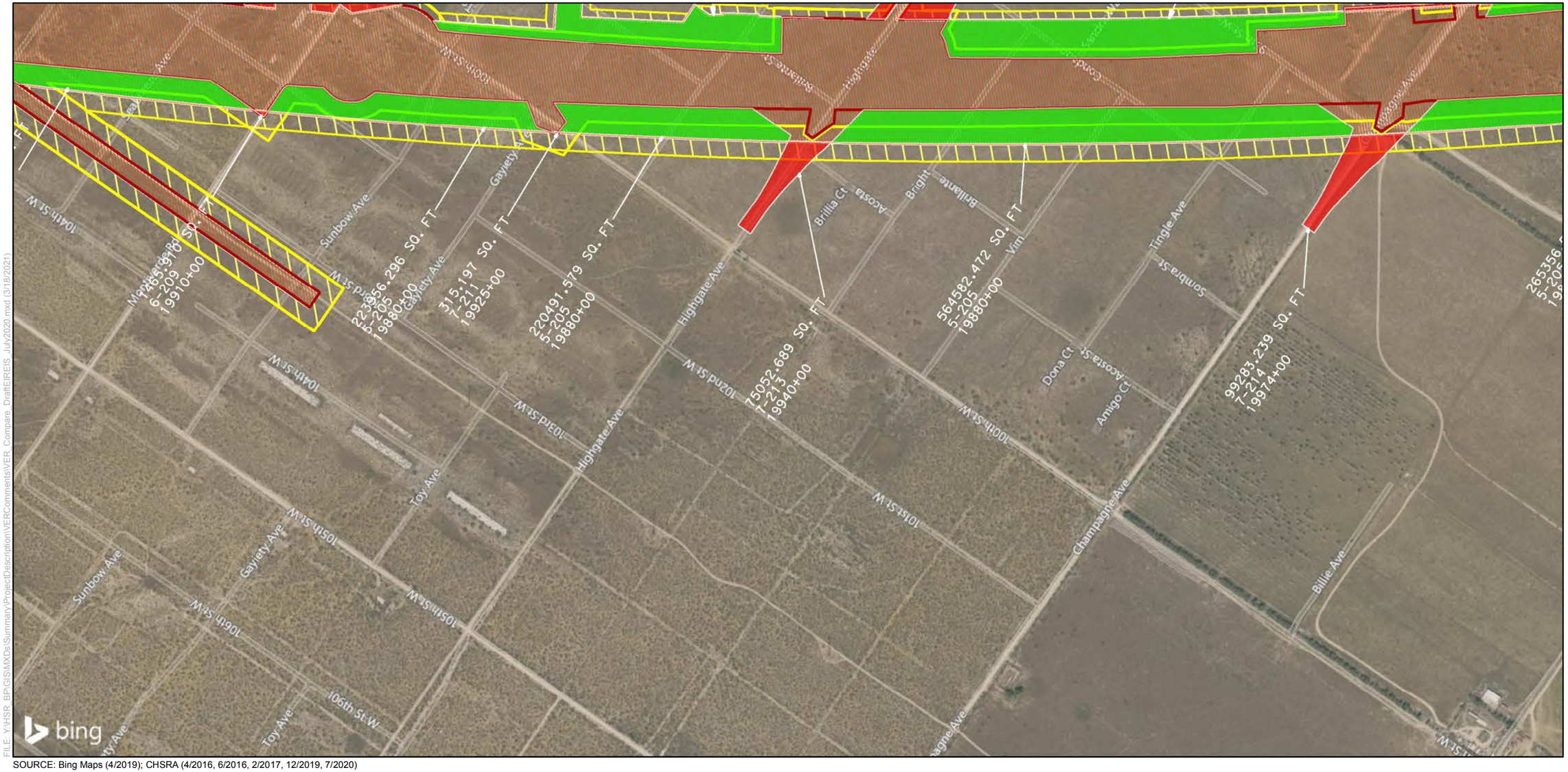
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 51 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

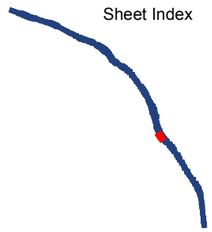
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

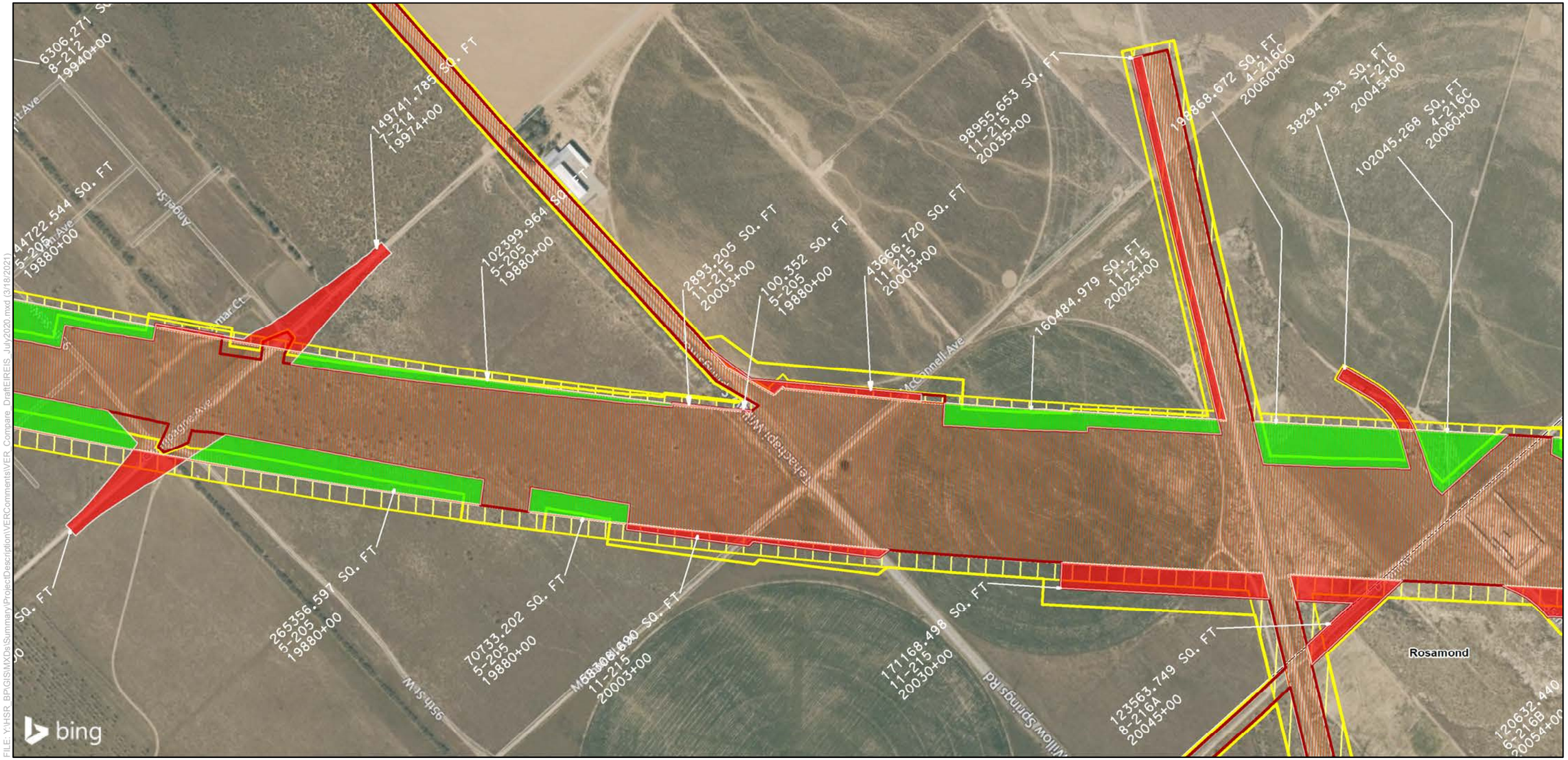
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 52 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

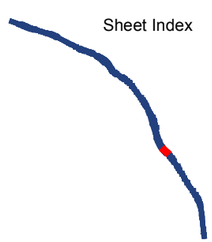
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

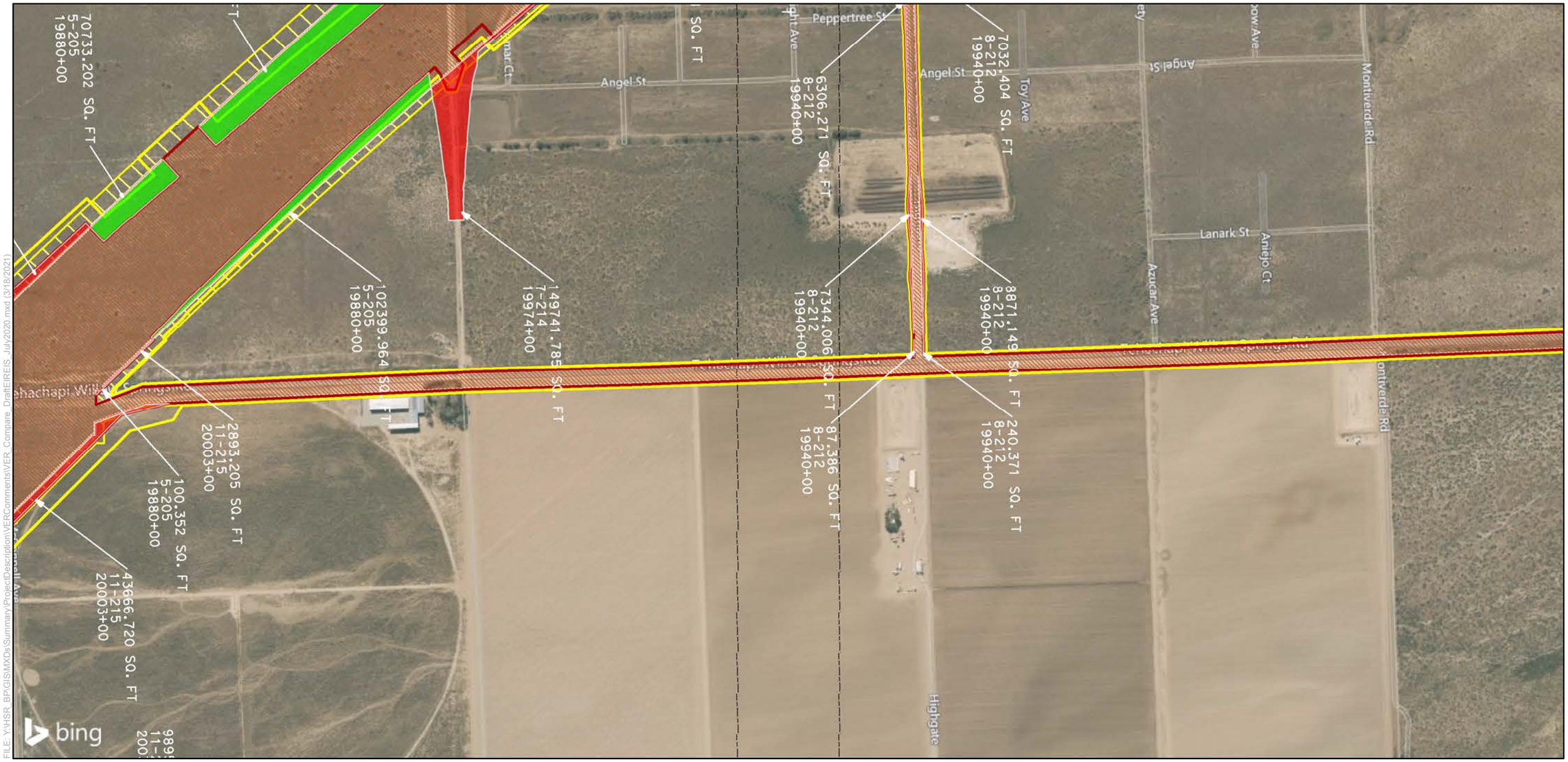
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 53 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsIVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

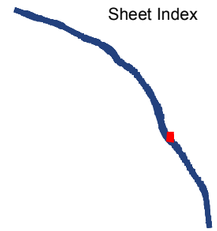
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

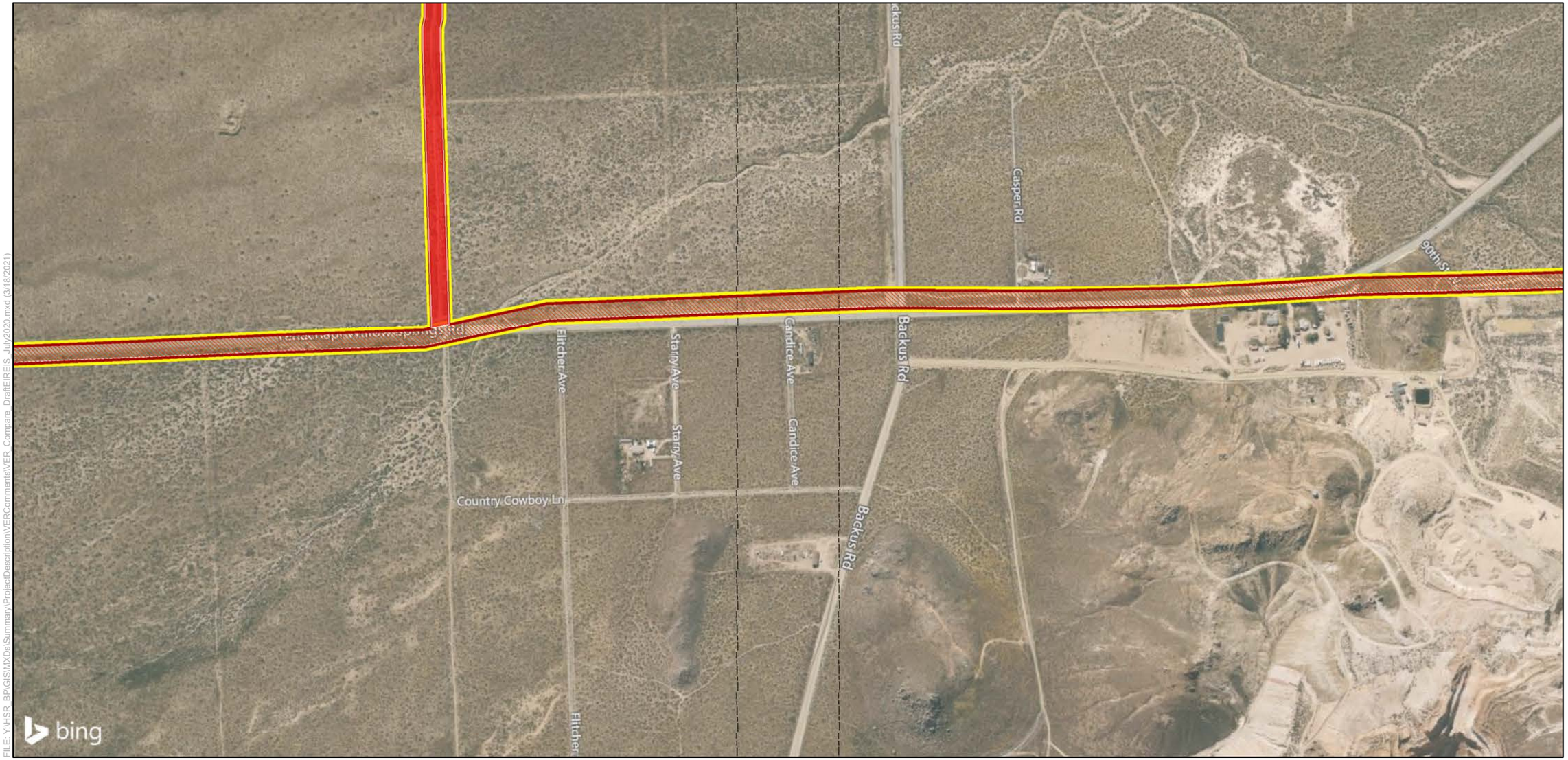
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 54 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

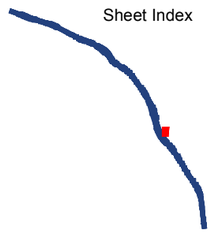
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 55 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 56 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

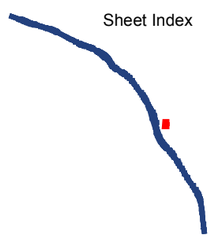
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 57 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BPG\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

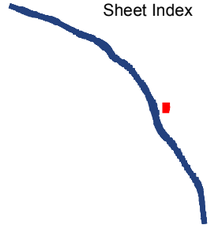
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

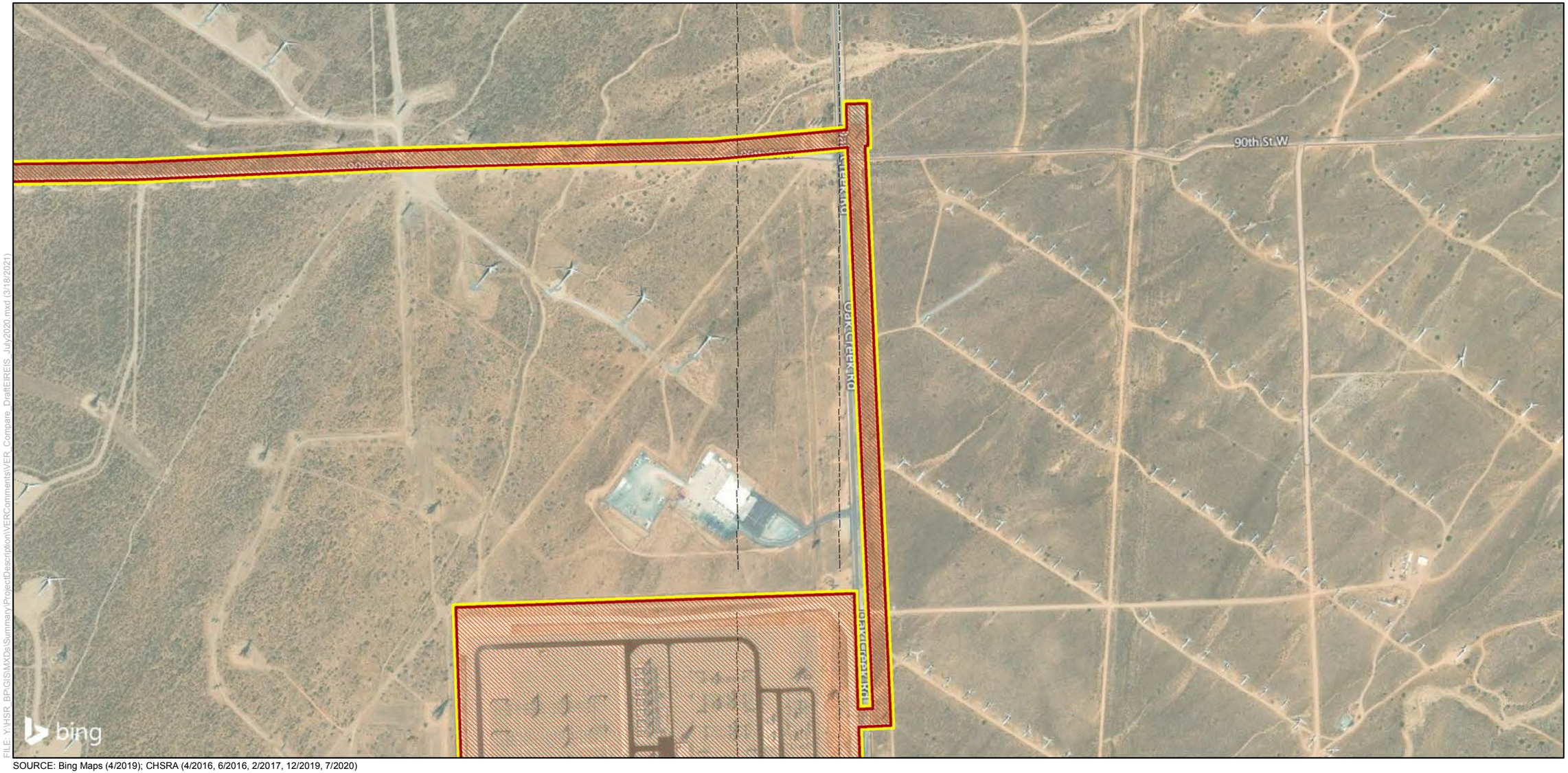
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 58 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

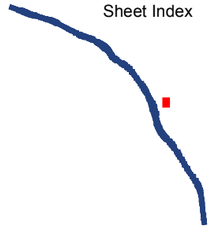
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

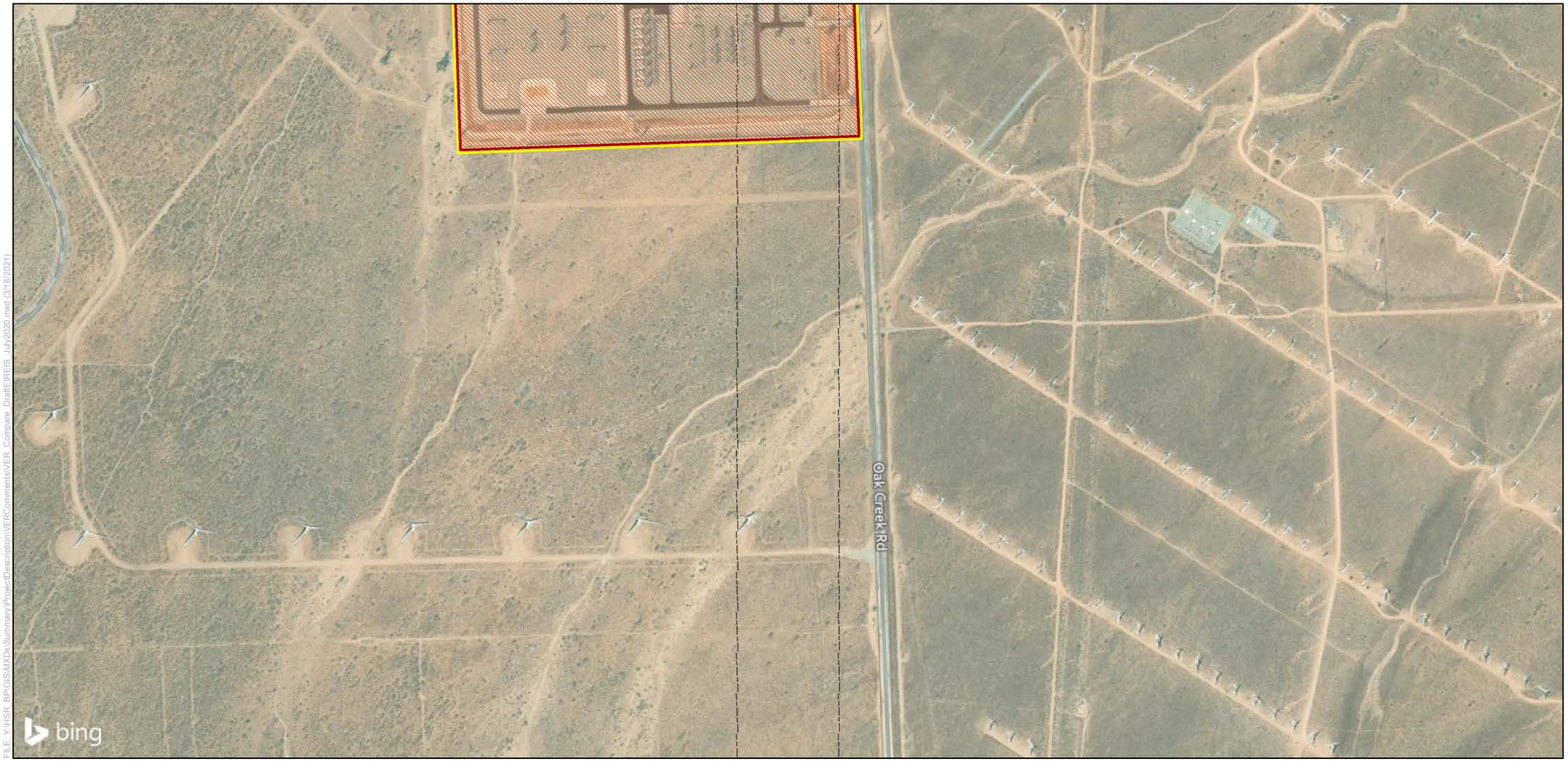
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 59 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

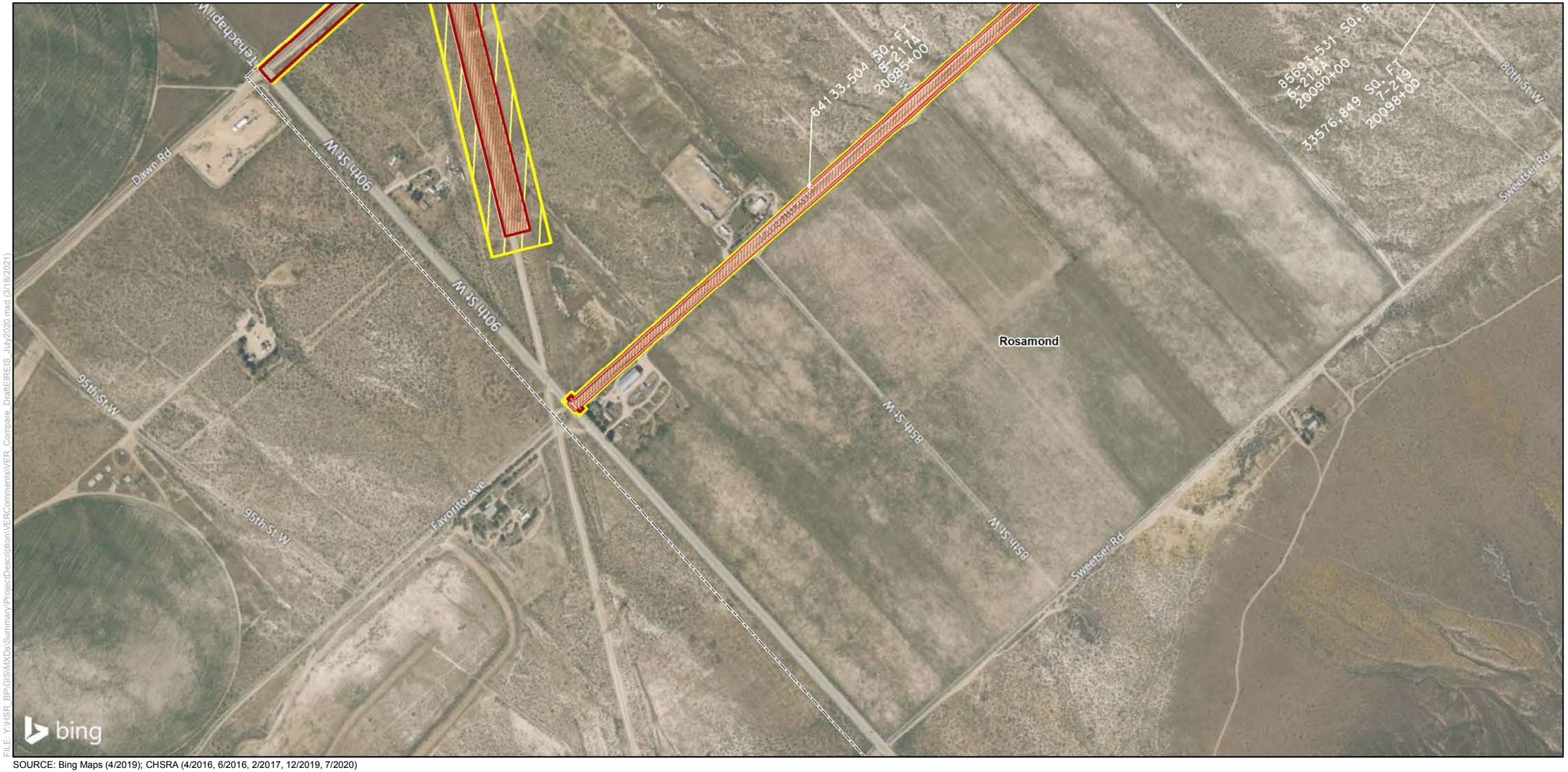
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 60 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescriptionVERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

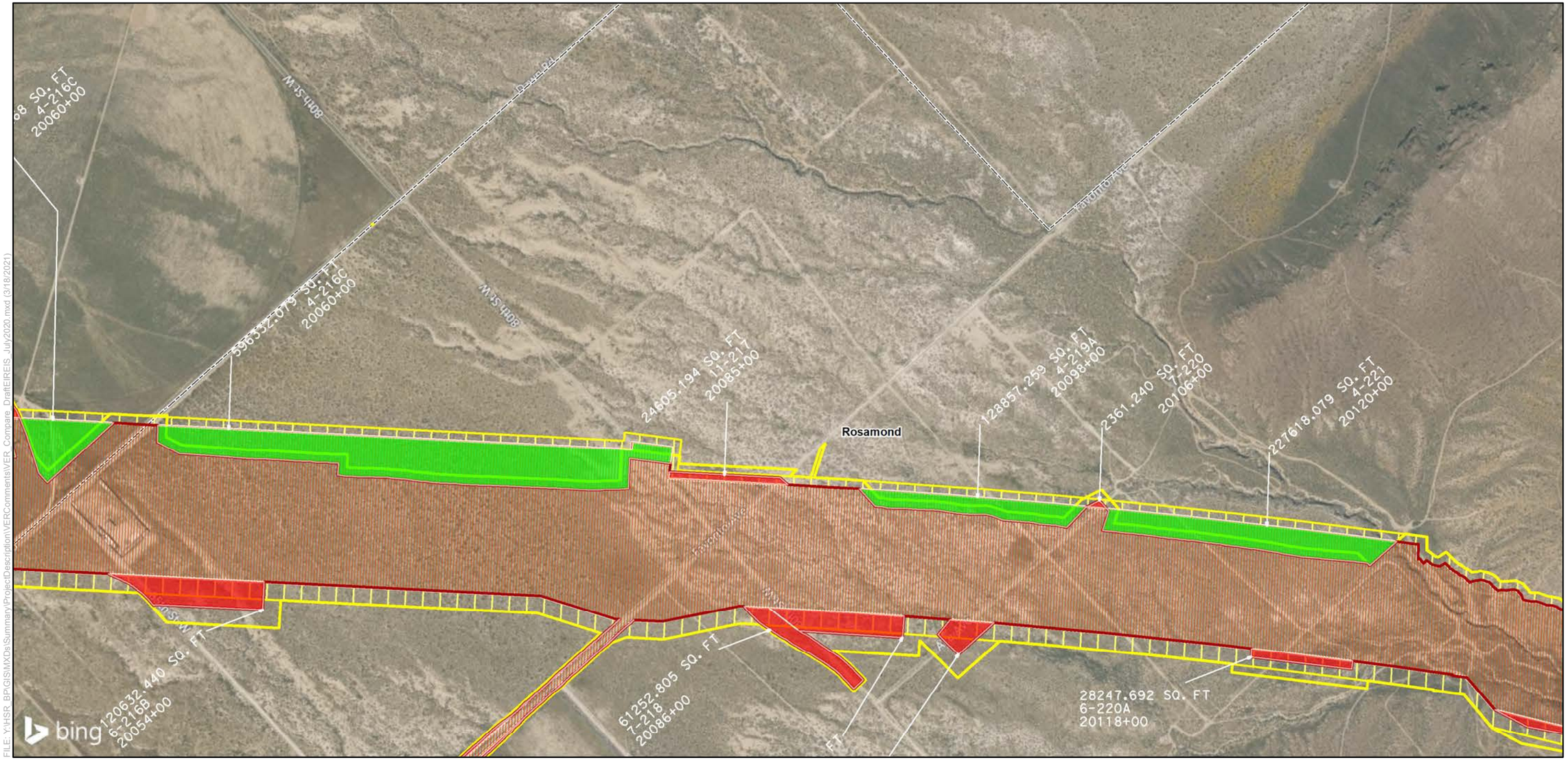
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 61 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

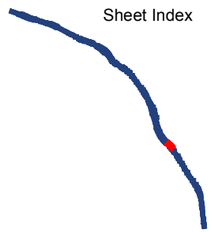
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

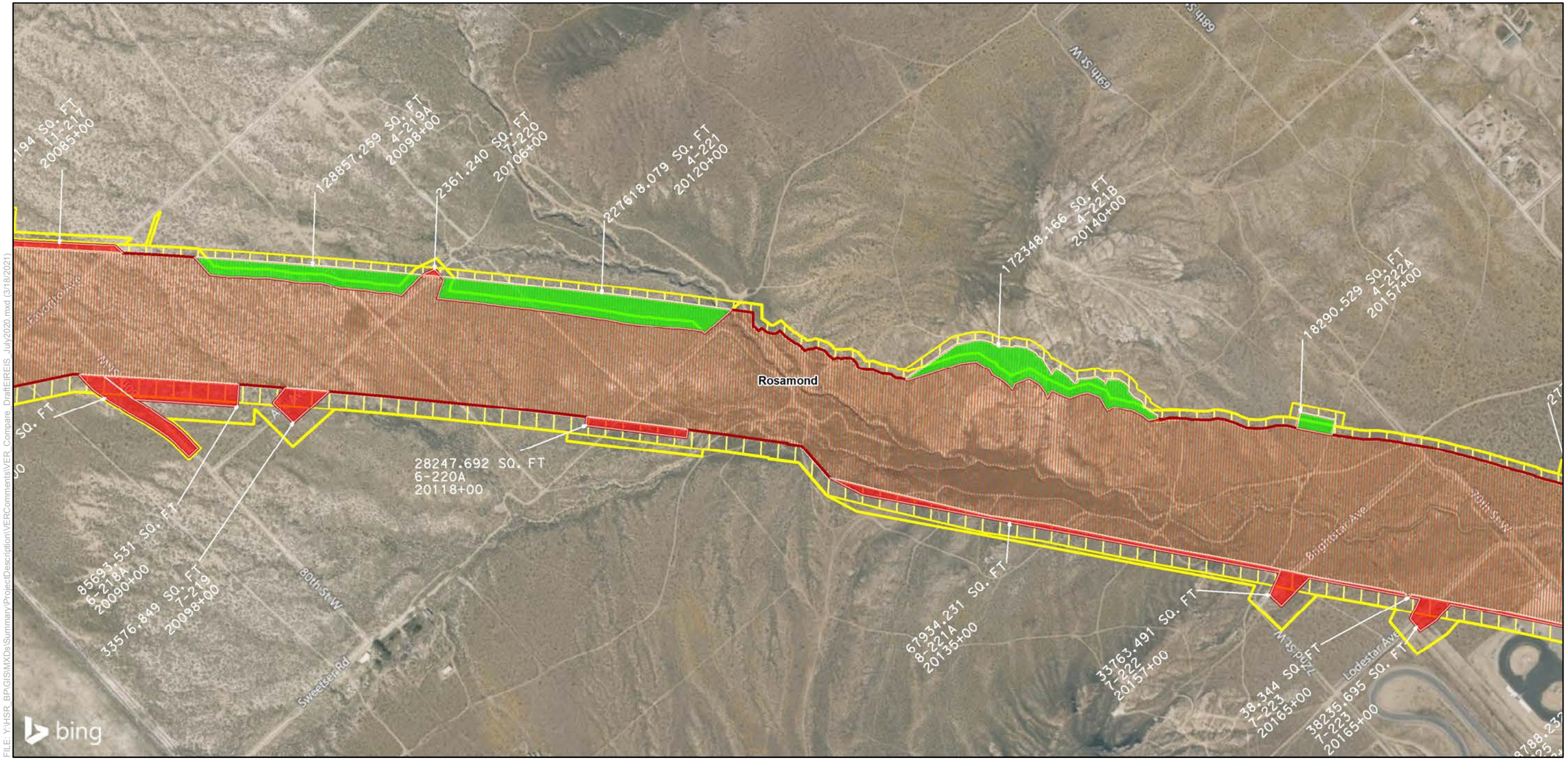
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 62 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\Project\Description\VERComments\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

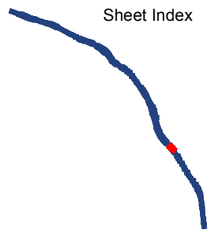
Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

0 300 600
Feet

0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 63 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements


SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

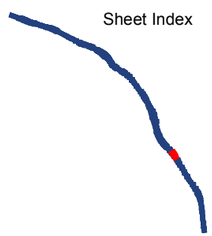
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

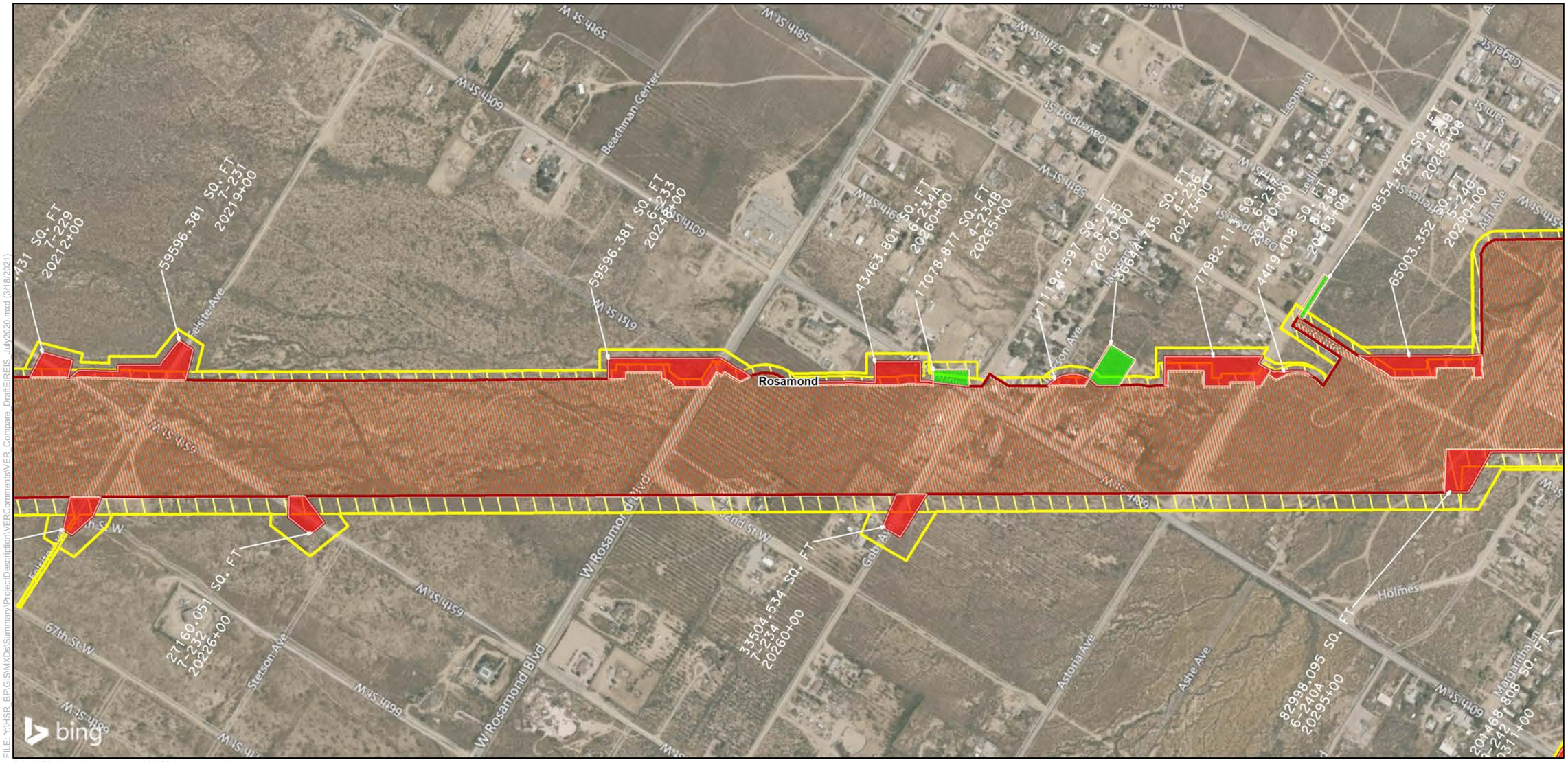
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 64 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

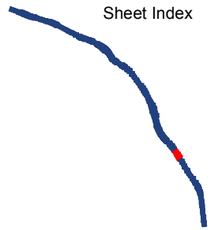
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

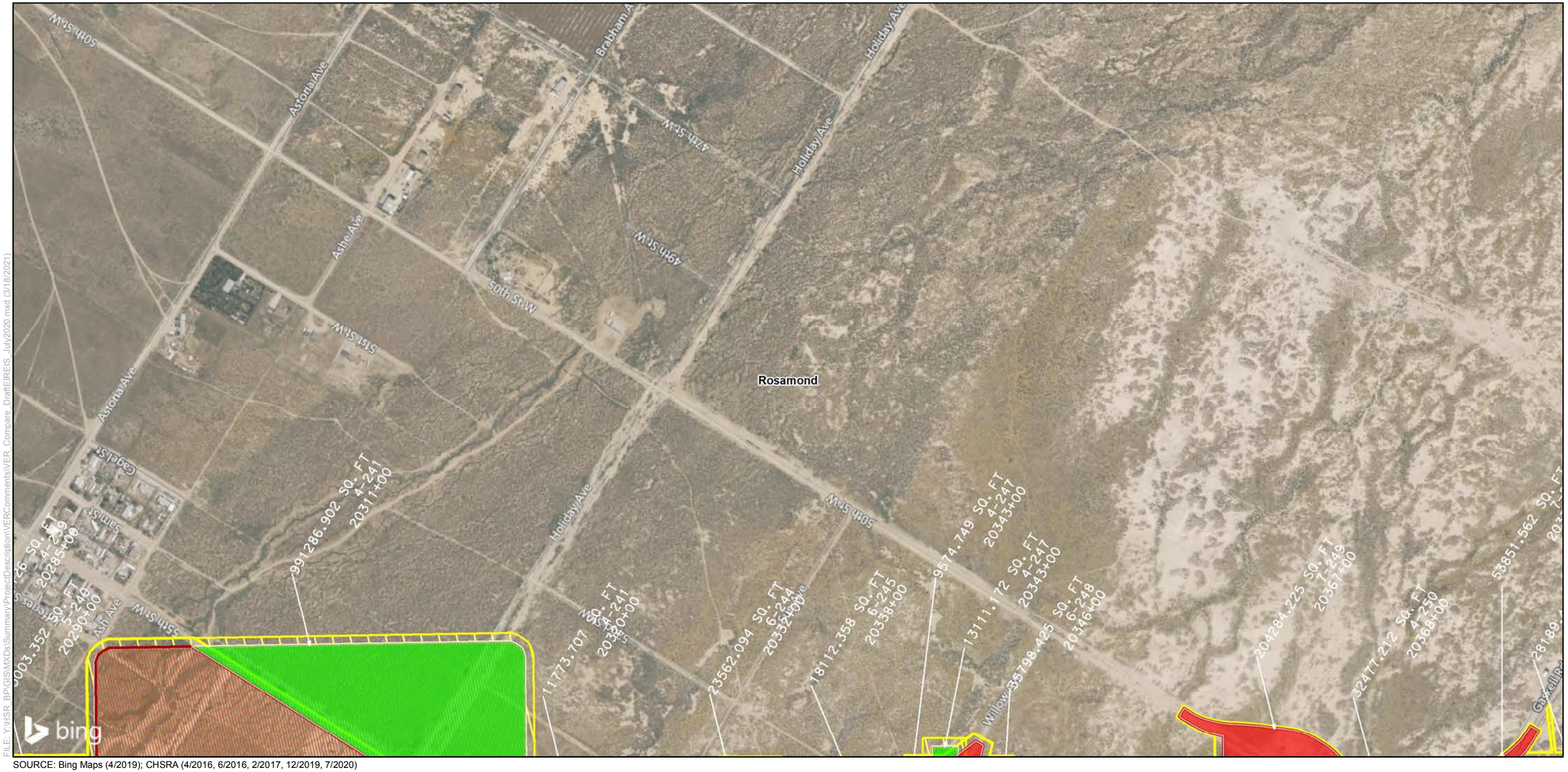
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 65 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

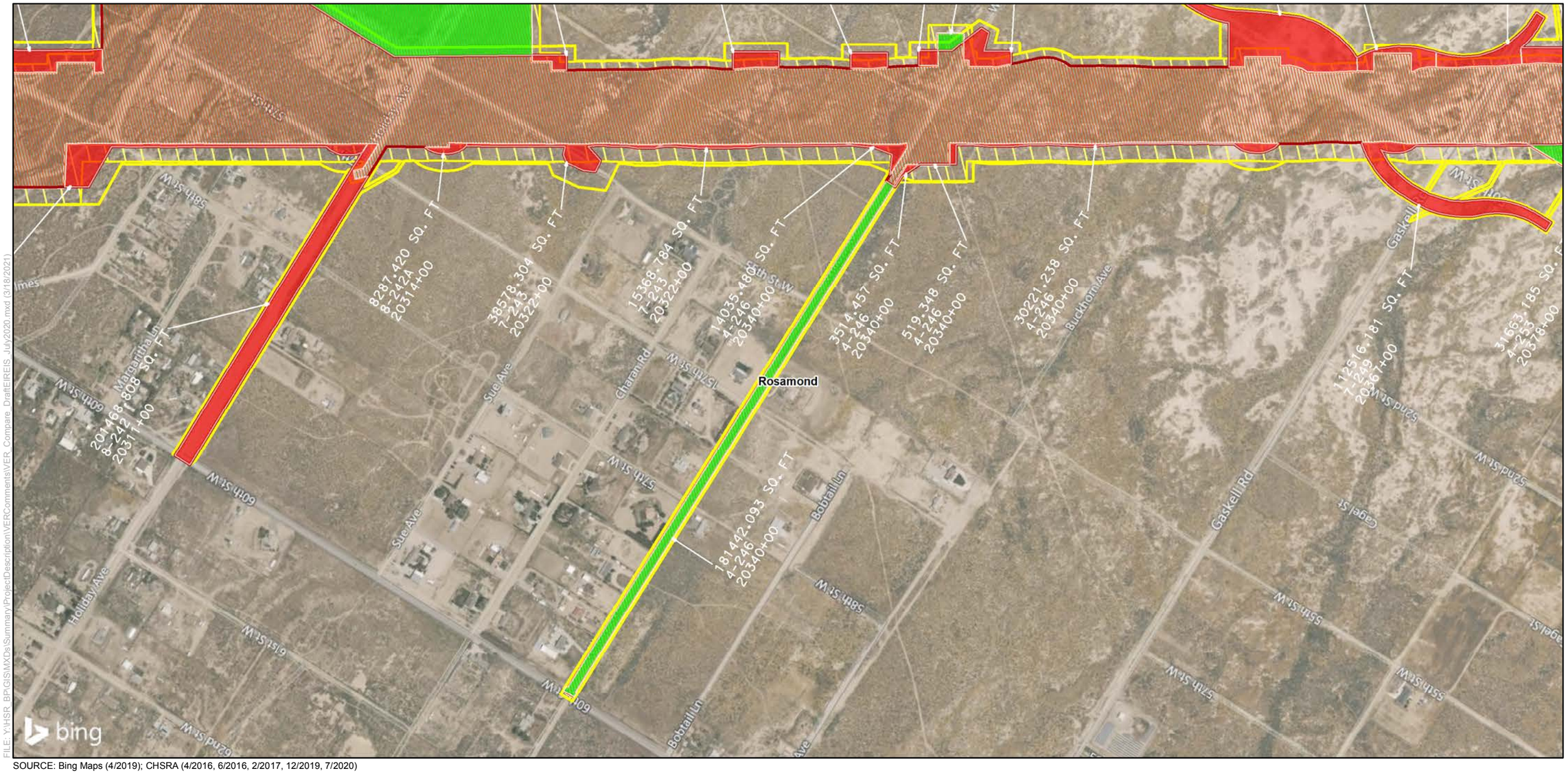
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 66 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

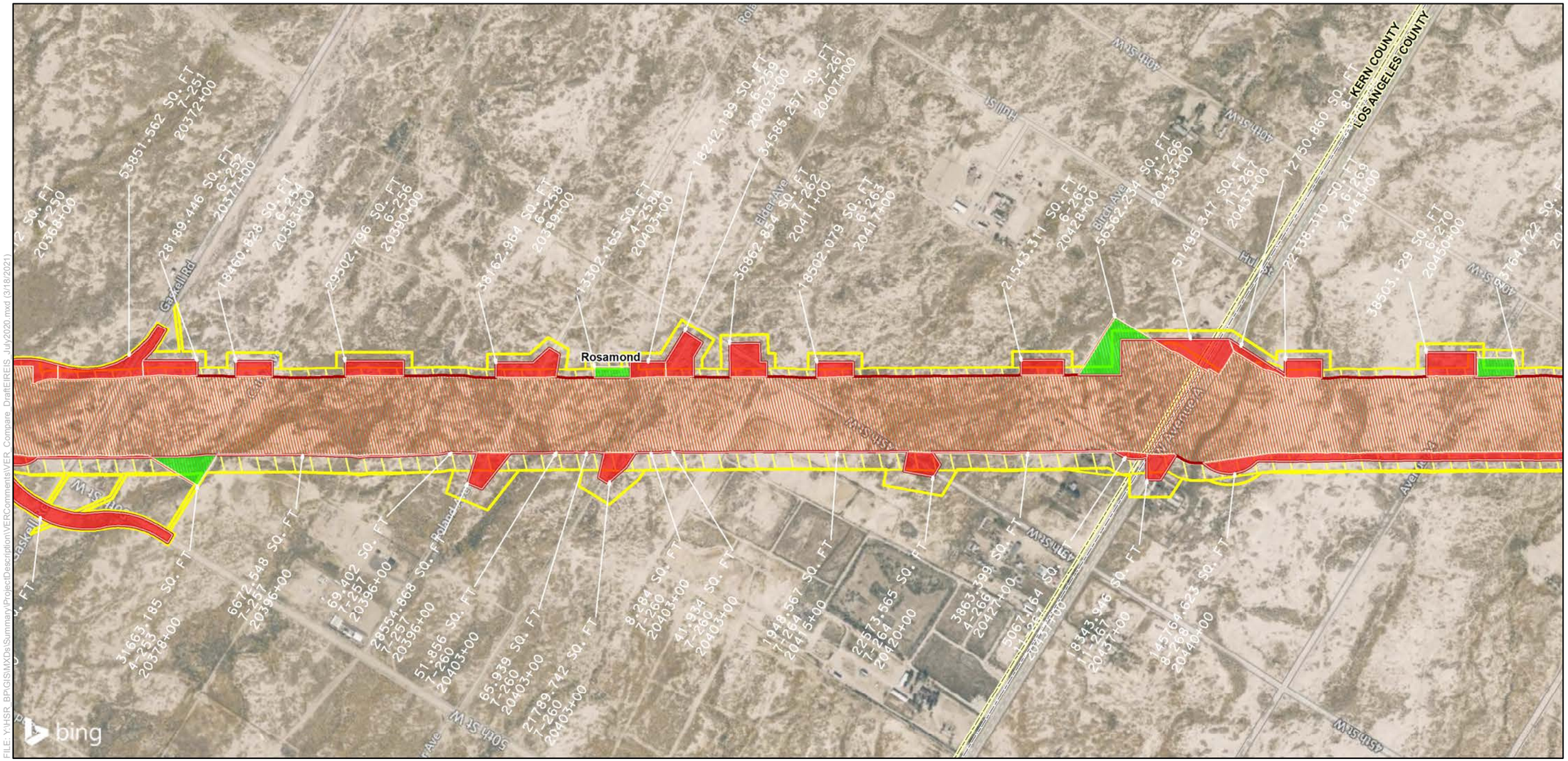
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 67 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

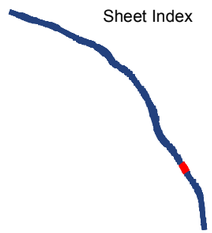
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

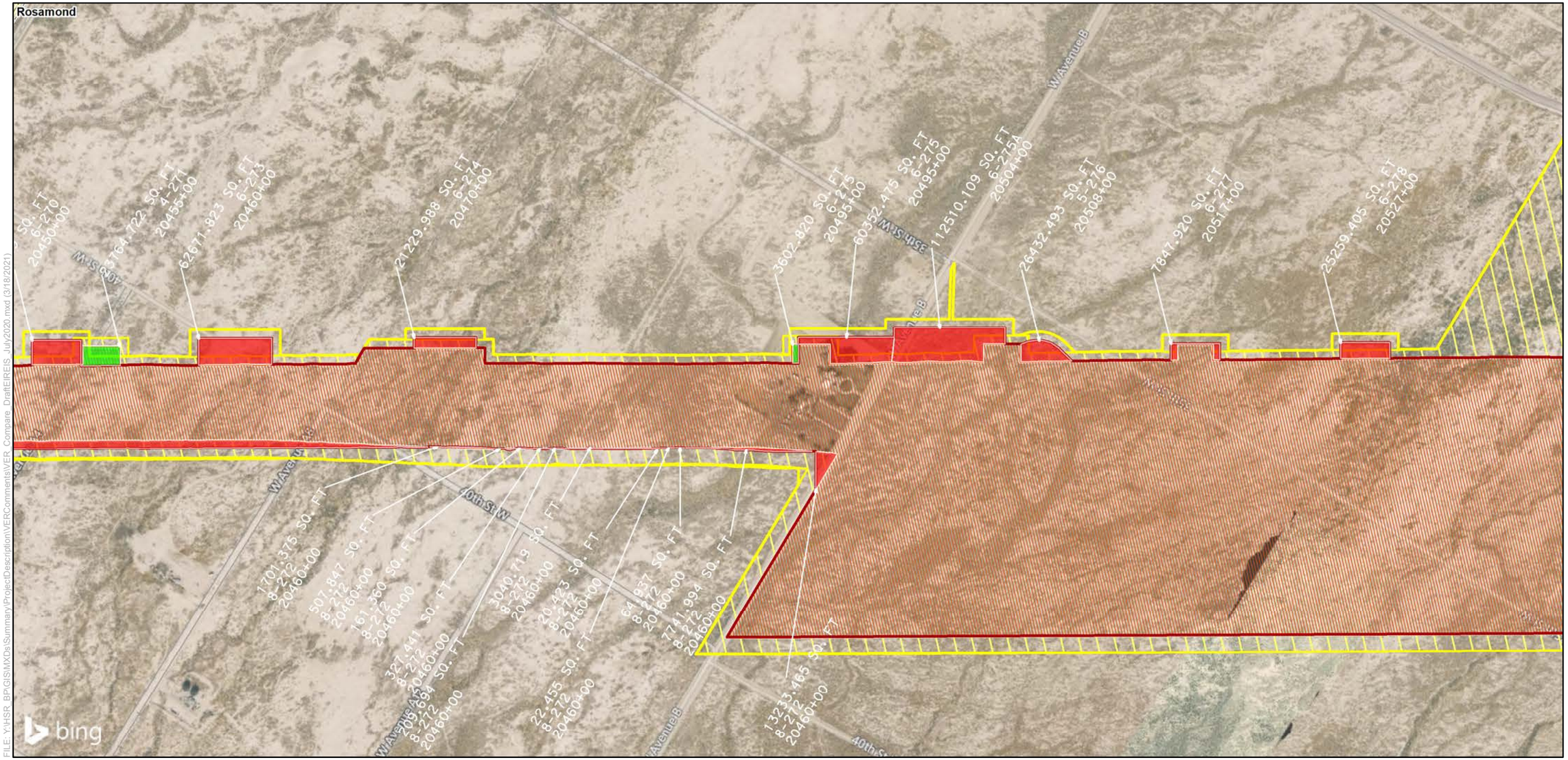
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 68 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

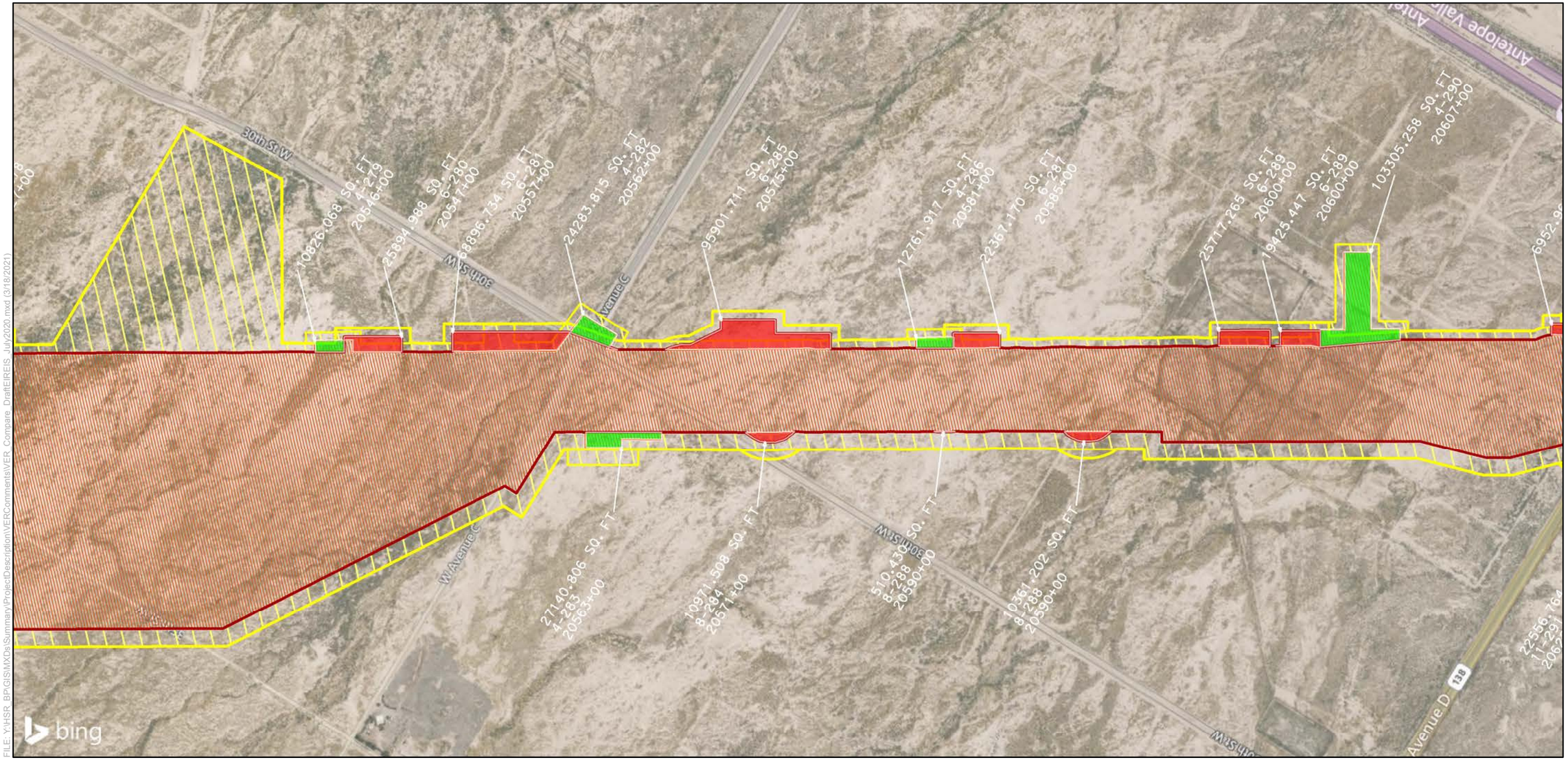
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 69 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

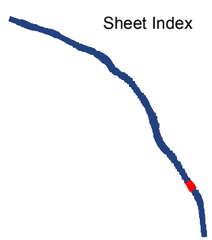
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

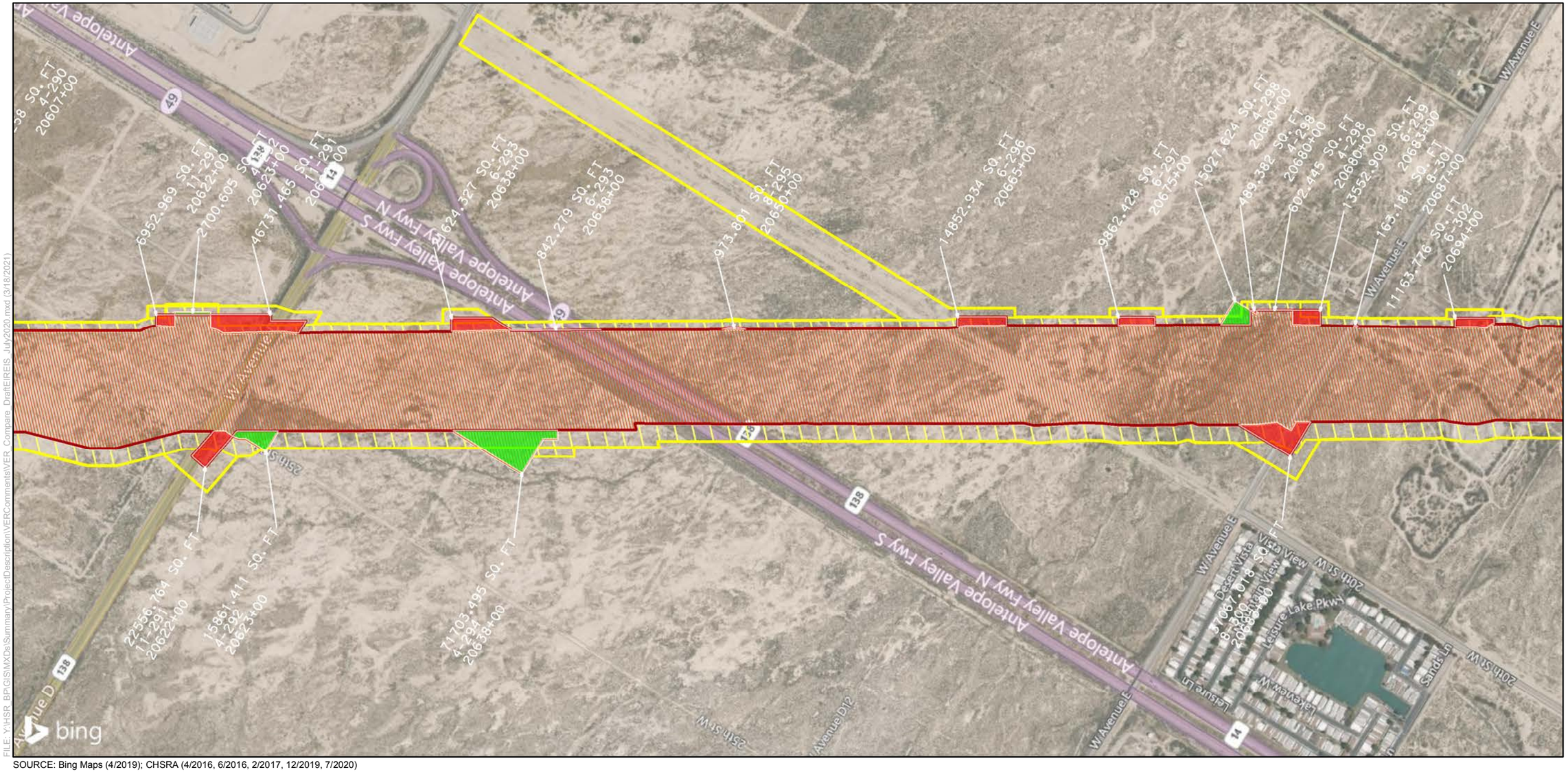
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 70 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

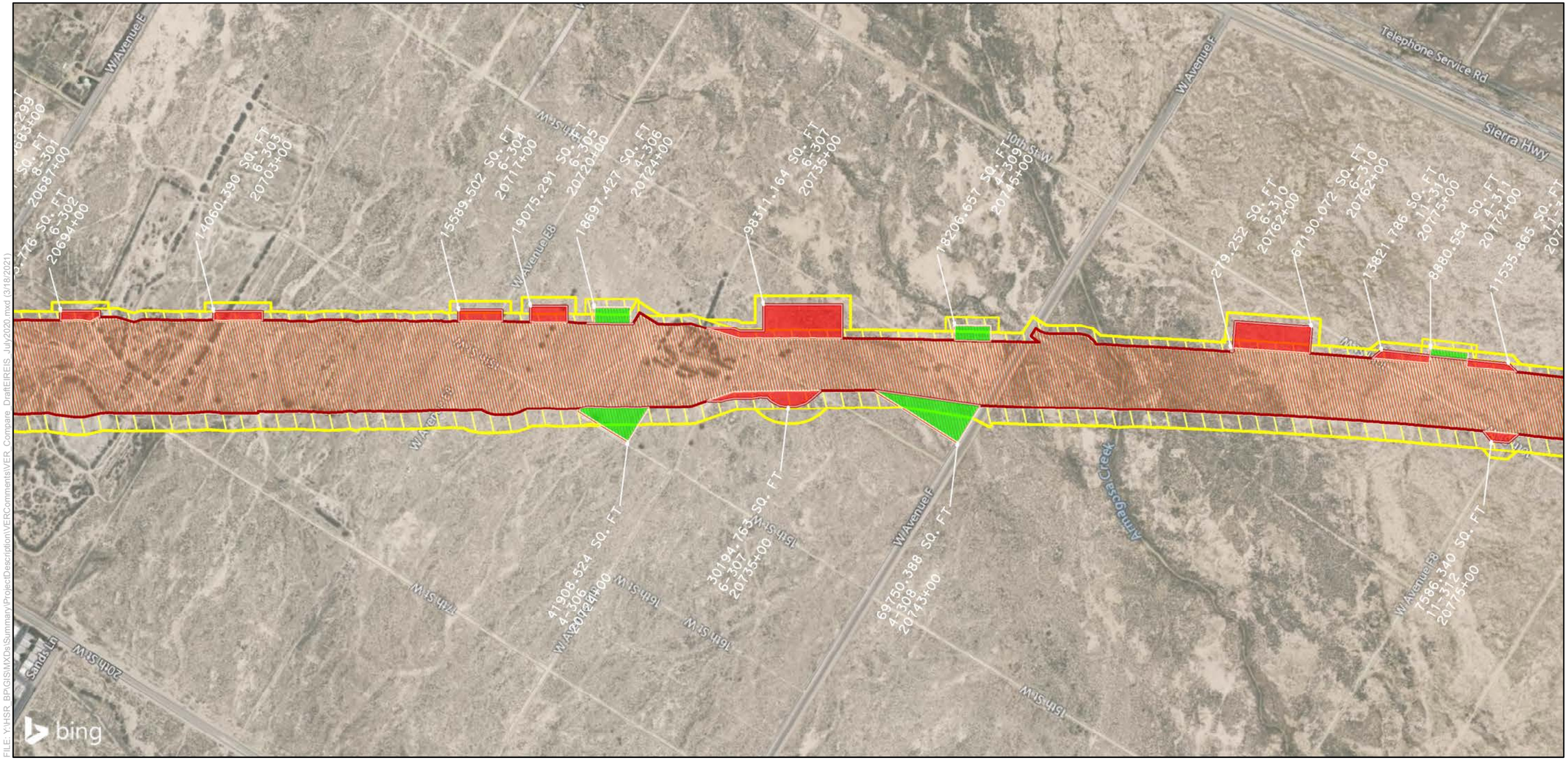
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 71 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

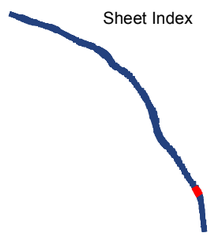
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

0 90 180
Meters

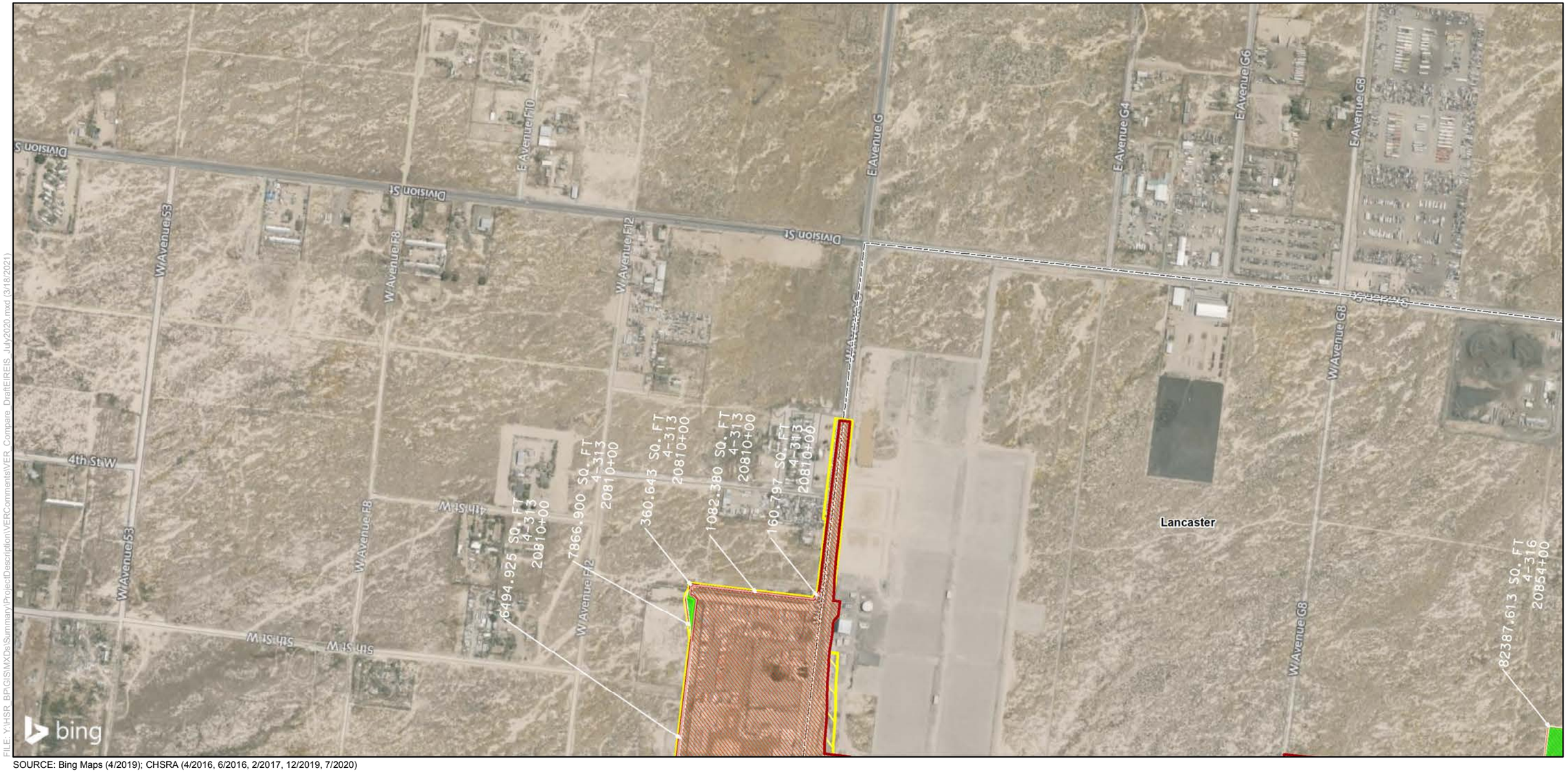
Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**

Sheet 72 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VERComments_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

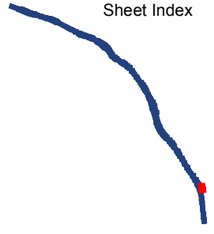
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

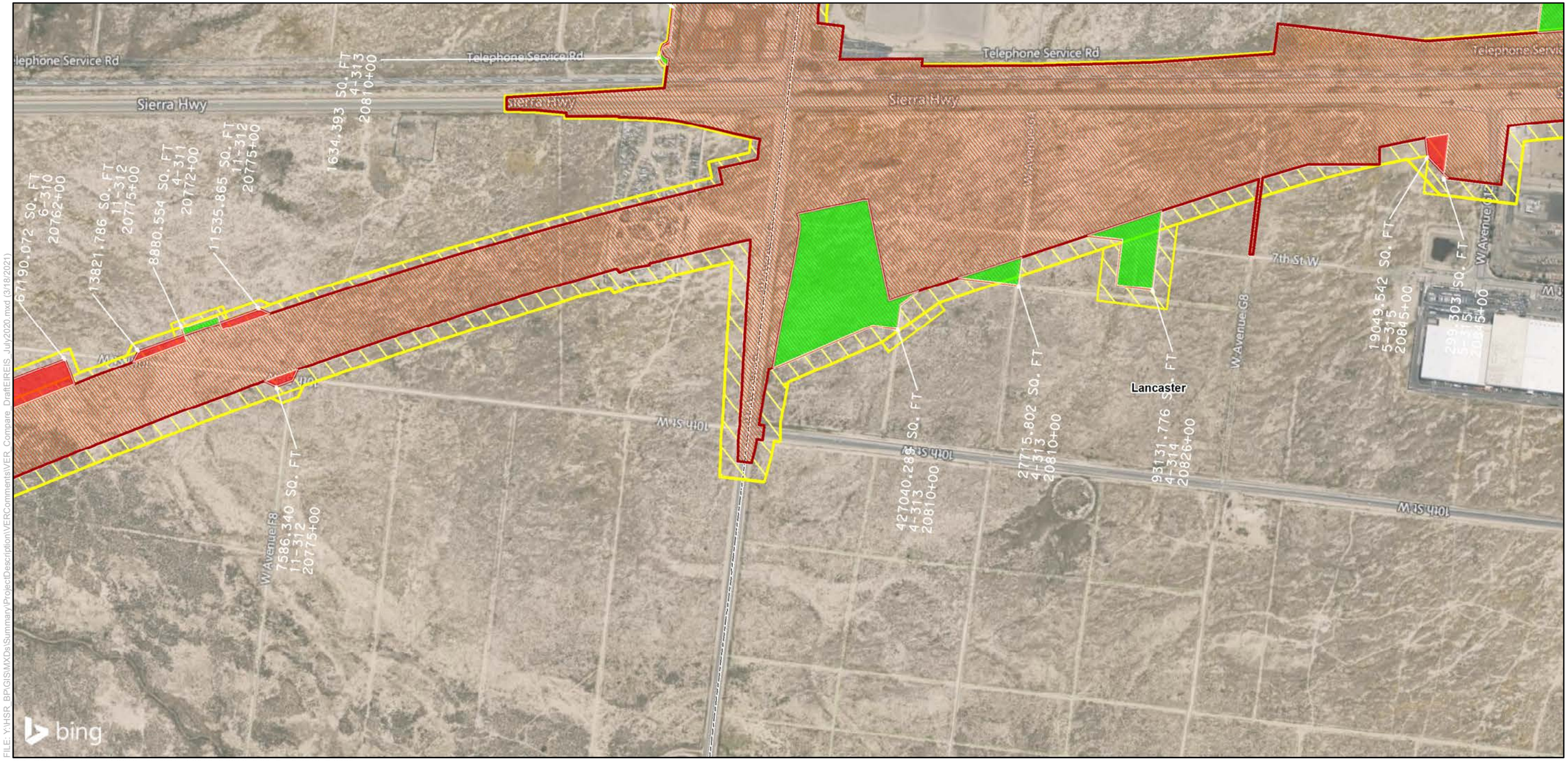
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 73 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

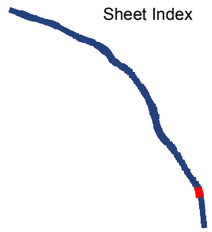
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

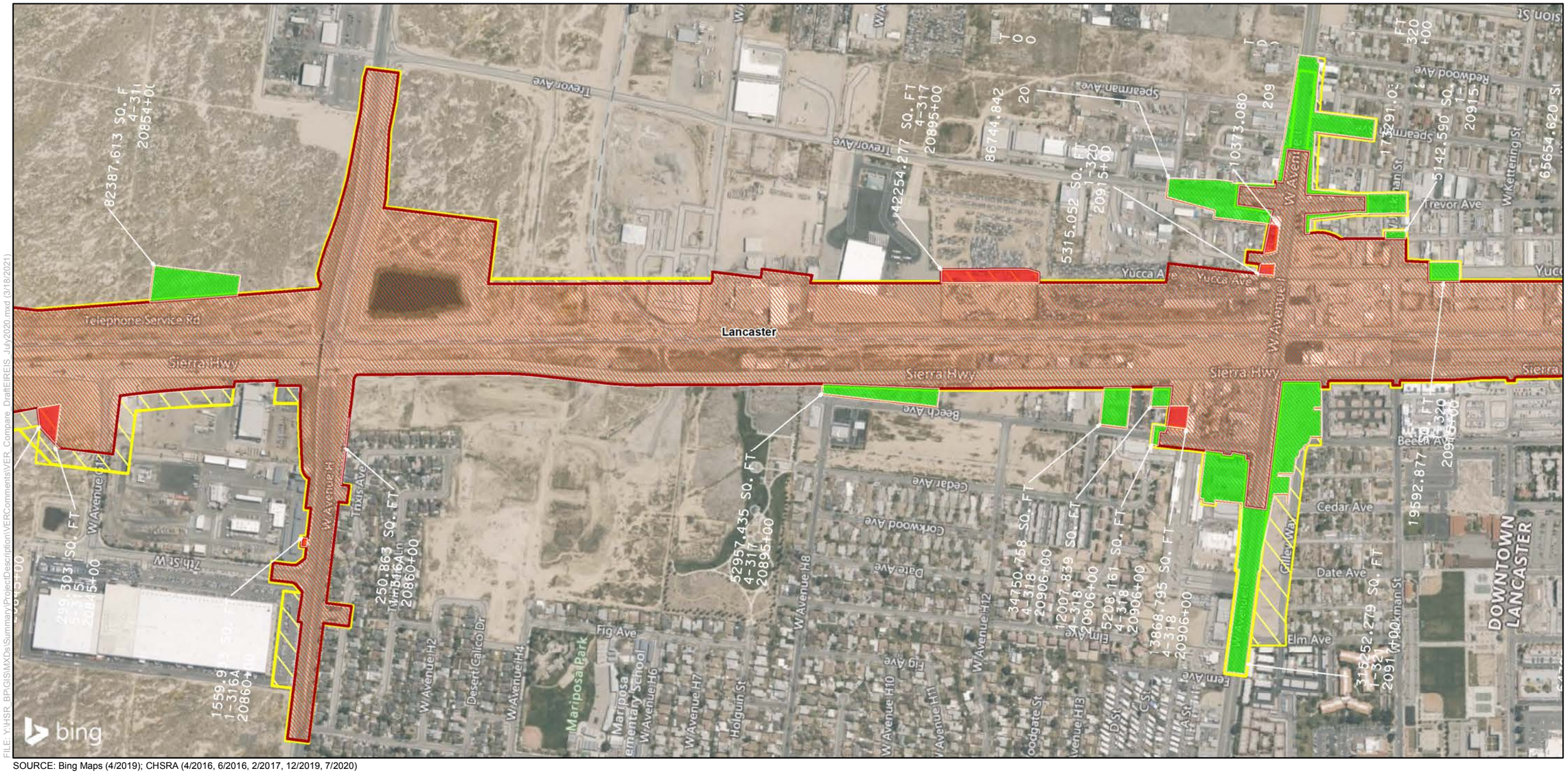
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 74 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\SummaryProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

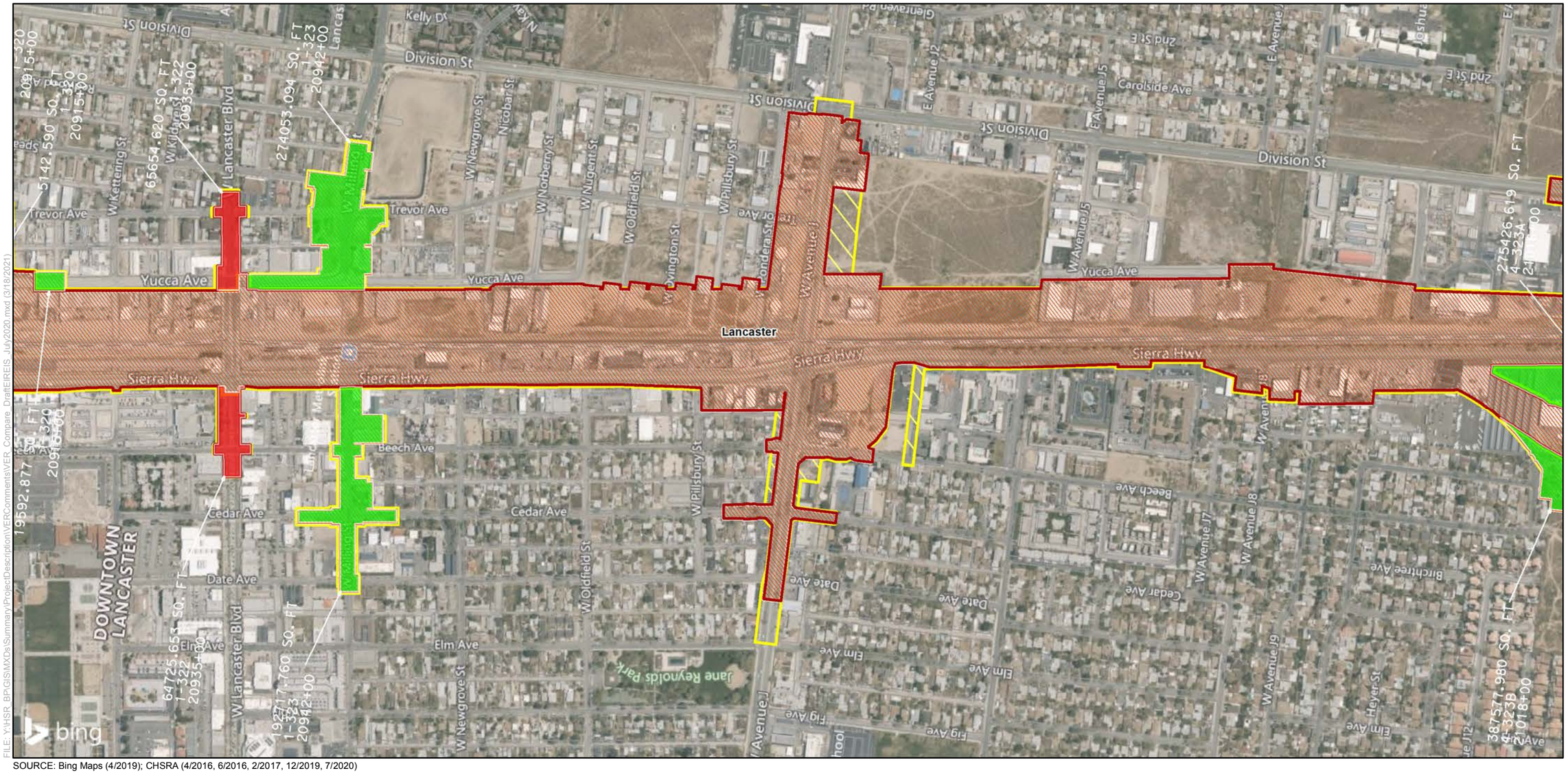
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 75 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VERComments_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

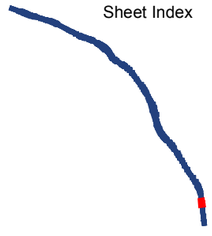
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

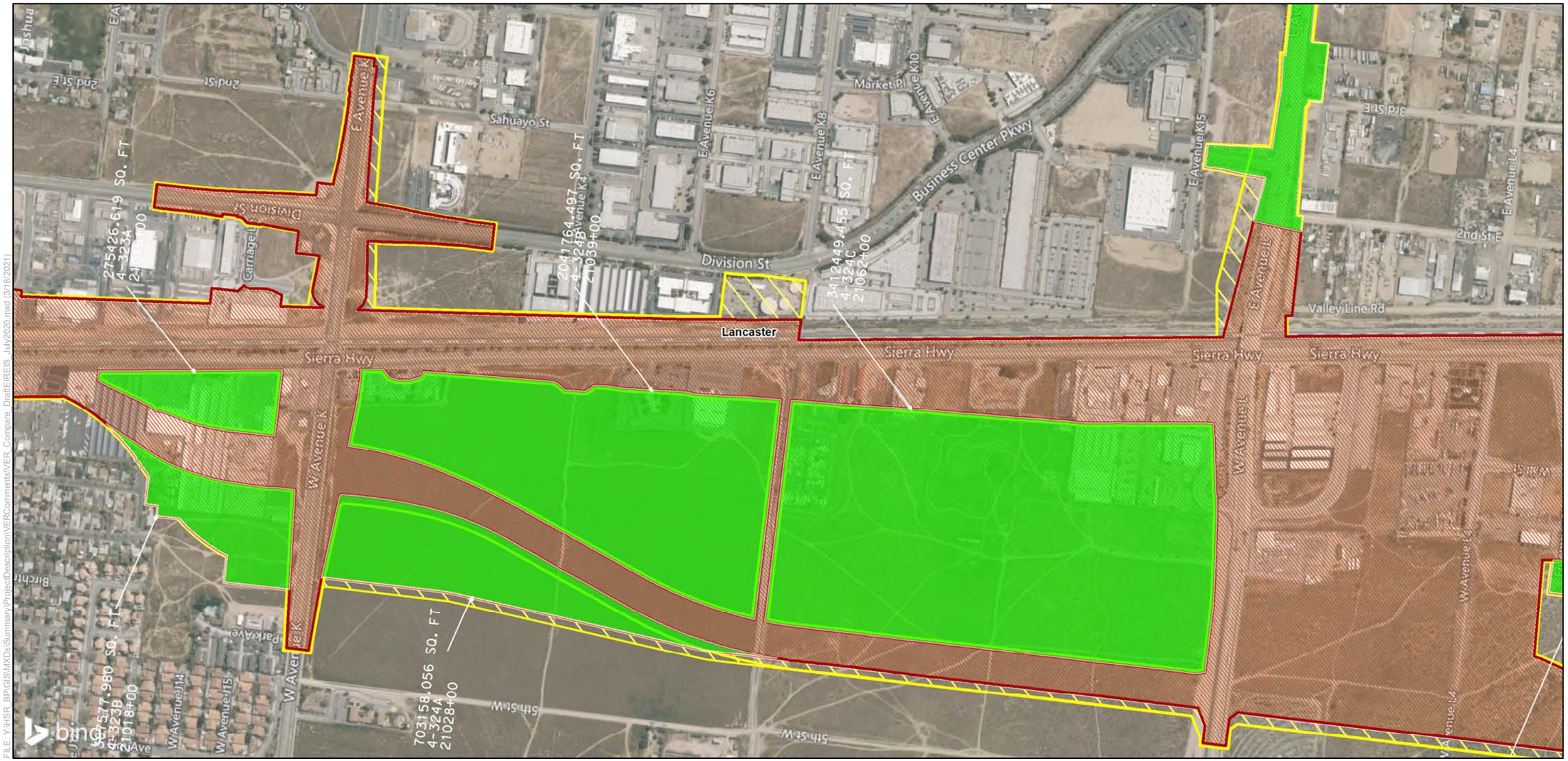
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 76 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescriptionVERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

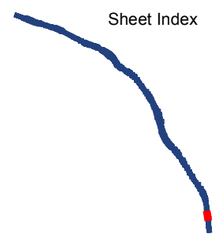
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

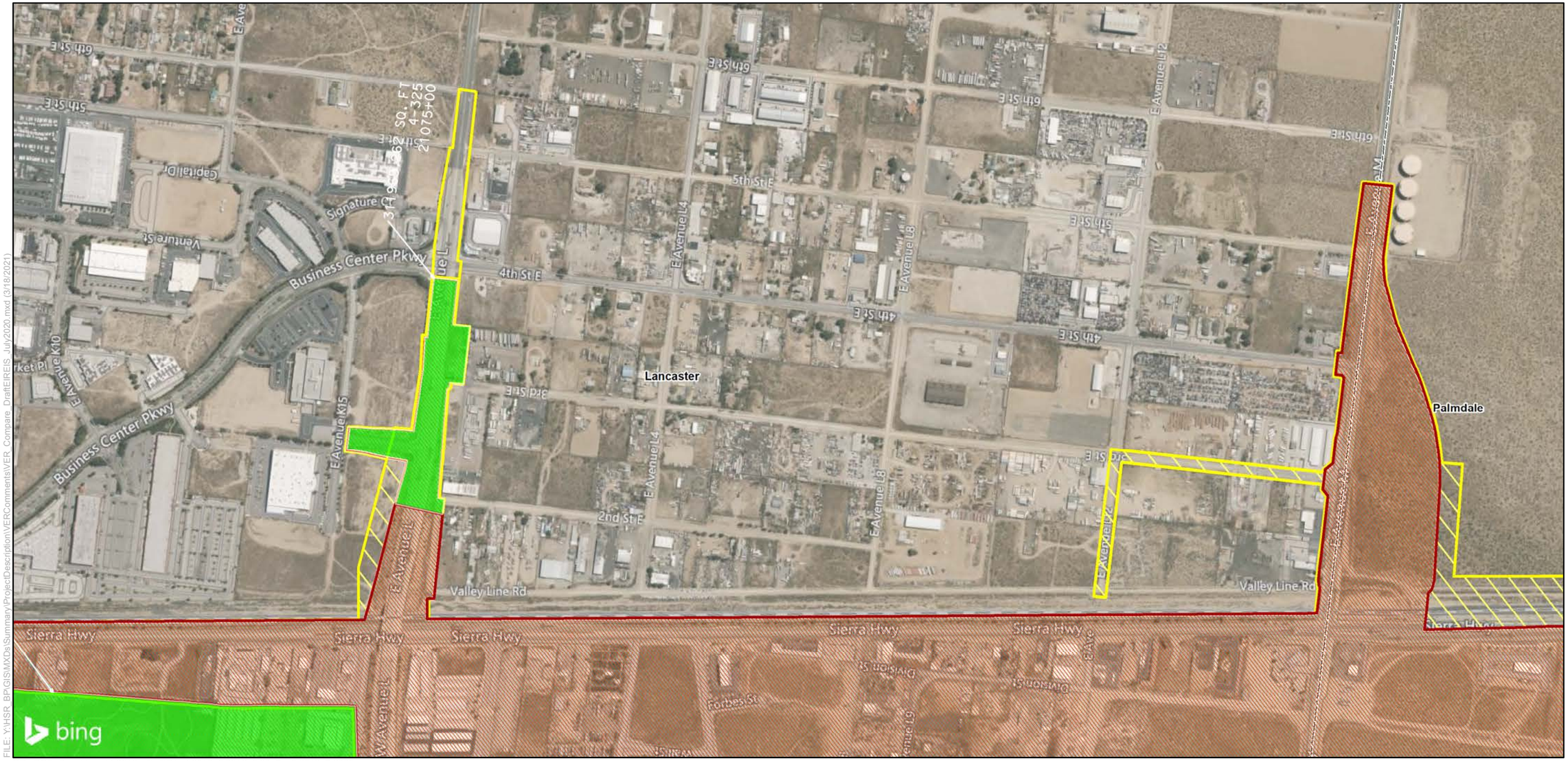
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 77 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

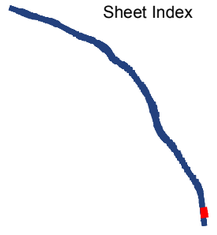
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

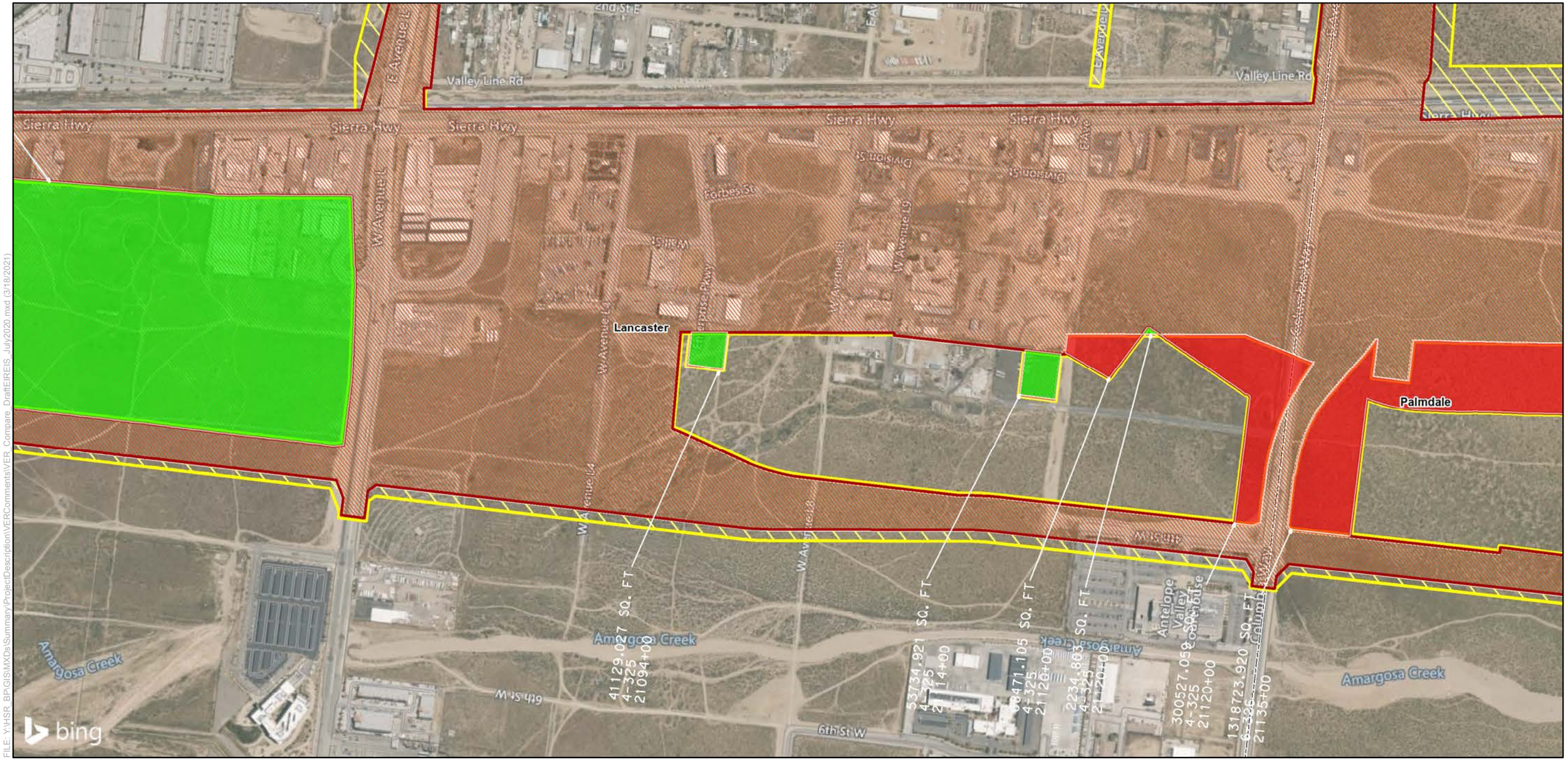
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 78 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

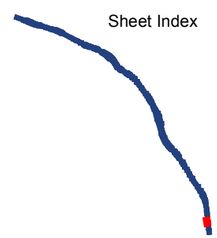
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

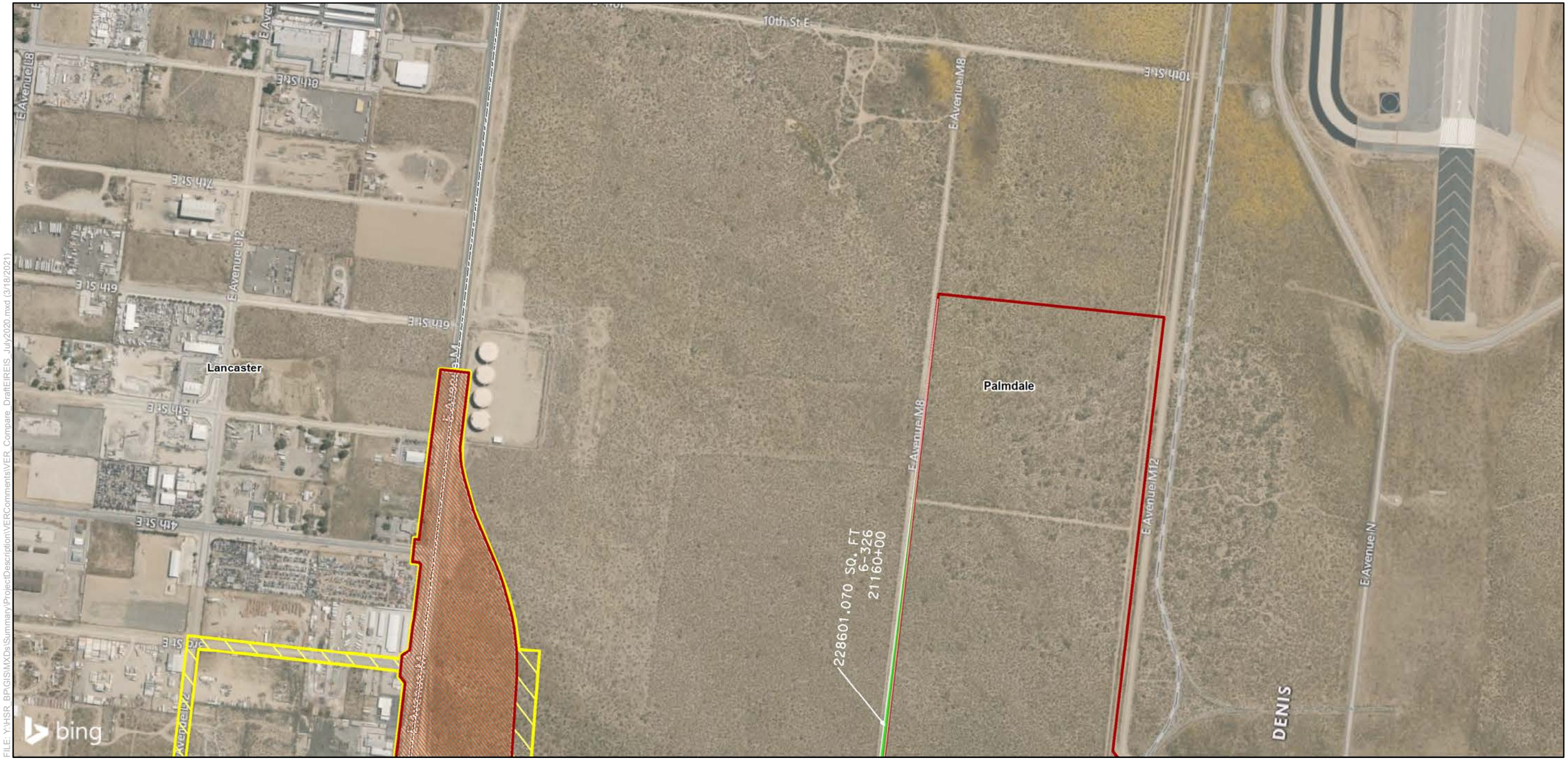
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale Footprint Mapbook**
Sheet 79 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERComments\VERComments_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

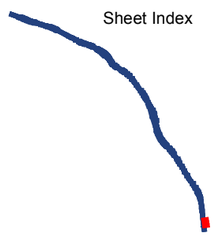
Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

0 300 600
Feet

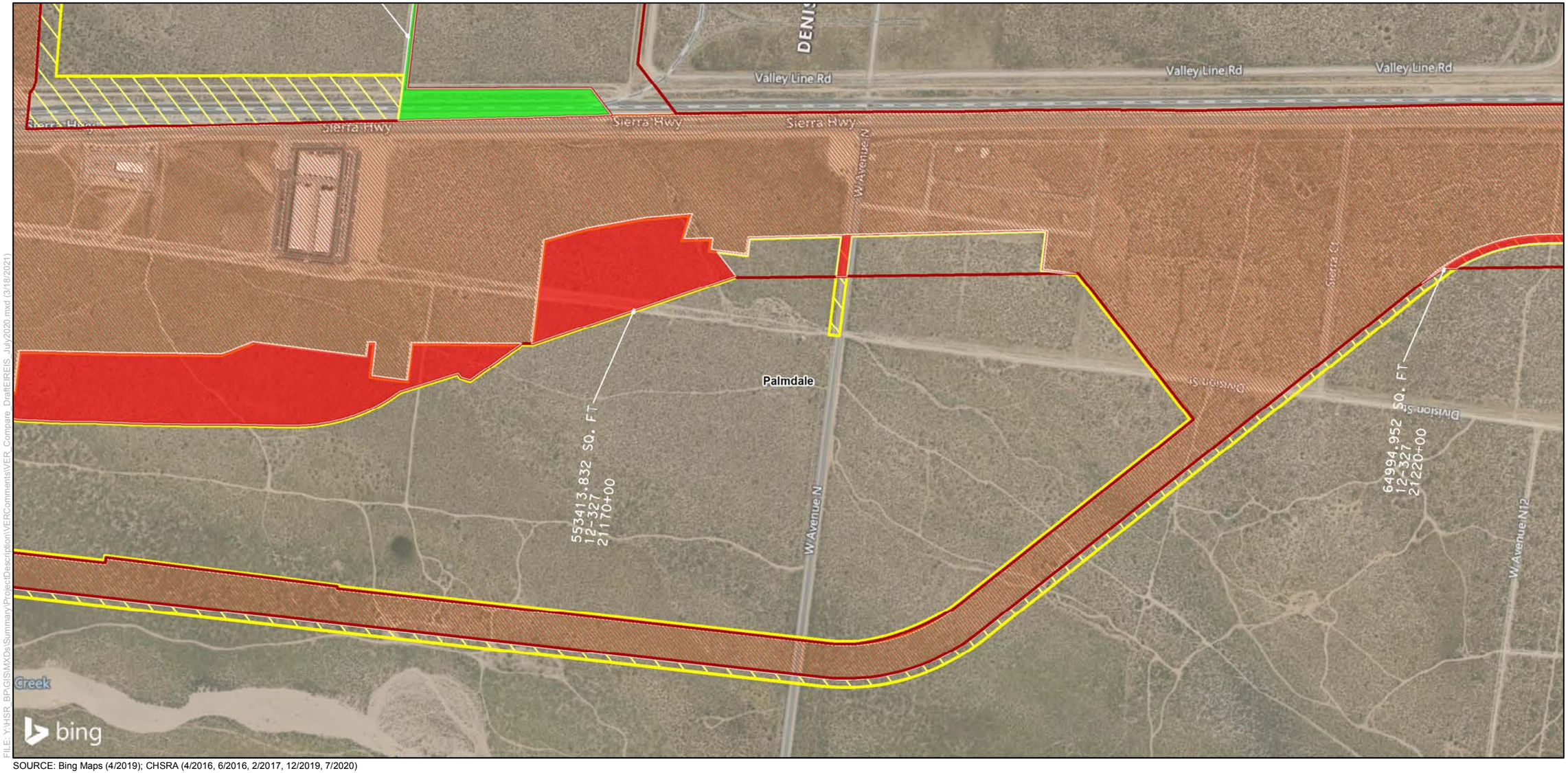
0 90 180
Meters

Sheet Index



**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 80 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

FILE: Y:\HSR_BPG\SMXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

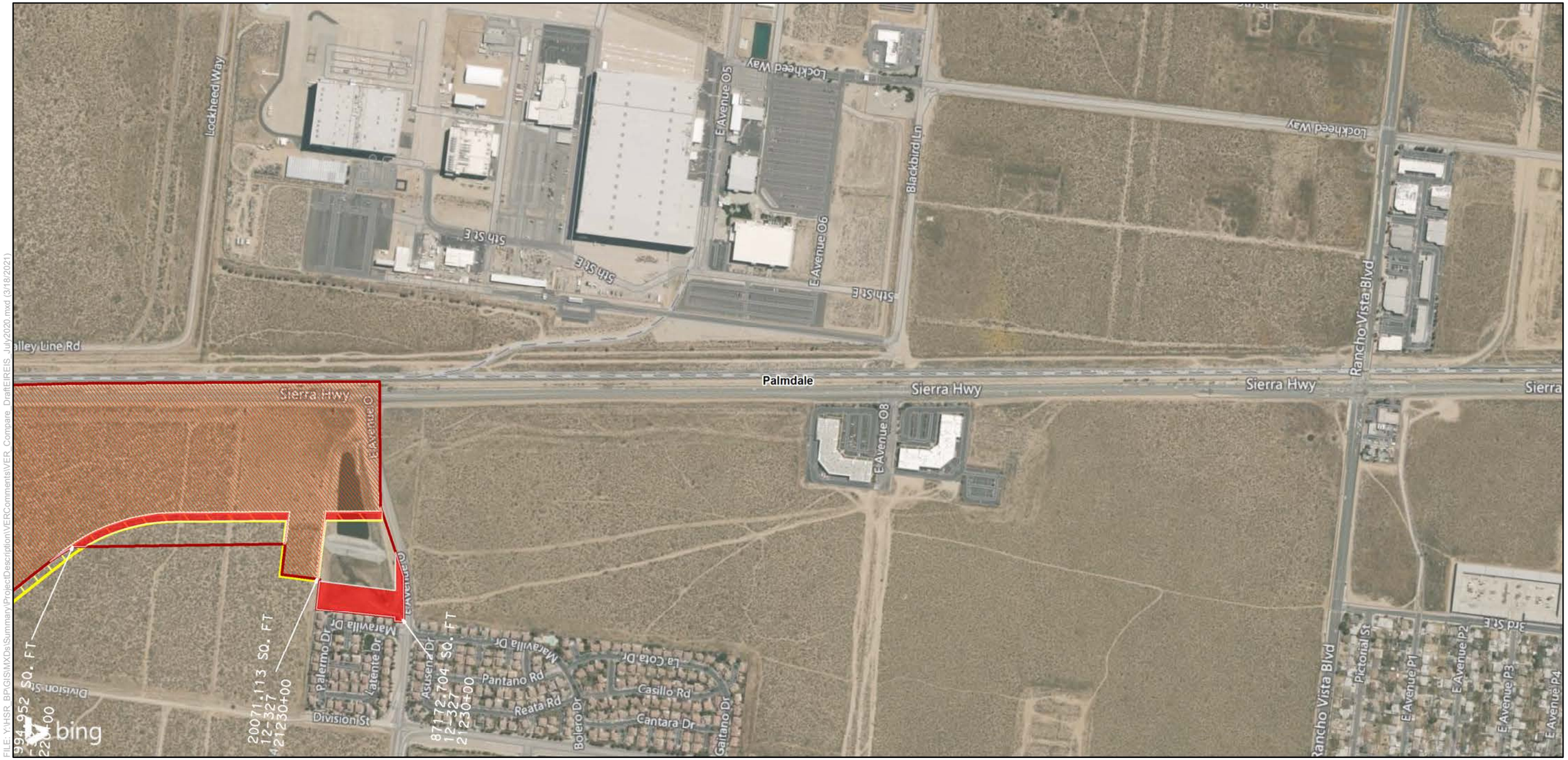
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale**
**Footprint Mapbook**
Sheet 81 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_Compare_DraftEIREIS_July2020.mxd (3/18/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 6/2016, 2/2017, 12/2019, 7/2020)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements)

Impact Areas - for Draft EIR/EIS Volume 3 PEPD
- Permanent Impact
- Temporary Impact

Impact Areas - for 2020 Engineering and Design Refinements
- Permanent Impact
- Temporary Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2020 Engineering and Design Refinements
- Permanent Footprint Increase
- Permanent Footprint Decrease

N

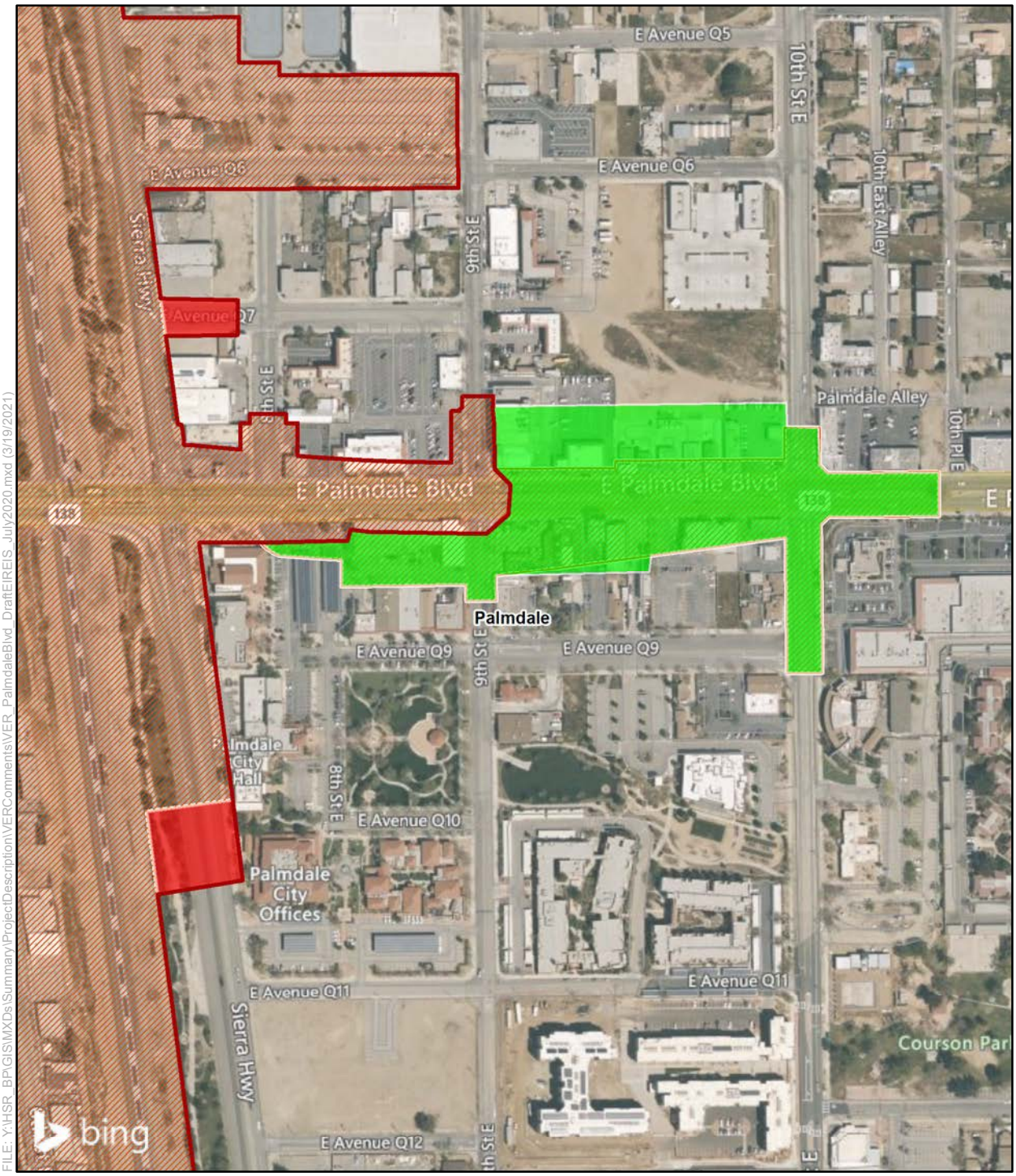
0 300 600
Feet

0 90 180
Meters

Sheet Index

**Bakersfield to Palmdale Footprint Mapbook**
Sheet 82 of 82

Project Footprint Comparison
Between Draft EIR/EIS Volume 3 PEPD and
2020 Engineering and Design Refinements




FILE: Y:\HSR_BP\GIS\MXDs\Summary\ProjectDescription\VERCommentsVER_PalmdaleBlvd_DraftEIREIS_July2020.mxd (3/19/2021)

SOURCE: Bing Maps (4/2019); CHSRA (4/2016, 2/2021)

## Project Footprint Comparison (from Draft EIR/EIS Volume 3 PEPD to 2021 Engineering and Design Refinements)

N

0 175 350
Feet

0 55 110
Meters

Impact Areas - for 2021 Engineering and Design Refinements

Permanent Impact

Impact Areas - for Draft EIR/EIS Volume 3 PEPD

Permanent Impact

Comparison from Draft EIR/EIS Volume 3 PEPD to 2021 Engineering and Design Refinements

Permanent Footprint Increase

Permanent Footprint Decrease

**Bakersfield to Palmdale Footprint Mapbook**

Project Footprint Comparison Between Draft EIR/EIS Volume 3 PEPD and 2021 Engineering and Design Refinements
Palmdale Boulevard

California High-Speed Rail Project Environmental Document

# ATTACHMENT B: ENGINEERING AND DESIGN REFINEMENT FOOTPRINT MODIFICATIONS MAPBOOK

**This page intentionally left blank**

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 5 | CCNM | RCCNM | PA | | |
| **1** | | | | | **Design Revised to Address Public Review Comments and Stakeholder Input** | | | | | | | | | |
| | 316A | 20860 | SB | Addition | Footprint addition to allow for the relocation of the existing driveway. | x | x | x | x | | | x | 1,811 | This area of footprint increase is within an existing parking lot for a City of Lancaster maintenance yard (considered to be a facility of note), which is a site of hazardous waste concern. This VER location is within an area of environmental justice populations (both poverty and non-white). This location is also within the West Mojave Plan boundaries and Western Mojave Desert Tortoise Recovery Plan boundaries. No aquatic resources are present in or near the footprint at this location. The area is considered to have a low to moderate sensitivity for paleontological resources. No agricultural land, species of concern, or critical habitat is located within this area of footprint increase. |
| | 320 | 20915 | NB/SB | Addition/ Reduction | Footprint adjustment to make Avenue I into an undercrossing. This was done in response to a comment from the City of Lancaster. | x | x | x | | | | x | -269,083 | This area of footprint change is within an area of environmental justice populations (both poverty and non-white). No Section 4(f) resources are within or immediately adjacent to the footprint in this area. There are no HCP area lands, aquatic resources, or agricultural lands within the footprint at this VER location. The area is considered to have low to moderate sensitivity for paleontological resources. Grace Resource Center is a resource of note within the footprint area; however, this facility was already impacted by the project and a new impact would not occur here. A City of Lancaster Housing Project Area is planned within the footprint in this area. The specific area of footprint reduction to avoid impacting that facility is at pin 321. Two hazardous materials properties of concern are within or adjacent to the footprint in this area. The footprint change would result in one additional business displacement. |
| | 321 | 20917 | SB | Reduction | Footprint reduced to avoid low-income housing development as part of new Avenue I design. | x | x | x | | | | x | -315,252 | Also refer to pin location 320 for more details regarding the footprint at Avenue I. A City of Lancaster Housing Project Area is planned within the footprint in this area. At this pin, the footprint is reduced and now avoids impacting that facility. |
| | 322 | 20935 | NB/SB | Addition | Footprint adjustment to make Lancaster Boulevard into an undercrossing. This was done in response to a comment from the City of Lancaster. Previously Lancaster Boulevard was being cut off at HSR; they asked that it maintain its connection across HSR and as part of this comment, to not make the Milling Street connection. | x | x | x | x | | | x | 130,380 | The new footprint area associated with these two engineering refinements is urbanized and no biological resources are present. At pin location 322, the footprint extension easterly and westerly at W Lancaster Boulevard is located within an area of environmental justice populations (both poverty and non-white). Lancaster Boulevard would be temporarily closed for construction, but the overall impact to environmental justice populations would not change from what was described in the Draft EIR/EIS. There is a single historic resource and Section 4(f) property within the new footprint area at 332 W Lancaster Boulevard. Construction of the underpass would not require removal of, physical destruction of, or damage to any character-defining features of this historic property. The project proposes to demolish the low retaining wall on the Lancaster Boulevard side of the property; however, this |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | retaining wall is not character-defining of the historic property and this proposed action would not cause an adverse effect. This is considered a *de minimis* impact under Section 4(f) for this resource. Section 4(f) cultural resource properties are also immediately adjacent to the expanded footprint along Lancaster Boulevard. However, no direct impacts would occur to adjacent properties, and as the properties currently face an existing roadway, constructive use would also not take place. Further, the VER has no potential to adversely affect Cedar Avenue Historic District/Cedar Avenue Complex. The area is not within an HCP area or agricultural lands as classified by the California FMMP. Aquatic resources are not present within the expanded footprint. The location is not within a 100-year floodplain area. The area is considered to have low to moderate sensitivity for paleontological resources. The expanded footprint impacts the frontage of the Los Angeles County Sheriff's Lancaster Station building along Lancaster Boulevard, but no direct impacts to the building itself would occur. No known hazardous materials properties of concern are located within the additional footprint area. |
| | 323 | 20942 | NB/SB | Reduction | This footprint reduction is based on a comment from the City of Lancaster to no longer connect Milling Street across HSR. | x | x | x | x | | | x | -466,771 | The footprint reduction at Milling Street potentially avoids two properties of hazardous waste concern (leaking underground storage tank [LUST] cleanup site located at the northwest corner of the intersection of Sierra Highway and W Milling Street, and a Lancaster Moving and Storage LUST cleanup site along Yucca Avenue just north of W Milling Street) immediately adjacent to the footprint. |
| | 131 | 19015 | NB/SB | Addition | Access road added around the tunnel portal based on a comment received from the City of Tehachapi. | x | x | x | x | | | x | 482,896 | The addition of an access road in this location extends beyond the previously defined APE/ASA boundary. It is also within an area of environmental justice populations (both poverty and non-white). The area is considered to have moderate to high sensitivity to paleontological resources and is within "grazing land" as classified by the California Farmland Mapping and Monitoring Program. It is also within an area identified as City of Tehachapi future expansion area as identified in the City's General Plan. No CNDDB species of concern have been identified at this location. Greenways- Antelope Run, a park/recreational resource not subject to Section 4(f), is within the temporary impact limits of the access road near the Tehachapi Hospital. No known hazardous materials locations are present. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 132 | 19020 | NB | Addition/ Reduction | Minor footprint adjustment due to revised tunnel portal grading. | x | x | x | x | | | x | -31,974 | The footprint modifications in this area are within an area of environmental justice populations (both poverty and non-white). The area ranges from not sensitive to a low to moderate sensitivity for paleontological resources, and is entirely within Grazing Land as defined by California's Farmland Mapping and Monitoring Program. A small sliver of footprint reductions associated with this VER also lie within area defined by the City of Tehachapi General Plan as future expansion area. No known CNDDB species of concern are located in the area. The location is adjacent to the Tehachapi Creek Fault Zone. No known hazardous materials are located in the area. |
| | 135 | 19060 | NB | Addition | Moved the Challenger Drive TPS site to this location based on a comment received from the City of Tehachapi. This change ranges from 19060 to 19100 due to the access road and interconnect needed to connect to this TPS site. | x | x | x | x | | | x | 293,198 | The expanded footprint in this area has a sliver of temporary impact identified beyond the previously defined APE/ASA boundary. It is within an area of environmental justice populations (both poverty and non-white). No Section 4(f) resources or HCP areas have been identified within this area of footprint increase. The area is considered to be of low to moderate sensitivity for paleontological resources, and is within grazing land as classified by the California Farmland Mapping and Monitoring Program. It is also within land identified by the City of Tehachapi's General Plan as future expansion area. No CNDDB species of concern are located within the area. The footprint increase is within an identified fault zone (Tehachapi Creek Fault Zone). No known areas of hazardous materials are located in the area. |
| | 139A | 19100 | SB | Addition/ Reduction | Change to accommodate comments received from the City of Tehachapi to lower the profile in the Tehachapi Valley and allow for a future station. Footprint reduction along west side of the alignment due to lower profile | x | x | x | x | | | x | -676,590 | This area of change reduces footprint within Greenways – Antelope Run, a park/recreation resource not subject to Section 4(f), which it traverses. It also reduces footprint within California FMMP grazing land, as well as land classified by the City of Tehachapi as future expansion area per the City's General Plan. |
| | 147 | 19190 | NB/SB | Addition/ Reduction | Change to accommodate comments received from the City of Tehachapi to lower the profile in the Tehachapi Valley and allow for a future station. This change caused several other changes; it moved the MOIS site from the west side to the east side. It also required two existing roads that were going under HSR to now have to go over HSR (Highline and Tehachapi Willow Springs Road (TWSR). It also caused the realignment of Valley Boulevard to tie into Steuber Road. It moved several drainage features to allow | x | x | x | x | | | x | 3,380,257 | A lower HSR profile in the Tehachapi Valley would reduce potential visual impacts. The new footprint area is outside of the archaeological survey area; there are no previously recorded archaeological or historic resources in the new footprint area. The entirety of the footprint adjustments made at this VER location are within an area of environmental justice populations (both poverty and non-white). No Section 4(f) resources are within the project area at this location. The location is not within an HCP area. Several hydrology resources (streams) are present within the footprint area. The area is considered to have a low to moderate sensitivity for paleontological resources. The area is within Grazing Land as classified by the California FMMP. The area is identified in the City of Tehachapi's General Plan as future expansion area. The expanded temporary impact limits are within a location of CNDDB species of concern (Tehachapi pocket mouse) Highline Road. However, although there are changes to floodplain encroachments due to |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for rock slope protection and sufficiently sized basins. It slightly rerouted a large drainage course to go in culverts instead of under a viaduct at Highgate. It changed the configuration of a TPS site and the access road for the TPS site. | | | | | | | | | the design refinements, overall there is no change to proposed water surface elevations at this location. |
| | 148 | 19190 | NB/SB | Reduction | Change to accommodate comments received from the City of Tehachapi to lower the profile in the Tehachapi Valley and allow for a future station. Footprint reduction along west side of the alignment due to lower profile. | x | x | x | x | | | x | -697,363 | The footprint reduction in this area is within California FMMP grazing land, as well as land identified by the City of Tehachapi as future expansion area in the City's General Plan. |
| | 7 | 17386 | SB | Addition | Morning Drive design changed to allow better traffic circulation and avoid impact to AT&T facility. HSR profile also lowered resulting in a shorter HSR viaduct. Changed from Sta. 17395 to 17450. Design change resulting from Stakeholder interactions. | x | x | x | x | | | x | 70,657 | The footprint addition in this area is partially outside of the 2017 APE boundary. It is within environmental justice population (both poverty and non-white) and HCP areas, as well as within a 100-year floodplain. |
| | 8 | 17397 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -403,647 | The footprint reduction around Weedpatch Highway/SR 184 is in the same area as the footprint modifications described in pin location 13. The location falls within HCP areas (Upland Species of the San Joaquin Valley Recovery Plan). The reduced footprint is in the area of a hazardous materials property of concern (Fleet Card Exxon, a LUST cleanup site). The reduced footprint is within a 100-year floodplain. The reduced footprint at this VER location results in the avoidance of a single business displacement. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13 | 17450 | NB/SB | Addition/ Reduction | Morning Drive design changed to allow better traffic circulation and avoid impact to AT&T facility. HSR profile also lowered resulting in a shorter HSR viaduct. Changed from Sta. 17395 to 17450. Design change resulting from Stakeholder interactions. | x | x | x | x | | | x | 1,089,171 | The lower HSR profile of the redesigned Morning Drive grade separation would reduce potential visual impacts and the engineering refinement would avoid impacting the existing AT&T facility. Additional impacts to properties would occur on the northeast side of Morning Drive/Weedpatch Highway. The new footprint area is urbanized and no biological resources are present. However, the new footprint area does fall within Habitat Conservation Program (HCP) area (Upland Species of the San Joaquin Valley Recovery Plan). This area of expanded footprint is within a freshwater pond/drainage basin (coded as PABKx in the National Wetland Inventory, which specifies it was excavated by humans and is artificially flooded) located northeast of the Morning Drive/Edison Highway intersection. Overall, the area is considered to have low to moderate sensitivity to paleontological resources. The area is within Grazing Land and Prime Farmland as defined by the California Farmland Mapping and Monitoring Program (FMMP).The area is within the Edison Fault Zone. The area is partially within a 100-year floodplain. The new footprint area was surveyed for archaeological resources in 2015 and none were identified. There are no Section 4(f) properties within the new footprint area. |
| | 123 | 18730-18810 | SB | Addition/ Reduction | Revised relocated SR 58 in the Marcel area to address minimum desirable slope ratio and allow for rock slope protection for the cross drainage. Typical cross-section adjustment to allow for two drainage ditches and maintenance access. | | | | | | x | x | 913,385 | This area of footprint modification is within an area of environmental justice populations (both poverty and non-white). Some of the footprint additions associated with this VER extend beyond the APE/ASA boundary as previously defined. This VER is in the vicinity of archaeological resource P-15-001042. The Authority would determine the NRHP eligibility and applicable NRHP criteria for archaeological sites following a phased evaluation process. No Section 4(f) resources or HCP areas are present. The expanded footprint area south of the alignment could have increased impacts to aquatic resources including a wetland and Tehachapi Creek, as well as additional encroachments into the 100-year floodplain. This area is considered not sensitive for paleontological resources. The increased footprint is within Grazing land as classified by the California Farmland Mapping and Monitoring Program, as well as Williamson Act parcels. Similarly, the increased footprint is within Loop Ranch Properties area. No known CNDDB species of concern or known hazardous materials locations are present within the area. The area is within the Tehachapi Creek Fault Zone. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 125 | 18845 | NB/SB | Addition | Footprint added around straddle bents at sta. 18845. This was included in the current (2016) Alt 1, 2, 3, 5 footprints, but omitted in the Preferred Alternative footprint. | | | | | | x | x | 78,314 | This area of footprint modification is within an area of environmental justice populations (both poverty and non-white). No Section 4(f) resources or HCP areas are present. The expanded footprint is within areas of 100-year floodplain, riverine wetland, and Tehachapi Creek immediately south of SR 58, as well as Grazing Land as classified by the California Farmland Mapping and Monitoring Program and Williamson Act parcels. Similarly, the expanded footprint is within Loop Ranch Properties land. The additional footprint on the north of SR 58 is within the Tehachapi Creek Fault Zone. No known hazardous materials or CNDDB species of concern are mapped within the additional footprint area. |
| | 126 | 18880 | SB | Addition | Add straddle bent near sta. 18880+00 per Caltrans comment. | | | | | | x | x | 8,911 | These two areas of footprint addition south of SR 58 are within an area of environmental justice populations (both poverty and non-white). No Section 4(f) resources or HCP areas are present. The expanded footprint is within Tehachapi Creek and a 100-year floodplain also on the south side of SR 58. The area is Grazing Land as classified by the California Farmland Mapping and Monitoring Program, but not within Williamson Act parcels or Loop Ranch Properties land. No known hazardous materials or CNDDB species of concern are mapped within the additional footprint area. |
| | 143 | 19160 | NB | Addition | The interconnect run for the Challenge Drive TPS site (that was relocated to sta. 19060), was modified to be outside the UPRR right-of-way and modified to allow for an access road around the utility providers substation at Williamson Road to allow access to the interconnect run. This substation is approximately 2 miles east of the HSR tracks. | x | x | x | x | | | x | 305,195 | This footprint addition along E Tehachapi Boulevard is within an area of environmental justice populations (both poverty and non-white). It is within a park/recreational property not subject to Section 4(f) (Greenways-Antelope Run) and an intermittent stream. The area is of low to moderate sensitivity for paleontological resources and within Grazing Land as classified by the California FMMP. It is within Lehigh Cement Plant parcels directly north of E Tehachapi Boulevard and 100-year floodplains. |
| | 138 | 19074 | SB | Addition | Minor footprint addition to include Challenger Drive to allow for the HSR access road to connect to Challenger Drive. Previously, the footprint stopped short of the roadway. | x | x | x | x | | | x | 118,993 | This footprint addition is within an area of environmental justice populations (both poverty and non-white) and the City of Tehachapi Future Expansion Area as identified in the City's General Plan. No CNDDB species of concern have been identified at this location. It is adjacent to the Antelope Run Greenway, which is a Section 4(f) resource and a facility of note, and the Tehachapi Hospital, a facility of note. It is also within Grazing Land as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 163 | 19470 | NB/SB | Addition | The engineering refinements in this area involve several reductions and some minor additions.<br><br>The revised TWSR alignment has minor footprint additions directly related to the realignment. On the west side, there is an addition to tie the realigned TWSR to the existing Oak Creek dirt road near the creek. There is also an affected wind turbine that is being removed and a minor footprint adjustment was added.<br><br>On the east side, there is an addition for realigning the PCT and for some drainage basin and rock slope protection considerations. | X | X | | X | | | X | 605,410 | This engineering refinement would eliminate impacts to a PCT parking lot (including removal of an oak tree that was of concern to PCT stakeholders) and would replace an existing at-grade crossing of the PCT across TWSR with a new grade separated crossing (TWSR bridge over the PCT). Although this engineering refinement would increase safety to PCT users by removing an existing at-grade PCT crossing at TWSR, the realignment of the PCT and the addition of a new structure over PCT would require further coordination with the Bureau of Land Management (BLM), the U.S. Forest Service, and the PCT Association. Although the engineering refinements in this area result in footprint reductions in some areas that may reduce impacts to three archaeological sites in this area and result in possible improvements for the PCT, they also introduce changes to the project description such as the realignment of TWSR and a new bridge over Oak Creek. This footprint modification is within an area of environmental justice populations (both poverty and non-white); however, access would not be lost, and environmental justice populations would not be further impacted or affected by this modification. The footprint is within HCP areas (Western Mojave Desert Tortoise Recovery Plan and BLM West Mojave Planning Area). This area is considered to have low to moderate sensitivity for paleontological resources. A portion of the footprint addition associated with this VER is within Cement Plant Parcels (Lehigh Cement Plant) area. The entirety of the footprint addition associated with this VER is designated as Grazing Land by the California FMMP. Portions of the footprint additions occur within a 100-year floodplain and have impacts to intermittent streams. With the refined design, a small portion of the newly realigned Tehachapi Willow Springs Road and bridge columns would now encroach on the floodplain at Oak Creek. Portions of the footprint reductions and additions occur outside of the 2017 APE and 2017 Archaeological Survey Area boundaries. No CNNDB listed species are present within the footprint modification associated with this VER. No known hazardous materials locations are within the modified footprint at this location. |
| | 64 | 17908 | NB/SB | Addition/ Reduction | Revised General Beale Road profile to allow for standard HSR maintenance access road design on the north side and to meet local jurisdiction standards. | x | x | x | x | | | x | 505,471 | This footprint extends beyond the 250-foot RSA and would result in temporary and permanent impacts beyond the RSA. This footprint addition is within an area of environmental justice populations (both poverty and non-white). A portion of this footprint modification is within the Tejon Ranch White Wolf Conservation Easement. This VER is also within HCP areas and in an area that is considered to have high paleontological sensitivity. This footprint modification is within agricultural land designated as Grazing Land and Williamson Act Parcels by the California FMMP. This footprint increase is within intermittent streams. Portions of the footprint addition is beyond the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 111 | 18307 | NB | Addition | Revise Bealville Road design for 8% maximum grade per the local jurisdiction standards and driveway tie-in for local residence. | x | | x | x | x | x | x | 82,540 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). A small portion of this footprint modification is within the Cummings Ranch Properties area. This VER is within the White Wolf Fault Zone. Portions of the footprint addition are outside of the 2017 APE and 2017 ASA boundaries. This VER footprint is within an intermittent stream. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 116 | 18473 | SB | Addition/ Reduction | Realigning the access road to meet local jurisdiction and HSR design standards, and allowing room for drainage basin and rock slope protection. | | | | | | x | x | 32,080 | This minor footprint modification is within an area of environmental justice populations (both poverty and non-white) and within the Loop Ranch Properties area. The footprint reduction associated with this VER is also within a 100-year floodplain. A portion of the footprint addition is outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 186 | 19758 | SB | Addition | Minor footprint adjustments to allow local undercrossing road to have a 500-foot minimum radius, per the local jurisdiction design standard. | x | x | | x | | | x | 260,014 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. This VER is within agricultural land designated as Grazing Land by the California FMMP. A portion of the footprint is outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 201 | 19860 | NB/SB | Addition | Minor footprint adjustments to allow local undercrossing road to have a 500-foot minimum radius, per the local jurisdiction design standard. | x | x | | x | | | x | 148,598 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also located within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 216 | 20045 | NB/SB | Addition | Minor footprint adjustments to allow local undercrossing road to have a 500-foot minimum radius, per the local jurisdiction design standard. | x | x | x | x | | | x | 38,294 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. This footprint addition is within agricultural land designated as Grazing Land and Farmland of Statewide Importance by the California FMMP. This VER is within a 100-year floodplain. A portion of the footprint is outside of the 2017 APE and 2017 ASA boundaries. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 218 | 20086 | SB | Addition | Minor footprint adjustments to allow local undercrossing road to have a 500-foot minimum radius, per the local jurisdiction design standard. | x | x | x | x | | | x | 615,253 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. This VER is within a 100-year floodplain. A portion of the footprint is outside of the 2017 APE and 2017 ASA boundaries. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 249 | 20367 | NB/SB | Addition | Minor footprint adjustments to allow a local undercrossing road to have a 500-foot minimum radius, per the local jurisdiction design standard. Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 316,800 | This footprint adjustment to increase turning radius is in an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. The footprint addition is within intermittent streams. Portions of the footprint addition are outside of the 2017 APE and the 2017 ASA boundaries. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 251 | 20372 | SB | Addition | Minor footprint adjustments to allow a local undercrossing road to have a 500-foot minimum radius, per the local jurisdiction design standard. | x | x | x | x | | | x | 53,852 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 3A | 17343 | SB | Addition | Minor footprint addition to allow for ADA improvements. | x | x | x | x | | | x | 10,987 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern or Section 4(f) resources occur within the area. No known areas of hazardous materials are in the area. |
| | 42A | 17733 | SB | Addition | Minor footprint adjustment to allow room for the relocation of and perpendicular crossings of high-voltage power lines. | | x | | | | | x | 250,211 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and an area considered to have low to moderate paleontological sensitivity. Portions of the footprint modification are within the Giumarra Bros. Fruit Co. property, a facility of note. The footprint modification associated with this VER is within agricultural land designated as Unique Farmland and Prime Farmland by the California FMMP. The expanded footprint area south of the alignment along Towerline Road is within a National Wetland Inventory freshwater pond/drainage basin. No CNNDB species, Section 4(f) resources, or known hazardous materials locations are present within the footprint modification associated with this VER. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 189 | 19765 | NB/SB | Addition | Minor footprint adjustment to allow room for the relocation of and perpendicular crossings of high-voltage power lines. | x | x | | x | | | x | 94,565 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and an area considered to have low to moderate paleontological sensitivity. The footprint modification associated with this VER is within agricultural land designated as Unique Farmland and Prime Farmland by the California FMMP. This VER location is within an intermittent stream. Portions of this footprint modification are outside of the 2017 APE boundary. No CNNDB species, Section 4(f) resources, or known hazardous materials locations are present within the footprint modification associated with this VER. |
| | 215 | 20003 | NB/SB | Addition/ Reduction | Minor footprint adjustment to allow room for the relocation of and perpendicular crossings of high-voltage power lines. A TPS change was also made in this area, but the change to the footprint was due to the utility line. | x | x | x | x | | | x | 109,639 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and an area considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. A portion of this VER is within Farmland of Statewide Importance, as designated by the California FMMP. A portion of the footprint modification is outside of the 2017 APE boundary. No CNNDB species, Section 4(f) resources, or known hazardous materials locations are present within the footprint modification associated with this VER. |
| | 217 | 20085 | NB | Addition | Minor footprint adjustment to allow room for the relocation of and perpendicular crossings of high-voltage power lines. | x | x | x | x | | | x | 24,605 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and an area considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. No CNNDB species, Section 4(f) resources, or known hazardous materials locations are present within the footprint modification associated with this VER. |
| | 267 | 20437 | NB/SB | Addition | Minor footprint adjustment to allow room for the relocation of and perpendicular crossings of high-voltage power lines. Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 74,906 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and an area considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are within a 100-year floodplain. A portion of the footprint modification is outside of the 2017 APE and 2017 ASA boundaries. No CNNDB species, Section 4(f) resources, or known hazardous materials locations are present within the footprint modification associated with this VER. This VER results in one additional residential displacement. |
| | 291 | 20622 | NB/SB | Addition | Minor footprint adjustment to allow room for the relocation of and perpendicular crossings of high-voltage power lines. | x | x | x | x | | | x | 76,241 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and an area considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are within a 100-year floodplain. A portion of the footprint modification is outside of the 2017 APE and 2017 ASA boundaries. No CNNDB species, Section 4(f) resources, or known hazardous materials locations are present within the footprint modification associated with this VER. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 312 | 20775 | NB/SB | Addition | Minor footprint adjustment to allow room for the relocation of and perpendicular crossings of high-voltage power lines. | x | x | x | x | | | x | 32,944 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and an area considered to have low to moderate paleontological sensitivity. The portion of this footprint modification west of the alignment is within a 100-year floodplain. No CNNDB species, Section 4(f) resources, or known hazardous materials locations are present within the footprint modification associated with this VER. |
| | 198 | 19823 | NB/SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | | x | | | x | 54,505 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This VER is within a 100-year floodplain. A portion of the footprint is outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 207 | 19889 | NB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | | x | | | x | 42,848 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This VER is within a 100-year floodplain. A portion of the footprint is outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 211 | 19925 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | | x | | | x | 315 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This VER is within a 100-year floodplain. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 219 | 20098 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 33,577 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This VER is within a 100-year floodplain. A portion of the footprint is outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 220 | 20106 | NB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 2,361 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This VER is within a 100-year floodplain. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 222 | 20157 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at HSR ROW. | x | x | x | x | | | x | 33,763 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. Portions of the footprint addition are outside of the 2017 APE and the 2017 ASA boundaries. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 223 | 20165 | SB | Addition/ Reduction | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 38,197 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have high paleontological sensitivity. This footprint is partially within the limits of the Willow Springs International Raceway, a Section 4(f) resource and facility of note. However, per Chapter 4 of the Draft EIR/EIS, this resource is privately owned and the only component eligible for protection under Section 4(f) is the NRHP-eligible main racetrack, which is not within the footprint addition. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 225 | 20182 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 28,788 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. Portions of the footprint addition are outside of the 2017 APE and the 2017 ASA boundaries. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 226 | 20188 | NB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 21,744 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have high paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE and the 2017 ASA boundaries. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 228 | 20200 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 30,481 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 229 | 20212 | NB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 25,179 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 230 | 20214 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 28,452 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 231 | 20219 | NB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 59,596 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 232 | 20226 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 27,160 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 234 | 20260 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 33,505 | This minor footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 243 | 20322 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 53,947 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). The footprint modification associated with this VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 257 | 20396 | SB | Addition/ Reduction | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way, and for typical section revision along SB side. | x | x | x | x | | | x | 35,158 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 260 | 20403 | SB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 21,837 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 261 | 20407 | NB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 34,585 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 262 | 20411 | NB | Addition | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 36,863 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas, and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |
| | 264 | 20420 | SB | Addition/ Reduction | Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way, and for typical section revision along SB side. | x | x | x | x | | | x | 20,625 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and in an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. Portions of the footprint addition are outside of the 2017 APE boundary. No CNDDB species of concern occur within the area. No known areas of hazardous materials are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N/A | | NB | Addition/Reduction | Palmdale Boulevard changed to overcrossing instead of undercrossing. Profile of Palmdale Boulevard, Sierra Highway, UPRR and Metrolink track corridor adjusted. Footprint expanded to accommodate portion of E Ave Q-7 and portion of Sierra Hwy south of Ave Q-10 East. Footprint reduced east of Sierra Highway. Shift in planned parking between Sierra Hwy and 10th Place East to existing surface lots. | x | x | x | x | | | x | -296,164 | Footprint modification results in reduction of 35 commercial displacements. No special-status plants or wildlife are present, nor are any aquatic features. Footprint modifications are within existing historic built and archaeological APEs and/or buffer areas. No known archaeological or built environment resources are within the area of footprint modification. The area of footprint modification is generally within previously disturbed, paved roadway areas, and are not within areas where agricultural or forest land is present. The footprint modification does not cross any mapped waterways and no reported wells are within the footprint modification. |
| **2** | | | | | **DESIGN REVISED TO REDUCE ENVIRONMENTAL IMPACTS** | | | | | | | | | |
| | 1 | 17310 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -4,892 | This reduction is within an urbanized area that contains environmental justice populations (poverty status and non-white populations). No Section 4(f) resources are present in the immediate area. The East Side Canal, an aquatic resource, is south of the area but not within the project footprint. The area is within a Low to Moderate sensitivity for paleontological resources. No agricultural land, BLM parcels, or critical habitat is present in the area. |
| | 3 | 17341 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -13,881 | This area of reduction is within 100-year floodplain and HCP areas. |
| | 4 | 17344 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -12,631 | This area of reduction is within 100-year floodplain and HCP areas. |
| | 5 | 17357 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -15,748 | This area of reduction is within 100-year floodplain and HCP areas. It also reduces footprint needed at a building adjacent to Edison Highway. |
| | 9 | 17410 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -74,465 | This area of reduction is within a 100-year floodplain and HCP areas. |
| | 10 | 17429 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -5,139 | This area of reduction is within grazing land as classified by the California FMMP as well as HCP areas. There is a slight reduction in footprint within 100-year floodplain. |
| | 11 | 17431 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -3,370 | This sliver area of reduction is within grazing land as classified by the California FMMP as well as HCP areas. It also reduces footprint needed within the Edison Fault Zone and 100-year floodplain. |
| | 12A | 17442 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -16,990 | This area of reduction is within Prime Farmland as classified by the California FMMP, as well as HCP areas. |
| | 13A | 17450 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -10,320 | This area of reduction is within Prime Farmland as classified by the California FMMP, as well as HCP areas. |
| | 14 | 17460 | NB | Reduction | Permanent footprint reduction only; no longer needed. | x | x | x | x | | | x | -472,927 | This area of reduction is within Prime Farmland as classified by the California FMMP, as well as HCP areas. It also is within the Edison Fault Zone and a 100-year floodplain. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 15 | 17500 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -151,743 | This area of reduction is within Prime Farmland as classified by the California FMMP, as well as HCP areas. It is also within the Edison Fault Zone. |
| | 17 | 17525 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -172,027 | This area of reduction is within a farm equipment supplier facility. It is also within an area of mapped CNDDB species of concern (Morrison's blister beetle and moestan blister beetle) as well as the Edison Fault Zone. |
| | 21 | 17562 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -217,977 | This area of reduction is adjacent to Prime Farmland as classified by the California FMMP. It is within HCP areas as well as a sliver of temporary footprint area within the Edison Fault Zone. This VER results in a reduction of two business displacements. |
| | 24 | 17585 | SB | Reduction | Footprint reduction; no longer needed. | x | | x | x | | | | -1,274 | This small area of reduction is within an area of Prime Farmland as classified by the California FMMP and Williamson Act land. It also is within HCP areas. |
| | 28 | 17605 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -288,449 | This area of reduction is within Prime Farmland as classified by the California FMMP, as well as HCP areas. It also is within the Edison Fault Zone. |
| | 30A | 17626 | SB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -17,167 | This area of reduction is within Prime Farmland as classified by the California FMMP and HCP areas. |
| | 31 | 17645 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -283,517 | This area of reduction is within Prime Farmland as classified by the California FMMP, as well as HCP areas. It also is within the Edison Fault Zone. |
| | 36 | 17688 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -272,962 | This area of reduction is within Unique Farmland as classified by the California FMMP, as well as HCP areas. It also falls within a "Facility of Note" (Giumarra Bros Fruit Co). |
| | 39 | 17707 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -116,848 | This area of is within HCP areas and both Prime and Unique Farmland area as classified by the California FMMP. |
| | 42 | 17730 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -225,961 | This footprint decrease is within Prime Farmland as classified by the California FMMP, as well as a small sliver of Williamson Act parcel on the east side of Towerline Road. Additionally, it is within a "Facility of Note" (Giumarra Bros Fruit Co.). |
| | 44A | 17750 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -3,144,340 | This area of reduction along Muller Road is within Prime and Unique Farmland as defined by the California FMMP, as well as HCP area. |
| | 48 | 17775 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -319,558 | This reduction in footprint is within HCP areas and Prime Farmland as classified by California FMMP, as well as Williamson Act land. It also reduces footprint within a freshwater pond along Neumarkel Rd. |
| | 52 | 17800 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -259,694 | This footprint reduction is within HCP area land as well as Prime Farmland as classified by the California FMMP, and Williamson Act parcels. |
| | 53 | 17810 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -9,490 | This footprint reduction is within HCP area land as well as Prime Farmland as classified by the California FMMP and Williamson Act parcels. |
| | 61A | 17889 | NB | Reduction | Footprint reduction; no longer needed. | | x | | | | | x | -14,946 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 64A | 17912 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -211,700 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 67 | 17927 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -31,688 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 68 | 17934 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -16,935 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 72A | 17971 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -2,337 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 73 | 17982 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -80,651 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Acquisition area. |
| | 79 | 18020 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -10,672 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Acquisition area. |
| | 80 | 18024 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -11,025 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Acquisition area. |
| | 82 | 18029 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -13,017 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement and Acquisition areas. |
| | 86 | 18064 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -39,734 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement and Acquisition areas. |
| | 86A | 18067 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -5,220 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 93 | 18124 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -71,209 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 95 | 18143 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -35,762 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Acquisition area. |
| | 98 | 18151 | SB | Reduction | Footprint reduction; no longer needed | x | x | x | x | | | x | -221,700 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement and Acquisition areas. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 100 | 18164 | NB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -34,326 | This footprint change is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 102 | 18168 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -10,073 | This footprint reduction is within HCP area land as well as Grazing Land as classified by the California FMMP, and Williamson Act parcels. It is also within Tejon Ranch White Wolf Conservation Easement area. |
| | 106A | 18220 | SB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -7,806 | This footprint change is within HCP area land as well as Grazing Land as classified by the California FMMP. It is also within Tejon Ranch White Wolf Acquisition area. |
| | 108A | 18235 | SB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -9,272 | This footprint change is within HCP area land as well as Grazing Land as classified by the California FMMP. It is also within Tejon Ranch White Wolf Acquisition area. |
| | 109A | 18245 | NB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | x | x | x | x | -5,151 | This footprint change is within HCP area land as well as Grazing Land as classified by the California FMMP. It is also within Tejon Ranch White Wolf Acquisition area. |
| | 113 | 18330 | | Reduction | Footprint reduction; no longer needed. | x | x | x | x | x | x | x | -77,650 | This area of footprint is within Grazing Land as classified by the California FMMP, and is partially within Cummings Ranch Properties land. |
| | 114A | 18358 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | x | x | x | -37,140 | This area of footprint reduction is within Grazing Land as classified by the California FMMP, and is partially within Cummings Ranch Properties land. It also reduces footprint within an intermittent stream. |
| | 115A | 18742 | SB | Reduction | Footprint reduction; no longer needed. | | | | | | x | x | -1,204 | This area of slight reduction is within Tehachapi Creek and 100-year floodplain. The area is within Grazing Land as classified by the California FMMP, as well as Loop Ranch Property area. |
| | 117 | 18457, 18513 | SB | Addition/ Reduction | Footprint adjustment due to access road profile change to allow for all-weather roadways for emergency/maintenance access to HSR facilities. | | | | | | x | x | 16,879 | The footprint changes associated with this VER occur in several discrete sliver areas. They are within Grazing Land as classified by the California FMMP and Loop Ranch Properties land. |
| | 118 | 18520 | SB | Reduction | Footprint reduction; no longer needed. | | | | | | x | x | -89,608 | This area of reduction is within Grazing Land as classified by the California FMMP as well as Loop Ranch Properties land. |
| | 121 | 18601 | SB | Reduction | Footprint reduction; no longer needed. | | | | | | x | x | -204 | This is a very small sliver area of footprint reduction is within Grazing Land as classified by the California FMMP and Williamson Act parcels. It is also within Loop Ranch Properties land. |
| | 124 | 18815 | SB | Reduction | Footprint reduction; no longer needed. | | | | | | x | x | -49,803 | This area of reduction is within Tehachapi Creek and riverine wetland areas south of SR 58, as well as Grazing Land as classified by the California FMMP, Williamson Act parcels, and Loop Ranch Properties area. |
| | 126A | 18890 | SB | Reduction | Footprint reduction; no longer needed. | | | | | | x | x | -2,834 | This area of reduction is within land classified as Grazing Land by the California FMMP and Williamson Act parcels. It is also within lands classified as Loop Ranch Properties area as well as 100-year floodplain area. |
| | 132A | 19020 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -71,518 | This area of reduction at Voyager Dr. is within land classified as Grazing Land by the California FMMP as well as land identified by the City of Tehachapi as future expansion area. No direct impacts to the Tehachapi Hospital will occur. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 136 | 19060 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -128,054 | This area of reduction is within land classified as Grazing Land by the California FMMP. |
| | 137 | 19070 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -139,785 | This area of reduction reduces footprint needed in an intermittent stream as well as land identified by the City of Tehachapi as future expansion area. It is within land classified as Grazing Land by the California FMMP. |
| | 140A | 19148 | NB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -785 | This small area of footprint change is within land classified as Grazing Land by the California FMMP. |
| | 141A | 19159 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -9,792 | This small area of reduction is within lands classified as Grazing Land and Prime Farmland by the California FMMP |
| | 142 | 19160 | NB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -2,260,435 | This area of reduction along E Tehachapi Road is within an intermittent stream, as well as Grazing Land as classified by the California FMMP, and land identified by the City of Tehachapi as future expansion area. |
| | 150 | 19242 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -123,636 | This area of reduction is within a freshwater pond and intermittent stream, as well as Grazing Land as classified by the California FMMP, and land identified by the City of Tehachapi as future expansion area. |
| | 151 | 19248 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -12,567 | This area of reduction is within Grazing Land as classified by the California FMMP, and land identified by the City of Tehachapi as future expansion area. |
| | 153 | 19270 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -65,490 | This area of reduction is within Grazing Land as classified by the California FMMP, and land identified by the City of Tehachapi as future expansion area. |
| | 155 | 19278 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -8,080 | This area of reduction is within Grazing Land as classified by the California FMMP, and land identified by the City of Tehachapi as future expansion area. |
| | 156 | 19286 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -423,635 | This area of reduction is within Grazing Land as classified by the California FMMP. |
| | 156A | 19302 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -512,269 | This area of reduction is within Grazing Land as classified by the California FMMP. It is also within a freshwater forested/shrub wetland and freshwater emergent wetland and intermittent stream near Tehachapi Willow Springs Rd. |
| | 161 | 19455 | SB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -128,925 | This area of reduction is within BLM West Mojave Planning area and HCP areas, as well as Grazing Land as classified by the California FMMP. |
| | 162 | 19460 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -1,366,410 | These areas of reduction on the east and west side of the alignment are within BLM West Mojave Planning area and HCP areas, as well as Grazing Land as classified by the California FMMP. It is also within CalPortland Cement Plant parcel area. |
| | 164 | 19470 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -250,998 | These areas of reduction are within BLM West Mojave Planning area and HCP areas, as well as Grazing Land as classified by the California FMMP. It is also within CalPortland Cement Plant parcels and 100-year floodplain. |
| | 165 | 19474 | NB | Reduction | Footprint reduction no longer applicable. | x | x | | x | | | x | 0 | Not applicable. Refer to pin 166. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 170 | 19641 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -9,815 | This area of minor reduction is within BLM West Mojave Planning area and HCP areas, as well as Grazing Land as classified by the California FMMP. |
| | 173A | 19677 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -4,173 | This area of minor reduction is within HCP areas as well as Grazing Land as classified by the California FMMP. |
| | 179 | 19720 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -8,653 | This area of minor reduction is within BLM West Mojave Planning area and HCP areas, as well as Grazing Land as classified by the California FMMP. |
| | 189A | 19770 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -3,661 | This area of minor reduction is within BLM West Mojave Planning area and HCP areas, as well as Grazing Land as classified by the California FMMP. |
| | 196 | 19805 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -9,561 | This sliver reduction is within Second Los Angeles Aqueduct; however, the alignment crosses the facility regardless. This area of minor reduction is also within BLM West Mojave Planning area and HCP areas, as well as Grazing Land as classified by the California FMMP. |
| | 198A | 19829 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -7,279 | This area of minor reduction is within BLM West Mojave Planning area and HCP areas, as well as within 100-year floodplain. |
| | 203 | 19868 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -124,356 | This area of reduction is within BLM West Mojave Planning area and HCP areas, as well as within 100-year floodplain. |
| | 210 | 19925 | NB | Reduction | Footprint reduction; no longer needed. | x | x | | x | | | x | -286,355 | This area of reduction is within HCP areas and 100-year floodplain. |
| | 216C | 20060 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -897,246 | This area of reduction is within BLM West Mojave Planning area and HCP areas, as well as 100-year floodplain. |
| | 219A | 20098 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -128,857 | This area of reduction is within BLM West Mojave Planning area and HCP areas. It is within an intermittent stream and 100-year floodplain. |
| | 221 | 20120 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -227,618 | This area of reduction is within BLM West Mojave Planning area and HCP areas. It is also within 100-year floodplain. |
| | 221B | 20140 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -172,348 | This area of reduction is within BLM West Mojave Planning area and HCP areas. It is also within 100-year floodplain. |
| | 222A | 20157 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -18,291 | This area of reduction is within BLM West Mojave Planning area and HCP areas. It is also within a 100-year floodplain. |
| | 234B | 20265 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -17,079 | This area of reduction is within BLM West Mojave Planning area and HCP areas. It is also within 100-year floodplain. |
| | 236 | 20273 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -36,645 | This area of reduction is within BLM West Mojave Planning area and HCP areas, as well as a 100-year floodplain. |
| | 239 | 20285 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -8,555 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and 100-year floodplain. |
| | 241 | 20311 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -979,513 | This area of reduction is within BLM West Mojave Planning area and HCP areas. It reduces footprint at an intermittent stream crossing 55th Street W. The area is also within a 100-year floodplain. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 246 | 20340 | SB | Addition/ Reduction | Footprint reduction; no longer needed. Minor addition for revised typical section along the SB side. | x | x | x | x | | | x | -133,671 | The majority of the area of footprint reduction is along Willow Avenue. Small areas of increased footprint occur along the southbound side of the alignment and at the Willow Avenue cul-de-sac. These areas of increase are within environmental justice populations (both poverty and non-white) and HCP areas. An intermittent stream is located within the area of footprint increase at Willow Avenue. The area is also within a 100-year floodplain. |
| | 247 | 20343 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -3,536 | This area of reduction is within BLM West Mojave Planning area and HCP areas. It is also within an intermittent stream running roughly parallel to Willow Avenue. The area is also within a 100-year floodplain. |
| | 250 | 20368 | NB | Addition | Minor footprint adjustments to allow local undercrossing road to have a 500-foot minimum radius per the local jurisdiction design standard. | x | x | x | x | | | x | 32,477 | This area of footprint addition is within environmental justice populations (both poverty and non-white), BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. It also is within an intermittent stream. |
| | 253 | 20378 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -31,663 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 258A | 20403 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -13,302 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 266 | 20433 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -60,426 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 271 | 20455 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -23,765 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 279 | 20546 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -10,826 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 282 | 20562 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -24,284 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 283 | 20563 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -27,141 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 286 | 20581 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -12,762 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 290 | 20607 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -103,305 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. It also lies within the boundaries of historic Lake Thompson. |
| | 292 | 20623 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -18,562 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 294 | 20638 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -71,703 | This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 298 | 20680 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -15,141 | This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 306 | 20724 | NB/SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -60,606 | This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 308 | 20743 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -69,750 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 309 | 20745 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -18,207 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and within a 100-year floodplain. |
| | 311 | 20772 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | | | | x | -8,881 | This area of reduction is within BLM West Mojave Planning area and HCP areas, and partially within a 100-year floodplain. |
| | 313 | 20810 | SB | Addition/ Reduction | Permanent footprint reduction only; no longer needed. Minor footprint adjustment for Avenue G improvements. | x | x | x | | | | x | -458,323 | There are several discrete areas of footprint reduction in the vicinity of Avenue G. The areas of footprint sliver increase are generally limited to the connection to Telephone Service Road. This area of change is within BLM West Mojave Planning area and HCP areas. |
| | 314 | 20826 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -93,132 | This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 316 | 20854 | NB | Reduction | Footprint reduction; no longer needed. | x | x | x | | | | x | -82,388 | This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 317 | 20895 | NB/SB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | | | | x | -10,703 | This area of change is within BLM West Mojave Planning area and HCP areas. |
| | 318 | 20906 | SB | Addition/ Reduction | Footprint reduction; no longer needed. | x | x | x | | | | x | -38,098 | This area of change is within BLM West Mojave Planning area and HCP areas. This footprint reduction is within a hazardous materials site of concern between Beech Ave. and Sierra Highway. The area of footprint increase is generally limited to a vacant parcel west of Sierra Highway. |
| | 323A | 21016 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -275,427 | This area of footprint reduction likely would not render the parcel immediately usable, as the realignment of Sierra Highway would require the acquisition of the building; however, the remnant parcel may be made available following project construction. This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 323B | 21018 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -387,578 | This area of footprint reduction likely would not render the parcel immediately usable, as the realignment of Sierra Highway would require the acquisition of the building; however, the remnant parcel may be made available following project construction. This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 324A | 21028 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -703,158 | This area of reduction is within BLM West Mojave Planning area and HCP areas. |
| | 324B | 21039 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -2,041,764 | This area of reduction is within BLM West Mojave Planning area and HCP areas. No change to the ROW requirements would occur (the parcel in question would remain a full acquisition). |
| | 324C | 21062 | SB | Reduction | Footprint reduction; no longer needed. | x | x | x | x | | | x | -3,412,449 | This area of reduction is within BLM West Mojave Planning area and HCP areas. The reduction is within the area of a freshwater pond. A parcel in the previously-defined footprint contains 40 residential units and one business unit, which would no longer be displaced due to this VER and reduction of the corresponding ROW. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 325 | 21075, 21094, 21114, 21120 | NB | Addition/ Reduction | Footprint reduction; no longer needed; various footprint adjustments for highway improvements, LMF. | x | x | x | | | | x | -40,070 | The VER is located within a relatively urbanized/populated area and along an established roadway connecting E Avenue K15 to E Avenue L. It falls within an area of environmental justice populations (both poverty and non-white) and an area of low to moderate area of paleontological sensitivity. It also falls within area of proposed Avenue L Bike Path, but no new or increased impacts would occur. No other sensitive resources present in area. |
| | 205 | 19880 | NB/SB | Reduction | Footprint adjustment for new HSR profile required for phase breaks. Minor reductions from STA 19880 to 20120. | x | x | x | x | | | x | -1,614,686 | These areas of footprint reduction are within BLM West Mojave Planning area, HCP area, and within 100-year floodplain. CNDDB ferruginous hawk is mapped within the footprint at this area; however, the reductions associated with this VER would not avoid or reduce impacts. The footprint reduction is in the area of an aquatic resource at Champagne Avenue and 95th Street W. |
| | 18 | 17530 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 42,426 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. |
| | 19 | 17547 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 154,070 | This area of increase is beyond the previously defined BSA. It is also within an area of environmental justice population (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. |
| | 20 | 17547 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 27,610 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. |
| | 25 | 17585 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 358,666 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. |
| | 26 | 17590 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 3,331 | This footprint increase is in the same area as pin location 27. The same information is provided here. The footprint adjustment associated with this VER is within an area of environmental justice populations (both poverty and non-white) and within an area of low to moderate sensitivity for paleontological resources. It is also within an area classified as Prime Farmland per the California FMMP as well as Williamson Act land. No other sensitive resources are present. |
| | 30 | 17625 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 3,988 | This area of increase is within an area of environmental justice populations (both poverty and non-white), and HCP areas. It should be noted that this area of footprint increase applies to Alternative 2. |
| | 32 | 17649 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 36,820 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 33 | 17680 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 223,337 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Unique Farmland as classified by the California FMMP. |
| | 34 | 17680 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 37,260 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime and Unique Farmlands as classified by the California FMMP. |
| | 37 | 17695 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 26,326 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime and Unique Farmlands as classified by the California FMMP. |
| | 38 | 17703 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 28,034 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime and Unique Farmlands as classified by the California FMMP. |
| | 40 | 17710 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 274,473 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Unique Farmland as classified by the California FMMP. It also falls within a "facility of note" identified as a historic resource (Giumarra Bros. Fruit Co.). Part of the expanded footprint is beyond the 2017 APE boundary. |
| | 41 | 17723 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 35,185 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. It also falls within a "facility of note" identified as a historic resource (Giumarra Bros. Fruit Co.). Some of the footprint identified as being temporarily impacted is beyond the 2017 APE boundary. |
| | 43 | 17735 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 95,847 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. It is also within Williamson Act parcels. |
| | 46 | 17760 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 25,267 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. It is also within Williamson Act parcels. |
| | 47 | 17773 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 34,790 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. |
| | 51 | 17793 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 99,511 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Prime Farmland as classified by the California FMMP. It is also within Williamson Act parcels. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 55 | 17830 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | x | | | | | x | 75,435 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Land as classified by the California FMMP. It is also partially within a 100-year floodplain. |
| | 57 | 17855 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 50,800 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Farmland of Statewide Importance as classified by the California FMMP. It is also within Williamson Act parcels. It is beyond the 2017 APE boundary. CNDDB species of concern (Tulare grasshopper mouse and California jewelflower) are mapped within the footprint in this location, but not specifically within the area of expansion. The area is also within a 100-year floodplain. |
| | 60 | 17870 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 109,808 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Farmland of Statewide Importance, Unique Farmland, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels. It is also partially within a 100-year floodplain. |
| | 61 | 17885 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 100,035 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Land as classified by the California FMMP. Part of the expanded footprint is beyond the 2017 APE boundary. It also is within a freshwater pond. |
| | 62 | 17893 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 17,960 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels. |
| | 63 | 17902 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 27,549 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels. This footprint increase is within an intermittent stream. |
| | 66 | 17925 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 15,132 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement. It is partially beyond the 2017 APE boundary. |
| | 69 | 17937 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 40,973 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement. Portions of the expanded footprint are beyond the 2017 APE boundary. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 71 | 17958 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 100,865 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement. Portions of the expanded footprint are beyond the 2017 APE boundary. There is additional footprint within an intermittent stream. |
| | 72 | 17969 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 37,038 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 74 | 17984 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 35,728 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Acquisition Area. Portions of the expanded footprint are beyond the 2017 APE boundary. There is additional footprint within an intermittent stream. |
| | 75 | 17992 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 38,314 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Acquisition Area. Portions of the expanded footprint are beyond the 2017 APE boundary. There is additional footprint within an intermittent stream. |
| | 76 | 18004 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 35,773 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Acquisition Area. Portions of the expanded footprint are beyond the 2017 APE boundary. There is increased temporary impact footprint within an intermittent stream. |
| | 77 | 18010 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 21,020 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Acquisition Area. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 78 | 18020 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 9,420 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Acquisition Area. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 81 | 18027 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 8,013 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Acquisition Area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 83 | 18032 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 15,630 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 92 | 18110 | SB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. This also includes room for hammerhead turnarounds at HSR viaducts. | x | x | x | x | | | x | 69,789 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easements and Acquisition Areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 96 | 18147 | SB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 2,188 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Acquisition Area. The expanded footprint is within an intermittent stream. Portions of the expanded (temporary impacts) footprint are beyond the 2017 APE boundary. |
| | 97 | 18149 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 47,419 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement and Acquisition Areas. The expanded footprint is within an intermittent stream. |
| | 99 | 18161 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 41,517 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement area. |
| | 101 | 18168 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 93,936 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement area. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 103 | 18175 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 12,455 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 104 | 18181 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 67,279 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement area. Portions of the expanded footprint are beyond the 2017 APE boundary. A portion of the expanded temporary footprint is beyond the BSA limit. |
| | 105 | 18188 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 28,773 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as the Tejon Ranch White Wolf Conservation Easement area. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 107 | 18225 | SB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 39,102 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within the Tejon Ranch White Wolf Conservation Acquisition area. A small portion of the expanded footprint is beyond the 2017 APE boundary. |
| | 108 | 18232 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 23,948 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within the Tejon Ranch White Wolf Conservation Acquisition area. A small portion of the expanded footprint is beyond the 2017 APE boundary. |
| | 112 | 18320 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | x | x | x | 8,600 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. It is also within Cummings Ranch Properties land. |
| | 114 | 18352 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | x | x | x | 44,434 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. It is also within Cummings Ranch Properties land. A small portion of the expanded footprint is beyond the 2017 APE boundary. |
| | 115 | 18468 | SB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | | | | | x | x | 12,354 | This area of change is within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. It is partially within Loop Ranch Properties land. |
| | 127 | 18913 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | | | | | x | x | 84,546 | These footprint increases are within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. They are also within Williamson Act parcels and Loop Ranch Properties land. Some of the expanded footprint is beyond the 2017 APE boundary. The expanded footprint is also within an intermittent stream. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 128 | 18926 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | | | | | x | x | 2,499 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. There is a very small portion of footprint overlap on a Williamson Act parcel. It is also within Loop Ranch Properties land. This small area of footprint increase is beyond the 2017 APE boundary. |
| | 129 | 18933 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | | | | | | x | x | 2,007 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. It is also within Loop Ranch Properties land. The expanded footprint is within an intermittent stream. |
| | 134 | 19030 | NB/SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 64,369 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. This area falls within land identified as Future Expansion Area by the City of Tehachapi General Plan. The expanded footprint is within an intermittent stream as well as a park/recreational property not subject to Section 4(f) (Greenways – Antelope Run). |
| | 139 | 19100 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 164,048 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and a small portion at the south end is within Grazing Lands as classified by the California FMMP. Some of the expanded footprint is beyond the 2017 APE boundary. This area falls within land identified as Future Expansion Area by the City of Tehachapi General Plan. The expanded footprint is within a park/recreational property not subject to Section 4(f) (Greenways – Antelope Run) within the alignment in this area. |
| | 140 | 19133 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 52,971 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Grazing Lands as classified by the California FMMP. Some of the expanded footprint is beyond the 2017 APE boundary. This area falls within land identified as Future Expansion Area by the City of Tehachapi General Plan. |
| | 141 | 19155 | NB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 29,452 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Prime Farmlands (with a small sliver of footprint within Grazing Lands) as classified by the California FMMP. Some of the expanded footprint is beyond the 2017 APE boundary. This area falls within land identified as Future Expansion Area by the City of Tehachapi General Plan. |
| | 144 | 19167 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 26,633 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Prime Farmlands as classified by the California FMMP. Some of the expanded footprint is beyond the 2017 APE boundary. This area falls within land identified as Future Expansion Area by the City of Tehachapi General Plan. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 145 | 19175 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 170,723 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Prime Farmlands as classified by the California FMMP. Some of the expanded footprint is beyond the 2017 APE boundary. This area falls within land identified as Future Expansion Area by the City of Tehachapi General Plan. |
| | 146 | 19190 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 63,731 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and Prime Farmlands (with a small sliver of footprint within Grazing Lands) as classified by the California FMMP. Some of the expanded footprint is beyond the 2017 APE boundary. This area falls within land identified as Future Expansion Area by the City of Tehachapi General Plan. |
| | 168 | 19608 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 64,887 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 169 | 19615 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 23,756 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 171 | 19644 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 32,388 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 172 | 19670 | NB/SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 99,337 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. This footprint increase is also within an intermittent stream. |
| | 173 | 19675 | NB/SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 9,755 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 174 | 19680 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 35,653 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 175 | 19693 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 115,019 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. This footprint increase is also within an intermittent stream. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 177 | 19703 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 77,359 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 178 | 19712 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 24,406 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 180 | 19722 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 18,555 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 182 | 19727 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 668 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 184 | 19735 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 43,125 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 185 | 19745 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 16,251 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 190 | 19771 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 7,424 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 191 | 19780 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 65,906 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. |
| | 192 | 19794 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 49,330 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. |
| | 199 | 19831 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 34,189 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. This footprint increase is within an intermittent stream. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 209 | 19910 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 94,763 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. This VER location is near an area of known occurrence of Swanson's hawk, a CNDDB Species of Concern. |
| | 216B | 20054 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 120,632 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. This footprint increase is within an intermittent stream. |
| | 218A | 20090 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 85,694 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 220A | 20118 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 28,248 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. |
| | 224 | 20173 | NB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 2,450 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. |
| | 227 | 20199 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 14,075 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 233 | 20248 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 59,596 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. This footprint increase is within an intermittent stream. |
| | 234A | 20260 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 43,464 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 237 | 20280 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 77,982 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), a 100-year floodplain, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 240A | 20295 | SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 82,998 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 244 | 20332 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 23,562 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 245 | 20338 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 18,112 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 248 | 20346 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 35,798 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 252 | 20377 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 28,189 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. This footprint increase is within an intermittent stream. |
| | 254 | 20383 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 18,461 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 256 | 20390 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 29,503 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 258 | 20399 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. Minor footprint adjustment for adding a cul-de-sac for roadways being closed and abruptly ending at the HSR right-of-way. | x | x | x | x | | | x | 38,163 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint, including the adjustment for an additional cul-de-sac on Roland Avenue, are beyond the 2017 APE boundary. |
| | 259 | 20403 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 18,242 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 263 | 20417 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 18,502 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), FEMA Flood Zone A, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 265 | 20428 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 21,543 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 269 | 20443 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 22,338 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 270 | 20450 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 38,503 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 273 | 20460 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 62,672 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 274 | 20470 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 21,230 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 275 | 20495 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 56,750 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 275A | 20504 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 112,510 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 277 | 20517 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 7,848 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 278 | 20527 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 25,259 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 280 | 20547 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 25,895 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 281 | 20557 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 68,897 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. This footprint increase is within an intermittent stream. |
| | 285 | 20575 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 95,902 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 287 | 20585 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 22,367 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. It is also within a 100-year floodplain. |
| | 289 | 20600 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 45,143 | This footprint increase is within an area of environmental justice populations (both poverty and non-white), a USFWS Wetland Area, and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 293 | 20638 | NB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 20,782 | This footprint increase is within an area of environmental justice populations (both poverty and non-white) and HCP areas. Portions of the expanded footprint are beyond the 2017 APE boundary. |
| | 296 | 20665 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 14,853 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 297 | 20675 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 9,862 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 299 | 20683 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 13,553 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 302 | 20694 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 11,164 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. Portions of the expanded footprint are beyond the 2017 APE boundary. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 303 | 20703 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 14,060 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. A portion of this footprint modification is within a USFWS resource mapped as part of the National Wetland Inventory. Portions of the expanded footprint are beyond the 2017 APE boundary. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 304 | 20717 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 15,590 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. Portions of the expanded footprint are beyond the 2017 APE boundary. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 305 | 20720 | NB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | x | | | x | 19,075 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. Portions of the expanded footprint are beyond the 2017 APE boundary. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 307 | 20735 | NB/SB | Addition | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. This also includes room for hammerhead turnarounds at HSR viaducts. | x | x | x | x | | | x | 128,506 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. Portions of the expanded footprint are beyond the 2017 APE boundary. The footprint modification associated with this VER is within a 100-year floodplain. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 310 | 20762 | NB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | x | | | | x | 66,911 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. Portions of the expanded footprint are beyond the 2017 APE boundary. The footprint modification associated with this VER is within a 100-year floodplain. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |
| | 326 | 21135, 21160 | SB | Addition/ Reduction | Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins, various highway improvements and an LMF. | x | x | x | x | | | x | 1,090,123 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), HCP areas, and areas considered to have low to moderate paleontological sensitivity. Portions of the expanded footprint are beyond the 2017 APE boundary. The footprint modification associated with this VER is within a 100-year floodplain. No CNNDB species, Section 4(f) resources, or hazardous materials locations are within this footprint modification. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 | 17373 | NB/SB | Addition/ Reduction | Revised traction power design to correlate with HSR systemwide facility design. | x | x | x | x | | | x | 126,330 | Footprint modifications for this VER are adjacent to the Big Creek Hydroelectric System, a Historic District and Section 4(f) resource, as well as the system's transmission lines (a facility of note). This VER requires the relocation of two additional lattice steel transmission towers of the Big Creek East and West Transmission Line. Area is within environmental justice populations (both poverty and non-white) and a low to moderate area of paleontological sensitivity. The area is also within the 100-year floodplain. No other sensitive resources in the area. |
| | 12 | 17441 | NB | Addition | Revised traction power design to correlate with HSR systemwide facility design. Footprint adjusted to allow for an emergency/ maintenance access road. | x | x | x | x | | | x | 48,443 | This footprint adjustment represents a relatively small area between the existing Edison Highway and E Brundage Lane. The area is within environmental justice populations (both poverty and non-white). There is an identified wetland or drainage basin in this area of footprint expansion, where E Brundage Lane intersects with Edison Highway. The area is classified as low to moderate sensitivity for paleontological resources. Prime Farmland, as classified by the California FMMP, is directly south of Brundage Lane and is within the area of footprint increase. The area is within the Edison Fault Zone and the 100-year floodplain. |
| | 27 | 17590 | SB | Addition/ Reduction | Revised traction power design to correlate with HSR systemwide facility design. Footprint adjusted to allow for an emergency/ maintenance access road. | | x | x | x | | | x | 45,027 | The footprint adjustment associated with this VER is within an area of environmental justice populations (both poverty and non-white) and within an area of low to moderate sensitivity for paleontological resources. It is also within an area classified as Prime Farmland per the California FMMP as well as Williamson Act land. No other sensitive resources are present. |
| | 46A | 17766 | NB | Addition | Revised traction power design to correlate with HSR systemwide facility design | x | x | x | x | | | x | 1,718 | This footprint adjustment represents a very small "bumpout" area wherein the following resources are present: environmental justice populations (both poverty and non-white), low to moderate paleontological sensitivity, Prime Farmland as classified by the California FMMP, and Williamson Act land. |
| | 54 | 17824 | NB | Addition/ Reduction | Revised traction power design to correlate with HSR systemwide facility design. | x | x | x | x | | | x | 25,883 | The modification of the TPS site is within environmental justice communities (both poverty and non-white) and HCP areas (Upland Species of the San Joaquin Valley Recovery Plan and Kern County Valley Floor HCP). It is also within both Prime Farmland and Grazing Lands as classified by the California FMMP. |
| | 159 | 19449 | NB | Addition | Revised traction power design to correlate with HSR systemwide facility design. Footprint adjusted to allow for an emergency/ maintenance access road. | x | x | | x | | | x | 60,672 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), BLM West Mojave Planning area, and HCP areas. It is also within Grazing Land as classified by the California FMMP. |
| | 240 | 20290 | NB | Addition | Revised traction power design to correlate with HSR systemwide facility design. Footprint adjusted to allow for an emergency/ maintenance access road. | x | x | x | x | | | x | 65,003 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), BLM West Mojave Planning area, and HCP areas, as well as Historic Lake Thompson and a 100-year floodplain. It is also within an intermittent stream. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 276 | 20508 | NB | Addition | Revised traction power design to correlate with HSR systemwide facility design. Footprint adjusted to allow for an emergency/ maintenance access road. | x | x | x | x | | | x | 26,432 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), BLM West Mojave Planning area, and HCP areas, as well as a 100-year floodplain. |
| | 315 | 20845 | SB | Addition | Revised traction power design to correlate with HSR systemwide facility design. Footprint adjusted to allow for an emergency/ maintenance access road. | x | x | x | x | | | x | 18,750 | This footprint addition is within an area of environmental justice populations (both poverty and non-white), BLM West Mojave Planning area, and HCP areas. |
| | 176 | 19700 | NB | Addition | To avoid a design variance, an access road was provided from the relocated Paralleling Station to TWSR. | x | x | x | x | | | x | 117,114 | This footprint addition is within HCP areas as well as Grazing Land as classified by the California FMMP. This VER location is within an area of environmental justice populations (both poverty and non-white). Portions of the expanded footprint are beyond the 2017 APE and 2017 ASA boundaries. This VER is in the vicinity of archaeological resource P-15-016253. The Authority will determine the NRHP eligibility and applicable NRHP criteria for archaeological sites following a phased evaluation process. This VER modification is within an intermittent stream. |
| | 206 | 19880 | SB | Addition | Footprint adjustment for new HSR profile required for phase breaks. Minor additions from STA 19880 to 20120. | x | x | x | x | | | x | 13,168 | This area of footprint increase is within environmental justice populations (both poverty and non-white), the BLM West Mojave Planning area, HCP area, and 100-year floodplain. |
| | 87 | 18070 | SB | Addition | Typical cross section adjustment to allow for two drainage ditches and maintenance access. | x | x | x | x | | | x | 13,896 | This area of increase is within an area of environmental justice populations (both poverty and non-white), HCP areas, and Grazing Lands as classified by the California FMMP. It is also within Williamson Act parcels, as well as Tejon Ranch White Wolf Acquisition Area. Portions of the expanded (temporary impacts) footprint are beyond the 2017 APE boundary. |
| | 62A | 17896 | NB | Addition | Typical cross-section adjustment to allow for two drainage ditches and maintenance access. | x | x | x | x | | | x | 31,247 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas, and is an area of high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. This footprint addition is within an intermittent stream. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 65 | 17915, 18050, 18142 | NB/SB | Addition/ Reduction | Typical cross-section adjustment to allow for two drainage ditches and maintenance access. | x | x | x | x | | | x | 684,750 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas, and is an area of high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 116A | 18310, 18430, 18482 | NB/SB | Addition | Typical cross-section adjustment to allow for two drainage ditches and maintenance access. | | | | | | x | x | 209,265 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. This footprint modification is also within the Cummings Ranch Properties area, the Loop Ranch Properties area, and within Grazing Land as classified by the California FMMP. This VER is within an intermittent stream. Portions of this footprint are outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 134A | 19040 | NB/SB | Addition/ Reduction | Typical cross-section adjustment to allow for two drainage ditches and maintenance access. | x | x | x | x | | | x | 123,383 | This footprint modification is within an area of environmental justice populations (both poverty and non-white), and is within the City of Tehachapi Future Expansion Area, per the City of Tehachapi General Plan. This footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. Portions of the addition for this footprint modification are outside of the 2017 APE boundary. This footprint modification is adjacent to the Tehachapi Creek Fault Zone, and a portion of this footprint modification is within Greenways – Antelope Run (a park/recreational resource not subject to Section 4(f)). This footprint area is within intermittent streams. No CNDDB species of concern or known hazardous materials are within the area. |
| | 138A | 19089 | NB/SB | Addition/ Reduction | Typical cross-section adjustment to allow for two drainage ditches and maintenance access. Burnett Road realignment removed. Access to relocated TP site provided. | x | x | x | x | | | x | 280,153 | This footprint modification is within an area of environmental justice populations (both poverty and non-white), and is within the City of Tehachapi Future Expansion Area, per the City of Tehachapi General Plan. This footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Both the area of reduction and addition are within Grazing Land as classified by the California FMMP. Portions of the addition for this footprint modification are outside of the 2017 APE boundary. Portions of this footprint modification is within the Tehachapi Creek Fault Zone, and within Greenways – Antelope Run (a park/recreational resource not subject to Section 4(f)). This footprint area is within an intermittent stream. No CNDDB species of concern or known hazardous materials are within the area. |
| | 221A | 20135 | SB | Addition | Typical cross-section adjustment to allow for two drainage ditches and maintenance access. | x | x | x | x | | | x | 67,934 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity and an area that is considered to have high paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE and the 2017 ASA boundaries. A portion of this footprint modification is within a 100-year floodplain. This VER footprint area is within an intermittent stream. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3** | | | | | **DESIGN REVISIONS SINCE THE RELEASE OF THE DRAFT EIR/EIS** | | | | | | | | | |
| | 133 | 19020 | SB | Addition | Adjust the design of access road where it ties into Voyager Road near the hospital in north Tehachapi based on a comment received from HSR review team. | x | x | x | x | | | x | 49,183 | This footprint addition is within an area of environmental justice populations (both poverty and non-white) and the City of Tehachapi Future Expansion Area as identified in the City's General Plan. No CNDDB species of concern have been identified at this location. It is adjacent to the Antelope Run Greenway, which is a Section 4(f) resource and a facility of note, and the Tehachapi Hospital, a facility of note. It is also within Grazing Land as classified by the California FMMP. |
| | 327 | 21170, 21220, 21230 | SB | Addition | Footprint adjustment to allow for an MOWF facility at the Avenue M site as the preferred maintenance facility alternative, with additional footprint provided to accommodate a potential LMF at the site in the future, and various highway improvements | X | X | X | X | | | X | 725,655 | This area of footprint expansion is within an area of environmental justice populations (both poverty and non-white). However, this change would not affect environmental justice populations, as access would not be further modified. This area is within HCP areas (Western Mojave Desert Tortoise Recovery Plan and BLM West Mojave Planning Area). Portions of the expanded footprint are beyond the 2017 APE boundary and the Biological Resources RSA. The expanded footprint slightly further encroaches upon Amargosa Creek. The area is considered to have low to moderate sensitivity for paleontological resources. No biological species of concern, Section 4(f) properties, agricultural land as defined by the California FMMP, or known hazardous waste sites of concern, are present within the expanded footprint. |
| | 157 | 19425 | NB | Addition | Added footprint to allow for the removal of a wind turbine identified as being too close to HSR. | x | x | x | x | | | x | 2,500 | This footprint addition is within HCP areas and Grazing Land as classified by the California FMMP. The footprint increase is within an identified fault zone (Garlock Fault Zone). This VER location is within an area of environmental justice populations (both poverty and non-white). Portions of the expanded footprint are outside of the 2017 APE boundary. |
| | 158 | 19432 | NB | Addition | Added footprint to allow for the removal of a wind turbine identified as being too close to HSR. | x | x | x | x | | | x | 2,500 | This footprint addition is within HCP areas and Grazing Land as classified by the California FMMP. The footprint increase is within an identified fault zone (Garlock Fault Zone). This VER location is within an area of environmental justice populations (both poverty and non-white). Portions of the expanded footprint are outside of the 2017 APE boundary. |
| | 160 | 19453 | NB | Addition | Added footprint to allow for the removal of a wind turbine identified as being too close to HSR. | x | x | | x | | | x | 2,500 | This footprint addition is within HCP areas, an area with low to moderate paleontological and geologic sensitivity, and Grazing Lands as classified by the California FMMP. This VER location is within an area of environmental justice populations (both poverty and non-white), and Kern County Cement Plant Parcels. Portions of the expanded footprint are outside of the 2017 APE boundary. |
| | 167 | 19478 | SB | Addition | Added footprint to allow for the removal of a wind turbine identified as being too close to HSR. | x | x | | x | | | x | 2,500 | This footprint addition is within HCP areas, and Grazing Lands as classified by the California FMMP. This VER location is within an area of environmental justice populations (both poverty and non-white). Temporary impacts occur outside of the 2017 APE boundary. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 17285-17368 | SB | Addition | Footprint added to accommodate revised Edison Highway roadway section. This was included in the current Alt 1, 3, 5 footprint, but omitted from the Preferred Alternative footprint. | x | x | x | x | | | x | 82,017 | This area of footprint addition is in proximity to a hazardous materials property of concern (a LUST cleanup site). It is within an urbanized area that contains environmental justice populations (poverty status and non-white populations) and HCP areas, and is partially within a 100-year floodplain. |
| | 84 | 18035 | NB/SB | Addition | Footprint adjustment due to revised tunnel portal grading. | x | x | x | x | | | x | 55,827 | This footprint addition is within an area of environmental justice populations (both poverty and non-white) and the Tejon Ranch White Wolf Conservation Easement. This VER is also within HCP areas and has high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. Portions of this footprint are outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 85 | 18049 | NB/SB | Addition | Footprint adjustment due to revised tunnel portal grading. | x | x | x | x | | | x | 50,565 | This footprint addition is within an area of environmental justice populations (both poverty and non-white) and the Tejon Ranch White Wolf Conservation Easement. This VER is also within HCP areas, and high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. Portions of this footprint are outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 94 | 18127, 18605 | NB/SB | Addition | Footprint adjustment due to revised tunnel portal grading. | x | x | x | x | | | x | 230,710 | This footprint modification is within an area of environmental justice populations (both poverty and non-white). A portion of this footprint modification is within HCP areas and an area with high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. Portions of this footprint are within the Loop Ranch Properties area. A portion of the addition would be within the White Wolf Conservation Easement (HCP land). Portions of this footprint are outside of the 2017 APE boundary. The footprint addition associated with this VER is within an intermittent stream. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 22 | 17570 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 64,549 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and areas with low to moderate paleontological and geological sensitivity, It is also within Prime Farmland as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. Portions of the expanded footprint are beyond the 2017 APE boundary. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23 | 17575 | SB | Addition | Footprint adjusted to allow for an emergency/maintenance access road to traction power site. | | x | x | x | | | x | 230,244 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and areas with low to moderate paleontological and geological sensitivity, It is also within Prime Farmland as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. Portions of the expanded footprint occur outside of the 2017 APE boundary. |
| | 29 | 17620 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | x | x | x | x | | | x | 2,989 | This footprint addition is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and areas with low to moderate paleontological and geological sensitivity. It is also within Prime Farmland as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 35 | 17685 | SB | Addition | Footprint adjusted to allow for an emergency/maintenance access road. | | x | | | | | x | 116,503 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas has and low to moderate paleontological and geological sensitivity. It is primarily within Unique Farmland and a small portion of Prime Farmland as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 44 | 17743 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | | x | | | | | x | 3,198 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and has low to moderate paleontological and geological sensitivity. It is primarily located within Prime Farmland as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials are in the area. |
| | 45 | 17757 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | x | x | x | x | | | x | 11,708 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and has low to moderate paleontological and geological sensitivity. It is within Prime Farmland as classified by the California FMMP and a Williamson Act parcel. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 49 | 17787 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | | x | | | | | x | 3,541 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and has a low to moderate paleontological sensitivity. It is within Prime Farmland as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 50 | 17790 | NB | Addition | Footprint adjusted to allow for an emergency/maintenance access road. | x | x | x | x | | | x | 30,701 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also located within HCP areas and has low to moderate paleontological and geological sensitivity. It is within Prime Farmland as classified by the California FMMP and a Williamson Act parcel. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56 | 17840 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | | x | | | | | x | 12,508 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and has low to moderate paleontological and geological sensitivity. It is within Grazing Land as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 58 | 17857 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | x | x | x | x | | | x | 11,578 | This footprint is within an area of environmental justice populations (both poverty and non-white). This VER is also within HCP areas and has low to moderate paleontological and geological sensitivity. It is partially within Grazing Land and partially within Farmland of Statewide Importance, as classified by the California FMMP. This VER is also within a Williamson Act parcel. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 88 | 18075 | NB/SB | Addition/ Reduction | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 15,806 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and the Tejon Ranch White Wolf Acquisition Area. This VER is also within HCP areas and the White Wolf Conservation Easement, and is an area with high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. Portions of this footprint are outside of the 2017 APE boundary. The footprint addition is within an intermittent stream. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 89 | 18075 | SB | Addition | Footprint adjusted to allow for an emergency/maintenance access road. | x | x | x | x | | | x | 20,118 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and the Tejon Ranch White Wolf Acquisition Area. This VER is also within HCP areas and the White Wolf conservation easement and is an area with high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. Portions of this footprint are outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 90 | 18095 | NB | Addition/ Reduction | Minor footprint adjustment to allow the emergency access road to connect more directly to Bena Road and to allow for grading without retaining walls. | x | x | x | x | | | x | 27,866 | This footprint modification is within an area of environmental justice populations (both poverty and non-white). HCP areas and is an area with high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. Portions of this footprint are outside of the 2017 APE boundary. The addition associated with this VER is within an intermittent stream. A portion of the modification is within the White Wolf Conservation Easement and the Tejon Ranch White Wolf Acquisition Area. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 91 | 18105 | NB | Addition/ Reduction | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | x | x | x | x | | | x | 189,761 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas and is an area with high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is also within a Williamson Act parcel. Portions of this footprint are outside of the 2017 APE boundary. The addition associated with this VER is within an intermittent stream. A portion of the modification is within the White Wolf Conservation Easement and the Tejon Ranch White Wolf Acquisition Area. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 106 | 18210 | NB | Addition/ Reduction | Minor footprint adjustment for new grading limits of the revised access road. | x | x | x | x | | | x | 41,985 | This footprint modification is within an area of environmental justice populations (both poverty and non-white), HCP areas (Tejon Ranch White Wolf Acquisition Area and White Wolf Conservation Easement). A portion of the footprint is within a seismically active area associated with the White Wolf Fault Zone and is an area with high paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. A portion of this VER is also within a Williamson Act parcel. Portions of this footprint occur outside of the 2017 APE boundary. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 109 | 18240 | NB/SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | | x | x | x | x | x | 33,312 | This footprint modification is within an area of environmental justice populations (both poverty and non-white), HCP areas (Tejon Ranch White Wolf Acquisition Area and White Wolf Conservation Easement). The footprint is in an area that is considered to have low to moderate paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 110 | 18247 | NB/SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | | x | x | x | x | x | 43,138 | This footprint modification is within an area of environmental justice populations (both poverty and non-white), HCP areas, the Tejon Ranch White Wolf Acquisition Area, and the White Wolf Conservation Easement. The footprint is in an area that is considered to have low to moderate paleontological sensitivity. It is within Grazing Land as classified by the California FMMP. This VER is within a 100-year flood plain and is adjacent to an intermittent stream. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 119 | 18537 | SB | Addition/ Reduction | Footprint adjustment due to access road profile change to allow for all-weather roadways for emergency/ maintenance access to HSR facilities. | | | | | | x | x | 3,783 | This footprint modification is within an area of environmental justice populations (both poverty and non-white). It is within Grazing Land as classified by the California FMMP. Portions of the footprint addition are outside of the 2017 APE boundary. A portion of this footprint modification is within the Tehachapi Creek Fault Zone. This VER is within a 100-year floodplain and within an intermittent stream. No CNDDB species of concern are within the area. No known areas of hazardous materials or Section 4(f) resources are in the area. |
| | 120 | 18600 | SB | Addition/ Reduction | Footprint adjustment due to access road profile change to allow for all-weather roadways for emergency/ maintenance access to HSR facilities. | | | | | | x | x | -32,768 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and the Loop Ranch Properties area. It is within Grazing Land as classified by the California FMMP. A portion of the footprint addition is within the Tehachapi Creek Fault Zone. Portions of this footprint modification are outside of the 2017 APE boundary. This VER footprint is within intermittent streams. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 130 | 18940 | SB | Addition/ Reduction | Footprint adjustment due to access road profile change to allow for all-weather roadways for emergency/ maintenance access to HSR facilities. | | | | | | x | x | -270,833 | This footprint modification is within an area of environmental justice populations (both poverty and non-white). It is within Grazing Land as classified by the California FMMP. This footprint modification is in an area with moderate to high paleontological sensitivity. Portions of the addition for this footprint modification are outside of the 2017 APE boundary. A portion of this footprint modification is within the Tehachapi Creek Fault Zone, and a portion of this footprint modification is within Greenways – Antelope Run (a park/recreational resource not subject to Section 4(f)). This VER footprint area is within intermittent streams. No CNDDB species of concern or known hazardous materials are within the area. |
| | 143A | 19164 | SB | Addition | Footprint adjusted to allow for an emergency/maintenance access road. | x | x | x | x | | | x | 23,129 | This footprint modification is within an area of environmental justice populations (both poverty and non-white), and is within the City of Tehachapi Future Expansion Area, per the City of Tehachapi General Plan. This footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within Prime Farmland as classified by the California FMMP. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 152 | 19270 | NB/SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 71,367 | This footprint modification is within an area of environmental justice populations (both poverty and non-white), and is within the City of Tehachapi Future Expansion Area, per the City of Tehachapi General Plan. This footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. The footprint modification is within Grazing Land as classified by the California FMMP. Portions of this footprint modification are outside of the 2017 APE boundary. This footprint modification is within an intermittent stream. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 154 | 19274 | SB | Addition | Minor footprint adjustment for new track emergency access road. This road replaces the emergency access road that connected to the TWSR southwest of the tunnel portal and connected on the east side of HSR around station at Sta. 19292. The previous access road exceeded access road profile grade standards. | x | x | x | x | | | x | 153,279 | This footprint modification is within an area of environmental justice populations (both poverty and non-white). A portion of this footprint modification is within the City of Tehachapi Future Expansion Area, per the City of Tehachapi General Plan. A portion of this footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. The addition is within Grazing Land as classified by the California FMMP. Portions of this footprint modification are outside of the 2017 APE boundary. This footprint modification is within an intermittent stream. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 181 | 19725 | NB/SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | | x | | | x | 58,601 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. This footprint modification is within an area that is considered to have low to moderate paleontological sensitivity and is within Grazing Land as classified by the California FMMP. Portions of this footprint modification are outside of the 2017 APE boundary. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 183 | 19730 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | | x | | | x | 11,535 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. This footprint modification is within an area that is considered to have low to moderate paleontological sensitivity and is within Grazing Land as classified by the California FMMP. Portions of this footprint modification are outside of the 2017 APE boundary. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 194 | 19798 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | | x | | | x | 32,161 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. A portion of this footprint modification is within Grazing Land as classified by the California FMMP. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 195 | 19805 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 17,216 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. A portion of this footprint modification is within Grazing Land as classified by the California FMMP. Portions of this footprint modification are outside of the 2017 APE boundary. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 197 | 19819 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. | x | x | | x | | | x | 8,362 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. A portion of this footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 200 | 19850 | NB/SB | Addition | Footprint adjusted to allow for an emergency/maintenance access road. | x | x | | x | | | x | 524,949 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE boundary. A portion of this footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 202 | 19862 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/ maintenance vehicle access. Minor footprint adjustments to allow for rock slope protection at drainage outlets and sufficiently sized on-site drainage basins. | x | x | | x | | | x | 72,905 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE boundary. A portion of this footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 216A | 20045 | SB | Addition | Footprint adjusted to allow for an emergency/maintenance access road. | x | x | x | x | | | x | 123,564 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is in Grazing Land and in Farmland of Statewide Important as defined by the California FMMP. Portions of this footprint modification are outside of the 2017 APE and the 2017 ASA boundaries. A portion of this footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 217A | 20085 | SB | Addition | Footprint adjusted to allow for an emergency/maintenance access road. | x | x | x | x | | | x | 64,134 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is in Grazing Land and in Farmland of Statewide Important as defined by the California FMMP. Portions of this footprint modification outside of the 2017 APE and the 2017 ASA boundaries. A portion of this footprint modification is within a 100-year floodplain. This VER footprint is within an intermittent stream. A CNDDB species of concern, ferruginous hawk (*Buteo regalis*), has been mapped within the footprint of this modification. No Section 4(f) resources, or known hazardous materials are within the area. |
| | 235 | 20270 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 11,195 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE boundary. This footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. This VER would result in one additional residential displacement. |
| | 238 | 20283 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 4,419 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 242A | 20314 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 8,287 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 272 | 20460 | SB | Addition/ Reduction | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 22,716 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. This footprint modification is within a 100-year floodplain. This VER footprint is within intermittent streams. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 284 | 20571 | NB/SB | Addition | Footprint revised to allow for hammerhead turnarounds at TP/TC location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 10,972 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE boundary. A portion of this footprint modification is within a 100-year floodplain. This VER footprint is within intermittent streams. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 288 | 20590 | SB | Addition | Footprint revised to allow for hammerhead turnarounds at TC-B location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 10,872 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. A portion of this footprint modification is within a 100-year floodplain. This VER footprint is within intermittent streams. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 268 | 20440 | NB/SB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. Minor footprint adjustment for new grading limits of the revised access road. | x | x | x | x | | | x | 158,515 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. A portion of this footprint modification is within a 100-year floodplain. This VER is within intermittent streams. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 295 | 20660 | NB | Addition | Footprint revised to allow for hammerhead turnarounds at viaduct location for emergency/maintenance vehicle access. | x | x | x | x | | | x | 974 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 300 | 20683 | SB | Addition | Minor footprint adjustment to allow for revised access road due to the addition of hammerhead turnaround at HSR viaduct. | x | x | x | x | | | x | 37,067 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint are outside of the 2017 APE boundary. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 301 | 20687 | NB | Addition | Minor footprint adjustment for new grading limits of the revised access road. | x | x | x | x | | | x | 163 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. This footprint is outside of the 2017 APE and 2017 ASA boundaries. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 166 | 19475 | NB | Addition | Room in the footprint to accommodate a directly connecting road from the intersection of Oak Creek Road and TWSR on the east side of HSR under both the original design and the revised TWSR design. | X | X | | X | | | X | 9,766 | This proposed engineering refinement would allow the existing TWSR (between Cameron Canyon Road and Oak Creek Road) to be restored back to native landscape. Given the proximity to the refinements described under pin 163, many of the environmental resources in the area are similar or the same. However, this footprint addition is far smaller in scope. This minor footprint addition is within an area of environmental justice populations (both poverty and non-white), but no additional or new impacts would occur. This footprint addition is within HCP areas (Western Mojave Desert Tortoise Recovery Plan and BLM West Mojave Planning Area). The area considered to have low to moderate paleontological sensitivity. A portion of the footprint addition associated with this VER is within Cement Plant Parcels (Lehigh Cement Plant) area. The entirety of the footprint addition associated with this VER is designated as Grazing Land by the California FMMP. A small portion of this footprint modification northeast of the alignment is within a 100-year floodplain. No CNNDB species or known hazardous materials are present within the footprint modification associated with this VER. |
| | 193 | 19795 | NB | Addition | Footprint adjustment to add pavement to existing dirt being used as HSR emergency access to prevent erosion due to flooding and to make the road "all-weather" as required by HSR standards. | x | x | | x | | | x | 75,685 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. A portion of this footprint modification is within Grazing Land as classified by the California FMMP. A portion of this footprint modification is within a 100-year floodplain. This VER footprint is within an intermittent stream. Portions of this footprint modification are outside of the 2017 APE and ASA boundaries. This VER does not propose any actions that would cause an adverse effect for the First Los Angeles Aqueduct. The dirt road, Trotter Avenue, which crosses the aqueduct and which this VER would pave, is not a character-defining aspect of the historic property. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 204 | 19880 | NB | Addition | Footprint adjustment to add pavement to existing dirt being used as HSR emergency access to prevent erosion due to flooding and to make the road "all-weather" as required by the HSR standards. | x | x | | x | | | x | 18,477 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE and the 2017 ASA boundaries. A portion of this footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |

| Grouping # | Pin # | Station | NB or SB Side | Addition or Reduction | Description | Alternatives Affected | | | | | | | Area (SF) | Environmental Resources |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 212 | 19940 | NB | Addition | Highgate Ave. will be paved as part of the project. Minor footprint adjustment to allow for drainage to go under the paved emergency access road near TWSR. | x | x | | x | | | x | 29,882 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE and the 2017 ASA boundaries. A portion of this footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | 242 | 20311 | SB | Addition | Footprint adjustment to add pavement to existing dirt being used as HSR emergency access to prevent erosion due to flooding and to make the road "all-weather" as required by the HSR standards. | x | x | x | x | | | x | 201,469 | This footprint modification is within an area of environmental justice populations (both poverty and non-white) and HCP areas. The footprint modification is within an area that is considered to have low to moderate paleontological sensitivity. Portions of this footprint modification are outside of the 2017 APE and 2017 ASA boundaries. This footprint modification is within a 100-year floodplain. No CNDDB species of concern, Section 4(f) resources, or known hazardous materials are within the area. |
| | | | | | | **Net permanent footprint change (square feet)** | | | | | | | **-4,598,502** | |
| | | | | | | **Net permanent footprint change (acres)** | | | | | | | **-106** | |

**This page intentionally left blank**