# Los Angeles to Anaheim Project Section
# Volume 3 User Guide

Volume 3 of the Draft EIR/EIS provides a series of engineering drawings, which present preliminary design information showing alignment, primary features, anticipated right-of-way requirements and temporary construction details in support of the proposed California High-Speed Rail Program. It provides a useful tool for stakeholders who want to understand the property, visual and circulation impacts of the Build Alternatives developed and analyzed in the Los Angeles to Anaheim Project Section.

The Los Angeles to Anaheim Project Section is approximately 30 miles long and connects Los Angeles Union Station (LAUS) to the Anaheim Regional Transportation Intermodal Center (ARTIC) using the existing passenger and freight rail corridor.


## Organization of Volume 3

The Preliminary Engineering for Project Definition (PEPD) Volume 3 consists of preliminary engineering design for the Shared Passenger Track Alternatives. Volume 3 includes the following engineering disciplines: Track Alignment, Right-of-Way Impact, Aerial Structures, Braced Trench, Retaining Walls, Grade Separations, Utilities, Grading and Drainage, Traction Power Facility Site, Communication System Site, Stations, Non-Preferred Options, and Link Union Station. Each discipline has an index, key maps and plans and/or profiles.

**Track Alignment**
Provides design information about the high-speed rail track alignment including typical sections and plans and profiles. ***Note**: Track alignment plans provide an overview of the design and are a good place to start knowing this project.*

**Right-of-Way Impact**
Provides information on parcels that would be affected by the project.

**Aerial Structures**
Drawings showing the structures carrying elevated rail tracks or roadways to cross over waterways, freeways, railways, or other existing infrastructures.

**Braced Trench**
Drawings showing the plan and profile of the braced trench proposed for the Shared Passenger Track Alternatives.

**Retaining Walls**
Drawings showing design information for retaining walls.

**Grade Separations**
Sections, plans, and profiles showing where streets and roads are closed, added, redirected, extended, or where grade separations are applied at the rail alignment.

**Utilities**
Drawings showing existing and proposed utilities near the project site. These plans also identify utilities that need to be relocated for the construction of the tracks and roadways.

**Grading and Drainage**
Engineering plans showing design information for moving earth, drain pipes and box culverts.

**Traction Power Facilities Site**
Design drawings showing the locations, typical layouts, and site plans for electrical power supply facilities that are used to power the high-speed rail locomotives.

**Communication System Site**
Design drawings showing the locations,
typical site layout plans for all communication sites and facility sites required for high-speed train operations.

**Stations**
Drawings showing HSR facilities proposed at ARTIC as well as modifications proposed at two existing Metrolink stations (Norwalk/Santa Fe Springs and Fullerton) and the relocation of two existing Metrolink stations (Commerce and Buena Park).

**Non-Preferred Options**
Several design options that are not part of the preferred Shared Passenger Track Alternative A are included in Volume 3.6. These are the 15th Street Light Maintenance Facility (LMF) III, the Norwalk/Santa Fe Springs HSR Station Option, and the Fullerton HSR Station Option.

**Link Union Station (Link US) by LA Metro**
LA Metro is creating the design plans for this
station, which will interface with the HSR segment at US-101 and was previously environmentally cleared as part of the Burbank to Los Angeles project section. Construction work within the LAUS limits will consist of electrifying the HSR tracks over US-101 to 1st Street.

# How to Find a Location in Volume 3

Readers may seek information about impacts that the project option may have on specific areas or communities. Each set of plans for the engineering disiciplines identifies locations where different types of work will be completed. For a more complete understanding of the project, the reader should repeat the process shown below for each engineering discipline.

**1 Identify the Location of the Project**
Use the Project Location Map to identify where the project is located compared to surrounding areas.

**2 Check the Key Map**
The Key Map illustrates the drawing numbers for all of the maps in each engineering discipline.
*For example, the Track Alignment section Key Map shows the proposed track alignment.*

**3 Look for Cities, Highways, and Landmarks**
Look at the city and town names, highways, or landmarks to find the part of the map where you want to take a closer look.
*For example, you may want to look in more detail at the alignment near the Buena Park Metrolink Station.*

**4 Find the Drawing Number**
The narrow rectangles represent engineering drawing boundaries. Each boundary has an associated drawing number that will direct you to a detailed drawing.
*The highlighted area shows the high-speed rail track alignment at the Buena Park Metrolink Station. The Drawing Number associated with that location is TT-D1581.*

**5 Go to the Engineering Drawing**
Use the drawing number to locate each engineering drawing. Then use the Index of Drawings to find the correct page. The drawing number is located near the bottom right of the drawing.
*In this example, Alignment drawing TT-D1581 shows more detail about how the tracks are aligned near the station. This could lead the user to look at other sections for more information.*

## The Index of Drawings

Each of the parts of Volume 3 has an Index of Drawings that is located in the General part of each document. The Index, broken down by the engineering disciplines within each volume, lists the pages (called “drawings”) in numerical order, with a column containing a descriptive title. After finding a location on a Key Map, one may consult the Index of Drawings for the location of the drawing.

Each drawing has a **drawing number**. Drawing numbers on the Key Maps identify which maps illustrate specific geographic locations.

The **drawing title** refers to the type of information presented on the sheet, as well as specific station limits, as appropriate.

| DRAWING NO. | |
|---|---|
| TT-D1580 | PLAN AND PROFILE STA SBN 1043+00 TO STA SBN 1056+50 |
| TT-D1581 | PLAN AND PROFILE STA SBN 1056+50 TO STA SBN 1069+00 |
| TT-D1582 | PLAN AND PROFILE STA SBN 1069+00 TO STA SBN 1081+50 |

## The Project Location Map

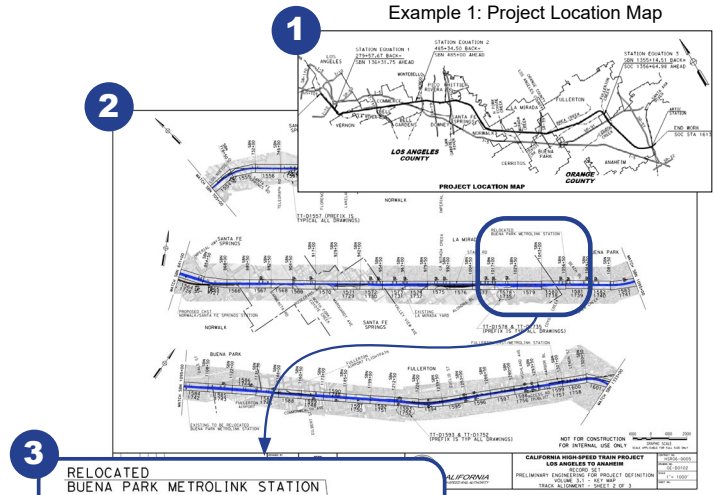
The Project Location Map for each engineering discipline and design option is located at the start of each section of Volume 3. It shows the overall project extent within surrounding cities and major highways.

## The Key Map

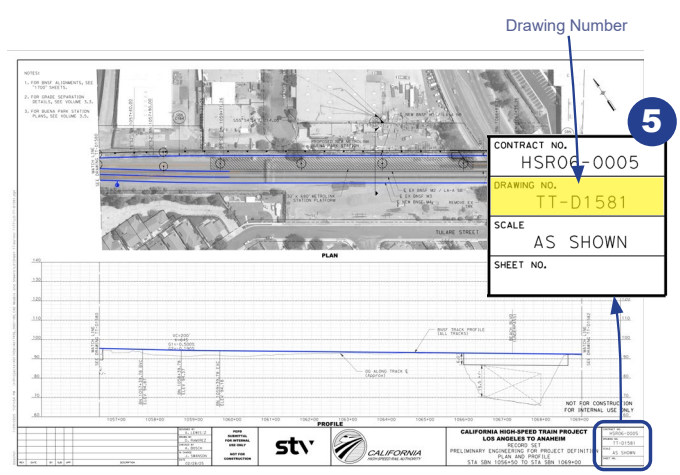
The Key Map for each engineering discipline and design option is like a table of contents: a master map of detailed engineering drawings that serves as a “key” for readers to find the detailed map they seek.

There are Key Maps for all parts of Volume 3 in the pages following the Index of Volumes and Index of Drawings.

Example 1: Project Location Map




Example 2: Key Map



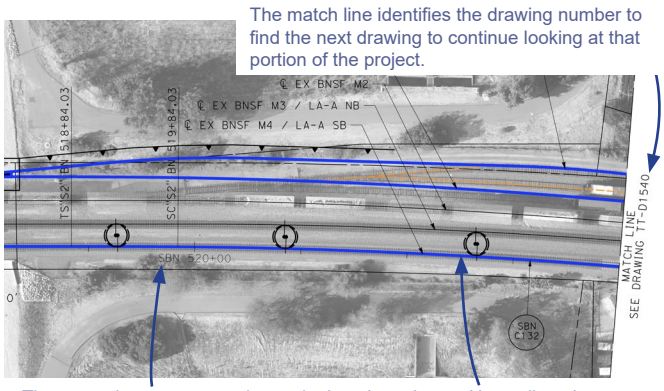

Example 3: Engineering Drawing - Track Alignment Plan and Profile

# Understanding the Information in Volume 3

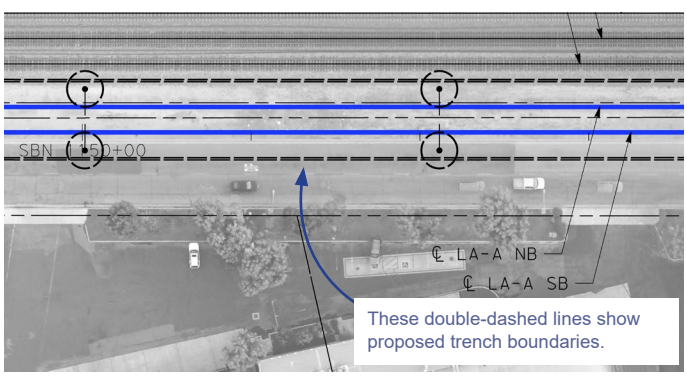
## Plans

Plans show portions of the project as seen from above. The plans in Volume 3 are detailed drawings of the project corridor that show the location of proposed high-speed rail infrastructure, as well as the extent of existing and proposed rights-of-way, existing road alignments and proposed realignments, utility lines, and other features considered by designers. Enlarged sections from several plans are annotated below to help readers understand the different features that are labeled on these drawings.

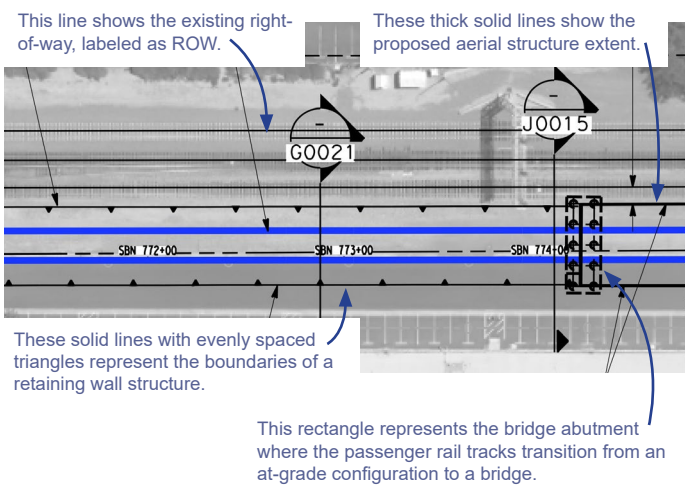
Example 4: Track Alignment - Plan Portion of Drawing Number TT-D1539



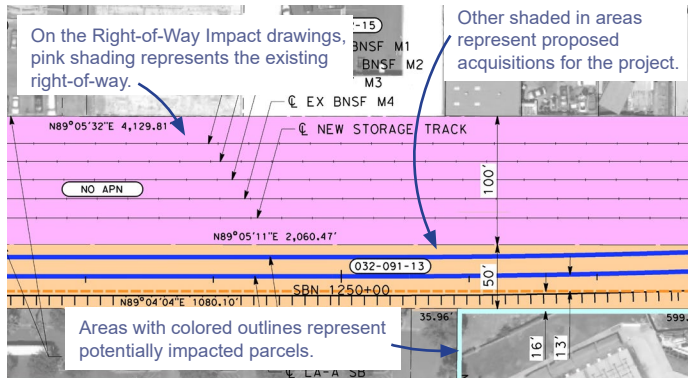

Example 5: Track Alignment - Plan Portion of Drawing Number TT-D1588




Example 6: Aerial Structure - Plan Portion of Drawing Number ST-J1552

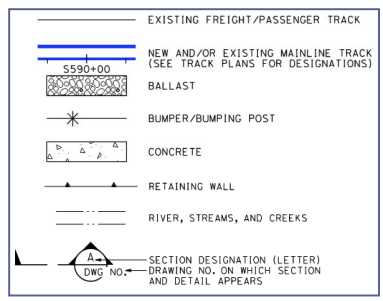



Example 7: Right-of-Way Impact - Portion of Drawing Number RW-M1595




## Legend

The legend defines the meanings of graphics and lines that are shown in the plans and profiles. Legends are provided for each engineering discipline of Volume 3, which can be significantly different according to the elements shown on the engineering drawing. The following sample is the legend from Track Alignment Plans.

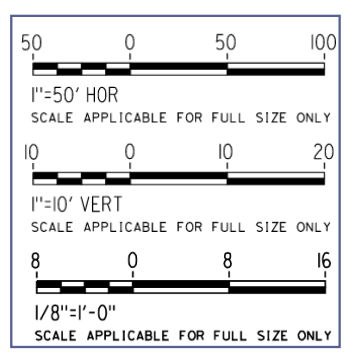



Example 8: Legend of Track Alignment Plans

## Scales

Various drawings show the width or expanse of the rail alignment, the heights of bridges and viaducts, and the right-of way of the alignment in relation to adjacent homes, businesses, and other properties.

The drawings are scaled, meaning the measurements in these drawings are in proportion to the actual locations they represent. For example, one inch of a drawing might represent 100 feet of alignment. Most drawings show their scale or have real-world measurements depicted on the drawing.




Example 9: Horizontal and Vertical Scales

Some drawings have different horizontal and vertical scales. The abbreviations HOR for horizontal and VERT for vertical differentiate the scales. The horizontal scale measures distances in the North, South, East, or West directions. The vertical scale measures distances up and down as if you are looking at them from the side, as in a profile view.

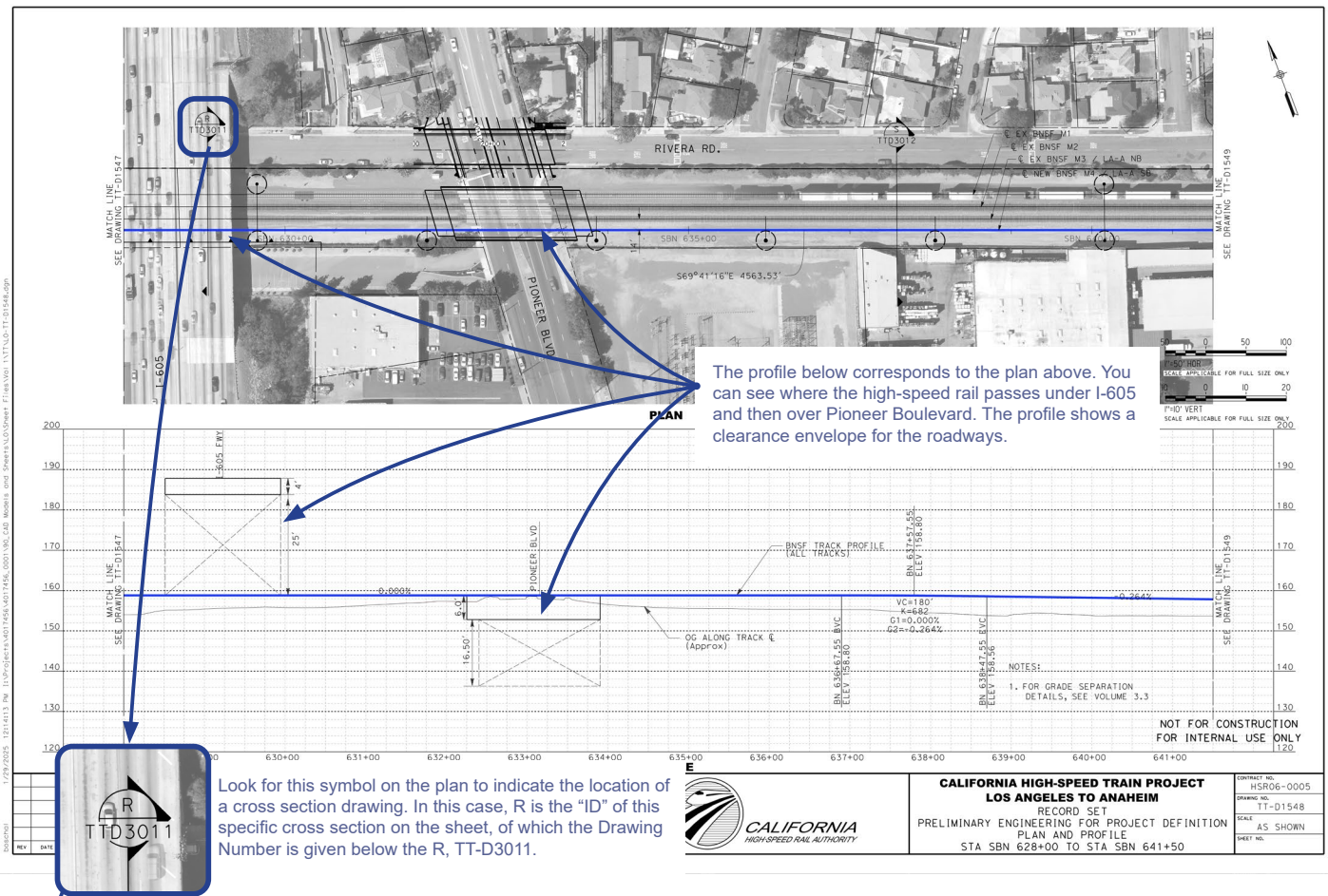
Some drawings have scales that read SCALE APPLICABLE FOR FULL SIZE ONLY. When drawings are printed on paper that is smaller than full size (22 inch by 34 inch), the nominal scale (1"=100' in the example) may not be accurate. Use a ruler to measure the lines on the graphic scale and use those lengths to find distances or heights.

## Cross Sections and Vertical Profiles

In addition to the plan view of the rail corridor, various drawings show the width or expanse of the rail alignment, the heights of bridges and viaducts, and the right-of way of the alignment in relation to adjacent homes, businesses, and other properties. These dimensions are defined on a cross section view, which is a view generated by an imaginary vertical cut plane to reveal the outlines seen from the angle perpendicular to and along the forward direction.

A vertical profile is a two-dimensional slice of an existing and a proposed surface, taken along an imaginary line, to indicate grades and vertical curves.

Example 10: Drawing Number TT-D1548







Look for this symbol on the plan to indicate the location of a cross section drawing. In this case, R is the "ID" of this specific cross section on the sheet, of which the Drawing Number is given below the R, TT-D3011.

Example 11: Secton R of TT-D3011