

CALIFORNIA HIGH-SPEED TRAIN

Engineering Plans

Burbank to Los Angeles

Volume 7

HSR Burbank Airport Station

April 2019



California High-Speed Rail Authority

Palmdale to Burbank Project Section

DRAFT PEPD REV01
Burbank Station Area Plans

February 2019



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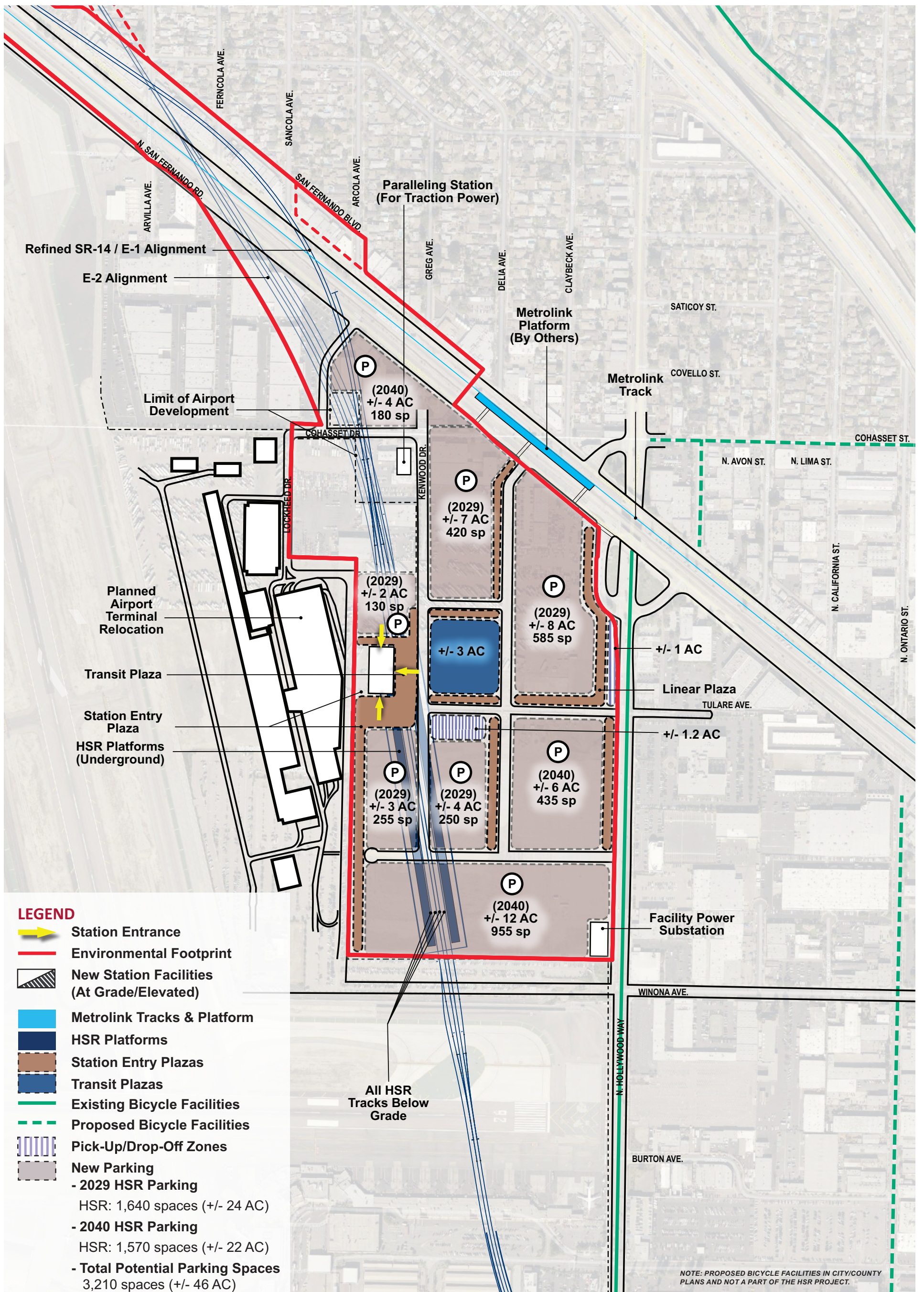
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**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**

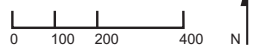


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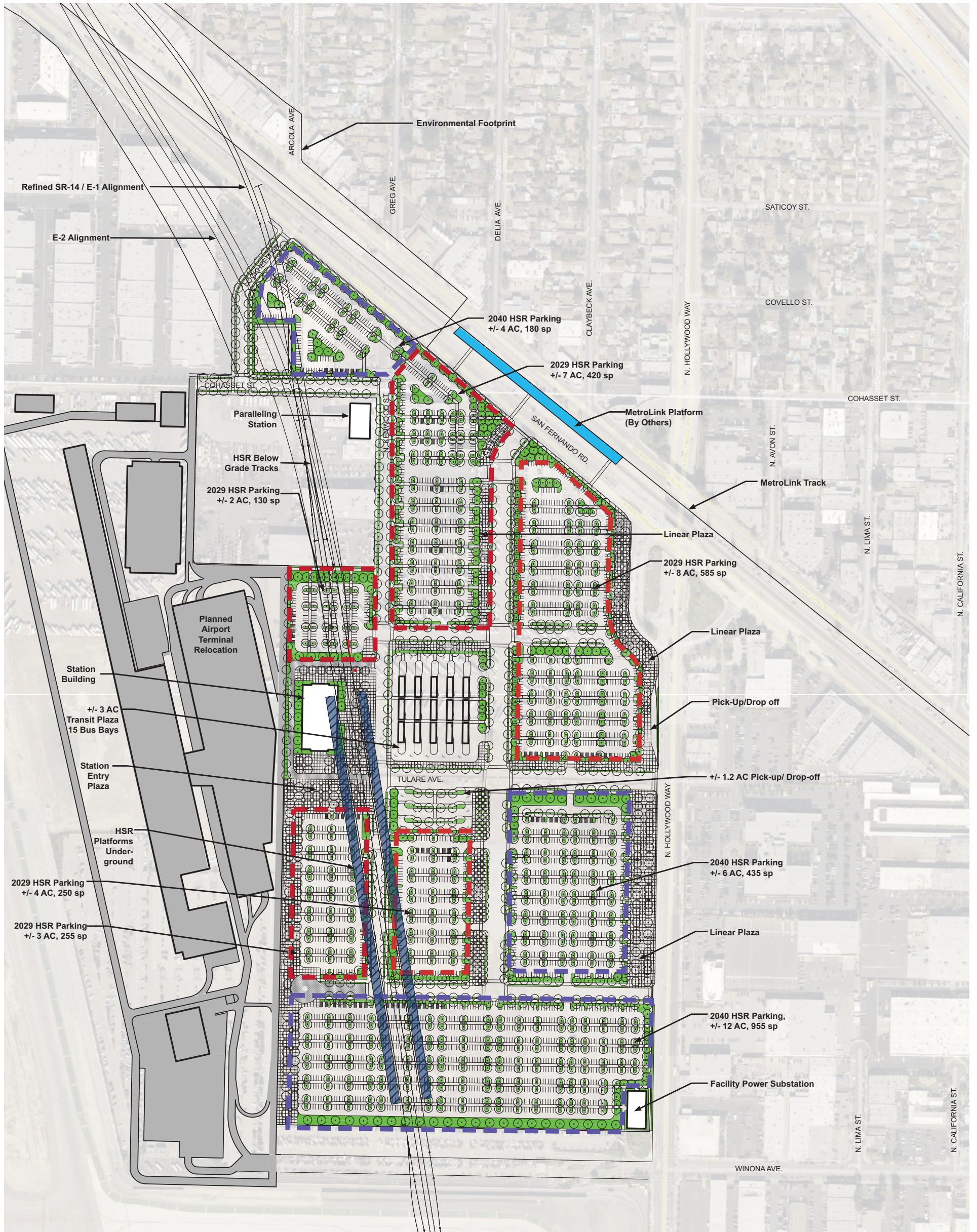
-  Station Entrance
-  Environmental Footprint
-  New Station Facilities (At Grade/Elevated)
-  Metrolink Tracks & Platform
-  HSR Platforms
-  Station Entry Plazas
-  Transit Plazas
-  Existing Bicycle Facilities
-  Proposed Bicycle Facilities
-  Pick-Up/Drop-Off Zones
-  New Parking
- 2029 HSR Parking
HSR: 1,640 spaces (+/- 24 AC)
- 2040 HSR Parking
HSR: 1,570 spaces (+/- 22 AC)
- Total Potential Parking Spaces
3,210 spaces (+/- 46 AC)

NOTE: PROPOSED BICYCLE FACILITIES IN CITY/COUNTY PLANS AND NOT A PART OF THE HSR PROJECT.

Burbank Station General Site Plan



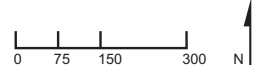
**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**



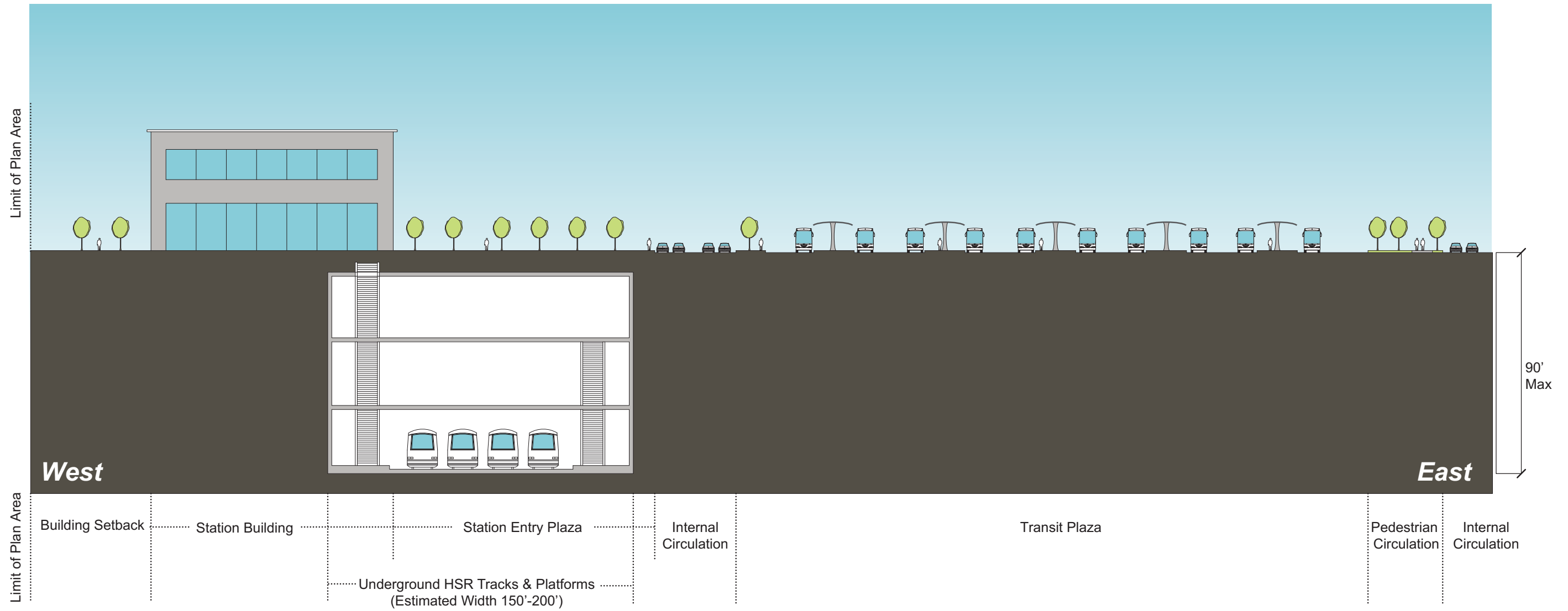
LEGEND

- ▬▬▬ 2029 HSR Parking
- ▬▬▬ 1,640 spaces (+/- 24 AC)
- ▬▬▬ 2040 HSR Parking
- ▬▬▬ 1,570 spaces (+/- 22 AC)
- Total Potential Parking Spaces**
3,210 spaces (+/- 46 AC)
- New Station Facilities
- Metrolink Platform
- HSR Platform (Underground)
- Planned Airport Terminal Relocation
- Landscaping

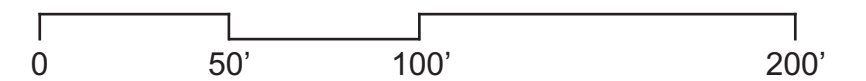
SCALE: 1" = 150'



**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**



Burbank Station Cross Section | West-East Site Section Looking North



**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**



Burbank Station Massing Model | Perspective A



NOT TO SCALE

**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**



Burbank Station Massing Model | Perspective B



NOT TO SCALE

**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**



**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**

Burbank Station Programming & Area Requirements Table				
Function Name	Description	Formula	Required Area (Net SF) Minimum	Comments
Burbank Daily Peak Ridership Boardings 2040	Long distance + Short Distance Boardings	12,800	12,800	CHSR 2016 Business Plan
P360B	Highest Daily Boardings X Conversation Factor for Boardings=6hour Boardings	Highest Daily Boardings x 0.67=P360B 12,800 x 0.67	8,576	California HSTP Design Criteria, Chapter 14-Stations, Oct 2015, Working Draft, Rev.2 Table 14-1 Passenger Ridership Assumptions Table 14-3 Concourse Circulation and Waiting Areas
P360A	Peak 6 Hour Boardings X Conversation Factor for Alightings =6hour Alightings	P360B x 0.75=P360A 8576 x 0.75	6,432	
P60B	Peak 6 hour Boardings x Peak hour conversion Factor for Boardings=Peak Hour Boardings	P360B x 0.17=P60B 8576 X 0.17	1,458	
P60A	Peak Hour Boardings x Peak Hour Conversion Factor for Alightings=Peak Hour Alightings	P60B x 0.75=P60A 552 x 0.75	1,094	
P30B	Peak Hour Boardings /2 x Surge Factor = Peak 30-minute Boardings	(P60B /2) x 1.2=P30B (1458/2) x 1.2	875	
P30A	Peak 30-minute Boardings x Conversion Factor = Peak 30 minute Alightings	P30B x 0.075=P30A 875 x 0.75	656	
P15B	Peak Hour Boardings / 4 x Surge Factor = Peak 15- minute Boardings	(P60B / 4) x 1.3= P15B (1458 /4) x 1.3	474	
P15A	Peak 15-minute Boardings x Conversion Factor=Peak 15 minute Alightings	P15B x 0.75=P15A 474 x 0.75	356	
P5B	Peak Hour Boardings /12 x Surge Factor = Peak 5-minute Boardings	(P60B / 12) x 1.4= P5B (1458/12) x 1.4	170	
P5A	Peak 5-minute Boardings x Conversion Factor = Peak 5-minute Alightings	P5B x 0.75=P5A 170 x 0.75	128	
P1B	Peak Hour Boardings /60 x Surge Factor=Peak 1 Minute Boardings	(P60B /60) x 1.5=P1B (1458 /60) x 1.5	36	
P1A	Peak 1-minute Boardings x Conversion Factor for Alightings=Peak 1 Minute Alightings	P1Bx0.75 36x0.75	27	
Cf	Unobstructed Net Concourse Free Public Area Circulation Width	(P15B+P15A)/(15x10 people/ft/min) or 16 ft min. (474+356)/(15x10 people/ft/min)	476	
Wf	Net Waiting Area in Concourse Free Public Area	((P15Bx1.1) + (P15Ax0.1))x 14 square feet ((474x1.1) +(356x0.1)) x 14	7,798	
Public Restrooms	Women + Men + Unisex accessible restroom for each group	(P15B+P15A) / 2 (474+356) /2	415	14.3.4 Public Restrooms
Passenger Amenity Space Allocation	Station Design Target Year Daily Boardings	More than 10,000	9,000	Table 14-7, Chapter 14 March 2016, corrected as directed Comment 45_3-09-2017
Ticket Windows	Station Quantity	P60B/600 638:600	2	Table 14-5: HST Ticket Sales Facilities
Ticket Vending Machines		P60B/280 638/280	3	
Value Added Machines	2 Per Platform Minimum			
Fare Gates Intermediate		P1B /50 ppm 36/50 One additional gate to be provided if under 10	2	Table 14-6 Fare Gates
Emergency Gates			2	14.3.3.6
Side Platform Station	Peak- hour boarding and fully occupied train alighting	P60B + 900 p	2358	14.3.6.2
Sr	Seating at Concourse Free Waiting Area	((P15B x 1.1) + (P15A x 0.1)) x .25	139	Table 14-22: Station Seating

**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
PALMDALE TO BURBANK PROJECT SECTION
BURBANK STATION**

Burbank Station Facility Sizing Table					
Burbank Projected Daily Ridership (2040) 25,600 (12,800 Boardings + 12,800 Alightings), based on CHSR Authority 2016 Business Plan					
STATION TYPE: Intermediate, Full-Service, Large: based on Chapter 14 Stations Design Criteria, Table 14-3					
	Function Name	Required Area (Net SF) Minimum	Formula	Chapter 14:Stations	Comments
Concourse Public Free Areas	Station Concourse (Free Area - Main Hall)	29,050	P15 x 35 SF/person	14.3.5.1	P15 = P15 B + P15 A = 474 + 356 = 830 ,use 35 SF/person
	Entrances	107 Ln.Ft.	(P60B x 1.1)/15 Ln.Ft.	14.3.5.2	P60B=552, 15 ft width at least one entrance
	Mezzanine	0			N/A tracks and platform underground
	Passenger Waiting Area	7,798	((P15B x 1.1)+(P15Ax0.1)) x 14 SF	14.3.5.3.B.C Table 14-3	California HSTP Design Criteria, Chapter 14-Stations, March 2016, Rev 2 and October 2015, Working draft, Rev 2. Table 14-1 Passenger Ridership Assumptions, Table 14-3
	Ticket Vending Machines (TVM)	72	P60B/280	Table 14-5, 14.3.5.6 B	P60B = 1458, 6 TVM, Minimum 2 required
	Concessionaire	9,000		Table 14-7	More than 10,000 Boardings
	Business Lounge	600		14.3.5.7.C	
	Public Restrooms	1,100	CBC 2016, CPC 2016 (P15B + P15A)/2	14.3.5.4	P15 = 830 A-3 Assembly Occupancy, 415 Male, 415 Female: 8 Water Closets, 5 Lavatories Male: 3 Water closets, 4 Urinal, 3 Lavatories Drinking Fountains: 3
	Unisex Restrooms	100		14.3.5.4	1 Unisex (or family) accessible restroom for each group of restrooms
	Janitor Closets	60		14.3.7.1.D	
Staffed Areas	Ticket Office Counter	1		14.3.5.7A	Minimum 1 required
	Ticket Office Window Quality	3	P60B/600	14.3.5.6.B 14.3.5.7A	P60B = 552, Minimum 1 + 1 ADA accessible
Security	Police Office	500		14.3.6.2.A	Includes Lockers
	Janitor Closets	60		14.3.7.1.D	
	Security Guard Office	144		14.3.6.2.B	
Access Facilities	HSR Platform			14.3.2.1	
	Metrolink Platform			14.3.2.1	
	Station Entry Plazas (Total Area)			14.4.4.8	
	Transit Plazas (Total Area)			14.4.2.4	
	Transit Plazas (Sizing Assumptions)			14.4.2.4	
	Pick-up Drop Off (Total Area)			14.4.2.5	
	Pick-up Drop Off (Sizing Assumptions)			14.4.2.5	
	2029 Parking Totals				Sidewalks and landscaping are also included in parking area.
	2040 Parking Totals				Sidewalks and landscaping are also included in parking area.

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	Function Name	Required Area (SF) Minimum	Formula	Chapter 14:Stations	Comments
Non-Public Station Staff Only	Ticket Sales Office	225		14.3.5.7.A	75 SF per window , 3 ticket sales windows
	Ticket Admin., Handling & Storage	260		14.3.5.6.B 14.3.5.7 14.3.6.2.C-D	Ticket Administration Office
	Lost & Found & First Aid Room	200		14.3.6.1E-F	
	Station Control Room (SCR)	1,100		14.3.6.2.E	
	SCR Dedicated Computer Room	500		14.3.6.2.F	
	Temporary Incident Command Post (CP)	300		14.3.6.2.G	
	SOR Workroom	1,100		14.3.6.2.H	
	SOR Dedicated Computer Room	500		14.3.6.2.F-H	
	Staff Lockers, Showers, Restrooms	780	CBC 2016, CPC 2016	14.3.6.1.I	2016_ Business Plan Operations and Maintenance Cost Model, Table 20- Station Service Level C, Table 21, Table 24, Table 28. Assumed administration staff, police, security and cleaning personnel 27. B Business Occupancy, 14 Male, 14 Female. Female: 2 Watercloset, 1 Lavatory Male: 1 Watercloset, 1 Urinal, 1 Lavatory 2 Staff Shower Rooms adjacent to Locker rooms and Restrooms
	Janitor Closets	60		14.3.7.1.C	
	Staff Breakroom & Meeting Rooms	675	27/shift x 25SF	14.3.6.1G-H	200 SF min or as req to provide 25 SF /staff
	Station Manager Office	270		14.3.6.1A	270 SF
	Facility Manager's Office	270		14.3.6.1C	
	Admin Office Space	270		14.3.6.1.B	
	Facilities Maintenance Office	330		14.3.6.1.C	
Station General Storage Rooms	200		14.3.7.1.E	Add 60 SF for misc. if required.	
Platform Area Op. Mgt. Booth	200	100 SF x (2)	14.3.6.2.I	OMB shall be provided on each platform, 2 platforms	
Building Services and Plant Rooms	Mech., Elec. & Plumbing Rooms	1,000		14.3.7.2	
	Battery Room	400	200 SF x (2)	14.3.7.4.B	Two rooms req, including one room at each end of station for LV batteries.
	UPS Room	1,800	900 SF x (2)	14.3.7.2.C	Two rooms req., one at each end of station for low voltage (LV) distribution, transforming, EP
	Fire Detection & Protection Rooms	100		14.3.7.2.C	
	Train Control /Communications Room	1,915		14.3.7.2.E	Table 14-8 For the train control and communications equipment
	Entrance Facility Room	240		14.3.7.2.E	Table 14-8 For entry of service cabling into the building. May be co-located with the TCC room.
	3rd Party Telecom Room	120		14.3.7.2.E	Table 14-8
	Communications Closets	390	130 SFx (3)	14.3.7.2.E	Table 14-8 Number TBD. Locate close to center of each 10,000 SF of Station Floor Area
Renewable Energy/Stormwater	0				

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STATION TYPE: Intermediate, Full-Service, Large: based on Chapter 14 Stations Design Criteria, Table 14-3					
	Function Name	Required Area (SF) Minimum	Formula	Chapter 14:Stations	Comments
Maint. Support Areas	Main Station Building Recycling/Refuse	150		14.3.7.1.A	
	Secondary Station Building Recycling	60		14.3.7.1.C	
	Landscape Maintenance Room	100		14.3.7.1.F	
	Loading Zone and Service Entrance	800		14.3.7.1.G	
	Loading Dock	480	24 Ft wide x 20 Ft deep	14.3.7.1.H	
SUBTOTAL		70,977 SF			
Efficiency Factor		2			
TOTAL AREA- MAIN STATION BUILDING		141,954 SF			
TOTAL AREA-Substation:		10,000 SF			
TOTAL:		151,954 SF			

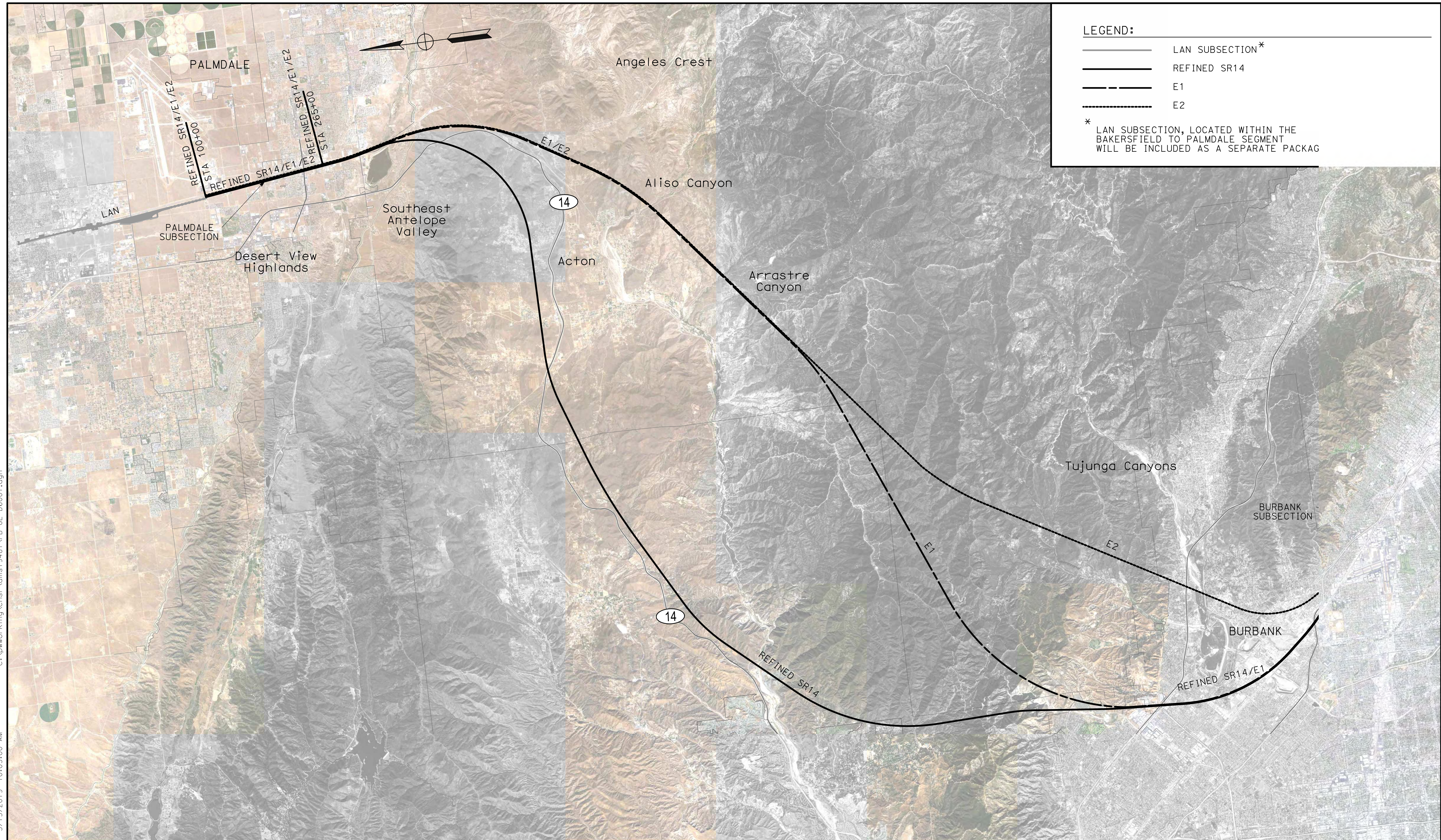
Burbank Subsection

DRAFT PEPD REV01

Track Alignment Plans
February 2019



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LEGEND:

- LAN SUBSECTION*
- REFINED SR14
- E1
- E2

* LAN SUBSECTION, LOCATED WITHIN THE BAKERSFIELD TO PALMDALE SEGMENT WILL BE INCLUDED AS A SEPARATE PACKAG

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA
 DRAWN BY
JC ALAMILLA
 CHECKED BY
R. RODRIGUEZ
 IN CHARGE
A. RELANO
 DATE
02/01/2019

**BURBANK
 SUBSECTION
 DRAFT PEPD
 REV 01**

**NOT FOR
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT
 PALMDALE TO BURBANK**

BURBANK SUBSECTION
 OVERALL PROJECT SEGMENTS
 ALIGNMENTS "REFINED SR14/E1/E2"

CONTRACT NO.
HSR14-42
 DRAWING NO.
GE-D6001
 SCALE
AS SHOWN
 SHEET NO.

GENERAL

DRAWING NO.	DESCRIPTION	SHEET NO.
GE-D6001	OVERALL PROJECT SEGMENTS	
TT-B0001	INDEX OF DRAWINGS	
TT-B0004	ABBREVIATIONS	
TT-B0005	ABBREVIATIONS AND LEGEND	

BURBANK AIRPORT STATION

DRAWING NO.	DESCRIPTION	SHEET NO.
TT-C6001-BUR	HIGH SPEED RAIL PLANS - KEY MAP	
TT-D1001A-BUR	PLAN AND PROFILE - STA 2226+00.00 TO STA 2254+47.54	
TT-D1002A-BUR	SB PLATFORM TRACK - PLAN AND PROFILE - STA 3220+87.48 TO STA 3254+47.54	
TT-D1003A-BUR	NB PLATFORM TRACK - PLAN AND PROFILE - STA 4230+87.49 TO STA 4296+77.55	
TT-D1004A-BUR	NB REFUGE TRACK - PLAN AND PROFILE - STA 5219+79.818 TO STA 5239+77.524	

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JC ALAMILLA
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SUBSECTION
DRAFT PEPD
REV 01**

**NOT FOR
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK**

BURBANK SUBSECTION

GENERAL
INDEX OF DRAWINGS

CONTRACT NO.
HSR14-42
DRAWING NO.
TT-B0001
SCALE
NO SCALE
SHEET NO.

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A

AB AGGREGATE BASE
 ABBC ASBESTOS BONDED BITUMINOUS COATED
 ABM AIR-BLOWN MORTAR
 ABN ABANDON
 ABUT ABUTMENT
 AC ASPHALT CONCRETE
 ACB ASPHALT CONCRETE BASE
 ACP ASBESTOS CEMENT PIPE
 ADL ADDED DEAD LOAD
 ADJ ADJUST
 AFES ALTERNATIVE FLARED END SECTION
 AHD AHEAD
 ALT ALTERNATE
 AM TIME FROM MIDNIGHT TO NOON
 AP ALTERNATIVE PIPE
 APC ALTERNATIVE PIPE CULVERT
 APPROX APPROXIMATE
 APU ALTERNATIVE PIPE UNDERDRAIN
 ARS ACCELERATION RESPONSE SPECTRUM
 AR ACCESS RESTRICTION
 AS AGGREGATE SUBBASE
 ASRP ALUMINUM SPIRAL RIB PIPE
 ASSY ASSEMBLY
 ATPB ASPHALT TREATED PERMEABLE BASE
 ATPM ASPHALT TREATED PERMEABLE MATERIAL
 AVE AVENUE
 AVG AVERAGE
 @ AT

B

BAGR BRIDGE APPROACH GUARD RAILING
 BB BEGINNING OF BRIDGE
 BC BEGIN HORIZONTAL CURVE
 BCC BALANCED CANTILEVER CONSTRUCTION
 BCR BEGIN CURB RETURN
 BEG BEGIN
 BIT CTD BITUMINOUS COATED
 BK BACK
 BKF BACKFILL
 BLDG BUILDING
 BLM BRIDGE-LOG MILE
 BLVD BOULEVARD
 BM BENCH MARK
 BND BOUND
 BOT BOTTOM
 BR BRIDGE
 BRG BEARING
 BTU BRITISH THERMAL UNIT
 BVC BEGIN VERTICAL CURVE
 BW BARBED WIRE

C

CAA CABLE ANCHOR ASSEMBLY
 CAP CORRUGATED ALUMINUM PIPE
 CAPA CORRUGATED ALUMINUM PIPE ARCH
 CAS CONSTRUCTION AREA SIGN
 CB CONCRETE BARRIER
 CBW CONCRETE BLOCK WALL
 C-C CENTER TO CENTER

C CONTINUED

CHSRA CALIFORNIA HIGH SPEED RAIL AUTHORITY
 CHST CALIFORNIA HIGH SPEED TRAIN
 CHSR CALIFORNIA HIGH SPEED RAIL
 CG CENTER OF GRAVITY
 CHNL CHANNEL
 CI CAST IRON
 CIDH CAST-IN-DRILLED-HOLE
 CIP,C-I-P CAST-IN-PLACE, CAST IRON PIPE
 CIPCP CAST IN PLACE CONCRETE PIPE
 CISS CAST-IN-STEEL-SHELL
 CJP COMPLETE JOINT PENETRATION
 CL CENTERLINE, CLASS
 CL CENTERLINE
 CL2 CLASS 2
 CL-6 CHAIN LINK FENCE (6 FT)
 CLR CLEAR, CLEARANCE
 CM CORRUGATED METAL
 CMP CORRUGATED METAL PIPE
 CO COUNTY
 COL COLUMN
 CONC CONCRETE
 COND CONDUIT
 CONN CONNECTOR
 CONST CONSTRUCT, CONSTRUCTION
 CONT CONTINUOUS
 COORD COORDINATE
 CP CANDLEPOWER
 CR CREEK
 CRCP CONTINUOUS REINFORCED CONCRETE PAVT
 CRSP CONCRETED ROCK SLOPE PROTECTION
 CS CURVE TO SPIRAL
 CSP CORRUGATED STEEL PIPE
 CSPA CORRUGATED STEEL PIPE ARCH
 CTB CEMENT TREATED BASE
 CTPB CEMENT TREATED PERMEABLE BASE
 CTPM CEMENT TREATED PERMEABLE MATERIAL
 CTRS CENTERS
 CULV CULVERT
 CVFPB CENTRAL VALLEY FLOOD PROTECTION BOARD

D

D DEPTH
 DD DOWNDRAIN, DIRECTIVE DRILLING
 DBL DOUBLE
 DEG DEGREE
 DEL DELINEATOR
 DET DETAIL, DETOUR
 DF DOUGLAS FIR
 DI DRAINAGE INLET, DROP INLET
 DIA DIAMETER
 DIAPH DIAPHRAGM
 DIST DISTANCE, DISTRICT
 DMBB DOUBLE METAL BEAM BARRIER
 DR DRIVE
 DTBB DOUBLE THRIE BEAM BARRIER
 DWY DRIVEWAY

E

E EAST, EASTING
 EA ACTUAL SUPERELEVATION
 EU UNBALANCED SUPERELEVATION

E CONTINUED

EASE EASEMENT
 EB END OF BRIDGE, EASTBOUND
 EC END HORIZONTAL CURVE
 ECR END CURB RETURN
 ED EDGE DRAIN
 EDC EDGE DRAIN CLEANOUT
 EDO EDGE DRAIN OUTLET
 EDV EDGE DRAIN VENT
 ELEC ELECTROLIER
 ELECT ELECTRIC
 ELEV ELEVATION
 ELLN EXTRALEGAL LEAD NETWORK
 EMB EMBANKMENT
 ENGR ENGINEER
 EOD EDGE OF DECK
 EP EDGE OF PAVEMENT
 EQ EQUATION, EQUAL
 ES EDGE OF SHOULDER
 ETW EDGE OF TRAVELED WAY
 EVC END VERTICAL CURVE
 EW ENDWALL
 EXC EXCAVATION
 EXIST, EX. EXISTING
 EXP EXPANSION
 EXP JT EXPANSION JOINT
 EXT EXTERIOR
 EXWY EXPRESSWAY

F

F & C FRAME AND COVER
 F & G FRAME AND GRATE
 FB FLOOR BEAM
 F-B FRESNO TO BAKERSFIELD
 FDN FOUNDATION
 FEBT FACING EASTBOUND TRAFFIC
 FES FLARED END SECTION
 FF FILTER FABRIC
 FG FINISHED GRADE
 FH FIRE HYDRANT
 FIG FIGURE
 FL FLOW LINE
 FNBT FACING NORTHBOUND TRAFFIC
 FOC FACE OF CONCRETE
 FPLM FULL SPAN PRECAST LAUNCHING METHOD FRONTAGE ROAD
 FR RD FRONTAGE ROAD
 FS FAR SIDE, FINISHED SURFACE
 FSBT FACING SOUTHBOUND TRAFFIC
 FT FOOT, FEET
 FTG FOOTING
 FUT FUTURE
 FWBT FACING WESTBOUND TRAFFIC
 FWY FREEWAY

G

G ACCELERATION DUE TO GRAVITY
 GA GAGE
 GALV GALVANIZED
 GP GRADING PLANE
 GR GUARD RAILING
 GSP GALVANIZED STEEL PIPE
 GTR GUTTER

H

H HEIGHT
 HD HORIZONTAL DRAIN
 HDC HIGH DESERT CORRIDOR
 HDWL HEADWALL
 HEX HD HEXAGONAL HEAD
 HMA HOT MIXED ASPHALT
 HORIZ HORIZONTAL
 HP HINGE POINT, HORSEPOWER
 HPS HIGH PERFORMANCE STEEL
 HR HOUR
 HS HIGH STRENGTH
 HSR HIGH SPEED RAIL
 HST HIGH SPEED TRAIN
 HW HEADWALL, HIGH WATER
 HWM HIGH WATER MARK
 HWY HIGHWAY

I

IB IMPORTED BORROW
 ID INSIDE DIAMETER
 IF INSIDE FACE
 IN INCH, INCHES
 INT INTERIOR
 INV INVERT
 IRR IRRIGATION

J

JCT JUNCTION
 JP JOINT POLE
 JPCP JOINTED PLAIN CONCRETE PAVEMENT
 JS JUNCTION STRUCTURE
 JT JOINT

K

K DISTANCE TO ACHIEVE 1% GRADE CHANGE

L

L LENGTH
 LAT LATITUDE
 LC LENGTH OF CURVE
 LCB LEAN CONCRETE BASE
 LMF LIGHT MAINTENANCE FACILITY
 LN LANE
 LOC LOCATION
 LOL LAYOUT LINE
 LONG LONGITUDE
 LONGIT LONGITUDINAL
 LS LENGTH OF SPIRAL
 LT LEFT

M

MAINT MAINTENANCE
 MAX MAXIMUM
 MB METAL BEAM
 MBB METAL BEAM BARRIER
 MBGR METAL BEAM GUARD RAILING
 MED MEDIAN
 M-F MERCED TO FRESNO
 MH MANHOLE
 MIN MINIMUM
 MISC MISCELLANEOUS
 MISC I & S MISCELLANEOUS IRON AND STEEL
 MKR MARKER
 M/L MAIN LINE (RAILWAY)

M CONTINUED

MOD MODIFIED, MODIFY
 MON MONUMENT
 MP METAL PLATE
 MPGR METAL PLATE GUARD RAILING
 MPH MILES PER HOUR
 MR MOVEMENT RATING
 MSE MECHANICALLY STABILIZED EARTH
 MSS MOVING SCAFFOLDING SYSTEM
 MT MAIN TRACK
 MTL MATERIAL

N

N NORTH, NORTHING
 N/A NOT APPLICABLE
 NB NORTHBOUND
 NO. NUMBER (MUST HAVE PERIOD)
 NOS. NUMBERS (MUST HAVE PERIOD)
 NPS NOMINAL PIPE SIZE
 NS NEAR SIDE
 NTS NOT TO SCALE

O

OBLR OBLITERATE
 OC OVERCROSSING
 OCS OVERHEAD CONTACT SYSTEM
 OD OUTSIDE DIAMETER
 OF OUTSIDE FACE
 OG ORIGINAL GROUND
 OGAC OPEN GRADED ASPHALT CONCRETE
 OH OVERHEAD
 O-O OUT TO OUT
 OPP OPPOSITE

P

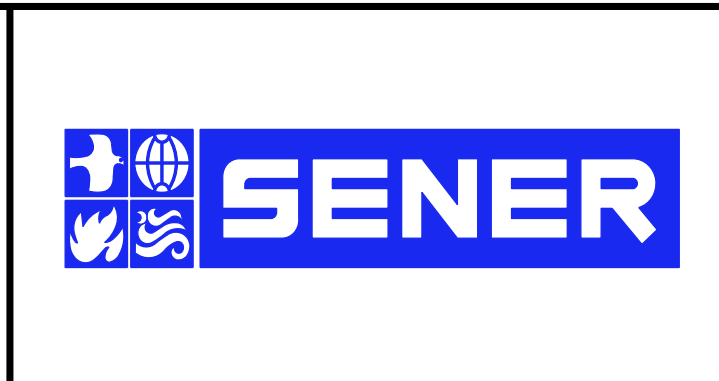
P PAGE
 PAP PERFORATED ALUMINUM PIPE
 PB PULL BOX
 PC POINT OF CURVATURE, PRECAST
 PCC POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
 PCP PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
 PCVC POINT OF COMPOUND VERTICAL CURVE
 PED PEDESTRIAN
 PED OC PEDESTRIAN OVERCROSSING
 PED UC PEDESTRIAN UNDERCROSSING
 PERM MTL PERMEABLE MATERIAL
 PG PROFILE GRADE
 PI POINT OF INTERSECTION
 PJP PARTIAL JOINT PENETRATION
 P,PL PLATE
 P/L PROPERTY LINE
 PM POST MILE, TIME FROM NOON TO MIDNIGHT
 PN PAVING NOTCH
 POB POINT OF BEGINNING
 POC POINT OF HORIZONTAL CURVE
 POE POINT OF ENDING
 POT POINT OF TANGENT
 POVC POINT OF VERTICAL CURVE
 PP PIPE PILE, PLASTIC PIPE, POWER POLE
 PPL PREFORMED PERMEABLE LINER
 PPP PERFORATED PLASTIC PIPE
 PRC POINT OF REVERSE CURVE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA
 DRAWN BY
JC ALAMILLA
 CHECKED BY
R. RODRIGUEZ
 IN CHARGE
A. RELANO
 DATE
02/01/2019

**BURBANK
 SUBSECTION
 DRAFT PEPD
 REV 01**

**NOT FOR
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT
 PALMDALE TO BURBANK**
 BURBANK SUBSECTION

GENERAL
 ABBREVIATIONS

CONTRACT NO.
 HSR14-42
 DRAWING NO.
 TT-B0004
 SCALE
 NO SCALE
 SHEET NO.

P CONTINUED

PRF PAVEMENT REINFORCING FABRIC
 PROP PROPOSED
 PRVC POINT OF REVERSE VERTICAL CURVE
 PS&E PLANS, SPECIFICATIONS AND ESTIMATES
 PS, P/S PRESTRESSED, PARALLEL STATION
 PSP PERFORATED STEEL PIPE
 PT POINT OF TANGENCY
 PVC POLYVINYL CHLORIDE
 PVI POINT OF VERTICAL INTERSECTION
 PVMT PAVEMENT
 PVP MAINTENANCE VEHICLE PULLOUT

Q

QTY QUANTITY

R

R RADIUS
 R & D REMOVE AND DISPOSE
 R & S REMOVE AND SALVAGE
 R/C RATE OF CHANGE
 RCA REINFORCED CONCRETE ARCH
 RCB REINFORCED CONCRETE BOX
 RCP REINFORCED CONCRETE PIPE
 RCPA REINFORCED CONCRETE PIPE ARCH
 RD ROAD
 REINF REINFORCED, REINFORCEMENT, REINFORCING
 REL RELOCATE
 REPL REPLACEMENT
 RET RETAINING
 REV REVISED
 RDWY ROADWAY
 RM ROAD-MIXED
 R/W, ROW RIGHT OF WAY
 RP RADIUS POINT, REFERENCE POINT
 RR RAILROAD
 RSP ROCK SLOPE PROTECTION
 RT RIGHT
 RTE ROUTE
 RW REDWOOD, RETAINING WALL
 RWY RAILWAY

S

S SOUTH, SUPPLEMENT, STATION LINE
 SAE STRUCTURE APPROACH EMBANKMENT
 SALV SALVAGE
 SAPP STRUCTURAL ALUMINUM PLATE PIPE
 SB SOUTHBOUND
 SC SPIRAL TO CURVE
 SCRRRA SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
 SCSP SLOTTED CORRUGATED STEEL PIPE
 SD STORM DRAIN
 SEC SECOND
 SECT SECTION
 SEP SEPARATION
 SG SUBGRADE
 SHLD SHOULDER
 SHT SHEET
 SIM SIMILAR
 SM SELECTED MATERIAL
 SPEC SPECIAL, SPECIFICATIONS
 SPP SLOTTED PLASTIC PIPE
 SS SLOPE STAKE, SPIRAL TO SPIRAL

S CONTINUED

SSBM STRAP AND SADDLE BRACKET METHOD
 SSD STRUCTURAL SECTION DRAIN
 SSPA STRUCTURAL STEEL PLATE ARCH
 SSPP STRUCTURAL STEEL PLATE PIPE
 SSPPA STRUCTURAL STEEL PLATE PIPE ARCH
 SSRP STEEL SPIRAL RIB PIPE
 SR STATE ROUTE
 ST STREET, SPIRAL TO TANGENT STATION
 STBB SINGLE THRIE BEAM BARRIER
 STD STANDARD
 STR STRUCTURE
 SRS STAND ALONE RADIO SITE
 SURF SURFACING
 SW SIDEWALK, SOUND WALL
 SWR SEWER
 SWS SWITCHING STATION
 SYM SYMMETRICAL
 S4S SURFACE 4 SIDES

T

T SEMI-TANGENT
 TAB TABLET
 TAN TANGENT
 TBB THRIE BEAM BARRIER
 TBR TIMBER
 TC TOP OF CURB, TANGENT TO CURVE
 TCB TRAFFIC CONTROL BOX
 TEL TELEPHONE
 TEMP TEMPORARY
 TG TOP OF GRADE
 TM TECHNICAL MEMORANDUM
 TOT TOTAL
 TP TELEPHONE POLE
 TPB TREATED PERMEABLE BASE
 TPM TREATED PERMEABLE MATERIAL
 TPSS TRACTION POWER SUPPLY STATION
 TRANS TRANSITION, TRANSVERSE
 TANGENT TO SPIRAL
 TSMF TERMINAL STORAGE AND MAINTENANCE FACILITY
 TYP TYPICAL
 TOR TOP OF RAIL

U

UC UNDERCROSSING
 UD UNDERDRAIN
 UON UNLESS OTHERWISE NOTED
 UP UNDERPASS
 UPRR UNION PACIFIC RAILROAD
 USFWS UNITED STATES FISH AND WILDLIFE SERVICE

V

V VALVE,
 DESIGN SPEED
 VAR VARIABLE
 VC VERTICAL CURVE
 VCP VITRIFIED CLAY PIPE
 VERT VERTICAL
 VIA VIADUCT
 VOL VOLUME

W

W WEST,
 WIDTH
 WB WESTBOUND
 WH WEEP HOLE
 WM WIRE MESH
 WS WATER SURFACE
 WSP WELDED STEEL PIPE
 WT WEIGHT
 WV WATER VALVE
 WW WINGWALL
 WWLWL WINGWALL LAYOUT LINE
 W/ WITH

X

X SEC CROSS SECTION
 XING CROSSING

Y

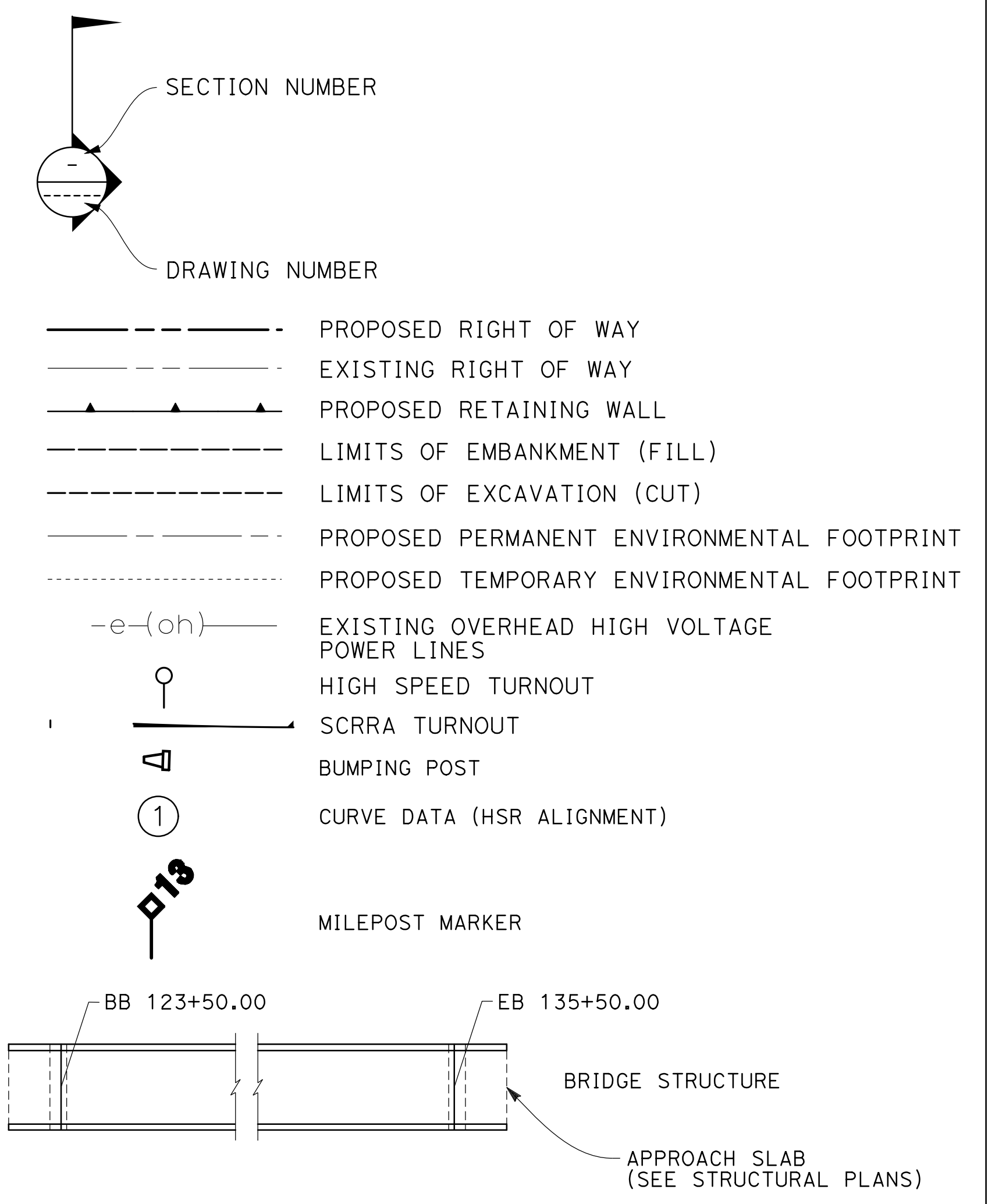
YR YEAR
 YRS YEARS

GENERAL NOTES

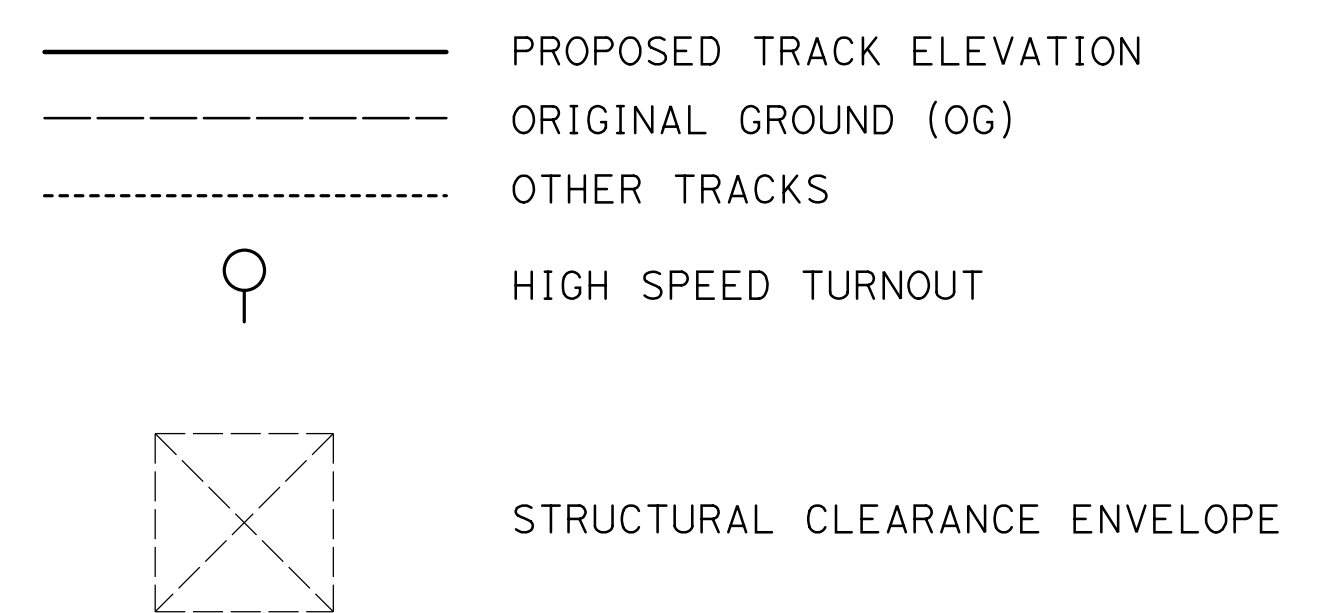
1. TRACK PROFILE IS DESIGNED AS CENTERLINE AT THE TOP OF THE SB LOW RAIL.
2. MINIMUM VERTICAL CLEARANCE REQUIREMENTS TO CANALS AND DITCHES ARE NOT KNOWN. FURTHER CONSULTATION WITH THE WATERCOURSE OWNERS WILL BE REQUIRED TO DETERMINE NECESSARY CLEARANCES. 3'-0" FREEBOARD HAS BEEN ALLOWED OVER THE 100-YEAR FLOOD LEVEL ELEVATIONS OF THE WASHES AND LA RIVER.
3. THE FOLLOWING ARE ROADWAY DESIGN STANDARD AND GUIDELINES:
 A. CALTRANS HIGHWAY DESIGN MANUAL (2006)
 B. AASHTO ROADSIDE DESIGN GUIDE (2006)
 C. APPLICABLE LOCAL DESIGN STANDARD AND GUIDELINES (I.E., CITY OF LOS ANGELES)
4. FOR ROADWAY IMPROVEMENTS, SEE ROADWAY PLANS.
5. FINAL SLOPES TO BE DEFINED AT A LATER STAGE, WHEN THE GEOTECHNICAL STUDY IS AVAILABLE.
6. STRUCTURE DIMENSIONS ARE INDICATIVE.

LEGEND

PLAN



PROFILE



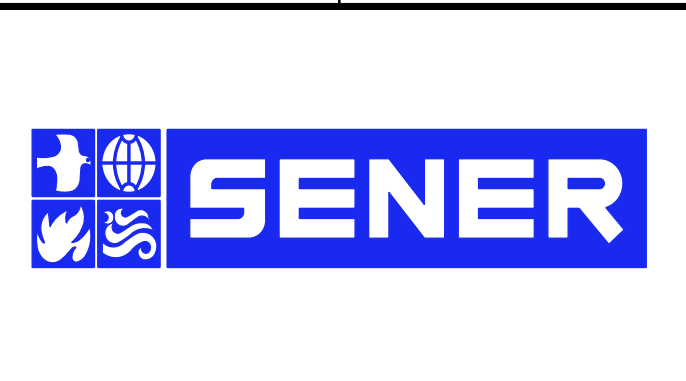
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA
 DRAWN BY
JC ALAMILLA
 CHECKED BY
R. RODRIGUEZ
 IN CHARGE
A. RELANO
 DATE
02/01/2019

BURBANK SUBSECTION DRAFT PEPP REV 01

NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
 BURBANK SUBSECTION

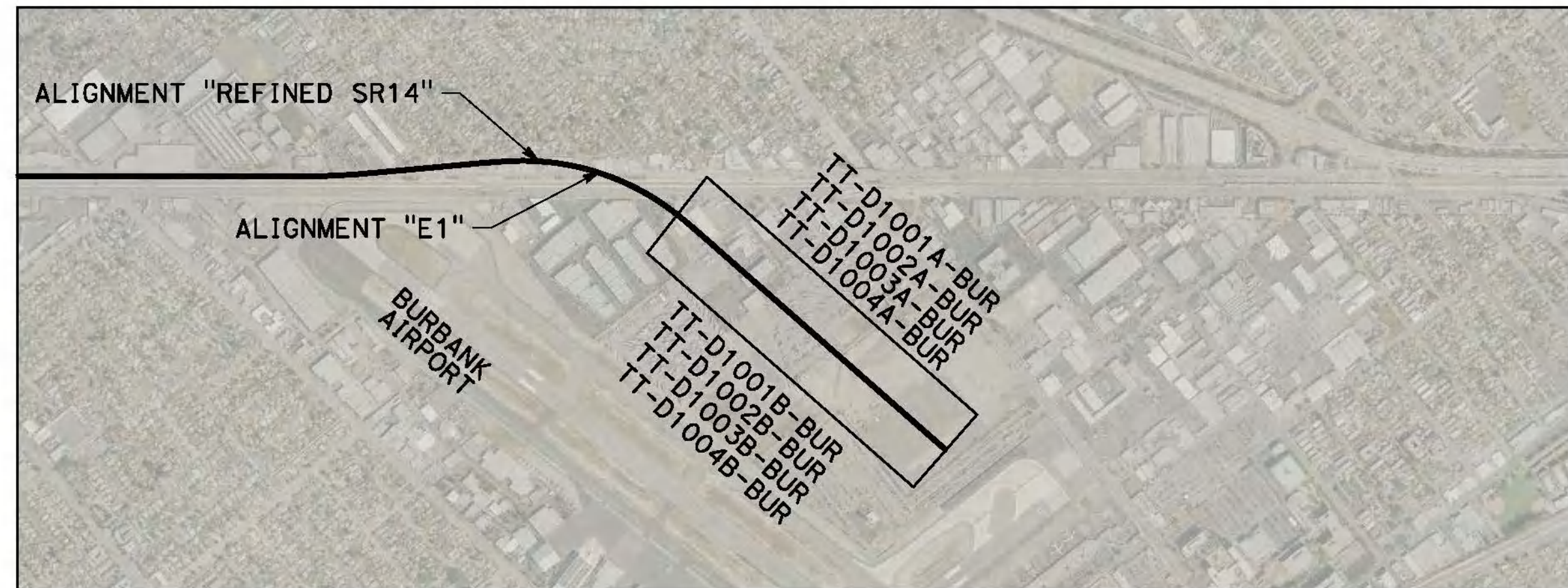
GENERAL ABBREVIATIONS AND LEGEND

CONTRACT NO.
 HSR14-42
 DRAWING NO.
 TT-B0005
 SCALE
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 SHEET NO.

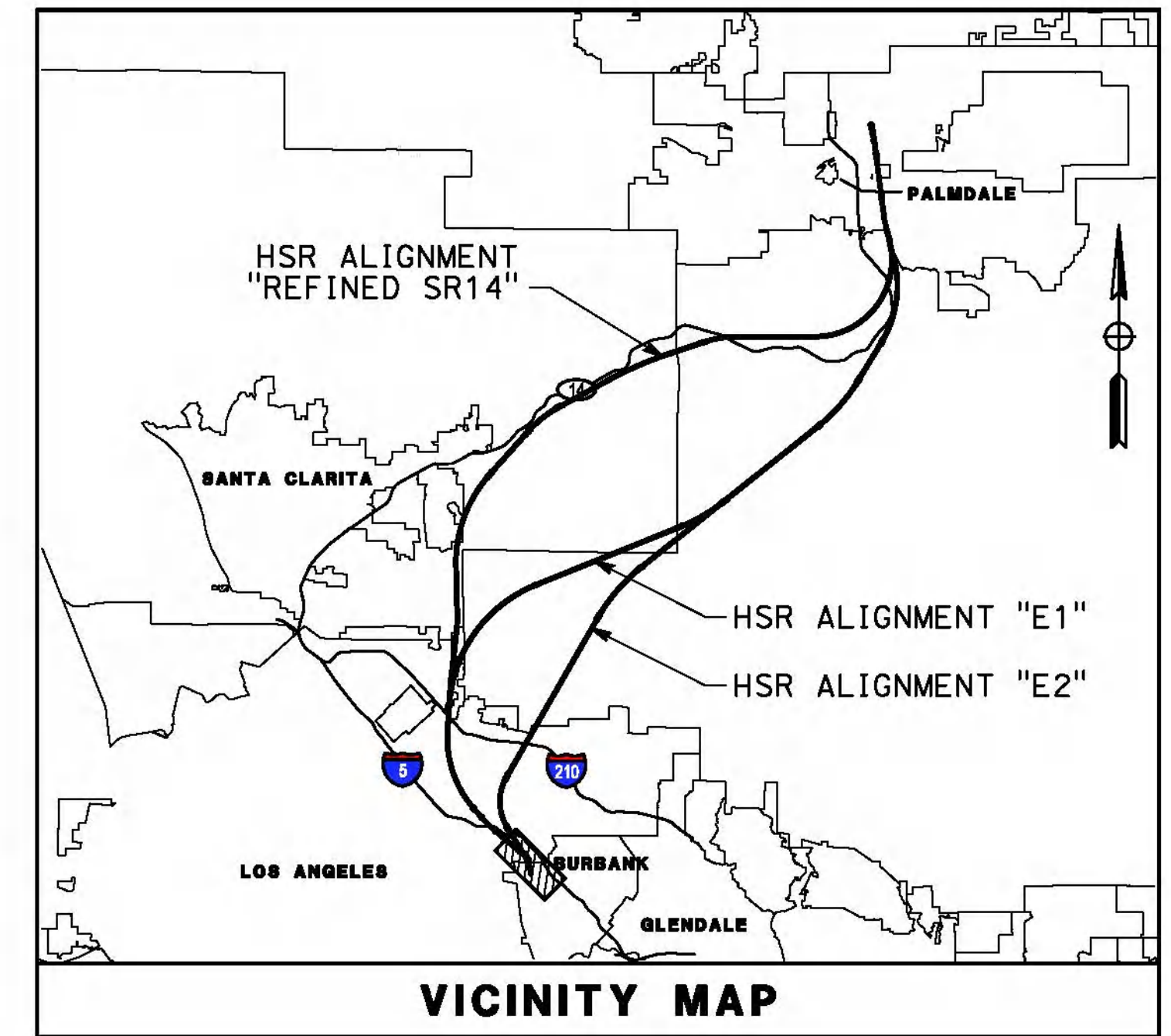
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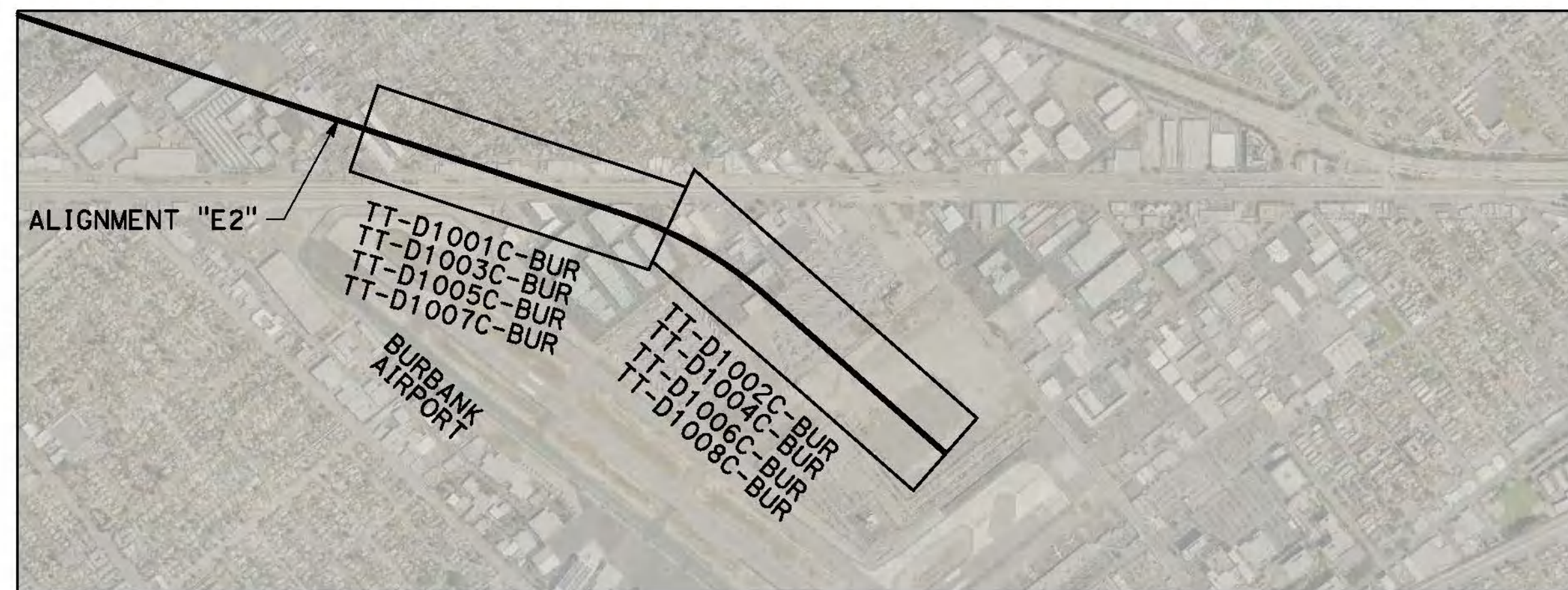
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BURBANK AIRPORT STATION TRACKS

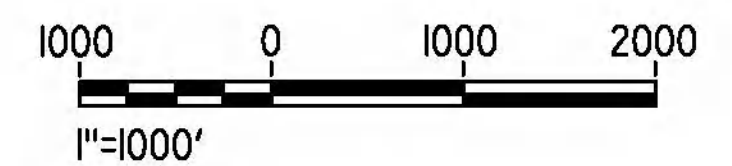


VICINITY MAP



BURBANK AIRPORT STATION TRACKS

	E1	REFINED SR14
MAINLINE	TT-D1001B-BUR	TT-D1001A-BUR
SB STATION TRACK	TT-D1002B-BUR	TT-D1002A-BUR
NB STATION TRACK	TT-D1003B-BUR	TT-D1003A-BUR
NB REFUGE TRACK	TT-D1004B-BUR	TT-D1004A-BUR
	E2	
MAINLINE	TT-D1001C-BUR	TT-D1002C-BUR
SB STATION TRACK	TT-D1003C-BUR	TT-D1004C-BUR
NB STATION TRACK	TT-D1005C-BUR	TT-D1006C-BUR
NB REFUGE TRACK	TT-D1007C-BUR	TT-D1008C-BUR



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA
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A. RELANO
DATE
02/01/2019

**BURBANK
SUBSECTION
DRAFT PEPPD
REV 01

NOT FOR
CONSTRUCTION**

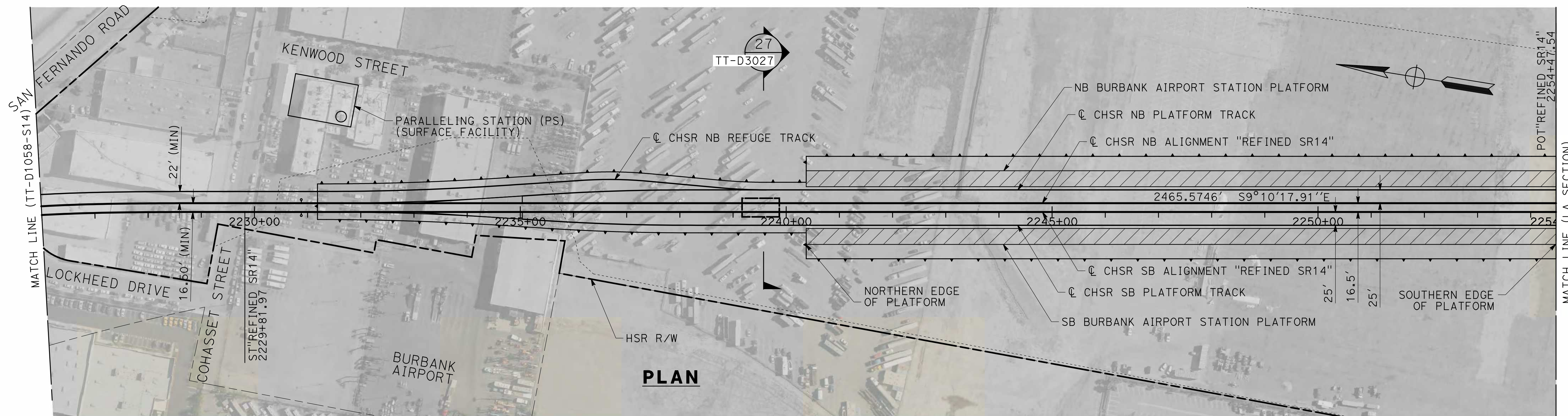


**CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION

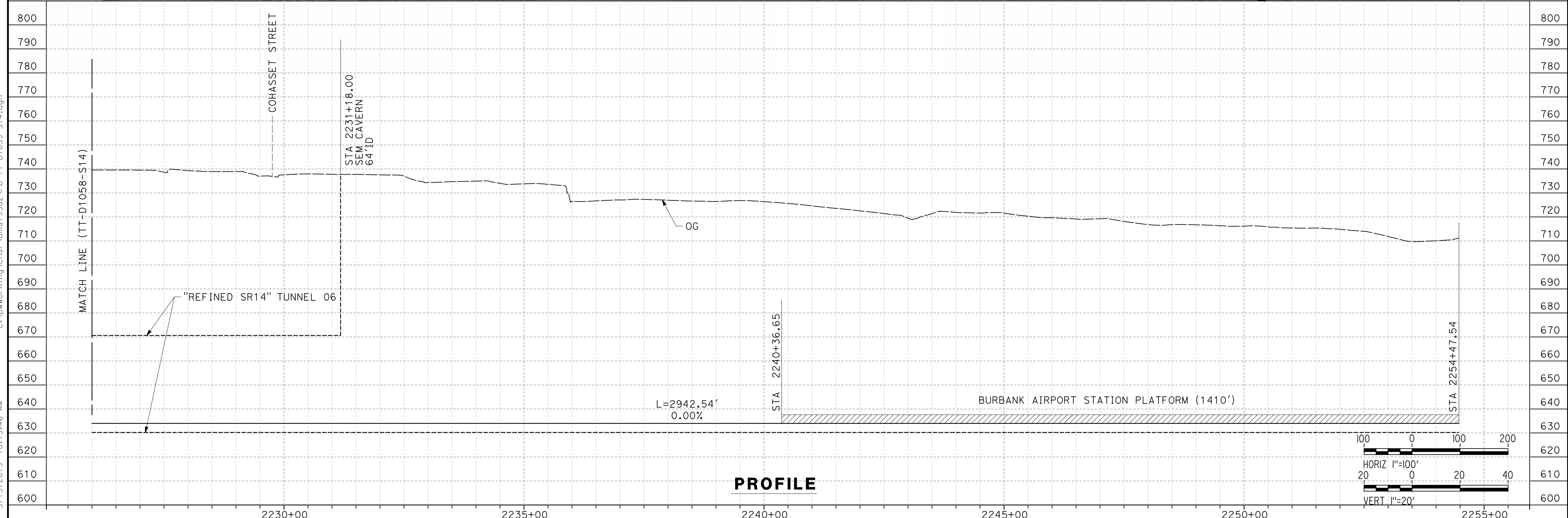
HIGH SPEED RAIL PLANS
KEY MAP**

CONTRACT NO.
HSR14-42
DRAWING NO.
TT-C6001-BUR
SCALE
AS SHOWN
SHEET NO.

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PLAN

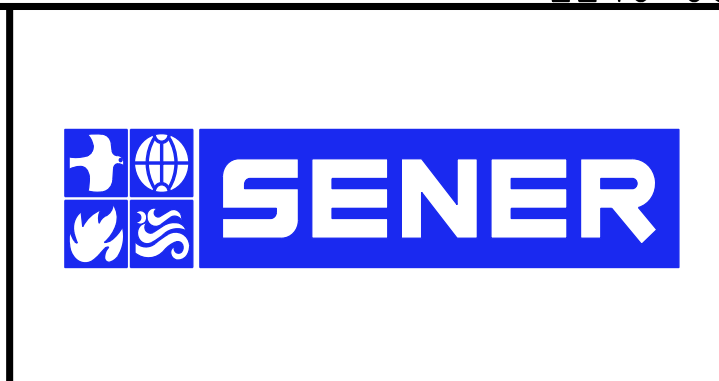


PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA
DRAWN BY
JC ALAMILLA
CHECKED BY
R. RODRIGUEZ
IN CHARGE
A. RELANO
DATE
02/01/2019

**BURBANK
SUBSECTION**
**DRAFT PEPP
REV 01**
**NOT FOR
CONSTRUCTION**



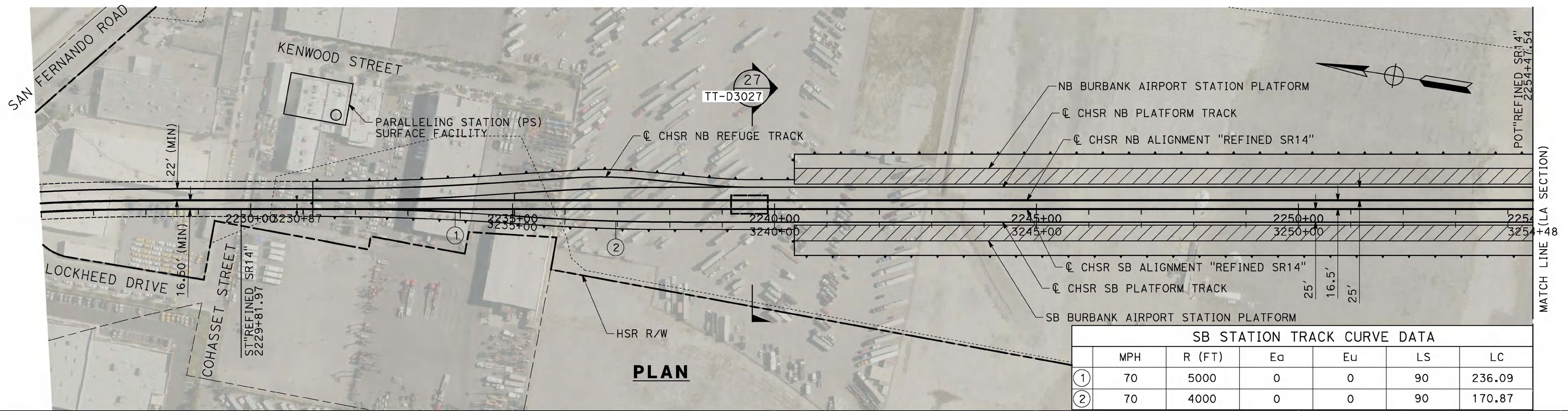
**CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK**
BURBANK SUBSECTION
ALIGNMENT "REFINED SR14"
PLAN AND PROFILE
STA 2226+00.00 TO STA 2254+47.54

CONTRACT NO.
HSR14-42
DRAWING NO.
TT-D1001A-BUR
SCALE
AS SHOWN
SHEET NO.

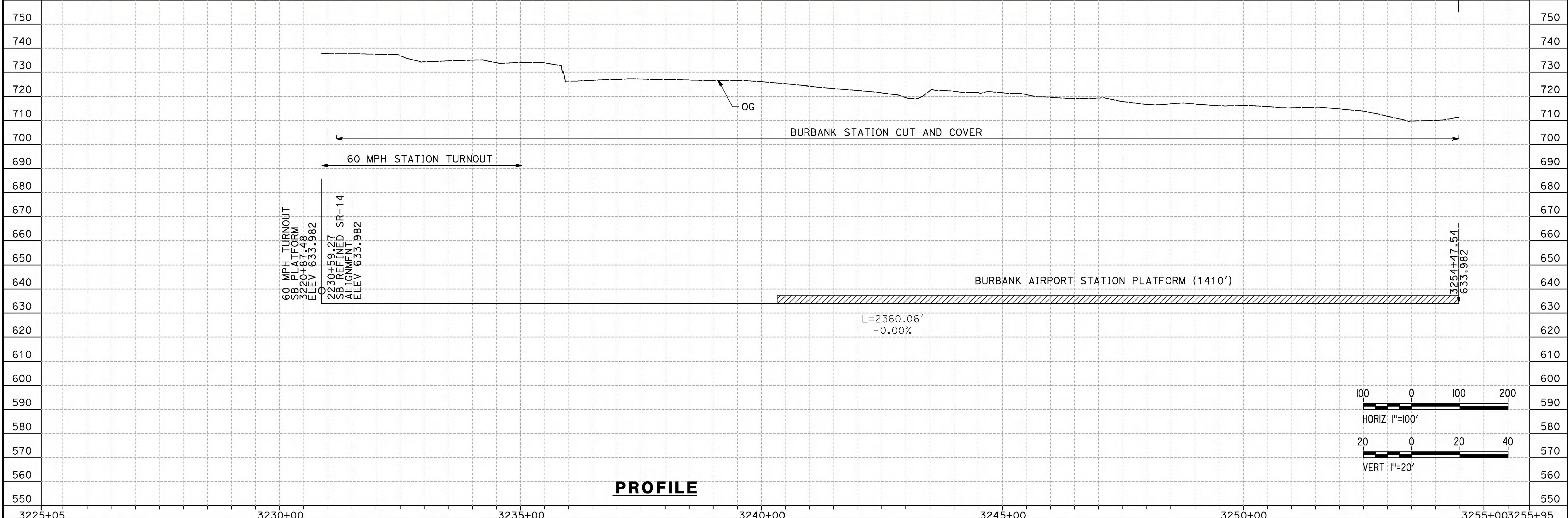
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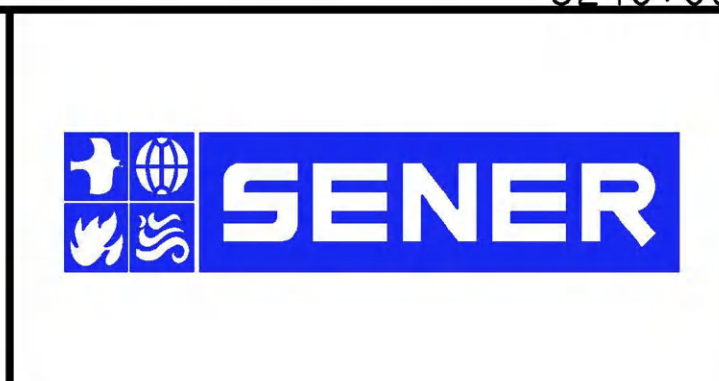
SB STATION TRACK CURVE DATA						
	MPH	R (FT)	Ea	Eu	LS	LC
①	70	5000	0	0	90	236.09
②	70	4000	0	0	90	170.87



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA
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JC ALAMILLA
CHECKED BY
R. RODRIGUEZ
IN CHARGE
A. RELANO
DATE
02/01/2019

BURBANK SUBSECTION
DRAFT PEPPD REV 01
NOT FOR CONSTRUCTION



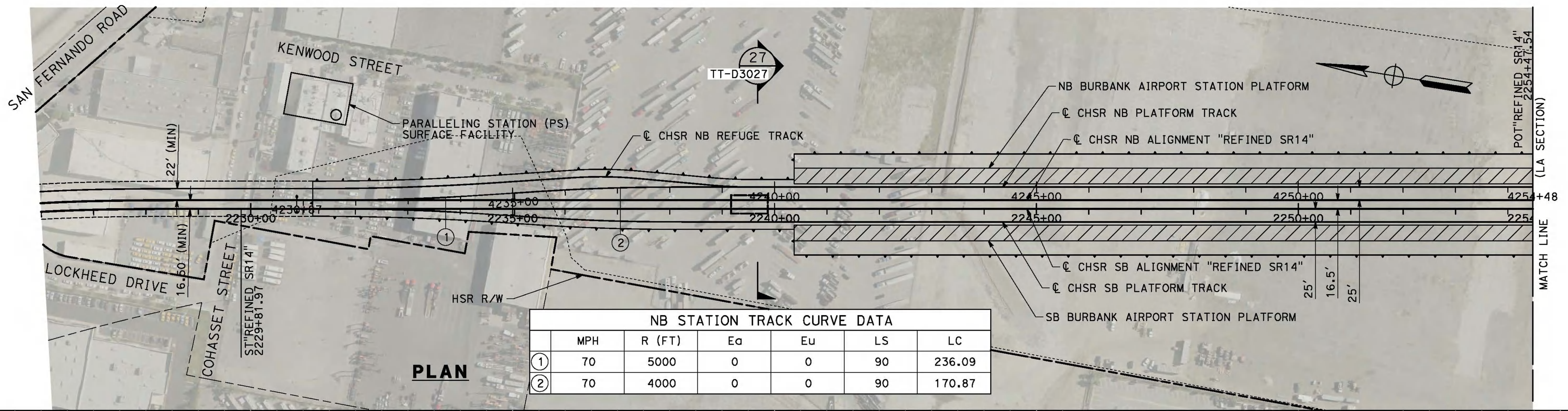
CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
SB BURBANK AIRPORT STATION PLATFORM TRACK "REFINED SR14"
PLAN AND PROFILE
STA 3220+87.48 TO STA 3254+47.54

CONTRACT NO.
HSR14-42
DRAWING NO.
TT-D1002A-BUR
SCALE
AS SHOWN
SHEET NO.

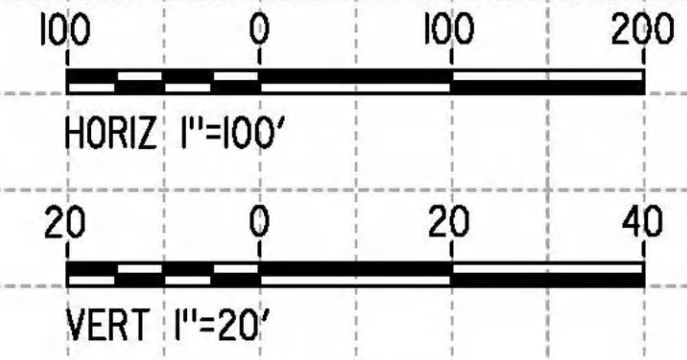
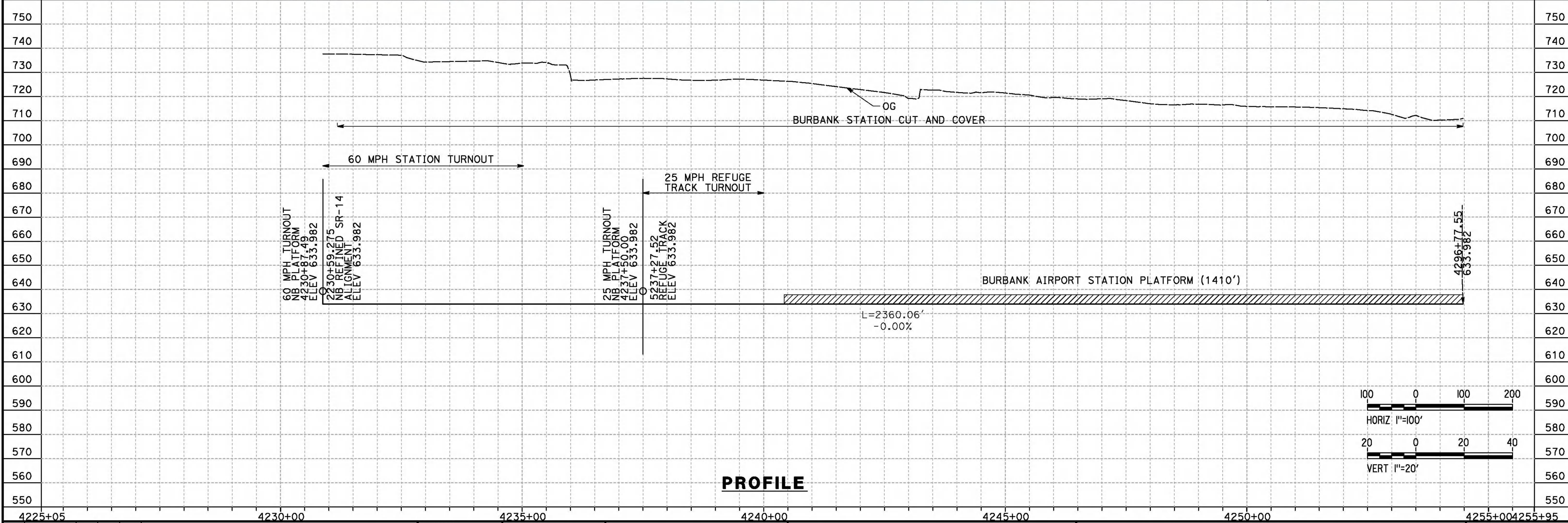
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0400061



NB STATION TRACK CURVE DATA						
	MPH	R (FT)	E _a	E _u	LS	LC
①	70	5000	0	0	90	236.09
②	70	4000	0	0	90	170.87



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA

DRAWN BY
JC ALAMILLA

CHECKED BY
R. RODRIGUEZ

IN CHARGE
A. RELANO

DATE
02/01/2019

BURBANK SUBSECTION

DRAFT PEPPD REV 01

NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED RAIL PROJECT

PALMDALE TO BURBANK

BURBANK SUBSECTION

NB BURBANK AIRPORT STATION PLATFORM TRACK "REFINED SR14"

PLAN AND PROFILE

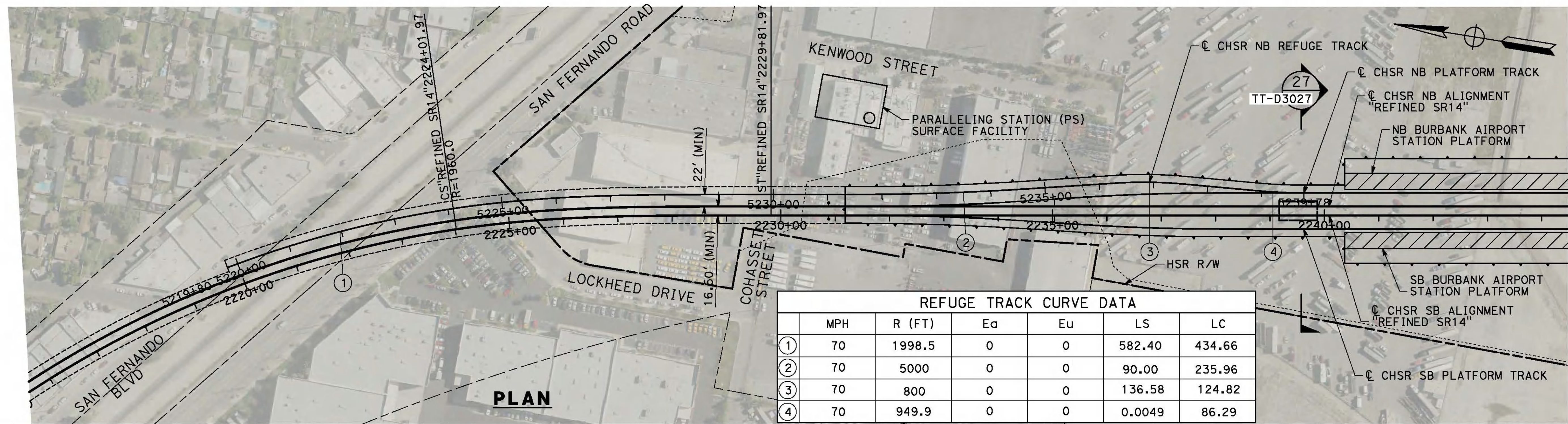
STA 4230+87.49 TO STA 4296+77.55

CONTRACT NO.
HSR14-42

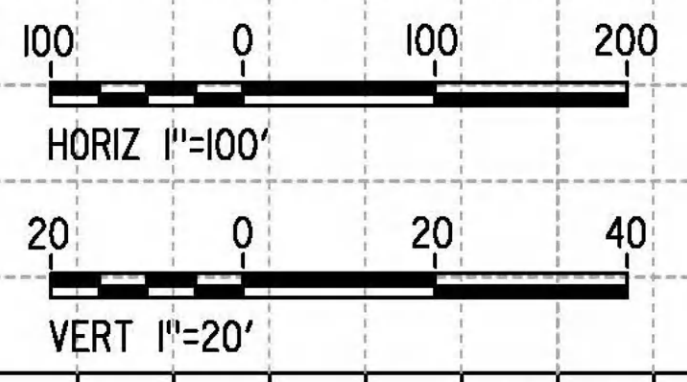
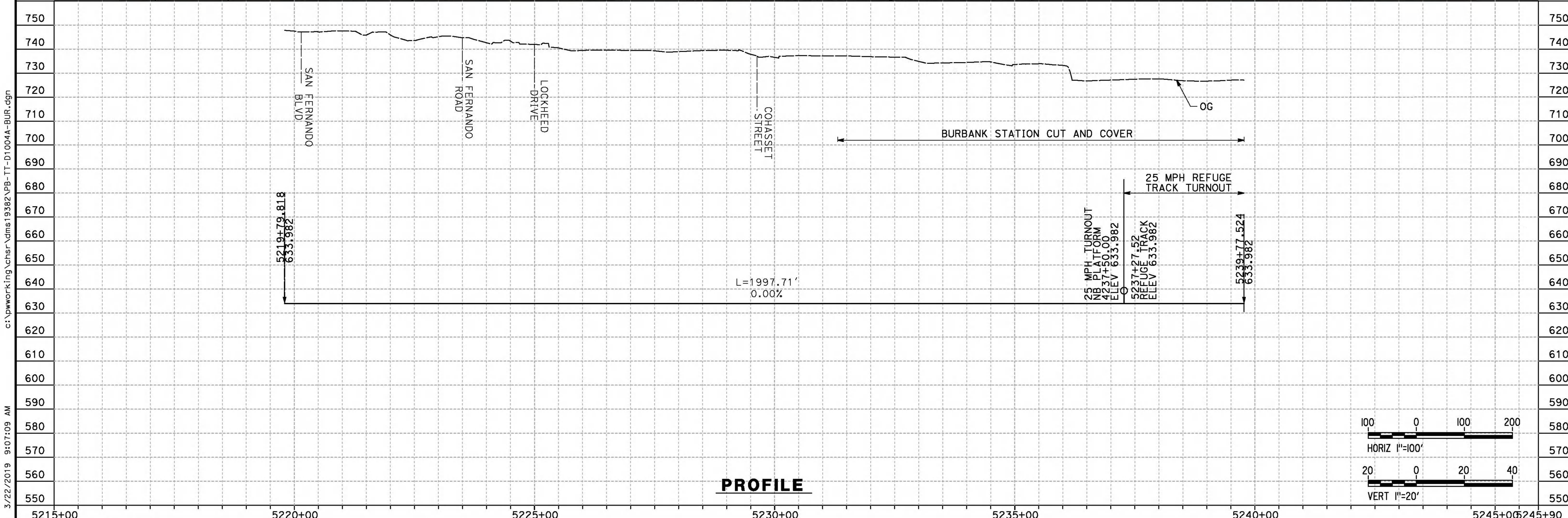
DRAWING NO.
TT-D1003A-BUR

SCALE
AS SHOWN

SHEET NO.



REFUGE TRACK CURVE DATA						
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②	70	5000	0	0	90.00	235.96
③	70	800	0	0	136.58	124.82
④	70	949.9	0	0	0.0049	86.29



PROFILE

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
JC ALAMILLA
DRAWN BY
JC ALAMILLA
CHECKED BY
R. RODRIGUEZ
IN CHARGE
A. RELANO
DATE
02/01/2019

BURBANK SUBSECTION
DRAFT PEPD REV 01
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CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
NB BURBANK AIRPORT STATION REFUGE TRACK "REFINED SR14"
PLAN AND PROFILE
STA 5219+79.818 TO STA 5239+77.524

CONTRACT NO.
HSR14-42
DRAWING NO.
TT-D1004A-BUR
SCALE
AS SHOWN
SHEET NO.

California High-Speed Rail Authority

Burbank Subsection

DRAFT PEPD REV 01

Tunnels Plans

February 2019



GENERAL

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
TN-B0003	INDEX OF DRAWINGS	
TN-B0004	ABBREVIATIONS AND LEGEND	
TN-B0005	FAULT KEY MAP	
TN-B0007	SCHEMATIC LINEAR DIAGRAMS	

BURBANK AIRPORT STATION

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
TN-B6002-S14	KEY MAP - HIGH SPEED RAIL TUNNEL PLANS	
TN-D4038-S14	PLAN	
TN-Y1021-S14	PROFILE	



TYPICAL SECTIONS AND DETAILS

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
TN-C0902	TUNNEL TYPICAL SECTION AND DETAILS. SEM SINGLE TUNNEL, 2 TRACKS+REFUGE TRACK. CLEARANCE DIAGRAM - TANGENT & SUPERELEVATED TRACK	
TN-C0903	CONSTRUCTION SEQUENCE AND SUPPORT MEASURES - SEM SINGLE TUNNEL, 2 TRACKS+REFUGE TRACK	
TN-C1104	SINGLE CELL BOX 2 TRACKS + REFUGE TRACK CUT-AND-COVER TUNNEL. TYPICAL SECTION	
TN-C1105	SINGLE CELL 4 TRACKS + REFUGE TRACK CUT-AND-COVER TUNNEL. TYPICAL SECTION	
TN-C1106	SINGLE CELL 4 TRACKS. CUT-AND-COVER TUNNEL. TYPICAL SECTION	
TN-C1109	BURBANK STATION PLATFORM. CUT-AND-COVER TUNNEL. TYPICAL SECTION	

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21/03/2019 17:41:15

0205240

						DESIGNED BY E.VELASCO	BURBANK SUBSECTION DRAFT PEPD REV01 NOT FOR CONSTRUCTION			CALIFORNIA HIGH-SPEED RAIL PROJECT PALMDALE TO BURBANK BURBANK SUBSECTION INDEX OF DRAWINGS	CONTRACT NO. HSR14-42
					DRAWN BY F.J.DOMINGUEZ	DRAWING NO. TN-B0003					
					CHECKED BY A.NAVARRO	SCALE NO SCALE					
					IN CHARGE A.RELAÑO	SHEET NO.					
REV	DATE	BY	CHK	APP	DESCRIPTION	DATE 02/01/2019					

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13/03/2019 15:24:57
0205240

	A	
ANF	ANGELES NATIONAL FOREST	
APPROX	APPROXIMATE	
	B	
BLVD	BOULEVARD	
BAR	PRESSURE UNIT	
	C	
C	CANYON	
CHSR	CALIFORNIA HIGH-SPEED RAIL	
CHSTP	CALIFORNIA HIGH-SPEED TRAIN PROJECT	
CL	CENTER LINE	
C&C	CUT-AND-COVER	
CGS	CALIFORNIA GEOLOGICAL SURVEY	
CP	CROSS-PASSAGE, FOR EMERGENCY EGRESS	
CT	COMMUNICATION TOWER	
	E	
E	EASTING, EAST	
E.G.	FOR EXAMPLE	
EQ	EARTHQUAKE	
ET	EMERGENCY TELEPHONE	
ETD	ENLARGED TUNNEL DIAMETER	
	F	
FH	FIRE HYDRANT	
FT	FEET	
FWY	FREEWAY	
	G	
GC	ONE OF THE TSI REFERENCE GAUGES, USED IN DEVELOPING CLEARANCES FOR THE CHSTP	
GWP	GROUND WATER PRESSURE	
	H	
HFZ	HAZARDOUS FAULT ZONE	
HSR	HIGH SPEED RAIL	
HWY	HIGHWAY	
	I	
ID	INNER DIAMETER	
IW	INTERMEDIATE WINDOW (FOR CONSTRUCTION PURPOSES ONLY)	
I-210	I-210 FREEWAY	
	K	
KG	KILOGRAM	
	L	
L	FLOOD LIGHTS, LENGTH	
	M	
M	METER	
MI	MILE, MINED TUNNEL IN ROCK	
MIM	MINIMUM	
MPH	MILES PER HOUR	

	N	
N	NORTHING, NORTH	
NATM	NEW AUSTRIAN TUNNELING METHOD	
NB	NORTH BOUND	
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	
	O	
OCS	OVERHEAD CATENARY SYSTEM	
OG	ORIGINAL GROUND	
	P	
P	TUNNEL PORTAL WITH PERMANENT FACILITIES	
PERM.	PERMANENT	
PROP.	PROPOSED	
PHFZ	POTENTIALLY HAZARDOUS FAULT ZONE	
POT	POINT OF TANGENT (ALIGNMENT RELATED)	
PS	TRACTION POWER PARALLELLING STATION	
	R	
R	RADIUS	
RC	REINFORCED CONCRETE	
RD	ROAD	
R/W, ROW	RIGHT OF WAY	
	S	
S	SOUTH	
SB	SOUTH BOUND	
SEM	SEQUENTIAL EXCAVATION METHOD	
SQFT	SQUARE FEET	
SS	TRACTION POWER SUBSTATION	
ST	STREET, SINGLE TUNNEL	
STA	STATION	
SGFZ	SAN GABRIEL FAULT ZONE	
SCRRA	SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY	
	T	
T,+	THICKNESS	
TBD	TO BE DECIDED	
TBM	TUNNEL BORING MACHINE	
TCSA	TEMPORARY CONSTRUCTION STAGING AREA FOR TUNNELS	
TH-21,	STEEL ARCHES IN OMEGA PROFILE.	
TH-29	FOR GROUND SUPPORT IN MINED/SEM TUNNELS	
TM	TECHNICAL MEMORANDUM	
TOR	TOP OF RAIL	
TPPS	TRACTION POWER PARALLELLING STATION	
TR	CROSS-PASSAGE, FOR TECHNICAL EQUIPMENT	
TSEFZ,	TRAIN SURFACE EVACUATION AND	
TSEFCZ	FIRE CONTROL ZONE	
TSI	THE EUROPEAN UNION'S (EU) TECHNICAL SPECIFICATIONS FOR INTEROPERABILITY	
TYP	TYPICAL	
	U	
USGS	U.S. GEOLOGICAL SURVEY	
UPS	UNDERGROUND PARALLELING STATION	

	V	
V	VIADUCT	
VCP	VENTILATION CONTROL PANEL	
VC	VERTICAL CURVE (ALIGNMENT RELATED)	
	W	
WPC	WAYSIDE POWER CONTROL CUBICLE	
W	WASH	
WWM	WELDED WIRE MESH	

GENERAL NOTES

1. STRUCTURE DIMENSIONS ARE INDICATIVE. TO BE CONFIRMED.
2. TUNNEL DIMENSIONS ARE INDICATIVE. TO BE CONFIRMED.
3. TUNNEL SURFACE FACILITIES ARE INDICATIVE. TO BE CONFIRMED.
4. RAILWAY INSTALLATIONS ARE INDICATIVE. TO BE CONFIRMED.
5. FINAL SLOPES TO BE DEFINED AT A LATER STAGE, WHEN THE GEOTECHNICAL STUDY IS AVAILABLE.
6. FAULTS AND EXTENT OF FAULT ZONES SHOWN ARE ONLY ORIENTATIVE AND, ARE SUBJECT TO CHANGE, SOURCE: FAULT - USGS QUATERNARY FAULT AND FOLD DATABASE AND CGS GEOLOGIC MAP DATA BASES FAULT ZONE ACTIVITY CLASSIFICACION - CHSR 15% DRAFT FAULT HAZARD EVALUATION REPORT, 2015.
7. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
8. TWIN TUNNELS CROSS-PASSAGES DISTRIBUTED ALONG ALIGNMENTS: CP FOR EMERGENCY EGRESS, EVERY 800 FT. CP FOR TECHNICALROOMS, EVERY MILE.

LEGEND

PLAN

	PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT
	CONSTRUCTION STAGING AREA / PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT
	FENCE LINE / HSR ROW
	LIMITS OF EMBANKMENT (FILL)
	LIMITS OF EXCAVATION (CUT)
	PROPOSED RETAINING WALL
	PROPOSED TUNNEL
	INCLINED DESCENDING GALLERY
	UNDERGROUND EASEMENT FOR EMERGENCY/RESCUE STATION
	TRACTION POWER FACILITY
	100 YEAR FLOOD ZONE
	ANGELES NATIONAL FOREST BOUNDARY

CONTROL LINE EXAMPLE "A" LINE
255+00 260+00 265+00

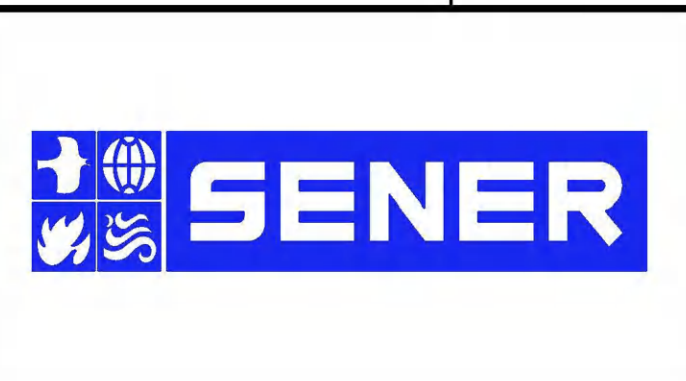
PROFILE

	PROPOSED TRACK ELEVATION (SB TRACK)
	ORIGINAL GROUND (OG)
	PROPOSED TUNNEL HEADWALL
	PROPOSED TUNNEL

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY E. VELASCO
DRAWN BY F.J. DOMINGUEZ
CHECKED BY A. NAVARRO
IN CHARGE A. RELAÑO
DATE 02/01/2019

BURBANK SUBSECTION
DRAFT PEPD REV01
NOT FOR CONSTRUCTION



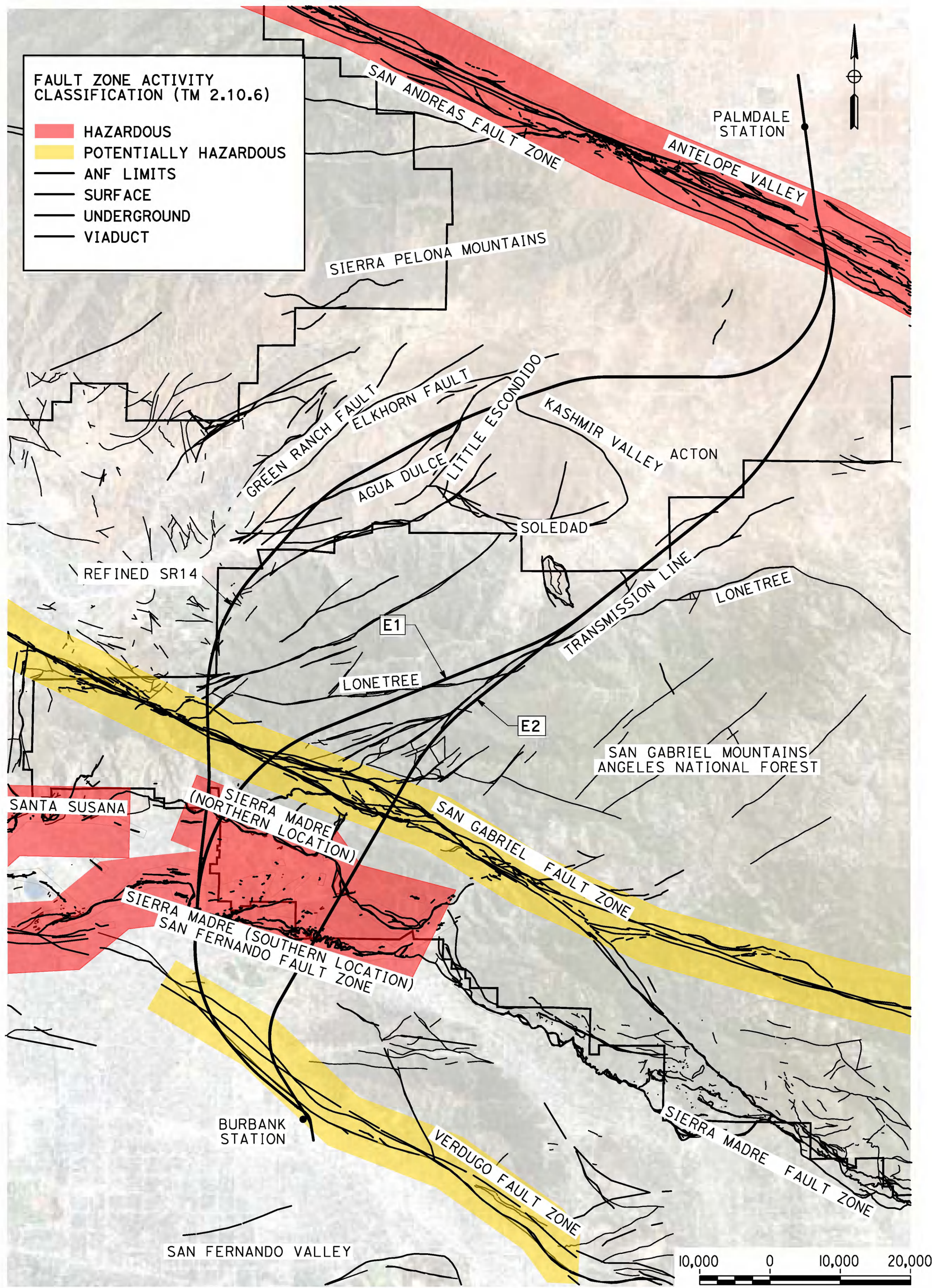
CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
ABBREVIATIONS AND LEGEND

CONTRACT NO. HSR14-42
DRAWING NO. TN-B0004
SCALE NO SCALE
SHEET NO.

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NOTE:

PRELIMINARY DRAFT/SUBJECT TO CHANGE

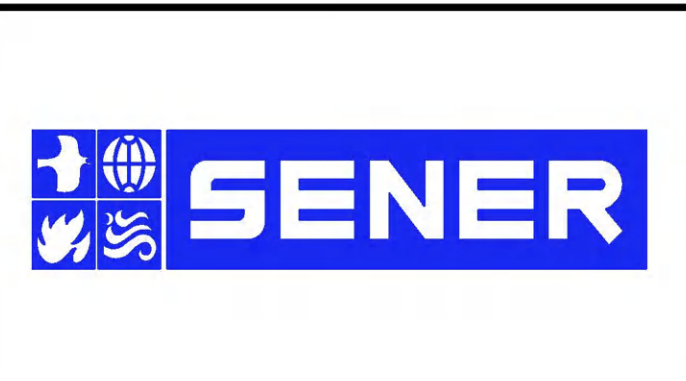
SOURCE:

FAULTS - USGS QUATERNARY FAULT AND FOLD DATABASE AND CGS GEOLOGIC MAP DATABASES
 FAULT ZONE ACTIVITY CLASSIFICATION - CHSR 15% DRAFT FAULT HAZARD EVALUATION REPORT, 2015.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
E.VELASCO
 DRAWN BY
F.J.DOMINGUEZ
 CHECKED BY
A.NAVARRO
 IN CHARGE
A.RELAÑO
 DATE
02/01/2019

**BURBANK
 SUBSECTION**
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CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
 BURBANK SUBSECTION
FAULT KEY MAP

CONTRACT NO.
HSR14-42
 DRAWING NO.
TN-B0005
 SCALE
AS SHOWN
 SHEET NO.

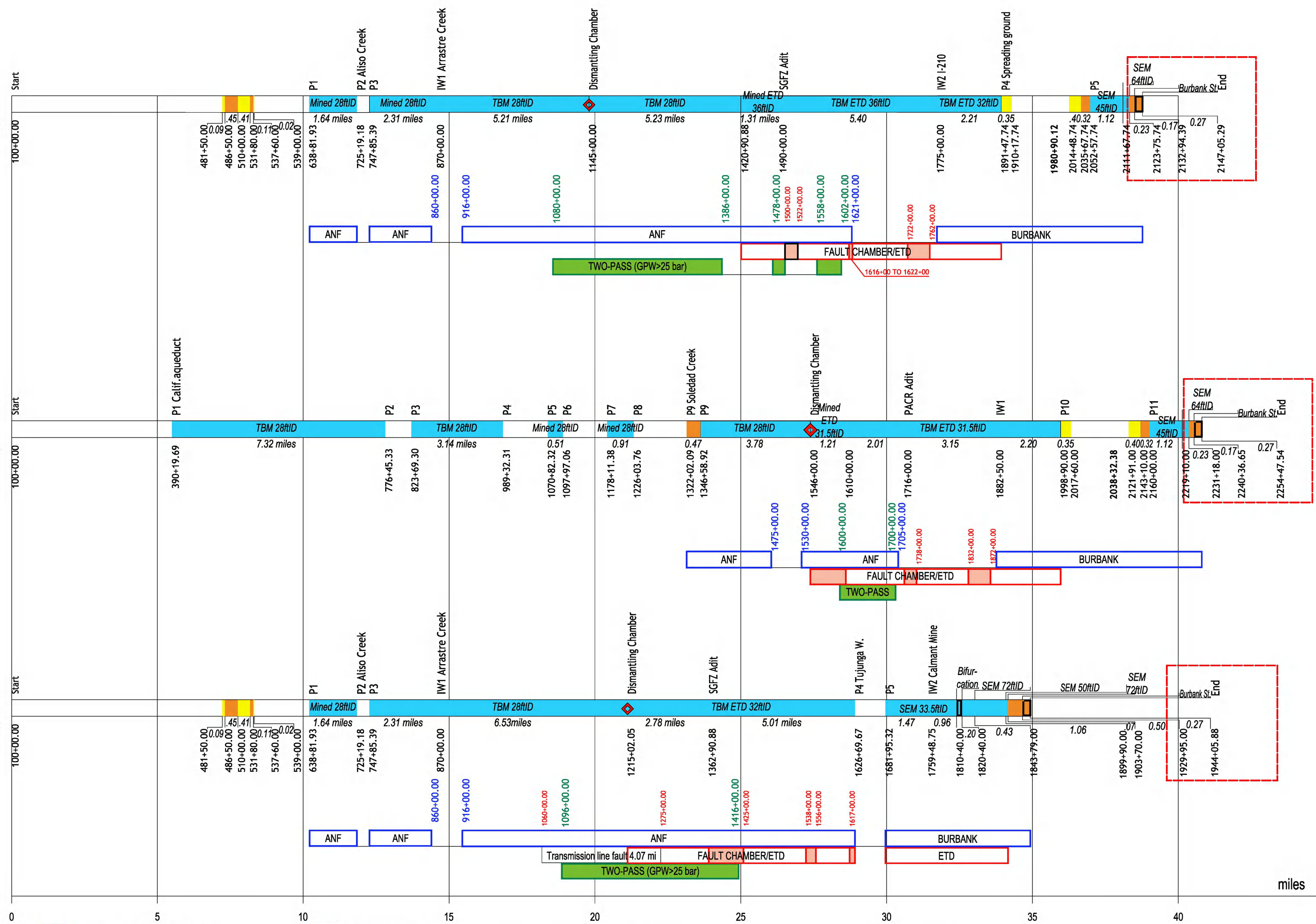
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E1
38.77 miles

REFINED
SR14
40.80 miles

E2
34.93 miles

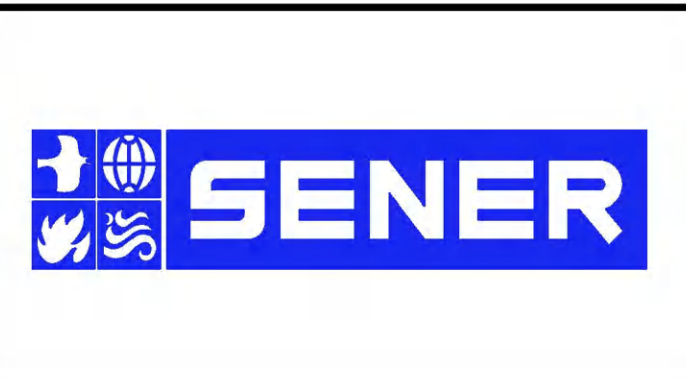


- Tunnel (TOR depth >100ft)
- Open trench (TOR depth <35ft)
- Cut-and-Cover (35ft < TOR depth <100ft)
- Burbank Station C&C
- Fault chamber

- ETD Enlarged Tunnel Diameter
- ID Internal diameter
- GWP Groundwater Pressure
- ST Single Tunnel, double track
- ANF Angeles National Forest
- ISGFZ San Gabriel Fault Zone
- TBM Tunnel Boring Machine
- SEM Sequential Excavation Method
- PACR Pacoima reservoir
- P Tunnel portal with permanent facilities
- IW Tunnel Intermediate Window (for construction)
- ◇ TBM underground dismantling chamber

DESIGNED BY E. VELASCO
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BURBANK SUBSECTION
DRAFT PEPP REV01
NOT FOR CONSTRUCTION



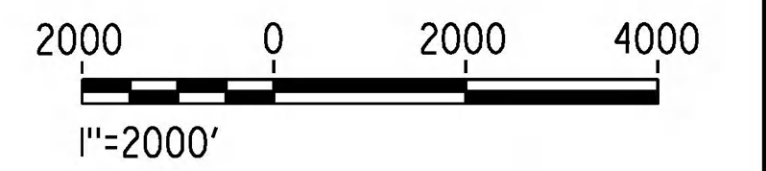
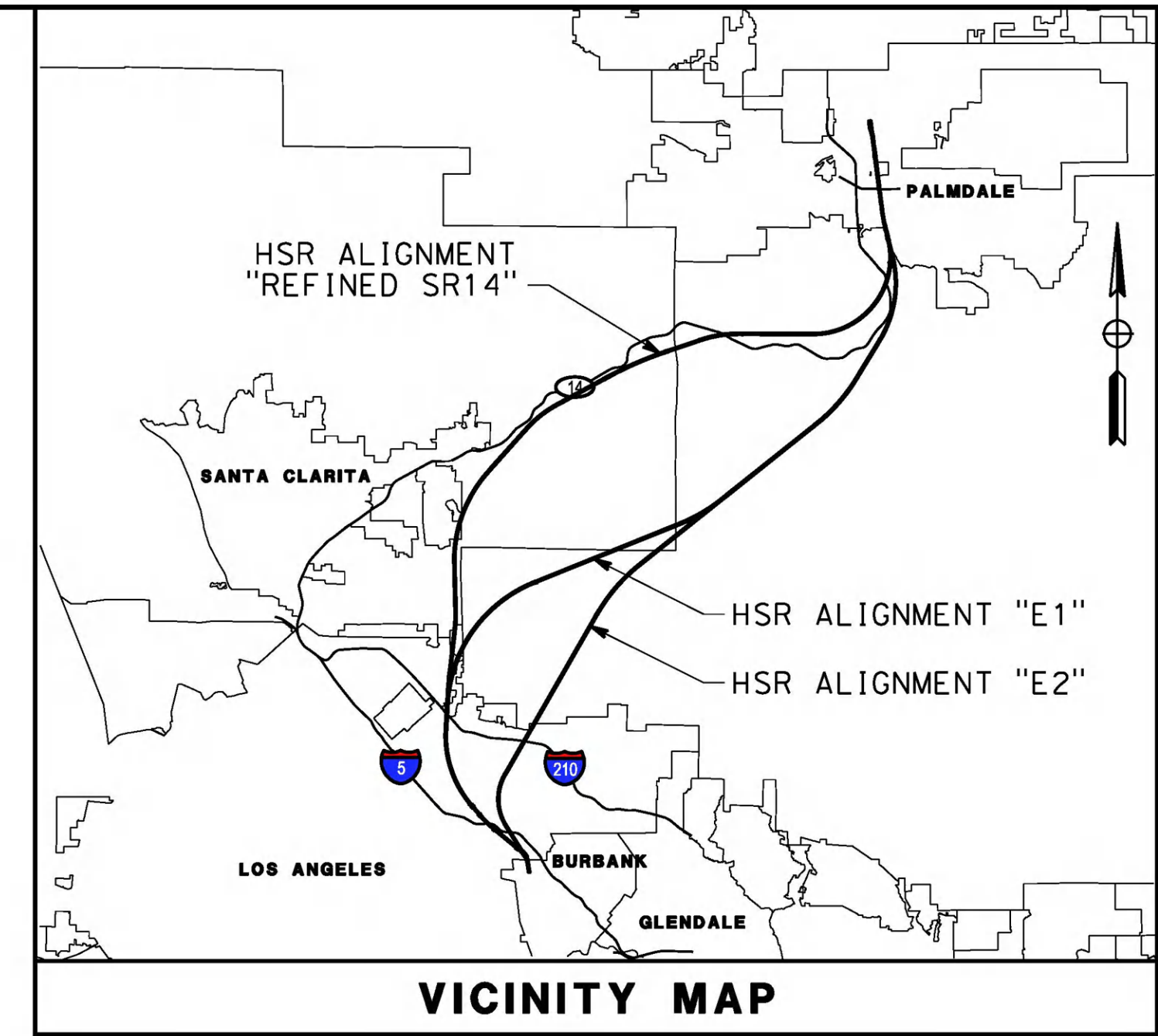
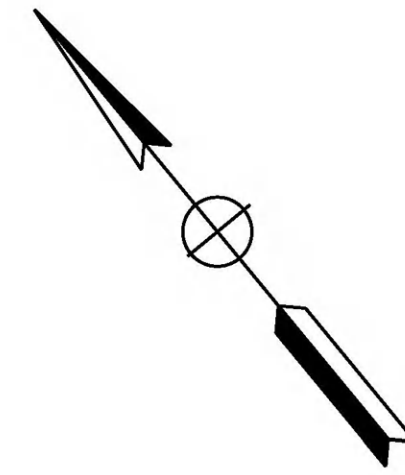
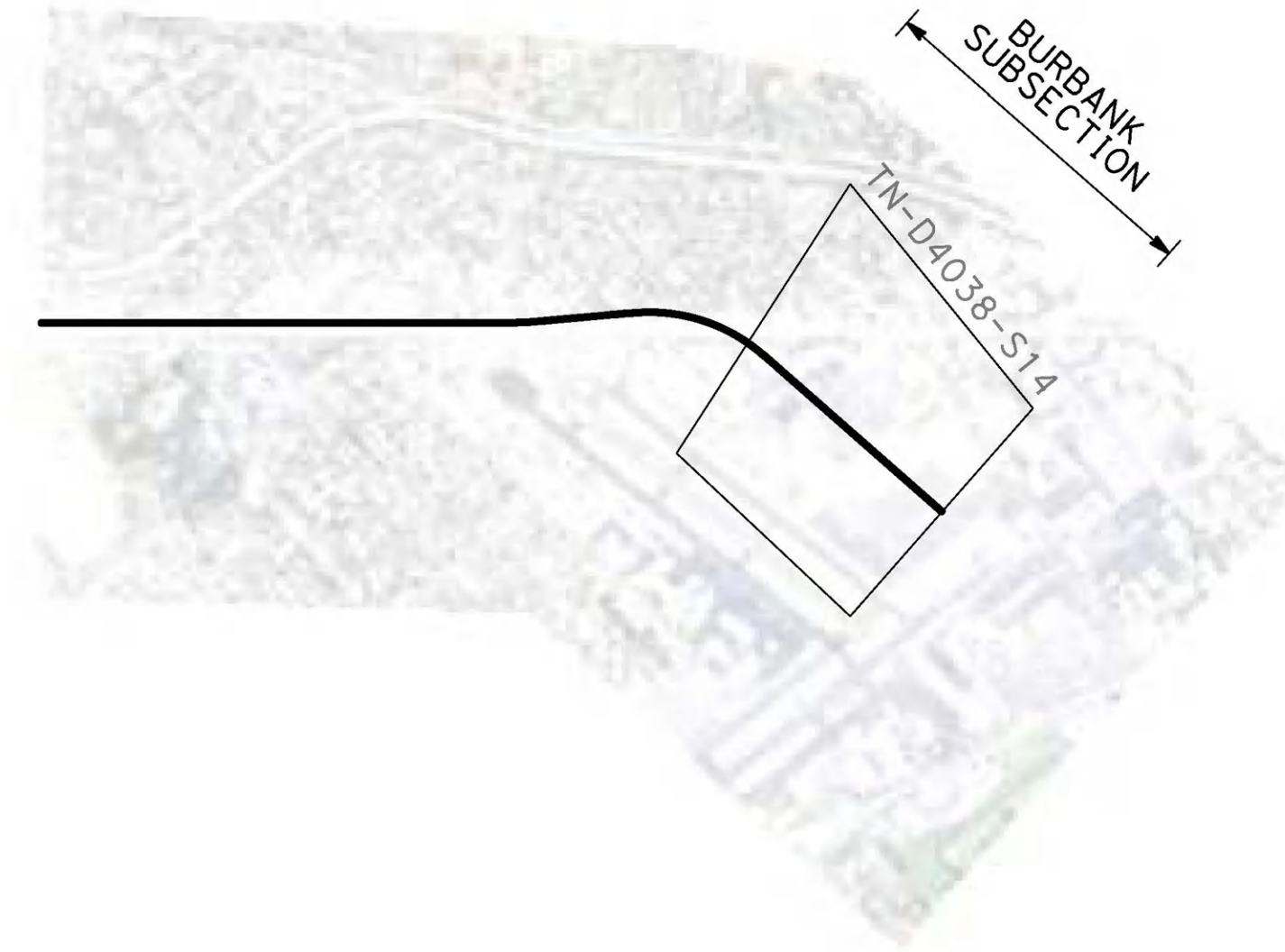
CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
SCHEMATIC LINEAR DIAGRAMS

CONTRACT NO. HSR14-42
DRAWING NO. TN-B0007
SCALE AS SHOWN
SHEET NO.

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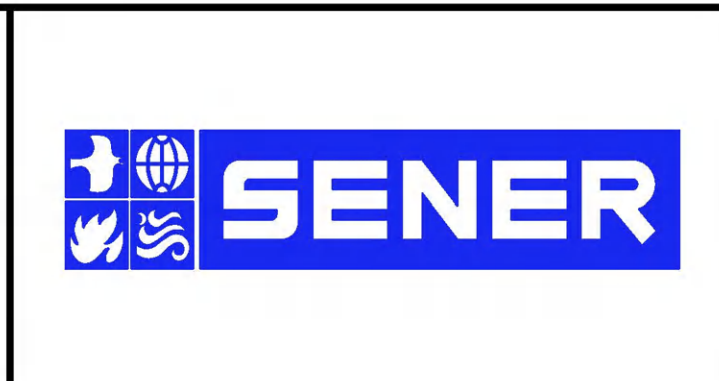
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
E.VELASCO
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F.J.DOMINGUEZ
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A.RELAÑO
DATE
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**BURBANK
SUBSECTION**
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CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION

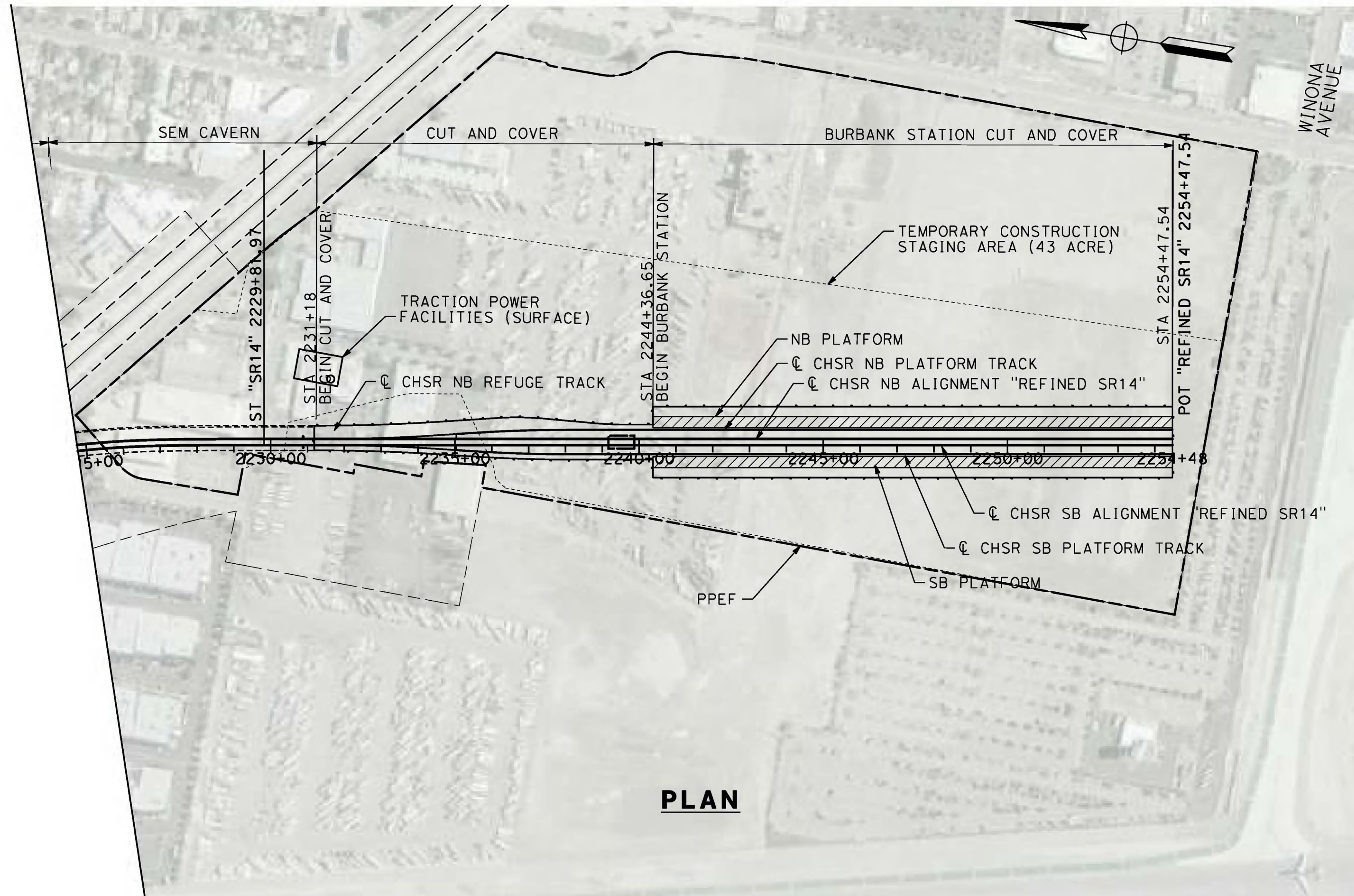
KEY MAP
HIGH SPEED RAIL TUNNEL PLANS

CONTRACT NO.
HSR14-42
DRAWING NO.
TN-B6002-S14
SCALE
AS SHOWN
SHEET NO.

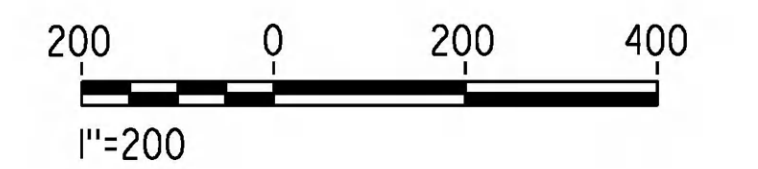
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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
E.VELASCO
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F.J.DOMINGUEZ
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IN CHARGE
A.RELAÑO
DATE
02/01/2019

**BURBANK
SUBSECTION**
DRAFT PEPD REV01
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION

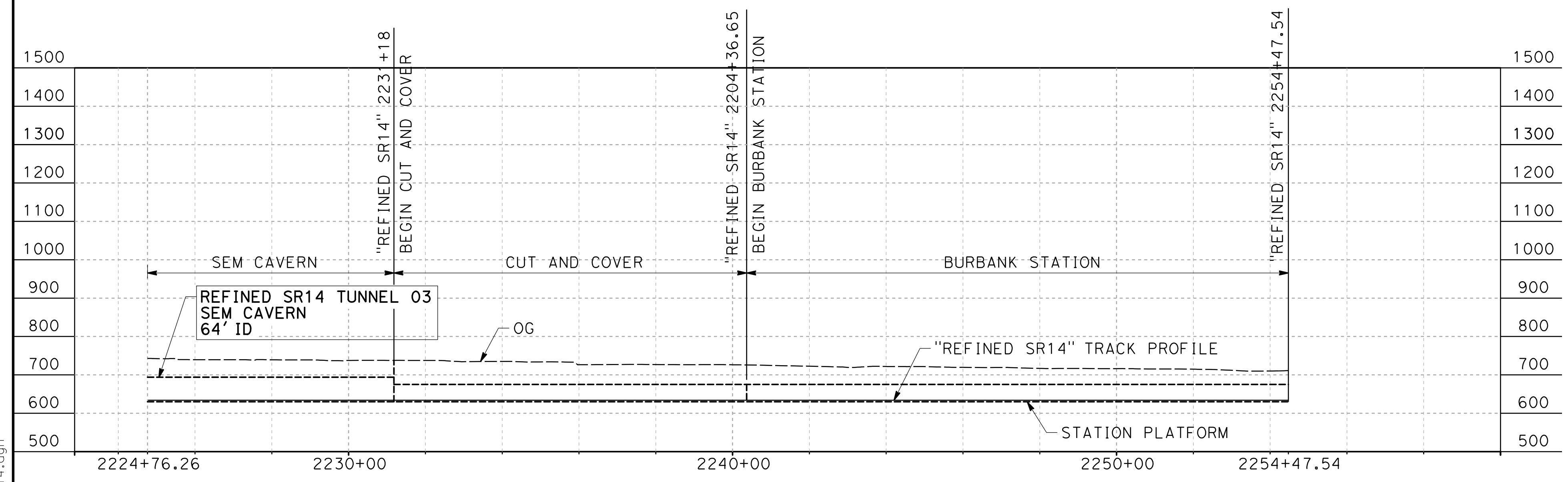
PLAN

CONTRACT NO.
HSR14-42
DRAWING NO.
TN-D4038-S14
SCALE
AS SHOWN
SHEET NO.

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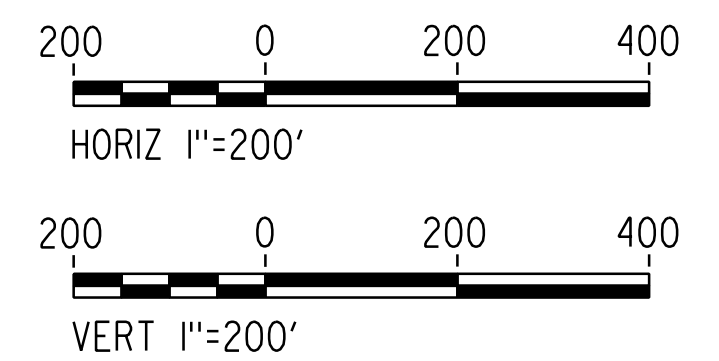
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PROFILE

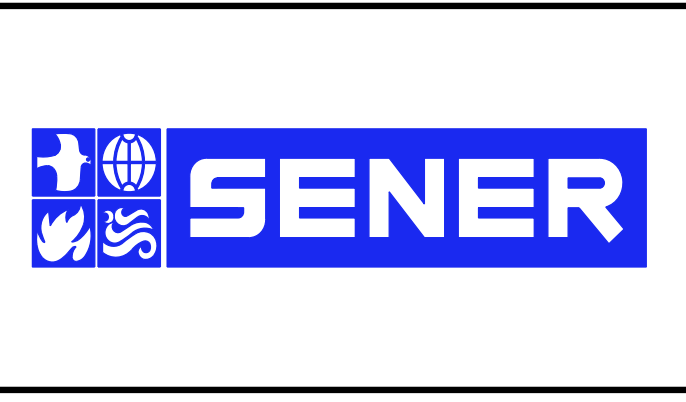
NOTE:
FAULT ZONES LIMITS APPROXIMATE ONLY



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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CHECKED BY
A.NAVARRO
IN CHARGE
A.RELAÑO
DATE
02/01/2019

BURBANK SUBSECTION
DRAFT PEPD REV01
NOT FOR CONSTRUCTION

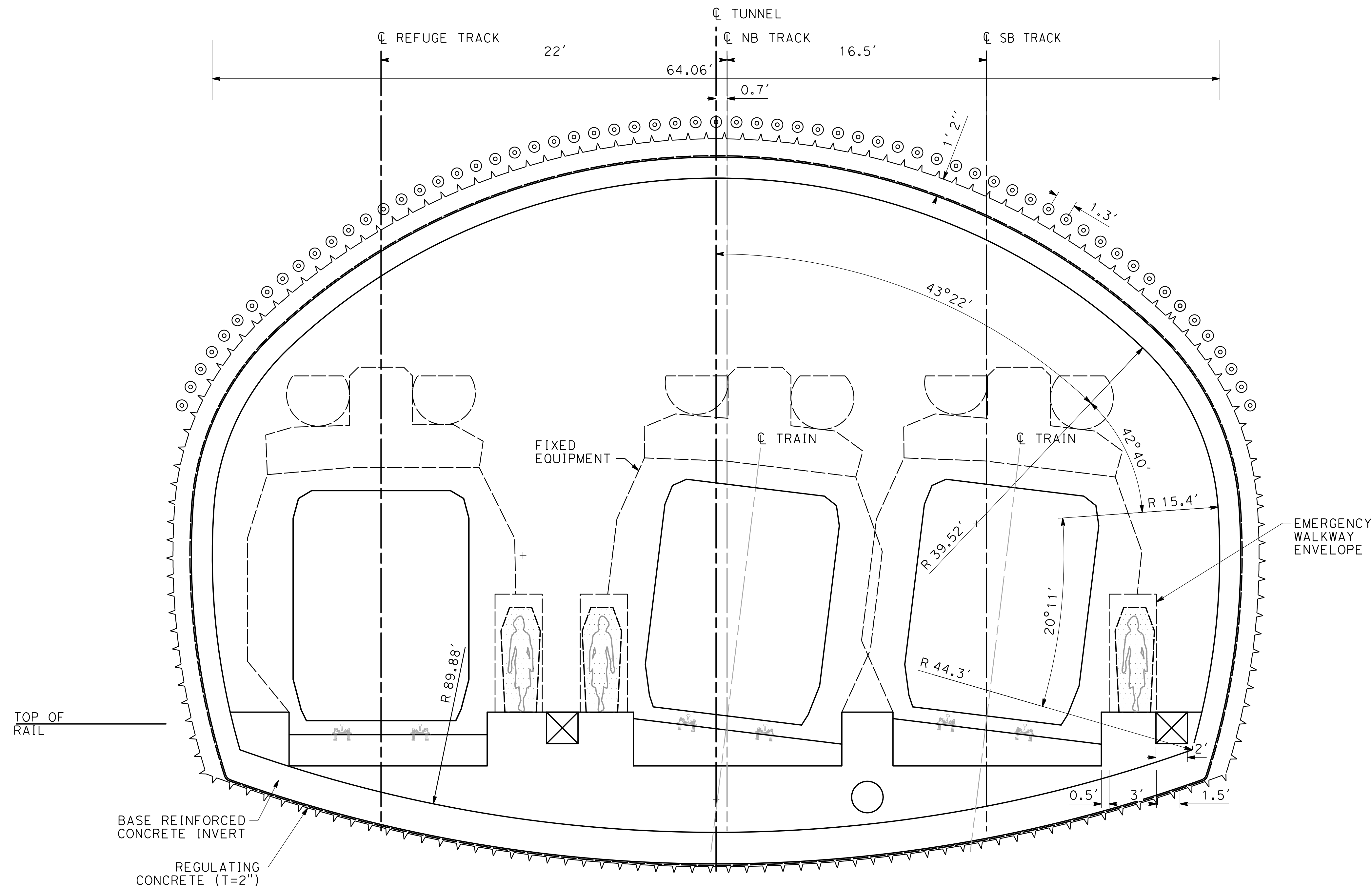


CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
PROFILE

CONTRACT NO.
HSR14-42
DRAWING NO.
TN-Y1021-S14
SCALE
AS SHOWN
SHEET NO.

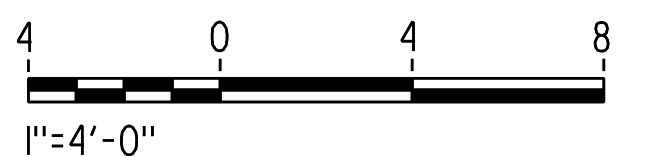
NOTES:

1. SINGLE MINED TUNNEL, DOUBLE TRACK IS AN OPTION FOR SHORT TUNNELS AT BURBANK AREA.
2. EXCAVATION, GROUND SUPPORT, DRAINAGE, TUNNEL LINING AND WATER AND GAS TIGHTNESS PROVISIONS TBD.
3. FOR EQUIPMENT STRUCTURE GAUGES, REFER TO DRAWINGS TN-C0004 TO TN-C0007.
4. SPACE PROOFING REQUIRES FARTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FARTHER DEFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, DRAINAGE AND EGRESS.
5. EMERGENCY EGRESS SHALL NOT BE FARTHER THAN 2500 FT APART (NFPA 130).
6. CROSS-SECTION SHOWN HAS A FREE TUNNEL CROSS-SECTIONAL AREA OF 1195 SQ FT, COMPLIANT WITH THE MINIMUM AREA OF 2x595 SQ FT REQUIRED FOR 220 MPH DESIGN SPEED AND TUNNEL LENGTH FROM 0.6 TO 22 MILES (REF. TN 2.42-C). OTHER TUNNEL LENGTH REQUIRES A DIFFERENT MINIMUM FREE CROSS-SECTIONAL AREA.
7. SPACE PROOFING REQUIRES FARTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FARTHER DEFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, DRAINAGE AND EGRESS.



34.72'
6.87'

**TUNNEL TYPICAL SECTION SEM SINGLE TUNNEL (2 TRACKS + REFUGE TRACK)
TANGENT & SUPERELEVATED TRACK**



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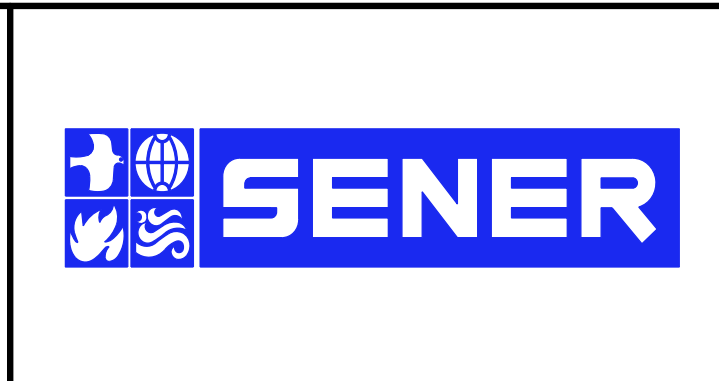
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0205240

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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F.J. DOMINGUEZ
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IN CHARGE
A. RELAÑO
DATE
02/01/2019

**BURBANK
SUBSECTION**
DRAFT PEPD REV01
**NOT FOR
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK**
BURBANK SUBSECTION
SEM SINGLE TUNNEL, 2 TRACKS + REFUGE TRACK
CLEARANCE DIAGRAM - TANGENT AND SUPERELEVATED TRACK

CONTRACT NO.
HSR14-42
DRAWING NO.
TN-C0902
SCALE
AS SHOWN
SHEET NO.

13/03/2019 15:50:00 c:\pwworking\chsr\dms24129\PB-TN-C0903.dgn

BASIC QUANTITIES PER FT OF TUNNEL	
SEM SINGLE TUNNEL	PRIMARY LINING TYPE
SEM SINGLE TUNNEL	
EXCAVATION AREA (SQ.FT.)	2641.3
TUNNEL PRIMARY LINING AREA (SQ.FT.)	155.7
REGULATING CONCRETE (2 in) (SQ.FT.) (INVERT)	10.6
LATTICE GIRDER (FT)	125/3=41.7
WATER & GAS PROOFING MEMBRANE (FT)	185.9
FORMWORK (FT)	114
SECONDARY LINING AREA CONCRETE (sides&corn) (SQ.FT.)	154
SECONDARY LINING AREA CONCRETE (invert) (SQ.FT.)	128.5
MICROPILES CANOPY (FT)	83.8
PHASE 1, 2, 3 PRIMARY LINING (SQ.FT.)	116.4
PHASE 1, 2, 3 LATTICE GIRDER (FT)	105.1/3=35
PHASE 3 AND 4 (SQ.FT.) REGULATING CONCRETE	6.4

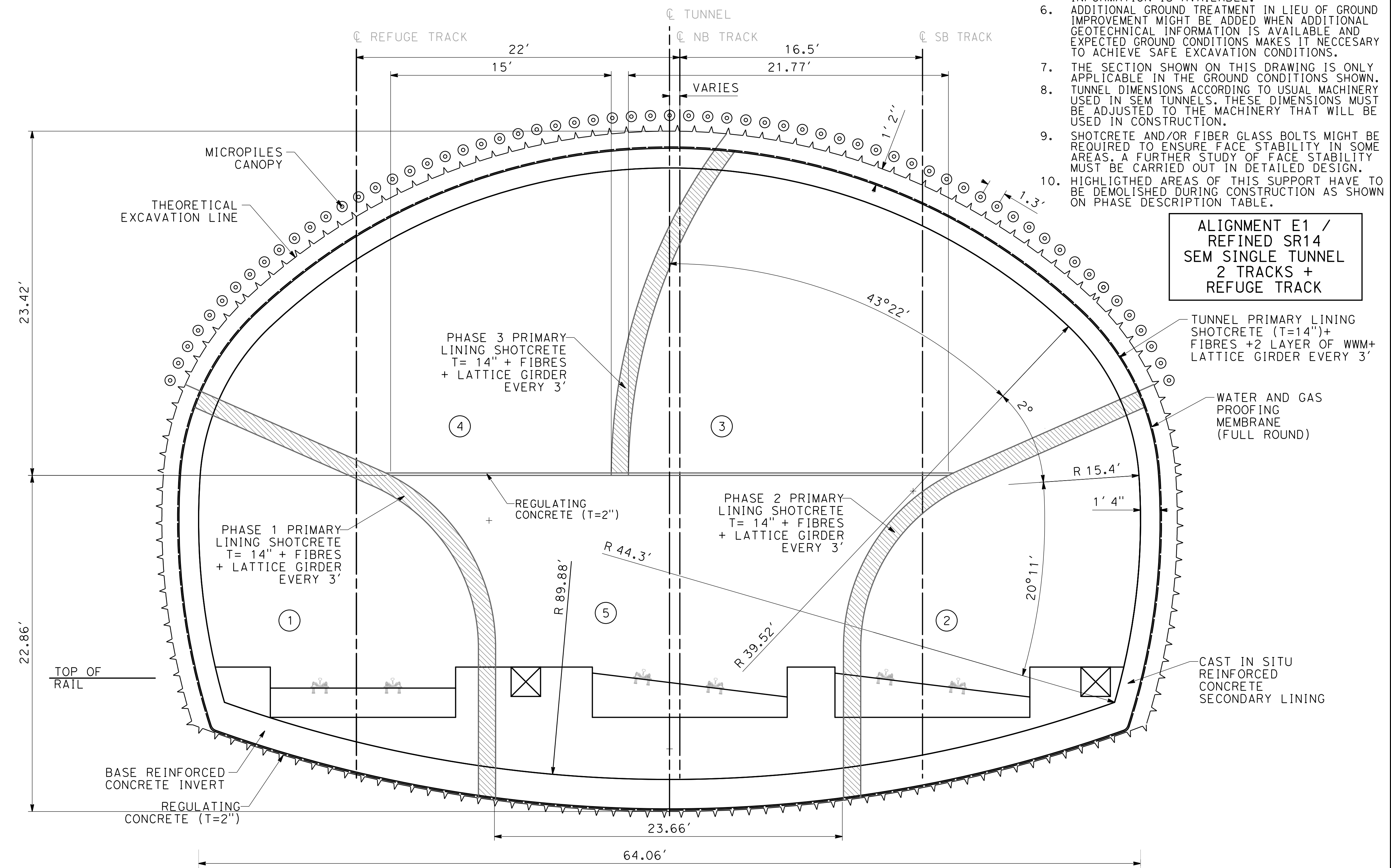
PRIMARY LINING (EXAMPLE ONLY, NOT ACTUAL DESIGN)					
DENOMINATION	SHOTCRETE THICKNESS (in)	STEEL ARCHES	REINFORCEMENT	ADVANCE LENGTH (ft)	PIPE CANOPY
*SOIL CONDITIONS	14	LATTICE GIRDER EVERY 3'	FIBRES & 2 LAYERS WWM	3' TOP HEADING AND PHASE 1 6' BENCH	YES

*FINE-MEDIUM GRAIN SAND WITH SILT DENSE TO VERY DENSE. NO GROUNDWATER EXPECTED.

- NOTES:**
- SINGLE SEM TUNNEL, DOUBLE TRACK IS AN OPTION FOR SHORT TUNNELS AT BURBANK AREA.
 - THIS DRAWING IS NOT ACTUAL DESIGN. ITS PURPOSE IS TO BUILD UNIT PRICES AT PEPD LEVEL.
 - EXCAVATION, GROUND SUPPORT, DRAINAGE, TUNNEL LINING AND WATER AND GAS TIGHTNESS PROVISIONS TBD.
 - TYPICAL SUPPORT MEASURES AND INNER LINING THICKNESSES ARE GIVEN WITH ORIENTATIVE PURPOSES ONLY. ACTUAL DESIGN WILL REQUIRE RESULTS OF ADEQUATE GEOTECHNICAL INVESTIGATION.
 - EXCAVATION SEQUENCE AND PHASE (INCLUDING A POSSIBLE SUBDIVISION OF THE TOP HEADING) MUST BE REVISITED WHEN ADEQUATE GEOTECHNICAL INFORMATION IS AVAILABLE.
 - ADDITIONAL GROUND TREATMENT IN LIEU OF GROUND IMPROVEMENT MIGHT BE ADDED WHEN ADDITIONAL GEOTECHNICAL INFORMATION IS AVAILABLE AND EXPECTED GROUND CONDITIONS MAKES IT NECESSARY TO ACHIEVE SAFE EXCAVATION CONDITIONS.
 - THE SECTION SHOWN ON THIS DRAWING IS ONLY APPLICABLE IN THE GROUND CONDITIONS SHOWN. TUNNEL DIMENSIONS ACCORDING TO USUAL MACHINERY USED IN SEM TUNNELS. THESE DIMENSIONS MUST BE ADJUSTED TO THE MACHINERY THAT WILL BE USED IN CONSTRUCTION.
 - SHOTCRETE AND/OR FIBER GLASS BOLTS MIGHT BE REQUIRED TO ENSURE FACE STABILITY IN SOME AREAS. A FURTHER STUDY OF FACE STABILITY MUST BE CARRIED OUT IN DETAILED DESIGN.
 - HIGHLIGHTED AREAS OF THIS SUPPORT HAVE TO BE DEMOLISHED DURING CONSTRUCTION AS SHOWN ON PHASE DESCRIPTION TABLE.

PHASE	DESCRIPTION
0	-MICROPILES CANOPY INSTALLATION (EVERY 30')
1&2	-EXCAVATION OF PHASES 1 AND 2, AND APPLICATION OF A STABILIZATION LAYER OF SHOTCRETE. -INSTALLATION OF LATTICE GIRDERS OF PHASES 1 AND 2. -SPRAYING OF REINFORCING SHOTCRETE + 2 LAYERS OF WWM. -INSTALLATION OF WATER AND GAS PROOFING MEMBRANE. -INSTALLATION OF INNER LINING (SECONDARY). FIRST INVERT AND SECOND SIDE.
3	-EXCAVATION OF PHASE 3 AND APPLICATION OF A STABILIZATION LAYER OF SHOTCRETE. -INSTALLATION OF LATTICE GIRDERS OF PHASE 3. -SPRAYING OF REINFORCING SHOTCRETE + 2 LAYERS OF WWM. -INSTALLATION OF WATER AND GAS PROOFING MEMBRANE. -INSTALLATION OF INNER LINING (SECONDARY). FIRST INVERT AND SECOND SIDE.
4	-EXCAVATION OF PHASE 4, AND APPLICATION OF A STABILIZATION LAYER OF SHOTCRETE. -DEMOLITION OF TEMPORAL SUPPORT OF PHASE 3 AND INSTALLATION OF LATTICE GIRDERS OF PHASE 4. -SPRAYING OF REINFORCING SHOTCRETE + 2 LAYERS OF WWM. -DEMOLITION OF THE UPPER PART OF TEMPORAL SUPPORT OF PHASES 1 AND 2 -INSTALLATION OF WATER AND GAS PROOFING MEMBRANE. -INSTALLATION OF INNER LINING (SECONDARY) IN CROWN (PHASES 3 AND 4).
5	-EXCAVATION OF PHASE 5. -DEMOLITION OF THE UPPER PART OF TEMPORAL SUPPORT OF PHASES 1 AND 2 -INSTALLATION OF WATER AND GAS PROOFING MEMBRANE. -INSTALLATION OF INNER LINING (SECONDARY) IN INVERT.

*NOTE: DISTANCE BETWEEN EXCAVATION PHASES TO BE DEFINED.

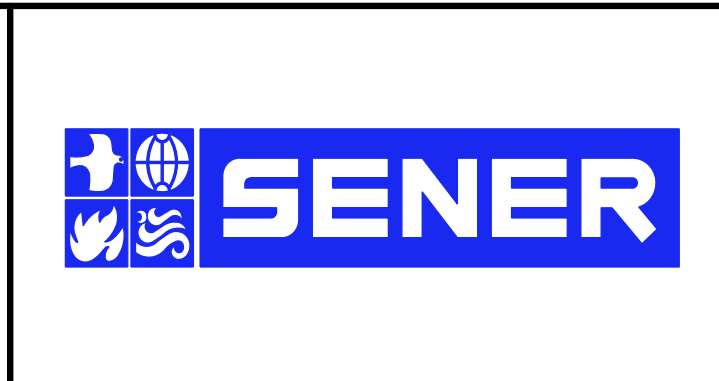


TUNNEL TYPICAL SECTION SEM SINGLE TUNNEL (2 TRACKS + REFUGE TRACK) FOR TANGENT & SUPERELEVATED TRACK

REV	DATE	BY	CHK	APP	DESCRIPTION

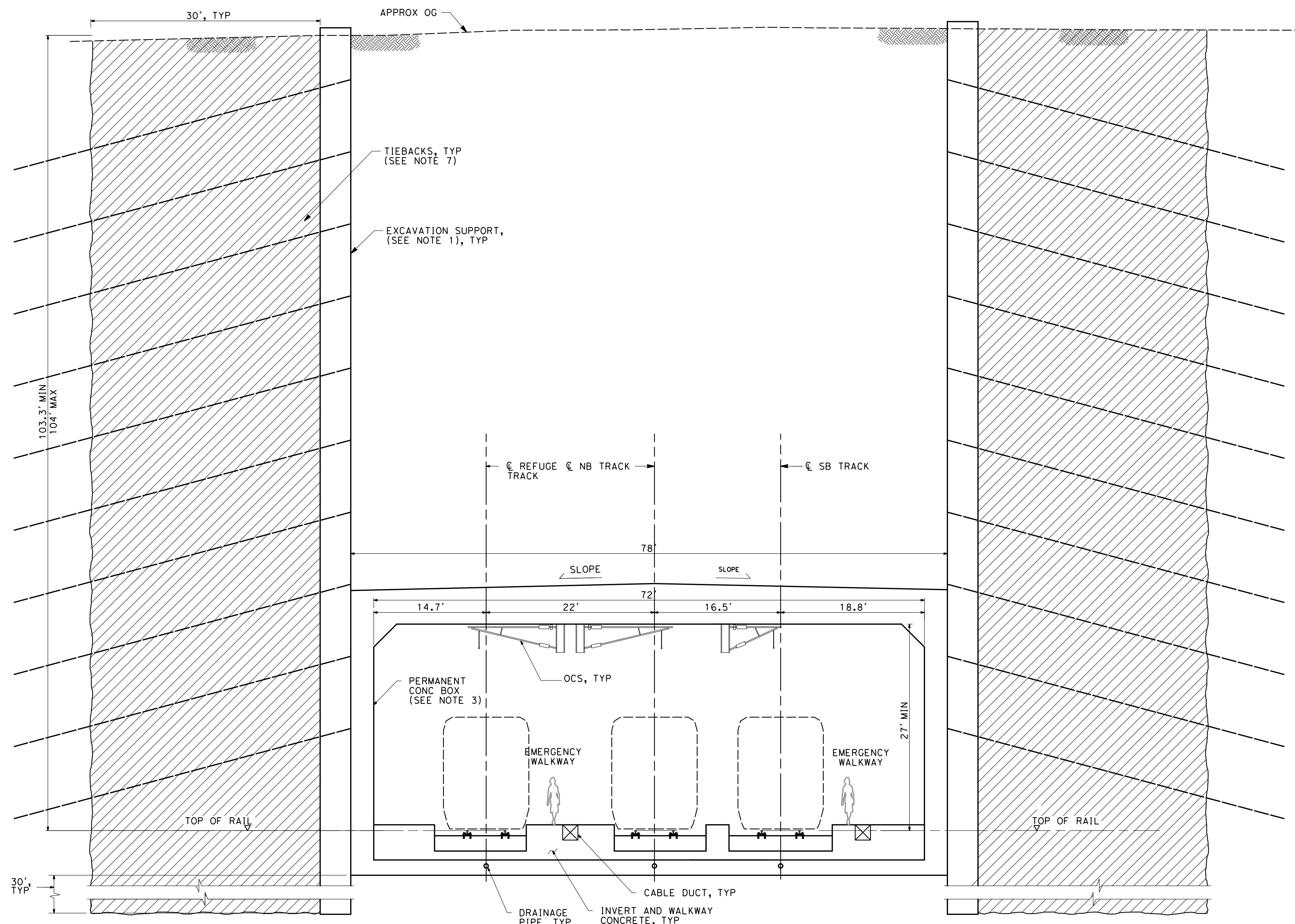
DESIGNED BY
E. VELASCO
DRAWN BY
F.J. DOMINGUEZ
CHECKED BY
A. NAVARRO
IN CHARGE
A. RELAÑO
DATE
02/01/2019

BURBANK SUBSECTION
DRAFT PEPD REV01
NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
CONSTRUCTION SEQUENCE AND SUPPORT MEASURES
SEM SINGLE TUNNEL, 2 TRACKS + REFUGE TRACK

CONTRACT NO.
HSR14-42
DRAWING NO.
TN-C0903
SCALE
AS SHOWN
SHEET NO.



TYPICAL SECTION - 2 TRACKS + REFUGE TRACK

NOTES:

1. TYPES, LOCATIONS AND DIMENSIONS OF EXCAVATION SUPPORT NOT DESIGNED. RIGID EXCAVATION SUPPORTS WITH TIEBACKS AND TEMPORARY INTERNAL BRACING ANTICIPATED.
2. PERMANENT LINING ASSUMED WATERTIGHT/UNDRAINED IN PERMANENT CASE.
3. STRUCTURE COMPONENTS ARE NOT DESIGNED. DRAWINGS NOT BASED ON ACTUAL DESIGN AND ARE DEVELOPED FOR PRELIMINARY COST ESTIMATE.
4. TRACK, OPENINGS, PLATFORM, STATION LAYOUT, CABLE DUCTS AND DRAINAGE ARE SCHEMATIC AND DO NOT REPRESENT DESIGN.
5. EQUIPMENT AND STRUCTURE GAUGES NOT SHOWN. REFER TO DRAWINGS TN-C006 AND TN-C007 FOR FIXED EQUIPMENT ENVELOPE AND STRUCTURE GAUGE.
6. GROUND IMPROVEMENT ANTICIPATED IN THIS AREA. LIMITS OF GROUND IMPROVEMENT TO BE DETERMINED AFTER GEOTECHNICAL INVESTIGATIONS ARE COMPLETED.
7. TIEBACKS OR GROUND ANCHORS ARE ANTICIPATED FOR WALLS WITH AN EXPOSED HEIGHT GREATER THAN 20 FT. CANTILEVER SOLDIER PILE WALLS ARE ANTICIPATED FOR WALLS WITH AN EXPOSED HEIGHT LESS THAN 20 FT.
8. TYPICAL SECTION ON THIS SHEET IS APPLICABLE AT THE FOLLOWING LOCATIONS:

ALIGNMENT	SUB-SECTION	BEGIN STA	END STA
REFINED SR14	BURBANK	2231+18.00	2231+77.00

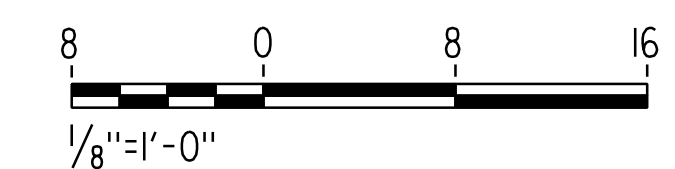
CONSTRUCTION SEQUENCE:

STAGE	DESCRIPTION
0	INSTALL MOVEMENT MONITORING SYSTEMS
1	INSTALL GROUND IMPROVEMENT
2*	INSTALL RIGID EXCAVATION SUPPORT SYSTEMS USING HEAVILY REINFORCED SLURRY WALLS
3A	EXCAVATE IN LIFTS FROM ORIGINAL GROUND
3B	DEWATER AS NEEDED
3C	INSTALL TIEBACKS AND/OR TEMPORARY INTERNAL BRACING AS REQUIRED FOR THE SYSTEM STABILITY
4	REPEAT STAGE 3 TO BOTTOM OF STATION/TUNNEL GRADE SLAB
5	CONSTRUCT BOTTOM GRADE SLAB AND TIE IN TO THE EXCAVATION SUPPORT AS A PERMANENT BRACING SYSTEM
6	CONSTRUCT THE INTERIOR OF THE STATION/TUNNEL (INTERIOR WALLS, SLABS...)
7	CONSTRUCT STATION/TUNNEL ROOF SLAB AND TIE IN TO THE EXCAVATION SUPPORT SYSTEM AS PERMANENT BRACING SYSTEM
8	WATERPROOF THE ROOF SLAB, BACKFILL AND RESTORE THE GROUND

* SLURRY WALLS ARE ONE TYPE OF COMMON RIGID EXCAVATION SUPPORT SYSTEM. OTHER SUITABLE RIGID EXCAVATION SUPPORT SYSTEMS SUCH AS TANGENT/SECANT PILES MIGHT BE CONSIDERED FOR THIS LOCATION. HEAVY REINFORCEMENT WILL BE REQUIRED.

LEGEND:

GROUND IMPROVEMENT ZONE (SEE NOTE 6)



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
E. VELASCO
DRAWN BY
F.J. DOMINGUEZ
CHECKED BY
A. NAVARRO
IN CHARGE
A. RELANO
DATE
02/01/2019

**BURBANK
SUBSECTION**
DRAFT PECD REV01
**NOT FOR
CONSTRUCTION**



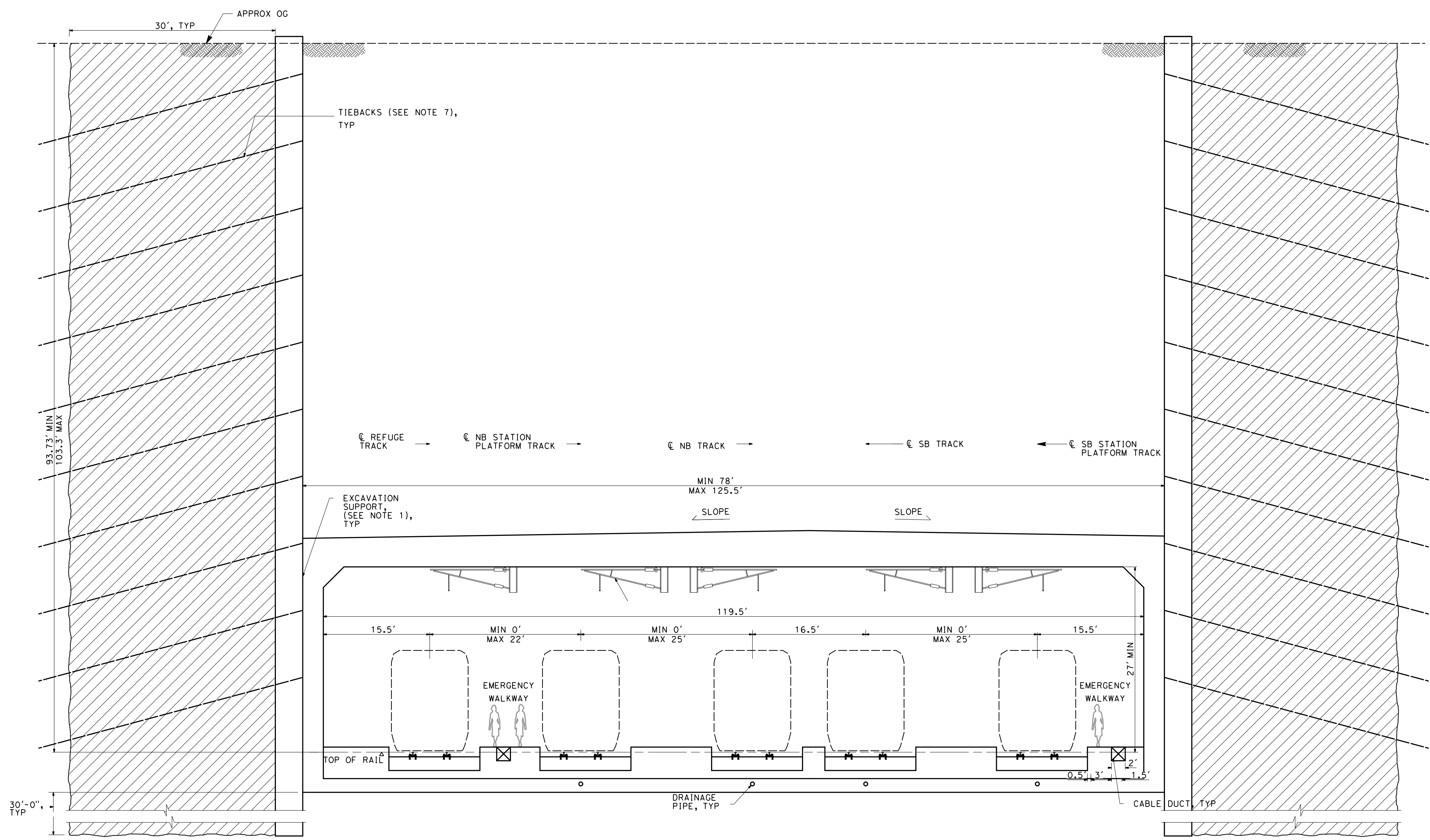
CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
SINGLE CELL BOX 2 TRACKS + REFUGE TRACK
CUT-AND-COVER TUNNEL
TYPICAL SECTION

CONTRACT NO.	HSR14-42
DRAWING NO.	TN-C1104
SCALE	AS SHOWN
SHEET NO.	

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13/03/2019 16:15:53

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NOTES:

1. TYPES, LOCATIONS AND DIMENSIONS OF EXCAVATION SUPPORT NOT DESIGNED. RIGID EXCAVATION SUPPORTS WITH TIEBACKS AND TEMPORARY INTERNAL BRACING ANTICIPATED.
2. PERMANENT LINING ASSUMED WATERTIGHT/ UNDRAINED IN PERMANENT CASE.
3. STRUCTURE COMPONENTS ARE NOT DESIGNED. DRAWINGS NOT BASED ON ACTUAL DESIGN AND ARE DEVELOPED FOR PRELIMINARY COST ESTIMATE.
4. TRACK, OPENINGS, PLATFORM, STATION LAYOUT, CABLE DUCTS AND DRAINAGE ARE SCHEMATIC AND DO NOT REPRESENT DESIGN.
5. EQUIPMENT AND STRUCTURE GAUGES NOT SHOWN. REFER TO DRAWINGS TN-C0006 AND TN-C0007 FOR FIXED EQUIPMENT ENVELOPE AND STRUCTURE GAUGE.
6. GROUND IMPROVEMENT ANTICIPATED IN THIS AREA. LIMITS OF GROUND IMPROVEMENT TO BE DETERMINED AFTER GEOTECHNICAL INVESTIGATIONS ARE COMPLETED.
7. TIEBACKS OR GROUND ANCHORS ARE ANTICIPATED FOR WALLS WITH AN EXPOSED HEIGHT GREATER THAN 20 FT. CANTILEVER SOLDIER PILE WALLS ARE ANTICIPATED FOR WALLS WITH AN EXPOSED HEIGHT LESS THAN 20 FT.
8. TYPICAL SECTION ON THIS SHEET IS APPLICABLE AT THE FOLLOWING LOCATIONS:

ALIGNMENT	SUB-SECTION	BEGIN STA	END STA
REFINED SR14	BURBANK	2231+18.00	2231+77.00

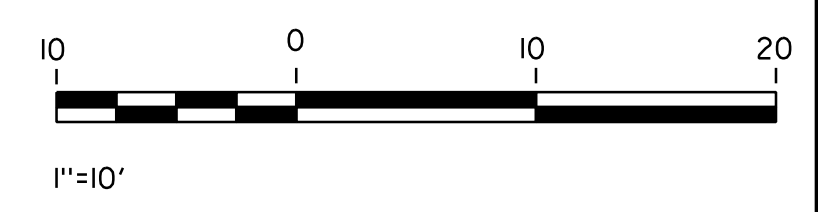
CONSTRUCTION SEQUENCE:

STAGE	DESCRIPTION
0	INSTALL MOVEMENT MONITORING SYSTEMS
1	INSTALL GROUND IMPROVEMENT
2*	INSTALL RIGID EXCAVATION SUPPORT SYSTEMS USING HEAVILY REINFORCED SLURRY WALLS
3A	EXCAVATE IN LIFTS FROM ORIGINAL GROUND
3B	DEWATER AS NEEDED
3C	INSTALL TIEBACKS AND/OR TEMPORARY INTERNAL BRACING AS REQUIRED FOR THE SYSTEM STABILITY
4	REPEAT STAGE 3 TO BOTTOM OF STATION/ TUNNEL GRADE SLAB
5	CONSTRUCT BOTTOM GRADE SLAB AND TIE IN TO THE EXCAVATION SUPPORT AS A PERMANENT BRACING SYSTEM
6	CONSTRUCT THE INTERIOR OF THE STATION/ TUNNEL (INTERIOR WALLS, SLABS...)
7	CONSTRUCT STATION/TUNNEL ROOF SLAB AND TIE IN TO THE EXCAVATION SUPPORT SYSTEM AS PERMANENT BRACING SYSTEM
8	WATERPROOF THE ROOF SLAB, BACKFILL AND RESTORE THE GROUND

* SLURRY WALLS ARE ONE TYPE OF COMMON RIGID EXCAVATION SUPPORT SYSTEM. OTHER SUITABLE RIGID EXCAVATION SUPPORT SYSTEMS SUCH AS TANGENT/SECANT PILES MIGHT BE CONSIDERED FOR THIS LOCATION. HEAVY REINFORCEMENT WILL BE REQUIRED.

LEGEND:
 GROUND IMPROVEMENT ZONE (SEE NOTE 6)

CUT & COVER - 4 TRACKS + REFUGE TRACK



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
E.VELASCO
 DRAWN BY
F.J.DOMINGUEZ
 CHECKED BY
A.NAVARRO
 IN CHARGE
A.RELANO
 DATE
02/01/2019

BURBANK SUBSECTION
DRAFT PEPP REV01
NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
 BURBANK SUBSECTION
 SINGLE CELL 4 TRACKS + REFUGE TRACK
 CUT-AND-COVER TUNNEL
 TYPICAL SECTION

CONTRACT NO.
HSR14-42
 DRAWING NO.
TN-C1105
 SCALE
AS SHOWN
 SHEET NO.

NOTES:

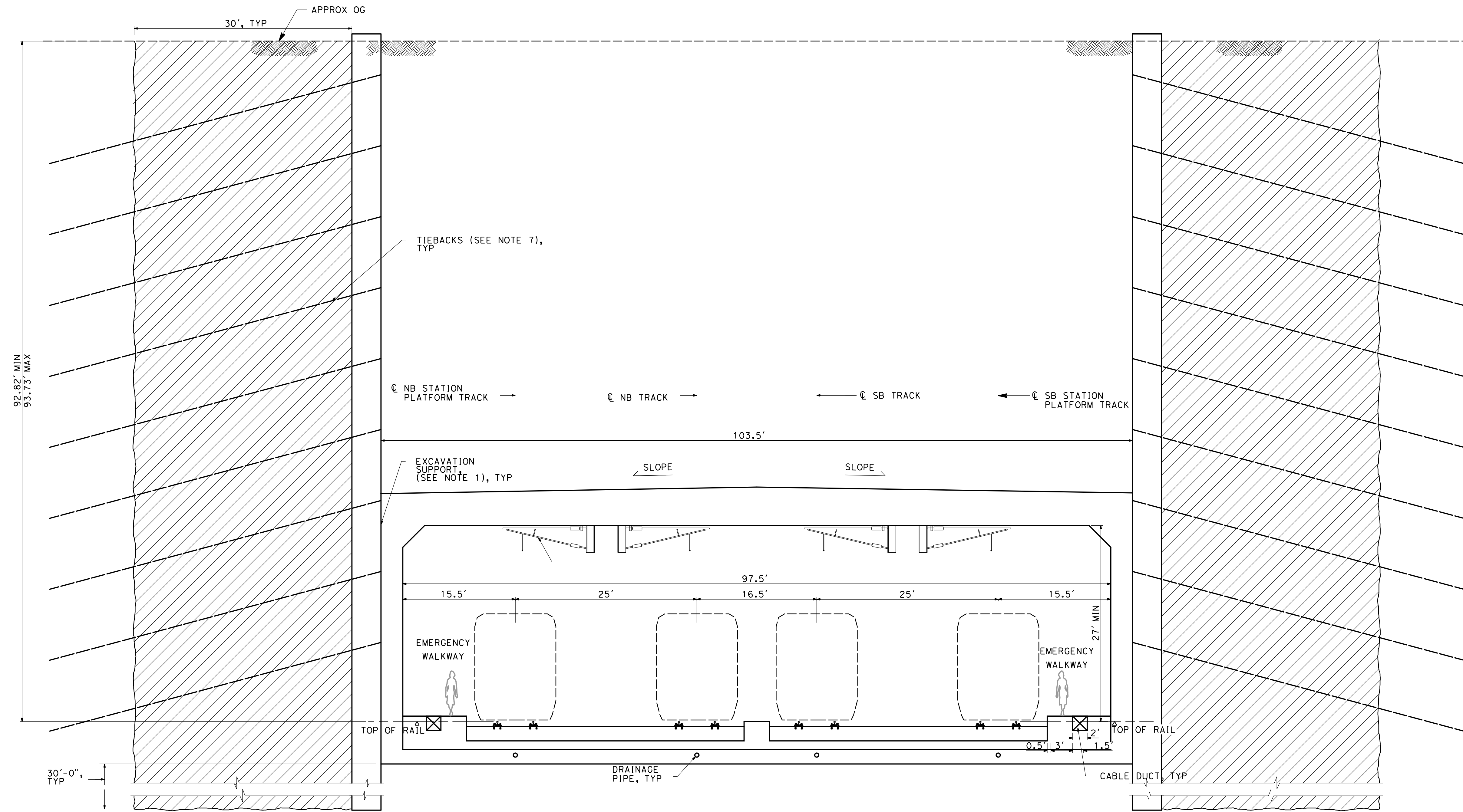
1. TYPES, LOCATIONS AND DIMENSIONS OF EXCAVATION SUPPORT NOT DESIGNED. RIGID EXCAVATION SUPPORTS WITH TIEBACKS AND TEMPORARY INTERNAL BRACING ANTICIPATED.
2. PERMANENT LINING ASSUMED WATERTIGHT/ UNDRAINED IN PERMANENT CASE.
3. STRUCTURE COMPONENTS ARE NOT DESIGNED. DRAWINGS NOT BASED ON ACTUAL DESIGN AND ARE DEVELOPED FOR PRELIMINARY COST ESTIMATE.
4. TRACK, OPENINGS, PLATFORM, STATION LAYOUT, CABLE DUCTS AND DRAINAGE ARE SCHEMATIC AND DO NOT REPRESENT DESIGN.
5. EQUIPMENT AND STRUCTURE GAUGES NOT SHOWN. REFER TO DRAWINGS TN-C0006 AND TN-C0007 FOR FIXED EQUIPMENT ENVELOPE AND STRUCTURE GAUGE.
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CONSTRUCTION SEQUENCE:

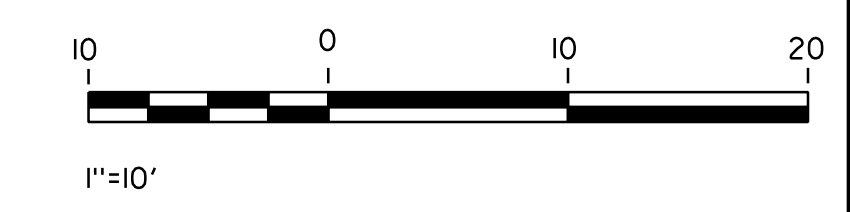
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LEGEND:
 GROUND IMPROVEMENT ZONE

CUT & COVER - 4 TRACKS



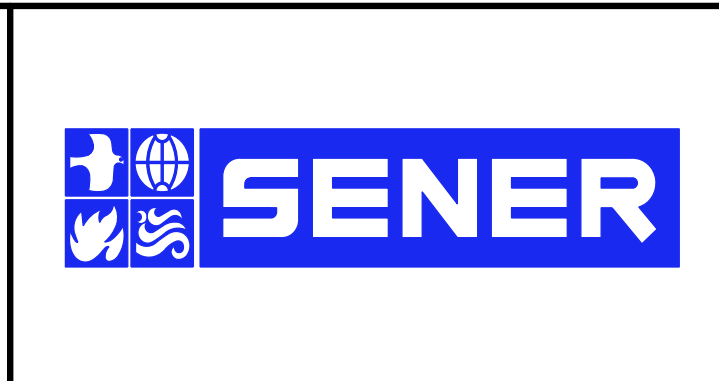
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
E. VELASCO
 DRAWN BY
F.J. DOMINGUEZ
 CHECKED BY
A. NAVARRO
 IN CHARGE
A. RELAÑO
 DATE
02/01/2019

BURBANK SUBSECTION
DRAFT PEPP REV01
NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
 BURBANK SUBSECTION
 SINGLE CELL 4 TRACKS
 CUT-AND-COVER TUNNEL
 TYPICAL SECTION

CONTRACT NO.
HSR14-42
 DRAWING NO.
TN-C1106
 SCALE
AS SHOWN
 SHEET NO.

NOTES:

1. TYPES, LOCATIONS AND DIMENSIONS OF EXCAVATION SUPPORT NOT DESIGNED. RIGID EXCAVATION SUPPORTS WITH TIEBACKS AND TEMPORARY INTERNAL BRACING ANTICIPATED.
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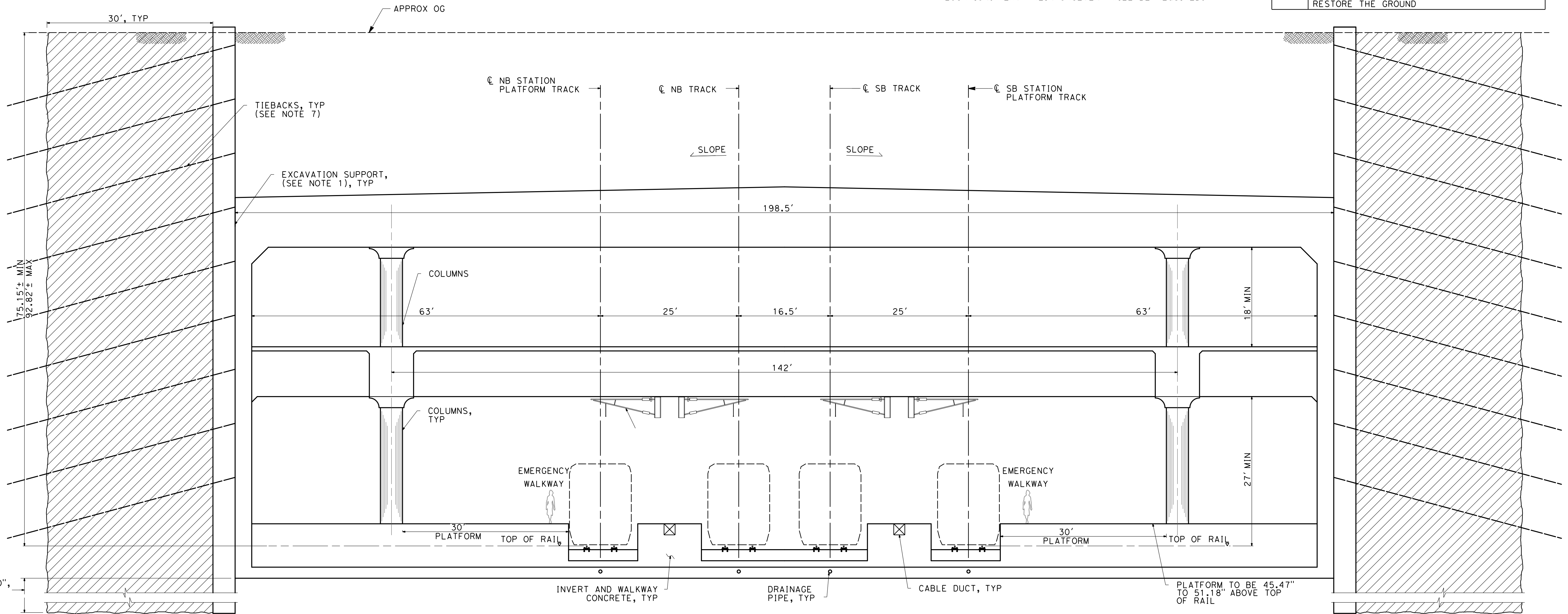
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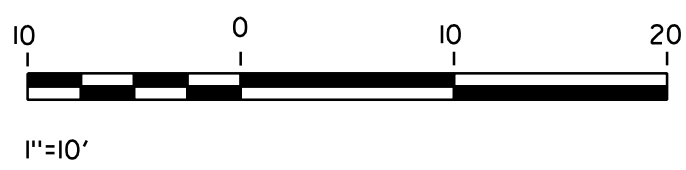
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LEGEND:
 GROUND IMPROVEMENT ZONE

TYPICAL SECTION - 4 TRACKS

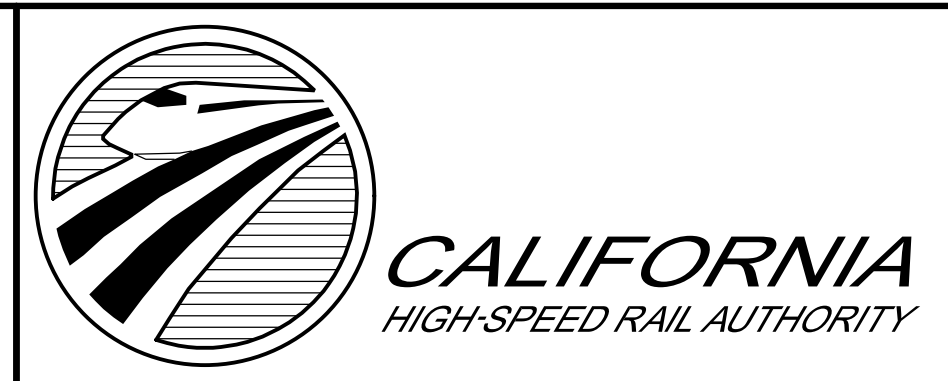


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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
E. VELASCO
 DRAWN BY
F.J. DOMINGUEZ
 CHECKED BY
A. NAVARRO
 IN CHARGE
A. RELAÑO
 DATE
02/01/2019

BURBANK SUBSECTION
DRAFT PEPD REV01
NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
 BURBANK SUBSECTION
 BURBANK STATION PLATFORM
 CUT-AND-COVER TUNNEL
 TYPICAL SECTION

CONTRACT NO.
HSR14-42
 DRAWING NO.
TN-C1109
 SCALE
AS SHOWN
 SHEET NO.

California High-Speed Rail Authority

Burbank Subsection

DRAFT PEPD REV01

Utility Relocation Plans

February 2019



BURBANK SUBSECTION

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
UT-B0001-BUR	BURBANK SUBSECTION - RELOCATION UTILITY PLANS - INDEX OF DRAWINGS	
UT-B0002-BUR	BURBANK SUBSECTION - RELOCATION UTILITY PLANS - ABBREVIATIONS AND LEGEND	
UT-B0003-BUR	BURBANK SUBSECTION - RELOCATION UTILITY PLANS - KEY MAP	
UT-C4086-BUR	BURBANK SUBSECTION - RELOCATION UTILITY PLANS - STA 2215+00 TO STA 2230+00	
UT-C4087-BUR	BURBANK SUBSECTION - RELOCATION UTILITY PLANS - STA 2230+00 TO STA 2254+47.54	

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. TRONCOSO

DRAWN BY
L. GUERRERO

CHECKED BY
N. TIZANI

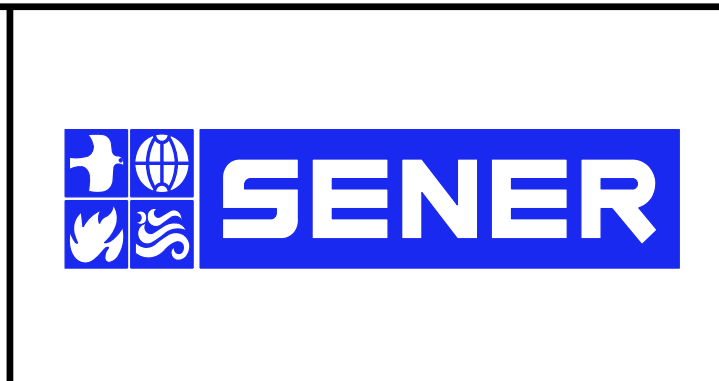
IN CHARGE
A. RELANO

DATE
02/28/2019

**BURBANK
SUBSECTION**

DRAFT PEPD REV01

**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION

RELOCATION UTILITY PLANS
INDEX OF DRAWINGS

CONTRACT NO.
HSR14-42

DRAWING NO.
UT-B0001-BUR

SCALE
NO SCALE

SHEET NO.

LEGEND AND SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		ELECTRICAL UNDERGROUND
		ELECTRICAL OVERHEAD
		FIBER OPTIC UNDERGROUND
		FIBER OPTIC OVERHEAD
		GAS
		NATURAL GAS
		OIL
		STORM DRAIN
		SEWER
		STEAM
		TELECOMMUNICATION UNDERGROUND
		TELECOMMUNICATION OVERHEAD
		TELEPHONE UNDERGROUND
		TELEPHONE OVERHEAD
		TELEVISION UNDERGROUND
		TELEVISION OVERHEAD
		WATER
		RETAINING WALL
		RIGHT-OF-WAY
		HSR RIGHT-OF-WAY
		HSR TUNNEL
		HSR TRACK CENTERLINE
		PERMANENT ENVIRONMENTAL FOOTPRINT
		TEMPORARY ENVIRONMENTAL FOOTPRINT
		FUTURE TRACK CENTERLINE
		NATIONAL FOREST BOUNDARY
		PTC TOWER
		WELL LOCATION
		POWER TRANSMISSION TOWER
		HEADWALL
		TRACK SWITCH
		STRUCTURES (BRIDGE, VIADUCT)
		KEY NOTE
		PUMP STATION

ABBREVIATIONS

ABN	ABANDON	PROP	PROPOSED
ACP	ASBESTOS CEMENT PIPE	PPEF	PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT
ALT	ALTERNATIVE	PS	POWER STATION
APPROX	APPROXIMATE		
AVE	AVENUE	R	RADIUS
		RCP	REINFORCED CONCRETE PIPE
BEG	BEGIN	RD	ROAD
BLDG	BUILDING	REINF	REINFORCED, REINFORCEMENT, REINFORCING
BLVD	BOULEVARD	REL	RELOCATE
BO	BLOW-OFF	REPL	REPLACEMENT
		R/W, ROW	RIGHT OF WAY
CB	CATCH BASIN	RT	RIGHT
CD	CURB DRAIN	RTE	ROUTE
CHSR	CALIFORNIA HIGH-SPEED RAIL		
CIP	CAST IRON PIPE	S	SOUTH
		SB	SOUTHBOUND
CL	CENTERLINE	SCRRA	SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
CMP	CORRUGATED METAL PIPE	SD	STORM DRAIN
CTV	CABLE TELEVISION	SR	STATE ROUTE
		ST	STREET
D	DEPTH	STA	STATION
DI	DRAINAGE INLET, DROP INLET	STBB	SINGLE THRIE BEAM BARRIER
DIA	DIAMETER	STD	STANDARD
DIP	DUCTILE IRON PIPE	STR	STRUCTURE
DWG	DRAWING	SRS	STAND ALONE RADIO SITE
		SW	SIDEWALK, SOUND WALL
ED	EDGE DRAIN	SWR	SEWER
EDC	EDGE DRAIN CLEANOUT		
EDO	EDGE DRAIN OUTLET	TEL	TELEPHONE
EDV	EDGE DRAIN VENT	TEMP	TEMPORARY
ELEC	ELECTRIC	TOT	TOTAL
ELEV	ELEVATION	TP	TELEPHONE POLE
ENV	ENVIRONMENTAL	TPSS	TRACTION POWER SUPPLY STATION
EXIST	EXISTING	TSMF	TERMINAL STORAGE AND MAINTENANCE FACILITY
EXP	EXPANSION	TYP	TYPICAL
		UG	UNDERGROUND
FL	FLOW LINE	UNK	UNKNOWN
FO	FIBER OPTIC	UPRR	UNION PACIFIC RAILROAD
FP	FOOTPRINT		
G	GAS	W	WATER, WEST, WIDTH
GALV	GALVANIZED	WB	WESTBOUND
		WM	WATER MAIN
HDC	HIGH DESERT CORRIDOR	WSP	WELDED STEEL PIPE
HSR	HIGH-SPEED RAIL	WT	WEIGHT
		WV	WATER VALVE
INV	INVERT		
IRR	IRRIGATION		
L	LENGTH		
LT	LEFT		
LMF	LIGHT MAINTENANCE FACILITY		
MAX	MAXIMUM		
MIN	MINIMUM		
MT	MAIN TRACK		
N	NORTH		
NB	NORTHBOUND		
PROP	PROPOSED		
P.S.	POWER STATION		

UTILITY OWNERS

AIR TOUCH	AIR TOUCH CELLULAR
AVEK W	ANTELOPE VALLEY - E. KERN WATER
AT&T DIST	AT&T DISTRIBUTION
AT&T TRANS	AT&T TRANSMISSION
BURBANK AIRPORT	BURBANK GLENDALE PASADENA AIRPORT AUTHORITY
BWP	BURBANK WATER & POWER
CENTURY L	CENTURYLINK
CITY OF BURBANK	CITY OF BURBANK
CITY OF GLENDALE	CITY OF GLENDALE
CITY OF LA	CITY OF LOS ANGELES - RECORDS SECTION
CITY OF SC	CITY OF SANTA CLARITA
CITY OF PALMDALE	CITY OF PALMDALE
CITY OF S FERNANDO	CITY OF SAN FERNANDO
CLEAR CHANNEL	CLEAR CHANNEL OUTDOOR
CROWN CASTLE	CROWN CASTLE
EL DORADO MWC	EL DORADO MUTUAL WATER COMPANY
EXXON	EXXON MOBIL PIPELINE CO
LACDPW	LA COUNTY DEPARTMENT OF PUBLIC WORKS
LACDPW-WW	LA COUNTY WATER WORKS
LACSD	LOS ANGELES COUNTY SANITATION DISTRICT
LADWP	LOS ANGELES DEPARTMENT OF WATER & POWER
LEVEL 3	LEVEL 3 COMMUNICATIONS
LIBERMAN	LIBERMAN BROADCASTING
NEWHALL CW	NEWHALL COUNTY WATER
MARCUS	MARCUS CABLE
MCI	MCI (VERIZON BUSINESS)
MWD	METROPOLITAN WATER DISTRICT
PALMDALE WD	PALMDALE WATER DISTRICT
PAAP	PLAINS ALL AMERICAN PIPELINE
PPS	PACIFIC PIPELINE
PT & T	PACIFIC TEL & TELEGRAPH
QWEST	QWEST COMMUNICATION
SCWC	SANTA CLARITA WATER CO
SCE TEL	SC EDISON - TELECOM
SCE DIST	SC EDISON - DIST/TELECOM
SCE	SOUTHERN CALIFORNIA EDISON
SCG	SC GAS - LANCASTER
SCG TRANS	SC GAS - TRANSMISSION
SUNESYS	SUNESYS, LLC
SPRINT	SPRINT
SPV WC	SPV WATER COMPANY
CA DWR	STATE DEPARTMENT WATER RESOURCES
TESORO	TESORO
T-MOBILE	T-MOBILE USA
TWC	TIME WARNER CABLE
VERIZON	VERIZON - IRWINDALE
WSP MWC	WEST SIDE PARK MUTUAL WATER COMPANY
WILSHIRE CONN	WILSHIRE CONNECTION LLC
XO COMM	XO COMMUNICATIONS
ZAYO	ZAYO FNA ABOVE NET

GENERAL NOTES

- EXISTING UTILITIES IDENTIFIED WITH THE DISPOSITIONS 'RELOCATE', 'REMOVE' OR 'PROTECT IN PLACE' PERTAIN TO THAT PORTION OF THE UTILITY THAT IS LOCATED WITHIN THE PROPOSED, PERMANENT HSR RIGHT-OF-WAY

\$DATE \$ \$TIME \$ \$USER \$ \$FILE \$

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. TRONCOSO

DRAWN BY
L. GUERRERO

CHECKED BY
N. TIZANI

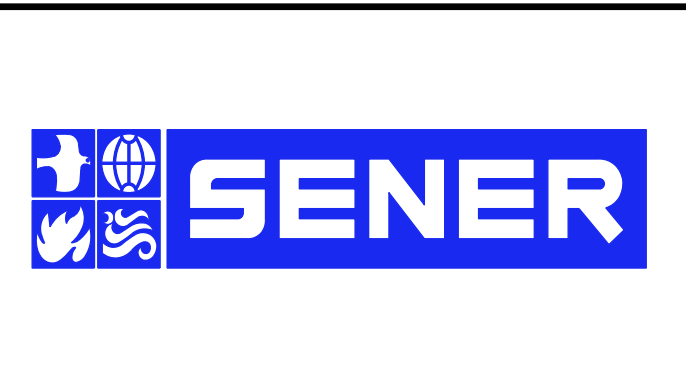
IN CHARGE
A. RELANO

DATE
02/28/2019

BURBANK SUBSECTION

DRAFT PEPP REV01

NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED RAIL PROJECT

PALMDALE TO BURBANK

ALIGNMENT "BUR"

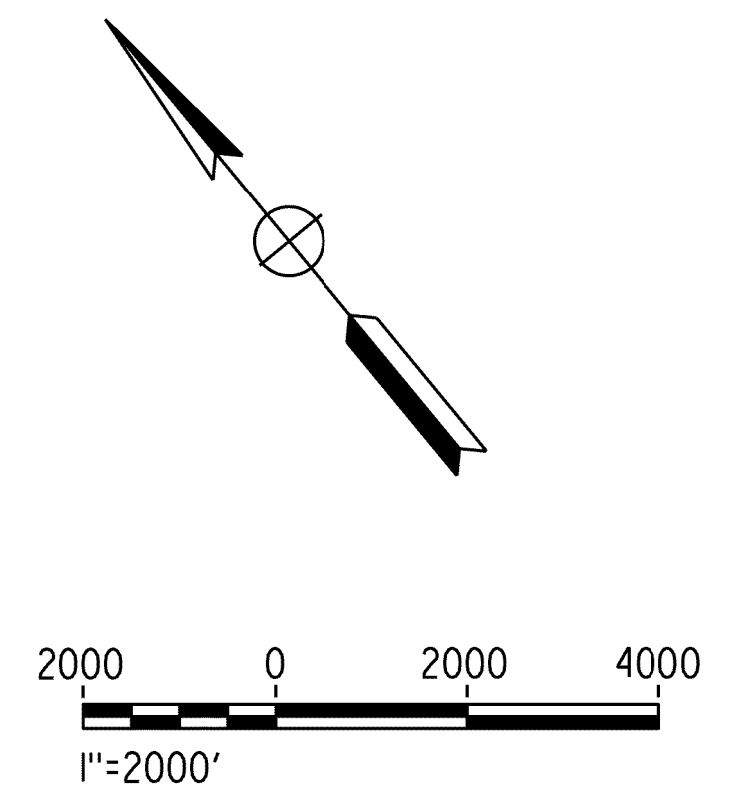
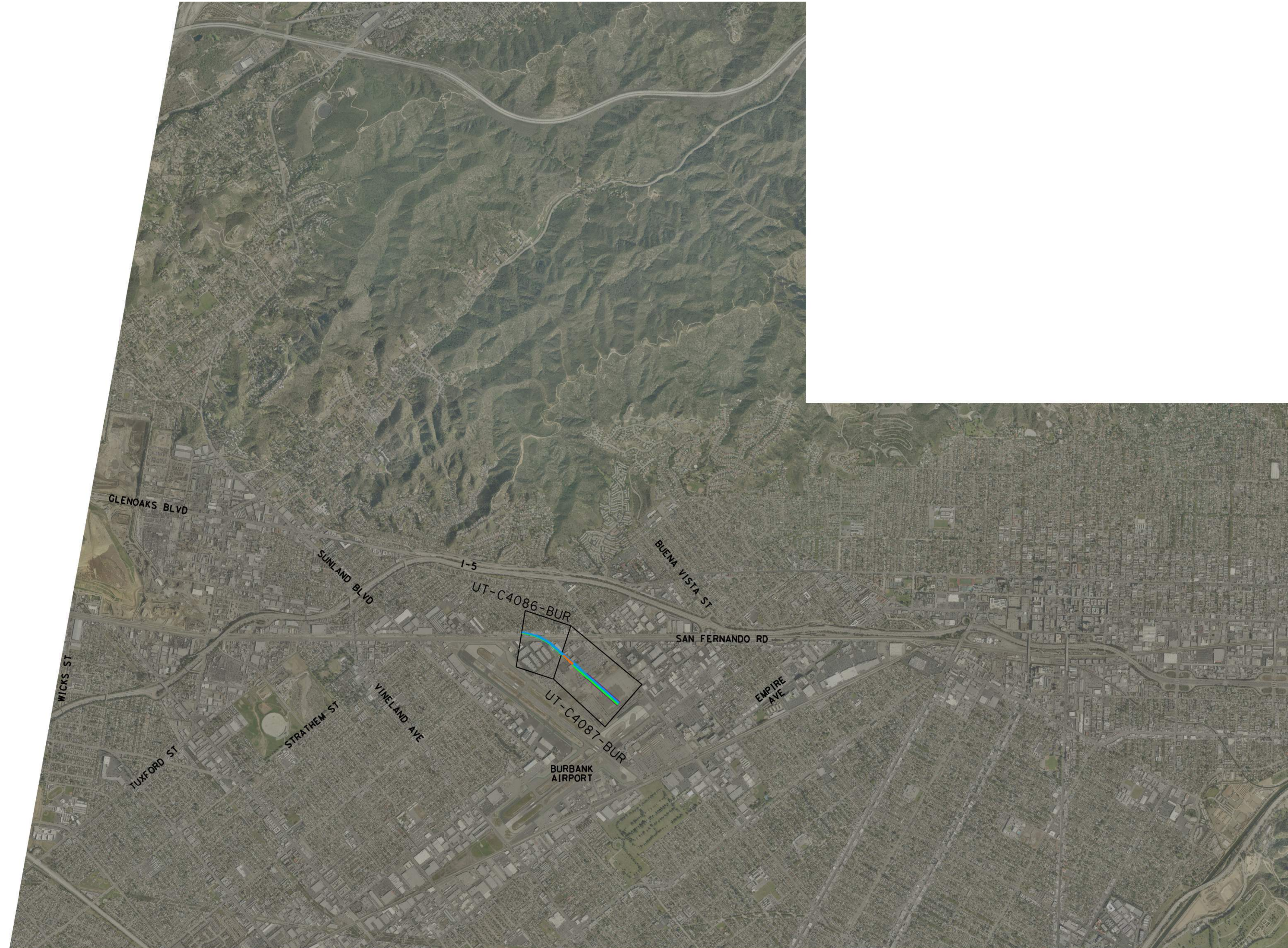
RELOCATION UTILITY PLANS
ABBREVIATIONS AND LEGEND

CONTRACT NO.
HSR14-42

DRAWING NO.
UT-B0002-BUR

SCALE
NO SCALE

SHEET NO.

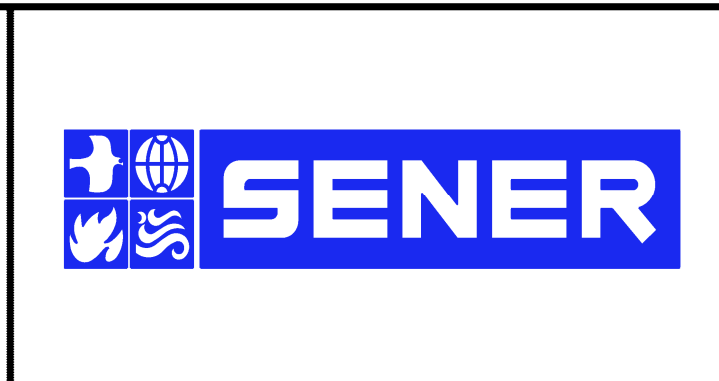


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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. TRONCOSO
 DRAWN BY
L. GUERRERO
 CHECKED BY
N. TIZANI
 IN CHARGE
A. RELANO
 DATE
02/28/2019

**BURBANK
 SUBSECTION**
DRAFT PEPPD REV01
**NOT FOR
 CONSTRUCTION**



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
 BURBANK SUBSECTION
 RELOCATION UTILITY PLANS
 KEY MAP

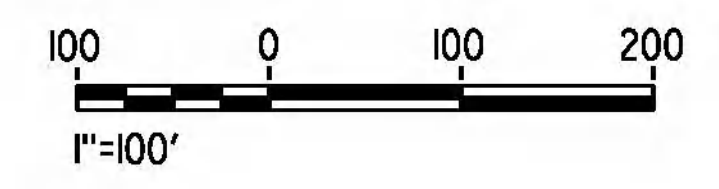
CONTRACT NO.
 HSR14-42
 DRAWING NO.
 UT-B0003-BUR
 SCALE
 AS SHOWN
 SHEET NO.



MATCH LINE (UT-C4085-S14)

MATCH LINE (UT-C4087-S14)

#	FACILITY	SIZE	OWNER	DISPOSITION
1	GAS	2"	SCG	PROTECT IN PLACE
2	WATER	10"	BWP	PROTECT IN PLACE
3	WATER	UNKNOWN	LADWP	PROTECT IN PLACE
4	TELECOM	12"	WILLIAMS	PROTECT IN PLACE
5	OIL	20"	PPS	PROTECT IN PLACE
6	FIBER OPTIC	UNKNOWN	QWEST	PROTECT IN PLACE
7	OIL	8"	CITY OF LA	PROTECT IN PLACE
8	GAS	4"	SCG	PROTECT IN PLACE
9	GAS	12" (ABAN)	SCG	PROTECT IN PLACE
10	TELEPHONE	UNKNOWN	AT&T-SPRINT	PROTECT IN PLACE
11	WATER	16"	LADWP	PROTECT IN PLACE
12	OH POWER	UNKNOWN	LADWP	PROTECT IN PLACE
13	SEWER	8"	LACDPW	PROTECT IN PLACE
14	SEWER	8"	LACDPW	PROTECT IN PLACE

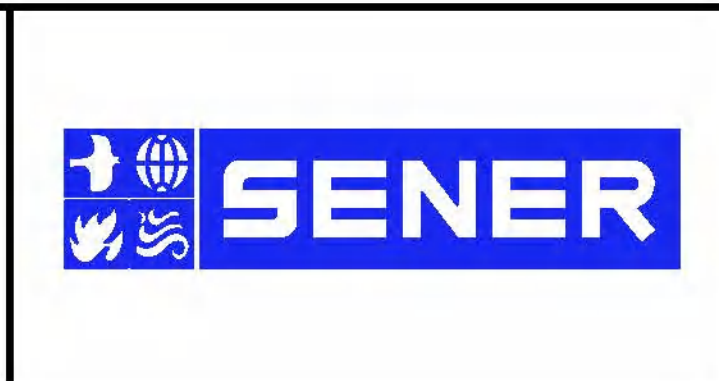


\$DATE\$ \$TIME\$ \$USER\$ \$FILE\$

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DESIGNED BY
A. TRONCOSO
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02/28/2019

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SUBSECTION**
DRAFT PEPP REV01
**NOT FOR
CONSTRUCTION**

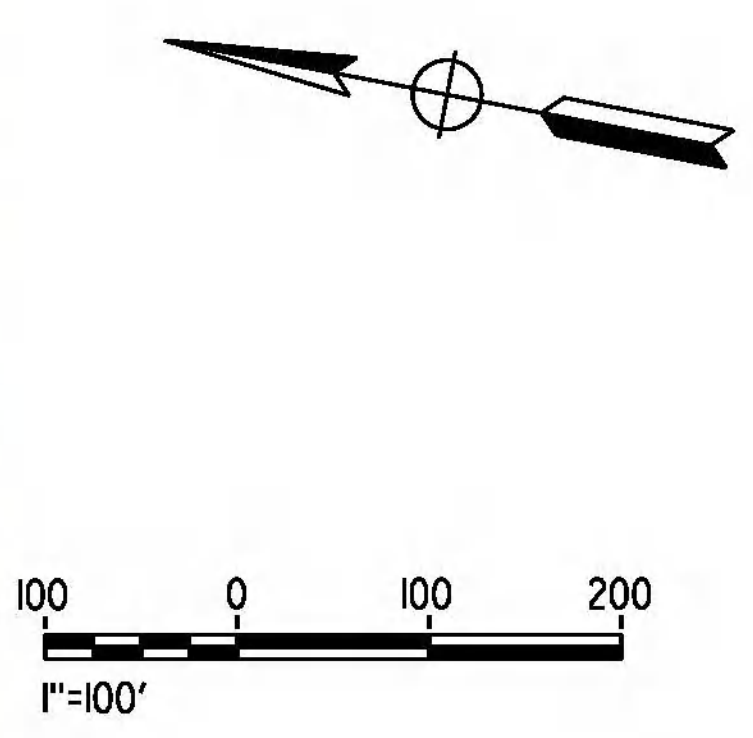


CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSTATION
RELOCATION UTILITY PLANS
STA 2215+00 TO STA 2230+00

CONTRACT NO.
HSR14-42
DRAWING NO.
UT-C4086-BUR
SCALE
AS SHOWN
SHEET NO.



#	FACILITY	SIZE	OWNER	DISPOSITION
1	WATER	10"	BWP	PROTECT IN PLACE
2	OH POWER	UNKNOWN	LADWP	PROTECT IN PLACE
3	SEWER	8"	LACDPW	PROTECT IN PLACE
4	WATER	12"	CITY OF BURBANK	PROTECT IN PLACE
5	OH POWER	UNKNOWN	CITY OF BURBANK	PROTECT IN PLACE
6	GAS	2"	SCG	PROTECT IN PLACE



MATCH LINE (UT-C4086-BUR)

MATCH LINE (UT-C4562-S14)

\$USER,\$ \$DATE,\$ \$TIME,\$ \$FILE,\$

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. TRONCOSO
DRAWN BY
L. GUERRERO
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A. RELANO
DATE
02/28/2019

**BURBANK
SUBSECTION**
DRAFT PEPP REV01
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED RAIL PROJECT PALMDALE TO BURBANK BURBANK SUBSTATION RELOCATION UTILITY PLANS STA 2230+00 TO STA 2254+47.54	CONTRACT NO. HSR14-42
	DRAWING NO. UT-C4087-BUR
	SCALE AS SHOWN
	SHEET NO.

California High-Speed Rail Authority

Burbank Subsection

DRAFT PEPD REV 01

Railway Systems Plans

February 2019



GENERAL SHEETS

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
TP-B0001	INDEX OF DRAWINGS	
TP-B0002	ABBREVIATIONS	
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CHSR ALIGNMENT "REFINED SR14" RAILWAY SYSTEMS AND FACILITIES

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
TP-D0001-S14	TRACTION POWER FACILITIES - LOCATION LAYOUT	

BURBANK AIRPORT STATION TYPICAL SECTIONS AND LAYOUTS

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
TP-O4008-S14	TRACTION POWER FACILITIES - PARALLELING STATION 7	

TRAIN CONTROL SYSTEM

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
TC-E6005	INTERLOCKING SITES - BURBANK STATION	
TC-B6001-S14	RAILWAY SYSTEMS - KEY MAP	
TC-F5001-S14	INTERLOCKING SITES - STA 2233+00 TO STA 2245+00	

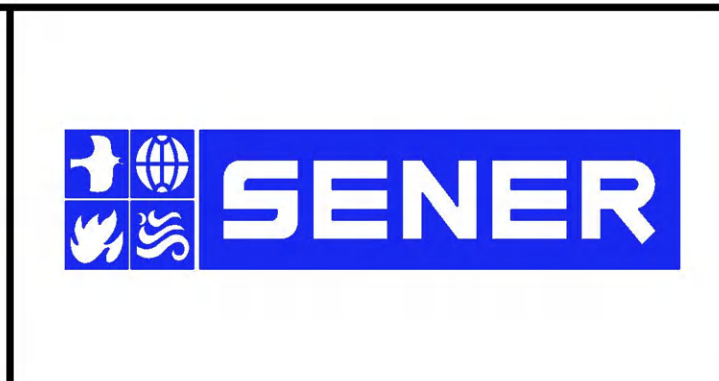
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02/01/2019

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**CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK**
BURBANK SUBSECTION
ALIGNMENT "REFINED SR14"
GENERAL
INDEX OF DRAWINGS

CONTRACT NO.
HSR14-42
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A

AB AGGREGATE BASE
 ABBC ASBESTOS BONDED BITUMINOUS COATED
 ABM AIR-BLOWN MORTAR
 ABN ABANDON
 ABUT ABUTMENT
 AC ASPHALT CONCRETE
 ACB ASPHALT CONCRETE BASE
 ACP ASBESTOS CEMENT PIPE
 ADL ADDED DEAD LOAD
 ADJ ADJUST
 AFES ALTERNATIVE FLARED END SECTION
 AHD AHEAD
 ALT ALTERNATE
 AM TIME FROM MIDNIGHT TO NOON
 AP ALTERNATIVE PIPE
 APC ALTERNATIVE PIPE CULVERT
 APPROX APPROXIMATE
 APU ALTERNATIVE PIPE UNDERDRAIN
 ARS ACCELERATION RESPONSE SPECTRUM
 AR ACCESS RESTRICTION
 AS AGGREGATE SUBBASE
 ASRP ALUMINUM SPIRAL RIB PIPE
 ASSY ASSEMBLY
 ATPB ASPHALT TREATED PERMEABLE BASE
 ATPM ASPHALT TREATED PERMEABLE MATERIAL
 AVE AVENUE
 AVG AVERAGE
 @ AT

B

BAGR BRIDGE APPROACH GUARD RAILING
 BB BEGINNING OF BRIDGE
 BC BEGIN HORIZONTAL CURVE
 BCC BALANCED CANTILEVER CONSTRUCTION
 BCR BEGIN CURB RETURN
 BEG BEGIN
 BIT CTD BITUMINOUS COATED
 BK BACK
 BKF BACKFILL
 BLDG BUILDING
 BLM BRIDGE-LOG MILE
 BLVD BOULEVARD
 BM BENCH MARK
 BND BOUND
 BOT BOTTOM
 BR BRIDGE
 BRG BEARING
 BTU BRITISH THERMAL UNIT
 BVC BEGIN VERTICAL CURVE
 BW BARBED WIRE

C

CAA CABLE ANCHOR ASSEMBLY
 CAP CORRUGATED ALUMINUM PIPE
 CAPA CORRUGATED ALUMINUM PIPE ARCH
 CAS CONSTRUCTION AREA SIGN
 CB CONCRETE BARRIER
 CBW CONCRETE BLOCK WALL
 C-C CENTER TO CENTER

C CONTINUED

CHSRA CALIFORNIA HIGH SPEED RAIL AUTHORITY
 CHST CALIFORNIA HIGH SPEED TRAIN
 CHSR CALIFORNIA HIGH SPEED RAIL
 CG CENTER OF GRAVITY
 CHNL CHANNEL
 CI CAST IRON
 CIDH CAST-IN-DRILLED-HOLE
 CIP,C-I-P CAST-IN-PLACE, CAST IRON PIPE
 CIPCP CAST IN PLACE CONCRETE PIPE
 CISS CAST-IN-STEEL-SHELL
 CJP COMPLETE JOINT PENETRATION
 CL CENTERLINE, CLASS
 CL2 CLASS 2
 CL-6 CHAIN LINK FENCE (6 FT)
 CLR CLEAR, CLEARANCE
 CM CORRUGATED METAL
 CMP CORRUGATED METAL PIPE
 CO COUNTY
 COL COLUMN
 CONC CONCRETE
 COND CONDUIT
 CONN CONNECTOR
 CONST CONSTRUCT, CONSTRUCTION
 CONT CONTINUOUS
 COORD COORDINATE
 CP CANDLEPOWER
 CR CREEK
 CRCP CONTINUOUS REINFORCED CONCRETE PAVT
 CRSP CONCRETED ROCK SLOPE PROTECTION
 CS CURVE TO SPIRAL
 CSP CORRUGATED STEEL PIPE
 CSPA CORRUGATED STEEL PIPE ARCH
 CTB CEMENT TREATED BASE
 CTPB CEMENT TREATED PERMEABLE BASE
 CTPM CEMENT TREATED PERMEABLE MATERIAL
 CTRS CENTERS
 CULV CULVERT
 CVFPB CENTRAL VALLEY FLOOD PROTECTION BOARD

D

D DEPTH
 DD DOWNDRAIN, DIRECTIVE DRILLING
 DBL DOUBLE
 DEG DEGREE
 DEL DELINEATOR
 DET DETAIL, DETOUR
 DF DOUGLAS FIR
 DI DRAINAGE INLET, DROP INLET
 DIA DIAMETER
 DIAPH DIAPHRAGM
 DIST DISTANCE, DISTRICT
 DMBB DOUBLE METAL BEAM BARRIER
 DR DRIVE
 DTBB DOUBLE THRIE BEAM BARRIER
 DWY DRIVEWAY

E

E EAST, EASTING
 EA ACTUAL SUPERELEVATION
 EU UNBALANCED SUPERELEVATION

E CONTINUED

EASE EASEMENT
 EB END OF BRIDGE, EASTBOUND
 EC END HORIZONTAL CURVE
 ECR END CURB RETURN
 ED EDGE DRAIN
 EDC EDGE DRAIN CLEANOUT
 EDO EDGE DRAIN OUTLET
 EDV EDGE DRAIN VENT
 ELEC ELECTROLIER
 ELECT ELECTRIC
 ELEV ELEVATION
 ELLN EXTRALEGAL LEAD NETWORK
 EMB EMBANKMENT
 ENGR ENGINEER
 EOD EDGE OF DECK
 EP EDGE OF PAVEMENT
 EQ EQUATION, EQUAL
 ES EDGE OF SHOULDER
 ETW EDGE OF TRAVELED WAY
 EVC END VERTICAL CURVE
 EW ENDWALL
 EXC EXCAVATION
 EXIST, EX. EXISTING
 EXP EXPANSION
 EXP JT EXPANSION JOINT
 EXT EXTERIOR
 EXWY EXPRESSWAY

F

F & C FRAME AND COVER
 F & G FRAME AND GRATE
 FB FLOOR BEAM
 F-B FRESNO TO BAKERSFIELD
 FDN FOUNDATION
 FEBT FACING EASTBOUND TRAFFIC
 FES FLARED END SECTION
 FF FILTER FABRIC
 FG FINISHED GRADE
 FH FIRE HYDRANT
 FIG FIGURE
 FL FLOW LINE
 FNBT FACING NORTHBOUND TRAFFIC
 FOC FACE OF CONCRETE
 FPLM FULL SPAN PRECAST LAUNCHING METHOD
 FR RD FRONTAGE ROAD
 FS FAR SIDE, FINISHED SURFACE
 FSBT FACING SOUTHBOUND TRAFFIC
 FT FOOT, FEET
 FTG FOOTING
 FUT FUTURE
 FWBT FACING WESTBOUND TRAFFIC
 FWY FREEWAY

G

G ACCELERATION DUE TO GRAVITY
 GA GAGE
 GALV GALVANIZED
 GP GRADING PLANE
 GR GUARD RAILING
 GSP GALVANIZED STEEL PIPE
 GTR GUTTER

H

H HEIGHT
 HD HORIZONTAL DRAIN
 HDWL HEADWALL
 HEX HD HEXAGONAL HEAD
 HMA HOT MIXED ASPHALT
 HORIZ HORIZONTAL
 HP HINGE POINT, HORSEPOWER
 HPS HIGH PERFORMANCE STEEL
 HR HOUR
 HS HIGH STRENGTH
 HSR HIGH SPEED RAIL
 HST HIGH SPEED TRAIN
 HW HEADWALL, HIGH WATER
 HWM HIGH WATER MARK
 HWY HIGHWAY

I

IB IMPORTED BORROW
 ID INSIDE DIAMETER
 IF INSIDE FACE
 IN INCH, INCHES
 INT INTERIOR
 INV INVERT
 IRR IRRIGATION

J

JCT JUNCTION
 JP JOINT POLE
 JPCP JOINTED PLAIN CONCRETE PAVEMENT
 JS JUNCTION STRUCTURE
 JT JOINT

K

K DISTANCE TO ACHIEVE 1% GRADE CHANGE

L

L LENGTH
 LAT LATITUDE
 LC LENGTH OF CURVE
 LMF LIGHT MAINTENANCE FACILITY
 LN LANE
 LOC LOCATION
 LOL LAYOUT LINE
 LONG LONGITUDE
 LONGIT LONGITUDINAL
 LS LENGTH OF SPIRAL
 LT LEFT

M

MAINT MAINTENANCE
 MAX MAXIMUM
 MB METAL BEAM
 MBB METAL BEAM BARRIER
 MBGR METAL BEAM GUARD RAILING
 MED MEDIAN
 M-F MERCED TO FRESNO
 MH MANHOLE
 MIN MINIMUM
 MISC MISCELLANEOUS
 MISC I & S MISCELLANEOUS IRON AND STEEL
 MKR MARKER
 M/L MAIN LINE (RAILWAY)

M CONTINUED

MOD MODIFIED, MODIFY
 MON MONUMENT
 MP METAL PLATE
 MPGR METAL PLATE GUARD RAILING
 MPH MILES PER HOUR
 MR MOVEMENT RATING
 MSE MECHANICALLY STABILIZED EARTH
 MSS MOVING SCAFFOLDING SYSTEM
 MT MAIN TRACK
 MTL MATERIAL

N

N NORTH, NORTHING
 N/A NOT APPLICABLE
 NB NORTHBOUND
 NO. NUMBER (MUST HAVE PERIOD)
 NOS. NUMBERS (MUST HAVE PERIOD)
 NPS NOMINAL PIPE SIZE
 NS NEAR SIDE
 NTS NOT TO SCALE

O

OBLR OBLITERATE
 OC OVERCROSSING
 OCS OVERHEAD CONTACT SYSTEM
 OD OUTSIDE DIAMETER
 OF OUTSIDE FACE
 OG ORIGINAL GROUND
 OGAC OPEN GRADED ASPHALT CONCRETE
 OH OVERHEAD
 O-O OUT TO OUT
 OPP OPPOSITE

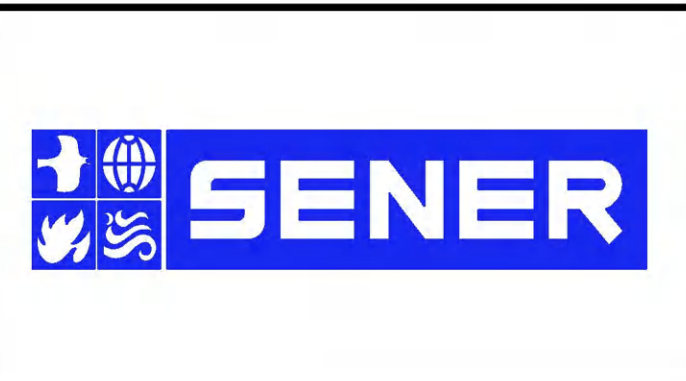
P

P PAGE
 PAP PERFORATED ALUMINUM PIPE
 PB PULL BOX
 PC POINT OF CURVATURE, PRECAST
 PCC POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
 PCP PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
 PCVC POINT OF COMPOUND VERTICAL CURVE
 PED PEDESTRIAN
 PED OC PEDESTRIAN OVERCROSSING
 PED UC PEDESTRIAN UNDERCROSSING
 PERM MTL PERMEABLE MATERIAL
 PG PROFILE GRADE
 PI POINT OF INTERSECTION
 PJP PARTIAL JOINT PENETRATION
 P,PL PLATE
 P/L PROPERTY LINE
 PM POST MILE, TIME FROM NOON TO MIDNIGHT
 PN PAVING NOTCH
 POB POINT OF BEGINNING
 POC POINT OF HORIZONTAL CURVE
 POE POINT OF ENDING
 POT POINT OF TANGENT
 POVC POINT OF VERTICAL CURVE
 PP PIPE PILE, PLASTIC PIPE, POWER POLE
 PPL PREFORMED PERMEABLE LINER
 PPP PERFORATED PLASTIC PIPE
 PRC POINT OF REVERSE CURVE

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CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
 BURBANK SUBSECTION
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 GENERAL ABBREVIATIONS

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P CONTINUED

PRF	PAVEMENT REINFORCING FABRIC
PROP	PROPOSED
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED, PARALLEL STATION
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVP	MAINTENANCE VEHICLE PULLOUT
Q	
QTY	QUANTITY
R	
R	RADIUS
R & D	REMOVE AND DISPOSE
R & S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
RD	ROAD
REINF	REINFORCED, REINFORCEMENT, REINFORCING
REL	RELOCATE
REPL	REPLACEMENT
RET	RETAINING
REV	REVISED
RF	RADIO FREQUENCY
RM	ROAD-MIXED
R/W, ROW	RIGHT OF WAY
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
RTE	ROUTE
RW	REDWOOD, RETAINING WALL
RWY	RAILWAY
S	
S	SOUTH, SUPPLEMENT, STATION LINE
SAE	STRUCTURE APPROACH EMBANKMENT
SALV	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SPIRAL TO CURVE
SCRRA	SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
SEC	SECOND
SECT	SECTION
SEP	SEPARATION
SG	SUBGRADE
SHLD	SHOULDER
SHT	SHEET
SIM	SIMILAR
SM	SELECTED MATERIAL
SPEC	SPECIAL, SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE, SPIRAL TO SPIRAL

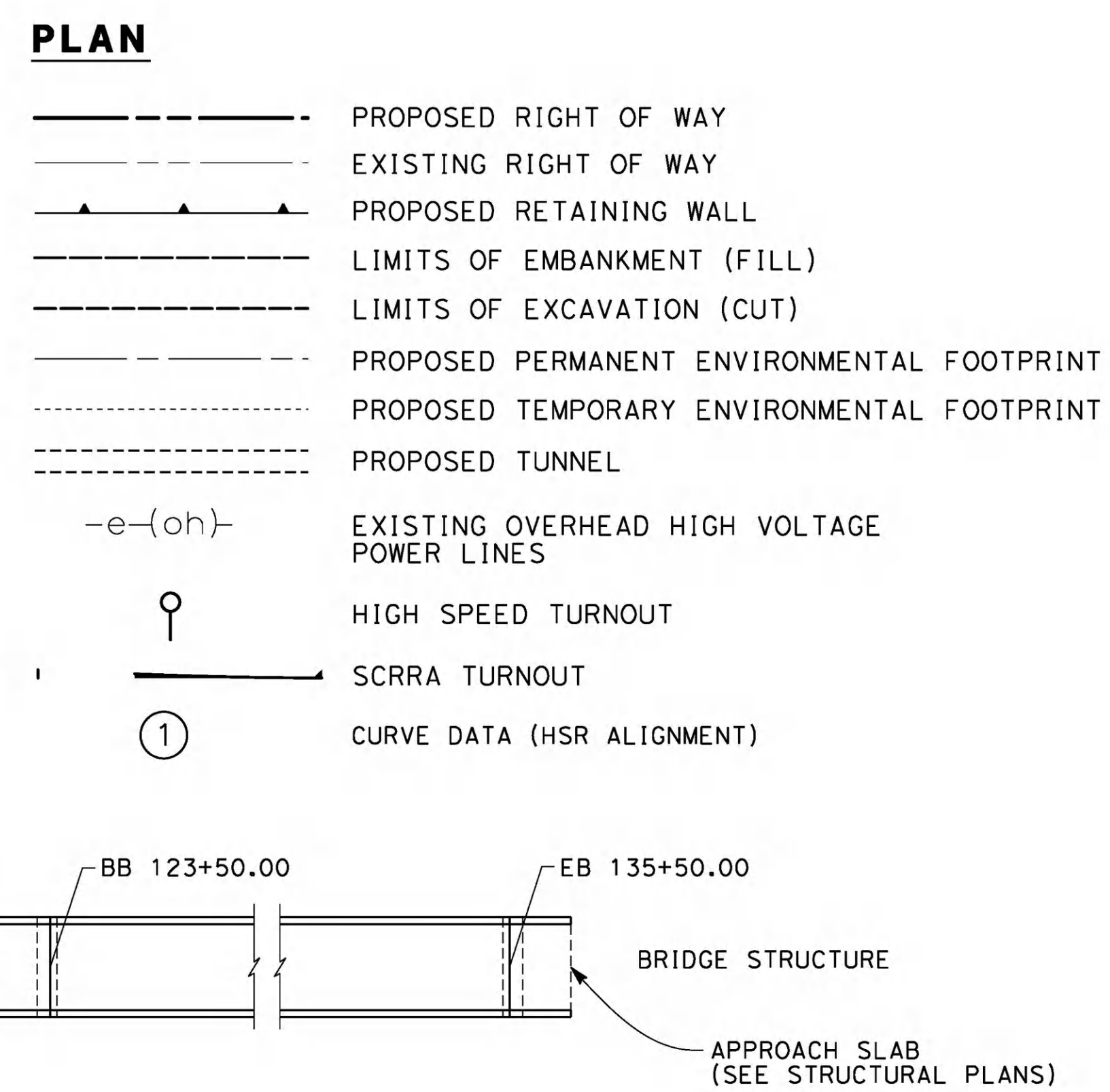
S CONTINUED

SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
SR	STATE ROUTE
ST	STREET, SPIRAL TO TANGENT
STA	STATION
STBB	SINGLE THRIE BEAM BARRIER
STD	STANDARD
STR	STRUCTURE
SRS	STAND ALONE RADIO SITE
SURF	SURFACING
SW	SIDEWALK, SOUND WALL
SWR	SEWER
SWS	SWITCHING STATION
SYM	SYMMETRICAL
S4S	SURFACE 4 SIDES
T	
T	SEMI-TANGENT
TAB	TABLET
TAN	TANGENT
TBB	THRIE BEAM BARRIER
TBR	TIMBER
TC	TOP OF CURB, TANGENT TO CURVE
TCB	TRAFFIC CONTROL BOX
TEL	TELEPHONE
TEMP	TEMPORARY
TG	TOP OF GRADE
TM	TECHNICAL MEMORANDUM
TOT	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPF	TRACTION POWER FACILITY
TPM	TREATED PERMEABLE MATERIAL
TPSS	TRACTION POWER SUPPLY STATION
TRANS	TRANSITION, TRANSVERSE
TSMF	TRAFFIC SIGNAL, TUBULAR STEEL, TANGENT TO SPIRAL
TYP	TERMINAL STORAGE AND MAINTENANCE FACILITY
TOR, T/R	TYPICAL
U	
UC	TOP OF RAIL
UD	UNDERCROSSING
UD	UNDERDRAIN
UON	UNDERPASS
UP	UNLESS OTHERWISE NOTED
UPRR	UNION PACIFIC RAILROAD
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE
V	
V	VALVE, DESIGN SPEED
VAR	VARIABLE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VIA	VIADUCT
VOL	VOLUME

W

W	WEST, WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
WT	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE
W/	WITH
X	
X SEC	CROSS SECTION
XING	CROSSING
Y	
YR	YEAR
YRS	YEARS

LEGEND



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CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
ALIGNMENT "REFINED SR14"
GENERAL
ABBREVIATIONS AND LEGEND

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SHEET NO.

LEGEND

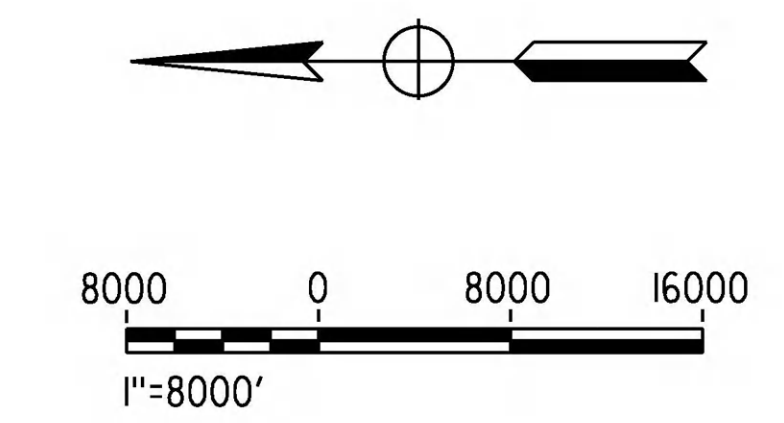
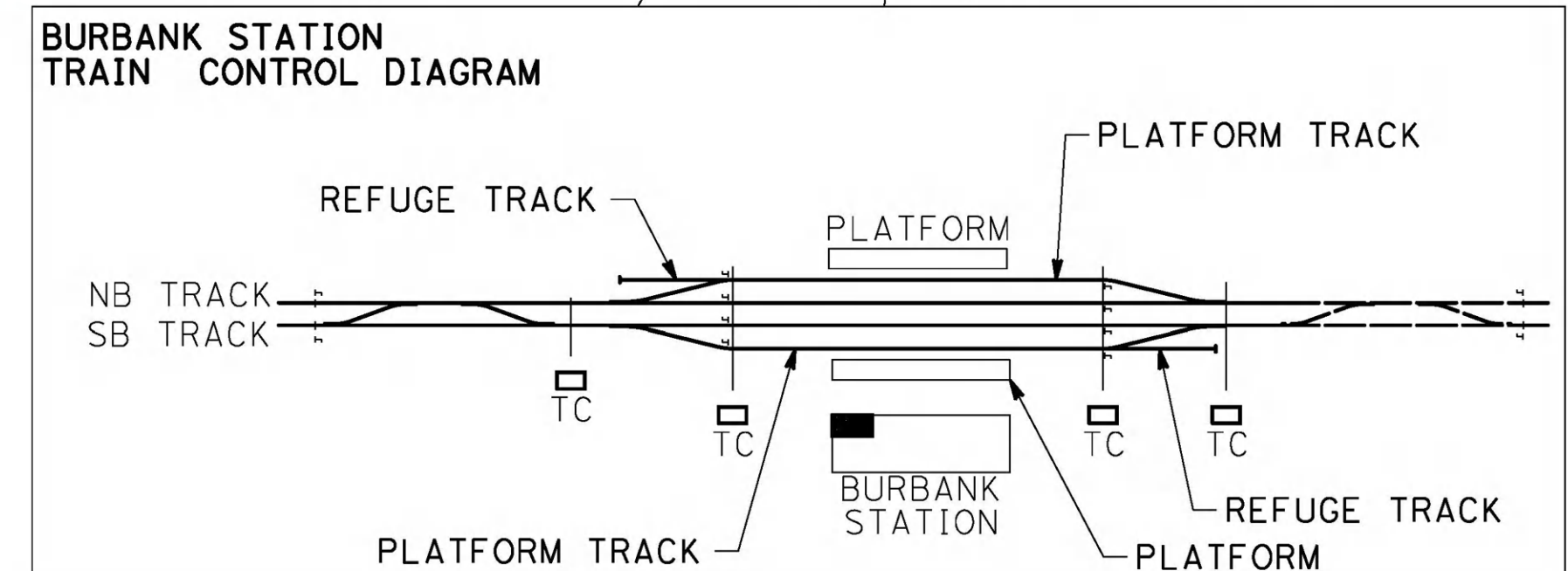
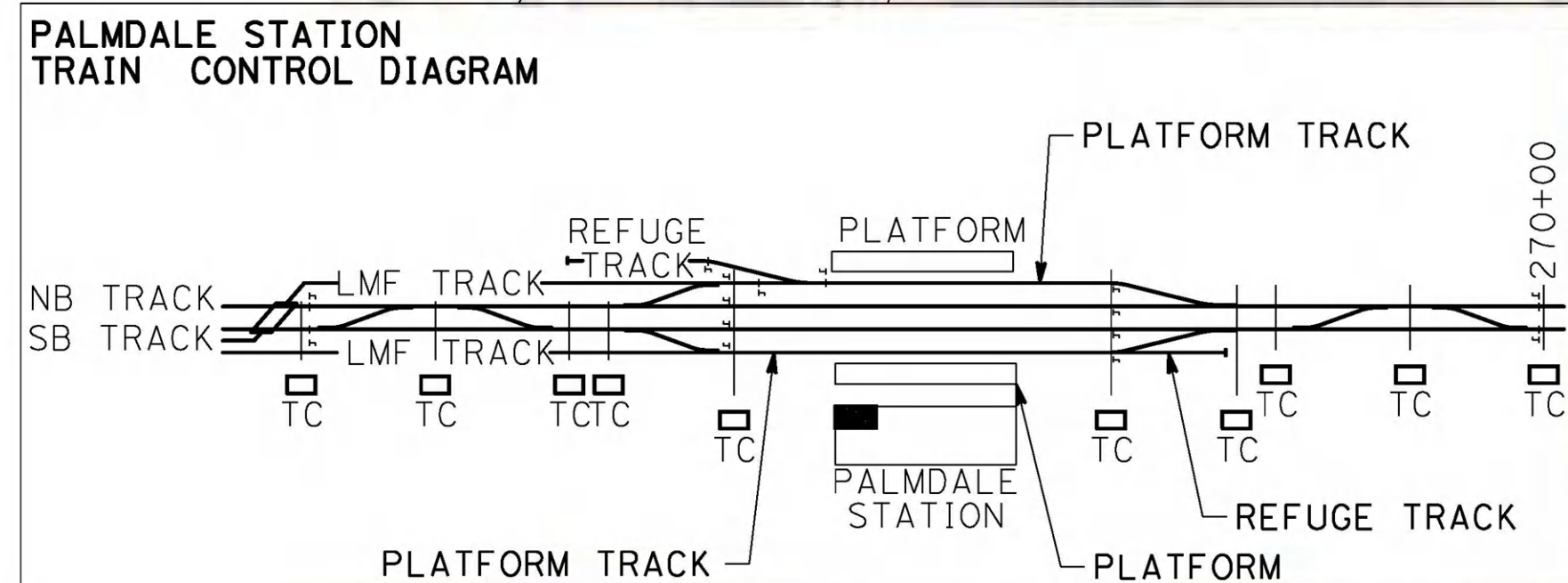
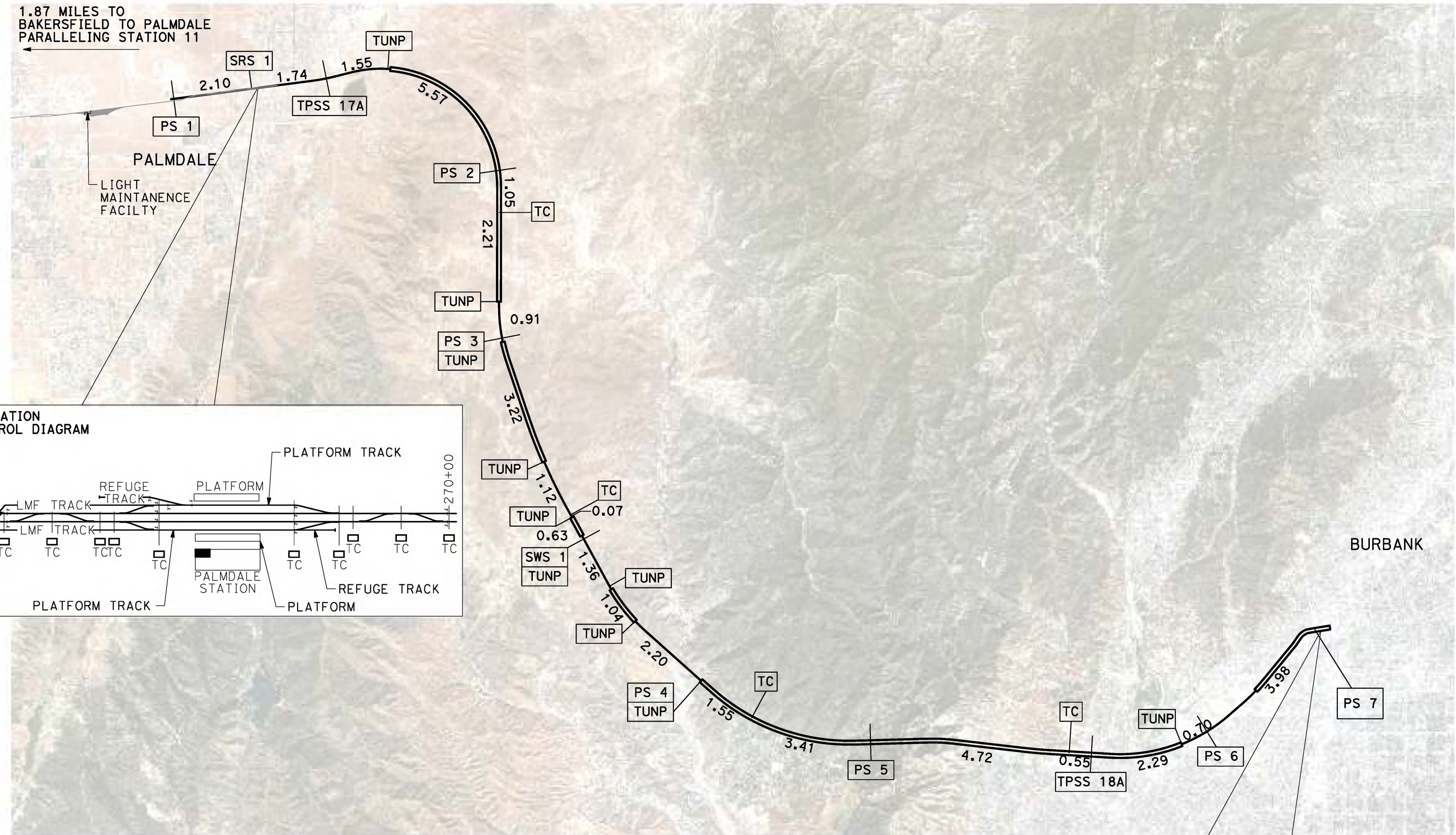
RAILWAY SYSTEMS FACILITY SPACING (MILES)	5.0
AT- GRADE / ELEVATED	————
UNDERGROUND	=====

ABBREVIATIONS:

TPSS:	TRACTION POWER SUBSTATION
PS:	PARALLELING STATION
SWS:	SWITCHING STATION
TUNP:	TUNNEL PORTAL FACILITIES
SRS:	STANDALONE RADIO SITE
TC:	TRAIN CONTROL FACILITY

NOTE:

1. SITE STATIONING GIVEN IS APPROXIMATE AND WILL BE FINALIZED IN FUTURE DESIGN PHASE.
2. IN UNDERGROUND SECTIONS, RF COMMUNICATION WILL BE USING DIRECTIONAL ANTENNAS OR RADIANT CABLES.
3. TRACTION POWER FACILITIES HAVE RADIO ANTENNAS.
4. PS1 IS NEEDED IN PLACE IN CASE B-P SECTION IS NOT BUILT, AS THE LMF FACILITY WILL BE POWERED FROM TP SS 17A.
5. ALL TUNNEL PORTALS (TUNP) HAVE RADIO ANTENNAS.



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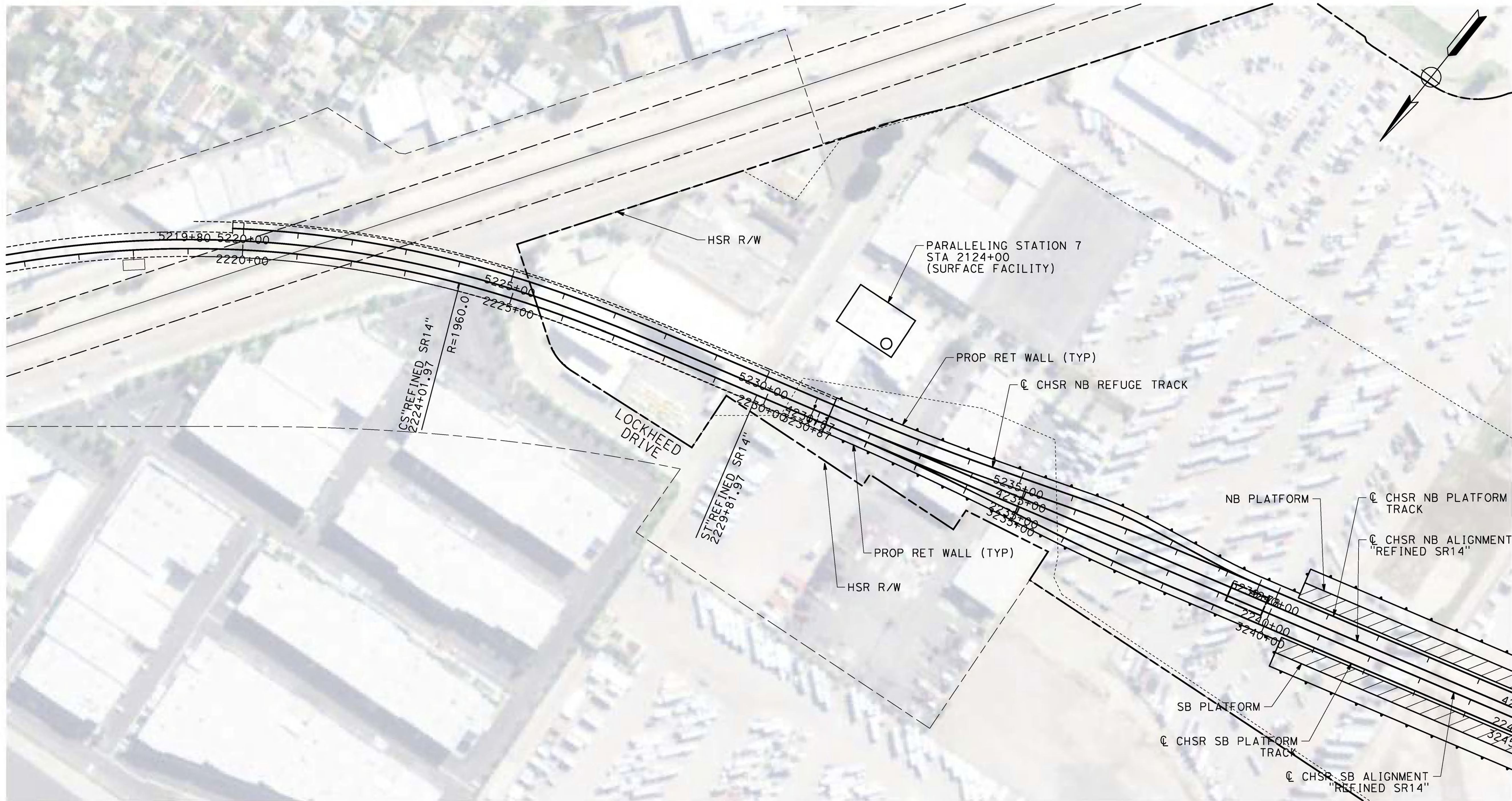


<p>CALIFORNIA HIGH-SPEED RAIL PROJECT</p> <p>PALMDALE TO BURBANK</p> <p>BURBANK SUBSECTION</p> <p>ALIGNMENT "REFINED SR14"</p> <p>TRACTION POWER FACILITIES</p> <p>LOCATION LAYOUT</p>	CONTRACT NO. HSR14-42
	DRAWING NO. TP-D0001-S14
	SCALE AS SHOWN
	SHEET NO.

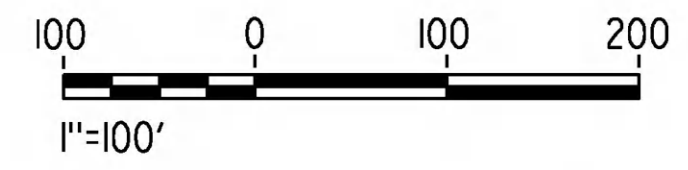
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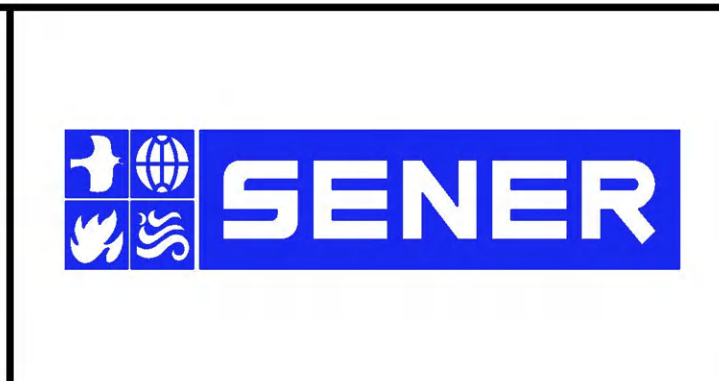
PLAN



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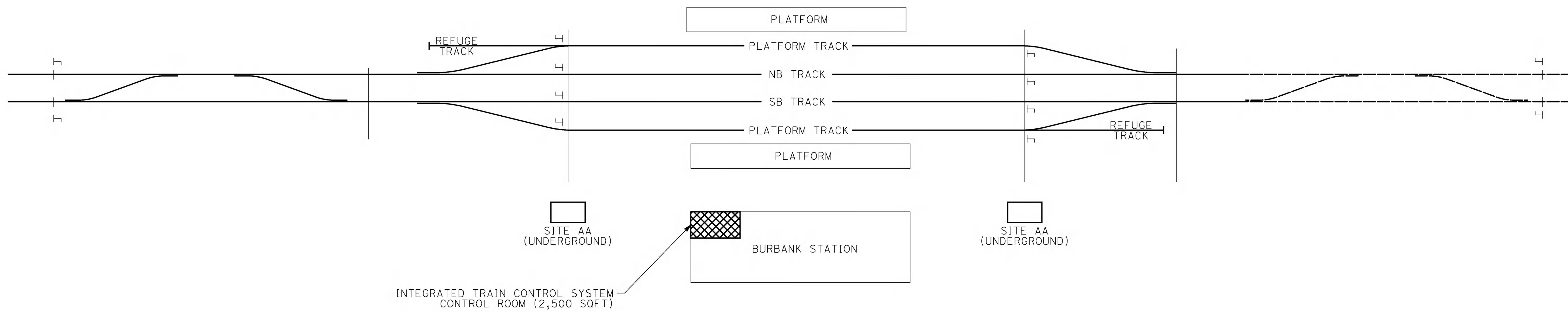
CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
ALIGNMENT "REFINED SR14"
TRACTION POWER FACILITIES
PARALLELING STATION 7

CONTRACT NO.
HSR14-42
DRAWING NO.
TP-04008-S14
SCALE
AS SHOWN
SHEET NO.

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BURBANK STATION

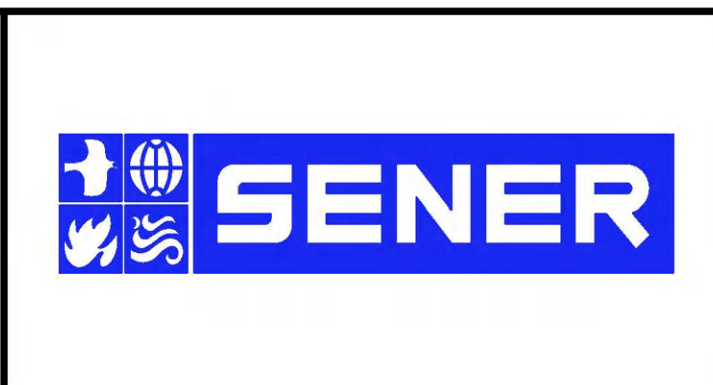
NOTE:

1. THIS SCHEMATIC DIAGRAM IS APPLICABLE TO ALL ALTERNATIVES.

REV	DATE	BY	CHK	APP	DESCRIPTION

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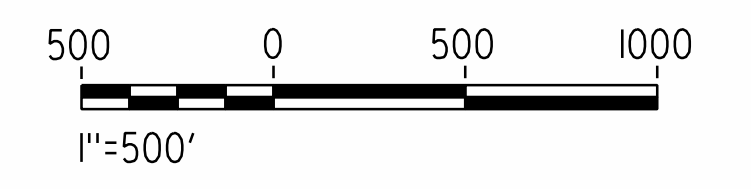
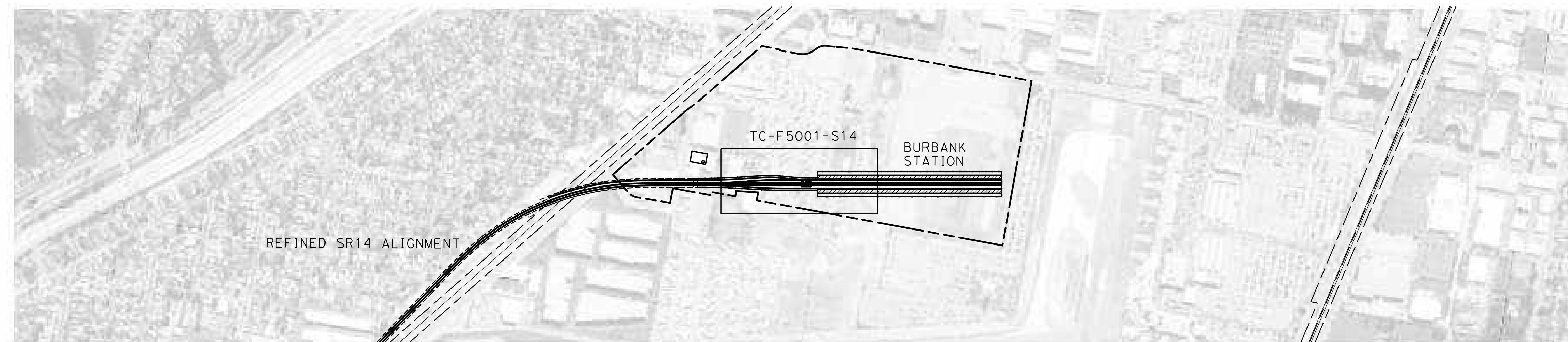
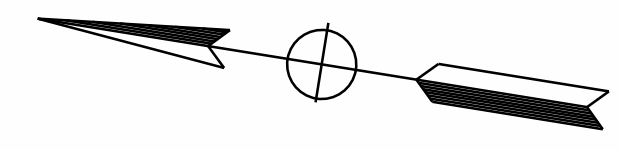
**CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK**
BURBANK SUBSECTION
ALIGNMENT "REFINED SR14"
TRAIN CONTROL SYSTEM
INTERLOCKING SITES

CONTRACT NO.
HSR14-42
DRAWING NO.
TC-E6005
SCALE
NOT TO SCALE
SHEET NO.

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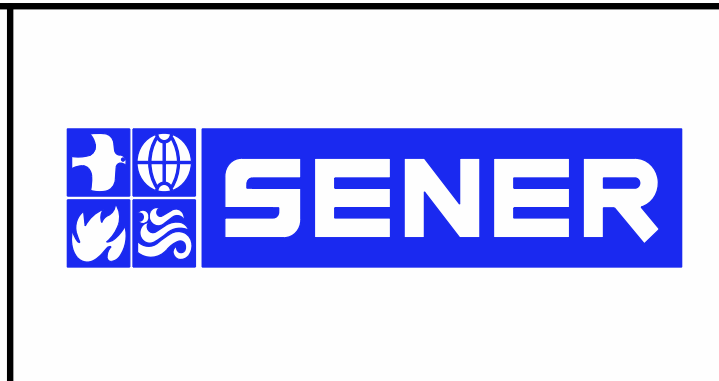
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CALIFORNIA HIGH-SPEED RAIL PROJECT

PALMDALE TO BURBANK

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RAILWAY SYSTEMS
KEY MAP

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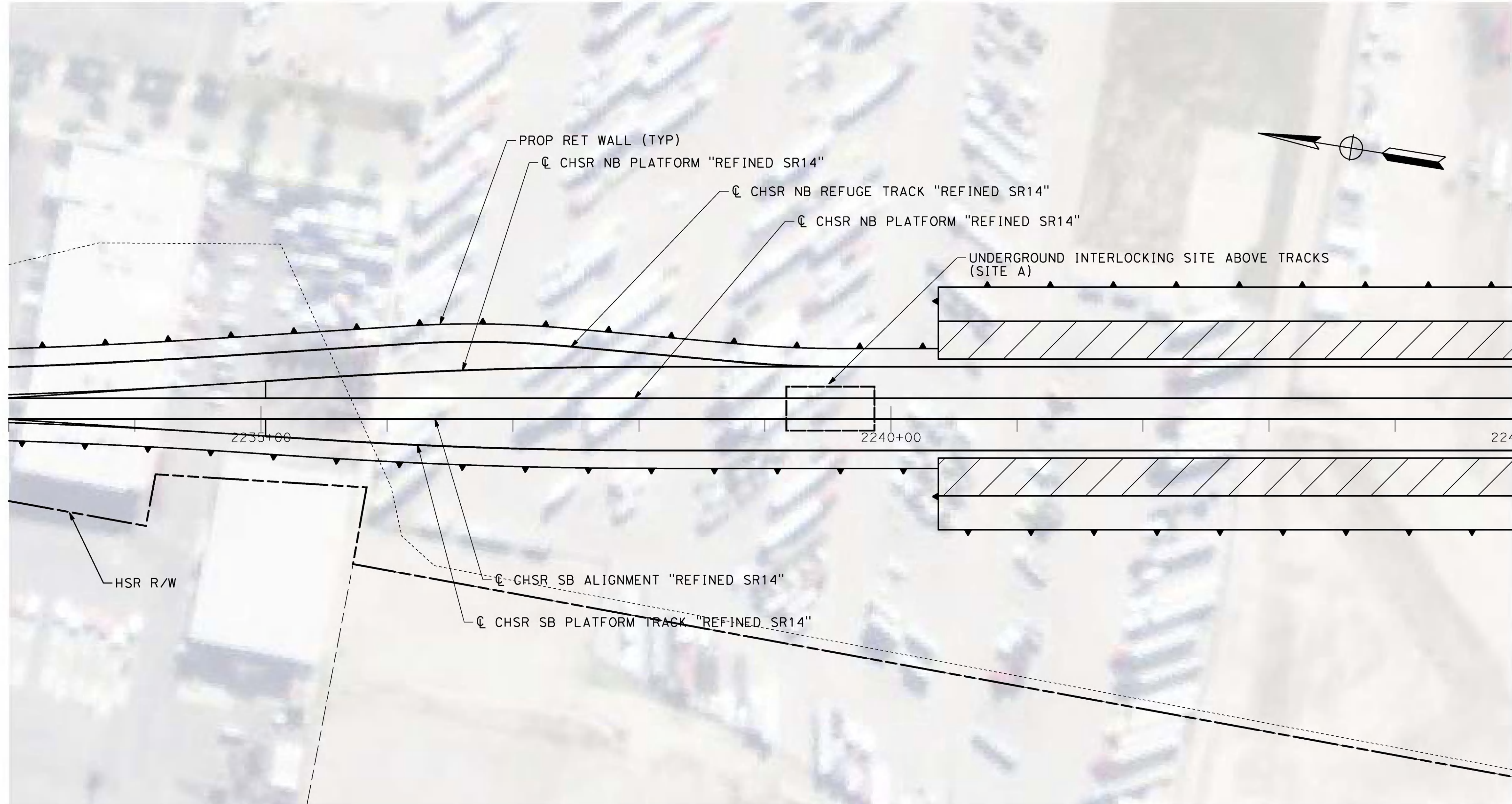
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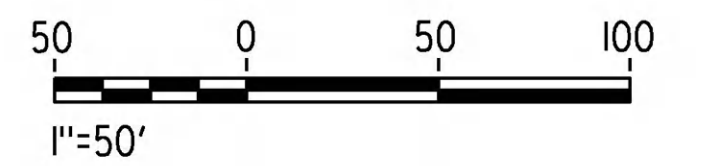
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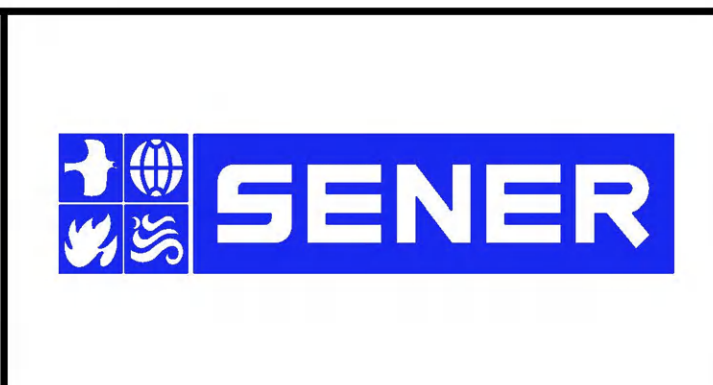
PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. VELASCO
DRAWN BY
F.J. DOMINGUEZ
CHECKED BY
A. NAVARRO
IN CHARGE
A. RELANO
DATE
02/01/2019

**BURBANK
SUBSECTION**
DRAFT PEPD REV01
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK
BURBANK SUBSECTION
TRAIN CONTROL SYSTEM
INTERLOCKING SITES
STA 2233+00 TO STA 2245+00

CONTRACT NO.
HSR14-42
DRAWING NO.
TC-F5001-S14
SCALE
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SHEET NO.

California High-Speed Rail Authority

Burbank Subsection

DRAFT PEPD REV 01

Construction Staging

February 2019



GENERAL SHEETS

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
CV-I0001	INDEX OF DRAWINGS	

CONSTRUCTION STAGING SHEETS

DRAWING NO.	DRAWING DESCRIPTION	SHEET NO.
CV-I4003-S14	BURBANK SUBSECTION. CONSTRUCTION STAGING	

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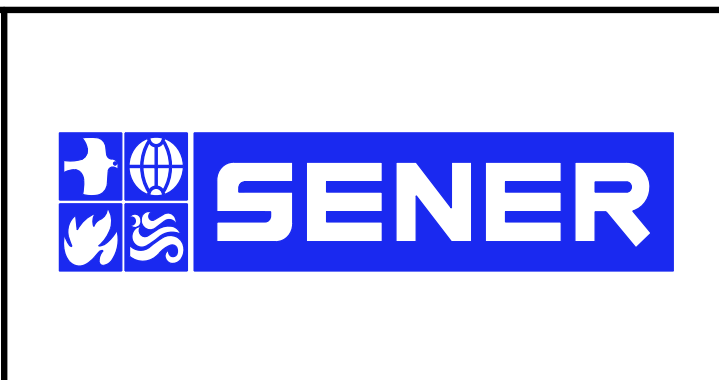
IN CHARGE
A. RELAÑO

DATE
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**CALIFORNIA HIGH-SPEED RAIL PROJECT
PALMDALE TO BURBANK**

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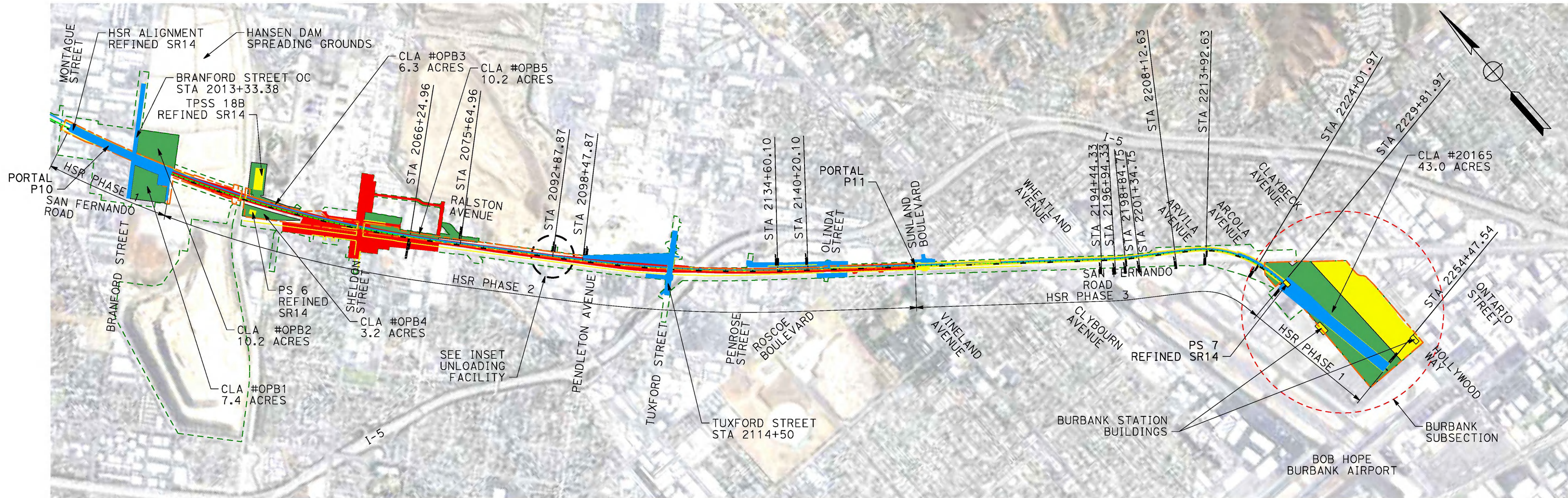
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- PHASE 1**
- BUILD LOCAL ROADS, ADD UTILITIES AND DRAINAGE IMPROVEMENTS. CONSTRUCTION OF TUXFORD STREET GRADE SEPARATION IN THE VICINITY OF HSR ALIGNMENT
 - EXCAVATION OF PORTAL P10
 - BUILD PROPOSED VULCAN UNLOADING FACILITY AND PROPOSED VULCAN TRACK
 - REALIGN SAN FERNANDO BLVD BETWEEN PENROSE ST AND SUNLAND BLVD. SUN VALLEY METROLINK STATION RELOCATION SOUTH OF OLINDA ST.
 - CONSTRUCT HSR CUT AND COVER FROM COHASSET STREET TILL THE END OF PROJECT.

- PHASE 2**
- SHIFT VULCAN TRAINS TRAFFIC TO NEW PROP VULCAN TRACK. BUILD NEW HSR STRUCTURE AND DRAINAGE STRUCTURE OVER UNLOADING FACILITY
 - CONSTRUCT SHELDON STREET GRADE-SEPARATION
 - PERFORM CIVIL WORKS FOR HSR INFRASTRUCTURE, INCLUDING TRENCH AND CUT AND COVER UNTIL SUNLAND BLVD
 - BUILD NEW HSR STRUCTURE OVER TUXFORD ST.

- PHASE 3**
- CONSTRUCT HSR SEM TUNNEL AND CIVIL WORKS
 - CONSTRUCT HSR TRACK AND SYSTEMS FACILITIES
 - CONSTRUCT BURBANK STATION BUILDINGS
 - INSTALL ALL STATION FACILITIES, LAND-SIDE TRANSIT AMENITIES, WAY FINDING SIGNAGE, HARDSCAPING, AND LAND SCAPING AROUND STATION.



GENERAL NOTES:

- DETAILED CONSTRUCTION SEQUENCE FOR GRADE SEPARATIONS IS NOT PROVIDED IN THIS SET OF PLANS. UTILITY RELOCATIONS ARE NOT SHOWN. TRAFFIC DETOURS ARE NOT SHOWN IN THIS SET OF PLANS.
- LAYDOWN AREAS, STAGING AREAS AND OTHER CONTRACTOR'S FACILITIES ARE INCLUDED IN THIS SET OF PLANS.
- CONSTRUCTION PHASES WILL OVERLAP AS NEEDED TO REDUCE CONSTRUCTION DURATIONS.
- HSR TRACK AND SYSTEMS TO BE CONSTRUCTED IN THE LAST PHASE. HATCHED AREAS ONLY REFER TO CIVIL WORKS.

TRAFFIC PHASING NOTES:

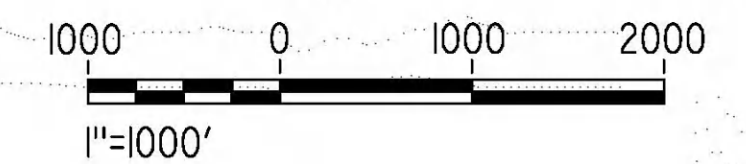
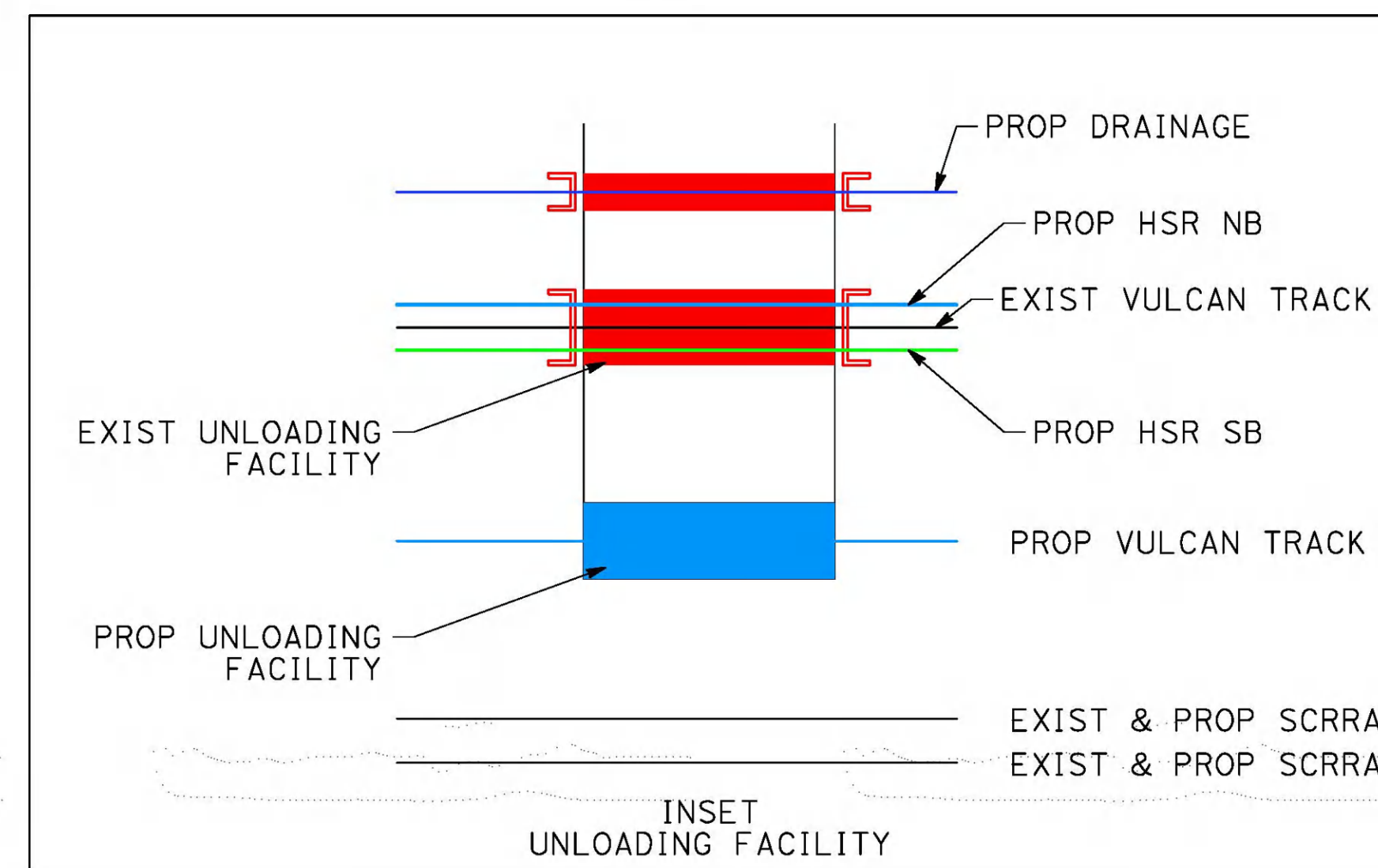
- PHASE 1: E-W VEHICULAR TRAFFIC THROUGH EXISTING SHELDON ST AND PENROSE ST.
 PHASE 2: E-W VEHICULAR TRAFFIC THROUGH REALIGNED BRANFORD ST, REALIGNED TUXFORD ST.
 PHASE 3: E-W VEHICULAR TRAFFIC THROUGH REALIGNED ROADWAYS (BRANFORD ST, SHELDON ST, SAN FERNANDO RD, TUXFORD ST, OLINDA ST).

LEGEND :

- █ PHASE 1
- █ PHASE 2
- █ PHASE 3
- CONSTRUCTION STAGING/ LAYDOWN AREA (CLA)
- PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT
- PROPOSED RIGHT OF WAY

ABBREVIATIONS:

- CLA CONSTRUCTION STAGING/ LAYDOWN AREA
- HSR HIGH SPEED RAIL
- OC OVERCROSSING
- SCRRA SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
- UP UNDERPASS
- UPRR UNION PACIFIC RAILROAD
- PS PARALLELING STATION
- TPSS TRACTION POWER SUB STATION



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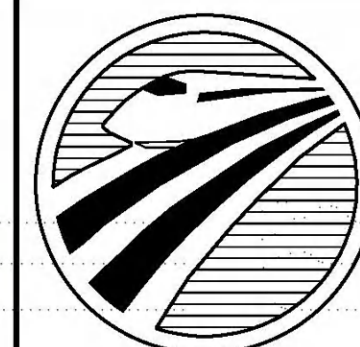
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BURBANK SUBSECTION

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CALIFORNIA HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED RAIL PROJECT

PALMDALE TO BURBANK

BURBANK SUBSECTION
CONSTRUCTION STAGING

CONTRACT NO.
HSR14-42

DRAWING NO.
CV-14003-S14

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