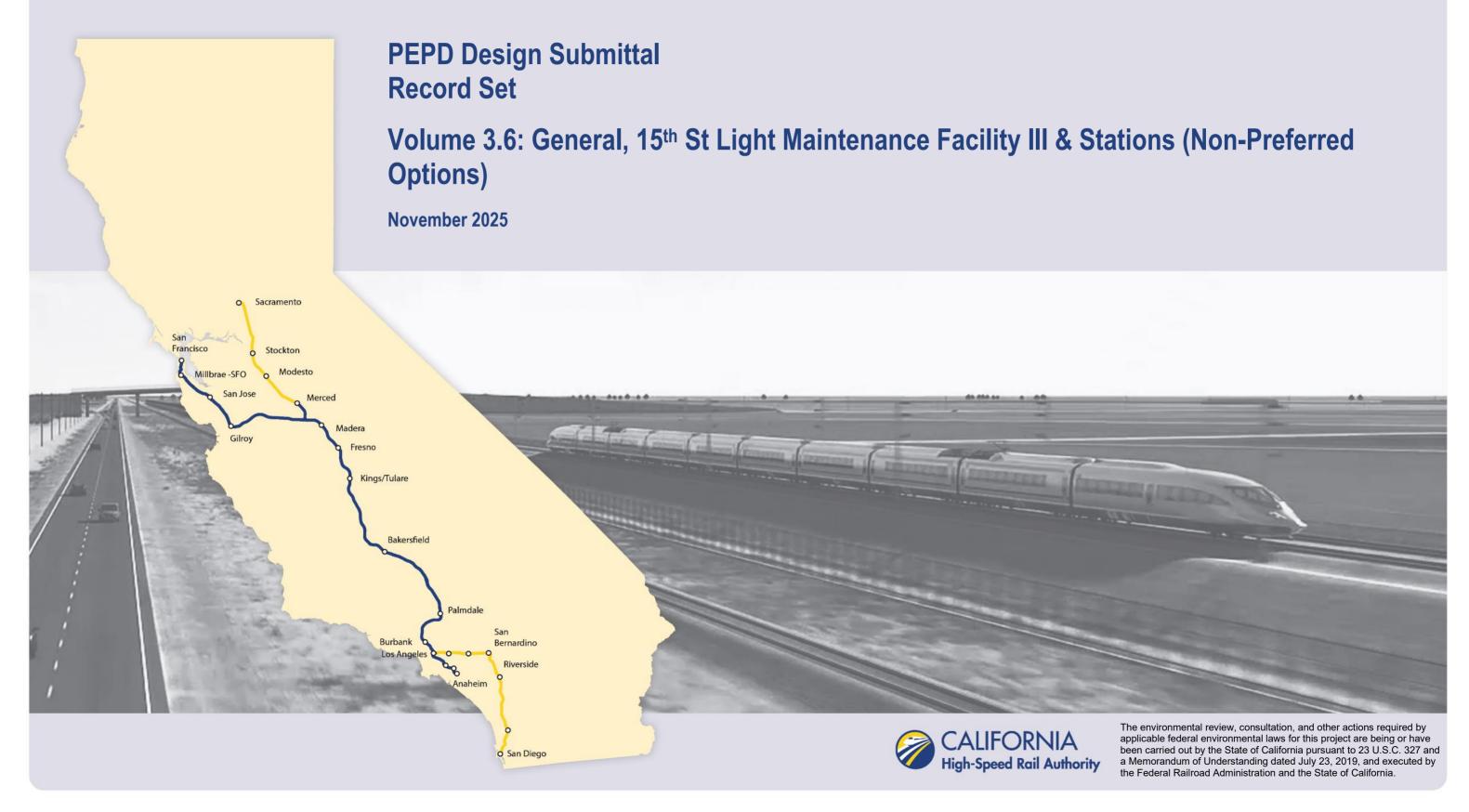
California High-Speed Rail Authority

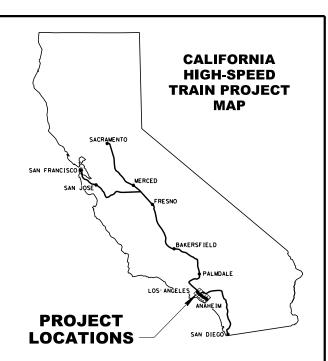
Los Angeles to Anaheim Project Section

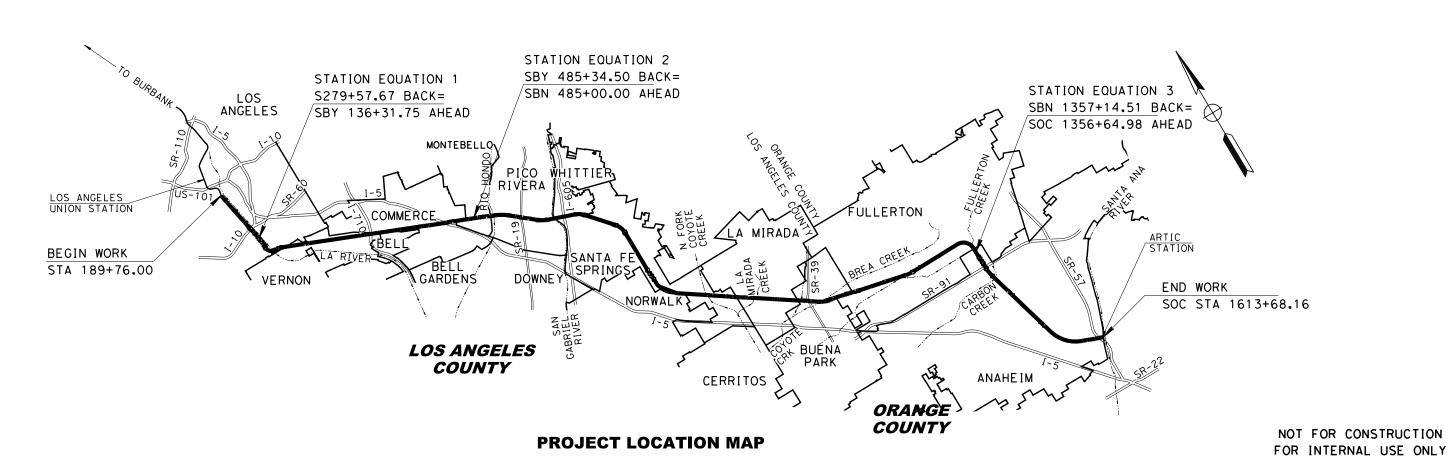




PRELIMINARY ENGINEERING FOR PROJECT DEFINITION (PEPD) CALIFORNIA HIGH-SPEED TRAIN PROJECT TONGVA SUBDIVISION LOS ANGELES TO ANAHEIM VOLUME 3.6

GENERAL & BNSF COLTON INTERMODAL FACILITY COMPONENT





PL0T\$

BY CHK APP

DESCRIPTION

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. MAMAWAL

. MAMAWAL

SWANSON

CHARGE SWANSON

08/29/25





CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
PROJECT LOCATION MAP

	CONTRACT NO.					
HSR06-0005						
ı	DRAWING NO.					
	GE-A0601					
ı	SCALE					
	NO SCALE					
ı	SHEET NO.					

PEPD INDEX OF VOLUMES

	T
VOLUME NO.	CONTENT
VOLUME 3.1	GENERAL
	TRACK ALIGNMENT
	RIGHT-OF-WAY IMPACT
VOLUME 3.2	GENERAL
	AERIAL STRUCTURES
	BRACED TRENCH
	RETAINING WALLS
VOLUME 3.3	GENERAL
	GRADE SEPARATIONS
VOLUME 3.3A	GENERAL
	STATE COLLEGE GRADE SEPARATION (BY OCTA)
VOLUME 3.4	GENERAL
	UTILITIES
	GRADING AND DRAINAGE
	TRACTION POWER FACILITY SITE
	COMMUNICATION SYSTEM SITE
VOLUME 3.5	GENERAL
	STATIONS

VOLUME NO.	CONTENT
VOLUME 3.6	15TH ST LIGHT MAINTENANCE FACILITY III & STATIONS (NON-PREFERRED OPTIONS)
	GENERAL
	TRACK ALIGNMENT
	RIGHT-OF-WAY IMPACT
	STATIONS
	GRADE SEPARATIONS
	ROADWAY WORK
	UTILITIES
VOLUME 3.7	NOT USED
VOLUME 3.8	GENERAL
	LINK UNION STATION (LINK US) BY LA METRO

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						DRAWN BY
						CHECKED BY
						J. SWANSON IN CHARGE
						J. SWANSON
REV	DATE	ВΥ	СНК	APP	DESCRIPTION	08/29/25

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CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
INDEX OF VOLUMES

CONTRACT NO.
HSR06-0005
DRAWING NO.
GE-A0610
SCALE
AS SHOWN
SHEET NO.

VOLUME 3.6 - GENERAL & 15TH STREET LMF III & HSR NOWALK/SANTA FE SPRINGS & FULLERTON STATION OPTIONS (NON-PREFERRED)

	GENERAL						
DRAWING NO.	DRAWING TITLE						
GE-A0600	COVER SHEET - VOLUME 3.6						
GE-A0601	PROJECT LOCATION MAP						
GE-A0610	INDEX OF VOLUMES						
GE-A0611	INDEX OF DRAWINGS VOLUME 3.6 - SHEET 1 OF 2						
GE-A0612	INDEX OF DRAWINGS VOLUME 3.6 - SHEET 2 OF 2						
GE-D0601	VOLUME 3.6 - KEY MAP SHEET 1 OF 3						
GE-D0602	VOLUME 3.6 - KEY MAP SHEET 2 OF 3						
GE-D0603	VOLUME 3.6 - KEY MAP SHEET 3 OF 3						
GE-B0601	BASIS OF DESIGN SUMMARY						
GE-C0601	ACRONYMS AND ABBREVIATIONS 1						
GE-C0602	ACRONYMS AND ABBREVIATIONS 2						
GE-C0603	ACRONYMS AND ABBREVIATIONS 3						
GE-C0604	ACRONYMS AND ABBREVIATIONS 4						
GE-C0605	ACRONYMS AND ABBREVIATIONS 5						
GE-C0611	SYMBOLS 1						
GE-C0612	SYMBOLS 2						
GE-B0611	GENERAL NOTES 1 OF 1						
GE-D6601	TRACK SCHEMATIC						
GE-D6602	TRACK SCHEMATIC - 15TH STREET LMF III OPTION						
	15TH STREET LMF III OPTION						
DRAWING NO.	DRAWING TITLE						
TT-D3032A	CROSS SECTIONS						
TT-D1901A	15TH STREET LMF III OPTION						
TT-D1902A	15TH STREET LMF III OPTION						
TT-D1903A	15TH STREET LMF III OPTION						
RW-M1860	RIGHT-OF-WAY IMPACT HSR 15TH ST LMF III OPTION						
RW-M1861	RIGHT-OF-WAY IMPACT HSR 15TH ST LMF III OPTION						
RW-M1862	RIGHT-OF-WAY IMPACT HSR 15TH ST LMF III OPTION						
ST-K1013A	15TH STREET LMF III U-TRENCH - PLAN AND ELEVATION						
UT-C1901	EXISTING COMPOSITE UTILITIES PLAN HSR 15TH ST LMF III OPTION						
UT-C1902	EXISTING COMPOSITE UTILITIES PLAN HSR 15TH ST LMF III OPTION						
UT-C1903	EXISTING COMPOSITE UTILITIES PLAN HSR 15TH ST LMF III OPTION						

	NORWALK/SANTA FE SPRINGS HSR STATION OPTION							
DRAWING NO.	DRAWING TITLE							
TT-D3016A	CROSS SECTIONS CROSS SECTIONS							
TT-D1563A	PLAN AND PROFILE STA SBN 828+50 TO STA SBN 841+00							
TT-D1564A	PLAN AND PROFILE STA SBN 841+00 TO STA SBN 854+50							
TT-D1565A	PLAN AND PROFILE STA SBN 854+50 TO STA SBN 868+00							
RW-M1563A	RIGHT-OF-WAY IMPACT N/SF HSR STATION OPTION							
RW-M1564A	RIGHT-OF-WAY IMPACT N/SF HSR STATION OPTION							
RW-M1565A	RIGHT-OF-WAY IMPACT N/SF HSR STATION OPTION							
RW-M1731A	RIGHT-OF-WAY IMPACT IMPERIAL HWY & SHOEMAKER AVE							
ST-J0018A	TYPICAL HST AERIAL STRUCTION SECTION - N/SF HSR STATION OPTION							
AR-Y9501A	NORWALK / SANTA FE SPRINGS STATION - PROGRAM TABLE SHEET 1 OF 3							
AR-Y9502A	NORWALK / SANTA FE SPRINGS STATION - PROGRAM TABLE SHEET 2 OF 3							
AR-Y9503A	NORWALK / SANTA FE SPRINGS STATION - PROGRAM TABLE SHEET 3 OF 3							
AR-B0501A	NORWALK / SANTA FE SPRINGS STATION - GENERAL SITE PLAN							
AR-C1501A	NORWALK / SANTA FE SPRINGS STATION - DETAILED SITE PLAN							
AR-J3501A	NORWALK / SANTA FE SPRINGS STATION - CROSS SECTION							
AR-J8501A	NORWALK / SANTA FE SPRINGS STATION - MASSING MODEL 1 OF 2							
AR-J8502A	NORWALK / SANTA FE SPRINGS STATION - MASSING MODEL 2 OF 2							

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						DRAWN BY
						CHECKED BY
						J. SWANSON
						IN CHARGE J. SWANSON
					27227200	DATE OO (OO (O.E.
REV	DATE	BY	CHK	APP	DESCRIPTION	08/29/25

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CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION INDEX OF DRAWINGS
VOLUME 3.6 - SHEET 1 OF 2

CONTRACT NO.
HSR06-0005

DRAWING NO.
GE-A0611

SCALE
AS SHOWN

SHEET NO.

VOLUME 3.6 - GENERAL & 15TH STREET LMF III & HSR NOWALK/SANTA FE SPRINGS & FULLERTON STATION OPTIONS (NON-PREFERRED)

	FULLERTON HSR STATION OPTION
DRAWING NO.	DRAWING TITLE
TT-D3027A	CROSS SECTIONS
TT-D1596A	PLAN AND PROFILE STA SBN 1253+00 TO STA SBN 1266+50
TT-D1597A	PLAN AND PROFILE STA SBN 1266+50 TO STA SBN 1280+00
TT-D1598A	PLAN AND PROFILE STA SBN 1280+00 TO STA SBN 1293+50
TT-D1599A	PLAN AND PROFILE STA SBN 1293+50 TO STA SBN 1307+00
TT-D6006A	HORIZONTAL ALIGNMENT DATA - LA-A SOUTHBOUND TRACK
RW-M1597A	RIGHT-OF-WAY IMPACT STA SBN 1267+00 TO STA SBN 1280+50
RW-M1598A	RIGHT-OF-WAY IMPACT STA SBN 1280+50 TO STA SBN 1294+00
RW-M1599A	RIGHT-OF-WAY IMPACT STA SBN 1294+00 TO STA SBN 1307+50
ST-K1351A	GRADE SEPARATION - HIGHLAND AVENUE - GENERAL PLAN
CV-T0321A	GRADE SEPARATION - W & E WALNUT AVE - ORIENTATION MAP
CV-T1321A	GRADE SEPARATION - W & E WALNUT AVE - PLAN AND PROFILE - SHEET 1 OF 4
CV-T1322A	GRADE SEPARATION - W & E WALNUT AVE - PLAN AND PROFILE - SHEET 2 OF 4
CV-T1323A	GRADE SEPARATION - W & E WALNUT AVE - PLAN AND PROFILE - SHEET 3 OF 4
CV-T1324A	GRADE SEPARATION - W & E WALNUT AVE - PLAN AND PROFILE - SHEET 4 OF 4
CV-T1326A	GRADE SEPARATION - W & E WALNUT AVE - IMPACT PLAN - SHEET 1 OF 4
CV- T 1327A	GRADE SEPARATION - W & E WALNUT AVE - IMPACT PLAN - SHEET 2 OF 4
CV-T1328A	GRADE SEPARATION - W & E WALNUT AVE - IMPACT PLAN - SHEET 3 OF 4
CV-T1329A	GRADE SEPARATION - W & E WALNUT AVE - IMPACT PLAN - SHEET 4 OF 4
CV-T3321A	GRADE SEPARATION - W & E WALNUT AVE - CROSS SECTION - SHEET 1 OF 4
CV-T3322A	GRADE SEPARATION - W & E WALNUT AVE - CROSS SECTION - SHEET 2 OF 4
CV-T3323A	GRADE SEPARATION - W & E WALNUT AVE - CROSS SECTION - SHEET 3 OF 4
CV-T3324A	GRADE SEPARATION - W & E WALNUT AVE - CROSS SECTION - SHEET 4 OF 4
CV-T1351A	GRADE SEPARATION - HIGHLAND AVE - PLAN AND PROFILE - SHEET 1 OF 2
CV-T1352A	GRADE SEPARATION - HIGHLAND AVE - PLAN AND PROFILE - SHEET 2 OF 2
CV-T0351A	GRADE SEPARATION - HIGHLAND AVE - ORIENTATION MAP
CV-T1356A	GRADE SEPARATION - HIGHLAND AVE - IMPACT PLAN - SHEET 1 OF 2
CV-T1357A	GRADE SEPARATION - HIGHLAND AVE - IMPACT PLAN - SHEET 2 OF 2
CV-T3351A	GRADE SEPARATION - HIGHLAND AVE - CROSS SECTION - SHEET 1 OF 1
CV-T0361A	GRADE SEPARATION - HARBOR BLVD - ORIENTATION MAP
CV-T3361A	GRADE SEPARATION - HARBOR BLVD - CROSS SECTION - SHEET 1 OF 1
CV-T1361A	GRADE SEPARATION - HARBOR BLVD - PLAN AND PROFILE - SHEET 1 OF 1
CV-T1366A	GRADE SEPARATION - HARBOR BLVD - IMPACT PLAN - SHEET 1 OF 1

	FULLERTON HSR STATION OPTION								
DRAWING NO.	DRAWING TITLE								
AR-Y9701A	FULLERTON STATION - PROGRAM TABLE SHEET 1 OF 3								
AR-Y9702A	FULLERTON STATION - PROGRAM TABLE SHEET 2 OF 3								
AR-Y9703A	FULLERTON STATION - PROGRAM TABLE SHEET 3 OF 3								
AR-B0701A	FULLERTON STATION - GENERAL SITE PLAN								
AR-C1701A	FULLERTON STATION - DETAILED SITE PLAN 1 OF 1								
AR-J3701A	FULLERTON STATION - CROSS SECTION 1 OF 2								
AR-J3702A	FULLERTON STATION - CROSS SECTION 2 OF 2								
AR-J8701A	FULLERTON STATION - MASSING MODEL 1 OF 2								
AR-J8702A	FULLERTON STATION - MASSING MODEL 2 OF 2								
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							CHECKED BY
							J. SWANSON
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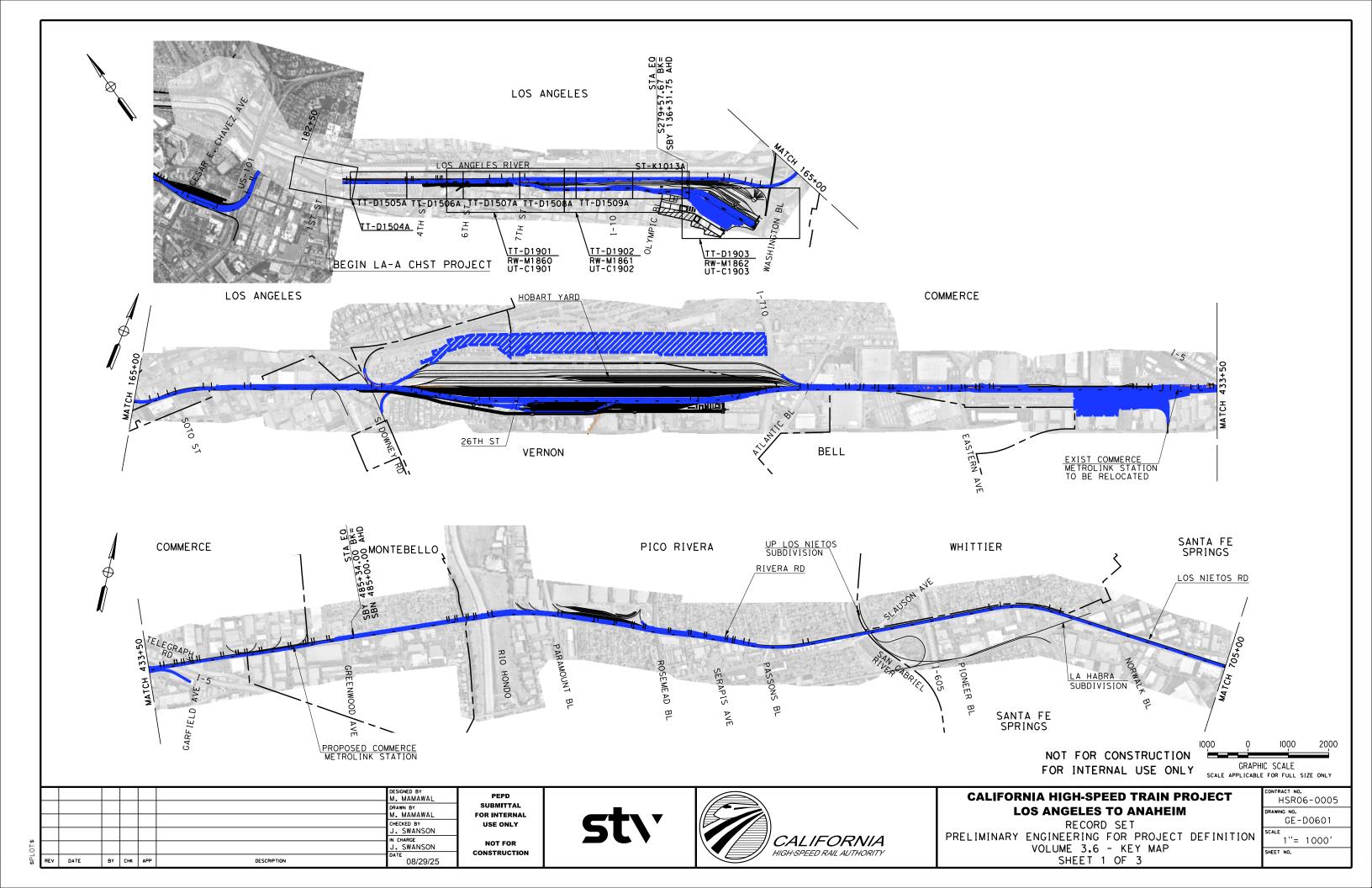
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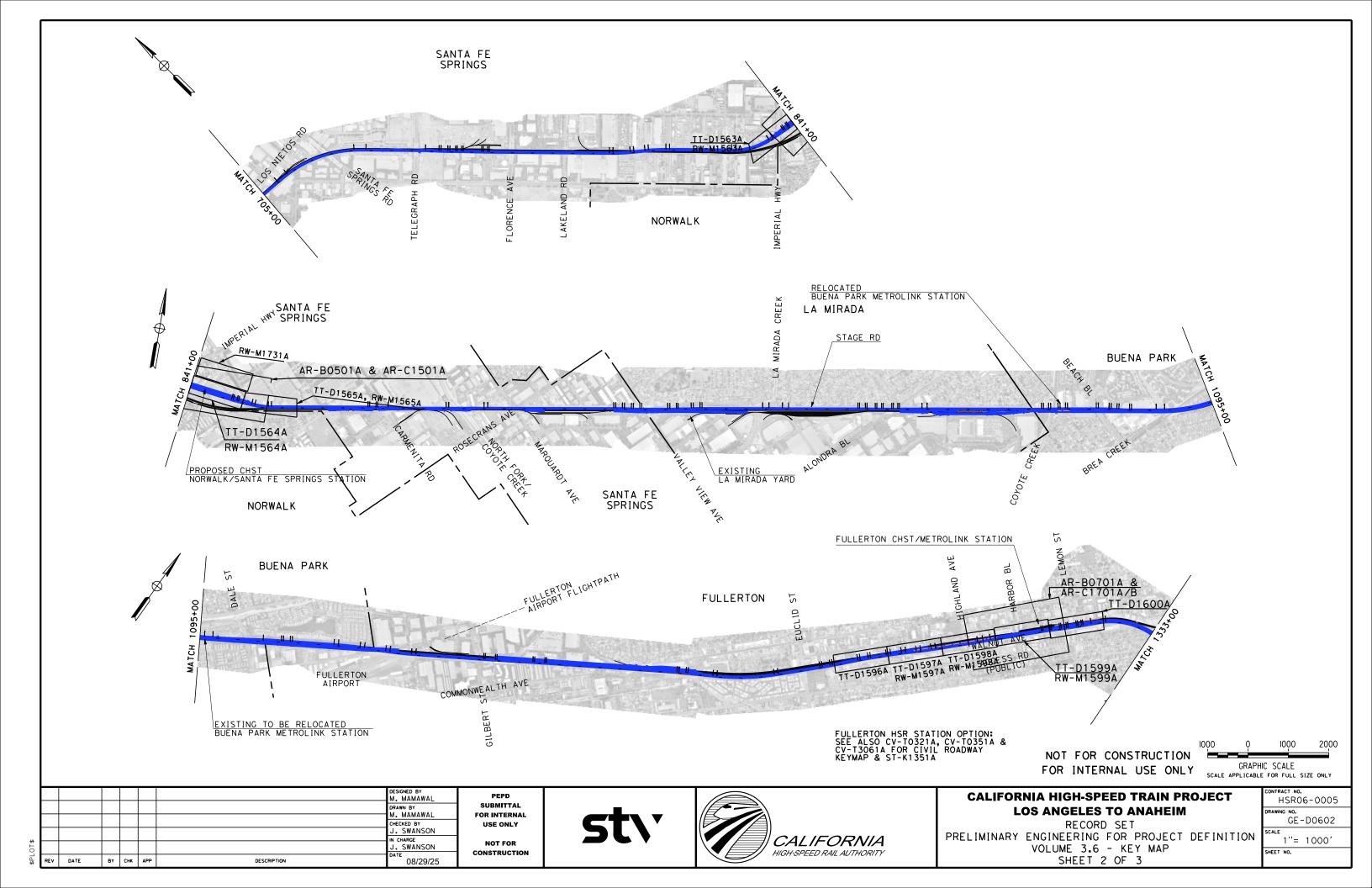


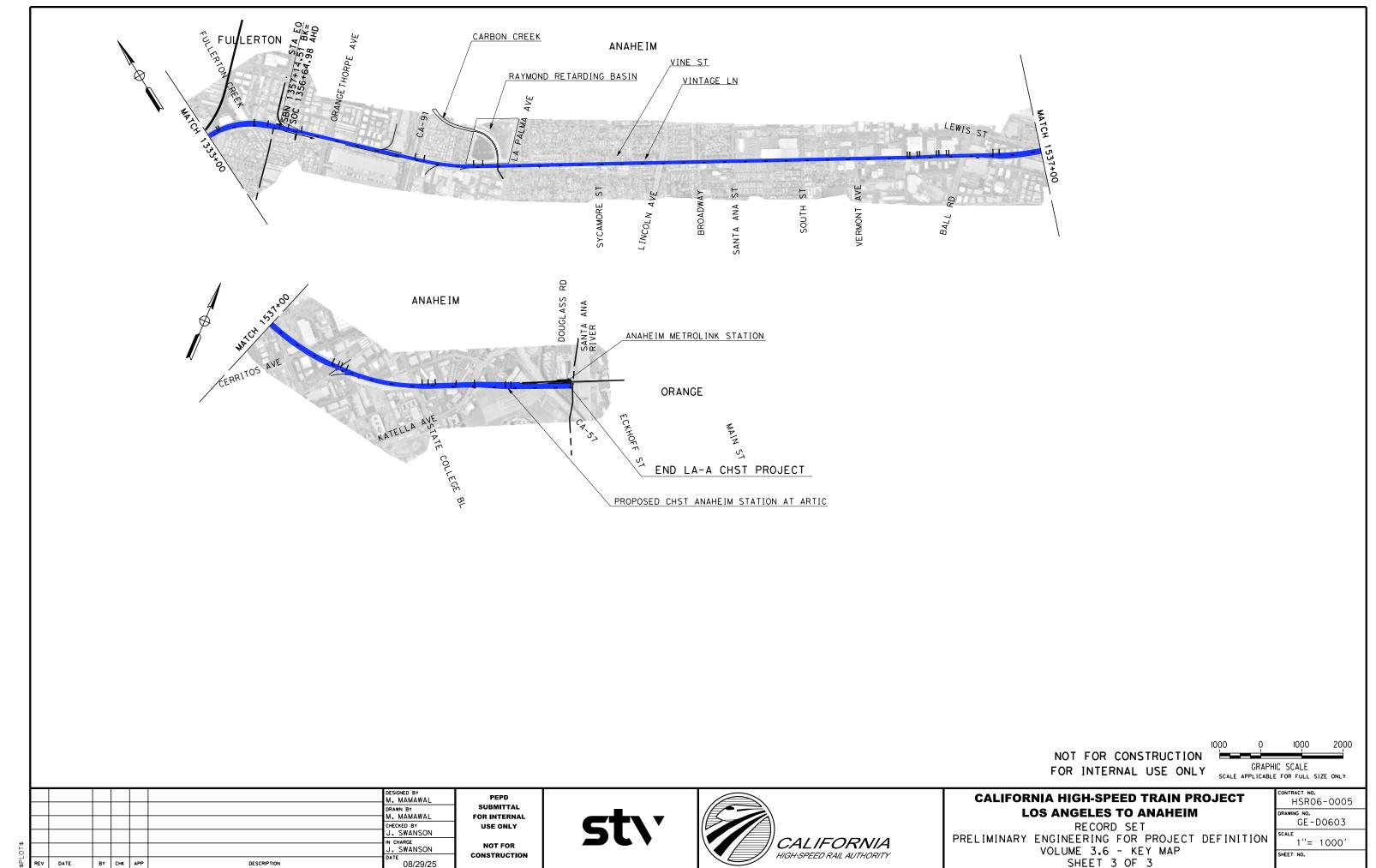
CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
INDEX OF DRAWINGS
VOLUME 3.6 - SHEET 2 OF 2

CONTRACT NO.
HSR06-0005
DRAWING NO.
GE-A0612
SCALE
AS SHOWN
SMEET NO.







08/29/25

DATE

BY CHK APP

DESCRIPTION

FOR THE LOS ANGELES TO ANAHEIM SEGMENT (LOSSAN CORRIDOR), THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY (AUTHORITY) HAS ADOPTED A STRATEGY TO 'BLEND'

HIGH SPEED WITH EXISTING RAIL SYSTEMS ON SHARED INFRASTRUCTURE TO ACCEL ERATE AND BROADEN BENEFITS, IMPROVE EFFICIENCY, MINIMIZE COMMUNITY IMPACTS AND REDUCE CONSTRUCTION COST, THE TECHNICAL REQUIREMENTS NECESSARY TO ALLOW JOINT OPERATION OF HIGH-SPEED RAIL, CONVENTIONAL PASSENGER RAIL, AND FREIGHT RAIL WITHIN THE BLENDED SYSTEM CORRIDOR BETWEEN UNION STATION IN LOS ANGELES AND THE ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER IN ANAHEIM ARE BASED ON:

1. TECHNICAL MEMORANDUM (TM) 0.3.1 BASIS OF DESIGN FOR BLENDED OPERATION IN THE LA-A CORRIDOR, RO DATED AUGUST 20, 2016.

INFRASTRUCTURE REQUIREMENTS

THE AUTHORITY HAS ESTABLISHED PERFORMANCE REQUIREMENTS TO GUIDE THE DEVELOPMENT OF THE HIGH-SPEED RAIL SYSTEM IN BLENDED CORRIDORS BASED ON THE FRA TIER STRUCTURE FOR PASSENGER SYSTEMS DESCRIBED IN THE "HIGH-SPEED PASSENGER RAIL SAFETY STRATEGY (2009)."

THE REQUIREMENTS FOR MAJOR DESIGN ELEMENTS ARE LISTED BELOW:

INTEROPERABILITY

REQUIRED LEVEL OF INTEROPERABILITY BETWEEN THE PASSENGER AND FREIGHT RAILROADS THAT OPERATE IN THE LA-A CORRIDOR WILL BE

THE RAILROAD OPERATORS AND RIGHT-OF-WAY OWNERS ARE:

AUTHORITY METROLINK AMTRAK/LOSSAN LA METRO OCTABNSF RAILWAY UNION PACIFIC RAILROAD

THE DESIGNS PROPOSED DO NOT PRECLUDE THE PROPOSED FUTURE OPERATIONS BY OTHER RAIL OPERATORS AND/OR AGENCIES SUCH AS:

COACHELLA VALLEY RAIL SERVICE BY RCTC

2. DESIGN SPEEDS

DESIGN SPEED: MAXIMUM ALLOWED PER EXISTING ALIGNMENT/ROW CONSTRAINTS WITH A NOT TO EXCEED MAXIMUM OF 110 MPH.

TRACK CENTER SPACING

14'-0" MINIMUM IN CERTAIN AREAS ALONG ALIGNMENT

4. INTRUSION PROTECTION

INTRUSION DETECTION WILL BE PROVIDED AT LOCATIONS WHERE IT IS APPROPRIATE TO MITIGATE AN INTRUSION HAZARD BASED ON HAZARD ASSESSMENT.

5. ACCESS CONTROL

FULL ACCESS CONTROL IS NOT PRACTICAL IN THIS SEGMENT, INTRUSION PROTECTION AND/OR INTRUSION MONITORING WILL BE EMPLOYED WITH MITIGATIONS AS REQUIRED TO PROMOTE SAFE AND RELIABLE OPERATION.

TRACK ALIGNMENT

THE LA-A CORRIDOR IS PLANNED TO OPERATE AS A CLASS 5/6 SERVICE (SPEEDS UP TO 110 MPH) WITH A POSSIBLE AT-GRADE ROADWAY CROSSINGS. TRACK ALIGNMENT DESIGN STANDARDS ARE GENERALLY BASED ON HOST RAILROAD STANDARDS UNLESS OTHERWISE NOTED ON GEOMETRY TABLES.

BASIS OF DESIGN SUMMARY

RAIL PROFILES DEPICT THE TOP OF RAIL ELEVATION. ON SUPERELEVATED HORIZTONAL CURVES, THE TOP OF RAIL ELEVATION IS THE LOW RAIL.

7. AT-GRADE ROADWAY-RAIL CROSSING

SELECT AT-GRADE ROADWAY-RAIL CROSSINGS IN THE CITY OF ANAHEIM WILL REMAIN AT-GRADE AS TRAINS WILL NOT EXCEED OPERATING SPEEDS GREATER THAN 125 MPH AS DEFINED BY FRA.

8. GRADE SEPARATIONS

SELECT EXISTING AT-GRADE ROADWAY/RAIL CROSSINGS WILL BE GRADE SEPARATED WHERE ADDITIONAL TRACKS EXCEEDS THREE OR MORE AND/OR AS REQUIRED TO ACCOMMODATE HSR OPERATIONS.

THE AUTHORITY HAS DEVELOPED A LIST OF EARLY PROJECTS THAT ARE CURRENTLY IN EITHER DESIGN OR CONSTRUCTION AND THAT ARE TO BE ENVIRONMENTALLY CLEARED BY THIS HSR EIR/EIS. THOSE CROSSINGS ARE:

1. STATE COLLEGE

ALL OTHER CROSSINGS NEW OR REQUIRING MODIFICATIONS WILL BE CLEARED ENVIRONMENTALLY BY HSR EXCEPT FOR:

- 1. LAKELAND (HSR ON AERIAL STRUCTURE)
- 9. TERMINAL AND INTERMEDIATE STATION(S)

THE FOLLOWING STATION IN THE CORRIDOR IS DESIGNATED AS A TERMINAL STATION:

ANAHEIM STATION AT ARTIC

THE FOLLOWING STATIONS ARE DESIGNATED AS POSSIBLE INTERMEDIATE

SANTA FE SPRINGS/NORWALK AND FULLERTON

10. TRACK AND PLATFORM CONFIGURATION

BASED ON NOTICE TO DESIGNERS NO. 13-STATION PLATFORM AND TRACK LAYOUT (RELEASED ON SEPTEMBER 7, 2016), THE STATION PASSENGER PLATFORMS ARE PLANNED FOR A LENGTH OF APPROXIMATELY 800 TO 1410 FEET TO ACCOMMODATE A RANGE OF HIGH-SPEED TRAINSETS. PLATFORM LENGTHS SHOWN IN PLANS ARE BASED ON COORDINATED STATION PLANNING WITH AUTHORITY AND STAKEHOLDERS.

INTERMEDIATE STATION PLATFORM CONFIGURATIONS WILL ENSURE CUSTOMER SAFETY AS TRAINS MAY OPERATE THROUGH OR IN PROXIMITY TO THE STATION PLATFORM WITHOUT STOPPING.

11. VEHICLE STORAGE AND MAINTENANCE

UNDER CURRENT OPERATING ASSUMPTION, FLEET STORAGE, CLEANING, SERVICING, INSPECTION, MAINTENANCE, AND REPAIR REQUIREMENTS WILL BE SUPPORTED AT:

TERMINAL STORAGE AND MAINTENANCE FACILITY (LEVEL III) THAT PROVIDES IN-SERVICE INSPECTION, CLEANING AND MAINTENANCE WITH A LOCATION IN PROXIMITY TO LOS ANGELES UNION STATION.

LAYOVER TRACKS FOR OVERNIGHT LAYUP AND TURNAROUND AT LOS ANGELES UNION STATION AND ARTIC STATION IN ANAHEIM.

12. SHARED RAIL OPERATIONS

IN THE LOS ANGELES TO ANAHEIM CORRIDOR HSR WILL OPERATE IN A SHARED RIGHT-OF-WAY CORRIDOR AND ON SHARED TRACKS, FREIGHT OPERATORS WILL CROSS OVER THE ELECTRIFIED TRACKS AT DEFINED LOCATIONS UTILIZING OWL DIAMONDS AND WILL ALSO BE ALLOWED TO UTILIZE THE TWO ELECTRIFIED TRACKS AT DEFINED TIMES OR IN CASE OF EMERGENCIES.

13. SHARED RIGHT OF WAY (ROW)

ALONG THIS RAIL CORRIDOR, THE RIGHT-OF-WAY AND TRACKS ARE OWNED EITHER BY THE BNSF FREIGHT RAILWAY, METRO, AND OCTA WITH FREIGHT OPERATIONS OCCURRING SIMULTANEOUSLY THROUGHOUT THE DAY.

14. DIAMOND (AT-GRADE) CROSSINGS

THE USE OF ONE-WAY LOW SPEED "OWL" DIAMOND CROSSINGS WILL BE PROVIDED AT LOCATIONS WHERE OPERATING SPEEDS AS SHOWN ON THE PLANS AND AS DETERMINED BY BNSF AND UPRR RAILROADS.

15. STRUCTURAL DESIGN

A.PEPD STRUCTURE DESIGN WILL BE BASED ON CHSTP CP 2-3 DESIGN CRITERIA MANUAL REV 3 DATED FEBRUARY, 2016.

B.DESIGN LIFE = 100 YEARS

16. EXISTING PRIMARY TYPE 2 OVERHEAD STRUCTURES

A.WILL MEET THE NON-COLLAPSE PERFORMANCE FOR MAXIMUM CONSIDERED EARTHQUAKE (MCE).

B. TO REMAIN ELASTIC FOR ONE THIRD OF MCE SPECTRA.

17. SURVEY

A. HORIZONTAL AND VERTICAL DATUM:

- i. CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) FOR COORDINATE SYSTEM.
- ii. THE NORTH AMERICAN DATUM OF 1988 (NAVD88) FOR HORIZONTAL
- iii. THE NORTH AMERICAN DATUM OF 1988 (NAVD88) FOR VERTICAL DATUM.
- B. CITY OF LA IS GRANTOR WITHIN THEIR CITY LIMITS.

SYSTEM REQUIREMENTS

SYSTEMS

DESIGN ELEMENTS RELATED TO ELECTRIFICATION/TRACTION POWER SUPPLY SYSTEM (TPSS), TRAIN CONTROL SYSTEMS AND COMMUNICATIONS ARE NOT PART OF THIS CONTRACT AND THESE DESIGN ELEMENTS WILL BE DESIGNED BY

ELEMENT LOCATIONS WILL BE DEFINED AS PART OF THIS CONTRACT.

AUTHORITY SYSTEMS TEAM DIRECTED THE FOLLOWING UPDATES AT A SEPTEMBER 15, 2016 WORKSHOP:

ELIMINATE ALTERNATE SITE OPTIONS

ELIMINATE BACK TO BACK PARALLELING STATION;

MAINTAIN STANDARD LAYOUT TPSS-TPPS-TPSWS-TPPS-TPSS INTRODUCE A PORTAL / BRIDGE STRUCTURE EVERY MILE IN SEGMENTS UTILIZING THE DOUBLE CANTILEVER CATENARY POLE.

RIGHT-OF-WAY FOR THESE SYSTEMS AND SUB-SYSTEMS WILL BE DEFINED BY THE AUTHORITY AND SUBJECT TO CHANGE.

PRELIMINARY POWER SOURCES ARE SHOWN AND SUBJECT TO CHANGE WITH FINAL DETERMINATION BASED ON DISCUSSIONS BETWEEN THE AUTHORITY AND UTILITY OWNER.

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							DRAWN BY M. MAMAWAL
L							CHECKED BY
,							J. SWANSON IN CHARGE
-							J. SWANSON DATE
	REV	DATE	BY	СНК	APP	DESCRIPTION	08/29/25

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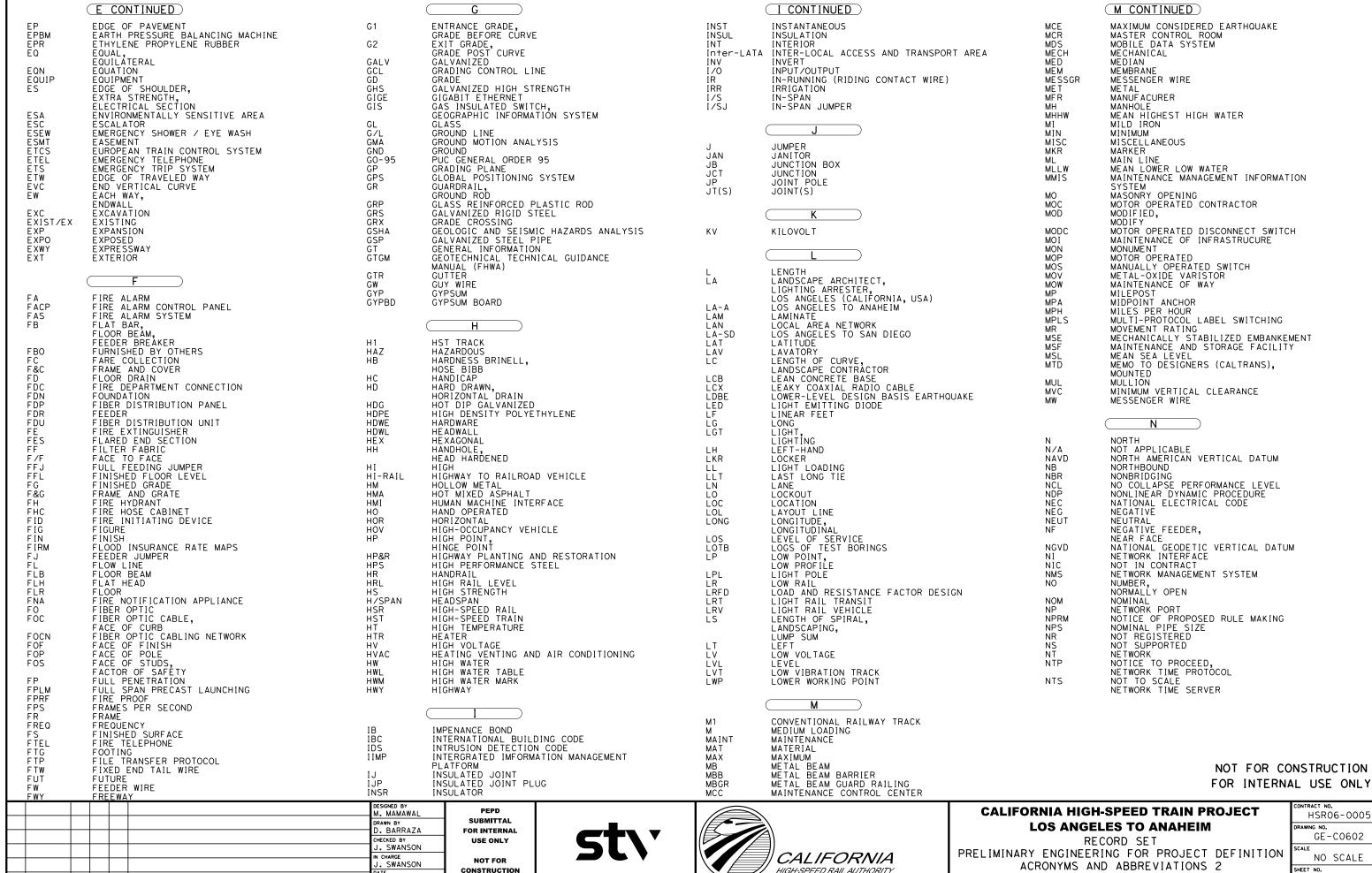
CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION BASIS OF DESIGN SUMMARY

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CONTR	ACT NO			
_	ISRO	6-	-0005	
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	GE-	-B	0601	
SCALE				
	NO	S	CALE	
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	A		B CONTINUED		(C CONTINUED)		(D CONTINUED)
@ AADT	AT AVERAGE ANNUAL DAILY TRAFFIC	BDS E	BRIDGE DESIGN PRACTICE (CALTRANS) BRIDGE DESIGN SPECIFICATIONS (CALTRANS) BURIED EARTH (GROUND) CONDUCTOR	CI CIC CIDH	CAST IRON COMMUNICATIONS INTERFACE CABINE CAST-IN-DRILLED-HOLE	DD T DE	DOWNDRAIN, DEVICE DRIVER DEAD END
AB ABBC	AGGREGATE BASE, ANCHOR BOLT ASBESTOS BONDED BITUMINOUS COATED	BFG P	BEGIN	CIDH CIF CIP	CAST-IN-DRILLED-HOLE COMMON INTERMEDIATE FORMAT CAST IRON PIPE	DEL DEMO	DEAD END DELINEATOR DEMOLISH
ABM	AIR-BLOWN MORTAR AIR-BLOWN MORTAR	BIL BITUM	YPASS FEEDER ANCHOR BASIC IMPULSE INSULATION LEVEL BITUMINOUS	C-I-P CIPCP	CAST IRON FIFE CAST-IN-PLACE CAST-IN-PLACE CONCRETE PIPE	DEMO DEPT DET	DEPARTMENT DE PARTMENT DE TOUR
ABN ABUT	ABANDON ABUTMENT	BK E	ACKFILL	CIS	CUSTOMER INFORMATION SIGN CAST-IN-STEEL-SHELL	DF	DIRECT FIXATION, DRINKING FOUNTAIN
ABV AC	ABOVE	BKR E	REAKER BASELINE	CJ	CONSTRUCTION JOINT COMPLETE JOINT PENETRATION	DGA DHV	DOWN GUY ANCHOR DESIGN HOURLY VOLUME
ACB	ALTERNATING CURRENT, ASPHALT CONCRETE ASPHALT CONCRETE BASE	BLDG E	BASELINE BUILDING BLOCKING	CJP CKT	CIRCUIT CLASS	DI DI DIAG	DRAINAGE INLET DIAGONAL
ACMB	AC DISTRIBUTION PANEL MAIN BREAKER	BLM E	BRIDGE-LOG MILE	CL CL2 CL-6	CLASS 2 CHAIN LINK FENCE (6 FT)	DIAPH DIFF	DIAPHRAGM DIFFERENTIAL
ACP ACS	ASBESTOS CEMENT PIPE	BLVD B	OOULE VARD BENCHMARK	CLG CLK	CEILING CHAIN LINK	DIM DIN	DIMENSION DROP INLET
ACSR AD	ALUMINUM CONDUCTOR STEEL REINFORCED	BN E	ACKBONE NETWORK	CLKG CLO	CAULKING CLOSET	DIP DIR	DUCTILE IRON PIPE DIRECTION
ADJ	ADJACENT, ADJUST.	BOC E	SOTTOM OF CURB BACK-UP OPERATIONAL CONTROL CENTER	CLR	CLEAR, CLEARANCE	DISC DISP	DISCONNECT DISPENSER
ADL	ADJUSTÁBLE ADDED DEAD LOAD	BOS E	SOTTOM OF SLOPE	СМ	CONTROL MODULE, CORRUGATED METAL	DIST DISTR	DISTANCE DISTRIBUTION
ADP ADT	AC DISTRIBUTION PANEL AVERAGE DAILY TRAFFIC	BOW B	SOTTOM OF WALL BRIDGE.	CMP CMU	CORRUGATED METAL PIPE CONCRETE MASONRY UNIT	DMBB DN	DOUBLE METAL BEAM BARRIER DOWN
A&E AEC	ARCHITECTURAL AND ENGINEERING AERIAL EARTH (GROUND) CONDUCTOR	BRG E	BRÎDGE CURVE BEARING	CNTR CO	COUNTER CLEANOUT,	DNS DO	DOMAIN NAME SYSTEM DOOR OPENING
AED AFC	AUTOMATED EXTERNAL DEFIBRILLATOR AUTOMATIC FARE COLLECTION	BRKT E	BRACKET BROADBAND RADIO SYSTEM	COL	COUNTY COLUMN	DPDT DR	DOUBLE-POLE DOUBLE-THROW DRIVE
AFES A/G	ALTERNATIVE FLARED END SECTION AT-GRADE	BRT E	ROADBAND RADIO SYSTEM BUS RAPID TRANSIT BODY SPAN WIRE	COMM CONC	COMMUNICATIONS CONCRETE	DS	DOWNSPOUT, DISCONNECT SWITCH
AGW AHD	ACOUSTICAL ASBESTOS CEMENT PIPE ACCESS CONTROL ROOM ALUMINUM CONDUCTOR STEEL REINFORCED AREA DRAIN ADJACENT, ADJUST, ADJUSTABLE ADDED DEAD LOAD AC DISTRIBUTION PANEL AVERAGE DAILY TRAFFIC ARCHITECTURAL AND ENGINEERING AERIAL EARTH (GROUND) CONDUCTOR AUTOMATED EXTERNAL DEFIBRILLATOR AUTOMATIC FARE COLLECTION ALTERNATIVE FLARED END SECTION AT-GRADE AERIAL GROUND WIRE AHEAD ALUMINUM	BSC E B/SPAN E	SASE STATION CONTROLLER BODY SPAN	COND CONN	CONDUIT CONNECTOR.	DSC DSCW	DIFFERING SITE CONDITIONS DIRECT SUSPENSION CONTACT WIRE DISCONNECT SWITCH GROUP
ALIGN	ALIGNMENT	DIM	SOT TOM	CONST	CONNECTIOŃ CONSTRUCT,	DSG DSHA	DETERMINISTIC SEISMIC HAZARD ANALYSIS
ALT AM	ALTERNATE TIME FROM MIDNIGHT TO NOON	BTWN F	BASE TRANCEIVER STATION BETWEEN	CONT	CONSTRUCTION CONTINUOUS,	DST DTBB	DISTRICT DOUBLE THRIE BEAM BARRIER
ANC ANI	ANCHOR AUTOMATIC NUMBER IDENTIFICATION	BW F	EGINNING OF VERTICAL CURVE BARBED WIRE,	CONTR	CONTINUATIÓN CONTRACTOR	DTM DVR	DIGITAL TERRAIN MODEL DIGITAL VIDEO RECORDERS
ANN ANS	ANNUNCIATOR AMBIENT NOISE SENSOR	B/W E	ALANCE WEIGHT BLACK AND WHITE	COORD CORR	COORDINATE CORRIDOR	DWG DWY	DRAWING DRIVEWAY
AP APC	ALTERNATIVE PIPE ALTERNATIVE PIPE CULVERT AREA OF POTENTIAL EFFECTS	BWLAN E	BALANCE WEIGHT ANCHOR BROADBAND WIRELESS LOCAL AREA NETWORK	CP CPT	CONTROL POINT CONE PENETRATION TEST, CONTROL POWER TRANSFORMER	DXO	DOUBLE CROSSOVER
APE APEF Z AP I	AREA OF POTENTIAL EFFECTS ALOUIST-PRIOLO EARTHQUAKE FAULT ZONE APPLICATION PROGRAMMING INTERFACE	BZ E	BRONZE	CPU CR	CENTRAL PROCESSING UNIT		E
API APPROX APU	APPLICATION PROGRAMMING INTERFACE APPROXIMATE ALTERNATIVE PIPE UNDERDRAIN		C	CRC	CREEK, CONDUIT RISER COMBINED RELAY AND CONTROL PANI	EL E	APPLIED CANT UNBALANCED CANT
AR AR ARCH	ACCESS RESTRICTION ARCHITECTURAL	C	CLOSE, CONTACT,	CRCP CRSP	CONTINUOUS REINFORCED CONCRETE	FAVENIENI	EAST EACH
ARS AS	ACCELERATION RESPONSE SPECTRUM AGGREGATE SUBBASE	CA C	CONTROL CERTIFICATION ACCEPTANCE CABLE ANCHOR ASSEMBLY	CRZ CS	CONCRETED ROCK SLOPE PROTECTION CLEAR RECOVERY ZONE CONTROL SWITCH,		EASTBOUND, END OF BRIDGE
ASPH ASRP	ASPHALT ALUMINUM SPIRAL RIB PIPE	CAB C	CABINET	CSA	CURVE TO SPIRAL CONSTRUCTION STAGING AREA	EC	END HORIZONTAL CURVE, ELECTRICAL_CONDUCTOR
ASSY AT	ASSEMBLY	CAH C	COMPUTER-AIDED DESIGN AND DRAFTING CONTROLLED ACCESS HIGHWAY	CSP CSPA	CORRUGATED STEEL PIPE CORRUGATED STEEL PIPE ARCH	ECR EE	END CURB RETURN EACH END_
ATC	AUTOTRANSFORMER, AUTOMATIC TENSION AUTOMATIC TRAIN CONTROL	CALP C	CUSTOMER ASSISTANCE INTERCOM CORRUGATED ALUMINUM PIPE	CT	CERAMIC TILE, CURVE TO TANGENT,	E 0.3	EACH FACE EMERGENCY GROUND SWITCH
ATEL ATM	ADMINISTRATIVE TELEPHONE ALONG TRACK MOVEMENT	CAP C	CANTILEVER APACITY,	СТВ	CURRENT TRANSFORMER/TRANSDUCER	_1	EXTRA HIGH STRENGTH EMERGENCY INTERCOM
ATO ATP	AUTOMATIC TRAIN OPERATION AUTOMATIC TRAIN PROTECTION	C	CAPACITOR, CORRUGATED ALUMINUM PIPE CORRUGATED ALUMINUM PIPE ARCH	CTPB CTPM	CEMENT TREATED PERMEABLE BASE CEMENT TREATED PERMEABLE MATER	EJ E-LAN ELAST	EXPANSION JOINT ETHERNET LAN ELASTOMERIC
ATPB ATPM	ASPHALT TREATED PERMEABLE BASE ASPHALT TREATED PERMEABLE MATERIAL	CAS C	CONSTRUCTION AREA SIGN	CTR CTSK	CENTER COUNTERSUNK	ELEC	ELECTRICAL, ELECTRICAL
ATR ATS	ASPHALT TREATED PERMEABLE MATERIAL ABOVE TOP OF RAIL AUTOMATIC TRAIN SUPERVISION,	C	CATEGORY, CATEGORY SPECIFICATION FOR WISTED PAIR CABLING	CTVT	COMBINED CURRENT TRANSFORMER AI VOLTAGE TRANSFORMER	ND ELECT ELEV	ELECTRIC ELECTROLIER ELEVATION
AUX	AUTO TENSIONED SYSTEM AUXILIARY	CATE	`ANTENARY FOUNDATION	CTW CU	COUNTER WEIGHT TAIL WIRE	ELOCK EMB	ELECTRONIC LOCK EMBANKMENT
AVE AVG	AVENUE AVERAGE AVENUEL VEHICLE LOCATION		ANTENARY POLE CATCH BASIN, CIRCUIT BREAKER,	CUL V	CULVERT CURVE	EMC EMER	ELECTROMAGNETIC COMPATIBILITY EMERGENCY
AVL AWG	AUTOMATIC VEHICLE LOCATION AMERICAN WIRE GAUGE	CBTC C	CONCRETE BARRIER COMMUNICATIONS BASED TRAIN CONTROL	CVR CW	COVER CONTACT WIRE CONTACT WIRE ANCHOR	EMF EMI	ELECTROMAGNETIC FIELD ELECTROMAGNETIC INTERFERENCE
	В	CBW C	CONCRETE BLOCK WALL CUT AND COVER	CWA CWH CWR	CONTACT WIRE ANCHOR CONTACT WIRE HEIGHT CONTINUOUSLY WELDED RAIL	ĒMŠ EMU	ELEMENT MANAGEMENT SYSTEM
BAGR	BRIDGE APPROACH GUARD RAILING	C-C C	ENTERLINE TO CENTERLINE CONTRACT CHANGE ORDER	CWT	COUNTER WEIGHT	ËNCL ENGR	ENCLOSURE ENGINEER, ENGINEERING
BAR BAT	BARRIER BATTERY	CCS C	CALIFORNIA COORDINATE SYSTEM CLOSED CIRCUIT TELEVISION		(D)	EO	BEND OF BRIDGE
BB B-B	BEGINNING OF BRIDGE BACK-TO-BACK	CCVT C	COUPLING CAPACITOR VOLTAGE TRANSFORMER CERTIFIED ENGINEERING GEOLOGIST	D	DEPTH	EOD EOS	EDGE OF DECK ELECTRICAL OPERATED BRIDGE
BC	BEGINNING OF CURVE, BOLT CIRCLE	CER C	EMENT COMMUNICATIONS EQUIPMENT ROOM	DB DBE	DESIGN-BUILD DESIGN BASIS EARTHQUAKE	EOW	END OF WALL
BCR BD	BEGIN CURB RETURN BOARD BURDECTIONAL AND LETER	CG C	CURB AND GUTTER ENTER OF GRAVITY	DBL DC	DOUBLE DIRECT CURRENT	.VED	NOT FOR CONSTRUCTION
BDA BDD	BI-DIRECTIONAL AMPLIFIER BRIDGE DESIGN DETAILS (CALTRANS)	CGS C CHNL C	CALIFORNIA GEOLOGICAL SURVEY CHANNEL	DCMB DCP	DC DISTRIBUTION PANEL MAIN BREA DC DISTRIBUTION PANEL	INEK	FOR INTERNAL USE ONLY
		DESIGNED BY M. MAMAWAL	PEPD		<u> </u>	CALIFORNIA HIG	H-SPEED TRAIN PROJECT CONTRACT NO. HSR06-0005
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08/29/25

DATE

BY CHK APP

DESCRIPTION



ACRONYMS AND ABBREVIATIONS 2

HSR06-0005 GE-C0602

OVERTEMP OVERTEM OV	
OC ON CENTER, OVERCROSSING PTD. PAPER TOWEL DISPENSER AND RECEPTACLE SALV SALVAGE STRUCTURE APPROACH EMBANKENT SWA SINGLE WIRE ANCHOR PAPER TOWEL DISPENSER AND RECEPTACLE SALV SALVAGE SALVAG	
OCS OVERHEAD CONTACT SYSTEM OF OUTSIDE FACE OF OF OUTSIDE FACE OF OFFSET OF OFFSET OF OFFSET OFFSET OF OFFSET OFFS	SIONED
OFF OFFSET OUTSIDE FACE PIT PUSH TO TALK SC SPIRAL TO CURVE, SWE SIDEWALK OFFSET OF OFFS TO OF	TERMINATION
OG ORIGINAL GROUND OH OVERHEAD OF OVERHEAD OF ORANGE COUNTY TO LOS ANGELES OF PVI OBLIC UTILITY EASEMENT OF OVERHEAD OF OVERHEAD OF OPERATIONS AND MAINTENANCE OUT TO LOS ANGELES OF PVI OBLIC OF POLITY OF VERTICAL CURVE SCAD SUPERVISORY CONTROL AND DATA AQUISITION SWB SWB CHERNIC OF POLITY OF VERTICAL INTERSECTION SWB SWB CHERNIC OF POLITY OF VERTICAL INTERSECTION SWB SWB CHERNIC SCAD SUPERVISORY CONTROL AND DATA AQUISITION SWB SWB CHERNIC SCAD SUPERVISORY CONTROL AND DATA AQUISITION SWB SWB CHERNIC SCAD SUPERVISORY CONTROL BUILDING SWB SUBSTATION CONTROL BUILDING SWC SCC STATION CONTROL AND CONTROL SCC STATION CONTROL BUILDING SWC SCC STATION CONTROL AND CONTROL SCC STATION CONTROL BUILDING SWC SCC STATION CONTROL AND CONTROL SCC STATION CONTROL BUILDING SWC SCC STATION CONTROL SCC STOWN SWC STOWN SWC STOWN SWC STOWN SWC STOWN	N PREVENTION PLAN
ORM OPERATIONS AND MAINTENANCE OO OUT TO OUT OUT OOUT OUT OOR OUT-OF-RUNNING (NORIDING CONTACT WIRE) OP OVERPASS OPE OPENING O	
OP OPERASS OPNG OPERAILITY PERFORMANCE LEVEL OPNG OPENING OPNG OPENING OPP OPPOSITE ORS OPERATIONS RADIO SYSTEM OSP OVERTEMP OVERTEMP OVERTEMP OVERTEMPERATURE OWLS ONE WAY LOW SPEED (DIAMOND CROSSING) PACIS PACIS PACIS PACIS PAN PACIS PAN PACIS PAN PACIS PAN PACIS PAN PAR PACIS PAN PA	
OP OVERPASS OPL OPERABILITY PERFORMANCE LEVEL OPL OPERABILITY PERFORMANCE LEVEL OPNG OPENING OPNG OPENING OPP OPPOSITE ORS OPERATIONS RADIO SYSTEM OSP OUTSIDE PLANT OVERTEMP OVERTEMPERATURE OWLS OWLS OWLS OWLS OWLS OWLS OWLS OWLS	
OPP OPPOSITE ORS OPERATIONS RADIO SYSTEM OSP OUTSIDE PLANT OVERTEMP OVERTEMPERATURE OWLS OWLS OPERATIONS OPERATIONS CROSSING) P OWLS OVERTEMP OVERTEMPERATURE OWLS OVERTEMP OVERTEMPERATURE OWLS OVERTEMP OVERTEMPERATURE OWLS ONE WAY LOW SPEED (DIAMOND CROSSING) P OWLS ONE WAY LOW SPEED (DIAMOND CROSSING) P OWLS ONE WAY LOW SPEED (DIAMOND CROSSING) P OWLS ONE WAY LOW SPEED (DIAMOND CROSSING) ONE WAY LOW SPE	
OWLS ONE WAY LOW SPEED (DIAMOND CROSSING) R R SDF SINGLE DEGREE OF FREEDOM TUNNEL BORING MACHIN SECT SECTION PUBLIC ADDRESS PACIS PACIS PUBLIC ADDRESS/CUSTOMER PACIS PAN PUBLIC ADDRESS/CUSTOMER PAN PANTOGRAPH PAN PANTOGRAPH PAN PARTOGRAPH RAID REDUNDANT ARRAY OF INDEPENDENT DISKS SFS SANTA FE SPRINGS TCC TRAIN CONTROL AND CO SF SPRING FROG SF SPRING FROG TCC TRAIN CONTROL AND CO TRAIN	
OWLS ONE WAY LOW SPEED (DIAMOND CROSSING) R SDF SINGLE DEGREE OF FREEDOM TBM TUNNEL BORING MACHIN SECT SECTION FROM TO THE SPRING SECTION SPEED (DIAMOND CROSSING) PA PUBLIC ADDRESS PACIS PUBLIC ADDRESS POBLIC ADDRESS/CUSTOMER PACIS PUBLIC ADDRESS/CUSTOMER PACIS PUBLIC ADDRESS/CUSTOMER PAN PANTOGRAPH PAN PANTOGRAPH PAN PARTOGRAPH PAN PARTOGRAPH PAN PARTOGRAPH PAN PARTOGRAPH PARTOGRAPH PAN PARTOGRAPH PARTOGRAPH PAN PARTOGRAPH RAID REDUNDANT ARRAY OF INDEPENDENT DISKS PARTOGRAPH PARTOGRAPH RAID REDUNDANT ARRAY OF INDEPENDENT DISKS PARTOGRAPH PAR	EILLANCE ANALYSIS SYSTEM
SECT SECTION PA PUBLIC ADDRESS PACIS PACIS PAN PAN PAN PAN PAN PAN PAN PA	IF IED
PACIS PUBLIC ADDRESS / CUSTOMER RED SEP SEPARATION TC TRAIN CONTROL BOX INFORMATION SYSTEM RED RED SEP SEPARATION TC TRAIN CONTROL BOX INFORMATION SYSTEM RED REMOTE ANNUNCIATOR SERV SERVICE TC TRAIN CONTROL AND CO PAN PANTOGRAPH RAID REDUNDANT ARRAY OF INDEPENDENT DISKS SF SANTA FE SPRINGS TCCT TRACK CIRCUIT PAX PASSENGER RESILIENT BASE SG SUBGRADE TCE TEMPORARY CONSTRUCTION FOR TRAIN CONTROL BOX SEP SEPARATION TCC TRAIN CONTROL BOX SEP SEP SEP SEPARATION TCC TRAIN CONTROL BOX SEP SEP SEPARATION TCC TRAIN CONTROL BOX SEP	NT TO CURVE
INFORMATION SYSTEM RAA ROCK ANCHOR PAN PANTOGRAPH RAID REDUNDANT ARRAY OF INDEPENDENT DISKS PAP PERFORATED ALUMINUM PIPE RAID REDUNDANT ARRAY OF INDEPENDENT DISKS SFS SANTA FE SPRINGS TCCT TRAIN CONTROL AND CO SPRING FROG TCCT TRACK CIRCUIT PAX PASSENGER RESILIENT BASE SG SUBGRADE TCP/IP TRANSMISSION CONTROL	
PAP PERFORATED ALUMINUM PIPE RAID REDUNDANT ARRAY OF INDEPENDENT DISKS SET SANTA FE SPRINGS TCE TEMPORARY CONSTRUCTI PAX PASSENGER SG SUBGRADE TCP/IP TRANSMISSION CONTROL	MMUNICATIONS ROOM
PB PULL BOX, REGIONAL CONSULTANT, SHD SHOULDER TCR TRANSMISSION COMMUNITY PDX PRIVATE BRANCH EXCHANGE RCA REGIONAL CONCRETE RCA REINFORCED CONCRETE ARCH SHT SHETT SHEET TD TRENCH DRAIN, PC PRECAST CONCRETE, POINT OF CURVE RCA REINFORCED CONCRETE ARCH SHT SHEET SHEET TO TIME DELAY	ON EASEMENT PROTOCOL/INTERNET
PBX PRIVATE BRANCH EXCHANGE RCA REINFORCED CONCRETE ARCH SHT SHEET TD TRENCH DRAIN, PC PRECAST CONCRETE, POINT OF CURVE PCB	
, SELLIUM INCHARITA	
PC PRECAST CONCRETE, POINT OF CURVE TIME DELAY PCC PORTLAND CEMENT CONCRETE, POINT OF RCB REINFORCED CONCRETE BOX SI SECTION INSULATOR, RCC REGIONAL CONTROL CENTER SITE INVESTIGATION TDA TIRE DERIVED AGGREGA COMPOUND CURVE TO THE DELAY RCC REGIONAL CONTROL CENTER SITE INVESTIGATION TO THE COMMUNICATIONS DID THE COMMUNIC	EVICE FOR THE DEAF
COMPOUND CURVE PCP PERFORATED CONCRETE PIPE RCE REGISTERED CIVIL ENGINEER RCP REINFORCED CONCRETE PIPE RCP REINFORCED CONCRETE PIPE PCPT PIEZOCONE PENAMEI PCPT PIEZOCONE PENAMEI RCPA REINFORCED CONCRETE PIPE ARCH RCPA REINFORCED CONCRETE PIPE ARCH SLAN PASSENGER STATION LOCAL AREA NETWORK TEMPORARY TEMPORARY TEMPORARY	EXING
PE PORCELAIN ENAMEL TEMPORARY SM SELECTED MATERIAL TEMPORARY	
PROJECT DEFINITION R&D REMOVE AND DISPOSE SINGLE MODE FIBER ' SINGLE MODE FIBER ' TESC TEMPORARY EROSION AN	D SETTLEMENT CONTROL
PERM PERMEABLE RE RUNNING EDGE OF RAIL SNTP SIMPLE NETWORK TIME PROTOCOL TEE TETRAFLOUROETHYLENE	PHONE / SPEAKERPHONE
PE POWER FACTOR RECT RECTANGLAR SPECIAL TIES OF THE THICK SPECIAL	011 01107511
REFP REFERENCE POINT SPEKER SPEAKER TK TRACK HAZARD ANALYSIS REINE REINEORCED. SPI SAFFTY PERFORMANCE LEVEL	OM SYSTEM
REINFORCEMÊNT, SPS SMALL PART STEELWORK THE TENSION LENGTH PH PHASE REINFORCING SPST SINGLE POLE SINGLE THROW THE TENSION LENGTH REINFORCING SPST SINGLE POLE SINGLE THROW THE TENSION LENGTH	
PID PASSENGER INFORMATION DISPLAY REL RELOCATE, SPT STANDARD PENETRATION TEST TO TURNOUT, RELOCATED SQ SQUARE	
PJP PARTIAL JOINT PENETRATION REPL REPLACEMENT STATE ROUTE TO TO BOTTOM OF WALL	
PLACE' REQUIRED SRRA SAFETY ROADSIDE RESTAREA TOG TOP OF GRATE	
PLAM PLASTIC LAMINATE TOP OF LOW RAIL SUBSTATION', SUBSTATION'	
PLC PROGRAMMABLE LOGIC CONTROLLER DE REPOIENCE SOIL STRUCTURE INTERACTION TOFG TOP OF FINISH GRADE	
PLYWOD PLYWOOD RFI REQUEST FOR INFORMATION SSK SERVICE SINK TOR TOP OF PAVEMENT OF TOP OF RAILE OF TOP OF STORE OF TOP OF	
PMS PAVEMENT MANAGEMENT SYSTEM RM RESTRICTED MANUAL, SSPP STRUCTURAL STEEL PLATE PIPE TOT TOP OF TIE, PN PAVING NOTCH ROOM SSRP STEEL SPIRAL RIB PIPE	
PNL PANEL TOW TOP OF WALL STANDERS STEEL TOWN TOWN TOWN TOWN TOWN TOWN TOWN TOWN	
POC POINT OF CONNECTION TPB TREATED PERMEABLE BA	ASE
POS POSITIVE RR RAILROAD, STREET TOLLEY TRACTION POWER FACIL	ITY
PP PLASTIC PIPE, RESURFACING, RESTORATION, STATIONING STATIONING STATIONING STATIONING STATION POWER SUPPL REHABILITATION (3R) STBB SINGLE THRIE BEAM BARRIER TPS TRACTION POWER SUPPL	Y SYSTEM
PPL PREFORATED PLASTIC PIECE RESULTATION, RECONSTRUCTION (4R) STC SINGLE TRACK CANTILEVER (INCLUDING PARALLELIA)	AND SWITCHING STATIONS)
RRX RAIL ROAD GRADE CROSSING STIFFE STIFFENER	IN.
PROP PROPOSED TRK TRACK	
POINT OF SWITCH RIGHT RIGHT STR STRUCTURAL, STRUCTURAL, STRUCTURE TANGENT TO SPIRAL, TANGENT TO SPIRAL,	
PERFORATED STEEL PIPE RW RETAINING WALL STW STATIC WIRE	OT FOR CONSTRUCTION
PSTN PUBLIC SWITCHED TELEPHONE NETWORK RVW RIGHT-OF-WAY SUPERVISORY FO	R INTERNAL USE ONLY
WIRELESS SYSTEM RWI RAILWAI SUSF SUSFENDED	CONTRACT NO.
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	T CONTINUED		(W CONTINUED)		(TRACK GEOMETRY - HORIZONTAL)		UNITS OF MEASUREMENT	
TSI TSM	TECHNICAL SPECIFICATIONS FOR INTEROPERABILITY TRAFFIC SYSTEMS MANAGEMENT	WW	WINGWALL, WALKWAY	ВС	BEGIN HORIZONTAL CURVE	Ac AMP	ACRES AMPERES	
TSMP TTC TTEL	TRAFFIC SYSTEMS MANSGEMENT PLAN TWO TRACK CANTILEVER TRAIN EMERGENCY SPEAKERPHONE	WWF WWLOL WWM	WELDED WIRE FABRIC WINGWALL LAYOUT LINE WELDED WIRE MESH	CC CS CT	COMPOUND CURVE POINT OF CHANGE FROM CIRCULAR CURVE TO SF POINT OF CHANGE FROM CURVE TO TANGENT	PIRAL BTU	BRITISH THERMAL UNIT	
TV TVS(S)	TELEVISION TICKET VENDING MACHINE(S)		X	K1	TANGENT DISTANCE PF SHIFT PC REFERENCE	CAL CF	CALIPER CUBIC FEET	
TW TYP	TIE WIRE, TIME WARNER CABLE TYPICAL	X/CAT XD	CROSS CANTENARY TRANSDUCER	К2	TO THE TS TANGENT DISTANCE PF SHIFT PT REFERENCE TO THE ST	CP CY	CANDLE POWER CUBIC YARD	
	U	XFMR XO	TRANSFORMER CROSSOVER	LC LS1	LENGTH OF CIRCULAR CURVE LENGTH OF SPIRAL	dB DEG DIA	DECIBEL DEGREE DIAMETER	
UB UBC	UTILITY BOX UNIFORM BUILDING CODE	XOST XSEC X/SPAN	CROSSOVER SPRING TEN CROSS SECTION CROSS SPAN	NSIONER LS2 LSC	LENGTH OF SPIRAL FROM TS TO SC LENGTH OF COMPOUND SPIRAL FROM CS TO SC	Eu	UNBALANCED SUPERELEVATION	
UC UD	UNDERCROSSING UNDERDRAIN	XING XMITTER	CROSSING TRANSMITTER	р1	OFFSET FROM INITIAL TANGENT TO PC OF THE SHIFTED CIRCLE OF SPIRALIZED CURVE	F F T	FARENHEIT FOOT,	
UG UGB	UNDERGROUND, UNDERGRADE UNDERGRADE BRIDGE			p2	OFFSET FROM INITIAL TANGENT TO PT OF THE		FEET	
UI UNINS	USER INTERFACE UNINSULATED			PC PCC PF	POINT OF CURVE POINT OF COMPOUND CURVE POINT OF FROG	g GA GAL	ACCELERATION DUE TO GRAVITY GAUGE GALLON	
UON UP	UNLESS OTHERWISE NOTED UNDERPASS			PI PITO	POINT OF INTERSECTION POINT OF INTERSECTION TURNOUT	GB GBPS	GIGABYTE GIGABITS PER SECOND	
UPS UR UrEDAS	UNINTERRUPTIBLE POWER SUPPLY URINAL URGENT EARTHQUAKE DETECTION AND ALARM SYSTEM			POB POC	POINT OF BEGINNING POINT ON HORIZONTAL CURVE POINT OF ENDING	GH <i>z</i>	GIGAHERTZ	
USCS UTIL	UNITED SOIL CLASSIFICATION SYSTEM UTILITY			POE POS	POINT OF ENDING POINT ON SPIRAL POINT ON VERTICAL CURVE	HR HT	HOUR HEIGHT HERTZ	
UTPUN UWP	SHEILDED TWISTED PAIR UPPER WORKING POINT			POVC POVT PRC	POINT ON VERTICAL CORVE POINT ON VERTICAL TANGENT POINT OF REVERSE CURVE	H <i>z</i> ID	INSIDE DIAMETER	
	V			PRVC PS	POINT OF REVERSE VERTICAL CURVE POINT OF SWITCH	IF IN	INSIDE FACE INCHES	
V	VELOCITY, DESIGN SPEED,			PT SC	POINT OF TANGENT POINT OF CHANGE FROM SPIRAL TO CIRCULAR C	IR :URVE K	INSIDE RADIUS KIPS (1000 POUNDS)	
VAC	VALVE VOLTS ALTERNATING CURRENT			SPO SS	POINT ON ORIGIN OF COMPOUND SPIRAL POINT OF CHANGE BETWEEN SPIRALS	KCMIL KHZ	THOUSAND CIRCULAR MILS KILOHERTZ	
VAR	VARIABLE, VARIES			SSC ST	SPIRAL TO SPIRAL POINT OF CURVATURE POINT OF CHANGE FROM SPIRAL TO TANGENT	KSF KSI	KIPS PER SQUARE FOOT KIPS PER SQUARE INCH	
VCAT VCE VCP	VIRTUAL CONCETENATION VERTICAL CIRCULATION ELEMENT VITRIFIED CLAY PIPE			TC TS	POINT OF CHANGE FROM TANGENT TO CURVE POINT OF CHANGE FROM TANGENT TO SPIRAL	KV KVA KVAR	KILOVOLTS KILOVOLTS-AMPERE KILOVOLTS-AMPERE REACTIVE	
VCT VCD	VINYL COMPOSITION TILE VOLT DC			Ts1 Ts2	TANGENT DISTANCE FROM TS TO PI TANGENT DISTANCE FROM ST TO PI	KW KWH∕D	KILOWATT KILOWATT HOUR / DEMAND	
VE VERT VEST	VALUE ENGINEERING VERTICAL VESTIBULE			Xs1 Xs2	TANGENT OFFSET AT THE SC TANGENT OFFSET AT THE CS	L LB	LENGTH POUNDS	
VIA VLAN	VIADUCT VIRTUAL LOCAL AREA NETWORK			Δ	TOTAL CENTRAL ANGLE OF THE SPIRALIZED CUF	LB/FT RVE LF	POUNDS PER FOOT LINEAR FOOT	
VMS VOL	VARIABLE MESSAGE SIGN, VARIABLE MESSAGE SYSTEM VOLTIMETER,			Δc Δc1	CENTRAL ANGLE OF CIRCULAR CURVE (Lc) FROM SC TO CS CENTRAL ANGLE OF FIRST CIRCULAR CURVE OF	m MBPS	METER MEGABITS PER SECOND	
VOIP	VOLUME VOICE OVER INTERNET PROTOCOL			_ c2	COMPOUND CURVATURE CENTRAL ANGLE OF SECOND CIRCULAR CURVE OF	MCM	THOUSAND CIRCULAR MILS MEGAHERTZ	
VPN VRCS VS	VIRTUAL PRIVATE NETWORK VOICE RADIO COMMUNICATIONS SYSTEM VOLTAGE SWITCH			θs1	COMPOUND CURVATURE CENTRAL ANGLE OF SPIRAL LENGTH LS1 OR SPI	mm MPH IRAL MVA	MILLIMETER MILES PER HOUR MEGAVOLT-AMPERE	
V S V T	VOLTAGE TRANSFORMER/TRANSDUCER			θs2	ANGLE OF FIRST SPIRAL IN SPIRALIZED CURVE CENTRAL ANGLE OF SPIRAL LENGTH LS2 OR SPI	MW	MEGAWATT	
	W			θsc	ANGLE OF SECOND SPIRAL IN SPIRALIZED CURV CENTRAL ANGLE OF COMPOUND SPIRAL OR	E OD	OUTSIDE DIAMETER	
W	WEST, WIDTH				COMPOUND SPIRAL ANGLE FROM CS TO SC	PSF PSI PSIG	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH GAUGE	
W/ WA WB	WITH WORK AREA WESTBOUND			DVO	TRACK GEOMETRY - VERTICAL	SEC	SECOND	
WC WCS	WATER CLOSET WIRELESS COMMUNICATIONS SYSTEM			BVC Ea	BEGIN VERTICAL CURVE ACTUAL SUPERELEVATION	SF SY	SQUARE FEET SQUARE YARD	
WD WLAN	WOOD WIRELESS LOCAL AREA NETWORK			EVC	END VERTICAL CURVE	TF	TRACK FEET	
WM W/O WP	WIRE MESH WITHOUT WORK POINT.			PCVC POVC	POINT OF COMPOUND VERTICAL CURVE POINT OF VERTICAL INTERSECTION	VA VAC	VOLTS VOLT-AMPERE	
WPF	WOOD POLE ' WATERPROOF			POVT PVI	POINT ON VERTICAL CURVE POINT ON VERTICAL TANGENT	Y VP(5)	YARDS	
WPC WR	WAYSIDE POWER CUBICLES WIRE RUN			VC VPI	VERTICAL CURVE VERTICAL POINT OF INTERSECTION	YR(S)	YEAR(S)	
WRT WS	WITH RESPECT TO WATER SURFACE, WORK STATION							
WSP WT	WORK STATION WELDED STEEL PIPE WEIGHT						NOT FOR	CONSTRUCTION
WV	WATER VALVE						FOR INTER	RNAL USE ONLY
		DESIGNED BY M. MAMAWAL	PEPD			CALIFORNIA	HIGH-SPEED TRAIN PROJECT	CONTRACT NO. HSR06-0005
		DRAWN BY	SUBMITTAL	_		1.00	NICELEC TO ANALIEM	

FOR INTERNAL

USE ONLY

NOT FOR

CONSTRUCTION

DRAWN BY D. BARRAZA

CHECKED BY
J. SWANSON

CHARGE

08/29/25

\$PLOT\$

BY CHK APP

DESCRIPTION

LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
ACRONYMS AND ABBREVIATIONS 4
SHEET

CONTRACT NO.

HSR06-0005

DRAWING NO.

GE-C0604

SCALE

NO SCALE

SHEET NO.

(AGENCIES/ORGANIZATIONS/REFERENCE) ASSOCIATION OF AMERICAN RAILROADS AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS ۸AR AASHTO AMERICAN CONCRETE INSTITUTE AMERICAN WITH DISABILITIES ACT (FEDERAL) AMERICAN INSTITUTE OF STEEL CONSTRUCTION ADA AMTRAK NATIONAL RAILROAD PASSANGER CORPORATION AMERICAN NATIONAL STANDARDS INSTITUTE ADVANCED NATIONAL SEISMIC SYSTEM AMERICAN PUBLIC WORKS ASSOCIATION AMERICAN RAILWAY ENGINEERING ASSOCIATION ANSI ANSS APWA AREA AREMA AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION ARTIC ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER AMERICAN SOCIETY OF CIVIL ENGINEERS **ASCE** ASTM INTERNATIONAL, AMERICAN SOCIETY OF TESTING AND MATERIALS ASTM ATC APPLIED TECHNOLOGY COUNCIL AMERICAN WELDING SOCIETY BART SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT BDA BRIDGE DESIGN AIDS (CALTRANS) BDD BRIDGE DESIGN DETAILS (CALTRANS) BRIDGE DESIGN PRACTICE (CALTRANS) BRIDGE DESIGN SPECIFICATIONS (CALTRANS) BURLIGNTON NORTHERN SANTA FE RAILWAY, BDP BNSF BNSF RAILWAY CALNET CALIFORNIA INTEGRATED TELECOMMUNICATIONS NETWORK CALTRANS CALIFORNIA DEPARTMENT OF TRANSPORTATION CALIFORNIA BUILDING CODE CALIFORNIA DEPARTMENT OF CBDM TRANSPORTATION-BRIDGE DESIGN MANUAL CALIFORNIA CODE OF REGULATIONS CALIFORNIA HIGH-SPEED TRAIN DESIGN CRITERIA USCG CALIFORNIA ELECTRIC CODE CALIFORNIA ENVIRONMENTAL QUALITY ACT CEQA CODE OF FEDERAL REGULATIONS COUNTY HEALTH DEPARTMENT CALIFORNIA DEPARTMENT OF HIGHWAY PATROL CFR CHD CHP CALIFORNIA HIGH-SPEED TRAIN CALIFORNIA HIGH-SPEED TRAIN PROJECT CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD CIWMB CALIFORNIA PERMIT HANDBOOK CALIFORNIA PUBLIC UTILITIES COMMISSION COMMUTER RAIL PROGRAM (STATE) DEPARTMENT OF DEFENSE (FEDERAL) CPH CPUC CRR DOD DEPARTMENT OF TRANSPORTATION (FEDERAL) DOT DOWNTOWN EXTENSION (CALTRAIN) EUROPEAN INTEGRETED RADIO ENHANCED NETWORK EIRENE EUROPEAN RAIL TRAFFIC MANAGEMENT SYSTEM FEDERAL AVIATION ADMINISTRATION **ERTMS** FAA FEDERAL COMMUNICATIONS COMMISSION FCC FEDERAL EMERGENCY MANAGEMENT AGENY FEMA FEDERAL HIGHWAY ADMINISTRATION **FHWA** FMFCD FRESNO METROPOLITAN FLOOD CONTROL DISTRICT FEDERAL RAILROAD ADMINISTRATION FSTIP FEDERAL STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM FEDERAL TRANSIT ADMINISTRATION FΤΔ GEOTECHNICAL BASELINE REPORT GBR GEOTECHNICAL BASELINE REPORT FOR BIDDING GBR-B GEOTECHNICAL BASELINE REPORT FOR CONSTRUCTION GDR GEOTECHNICAL DATA REPORT IEEE INSTITUTE OF ELECTRICAL AND ELECTRONICS **ENGINEERS** ISO INTERNATIONAL ORGANIZATION FOR STANDARDIZATION LACDPW LOS ANGELES COUNTY DEPT OF PUBLIC WORKS LOS ANGELES DEPARTMENT OF LADWP WATER AND POWER LAUS LOS ANGELES UNION STATION LOCAL TRANSPORTATION COMMISSION LOS ANGELES COUNTY METROPOLITAN METRO TRANSIT AUTHORITY METROPOLITAN TRANSIT AUTHORITY MUTCD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES MWD METROPOLITAN WATER DISTRIC NATIONAL AMBIENT AIR QUALITY STANDARDS NAAQS NOISE ABATEMENT CRITERIA NAC NOISE BARRIER SCOPE SUMMARY REPORT NATIONAL ELECTRICAL MANUFACTURERS NBSSR NEMA

AGENCIES/ORGANIZATIONS/REFERENCE CONTINUED NATIONAL EMERGENGY NUMBER ASSOCIATION NATIONAL ELECTRICAL SAFETY CODE NATIONAL FIRE PROTECTION ASSOCIATION NESC NFPA NATIONAL INSTITUTE OF STANDARDS AND NIST **TECHNOLOGY** OCFCD ORANGE COUNTY FLOOD CONTROL DISTRIC OCTA ORANGE COUNTY TRANSPORTATION AUTHORITY OSHA

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION PACIFIC EARTHOUAKE ENGINEER RESEARCH PACIFIC GAS AND ELECTRIC COMPANY PUBLIC UTILITIES COMMISSION PEER PG&E RAIL SAFETY IMPROVEMENT ACT (2008) **RWQCB** REGIONAL WATER QUALITY CONTROL BOARD SOCIETY OF AMERICAN VALUE ENGINEERS
SOUTHERN CALIFORNIA EDISON
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY SAVE

PUC

ÜSCE

SCE SCRRA SDG&E SAN DIEGO GAS AND ELECTRIC COMPANY SAN DIEGO NORTHERN RAILWAY SHOPP STATE HIGHWAY OPERATION AND PROTECTION PROGRAM (FORMERLY HSOPP)

STATE HISTORIC PRESERVATION OFFICER (STATE)
SAN JOAQUIN REGIONAL RAIL AUTHORITY
SACRAMENTO MUNICIPAL UTILITY DISTRICT
SOUTHERN PACIFIC TRANSPORTATION COMPANY SHPO SJRRA SMLID SPTC SSCOM SEISMIC SAFETY COMMISSION SSORC SAFETY AND SECURITY OVERSIGHT AND

REVIEW COMMITTEE
SILICON VALLEY BERRYESSA EXTENSION
SILICON VALLEY RAPID TRANSIT
UNION PACIFIC RAILROAD SVBX SVRT UPRR UNITED STATES US

UNITED STATES (ARMY) CORP OF ENGINEERS UNITED STATES COAST GUARD UNITED SOIL CLASSIFICATION SYSTEM

SANTA CLARA VALLEY TRANSPORTATION AUTHORITY

(SEGMENT/COUNTY CODES AND SUBDIVISIONS)

ALTAMONT PASS BAKERSFIELD TO PALMDALE FRESNO TO BAKERSFIELD SAN FRANCISCO TO SAN JOSE B-P F-R SAN JOSE TO MERCED LOS ANGELES TO SAN DIEGO LOS ANGELES TO ANAHEIM L-D MERCED TO FRESNO PALMDALE TO LOS ANGELES P-I S-M SACRAMENTO TO MERCED

В BAY SUBDIVISION CAPITAL SUBDIVISION DESERT SUBDIVISION SAN JACINTO SUBDIVISION PACHECO SUBDIVISION SIERRA SUBDIVISION TONGVA SUBDIVISION

ALAMEDA ΔΜΔ **AMADOR** BUT BUTTE CAL CC COL CALAVERAS CONTRA COSTA COLUSA DN ED DEL NORTE EL DORA FRESNO DORADO GLE GLENN HUM IMP HUMBOL T IMPERIAL INY INYO KER ΚĪΝ KINGS LOS ANGELES LAK LAKE LASSEN LAS MADERA MΔD MFN MENDOCINO MER MERCED MONO MOD MON MONTEREY $MP\Delta$ MARIPOSA MRN MARIN NAP NAPA NEV NEVADA ORA ORANGE PLACER PLUMAS RIV SAC SB SBD RIVERSIDE SACRAMENTO SANTA BARBARA SAN BERNARDINO SBT SAN BENITO SCL SCR SD SF SANTA CRUZ SAN DIEGO SAN FRANCISCO SHA SHASTA SIE SIERRA SISKIYOU SJ SAN JOAQUIN SAN LUIS OBISPO SM SOL SON STA SAN MATEO SOL ANO SONOMA STANISLAUS SUT SUTTER TEH TFHAMA TRINITY TUL TULARE TUO TUOLUMNE VEN VENTURA YOL YOLO YUB YUBA

> NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

ı							DESIGNED BY M. MAMAWAL
١							DRAWN BY
١							CHECKED BY
ı							J. SWANSON
							IN CHARGE J. SWANSON
	REV	DATE	ВΥ	СНК	APP	DESCRIPTION	08/29/25

PEPD SUBMITTAL FOR INTERNAL USE ONLY

NOT FOR CONSTRUCTION

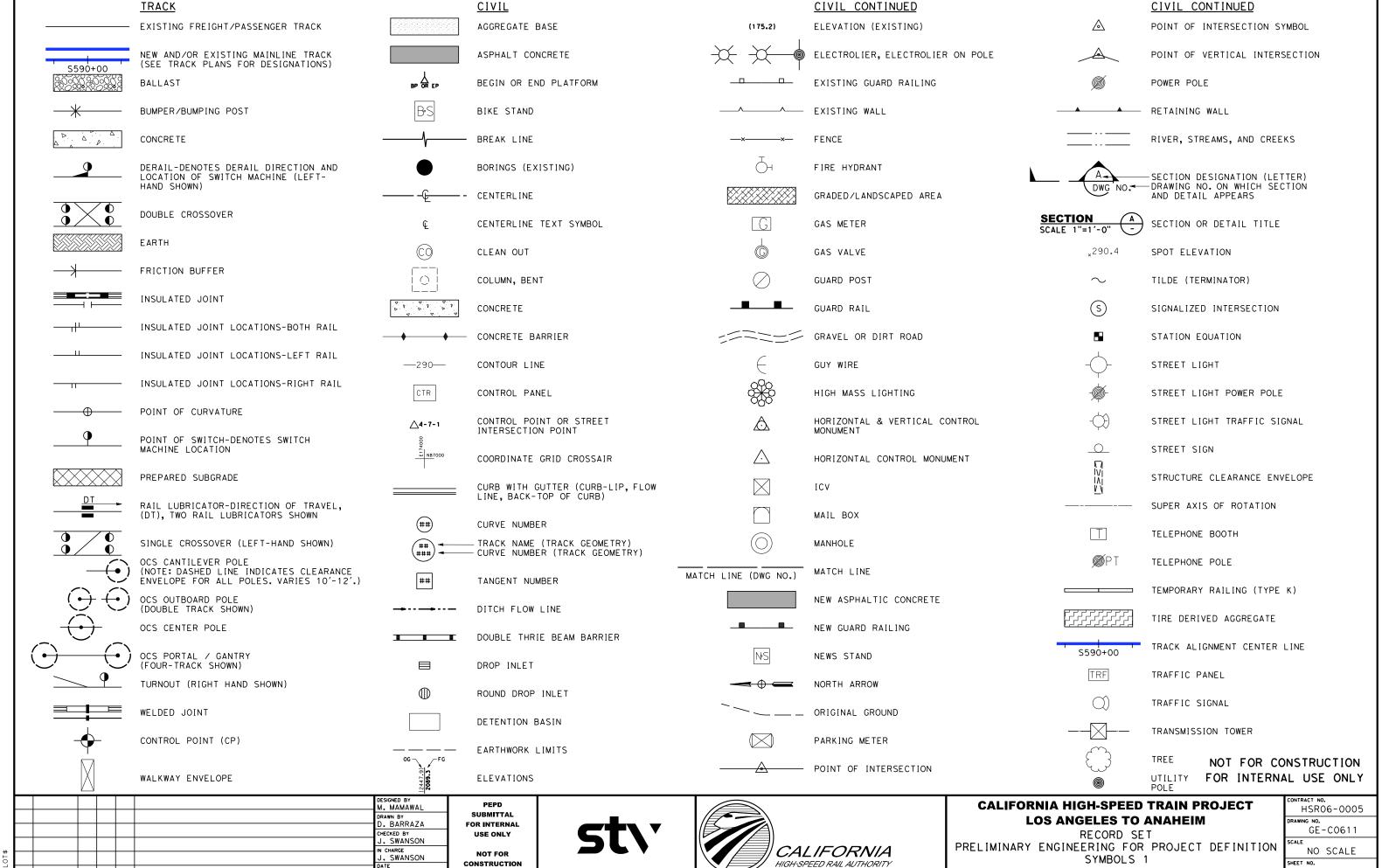




CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION ACRONYMS AND ABBREVIATIONS 5

CONTR	ACT NO).
H	ISR(06-0005
DRAWIN	G NO.	
	GE-	-C0605
SCALE		
	NO	SCALE
SHEET	NO.	



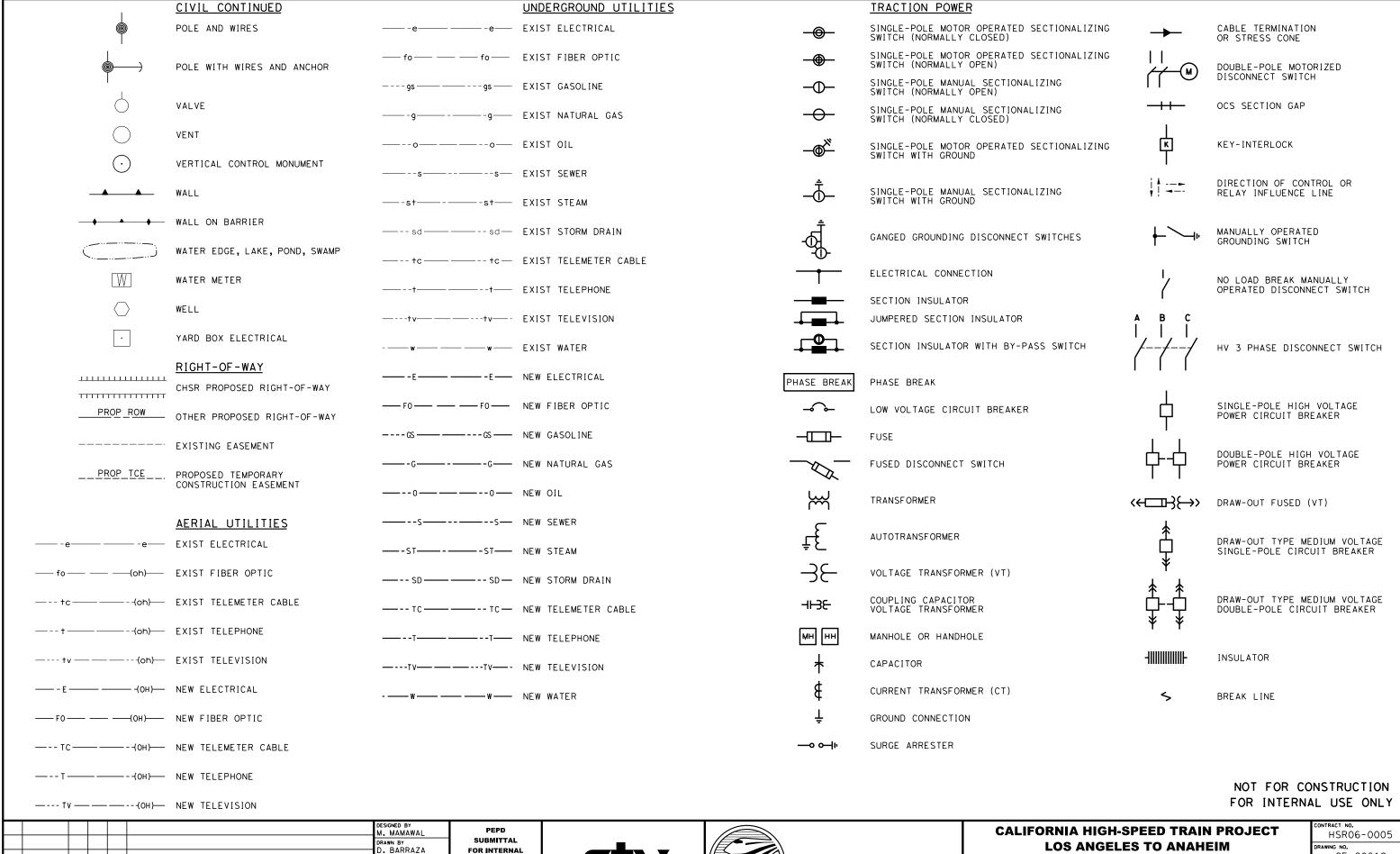
DATE

BY CHK APP

DESCRIPTION

08/29/25

SYMBOLS 1



CALIFORNIA

HIGH-SPEED RAIL AUTHORITY

HECKED BY

- SWANSON

CHARGE SWANSON

08/29/25

USE ONLY

NOT FOR

CONSTRUCTION

DATE

BY CHK APP

DESCRIPTION

RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION SYMBOLS 2

GE-C0612 NO SCALE

HEET NO.

GENERAL NOTES

GENERAL

- 1. VOLUMES 3.1 THRU 3.5 PRESENT THE ENGINEERING PLANS FOR THE PREFERRED SHARED TRACK OPTIONS BETWEEN LOS ANGELES AND ANAHEIM. THESE OPTIONS CONSIST OF:
 - A. NO HSR INTERMEDIATE STATIONS AT NORWALK/SANTA FE SPRINGS AND FULLERTON.
 - B. 26TH STREET LIGHT MAINTENANCE FACILTY III
- 2. NON-PREFERRED OPTIONS ARE PRESENTED IN VOLUME 3.6. THESE CONSIST OF:
 - A. HSR INTERMEDIATE STATIONS AT NORWALK/SANTA FE SPRINGS AND FULLERTON.
 - B. 15TH STREET LIGHT MAINTENANCE FACLITY III
- 3. FOR PURPOSES OF THIS PEPD VOLUME 3, THE GEOGRAPHIC NORTHERN LIMITS OF THIS LA-A PEPD AND FOR THIS EIR/EIS ARE AT THE NORTHERN EDGE OF THE PROPOSED US-101 VIADUCT, NOTWITHSTANDING ANY INDIVIDUAL NOTE IN THIS PEPD OR IN THE EIR TO THE CONTRARY.
- 4. THE FOLLOWING TYPES OF REFINEMENTS TO ELEMENTS OF SHARED PASSENGER TRACK ALTERNATIVE A AND SHARED PASSENGER TRACK ALTERNATIVE B HAVE BEEN IDENTIFIED BECAUSE OF ONGOING VALUE ENGINEERING REVIEW. BASED ON PRELIMINARY REVIEW, THESE TYPES OF REFINEMENTS ARE LIKELY MINOR AND ARE UNLIKELY TO AFFECT DEIR/DEIS IMPACT FINDINGS. SUBJECT TO FINAL REVIEW CONFIRMING THESE PRELIMINARY FINDINGS, VALUE ENGINEERING REFINEMENTS MAY BE INCORPORATED IN A REVISED HSR LAA PEPD RECORD SET TO BE ISSUED WITH THE FINAL EIR/EIS. THE BELOW ARE EXAMPLES OF REFINEMENTS THAT COULD BE INDENTIFIED AS PART OF VALUE ENGINEERING REVIEW BETWEEN THE DEIR/DEIS AND FINAL EIR/EIS.

HSR TRACK ALIGNMENT

INCREASE PROFILE GRADE TO 3.0% ON AERIAL STRUCTURES AND TRENCH AT THE LOCATIONS LISTED BELOW, TO REDUCE THEIR TOTAL LENGTHS, WITH NO REVISION TO PROJECT FOOTPRINT:

- SANTA FE SPRINGS FLYOVER: CURRENT GRADE -1.9% PROPOSED -3.0%, ON THE SOUTH END. THE NORTH APPROACH WON'T BE CHANGED DUE TO THE PROXIMITY TO THE ROADWAY GRADE SEPARATIONS AT FLORENCE AVE AND LAKELAND RD.
- FULLERTON TRENCH: CURRENT GRADE -2.5% PROPOSED -3.0% ON THE NORTH AND 2.7% CURRENT TO 3.0% PROPOSED, ON THE SOUTH APPROACHES.

LIGHT MAINTENANCE FACILITIES (LMF)

- REDUCTION IN TRAIN CAPACITY, WITH NO REVISION TO PROJECT FOOTPRINT:
 26TH STREET LMF: CURRENTLY DESIGNED TO ACCOMMODATE 36 TRAINS
 (24 IN YARD, 12 IN SHOP). PROPOSED DOWNSIZING TO 30 TRAINS
 (20 IN YARD, 10 IN SHOP).
 - -15TH STREET LMF: CURRENTLY DESIGNED TO ACCOMMODATE 32 TRAINS (20 IN YARD, 12 IN SHOP). PROPOSED DOWNSIZING TO 30 TRAINS (20 IN YARD, 10 IN SHOP).

VOLUME 3.1

1. RAIL ALIGNMENT BETWEEN MAIN STREET, UNION STATION, AND 1ST STREET IS BEING DESIGNED BY METRO'S LINKUS TEAM. THE ALIGNMENT THAT IS SHOWN IS BASED ON LATEST COORDINATION WITH THEIR TEAM, SHOWN FOR REFERENCE ONLY AND SUBJECT TO CHANGE. SEE VOLUME 3.8.

1VOLNUME 3.2

VOLUME 3.3

1. NONE

VOLUME 3.3A

 STATE COLLEGE ENGINEERING PLANS BASED ON 35% OCTA DESIGN PLANS AND WILL BE ENVIRONMENTALLY CLEARED AS PART OF THIS HSR LA-A EIR/EIS.

VOLUME 3.4

EXISTING COMPOSITE UTILITY NOTES:

- UTILITY CONFLICTS ON CROSSING STREETS AT EXISTING GRADE SEPARATIONS ARE NOT ANTICIPATED.
- 2. ONLY THE FOLLOWING UTILITIES SHALL BE CONSIDERED MAJOR AND ARE IDENTIFIED IN THE UTILITY CONFLICTS MATRIX ON THE DRAWINGS.

 A. WET UTILITIES:
 - SEWER, WATER, STORM DRAIN GREATER THAN OR EQUAL TO 12".
 - II. ALL OIL LINES.
 - III. ALL FUEL (GASOLINE) LINES.
 - IV. ALL GAS LINES.
 - B. DRY UTILITIES:
 - ALL FIBER OPTIC LINES.
 - II. ALL ELECTRIC LINES GREATER THAN 240V.
 - III. ALL DUCT BANKS WITH 6 OR MORE DUCTS.
 - IV. EXCLUDE INDIVIDUAL TELEPHONE, CABLE LINES.
 - C. ALL OTHER CONFLICTS ARE CONSIDERED MINOR AND ARE NOT SHOWN IN THE UTILITY CONFLICTS MATRIX.
 - D. UTILITIES AT GRADE SEPARATIONS ARE NOT SHOWN IN THE UTILITY CONFLICTS MATRIX EVEN IF THEY FALL UNDER THE ABOVE CRITERIA SINCE VOLUME 3.3 OFFERS MORE SPECIFIC AND ACCURATE INFORMATION REGARDING THE DESIGN.
 - E. ALL NEW OR RELOCATION OF EXISTING UTILITIES WILL FOLLOW THE CITY, STATE, AND FEDERAL REQUIREMENTS AND GUILDELINES FOR SEPARATION, PROTECTION, AND CONSTRUCTION.

VOLUME 3.5

 DESIGN PLANS PROVIDED IN THIS VOLUME REPRESENT UNIQUE DESIGN ELEMENTS SPECIFICALLY RELATED TO THE NON-PREFERRED OPTIONS.

VOLUME 3.6

1. NONE

VOLUME 3.7

1. THIS VOLUME NOT USED

VOLUME 3.8

 PLANS PROVIDED IN THIS VOLUME REPRESENT ELEMENTS THAT HSR AUTHORITY WILL BE ENVIRONMENTALLY CLEARING AS PART OF METRO'S LINKUS PROJECT.

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY



PEPD SUBMITTAL FOR INTERNAL USE ONLY

NOT FOR



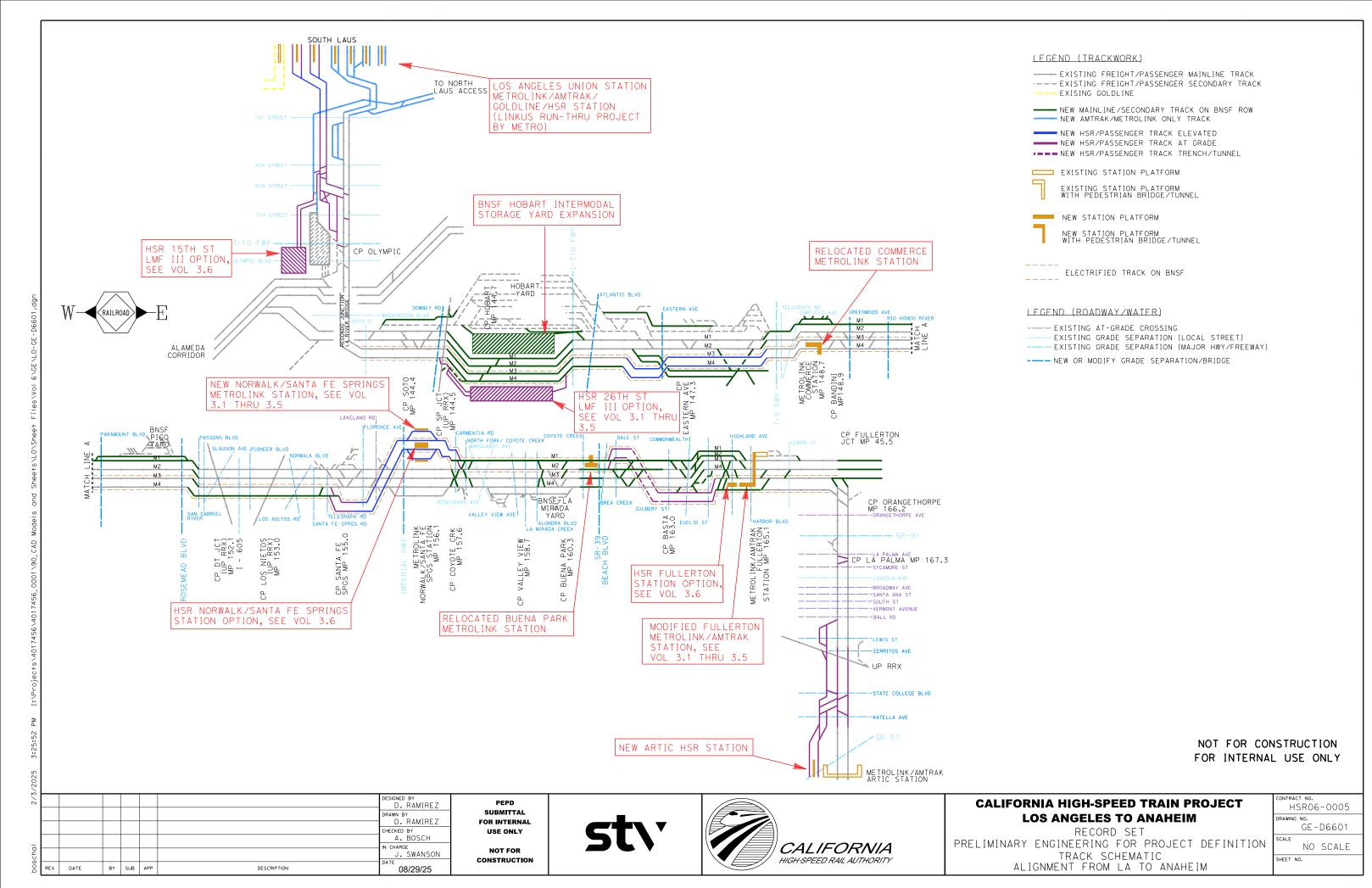


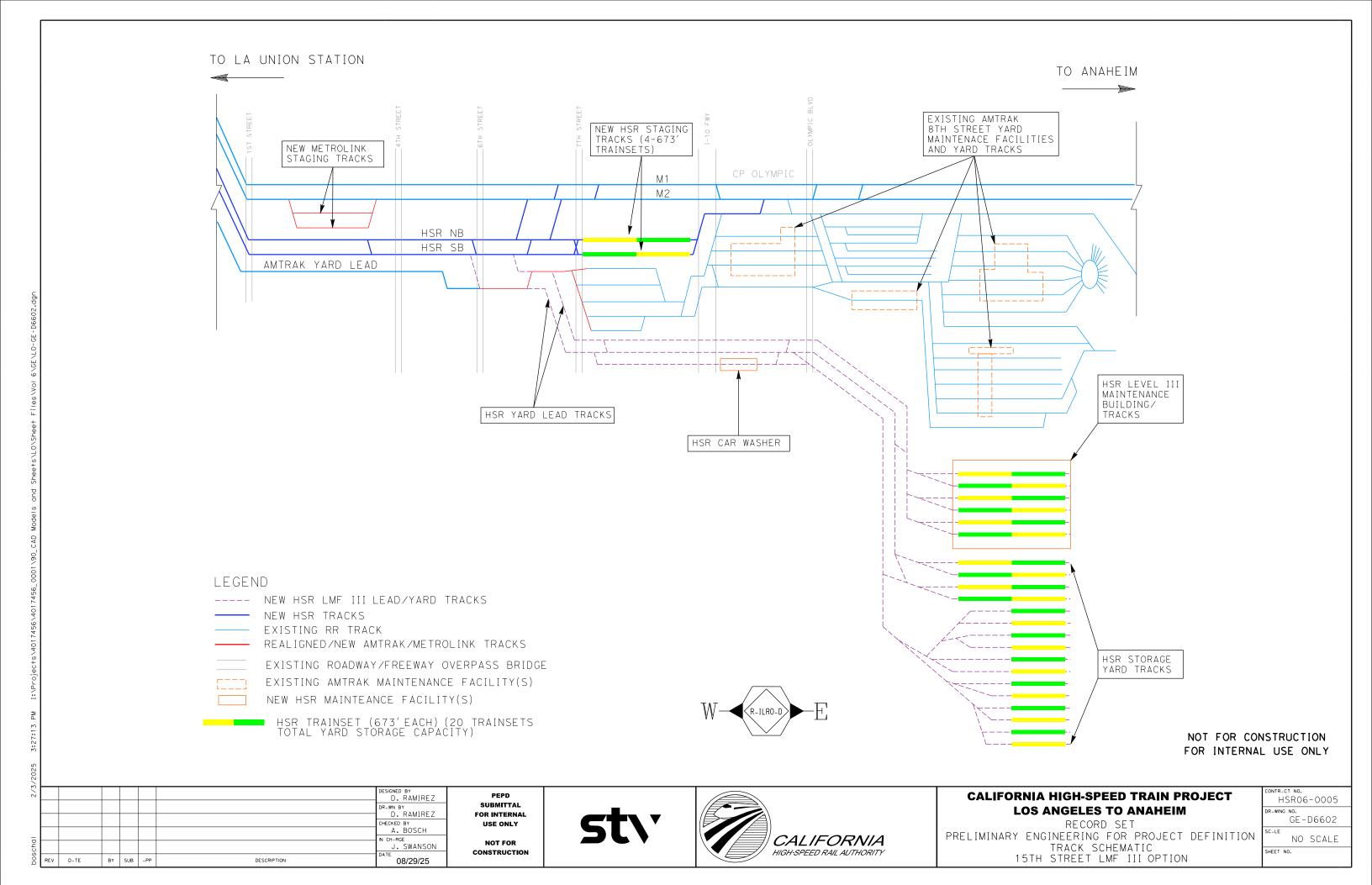
CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

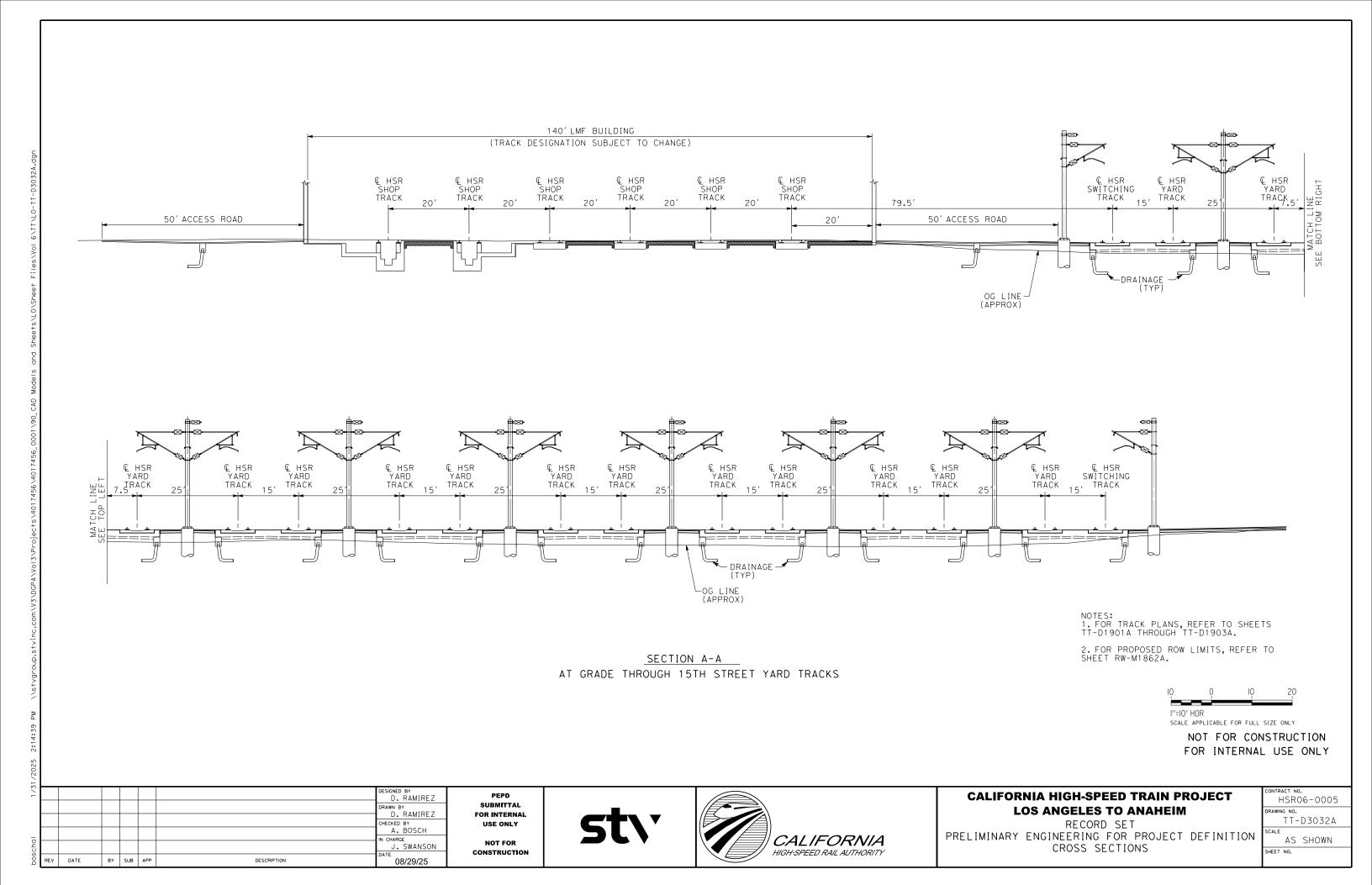
RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
GENERAL NOTES 1 OF 1

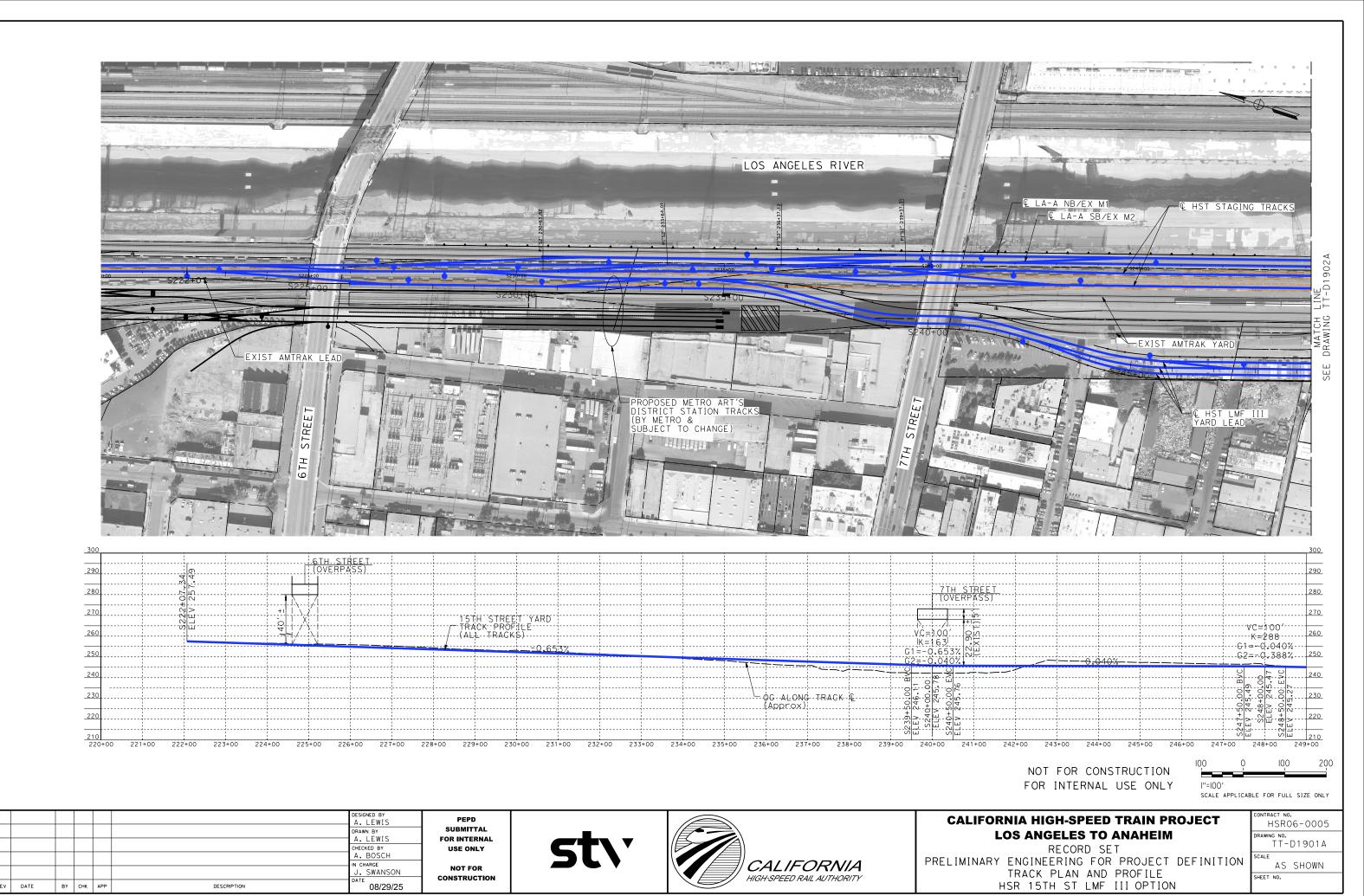
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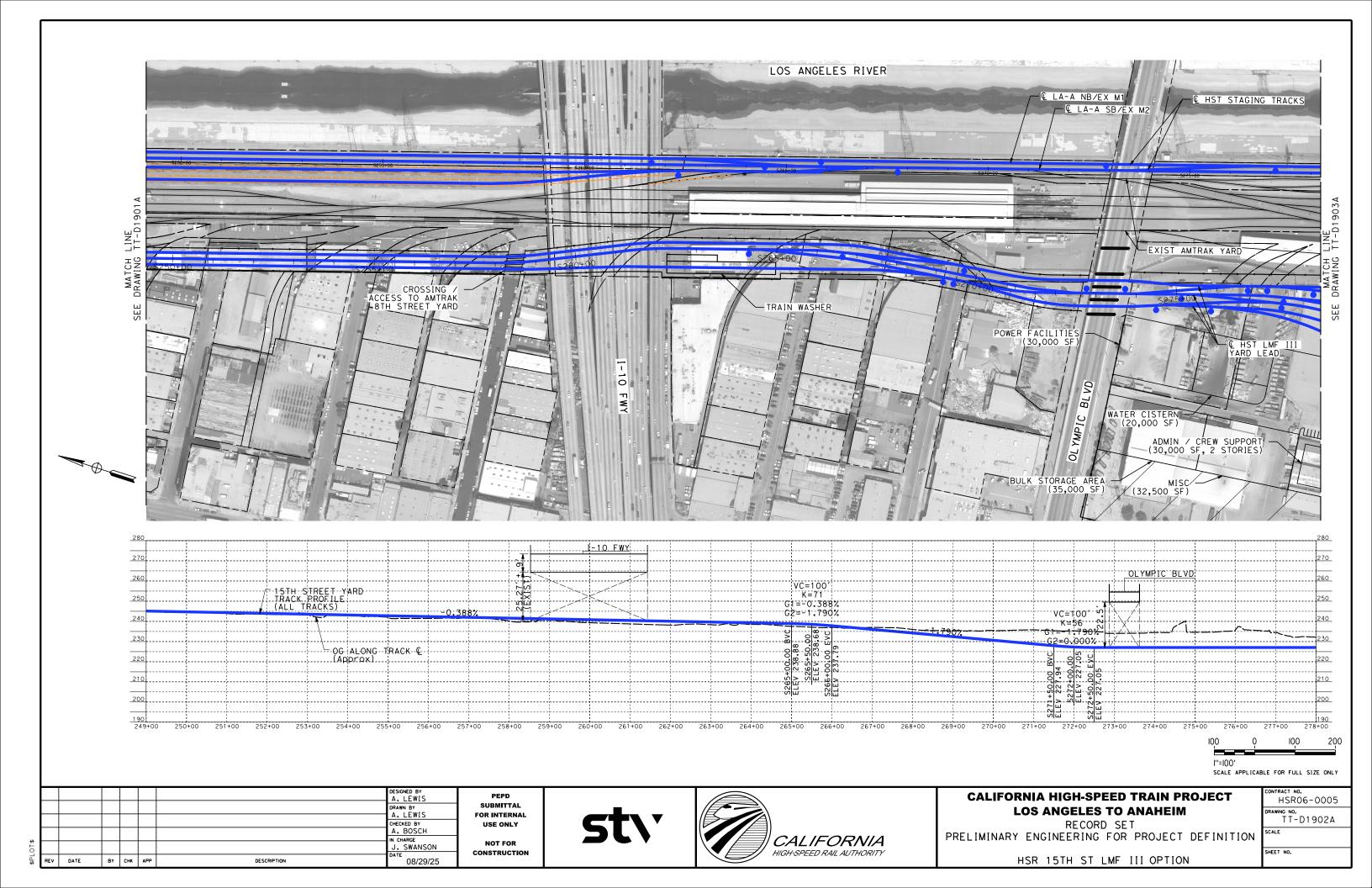
SHEET NO.

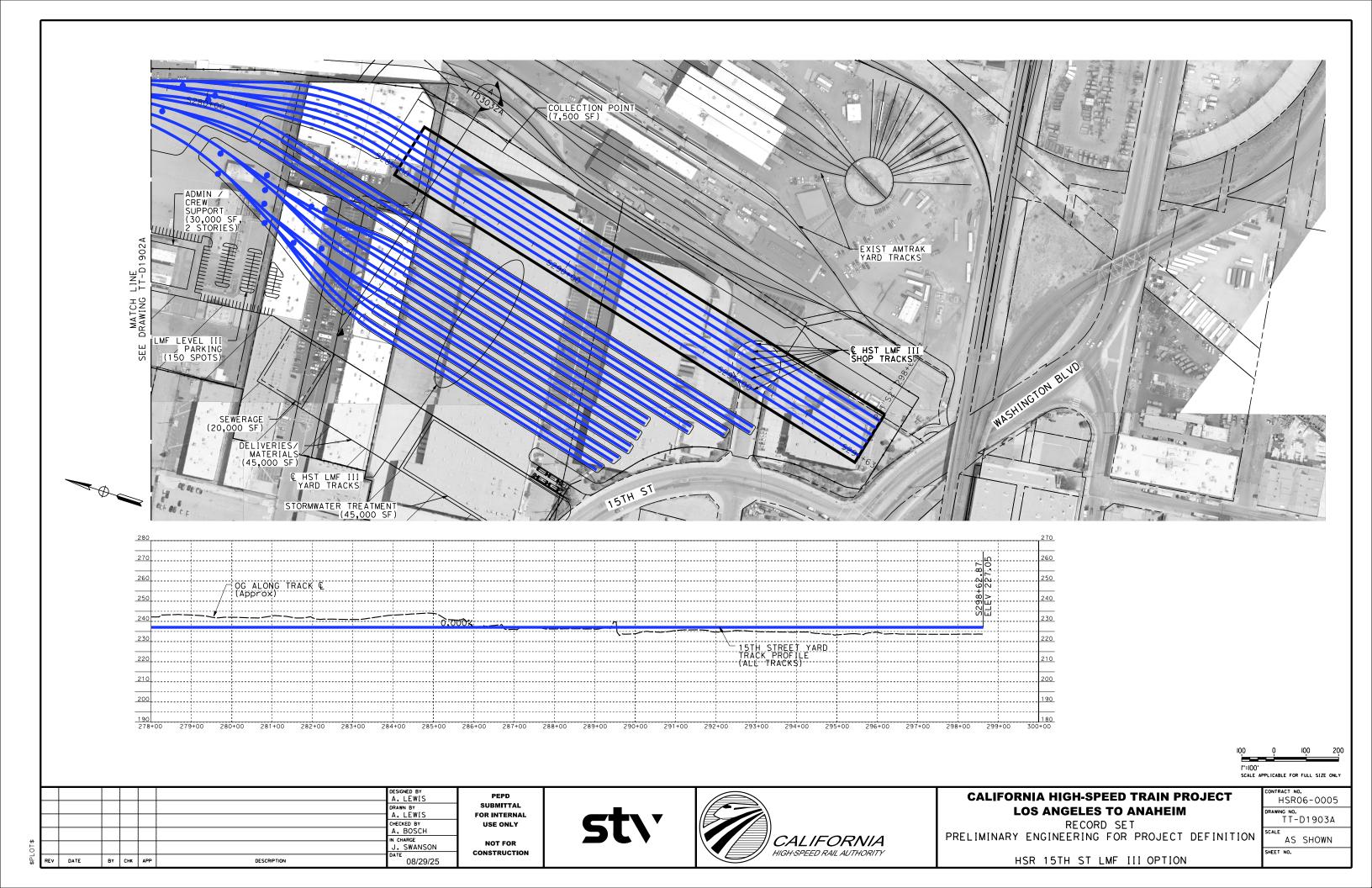


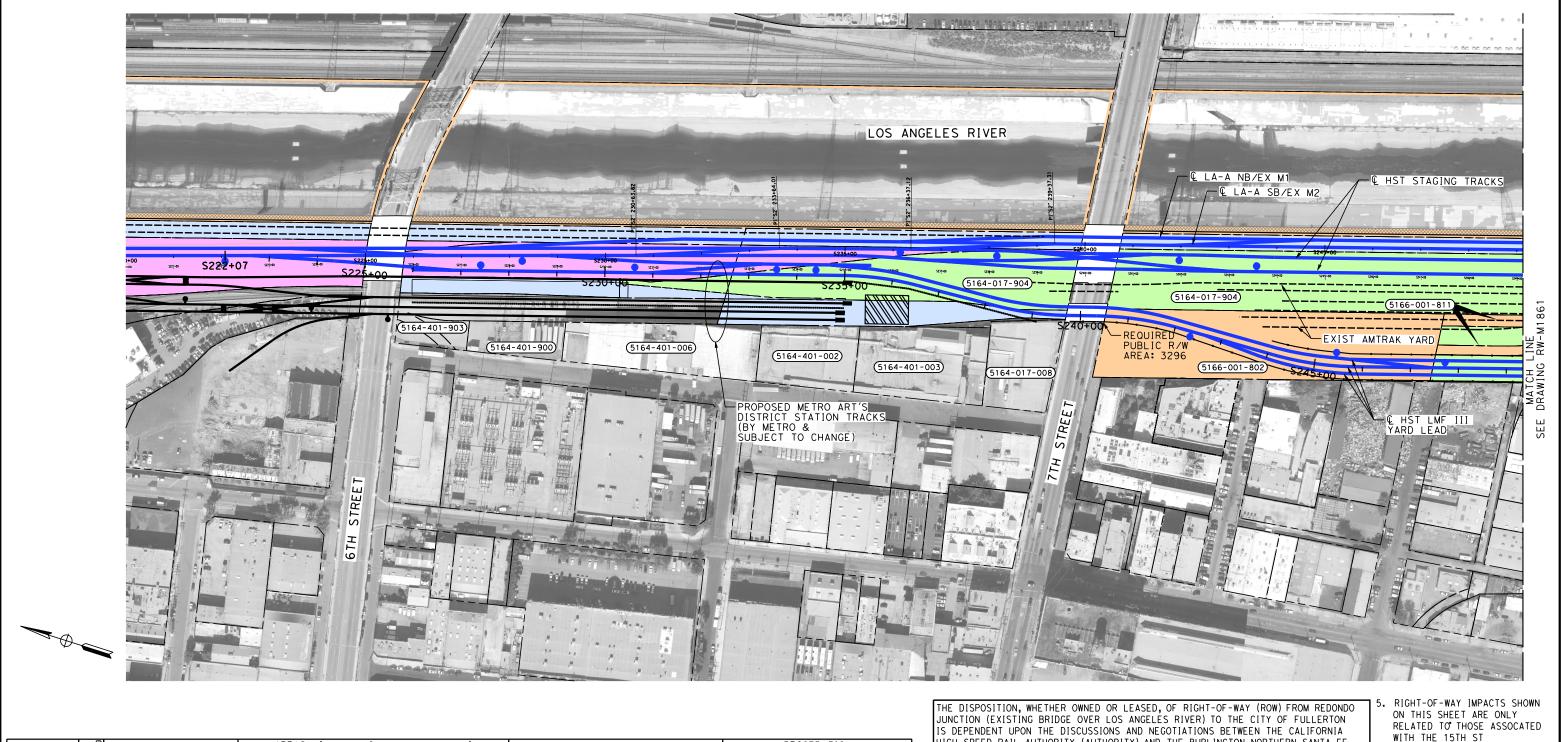


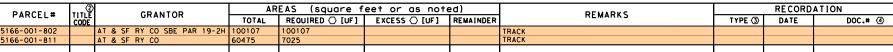












08/29/25

IS DEPENDENT UPON THE DISCUSSIONS AND NEGOTIATIONS BETWEEN THE CALIFORNIA HIGH SPEED RAIL AUTHORITY (AUTHORITY) AND THE BURLINGTON NORTHERN SANTA FE RAILWAY (BNSF). NOTES:

IMPACTS LOCATED BEYOND ALIGNMENT ARE LOCATED ON "RW-M17XX SERIES" SHEETS.

MAINTENANCE YARD IMPACTS ARE LOCATED ON "RW-M18XX SERIES"

GRADE SEPARATION & SYSTEM FACILITY NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

> 100 l''=100' ICABLE FOR FULL SIZE ONLY

LMF III OPTION.

PARCELS THAT FALL ON MULTIPLE SHEETS ARE ONLY PRESENTED ON THE FIRST SHEET TABLE.

MAPPING FROM COUNTY AND GIS;

NEEDS TO BE VERIFIED.

INFORMATION IS BASED ON APPRAISAL 3.

SHEETS.

	SCALE	APPL I
OJI	ECT	

			DESIGNED BY R. NAFAR
			DRAWN BY
			M. MAMAWAL CHECKED BY
			M. SATISH IN CHARGE
			J. SWANSON

DESCRIPTION

PEPD SUBMITTAL FOR INTERNAL USE ONLY

NOT FOR

CONSTRUCTION



RW-M1860 RW-M1861 RW-M1862

CALIFORNIA HIGH-SPEED TRAIN PR LOS ANGELES TO ANAHEIM RECORD SET

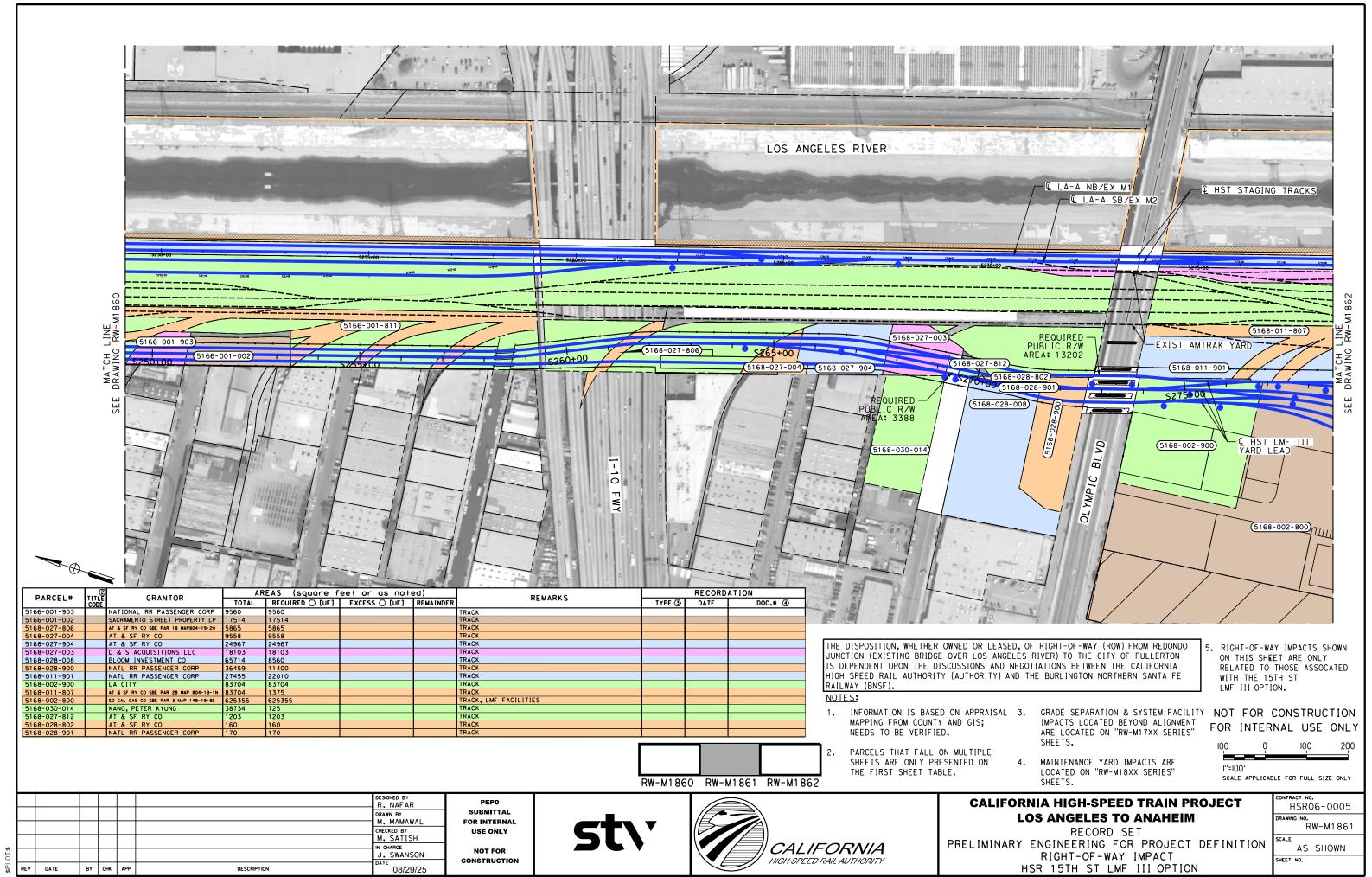
RIGHT-OF-WAY IMPACT

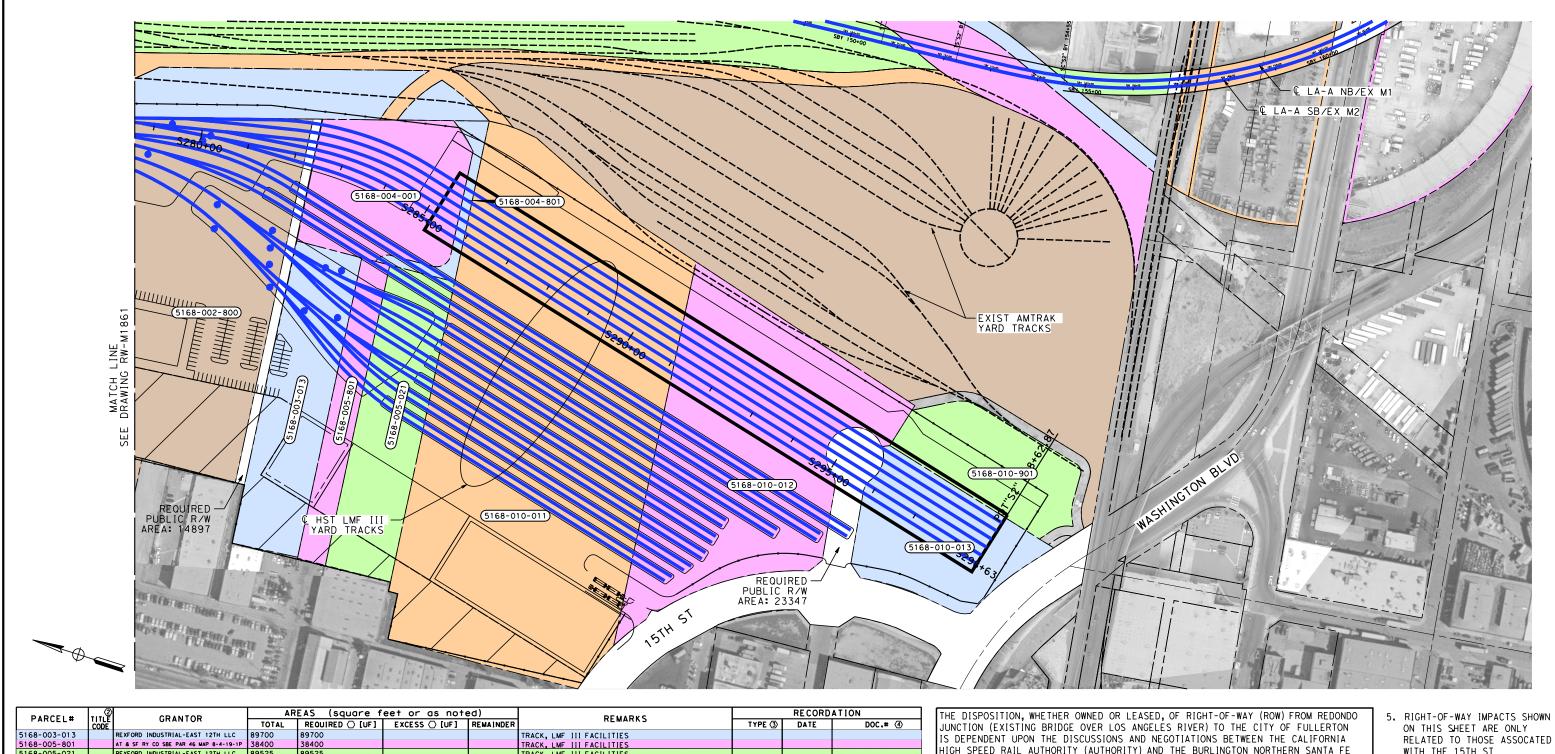
HSR 15TH ST LMF III OPTION

RW-M1860 PRELIMINARY ENGINEERING FOR PROJECT DEFINITION AS SHOWN SHEET NO.

HSR06-0005

BY CHK APP





PARCEL#	TITLE	GRANTOR	AR	EAS (square f	eet or as note	ed)	REMARKS		RECORD	ATION
PARCEL*	CODE	GRANTOR	TOTAL	REQUIRED ([UF]	EXCESS ([UF]	REMAINDER	REMARKS	TYPE ③	DATE	DOC.# ④
5168-003-013		REXFORD INDUSTRIAL-EAST 12TH LLC	89700	89700			TRACK, LMF III FACILITIES			
5168-005-801		AT & SF RY CO SBE PAR 46 MAP 8-4-19-1P	38400	38400			TRACK, LMF III FACILITIES			
5168-005-021		REXFORD INDUSTRIAL-EAST 12TH LLC	89525	89525			TRACK, LMF III FACILITIES			
5168-010-011		SANTA FE 15 PROPERTY LLC	487391	487391			TRACK, LMF III FACILITIES			
5168-010-012		SANTA FE 15 PROPERTY LLC	233449	233449			TRACK, LMF III FACILITIES			
5168-010-013		2466 REFLEX PROPERTY LLC	80503	80503			TRACK, LMF III FACILITIES			
5168-010-901		NATL RR PASSENGER CORP	62025	20468			TRACK, LMF III FACILITIES			
5168-004-001		REXFORD INDUSTRIAL-EAST 12TH LLC	90724	90724			TRACK, LMF III FACILITIES			
5168-004-801		AT & SF RY CO SBE PAR 46 MAP 8-4-19-1R	11468	11468			TRACK, LMF III FACILITIES			

08/29/25

HIGH SPEED RAIL AUTHORITY (AUTHORITY) AND THE BURLINGTON NORTHERN SANTA FE RAILWAY (BNSF).

NOTES:

INFORMATION IS BASED ON APPRAISAL 3. MAPPING FROM COUNTY AND GIS; NEEDS TO BE VERIFIED.

> PARCELS THAT FALL ON MULTIPLE SHEETS ARE ONLY PRESENTED ON THE FIRST SHEET TABLE.

- GRADE SEPARATION & SYSTEM FACILITY NOT FOR CONSTRUCTION
 IMPACTS LOCATED BEYOND ALIGNMENT FOR INTERNAL LISE ONLY ARE LOCATED ON "RW-M17XX SERIES" SHEETS.
- MAINTENANCE YARD IMPACTS ARE LOCATED ON "RW-M18XX SERIES" SHEETS.

WITH THE 15TH ST LMF III OPTION.

FOR INTERNAL USE ONLY l"=100'

SCALE APPLICABLE

			DESIGNED BY R. NAFAR
			DRAWN BY
			M. MAMAWAL
			CHECKED BY
			M. SATISH
			IN CHARGE
			J. SWANSON

DESCRIPTION

PEPD SUBMITTAL FOR INTERNAL USE ONLY

NOT FOR

CONSTRUCTION



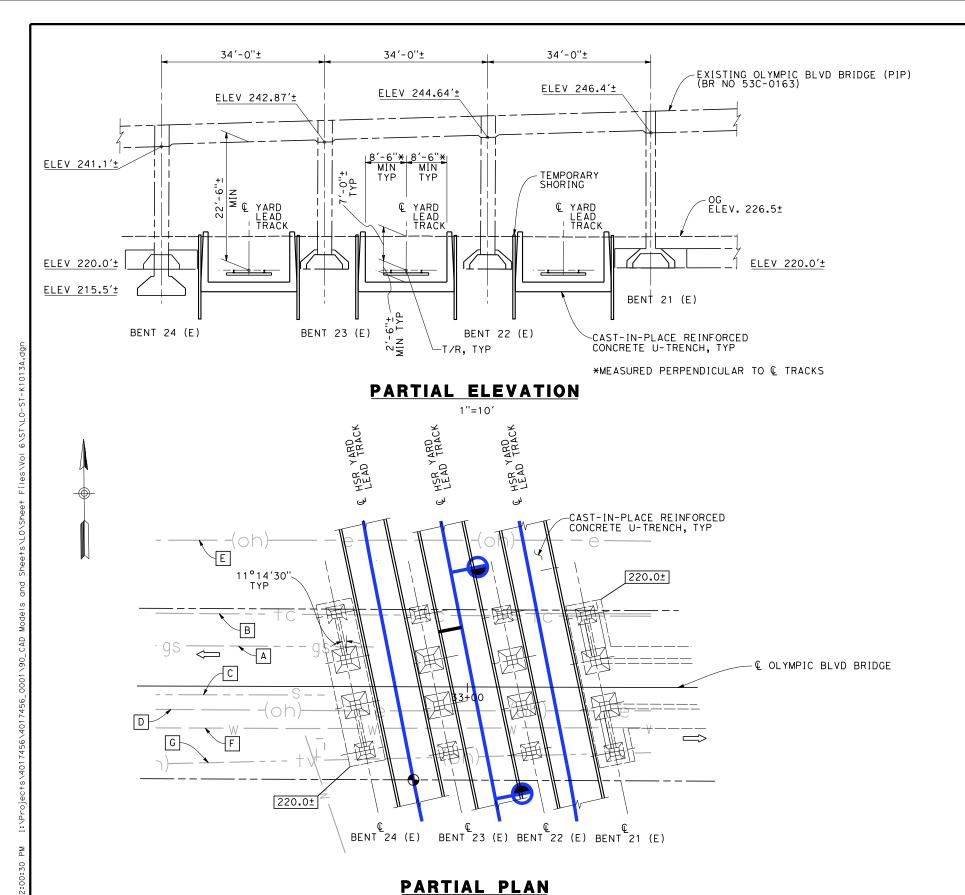


RW-M1860 RW-M1861 RW-M1862

CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION RIGHT-OF-WAY IMPACT HSR 15TH ST LMF III OPTION

BLE FOR FULL SIZE ONLY						
CONTRACT NO.						
HSR06-0005						
DRAWING NO.						
RW-M1862						
SCALE						
AS SHOWN						
SHEET NO.						



1"=20'

SIGNED BY

HECKED BY

BY SUB APP

DESCRIPTION

C. HUANG

B. OLP

CHARGE J. SWANSON

08/29/25

SUBMITTAL

FOR INTERNAL

USE ONLY

NOT FOR CONSTRUCTION

FOUNDATION INFORMATION (WIDTH MEASURED PERPENDICULAR TO CL BENTS)

LOCATION	FOOTING WIDTH (W)	FOOTING HEIGHT (H)	BOTTOM OF FOOTING ELEVATION	NOTE
BENT 21	15′-0"	4'-0"	220 . 0′±	-
BENT 22	10′-3''	3'-0"	UNAVAILABLE	BENTS 15 & 18 FOOTING INFORMATION USED. SEE MORE BELOW.
BENT 23	10'-3"	3'-0"	UNAVAILABLE	BENTS 15 & 18 FOOTING INFORMATION USED. SEE MORE BELOW.
BENT 24	15'-0"	4'-0"	220.0′± OR 215.5′±	-

LEGEND:

(E) DENOTES EXISTING

← DENOTES DIRECTION OF TRAFFIC

220.0± DENOTES BOTTOM OF FOOTING ELEVATION

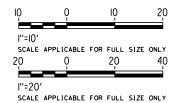
• INDICATES EXIST POINT OF MINIMUM VERTICAL CLEARANCE

EXISTING UTILITIES:

- A EXIST 12±"Ø GAS LINE (SCG), CITY OF LOS ANGELES (PROTECT IN PLACE)
- B EXIST OH TELECOM (VERIZON), (PROTECT IN PLACE)
- C EXIST SEWER, (PROTECT IN PLACE)
- D EXIST OH ELECTRICAL LINE, CITY OF LOS ANGELES (PROTECT IN PLACE)
- E EXIST OH ELECTRICAL LINE, CITY OF LOS ANGELES (PROTECT IN PLACE)
- F EXIST WATER, CITY OF LOS ANGELES (PROTECT IN PLACE)
- G EXIST OH TELEVISION (TIME WARNER), (PROTECT IN PLACE)

NOTES:

- 1. UNLESS OTHERWISE NOTED, INFORMATION SHOWN ON THIS SHEET IS BASED ON THE SEISMIC STRENGTHENING AS-BUILT PLANS FOR OLYMPIC BLVD BRIDGE OVER LOS ANGELES RIVER. BENTS 22 & 23 WERE NOT RETROFITTED. THEREFORE, NO AS-BUILTS ARE AVAILABLE. HOWEVER, THEIR ORIGINAL FOOTING SIZES APPEAR TO BE THE SAME AS BENTS 15 & 18. SO, THE FOOTING SIZES OF BENTS 15 & 18 ARE USED AT BENTS 22 & 23.
- 2. ALL UTILITIES REMAINING SHALL BE PROTECTED IN PLACE.
- 3. ALL INFORMATION SHOWN IS APPROXIMATE FROM AS-BUILT PLANS AND SHALL BE FIELD VERIFIED IN FINAL DESIGN PHASE.
- 4. STRUCTURE PROTECTION OVER HSR TRACKS FROM 25 KV ELECTRIFIED OVERHEAD CONTACT WIRE TO BE DETERMINED.



NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

CALIFORNIA HIGH-SPEED TRAIN PROJECT

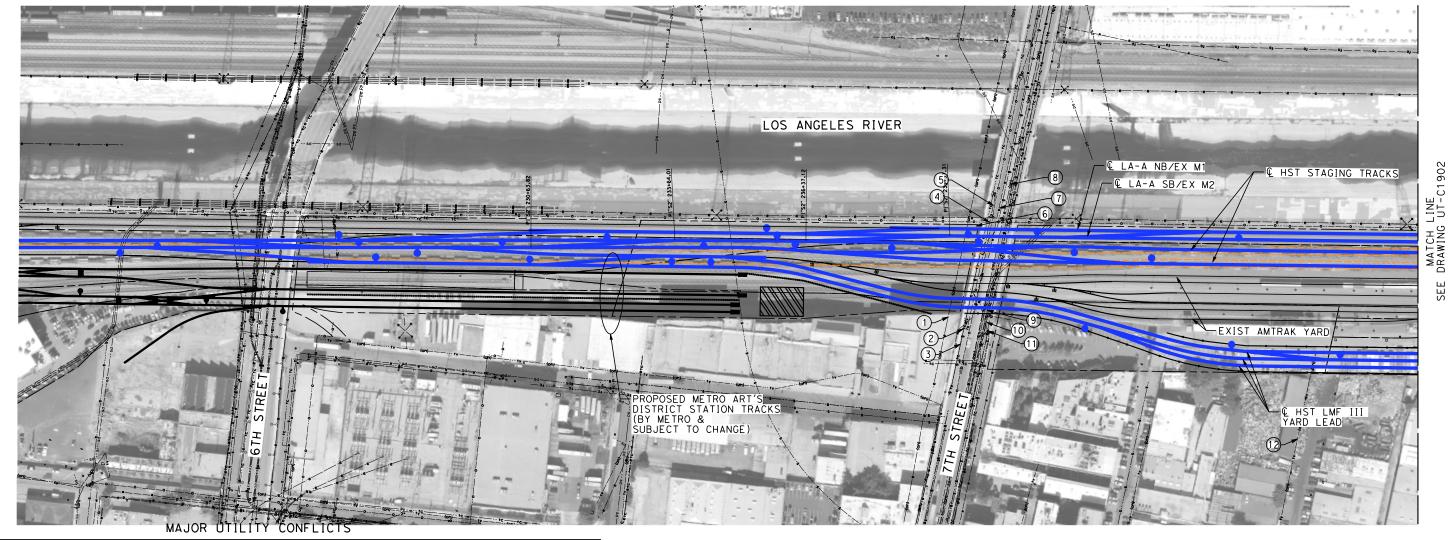
LOS ANGELES TO ANAHEIM

RECORD SET

PRELIMINARY ENGINEERING PROJECT DOCUMENT
15 STREET LMF III U TRENCH
PLAN AND ELEVATION

LE FOR FULL SIZE ONLY
CONTRACT NO. HSRO6-0005
DRAWING NO.
ST-K1013A
AS SHOWN
SHEET NO.

CALIFORNIA HIGH-SPEED RAIL AUTHORITY



No.	TYPE OF UTILITY	SIZE / MATERIAL	LOCATION	OWNER	DISPOSITION
1	STREET LIGHTING	CONDUIT	7TH ST	CITY OF LA BSL	PROTECT-IN-PLACE/ ON BRIDGE
2	TELECOM	CONDUIT	7TH ST	WILCON (FREEDOM)	PROTECT-IN-PLACE/ ON BRIDGE
3	GAS	16"	7TH ST	SCG	PROTECT-IN-PLACE/ ON BRIDGE
4	FIBER OPTIC	6-4 1/2" FC	7TH ST	WILCON (FREEDOM)	PROTECT-IN-PLACE/ ON BRIDGE
(5)	FIBER OPTIC	11 FC	7TH ST	WILCON (FREEDOM)	PROTECT-IN-PLACE/ ON BRIDGE
6	OIL	10" SPPL	7TH ST	KINDER MORGAN	PROTECT-IN-PLACE/ ON BRIDGE
7	WATER	16"	7TH ST		PROTECT-IN-PLACE/ ON BRIDGE
8	ELECTRIC	OVERHEAD (OH)	7TH ST	CITY OF LA DWP PS	PROTECT-IN-PLACE/ ON BRIDGE
9	GAS	16"	7TH ST	SCG	PROTECT-IN-PLACE/ ON BRIDGE
10	TELECOM	CONDUIT INSIDE SBC LEASED CONDUIT	7TH ST	AT&T-TCA	PROTECT-IN-PLACE/ ON BRIDGE
11)	FIBER OPTIC	OVERHEAD (OH)	7TH ST	XO COMMUNICATIONS	PROTECT-IN-PLACE/ ON BRIDGE
12	TELECOM	OVERHEAD (OH)	VOELE ST	UNKNOWN	PROTECT-IN-PLACE

UT-C1901 UT-C1902 UT-C1903

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY SCALE APPLICABLE FOR FULL SIZE ONLY

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION EXISTING COMPOSITE UTILITIES PLAN HSR 15TH ST LMF III OPTION

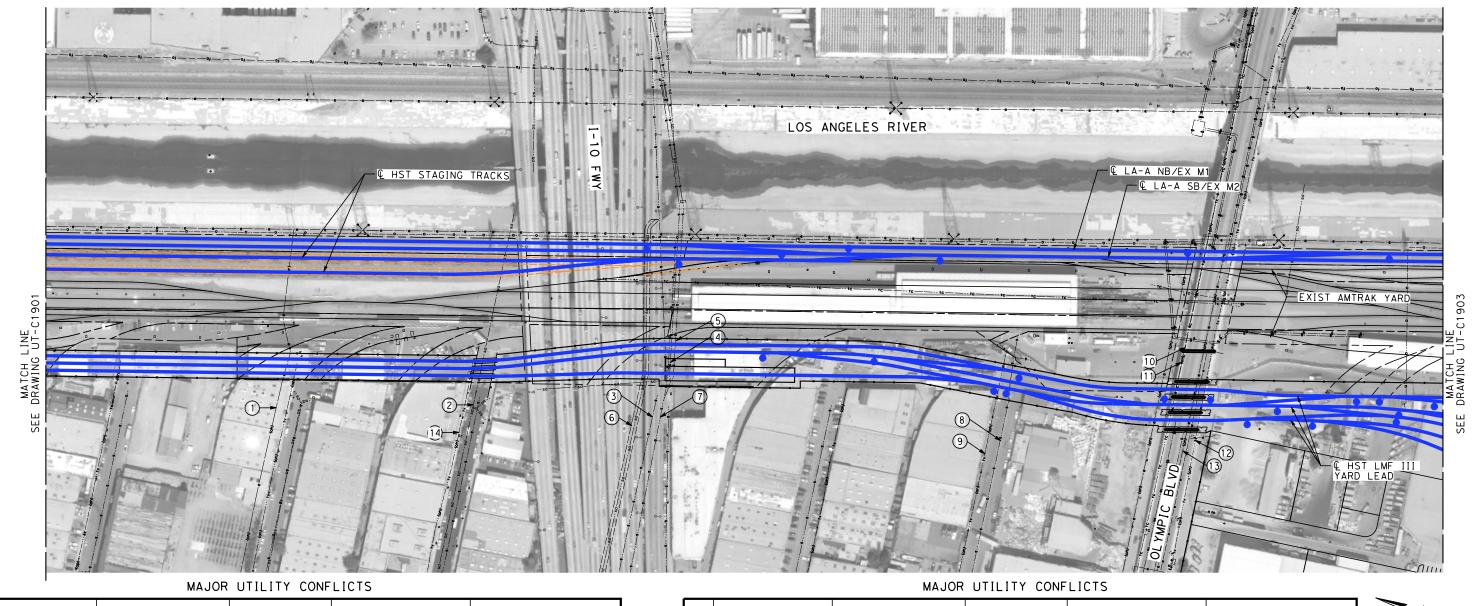
 EL TON TOLL SIZE ONET
CONTRACT NO. HSR06-0005
DRAWING NO. UT-C1901
1" = 100'
SHEET NO.

						DESIGNED BY C. HUANG
						DRAWN BY C. HUANG
						CHECKED BY
						A. BOSCH IN CHARGE
						J. SWANSON
REV	DATE	ВΥ	СНК	APP	DESCRIPTION	08/29/25

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NOT FOR CONSTRUCTION





No.	TYPE OF UTILITY	SIZE / MATERIAL	LOCATION	OWNER	DISPOSITION
1	ELECTRIC	OVERHEAD (OH)	SACRAMENTO ST.	CITY OF LA DWP PS	PROTECT-IN-PLACE
2	STORM DRAIN	36" RCP	8TH ST.	CITY OF LA BOE	PROTECT-IN-PLACE
3	SEWER	SEWER	I-10	CITY OF LA BOS	PROTECT-IN-PLACE
4	SEWER	SEWER	I-10	CITY OF LA BOS	PROTECT-IN-PLACE
(5)	SEWER	SEWER	I-10	CITY OF LA BOS	PROTECT-IN-PLACE
6	STORM DRAIN	12' x 11.5' R.C. ARCH PIPE	I-10	CITY OF LA BOE	PROTECT-IN-PLACE
7	SEWER	SEWER	I-10	CITY OF LA BOS	PROTECT-IN-PLACE

			0112111 00111	2.0.0	
No.	TYPE OF UTILITY	SIZE / MATERIAL	LOCATION	OWNER	DISPOSITION
8	SEWER	SEWER	PORTER ST	CITY OF LA BOS	PROTECT-IN-PLACE
9	TELEVISION	ОН	PORTER ST	UNKNOWN	PROTECT-IN-PLACE
10	ELECTRIC	OVERHEAD (OH)	OLYMPIC BLVD.	CITY OF LA DWP PS	PROTECT-IN-PLACE
11)	TELECOM	OVERHEAD (OH)	OLYMPIC BLVD.	VERIZON WIRELESS	PROTECT-IN-PLACE
12	TELEVISION	OVERHEAD (OH)	OLYMPIC BLVD.	TIME WARNER	PROTECT-IN-PLACE
13	ELECTRIC	OVERHEAD (OH)	OLYMPIC BLVD.	CITY OF LA DWP PS	PROTECT-IN-PLACE
14)	ELECTRIC	OVERHEAD (OH)	8TH ST	CITY OF LA DWP PS	PROTECT-IN-PLACE

UT-C1901 UT-1902 UT-C1903

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FOR INTERNAL USE ONLY

						DESIGNED BY C. HUANG
						DRAWN BY C. HUANG
						CHECKED BY
						A. BOSCH
						IN CHARGE J. SWANSON
REV	DATE	ВΥ	СНК	APP	DESCRIPTION	08/29/25

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CONSTRUCTION

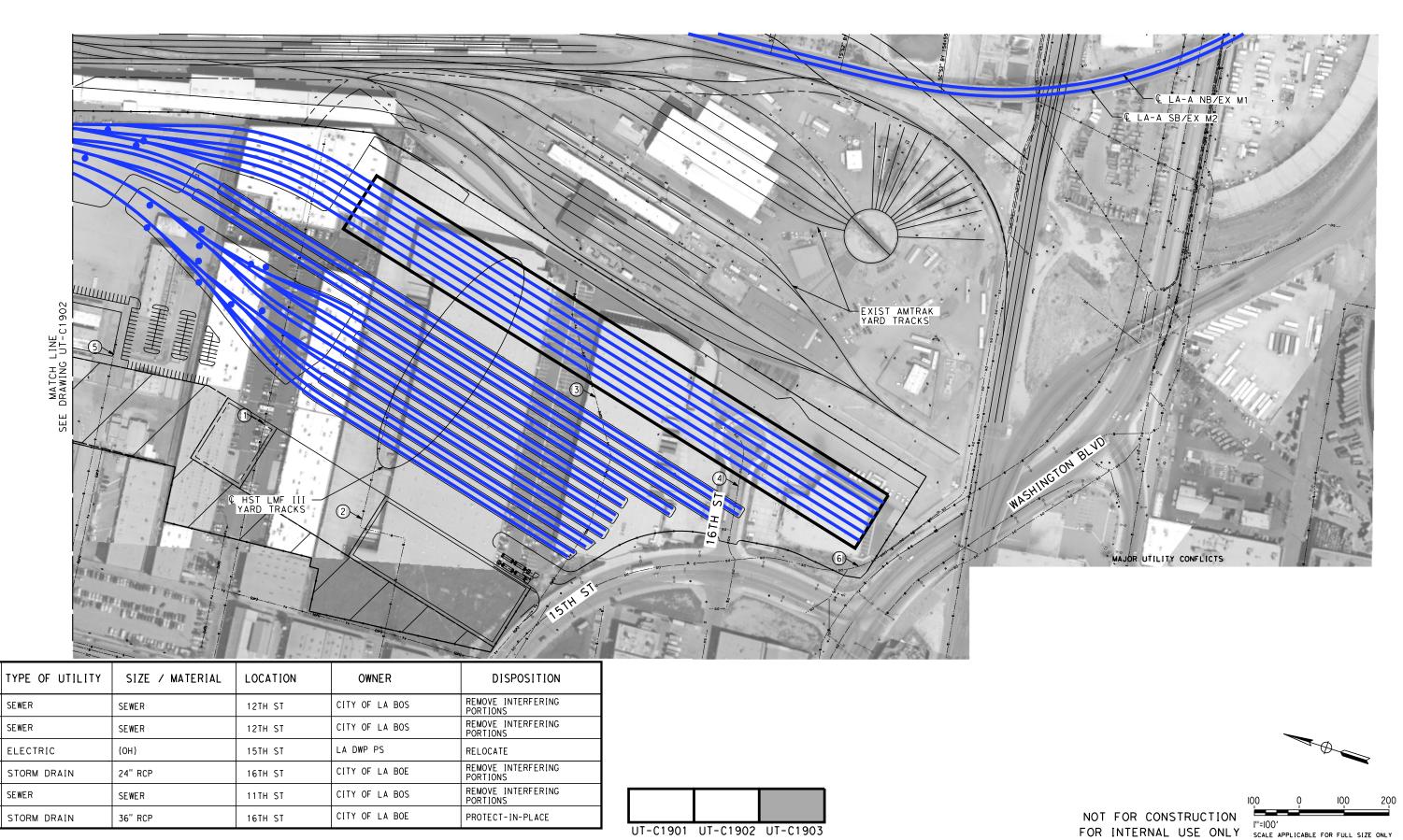




CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
EXISTING COMPOSITE UTILITIES PLAN
HSR 15TH ST LMF III OPTION

- M L	SEE FOR FOLL SIZE ONE!
	CONTRACT NO. HSR06-0005
	DRAWING NO. UT-C1902
	1" = 100'
	SHEET NO.



\$PLOT\$

1

2

4

(5)

| DRAWN BY | C. HUANG | C. HUANG

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CONSTRUCTION

C. HUANG

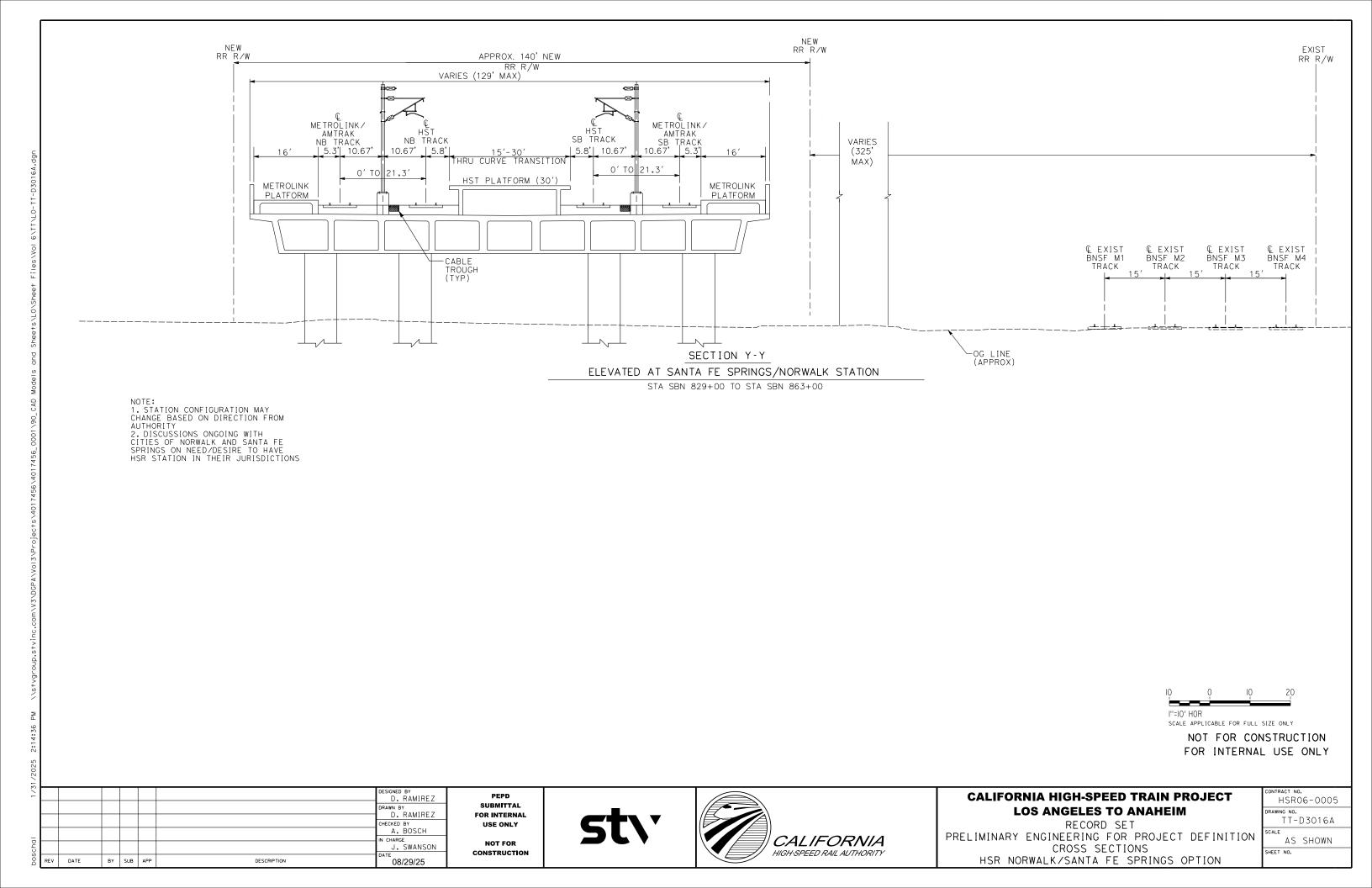
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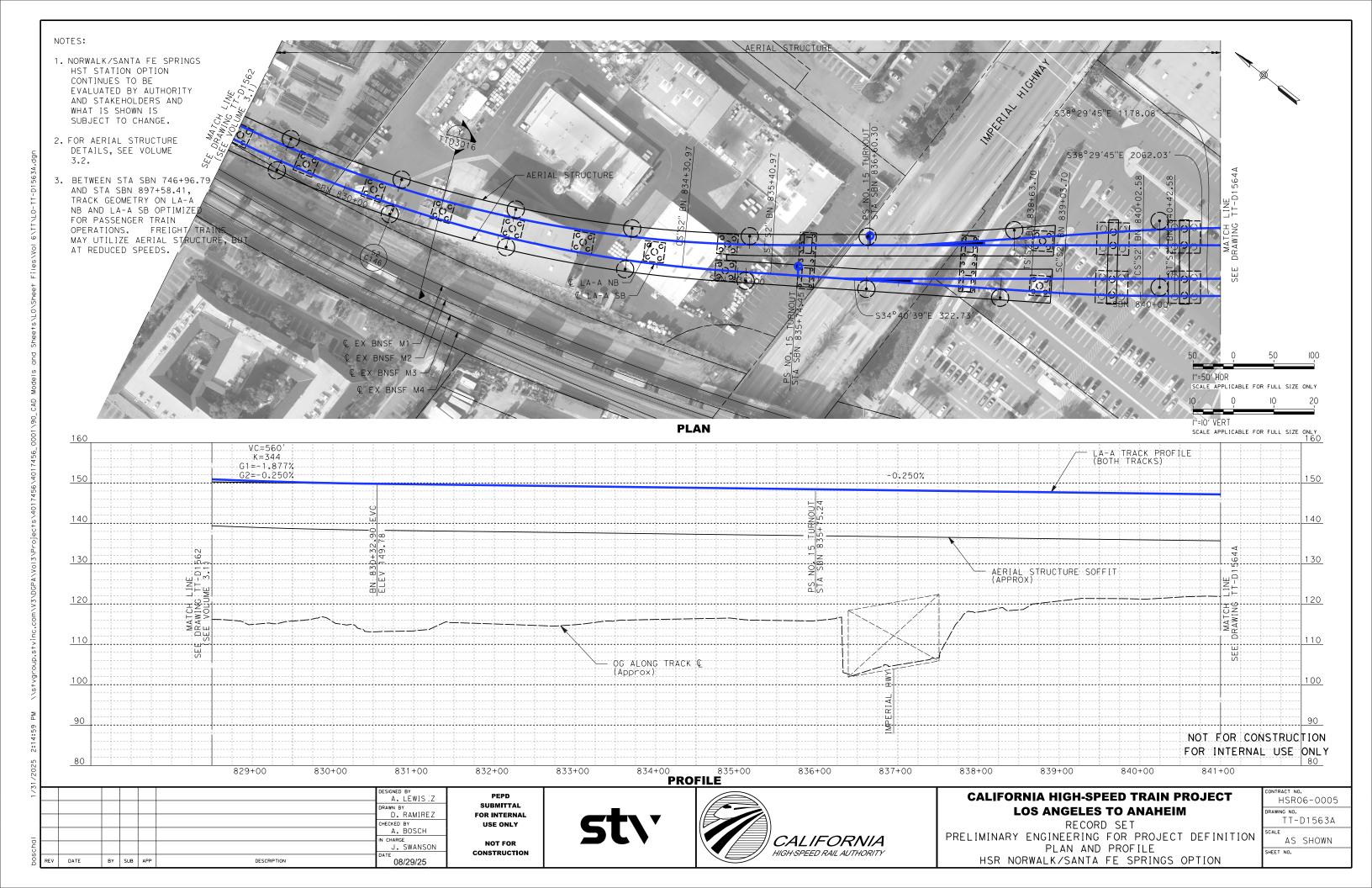


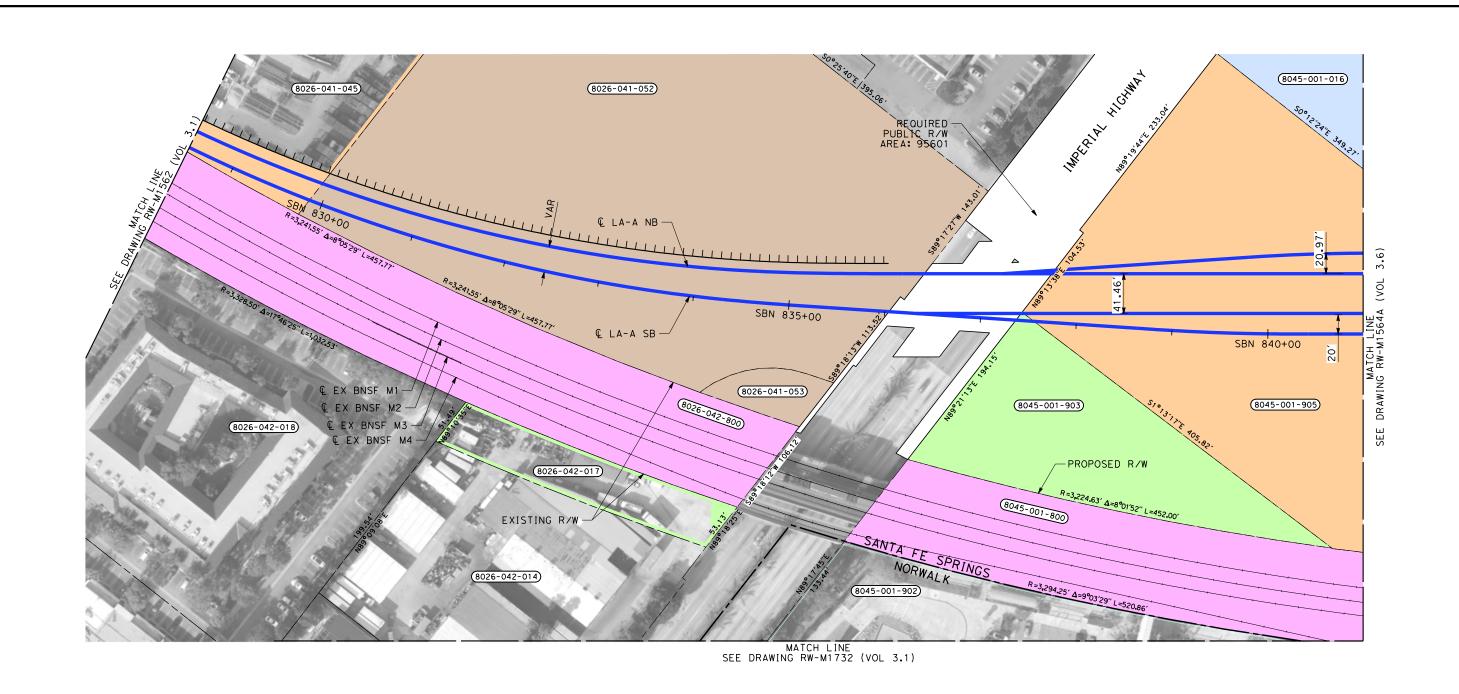
CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
EXISTING COMPOSITE UTILITIES PLAN
HSR 15TH ST LMF III OPTION

LICAE	BLE FOR FULL SIZE ONLY
	CONTRACT NO.
	HSR06-0005
	DRAWING NO.
	UT-C1902
\ I	SCALE
NC	1" = 100'
	SHEET NO.







PARCEL#	12	GRANTOR	AREAS (square feet or as noted)				REMARKS	RECORDATION		
PARCEL#	TITLE		TOTAL	REQUIRED ([UF]	EXCESS ([UF]	REMAINDER	R REMARKS	TYPE ③	DATE	DOC.# ④
8026-041-052		SIKA CHEMICAL CORP	211054	211054						
8026-041-053		SIKA CHEMICAL CORP	4892	4892						
8026-042-017		DIRTPAD LLC	15144	95			UTILITY			
8045-001-800		BNSF RAILWAY	227252	227252						
8045-001-903		SANTA FE SPRINGS CITY	41741	41741						
8045-001-905		COMMUNITY DEV COMMISSION	135505	135505						
8045-001-016		COAST INDUSTRIAL	93649	93649						

PEPD SUBMITTAL

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USE ONLY

NOT FOR

CONSTRUCTION

THE DISPOSITION, WHETHER OWNED OR LEASED, OF RIGHT-OF-WAY (ROW) FROM REDONDO JUNCTION (EXISTING BRIDGE OVER LOS ANGELÉS RIVER) TO THE CITY OF FULLERTON IS DEPENDENT UPON THE DISCUSSIONS AND NEGOTIATIONS BETWEEN THE CALIFORNIA HIGH SPEED RAIL AUTHORITY (AUTHORITY) AND THE BURLINGTON NORTHERN SANTA FE RAILWAY (BNSF).

NOTES:

INFORMATION IS BASED ON APPRAISAL 3. MAPPING FROM COUNTY AND GIS; NEEDS TO BE VERIFIED.

> PARCELS THAT FALL ON MULTIPLE SHEETS ARE ONLY PRESENTED ON THE FIRST SHEET TABLE.

ARE LOCATED ON "RW-M17XX SERIES" SHEETS.

MAINTENANCE YARD IMPACTS ARE LOCATED ON "RW-M18XX SERIES" SHEETS.

GRADE SEPARATION & SYSTEM FACILITY NOT FOR CONSTRUCTION
IMPACTS LOCATED BEYOND ALIGNMENT FOR INTERNAL LISE ONLY FOR INTERNAL USE ONLY

50 l''=50' SCALE APPLICABLE FOR FULL SIZE ONLY

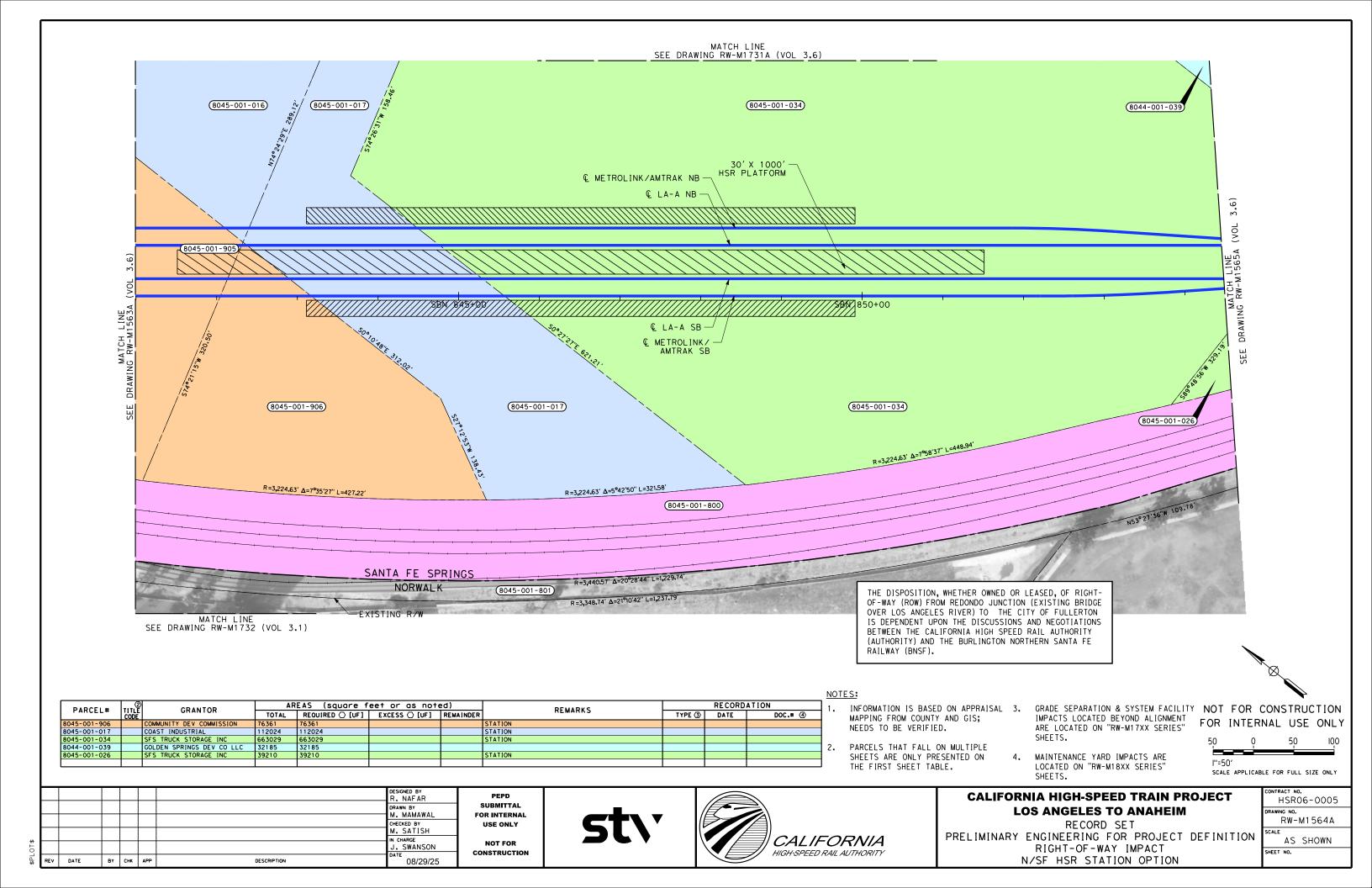
CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

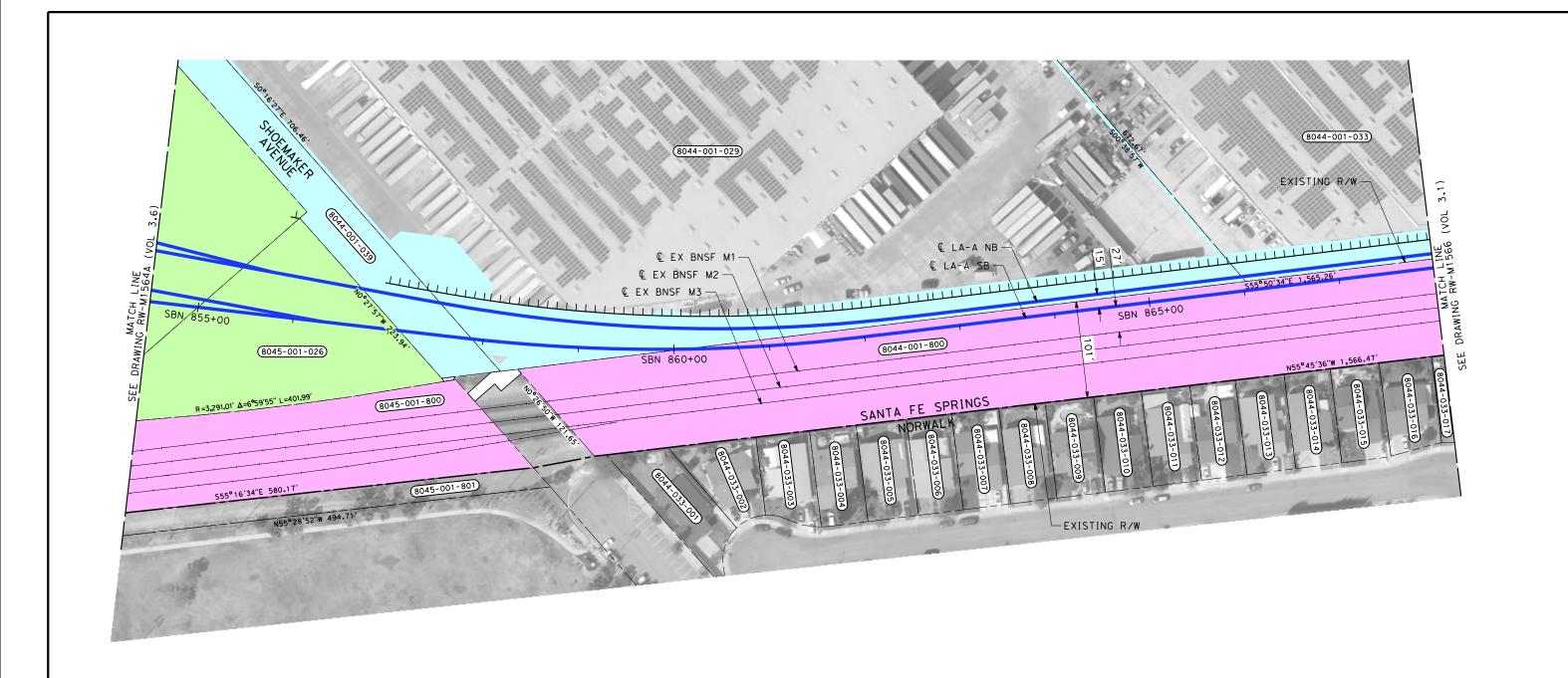
RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION RIGHT-OF-WAY IMPACT N/SF HSR STATION OPTION

JAD	LE FOR FOLL SIZE ONLY
	CONTRACT NO.
	HSR06-0005
	DRAWING NO.
	RW-M1563A
.	SCALE
1	AS SHOWN
	SHEET NO.

						DESIGNED BY R. NAFAR
						DRAWN BY
						CHECKED BY
						M. SATISH IN CHARGE
						J. SWANSON
REV	DATE	ВΥ	СНК	APP	DESCRIPTION	08/29/25







THE DISPOSITION, WHETHER OWNED OR LEASED, OF RIGHT-OF-WAY (ROW) FROM REDONDO JUNCTION (EXISTING BRIDGE OVER LOS ANGELES RIVER) TO THE CITY OF FULLERTON IS DEPENDENT UPON THE DISCUSSIONS AND NEGOTIATIONS BETWEEN THE CALIFORNIA HIGH SPEED RAIL AUTHORITY (AUTHORITY) AND THE BURLINGTON NORTHERN SANTA FE RAILWAY (BNSF). NOTES:



RECORDATION AREAS (square feet or as noted)

PARCEL#	TITLE	GRANTOR	AR	EAS (square f	eet or as note	ed)	REMARKS	RE CORD.	ATION
FARCEL#	CODE	GRANTOR	TOTAL	REQUIRED ([UF]	EXCESS ([UF]	SS (UF) REMAINDER REMARKS TYPE (3) DATE	DOC.# ④		
8044-001-029-1		GOLDEN SPRINGS DEV CO LLC	612445	34298			TRACK/BRIDGE/DRAINAGE		
8044-001-029-2		GOLDEN SPRINGS DEV CO LLC	612445	21191			TCE		
8044-001-800		BNSF RAILWAY	158533	158533					
8044-001-033-1		GOLDEN SPRINGS DEV CO LLC	607931	25021			TRACK/BRIDGE		
8044-001-033-2		GOLDEN SPRINGS DEV CO LLC	607931	15509			TCE		

_	1.	INFORMATION IS BASED ON APPRAIS
		MAPPING FROM COUNTY AND GIS;
		NEEDS TO BE VERIFIED.

PARCELS THAT FALL ON MULTIPLE SHEETS ARE ONLY PRESENTED ON THE FIRST SHEET TABLE.

SAL 3. GRADE SEPARATION & SYSTEM FACILITY NOT FOR CONSTRUCTION
IMPACTS LOCATED BEYOND ALIGNMENT FOR INTERNAL LISE ONLY ARE LOCATED ON "RW-M17XX SERIES" SHEETS.

MAINTENANCE YARD IMPACTS ARE LOCATED ON "RW-M18XX SERIES" SHEETS.

FOR INTERNAL USE ONLY 50

l''=50' SCALE APPLIC

						DESIGNED BY R. NAFAR	
						DRAWN BY	
						M. MAMAWAL	
						CHECKED BY	
						M. SATISH	
						IN CHARGE	
						J. SWANSON	
REV	DATE	ВΥ	СНК	APP	DESCRIPTION	08/29/25	

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CONSTRUCTION

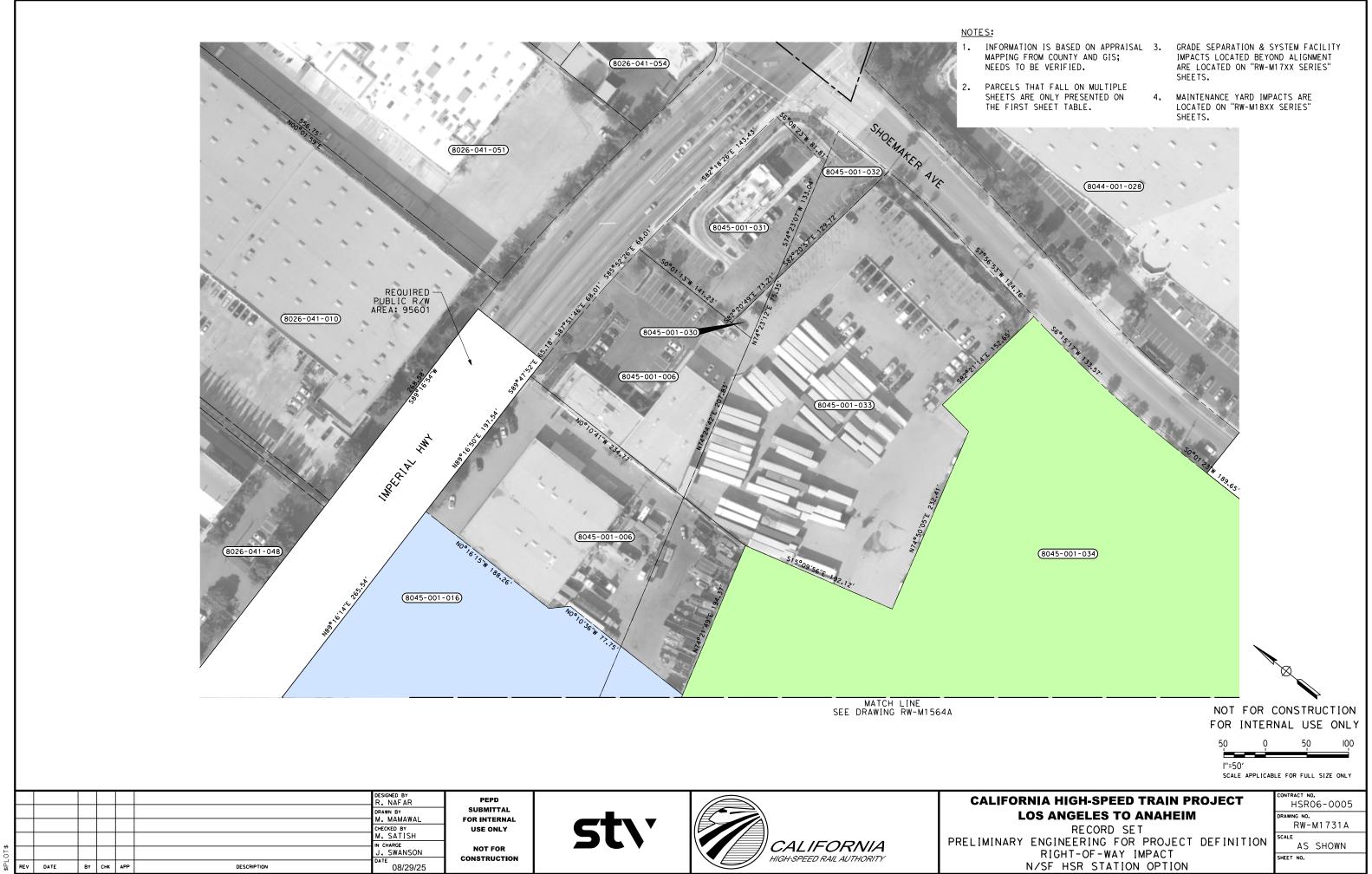




CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION RIGHT-OF-WAY IMPACT N/SF HSR STATION OPTION

CAB	LE FOR FULL SIZE ONLY
	CONTRACT NO.
	HSR06-0005
	DRAWING NO.
	RW-M1565A
٠l	SCALE
۱ ۱	AS SHOWN
	SHEET NO.



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USE ONLY

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-PARAPET, (TYP)



7/								
2/2							DESIGNED BY M. RODRIGUEZ	
							DRAWN BY Z. OHN	
							CHECKED BY D. SARETSKY	
5							IN CHARGE J. SWANSON	
200	REV	DATE	ВΥ	SUB	APP	DESCRIPTION	08/29/25	

104'-4"± MIN. SEE NOTE 5 129'-8"± MAX. SEE NOTE 6



CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION TYPICAL HST AERIAL STRUCTURE SECTION N/SF HSR STATION OPTION

٩B	LE FOR FULL SIZE ONLY
	CONTRACT NO.
	HSR06-0005
	DRAWING NO.
	ST-J0018A
	AS SHOWN
	SHEET NO.

.CAD Models and Sheets\LO\Sheet Files\Vol 6\AR\LO-AR-Y9501.dgn	Station Public Areas
:42 PM :\Projects\4017456\4017456_0001\90_CAD Mc	
1:42 PM	

Program Facility

Public Restrooms (Male/Female)

Public Amenity (Commercial) Space

Ticket Sales Windows (Queuing Area)

Passenger Information Counter

Vertical Transportation - Elevators

Vertical Transportation - Stairs/Escalators

Vertical Transportation - Elevators (Queuing Area)

Value Added Machines (Including Queuing Area)

Vertical Transportation - Elevators (Queuing Area)

Vertical Transportation - Stairs/Escalators (Queuing Area)

Vertical Transportation - Stairs/Escalators

| Vertical Transportation - Stairs/Escalators (Queuing Area)

Ticket Vending Machines (Incl. Queuing Area)

Public Restrooms (Unisex)

Fare Gates (Queuing Area)

Ticket Sales Office

Business Lounge

Circulation Subtotal

Paid Area

Circulation

Subtotal Platform

Subtotal

Fare Gates (Queuing Area)

Platform Area (Per Platform)

Vertical Transportation - Elevators

15

19

Unpaid Area Waiting Area

						DESIGNED BY A. MALEITZKE
						DRAWN BY R. KUCINSKI
						CHECKED BY E. CARBREY
						IN CHARGE J. SWANSON
REV	DATE	ВΥ	СНК	APP	DESCRIPTION	08/29/25

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CONSTRUCTION

Assumptions/Equation

64 sf minimum per restroom

100 sf minimum

Table 14-5

Table 14-5

Table 14-5

Table 14-5

None

(Chapter 14 March 2016 Revision 2)

Less than 5k = 3,000 sf; 5k-10k = 6,000 sf; More than 10k = 9,000 sf

75 sf x each ticket window (windows required dependent on ridership)

P1b/50ppm x ((number of faregates -1x3) + (1 faregate x 4)) x 20 liner feet

Min Length = 1,410 lf with potential 205' expansions; Min Width = 30 lf

Ticket Windows x 5 linear feet in width (each) x queuing distance

P1b/50ppm x ((number of faregates -1x3) + (1 faregate x 4)) x 20 linear feet

Based on CBC for Group A-3 Occupancy

Provided to meet peak passenger demand

CHSTP Ridership in accordance with NFPA 130

CHSTP Ridership in accordance with NFPA 130

600 sf minimum without Restrooms

3.4' width x 8 linear feet x #VAMs (7)

4 Elevators per platform and level

CHST Guide Specifications

2 Elevators per platform and level





Minimum Required

Feet (lf)

|Width/Linear |Queuing

16 lf

16 lf

30 lf

Distance (lf)

20 lf

8 lf

20 lf

8 lf

15 lf

20 lf

8 lf 15 lf

630

19,214

33,697

1,148

3,542

42,300

42,300

Designed

HSR Project Design Criteria Chapter 14: Stations

2,110 | 14.3.5.3.C - Public Waiting Areas

14.3.5.4 - Public Restrooms

14.3.5.4 - Public Restrooms

3,763 14.3.5.5 - Passenger Amenity Spaces

262 14.3.5.6.C - Ticket Vending Machines

100 14.3.5.7.B - Passenger Information Counter

1,195 | 14.3.5.7.C - Business Lounge (includes terrace)

1,150 | 14.3.3.3.B and 14.3.3.3.C - Escalators and Stairs

14.3.5.6.D - Value Added Machines (VAMs)

648 14.3.3.3.B and 14.3.3.3.C - Escalators and Stairs

150 14.3.5.6.B - Ticket Office Window

100 | 14.3.3.1.B - Queuing Space

1,089 14.3.3.3.E - Passenger Elevators

14.3.3.1.B - Queuing Space

14.3.3.1.B - Queuing Space 14.3.3.2 - Horizontal Circulation

484 14.3.3.3.E - Passenger Elevators

14.3.3.2 - Horizontal Circulation

14.3.2.2 - Platform Planning

352 14.3.3.1.B - Queuing Space

360 | 14.3.3.1.B - Queuing Space

360 14.3.5.6.E - Fare Gates

1,600 | 14.3.5.6.E - Fare Gates

Required

915

128

3,000

80

82

75

100

100

600

726

528

80

54

42,300

CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION NORWALK / SANTA FE SPRINGS STATION

PROGRAM SCHEDULE 1 OF 3

	CONTRACT NO.						
	HSR06-0005						
	DRAWING NO.						
	AR-Y9501A						
.	SCALE						
1	1" = 100'						
	SHEET NO.						

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FOR	INTE	RNAL	USE	ONLY	

	No	Program Facility	Assumptions/Equation (Chapter 14 March 2016 Revision 2)	Required Area	Minimum Required Width/Linear Feet (If)	Queuing Distance (lf)	Designed Area	HSR Project Design Criteria Chapter 14: Stations
		Non-Public Station Administrative Staff Support Services Facilities						
	24	Station Managers Office	270 sf minimum	270			280	14.3.6.1.A - Station Manager's Office
	25	Station Administrative Offices	Size as Required				340	14.3.6.1.B - Station Administration Office
	26	Facility Maintenance Office	330 sf minimum	330			350	14.3.6.1.C - Facility Maintenance Office
	27	Transportation Agency Offices	Requested by local agencies				408	14.3.6.1.D - Transportation Agency Offices
	28	Lost and Found	80 sf minimum	80			90	14.3.6.1.E - Lost and Found
	29	First Aid Room	80 sf minimum	80			86	14.3.6.1.F - First Aid Room
	30	Staff Break Room	200 sf minimum or 25 sf per staff typical shift	200			220	14.3.6.1.G - Staff Break Room
	31	Training and Meeting Room	200 sf minimum or 25 sf per staff typical shift	200			220	14.3.6.1.H - Training and Meeting Room
	32	Staff Locker Room	Size as Required				1,067	14.3.6.1.I - Staff Locker Rooms
	33	Staff Restrooms (Male/Female)	Accordance with CBC	310			500	14.3.6.1.J - Staff Restrooms
blic	34	Circulation/Hallways	per CBC		3'-8" lf		452	14.3.3.2.F - Non-Public Corridors
n		Subtotal					4,013	
reas		Non-Public Secure Station Staff Support Services Facilities						
	35	Police Office	500 sf minimum	500			953	14.3.6.2.A - Police Office
	36	Security Guard Office	144 sf minimum	144			150	14.3.6.2.B - Security Guard Office
	37	Ticket Administration Office	75 sf per ticket window	75			150	14.3.6.2.C - Ticket Administration Office
	38	Cash Handling and Ticket Storage Room	260 sf minimum	260			298	14.3.6.2.D - Cash Handling and Ticket Storage Room
	39	Station Control Room (SCR)	1,100 sf minimum	1,100			1,290	14.3.6.2.E - Station Control Room (SCR)
	40	Station Computer Rooms	500 sf each, minimum of 2	1,000			1,046	14.3.6.2.F - Station Computer Rooms
	41	Temporary Command Post (CP)	300 sf minimum	300			339	14.3.6.2.G - Temporary Command Post (CP)
	42	Stations Operations Room (SOR)	1.100 sf minimum	1,100			1,306	14.3.6.2.H - Stations Operations Room (SOR)
	43	Operation Management Booth (OMB)	100 sf per platform	100			100	14.3.6.2.I - Operation Management Booth
	44	Secured Circulation/Hallways	per CBC		3'-8" lf		452	14.3.6.2
		Subtotal					6,084	
		Maintenance Support Spaces						
	45	Main Station Recycling / Refuse Storage Facility		150			153	14.3.7.1.A - Main Station Recycling / Refuse Storage Facility
	46	Secondary Station Recycling / Refuse Storage Facility	100 sf minimum	100			104	14.3.7.1.B - Secondary Station Recycling / Refuse Storage Facility
	47	Janitor's Closet	60 sf each	240			240	14.3.7.1.C - Janitor's Closet
	48	Station General Storage Rooms	200 sf + 60 sf for misc. storage spaces	260			316	14.3.7.1.D - Station General Storage Rooms
	49	Landscape Maintenace Room	100 sf minimum	100				14.3.7.1.E - Landscape Maintenace Room
	50	Loading Zone	Sized as appropriate					14.3.7.1.F - Loading Zone
	51	Loading Dock	Sized as appropriate					14.3.7.1.G - Loading Dock
on	52	Service Access	Sized as appropriate				+	14.3.7.1.H - Service Access
ary ies		Subtotal					3,831	
03		Building Services and Plant Rooms					3,001	
	53	Environmental Control	Sized by Designer				225	14.3.7.2.A - Environmental Control
	54	Electric System	10,000 Substation + 1,100 sf Station	11,100				14.3.7.2.B - Electric System
	55	Fire Protection	Sized by Designer	,.00				14.3.7.2.C- Fire Protection
	56	Plumbing and Drainage	Sized by Designer					14.3.7.2.D- Plumbing and Drainage
	57	CHST Core Systems Spaces	2,405	2,405			2,519	
	58	Circulation/Hallways	per CBC	2,400	3'-8" lf		452	2.2 C.
		Subtotal	μ				14,899	

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							DESIGNED BY A. MALEITZKE
L							DRAWN BY R. KUCINSKI
\vdash	_						CHECKED BY E. CARBREY
cha							IN CHARGE J. SWANSON
SOO RE	ΕV	DATE	ВΥ	СНК	APP	DESCRIPTION	DATE 02/28/25

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CONSTRUCTION





CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
NORWALK / SANTA FE SPRINGS STATION
PROGRAM SCHEDULE 2 OF 3

CONTRACT NO.
HSR06-0005
DRAWING NO.
AR-Y9502A
SCALE
1" = 100'
SHEET NO.

Station Program Subtotal Walls and Structure Station Total

Assumed 25% Grossing Factor of Total Program Area sf

26,206

131,030

Parking and Pick-up/Drop-Off Uses							
ed Parking							
	Facility	Туре	Quantity	Quanti			
	P1, P2,		350	290			
	P3, P4-1 & P4-2	Surface					
ink/Amtrak Replacement	P4-2		608	0			

Pick-up/Drop-off

bays **HSR** Dedicated (8'x20') 24 bays TOTAL 14,316 ² sq. ft.

²The total area includes the stalls, buffer lanes (adjacent to traffic lane), adjacent sidewalk and access roads.

Station Entry Plazas and Transit Plazas						
Program Facility	Required Area	Designed Area	HSR Design Criteria Chapter 14			
Station Entry Plaza	Varies per Site	21,800 sq. ft.	14.4.4.8 Station Entry Plazas			
Transit Plaza	Varies per Site	19,450 sq. ft.	14.4.2.4 Transit Planning Principles			
TOTAL PLAZA		41,250 sq. ft.				

Note: All Plaza areas include main and secondary plazas per the proposed general and detailed site plans.

Ridership Estimates					
Daily Boardings per CHSRA 2016 Business Plan	2029	1,900			
	2040	4,000			

DESIGNED BY A. MALEITZKE DRAWN BY R. KUCINSKI CHECKED BY E. CARBREY CHARGE SWANSON BY CHK APP DESCRIPTION 02/28/25

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Unit

1,248

15.20¹

stalls (9'x18')

stalls

acres

NOT FOR **GRUEN**ASSOCIATES



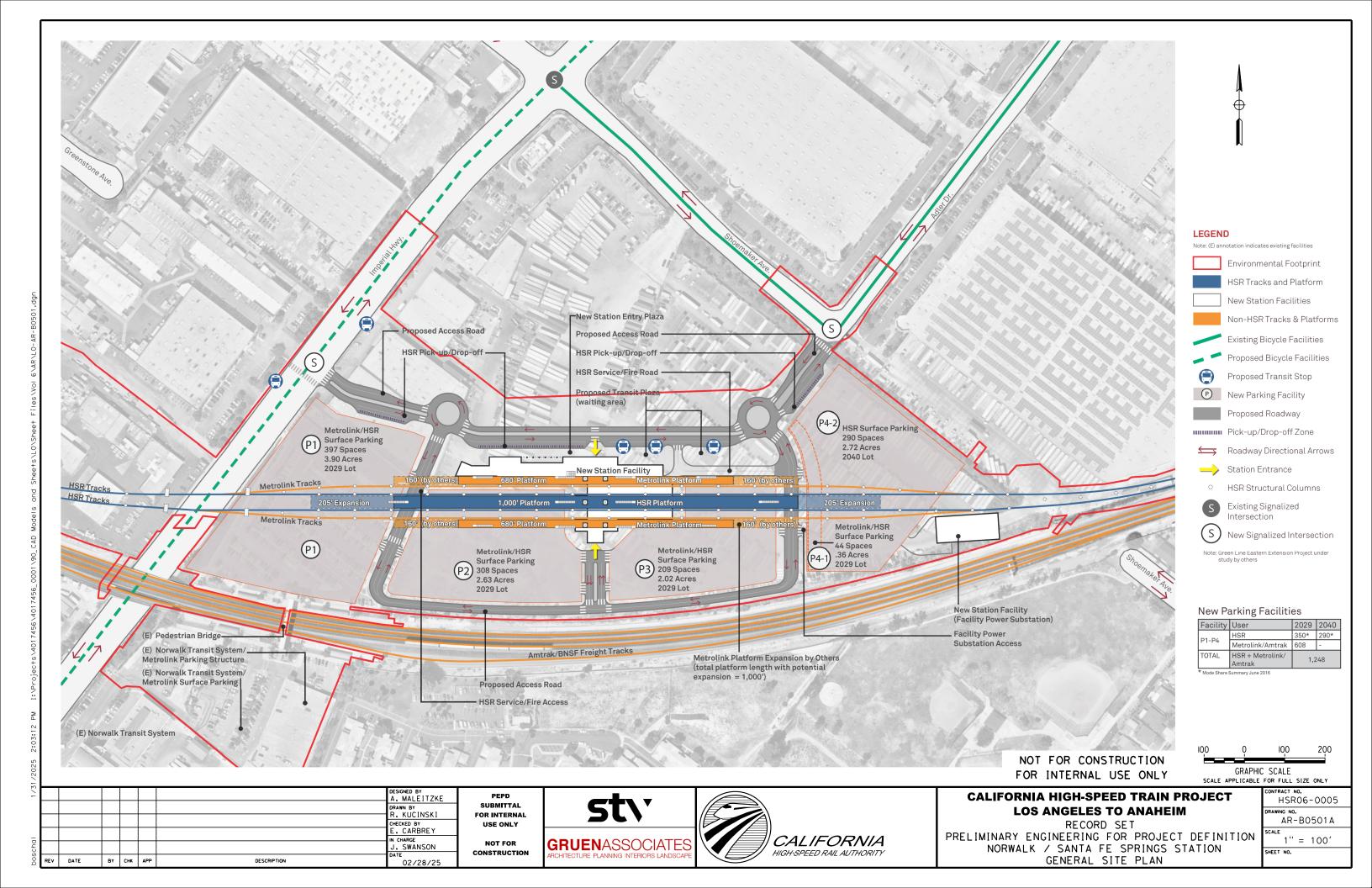
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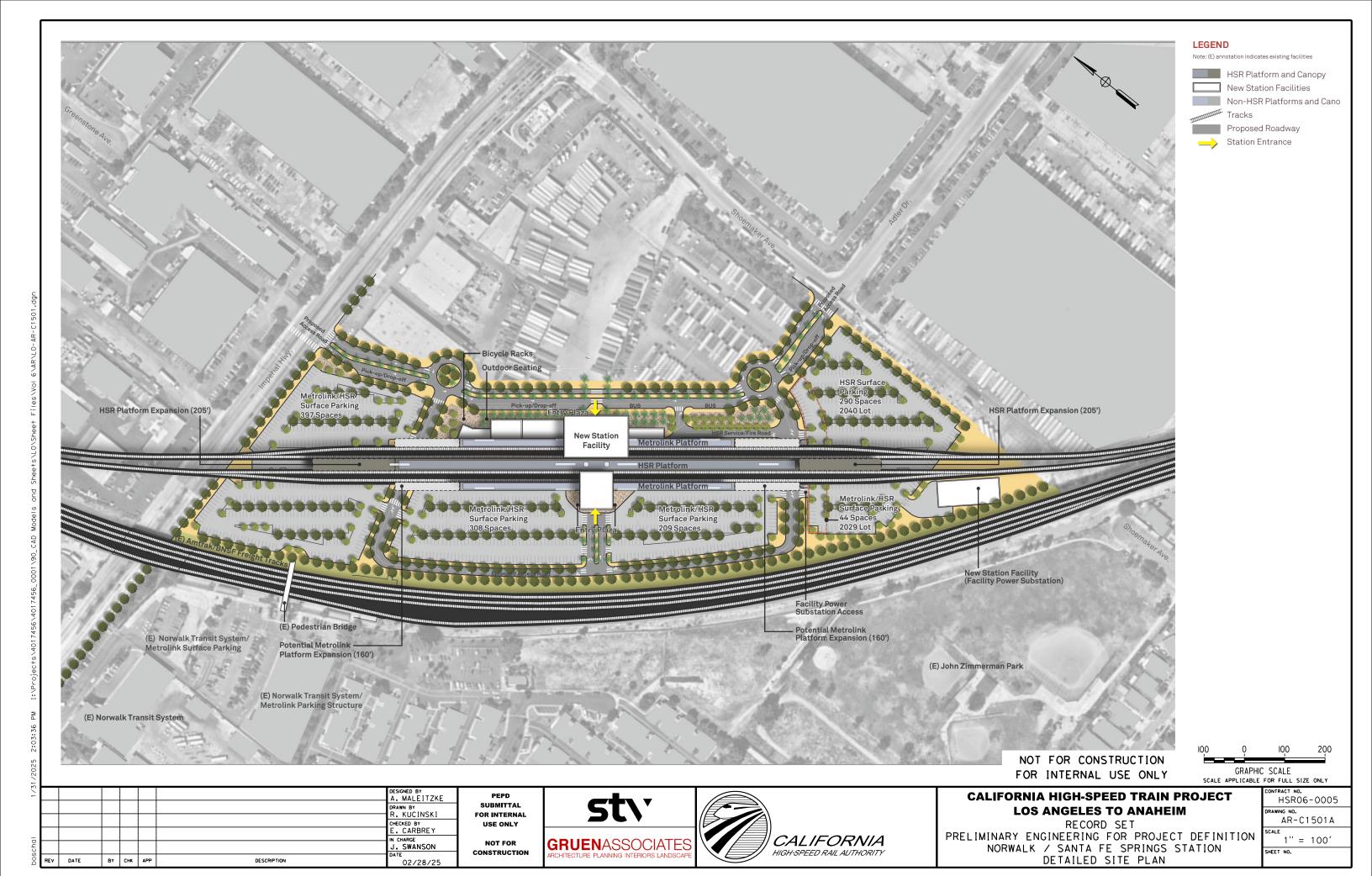
CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

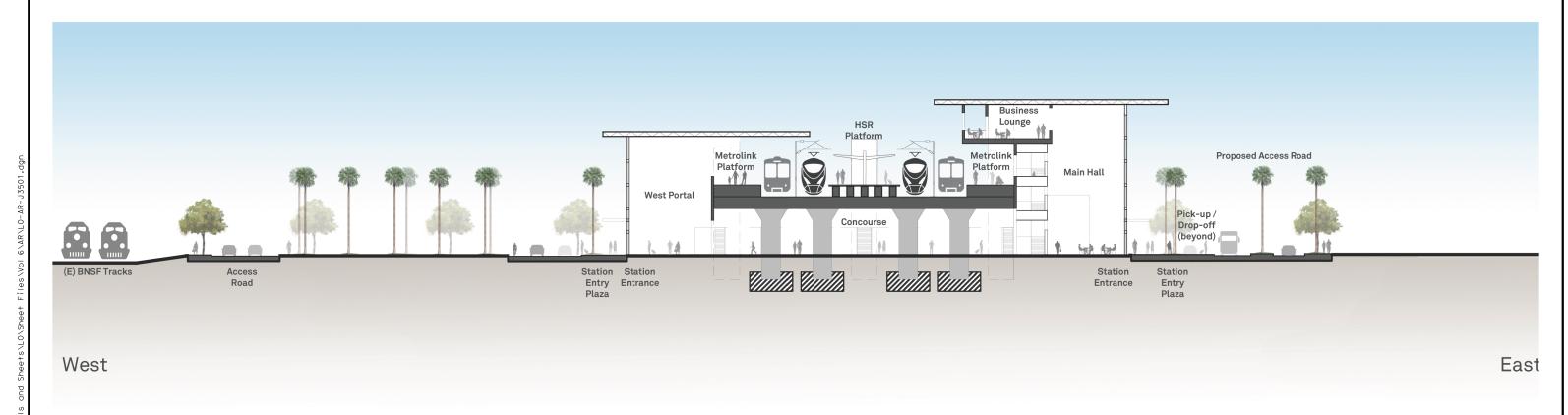
RECORD SET PRELIMINARY ENGINEERING FOR PROJECT DEFINITION NORWALK / SANTA FE SPRINGS STATION PROGRAM SCHEDULE 3 OF 3

	CONTRACT NO.
	HSR06-0005
	DRAWING NO.
	AR-Y9503A
.	SCALE
'	1" = 100'
	SHEET NO.

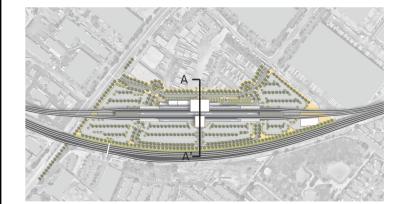
Require HSR Metrolir TOTAL ¹The total parking area also includes the parking access roads, sidewalks, and landscaping areas.







Section A-



LEGEND

Note: (E) annotation indicates existing facilities



BNSF/Freight

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20	0	20	40
SCALE	GRAPHI(C SCALE	SIZE ONLY

						DESIGNED BY A. MALEITZKE
						DRAWN BY R. KUCINSKI
						CHECKED BY
						E. CARBREY IN CHARGE
						J. SWANSON
REV	DATE	BY	СНК	APP	DESCRIPTION	DATE 02/28/25

PEPD SUBMITTAL FOR INTERNAL USE ONLY NOT FOR

CONSTRUCTION





CALIFORNIA HIGH-SPEED TRAIN PROJECT LOS ANGELES TO ANAHEIM

RECORD SET
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
NORWALK / SANTA FE SPRINGS STATION
CROSS SECTION

BLE FOR FULL SIZE ONLY					
	CONTRACT NO. HSR06-0005				
	DRAWING NO. AR-J3501A				
٧	1" = 20'				
	SHEET NO.				

