

Kings/Tulare (Potential Station) General, Aerial Structures, Tunnels & Retaining Walls

August 2021





PRELIMINARY ENGINEERING FOR PROJECT DEFINITION (PEPD)

CALIFORNIA HIGH-SPEED TRAIN PROJECT VALLEY/RIVER SUBDIVISION

BURBANK TO LOS ANGELES - OPTION B REFINED **VOLUME 3.2**

GENERAL, AERIAL STRUCTURES, TUNNELS & RETAINING WALLS

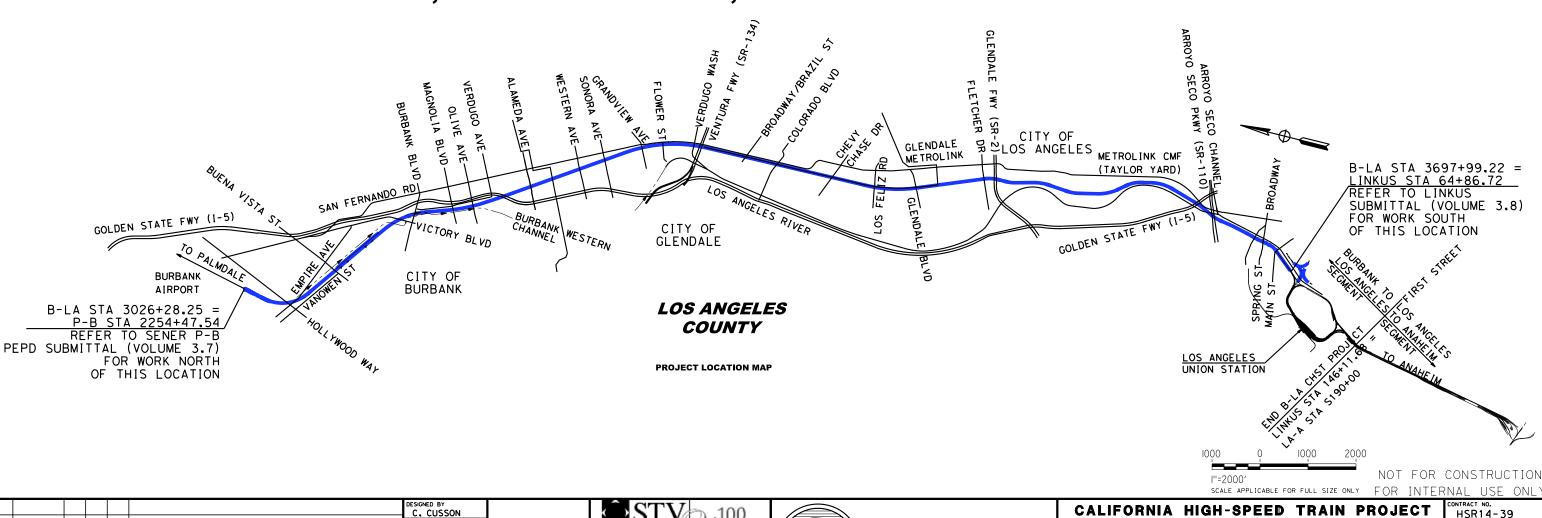


BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD ALTERNATIVE F

VOLUME 3.2 PROJECT LOCATION MAP GE-A0201

NO SCALE



CALIFORNIA

DRAWN BY
C. CUSSON

07/15/2021

IN CHARGE

DESCRIPTION

BY CHK APP

RECORD SET

NOT FOR

CONSTRUCTION

JACOBS

VOLUME NO.	CONTENT
VOLUME 3.5	GENERAL
	STATIONS
	MAINTENANCE FACILITIES
	TRACKSIDE ACCESS
VOLUME 3.6	GENERAL
	CONSTRUCTION PHASING PLANS
VOLUME 3.7	GENERAL
	BURBANK AIRPORT STATION
VOLUME 3.8	GENERAL
	LINK UNION STATION (LINK US) BY LA METRO

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

1/14							DESIGNED BY C. CUSSON	
							DRAWN BY C. CUSSON CHECKED BY C. LEE	1
Sonc							IN CHARGE C. LEE	c
รทา	REV	DATE	ВΥ	СНК	APP	DESCRIPTION	DATE 07/15/2021	

PEPD RECORD SET NOT FOR CONSTRUCTION





CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD INDEX OF VOLUMES

RNAL	USE	ONL'
CONTRACT	T NO. R14-3	9
DRAWING GE -	NO. - AO21	0
SCALE NO	SCALI	Ε
SHEET NO).	

GENERAL						
DRAWING NO.	DRAWING TITLE					
GE-A0200	COVER SHEET - VOLUME 3.2					
GE-A0201	PROJECT LOCATION MAP - VOLUME 3.2					
GE-A0210	INDEX OF VOLUMES					
GE-A0211	INDEX OF DRAWINGS VOLUME 3.2 - SHEET 1 OF 2					
GE-A0212	INDEX OF DRAWINGS VOLUME 3.2 - SHEET 2 OF 2					
GE-D0201	VOLUME 3.2 - KEY MAP STRUCTURES					
GE-B0201	BASIS OF DESIGN SUMMARY					
GE-C0201	ACRONYMS AND ABBREVIATIONS - SHEET 1 OF 5					
GE-C0202	ACRONYMS AND ABBREVIATIONS - SHEET 2 OF 5					
GE-C0203	ACRONYMS AND ABBREVIATIONS - SHEET 3 OF 5					
GE-C0204	ACRONYMS AND ABBREVIATIONS - SHEET 4 OF 5					
GE-C0205	ACRONYMS AND ABBREVIATIONS - SHEET 5 OF 5					
GE-C0211	SYMBOLS - SHEET 1 OF 2					
GE-C0212	SYMBOLS - SHEET 2 OF 2					
GE-B0211	GENERAL NOTES					
GE-D6201	TRACK SCHEMATIC					

	TUNNEL						
DRAWING NO.	DRAWING TITLE						
TN-C1001	PLAN AND ELEVATION STA 3026+28.25 TO STA 3032+50						
TN-C1002	PLAN AND ELEVATION STA 3032+50 TO STA 3046+00						
TN-C1003	PLAN AND ELEVATION STA 3046+00 TO STA 3059+50						
TN-C1004	PLAN AND ELEVATION STA 3059+50 TO STA 3072+50						
TN-D4003	SUPPORT OF EXCAVATION, NORTH CUT & COVER						
TN-D3001	SUPPORT OF EXCAVATION, TYPICAL CUT & COVER SECTIONS						
TN-D4001	SOUTH PORTAL AND VENTILATION PLAN						
TN-D4002	TYPICAL PORTAL AND VENTILATION SECTION STA 3044+10						
TN-C3001	SECTION AT STA 3027+50						
TN-C3002	SECTION AT STA 3030+00						
TN-C3003	HEADWALL SECTION STA 3032+15						
TN-C3004	SEM TUNNEL SECTION STA 3040+00						
TN-C3005	CUT & COVER SECTION AT STA 3048+00						
TN-C3006	PERMANENT BRIDGE SECTION STA 3063+60						
TN-C5001	BRIDGE GIRDER DETAIL						
TN-D0003	TYPICAL EXCAVATION AND SUPPORT CROSS SECTION						
TN-C4001	TEMPORARY BRIDGE PLAN						
TN-C4002	CONSTRUCTION SEQUENCE PLAN						
ST-H1101	TRENCH GENERAL PLAN - SHEET 1 OF 6						
ST-H1102	TRENCH GENERAL PLAN - SHEET 2 OF 6						
ST-H1103	TRENCH GENERAL PLAN - SHEET 3 OF 6						
ST-H1104	TRENCH GENERAL PLAN - SHEET 4 OF 6						
ST-H1105	TRENCH GENERAL PLAN - SHEET 5 OF 6						
ST-H3101	TRENCH AND RETAINING WALLS CROSS SECTIONS - SHEET 6 OF 6						

4								
7/1							DESIGNED BY C. CUSSON	
							DRAWN BY	PEPD
							CHECKED BY	RECORD SET
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Cusson							C. LEE	CONSTRUCTION
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CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL INDEX OF DRAWINGS VOLUME 3.2 - SHEET 1 OF 2

CONTRACT NO.
HSR14-39
DRAWING NO.
GE-A0211
SCALE
NO SCALE
SHEET NO.

RETAINING WALLS								
DRAWING NO.	DRAWING TITLE							
ST-G1101	HSR - RETAINING WALL STA 3119+00 TO STA 3125+00							
ST-G1101.1	HSR - RETAINING WALL STA 3125+00 TO STA 3138+00							
ST-G1102	HSR - RETAINING WALL STA 3138+00 TO STA 3151+00							
ST-G1103	HSR - RETAINING WALL STA 3151+00 TO STA 3164+00							
ST-G1104	HSR - RETAINING WALL STA 3164+00 TO STA 3177+00							
ST-G1105	HSR - RETAINING WALL STA 3177+00 TO STA 3190+00							
ST-G1106	HSR - RETAINING WALL STA 3190+00 TO STA 3203+00							
ST-G1107	HSR - RETAINING WALL STA 3203+00 TO STA 3216+00							
ST-G1108	HSR - RETAINING WALL STA 3216+00 TO STA 3229+00							
ST-G1109	HSR - RETAINING WALL STA 3229+00 TO STA 3242+00							
ST-G1110	HSR - RETAINING WALL STA 3242+00 TO STA 3255+00							
ST-G1111	HSR - RETAINING WALL STA 3255+00 TO STA 3268+00							
ST-G1112	HSR - RETAINING WALL STA 3268+00 TO STA 3281+00							
ST-G1113	HSR - RETAINING WALL STA 3281+00 TO STA 3294+00							
ST-G1114	HSR - RETAINING WALL STA 3294+00 TO STA 3307+00							
ST-G1115	HSR - RETAINING WALL STA 3307+00 TO STA 3320+00							
ST-G1116	HSR - RETAINING WALL STA 3320+00 TO STA 3333+00							
ST-G1117	HSR - RETAINING WALL STA 3333+00 TO STA 3346+00							
ST-G1118	HSR - RETAINING WALL STA 3346+00 TO STA 3359+00							
ST-G1119	HSR - RETAINING WALL STA 3359+00 TO STA 3372+00							
ST-G1120	HSR - RETAINING WALL STA 3372+00 TO STA 3385+00							
ST-G1121	HSR - RETAINING WALL STA 3385+00 TO STA 3398+00							
ST-G1122	HSR - RETAINING WALL STA 3398+00 TO STA 3411+00							
ST-G1123	HSR - RETAINING WALL STA 3411+00 TO STA 3424+00							
ST-G1124	HSR - RETAINING WALL STA 3424+00 TO STA 3437+00							
ST-G1125	HSR - RETAINING WALL STA 3437+00 TO STA 3450+00							
ST-G1126	HSR - RETAINING WALL STA 3450+00 TO STA 3463+00							
ST-G1127	HSR - RETAINING WALL STA 3463+00 TO STA 3476+00							
ST-G1128	HSR - RETAINING WALL STA 3476+00 TO STA 3489+00							
ST-G1129	HSR - RETAINING WALL STA 3489+00 TO STA 3502+00							
ST-G1130	HSR - RETAINING WALL STA 3502+00 TO STA 3515+00							
ST-G1131	HSR - RETAINING WALL STA 3515+00 TO STA 3528+00							
ST-G1132	HSR - RETAINING WALL STA 3528+00 TO STA 3541+00							
ST-G1133	HSR - RETAINING WALL STA 3541+00 TO STA 3554+00							
ST-G1134	HSR - RETAINING WALL STA 3554+00 TO STA 3567+00							
ST-G1135	HSR - RETAINING WALL STA 3567+00 TO STA 3580+00							
ST-G1136	HSR - RETAINING WALL STA 3580+00 TO STA 3593+00							
ST-G1137	HSR - RETAINING WALL STA 3593+00 TO STA 3606+00							
ST-G1138	HSR - RETAINING WALL STA 3606+00 TO STA 3619+00							
ST-G1139	HSR - RETAINING WALL STA 3619+00 TO STA 3632+00							
ST-G1140	HSR - RETAINING WALL STA 3632+00 TO STA 3645+00							

	RETAINING WALLS								
DRAWING NO.	DRAWING TITLE								
ST-G1141	HSR - RETAINING WALL STA 3645+00 TO STA 3658+00								
ST-G1142	HSR - RETAINING WALL STA 3658+00 TO STA 3671+00								
ST-G1143	HSR - RETAINING WALL STA 3671+00 TO STA 3684+00								
ST-G1144	HSR - RETAINING WALL STA 3684+00 TO STA 3697+00								

NON-ROADWAY STRUCTURES								
DRAWING NO.	DRAWING NO. DRAWING TITLE							
ST-G3101	HSR - RETAINING WALL SECTIONS							
ST-K1201	BURBANK CHANNEL CAP GENERAL PLAN - SHEET 1 OF 1							
ST-K1202	VERDUGO WASH GENERAL PLAN - SHEET 1 OF 1							
ST-K1203	DOWNEY BRIDGE - LA RIVER OVERPASS							

						DESIGNED BY C. CUSSON
						DRAWN BY C. CUSSON
						CHECKED BY
						C. LEE IN CHARGE
						C. LEE
REV	DATE	BY	СНК	APP	DESCRIPTION	07/15/2021

PEPD
RECORD SET
NOT FOR
CONSTRUCTION





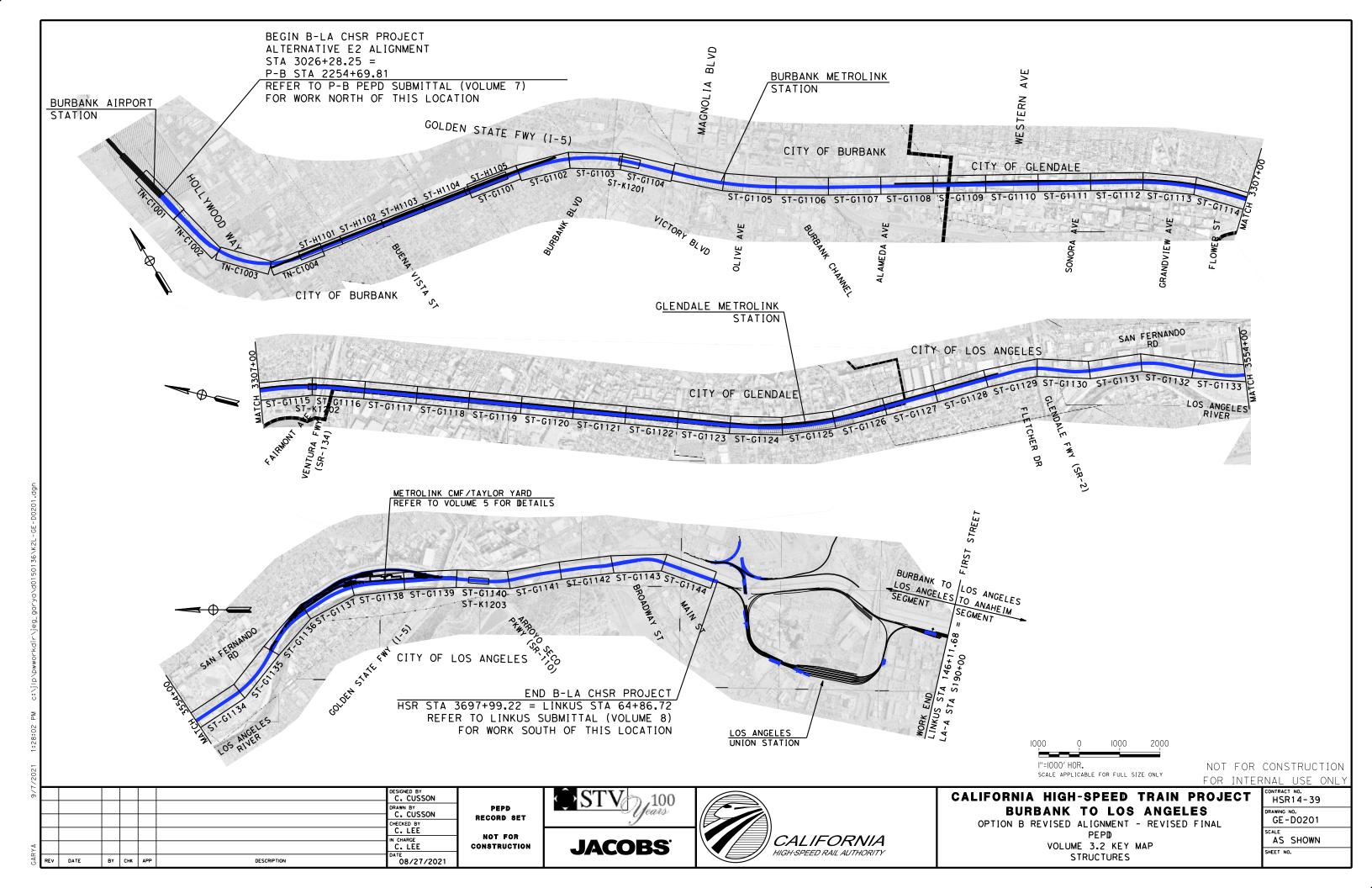
CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD INDEX OF DRAWINGS
VOLUME 3.2 - SHEET 2 OF 2

CONTRACT NO.
HSR14-39

DRAWING NO.
GE-A0212

SCALE
NO SCALE
SHEET NO.



BASIS OF DESIGN SUMMARY

THE BURBANK TO LOS ANGELES (B-LA) SEGMENT BEGINS SOUTH OF THE PROPOSED 5. ACCESS CONTROL BURBANK AIRPORT STATION IN A SUBSURFACE DEDICATED CORRIDOR, RUNS ALONG

THE B-LA CORRIDOR WILL BE FENCED WITH NO AT-GRADE CROSSINGS. INTRUSION PROTECTION AND/OR INTRUSION MONITORING WILL BE EMPLOYED WITH MITIGATIONS AS REQUIRED TO PROMOTE SAFE AND RELIABLE OPERATION.

TRACK ALIGNMENT

THE B-LA CORRIDOR IS PLANNED TO OPERATE AS A CLASS 7 SERVICE (SPEEDS UP TO 125 MPH) WITH NO AT-GRADE ROADWAY CROSSINGS.

7. INTRUSION PROTECTION

INTRUSION DETECTION WILL BE PROVIDED AT LOCATIONS WHERE IT IS APPROPRIATE TO MITIGATE AN INTRUSION HAZARD BASED ON HAZARD ASSESSMENT AND REQUIREMENTS OF ADJACENT RAILROAD (UPRR).

THE BASIS OF DESIGN ELEMENTS THAT DIFFER BETWEEN BLENDED OPERATION AND 8. TERMINAL AND INTERMEDIATE STATION(S)

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

BURBANK AIRPORT STATION & LOS ANGELES UNION STATION

THERE WILL BE NO INTERMEDIATE HIGH SPEED RAIL STATION

9. TRACK AND PLATFORM CONFIGURATION

STATION PASSENGER PLATFORMS ARE PLANNED FOR A LENGTH OF APPROXIMATELY 1410 FEET TO ACCOMMODATE A RANGE OF HIGH-SPEED TRAINSETS.

10. 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 1) THAT PROVIDES IN-SERVICE INSPECTION, CLEANING AND MAINTENANCE WITH A LOCATION IN PROXIMITY TO LOS ANGELES UNION STATION

STORAGE TRACKS FOR OVERNIGHT LAYUP AT LOS ANGELES UNION STATION.

CURRENT DESIGNS TO BE MODIFIED PER UPCOMING DISCUSSION WITH RDP.

11. ADJACENT RAIL OPERATIONS

IN THE BURBANK TO LOS ANGELES CORRIDOR, THE AUTHORITY WILL OPERATE IN A SHARED RIGHT-OF-WAY CORRIDOR AND WILL SHARE TRACKS WITH OTHER PASSENGER TRAINS SOUTH OF DOWNTOWN BURBANK METROLINK STATION. FREIGHT TRAINS WILL NOT OPERATE ON HSR ELECTRIFIED TRACKS.

12. SHARED RIGHT OF WAY (ROW)

GENERALLY, THE RIGHT-OF-WAY IS OWNED BY LA METRO ON THE VALLEY AND VENTURA SUBDIVSIONS, AND IS OWNED PARTIALLY BY THE FREIGHT RAILROAD (UPRR) ON THE VENTURA LINE. PASSENGER AND FREIGHT OPERATIONS OCCUR SIMULTANEOUSLY THROUGHOUT THE DAY ON PARALLEL ALIGNMENTS.

TRACK SEPARATION AND INTRUSION PROTECTION, AS DETERMINED THROUGH RISK-BASED ANALYSIS, WILL BE PROVIDED.

13. DIAMOND (AT-GRADE) CROSSINGS

THE USE OF "OWL" DIAMOND CROSSINGS WILL BE NOT ALLOWED DUE TO HIGH VOLUME OF CROSSING TRACKS. THE HSR TRACKS WILL RUN ALONGSIDE THE WESTERN SIDE OF THE CMF BUILDING TO AVOID DIAMOND CROSSINGS.

14. STRUCTURAL DESIGN

A.PEPD STRUCTURE DESIGN WILL BE BASED ON CHSTP CP 2-3 DESIGN CRITERIA MANUAL REV 2 DATED FEBRUARY, 2014.

B.DESIGN LIFE = 100 YEARS

15. EXISTING PRIMARY TYPE 2 OVERHEAD STRUCTURES

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

B. TO REMAIN ELASTIC FOR OBE SPECTRA.

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 OTHERS.

ELEMENT LOCATIONS WILL BE DEFINED AS PART OF THIS CONTRACT.

NOT FOR CONSTRUCTION

C. LEE C. CUSSON C. LEE N CHARGE CONSTRUCTION 08/27/2021 DATE BY CHK APP DESCRIPTION

THE VENTURA AND VALLEY SUBDIVISIONS IN A SHARED CORRIDOR, AND ENDS AT

LOS ANGELES UNION STATION (LAUS). FOR THE B-LA-A SEGMENT (LOSSAN CORRIDOR),

TO 'BLEND'HIGH SPEED WITH EXISTING RAIL SYSTEMS ON SHARED INFRASTRUCTURE

TO ACCELERATE 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 BURBANK AND

1. TECHNICAL MEMORANDUM (TM) 0.3.1 BASIS OF DESIGN FOR BLENDED

OPERATION IN THE LA-A CORRIDOR, RO DATED MARCH 30, 2015.

TECHNICAL MEMORANDUM 0.3, BASIS OF DESIGN POLICY DOCUMENT,

THE DEDICATED HIGH-SPEED OPERATION ARE DEFINED IN THE TM 0.3.1. IT

IN ADDITION, THE FOLLOWING DESIGN POLICY MEMOS HAVE BEEN INITIATED

THE AUTHORITY HAS ESTABLISHED PERFORMANCE REQUIREMENTS TO GUIDE THE

THE REQUIREMENTS FOR MAJOR DESIGN ELEMENTS ARE LISTED BELOW:

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

DESIGN SPEED: MAXIMUM ALLOWED PER EXISTING ALIGNMENT/ROW CONSTRAINTS WITH A SPEED NOT TO EXCEED MAXIMUM OF 125 MPH.

NORTH OF CMF ACCESS ROAD, AND FROM DOWNEY BRIDGE TO LAUS,

THERE WILL BE NO AT-GRADE CROSSINGS IN THE B-LA SEGMENT. ALL

INTERSECTIONS WILL BE GRADE SEPARATED OR CLOSED.

16'-6" MINIMUM, EXCEPT FOR 15'-0" MINIMUM BETWEEN I-5 AND SR-134,

DEVELOPMENT OF THE HIGH-SPEED RAIL SYSTEM IN BLENDED CORRIDORS BASED ON THE FRA TIER STRUCTURE FOR PASSENGER SYSTEMS DESCRIBED IN THE

REQUIRED LEVEL OF INTEROPERABILITY BETWEEN THE PASSENGER AND

FREIGHT RAILROADS THAT OPERATE IN THE B-LA CORRIDOR WILL BE

IN ORDER TO ADDRESS THE REQUIREMENTS OF THE VARIOUS DESIGN ELEMENTS

THAT ARE NOT COVERED IN DETAIL IN THE TM 0.3.1 AND ARE BEING REVIEWED

SPECIFICALLY FOCUSES ON OBJECTIVES, PROCESSES, REQUIREMENTS, AND

ASSUMPTIONS THAT SUPPORT THE BLENDED OPERATION.

"HIGH-SPEED PASSENGER RAIL SAFETY STRATEGY (2009)."

LOS ANGELES UNION STATION (LAUS) ARE BASED ON:

R3 DATED JUNE 21, 2013

BY THE AUTHORITY.

INTEROPERABILITY

MAINTAINED.

AUTHORITY METROLINK

UNION PACIFIC RAILROAD

AMTRAK

3. TRACK CENTER SPACING

4. AT-GRADE CROSSING

2. DESIGN SPEEDS

INFRASTRUCTURE REQUIREMENTS

THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY (AUTHORITY) HAS ADOPTED A STRATEGY

PEPD RECORD SET NOT FOR





CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL BASIS OF DESIGN SUMMARY

FOR INTERNAL USE ONLY

HSR14-39

GE-B0201 NO SCALE SHEET NO.

	A		(B CONTINUED)		(C CONTINUED)		(D CONTINUED)
@ AADT	AT AVERAGE ANNUAL DAILY TRAFFIC	BDD BDP	BRIDGE DESIGN DETAILS (CALTRANS) BRIDGE DESIGN PRACTICE (CALTRANS)	CG CGS	CENTER OF GRAVITY CALIFORNIA GEOLOGICAL SURVEY	DBL DC	DOUBLE DIRECT CURRENT
AB	AGGREGATE BASE, ANCHOR BOLT	BDS BEC	BRIDGE DESIGN SPECIFICATIONS (CALTRANS) BURIED EARTH (GROUND) CONDUCTOR	CHNL CI	CHANNEL CAST IRON	DCMB DCP	DC DISTRIBUTION PANEL MAIN BREAKER DC DISTRIBUTION PANEL
ABBC ABM	ASBESTOS BONDED BITUMINOUS COATED AIR-BLOWN MORTAR	BEG BFA	BEGIN BYPASS FEEDER ANCHOR BASIC IMPULSE INSULATION LEVEL	CIC CIDH	COMMUNICATIONS INTERFACE CABINET CAST-IN-DRILLED-HOLE	DD	DOWNDRAIN, DEVICE DRIVER
ABN ABUT	ABANDON ABUTMENT	BIL BITUM	BASIC IMPULSE INSULATION LEVEL BITUMINOUS	CIF CIP	COMMON INTERMEDIATE FORMAT	DE DEL	DEAD END DELINEATOR
ABV AC	ABOVE	BKLN BK	BIKE LANE BACK	C-I-P CIPCP	CAST-IN-PLACE	DEMO DEPT	DEMOLISH DEPARTMENT
	ASPHALT CONCRETE	BKF	BACKFILL	CIS	CUSTOMER INFORMATION SIGN	DET	DE TOUR
ACB ACMB	ANCHOR BOLT ASBESTOS BONDED BITUMINOUS COATED AIR-BLOWN MORTAR ABANDON ABUTMENT ABOVE ALTERNATING CURRENT, ASPHALT CONCRETE ASPHALT CONCRETE BASE AC DISTRIBUTION PANEL MAIN BREAKER	BKR BL	BRÉAKÉR BASELINE	CISS CJ	COMMUNICATIONS INTERFACE CABINET CAST-IN-DRILLED-HOLE COMMON INTERMEDIATE FORMAT CAST IRON PIPE CAST-IN-PLACE CAST-IN-PLACE CONCRETE PIPE CUSTOMER INFORMATION SIGN CAST-IN-STEEL-SHELL CONSTRUCTION JOINT COMPLETE JOINT PENETRATION CIRCUIT CLASS, CEMENT LINED CLASS 2 CHAIN LINK FENCE (6 FT) CEILING CHAIN LINK CAULKING CLOSET CLEAR, CLEARANCE CONTROL MODULE, CORRUGATED METAL CENTRAL MAINTENANCE FACILITY CORRUGATED METAL CENTRAL MAINTENANCE FACILITY CORRUGATED METAL CENTRAL MAINTENANCE FACILITY CORRUGATED METAL CONCRETE MASONRY UNIT COUNTY COLUMN	DF	DIRECT FIXATION, DRINKING FOUNTAIN
ACOUS ACP	ACOUSTICAL ASBESTOS CEMENT PIPE ACCESS CONTROL ROOM	BLDG BLKG	BUILDING BLOCKING	CJP CKT	COMPLETE JOINT PENETRATION CIRCUIT	DGA DHV	DOWN GUY ANCHOR DESIGN HOURLY VOLUME
ACR ACSR	ACCESS CONTROL ROOM ALUMINUM CONDUCTOR STEEL REINFORCED	BLM	BRIDGE-LOG MILE BALLAST	CL CL2	CLASS, CEMENT LINED	DI DIAG	DRAINAGE INLET DIAGONAL
AD ADJ	AREA DRAIN	BLVD	BOULE VARD BENCHMARK	CL-6 CLG	CHAIN LINK FENCE (6 FT)	DIAPH DIFF	DIAPHRAGM DIFFERENTIAL
AUG	ALUMINUM CONDUCTOR STEEL REINFORCED AREA DRAIN ADJACENT, ADJUST, ADJUST, ADJUSTABLE ADDED DEAD LOAD AC DISTRIBUTION PANEL AVERAGE DAILY TRAFFIC ARCHITECTURAL AND ENGINEERING AERIAL EARTH (GROUND) CONDUCTOR AUTOMATED EXTERNAL DEFIBRILLATOR AUTOMATIC FARE COLLECTION	BN	BACKBONE NETWORK	CLK	CHAIN LINK	DIM	DIMENSION
ADL	ADDED DEAD LOAD	BOC	BOUND BOTTOM OF CURB	CLKG CLO	CLOSET	DIN DIP	DROP INLET DUCTILE IRON PIPE
ADP ADT	AC DISTRIBUTION PANEL AVERAGE DAILY TRAFFIC	BOCC BOS	BACK-UP OPERATIONAL CONTROL CENTER BOTTOM OF SLOPE	CLR	CLEAR, CLEARANCE	DIR DISC	DIRECTION DISCONNECT
A&E AEC	ARCHITECTURAL AND ENGINEERING AFRIAL FARTH (GROUND) CONDUCTOR	BOT BOW	BOTTOM BOTTOM OF WALL	СМ	CONTROL MODULE, CORRUGATED METAL	DISP DIST	DISPENSER DISTANCE
AED AEC	AUTOMATED EXTERNAL DEFIBRILLATOR AUTOMATIC FARE COLLECTION	BR	BRIDGE, BRIDGE CURVE	CMF CMP	CENTRAL MAINTENANCE FACILITY	DISTR DMBB	DISTRIBUTION DOUBLE METAL BEAM BARRIER
AFES	ALTERNATIVE FLARED END SECTION	BRG	BEARING	CMU	CONCRETE MASONRY UNIT	DN	DOWN
A/G AGW	AT-GRADE AERIAL GROUND WIRE	BRKT BRS	BRACKET BROADBAND RADIO SYSTEM BUS RAPID TRANSIT	CNTR CO	CLEANOUT,	DNS DO	DOMAIN NAME SYSTEM DOOR OPENING
AHD AL	AHEAD ALUMINUM	BRT BS	BODY SPAN WIRF	COL	COUNTY COLUMN	DPDT DR	DOUBLE-POLE DOUBLE-THROW DRIVE
ALIGN ALT	ALIGNMENT ALTERNATE	BSC B/SPAN	BASE STATION CONTROLLER BODY SPAN	COMM CONC	COMMUNICATIONS CONCRETE	DS	DOWNSPOUT, DISCONNECT SWITCH DIFFERING SITE CONDITIONS
AM ANC	ANTE MERIDIEM (TIME FROM MIDNIGHT TO NOON) ANCHOR	BT BTM	BUS TIE BOTTOM	COND CONN	CONDUIT CONNECTOR,	DSC DSCW	DIFFERING SITE CONDITIONS DIRECT SUSPENSION CONTACT WIRE
ANI	AUTOMATIC NUMBER IDENTIFICATION	BTS BTWN	BASE TRANSCEIVER STATION BETWEEN	CONST	CONNECTION	DSG DSHA	DISCONNECT SWITCH GROUP DETERMINISTIC SEISMIC HAZARD ANALYSIS
ANN ANS	AMBIENT NOISE SENSOR	BVC	BEGINNING OF VERTICAL CURVE		CONSTRUCT, CONSTRUCTION	DST	DISTRICT
AP APC	ANNONCIATOR AMBIENT NOISE SENSOR ALTERNATIVE PIPE ALTERNATIVE PIPE CULVERT AREA OF POTENTIAL EFFECTS ALQUIST-PRIOLO EARTHQUAKE FAULT ZONE APPLICATION PROGRAMMING INTERFACE	BW	BARBED WIRE, BALANCE WEIGHT	CONT	CONTINUOUS, CONTINUATION CONTRACTOR	DTBB DTM	DOUBLE THRIE BEAM BARRIER DIGITAL TERRAIN MODEL DIGITAL VIDEO RECORDERS
APE APEF Z	AREA OF POTENTIAL EFFECTS ALQUIST-PRIOLO FARTHOUAKE FAULT ZONE	B∕W BWA	BLACK AND WHITE BALANCE WEIGHT ANCHOR	CONTR COORD	CONTRACTOR COORDINATE	DVR DWG	DIGITAL VIDEO RECORDERS DRAWING
API APPROX	APPLICATION PROGRAMMING INTERFACE APPROXIMATE	BWLAN B7	BROADBAND WIRELESS LOCAL AREA NETWORK BRONZE	CORR	CORRIDOR	DWY DXO	DRIVEWAY DOUBLE CROSSOVER
APU AR	ALTERNATIVE PIPE UNDERDRAIN	DZ	C	ČPT	CONTROL POINT CONE PENETRATION TEST, CONTROL POWER TRANSFORMER	DAO	BOODEL CHOSSOVEN
ARCH	ACCESS RESTRICTION ARCHITECTURAL	С	CLOSE,	CPU	CENTRAL PROCESSING UNIT		E
ARS AS	ACCELERATION RESPONSE SPECTRUM AGGREGATE SUBBASE	ŭ	CONDUIT, CONTACT,	CR	CREEK, CONDUIT RISER	E _o	APPLIED CANT UNBALANCED CANT
ASPH ASRP	ASPHALT ALUMINUM SPIRAL RIB PIPE	6.4	CONTROL CERTIFICATION ACCEPTANCE	CRC CRCP	COMBINED RELAY AND CONTROL PANE CONTINUOUS REINFORCED CONCRETE F	PAVEMENT E	EAST,
ਲੈ ASSY – AT	ASSEMBLY AUTOTRANSFORMER,	CA CAA	CABLE ANCHOR ASSEMBLY	CRSP CRZ	CONCRETED ROCK SLOPE PROTECTION CLEAR RECOVERY ZONE	EA	EASTÍNG EACH
ATC	AUTOMATIC TENSION AUTOMATIC TRAIN CONTROL	CAB CADD	CABINET COMPUTER-AIDED DESIGN AND DRAFTING	CS	CONTROL SWITCH, CURVE TO SPIRAL	EB	EASTBOUND, End of Bridge
يٰ ATEL	ADMINISTRATIVE TELEPHONE	CAH CAI	CONTROLLED ACCESS HIGHWAY CUSTOMER ASSISTANCE INTERCOM	CSA	CONSTRUCTION STAGING AREA	EC	END HORIZONTAL CURVE, ELECTRICAL CONDUCTOR
MTA 5	ALONG TRACK MOVEMENT, AUTOMATED TELLER MACHINE	CALP CANT	CORRUGATED ALUMINUM PIPE CANTILEVER	CSG CSP	CASING CORRUGATED STEEL PIPE	ECR EE	END CURB RETURN EACH END
≯ ATO % ATP	AUTOMATIC TRAIN OPERATION AUTOMATIC TRAIN PROTECTION	CAP	CAPACITY, CAPACITOR,	CSPA CT	CORRUGATED STEEL PIPE ARCH CERAMIC TILE,	EF EGS	EACH FACE EMERGENCY GROUND SWITCH
ATPB ATPM	ASPHALT TREATED PERMEABLE BASE ASPHALT TREATED PERMEABLE MATERIAL	0.15.4	CORRUGATED ALUMINUM PIPE		COURT, CURRENT TRANSFORMER/TRANSDUCER	EHS	EXTRA HIGH STRENGTH
ATR ATS	ABOVE TOP OF RAIL AUTOMATIC TRAIN SUPERVISION,	CAPA CAS	CORRUGATED ALUMINUM PIPE ARCH CONSTRUCTION AREA SIGN	CTB CTPB	CEMENT TREATED BASE CEMENT TREATED PERMEABLE BASE	E I E J	EMERGENCY INTERCOM EXPANSION JOINT
AUX	AUTO TENSIONED SYSTEM AUXILIARY	CAT	CATEGORY, CATEGORY SPECIFICATION FOR	CTPM CTR	CEMENT TREATED PERMEABLE MATERI CENTER	AL E-LAN ELAST	ETHERNET LAN ELASTOMERIC
ਰ੍ਹ AVE	AVENUE	CATF	TWISTED PAIR CABLING CANTENARY FOUNDATION	CTSK	COUNTERSUNK	ELEC	ELECTRICAL, ELECTRIC
AVG D AVL	AVERAGE AUTOMATIC VEHICLE LOCATION	CATP CB	CANTENARY POLE CATCH BASIN,	CTVT	COMBINED CURRENT TRANSFORMER AN VOLTAGE TRANSFORMER	ELECT ELEV	ELECTROLIER ELEVATION
AWG و	AMERICAN WIRE GAUGE	CD	CIRCUIT BREAKER, CONCRETE BARRIER	CT W CU	COUNTER WEIGHT TAIL WIRE COPPER	ELOCK	ELECTRONIC LOCK
wd/c		CBTC	COMMUNICATIONS BASED TRAIN CONTROL	CUL V	CULVERT CURVE	EMB EMC	EMBANKMENT ELECTROMAGNETIC COMPATIBILITY
÷	В	CBW C&C	CONCRETE BLOCK WALL CUT AND COVER CENTERLINE TO CENTERLINE,	CVR CW	COVER CONTACT WIRE	EMER EMF	EMERGENCY ELECTROMAGNETIC FIELD
్ BAGR ₅ BAR	BRIDGE APPROACH GUARD RAILING BARRIER	C-C	CENTER TO CENTER	CWA	CONTACT WIRE CONTACT WIRE ANCHOR CONTACT WIRE HEIGHT	EMI EMS	ELECTROMAGNETIC INTERFERENCE ELEMENT MANAGEMENT SYSTEM
BAT BB	BATTERY BEGINNING OF BRIDGE	CCO CCS	CONTRACT CHANGE ORDER CALIFORNIA COORDINATE SYSTEM	CWH CWR	CONTINUOUSLY WELDED RAIL	EMU ENCL	ELECTRIC MULTIPLE UNIT ENCLOSURE
B-B B-B	BACK-TO-BACK BEGINNING OF CURVE,	CCTV CCVT	CLOSED CIRCUIT TELEVISION COUPLING CAPACITOR VOLTAGE TRANSFORMER	CWT	COUNTER WEIGHT		0_00
10	BOLT CIRCLE	CEG	CERTIFIED ENGINEERING GEOLOGIST CEMENT	D			
BCR BD	BEGIN CURB RETURN BOARD BURDECTIONAL AND LETER	CEM CER	COMMUNICATIONS EQUIPMENT ROOM	D DB	DEPTH DESIGN-BUILD		NOT FOR CONSTRUCTION
A @ B D A	BI-DIRECTIONAL AMPLIFIER	C&G	CURB AND GUTTER	DBE	DESIGN BASIS EARTHQUAKE		FOR INTERNAL USE ONLY
2		DESIGNED BY C. CUSSON					H-SPEED TRAIN PROJECT CONTRACT NO. HSR14-39
		C. CUSSON					TO LOS ANGELES DALICIMENT - DEVISED FINAL GE-CO201
		CHECKED BY	NOT FOR			OPTION B REVISED	DEDM SCALE
Son		IN CHARGE C. LEE	construction JACOBS		CALIFORNIA HIGH-SPEED RAIL AUTHORITY		S AND ABBREVIATIONS
REV DATE	BY CHK APP DESCRIPTION	DATE 07/15/20			A NIGHT SPEED KAIL AUTHUKITY	S	SHEET 1 OF 5

	(E CONTINUED)		F CONTINUED)			(H CONTINUED)		(L CONTINUED)	
ENGF			FINISHED SURFACE		HWY	HIGHWAY	LWP	LOWER WORKING POINT	
	ENGINEERÍNG	FTEL	TIRE TELEPHONE		□ ¥¥ I	HIGHWAI	LWP	LOWER WORKING FOINT	
EOB EOD	END OF BRIDGE EDGE OF DECK	FTP F	FOOTING FILE TRANSFER PROTOC	OL				M	
EOS EOW	ELECTRICAL OPERATED BRIDGE END OF WALL	FUT F	FIXED END TAIL WIRE FUTURE		IB	IMPENANCE BOND	M1 M	CONVENTIONAL RAILWAY TRACK	
EP EPBN	EDGE OF PAVEMENT	FW F	EEDER WIRE FREEWAY		IBC IDS_	INTERNATIONAL BUILDING CODE INTRUSION DETECTION CODE	MAINT	MEDIUM LOADING MAINTENANCE	
EPR EQ	ETHYLENE PROPYLENE RUBBER EQUAL.		NEEHAT		IIMP	INTERGRATED IMFORMATION MANAGEME PLATFORM	MAX	MATERIAL MAXIMUM	
	FOUTLÁTERAL		G		IJ IJP	INSULATED JOINT INSULATED JOINT PLUG	MB MBB	METAL BEAM METAL BEAM BARRIER	
EQN EQUI	D FOLITOMENT	G1 I	ENTRANCE GRADE, GRADE BEFORE CURVE		INSR INST	INSULATOR INSTANTANEOUS	MBGR MCC	METAL BEAM GUARD RAILING MAINTENANCE CONTROL CENTER	
ES	EDGE OF SHOULDER, EXTRA STRENGTH, ELECTRICAL SECTION	G2 E	XIT GRADE.		INSUL	INSULATION	MCE MCR	MAXIMUM CONSIDERED EARTHQUAKE	
ESA	ELECTRICAL SECTION ENVIRONMENTALLY SENSITIVE AREA	GALV	GRADE POST CURVE GALVANIZED			INTERIOR INTER-LOCAL ACCESS AND TRANSPOR	T AREA MDS	MASTER CONTROL ROOM MOBILE DATA SYSTEM	
ESC ESEW	ESCALATOR	GD	GRADING CONTROL LINE GRADE		INV I∕O	INVERT INPUT/OUTPUT	MECH MED	MECHANICAL MEDIAN	
ESMI	Γ EASEMENT	GHS (GALVANIZED HIGH STRE GENERAL INFORMATION	NGTH	IR IRR	IN-RUNNING (RIDING CONTACT WIRE) IRRIGATION	MĒM MESSGR	MEMBRANE MESSENGER WIRE	
ETCS ETEL	EMERGENCY TELEPHONE	GIGE (GENERAL INFORMATION GIGABIT ETHERNET GAS INSULATED SWITCH		I/S I/SJ	IN-SPAN IN-SPAN JUMPER	MET MFR	METAL MANUFACURER	
ETS ETW	FDGE OF TRAVELED WAY		GAS INSULATED SWITCH GEOGRAPHIC INFORMATION	ÖN SYSTEM	17 30	IN STAN COMMEN	MH MHHW	MANHOLE	
EVC EW	END VERTICAL CURVE EACH WAY,	G/L (GLASS GROUND LINE			J	MI	MEAN HIGHEST HIGH WATER MILD IRON	
EXC	ENDWALL	GND	GROUND MOTION ANALYS GROUND		J JAN	JUMPER JANITOR	MIN MISC	MINIMUM MISCELLANEOUS	
EXIS	ST EXISTING	GP (PUC GENERAL ORDER 95 GRADING PLANE		JB	JUNCTION BOX	MKR ML	MARKER MAIN LINE	
E XP E XPC	D EXPOSED	GPS (GLOBAL POSITIONING S GUARDRAIL,	YSTEM	JCT JP	JUNCTION JOINT POLE	MLLW MMIS	MEAN LOWER LOW WATER MAINTENANCE MANAGEMENT INFORMAT	· ION
E X W Y		(GROUND ROD	CTIC DOD	JT(S)	JOINT(S)		SYSTEM	1014
	EXTENSIOŃ	GRP (GRS (GLASS REINFORCED PLA GALVANIZED RIGID STE GRADE CROSSING	ET KOD		(K)	MO MOC	MASONRY OPENING MOTOR OPERATED CONTRACTOR	
	F	GSHA	GEOLOGIC AND SEISMIC	HAZARDS ANALYSIS	KV	KILOVOLT	MOD	MODIFIED, MODIFY	
FA	FIRE ALARM	GSP (GT	GALVANIZED STEEL PIP GENERAL INFORMATION	E			MODC MOI	MOTOR OPERATED DISCONNECT SWITC MAINTENANCE OF INFRASTRUCURE	CH
F A C F		GTGM (GEOTECHNICAL TECHNIC MANUAL (FHWA)	AL GUIDANCE			MON MOP	MONUMENT MOTOR OPERATED	
FB	FLAT BAR.	GTR	GUTTER GUY WIRE		L LA	LENGTH LANDSCAPE ARCHITECT,	MOS MOV	MANUALLY OPERATED SWITCH	
	FLOOR BEÅM, FEEDER BREAKER	GYP	GYPSUM			LIGHTING ARRESTER, LOS ANGELES (CALIFORNIA, USA)	MOW	METAL-OXIDE VARISTOR MAINTENANCE OF WAY	
FBO FC	FURNISHED BY OTHERS FARE COLLECTION FRAME AND COVER	GYPBD	GYPSUM BOARD		LA-A	LOS ANGELES TO ANAHEIM	MP MPA	MILEPOST MIDPOINT ANCHOR	
F&C FD	FRAME AND COVER FLOOR DRAIN		<u>H</u>		L AM L AN	LAMINATE LOCAL AREA NETWORK	MPH MPLS	MILES PER HOUR MULTI-PROTOCOL LABEL SWITCHING	
FDC FDN	FIRE DEPARTMENT CONNECTION FOUNDATION	HAZ	HSR TRACK 1/2/ETC. HAZARDOUS		LA-SD LAT	LOS ANGELES TO SAN DIEGO LATITUDE	MR MSE	MOVEMENT RATING MECHANICALLY STABILIZED EMBANKE	MENT
FDP	FIBER DISTRIBUTION PANEL	HB I	HARDNESS BRINELL, HOSE BIBB		LAV LC	LAVATORY LENGTH OF CURVE.	MSF	MAINTENANCE AND STORAGE FACILIT	Y
FDR FDU	FEEDER FIBER DISTRIBUTION UNIT	HC I	HANDICAP HARD DRAWN,		LCB	LENGTH OF CURVE, LANDSCAPE CONTRACTOR LEAN CONCRETE BASE	MSL MTD	MEAN SEA LEVEL MEMO TO DESIGNERS (CALTRANS),	
66 FE FES	FIRE EXTINGUISHER FLARED END SECTION	I	HORIZONTAL DRAIN HOT DIP GALVANIZED		LCX LDBE	LEAKY COAXIAL RADIO CABLE LOWER-LEVEL DESIGN BASIS EARTHOU	MUL MUL	MOUNTED MULLION	
FF 500 F/F	FILTER FABRIC FACE TO FACE	HDPE I	HIGH DENSITY POLYETH	YLENE	LED	LIGHT EMITTING DIODE	MVC MW	MINIMUM VERTICAL CLEARANCE MESSENGER WIRE	
우 FFJ 당 FFL	FULL FEEDING JUMPER FINISHED FLOOR LEVEL	HDWL I	HARDWARE HEADWALL		LF LG	LINEAR FEET LONG			
FG F&G	FINISHED GRADE FRAME AND GRATE	HH I	HEXAGONAL HANDHOLE,		LGT	LIGHT, LIGHTING			
ω FH	FIRE HYDRANT	I	HEAD HARÓENED HIGH		LH LKR	LEFT-HAND LOCKER	N	NORTH, NORTHING	
FID FID	FIRE HOSE CABINET FIRE INITIATING DEVICE	HĪ-RAII I	HIGHWAY TO RAIL ROAD	VEHICLE	LL LLT	LIGHT LOADING LAST LONG TIE	N/A NAVD	NOT APPLICABLE NORTH AMERICAN VERTICAL DATUM	
FIG FIN	FIGURE FINISH	HMA I HMI I	HOLLOW METAL HOT MIXED ASPHALT HUMAN MACHINE INTERF	ACE	LN	LANE	NB NBR	NORTHBOUND NONBRIDGING	
5 FIRM 5 FJ	THE FLOOD INSURANCE RATE MAPS FEEDER JUMPER	HO I	HAND OPERATED		LOC LOC	LOCKOUT LOCATION	NCL	NO COLLAPSE PERFORMANCE LEVEL	
FL FLB	FLOW LINE FLOOR BEAM	HOR I	HORIZONTAL	CAST GLASSFIBER REINF. P	TPE LOL LONG	LAYOUT LINE LONGITUDE,	NDP NE C	NONLINEAR DYNAMIC PROCEDURE NATIONAL ELECTRICAL CODE	
.́_ FLH	FLAT HEAD	HP I	HIGH-OCCUPANCY VEHICHIGH POINT,	LE	LOS	LONGITUDIŃAL LEVEL OF SERVICE	NE G NE UT	NEGATIVE NEUTRAL	
FLR FNA	FLOOR FIRE NOTIFICATION APPLIANCE	ŀ	HINGE POINÍ HIGHWAY PLANTING AND	RESTORATION	LOTB	LOGS OF TEST BORINGS LOW POINT,	NF	NEGATIVE FEEDER, NEAR FACE	
FO FOC	FIBER OPTIC FIBER OPTIC CABLE, FACE OF CURB	HPS I	HIGH PERFORMANCE STE HANDRAIL	EL	LPL	LOW PROFILE LIGHT POLE	NGVD NI	NATIONAL GEODETIC VERTICAL DATIL	М
FOCN	N FIBER OPTIC CABLING NETWORK	HRI I	HIGH RAIL LEVEL HIGH STRENGTH		LR	LOW RAIL	NIC	NETWORK INTERFACE NOT IN CONTRACT NETWORK MANAGEMENT SYSTEM	
ö FOF FOP	FACE OF FINISH FACE OF POLE	H/SPAN I	HF ADSPAN		LRFD LRT	LOAD AND RESISTANCE FACTOR DESIGNATION FOR THE PROPERTY OF THE	GN NMS NO	NUMBER.	
FOS	FACE OF STUDS, FACTOR OF SAFETY	HSR I HST I	HIGH-SPEED RAIL HIGH-SPEED TRAIN		LRV LS	LIGHT RAIL TRANSIT LIGHT RAIL VEHICLE LENGTH OF SPIRAL, LANDSCAPING, LUMP SUM	NOM	NORMALLY OPEN NOMINAL	
25 EDIT	FILL PENETRATION	HT I HTR I	HIGH TEMPERATURE HEATER			LANDSCAPING, LUMP SUM	NP	NETWORK PORT	
FPLN FPRF	FIRE PROOF	HV	HIGH VOLTAGE HEATING VENTING AND	AIR CONDITIONING	L T L V	LEFT LOW VOLTAGE			
FPS FR	FRAMES PER SECOND FRAME	HW	HIGH WATER HIGH WATER TABLE	CONDITIONING	LV LVL LVT	LEVEL LOW VIBRATION TRACK		NOT FOR	CONSTRUCTION
FREC) FREQUENCY	HWM I	HIGH WATER MARK			LOW AIDMAILON LEACE			RNAL USE ONLY
7.71		DESIGNED BY C. CUSSON		STV 100		I	CALIFORNIA HIGH	-SPEED TRAIN PROJECT	CONTRACT NO. HSR14-39
		DRAWN BY C. CUSSON	PEPD RECORD SET	Jan V Wears				TO LOS ANGELES	DRAWING NO.
		CHECKED BY	_	J]	OPTION B REVISED	ALIGNMENT - REVISED FINAL	GE-C0202
) o o		IN CHARGE C. LEE	NOT FOR CONSTRUCTION	JACOBS		CALIFORNIA	ACRONYMS	PEPD AND ABBREVIATIONS	NO SCALE
S REV DATE	E BY CHK APP DESCRIPTION	DATE 07/15/2021		UACOBO		HIGH-SPEED RAIL AUTHORITY		EET 2 OF 5	SHEET NO.
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	(N CONTINUED)		(P CONTINUED)		(R CONTINUED)		(S CONTINUED)
NPRM NPS	NOTICE OF PROPOSED RULE MAKING NOMINAL PIPE SIZE	PPL PPP	PREFORMED PERMEABLE LINER PERFORATED PLASTIC PIPE	RRR	RESURFACING, RESTORATION, REHABILITATION (3R)	SSW SS	STEADY SPAN WIRE SANITARY SEWER
NR NR NS	NOW THE SIZE NOT REGISTERED NOT SUPPORTED	PR PRI	PAIR PRIMARY RATE INTERFACE (ISDN SERVICE)	RRRR	RESURFACING, RESTORATION, REHABILITATION, RECONSTRUCTION (4F	ST	SPIRAL TO TANGENT, STREET
NT NTP	NF TWORK	PROP PS	PROPOSED PARALLELING STATION,	RRX R&S	RAILROAD GRADE CROSSING REMOVE AND SALVAGE	STA	STATION, STATIONING
NTS	NOTICE TO PROCEED, NETWORK TIME PROTOCOL NOT TO SCALE	P/S	POINT OF SWITCH PRESTRESSED	RSP RT	ROCK SLOPE PROTECTION RESILIENT TILE,	STBB STD	SINGLE THRIE BEAM BARRIER STANDARD
1,113	NETWORK TIME SERVER	PS PSP	PARALLELING STATION PERFORATED STEEL PIPE	RTE	RIGHT ROUTE	STC STIFF	SINGLE TRACK CANTILEVER STIFFENER
	0	PSTN PSTTWS	PUBLIC SWITCHED TELEPHONE NETWORK PUBLIC SAFETY TRENCH AND TUNNEL	RTU RW	REMOTE TERMINAL UNIT RETAINING WALL	STL STOR	STEEL STORAGE
OA	OVERALL	PSU	WIRELESS SYSTEM POWER SUPPLY UNIT	R/W RWL	RIGHT-OF-WAY RAIN WATER LEADER	STP STR	SHIELDED TWISTED PAIR CABLE STRUCTURAL,
OBLR OC	OBLITERATE ON CENTER, OVERBROES,	PT PTC	POTENTIAL TRANSFORMER	RWY	RAILWAY	STS	STRUCTURE ´ SPIRAL TANGENT SPIRAL
OCC OCS	OVERCROSSÍNG OPERATIONS CONTROL CENTER OVERHEAD CONTACT SYSTEM	PTD/R PTEL	POSITIVE TRAIN CONTROL PAPER TOWEL DISPENSER AND RECEPTACLE PASSENGER ASSISTANCE TELEPHONE PARKING TICKET MACHINE		S	STW Supv	STATIC WIRE SUPERVISORY
OF OFF	OUTSIDE FACE OFFSET	PTM PTT	PUSH TO TALK	S	SOUTH, SLOPE	SURF SUSP	SURFACING SUSPENDED
OG OH	ORIGINAL GROUND OVERHEAD	PTZ PUE	PAN-TILT-ZOOM PUBLIC UTILITY EASEMENT	SAE SALV	STRUCTURE APPROACH EMBANKMENT SALVAGE	SW	SOUNDWALL, SOFTWARE
0-LA 0&M	ORANGE COUNTY TO LOS ANGELES OPERATIONS AND MAINTENANCE	PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVATURE	SAPP	STRUCTURAL ALUMINUM PLATE PIPE SOUTHBOUND	SWA SWAT	SINGLE WIRE ANCHOR SINGLE WIRE AUTO TENSIONED
0-0 00R	OUT TO OUT OUT-OF-RUNNING (NONRIDING CONTACT WIRE)	PVI PVMT	POINT OF VERTICAL INTERSECTION PAVEMENT	SB SC	SPIRAL TO CURVE, SWITCH CABLE	SWFT SWGR	SINGLE WIRE - FIXED TERMINATION SWITCHGEAR
OP OPL	OVERPASS OPERABILITY PERFORMANCE LEVEL	PVT PWR	POINT OF VERTICAL TANGENCY POWER	SCADA SCAT	SUPERVISORY CONTROL AND DATA AQU SIMPLE CATENARY - AUTO TENSION		SIDEWALK STORM WATER POLLUTION PREVENTION PLAN
OPNG OPP	OPENING OPPOSITE		Q	SCB SCC	SUBSTATION CONTROL BUILDING STATION CONTROL CENTER	SWR SWS	SEWER SWITCHING STATION
ORS OSP	OPERATIONS RADIO SYSTEM OUTSIDE PLANT	QOS	QUALITY OF SERVICE	SCD SCFT	SEAT COVER DISPENSER SIMPLE CATENARY - FIXED TENSION	SWT SYM	SWITCH SYMMETRICAL
ÖVERTE		QT QTY	QUARRY TILE QUANTITY	SCB SCC SCD SCFT SCHD SCN	SCHEDULE SECURITY CLASSIFICATION NUMBERS		T
	P			SCSP	SEISMIC CAPACITY AND PERFORMANCE SLOTTED CORRUGATED STEEL PIPE	TAN	TREAD TANGENT
P-LA PA	PALMDALE TO LOS ANGELES PUBLIC ADDRESS	R	(R RADIUS,	SD SDB SDC SDOF	STORM DRAIN System Duct Bank	TASAS T&B	TRAFFIC ACCIDENT SUREILLANCE ANALYSIS SYSTEM TOP AND BOTTOM
PACIS	PUBLIC ADDRESS/CUSTOMER INFORMATION SYSTEM	RA	RED REMOTE ANNUNCIATOR	SDC SDOF	SEISMIC DESIGN CRITERIA SINGLE DEGREE OF FREEDOM	TBD TBM	TO BE DETERMINED TUNNEL BORING MACHINE
PAX PB	PASSENGER PULL BOX,	R/A RAID	ROCK ANCHOR REDUNDANT ARRAY OF INDEPENDENT DISKS	SE SECT	SUPER ELEVATION SECTION	TCL TC	TRACK CENTERLINE TRAIN CONTROL
PBX	PUSH BUTTON (ON FLECTRICAL DIAGRAMS)	RB RBM	RESILIENT BASE RAILBOUND MANGANESE FROG	SECTLEG SEM	SECTIONALIZING SEQUENTIAL EXCAVATION METHOD	TCB TCC	TRAFFIC CONTROL BOX TRAIN CONTROL AND COMMUNICATIONS
PC PCC	PRIVATE BRANCH EXCHANGE PRECAST CONCRETE PORTLAND CEMENT CONCRETE	RC	REGIONAL CONSULTANT, REINFORCED CONCRETE	SEP SERV SF	SEPARATION SERVICE SPRING FROG	TCCR TCCT TCE	TRAIN CONTROL AND COMMUNICATIONS ROOM TRACK CIRCUIT TEMPORARY CONSTRUCTION EASEMENT
PCP PCPT	PERFORATED CONCRETE PIPE PIEZOCONE PENETROMETER TEST	RCA RCB	REINFORCED CONCRETE ARCH REINFORCED CONCRETE BOX	SFS SG	SANTA FE SPRINGS SUBGRADE	TCP/IP	TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL
PE PED	PORCELAIN ENAMEL PEDESTRIAN	RCC RCE	REGIONAL CONTROL CENTER REGISTERED CIVIL ENGINEER	SHA SHLD	SEISMIC HAZARDS ANALYSIS SHOULDER	TCR TD	TRANSMISSION COMMUNICATIONS ROOM TRENCH DRAIN,
PEPD	PRELIMINARY ENGINEERING FOR PROJECT DEFINITION	RCP RCPA	REINFORCED CONCRETE PIPE REINFORCED CONCRETE PIPE ARCH	SHS SHT	STATE HIGHWAY SYSTEM SHEET	TDA	TIME DELAY TIRE DERIVED AGGREGATE
PERF PERM	PERFORATED PERMEABLE, PERMANENT	RD	ROAD, ROOF DRAIN	ŠI	SECTION INSULATOR, SITE INVESTIGATION	TDD TDM	TELECOMMUNICATIONS DEVICE FOR THE DEAF TIME DIVISION MULTIPLEXING
PET PF PFDHA	POTENTIAL EQUALIZING JUMPER POWER FACTOR PROBABILISTIC FAULT DISPLACEMENT	R&D RDWY RE	REMOVE AND DISPOSE ROADWAY RUNNING EDGE OF RAIL	SIG SIM	SIGNAL SIMILAR	TEL TEMP	TELEPHONE TEMPORARY
PGL PGL	HAZARD ANALYSIS PROFILE GRADE LINE	REBAR RECT	CONCRETE REINFORCED BAR RECTANGULAR	SLAN SM_	PASSENGER STATION LOCAL AREA NET SELECTED MATERIAL	TES	TERMINATION TRACTION ELECTRIFICATION SYSTEM
PH PHE	PHASE POTHOLE	REF REFP	REFERENCE REFERENCE POINT	SMF	SOLID MANGANESE FROG, SINGLE MODE FIBER	TESC TETEL	TEMPORARY EROSION AND SETTLEMENT CONTROL TRAIN EMERGENCY TELEPHONE/SPEAKERPHONE
PID PITO	PASSENGER INFORMATION DISPLAY POINT OF INTERSECTION TURNOUT	REINF	REINFORCED, REINFORCEMENT,	SNF SNTP SP	SWING NOSE FROG SIMPLE NETWORK TIME PROTOCOL SPARE	TFE TG THK	TETRAFLOUROETHYLENE TOP OF GRADE
PJP PL	PARTIAL JOINT PENETRATION PLATE,	REL	REINFORCING RELOCATE,	SPC SPEC	SPARE SPECIAL SPECIFICATION	TIS TK	THICK TELEPHONE AND INTERCOM SYSTEM TRACK
P/L	PLACE PROPERTY LINE	REM	RELOCATEĎ REMOTE	SPKR SPL	SPEAKER SAFETY PERFORMANCE LEVEL	TL TM	TENSION LENGTH TECHNICAL MEMORANDUM
PLAM PLAS	PLASTIC LAMINATE PLASTER	REPL REQD	REPLACEMENT REQUIRED_	SPS SPST	SMALL PART STEELWORK SINGLE POLE SINGLE THROW	TMP TO	TEMPERATURE TURNOUT.
F PLYWD	PROGRAMMABLE LOGIC CONTROLLER PLYWOOD _	RESIL RET	RESILIENT RETAINING	SPT SQ	STANDARD PENETRATION TEST SQUARE	TOC	TELECOM OUTLET TOP OF CURB
Ommd	POST MILE, POST MERIDIEM (TIME FROM NOON TO MIDNIGHT)	REV	REVISED, REVISION	SR	SYSTEM REQUIREMENT, STATE ROUTE	TOG TOL	TOP OF GRATE TOLERANCE
PMS PN	PAVEMENT MANAGEMENT SYSTEM PAVING NOTCH	RF RFI	RADIO FREQUENCY REQUEST FOR INFORMATION	SRRA SRSS	SAFETY ROADSIDE REST AREA SQUARE ROOT OF SUM OF SQUARES	TOLR TOF	TOP OF LOW RAIL TOP OF FOUNDATION
PNL PNT	PANEL POINT PULL OFF	RGS RH RM	RIGID GALVANIZED STEEL RIGHT-HAND PESTRICTED MANUAL	SS	SLOPE STAKE, SUBSTATION	TOF G TOP	TOP OF FINISH GRADE TOP OF PAVEMENT
POC POE	POINT OF CONNECTION POINT OF ENDING	RM R-M	RESTRICTED MANUAL, ROOM ROAD MIXED	S/SPAN SSI	STEADY SPAN SOLL STRUCTURE INTERACTION	TOR	TOP OF RAIL
5 POLS POS POE	POSITIVE PLAIN ORDINARY TELEPHONE SERVICE	RO ROW	ROUGH OPENING RIGHT-OF-WAY	SSK SSPA	SERVICE SINK STRUCTURAL STEEL PLATE ARCH STRUCTURAL STEEL PLATE PIPE STRUCTURAL STEEL PLATE PIPE ARCH		
PP	PLASTIC PIPE, POWER POLE	RP RR	RADIUS POINT RAILROAD.	SSPP SSPPA	STRUCTURAL STEEL PLATE PIPE STRUCTURAL STEEL PLATE PIPE ARCH		
1/202	. 6.12 622		RUNNING RAIL	SSRP SST	STEEL SPIRAL RIB PIPE STAINLESS STEEL		NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY
7/1,		DESIGNED BY	N STV	00		CALIFORNIA HIG	AH-SPEED TRAIN PROJECT CONTRACT NO. HSR14-39
	+ + + +	DRAWN BY C. CUSSO					K TO LOS ANGELES DRAWING NO.
	+ + + +	CHECKED BY	NOT FOR			OPTION B REVISE	DEDM SCALE
Sson		IN CHARGE C. LEE DATE	construction JACOBS		CALIFORNIA HIGH-SPEED RAIL AUTHORITY		IS AND ABBREVIATIONS SHEET 3 OF 5
REV DATE	BY CHK APP DESCRIPTION	07/15/2	2021				SHELL J OF J

	(T CONTINUED)		(W CONTINUED)		(TRACK GEOMETRY - HORIZONTAL)		(UNITS OF MEASUREMENT)
TOS TOT	TOP OF SLOPE TOP OF TIE,	W/ WA	WITH WORK AREA	ВС	BEGIN HORIZONTAL CURVE	AC AMP	ACRES AMPERES
TOW TP	TOTAL TOP OF WALL	WB WC WCS	WESTBOUND WATER CLOSET	CC CS	COMPOUND CURVE POINT OF CHANGE FROM CIRCULAR CURVE TO SPI	IRAL BTU	BRITISH THERMAL UNIT
TPB	TELEPHONE POLE, TRACTION POWER TREATED PERMEABLE BASE	WD WLAN	WIRELESS COMMUNICATIO WOOD WIRELESS LOCAL AREA N	K 1	TANGENT DISTANCE PF SHIFT PC REFERENCE TO THE TS	CAL CF	CALIPER CUBIC FEET
TPD TPF	TOILET PAPER DISPENSER TRACTION POWER FACILITY	WM W/O	WIRE MESH WITHOUT	K2	TANGENT DISTANCE PF SHIFT PT REFERENCE TO THE ST	CP CY	CANDLE POWER CUBIC YARD
TPM TPS TPSS	TREATED PERMEABLE MATERIAL TRACTION POWER SUPPLY SYSTEM TRACTION POWER SUBSTATION	WP WPF	WORK POINT, WOOD POLE WATERPROOF	LC Ls1	LENGTH OF CIRCULAR CURVE LENGTH OF SPIRAL FROM TS TO SC	dB DEG	DECIBEL DEGREE
T/R	(INCLUDING PARALLEL AND SWITCHING STATIONS) TOP OF RAIL ELEVATION	WPC WR	WAYSIDE POWER CUBICLE WIRE RUN	IS Ls2 LSc	LENGTH OF SPIRAL FROM CS TO ST LENGTH OF COMPOUND SPIRAL FROM CS TO SC	DIA	DIAMETER
TRANS	TRANSVERSE, TRANSITION	WRT WS	WITH RESPECT TO WATER SURFACE,	р1	OFFSET FROM INITIAL TANGENT TO PC OF THE SHIFTED CIRCLE OF SPIRALIZED CURVE	Eu	UNBALANCED SUPERELEVATION
TRK TS	TRACK TRAFFIC SIGNAL, TANGENT TO SPIRAL,	WSP WT	WORK STATION ' WELDED STEEL PIPE WEIGHT	p2	SHIFTED CIRCLE OF SPIRALIZED CURVE OFFSET FROM INITIAL TANGENT TO PT OF THE SHIFTED CIRCLE OF SPIRALIZED CURVE	F F T	FARENHEIT FOOT, FEET
TSI	TUBULAR STEEL TECHNICAL SPECIFICATIONS FOR INTEROPERABILITY	WV	WATER VALVE WINGWALL,	PC PCC	POINT OF CURVATURE POINT OF COMPOUND CURVE	g GA	ACCELERATION DUE TO GRAVITY
TSM TSMP TTC	TRAFFIC SYSTEMS MANAGEMENT TRAFFIC SYSTEMS MANAGEMENT PLAN TWO TRACK CANTILEVER	WWF WWJCL	WALKWAY WELDED WIRE FABRIC	PF PI PITO	POINT OF FROG POINT OF INTERSECTION POINT OF INTERSECTION TURNOUT	GA GAL GB	GAUGE GALLON GIGABYTE
TTEL TV	TRAIN EMERGENCY SPEAKERPHONE TELEVISION	WWLOL WWM	WELDED STEEL PIPE WINGWALL LAYOUT LINE WELDED WIRE MESH	POC POE	POINT ON HORIZONTAL CURVE	GBPS GH <i>z</i>	GIGABITE GIGABITS PER SECOND GIGAHERTZ
TVS(S) TW	TICKET VENDING MACHINE(S) TIE WIRE		X	POS POVC	POINT OF ENDING POINT ON SPIRAL POINT ON VERTICAL CURVE	HR	HOUR
TWC TWT TYP	TIME WARNER CABLE TIME WARNER TELEPHONE TYPICAL	X/CAT	CROSS CANTENARY	POVT PRC PRVC	POINT ON VERTICAL TANGENT POINT OF REVERSE CURVE POINT OF REVERSE VERTICAL CURVE	HT H <i>z</i>	HEIGHT HERTZ
	U	XD XFMR XO	TRANSDUCER TRANSFORMER CROSSOVER	PS PT	POINT OF SWITCH POINT OF TANGENT	ID IF	INSIDE DIAMETER INSIDE FACE
UB	UTILITY BOX	XOST XSEC	CROSSOVER SPRING TENS	SIONER SC SPO	POINT OF CHANGE FROM SPIRAL TO CIRCULAR CU POINT ON ORIGIN OF COMPOUND SPIRAL	IN JRVE IR	INCHES INSIDE RADIUS
UBC UC	UNIFORM BUILDING CODE UNDERCROSSING	X/SPAN XING	CROSS SPAN CROSSING	SS SSC	POINT OF CHANGE BETWEEN SPIRALS SPIRAL TO SPIRAL POINT OF CURVATURE	K KCMIL	KIPS (1000 POUNDS) THOUSAND CIRCULAR MILS
U D UG	UNDERDRAIN UNDERGROUND, UNDERGRADE	XMITTER	TRANSMITTER	ST	POINT OF CHANGE FROM SPIRAL TO TANGENT	KHZ KSF	KILOHERTZ KIPS PER SQUARE FOOT
UGB UI	UNDERGRADE BRIDGE USER INTERFACE			TC TS Ts1	POINT OF CHANGE FROM TANGENT TO CURVE POINT OF CHANGE FROM TANGENT TO SPIRAL TANGENT DISTANCE FROM TS TO PI	KSI KV KVA	KIPS PER SQUARE INCH KILOVOLTS KILOVOLTS-AMPERE
UNINS UON UP	UNINSULATED UNLESS OTHERWISE NOTED UNDERPASS			Ts2	TANGENT DISTANCE FROM ST TO PI	KVAR KW	KILOVOLTS-AMPERE REACTIVE KILOWATT
UPS UR	UNINTERRUPTIBLE POWER SUPPLY URINAL			Xs1 Xs2	TANGENT OFFSET AT THE SC TANGENT OFFSET AT THE CS	KWH∕D	KÎLOWATT HOUR / DEMAND
UrEDAS USCS	URGENT EARTHOUAKE DETECTION AND ALARM SYSTEM UNIFIED SOIL CLASSIFICATION SYSTEM			Δ Δc	TOTAL CENTRAL ANGLE OF THE SPIRALIZED CURV CENTRAL ANGLE OF CIRCULAR CURVE (Lc) FROM	VE LB LB/FT	LENGTH POUNDS POUNDS PER FOOT
UTIL UTPUN UWP	UTILITY SHIELDED TWISTED PAIR UPPER WORKING POINT			<u>Δ</u> c1	SC TO CS CENTRAL ANGLE OF FIRST CIRCULAR CURVE OF	LF	LINEAR FOOT
ngb.	V			∆ c2	COMPOUND CURVATURE CENTRAL ANGLE OF SECOND CIRCULAR CURVE OF COMPOUND CURVATURE	m MBPS MCM	METER MEGABITS PER SECOND THOUSAND CIRCULAR MILS
V V	VELOCITY,			θ s1	CENTRAL ANGLE OF SPIRAL LENGTH LS1 OR SPIR	MHZ RAL mm	MEGAHERTZ MILLIMETER
- GE -	DESIGN SPEED, VALVE			θs2	ANGLE OF FIRST SPIRAL IN SPIRALIZED CURVE CENTRAL ANGLE OF SPIRAL LENGTH LS2 OR SPIF ANGLE OF SECOND SPIRAL IN SPIRALIZED CURVE	MPH RAL MVA	MILES PER HOUR MEGAVOLT-AMPERE MEGAWATT
VAC VAR	VOLTS ALTERNATING CURRENT VARIABLE, VARIES			θsc	CENTRAL ANGLE OF COMPOUND SPIRAL OR COMPOUND SPIRAL ANGLE FROM CS TO SC	. MW OD	OUTSIDE DIAMETER
VCE VCAT	VIRTUAL CONCETENATION VERTICAL CIRCULATION ELEMENT				(TRACK GEOMETRY - VERTICAL)	PSF	POUNDS PER SQUARE FOOT
VCP VCT VCD	VITRIFIED CLAY PIPE VINYL COMPOSITION TILE VOLT DC			BVC	BEGIN VERTICAL CURVE	PSI PSIG	POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH GAUGE
ÿn VE VERT	VALUE ENGINEERING VERTICAL			Ea EVC	ACTUAL SUPERELEVATION END VERTICAL CURVE	SEC SF	SECOND SQUARE FEET
VĒST VIA	VESTIBULE VIADUCT			PCVC	POINT OF COMPOUND VERTICAL CURVE	SY TF	SQUARE YARD
VLAN VMS	VIRTUAL LOCAL AREA NETWORK VARIABLE MESSAGE SIGN, VARIABLE MESSAGE SYSTEM			POVC POVT	POINT ON VERTICAL CURVE POINT ON VERTICAL TANGENT	VA	TRACK FEET VOLTS
VOL	VOLTIMETER, VOLUME			PVI VC	POINT OF VERTICAL INTERSECTION VERTICAL CURVE	VÃC VO	VOLT-AMPERE VOLATILE
VOIP VPN VRCS	VOICE OVER INTERNET PROTOCOL VIRTUAL PRIVATE NETWORK VOICE RADIO COMMUNICATIONS SYSTEM			VPI	VERTICAL CORVE VERTICAL POINT OF INTERSECTION	Y YR(S)	YARDS YEAR(S)
₹ VRCS	VOICE RADIO COMMUNICATIONS SYSTEM VOLTAGE SWITCH VOLTAGE TRANSFORMER/TRANSDUCER					14(2)	ILAN(3)
10:14:	W						
M M	WEST,						NOT FOR CONSTRUCTION
11472	WIDTH	DESIGNED BY		A COPPLY			FOR INTERNAL USE ONLY
		C. CUSSON	PEPD	STV 100			HSR14-39 DRAWING NO.
		C. CUSSON CHECKED BY C. LEE		-9			ISED ALIGNMENT - REVISED FINAL GE-C0204
SsonC		IN CHARGE C. LEE	NOT FOR CONSTRUCTION	JACOBS'	CALIFORNIA HIGH-SPEED RAIL AUTHORITY	ACRO	NYMS AND ABBREVIATIONS NO SCALE
REV DATE	BY CHK APP DESCRIPTION	07/15/2	021		THE I SI LLU NAIL AUTHONITY		SHEET 4 OF 5

(AGENCIES/ORGANIZATIONS/REFERENCE)	(AGENCIES/ORGANIZATIONS/REFERENCE	CONTINUED (SEGMENT/COUNTY CODES AND SUBDIVISIONS)
AAR ASSOCIATION OF AMERICAN RAILROADS AASHTO AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS ACI AMERICAN CONCRETE INSTITUTE ADA AMERICAN WITH DISABILITIES ACT (FEDERAL) AISC AMERICAN WITH DISABILITIES ACT (FEDERAL) AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMTRAK NATIONAL RAILROAD PASSANGER CORPORATION ANSI AMERICAN NATIONAL STANDARDS INSTITUTE ANSS ADVANCED NATIONAL SEISMIC SYSTEM APWA AMERICAN PUBLIC WORKS ASSOCIATION AREA AMERICAN RAILWAY ENGINEERING ASSOCIATION AREA AMERICAN RAILWAY ENGINEERING ASSOCIATION AREA AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION INTERMODAL CENTER ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS ASTM ASTM INTERNATIONAL, AMERICAN SOCIETY OF TESTING AND MATERIALS ATC APPLIED TECHNOLOGY COUNCIL AUTHORITY CALIFORNIA HIGH-SPEED RAIL ATHORITY AWS AMERICAN WELDING SOCIETY BART BAY AREA RAPID TRANSIT DISTRICT BDA BRIDGE DESIGN DETAILS (CALTRANS) BDD BRIDGE DESIGN DETAILS (CALTRANS) BDD BRIDGE DESIGN PRACTICE (CALTRANS) BDD BRIDGE DESIGN PRACTICE (CALTRANS) BDS BRIDGE DESIGN PRACTICE (CALTRANS) BCC CALIFORNIA DEPARTMENT OF TRANSPORTATION CBC CALIFORNIA DEPARTMENT OF TRANSPORTATION CBC CALIFORNIA DEPARTMENT OF TRANSPORTATION CCC CALIFORNIA HIGH-SPEED TRAIN DESIGN CRITERIA CCC CALIFORNIA ELECTRIC CODE CCOA CALIFORNIA HIGH-SPEED TRAIN DESIGN CRITERIA CCC CALIFORNIA ELECTRIC CODE CCOA CALIFORNIA HIGH-SPEED TRAIN DESIGN CRITERIA CCC CALIFORNIA HIGH-	NEMA NATIONAL ELECTRICAL MANUFACTU ASSOCIATION NENA NESC NATIONAL EMERGENGY NUMBER ASS NESC NATIONAL ELECTRICAL SAFETY CO NFPA NATIONAL FIRE PROTECTION ASSON NIST NATIONAL INSTITUTE OF STANDAR TECHNOLOGY OCFCD OCTA ORANGE COUNTY FLOOD CONTROL OCTA OCCUPATIONAL SAFETY AND HEALT ADMINISTRATION PEER PACIFIC GAS AND ELECTRIC COMP. PUC PUBLIC UTILITIES COMMISSION RSIA RAIL SAFETY IMPROVEMENT ACT (STATE) SAVE SCE SOUTHERN CALIFORNIA EDISON SCRRA SOUTHERN CALIFORNIA EDISON SCRRA SOUTHERN CALIFORNIA REGIONAL (METROLINK) SDG&E SAN DIEGO OAS AND ELECTRIC CO SDNR SAN DIEGO NORTHERN RAILWAY SHOPP STATE HIGHWAY OPERATION AND P PROGRAM (FORMERLY HSOPP) SHPO STATE HISTORIC PRESERVATION OF SJRRA SAN JOAQUIN REGIONAL RAIL AUTI SMUD SACRAMENTO MUNICIPAL UTILITY I SPTC SOUTHERN PACIFIC TRANSPORTATION SEISMIC SAFETY COMMISSION	INCERS AJ ALTAMONT PASS SOCIATION FOR FIRE PARENT OF DEAL PROPERTY OF THE PROP
	C. CUSSON DRAWN BY PEPD DESIGNED BY C. CUSSON PEPD	V 100 CAL
	C. CUSSON RECORD SET	- Gears

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY CALIFORNIA HIGH-SPEED TRAIN PROJECT

BURBANK TO LOS ANGELES OPTION B REVISED ALIGNMENT - REVISED FINAL

PEPD ACRONYMS AND ABBREVIATIONS SHEET 5 OF 5

HSR14-39
RAWING NO. GE-CO2O5
NO SCALE
HEET NO.

C. LEE IN CHARGE

DESCRIPTION

BY CHK APP

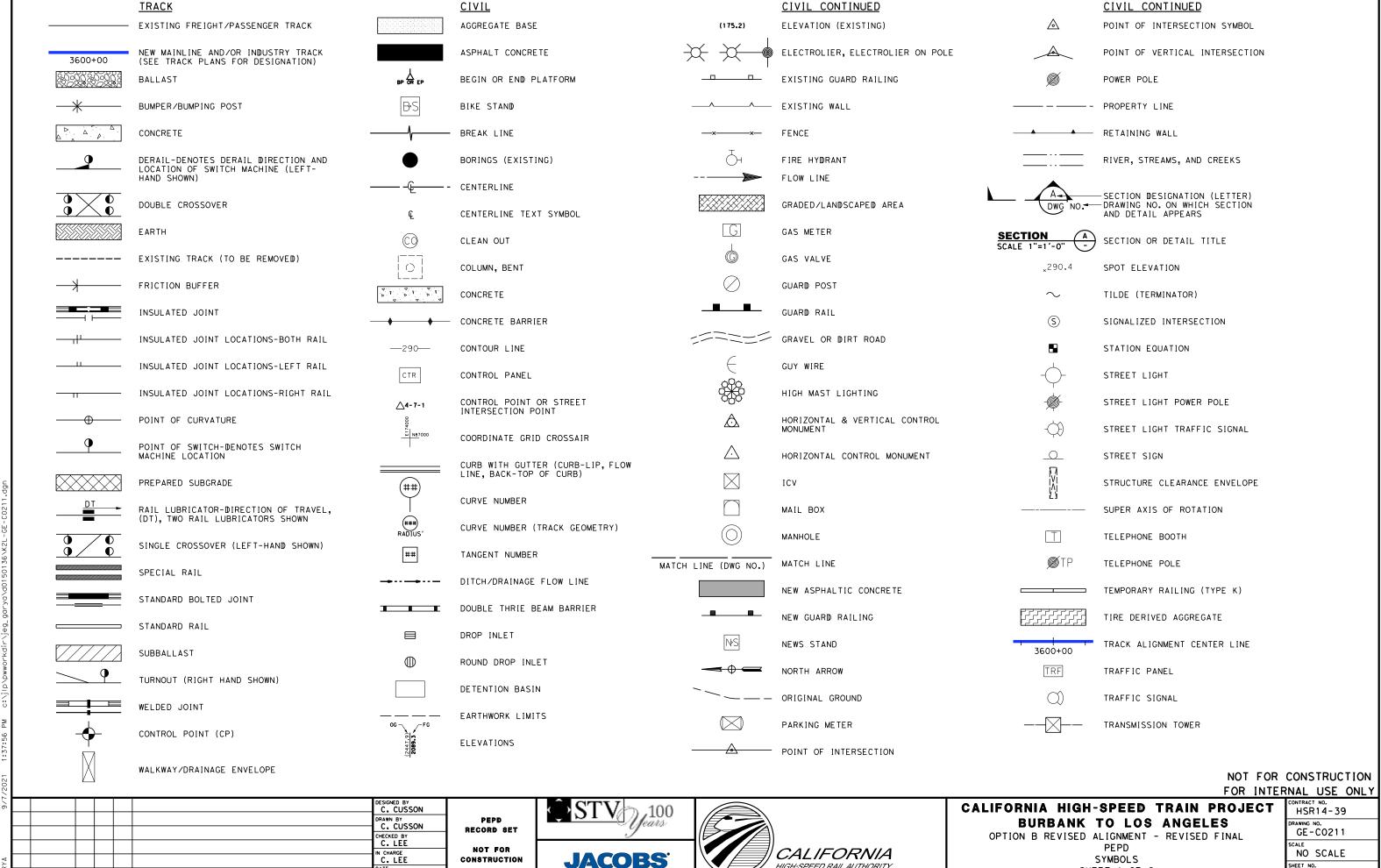
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07/15/2021

CONSTRUCTION







DATE

BY CHK APP

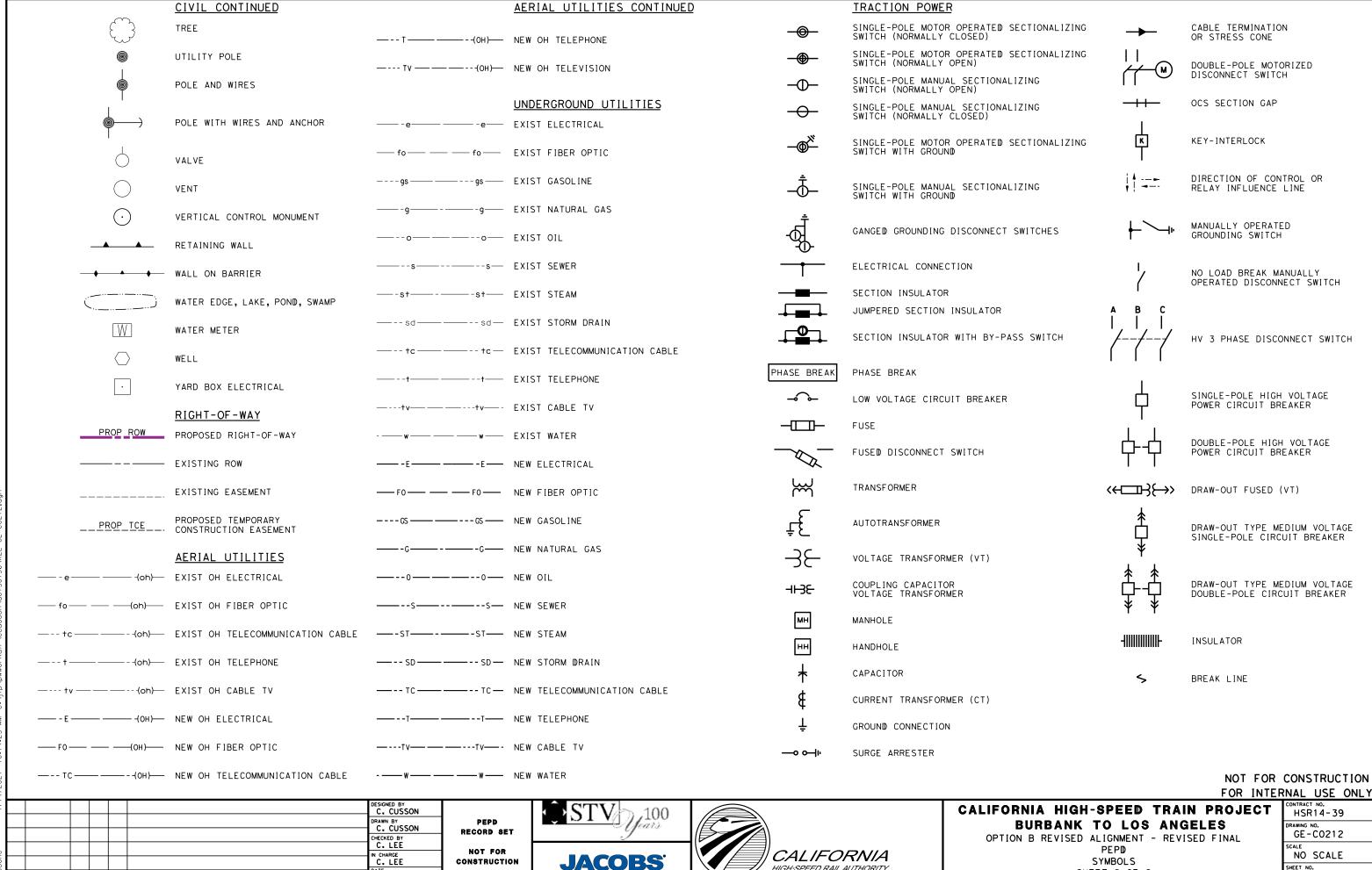
DESCRIPTION

08/27/2021

HIGH-SPEED RAIL AUTHORITY

SHEET NO.

SHEET 1 OF 2



HIGH-SPEED RAIL AUTHORITY

CONSTRUCTION

07/15/2021

DATE

BY CHK APP

DESCRIPTION

PEPD SYMBOLS SHEET 2 OF 2

SHEET NO.

VOLUME 3.1

- 1. FOR UPRR ALIGNMENTS, SEE "TT-D1500" SHEETS.
- FOR GRADE SEPARATION DETAILS, SEE VOLUME 3.
- FOR AERIAL STRUCTURE DETAILS, SEE VOLUME 2.
- 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.
- SCRRA TURNOUT GEOMETRY IS BASED ON THE 2009 EDITION OF THE SCRRA ENGINEERING STANDARDS.
- PROPOSED FENCE, WHERE INDICATED ON PLANS, REPRESENT AN ACCESS CONTROL WALL WITH FENCE, REFER TO TM 2.8.2 FOR ACCESS CONTROL FOR HIGH-SPEED RAIL RIGHT-OF-WAY AND FACILITIES.
- 7. FOR TUNNEL INFORMATION, SEE TUNNEL PLANS IN VOLUME 2.

VOLUME 3.2

- FOR TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
- FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
- FOR BRIDGE INFORMATION, SEE STRUCTURAL PLANS IN VOLUME 3.
- FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
- FOR GRADING INFORMATION, SEE GRADING PLANS IN VOLUME 4.
- FOR DRAINAGE INFORMATION, SEE DRAINAGE PLANS IN VOLUME 4.
- FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
- FOR TRENCH INFORMATION, SEE STRUCTURAL PLANS IN VOLUME 4.
- ACCESS DETERRING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.

VOLUME 3.3

- 1. FOR TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
- FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
- FOR AERIAL STRUCTURE INFORMATION, SEE STRUCTURAL PLANS IN VOLUME 2.
- FOR RETAINING WALL INFORMATION, SEE RETAINING WALL PLANS IN VOLUME 2.
- FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
- FOR GRADING INFORMATION, SEE GRADING PLANS IN VOLUME 4. FOR DRAINAGE INFORMATION, SEE DRAINAGE PLANS IN VOLUME 4.
- FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4. FOR TRENCH INFORMATION, SEE STRUCTURAL PLANS IN VOLUME 4.
- 10. ACCESS DETERRING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.
- 11. FINAL DESIGN PROJECT TO COMPLY WITH NFPA 1901 (2016 EDITION) SECTION 12.3.2.3 FOR ALL GRADE SEPARATION AND STREET IMPROVEMENTS.
- 12. FINAL STREET IMPROVEMENT DESIGN TO MAINTAIN FIRE DEPARTMENT AND PEDESTRIAN ACCESS.

VOLUME 3.4

EXISTING COMPOSITE UTILITY NOTES:

- 1. FOR TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
- UTILITY CONFLICTS ON CROSSING STREETS AT EXISTING GRADE SEPARATIONS ARE ANTICIPATED.
- ONLY THE FOLLOWING UTILITIES SHALL BE CONSIDERED MAJOR AND ARE IDENTIFIED IN THE UTILITY CONFLICTS MATRIX ON THE DRAWINGS. A. WET UTILITIES:
 - I. SEWER. WATER. STORM DRAIN GREATER THAN OR EQUALTO 12".
 - II. ALL OIL LINES.
 - III. ALL FUEL (GASOLINE) LINES.
 - B. DRY UTILITIES:
 - I. ALL GAS LINES.
 - II. ALL FIBER OPTIC LINES.
 - III. ALL ELECTRIC LINES GREATER THAN 240V.
 - IV. ALL DUCT BANKS WITH 6 OR MORE DUCTS.
 - V. EXCLUDE INDIVIDUAL TELEPHONE, CABLE LINES.
 - C. ALL OTHER CONFLICTS ARE CONSIDERED MINOR AND ARE NOT SHOWN IN THE UTILITY CONFLICT MATRIX.
 - UTILITIES AT GRADE SEPARATIONS ARE NOT SHOWN IN THE UTILITY CONFLICTS MATRIX EVEN IF THEY FALL UNDER THE ABOVE CRITERIA SINCE VOLUMES 3 & 4 OFFER MORE SPECIFIC AND ACCURATE INFORMATION REGARDING THE DESIGN.

VOLUME 3.4 (CONT.)

- 4. REFER TO TRACK PLANS, VOLUME 1 AND PROPOSED UTILITY PLANS, VOLUME 4, FOR VERTICAL UTILITY CONFLICTS.
- ADJUST UTILITY MANHOLES TO GRADE WHERE IMPACTIED BY EARTHWORK OR STREET IMPROVEMENTS.
- USE LACTMA STANDARD DRAWINGS (2010) FOR TEMPORARY SUPPORT OF UTILITIES IMPACTED BY CUT AND FILL OPERATIONS.

GRADING AND DRAINAGE NOTES:

1. CONTOUR GRADING ALONG THE HSR TRACKS IS BASED ON THE TOP OF SUBGRADE ELEVATIONS. BALLAST IS NOT INCLUDED

GENERAL NOTES

FOR RETAINING WALL INFORMATION, SEE RETAINING WALL PLANS IN VOLUME 2.

VOLUME 3.5

- 1. FOR MAIN LINE TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
- FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
- FOR BRIDGE INFORMATION, SEE STRUCTURAL PLANS IN VOLUME 3.
- FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
- FOR GRADING INFORMATION WITHIN MAIN LINE ROW, SEE GRADING PLANS IN VOLUME 4.
- FOR DRAINAGE INFORMATION WITHIN MAIN LINE ROW, SEE DRAINAGE PLANS IN VOLUME 4.
- FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.

VOLUME 3.6

1. CONSTRUCTION PHASING PROVIDED FOR PROPOSED WORK SOUTH OF HSR BURBANK STATION TO MAIN STREET. PHASING OF HSR BURBANK STATION AND LINKUS PROJECT NOT INCLUDED AS PART OF THIS SUBMITTAL

VOLUME 3.7

1. HSR BURBANK STATION CONCEPT DESIGN PROVIDED AS REFERENCE TO WORK PROPOSED AS PART OF THE PALMDALE TO BURBANK SEGMENT, FINAL DESIGN COORDINATION REQUIRED AT INTERFACE SOUTH OF STATION.

VOLUME 3.8

- 1. LINKUS DESIGN PROVIDED AS REFERENCE TO WORK SOUTH OF MAIN STREET EXTENDING INTO LA UNION STATION.
- 2. FINAL DESIGN COORDINATION REQUIRED AT INTERFACE WEST OF MISSION TOWER BRIDGE, PROPOSED TRACK DESIGN BASED ON BEST AVAILABLE INFORMATION AT TIME OF DESIGN.

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

DESIGNED BY C. CUSSON C. LEE N CHARGE DATE BY CHK APP DESCRIPTION 07/15/2021

PEPD RECORD SET NOT FOR

CONSTRUCTION



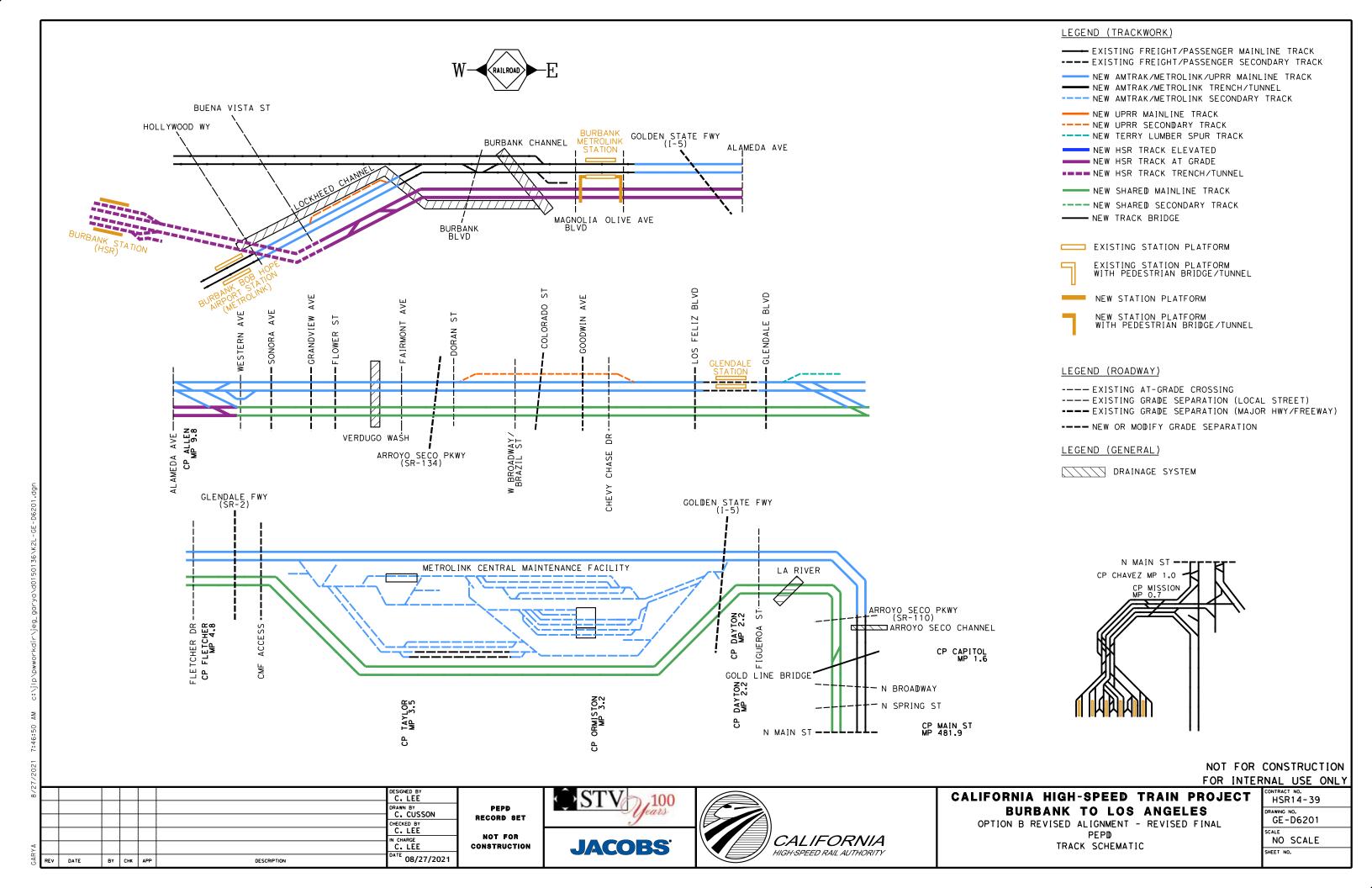


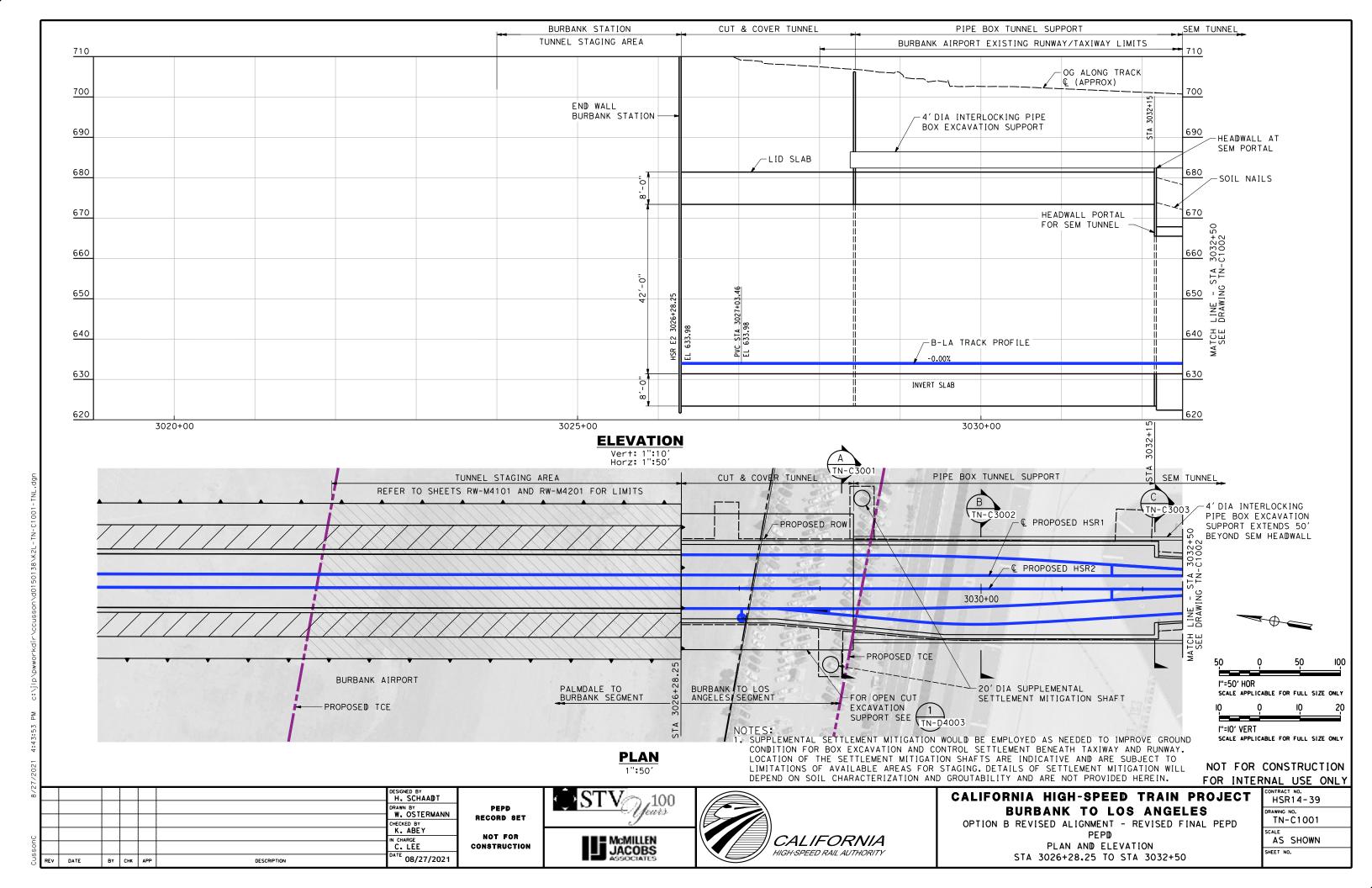
CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES

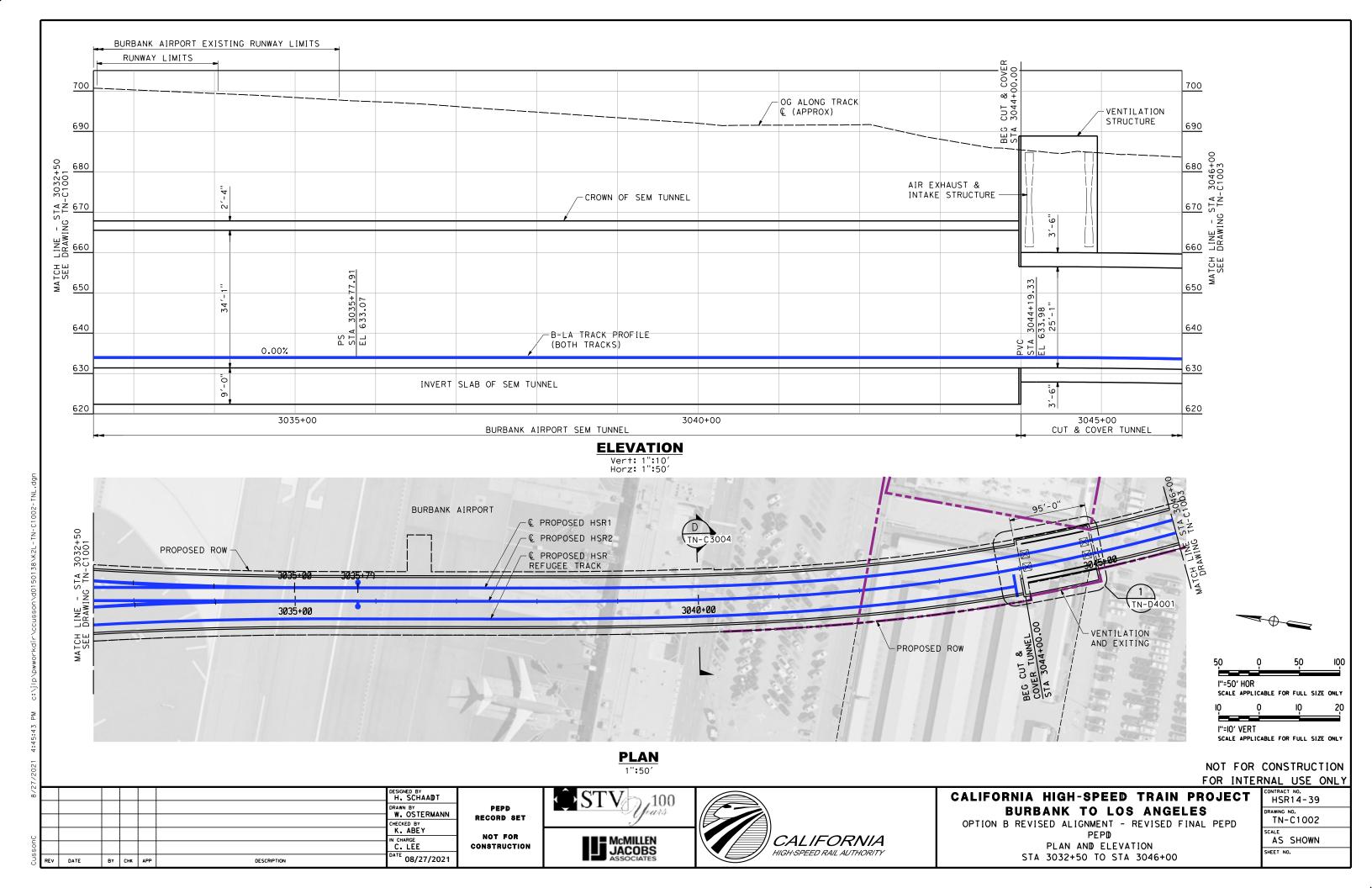
OPTION B REVISED ALIGNMENT - REVISED FINAL PEPI GENERAL NOTES

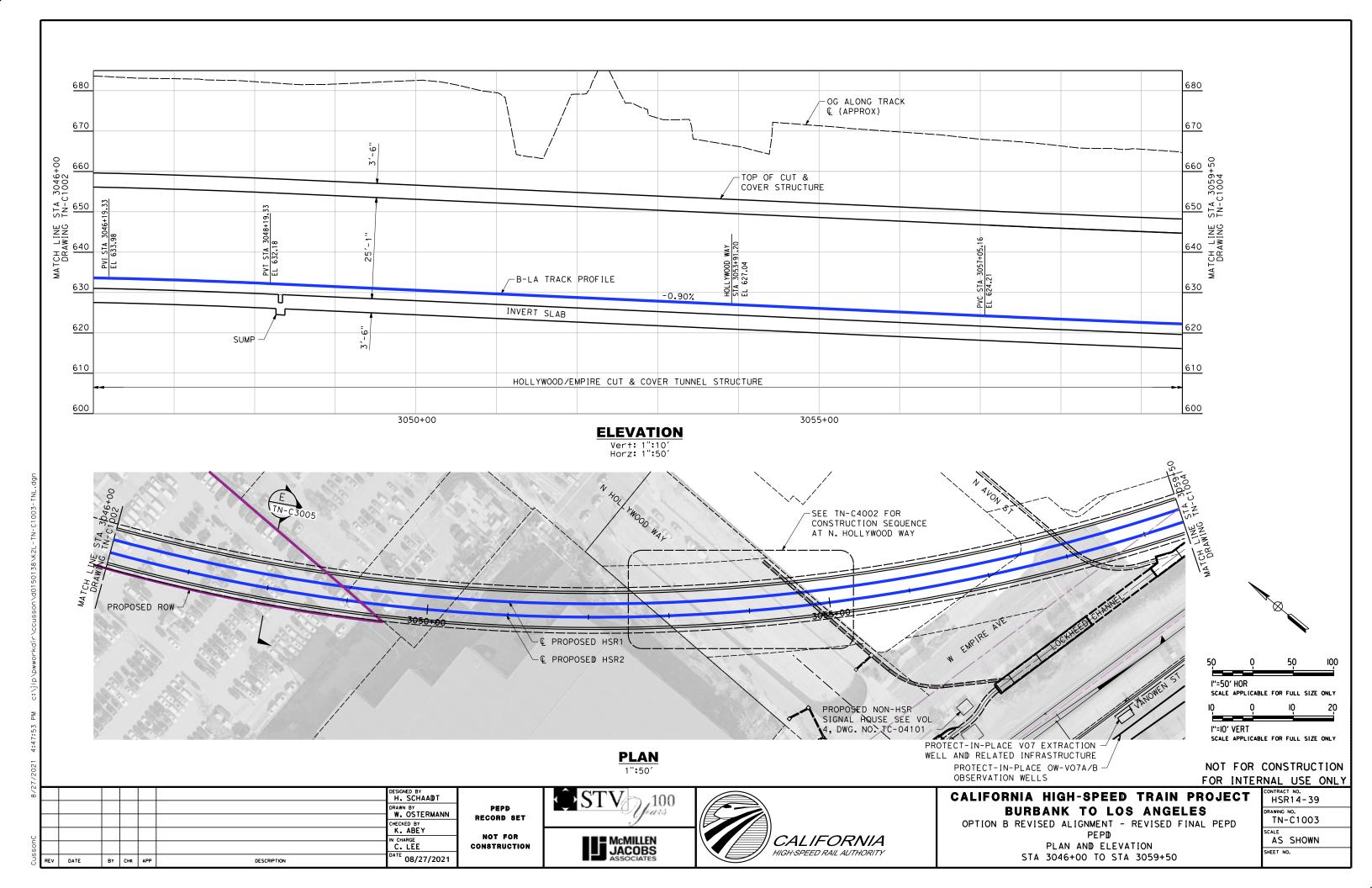
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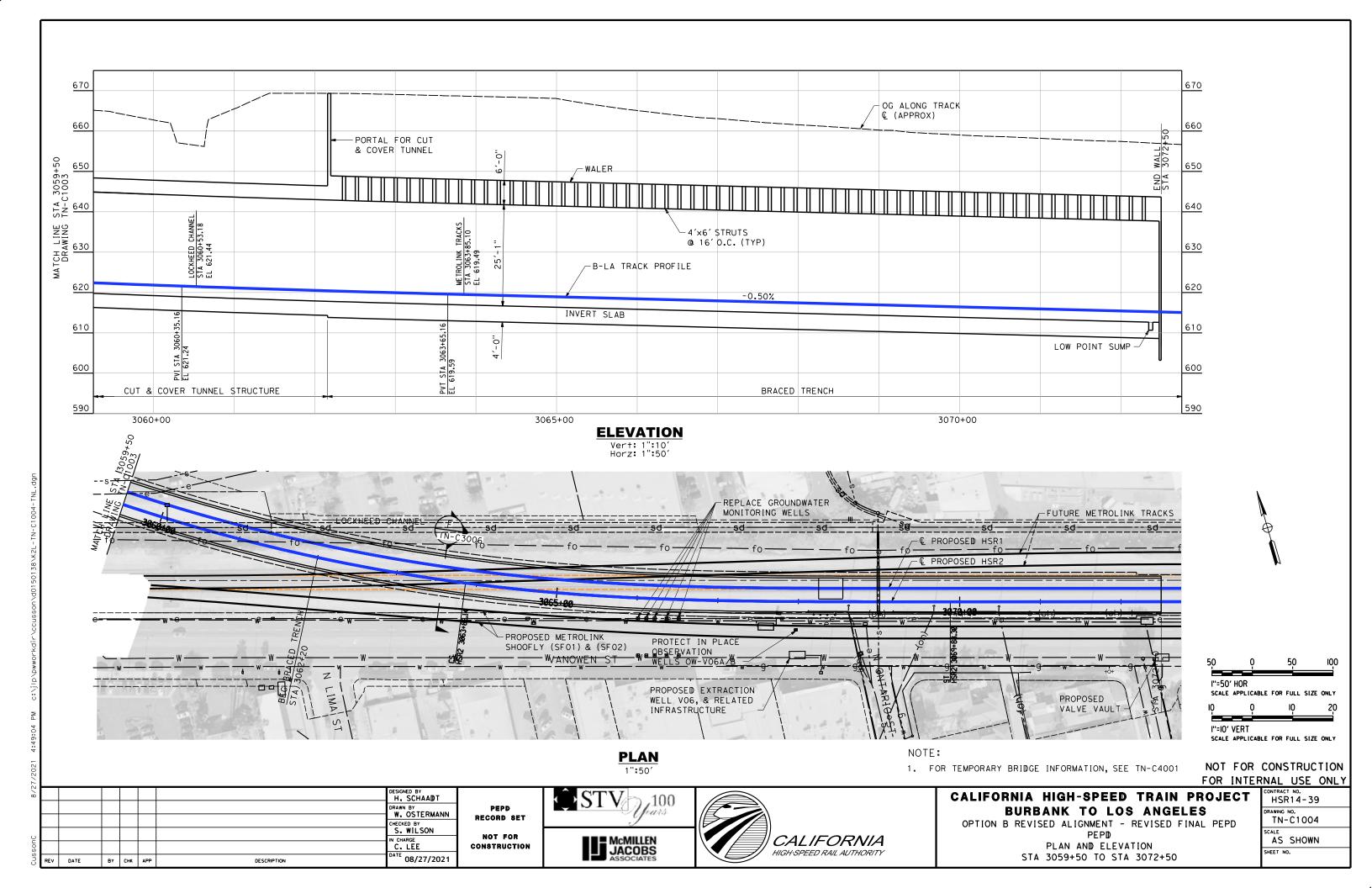
SHEET NO.

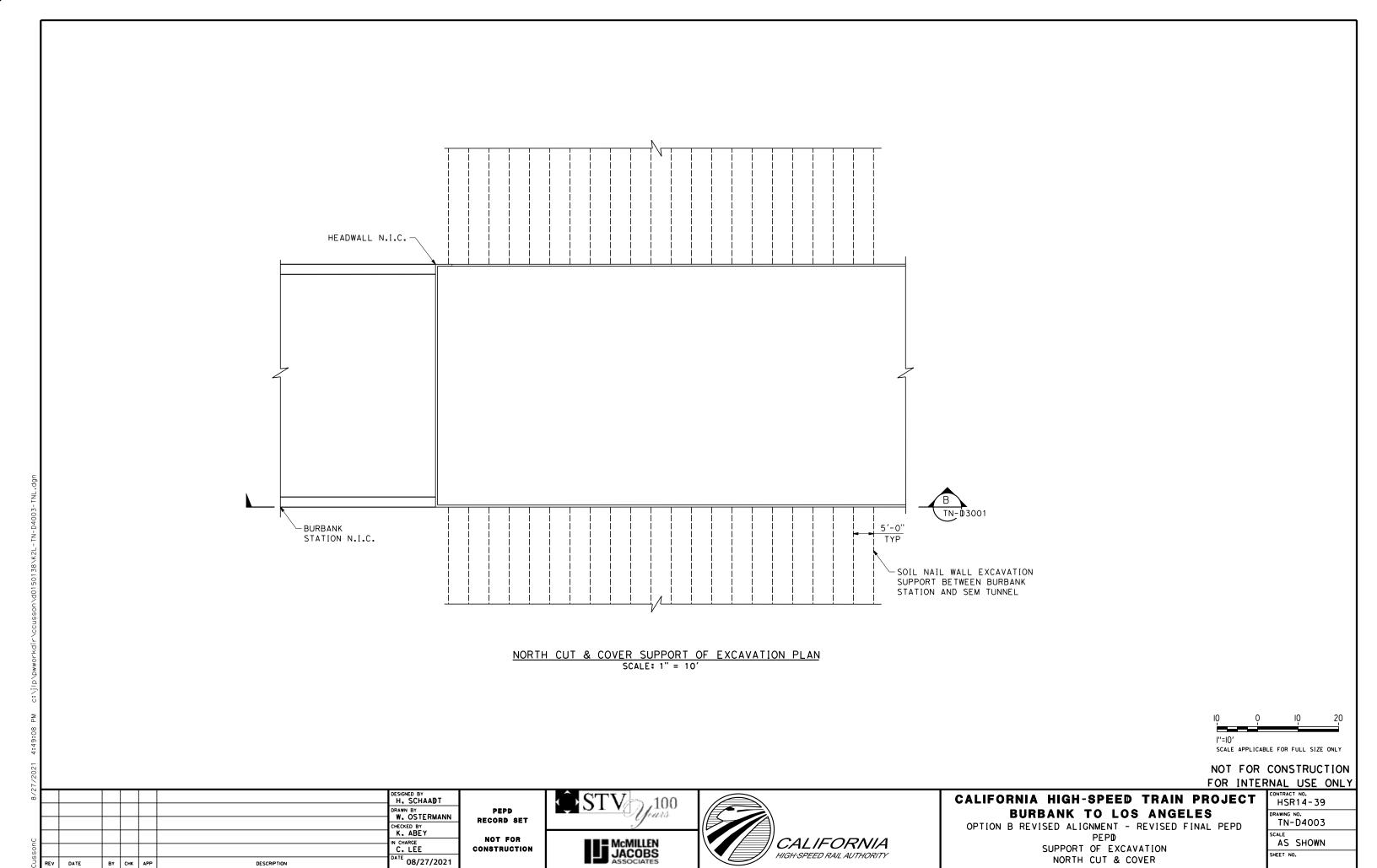


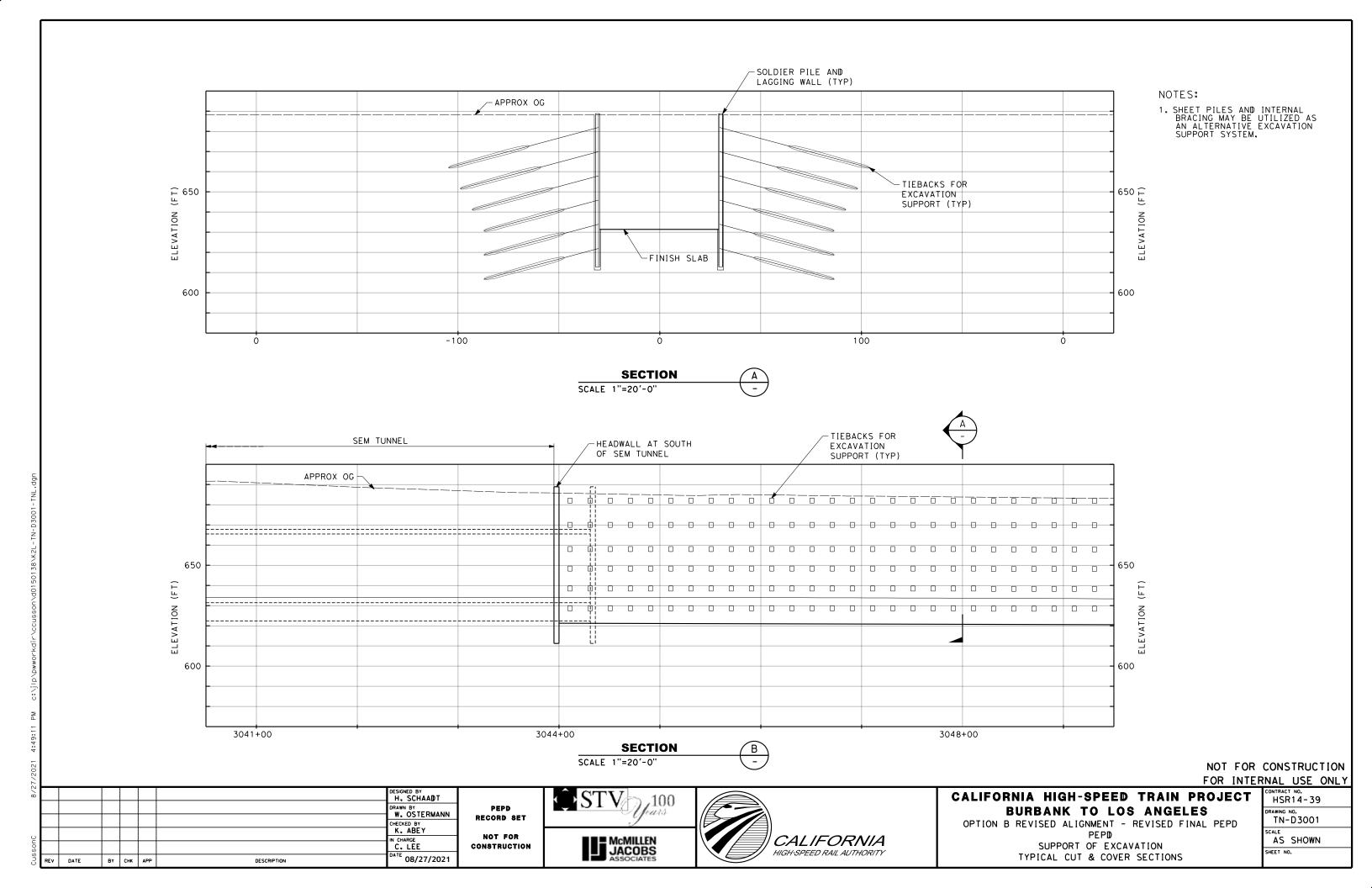


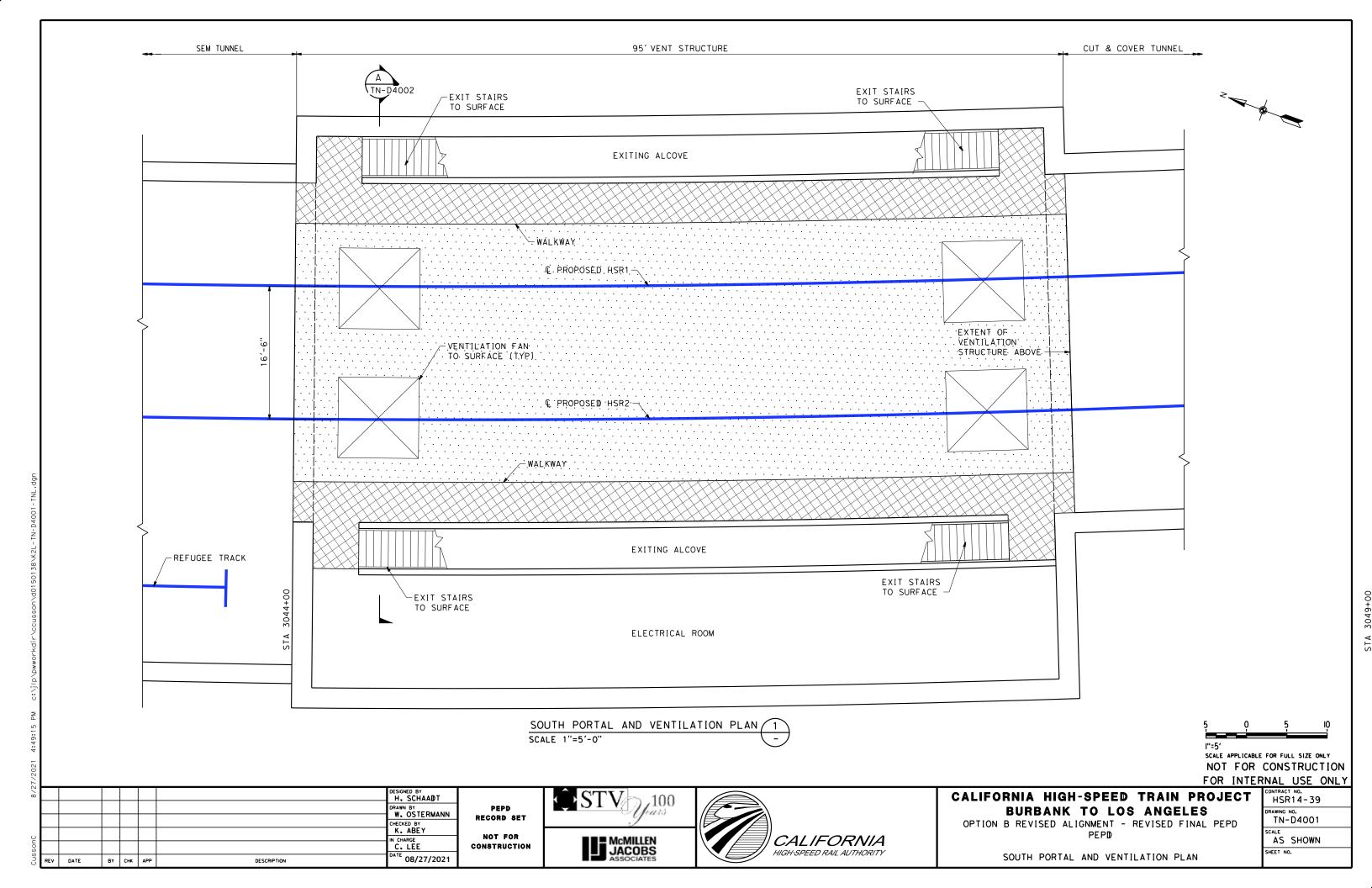


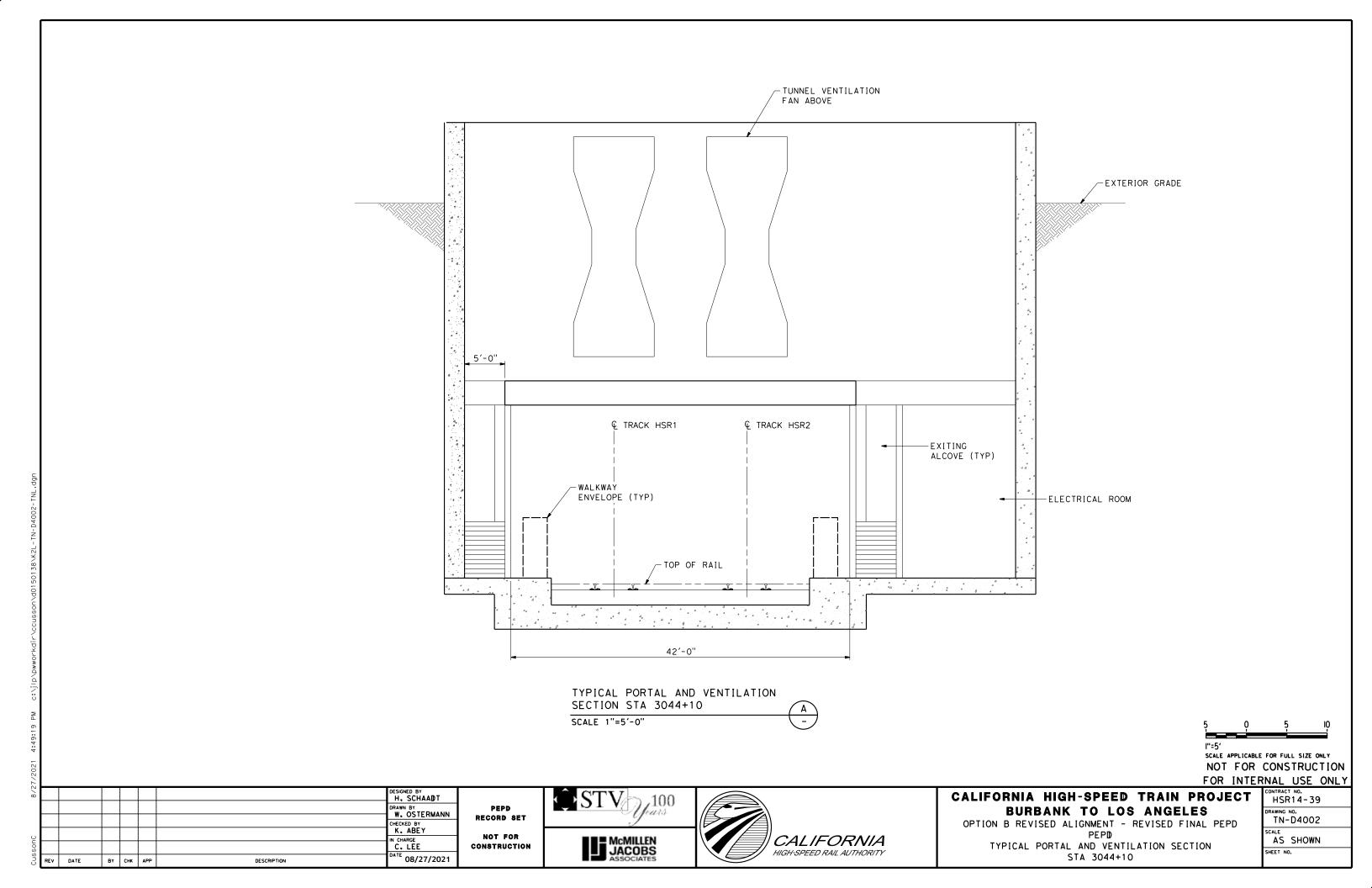


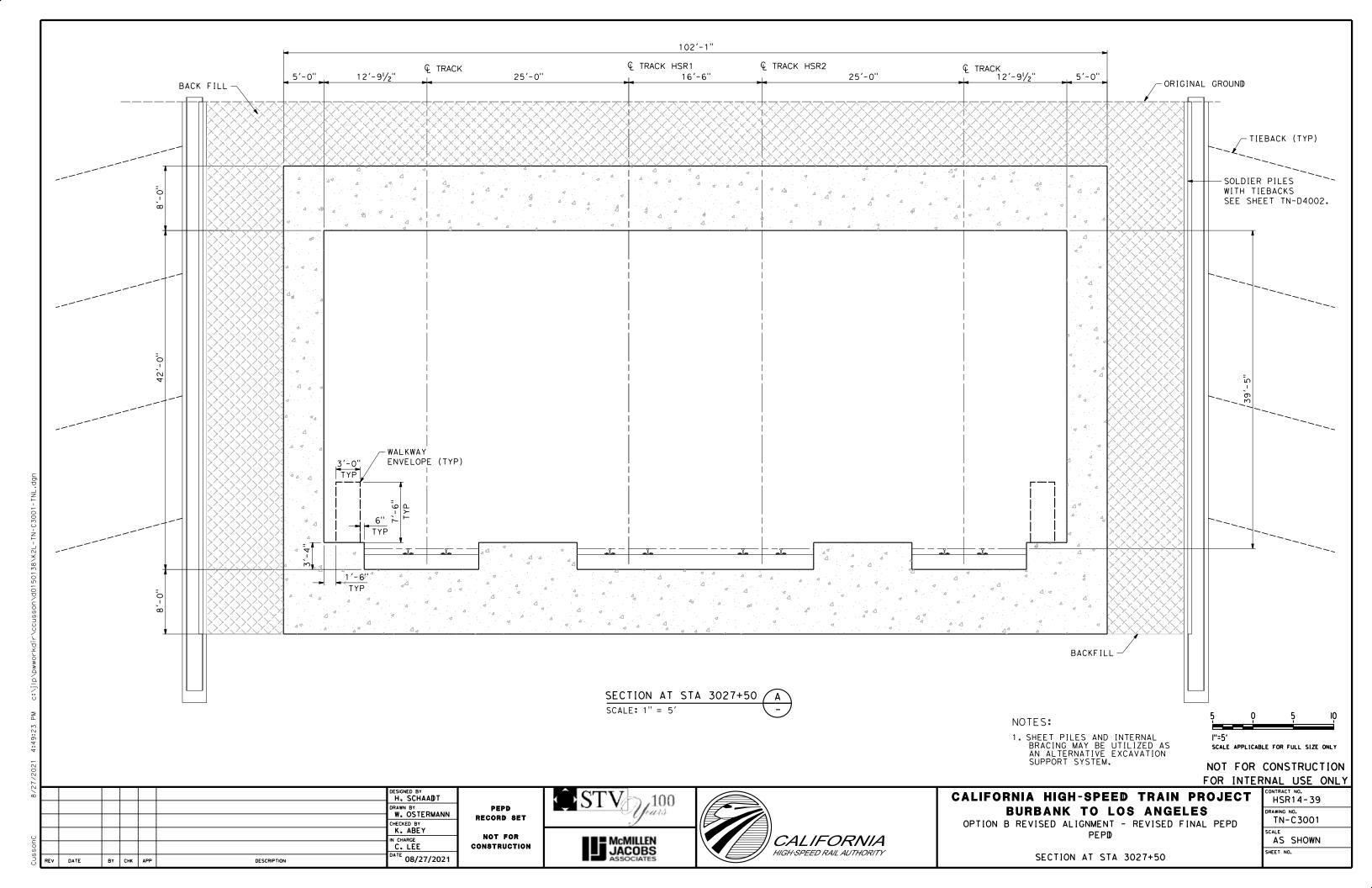


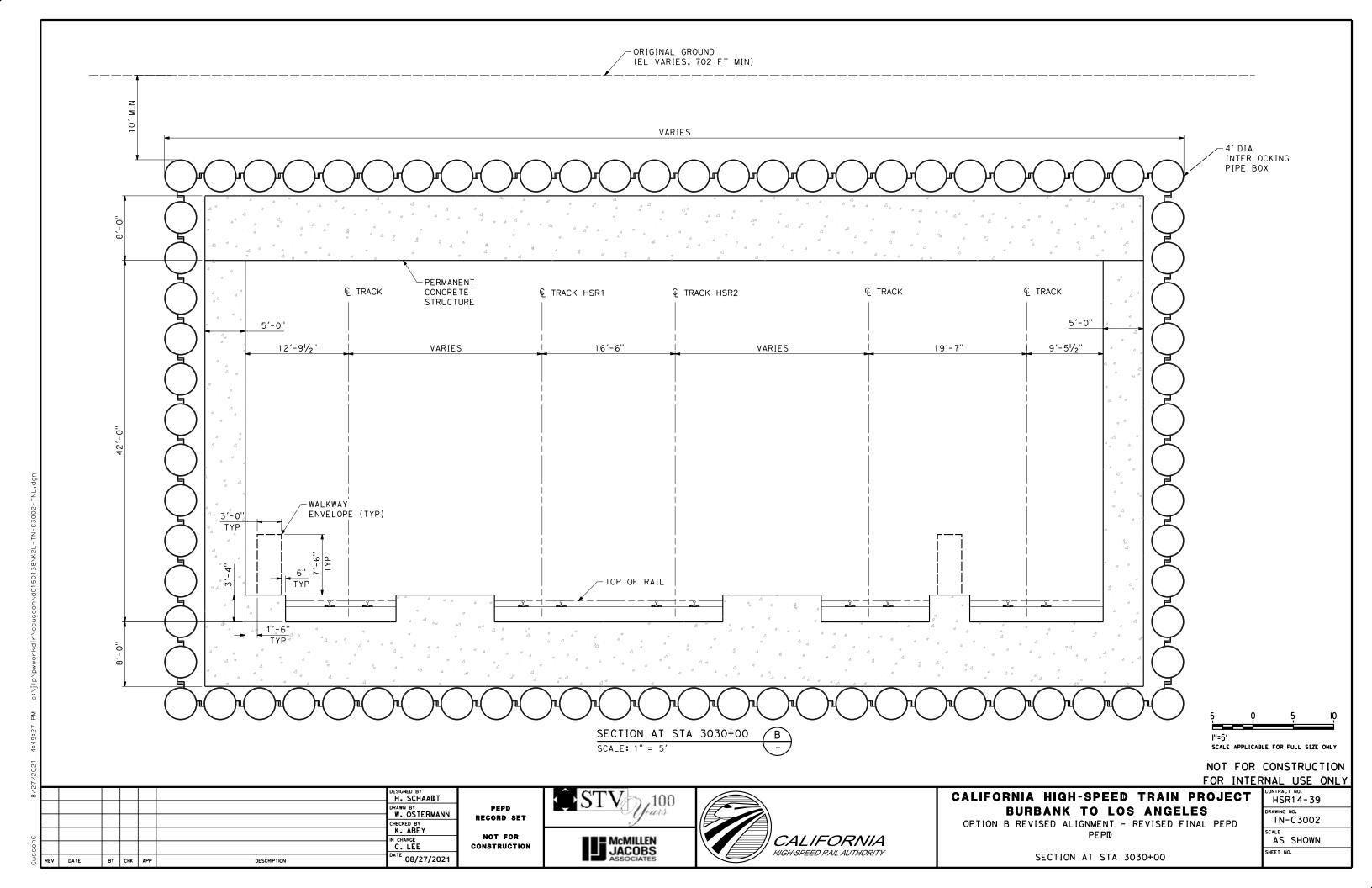


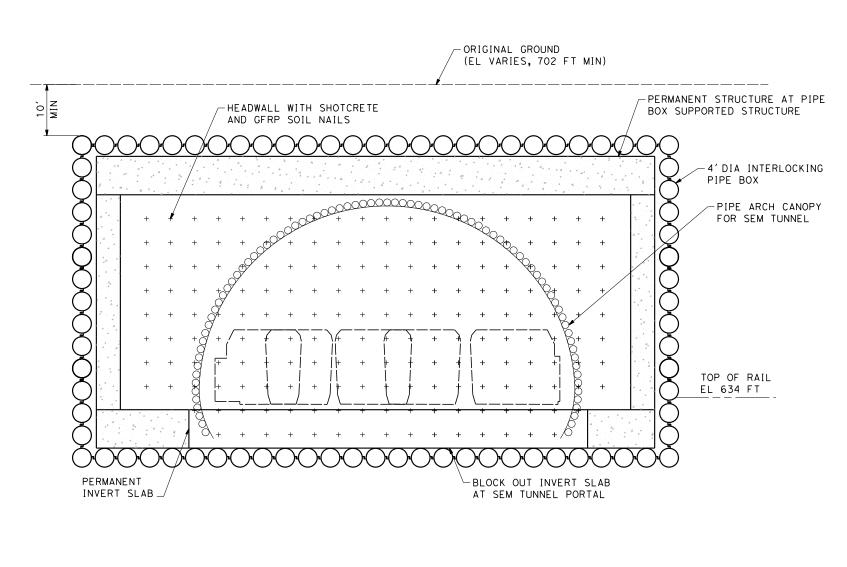




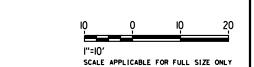








SECTION - NORTH HEADWALL FOR SEM TUNNEL STA 3032+15 SCALE: 1" = 10'



NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

CussonC	REV	DATE	BY	СНК	APP	DESCRIPTION	DATE 08/27/2021	•
Juc							K. ABEY IN CHARGE C. LEE	C
							CHECKED BY	F
							DRAWN BY W. OSTERMANN	
8/2							DESIGNED BY H. SCHAADT	

PEPD RECORD SET NOT FOR CONSTRUCTION



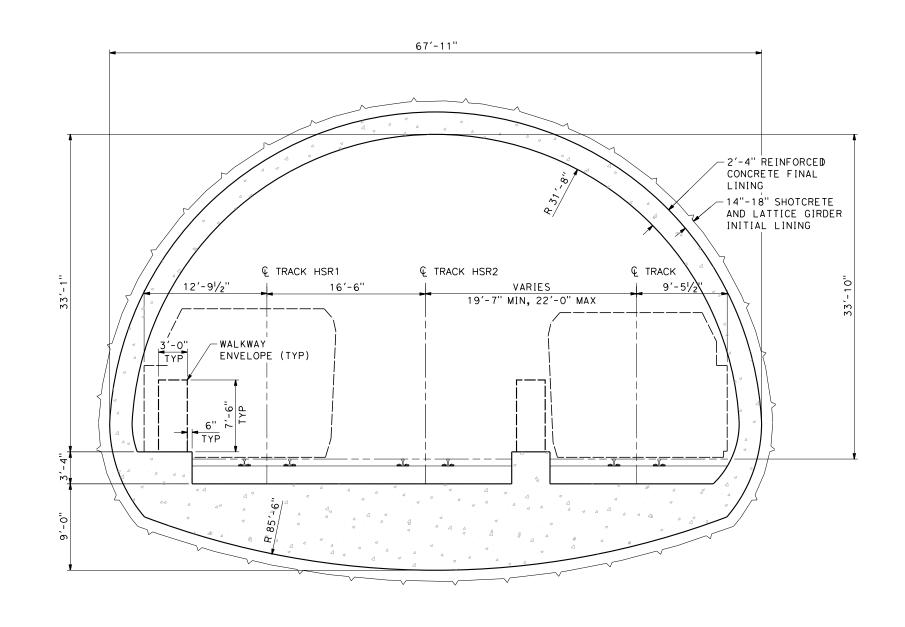


CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD
PEPD

IE ADWALL	SECTION	STA	3032+15	

CONTRACT NO. HSR14-39
TN-C3003
AS SHOWN
CHEET NO



SEM TUNNEL SECTION STA 3040+00 D

5 0 5 10

I"=5"
SCALE APPLICABLE FOR FULL SIZE ONLY
NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY

CussonC 8/27	DATE	BY	СНК	APP	DESCRIPTION	DESIGNED BY H. SCHAADT DRAWN BY W. OSTERMANN CHECKED BY K. ABEY IN CHARGE C. LEE DATE 08/27/2021	RE CON
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PEPD
RECORD SET

NOT FOR
CONSTRUCTION



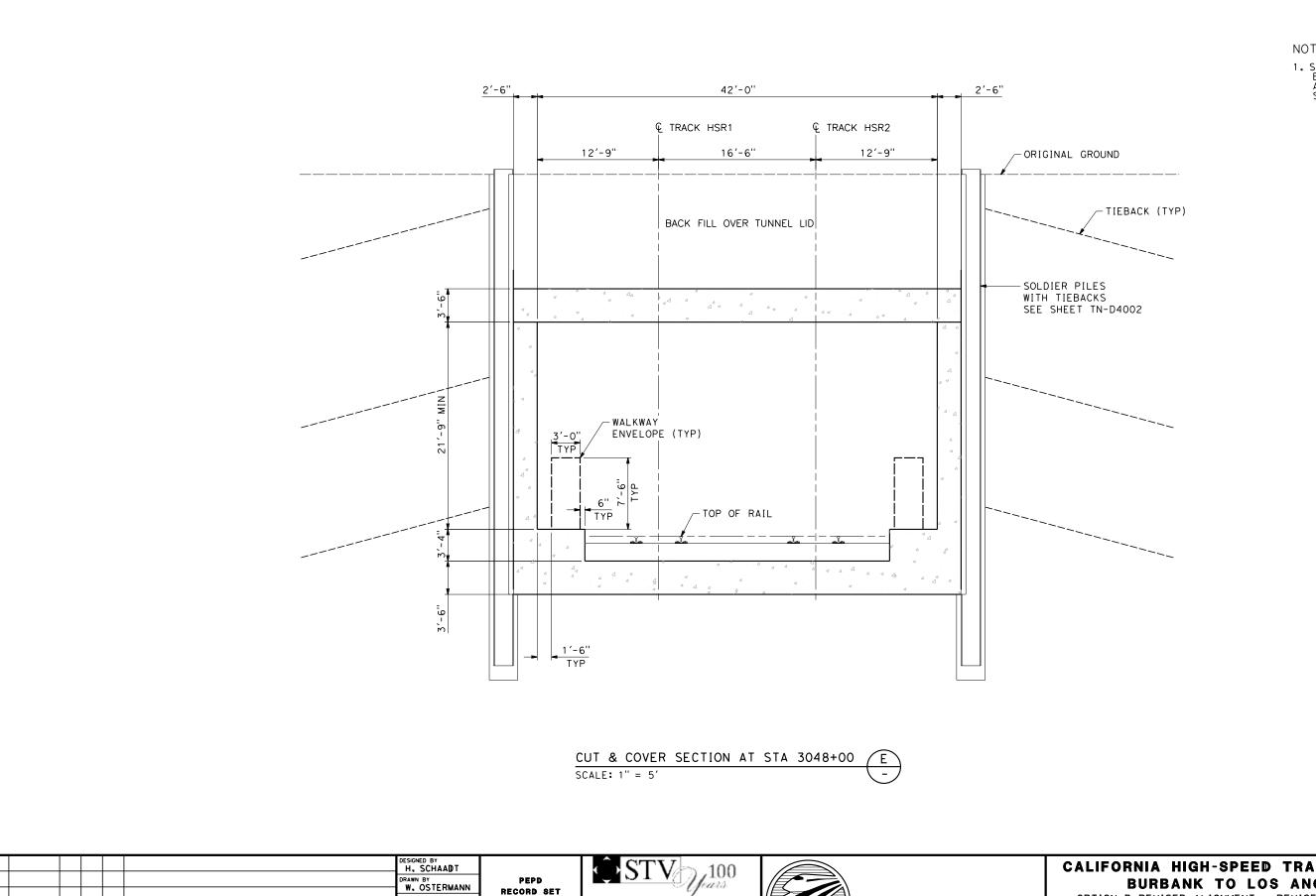


CALIFORNIA HIGH-SPEED TRAIN PROJECT HSR14 BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD PEPD

SEM TUNNEL	SECTION	STA	3040+00	

HSR14-39	HSR14-39				
TN-C3004					
SCALE AS SHOWN					
SHEET NO.					



McMILLEN JACOBS ASSOCIATES

CALIFORNIA

HIGH-SPEED RAIL AUTHORITY

CHECKED BY

IN CHARGE

DESCRIPTION

BY CHK APP

^E 08/27/2021

NOT FOR

CONSTRUCTION

NOTES:

1. SHEET PILES AND INTERNAL BRACING MAY BE UTILIZED AS AN ALTERNATIVE EXCAVATION SUPPORT SYSTEM.

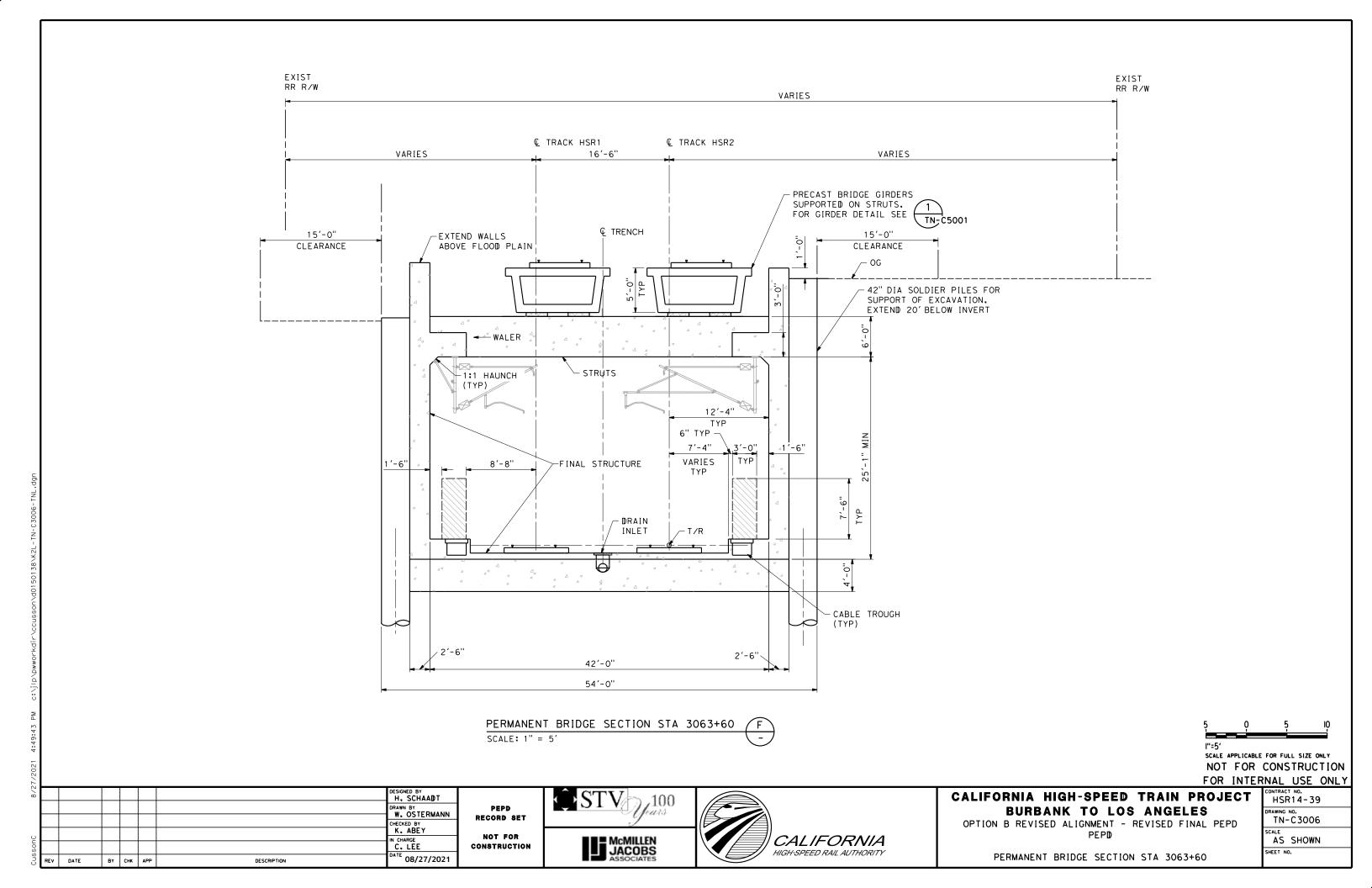
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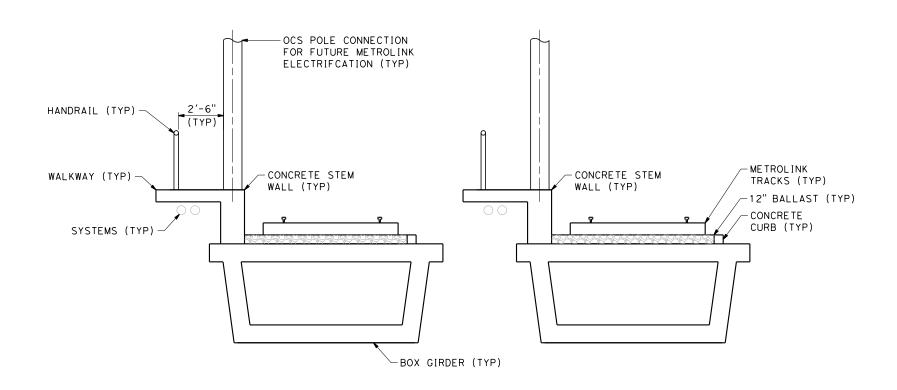
NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

CALIFORNIA HIGH-SPEED TRAIN PROJECT CONTRACT NO. HSR14-39 BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD CUT & COVER SECTION AT STA 3048+00

TN-C3005						
SCALE AS SHOWN						
SHEET NO.						





GIRDER DETAIL
SCALE: 3/8"=1'-0"

3/8"=1'-0"
SCALE APPLICABLE FOR FULL SIZE ONLY
NOT FOR CONSTRUCTION

FOR INTERNAL USE ONLY

8/2							DESIGNED BY H. SCHAADT	
							W. OSTERMANN CHECKED BY	RE M CON
sonC							K.ABEY IN CHARGE C. LEE	
Cus	REV	DATE	BY	СНК	APP	DESCRIPTION	DATE 08/27/2021	

PEPD RECORD SET NOT FOR CONSTRUCTION



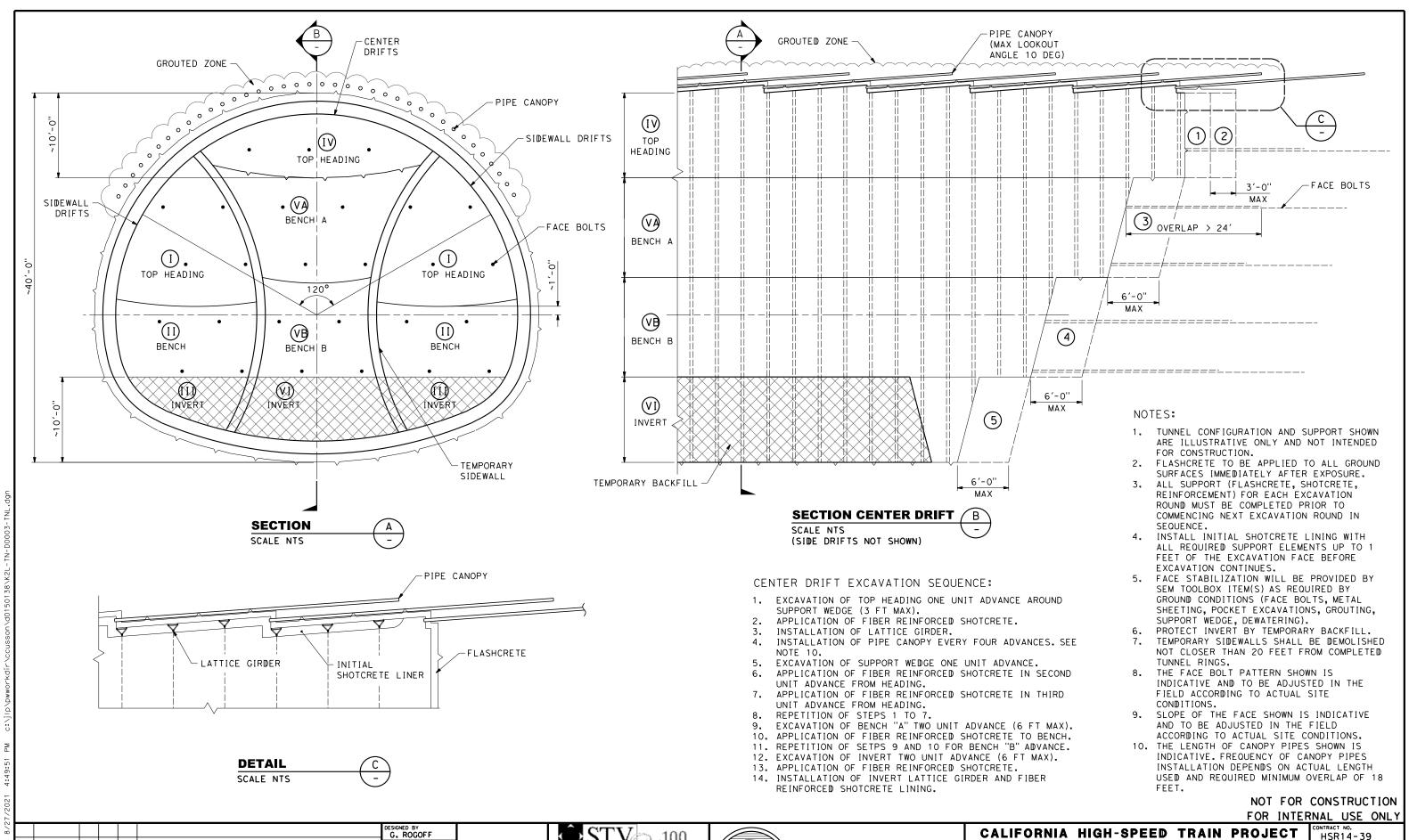


CALIFORNIA HIGH-SPEED TRAIN PROJECT HSR14-39 BURBANK TO LOS ANGELES DRAWING OF COLUMN OF COLUMN

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD PEPD

BRIDGE GIRDER DETAIL

	TN-C5001							
	AS SHOWN							
	SHEET NO.							



W. OSTERMANN

08/27/2021

Y. SUN

N CHARGE

DATE

BY CHK APP

DESCRIPTION

RECORD SET

NOT FOR

CONSTRUCTION

McMILLEN JACOBS

CALIFORNIA

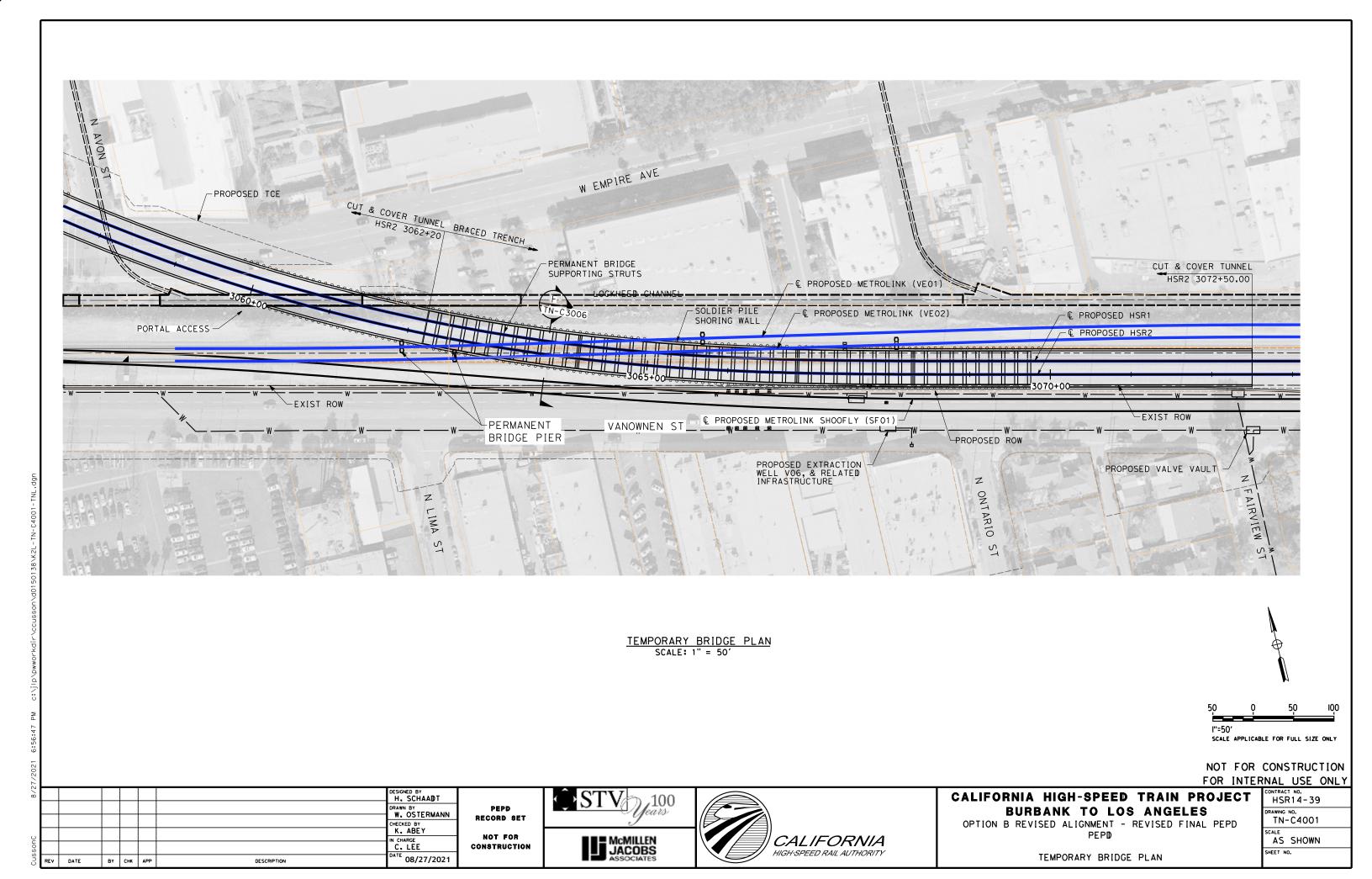
HIGH-SPEED RAIL AUTHORITY

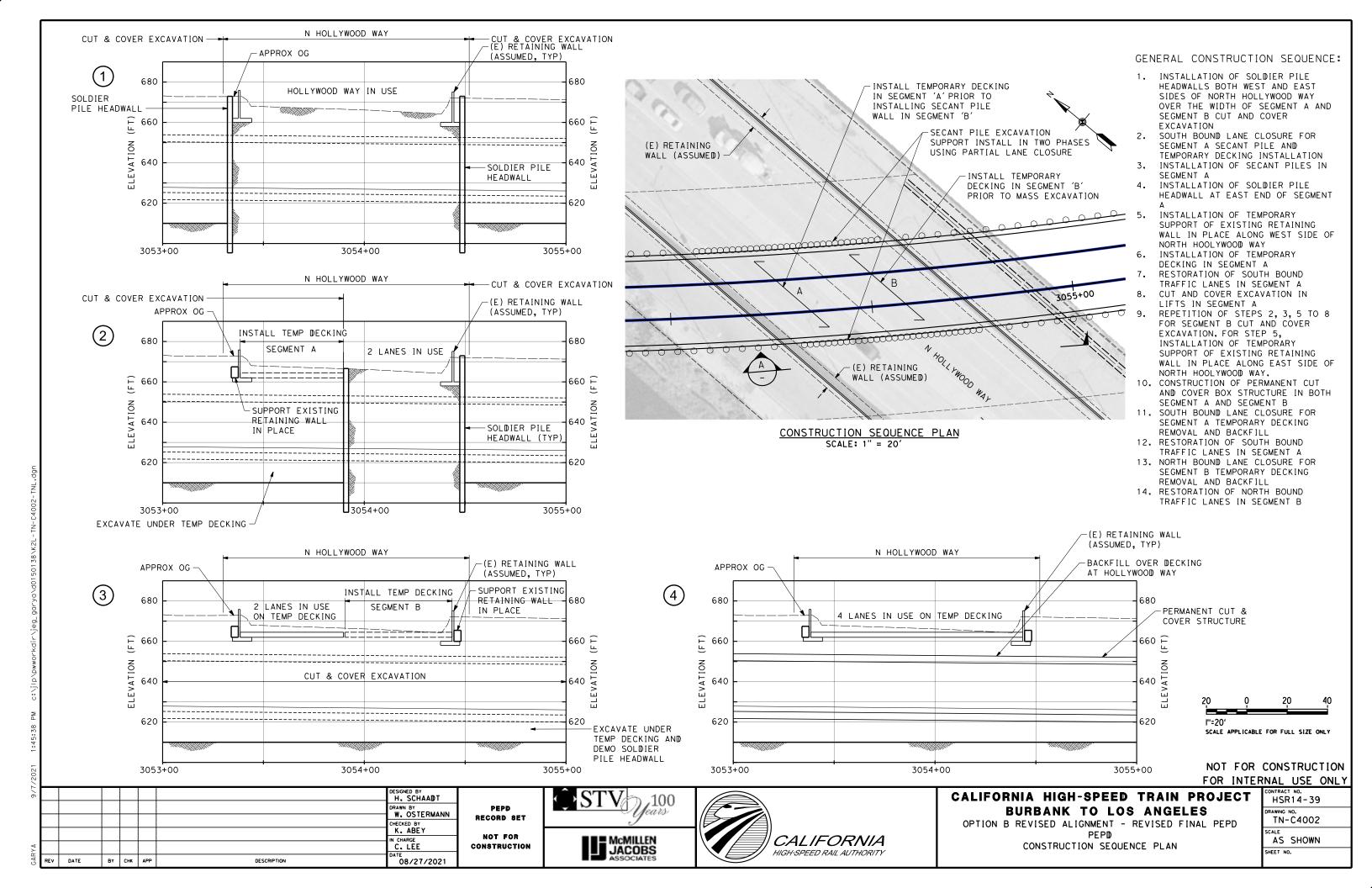
BURBANK TO LOS ANGELES

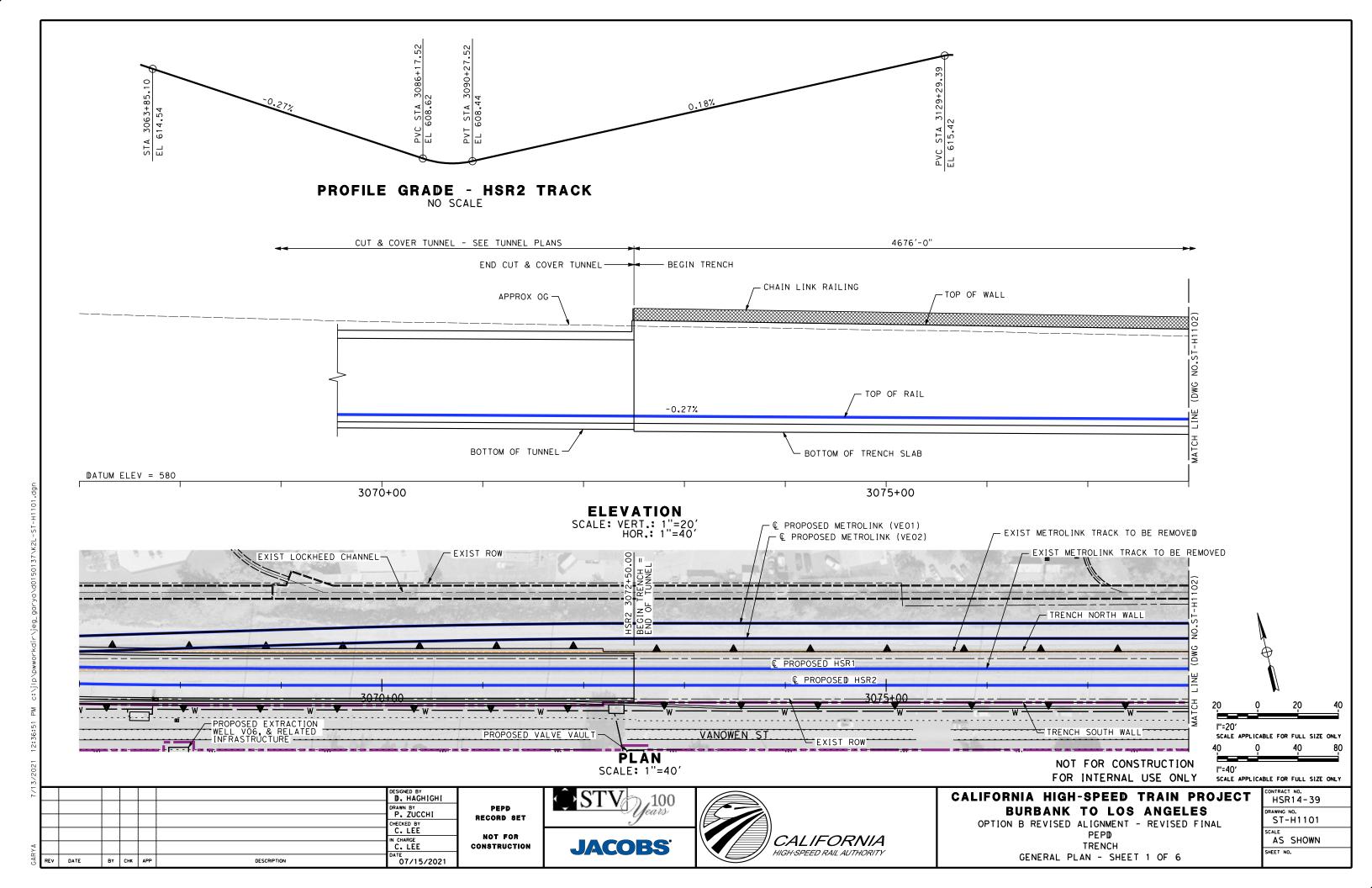
OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD TYPICAL EXCAVATION AND SUPPORT CROSS SECTION

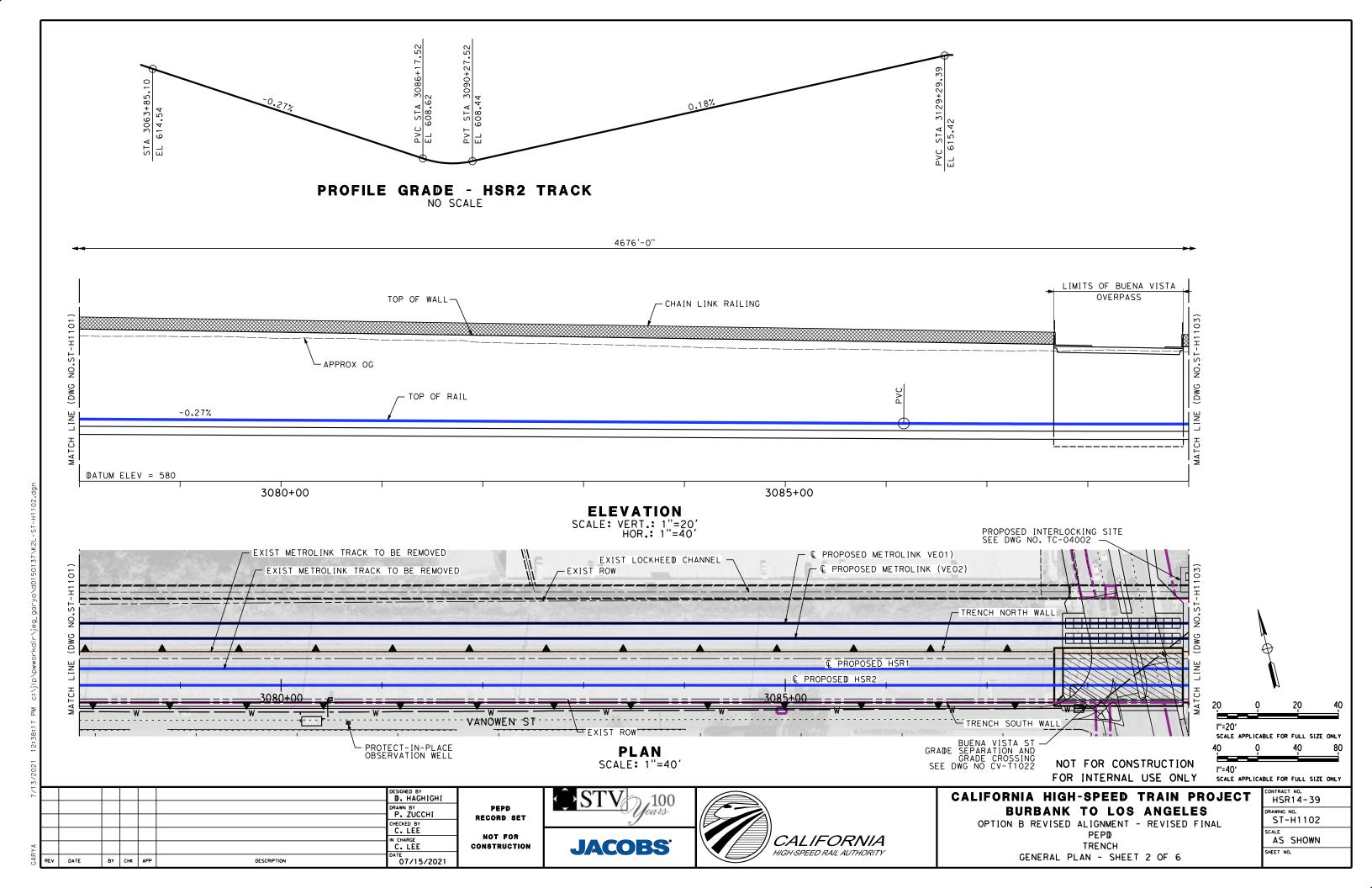
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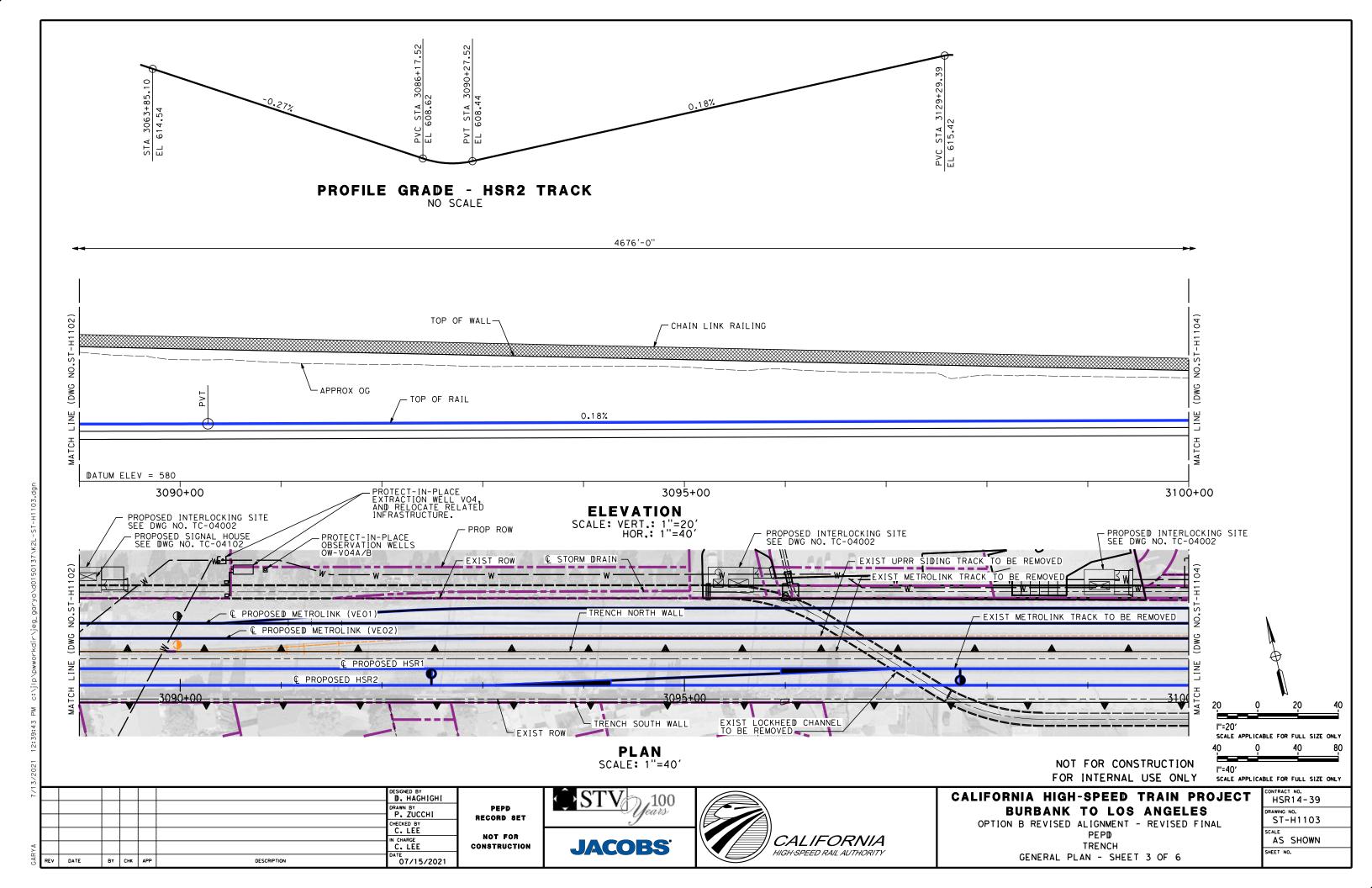
TN-D0003 AS SHOWN SHEET NO.

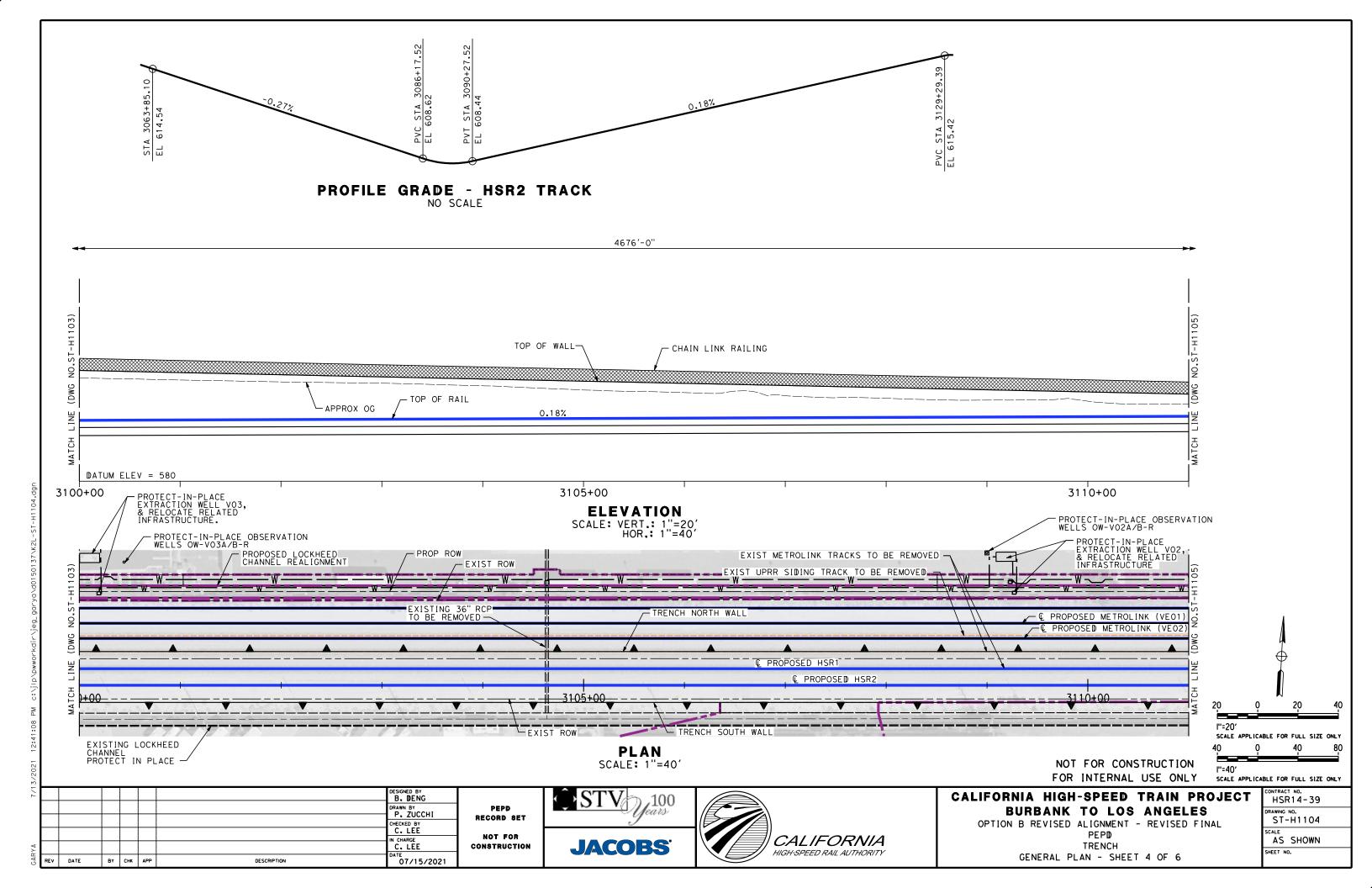


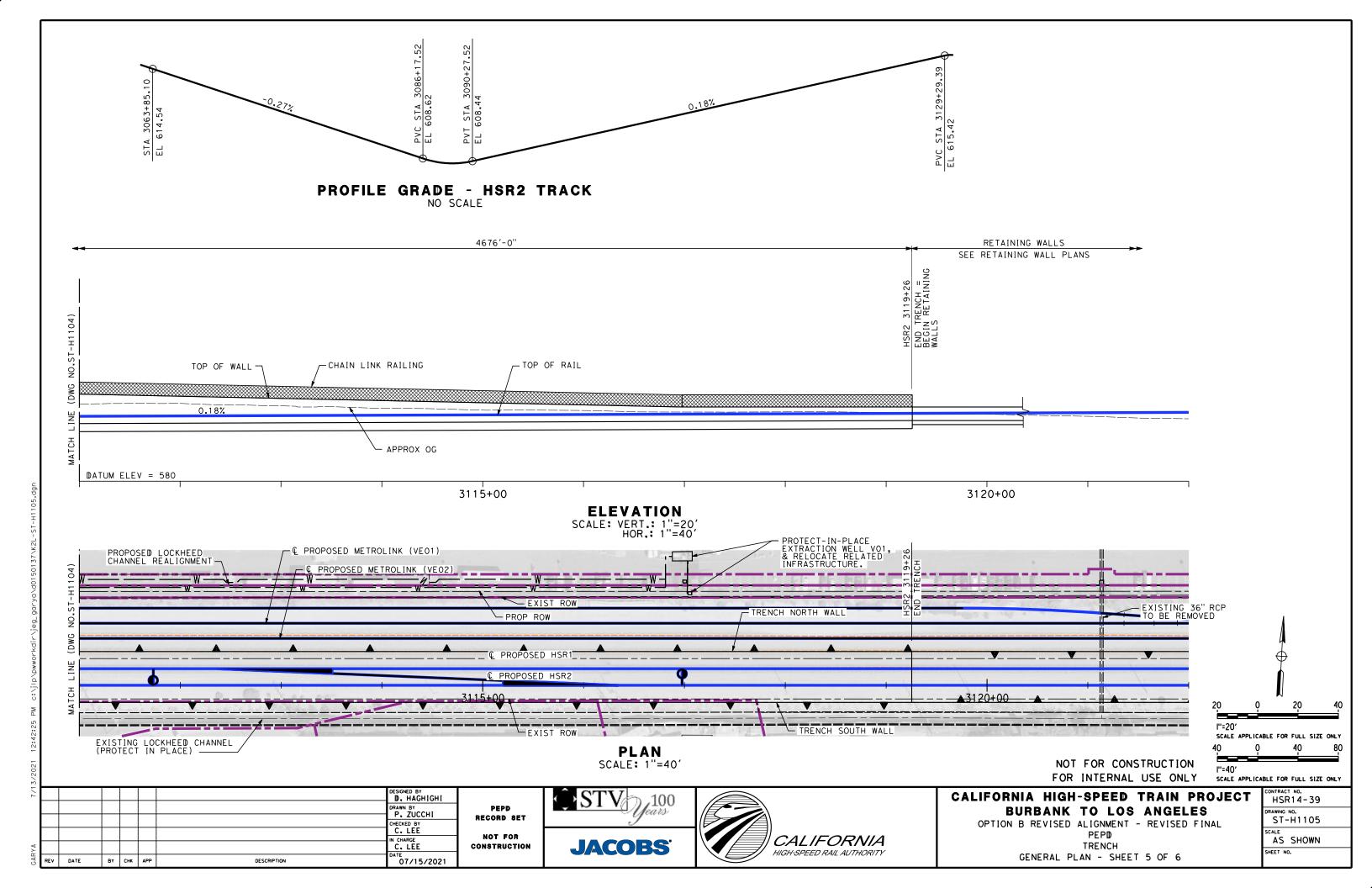


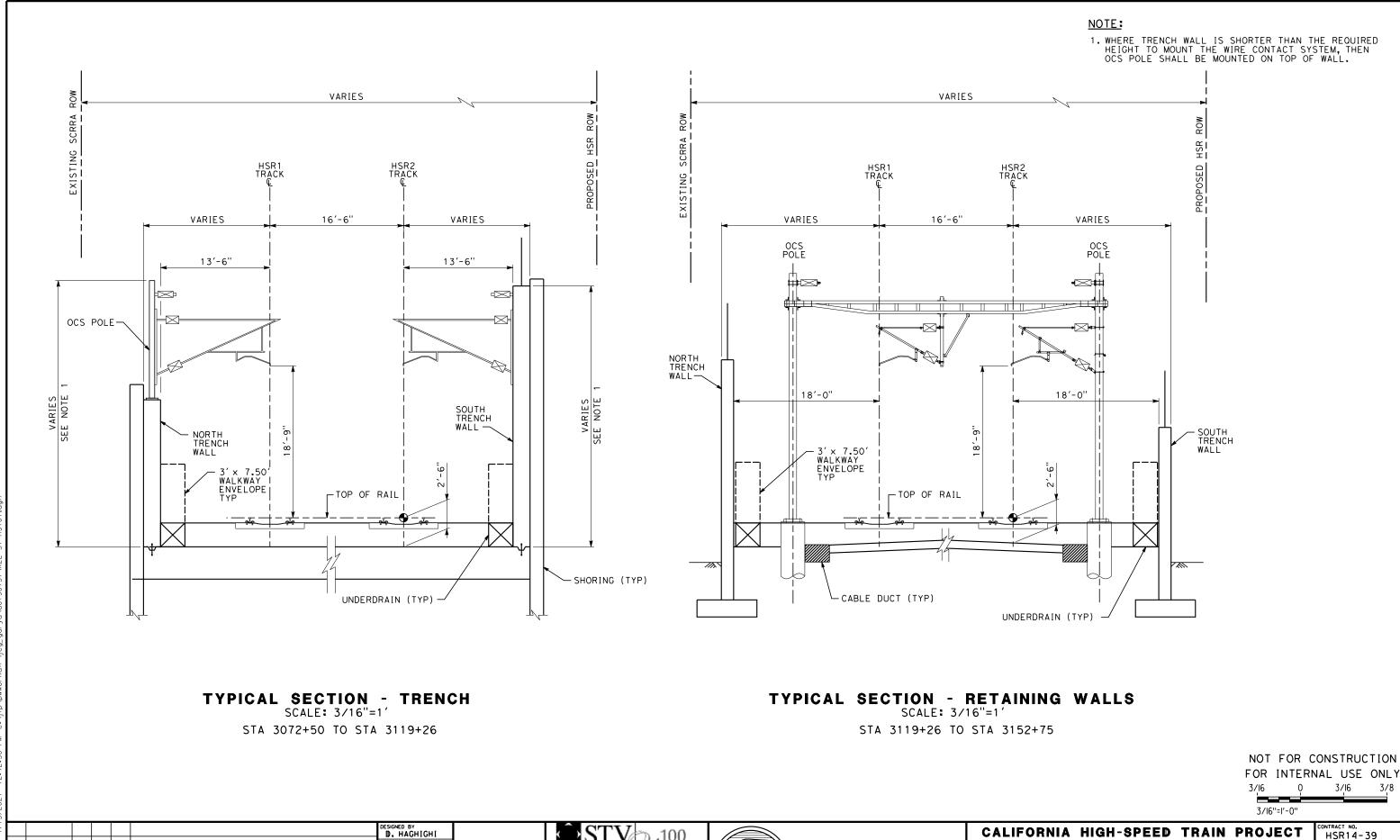












CALIFORNIA

HIGH-SPEED RAIL AUTHORITY

BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL

TRENCH AND RETAINING WALLS CROSS SECTIONS

SHEET 6 OF 6

ST-H3101

AS SHOWN

SHEET NO.

PEPD

RECORD SET

NOT FOR

CONSTRUCTION

JACOBS

DRAWN BY
P. ZUCCHI

07/15/2021

C. LEE

IN CHARGE

DESCRIPTION

GARYA 7/13/2021 12:42:50 F

BY CHK APP

