

CALIFORNIA HIGH-SPEED TRAIN

Engineering Plans

Burbank to Los Angeles

Volume 2

General, Aerial Structures, Tunnels & Retaining Walls

April 2019



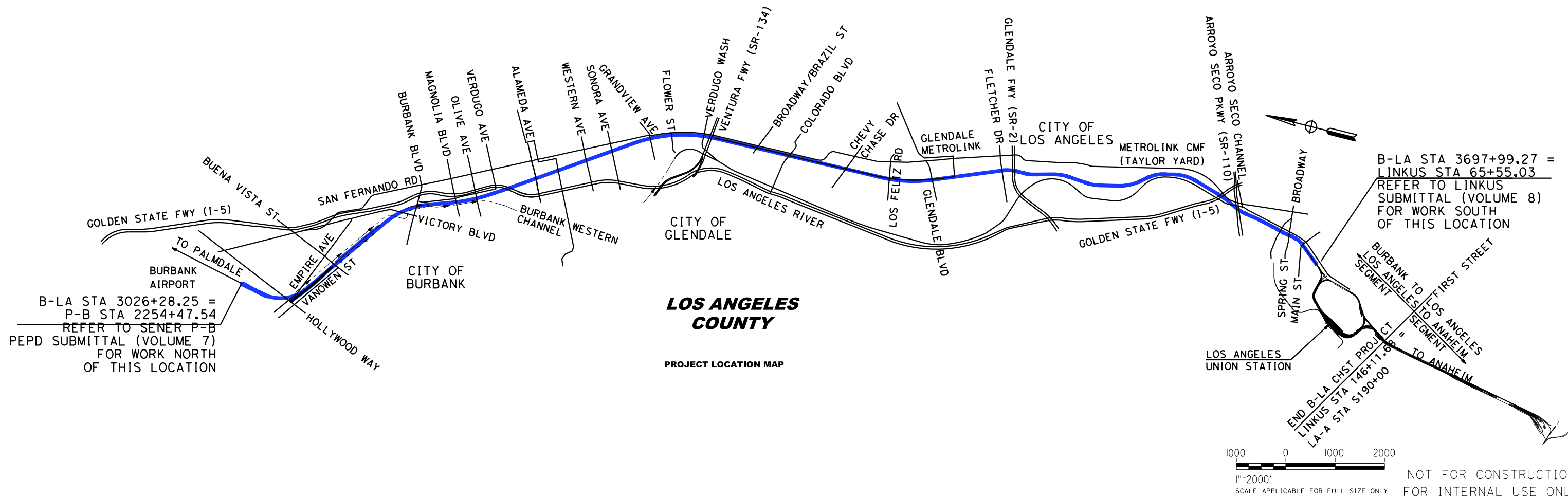


CALIFORNIA HIGH-SPEED RAIL AUTHORITY

PRELIMINARY ENGINEERING FOR PROJECT DEFINITION (PEPD) CALIFORNIA HIGH-SPEED TRAIN PROJECT VALLEY/RIVER SUBDIVISION BURBANK TO LOS ANGELES VOLUME 2



GENERAL, AERIAL STRUCTURES, TUNNELS & RETAINING WALLS

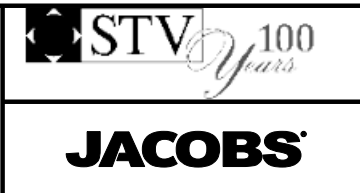


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Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION

DESIGNED BY C. CUSSON, DRAWN BY C. CUSSON, CHECKED BY K. PIRBAZARI, IN CHARGE K. PIRBAZARI, DATE 04/30/2019

PEPD RECORD SET, NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES, PEPD ALTERNATIVE F VOLUME 2 PROJECT LOCATION MAP

CONTRACT NO. HSR14-39, DRAWING NO. GE-A0201, SCALE NO SCALE, SHEET NO.

PEPD INDEX OF VOLUMES

VOLUME NO.	CONTENT
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	RIGHT-OF-WAY IMPACT
VOLUME 2	GENERAL
	AERIAL STRUCTURES
	TUNNEL
	RETAINING WALLS
VOLUME 3	GENERAL
	GRADE SEPARATIONS
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VOLUME 4	GENERAL
	UTILITIES
	GRADING AND DRAINAGE
	TRACTION POWER FACILITIES SITE
	COMMUNICATION SYSTEM SITE
	AUTOMATIC TRAIN CONTROL SITE

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	BURBANK AIRPORT STATION
VOLUME 8	GENERAL
	LINK UNION STATION (LINK US) BY LA METRO

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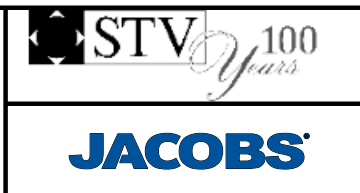
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
INDEX OF VOLUMES

CONTRACT NO.
HSR14-39
DRAWING NO.
GE-A0210
SCALE
NO SCALE
SHEET NO.

VOLUME 2 - GENERAL, TUNNELS & RETAINING WALLS

GENERAL

DRAWING NO.	DRAWING TITLE
GE-A0200	COVER SHEET - VOLUME 2
GE-A0201	PROJECT LOCATION MAP - VOLUME 2
GE-A0210	INDEX OF VOLUMES
GE-A0211	INDEX OF DRAWINGS VOLUME 2 - SHEET 1 OF 2
GE-A0212	INDEX OF DRAWINGS VOLUME 2 - SHEET 2 OF 2
GE-D0201	VOLUME 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

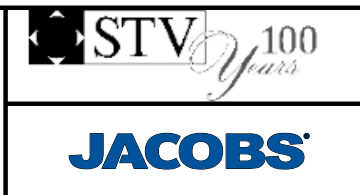
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PEPD
INDEX OF DRAWINGS
VOLUME 2 - SHEET 1 OF 2

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

VOLUME 2 - GENERAL, TUNNELS & RETAINING WALLS

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
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

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BURBANK TO LOS ANGELES**

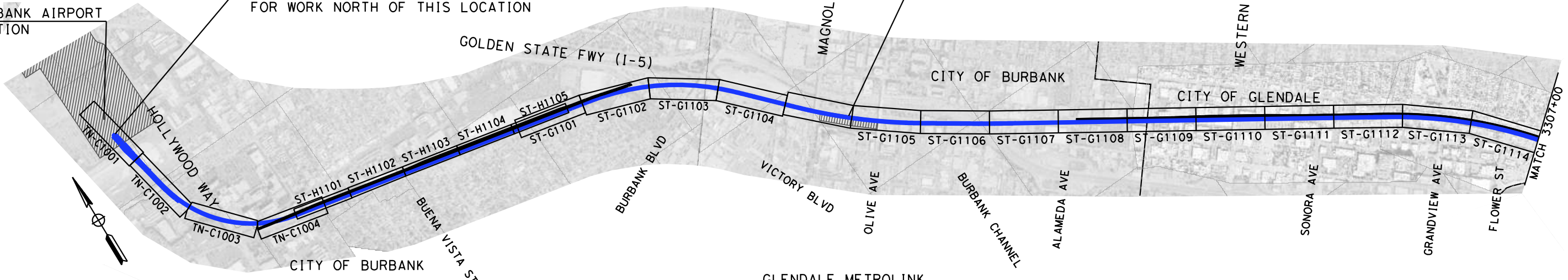
PEPD
INDEX OF DRAWINGS
VOLUME 2 - SHEET 2 OF 2

CONTRACT NO.
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SHEET NO.

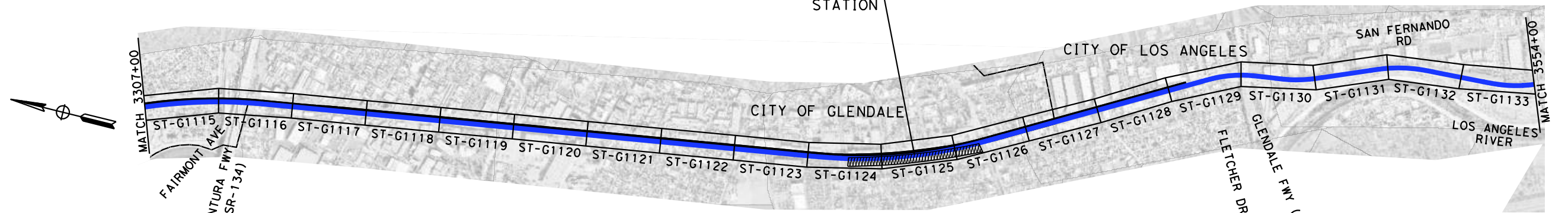
BEGIN B-LA CHSR PROJECT
 ALTERNATIVE E2 ALIGNMENT
 STA 3026+28.25 =
 P-B STA 2254+69.81
 REFER TO SENER P-B PEPD SUBMITTAL (VOLUME 7)
 FOR WORK NORTH OF THIS LOCATION

BURBANK METROLINK
 STATION

BURBANK AIRPORT
 STATION

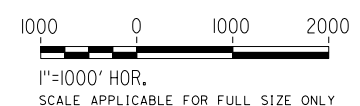
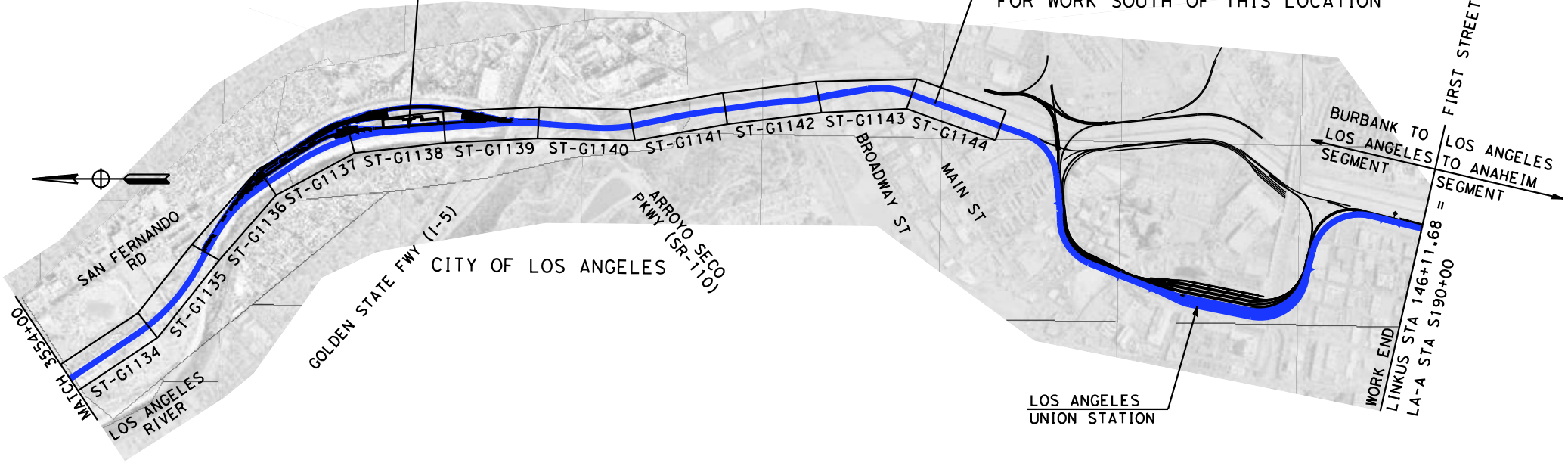


GLENDALE METROLINK
 STATION



END B-LA CHSR PROJECT
 HSR STA 3687+45.26 = LINKUS STA 54+32.87
 REFER TO LINKUS SUBMITTAL (VOLUME 8)
 FOR WORK SOUTH OF THIS LOCATION

METROLINK CMF/TAYLOR YARD
 REFER TO VOLUME 5 FOR DETAILS



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 BURBANK TO LOS ANGELES**

 PEPD
 VOLUME 2 KEY MAP
 STRUCTURES

CONTRACT NO.
HSR14-39
 DRAWING NO.
GE-D0201
 SCALE
AS SHOWN
 SHEET NO.

BASIS OF DESIGN SUMMARY

THE BURBANK TO LOS ANGELES (B-LA) SEGMENT BEGINS SOUTH OF THE PROPOSED BURBANK AIRPORT STATION IN A SUBSURFACE DEDICATED CORRIDOR, RUNS ALONG 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), THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY (AUTHORITY) HAS ADOPTED A STRATEGY 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 LOS ANGELES UNION STATION (LAUS) 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.
2. TECHNICAL MEMORANDUM 0.3, BASIS OF DESIGN POLICY DOCUMENT, R3 DATED JUNE 21, 2013

THE BASIS OF DESIGN ELEMENTS THAT DIFFER BETWEEN BLENDED OPERATION AND THE DEDICATED HIGH-SPEED OPERATION ARE DEFINED IN THE TM 0.3.1. IT SPECIFICALLY FOCUSES ON OBJECTIVES, PROCESSES, REQUIREMENTS, AND ASSUMPTIONS THAT SUPPORT THE BLENDED OPERATION.

IN ADDITION, THE FOLLOWING DESIGN POLICY MEMOS HAVE BEEN INITIATED 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 BY THE AUTHORITY.

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:

1. INTEROPERABILITY

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

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

AUTHORITY
METROLINK
AMTRAK
UNION PACIFIC RAILROAD

2. DESIGN SPEEDS

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

3. TRACK CENTER SPACING

16'-6" MINIMUM, EXCEPT FOR 15'-0" MINIMUM BETWEEN I-5 AND SR-134, NORTH OF CMF ACCESS ROAD, AND FROM DOWNEY BRIDGE TO LAUS,

4. AT-GRADE CROSSING

THERE WILL BE NO AT-GRADE CROSSINGS IN THE B-LA SEGMENT. ALL INTERSECTIONS WILL BE GRADE SEPARATED OR CLOSED.

5. ACCESS CONTROL

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.

6. TRACK ALIGNMENT

THE B-LA CORRIDOR IS PLANNED TO OPERATE AS A CLASS 5/6/7 SERVICE (SPEEDS UP TO 125 MPH) WITH NO AT-GRADE ROADWAY CROSSINGS. TRACK ALIGNMENT DESIGN STANDARDS ARE GENERALLY BASED ON HOST RAILROAD STANDARDS UNLESS OTHERWISE NOTED ON GEOMETRY TABLES.

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).

8. GRADE SEPARATIONS

ALL EXISTING AT-GRADE ROADWAY/RAIL CROSSINGS WILL BE GRADE SEPARATED EXCEPT FOR POSSIBLY TWO (2) AT-GRADE CROSSINGS IN THE CITY OF GLENDALE. RISK BASED POTENTIAL MITIGATION MEASURES SUCH AS PEDESTRIAN OVERCROSSINGS/UNDERCROSSINGS WILL BE CONSIDERED.

THE AUTHORITY HAS DEVELOPED A LIST OF EARLY PROJECTS THAT WILL BE PARTIALLY FUNDED BY HSR ALONG THIS CORRIDOR. THIS LIST INCLUDES PROJECTS THAT ARE CURRENTLY IN DESIGN AND PROJECTS THAT ARE TO ENVIRONMENTALLY CLEAR BY THE HSR EIR/EIS. THOSE CROSSINGS RECEIVING FUNDS FROM THE HSR AUTHORITY ARE:

1. LINK US
2. ADDITIONAL PROJECTS UNDER NEGOTIATION
3. LACMTA SALEM SPERRY OVERPASS

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

1. LINK US

9. 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

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.

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 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 THE AUTHORITY.

12. 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.

13. SHARED RIGHT OF WAY (ROW)

GENERALLY, THE RIGHT-OF-WAY IS OWNED BY LA METRO ON THE VALLEY AND VENTURA SUBDIVISIONS, 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.

14. 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.

15. 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

SYSTEM REQUIREMENTS

1. 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.

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-TPWS-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 MAYBE MODIFIED IN THE FUTURE.

POWER SOURCE WILL BE BASED ON DISCUSSIONS BETWEEN THE AUTHORITY AND UTILITY OWNER.

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CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES
PEPD BASIS OF DESIGN SUMMARY

CONTRACT NO. HSR14-39	DRAWING NO. GE-B0201
SCALE NO SCALE	
SHEET NO.	

A

@ AADT AB ABBC ABM ABN ABUT ABV AC ACB ACMB ACOUS ACP ACR ACSR AD ADJ ADL ADP ADT A&E AEC AED AFC AFES A/G AGW AHD AL ALIGN ALT AM ANC ANI ANN ANS AP APC APE APEFZ API APPROX APU AR ARCH ARS AS ASPH ASRP ASSY AT ATC ATEL ATM ATO ATP ATPB ATPM ATR ATS AUX AVE AVG AVL AWG

B

BAGR BAR BAT BB B-B BC BCR BD BDA

B CONTINUED

BDD BDP BDS BEC BEG BFA BIL BITUM BKLN BK BKF BKR BL BLDG BLKG BLM BLST BLVD BM BN BND BOC BOCC BOS BOT BOW BR

BRG BRKT BRS BRT BS BSC B/SPAN BT BTM BTS BTWN BVC BW B/W BWA B/WLAN BZ

C

C CLOSE, CONDUIT, CONTACT, CONTROL CA CAA CAB CADD CAH CAI CALP CANT CAP

CAPB CAS CAT CBTC CBW C&C C-C CCO CCS CCTV CCVT CEG CEM CER C&G

C CONTINUED

CG CGS CHNL CI CIC CIDH CIF CIP C-I-P CIPCP CIS CISS CJ CJP CKT CL CL2 CL-6 CLG CLK CLKG CLO CLR CM CMF CMP CMU CNTR CO COL COMM CONC COND CONN CONST CONT CONTR COORD CORR CP CPT CPU CR CRC CRCP CRSP CRZ CS CSA CSG CSP CSPA CT CTB CTPB CTR CTSK CTVT CTW CU CULV CV CVR CW CWA CWR CWT

D

D DB DBE

D CONTINUED

DBL DC DCMB DCP DD DE DEL DEMO DEPT DET DF DGA DHV DI DIAG DIAPH DIFF DIM DIN DIP DIR DISC DISP DIST DISTR DMBB DN DNS DO DPDT DR DS DSC DSCW DSG DSHA DST DTBB DTM DVR DWG DWY DXO

E

E0 E1 E2 EA EB EC ECR EE EF EGS EHS EI EJ E-LAN ELAST ELEC ELECT ELEV ELOCK EMB EMC EMER EMF EMI EMS EMU ENCL

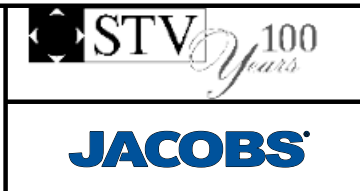
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Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION

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PEPD RECORD SET NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES PEPD ACRONYMS AND ABBREVIATIONS SHEET 1 OF 5

Table with columns: CONTRACT NO., DRAWING NO., SCALE, SHEET NO.

E CONTINUED

ENGR ENGINEER, ENGINEERING
EOB END OF BRIDGE
EOD EDGE OF DECK
EOS ELECTRICAL OPERATED BRIDGE
EOW END OF WALL
EP EDGE OF PAVEMENT
EPBM EARTH PRESSURE BALANCING MACHINE
EPR ETHYLENE PROPYLENE RUBBER
EQ EQUAL, EQUILATERAL
EQN EQUATION
EQUIP EQUIPMENT
ES EDGE OF SHOULDER, EXTRA STRENGTH, ELECTRICAL SECTION
ESA ENVIRONMENTALLY SENSITIVE AREA
ESC ESCALATOR
ESEW EMERGENCY SHOWER / EYE WASH
ESMT EASEMENT
ETCS EUROPEAN TRAIN CONTROL SYSTEM
ETEL EMERGENCY TELEPHONE
ETS EMERGENCY TRIP SYSTEM
ETW EDGE OF TRAVELED WAY
EVC END VERTICAL CURVE
EW EACH WAY, ENDWALL
EXC EXCAVATION
EXIST EXISTING
EXP EXPANSION
EXPO EXPOSED
EXWY EXPRESSWAY
EXT EXTERIOR, EXTENSION

F

FA FIRE ALARM
FACF FIRE ALARM CONTROL PANEL
FAS FIRE ALARM SYSTEM
FB FLAT BAR, FLOOR BEAM, FEEDER BREAKER
FBO FURNISHED BY OTHERS
FC FARE COLLECTION
F&C FRAME AND COVER
FD FLOOR DRAIN
FDC FIRE DEPARTMENT CONNECTION
FDN FOUNDATION
FDP FIBER DISTRIBUTION PANEL
FDR FEEDER
FDU FIBER DISTRIBUTION UNIT
FE FIRE EXTINGUISHER
FES FLARED END SECTION
FF FILTER FABRIC
F/F FACE TO FACE
FFJ FULL FEEDING JUMPER
FFL FINISHED FLOOR LEVEL
FG FINISHED GRADE
F&G FRAME AND GRATE
FH FIRE HYDRANT
FHC FIRE HOSE CABINET
FID FIRE INITIATING DEVICE
FIG FIGURE
FIN FINISH
FIRM FLOOD INSURANCE RATE MAPS
FJ FEEDER JUMPER
FL FLOW LINE
FLB FLOOR BEAM
FLH FLAT HEAD
FLR FLOOR
FNA FIRE NOTIFICATION APPLIANCE
FO FIBER OPTIC
FOC FIBER OPTIC CABLE, FACE OF CURB
FOCN FIBER OPTIC CABLING NETWORK
FOF FACE OF FINISH
FOP FACE OF POLE
FOS FACE OF STUDS, FACTOR OF SAFETY
FP FULL PENETRATION
FPLM FULL SPAN PRECAST LAUNCHING
FPRF FIRE PROOF
FPS FRAMES PER SECOND
FR FRAME
FREO FREQUENCY

F CONTINUED

FS FINISHED SURFACE
FTEL FIRE TELEPHONE
FTG FOOTING
FTP FILE TRANSFER PROTOCOL
FTW FIXED END TAIL WIRE
FUT FUTURE
FW FEEDER WIRE
FWY FREEWAY
G1 ENTRANCE GRADE, GRADE BEFORE CURVE
G2 EXIT GRADE, GRADE POST CURVE
GALV GALVANIZED
GCL GRADING CONTROL LINE
GD GRADE
GHS GALVANIZED HIGH STRENGTH
GI GENERAL INFORMATION
GIGE GIGABIT ETHERNET
GIS GAS INSULATED SWITCH, GEOGRAPHIC INFORMATION SYSTEM
GL GLASS
G/L GROUND LINE
GMA GROUND MOTION ANALYSIS
GND GROUND
GO-95 PUC GENERAL ORDER 95
GP GRADING PLANE
GPS GLOBAL POSITIONING SYSTEM
GR GUARDRAIL, GROUND ROD
GRP GLASS REINFORCED PLASTIC ROD
GRS GALVANIZED RIGID STEEL
GRX GRADE CROSSING
GSHA GEOLOGIC AND SEISMIC HAZARDS ANALYSIS
GSP GALVANIZED STEEL PIPE
GT GENERAL INFORMATION
GTGM GEOTECHNICAL TECHNICAL GUIDANCE MANUAL (FHWA)
GTR GUTTER
GW GUY WIRE
GYP GYPSUM
GYPBD GYPSUM BOARD

H

HSR1/2 HSR TRACK 1/2/ETC.
HAZ HAZARDOUS
HB HARDNESS BRINELL, HOSE BIBB
HC HANDICAP
HD HARD DRAWN, HORIZONTAL DRAIN
HDG HOT DIP GALVANIZED
HDPE HIGH DENSITY POLYETHYLENE
HDWE HARDWARE
HDWL HEADWALL
HEX HEXAGONAL
HH HANDHOLE, HEAD HARDENED
HI HIGH
HI-RAIL HIGHWAY TO RAILROAD VEHICLE
HM HOLLOW METAL
HMA HOT MIXED ASPHALT
HMI HUMAN MACHINE INTERFACE
HO HAND OPERATED
HOR HORIZONTAL
HOV HIGH-OCCUPANCY VEHICLE
HP HIGH POINT, HINGE POINT
HP&R HIGHWAY PLANTING AND RESTORATION
HPS HIGH PERFORMANCE STEEL
HR HANDRAIL
HRL HIGH RAIL LEVEL
HS HIGH STRENGTH
H/SPAN HEADSPAN
HSR HIGH-SPEED RAIL
HST HIGH-SPEED TRAIN
HT HIGH TEMPERATURE
HTR HEATER
HV HIGH VOLTAGE
HVAC HEATING VENTING AND AIR CONDITIONING
HW HIGH WATER
HWT HIGH WATER TABLE
HWM HIGH WATER MARK

G

ENTRANCE GRADE, GRADE BEFORE CURVE
EXIT GRADE, GRADE POST CURVE
GALVANIZED
GRADING CONTROL LINE
GRADE
GALVANIZED HIGH STRENGTH
GENERAL INFORMATION
GIGABIT ETHERNET
GAS INSULATED SWITCH, GEOGRAPHIC INFORMATION SYSTEM
GLASS
GROUND LINE
GROUND MOTION ANALYSIS
GROUND
PUC GENERAL ORDER 95
GRADING PLANE
GLOBAL POSITIONING SYSTEM
GUARDRAIL, GROUND ROD
GLASS REINFORCED PLASTIC ROD
GALVANIZED RIGID STEEL
GRADE CROSSING
GEOLOGIC AND SEISMIC HAZARDS ANALYSIS
GALVANIZED STEEL PIPE
GENERAL INFORMATION
GEOTECHNICAL TECHNICAL GUIDANCE MANUAL (FHWA)
GUTTER
GUY WIRE
GYPSUM
GYPSUM BOARD

H CONTINUED

HWY HIGHWAY
I IMPENANCE BOND
IBC INTERNATIONAL BUILDING CODE
IDS INTRUSION DETECTION CODE
IIMP INTERGRATED INFORMATION MANAGEMENT PLATFORM
IJS INSULATED JOINT
IJP INSULATED JOINT PLUG
INSR INSULATOR
INST INSTANTANEOUS
INSUL INSULATION
INT INTERIOR
Inter-LATA INTER-LOCAL ACCESS AND TRANSPORT AREA
INV INVERT
I/O INPUT/OUTPUT
IR IN-RUNNING (RIDING CONTACT WIRE)
IRR IRRIGATION
I/S IN-SPAN
I/SJ IN-SPAN JUMPER

J

J JUMPER
JAN JANITOR
JB JUNCTION BOX
JCT JUNCTION
JP JOINT POLE
JT(S) JOINT(S)

K

KV KILOVOLT

L

L LENGTH
LA LANDSCAPE ARCHITECT, LIGHTING ARRESTER, LOS ANGELES (CALIFORNIA, USA)
LA-A LOS ANGELES TO ANAHEIM
LAM LAMINATE
LAN LOCAL AREA NETWORK
LA-SD LOS ANGELES TO SAN DIEGO
LAT LATITUDE
LAV LAVATORY
LC LENGTH OF CURVE, LANDSCAPE CONTRACTOR
LCB LEAN CONCRETE BASE
LCX LEAKY COAXIAL RADIO CABLE
LDBE LOWER-LEVEL DESIGN BASIS EARTHQUAKE
LED LIGHT EMITTING DIODE
LF LINEAR FEET
LG LONG
LGT LIGHT, LIGHTING
LH LEFT-HAND
LKR LOCKER
LL LIGHT LOADING
LLT LAST LONG TIE
LN LANE
LO LOCKOUT
LOC LOCATION
LOL LAYOUT LINE
LONG LONGITUDE, LONGITUDINAL
LOS LEVEL OF SERVICE
LOTB LOGS OF TEST BORINGS
LP LOW POINT, LOW PROFILE
LPL LIGHT POLE
LR LOW RAIL
LRFD LOAD AND RESISTANCE FACTOR DESIGN
LRT LIGHT RAIL TRANSIT
LRV LIGHT RAIL VEHICLE
LS LENGTH OF SPIRAL, LANDSCAPING, LUMP SUM
LT LEFT
LV LOW VOLTAGE
LVL LEVEL
LVT LOW VIBRATION TRACK

L CONTINUED

LWP LOWER WORKING POINT
M1 CONVENTIONAL RAILWAY TRACK
M MEDIUM LOADING
MAINT MAINTENANCE
MAT MATERIAL
MAX MAXIMUM
MB METAL BEAM
MBB METAL BEAM BARRIER
MBGR METAL BEAM GUARD RAILING
MCC MAINTENANCE CONTROL CENTER
MCE MAXIMUM CONSIDERED EARTHQUAKE
MCR MASTER CONTROL ROOM
MDS MOBILE DATA SYSTEM
MECH MECHANICAL
MED MEDIAN
MEM MEMBRANE
MESSGR MESSENGER WIRE
MET METAL
MFR MANUFACTURER
MH MANHOLE
MHHW MEAN HIGHEST HIGH WATER
MI MILD IRON
MIN MINIMUM
MISC MISCELLANEOUS
MKR MARKER
ML MAIN LINE
MLLW MEAN LOWER LOW WATER
MMIS MAINTENANCE MANAGEMENT INFORMATION SYSTEM
MO MASONRY OPENING
MOC MOTOR OPERATED CONTRACTOR
MOD MODIFIED, MODIFY
MODC MOTOR OPERATED DISCONNECT SWITCH
MOI MAINTENANCE OF INFRASTRUCTURE
MON MONUMENT
MOP MOTOR OPERATED
MOS MANUALLY OPERATED SWITCH
MOV METAL-OXIDE VARISTOR
MOW MAINTENANCE OF WAY
MP MILEPOST
MPA MIDPOINT ANCHOR
MPH MILES PER HOUR
MPLS MULTI-PROTOCOL LABEL SWITCHING
MR MOVEMENT RATING
MSE MECHANICALLY STABILIZED EMBANKMENT
MSF MAINTENANCE AND STORAGE FACILITY
MSL MEAN SEA LEVEL
MTD MEMO TO DESIGNERS (CALTRANS), MOUNTED
MUL MULLION
MVC MINIMUM VERTICAL CLEARANCE
MW MESSENGER WIRE

N

N NORTH, NORTHING
N/A NOT APPLICABLE
NAVD NORTH AMERICAN VERTICAL DATUM
NB NORTHBOUND
NBR NONBRIDGING
NCL NO COLLAPSE PERFORMANCE LEVEL
NDP NONLINEAR DYNAMIC PROCEDURE
NEC NATIONAL ELECTRICAL CODE
NEG NEGATIVE
NEUT NEUTRAL
NF NEGATIVE FEEDER, NEAR FACE
NGVD NATIONAL GEODETIC VERTICAL DATUM
NI NETWORK INTERFACE
NIC NOT IN CONTRACT
NMS NETWORK MANAGEMENT SYSTEM
NO NUMBER, NORMALLY OPEN
NOM NOMINAL
NP NETWORK PORT

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Table with 5 columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Row 1: 04/30/2019

Table with 2 columns: DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, DATE. Values: C. CUSSON, K. PIRBAZARI, 04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT BURBANK TO LOS ANGELES PEPD ACRONYMS AND ABBREVIATIONS SHEET 2 OF 5

Table with 2 columns: CONTRACT NO., DRAWING NO., SCALE, SHEET NO. Values: HSR14-39, GE-C0202, NO SCALE

N CONTINUED

NPRM NOTICE OF PROPOSED RULE MAKING
NPS NOMINAL PIPE SIZE
NR NOT REGISTERED
NS NOT SUPPORTED
NT NETWORK
NTP NOTICE TO PROCEED, NETWORK TIME PROTOCOL
NTS NOT TO SCALE NETWORK TIME SERVER

O

OA OVERALL
OBLR OBLITERATE
OC ON CENTER, OVERCROSSING
OCC OPERATIONS CONTROL CENTER
OCS OVERHEAD CONTACT SYSTEM
OF OUTSIDE FACE
OFF OFFSET
OG ORIGINAL GROUND
OH OVERHEAD
O-LA ORANGE COUNTY TO LOS ANGELES OPERATIONS AND MAINTENANCE
O&M OUT TO OUT
O-O OUT-OF-RUNNING (NONRIDING CONTACT WIRE)
OOR OVERPASS
OP OPERABILITY PERFORMANCE LEVEL
OPNG OPENING
OPP OPPOSITE
ORS OPERATIONS RADIO SYSTEM
OSP OUTSIDE PLANT
OVERTEMP OVERTEMPERATURE

P

P-LA PALMDALE TO LOS ANGELES
PA PUBLIC ADDRESS
PACIS PUBLIC ADDRESS/CUSTOMER INFORMATION SYSTEM
PAX PASSENGER
PB PULL BOX, PUSH BUTTON (ON ELECTRICAL DIAGRAMS)
PBX PRIVATE BRANCH EXCHANGE
PC PRECAST CONCRETE
PCC PORTLAND CEMENT CONCRETE
PCP PERFORATED CONCRETE PIPE
PCPT PIEZOCONE PENETROMETER TEST
PE PORCELAIN ENAMEL
PED PEDESTRIAN
PEPD PRELIMINARY ENGINEERING FOR PROJECT DEFINITION
PERF PERFORATED
PERM PERMEABLE, PERMANENT
PET POTENTIAL EQUALIZING JUMPER
PF POWER FACTOR
PFDHA PROBABILISTIC FAULT DISPLACEMENT HAZARD ANALYSIS
PGL PROFILE GRADE LINE
PH PHASE
PHE POTHOLE
PID PASSENGER INFORMATION DISPLAY
PITO POINT OF INTERSECTION TURNOUT
PJP PARTIAL JOINT PENETRATION
PL PLATE, PLACE
P/L PROPERTY LINE
PLAM PLASTIC LAMINATE
PLAS PLASTER
PLC PROGRAMMABLE LOGIC CONTROLLER
PLYWD PLYWOOD
PM POST MILE, POST MERIDIEM (TIME FROM NOON TO MIDNIGHT)
PMS PAVEMENT MANAGEMENT SYSTEM
PN PAVING NOTCH
PNL PANEL
PNT POINT
PO PULL OFF
POC POINT OF CONNECTION
POE POINT OF ENDING
POS POSITIVE
POTS PLAIN ORDINARY TELEPHONE SERVICE
PP PLASTIC PIPE, POWER POLE

P CONTINUED

PPL PREFORMED PERMEABLE LINER
PPP PERFORATED PLASTIC PIPE
PR PAIR
PRI PRIMARY RATE INTERFACE (ISDN SERVICE)
PROP PROPOSED
PS PARALLELING STATION, POINT OF SWITCH
P/S PRESTRESSED
PS PARALLELING STATION
PSP PERFORATED STEEL PIPE
PSTN PUBLIC SWITCHED TELEPHONE NETWORK
PSTTWS PUBLIC SAFETY TRENCH AND TUNNEL WIRELESS SYSTEM
PSU POWER SUPPLY UNIT
PT POTENTIAL TRANSFORMER
PTC POSITIVE TRAIN CONTROL
PTD/R PAPER TOWEL DISPENSER AND RECEPTACLE
PTEL PASSENGER ASSISTANCE TELEPHONE
PTM PARKING TICKET MACHINE
PTT PUSH TO TALK
PTZ PAN-TILT-ZOOM
PUE PUBLIC UTILITY EASEMENT
PVC POLYVINYL CHLORIDE, POINT OF VERTICAL CURVATURE, POINT OF VERTICAL INTERSECTION
PVI PAVEMENT
PVMT POINT OF VERTICAL TANGENCY
PVT POWER
PWR

Q

QOS QUALITY OF SERVICE
QT QUARRY TILE
QTY QUANTITY

R

R RADIUS, RED
RA REMOTE ANNUNCIATOR
R/A ROCK ANCHOR
RAID REDUNDANT ARRAY OF INDEPENDENT DISKS
RB RESILIENT BASE
RBM RAILBOUND MANGANESE FROG
RC REGIONAL CONSULTANT, REINFORCED CONCRETE
RCA REINFORCED CONCRETE ARCH
RCB REINFORCED CONCRETE BOX
RCC REGIONAL CONTROL CENTER
RCE REGISTERED CIVIL ENGINEER
RCP REINFORCED CONCRETE PIPE
RCPA REINFORCED CONCRETE PIPE ARCH
RD ROAD, ROOF DRAIN
R&D REMOVE AND DISPOSE
RDWY ROADWAY
RE RUNNING EDGE OF RAIL
REBAR CONCRETE REINFORCED BAR
RECT RECTANGULAR
REF REFERENCE
REFP REFERENCE POINT
REINFP REINFORCED, REINFORCEMENT, REINFORCING
REL RELOCATE, RELOCATED
REM REMOTE
REPL REPLACEMENT
REOD REQUIRED
RESIL RESILIENT
RET RETAINING
REV REVISED, REVISION
RF RADIO FREQUENCY
RFI REQUEST FOR INFORMATION
RGS RIGID GALVANIZED STEEL
RH RIGHT-HAND
RM RESTRICTED MANUAL, ROOM
R-M ROAD MIXED
RO ROUGH OPENING
ROW RIGHT-OF-WAY
RP RADIUS POINT
RR RAILROAD, RUNNING RAIL

R CONTINUED

RRR RESURFACING, RESTORATION, REHABILITATION (3R)
RRRR RESURFACING, RESTORATION, REHABILITATION, RECONSTRUCTION (4R)
RRX RAILROAD GRADE CROSSING
R&S REMOVE AND SALVAGE
RSP ROCK SLOPE PROTECTION
RT RESILIENT TILE, RIGHT ROUTE
RTE REMOTE TERMINAL UNIT
RTU RETAINING WALL
RW RIGHT-OF-WAY
R/W RAIN WATER LEADER
RWY RAILWAY

S

S SOUTH, SLOPE
SAE STRUCTURE APPROACH EMBANKMENT
SALV SALVAGE
SAPP STRUCTURAL ALUMINUM PLATE PIPE
SB SOUTHBOUND
SC SPIRAL TO CURVE, SWITCH CABLE
SCADA SUPERVISORY CONTROL AND DATA ACQUISITION
SCAT SIMPLE CATENARY - AUTO TENSION
SCB SUBSTATION CONTROL BUILDING
SCC STATION CONTROL CENTER
SCD SEAT COVER DISPENSER
SCFT SIMPLE CATENARY - FIXED TENSION
SCHD SCHEDULE
SCN SECURITY CLASSIFICATION NUMBERS
SCPE SEISMIC CAPACITY AND PERFORMANCE EVALUATION
SCSP SLOTTED CORRUGATED STEEL PIPE
SD STORM DRAIN
SDB SYSTEM DUCT BANK
SDC SEISMIC DESIGN CRITERIA
SDOF SINGLE DEGREE OF FREEDOM
SE SUPER ELEVATION
SECT SECTION
SECTLEG SECTIONALIZING
SEM SEQUENTIAL EXCAVATION METHOD
SEP SEPARATION
SERV SERVICE
SF SPRING FROG
SFS SANTA FE SPRINGS
SG SUBGRADE
SHA SEISMIC HAZARDS ANALYSIS
SHLD SHOULDER
SHS STATE HIGHWAY SYSTEM
SHT SHEET
SI SECTION INSULATOR, SITE INVESTIGATION
SIG SIGNAL
SIM SIMILAR
SLAN PASSENGER STATION LOCAL AREA NETWORK
SM SELECTED MATERIAL
SMF SOLID MANGANESE FROG, SINGLE MODE FIBER
SNF SWING NOSE FROG
SNTP SIMPLE NETWORK TIME PROTOCOL
SP SPARE
SPC SPECIAL
SPEC SPECIFICATION
SPKR SPEAKER
SPL SAFETY PERFORMANCE LEVEL
SPS SMALL PART STEELWORK
SPST SINGLE POLE SINGLE THROW
SPT STANDARD PENETRATION TEST
SQ SQUARE
SR SYSTEM REQUIREMENT, STATE ROUTE
SRRA SAFETY ROADSIDE REST AREA
SRSS SQUARE ROOT OF SUM OF SQUARES
SS SLOPE STAKE, SUBSTATION
S/SPAN STEADY SPAN
SSI SOIL STRUCTURE INTERACTION
SSK SERVICE SINK
SSPA STRUCTURAL STEEL PLATE ARCH
SSPP STRUCTURAL STEEL PLATE PIPE
SSPPA STRUCTURAL STEEL PLATE PIPE ARCH
SSRP STEEL SPIRAL RIB PIPE
SST STAINLESS STEEL

S CONTINUED

SSW STEADY SPAN WIRE
SS SANITARY SEWER
ST SPIRAL TO TANGENT, STREET
STA STATION, STATIONING
STBB SINGLE THRIE BEAM BARRIER
STD STANDARD
STC SINGLE TRACK CANTILEVER
STIFF STIFFENER
STL STEEL
STOR STORAGE
STP SHIELDED TWISTED PAIR CABLE
STR STRUCTURAL, STRUCTURE
STS SPIRAL TANGENT SPIRAL
STW STATIC WIRE
SUPV SUPERVISORY
SURF SURFACING
SUSP SUSPENDED
SW SOUNDWALL, SOFTWARE
SWA SINGLE WIRE ANCHOR
SWAT SINGLE WIRE AUTO TENSIONED
SWFT SINGLE WIRE - FIXED TERMINATION
SWGR SWITCHGEAR
SWK SIDEWALK
SWPPP STORM WATER POLLUTION PREVENTION PLAN
SWR SEWER
SWS SWITCHING STATION
SWT SWITCH
SYM SYMMETRICAL

T

T TREAD
TAN TANGENT
TASAS TRAFFIC ACCIDENT SUREILLANCE ANALYSIS SYSTEM
T&B TOP AND BOTTOM
TBD TO BE DETERMINED
TBM TUNNEL BORING MACHINE
TCL TRACK CENTERLINE
TC TRAIN CONTROL
TCB TRAFFIC CONTROL BOX
TCC TRAIN CONTROL AND COMMUNICATIONS
TCCR TRAIN CONTROL AND COMMUNICATIONS ROOM
TCCCT TRACK CIRCUIT
TCE TEMPORARY CONSTRUCTION EASEMENT
TCP/IP TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL
TCR TRANSMISSION COMMUNICATIONS ROOM
TD TRENCH DRAIN, TIME DELAY
TDA TIRE DERIVED AGGREGATE
TDD TELECOMMUNICATIONS DEVICE FOR THE DEAF
TDM TIME DIVISION MULTIPLEXING
TEL TELEPHONE
TEMP TEMPORARY
TERM TERMINATION
TES TRACTION ELECTRIFICATION SYSTEM
TESC TEMPORARY EROSION AND SETTLEMENT CONTROL
TETEL TRAIN EMERGENCY TELEPHONE/SPEAKERPHONE
TFE TETRAFLUROETHYLENE
TG TOP OF GRADE
THK THICK
TIS TELEPHONE AND INTERCOM SYSTEM
TK TRACK
TL TENSION LENGTH
TM TECHNICAL MEMORANDUM
TMP TEMPERATURE
TO TURNOUT, TELECOM OUTLET
TOC TOP OF CURB
TOG TOP OF GRATE
TOL TOLERANCE
TOLR TOP OF LOW RAIL
TOF TOP OF FOUNDATION
TOFG TOP OF FINISH GRADE
TOP TOP OF PAVEMENT
TOR TOP OF RAIL

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
PEPD ACRONYMS AND ABBREVIATIONS
SHEET 3 OF 5

Table with columns: CONTRACT NO., DRAWING NO., SCALE, SHEET NO.

T CONTINUED

W CONTINUED

TRACK GEOMETRY - HORIZONTAL

UNITS OF MEASUREMENT

TOS TOP OF SLOPE
 TOT TOP OF TIE,
 TOTAL
 TOW TOP OF WALL
 TP TELEPHONE POLE,
 TRACTION POWER
 TPB TREATED PERMEABLE BASE
 TPD TOILET PAPER DISPENSER
 TPF TRACTION POWER FACILITY
 TPM TREATED PERMEABLE MATERIAL
 TPS TRACTION POWER SUPPLY SYSTEM
 TPSS TRACTION POWER SUBSTATION
 (INCLUDING PARALLEL AND SWITCHING STATIONS)
 T/R TOP OF RAIL ELEVATION
 TRANS TRANSVERSE,
 TRANSITION
 TRK TRACK
 TS TRAFFIC SIGNAL,
 TANGENT TO SPIRAL,
 TUBULAR STEEL
 TSI TECHNICAL SPECIFICATIONS FOR INTEROPERABILITY
 TSM TRAFFIC SYSTEMS MANAGEMENT
 TSMF TRAFFIC SYSTEMS MANAGEMENT PLAN
 TTC TWO TRACK CANTILEVER
 TTEL TRAIN EMERGENCY SPEAKERPHONE
 TV TELEVISION
 TVS(S) TICKET VENDING MACHINE(S)
 TW TIE WIRE
 TWC TIME WARNER CABLE
 TWT TIME WARNER TELEPHONE
 TYP TYPICAL

W/ WITH
 WA WORK AREA
 WB WESTBOUND
 WC WATER CLOSET
 WCS WIRELESS COMMUNICATIONS SYSTEM
 WD WOOD
 WLAN WIRELESS LOCAL AREA NETWORK
 WM WIRE MESH
 W/O WITHOUT
 WP WORK POINT,
 WOOD POLE
 WPF WATERPROOF
 WPC WAYSIDE POWER CUBICLES
 WR WIRE RUN
 WRT WITH RESPECT TO
 WS WATER SURFACE,
 WORK STATION
 WSP WELDED STEEL PIPE
 WT WEIGHT
 WV WATER VALVE
 WW WINGWALL,
 WALKWAY
 WWF WELDED WIRE FABRIC
 WWJCL WELDED STEEL PIPE
 WWLOL WINGWALL LAYOUT LINE
 WWM WELDED WIRE MESH

BC BEGIN HORIZONTAL CURVE
 CC COMPOUND CURVE
 CS POINT OF CHANGE FROM CIRCULAR CURVE TO SPIRAL
 K1 TANGENT DISTANCE PF SHIFT PC REFERENCE
 TO THE TS
 K2 TANGENT DISTANCE PF SHIFT PT REFERENCE
 TO THE ST
 LC LENGTH OF CIRCULAR CURVE
 Ls1 LENGTH OF SPIRAL FROM TS TO SC
 Ls2 LENGTH OF SPIRAL FROM CS TO ST
 LSc LENGTH OF COMPOUND SPIRAL FROM CS TO SC
 p1 OFFSET FROM INITIAL TANGENT TO PC OF THE
 SHIFTED CIRCLE OF SPIRALIZED CURVE
 p2 OFFSET FROM INITIAL TANGENT TO PT OF THE
 SHIFTED CIRCLE OF SPIRALIZED CURVE
 PC POINT OF CURVATURE
 PCC POINT OF COMPOUND CURVE
 PF POINT OF FROG
 PI POINT OF INTERSECTION
 PITO POINT OF INTERSECTION TURNOUT
 POC POINT ON HORIZONTAL CURVE
 POE POINT OF ENDING
 POS POINT ON SPIRAL
 POVc POINT ON VERTICAL CURVE
 POVT POINT ON VERTICAL TANGENT
 PRC POINT OF REVERSE CURVE
 PRVC POINT OF REVERSE VERTICAL CURVE
 PS POINT OF SWITCH
 PT POINT OF TANGENT
 SC POINT OF CHANGE FROM SPIRAL TO CIRCULAR CURVE
 SPO POINT ON ORIGIN OF COMPOUND SPIRAL
 SS POINT OF CHANGE BETWEEN SPIRALS
 SSC SPIRAL TO SPIRAL POINT OF CURVATURE
 ST POINT OF CHANGE FROM SPIRAL TO TANGENT
 TC POINT OF CHANGE FROM TANGENT TO CURVE
 TS POINT OF CHANGE FROM TANGENT TO SPIRAL
 Ts1 TANGENT DISTANCE FROM TS TO PI
 Ts2 TANGENT DISTANCE FROM ST TO PI
 Xs1 TANGENT OFFSET AT THE SC
 Xs2 TANGENT OFFSET AT THE CS
 Δ TOTAL CENTRAL ANGLE OF THE SPIRALIZED CURVE
 Δc CENTRAL ANGLE OF CIRCULAR CURVE (Lc) FROM
 SC TO CS
 Δc1 CENTRAL ANGLE OF FIRST CIRCULAR CURVE OF
 COMPOUND CURVATURE
 Δc2 CENTRAL ANGLE OF SECOND CIRCULAR CURVE OF
 COMPOUND CURVATURE
 θs1 CENTRAL ANGLE OF SPIRAL LENGTH Ls1 OR SPIRAL
 ANGLE OF FIRST SPIRAL IN SPIRALIZED CURVE
 θs2 CENTRAL ANGLE OF SPIRAL LENGTH Ls2 OR SPIRAL
 ANGLE OF SECOND SPIRAL IN SPIRALIZED CURVE
 θsc CENTRAL ANGLE OF COMPOUND SPIRAL OR
 COMPOUND SPIRAL ANGLE FROM CS TO SC

Ac ACRES
 AMP AMPERES
 BTU BRITISH THERMAL UNIT
 CAL CALIPER
 CF CUBIC FEET
 CP CANDLE POWER
 CY CUBIC YARD
 dB DECIBEL
 DEG DEGREE
 DIA DIAMETER
 Eu UNBALANCED SUPERELEVATION
 F FARENHEIT
 FT FOOT,
 FEET
 g ACCELERATION DUE TO GRAVITY
 GA GAUGE
 GAL GALLON
 GB GIGABYTE
 GBPS GIGABITS PER SECOND
 GHZ GIGAHERTZ
 HR HOUR
 HT HEIGHT
 Hz HERTZ
 ID INSIDE DIAMETER
 IF INSIDE FACE
 IN INCHES
 IR INSIDE RADIUS
 K KIPS (1000 POUNDS)
 KCMIL THOUSAND CIRCULAR MILS
 KHz KILOHERTZ
 KSF KIPS PER SQUARE FOOT
 KSI KIPS PER SQUARE INCH
 KV KILOVOLTS
 KVA KILOVOLTS-AMPERE
 KVAR KILOVOLTS-AMPERE REACTIVE
 KW KILOWATT
 KWH/D KILOWATT HOUR / DEMAND
 L LENGTH
 LB POUNDS
 LB/FT POUNDS PER FOOT
 LF LINEAR FOOT
 m METER
 MBPS MEGABITS PER SECOND
 MCM THOUSAND CIRCULAR MILS
 MHz MEGAHERTZ
 mm MILLIMETER
 MPH MILES PER HOUR
 MVA MEGAVOLT-AMPERE
 MW MEGAWATT
 OD OUTSIDE DIAMETER
 PSF POUNDS PER SQUARE FOOT
 PSI POUNDS PER SQUARE INCH
 PSIG POUNDS PER SQUARE INCH GAUGE
 SEC SECOND
 SF SQUARE FEET
 SY SQUARE YARD
 TF TRACK FEET
 VA VOLTS
 VAC VOLT-AMPERE
 Y YARDS
 YR(S) YEAR(S)

X

X/CAT CROSS CANTENARY
 XD TRANSDUCER
 XFMR TRANSFORMER
 XO CROSSOVER
 XOST CROSSOVER SPRING TENSIONER
 XSEC CROSS SECTION
 X/SPAN CROSS SPAN
 XING CROSSING
 XMITTER TRANSMITTER

TRACK GEOMETRY - VERTICAL

BVC BEGIN VERTICAL CURVE
 Eo ACTUAL SUPERELEVATION
 EVC END VERTICAL CURVE
 PCVC POINT OF COMPOUND VERTICAL CURVE
 POVc POINT ON VERTICAL CURVE
 POVT POINT ON VERTICAL TANGENT
 PVI POINT OF VERTICAL INTERSECTION
 VC VERTICAL CURVE
 VPI VERTICAL POINT OF INTERSECTION

U

UB UTILITY BOX
 UBC UNIFORM BUILDING CODE
 UC UNDERCROSSING
 UD UNDERDRAIN
 UG UNDERGROUND,
 UNDERGRADE
 UGB UNDERGRADE BRIDGE
 UI USER INTERFACE
 UNINS UNINSULATED
 UON UNLESS OTHERWISE NOTED
 UP UNDERPASS
 UPS UNINTERRUPTIBLE POWER SUPPLY
 UR URINAL
 UrEDAS URGENT EARTHQUAKE DETECTION AND ALARM SYSTEM
 USCS UNIFIED SOIL CLASSIFICATION SYSTEM
 UTIL UTILITY
 UTPUN SHIELDED TWISTED PAIR
 UWP UPPER WORKING POINT

V

V VELOCITY,
 DESIGN SPEED,
 VALVE
 VAC VOLTS ALTERNATING CURRENT
 VAR VARIABLE,
 VARIES
 VCAT VIRTUAL CONCETENATION
 VCE VERTICAL CIRCULATION ELEMENT
 VCP VITRIFIED CLAY PIPE
 VCT VINYL COMPOSITION TILE
 VCD VOLT DC
 VE VALUE ENGINEERING
 VERT VERTICAL
 VEST VESTIBULE
 VIA VIADUCT
 VLAN VIRTUAL LOCAL AREA NETWORK
 VMS VARIABLE MESSAGE SIGN,
 VARIABLE MESSAGE SYSTEM
 VOL VOLTIMETER,
 VOLUME
 VOIP VOICE OVER INTERNET PROTOCOL
 VPN VIRTUAL PRIVATE NETWORK
 VRCS VOICE RADIO COMMUNICATIONS SYSTEM
 VS VOLTAGE SWITCH
 VT VOLTAGE TRANSFORMER/TRANSDUCER

W

W WEST,
 WIDTH

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DESIGNED BY
C. CUSSON
 DRAWN BY
C. CUSSON
 CHECKED BY
K. PIRBAZARI
 IN CHARGE
K. PIRBAZARI
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04/30/2019

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**
 PEPD
 ACRONYMS AND ABBREVIATIONS
 SHEET 4 OF 5

CONTRACT NO.
 HSR14-39
 DRAWING NO.
 GE-C0204
 SCALE
 NO SCALE
 SHEET NO.

(AGENCIES/ORGANIZATIONS/REFERENCE)

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 INSTITUTE OF STEEL CONSTRUCTION
 AMTRAK NATIONAL RAILROAD PASSENGER CORPORATION
 ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
 ANSS ADVANCED NATIONAL SEISMIC SYSTEM
 APWA AMERICAN PUBLIC WORKS ASSOCIATION
 AREA AMERICAN RAILWAY ENGINEERING ASSOCIATION
 AREMA AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION
 ARTIC ANAHEIM REGIONAL TRANSPORTATION 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 AUTHORITY
 AWS AMERICAN WELDING SOCIETY
 BART BAY AREA RAPID TRANSIT DISTRICT
 BDA BRIDGE DESIGN AIDS (CALTRANS)
 BDD BRIDGE DESIGN DETAILS (CALTRANS)
 BDP BRIDGE DESIGN PRACTICE (CALTRANS)
 BDS BRIDGE DESIGN SPECIFICATIONS (CALTRANS)
 BKLN BIKE LANE
 BNSF BURLINGTON NORTHERN SANTA FE RAILWAY, BNSF RAILWAY
 CALNET CALIFORNIA INTEGRATED TELECOMMUNICATIONS NETWORK
 CALTRANS CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CBC CALIFORNIA BUILDING CODE
 CBDM CALIFORNIA DEPARTMENT OF TRANSPORTATION-BRIDGE DESIGN MANUAL
 CCR CALIFORNIA CODE OF REGULATIONS
 CDC CALIFORNIA HIGH-SPEED TRAIN DESIGN CRITERIA
 CEC CALIFORNIA ELECTRIC CODE
 CEQA CALIFORNIA ENVIRONMENTAL QUALITY ACT
 CFR CODE OF FEDERAL REGULATIONS
 CHD COUNTY HEALTH DEPARTMENT
 CHP CALIFORNIA DEPARTMENT OF HIGHWAY PATROL (STATE)
 CHST CALIFORNIA HIGH-SPEED TRAIN
 CHSTP CALIFORNIA HIGH-SPEED TRAIN PROJECT
 CIWMB CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD
 CPH CALIFORNIA PERMIT HANDBOOK
 CPUC CALIFORNIA PUBLIC UTILITIES COMMISSION
 CRR COMMUTER RAIL PROGRAM (STATE)
 DOD DEPARTMENT OF DEFENSE (FEDERAL)
 DOT DEPARTMENT OF TRANSPORTATION (FEDERAL)
 DTX DOWNTOWN EXTENSION (CALTRAIN)
 EIRENE EUROPEAN INTEGRATED RADIO ENHANCED NETWORK
 ERTMS EUROPEAN RAIL TRAFFIC MANAGEMENT SYSTEM
 FAA FEDERAL AVIATION ADMINISTRATION
 FCC FEDERAL COMMUNICATIONS COMMISSION
 FEMA FEDERAL EMERGENCY MANAGEMENT AGENCY
 FHWA FEDERAL HIGHWAY ADMINISTRATION
 FMFCD FRESNO METROPOLITAN FLOOD CONTROL DISTRICT
 FRA FEDERAL RAILROAD ADMINISTRATION
 FSTIP FEDERAL STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM
 FTA FEDERAL TRANSIT ADMINISTRATION
 GBR GEOTECHNICAL BASELINE REPORT
 GBR-B GEOTECHNICAL BASELINE REPORT FOR BIDDING
 GBR-C GEOTECHNICAL BASELINE REPORT FOR CONSTRUCTION
 GDR GEOTECHNICAL DATA REPORT
 IEEE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
 ISO INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
 LACFCD LOS ANGELES COUNTY FLOOD CONTROL DEPARTMENT
 LADWP LOS ANGELES DEPARTMENT OF WATER AND POWER
 LAUS LOS ANGELES UNION STATION
 LTC LOCAL TRANSPORTATION COMMISSION
 METRO LOS ANGELES COUNTY METROPOLITAN TRANSIT AUTHORITY
 MTA METROPOLITAN TRANSIT AUTHORITY
 MUTCD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
 MWD METROPOLITAN WATER DISTRICT
 NAAQS NATIONAL AMBIENT AIR QUALITY STANDARDS
 NAC NOISE ABATEMENT CRITERIA
 NBSSR NOISE BARRIER SCOPE SUMMARY REPORT

(AGENCIES/ORGANIZATIONS/REFERENCE CONTINUED)

NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
 NENA NATIONAL EMERGENCY NUMBER ASSOCIATION
 NESC NATIONAL ELECTRICAL SAFETY CODE
 NFPA NATIONAL FIRE PROTECTION ASSOCIATION
 NIST NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
 OCFCD ORANGE COUNTY FLOOD CONTROL DISTRICT
 OCTA ORANGE COUNTY TRANSPORTATION AUTHORITY
 OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 PEER PACIFIC EARTHQUAKE ENGINEER RESEARCH
 PG&E PACIFIC GAS AND ELECTRIC COMPANY
 PUC PUBLIC UTILITIES COMMISSION
 RSA RAIL SAFETY IMPROVEMENT ACT (2008)
 RWOCB REGIONAL WATER QUALITY CONTROL BOARD (STATE)
 SAVE SOCIETY OF AMERICAN VALUE ENGINEERS
 SCE SOUTHERN CALIFORNIA EDISON
 SCRRRA SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (METROLINK)
 SDG&E SAN DIEGO GAS AND ELECTRIC COMPANY
 SDNR SAN DIEGO NORTHERN RAILWAY
 SHOPP STATE HIGHWAY OPERATION AND PROTECTION PROGRAM (FORMERLY HSOPP)
 SHPO STATE HISTORIC PRESERVATION OFFICER (STATE)
 SJRRA SAN JOAQUIN REGIONAL RAIL AUTHORITY
 SMUD SACRAMENTO MUNICIPAL UTILITY DISTRICT
 SPTC SOUTHERN PACIFIC TRANSPORTATION COMPANY
 SSCOM SEISMIC SAFETY COMMISSION
 SSORC SAFETY AND SECURITY OVERSIGHT AND REVIEW COMMITTEE
 SVBX SILICON VALLEY BERRYESSA EXTENSION
 SVRT SILICON VALLEY RAPID TRANSIT
 UPRR UNION PACIFIC RAILROAD
 US UNITED STATES
 USCE UNITED STATES (ARMY) CORP OF ENGINEERS
 USCG UNITED STATES COAST GUARD
 USCS UNIFIED SOIL CLASSIFICATION SYSTEM
 VTA VALLEY TRANSPORTATION AUTHORITY (OF SANTA CLARA COUNTY)

(SEGMENT/COUNTY CODES AND SUBDIVISIONS)

AJ ALTAMONT PASS
 BP BAKERSFIELD TO PALMDALE
 FB FRESNO TO BAKERSFIELD
 FJ SAN FRANCISCO TO SAN JOSE
 JM SAN JOSE TO MERCED
 LD LOS ANGELES TO SAN DIEGO
 LO LOS ANGELES TO ANAHEIM
 MF MERCED TO FRESNO
 PL PALMDALE TO LOS ANGELES
 SM SACRAMENTO TO MERCED
 B BAY SUBDIVISION
 C CAPITAL SUBDIVISION
 D DESERT SUBDIVISION
 J SAN JACINTO SUBDIVISION
 P PACHECO SUBDIVISION
 S SIERRA SUBDIVISION
 T TONGVA SUBDIVISION
 ALA ALAMEDA
 ALP ALPINE
 AMA AMADOR
 BUT BUTTE
 CAL CALAVERAS
 CC CONTRA COSTA
 COL COLUSA
 DN DEL NORTE
 ED EL DORADO
 FRE FRESNO
 GLE GLENN
 HUM HUMBOLT
 IMP IMPERIAL
 INY INYO
 KER KERN
 KIN KINGS
 LA LOS ANGELES
 LAK LAKE
 LAS LASSEN
 MAD MADERA
 MEN MENDOCINO
 MER MERCED
 MNO MONO
 MOD MODOC
 MON MONTEREY
 MPA MARIPOSA
 MRN MARIN
 NAP NAPA
 NEV NEVADA
 ORA ORANGE
 PLA PLACER
 PLU PLUMAS
 RIV RIVERSIDE
 SAC SACRAMENTO
 SB SANTA BARBARA
 SBD SAN BERNARDINO
 SBT SAN BENITO
 SCL SANTA CLARA
 SCR SANTA CRUZ
 SD SAN DIEGO
 SF SAN FRANCISCO
 SHA SHASTA
 SIE SIERRA
 SIS SISKIYOU
 SJ SAN JOAQUIN
 SLO SAN LUIS OBISPO
 SM SAN MATEO
 SOL SOLANO
 SON SONOMA
 STA STANISLAUS
 SUT SUTTER
 TEH TEHAMA
 TRI TRINITY
 TUL TULARE
 TUO TUOLUMNE
 VEN VENTURA
 YOL YOLO
 YUB YUBA

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DESIGNED BY
C. CUSSON
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C. CUSSON
 CHECKED BY
K. PIRBAZARI
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K. PIRBAZARI
 DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
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 ACRONYMS AND ABBREVIATIONS
 SHEET 5 OF 5

CONTRACT NO.
 HSR14-39
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 GE-C0205
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TRACK

	EXISTING FREIGHT/PASSENGER TRACK
	NEW MAINLINE AND/OR INDUSTRY TRACK (SEE TRACK PLANS FOR DESIGNATION)
	BALLAST
	BUMPER/BUMPING POST
	CONCRETE
	DERAIL-DENOTES DERAIL DIRECTION AND LOCATION OF SWITCH MACHINE (LEFT-HAND SHOWN)
	DOUBLE CROSSOVER
	EARTH
	FRICTION BUFFER
	INSULATED JOINT
	INSULATED JOINT LOCATIONS-BOTH RAIL
	INSULATED JOINT LOCATIONS-LEFT RAIL
	INSULATED JOINT LOCATIONS-RIGHT RAIL
	POINT OF CURVATURE
	POINT OF SWITCH-DENOTES SWITCH MACHINE LOCATION
	PREPARED SUBGRADE
	RAIL LUBRICATOR-DIRECTION OF TRAVEL, (DT), TWO RAIL LUBRICATORS SHOWN
	SINGLE CROSSOVER (LEFT-HAND SHOWN)
	SPECIAL RAIL
	STANDARD BOLTED JOINT
	STANDARD RAIL
	SUBBALLAST
	TURNOUT (RIGHT HAND SHOWN)
	WELDED JOINT
	CONTROL POINT (CP)
	WALKWAY/DRAINAGE ENVELOPE

CIVIL

	AGGREGATE BASE
	ASPHALT CONCRETE
	BEGIN OR END PLATFORM
	BIKE STAND
	BREAK LINE
	BORINGS (EXISTING)
	CENTERLINE
	CENTERLINE TEXT SYMBOL
	CLEAN OUT
	COLUMN, BENT
	CONCRETE
	CONCRETE BARRIER
	CONTOUR LINE
	CONTROL PANEL
	CONTROL POINT OR STREET INTERSECTION POINT
	COORDINATE GRID CROSSAIR
	CURB WITH GUTTER (CURB-LIP, FLOW LINE, BACK-TOP OF CURB)
	CURVE NUMBER
	CURVE NUMBER (TRACK GEOMETRY)
	TANGENT NUMBER
	DITCH/DRAINAGE FLOW LINE
	DOUBLE THRIE BEAM BARRIER
	DROP INLET
	ROUND DROP INLET
	DETENTION BASIN
	EARTHWORK LIMITS
	ELEVATIONS

CIVIL CONTINUED

	ELEVATION (EXISTING)
	ELECTROLIER, ELECTROLIER ON POLE
	EXISTING GUARD RAILING
	EXISTING WALL
	FENCE
	FIRE HYDRANT
	GRADED/LANDSCAPED AREA
	GAS METER
	GAS VALVE
	GUARD POST
	GUARD RAIL
	GRAVEL OR DIRT ROAD
	GUY WIRE
	HIGH MAST LIGHTING
	HORIZONTAL & VERTICAL CONTROL MONUMENT
	HORIZONTAL CONTROL MONUMENT
	ICV
	MAIL BOX
	MANHOLE
	MATCH LINE
	NEW ASPHALTIC CONCRETE
	NEW GUARD RAILING
	NEWS STAND
	NORTH ARROW
	ORIGINAL GROUND
	PARKING METER
	POINT OF INTERSECTION

CIVIL CONTINUED

	POINT OF INTERSECTION SYMBOL
	POINT OF VERTICAL INTERSECTION
	POWER POLE
	PROPERTY LINE
	RETAINING WALL
	RIVER, STREAMS, AND CREEKS
	SECTION DESIGNATION (LETTER) DRAWING NO. ON WHICH SECTION AND DETAIL APPEARS
	SECTION OR DETAIL TITLE
	SCALE 1"=1'-0"
	SPOT ELEVATION
	TILDE (TERMINATOR)
	SIGNALIZED INTERSECTION
	STATION EQUATION
	STREET LIGHT
	STREET LIGHT POWER POLE
	STREET LIGHT TRAFFIC SIGNAL
	STREET SIGN
	STRUCTURE CLEARANCE ENVELOPE
	SUPER AXIS OF ROTATION
	TELEPHONE BOOTH
	TELEPHONE POLE
	TEMPORARY RAILING (TYPE K)
	TIRE DERIVED AGGREGATE
	TRACK ALIGNMENT CENTER LINE
	TRAFFIC PANEL
	TRAFFIC SIGNAL
	TRANSMISSION TOWER

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DRAWN BY C. CUSSON
CHECKED BY K. PIRBAZARI
IN CHARGE K. PIRBAZARI
DATE 04/30/2019

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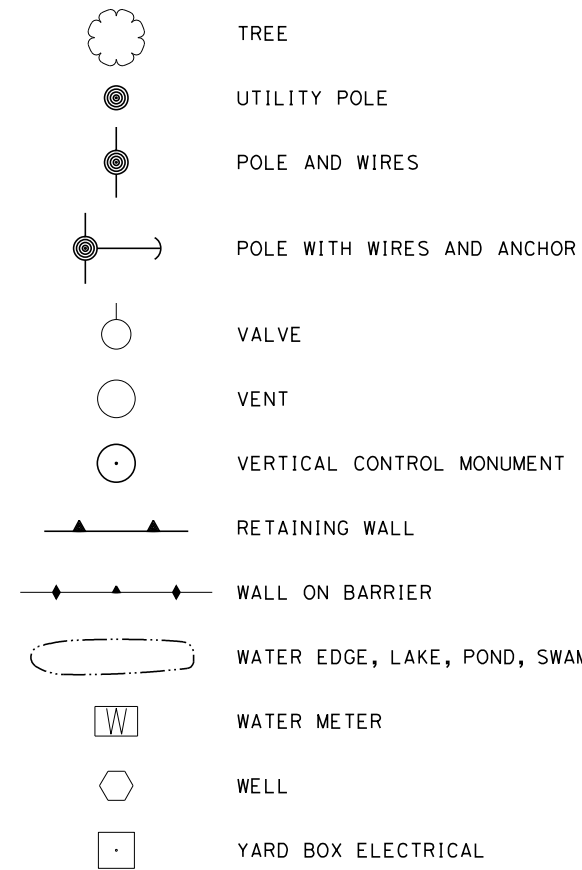


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BURBANK TO LOS ANGELES**

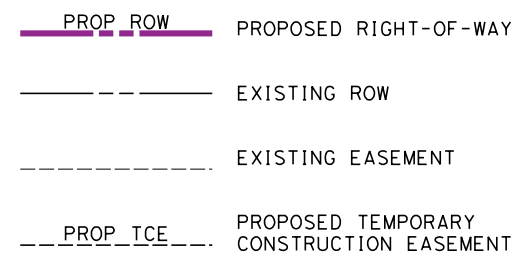
PEPD SYMBOLS
SHEET 1 OF 2

CONTRACT NO. HSR14-39
DRAWING NO. GE-C0211
SCALE NO SCALE
SHEET NO.

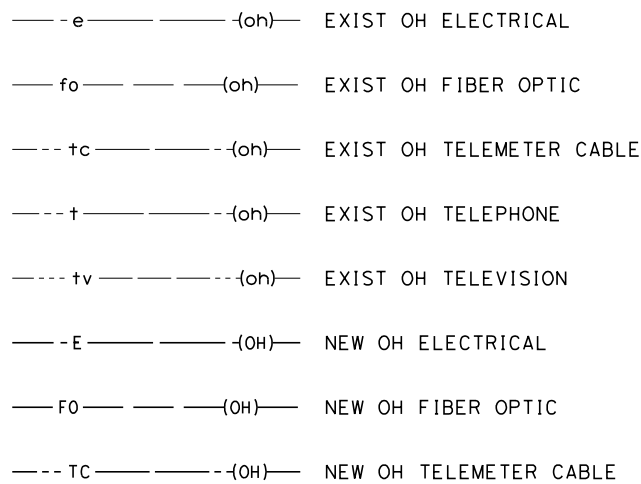
CIVIL CONTINUED



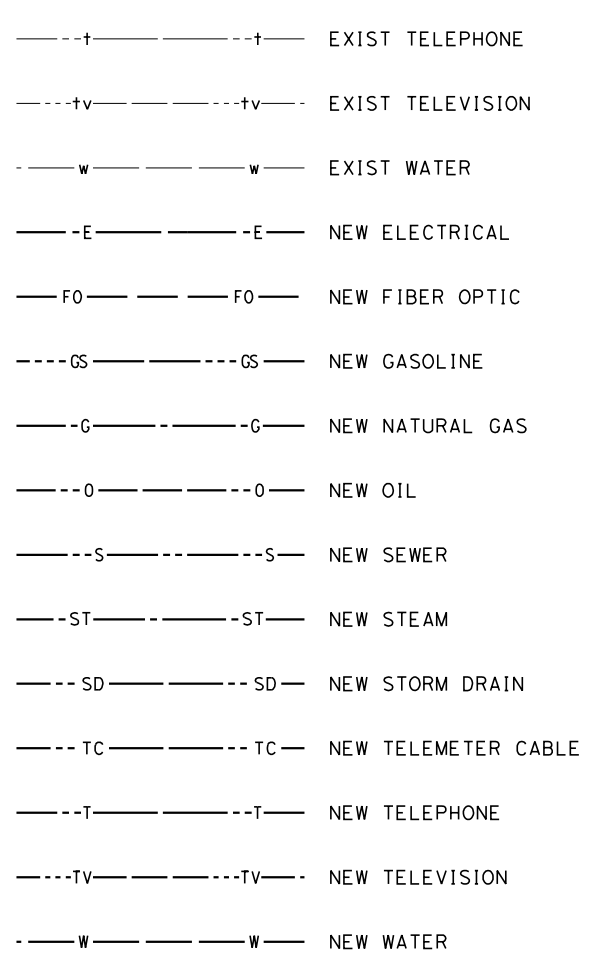
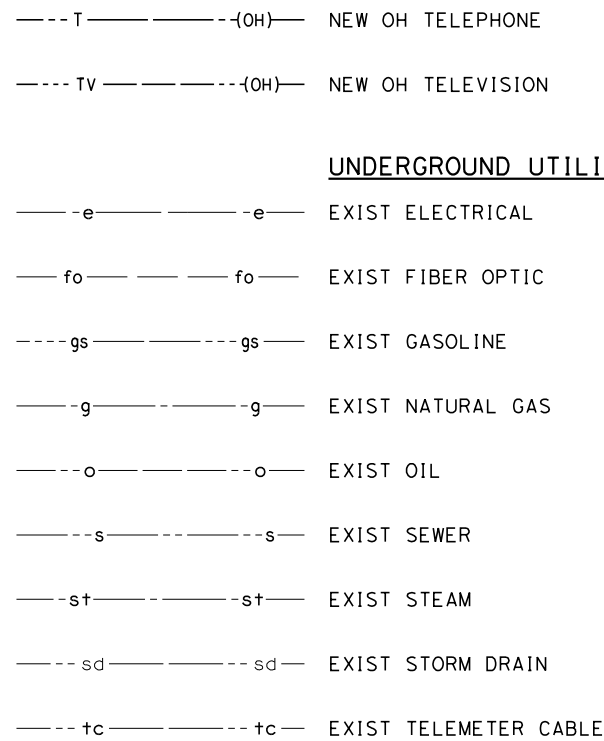
RIGHT-OF-WAY



AERIAL UTILITIES

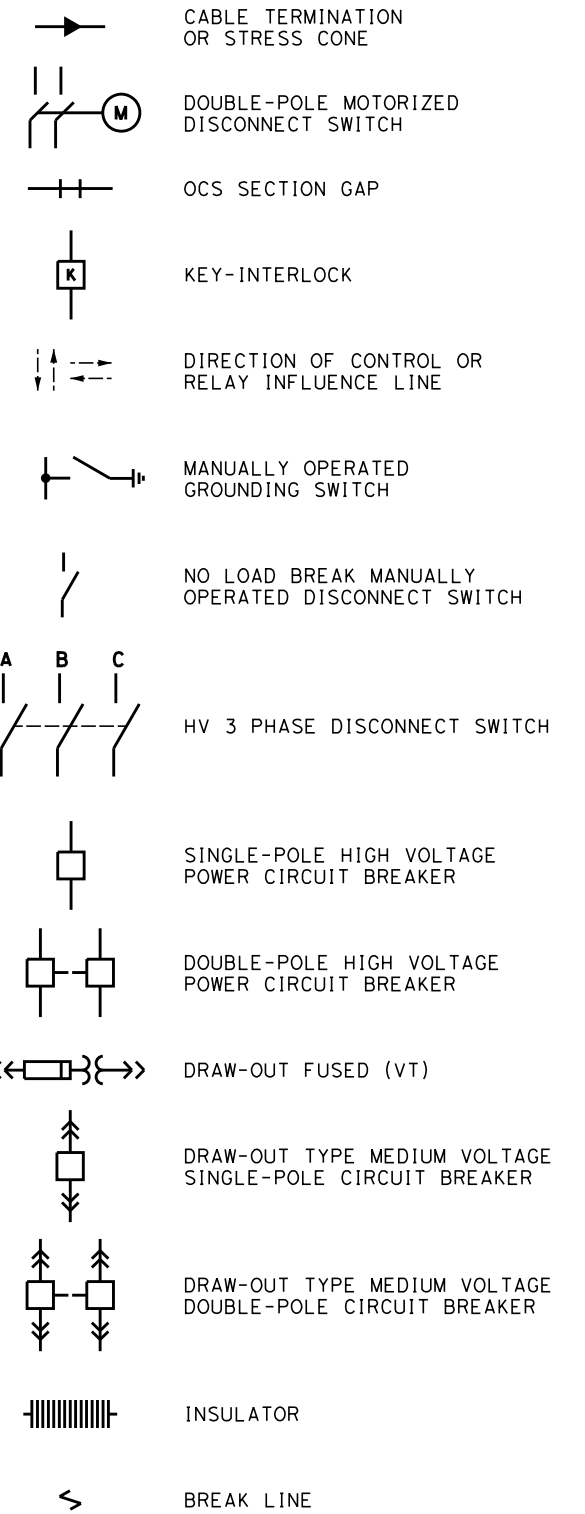
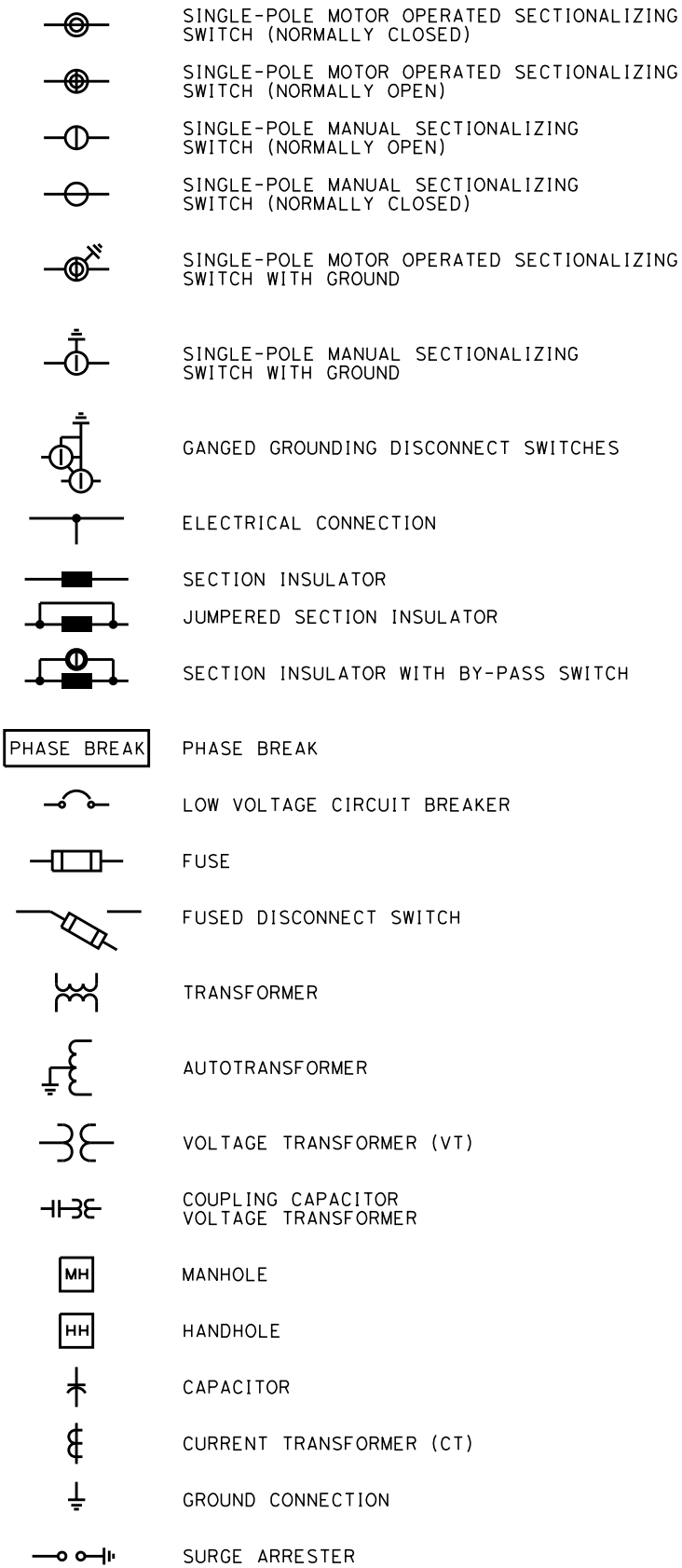


AERIAL UTILITIES CONTINUED



UNDERGROUND UTILITIES

TRACTION POWER



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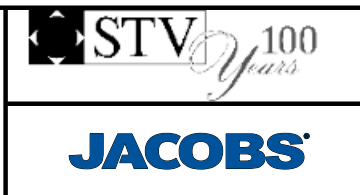
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SYMBOLS
SHEET 2 OF 2

CONTRACT NO.
HSR14-39
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SCALE
NO SCALE
SHEET NO.

GENERAL NOTES

VOLUME 1

1. FOR UPRR ALIGNMENTS, SEE "TT-D1500" SHEETS.
2. FOR GRADE SEPARATION DETAILS, SEE VOLUME 3.
3. FOR AERIAL STRUCTURE DETAILS, SEE VOLUME 2.
4. 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.
5. SCRRA TURNOUT GEOMETRY IS BASED ON THE 2009 EDITION OF THE SCRRA ENGINEERING STANDARDS.
6. 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.

VOLUME 2

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

VOLUME 3

1. FOR TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
3. FOR AERIAL STRUCTURE INFORMATION, SEE STRUCTURAL PLANS IN VOLUME 2.
4. FOR RETAINING WALL INFORMATION, SEE RETAINING WALL PLANS IN VOLUME 2.
5. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
6. FOR GRADING INFORMATION, SEE GRADING PLANS IN VOLUME 4.
7. FOR DRAINAGE INFORMATION, SEE DRAINAGE PLANS IN VOLUME 4.
8. FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
9. FOR TRENCH INFORMATION, SEE STRUCTURAL PLANS IN VOLUME 4.
10. ACCESS DETERING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.

VOLUME 4

EXISTING COMPOSITE UTILITY NOTES:

1. FOR TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. UTILITY CONFLICTS ON CROSSING STREETS AT EXISTING GRADE SEPARATIONS ARE ANTICIPATED.
3. 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 EQUAL TO 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.
 - D. 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.
4. REFER TO TRACK PLANS, VOLUME 1 AND PROPOSED UTILITY PLANS, VOLUME 4, FOR VERTICAL UTILITY CONFLICTS.

VOLUME 4 (CONT.)

5. 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
2. FOR RETAINING WALL INFORMATION, SEE RETAINING WALL PLANS IN VOLUME 2.

VOLUME 5

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

VOLUME 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 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 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.

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4/30/2019 10:13:01 AM c:\j\p\pwworkdir\haynesma\d0137214\k2l-ge-B0211.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY C. LEE
DRAWN BY C. CUSSON
CHECKED BY K. PIRBAZARI
IN CHARGE K. PIRBAZARI
DATE 04/30/2019

**PEPD
RECORD SET**

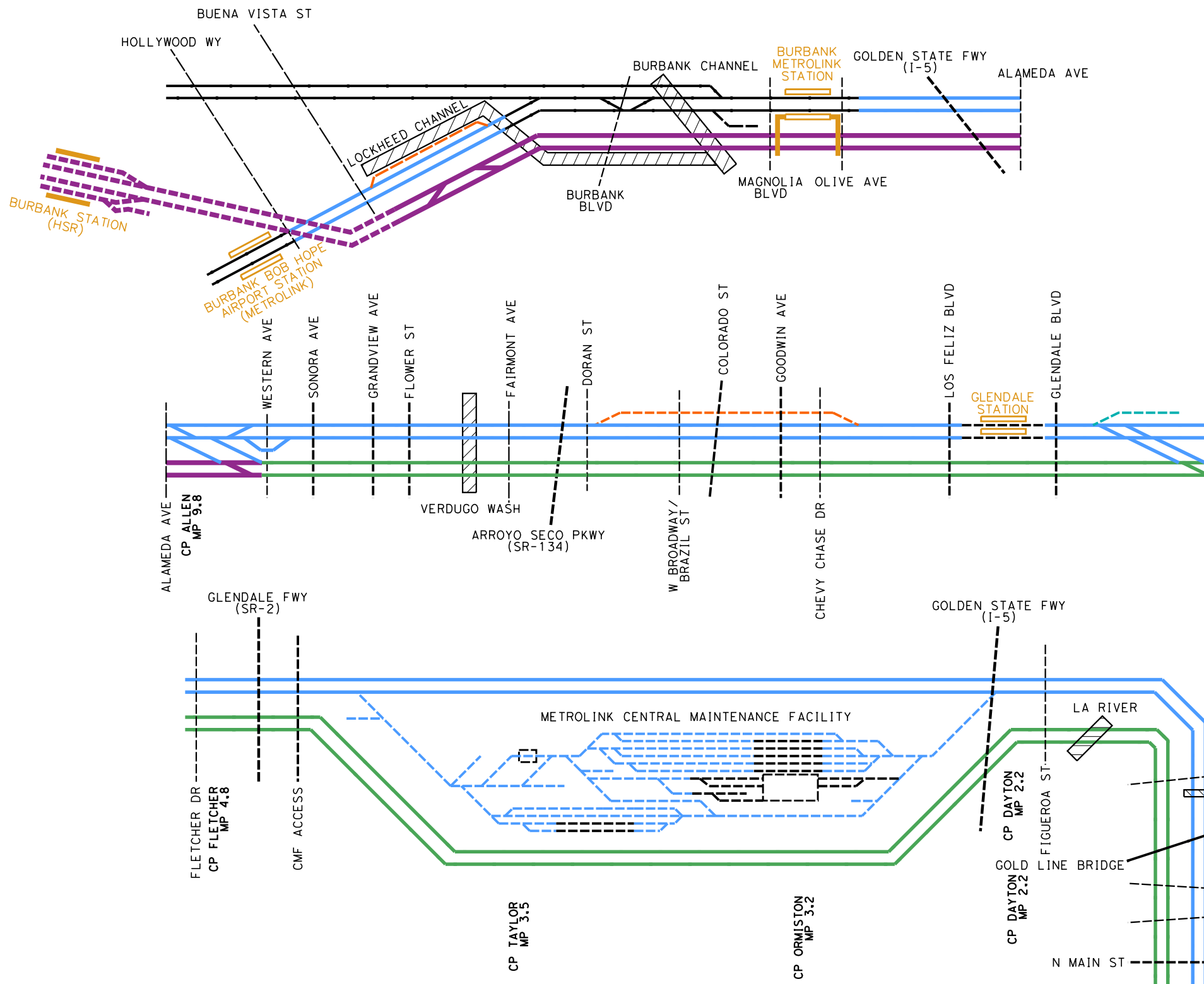
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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
GENERAL NOTES

CONTRACT NO. HSR14-39
DRAWING NO. GE-B0211
SCALE NO SCALE
SHEET NO.



- LEGEND (TRACKWORK)**
- EXISTING FREIGHT/PASSENGER MAINLINE TRACK
 - - - EXISTING FREIGHT/PASSENGER SECONDARY TRACK
 - NEW AMTRAK/METROLINK/UPRR MAINLINE TRACK
 - NEW AMTRAK/METROLINK TRENCH/TUNNEL
 - - - NEW AMTRAK/METROLINK SECONDARY TRACK
 - NEW UPRR MAINLINE TRACK
 - - - NEW UPRR SECONDARY TRACK
 - · - · - NEW TERRY LUMBER SPUR TRACK
 - NEW HSR TRACK ELEVATED
 - NEW HSR TRACK AT GRADE
 - - - NEW HSR TRACK TRENCH/TUNNEL
 - NEW SHARED MAINLINE TRACK
 - - - NEW SHARED SECONDARY TRACK
 - NEW TRACK BRIDGE

- EXISTING STATION PLATFORM
- EXISTING STATION PLATFORM WITH PEDESTRIAN BRIDGE/TUNNEL
- NEW STATION PLATFORM
- NEW STATION PLATFORM WITH PEDESTRIAN BRIDGE/TUNNEL

- LEGEND (ROADWAY)**
- - - EXISTING AT-GRADE CROSSING
 - - - EXISTING GRADE SEPARATION (LOCAL STREET)
 - - - EXISTING GRADE SEPARATION (MAJOR HWY/FREEWAY)
 - - - NEW OR MODIFY GRADE SEPARATION

- LEGEND (GENERAL)**
- ▨ DRAINAGE SYSTEM

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4/29/2019 8:10:41 AM c:\j\p\pwworkdir\haynesma\d0137214\k2l-ge-d6201.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. LEE

DRAWN BY
C. CUSSON

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
RECORD SET**

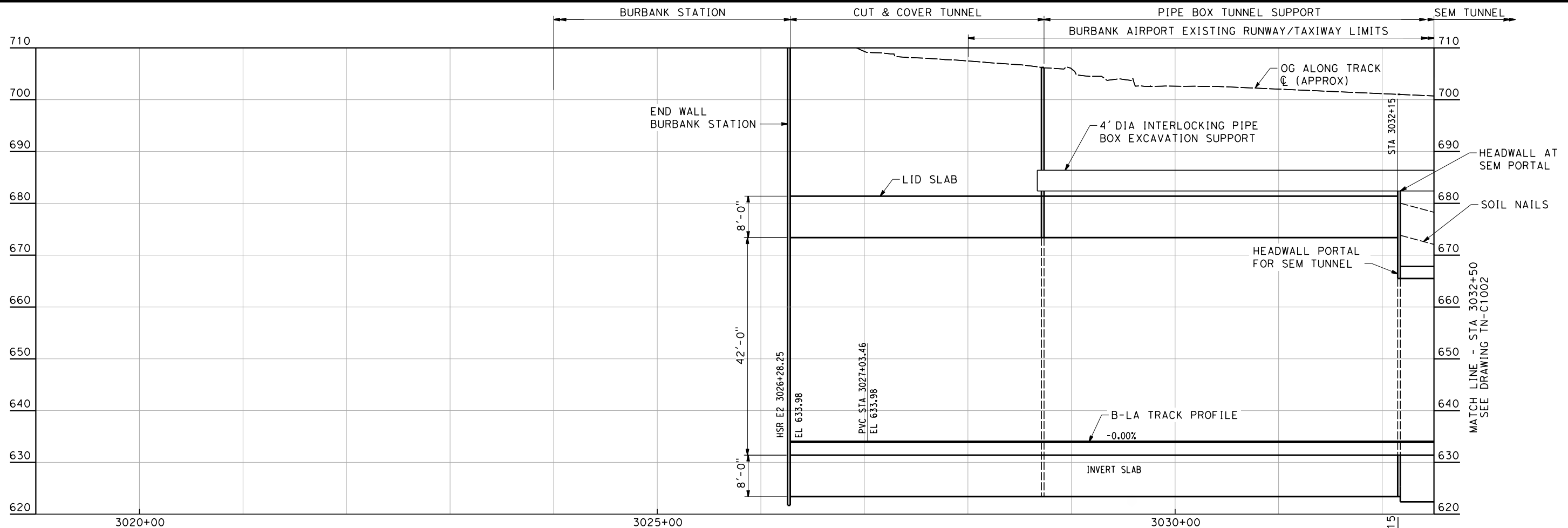
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

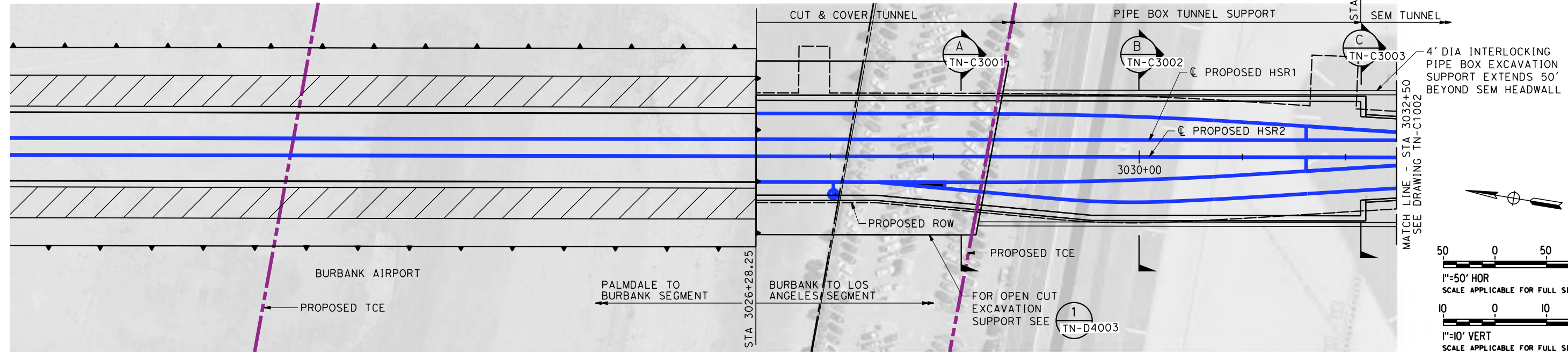
PEPD
TRACK SCHEMATIC

CONTRACT NO. HSR14-39
DRAWING NO. GE-D6201
SCALE NO SCALE
SHEET NO.



ELEVATION

Vert: 1"=10'
Horz: 1"=50'



PLAN

1"=50'

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4/30/2019 10:14:23 AM c:\j\p\work\dir\haynesma\d0144761\k2L-TN-C1001-TN.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT

DRAWN BY
W. OSTERMANN

CHECKED BY
K. ABEY

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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RECORD SET**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

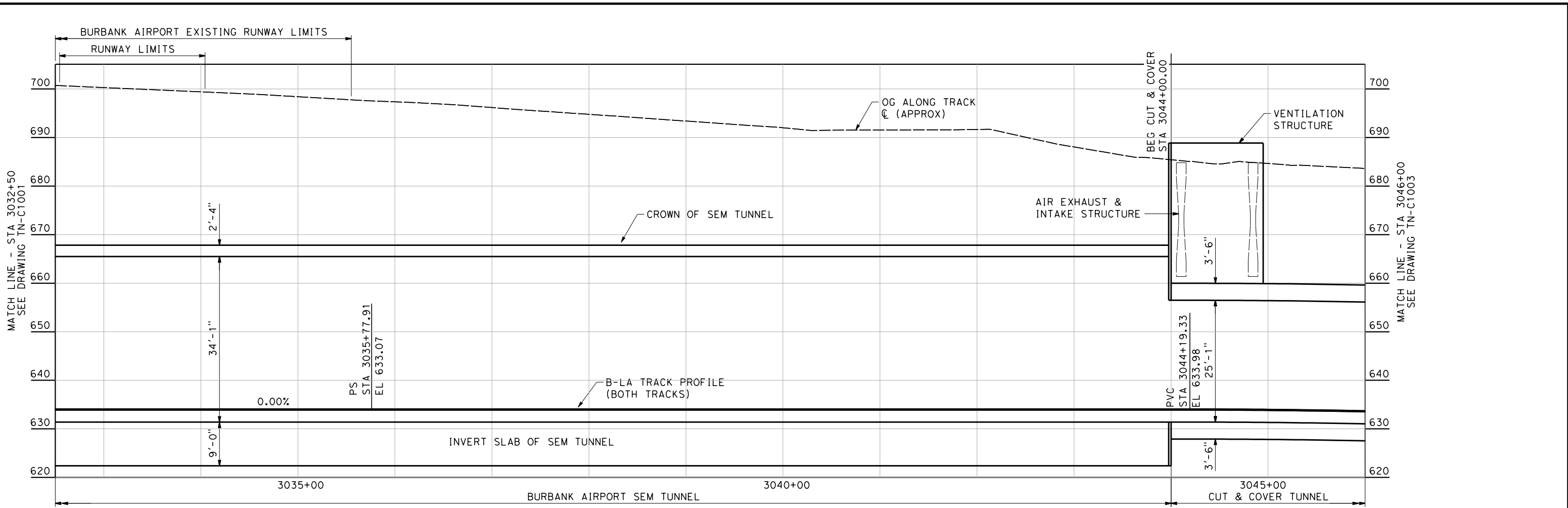
PEPD
PLAN AND ELEVATION
STA 3026+28.25 TO STA 3032+50

CONTRACT NO.
HSR14-39

DRAWING NO.
TN-C1001

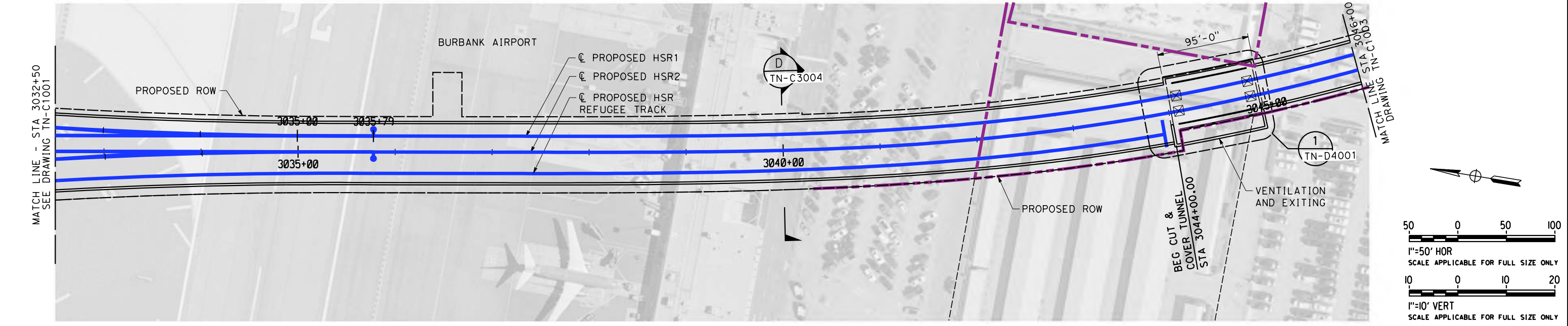
SCALE
AS SHOWN

SHEET NO.



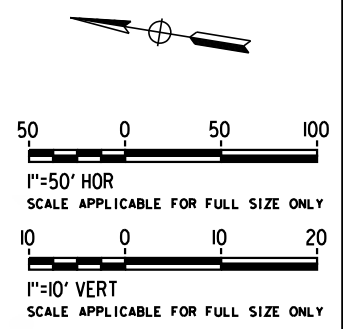
ELEVATION

Vert: 1"=10'
Horz: 1"=50'



PLAN

1"=50'



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4/30/2019 10:15:18 AM c:\j\p\pwworkdir\haynesma\d0144761\k2l-TN-C1002-TN.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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W. OSTERMANN

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IN CHARGE
K. PIRBAZARI

DATE
04/30/2019



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

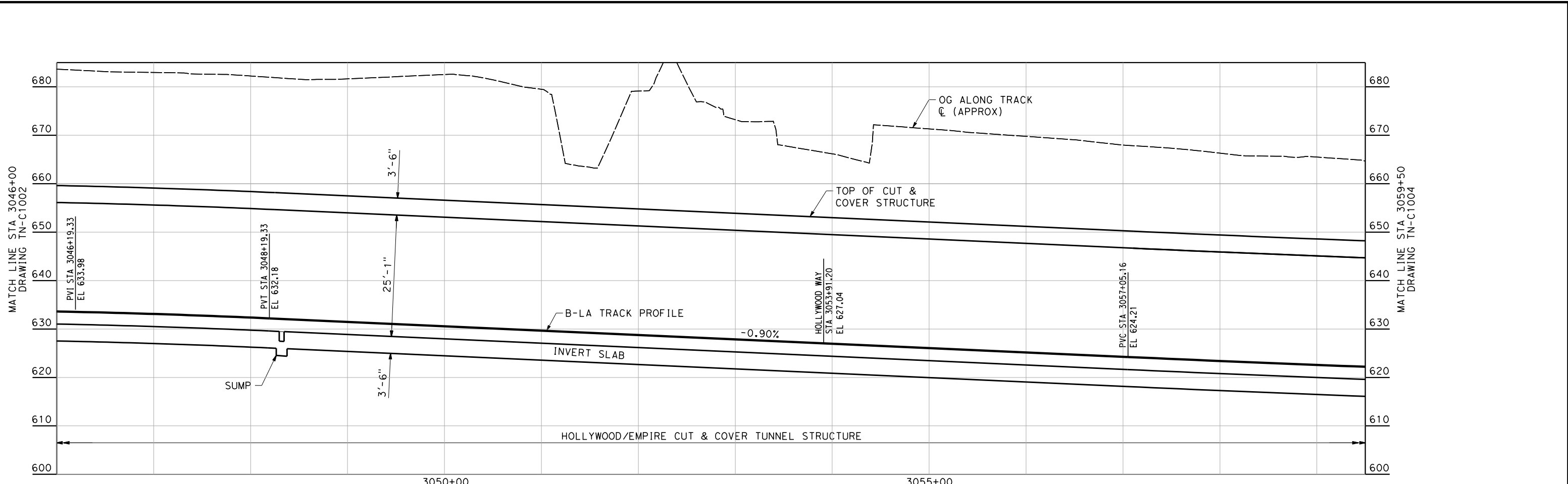
PEPD
PLAN AND ELEVATION
STA 3032+50 TO STA 3046+00

CONTRACT NO.
HSR14-39

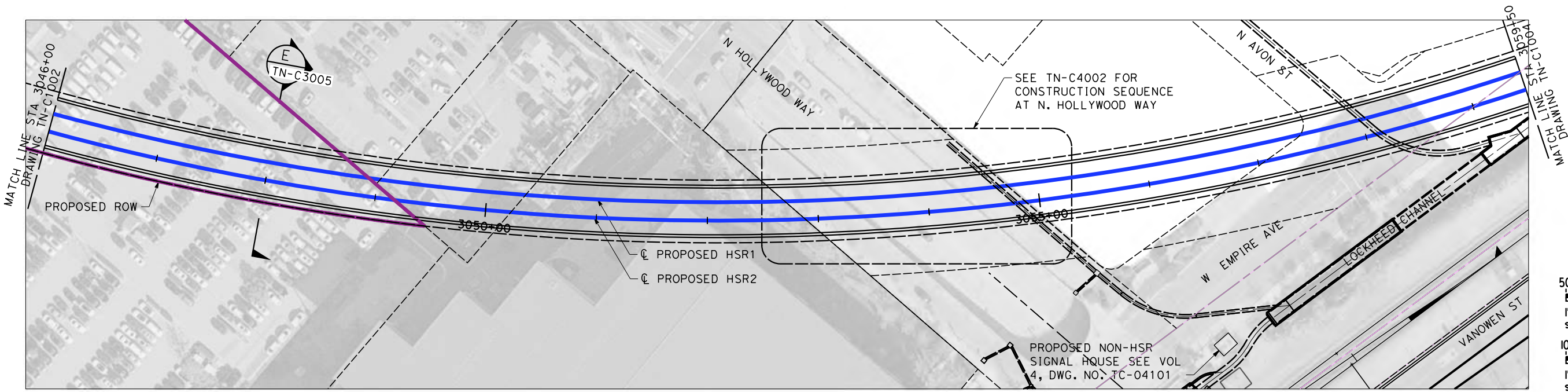
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TN-C1002

SCALE
AS SHOWN

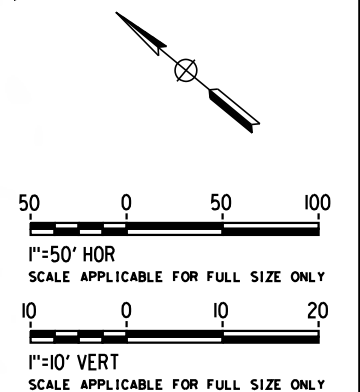
SHEET NO.



ELEVATION
 Vert: 1"=10'
 Horz: 1"=50'



PLAN
 1"=50'



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4/30/2019 10:16:35 AM c:\j\p\pwworkdir\haynesma\d0144761\k2l-TN-C1003-TNL.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT
 DRAWN BY
W. OSTERMANN
 CHECKED BY
K. ABEY
 IN CHARGE
K. PIRBAZARI
 DATE
04/30/2019

PEPD RECORD SET

NOT FOR CONSTRUCTION

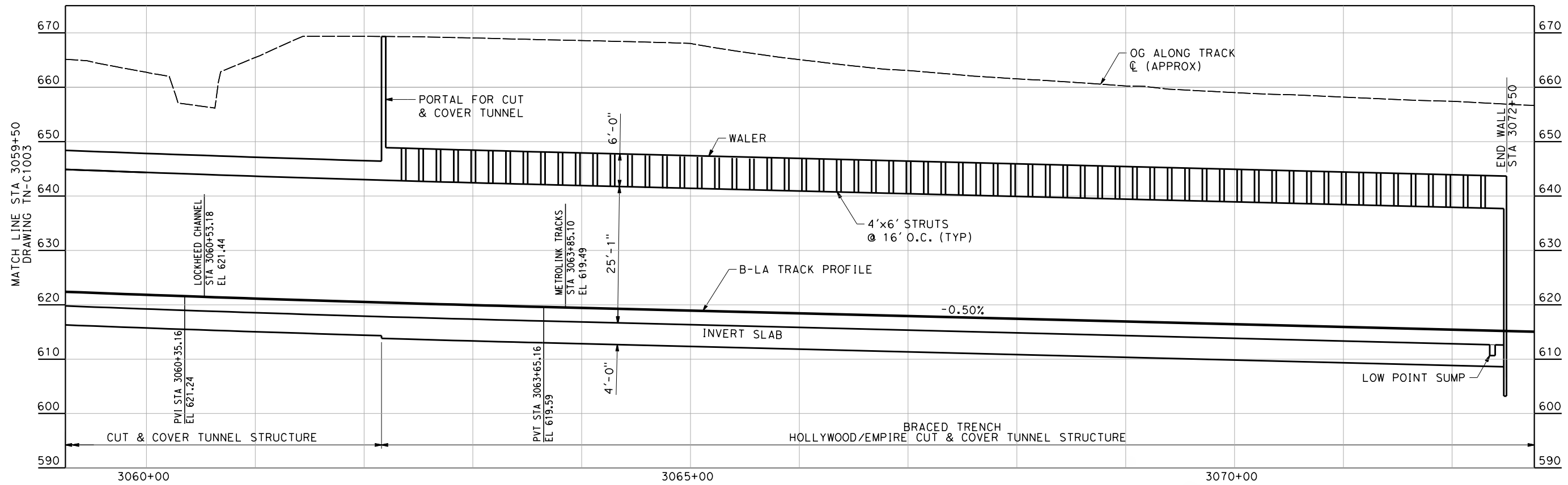


CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

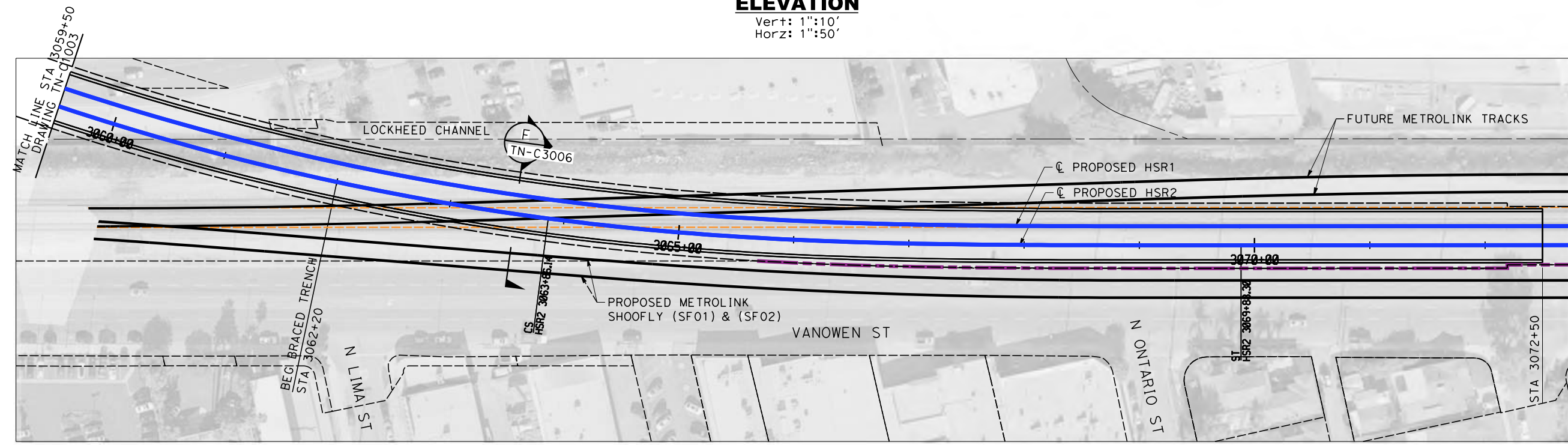
 PEPD
 PLAN AND ELEVATION
 STA 3046+00 TO STA 3059+50

CONTRACT NO.
HSR14-39
 DRAWING NO.
TN-C1003
 SCALE
AS SHOWN
 SHEET NO.

4/30/2019 10:17:50 AM c:\j\p\pwworkdir\haynesma\d0144761\k2l-TN-C1004-TNL.dgn

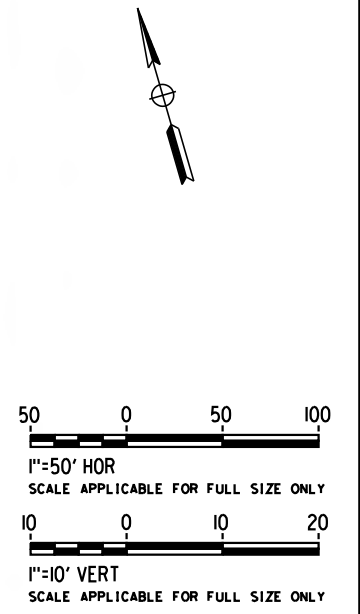


ELEVATION
 Ver+: 1"=10'
 Horz: 1"=50'



PLAN
 1"=50'

NOTE:
 1. FOR TEMPORARY BRIDGE INFORMATION, SEE TN-C4001



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT

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K. PIRBAZARI

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**

PEPD
 PLAN AND ELEVATION
 STA 3059+50 TO STA 3072+50

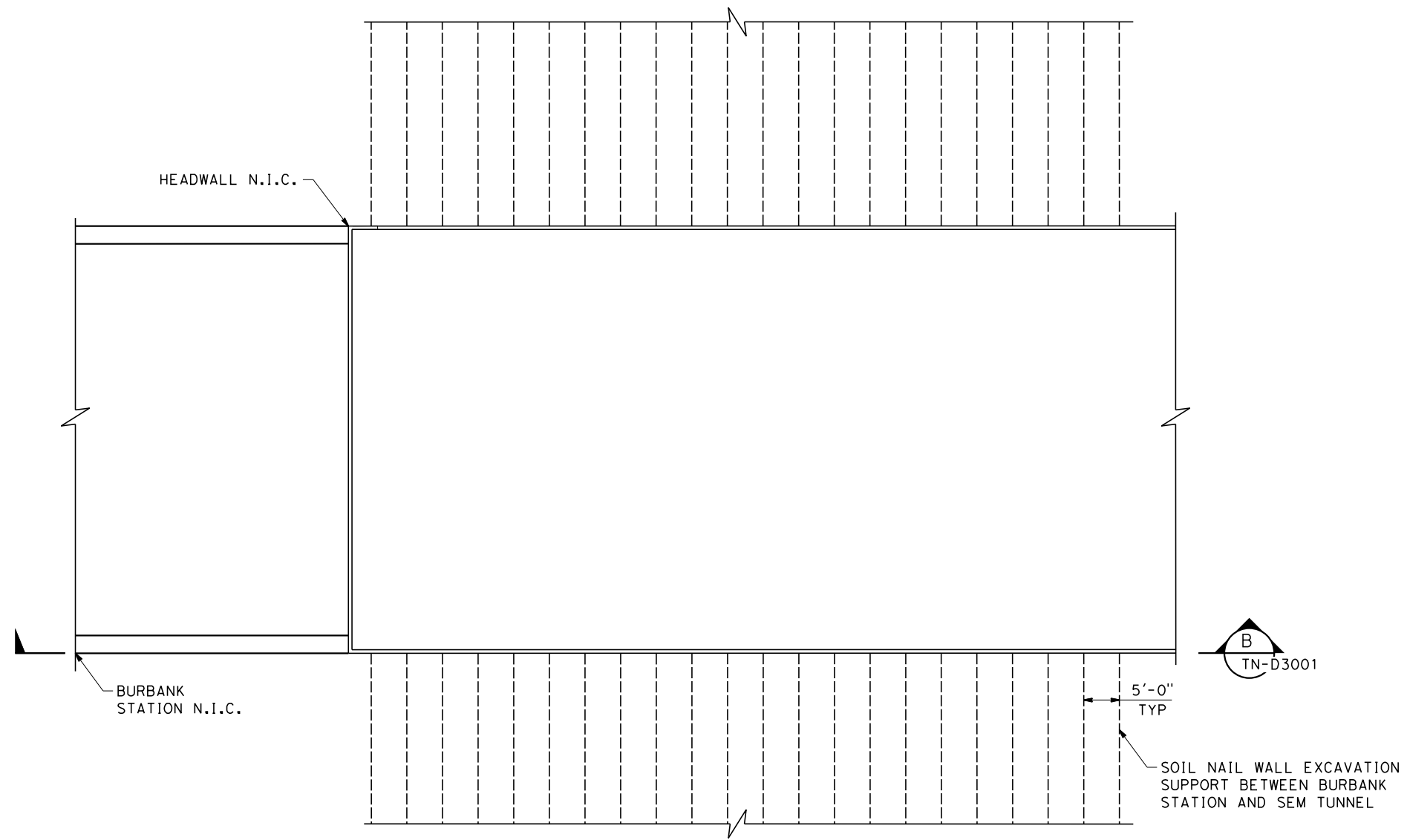
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DRAWING NO.
TN-C1004

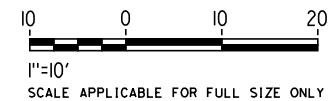
SCALE
AS SHOWN

SHEET NO.

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NORTH CUT & COVER SUPPORT OF EXCAVATION PLAN
SCALE: 1" = 10'



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RECORD SET**

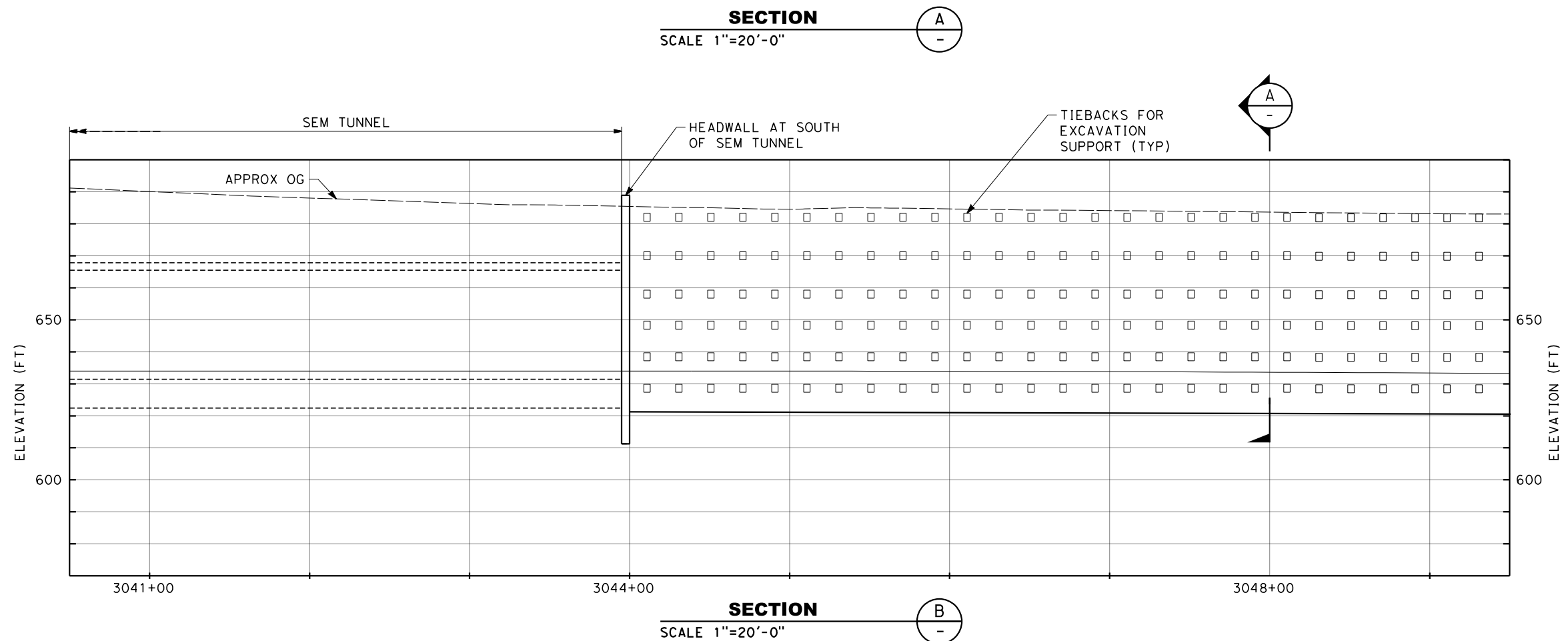
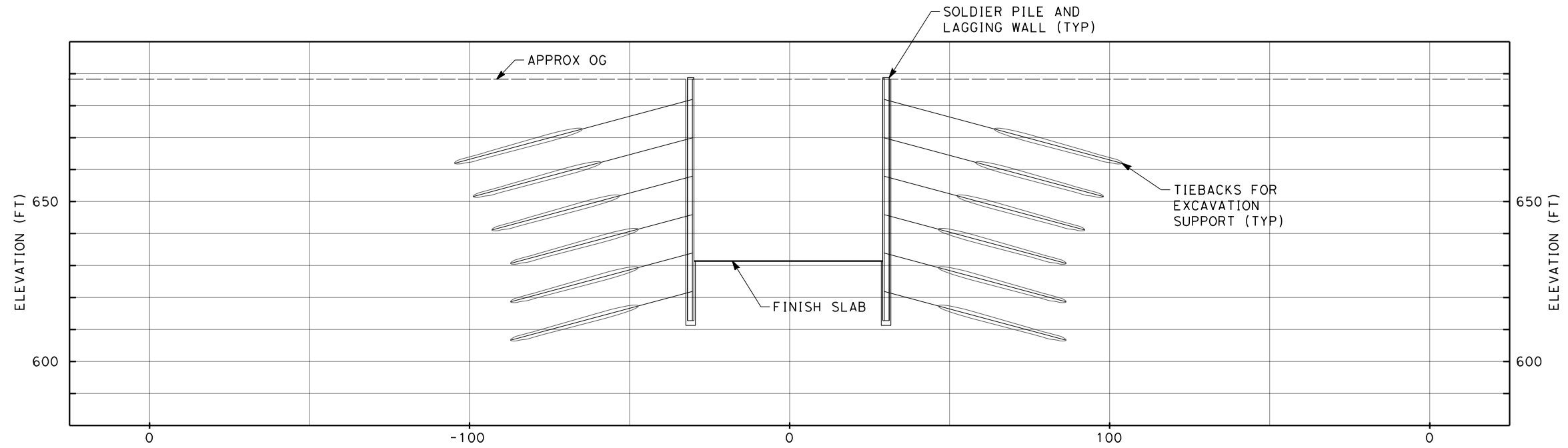
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
SUPPORT OF EXCAVATION
NORTH CUT & COVER

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-D4003
SCALE
AS SHOWN
SHEET NO.



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

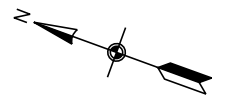
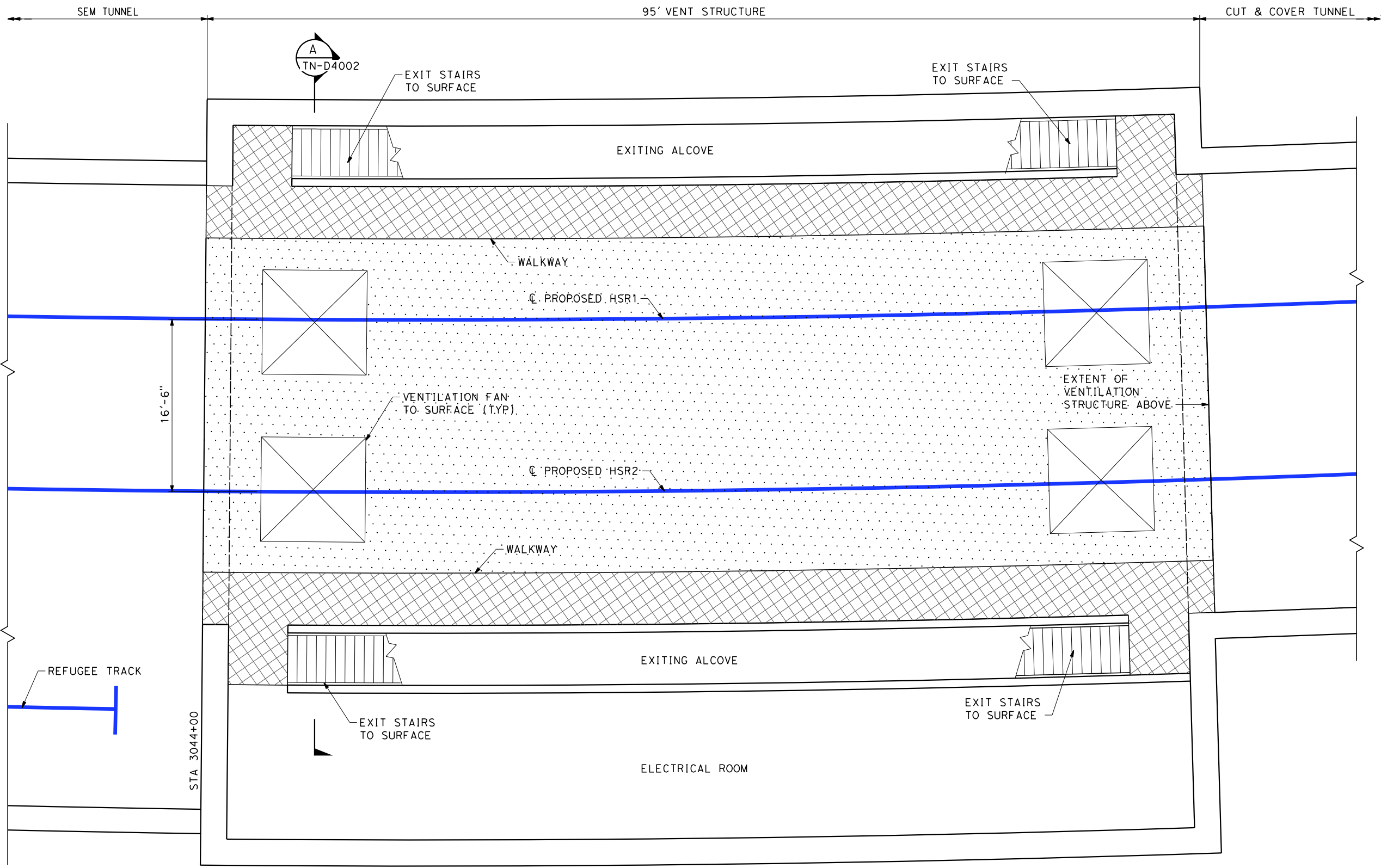
**NOT FOR
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
SUPPORT OF EXCAVATION
TYPICAL CUT & COVER SECTIONS

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-D3001
SCALE
AS SHOWN
SHEET NO.



SOUTH PORTAL AND VENTILATION PLAN 1
SCALE 1"=5'-0"

5 0 5 10
1"=5'
SCALE APPLICABLE FOR FULL SIZE ONLY
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4/30/2019 10:18:18 AM c:\j\p\work\dir\haynesma\d0144761\k2L-TN-D4001-TNL.dgn

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W. OSTERMANN
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K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

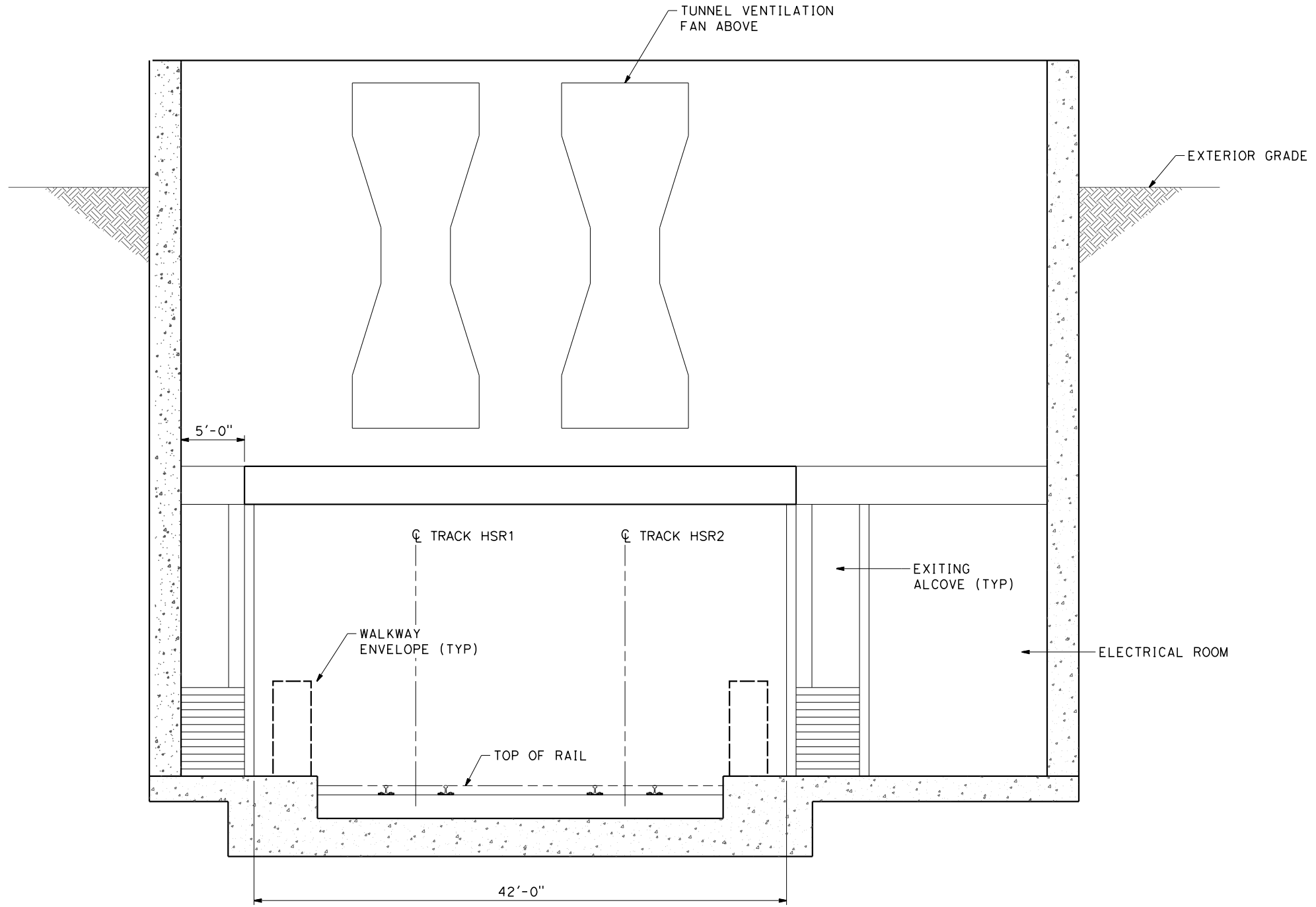
PEPD

SOUTH PORTAL AND VENTILATION PLAN

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-D4001
SCALE
AS SHOWN
SHEET NO.

STA 3049+00

4/30/2019 10:18:24 AM c:\j\p\work\dir\haynesma\d0144761\k2L-TN-D4002-TN.dgn



TYPICAL PORTAL AND VENTILATION
SECTION STA 3044+10
SCALE 1"=5'-0"



5 0 5 10
1"=5'
SCALE APPLICABLE FOR FULL SIZE ONLY
NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT
DRAWN BY
W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

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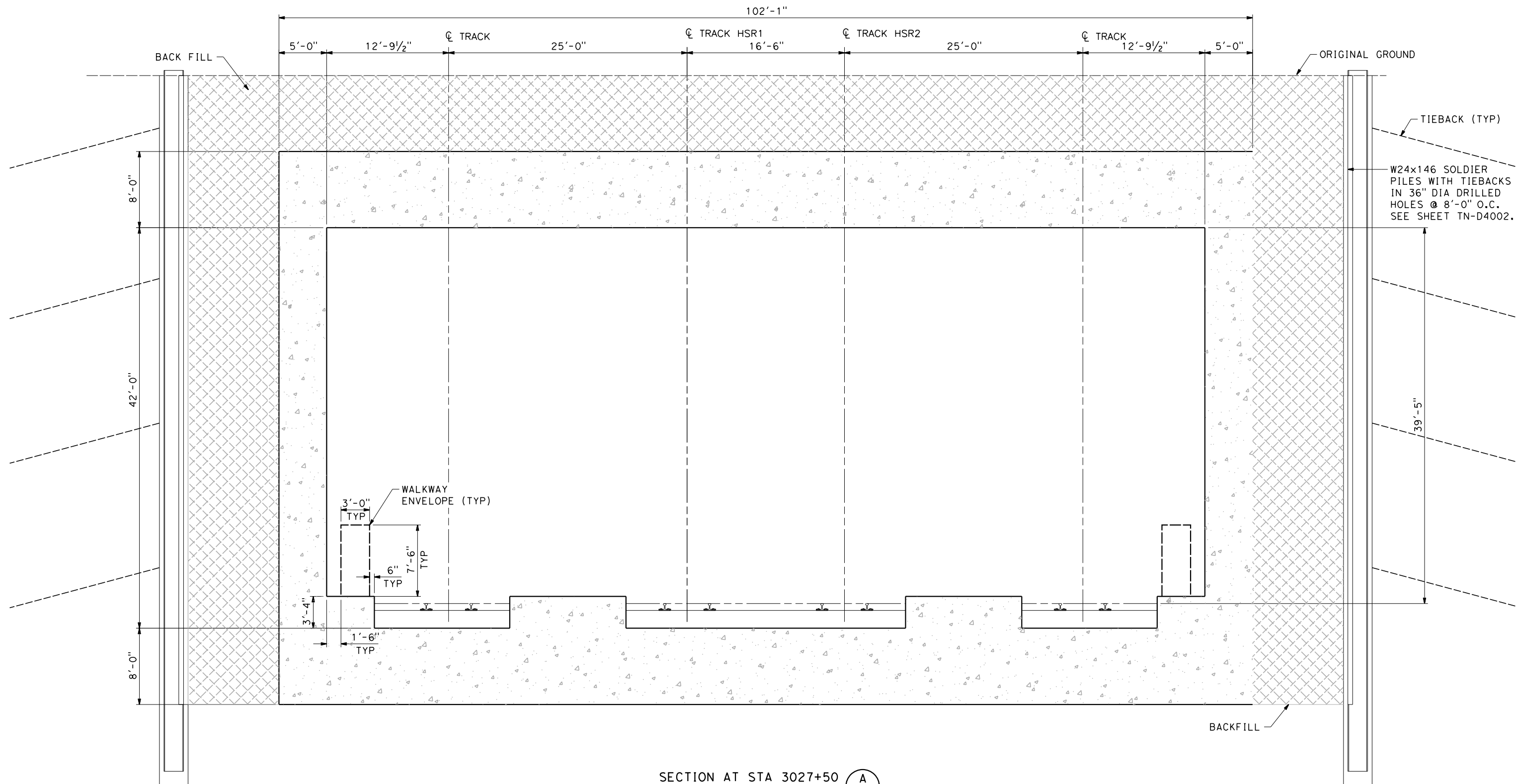


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

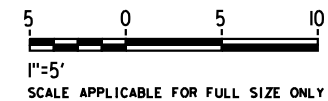
PEPD
TYPICAL PORTAL AND VENTILATION SECTION
STA 3044+10

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-D4002
SCALE
AS SHOWN
SHEET NO.

4/30/2019 10:18:29 AM c:\j\p\work\dir\haynesma\d0144761\k21-TN-C3001-TN.dgn



SECTION AT STA 3027+50 (A)
SCALE: 1" = 5'



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W. OSTERMANN
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IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

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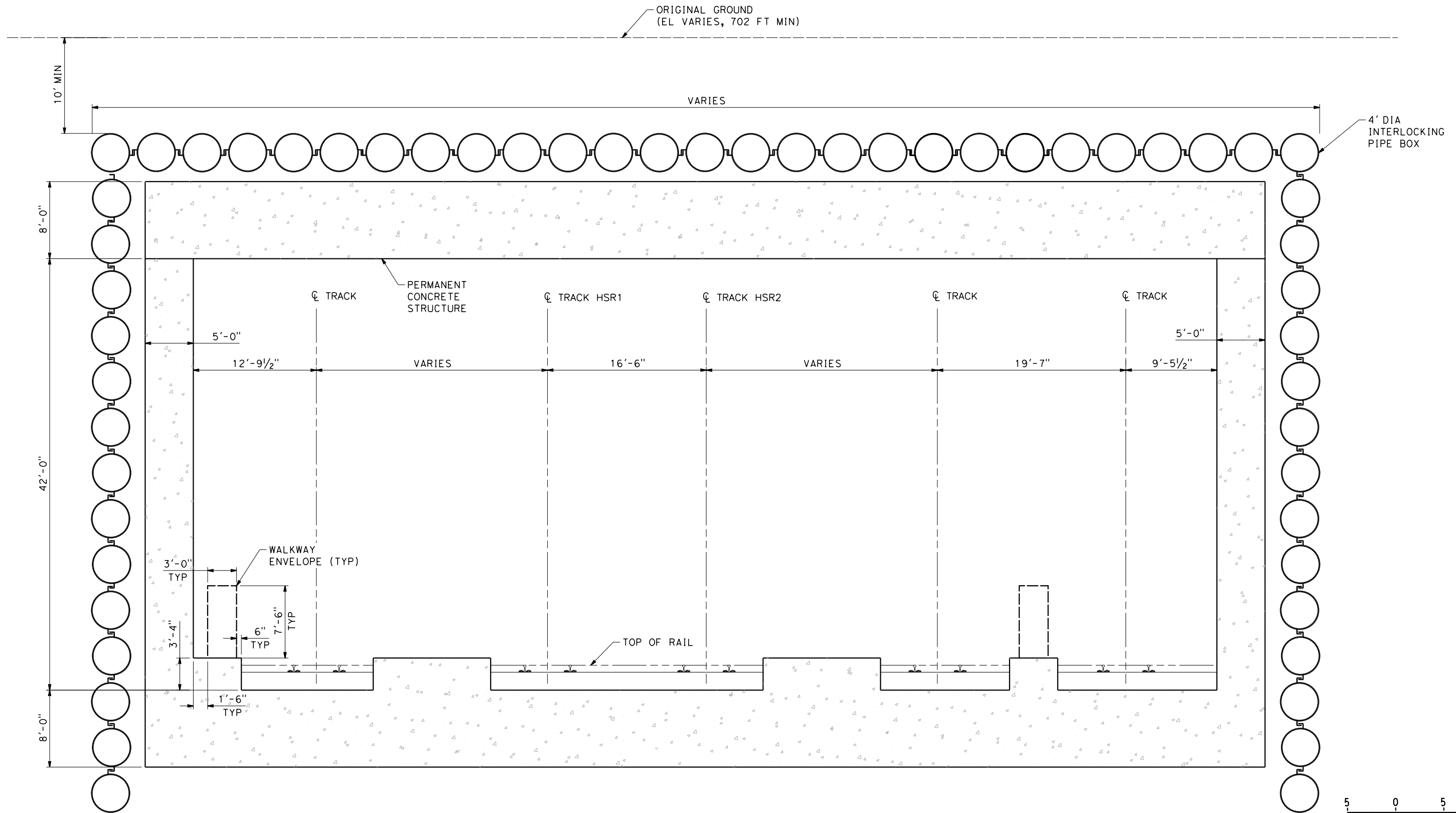


CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

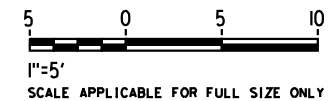
PEPD
SECTION AT STA 3027+50

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-C3001
SCALE
AS SHOWN
SHEET NO.

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SECTION AT STA 3030+00 (B)
SCALE: 1" = 5'



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H. SCHAADT
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W. OSTERMANN
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K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

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CONSTRUCTION**

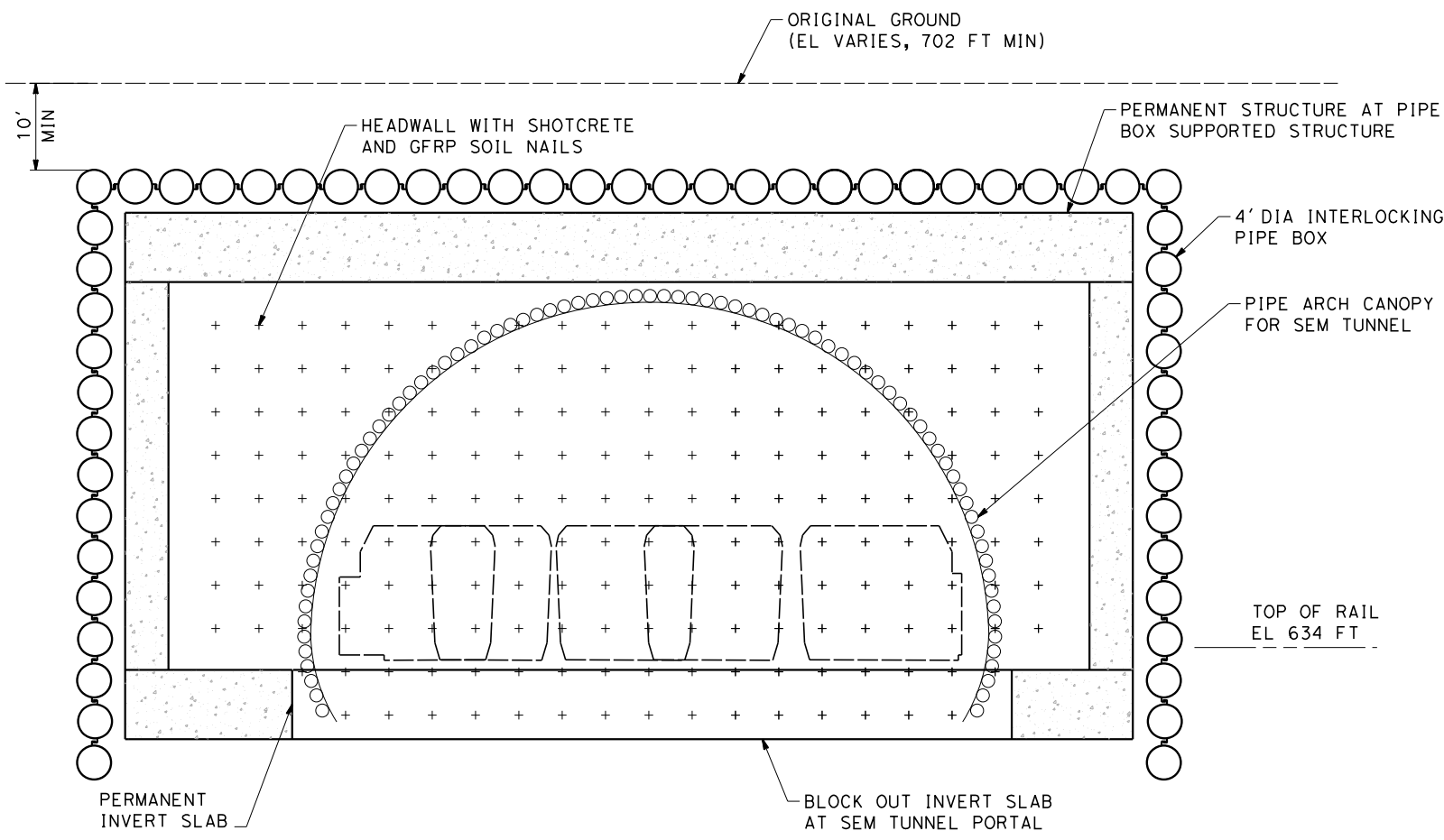


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

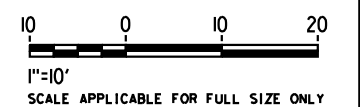
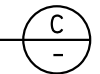
PEPD
SECTION AT STA 3030+00

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-C3002
SCALE
AS SHOWN
SHEET NO.

4/30/2019 10:18:39 AM c:\jip\pwworkdir\haynesma\d0144761\k2L-TN-C3003-TN.dgn



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



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REV	DATE	BY	CHK	APP	DESCRIPTION

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H. SCHAADT

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W. OSTERMANN

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IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD

HEADWALL SECTION STA 3032+15

CONTRACT NO.
HSR14-39

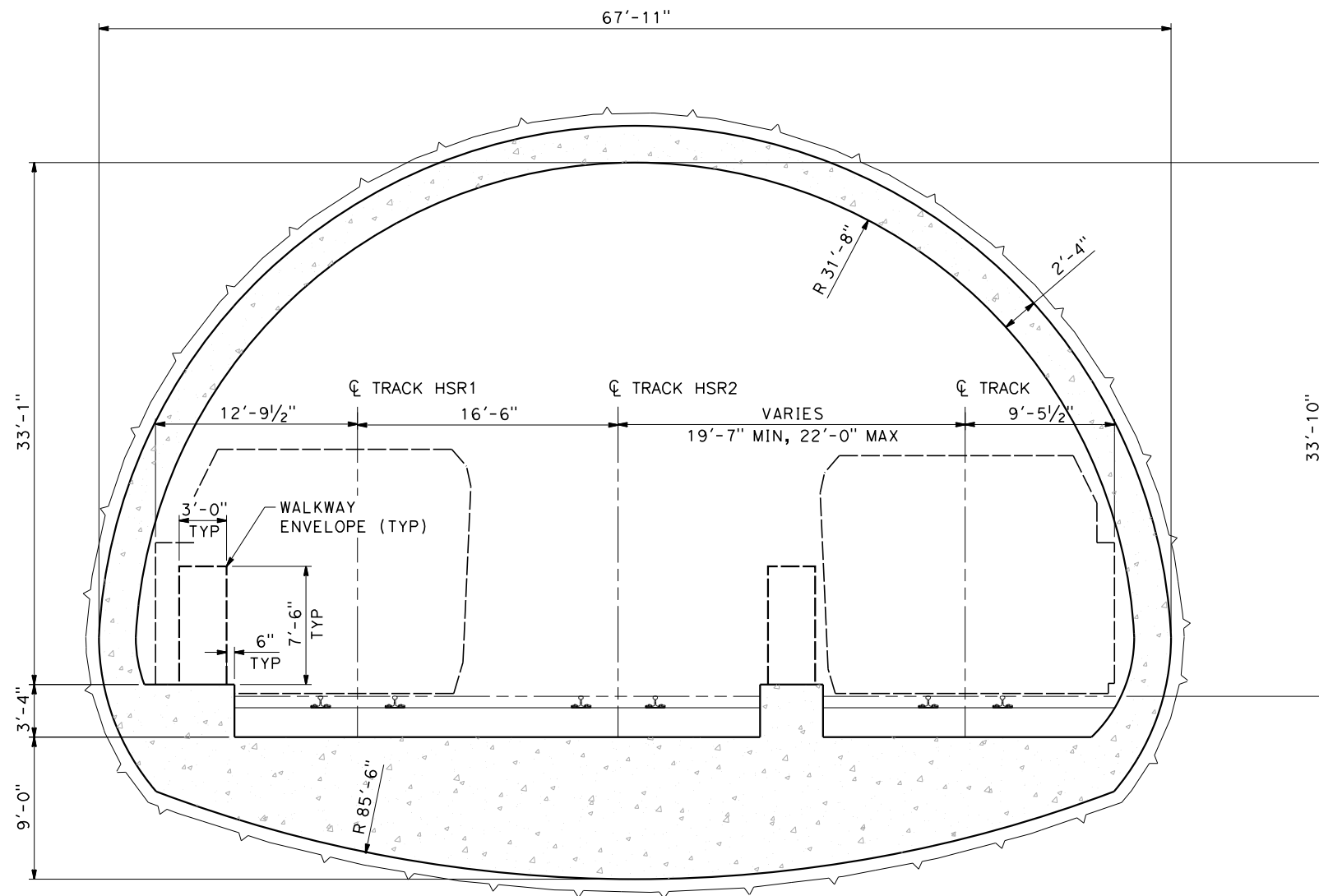
DRAWING NO.
TN-C3003

SCALE
AS SHOWN

SHEET NO.

TRENCH SECTION

4/30/2019 10:18:46 AM c:\jip\pwork\kdir\haynesma\d0144761\k2L-TN-C3004-TNL.dgn



SEM TUNNEL SECTION STA 3040+00 (D)
SCALE: 1" = 5'



SCALE APPLICABLE FOR FULL SIZE ONLY
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FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT
DRAWN BY
W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

**NOT FOR
CONSTRUCTION**

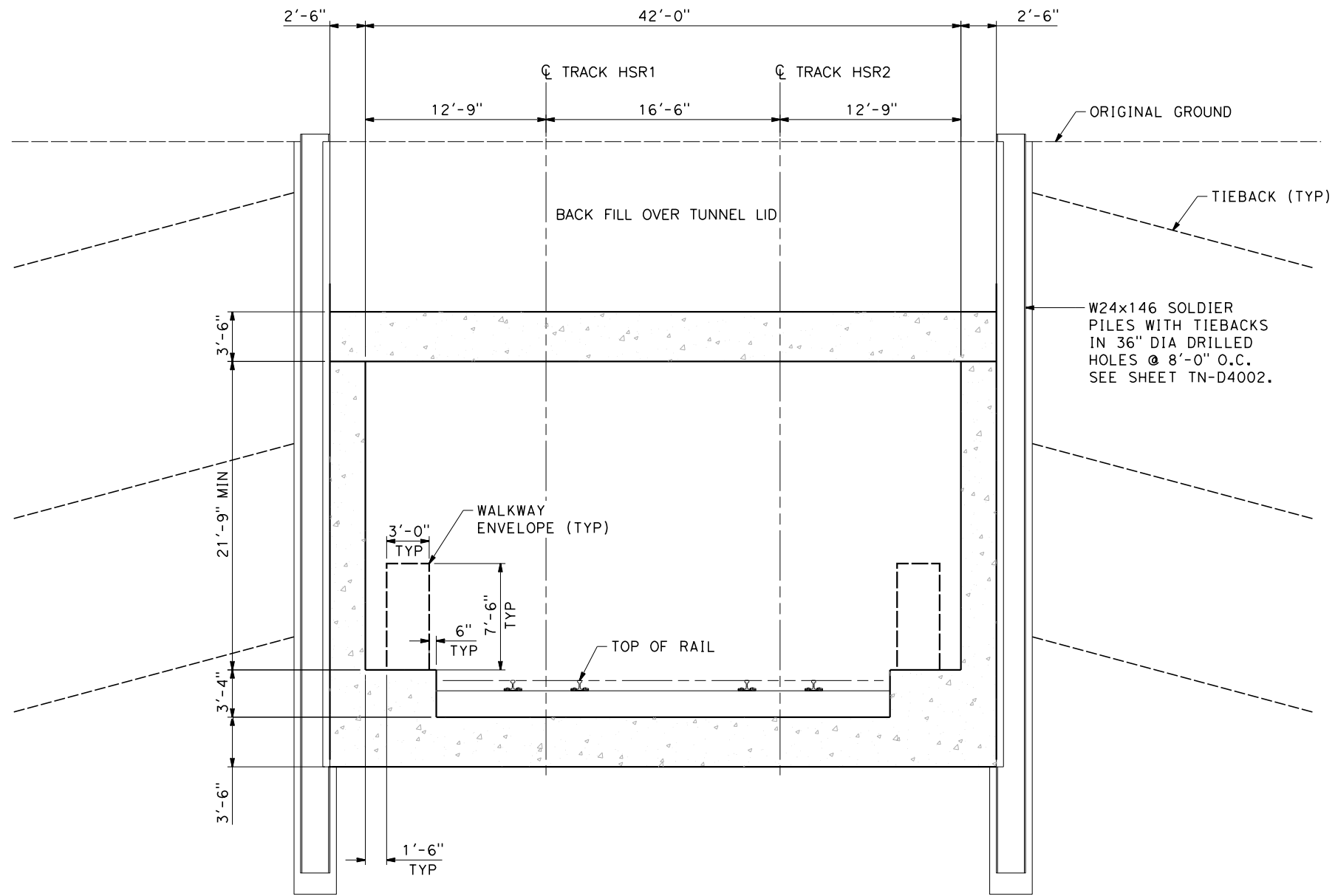


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

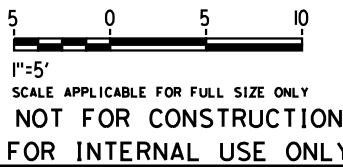
PEPD
SEM TUNNEL SECTION STA 3040+00

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

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CUT & COVER SECTION AT STA 3048+00 (E)
SCALE: 1" = 5'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT
DRAWN BY
W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

PEPD RECORD SET

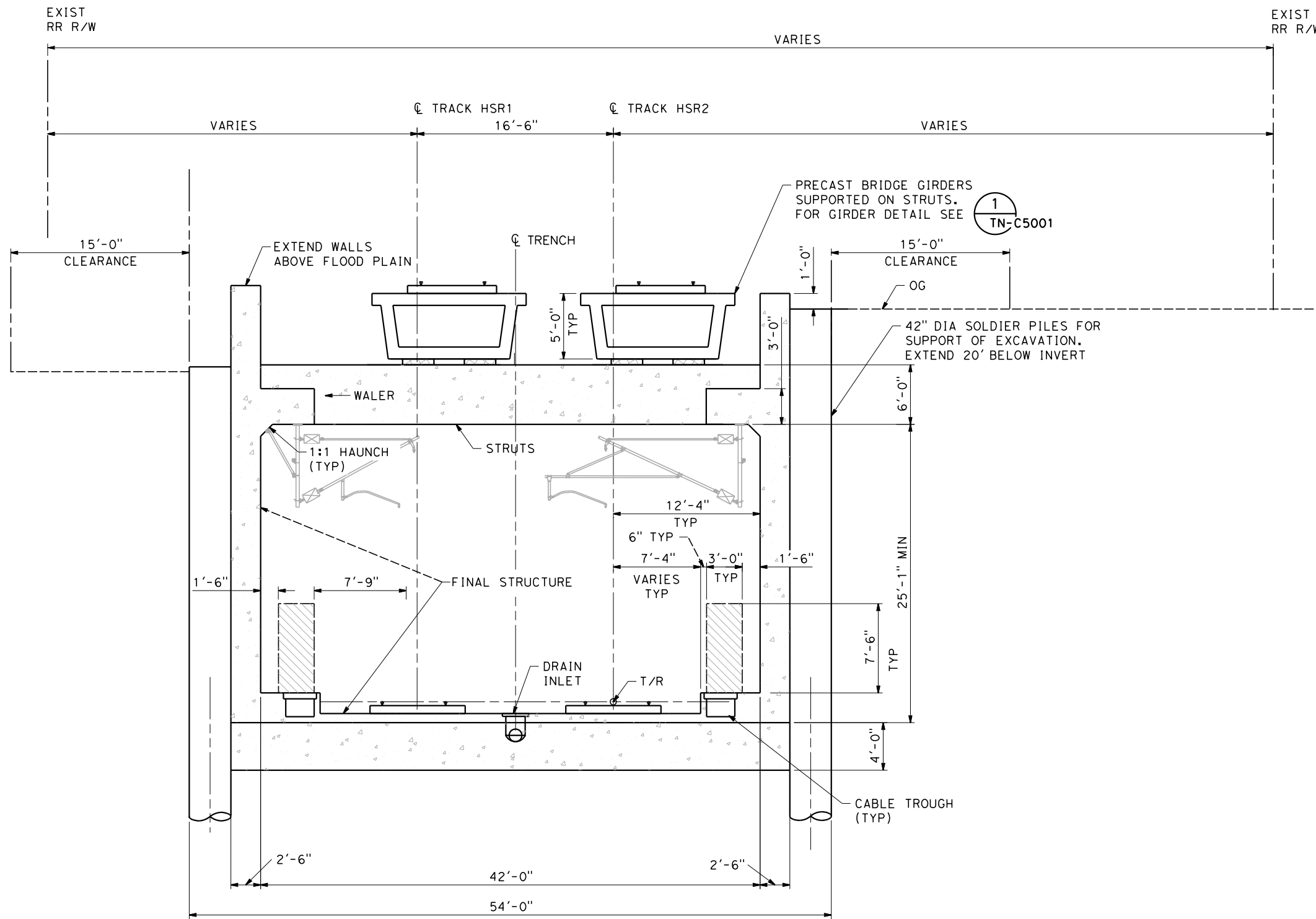
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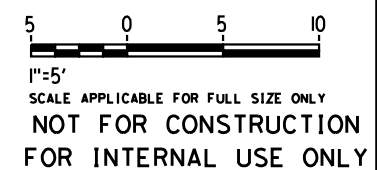
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

PEPD
CUT & COVER SECTION AT STA 3048+00

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-C3005
SCALE
AS SHOWN
SHEET NO.



PERMANENT BRIDGE SECTION STA 3063+60 F
 SCALE: 1" = 5'



4/30/2019 10:18:57 AM c:\j\p\work\dir\haynesma\d0144761\k2L-TN-C3006-TNL.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT

DRAWN BY
W. OSTERMANN

CHECKED BY
K. ABEY

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
RECORD SET**

**NOT FOR
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD

PERMANENT BRIDGE SECTION STA 3063+60

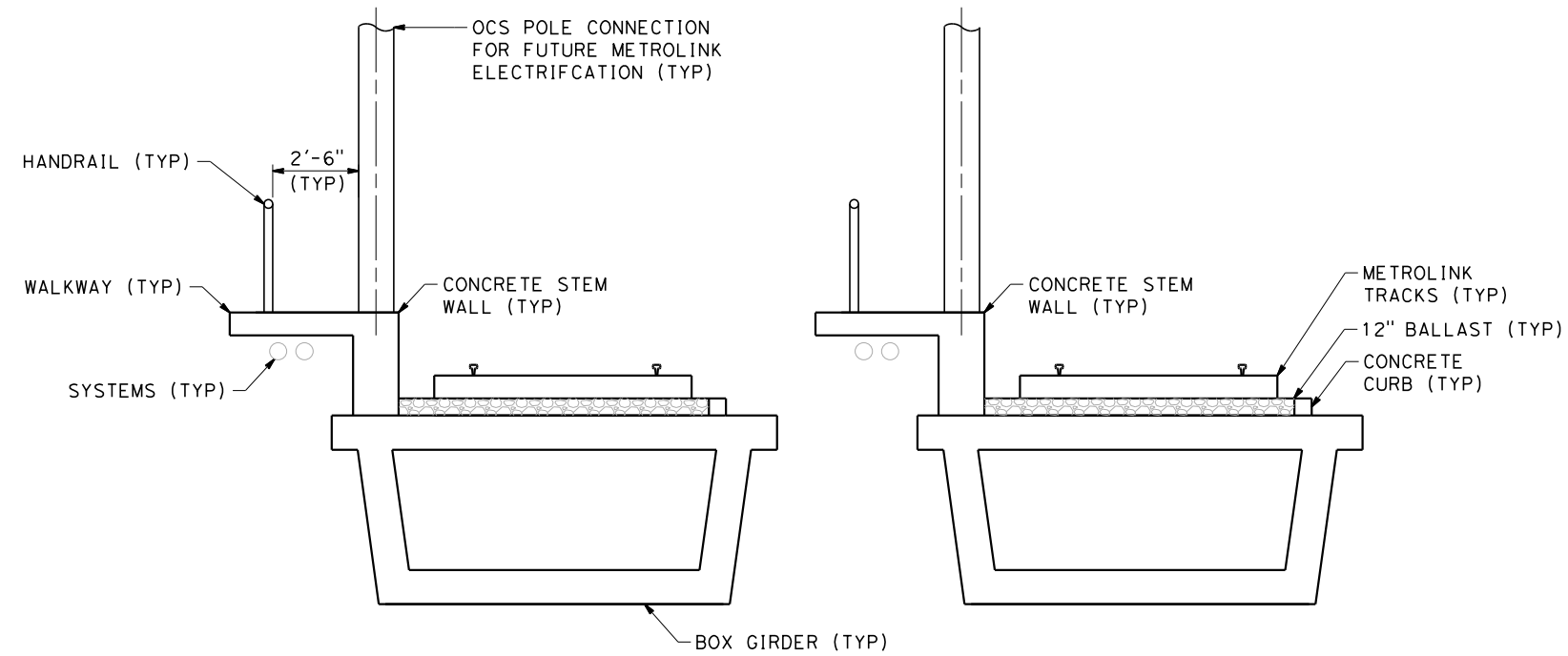
CONTRACT NO.
HSR14-39

DRAWING NO.
TN-C3006

SCALE
AS SHOWN

SHEET NO.

4/30/2019 10:19:02 AM c:\jip\pwork\dir\haynesma\d0144761\k2L\TN-C5001-TNL.dgn



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



SCALE APPLICABLE FOR FULL SIZE ONLY
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT
DRAWN BY
W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

**NOT FOR
CONSTRUCTION**

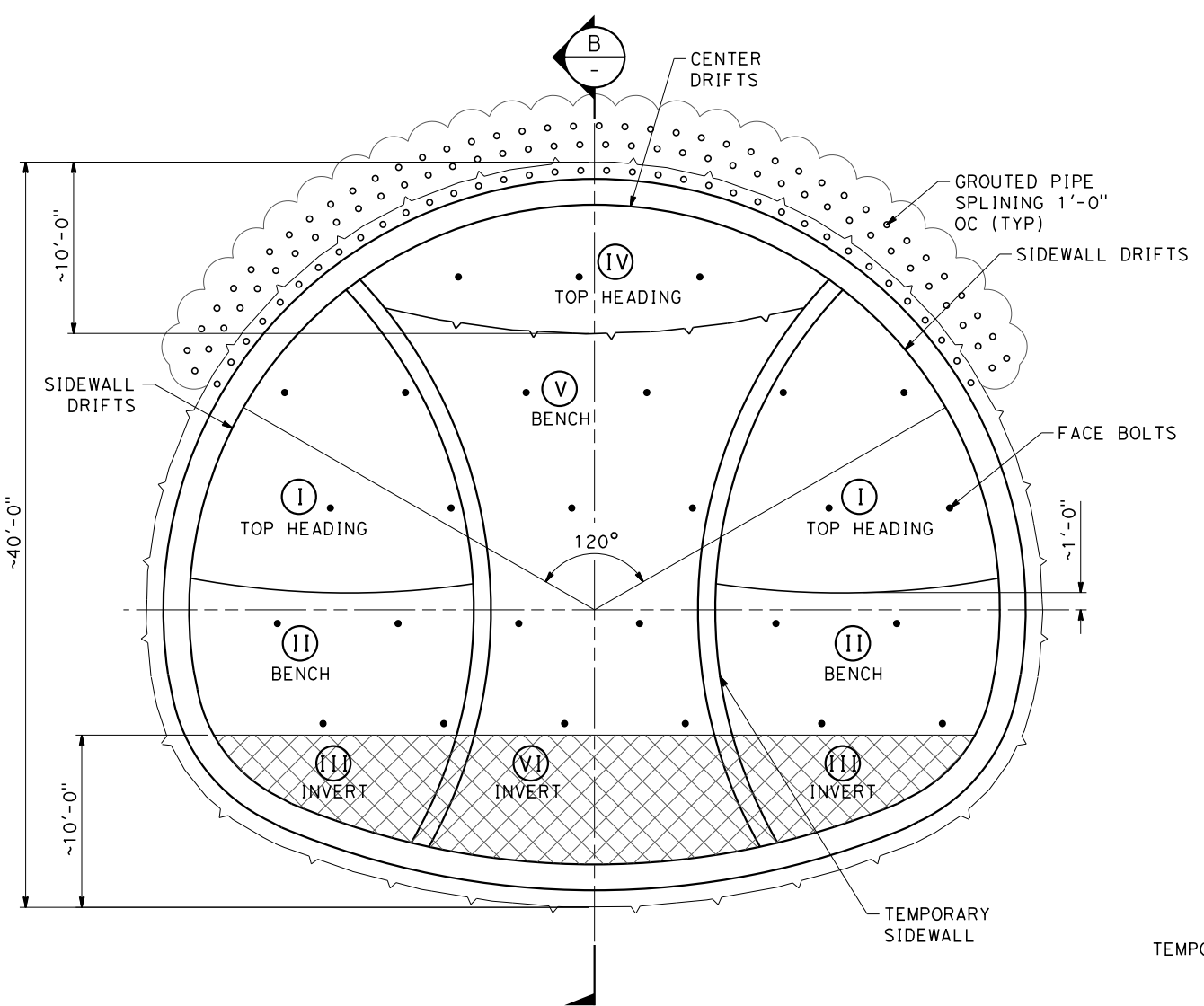


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

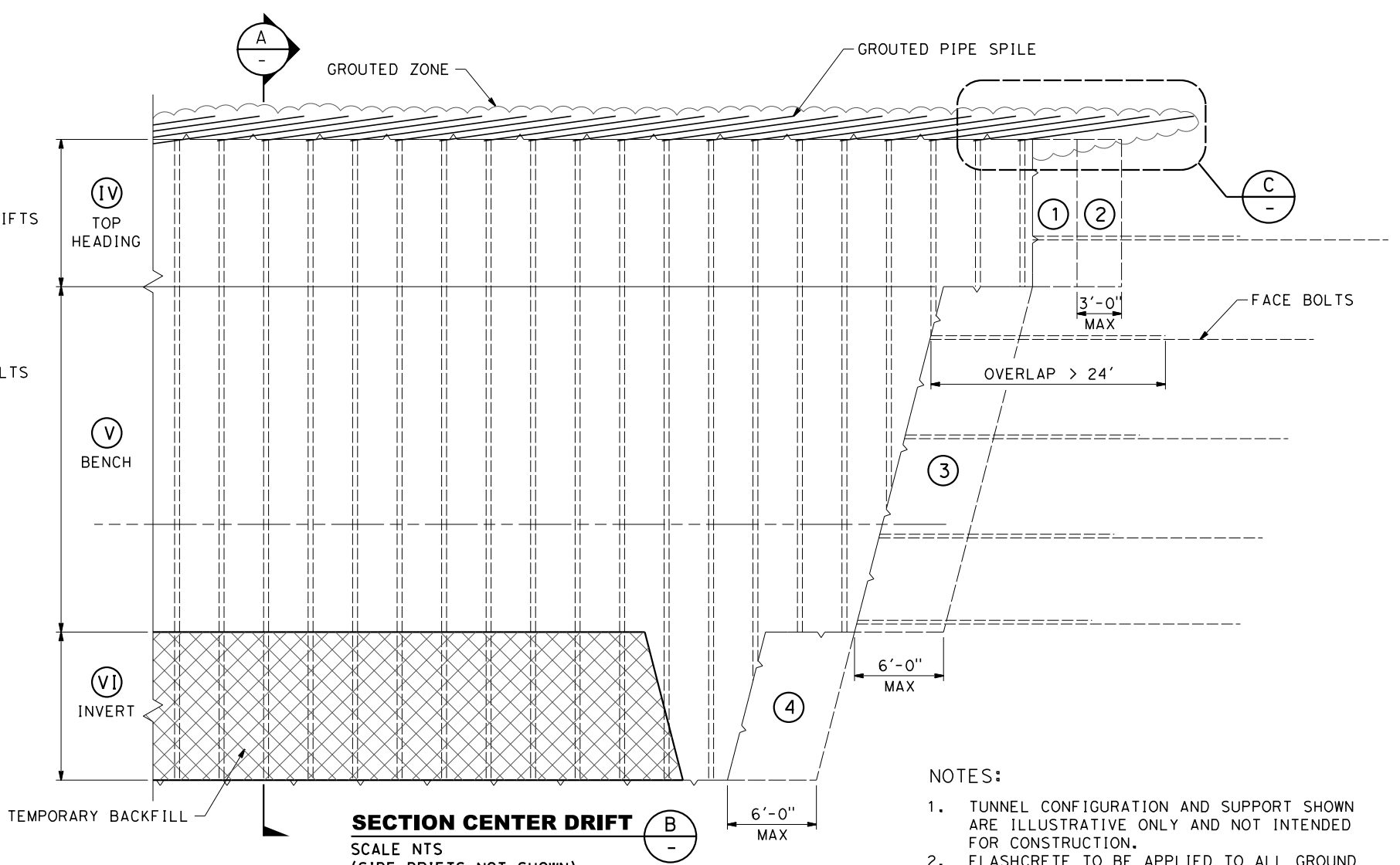
PEPD
BRIDGE GIRDER DETAIL

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-C5001
SCALE
AS SHOWN
SHEET NO.

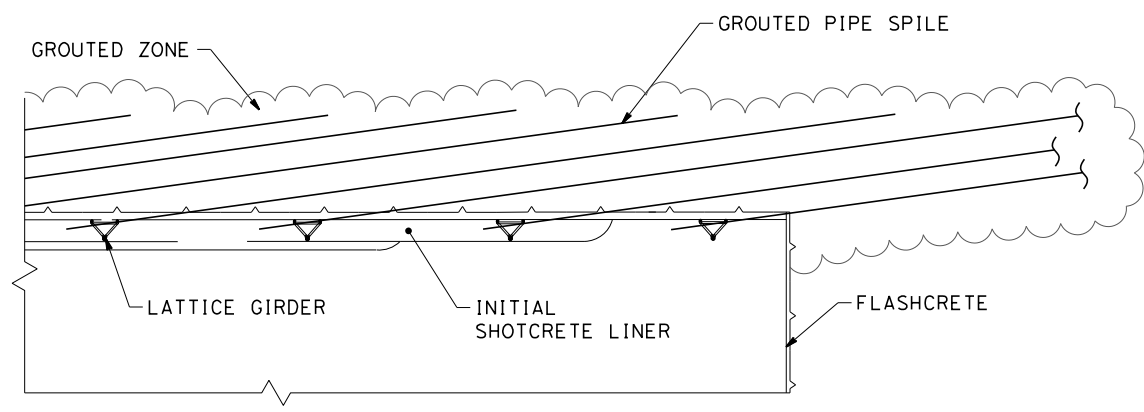
4/30/2019 10:19:07 AM c:\j\p\pwworkdir\haynesma\d0144761\k2l\tn-d0003-tnl.dgn



SECTION A
SCALE NTS



SECTION CENTER DRIFT B
SCALE NTS
(SIDE DRIFTS NOT SHOWN)



DETAIL C
SCALE NTS

CENTER DRIFT EXCAVATION SEQUENCE:

1. EXCAVATION OF TOP HEADING ONE UNIT ADVANCE AROUND SUPPORT WEDGE (3 FT MAX).
2. APPLICATION OF FIBER REINFORCED SHOTCRETE.
3. INSTALLATION OF LATTICE GIRDER.
4. INSTALLATION OF GROUTED PIPE SPILES.
5. EXCAVATION OF SUPPORT WEDGE ONE UNIT ADVANCE.
6. APPLICATION OF FIBER REINFORCED SHOTCRETE IN SECOND UNIT ADVANCE FROM HEADING.
7. APPLICATION OF FIBER REINFORCED SHOTCRETE IN THIRD UNIT ADVANCE FROM HEADING.
8. REPETITION OF STEPS 1 TO 7.
9. EXCAVATION OF BENCH TWO UNIT ADVANCE (6 FT MAX).
10. APPLICATION OF FIBER REINFORCED SHOTCRETE TO BENCH.
11. EXCAVATION OF INVERT TWO UNIT ADVANCE (6 FT MAX).
12. APPLICATION OF FIBER REINFORCED SHOTCRETE.
13. INSTALLATION OF INVERT LATTICE GIRDER AND FIBER REINFORCED SHOTCRETE LINING.

NOTES:

1. TUNNEL CONFIGURATION AND SUPPORT SHOWN ARE ILLUSTRATIVE ONLY AND NOT INTENDED FOR CONSTRUCTION.
2. FLASHCRETE TO BE APPLIED TO ALL GROUND SURFACES IMMEDIATELY AFTER EXPOSURE.
3. ALL SUPPORT (FLASHCRETE, SHOTCRETE, REINFORCEMENT) FOR EACH EXCAVATION ROUND MUST BE COMPLETED PRIOR TO COMMENCING NEXT EXCAVATION ROUND IN SEQUENCE.
4. INSTALL INITIAL SHOTCRETE LINING WITH ALL REQUIRED SUPPORT ELEMENTS UP TO 1 FT OF THE EXCAVATION FACE BEFORE EXCAVATION CONTINUES.
5. FACE STABILIZATION WILL BE PROVIDED BY SEM TOOLBOX ITEM(S) AS REQUIRED BY GROUND CONDITIONS (FACE BOLTS, METAL SHEETING, POCKET EXCAVATIONS, GROUTING, SUPPORT WEDGE, DEWATERING).
6. PROTECT INVERT BY TEMPORARY BACKFILL.
7. TEMPORARY SIDEWALLS SHALL BE DEMOLISHED NOT CLOSER THAN 9 FT FROM COMPLETED TUNNEL RINGS.
8. THE FACE BOLT PATTERN SHOWN IS INDICATIVE AND TO BE ADJUSTED IN THE FIELD ACCORDING TO ACTUAL SITE CONDITIONS.

**NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
G. ROGOFF
DRAWN BY
W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
G. BARBZORI
DATE
04/30/2019

**PEPD
RECORD SET**

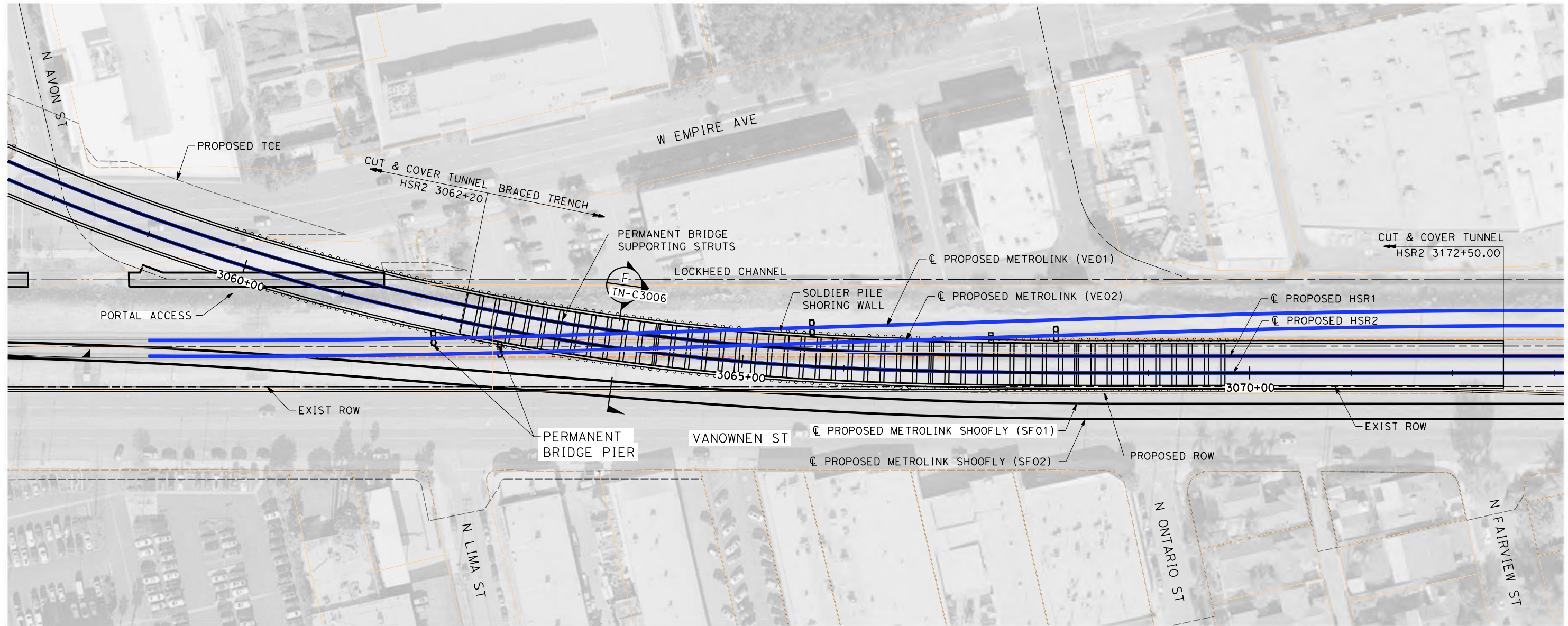
**NOT FOR
CONSTRUCTION**



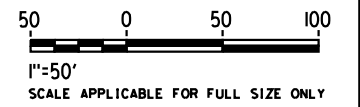
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
TYPICAL EXCAVATION AND SUPPORT CROSS SECTION
SEM EXCAVATION

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-D0003
SCALE
AS SHOWN
SHEET NO.



TEMPORARY BRIDGE PLAN
SCALE: 1" = 50'



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5/2/2019 6:47:59 AM c:\jip\pwworkdir\haynesma\d0144761\k2l-TN-C4001-TN.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT
DRAWN BY
W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

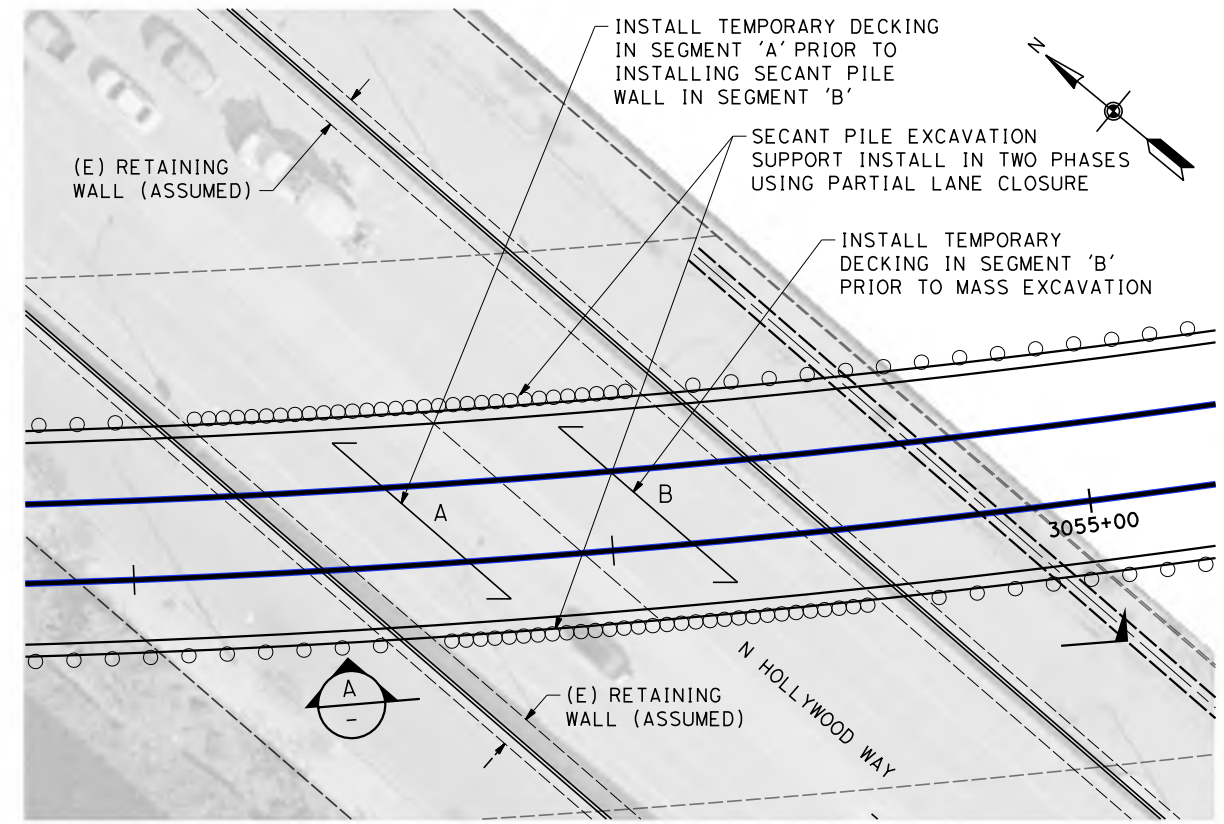
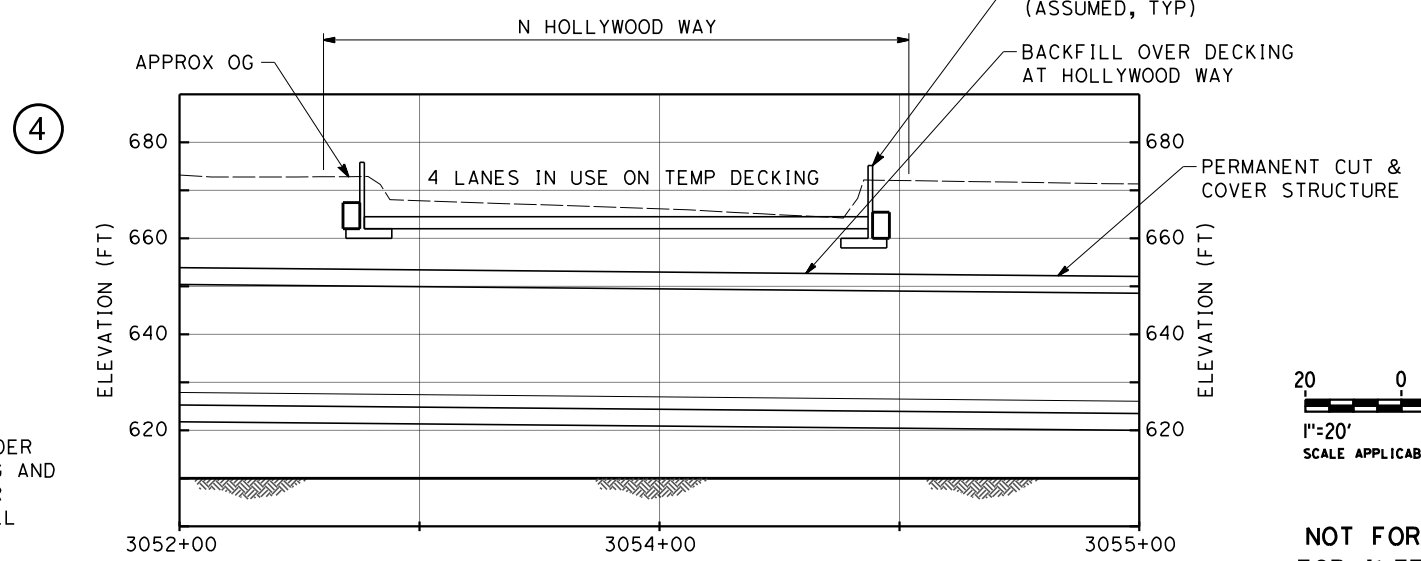
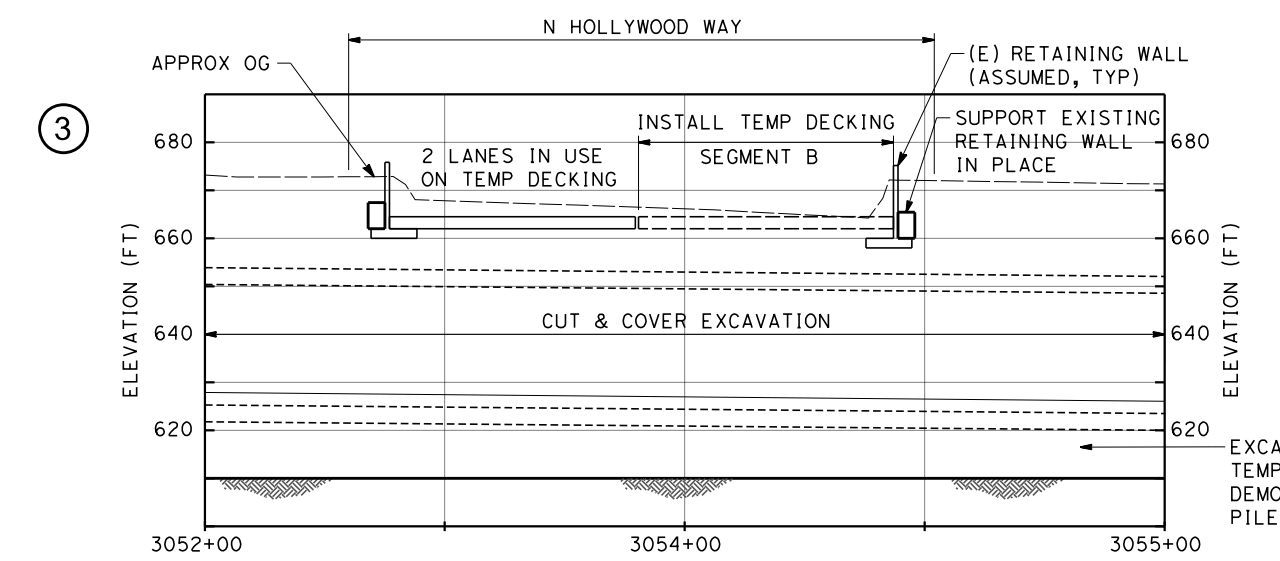
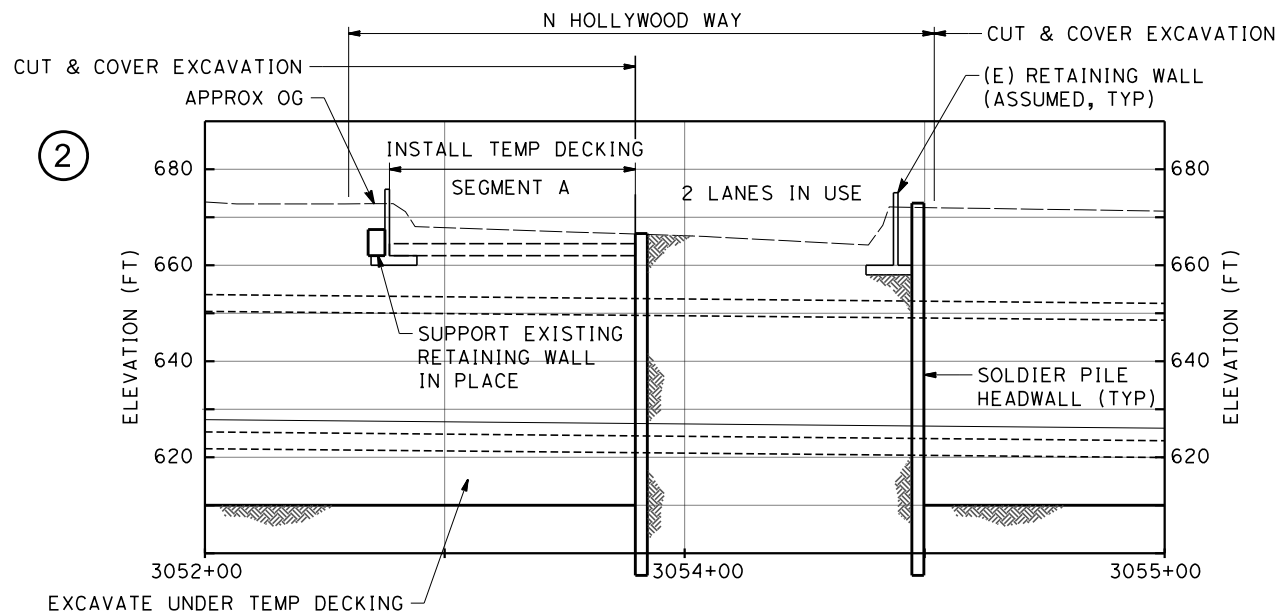
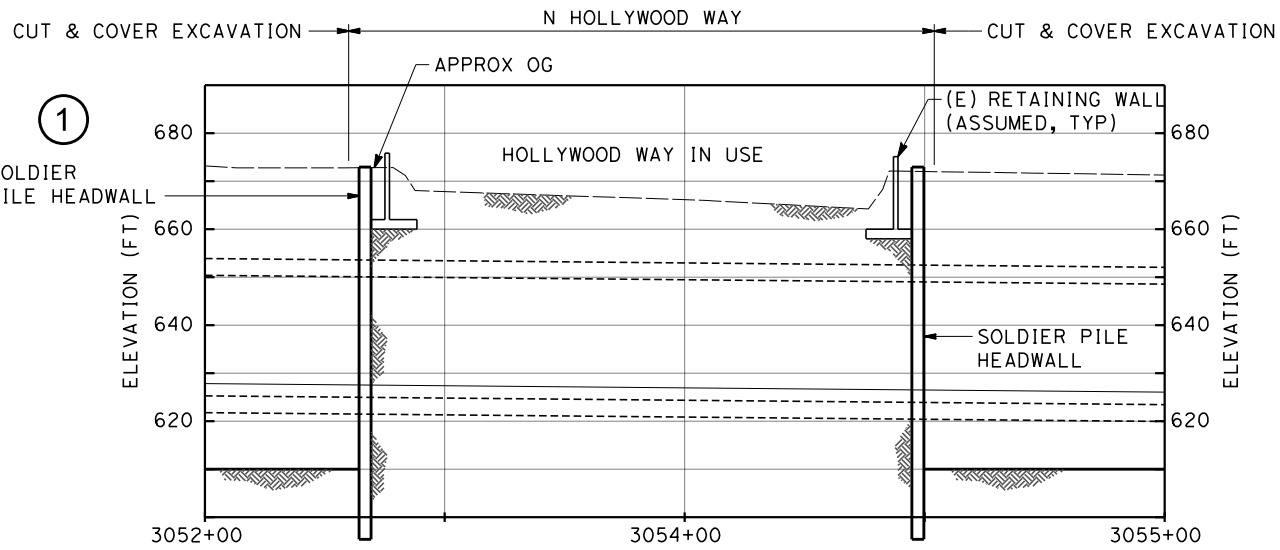
**NOT FOR
CONSTRUCTION**



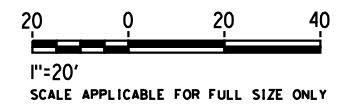
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
TEMPORARY BRIDGE PLAN

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-C4001
SCALE
AS SHOWN
SHEET NO.



CONSTRUCTION SEQUENCE PLAN
SCALE: 1" = 20'



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4/30/2019 10:21:10 AM c:\j\p\pwworkdir\haynesma\d0144761\k2l\TN-C4002-TNL.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
H. SCHAADT
DRAWN BY
W. OSTERMANN
CHECKED BY
K. ABEY
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

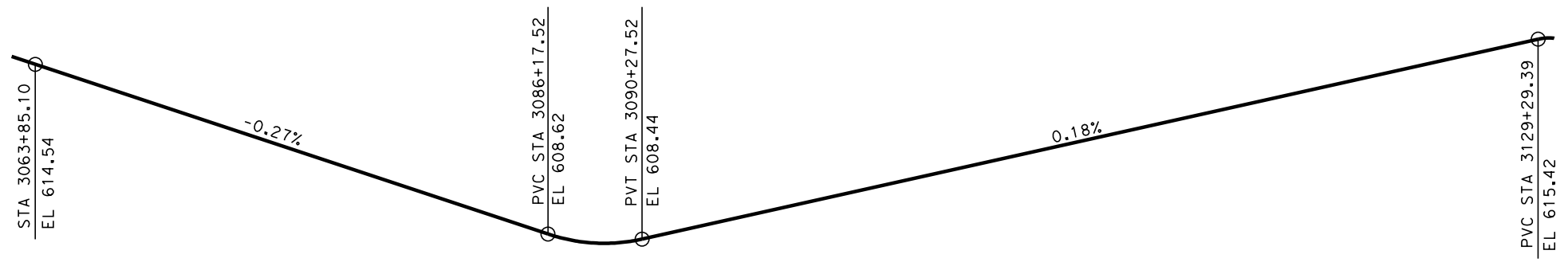
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CONSTRUCTION**



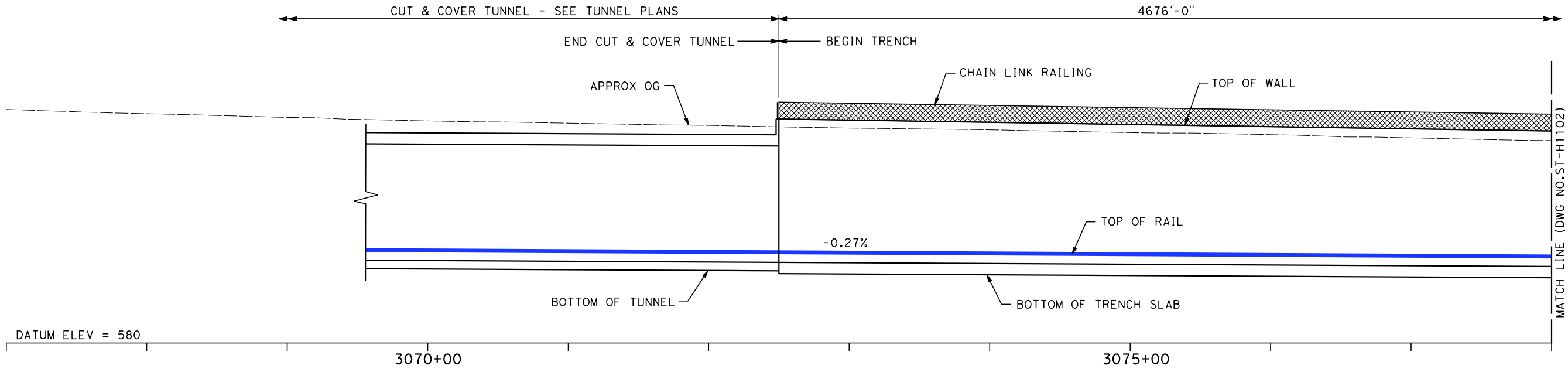
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
CONSTRUCTION SEQUENCE PLAN

CONTRACT NO.
HSR14-39
DRAWING NO.
TN-C4002
SCALE
AS SHOWN
SHEET NO.

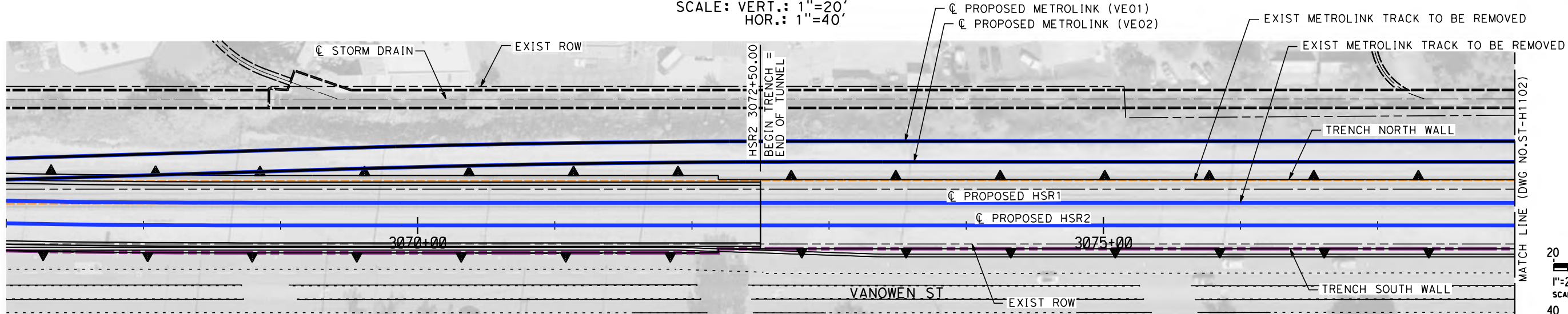


PROFILE GRADE - HSR2 TRACK
NO SCALE



DATUM ELEV = 580

ELEVATION
SCALE: VERT.: 1"=20'
HOR.: 1"=40'



PLAN
SCALE: 1"=40'

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5/1/2019 9:42:14 AM c:\j\p\pwworkdir\haynesma\d0137171\k2L-ST-H1101.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI
DRAWN BY
P. ZUCCHI
CHECKED BY
K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

PEPD RECORD SET

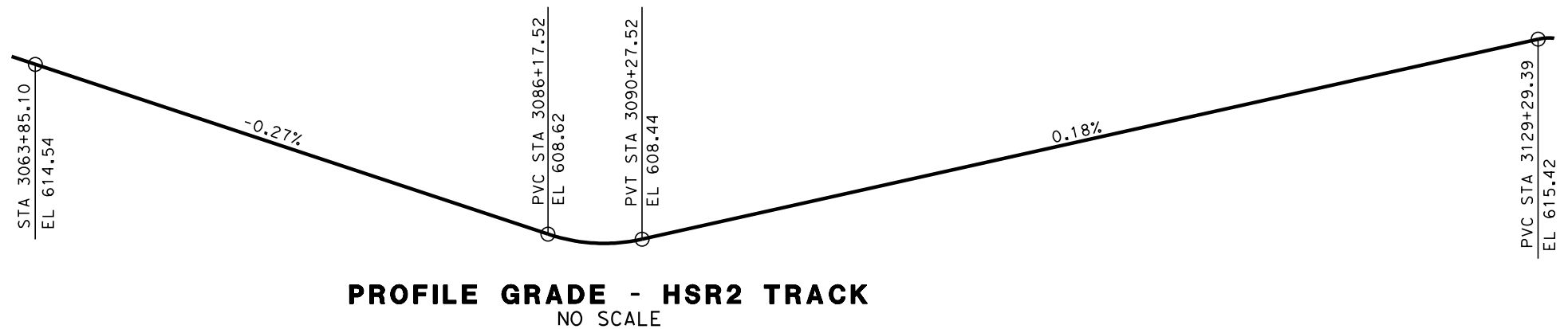
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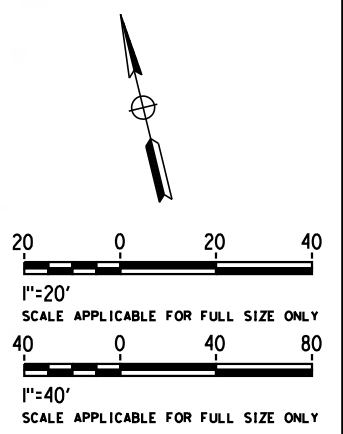
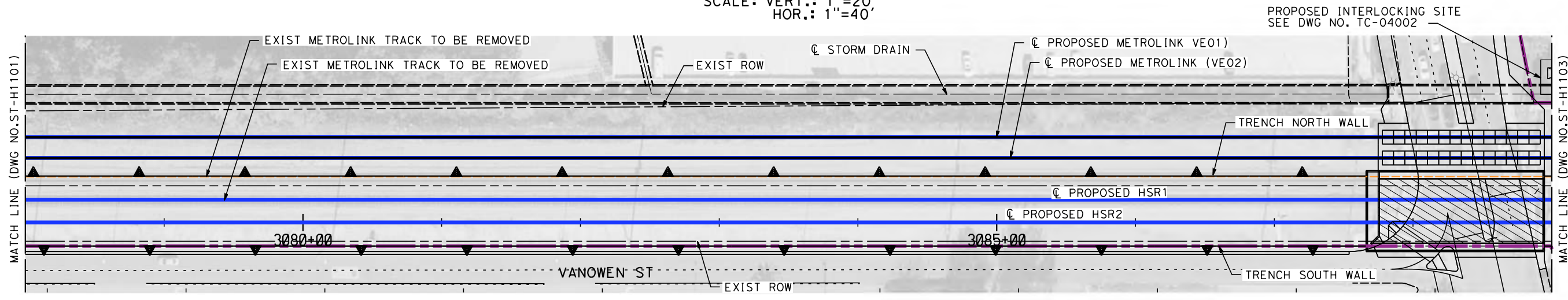
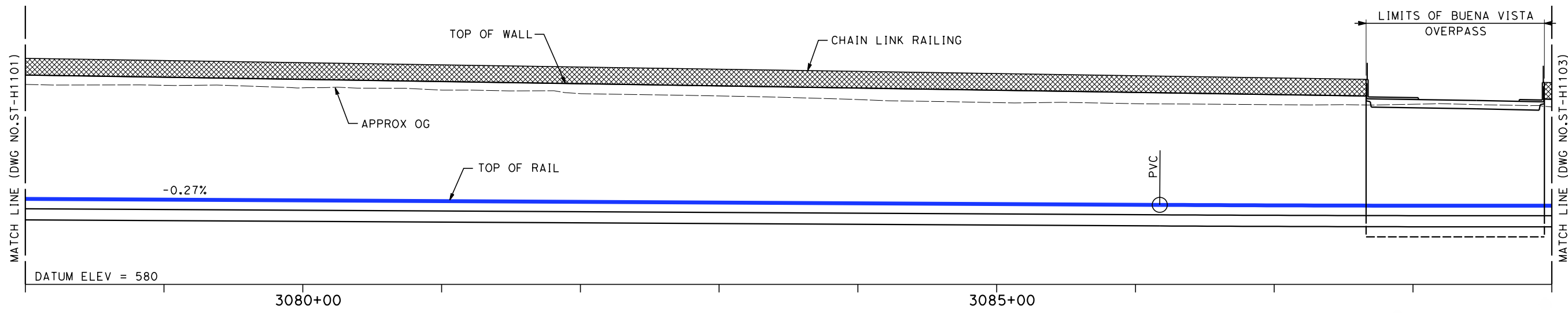
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

PEPD
TRENCH
GENERAL PLAN - SHEET 1 OF 6

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-H1101
SCALE
AS SHOWN
SHEET NO.



4676'-0"



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4/30/2019 10:22:47 AM c:\j\p\pwworkdir\haynesma\d0137171\k2l-st-h1102.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

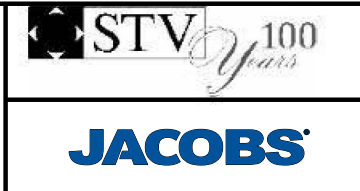
CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
RECORD SET**

**NOT FOR
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

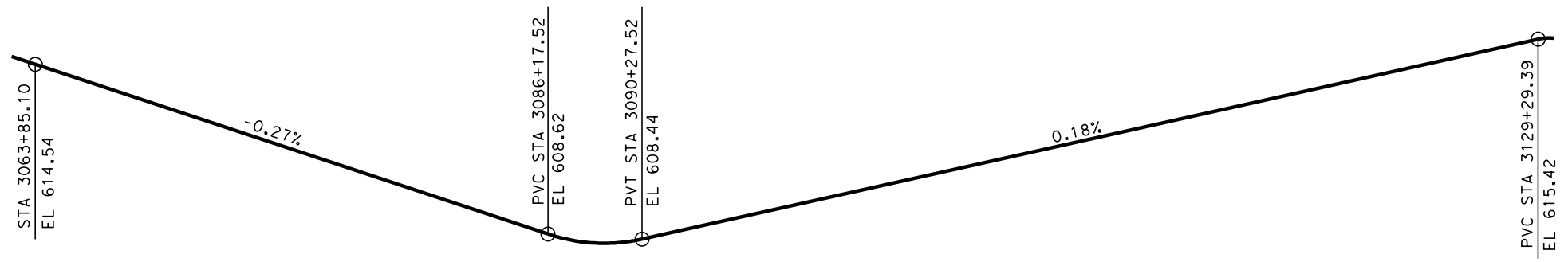
PEPD
TRENCH
GENERAL PLAN - SHEET 2 OF 6

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-H1102

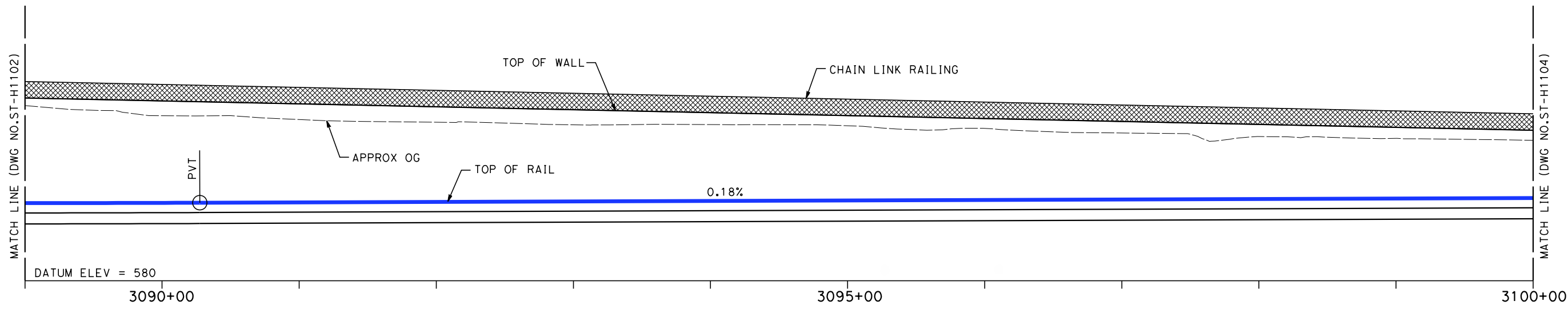
SCALE
AS SHOWN

SHEET NO.

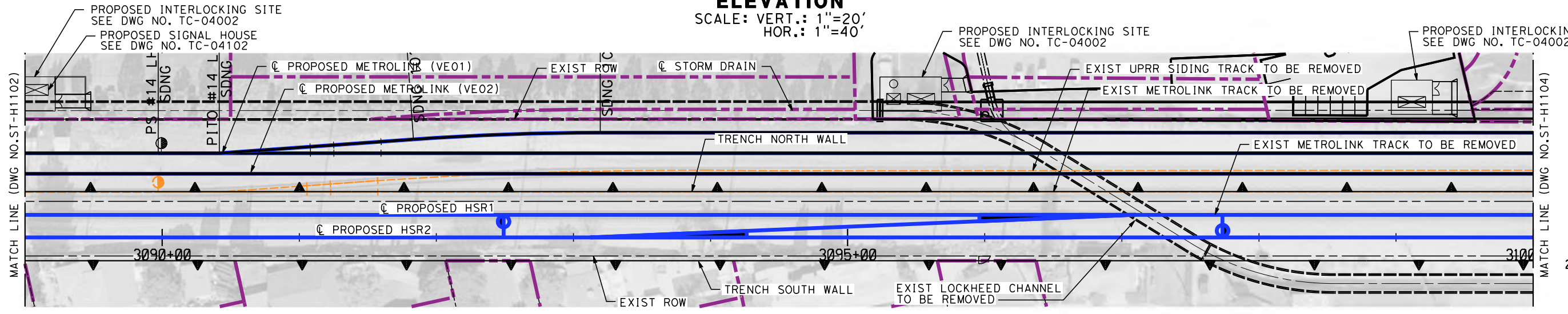


PROFILE GRADE - HSR2 TRACK
NO SCALE

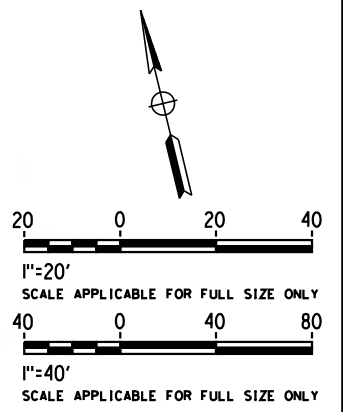
4676'-0"



ELEVATION
SCALE: VERT.: 1"=20'
HOR.: 1"=40'



PLAN
SCALE: 1"=40'



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4/30/2019 10:23:03 AM c:\j\p\pwworkdir\haynesma\d0137171\k2l-st-h1103.dgn

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D. HAGHIGHI
DRAWN BY
P. ZUCCHI
CHECKED BY
K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

PEPD RECORD SET

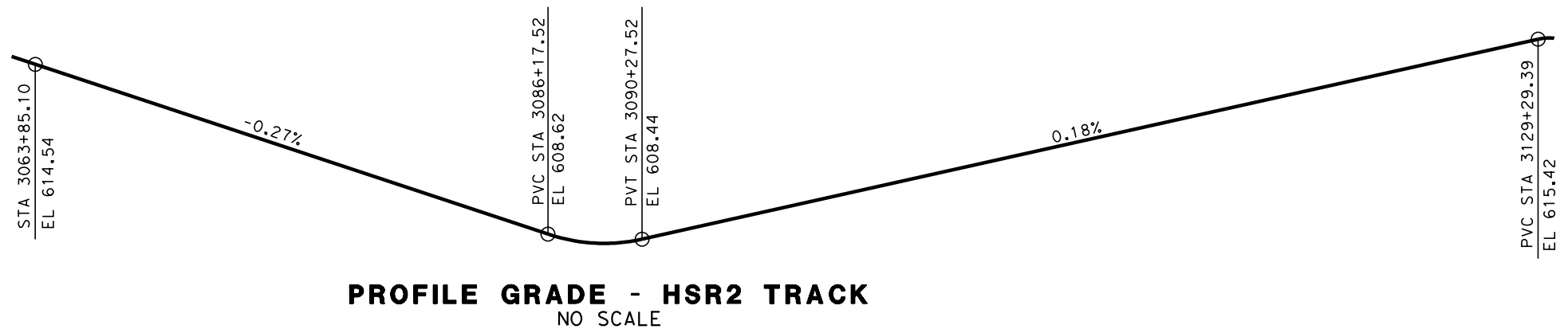
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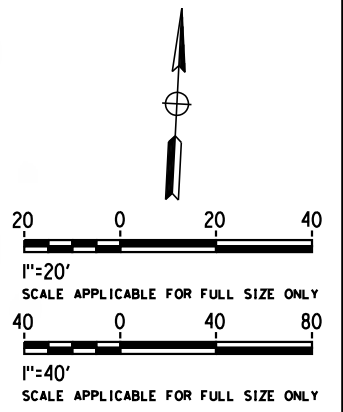
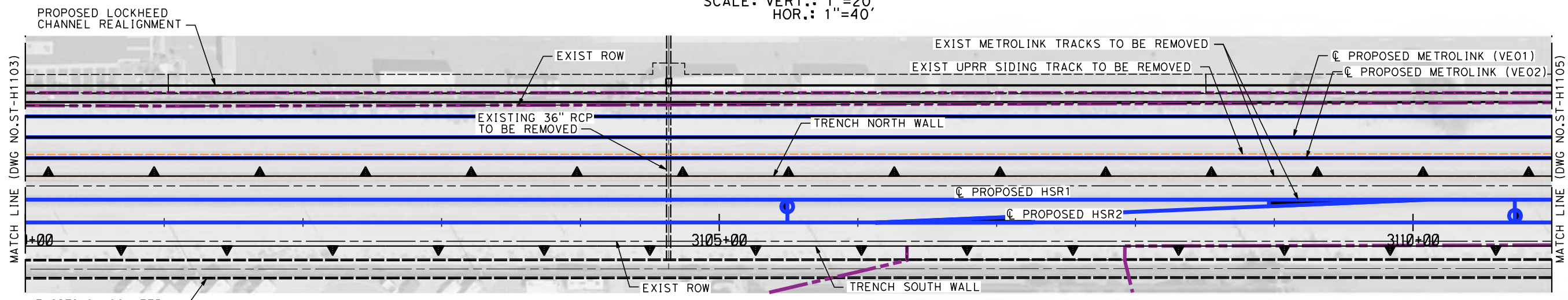
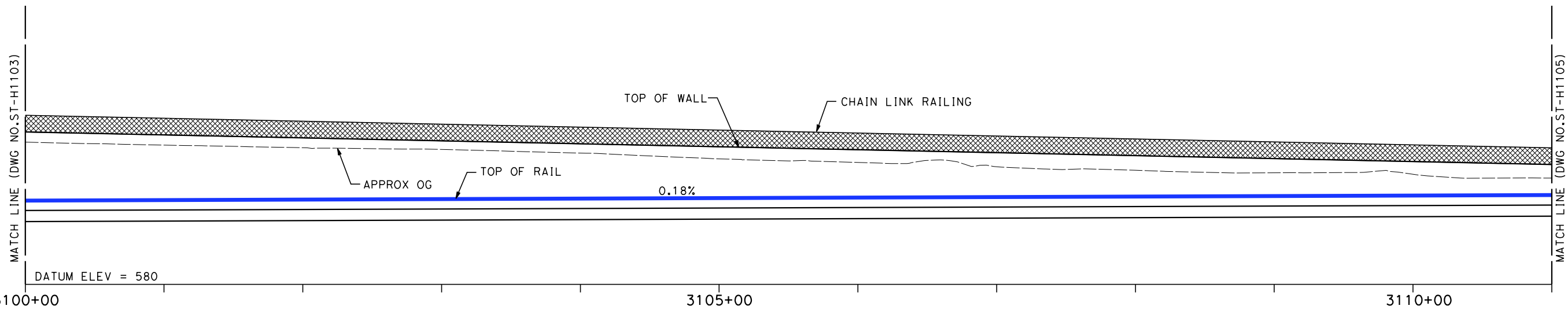
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

PEPD
TRENCH
GENERAL PLAN - SHEET 3 OF 6

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-H1103
SCALE
AS SHOWN
SHEET NO.



4676'-0"



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DESIGNED BY
B. DENG

DRAWN BY
P. ZUCCHI

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

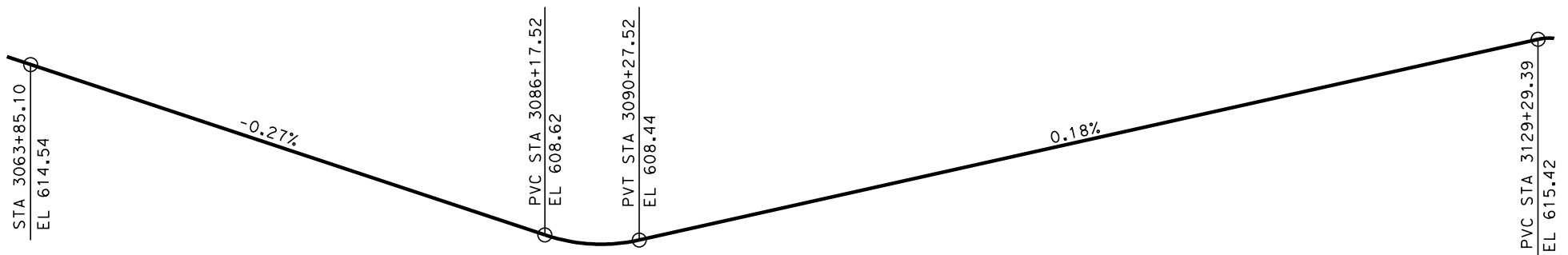
PEPD
TRENCH
GENERAL PLAN - SHEET 4 OF 6

CONTRACT NO.
HSR14-39

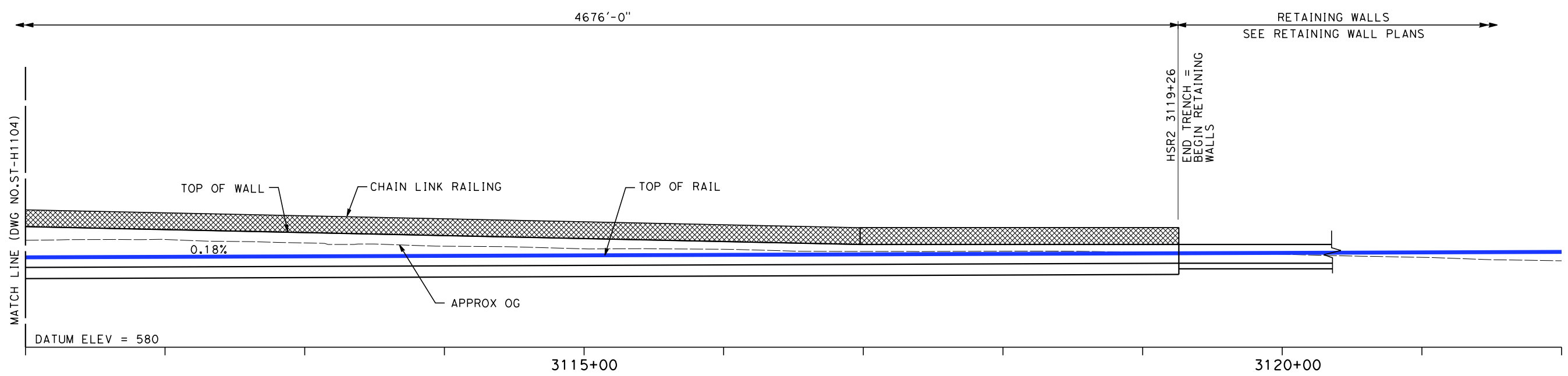
DRAWING NO.
ST-H1104

SCALE
AS SHOWN

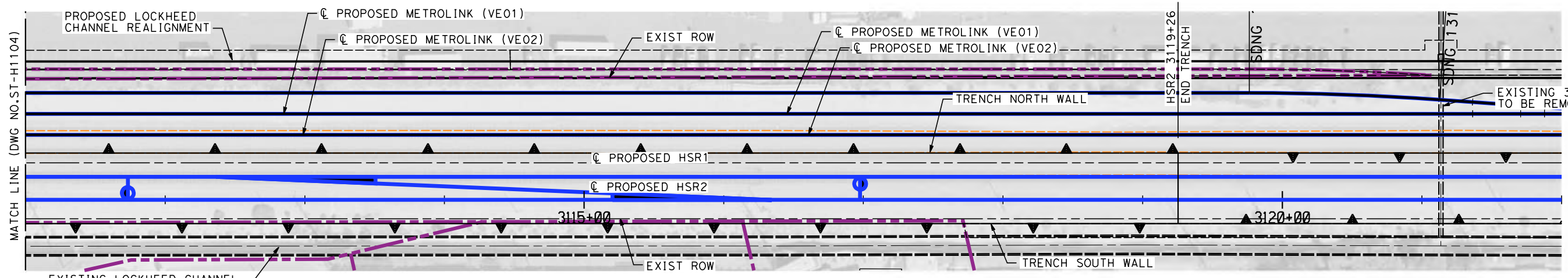
SHEET NO.



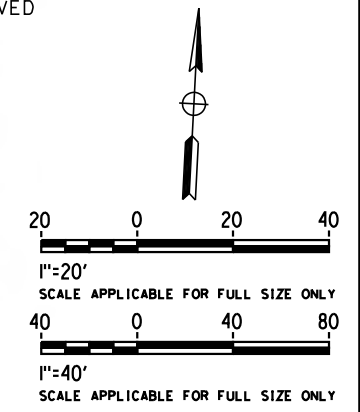
PROFILE GRADE - HSR2 TRACK
NO SCALE



ELEVATION
SCALE: VERT.: 1"=20'
HOR.: 1"=40'



PLAN
SCALE: 1"=40'



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4/30/2019 10:24:35 AM c:\j\p\pwworkdir\haynesma\d0137171\k2L-ST-H1105.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI
DRAWN BY
P. ZUCCHI
CHECKED BY
K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

PEPD RECORD SET

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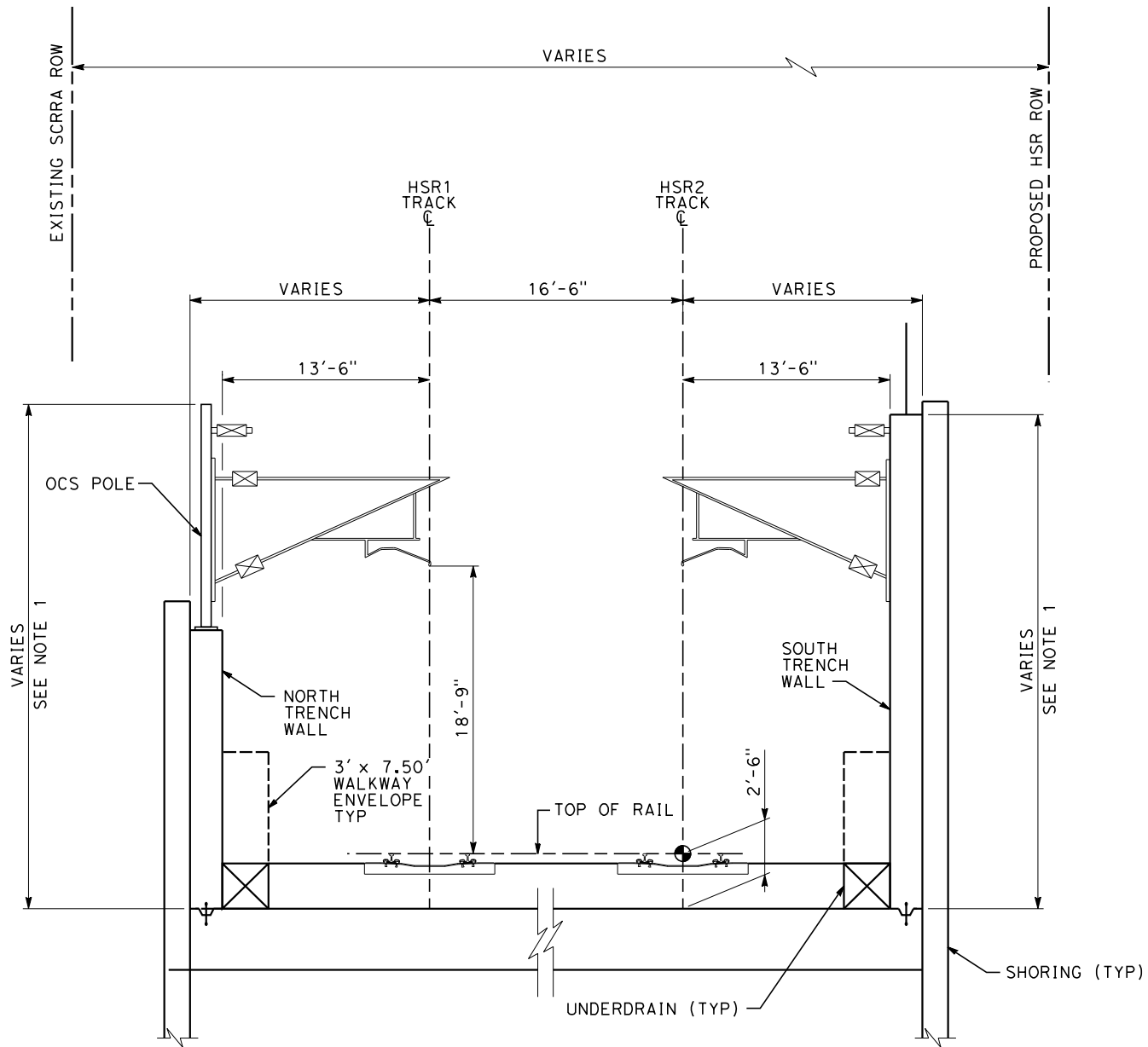


CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

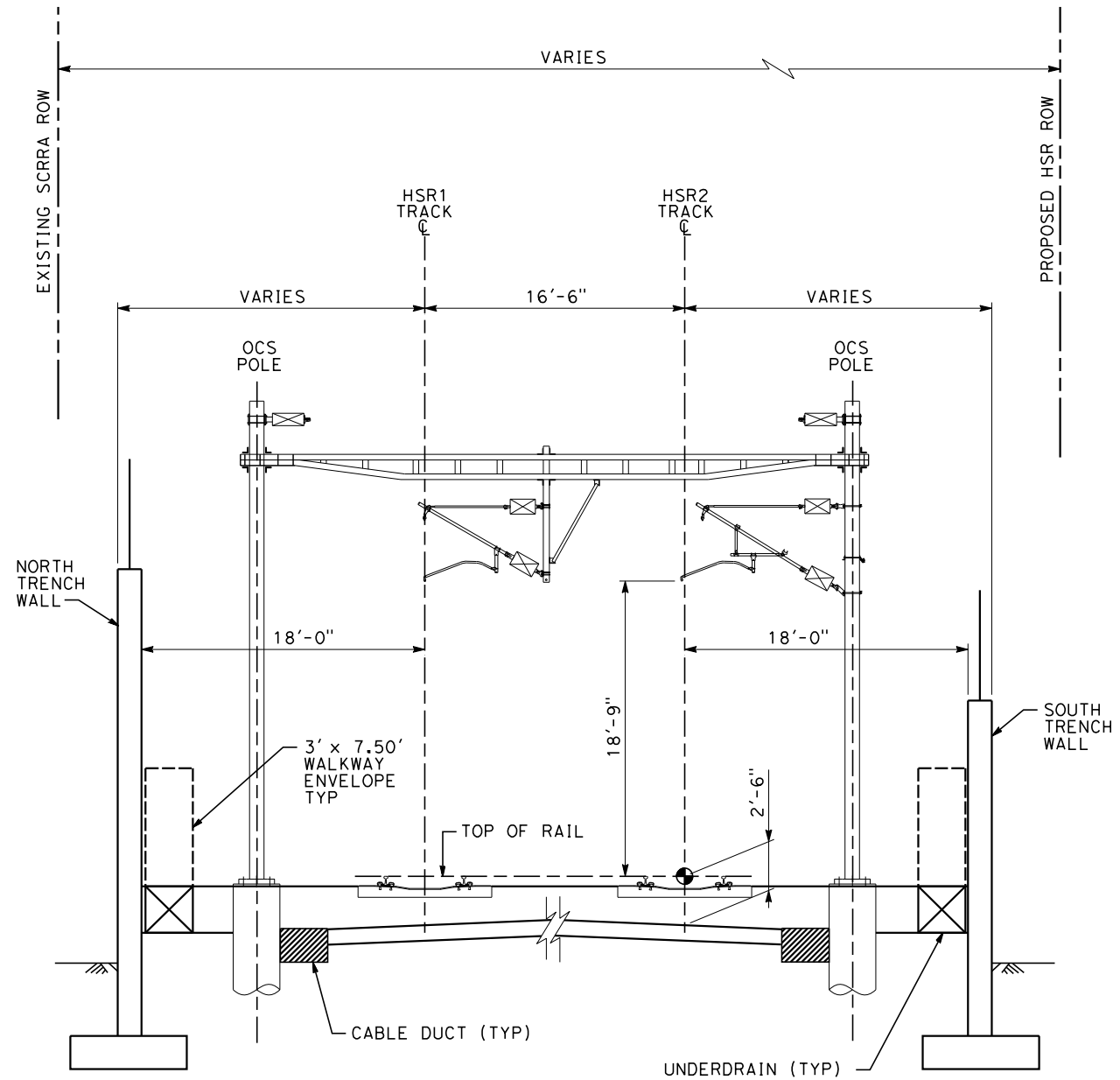
PEPD
TRENCH
GENERAL PLAN - SHEET 5 OF 6

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-H1105
SCALE
AS SHOWN
SHEET NO.

NOTE:
 1. WHERE TRENCH WALL IS SHORTER THAN THE REQUIRED HEIGHT TO MOUNT THE WIRE CONTACT SYSTEM, THEN OCS POLE SHALL BE MOUNTED ON TOP OF WALL.



TYPICAL SECTION - TRENCH
 SCALE: 3/16"=1'
 STA 3072+50 TO STA 3119+26



TYPICAL SECTION - RETAINING WALLS
 SCALE: 3/16"=1'
 STA 3119+26 TO STA 3152+75

NOT FOR CONSTRUCTION
 FOR INTERNAL USE ONLY
 3/16 0 3/16 3/8
 3/16"=1'-0"

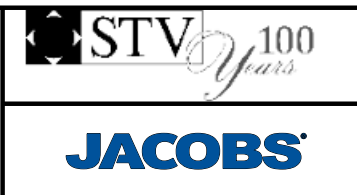
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI
 DRAWN BY
P. ZUCCHI
 CHECKED BY
K. PIRBAZARI
 IN CHARGE
K. PIRBAZARI
 DATE
04/30/2019

**PEPD
 RECORD SET**

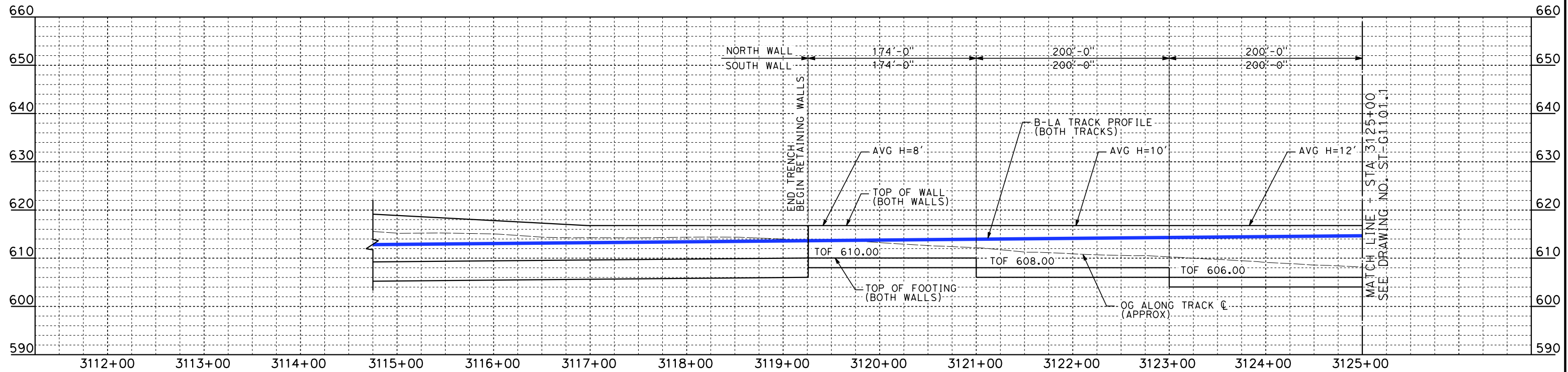
**NOT FOR
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**

 PEPD
 TRENCH AND RETAINING WALLS CROSS SECTIONS
 SHEET 6 OF 6

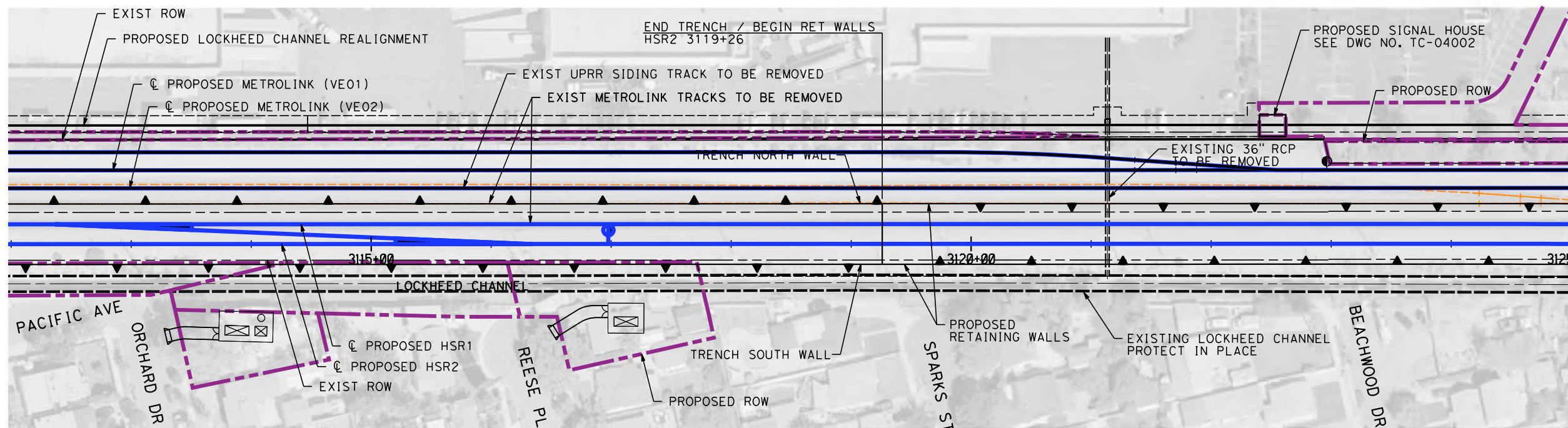
CONTRACT NO.
HSR14-39
 DRAWING NO.
ST-H3101
 SCALE
AS SHOWN
 SHEET NO.



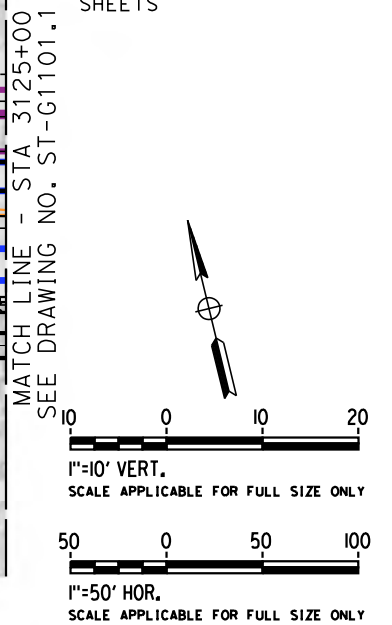
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



PLAN
 SCALE: 1"=50'



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
B. DENG
 DRAWN BY
P. ZUCCHI
 CHECKED BY
K. PIRBAZARI
 IN CHARGE
K. PIRBAZARI
 DATE
04/30/2019

PEPD RECORD SET

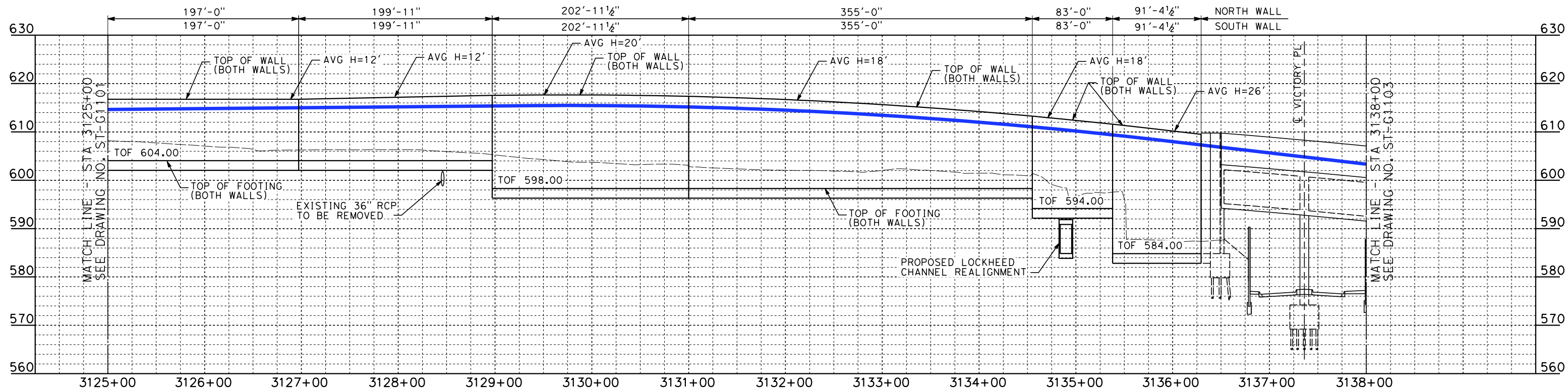
NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

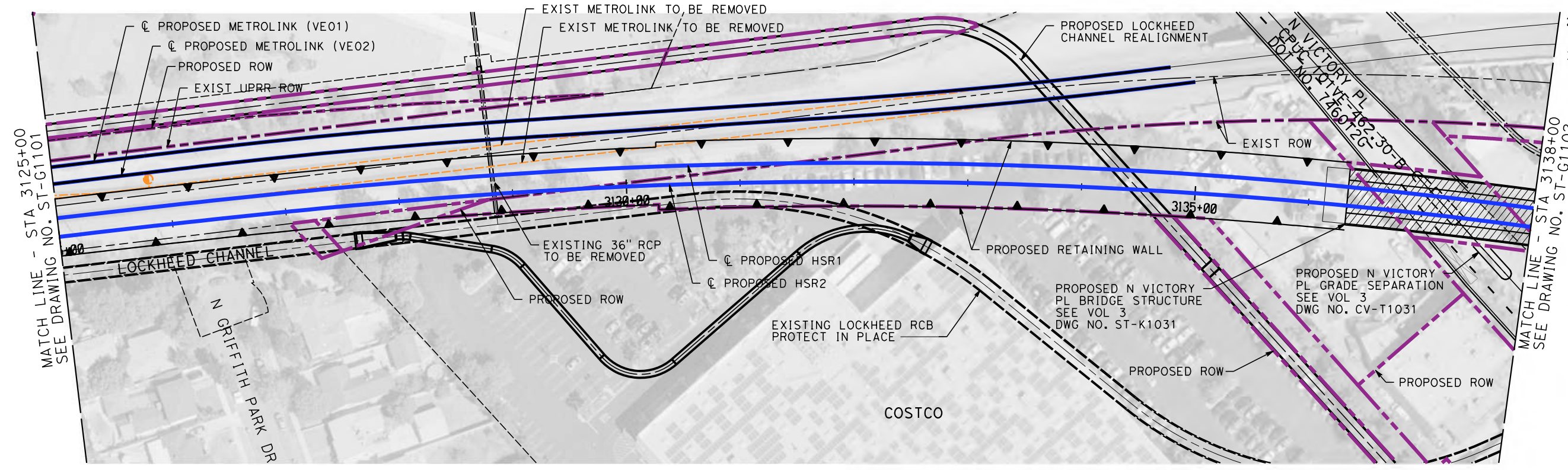
 PEPD
 HSR - RETAINING WALL
 HSR2 3119+00 TO HSR2 3125+00

CONTRACT NO.
HSR14-39
 DRAWING NO.
ST-G1101
 SCALE
AS SHOWN
 SHEET NO.

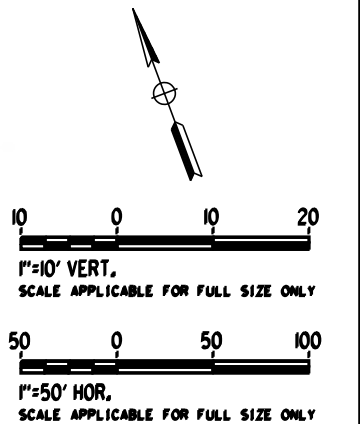


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG \bar{C} PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



PLAN
 SCALE: 1"=50'



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5/1/2019 9:32:46 AM c:\j\p\pwworkdir\haynesma\d0137171\k2l-st-g1101.1.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
B. DENG

DRAWN BY
P. ZUCCHI

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

PEPD RECORD SET

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

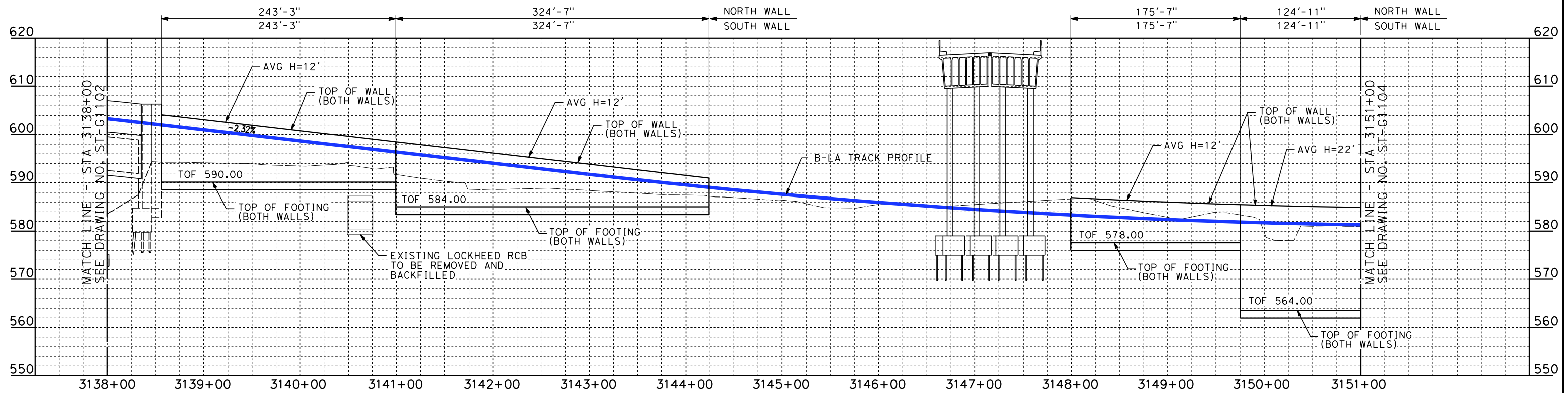
PEPD
 HSR - RETAINING WALL
 HSR2 3125+00 TO HSR2 3138+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1101.1

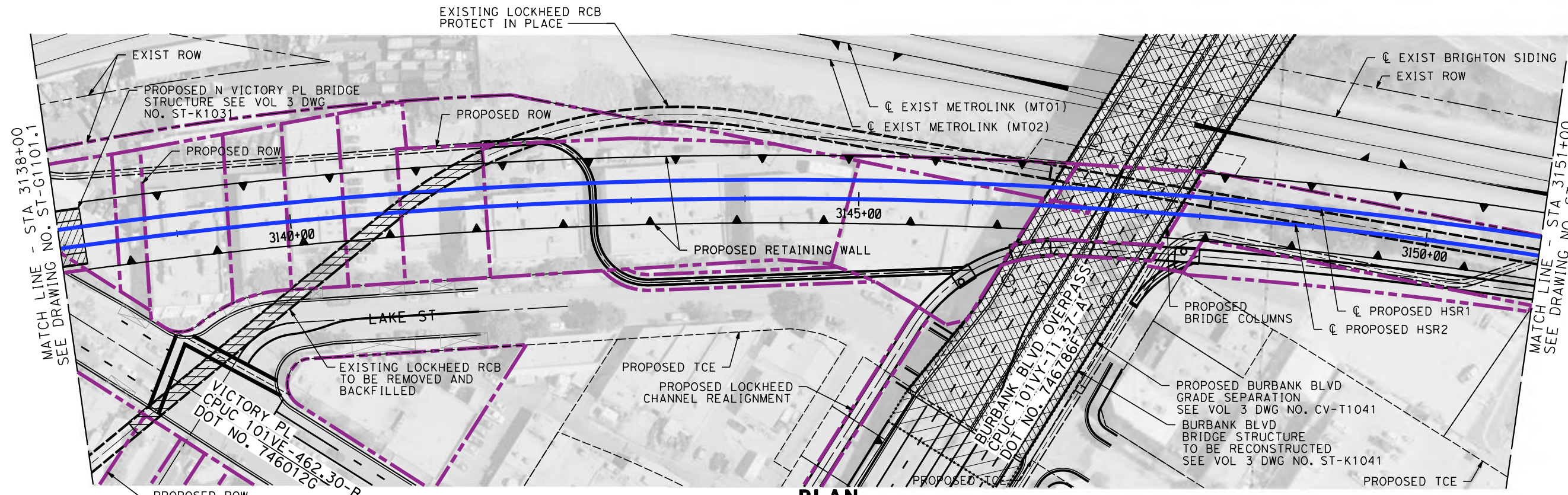
SCALE
AS SHOWN

SHEET NO.



ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C/L PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



PLAN
 SCALE: 1"=50'

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5/1/2019 9:33:14 AM c:\j\p\pwworkdir\haynesma\d0137171\k2l-st-g1102.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
B. DENG

DRAWN BY
P. ZUCCHI

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

PEPD RECORD SET

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

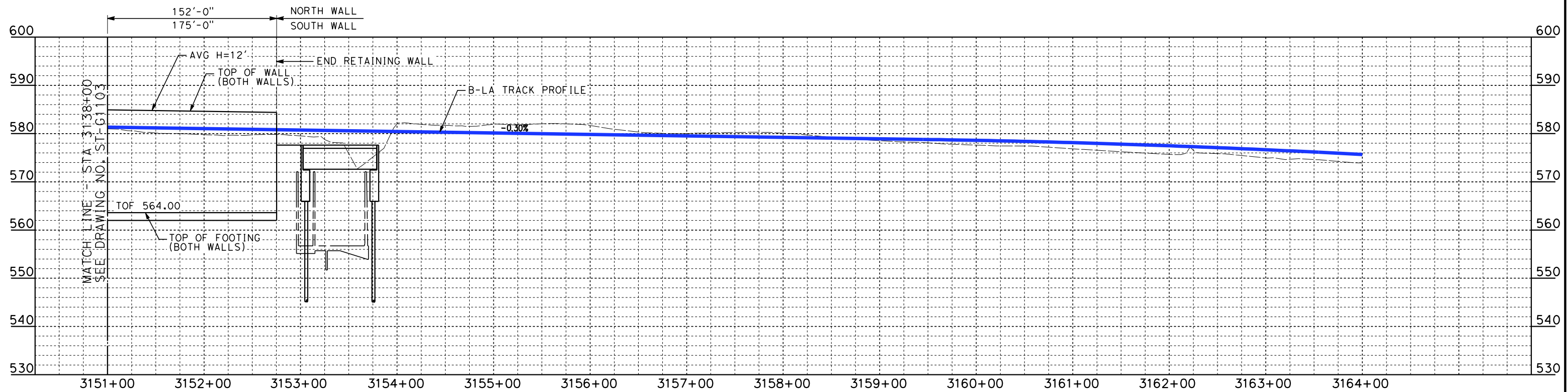
PEPD
 HSR - RETAINING WALL
 HSR2 3138+00 TO HSR2 3151+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1102

SCALE
AS SHOWN

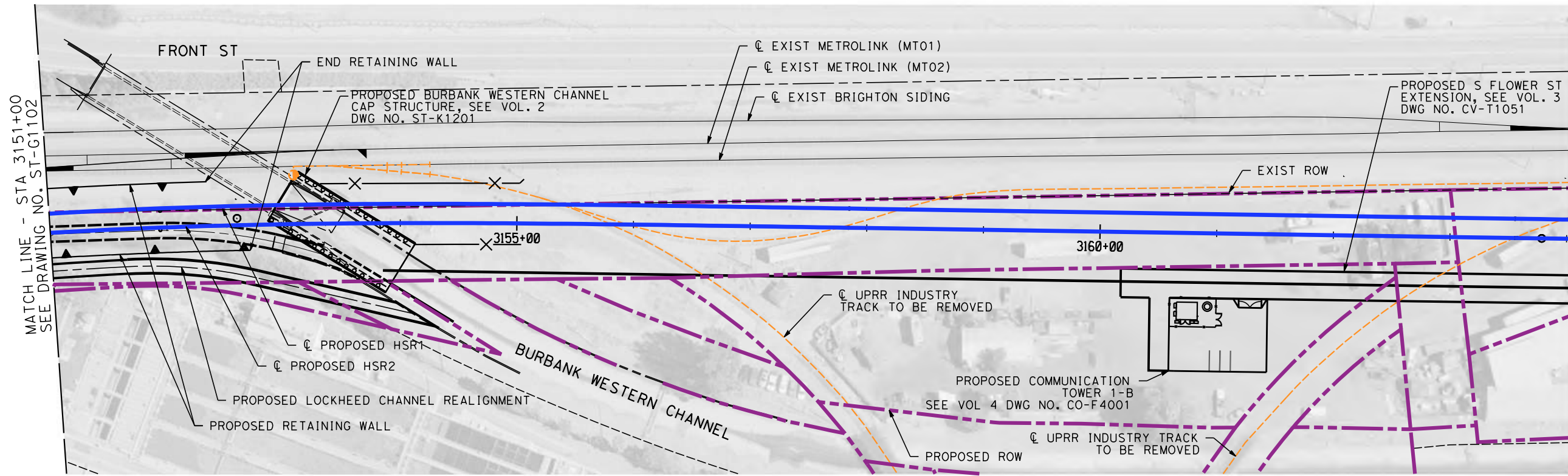
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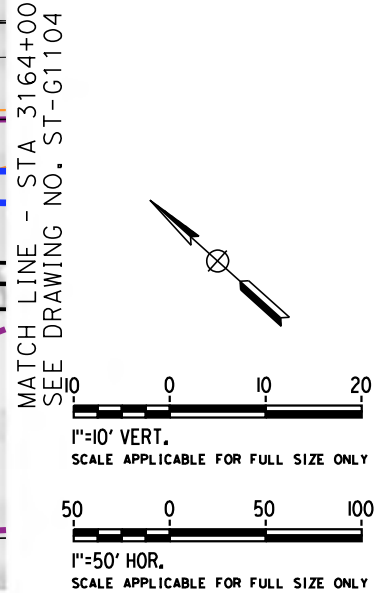
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



PLAN
 SCALE: 1"=50'



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5/1/2019 9:33:42 AM c:\j\p\pwworkdir\haynesma\d0137171\k2l-st-g1103.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
B. DENG
 DRAWN BY
P. ZUCCHI
 CHECKED BY
K. PIRBAZARI
 IN CHARGE
K. PIRBAZARI
 DATE
04/30/2019

PEPD RECORD SET

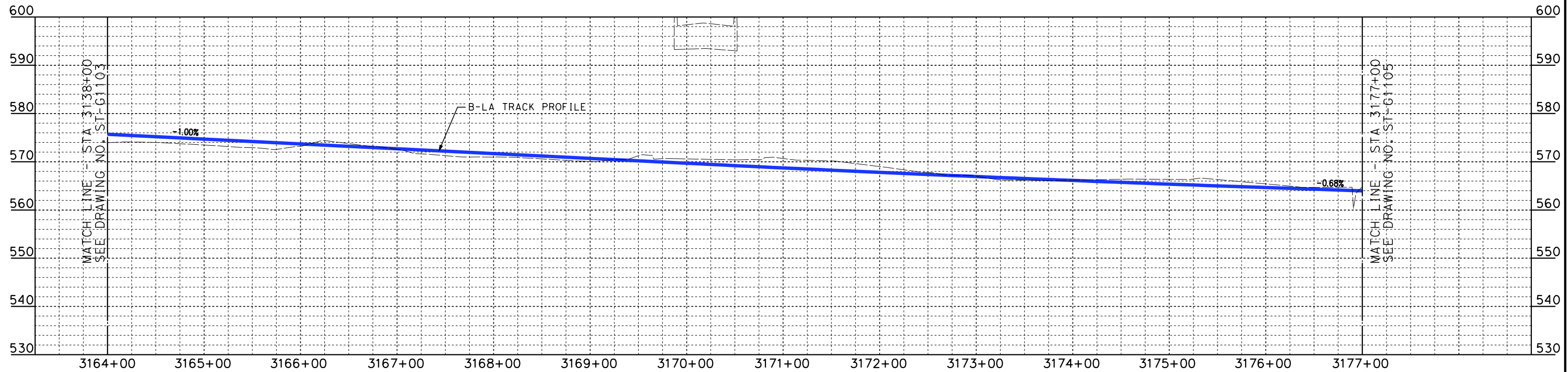
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

 PEPD
 HSR - RETAINING WALL
 HSR2 3151+00 TO HSR2 3164+00

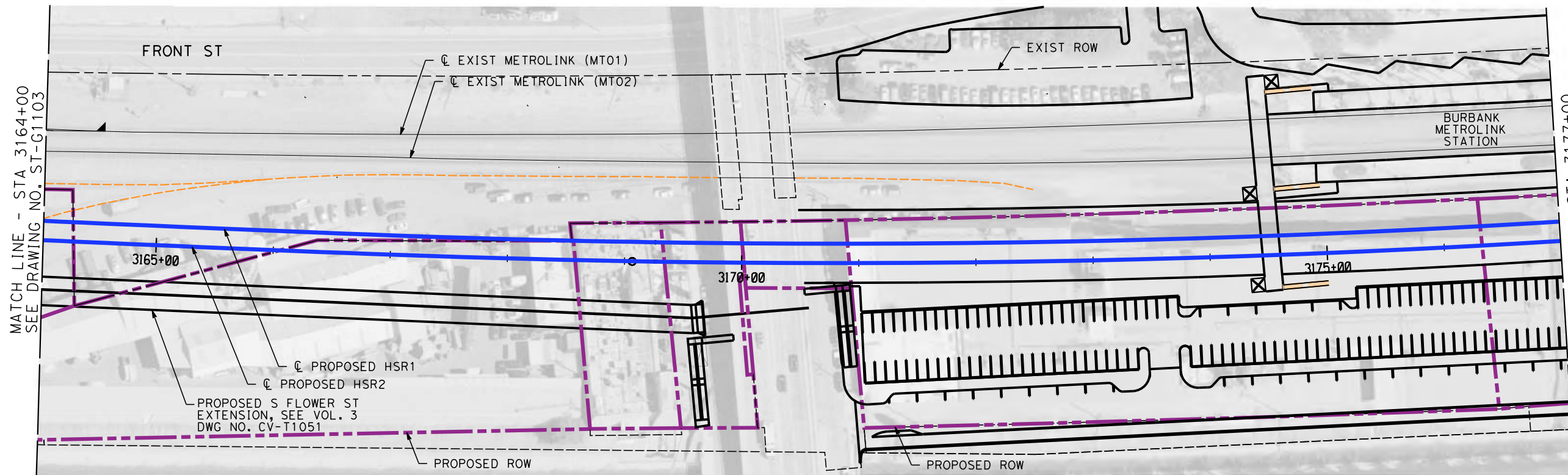
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 DRAWING NO.
ST-G1103
 SCALE
AS SHOWN
 SHEET NO.



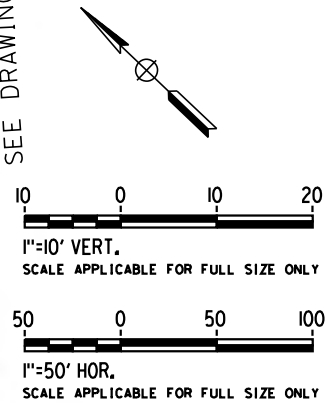
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



PLAN
 SCALE: 1"=50'



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5/1/2019 9:34:11 AM c:\j\p\pwworkdir\haynesma\d0137171\k2l-st-g1104.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
B. DENG
 DRAWN BY
P. ZUCCHI
 CHECKED BY
K. PIRBAZARI
 IN CHARGE
K. PIRBAZARI
 DATE
04/30/2019

**PEPD
 RECORD SET**

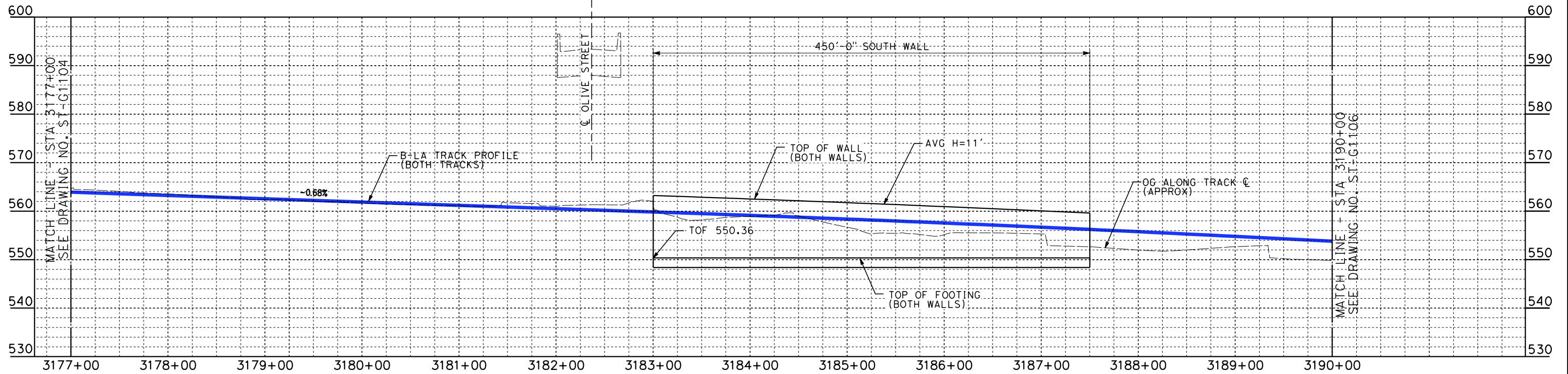
**NOT FOR
 CONSTRUCTION**



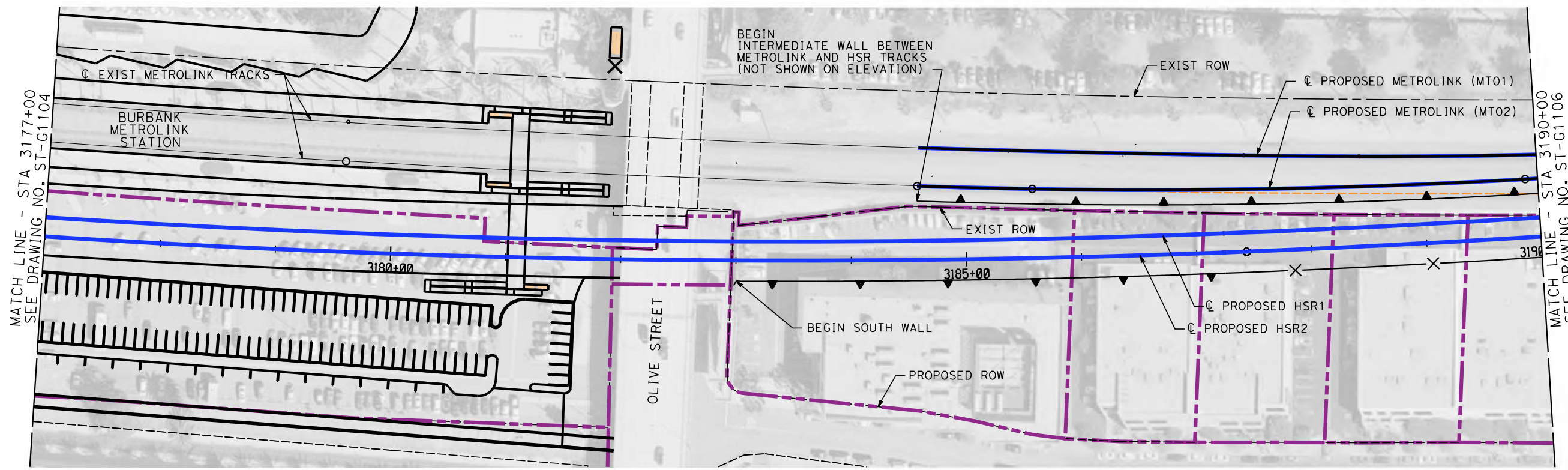
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**

 PEPD
 HSR - RETAINING WALL
 HSR2 3164+00 TO HSR2 3177+00

CONTRACT NO.
HSR14-39
 DRAWING NO.
ST-G1104
 SCALE
AS SHOWN
 SHEET NO.



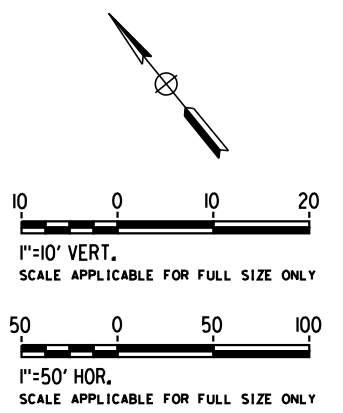
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

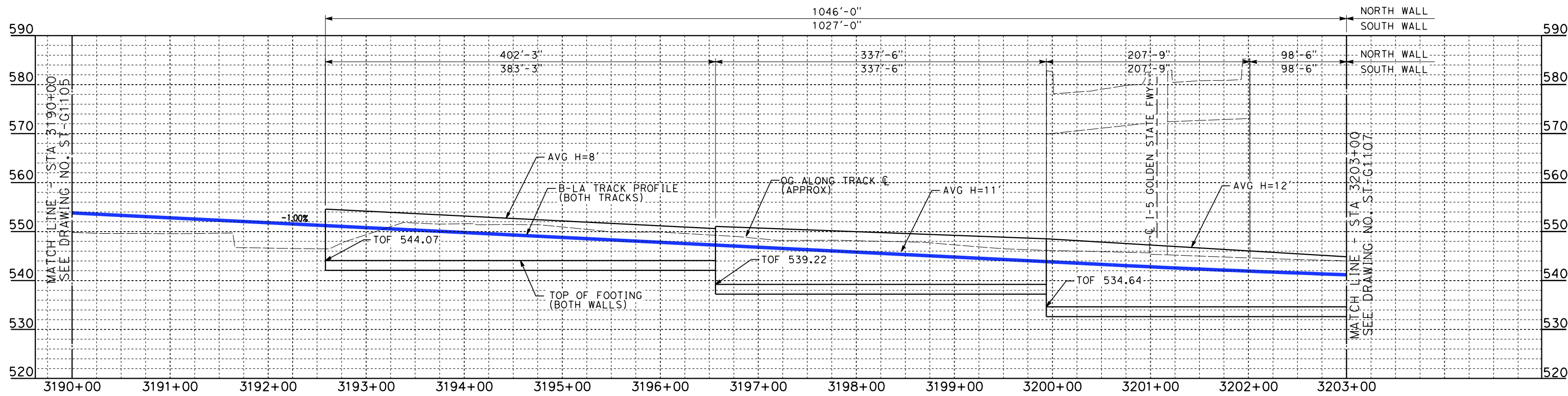
PEPD
 HSR - RETAINING WALL
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CONTRACT NO.
HSR14-39

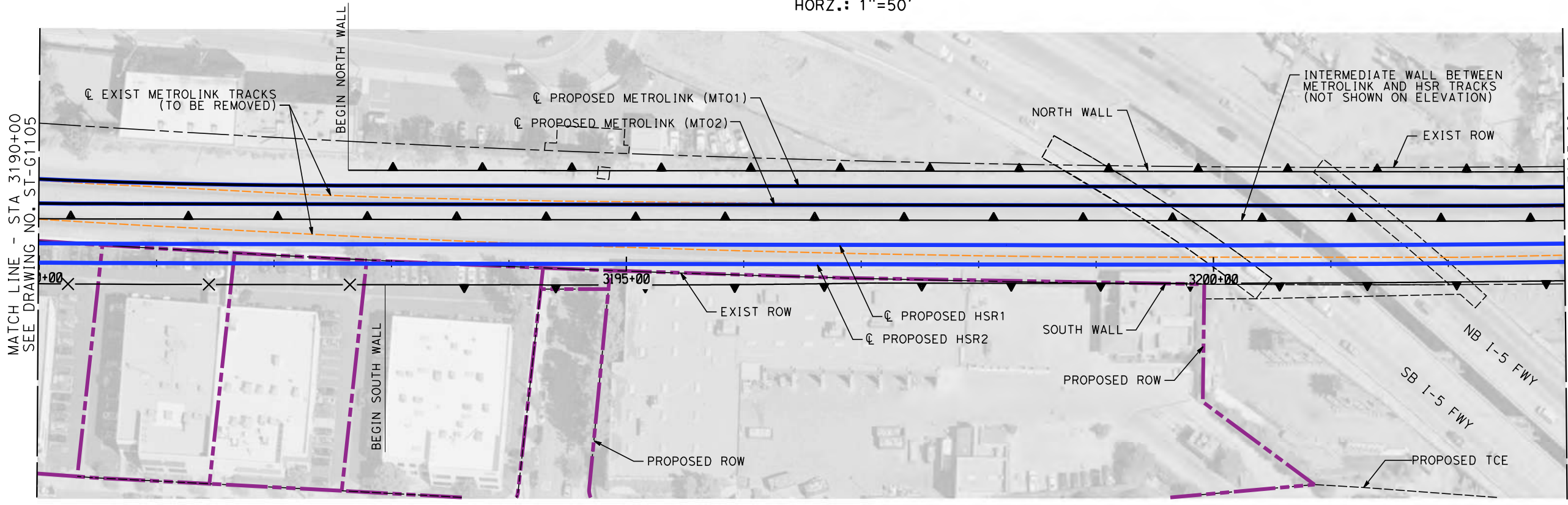
DRAWING NO.
ST-G1105

SCALE
AS SHOWN

SHEET NO.



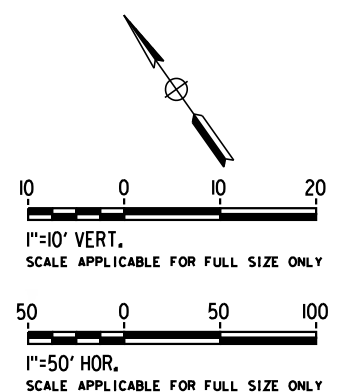
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

PEPD
 HSR - RETAINING WALL
 HSR2 3190+00 TO HSR2 3203+00

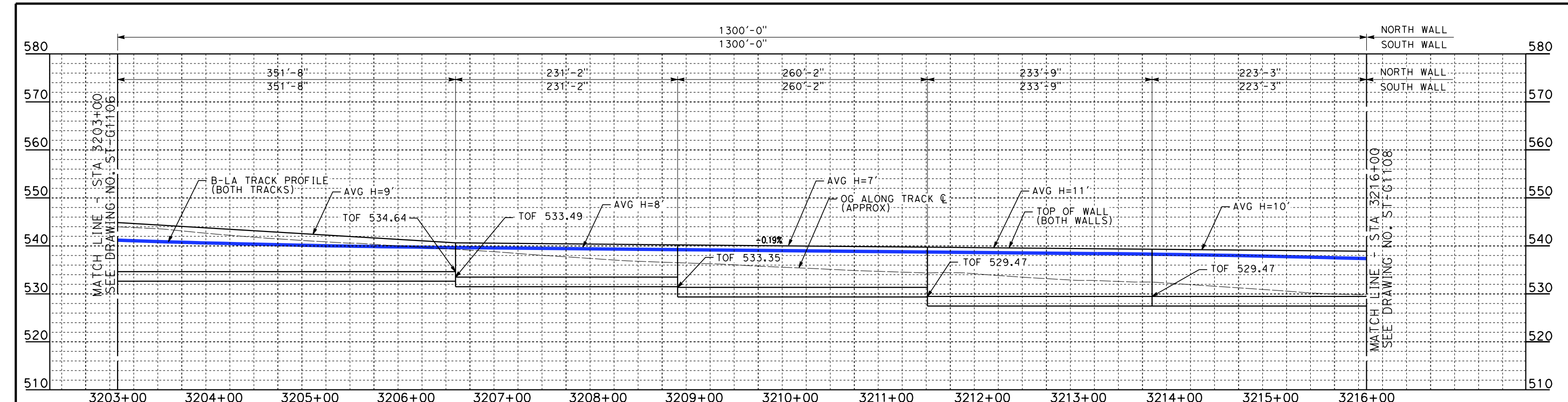
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DRAWING NO.
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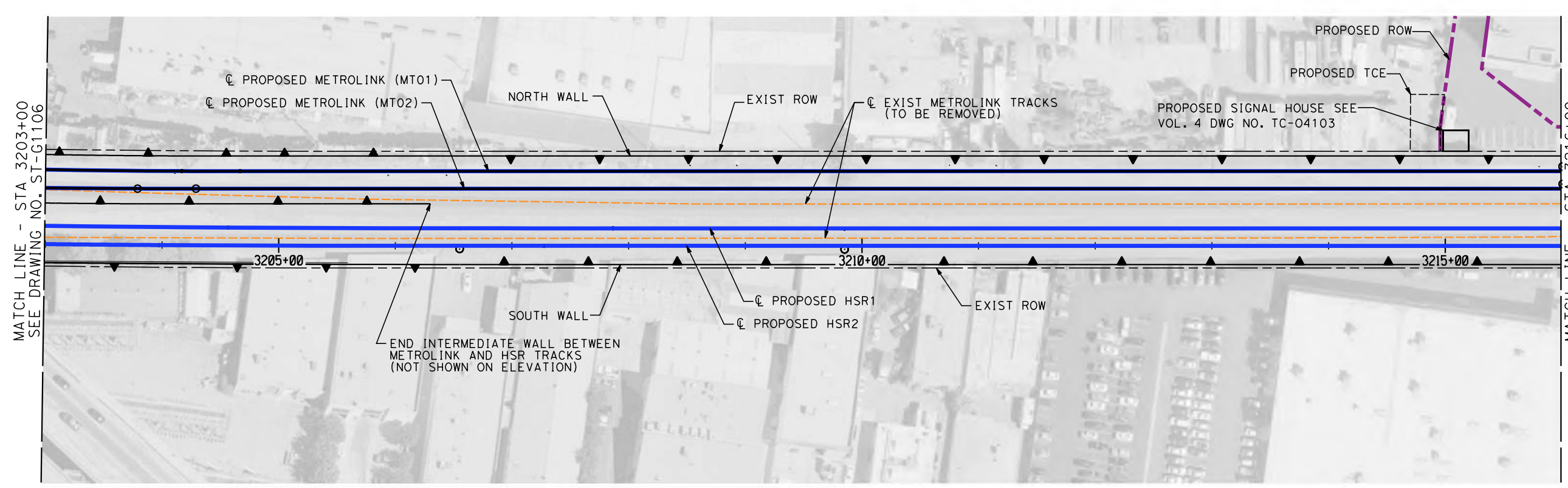
SCALE
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SHEET NO.

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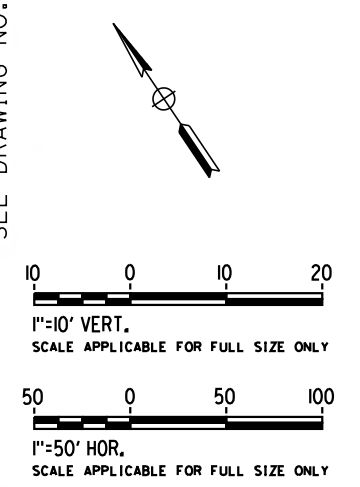


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG $\text{\textcircled{C}}$ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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DESIGNED BY
D. HAGHIGHI

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

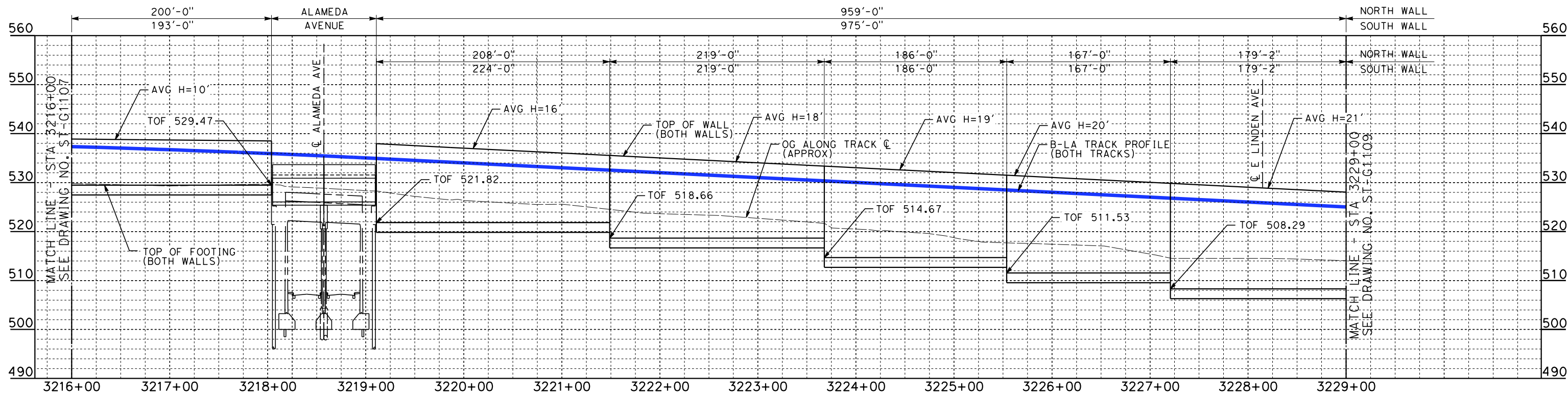
PEPD
 HSR - RETAINING WALL
 HSR2 3203+00 TO HSR2 3216+00

CONTRACT NO.
HSR14-39

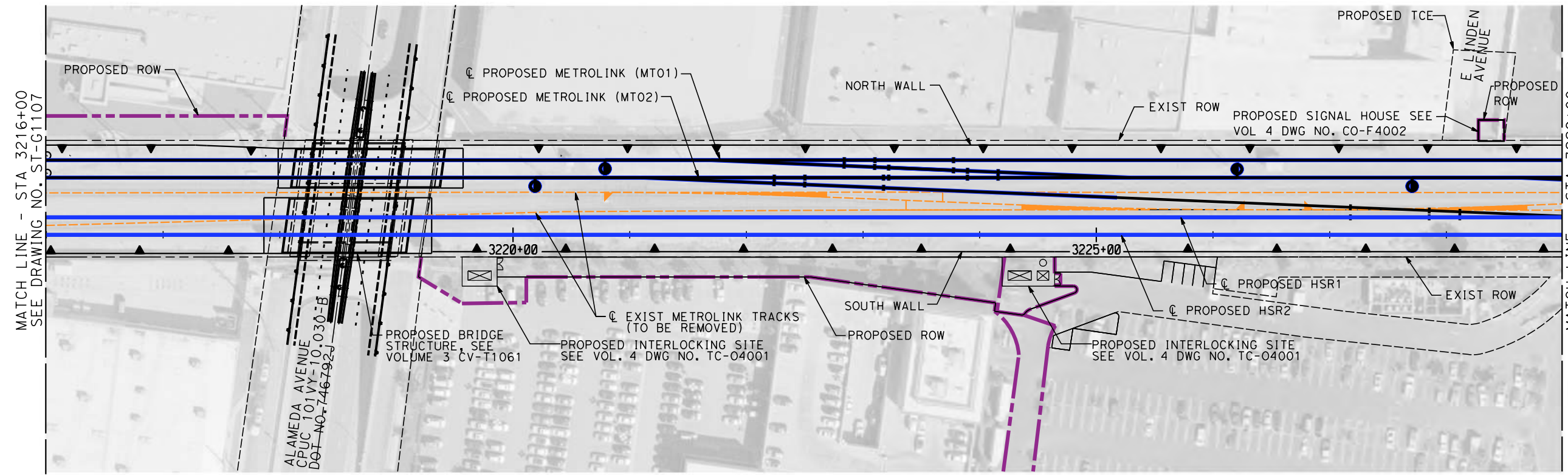
DRAWING NO.
ST-G1107

SCALE
AS SHOWN

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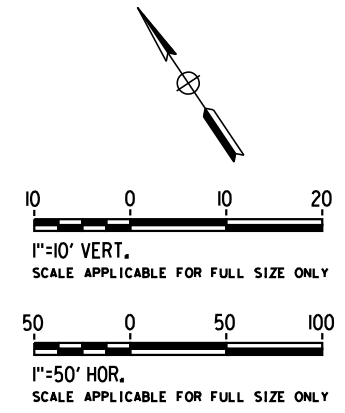


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

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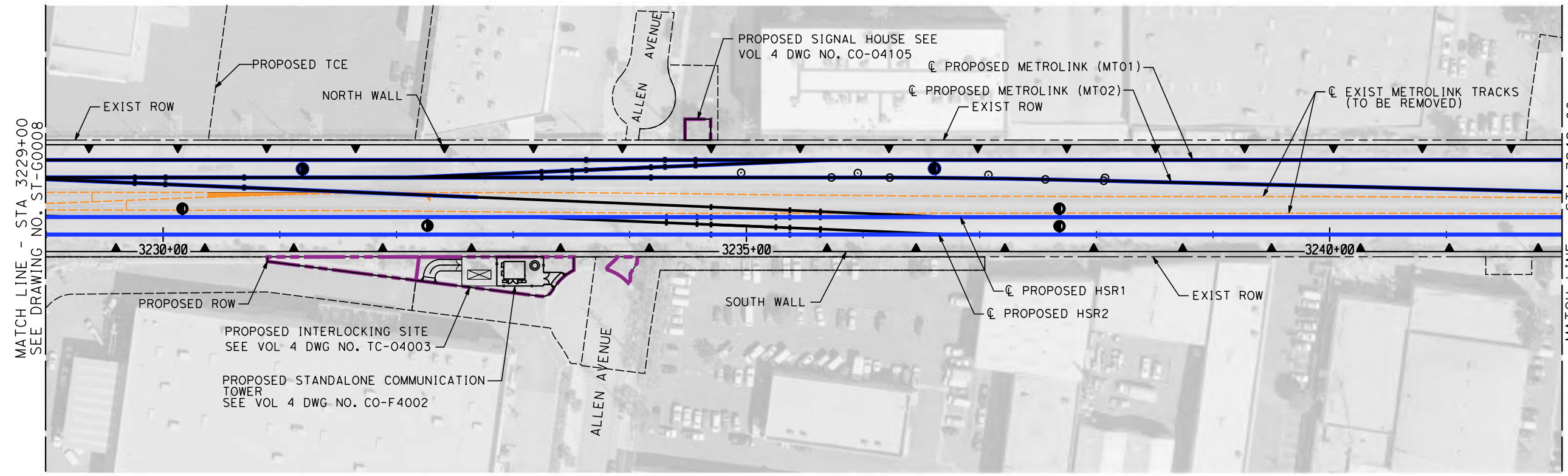
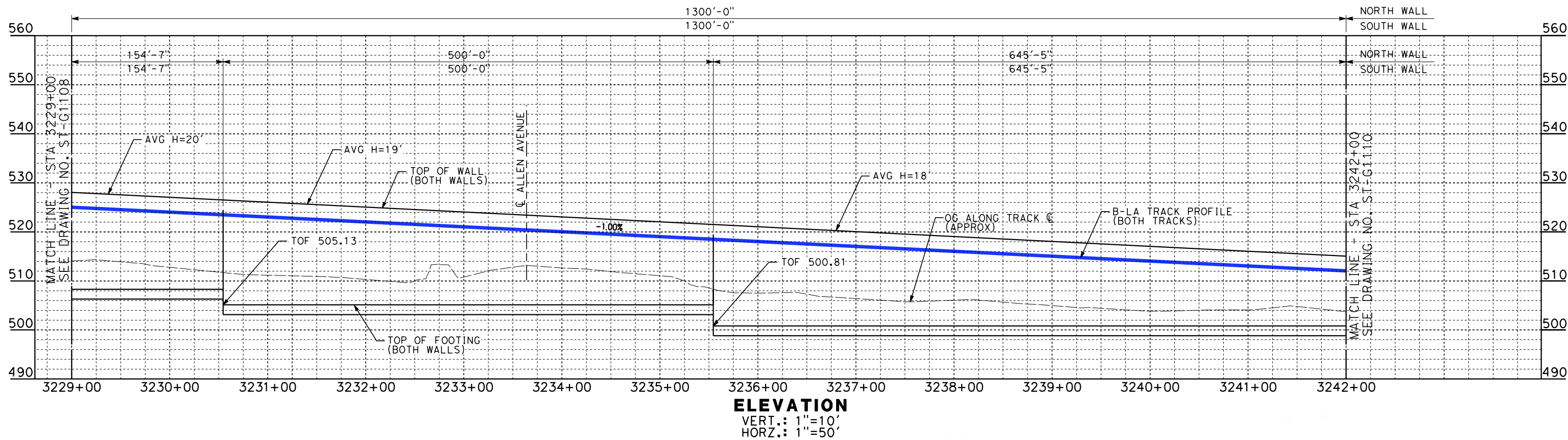
PEPD
 HSR - RETAINING WALL
 HSR2 3216+00 TO HSR2 3229+00

CONTRACT NO.
HSR14-39

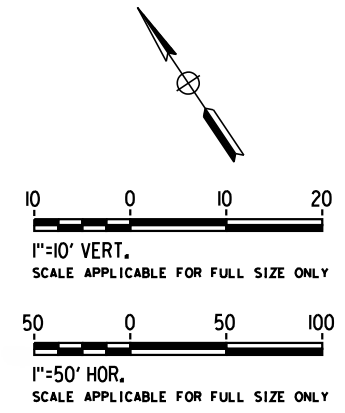
DRAWING NO.
ST-G1108

SCALE
AS SHOWN

SHEET NO.



- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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5/1/2019 9:35:01 AM c:\j\p\pwworkdir\haynesma\d0137171\k2L-ST-G1109.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

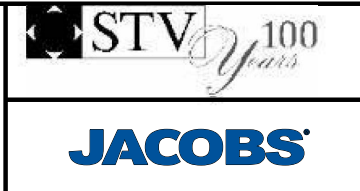
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

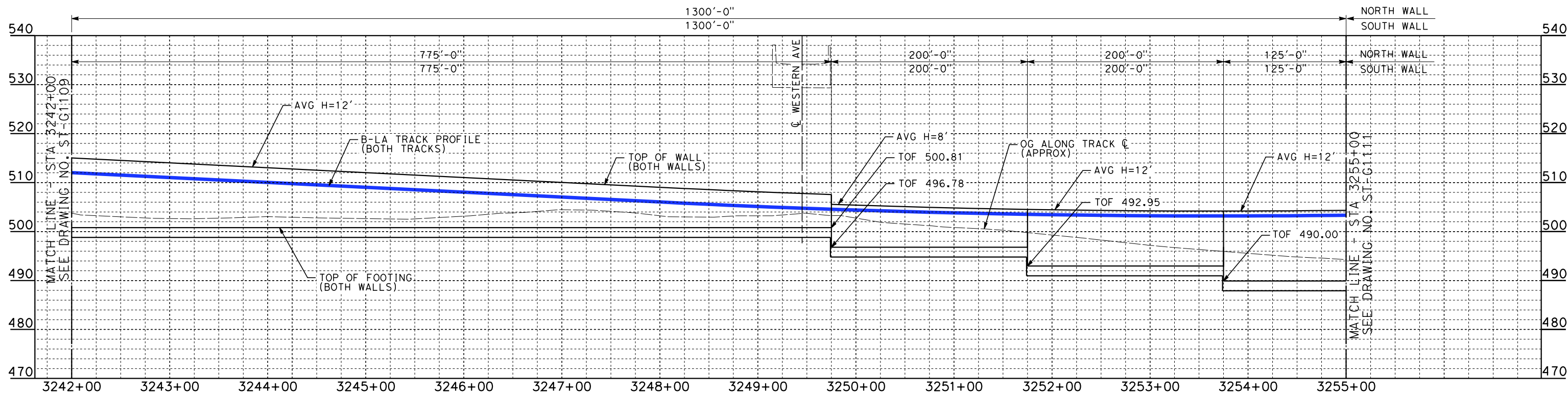
PEPD
HSR - RETAINING WALL
HSR2 3229+00 TO HSR2 3242+00

CONTRACT NO.
HSR14-39

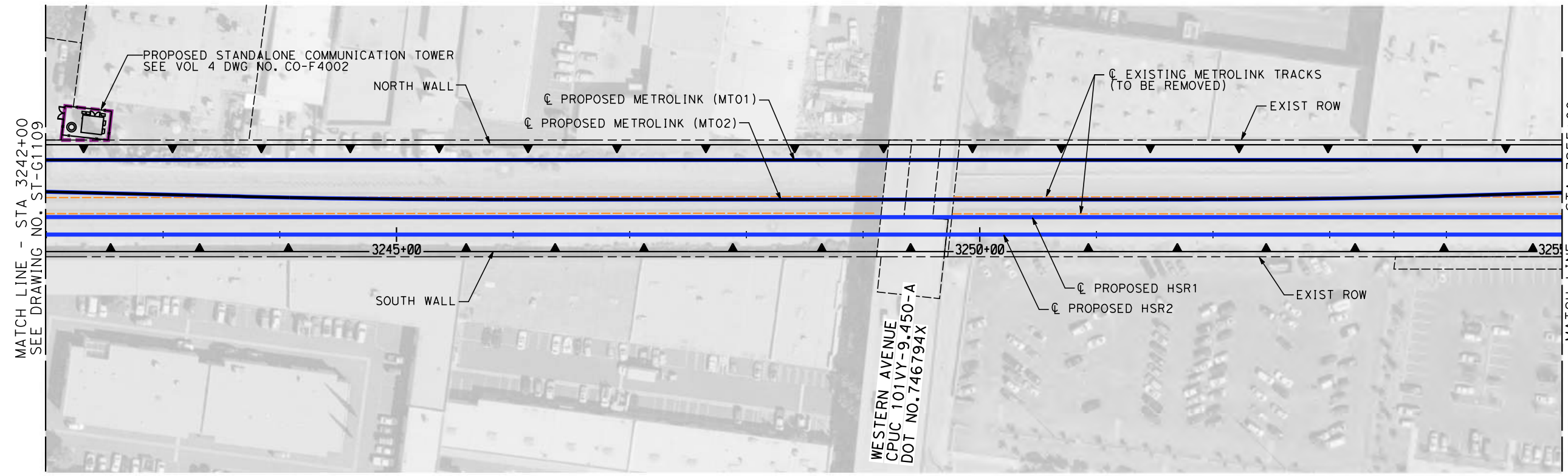
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SCALE
AS SHOWN

SHEET NO.



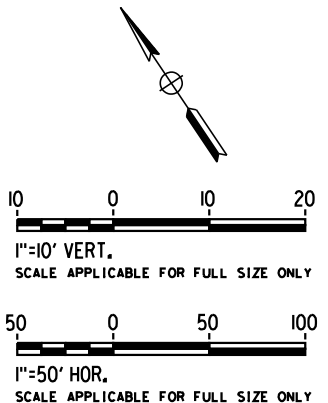
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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D. HAGHIGHI

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P. ZUCCHI

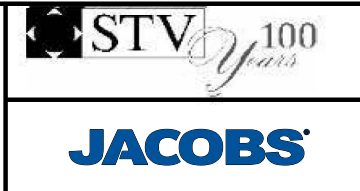
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

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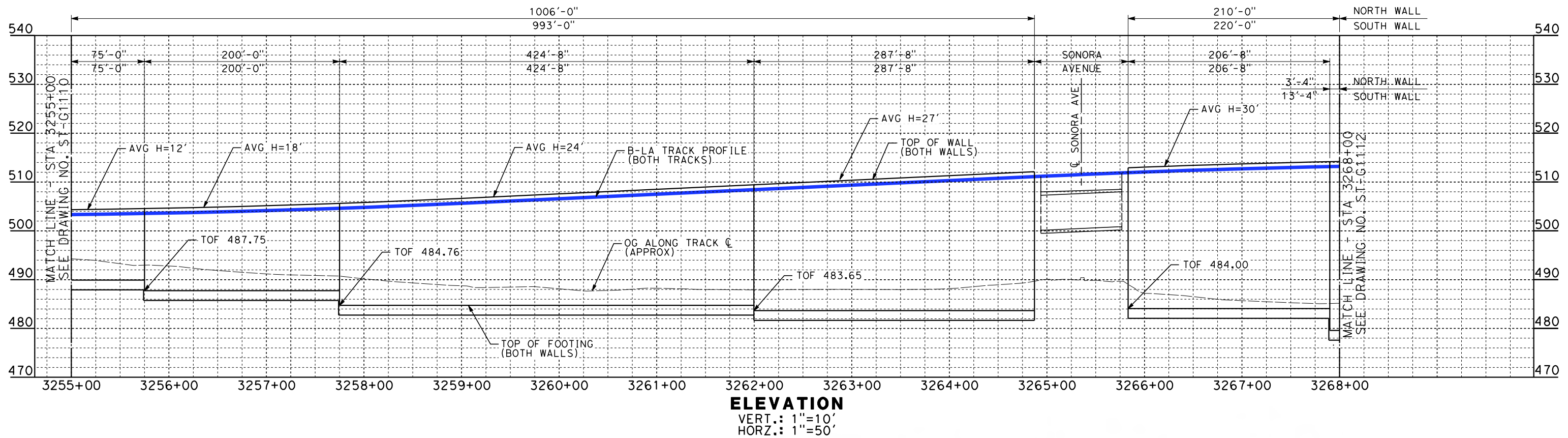
PEPD
 HSR - RETAINING WALL
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CONTRACT NO.
HSR14-39

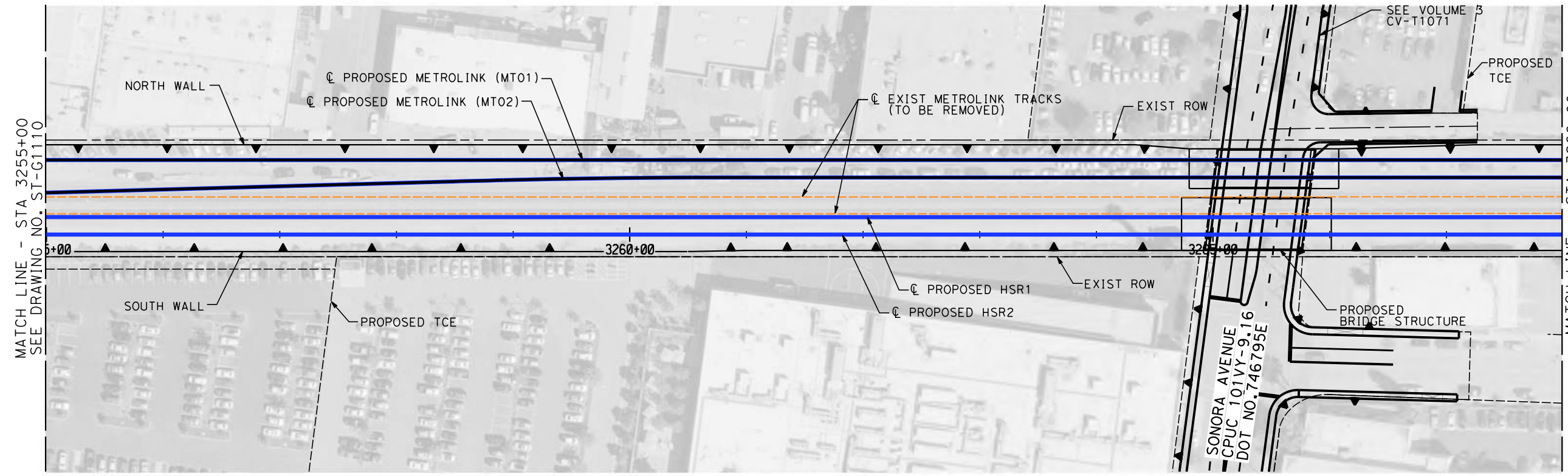
DRAWING NO.
ST-G1110

SCALE
AS SHOWN

SHEET NO.

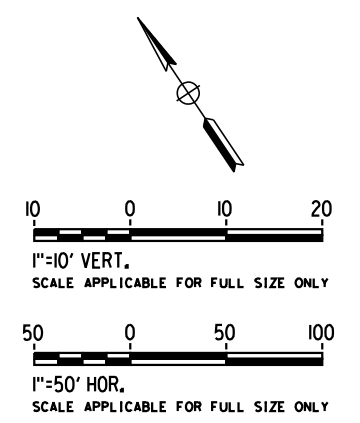


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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K. PIRBAZARI

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K. PIRBAZARI

DATE
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

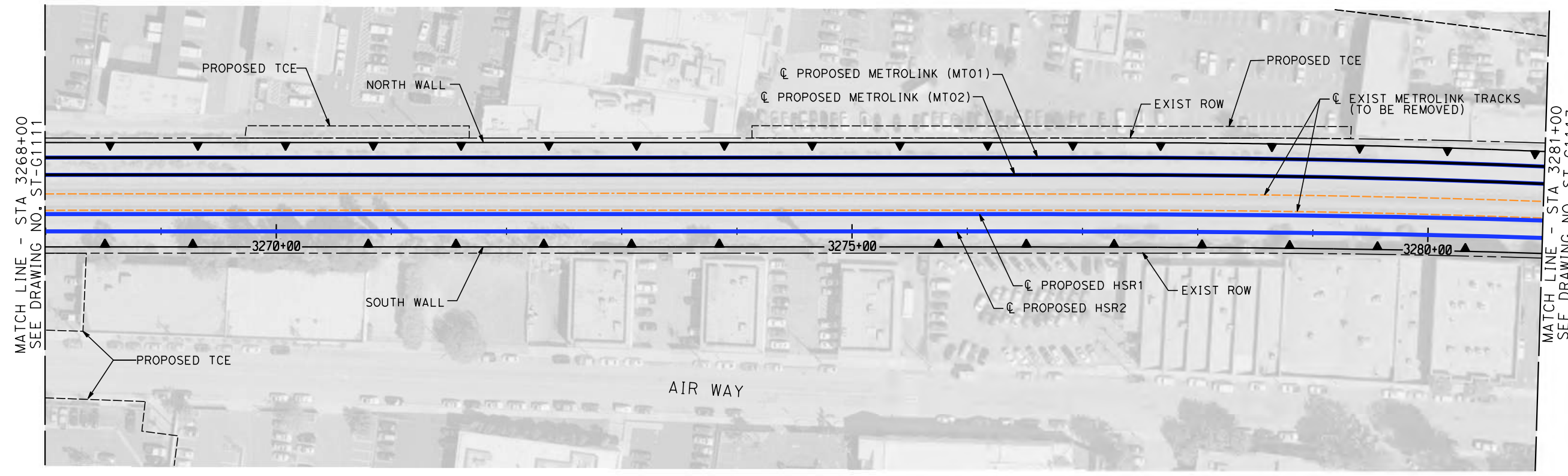
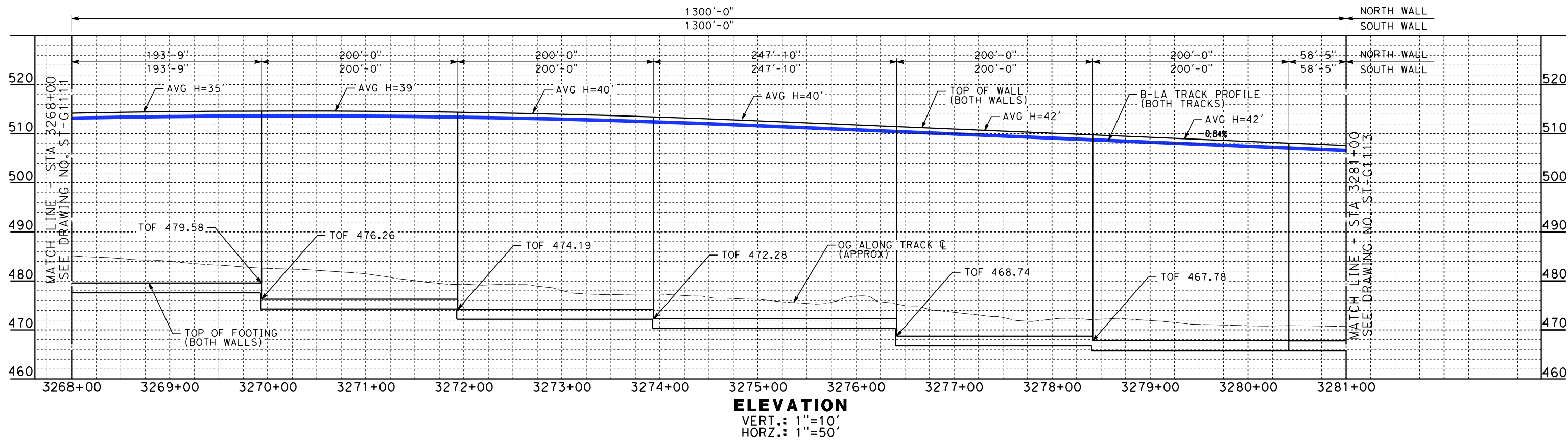
PEPD
 HSR - RETAINING WALL
 HSR2 3255+00 TO HSR2 3268+00

CONTRACT NO.
HSR14-39

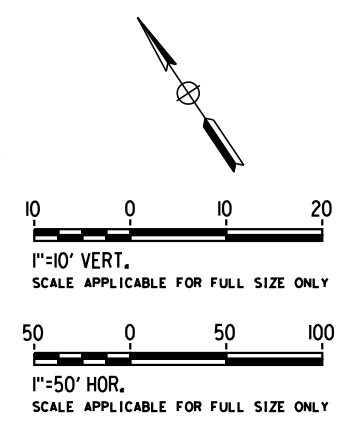
DRAWING NO.
ST-G1111

SCALE
AS SHOWN

SHEET NO.



- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

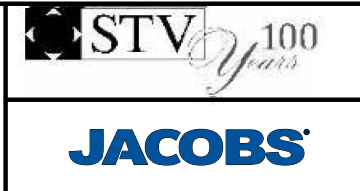
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

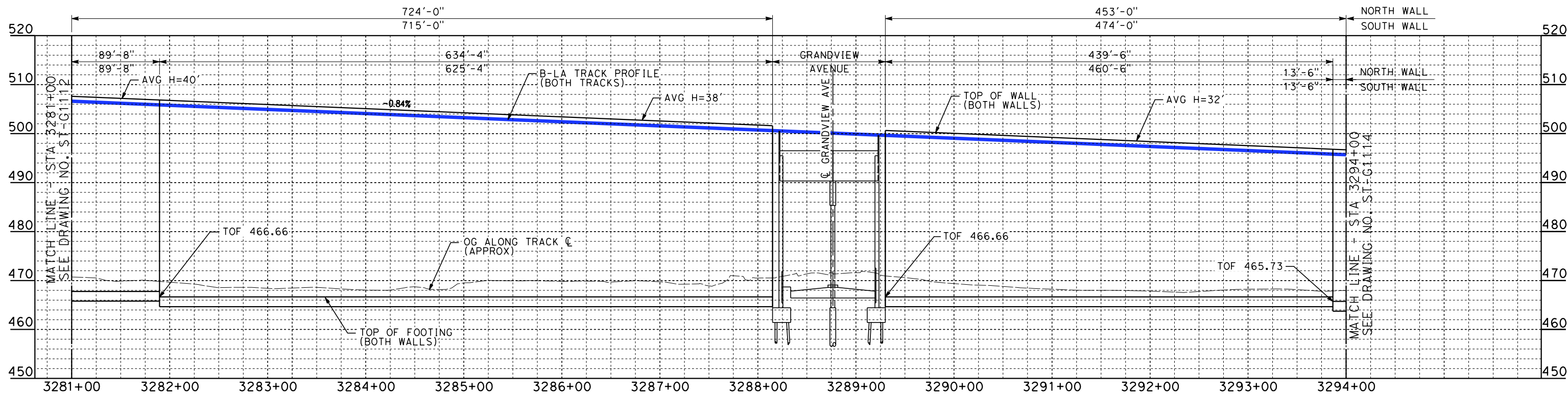
PEPD
HSR - RETAINING WALL
HSR2 3268+00 TO HSR2 3281+00

CONTRACT NO.
HSR14-39

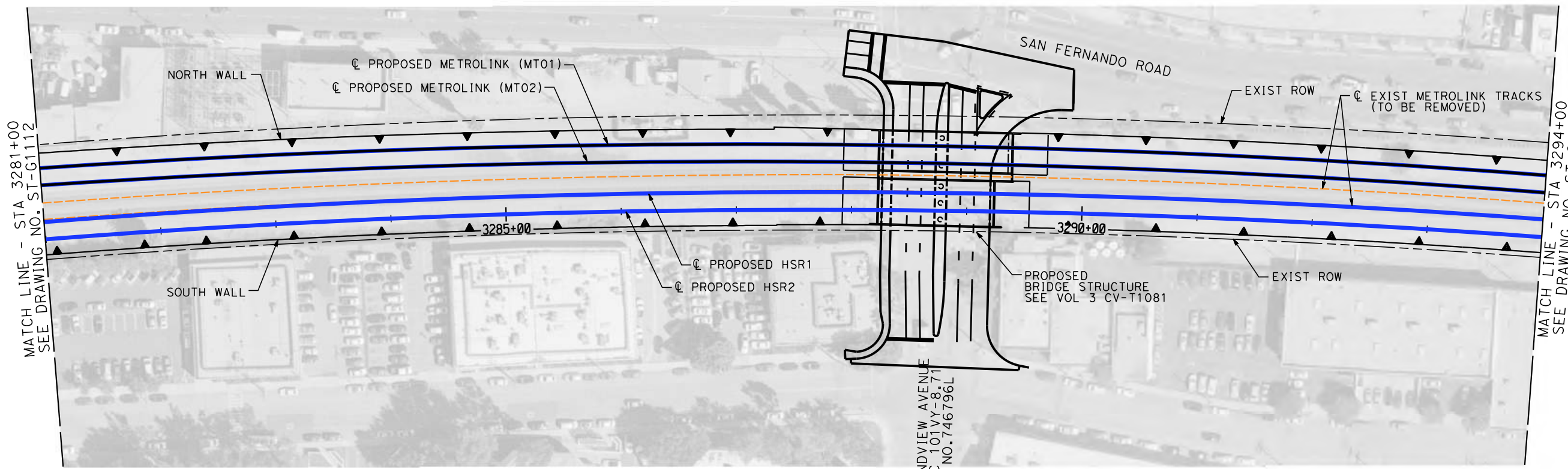
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ST-G1112

SCALE
AS SHOWN

SHEET NO.

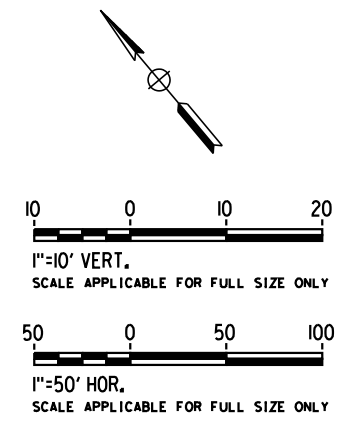


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

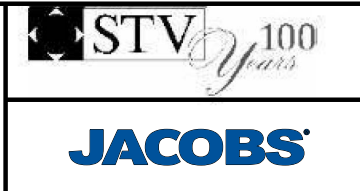
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

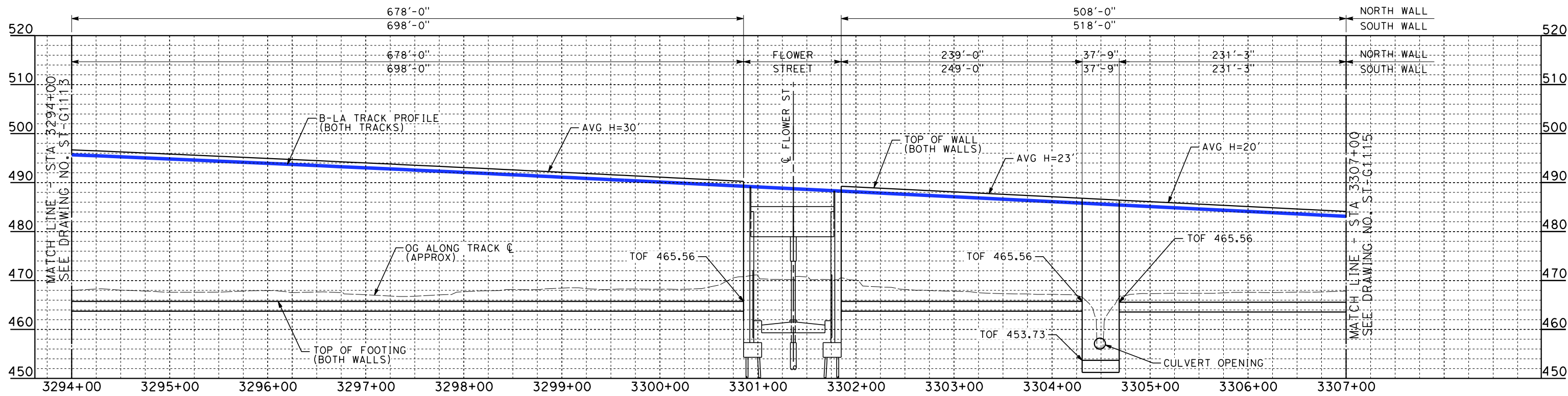
PEPD
 HSR - RETAINING WALL
 HSR2 3281+00 TO HSR2 3294+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1113

SCALE
AS SHOWN

SHEET NO.

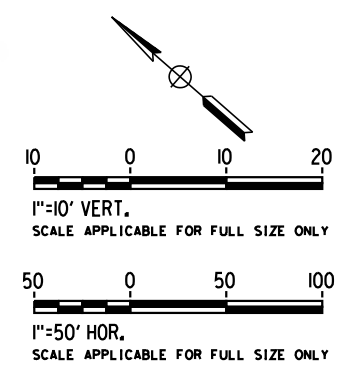


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
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K. PIRBAZARI

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K. PIRBAZARI

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PEPD RECORD SET

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

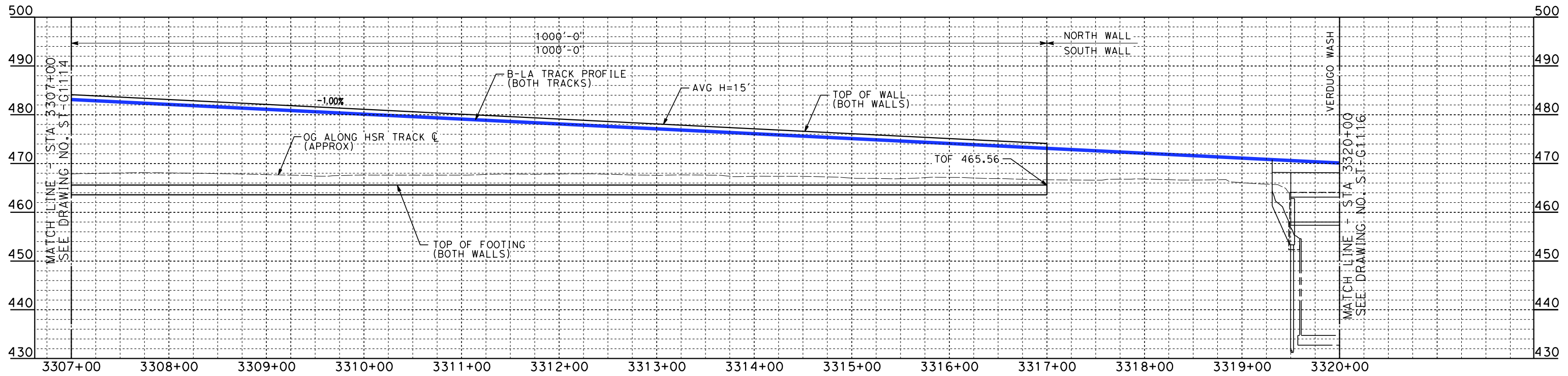
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 HSR - RETAINING WALL
 HSR2 3294+00 TO HSR2 3307+00

CONTRACT NO.
HSR14-39

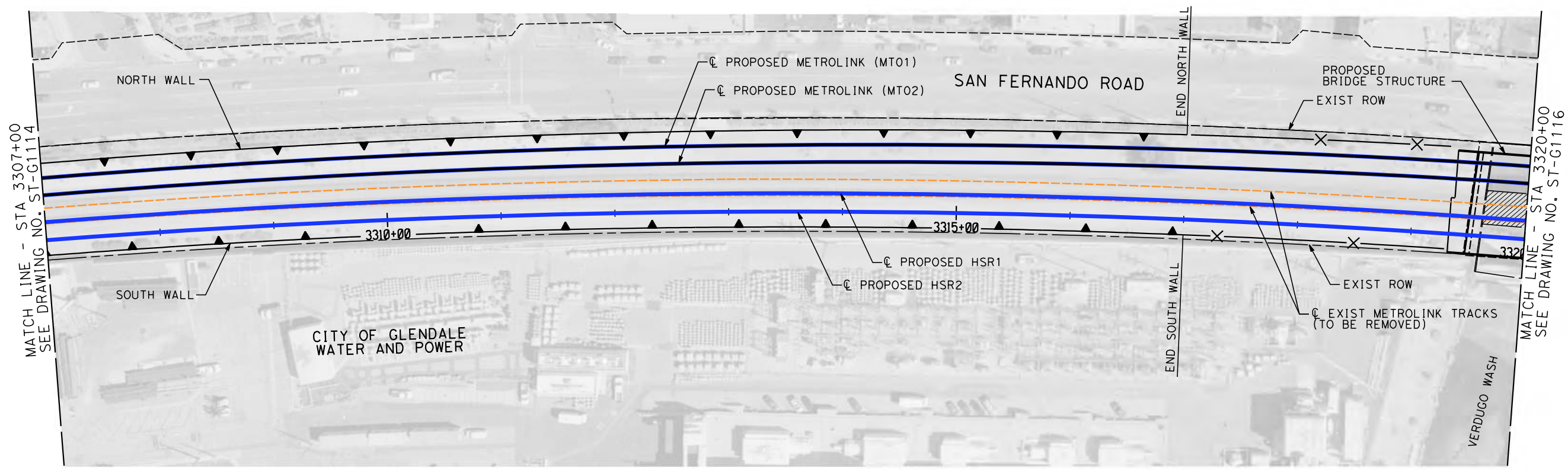
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SCALE
AS SHOWN

SHEET NO.

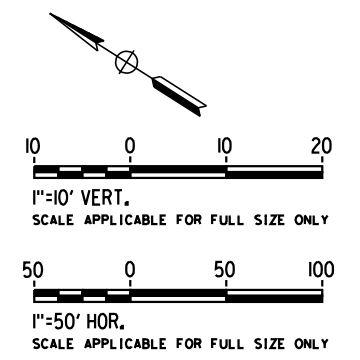


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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4/30/2019 10:31:39 AM c:\j\p\pwworkdir\haynesma\d0137171\k2l-st-g1115.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

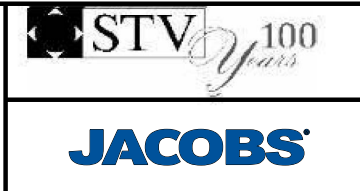
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

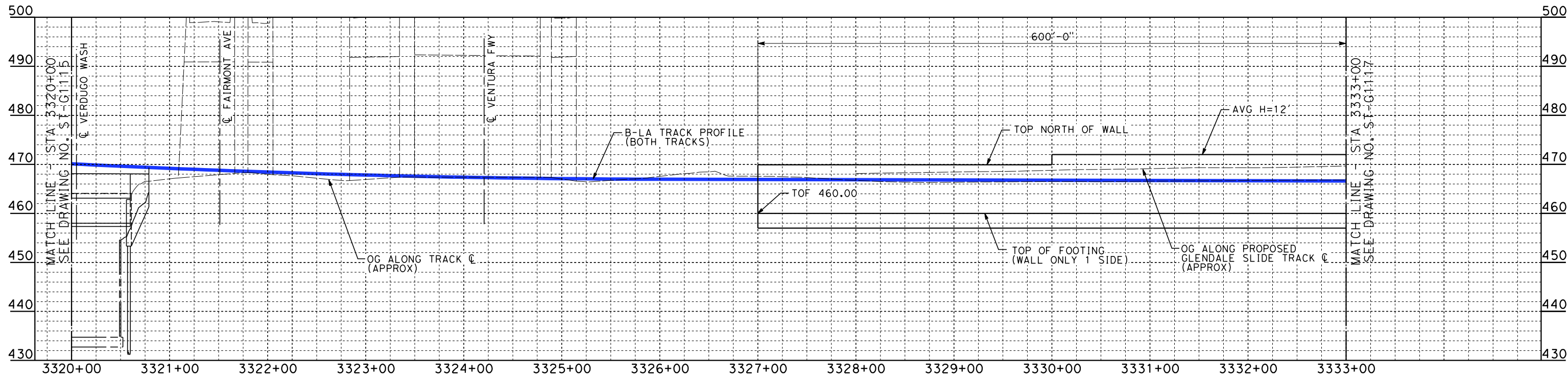
PEPD
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 HSR2 3307+00 TO HSR2 3320+00

CONTRACT NO.
HSR14-39

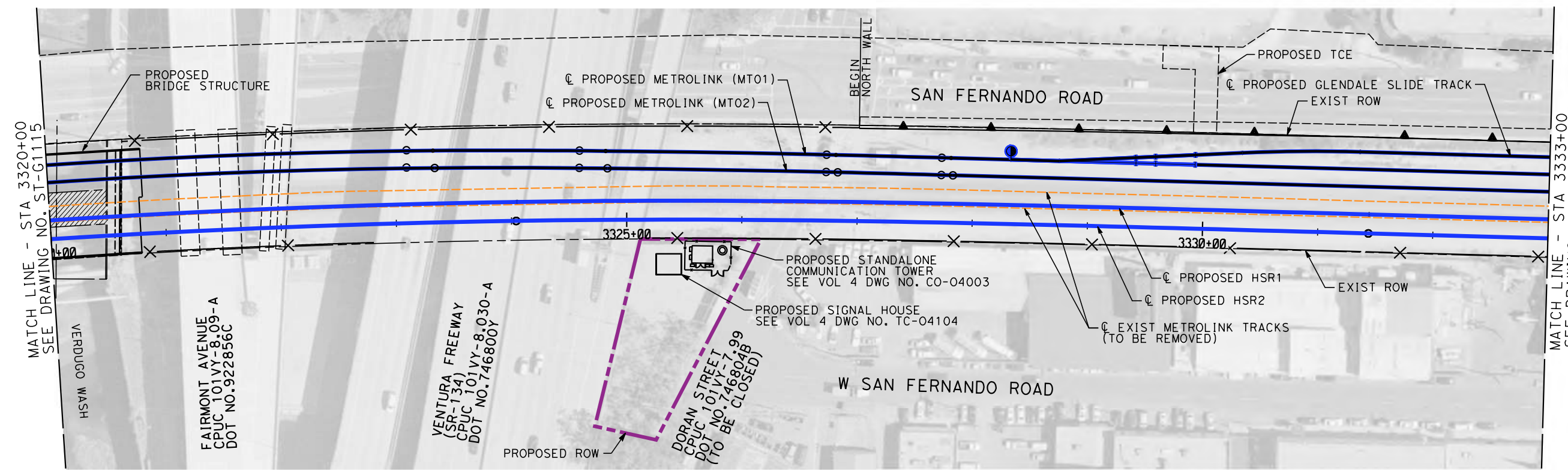
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ST-G1115

SCALE
AS SHOWN

SHEET NO.

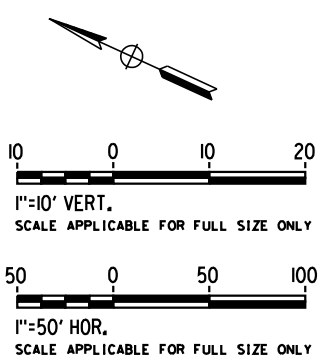


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

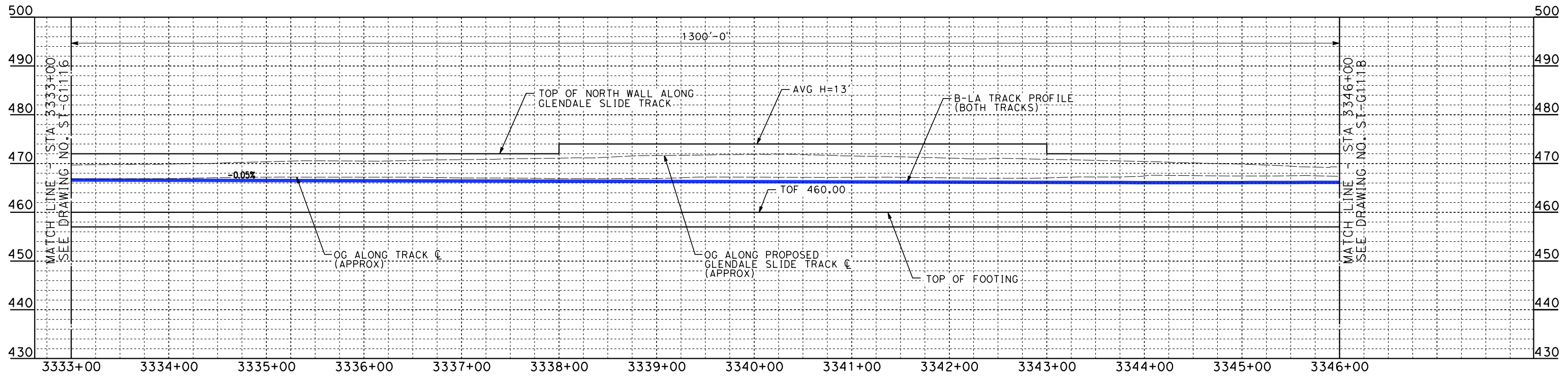
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CONTRACT NO.
HSR14-39

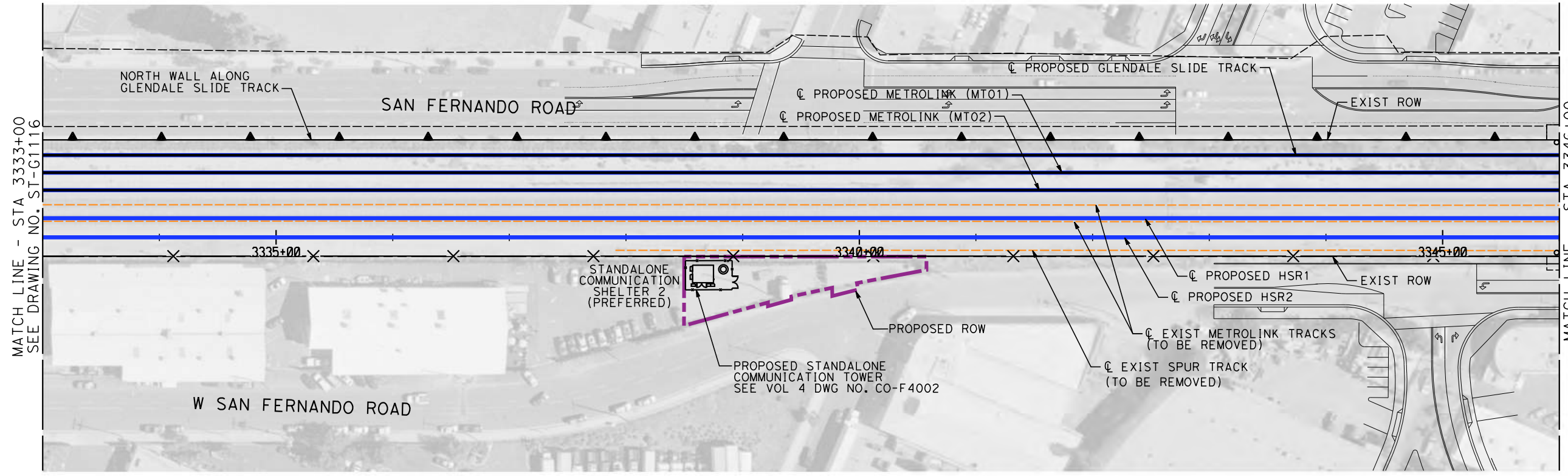
DRAWING NO.
ST-G1116

SCALE
AS SHOWN

SHEET NO.



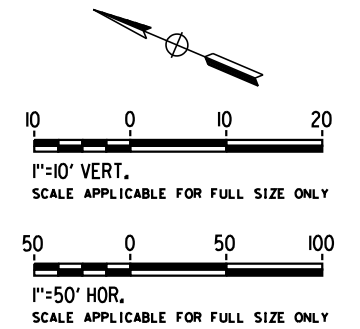
ELEVATION
VERT.: 1"=10'
HORZ.: 1"=50'



PLAN
SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

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K. PIRBAZARI

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K. PIRBAZARI

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04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

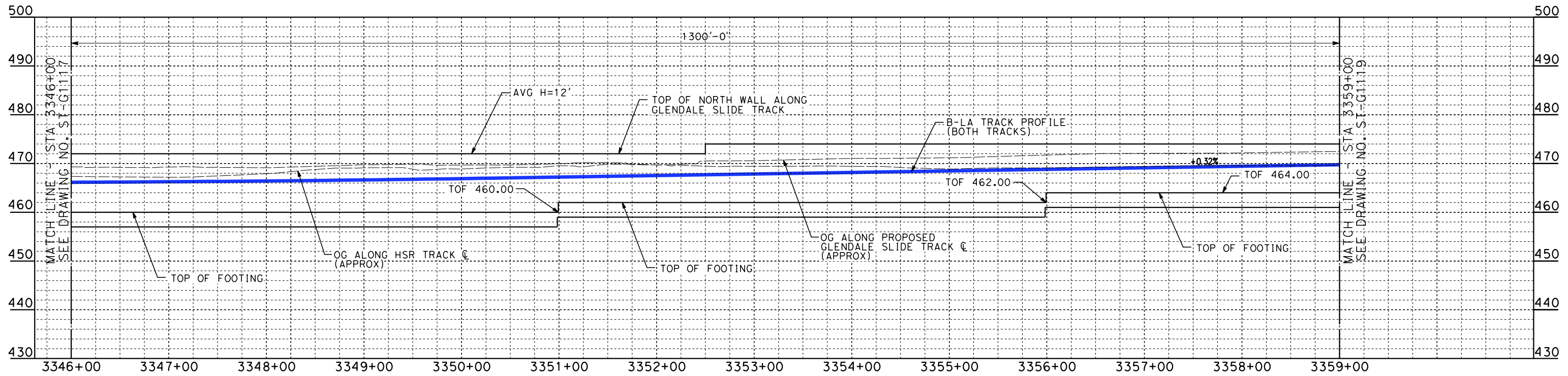
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CONTRACT NO.
HSR14-39

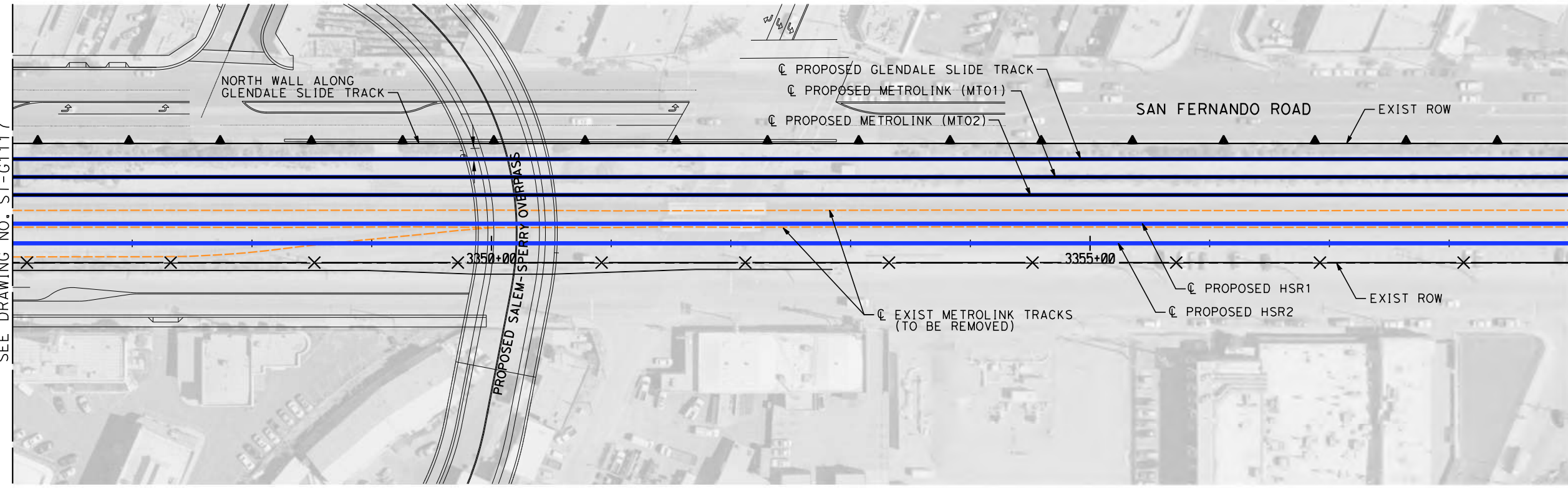
DRAWING NO.
ST-G1117

SCALE
AS SHOWN

SHEET NO.

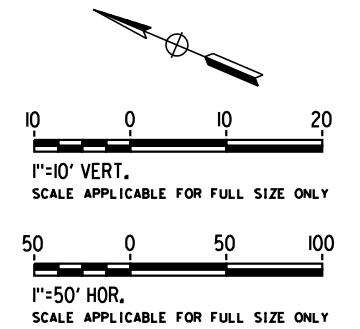


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HACHIGHI

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P. ZUCCHI

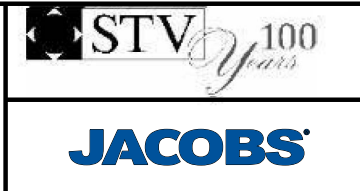
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

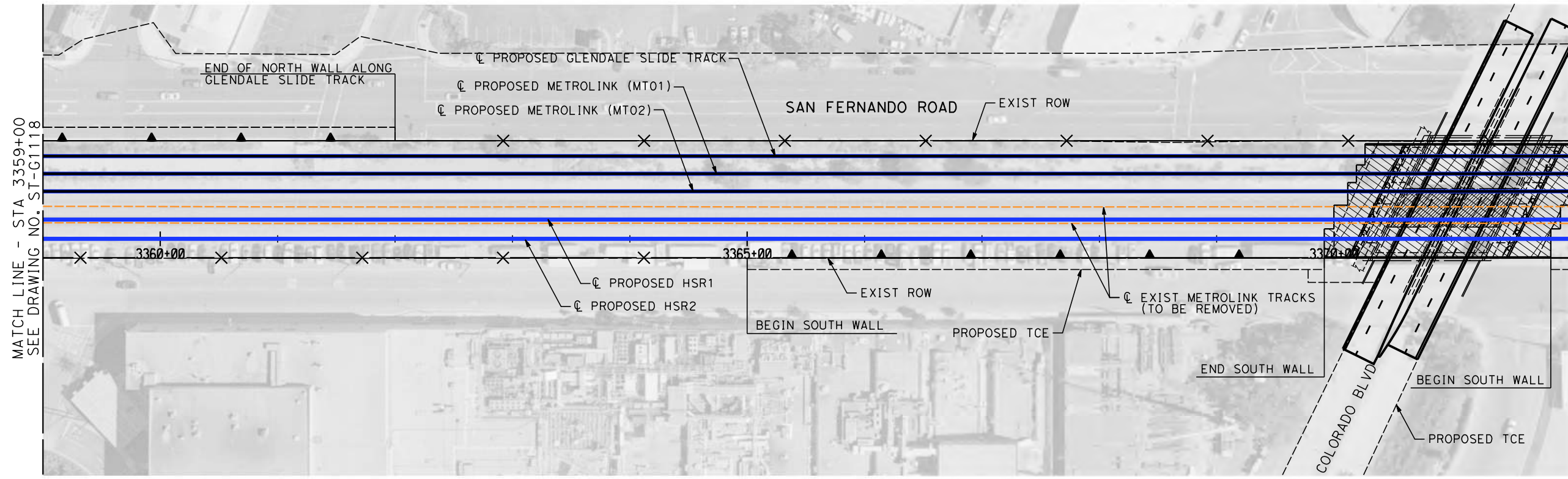
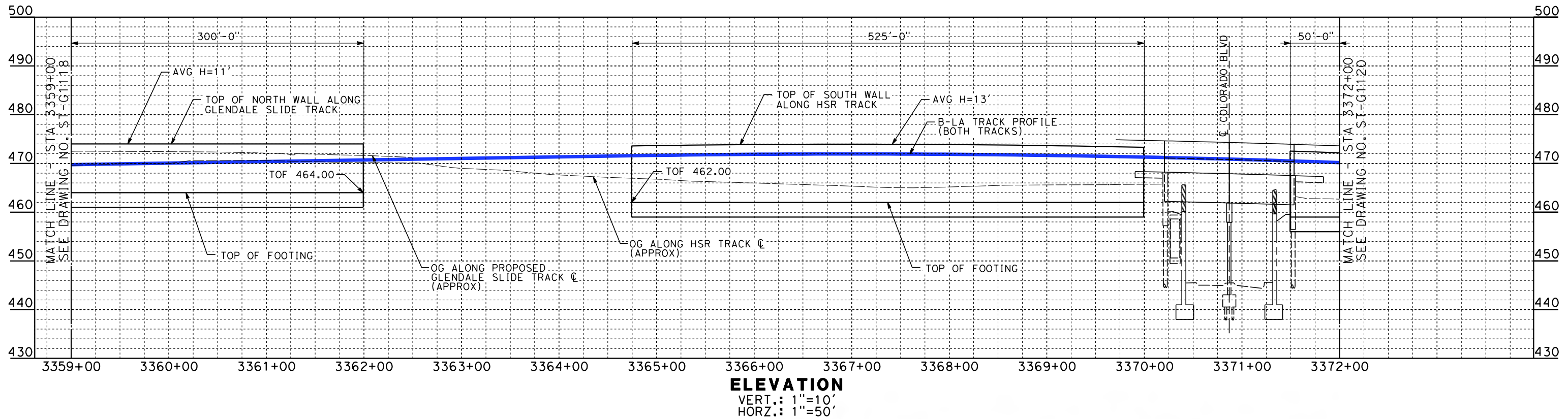
PEPD
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CONTRACT NO.
HSR14-39

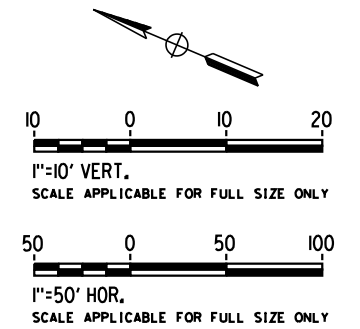
DRAWING NO.
ST-G1118

SCALE
AS SHOWN

SHEET NO.



- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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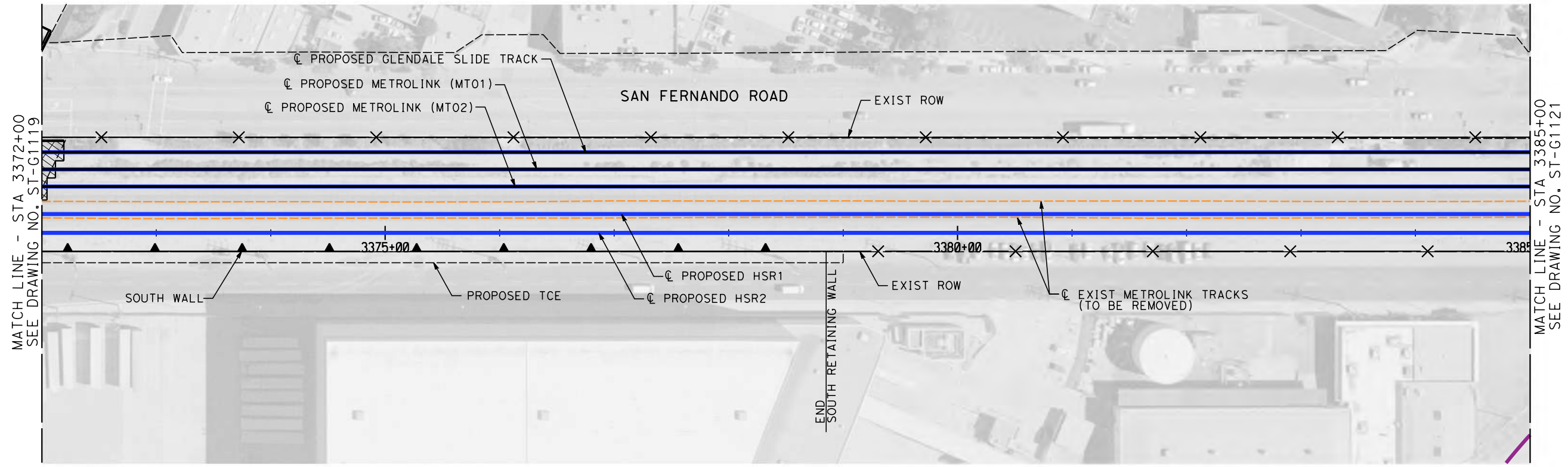
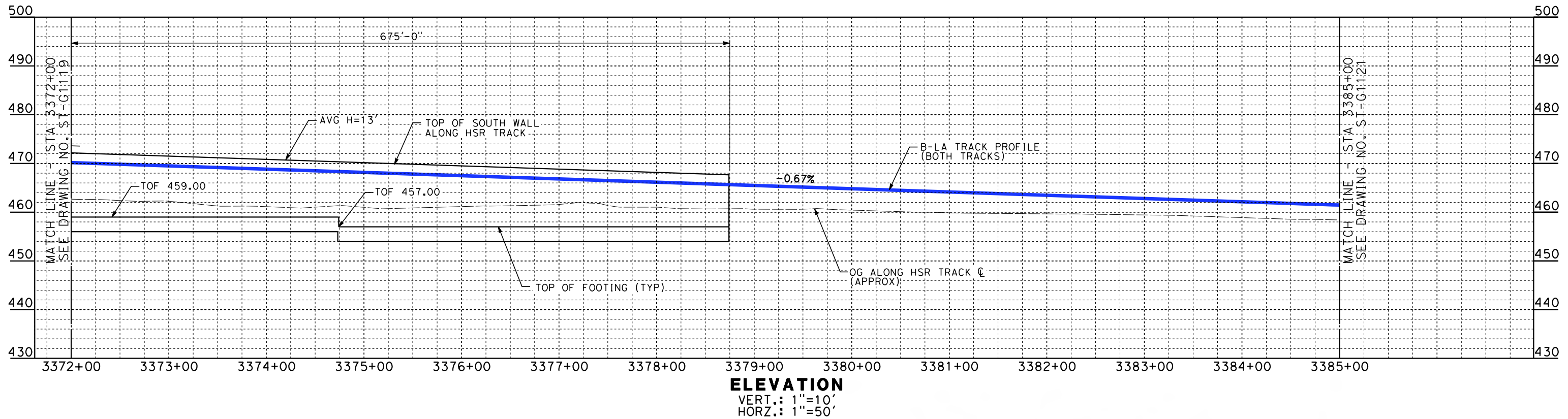
PEPD
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 HSR2 3359+00 TO HSR2 3372+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1119

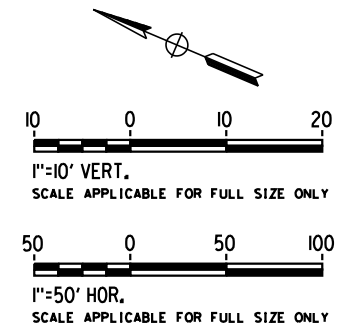
SCALE
AS SHOWN

SHEET NO.



PLAN
SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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BURBANK TO LOS ANGELES**

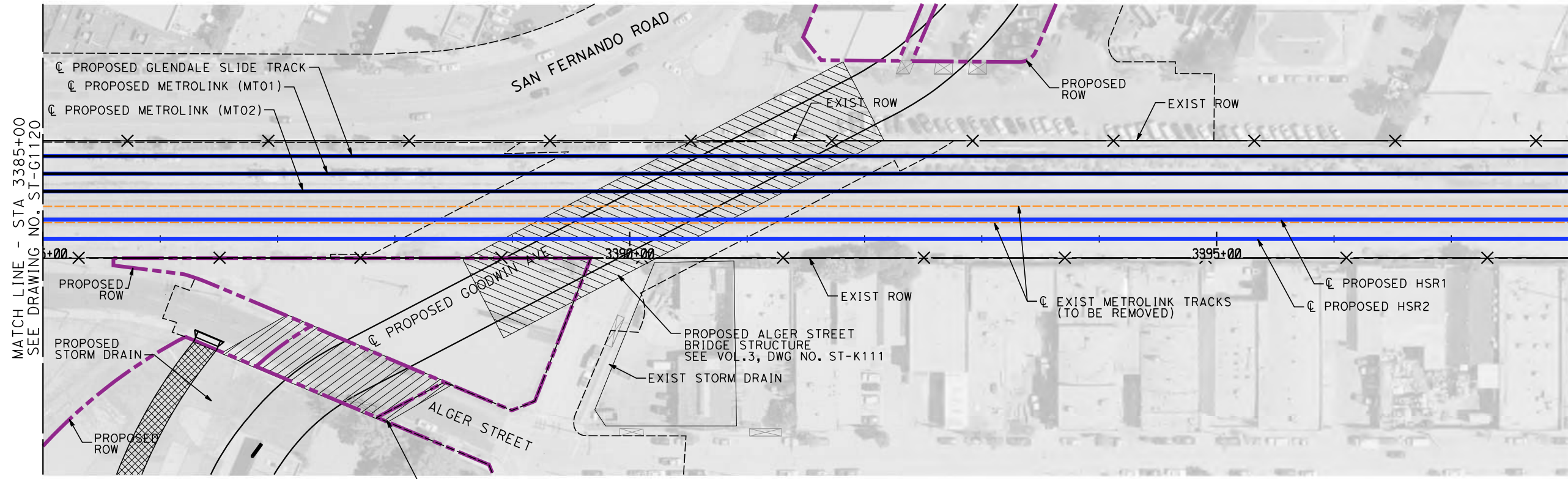
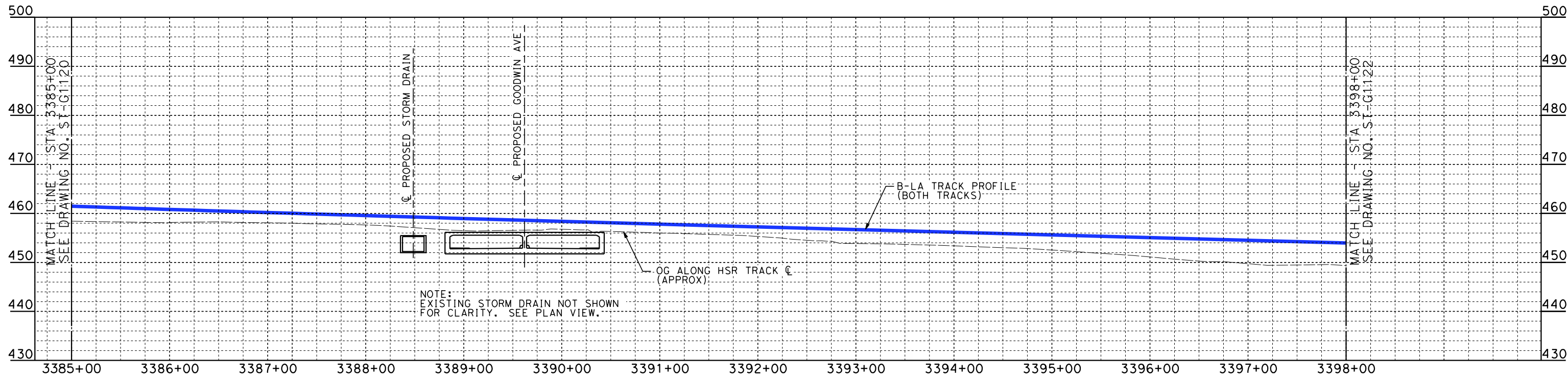
PEPD
HSR - RETAINING WALL
HSR2 3372+00 TO HSR2 3385+00

CONTRACT NO.
HSR14-39

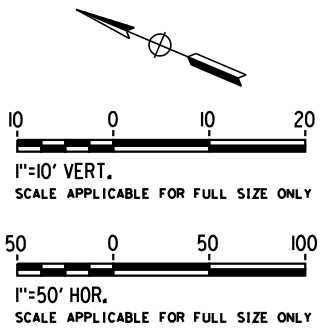
DRAWING NO.
ST-G1120

SCALE
AS SHOWN

SHEET NO.



- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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BURBANK TO LOS ANGELES

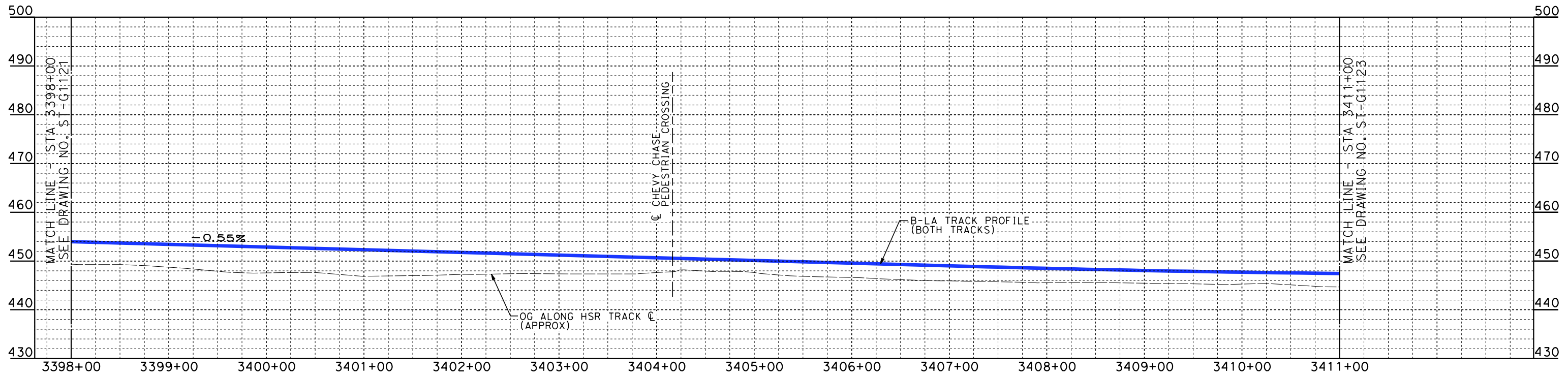
PEPD
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CONTRACT NO.
HSR14-39

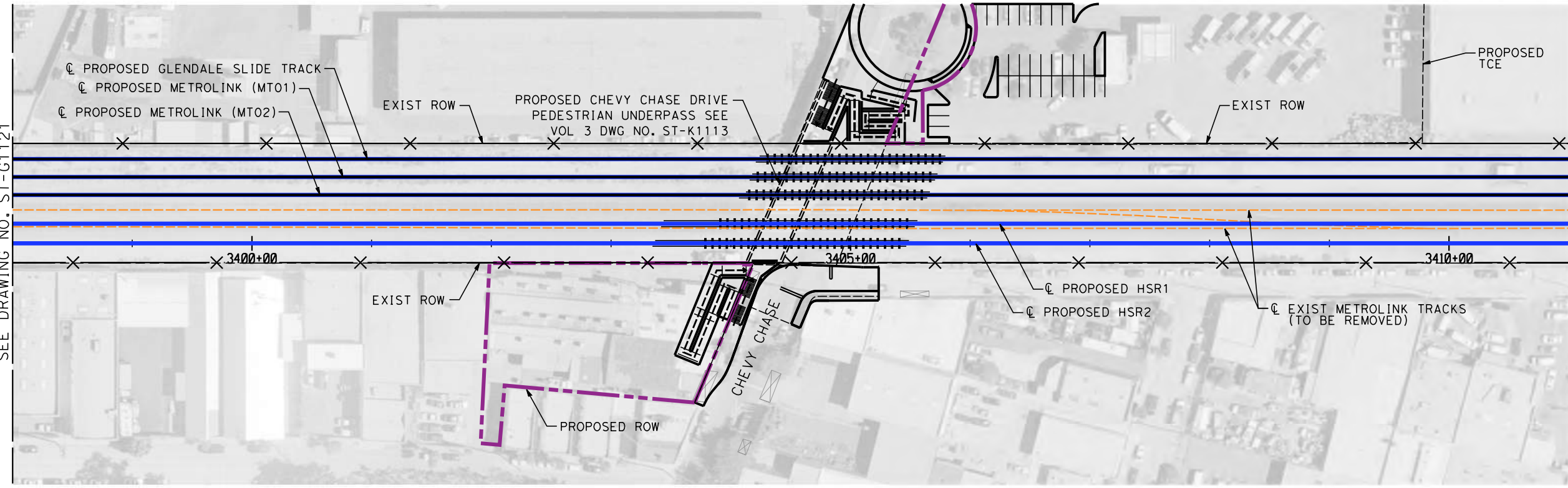
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SCALE
AS SHOWN

SHEET NO.



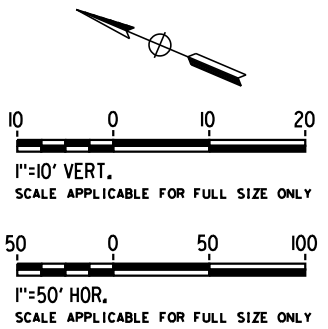
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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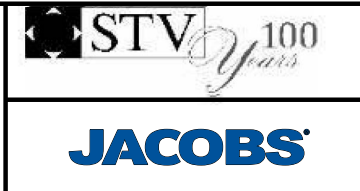
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P. ZUCCHI
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K. PIRBAZARI
 IN CHARGE
K. PIRBAZARI
 DATE
04/30/2019

PEPD RECORD SET

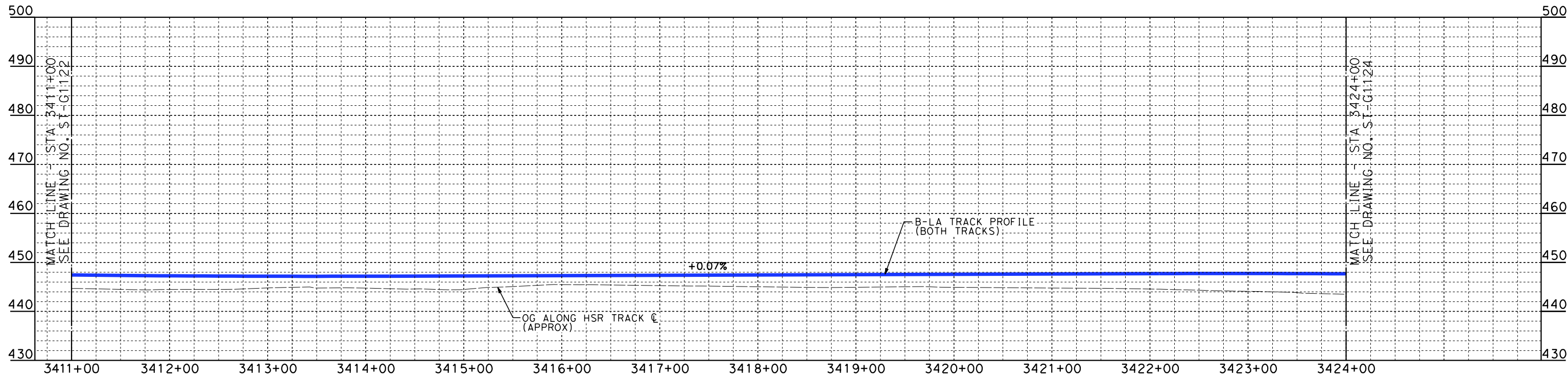
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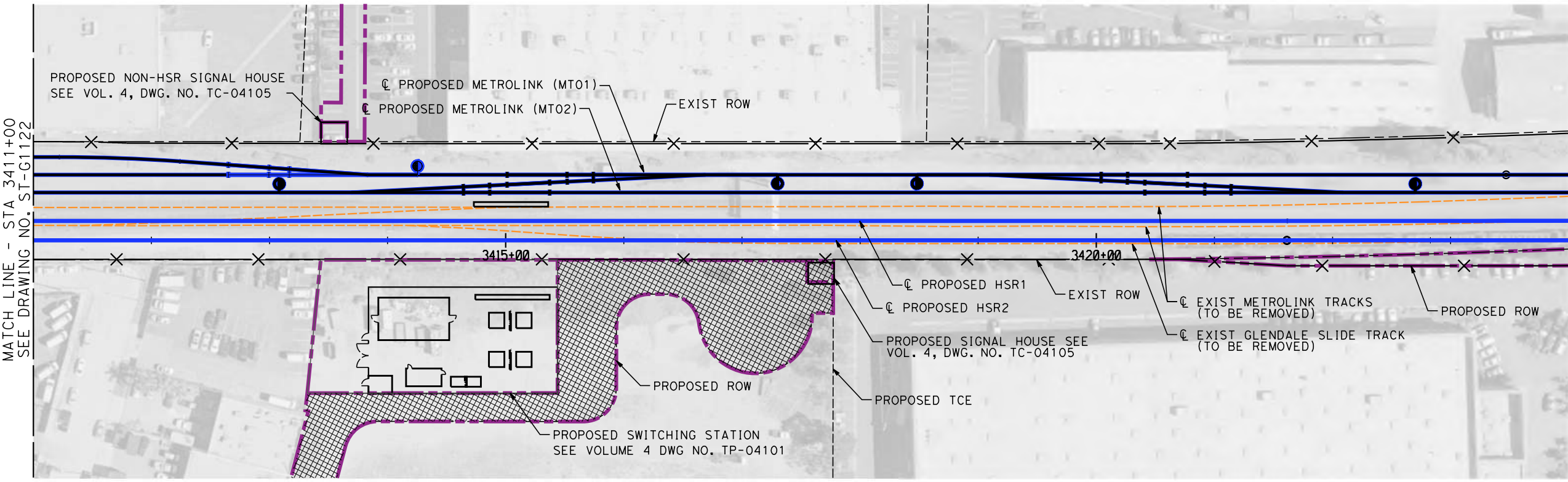
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

 PEPD
 HSR - RETAINING WALL
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CONTRACT NO.
HSR14-39
 DRAWING NO.
ST-G1122
 SCALE
AS SHOWN
 SHEET NO.

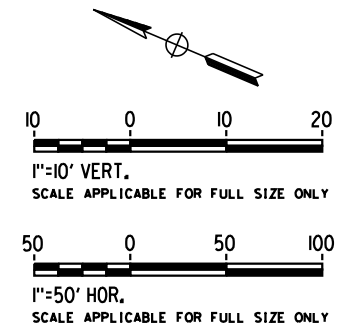


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

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P. ZUCCHI

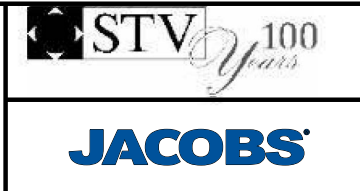
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K. PIRBAZARI

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K. PIRBAZARI

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BURBANK TO LOS ANGELES

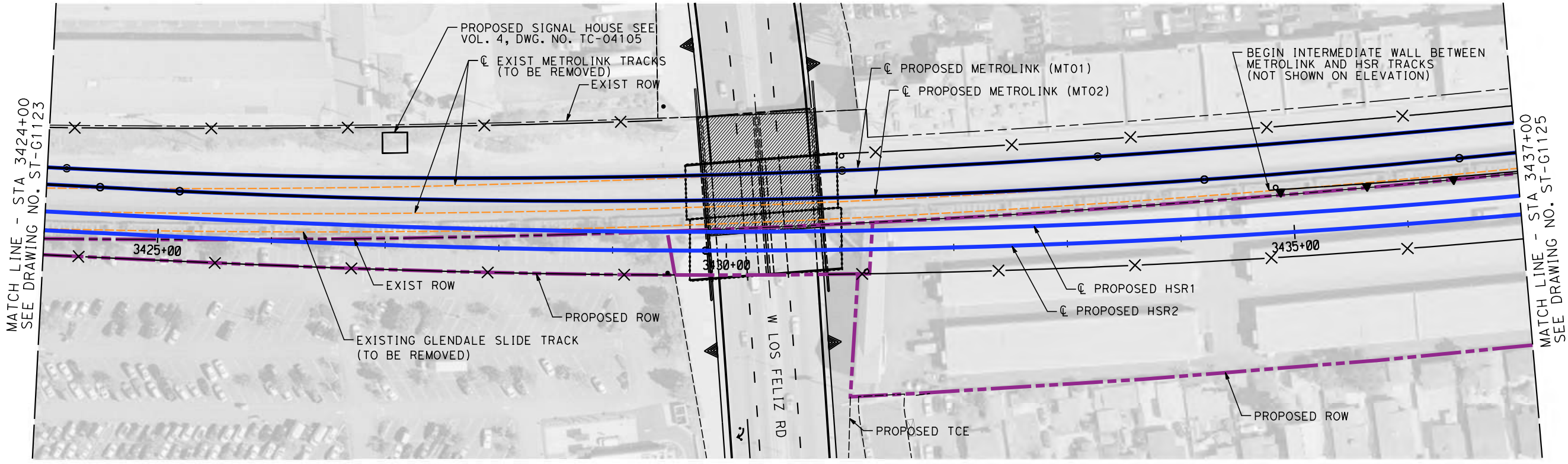
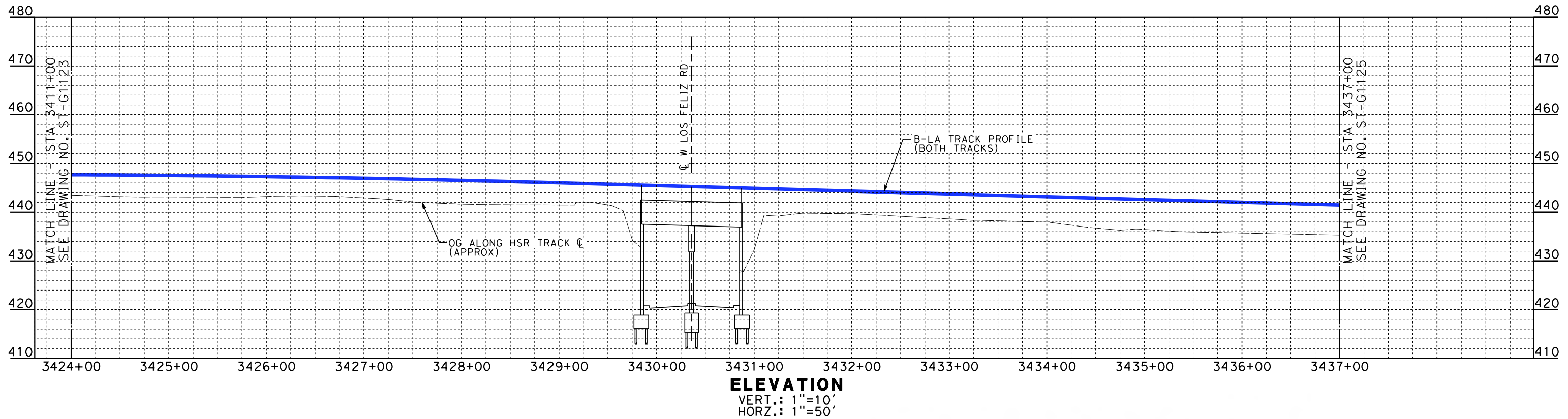
PEPD
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CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1123

SCALE
AS SHOWN

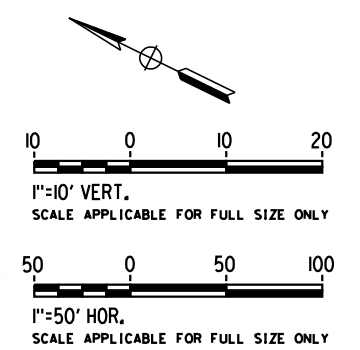
SHEET NO.



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG C
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

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D. HAGHIGHI

DRAWN BY
P. ZUCCHI

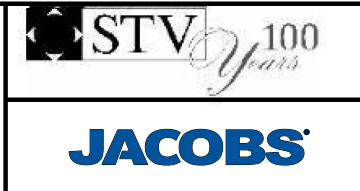
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K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

**PEPD
 RECORD SET**

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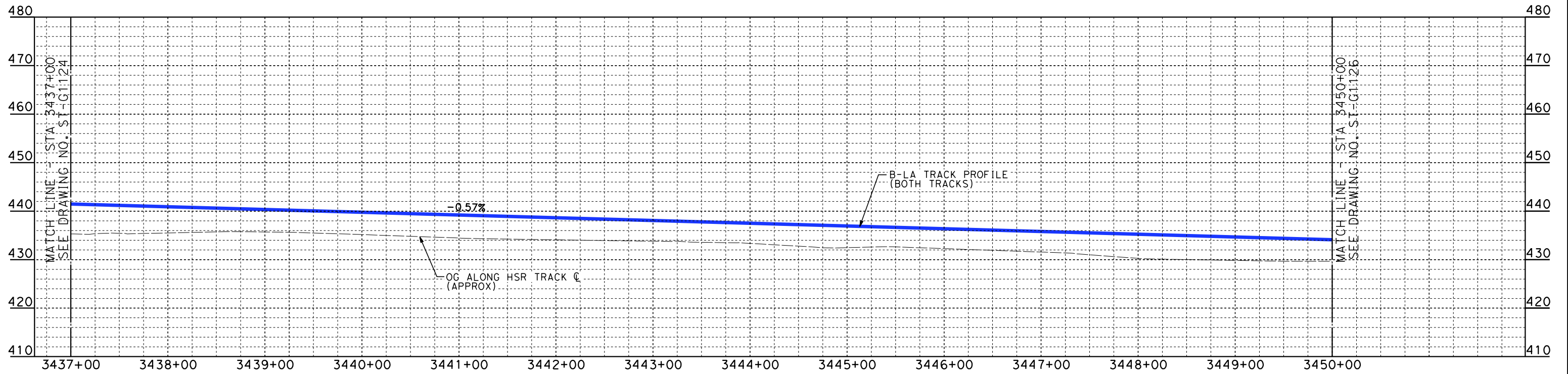
PEPD
 HSR - RETAINING WALL
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CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1124

SCALE
AS SHOWN

SHEET NO.



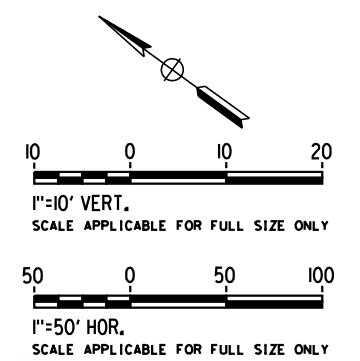
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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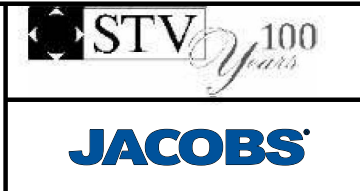
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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 DRAWN BY
P. ZUCCHI
 CHECKED BY
K. PIRBAZARI
 IN CHARGE
K. PIRBAZARI
 DATE
04/30/2019

PEPD RECORD SET

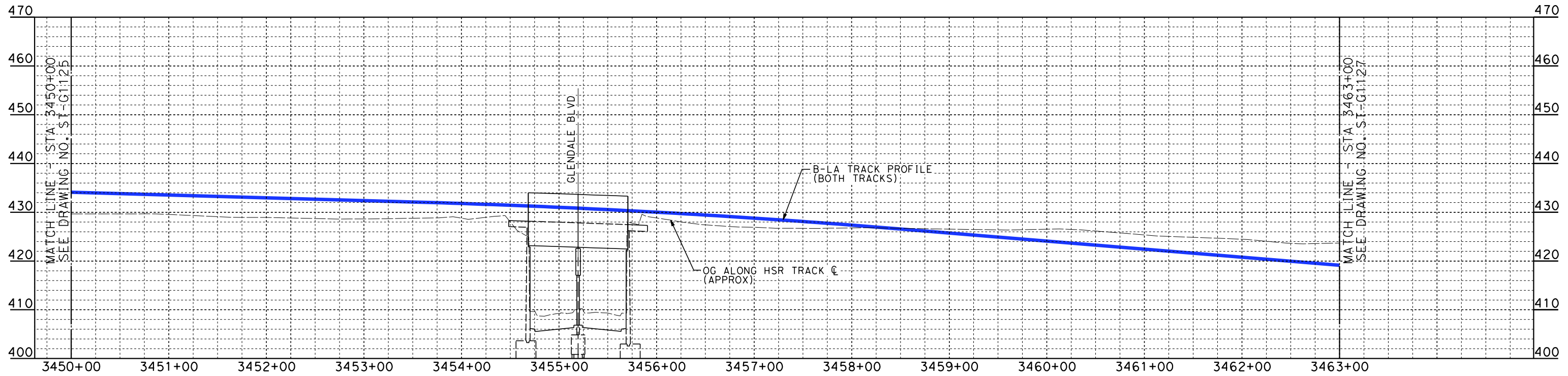
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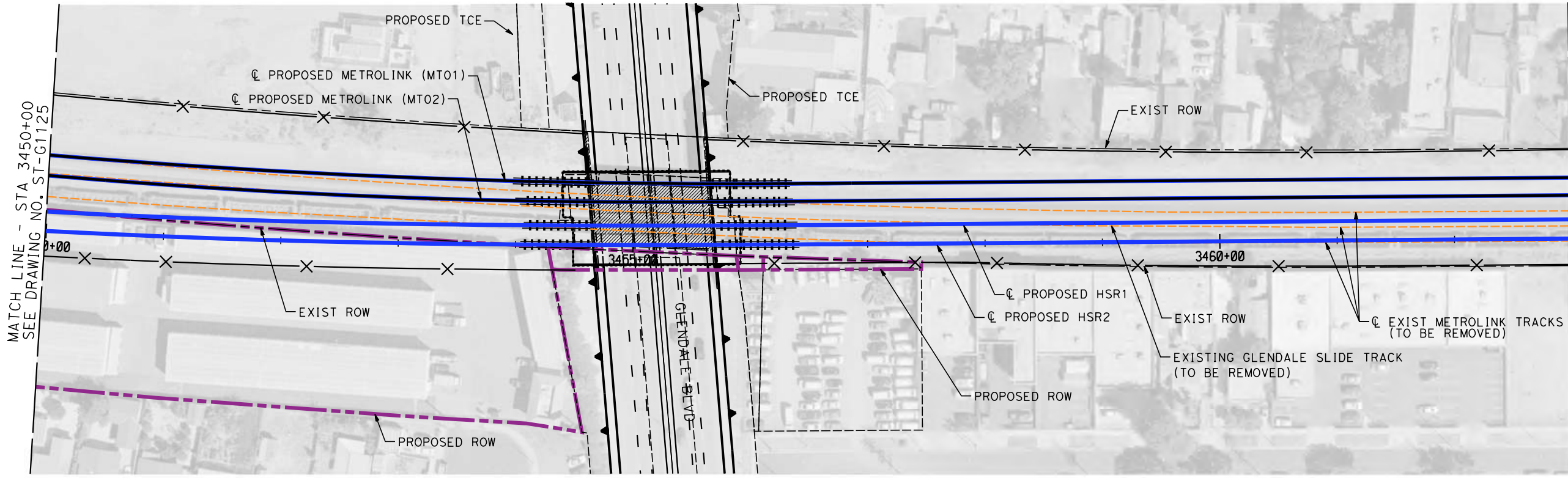
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

 PEPD
 HSR - RETAINING WALL
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CONTRACT NO.
 HSR14-39
 DRAWING NO.
 ST-G1125
 SCALE
 AS SHOWN
 SHEET NO.



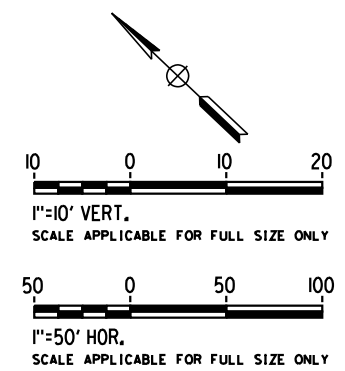
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

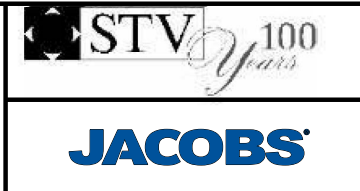
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

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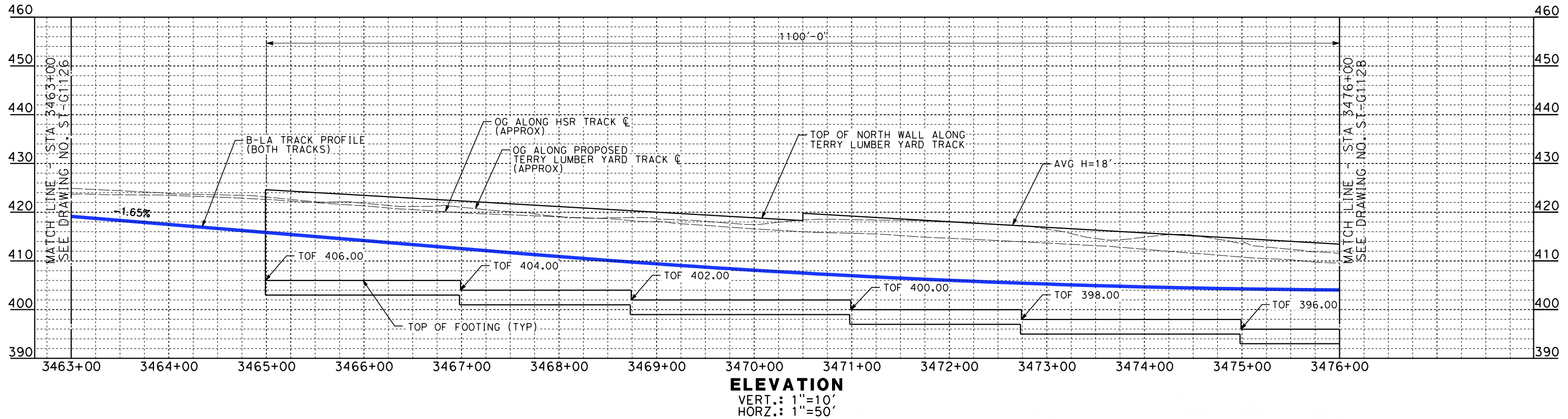
PEPD
 HSR - RETAINING WALL
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CONTRACT NO.
HSR14-39

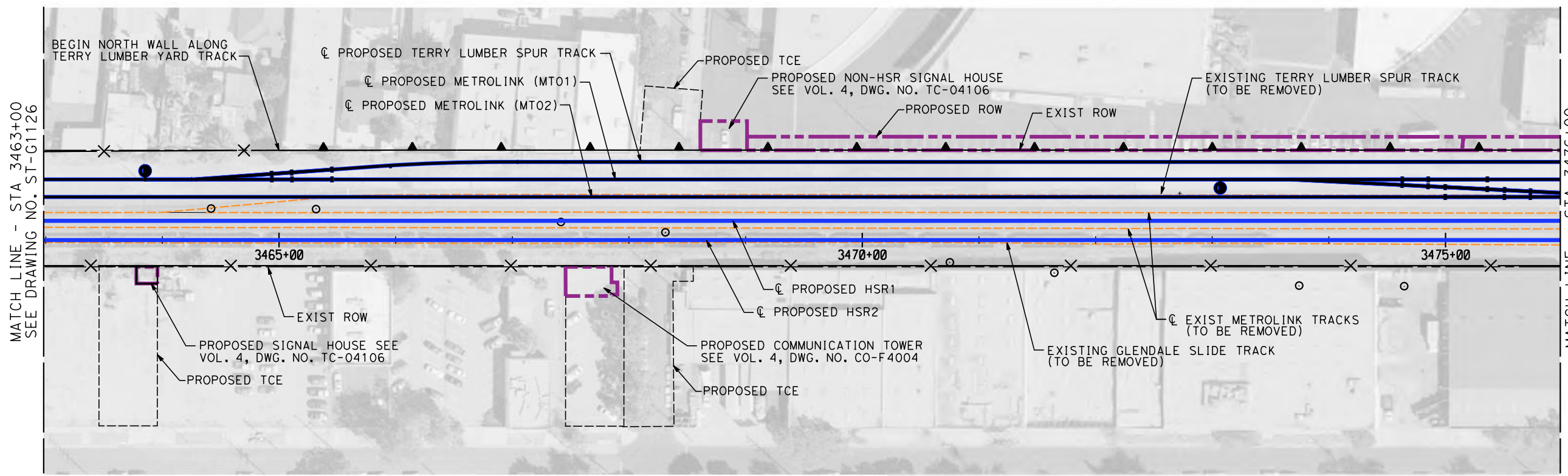
DRAWING NO.
ST-G1126

SCALE
AS SHOWN

SHEET NO.

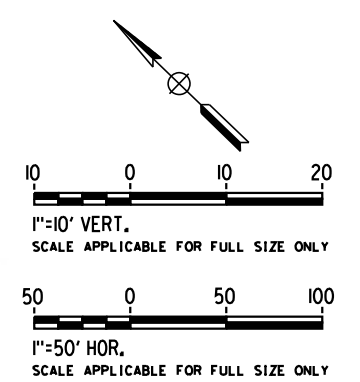


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

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K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

PEPD RECORD SET

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

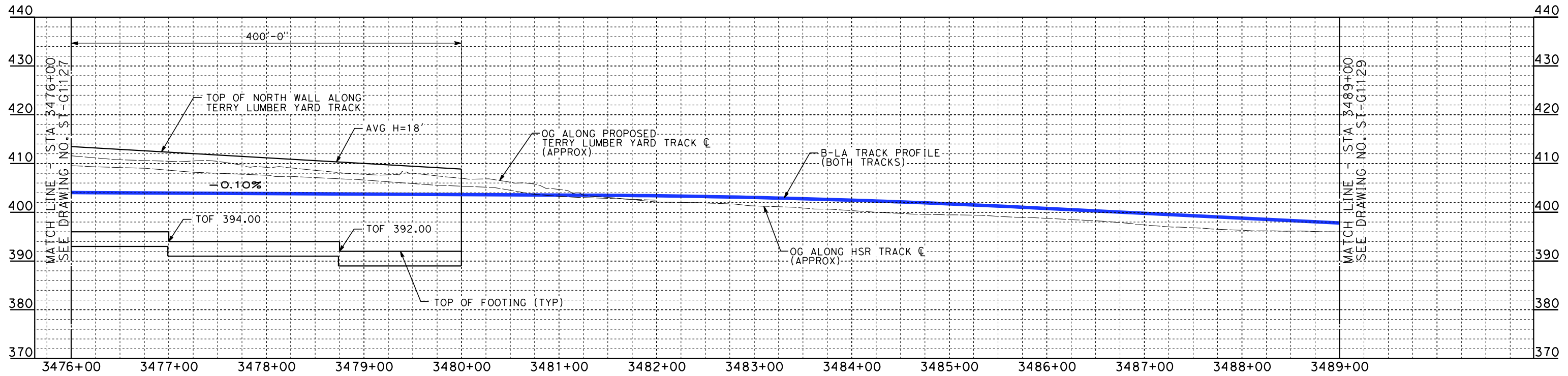
PEPD
 HSR - RETAINING WALL
 HSR2 3463+00 TO HSR2 3476+00

CONTRACT NO.
HSR14-39

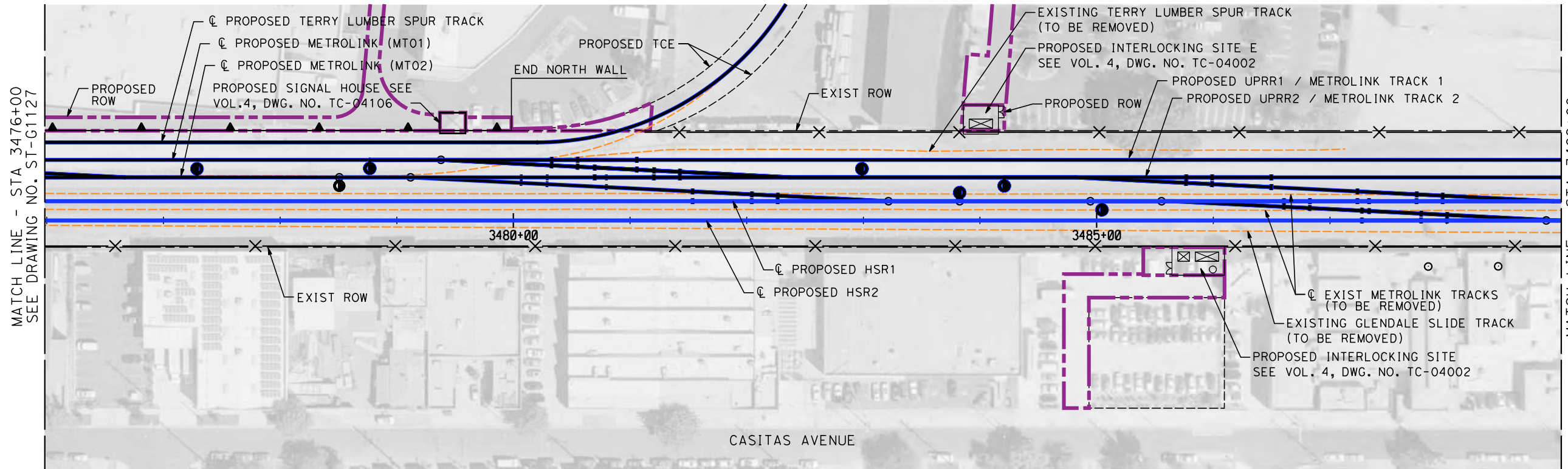
DRAWING NO.
ST-G1127

SCALE
AS SHOWN

SHEET NO.



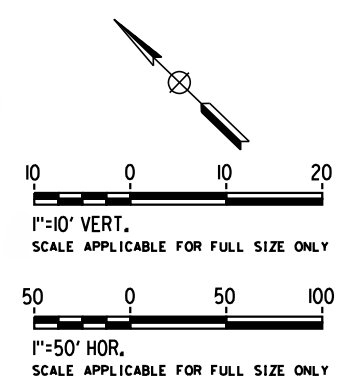
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

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P. ZUCCHI

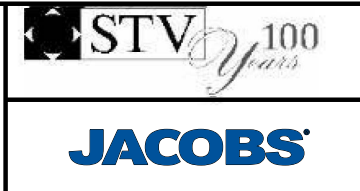
CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
 RECORD SET**

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 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**

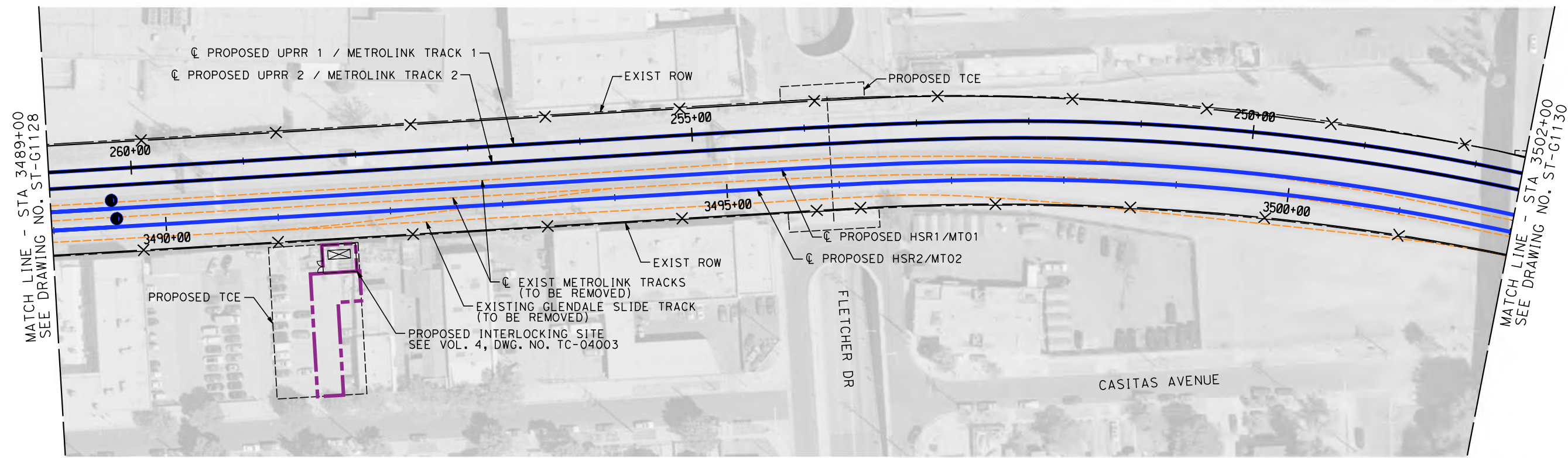
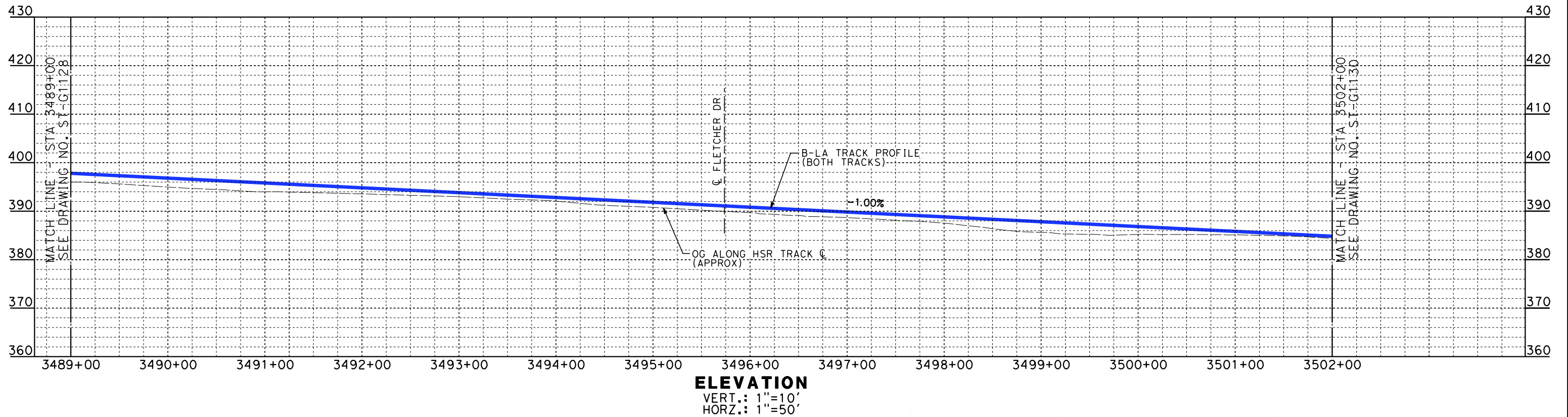
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 HSR2 3476+00 TO HSR2 3489+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1128

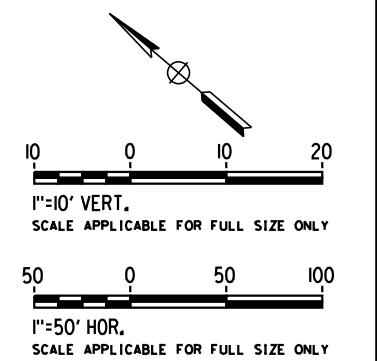
SCALE
AS SHOWN

SHEET NO.



PLAN
SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

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P. ZUCCHI

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K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

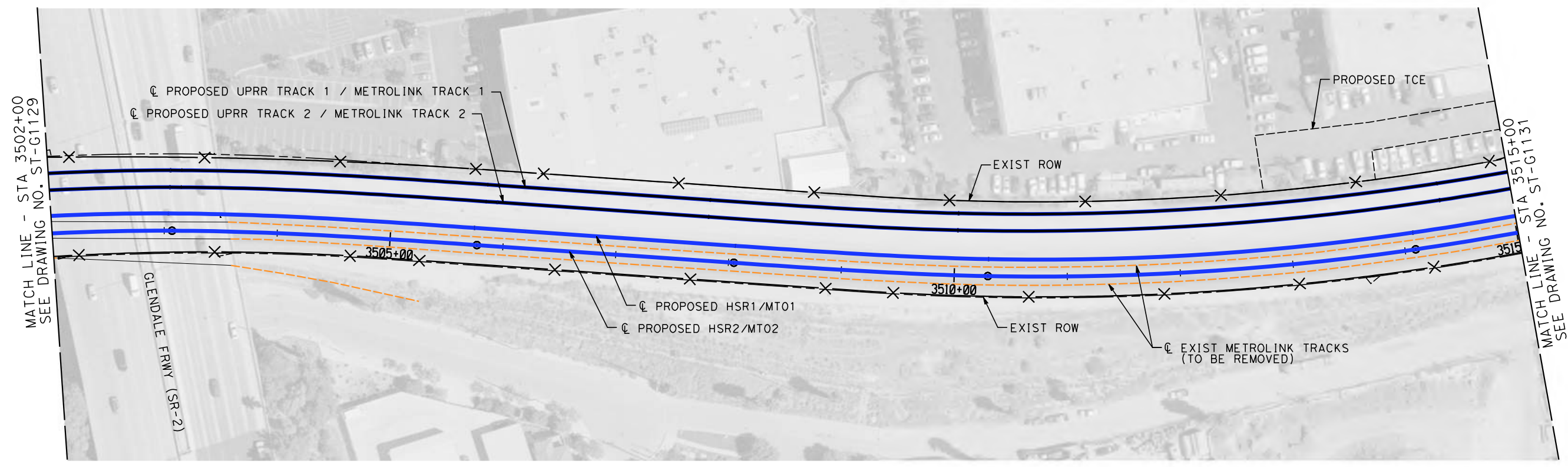
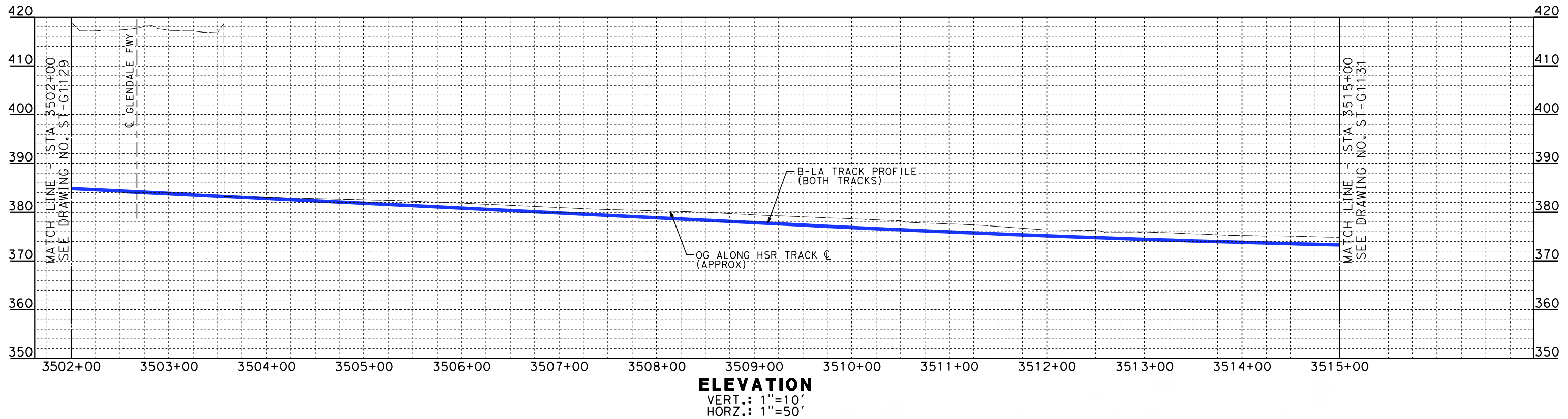
PEPD
HSR - RETAINING WALL
HSR2 3489+00 TO HSR2 3502+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1129

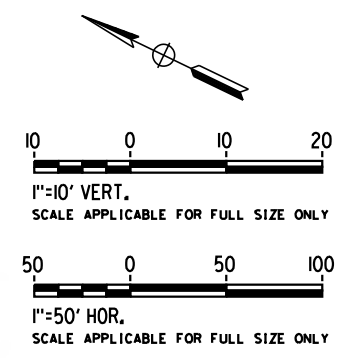
SCALE
AS SHOWN

SHEET NO.



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C_E PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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DESIGNED BY
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P. ZUCCHI

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
 RECORD SET**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**

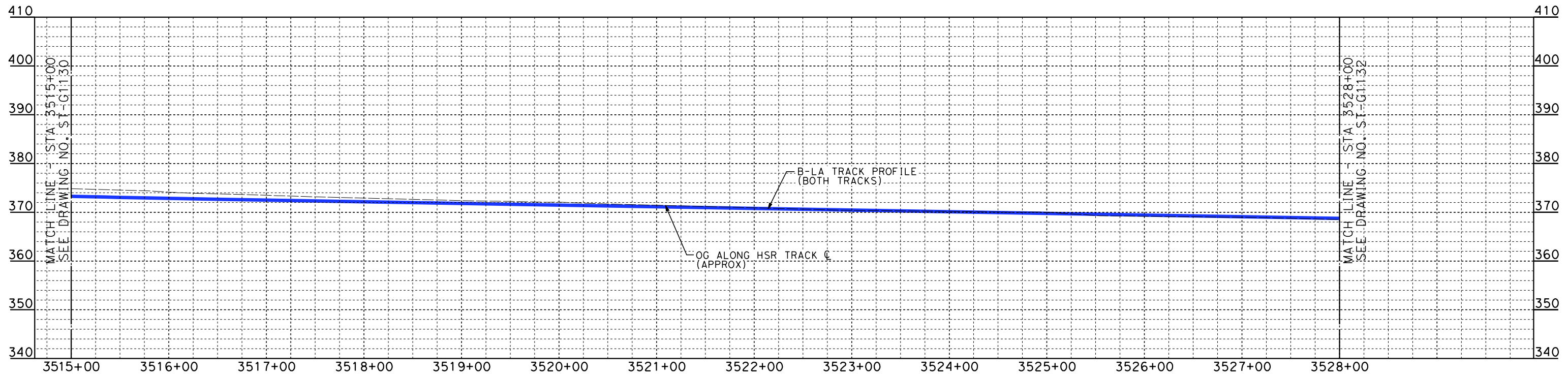
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CONTRACT NO.
HSR14-39

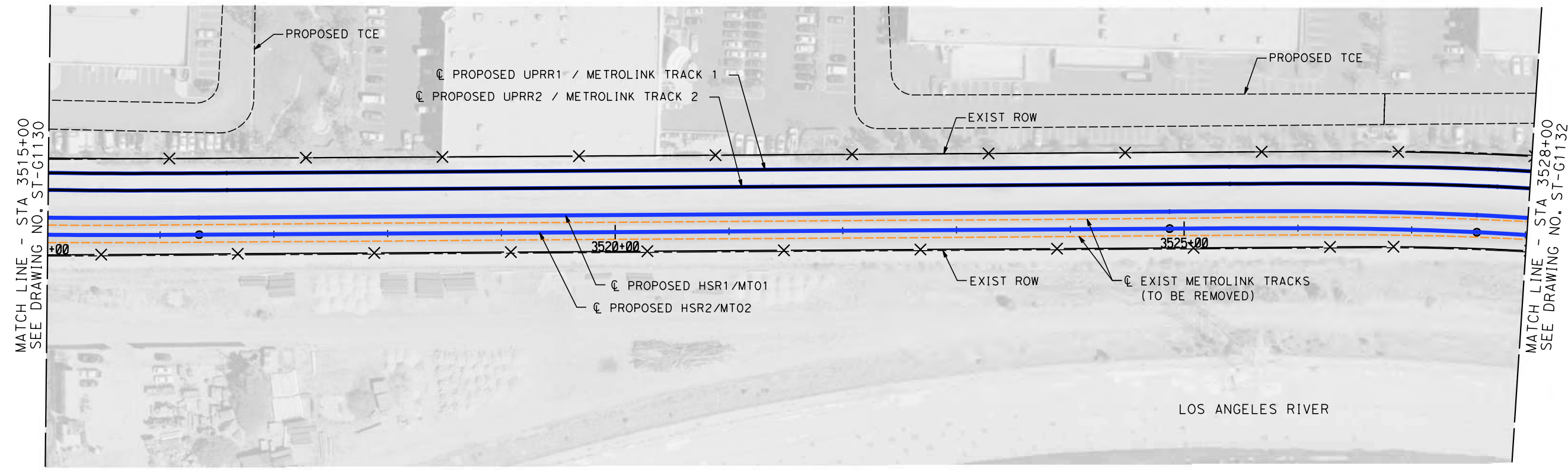
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SCALE
AS SHOWN

SHEET NO.

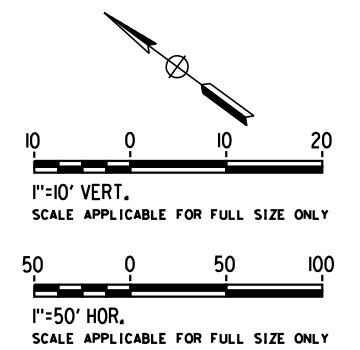


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C_E PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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P. ZUCCHI

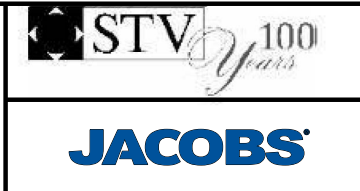
CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
 RECORD SET**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**

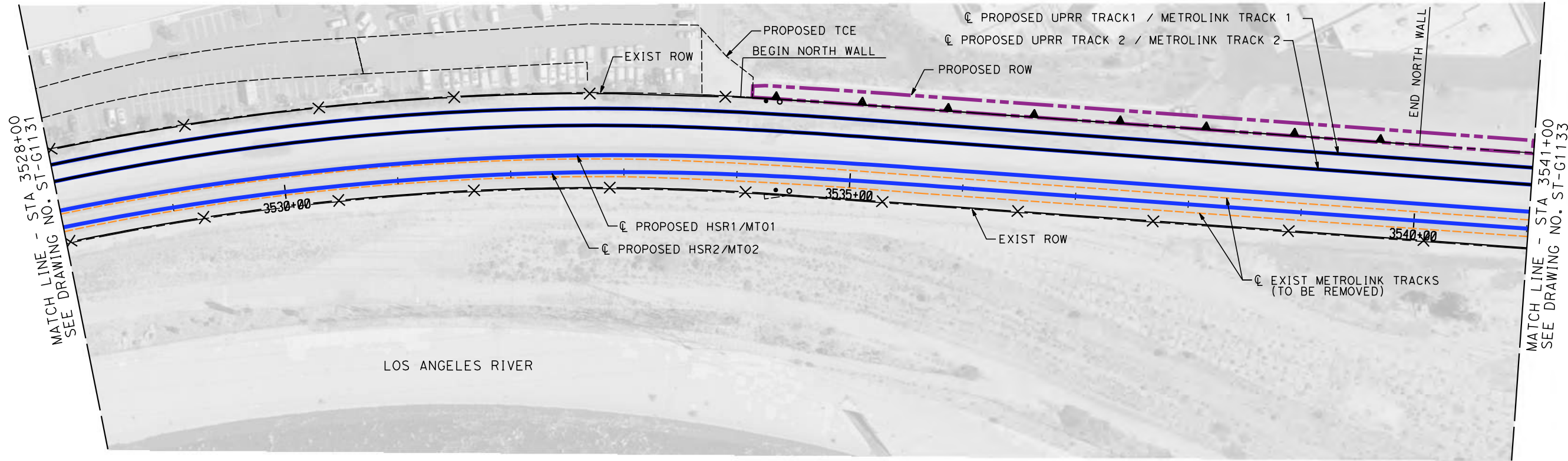
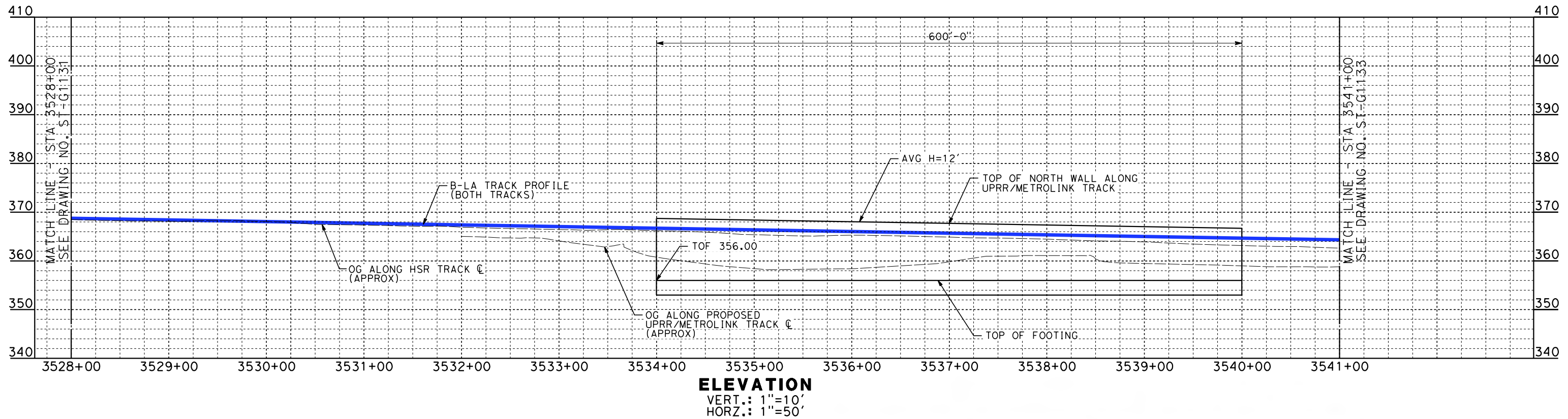
PEPD
 HSR - RETAINING WALL
 HSR2 3515+00 TO HSR2 3528+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1131

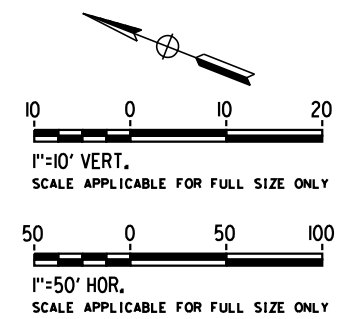
SCALE
AS SHOWN

SHEET NO.



PLAN
SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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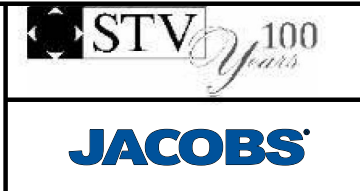
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DESIGNED BY
D. HAGHIGHI
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P. ZUCCHI
CHECKED BY
K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
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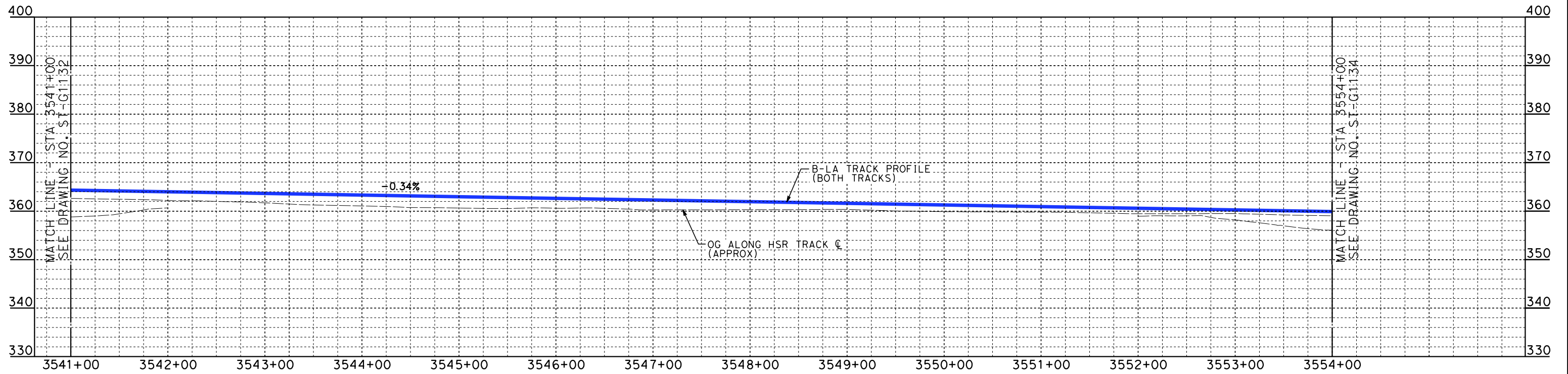
**NOT FOR
CONSTRUCTION**



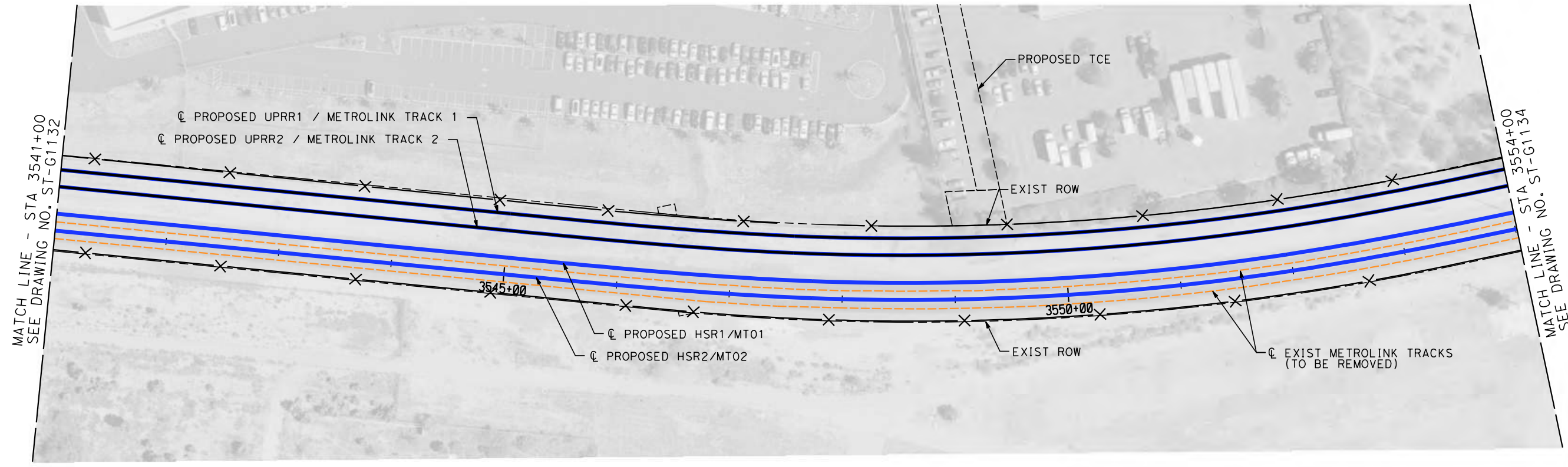
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
HSR - RETAINING WALL
HSR2 3528+00 TO HSR2 3541+00

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-G1132
SCALE
AS SHOWN
SHEET NO.

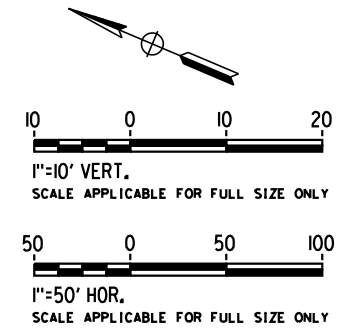


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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DESIGNED BY
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P. ZUCCHI

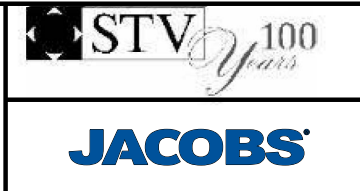
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

PEPD RECORD SET

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BURBANK TO LOS ANGELES

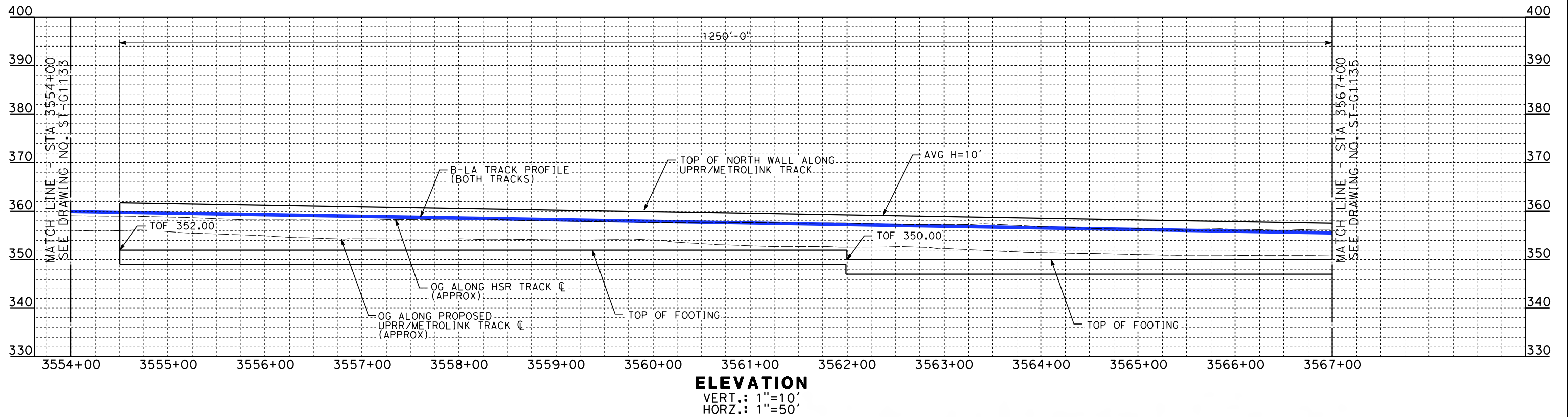
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 HSR2 3541+00 TO HSR2 3554+00

CONTRACT NO.
HSR14-39

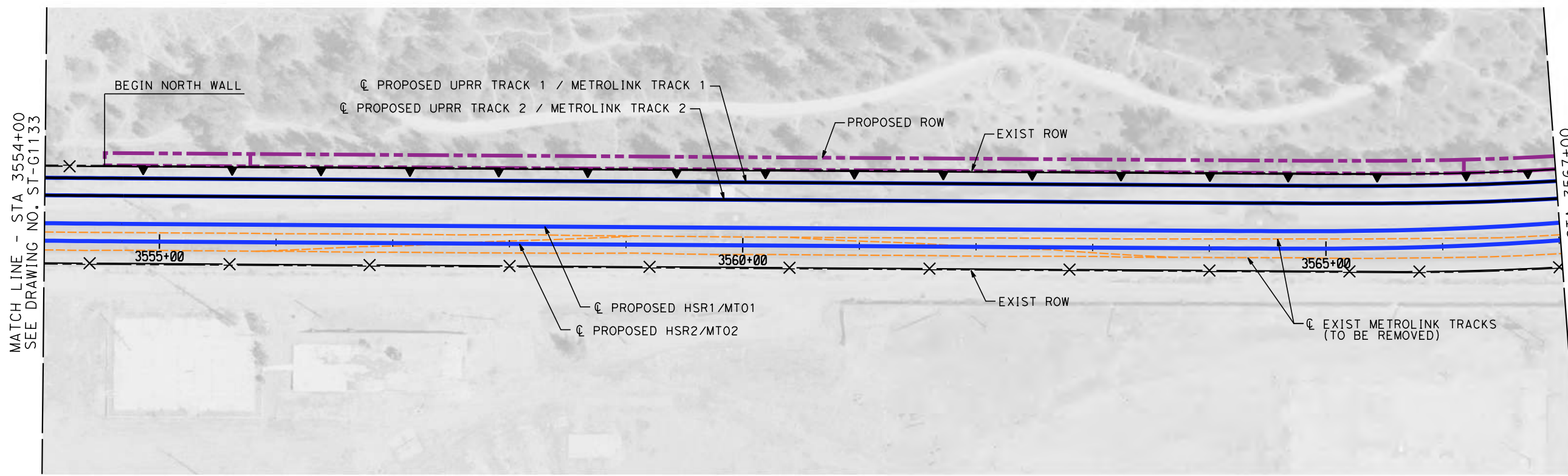
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SCALE
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SHEET NO.

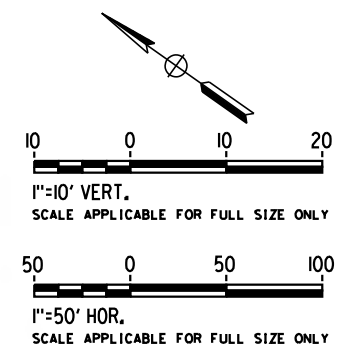


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG CL PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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K. PIRBAZARI

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BURBANK TO LOS ANGELES

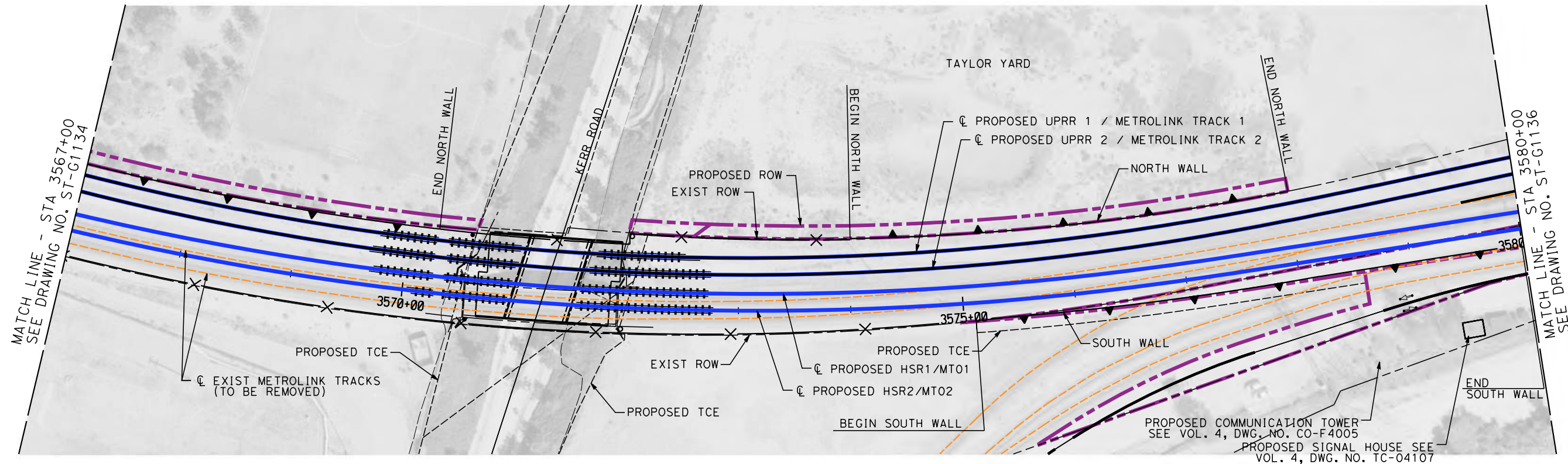
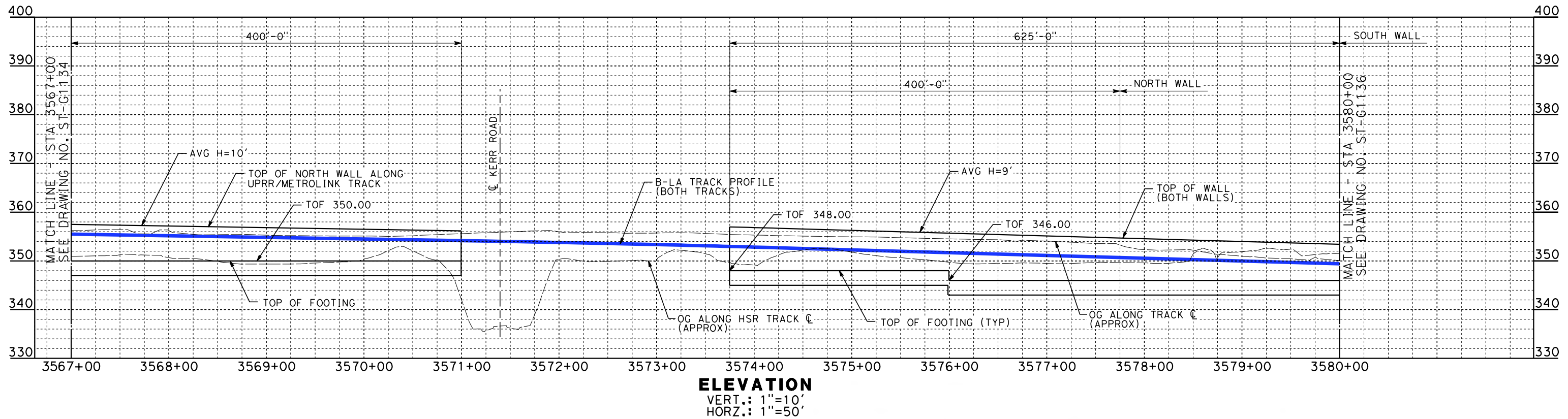
PEPD
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 HSR2 3554+00 TO HSR2 3567+00

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-G1134

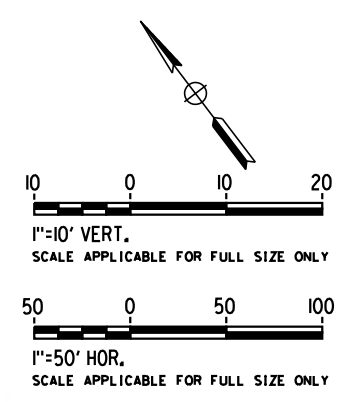
SCALE
AS SHOWN

SHEET NO.



PLAN
SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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P. ZUCCHI
CHECKED BY
K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

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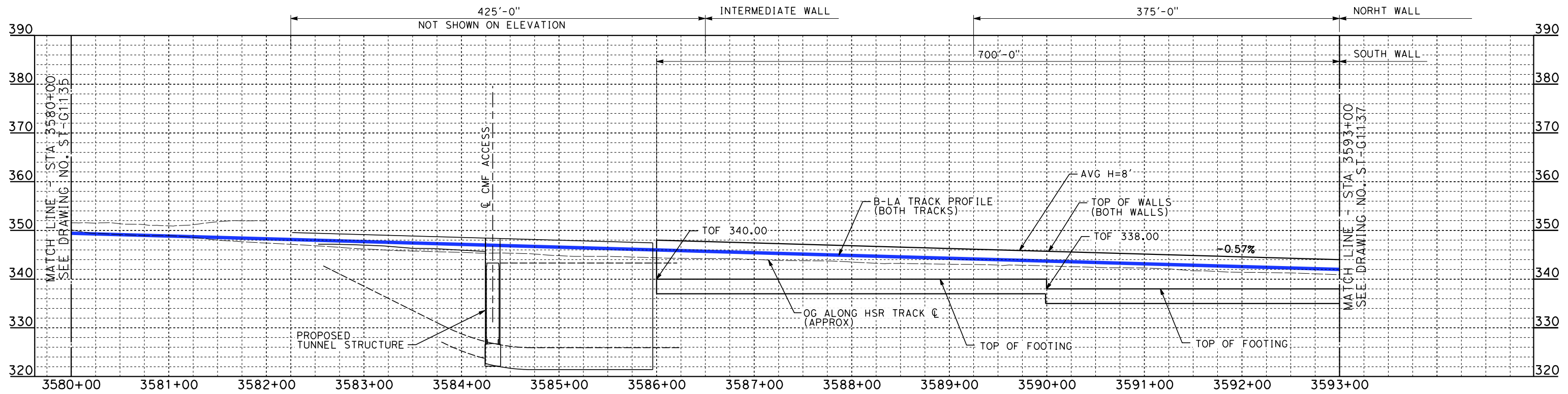
**NOT FOR
CONSTRUCTION**



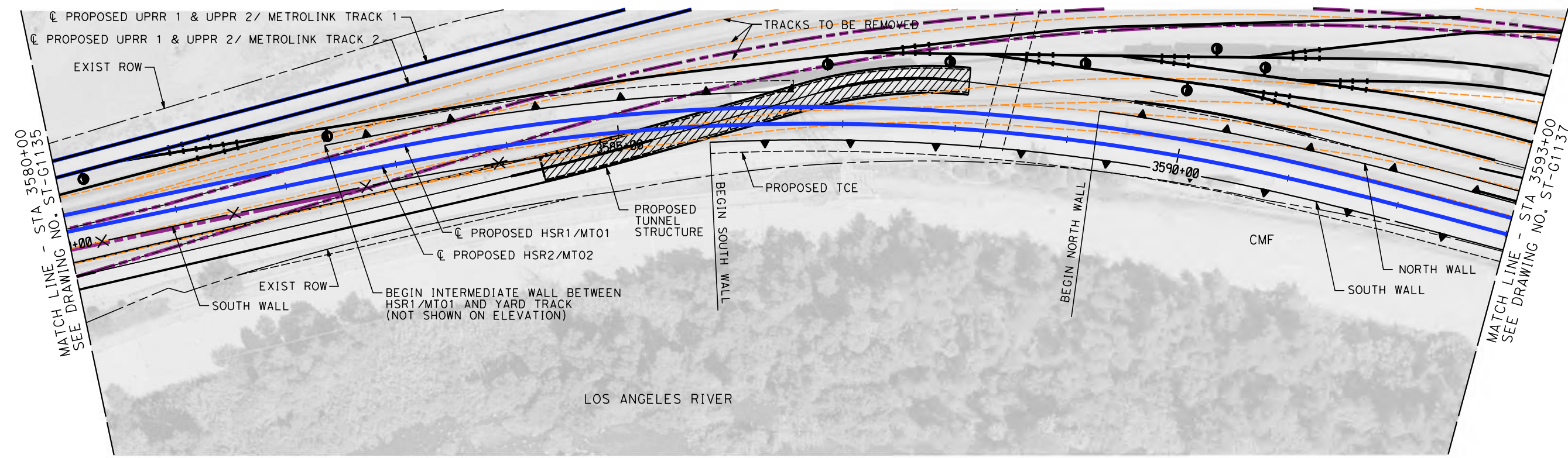
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
HSR - RETAINING WALL
HSR2 3567+00 TO HSR2 3580+00

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-G1135
SCALE
AS SHOWN
SHEET NO.

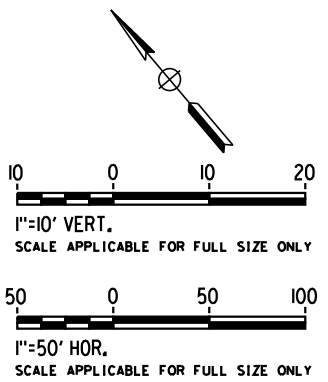


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

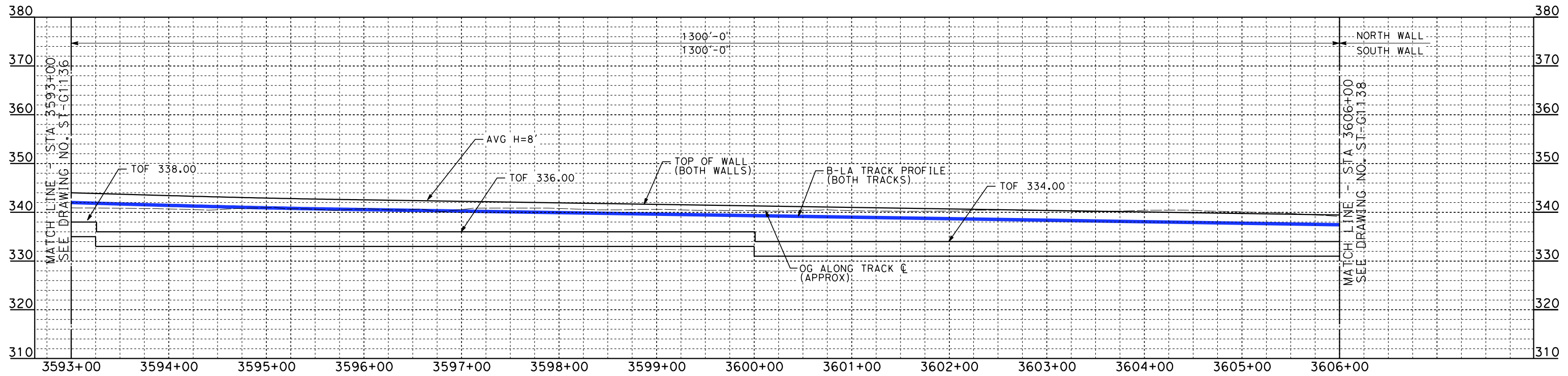
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CONTRACT NO.
HSR14-39

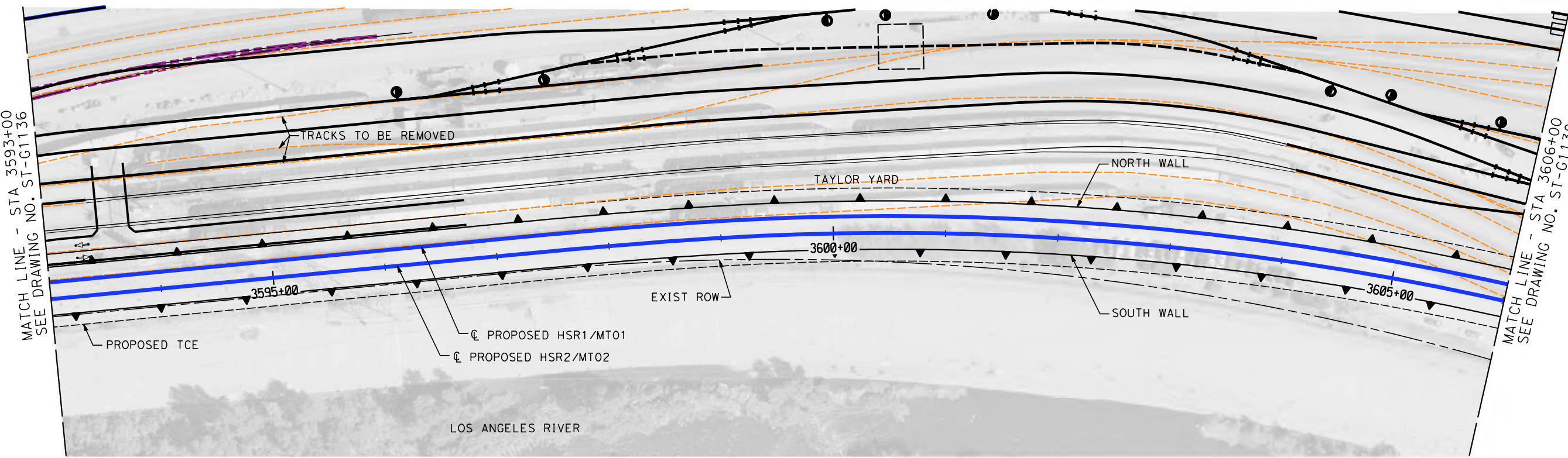
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AS SHOWN

SHEET NO.

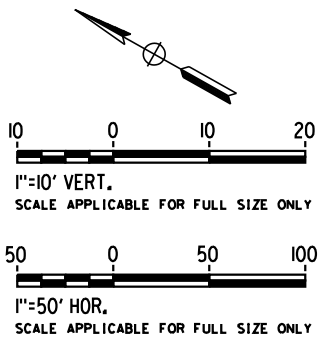


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG CL PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HAGHIGHI

DRAWN BY
P. ZUCCHI

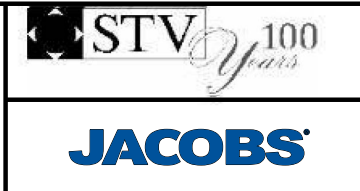
CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

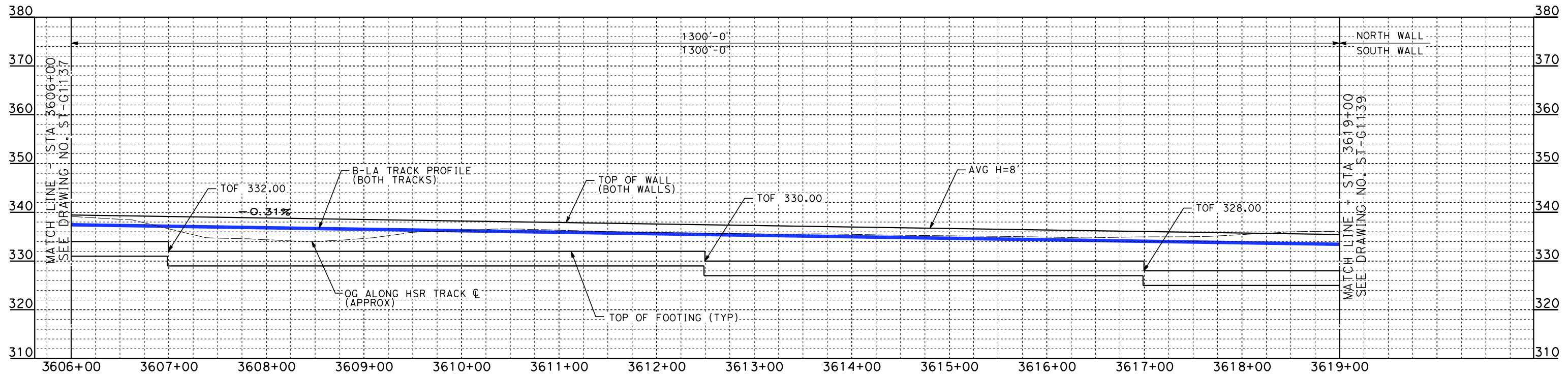
PEPD
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CONTRACT NO.
HSR14-39

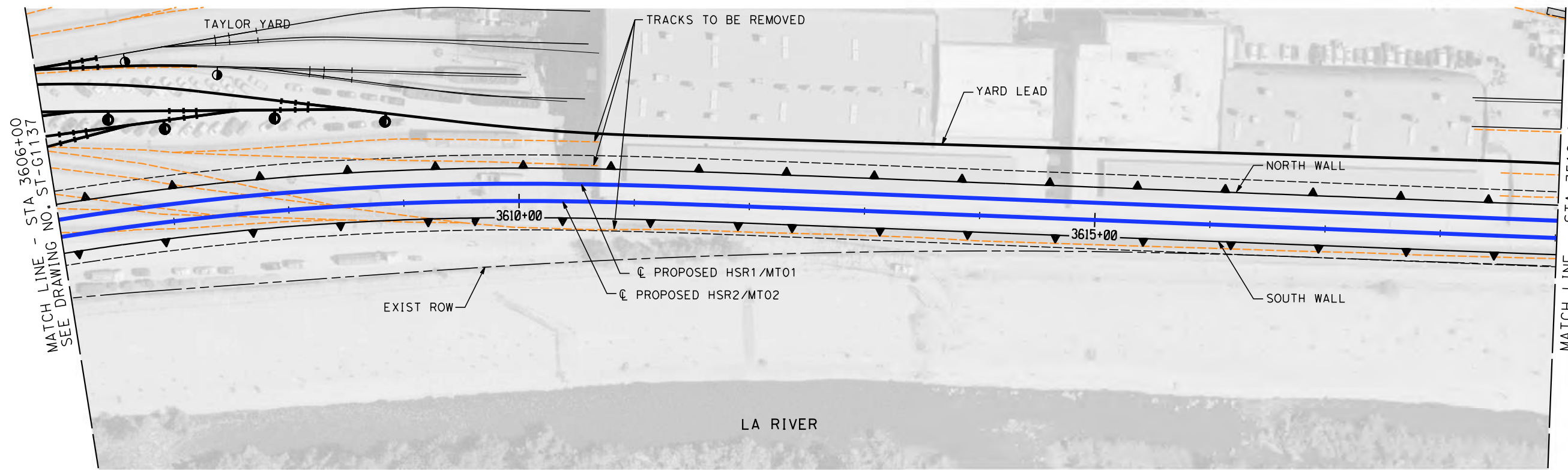
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SCALE
AS SHOWN

SHEET NO.



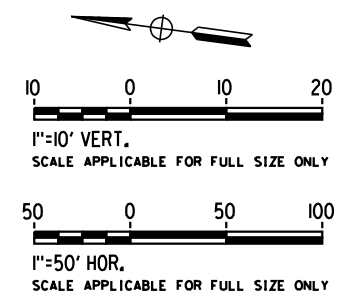
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG CL PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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P. ZUCCHI

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K. PIRBAZARI

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K. PIRBAZARI

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BURBANK TO LOS ANGELES

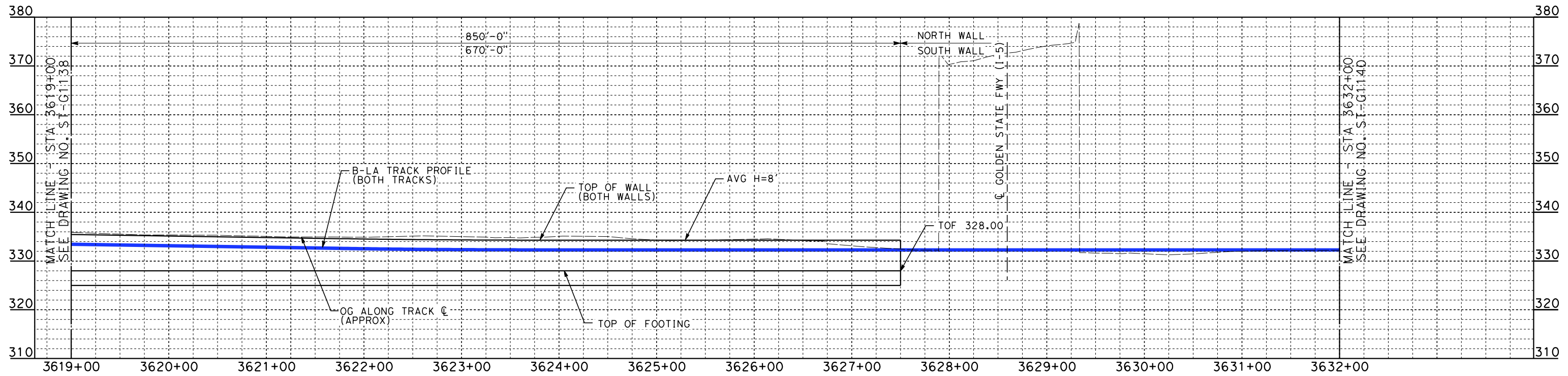
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CONTRACT NO.
HSR14-39

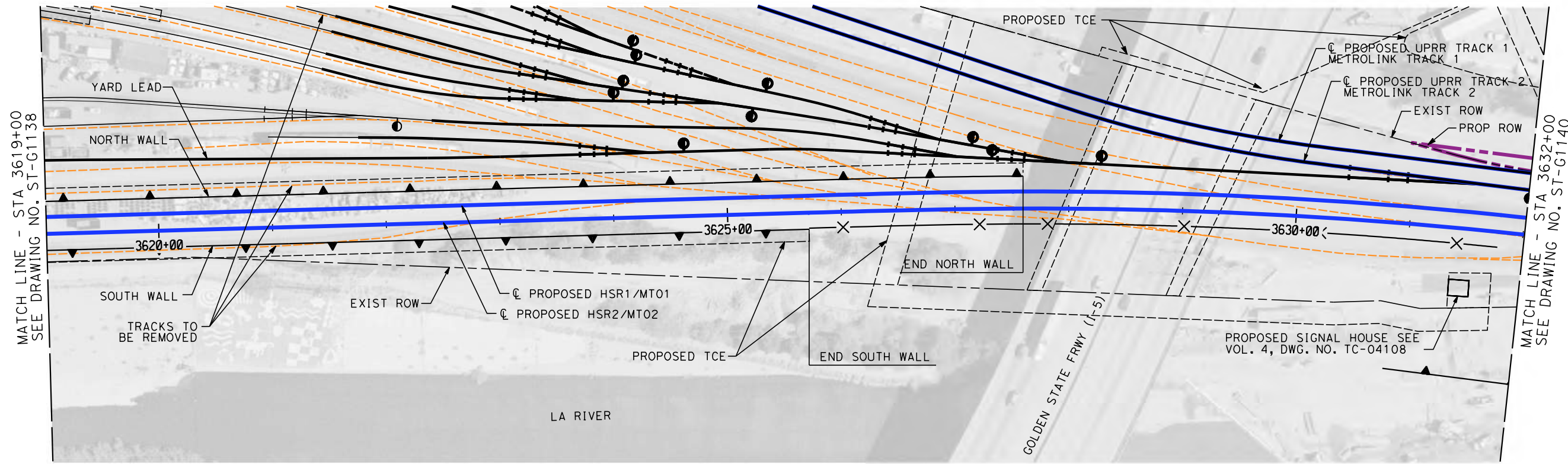
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SCALE
AS SHOWN

SHEET NO.

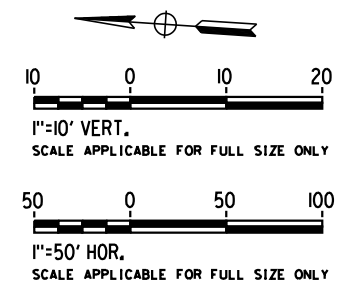


ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG \bar{C} PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. HACHIGHI

DRAWN BY
P. ZUCCHI

CHECKED BY
K. PIRBAZARI

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K. PIRBAZARI

DATE
04/30/2019

PEPD RECORD SET

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

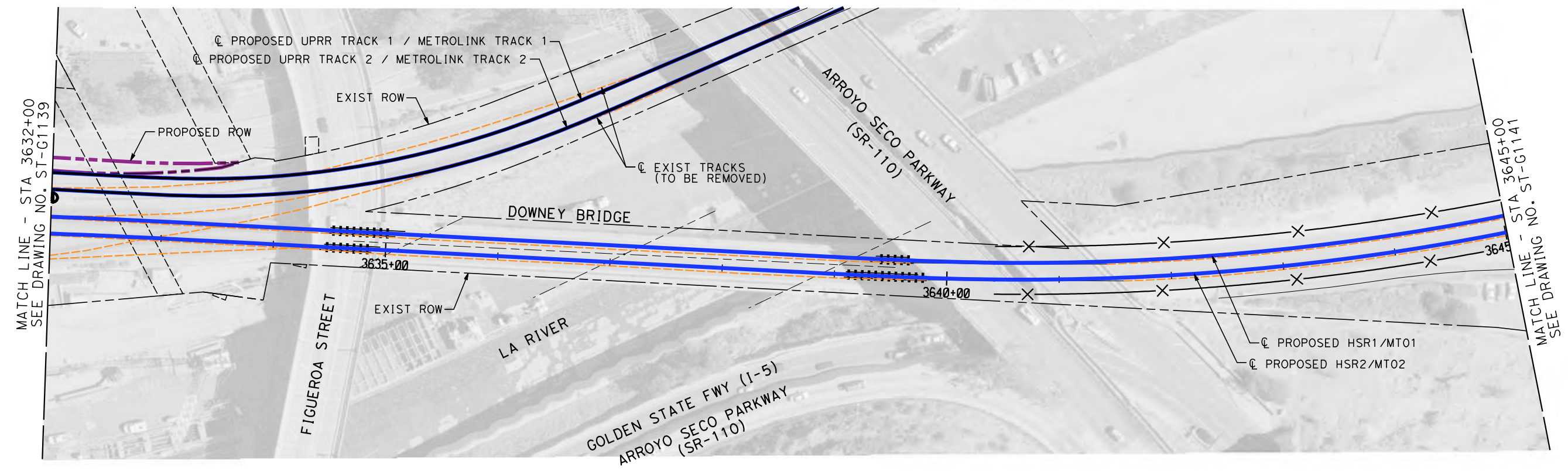
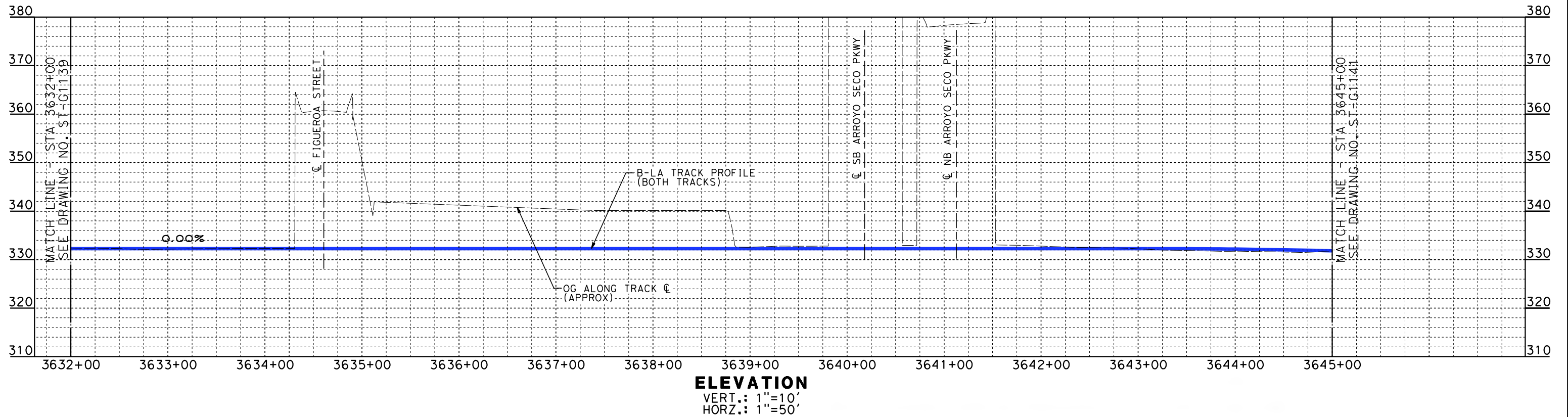
PEPD
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CONTRACT NO.
HSR14-39

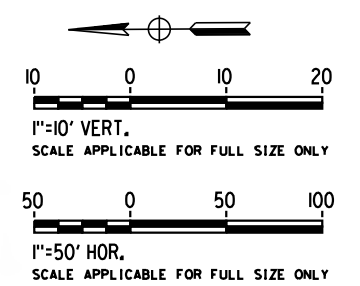
DRAWING NO.
ST-G1139

SCALE
AS SHOWN

SHEET NO.



- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



PLAN
SCALE: 1"=50'

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DESIGNED BY
D. HAGHIGHI
DRAWN BY
P. ZUCCHI
CHECKED BY
K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

PEPD RECORD SET

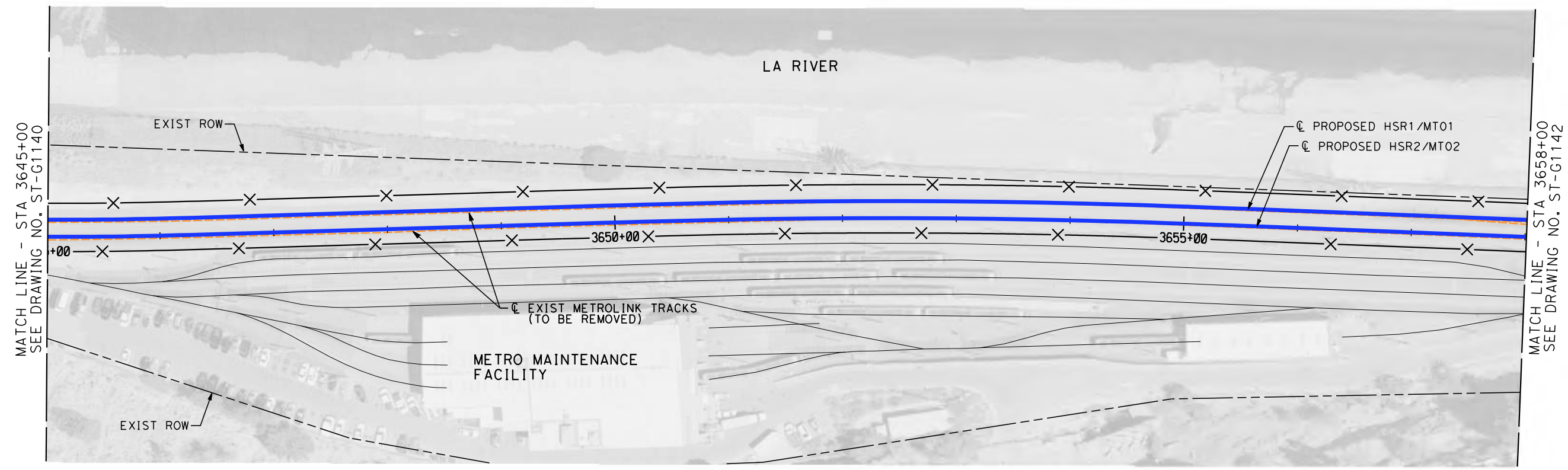
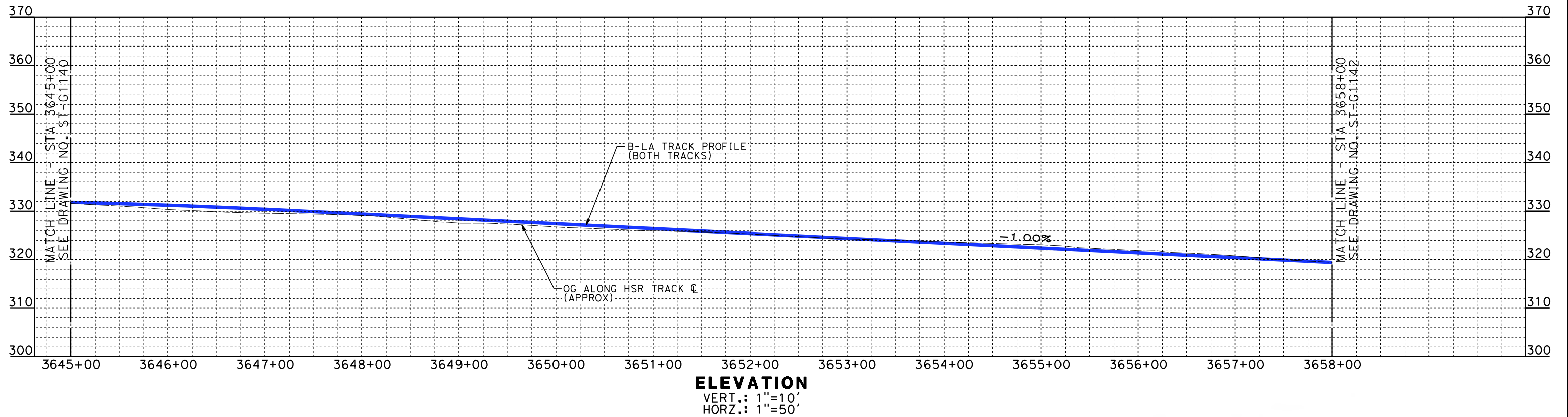
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

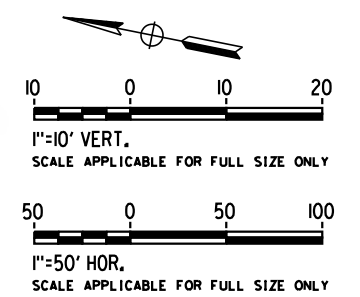
PEPD
HSR - RETAINING WALL
HSR2 3632+00 TO HSR2 3645+00

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-G1140
SCALE
AS SHOWN
SHEET NO.



PLAN
 SCALE: 1"=50'

- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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P. ZUCCHI
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K. PIRBAZARI
 DATE
04/30/2019

PEPD RECORD SET

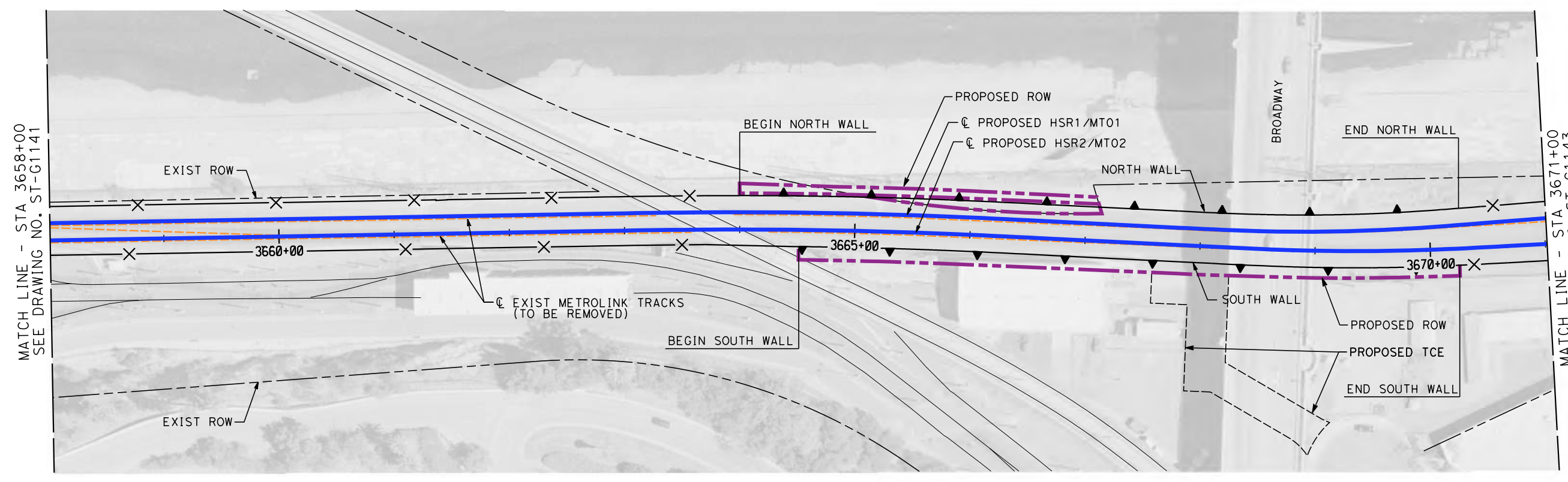
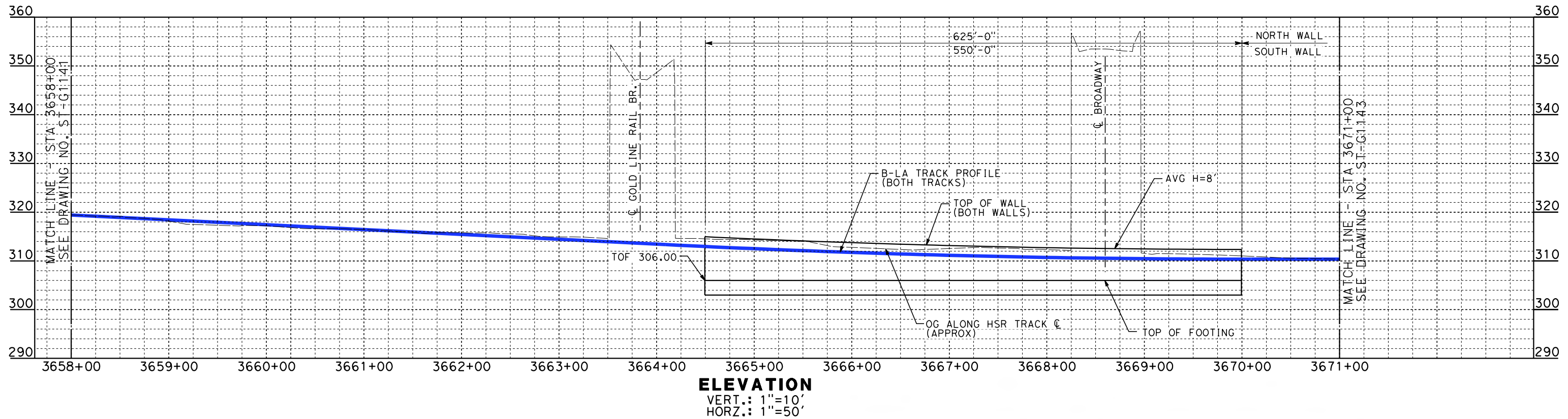
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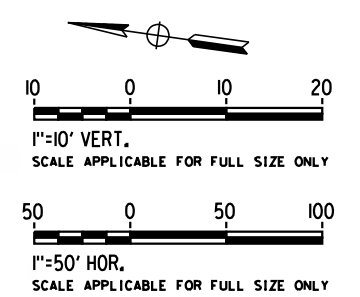
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

 PEPD
 HSR - RETAINING WALL
 HSR2 3645+00 TO HSR2 3658+00

CONTRACT NO.
 HSR14-39
 DRAWING NO.
 ST-G1141
 SCALE
 AS SHOWN
 SHEET NO.



- NOTES**
1. WALLS LENGTHS ARE MEASURED ALONG ϕ PROPOSED HSR2
 2. FOR WALL TYPES SEE DWG. NO. ST-G3101
 3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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REV	DATE	BY	CHK	APP	DESCRIPTION

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P. ZUCCHI

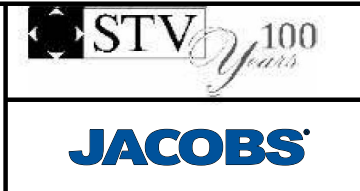
CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

PEPD RECORD SET

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

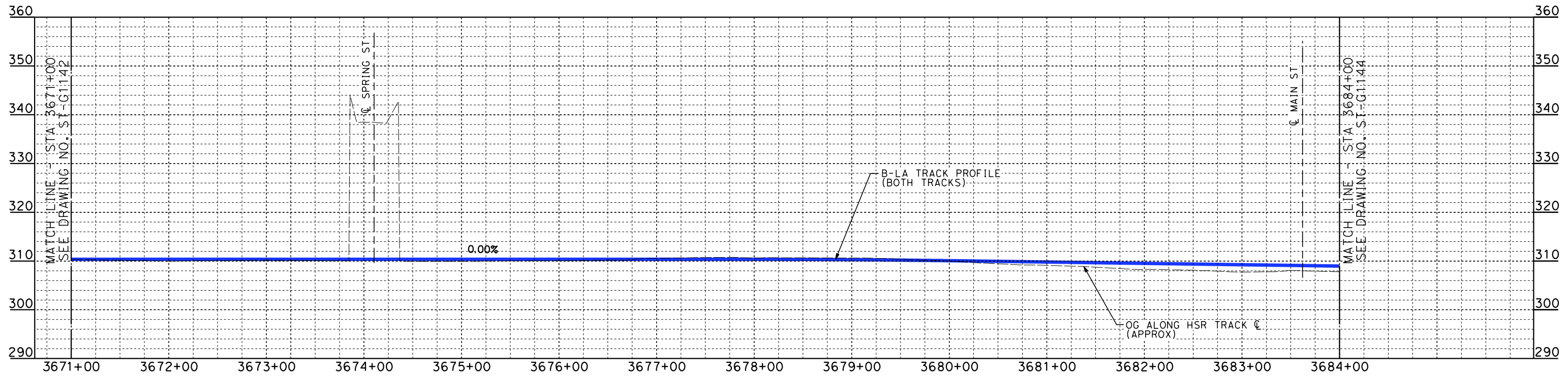
PEPD
 HSR - RETAINING WALL
 HSR2 3658+00 TO HSR2 3671+00

CONTRACT NO.
HSR14-39

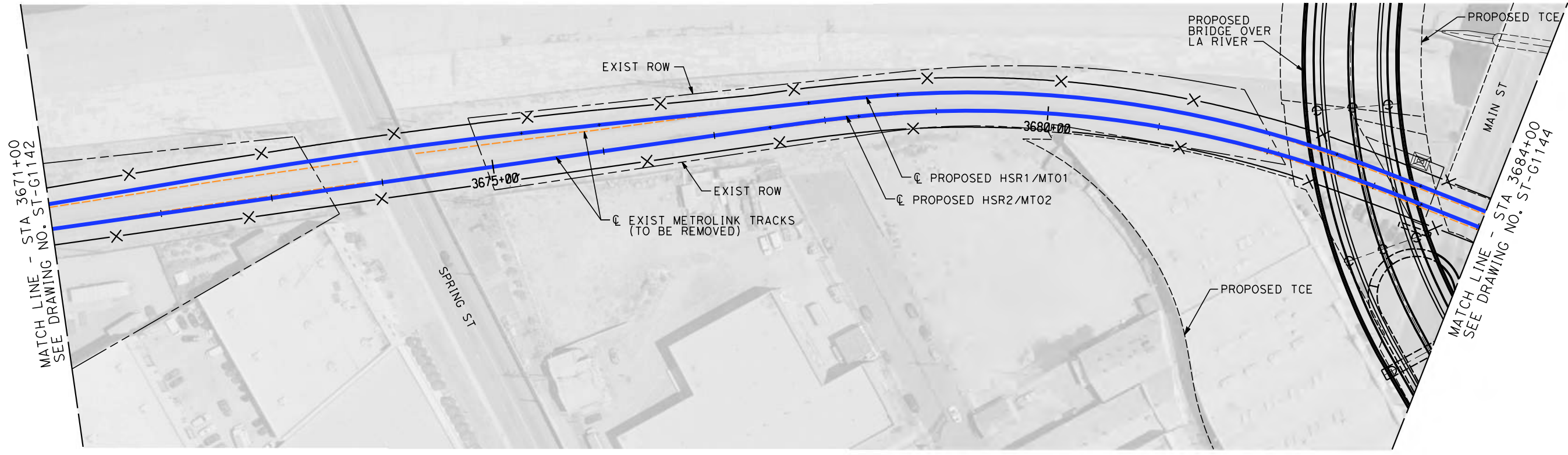
DRAWING NO.
ST-G1142

SCALE
AS SHOWN

SHEET NO.



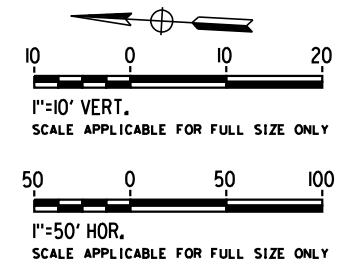
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG CL PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS



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IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 BURBANK TO LOS ANGELES**

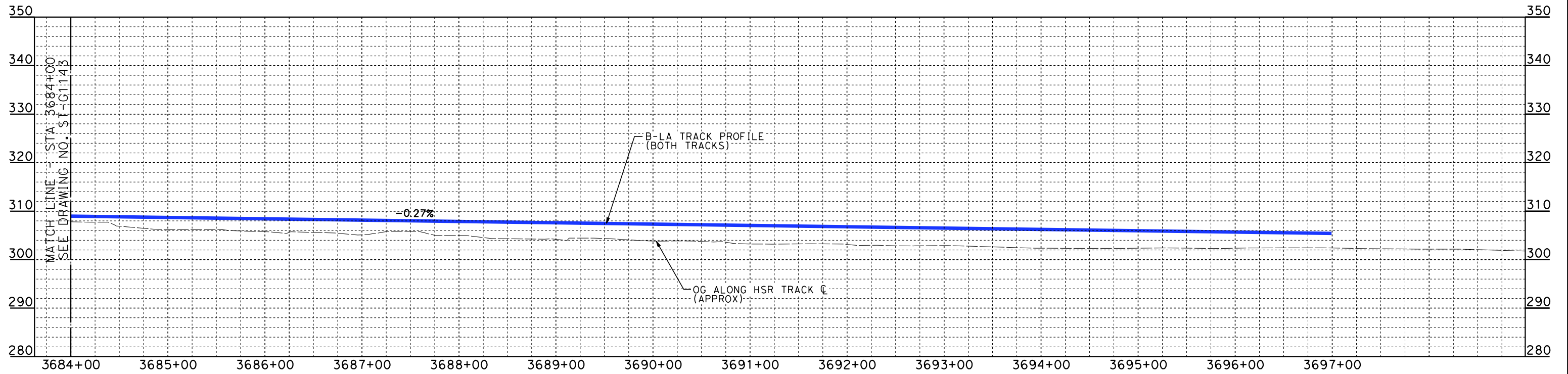
PEPD
 HSR - RETAINING WALL
 HSR2 3671+00 TO HSR2 3684+00

CONTRACT NO.
HSR14-39

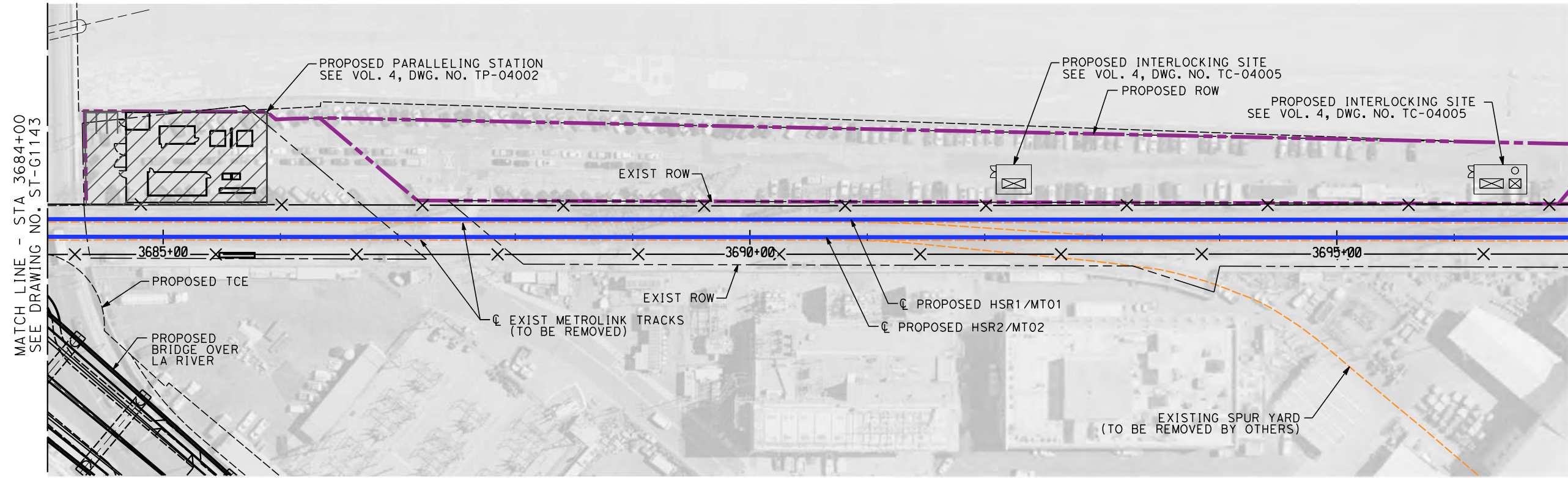
DRAWING NO.
ST-G1143

SCALE
AS SHOWN

SHEET NO.



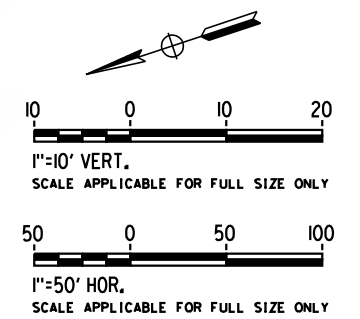
ELEVATION
 VERT.: 1"=10'
 HORZ.: 1"=50'



PLAN
 SCALE: 1"=50'

NOTES

1. WALLS LENGTHS ARE MEASURED ALONG C PROPOSED HSR2
2. FOR WALL TYPES SEE DWG. NO. ST-G3101



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P. ZUCCHI

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IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

PEPD RECORD SET

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

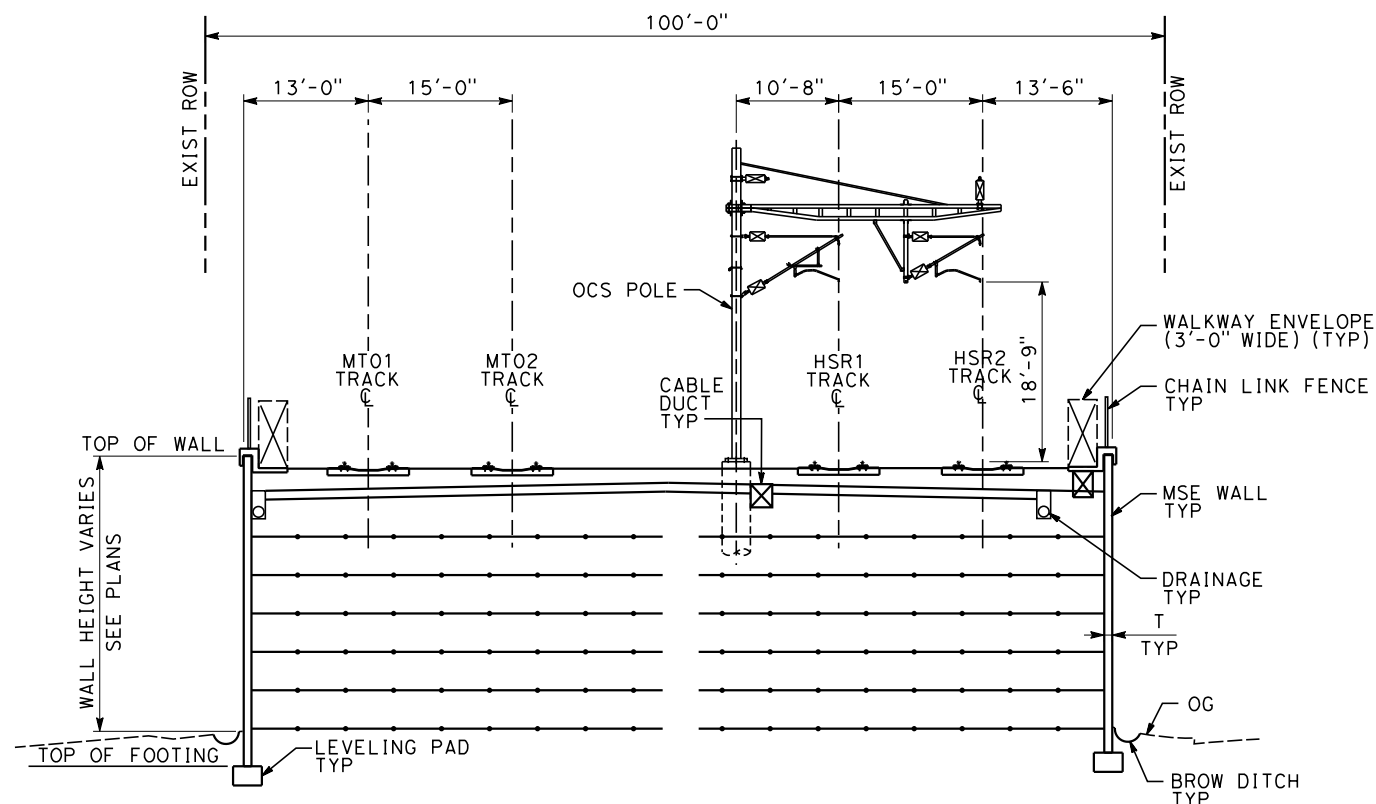
PEPD
 HSR - RETAINING WALL
 HSR2 3684+00 TO HSR2 3697+00

CONTRACT NO.
HSR14-39

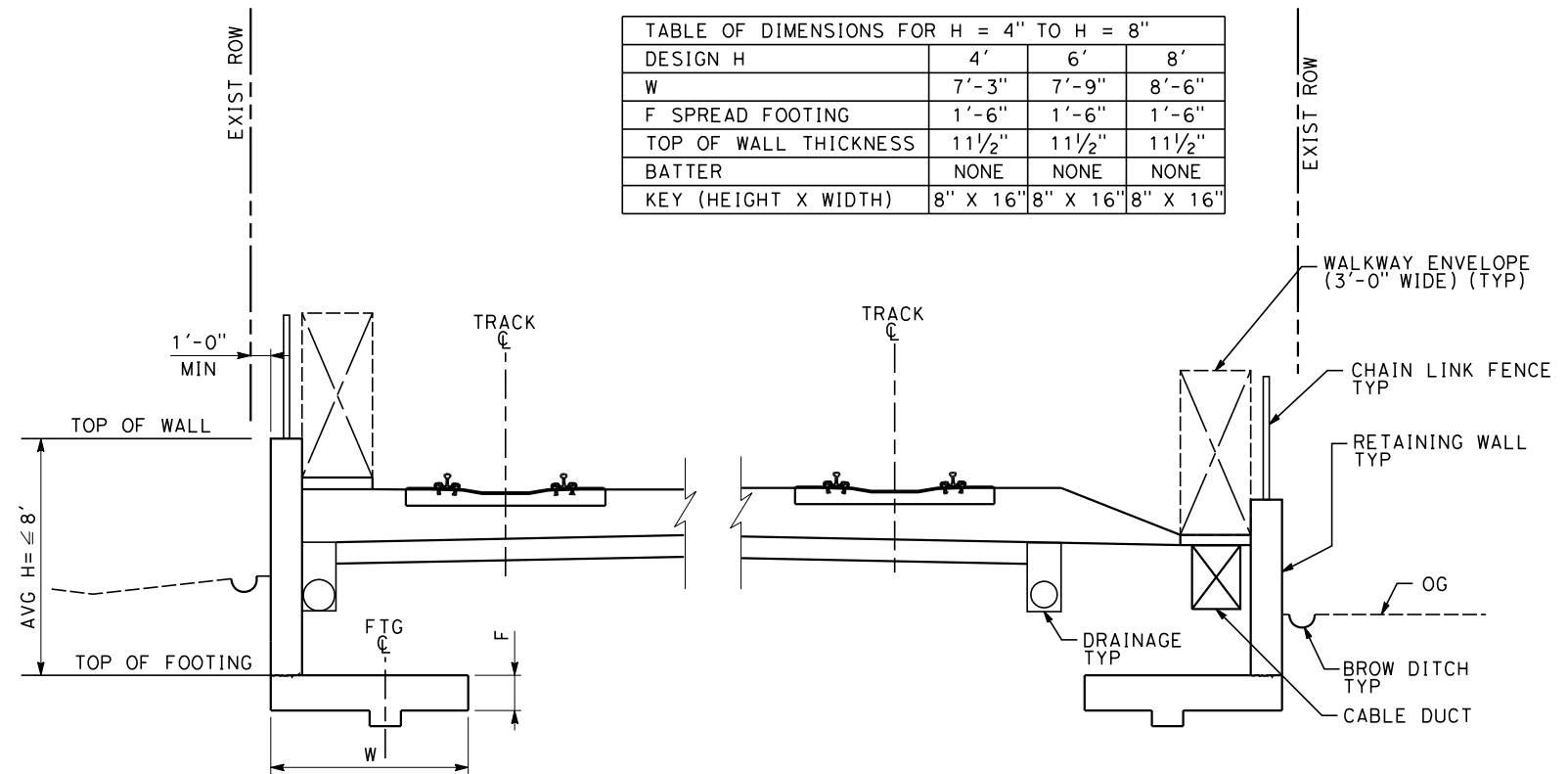
DRAWING NO.
ST-G1144

SCALE
AS SHOWN

SHEET NO.



RETAINING WALL SECTION - CANTILEVER OCS POLE
SCALE: 1" = 10'

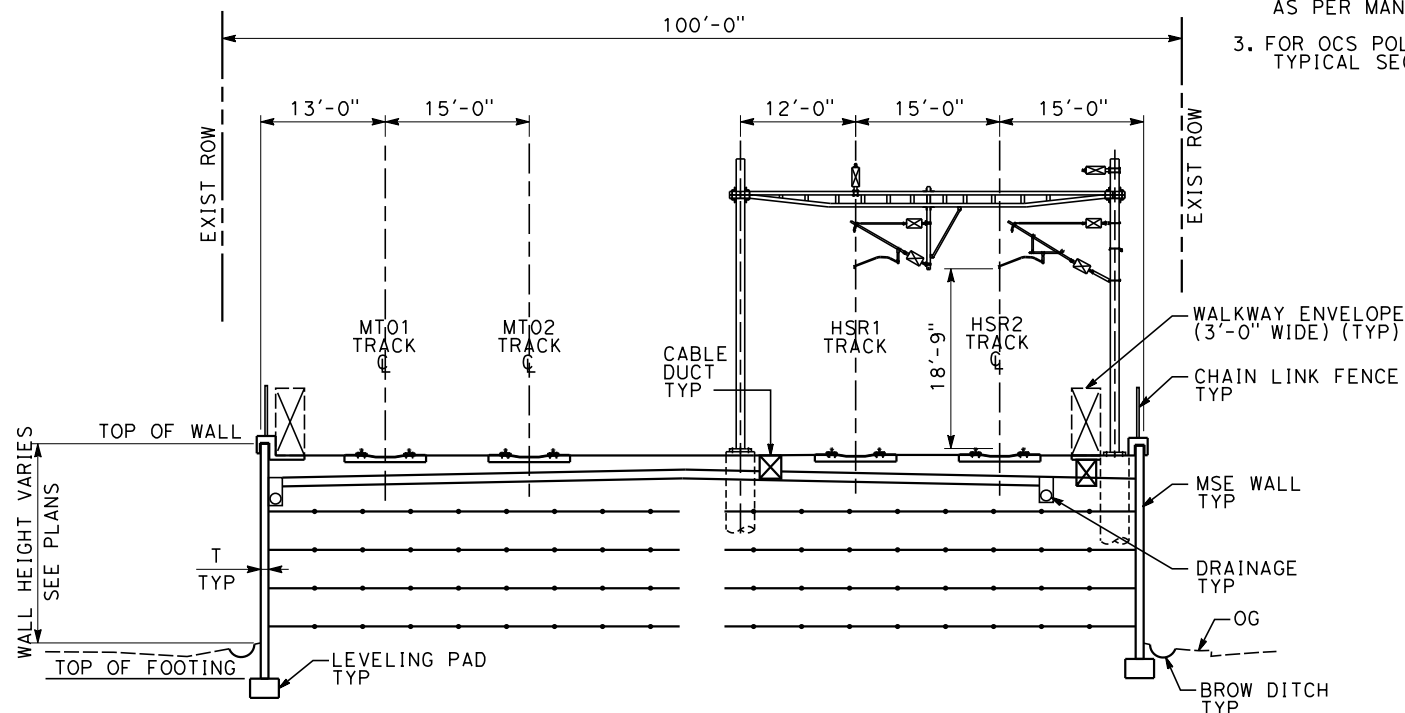


RETAINING WALL SECTION
SCALE: 1/4" = 1'-0"

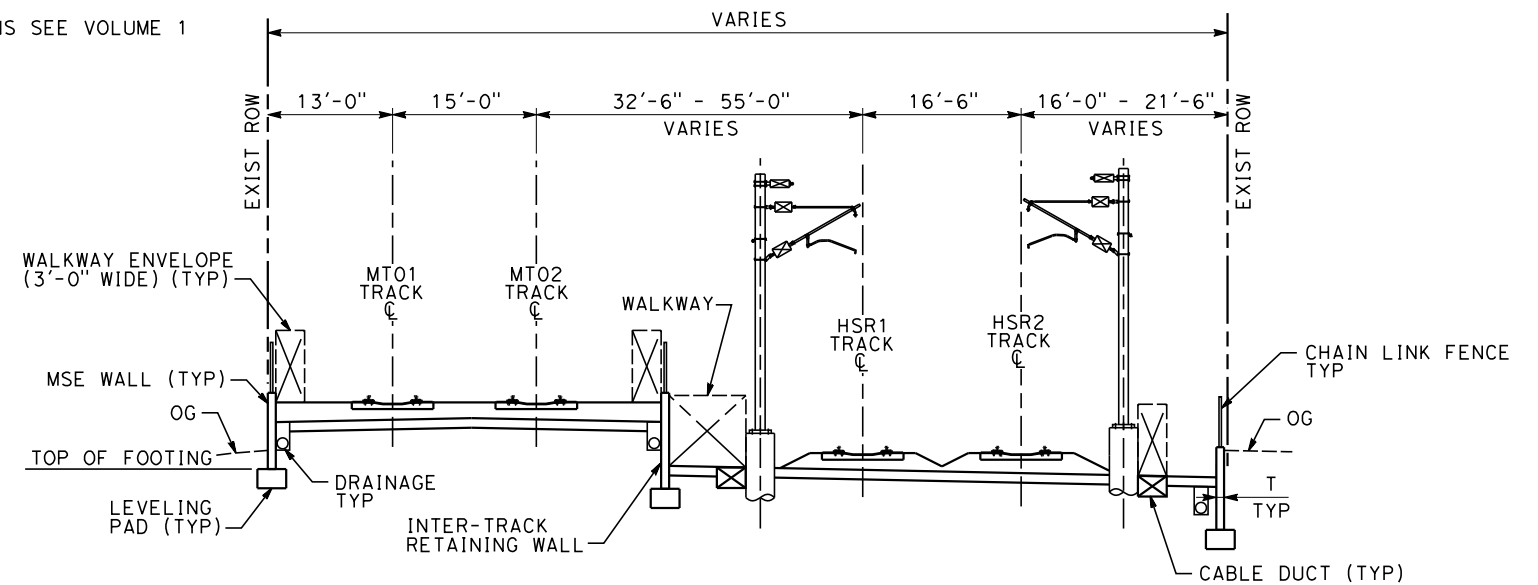
TABLE OF DIMENSIONS FOR H = 4" TO H = 8"			
DESIGN H	4'	6'	8'
W	7'-3"	7'-9"	8'-6"
F SPREAD FOOTING	1'-6"	1'-6"	1'-6"
TOP OF WALL THICKNESS	11 1/2"	11 1/2"	11 1/2"
BATTER	NONE	NONE	NONE
KEY (HEIGHT X WIDTH)	8" X 16"	8" X 16"	8" X 16"

NOTES

1. FOR DRAINAGE PLAN SEE VOLUME 4.
2. THICKNESS OF MSE WALL (T) SHALL BE AS PER MANUFACTURER'S RECOMMENDATION.
3. FOR OCS POLE LOCATIONS SEE VOLUME 1 TYPICAL SECTIONS.

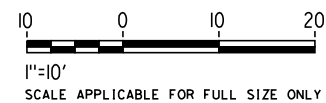


RETAINING WALL SECTION - PORTAL OCS POLE
SCALE: 1" = 10'



INTERMEDIATE RETAINING WALL SECTION
SCALE: 1" = 10'

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DRAWN BY
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K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

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RECORD SET**

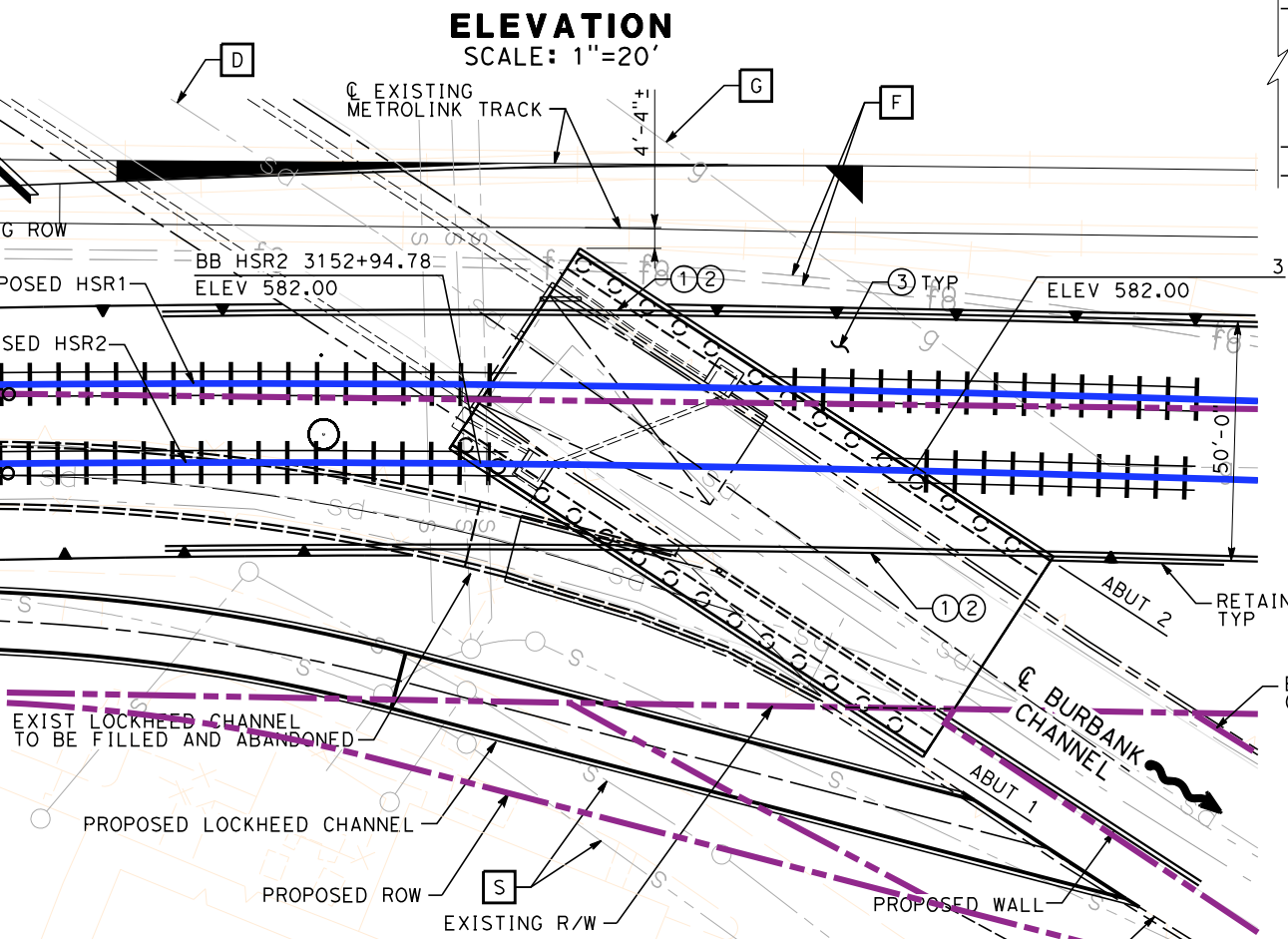
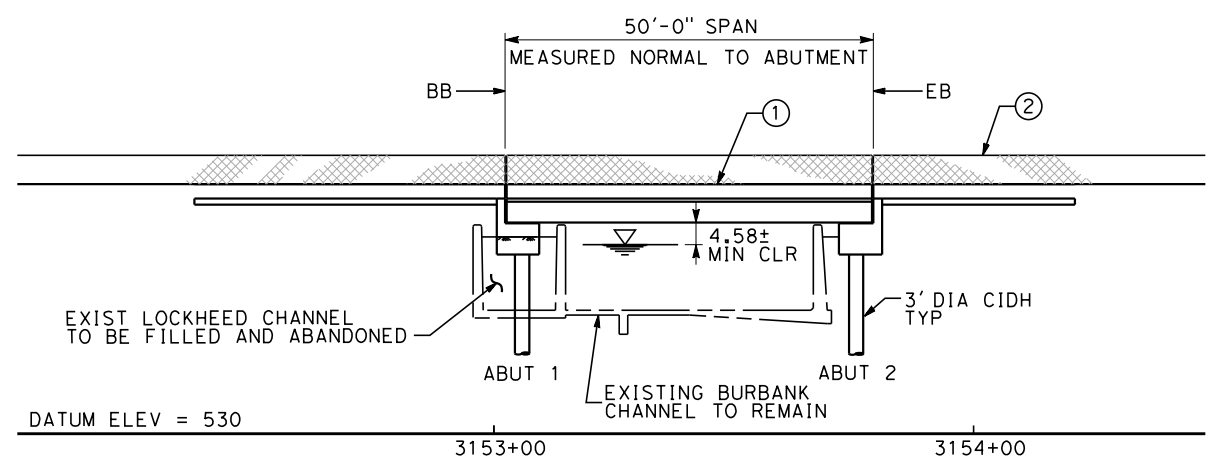
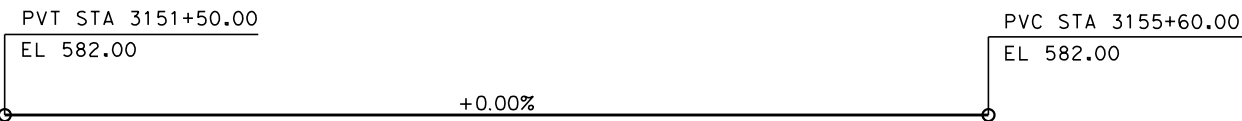
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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

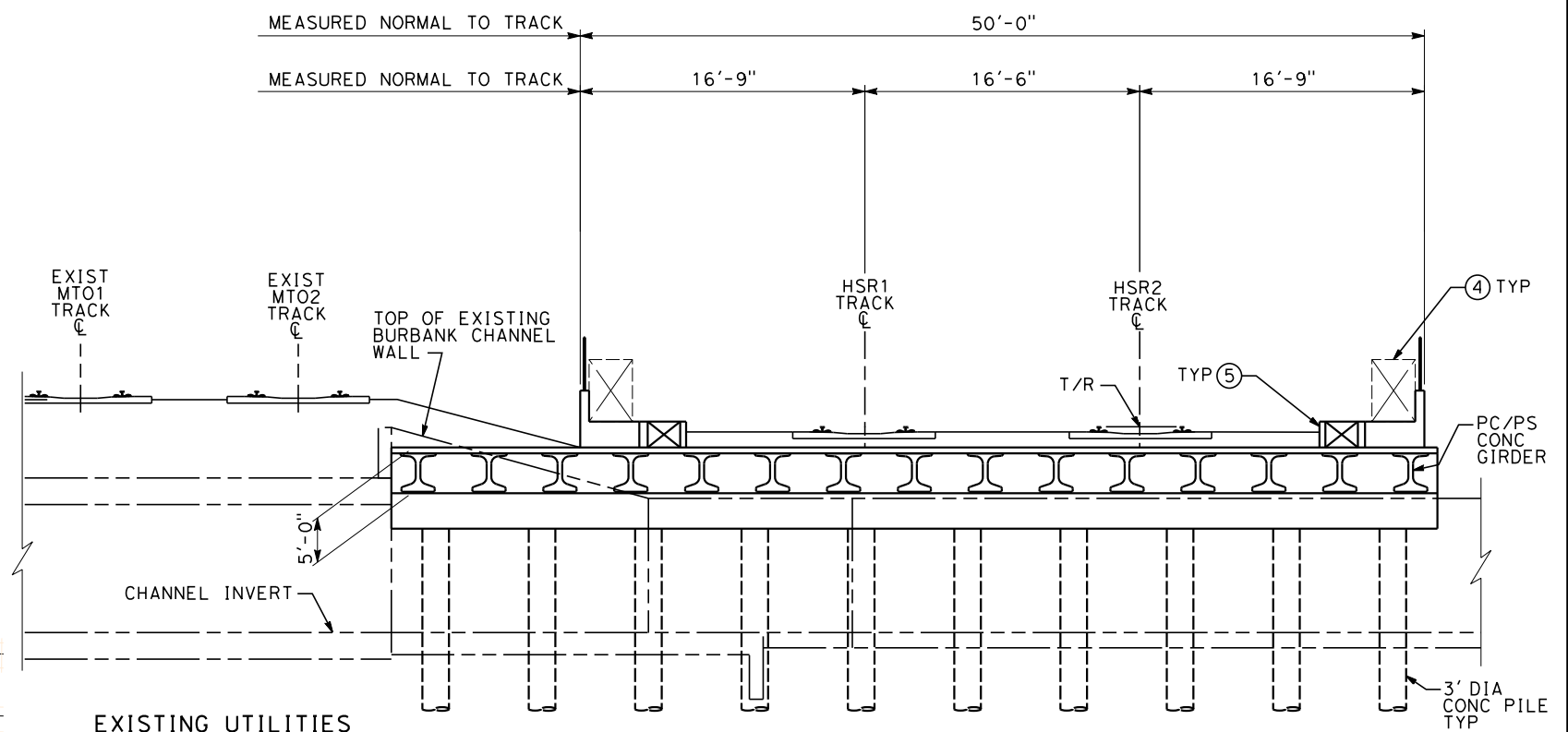
PEPD
HSR - RETAINING WALL
RETAINING WALL SECTIONS

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-G3101
SCALE
AS SHOWN
SHEET NO.



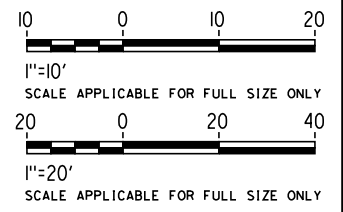
- LEGEND**
- |||| INDICATES HST TRACKS
 - ~ INDICATES FLOW LINE
 - ▽ INDICATES HIGH WATER SURFACE ELEVATION = 569.42±

- NOTES**
- ① BARRIER
 - ② CHAIN LINK RAILING
 - ③ STRUCTURE APPROACH SLAB
 - ④ WALKWAY (3'-0" WIDE)
 - ⑤ CABLE DUCT



- EXISTING UTILITIES**
- E ELECTRIC CABLE (OH)
 - F FIBER OPTIC
 - G GAS
 - O OIL
 - S SEWER
 - D STORM DRAIN
 - W WATER

TYPICAL SECTION
SCALE: 1"=10'



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DESIGNED BY
D. HAGHIGHI
DRAWN BY
P. ZUCCHI
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K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

PEPD RECORD SET

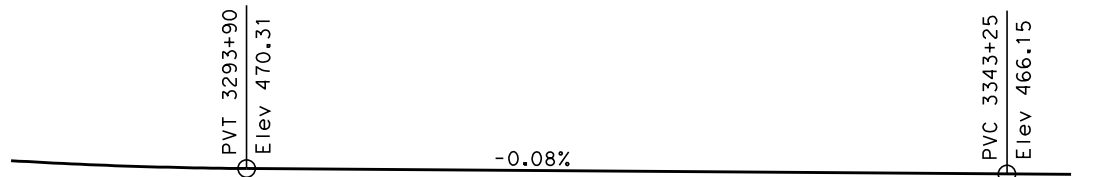
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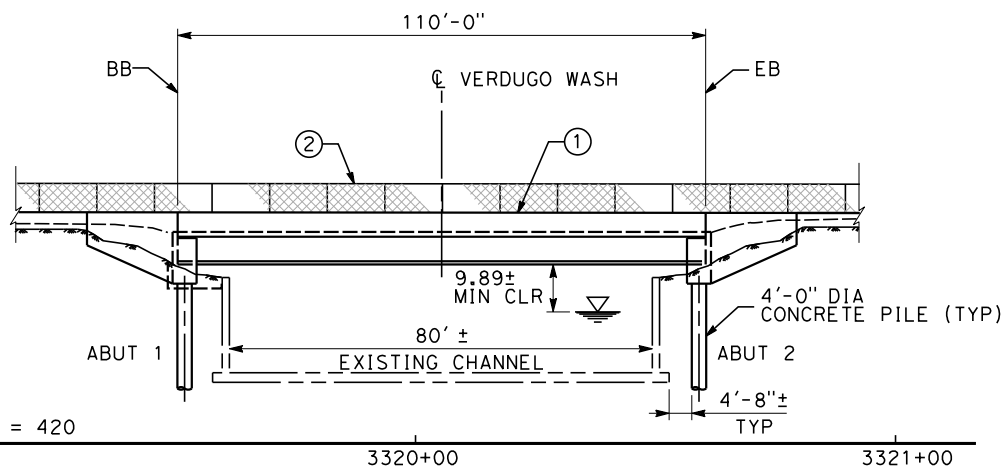
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

PEPD
BURBANK CHANNEL CAP
GENERAL PLAN SHEET 1 OF 1

CONTRACT NO.
HSR14-39
DRAWING NO.
ST-K1201
SCALE
AS SHOWN
SHEET NO.



TOP OF RAIL PROFILE (HSR2)
NO SCALE



ELEVATION
SCALE: 1"=20'

CONSTRUCTION STAGING

- 1 CONSTRUCT 35'± NEW BRIDGE FOR METROLINK OPERATION
- 2 REMOVE EXISTING BRIDGE
- 3 COMPLETE NEW BRIDGE CONSTRUCTION

EXISTING UTILITIES

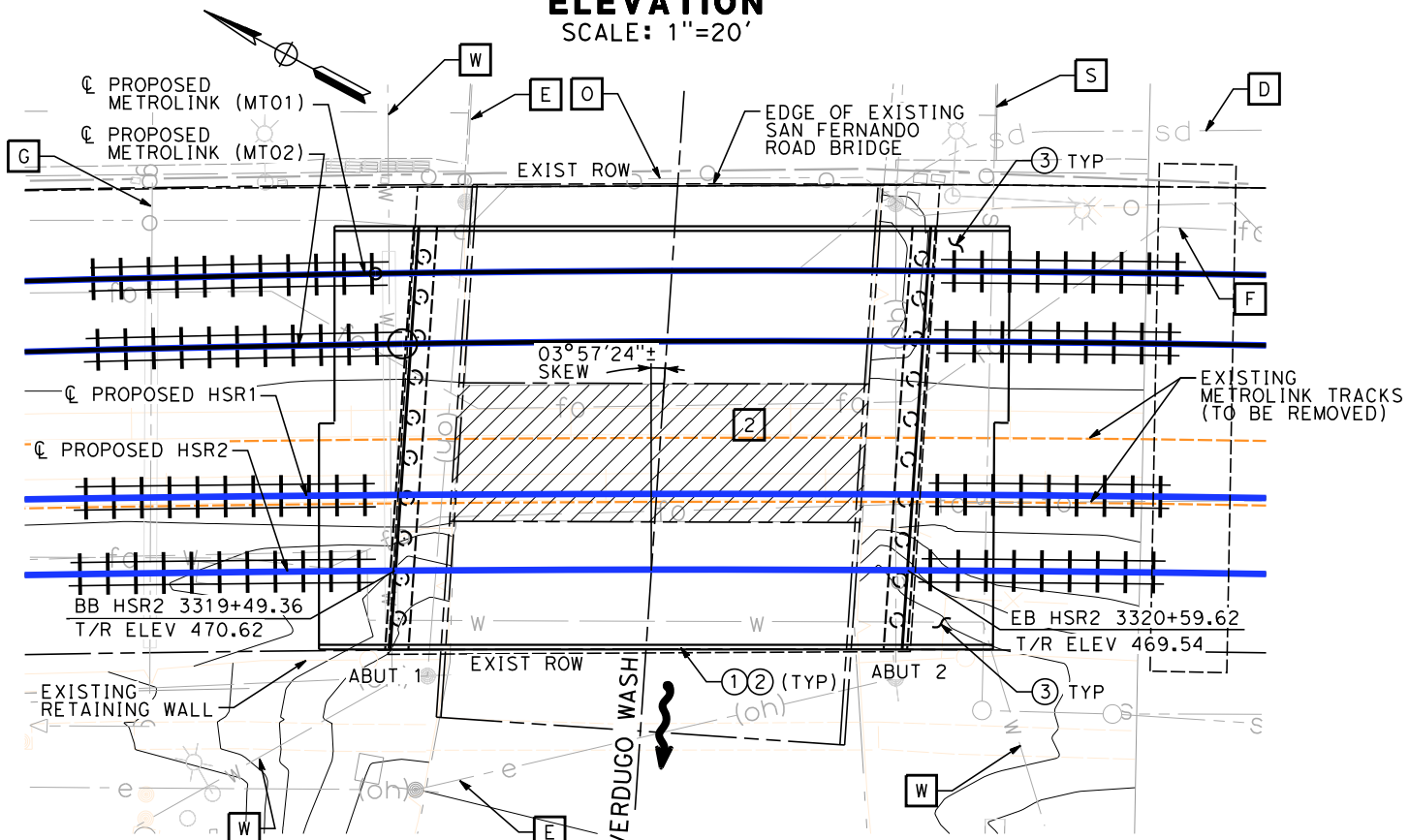
- E ELECTRIC CABLE (OH)
- F FIBER OPTIC
- G GAS
- O OIL
- S SEWER
- D STORM DRAIN
- W WATER

NOTES

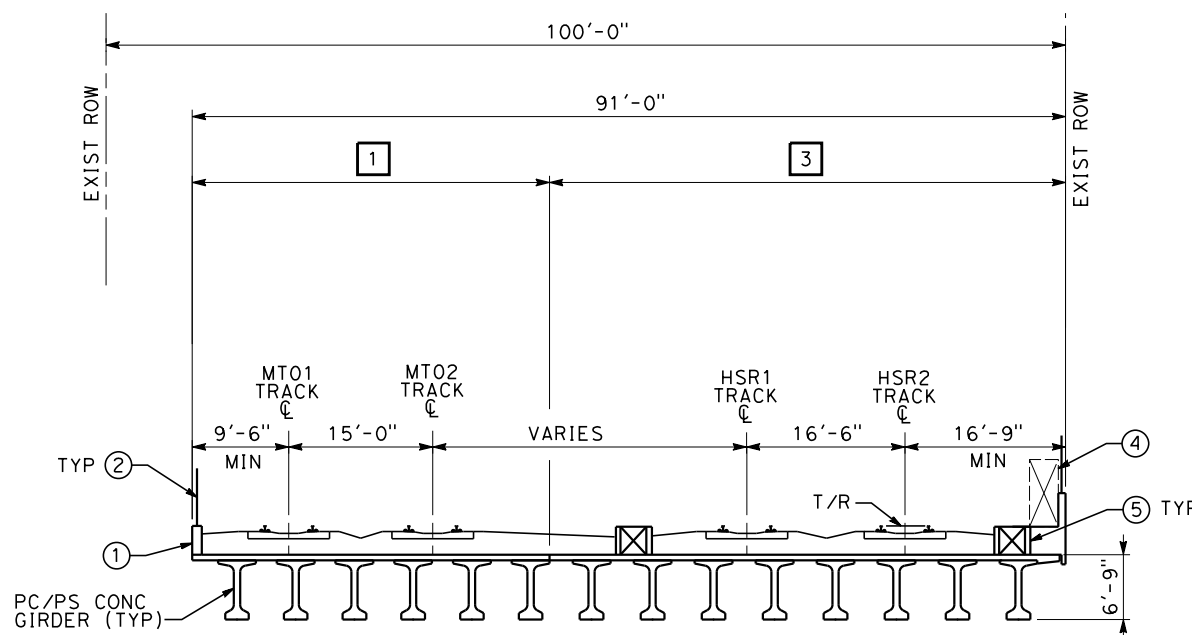
- ① BARRIER
- ② CHAIN LINK RAILING
- ③ STRUCTURE APPROACH SLAB
- ④ WALKWAY (3'-0" WIDE)
- ⑤ CABLE DUCT

LEGEND

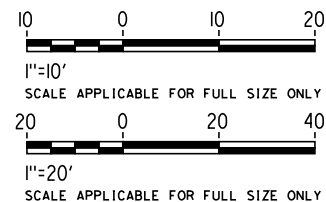
- INDICATES BRIDGE REMOVAL
- INDICATES DIRECTION OF TRAFFIC
- INDICATES RAILROAD AND HSR TRACKS
- INDICATES FLOW LINE
- INDICATES HIGH WATER SURFACE ELEVATION = 448.53±



PLAN
SCALE: 1"=20'



TYPICAL SECTION
SCALE: 1"=10'



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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES




PEPD
VERDUGO WASH
GENERAL PLAN SHEET 1 OF 1

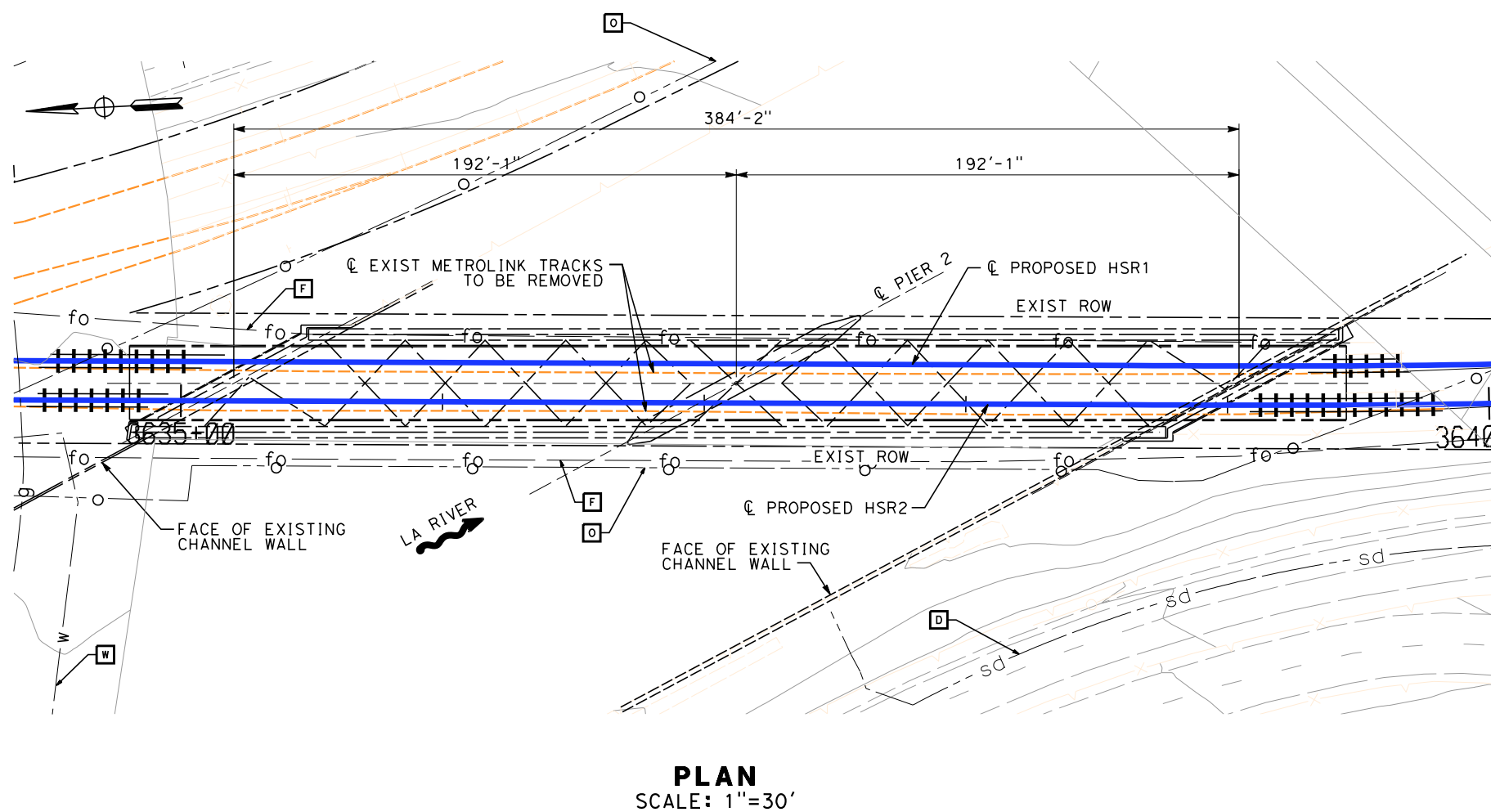
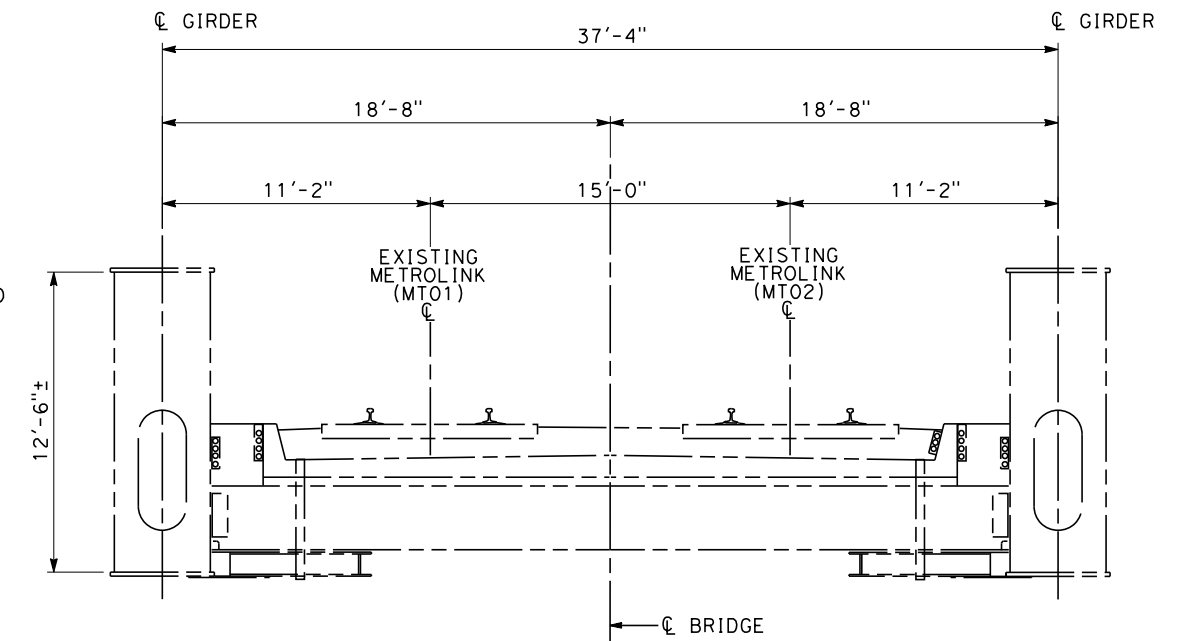
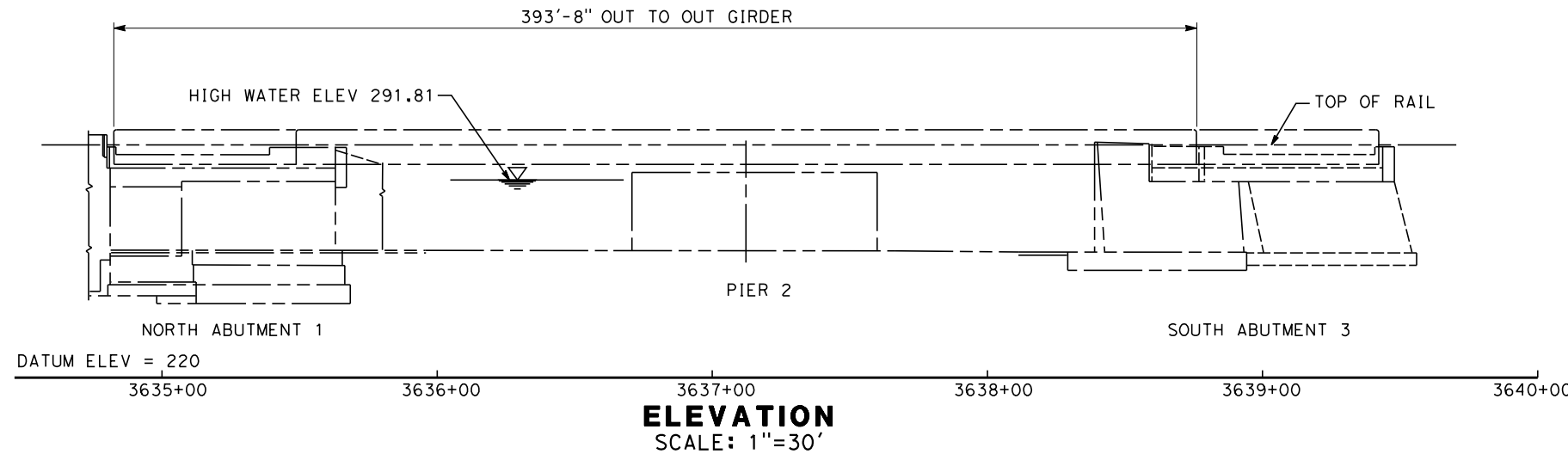
CONTRACT NO.
HSR14-39
DRAWING NO.
ST-K1202
SCALE
AS SHOWN
SHEET NO.

EXISTING UTILITIES

- E** ELECTRIC CABLE (OH)
- F** FIBER OPTIC
- G** GAS
- O** OIL
- S** SEWER
- D** STORM DRAIN
- W** WATER

LEGEND

-  INDICATES PROPOSED HST TRACKS
-  INDICATES FLOW LINE
-  INDICATES HIGH WATER SURFACE ELEVATION



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K. PIRBAZARI

DATE
04/30/2019

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
DOWNEY BRIDGE - LA RIVER OVERPASS
GENERAL PLAN

CONTRACT NO.
HSR14-39

DRAWING NO.
ST-K1203

SCALE
AS SHOWN

SHEET NO.