

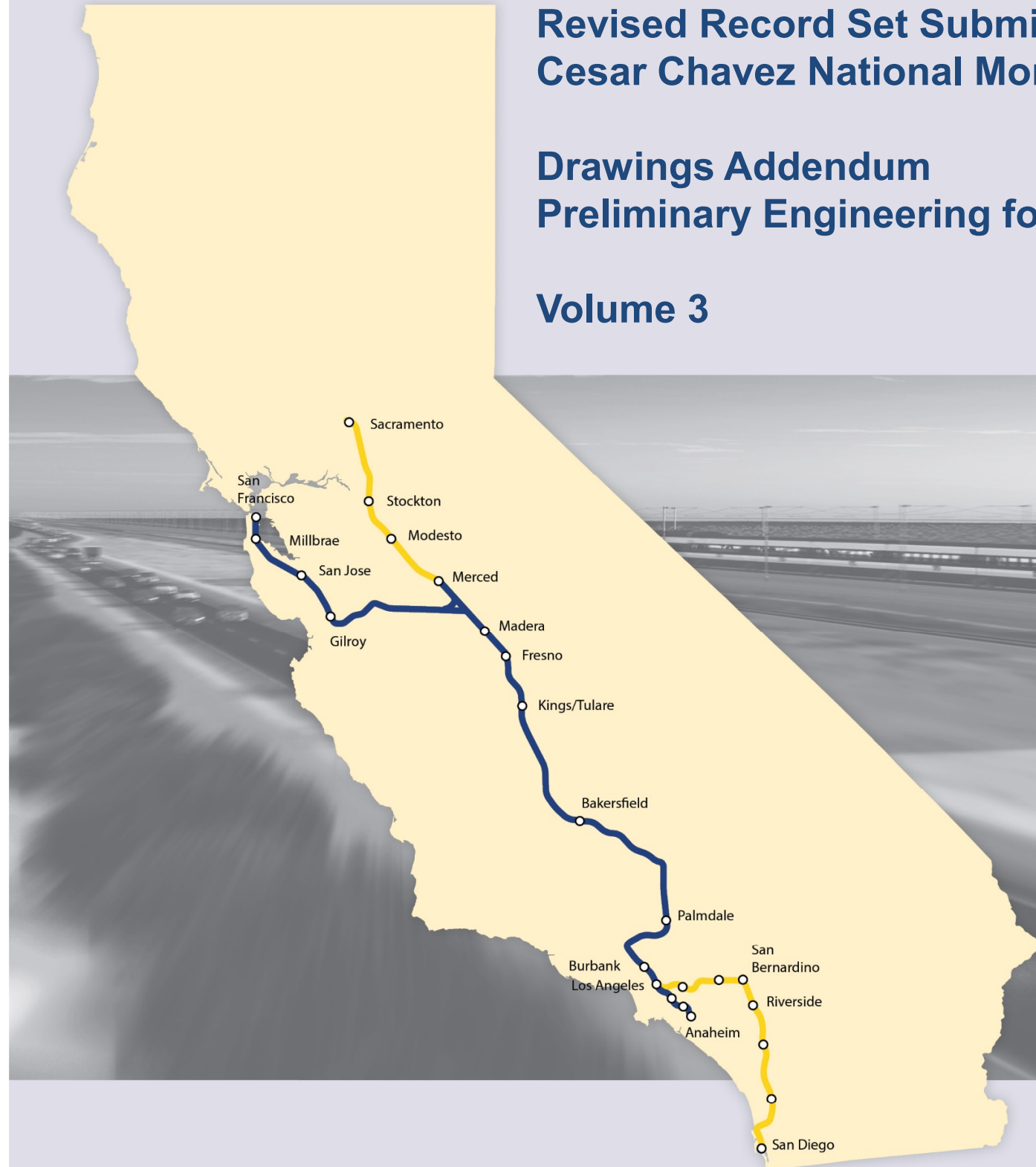
California High-Speed Rail Authority

# Bakersfield to Palmdale

Revised Record Set Submittal  
Cesar Chavez National Monument (CCNM) Design Option

Drawings Addendum  
Preliminary Engineering for Project Definition – March 2019

Volume 3



**VOLUME 1  
GENERAL SHEETS**

DRAWING No.	DRAWING DESCRIPTION
GE-B0002	CCNM DESIGN OPTION - GENERAL - INDEX OF DRAWING - SHEET 1 OF 2
GE-B0003	CCNM DESIGN OPTION - GENERAL - INDEX OF DRAWING - SHEET 2 OF 2
GE-B0004	CCNM DESIGN OPTION - GENERAL - ABBREVIATIONS - SHEET 1 OF 3
GE-B0005	CCNM DESIGN OPTION - GENERAL - ABBREVIATIONS - SHEET 2 OF 3
GE-B0006	CCNM DESIGN OPTION - GENERAL - ABBREVIATIONS - SHEET 3 OF 3

**ALIGNMENT**

DRAWING No.	DRAWING DESCRIPTION
TT-B0101	CCNM DESIGN OPTION - TRACK GENERAL - SYMBOLS, LEGEND, AND GENERAL NOTES - SHEET 1 OF 1
TT-B0102	CCNM DESIGN OPTION - TRACK GENERAL - HORIZONTAL ALIGNMENT DATA TABLE - SHEET 1 OF 1
TT-B3101	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 1 OF 4
TT-B3102	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 2 OF 4
TT-B3103	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 3 OF 4
TT-B3104	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 4 OF 4
TT-C6101	CCNM DESIGN OPTION - TRACK GENERAL - KEY MAP - SHEET 1 OF 1
TT-D1301	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18458+80 TO 18485+00 - PLAN AND PROFILE
TT-D1302	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18485+00 TO 18535+00 - PLAN AND PROFILE
TT-D1303	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18535+00 TO 18585+00 - PLAN AND PROFILE
TT-D1304	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18585+00 TO 18635+00 - PLAN AND PROFILE
TT-D1305	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18635+00 TO 18685+00 - PLAN AND PROFILE
TT-D1306	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18685+00 TO 18735+00 - PLAN AND PROFILE
TT-D1307	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18735+00 TO 18785+00 - PLAN AND PROFILE
TT-D1308	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18785+00 TO 18822+99 - PLAN AND PROFILE
TT-Y5001	CCNM DESIGN OPTION - TRACK GUIDEWAY - ACCESS ROAD TURN-AROUND - DETAILS

**ROADWAY**

DRAWING No.	DRAWING DESCRIPTION
CV-R0001	CCNM DESIGN OPTION - ROADWAY GENERAL - SYMBOLS, LEGEND, AND GENERAL NOTES - SHEET 1 OF 1
CV-R0002	CCNM DESIGN OPTION - ROADWAY GENERAL - TYPICAL SECTIONS - SHEET 1 OF 2
CV-R0003	CCNM DESIGN OPTION - ROADWAY GENERAL - TYPICAL SECTIONS - SHEET 2 OF 2
CV-R0004	CCNM DESIGN OPTION - ROADWAY GENERAL - KEY MAP - SHEET 1 OF 1
CV-R1599	CCNM DESIGN OPTION - ROADWAY - BOX CULVERT CROSSING "18497" - PLAN AND SECTIONS
CV-R1600	CCNM DESIGN OPTION - ROADWAY - BOX CULVERT CROSSING "18700" - PLAN AND SECTIONS
CV-R1601	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18473" - PLAN AND PROFILE
CV-R1602	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18495" - PLAN AND PROFILE
CV-R1603	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18616" - PLAN AND PROFILE
CV-R1604	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18701" - PLAN AND PROFILE
CV-R1605	CCNM DESIGN OPTION - ROADWAY - EASTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1606	CCNM DESIGN OPTION - ROADWAY - EASTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1607	CCNM DESIGN OPTION - ROADWAY - EASTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1608	CCNM DESIGN OPTION - ROADWAY - WESTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1609	CCNM DESIGN OPTION - ROADWAY - WESTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1610	CCNM DESIGN OPTION - ROADWAY - WESTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1612	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18519" - HORIZONTAL ALIGNMENT DATA TABLE
CV-R1613	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18519" - PLAN AND PROFILE
CV-R1614	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18560" - PLAN AND PROFILE
CV-R1615	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18593" - HORIZONTAL ALIGNMENT DATA TABLE
CV-R1616	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18593" - PLAN AND PROFILE
CV-R1618	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18713" - PLAN AND PROFILE
CV-R1619	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18790" - HORIZONTAL ALIGNMENT DATA TABLE
CV-R1620	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18790" - PLAN AND PROFILE
CV-R1621	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18790" - PLAN AND PROFILE

**VOLUME 2  
CONSTRUCTION SEQUENCING**

DRAWING No.	DRAWING DESCRIPTION
CV-I0001	CCNM DESIGN OPTION - CONSTRUCTION SEQUENCING - GENERAL - NOTES AND LEGEND
CV-I0002	CCNM DESIGN OPTION - CONSTRUCTION SEQUENCING - GENERAL - KEY MAP
CV-I1101	CCNM DESIGN OPTION - CONSTRUCTION SEQUENCING - SHEET 1 OF 1

**GRADING, DRAINAGE AND RETAINING WALLS**

DRAWING No.	DRAWING DESCRIPTION
CV-G0101	CCNM DESIGN OPTION - GRADING, DRAINAGE AND RETAINING WALLS GENERAL - LEGEND, ABBREVIATIONS, AND GENERAL NOTES
CV-G0102	CCNM DESIGN OPTION - GRADING, DRAINAGE AND RETAINING WALLS GENERAL - KEY MAP - SHEET 1 OF 1
CV-G1401	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18482+70, 18487+63 - OFFSITE CULVERT PROFILE
CV-G1402	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18493+35 - OFFSITE CULVERT PROFILE
CV-G1403	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18497+86, 18500+69 - OFFSITE CULVERT PROFILE
CV-G1404	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18504+01, 18513+70 - OFFSITE CULVERT PROFILE
CV-G1405	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18561+59, 18658+50 - OFFSITE CULVERT PROFILE
CV-G1406	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18670+42, 18703+22 - OFFSITE CULVERT PROFILE
CV-G1407	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18714+89, 18752+96 - OFFSITE CULVERT PROFILE
CV-G1408	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18760+49, 18765+43 - OFFSITE CULVERT PROFILE
CV-G1409	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18769+58, 18771+12 - OFFSITE CULVERT PROFILE
CV-G1410	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18778+37, 18780+95 - OFFSITE CULVERT PROFILE
CV-G1411	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18805+46, 18808+99 - OFFSITE CULVERT PROFILE
CV-G4601	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18458+80 TO 18485+00 - PLAN
CV-G4602	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18485+00 TO 18510+00 - PLAN
CV-G4603	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18510+00 TO 18535+00 - PLAN
CV-G4604	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18535+00 TO 18560+00 - PLAN
CV-G4605	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18560+00 TO 18585+00 - PLAN
CV-G4606	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18585+00 TO 18610+00 - PLAN
CV-G4607	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18610+00 TO 18635+00 - PLAN
CV-G4608	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18635+00 TO 18660+00 - PLAN
CV-G4609	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18660+00 TO 18685+00 - PLAN
CV-G4610	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18685+00 TO 18710+00 - PLAN
CV-G4611	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18710+00 TO 18735+00 - PLAN
CV-G4612	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18735+00 TO 18760+00 - PLAN
CV-G4613	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18760+00 TO 18785+00 - PLAN
CV-G4614	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18785+00 TO 18810+00 - PLAN
CV-G4615	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18810+00 TO 18822+99 - PLAN
CV-G4616	CCNM DESIGN OPTION - GRADING AND DRAINAGE - ACCESS ROAD STA 18519+00 - PLAN
CV-G4617	CCNM DESIGN OPTION - GRADING AND DRAINAGE - ACCESS ROAD STA 18560+00 - PLAN
CV-G4618	CCNM DESIGN OPTION - GRADING AND DRAINAGE - ACCESS ROAD STA 18519+00 - PLAN
ST-G1101	CCNM DESIGN OPTION - RETAINING WALL - 18473 - PLAN AND PROFILE
ST-G1102	CCNM DESIGN OPTION - RETAINING WALL - 18474 - PLAN AND PROFILE
ST-G1103	CCNM DESIGN OPTION - RETAINING WALL - 18769 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1104	CCNM DESIGN OPTION - RETAINING WALL - 18781 AND 18783 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1105	CCNM DESIGN OPTION - RETAINING WALL - 18789 AND 18790 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1106	CCNM DESIGN OPTION - RETAINING WALL - 18792 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1107	CCNM DESIGN OPTION - RETAINING WALL - STATE ROUTE 58 - PLAN AND PROFILE

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**S. LANDOLT**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**TYLIN INTERNATIONAL**



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

CCNM DESIGN OPTION  
GENERAL  
INDEX OF DRAWING  
SHEET 1 OF 2

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
GE-B0002  
SCALE  
NO SCALE  
SHEET NO.

**VOLUME 3  
TRACK AND ROADWAY STRUCTURES**

DRAWING No.	DRAWING DESCRIPTION
ST-J0001	CCNM DESIGN OPTION - TRACK AND ROADWAY STRUCTURES - GENERAL NOTES AND LEGEND
ST-J0002	CCNM DESIGN OPTION - TRACK AND ROADWAY STRUCTURES - KEY MAP
ST-J0003	CCNM DESIGN OPTION - GENERAL - TYPICAL SECTIONS - SHEET 1 OF 3
ST-J0004	CCNM DESIGN OPTION - GENERAL - TYPICAL SECTIONS - SHEET 2 OF 3
ST-J0005	CCNM DESIGN OPTION - GENERAL - TYPICAL SECTIONS - SHEET 3 OF 3
ST-J1201	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18463+56 TO 18475+16 - PLAN AND ELEVATION
ST-J1202	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18463+56 TO 18475+16 - PLAN AND ELEVATION
ST-J1203	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18564+23 TO 18585+67 - PLAN AND ELEVATION
ST-J1204	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18564+23 TO 18585+67 - PLAN AND ELEVATION
ST-J1205	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18564+23 TO 18585+67 - PLAN AND ELEVATION
ST-J1206	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18718+57 TO 18747+94 - PLAN AND ELEVATION
ST-J1207	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18718+57 TO 18747+94 - PLAN AND ELEVATION
ST-J1208	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18718+57 TO 18747+94 - PLAN AND ELEVATION
ST-K1101	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 EB OVERHEAD - PLAN AND ELEVATION
ST-K1102	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 EB OVERHEAD - PLAN AND ELEVATION
ST-K1103	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 EB OVERHEAD - TYPICAL SECTION
ST-K1104	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 WB OVERHEAD - PLAN AND ELEVATION
ST-K1105	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 WB OVERHEAD - PLAN AND ELEVATION
ST-K1106	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 WB OVERHEAD - TYPICAL SECTION

**TRACTION POWER**

DRAWING No.	DRAWING DESCRIPTION
TP-B0101	CCNM DESIGN OPTION - TRACTION POWER GENERAL - LEGEND - SHEET 1 OF 1
TP-B0102	CCNM DESIGN OPTION - TRACTION POWER GENERAL - KEY MAP - SHEET 1 OF 1
TP-B3101	CCNM DESIGN OPTION - TRACTION POWER GENERAL - TYPICAL SECTIONS - SHEET 1 OF 1
TP-D0101	CCNM DESIGN OPTION - TRACTION POWER FACILITY LAYOUT
TP-E4101	CCNM DESIGN OPTION - TYPICAL LAYOUT - PARALLELING STATION WITH 2 AUTOTRANSFORMERS
TP-O4301	CCNM DESIGN OPTION - TRACTION POWER SITE PLAN - PROPOSED PARALLELING STATION 3
TP-O4302	CCNM DESIGN OPTION - TRACTION POWER SITE PLAN - PROPOSED PARALLELING STATION 4

**AUTOMATIC TRAIN CONTROL**

DRAWING No.	DRAWING DESCRIPTION
TC-B0101	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL GENERAL - ABBREVIATIONS AND LEGEND - SHEET 1 OF 1
TC-B0102	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL GENERAL - KEY MAP - SHEET 1 OF 1
TC-D0101	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL LAYOUT
TC-F4101	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL SITE PLAN - SITE @ 18750+69

**TUNNEL**

DRAWING No.	DRAWING DESCRIPTION
TN-B0101	CCNM DESIGN OPTION - TUNNEL LEGEND
TN-B0102	CCNM DESIGN OPTION - KEY MAP - ALIGNMENT TUNNELS
TN-C1001	CCNM DESIGN OPTION - TUNNEL PROFILE - TUNNEL 5 AND 6
TN-C4301	CCNM DESIGN OPTION - TUNNEL 5 - NORTH AND SOUTH PORTALS - STA 18505+00 TO STA 18566+00
TN-C4302	CCNM DESIGN OPTION - TUNNEL 6 - NORTH PORTAL - STA 18566+00 TO STA 18630+00
TN-C4303	CCNM DESIGN OPTION - TUNNEL 6 - SOUTH PORTAL - STA 18630+00 TO STA 18690+00
TN-D3001	CCNM DESIGN OPTION - TUNNEL DRILL AND BLAST METHOD - SINGLE TUNNEL CLEARANCE DIAGRAM
TN-D3002	CCNM DESIGN OPTION - TUNNEL DRILL AND BLAST METHOD - SINGLE TUNNEL
TN-D3003	CCNM DESIGN OPTION - TUNNEL CUT AND COVER BOX - CLEARANCE DIAGRAM - TANGENT TRACK

**VOLUME 4  
UTILITIES**

DRAWING No.	DRAWING DESCRIPTION
UT-B0001	CCNM DESIGN OPTION - COMPOSITE UTILITY GENERAL - ABBREVIATIONS AND LEGEND
UT-B0002	CCNM DESIGN OPTION - COMPOSITE UTILITY GENERAL - GENERAL NOTES AND UTILITY OWNERS
UT-B0003	CCNM DESIGN OPTION - COMPOSITE UTILITY GENERAL - KEY MAP - SHEET 1 OF 1
UT-C4601	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18458+80 TO 18485+00 - PLAN
UT-C4602	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18485+00 TO 18510+00 - PLAN
UT-C4603	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18510+00 TO 18535+00 - PLAN
UT-C4604	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18535+00 TO 18560+00 - PLAN
UT-C4605	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18560+00 TO 18585+00 - PLAN
UT-C4606	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18585+00 TO 18610+00 - PLAN
UT-C4607	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18610+00 TO 18635+00 - PLAN
UT-C4608	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18635+00 TO 18660+00 - PLAN
UT-C4609	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18660+00 TO 18685+00 - PLAN
UT-C4610	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18685+00 TO 18710+00 - PLAN
UT-C4611	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18710+00 TO 18735+00 - PLAN
UT-C4612	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18735+00 TO 18760+00 - PLAN
UT-C4613	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18760+00 TO 18785+00 - PLAN
UT-C4614	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18785+00 TO 18810+00 - PLAN
UT-C4615	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18810+00 TO 18822+99 - PLAN

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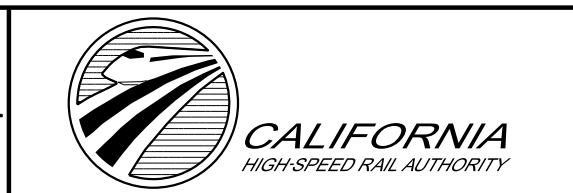
TYL\jmeredith

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>S. LANDOLT</b>
DRAWN BY <b>A. RIVERA</b>
CHECKED BY <b>S. LANDOLT</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>03/06/2019</b>

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
GENERAL  
INDEX OF DRAWING  
SHEET 2 OF 2

CONTRACT NO. HSR13-44
DRAWING NO. GE-B0003
SCALE NO SCALE
SHEET NO.

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**A**

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

**B**

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

**C**

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

**D**

D DEPTH  
 DD DOWNDRAIN, DIRECTIVE DRILLING  
 DBL DOUBLE  
 DEG DEGREE  
 DEL DELINEATOR  
 DET DETAIL, DETOUR  
 DF DOUGLAS FIR  
 DI DRAINAGE INLET, DROP INLET  
 DIA DIAMETER  
 DIAPH DIAPHRAGM  
 DIST DISTANCE, DISTRICT  
 DMBB DOUBLE METAL BEAM BARRIER  
 DR DRIVE  
 DS DESIGN SPEED  
 DTBB DOUBLE THRIE BEAM BARRIER  
 DWG DRAWING  
 DWP DEPARTMENT OF WATER AND POWER  
 DWY DRIVEWAY

**E**

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

**F**

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

**G**

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

**H**

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

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**J. MEREDITH**  
 CHECKED BY  
**S. LANDOLT**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 GENERAL  
 ABBREVIATIONS  
 SHEET 1 OF 3

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
GE-B0004  
 SCALE  
NO SCALE  
 SHEET NO.



I

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

J

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

K

K DISTANCE TO ACHIEVE 1% GRADE CHANGE  
 KV KILOVOLT

L

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

M

MAINT MAINTENANCE  
 MAX MAXIMUM  
 MB METAL BEAM  
 MBB METAL BEAM BARRIER  
 MBGR METAL BEAM GUARD RAILING  
 MED MEDIAN  
 MH MANHOLE  
 MIN MINIMUM  
 MISC MISCELLANEOUS  
 MISC I & S MISCELLANEOUS IRON AND STEEL  
 MKR MARKER  
 M/L MAIN LINE (RAILWAY)  
 MOD MODIFIED, MODIFY  
 MON MONUMENT  
 MOIF MAINTENANCE OF INFRASTRUCTURE FACILITY  
 MOIS MAINTENANCE OF INFRASTRUCTURE SIDING  
 MP METAL PLATE

M CONTINUED

MPGR METAL PLATE GUARD RAILING  
 MPH MILES PER HOUR  
 MR MOVEMENT RATING  
 MSE MECHANICALLY STABILIZED EARTH  
 MSS MOVING SCAFFOLDING SYSTEM  
 MTL MATERIAL  
 MVP MAINTENANCE VEHICLE PULLOUT

N

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

O

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

P

P PAGE  
 PAP PERFORATED ALUMINUM PIPE  
 PB PULL BOX, PALMDALE TO BURBANK  
 PC POINT OF CURVATURE, PRECAST  
 PCC POINT OF COMPOUND CURVE,  
 PORTLAND CEMENT CONCRETE  
 PCP PERFORATED CONCRETE PIPE,  
 PRESTRESSED CONCRETE PIPE  
 PCVC POINT OF COMPOUND VERTICAL CURVE  
 PED PEDESTRIAN  
 PED OC PEDESTRIAN OVERCROSSING  
 PED UC PEDESTRIAN UNDERCROSSING  
 PERM MTL PERMEABLE MATERIAL  
 PG PROFILE GRADE  
 PG&E PACIFIC GAS AND ELECTRIC  
 PI POINT OF INTERSECTION  
 PJP PARTIAL JOINT PENETRATION  
 PL PLATE  
 P/L PROPERTY LINE  
 PM POST MILE, TIME FROM NOON TO MIDNIGHT  
 PN PAVING NOTCH

P CONTINUED

POB POINT OF BEGINNING  
 POC POINT OF HORIZONTAL CURVE  
 POE POINT OF ENDING  
 POT POINT OF TANGENT  
 POVC POINT OF VERTICAL CURVE  
 PP PIPE PILE, PLASTIC PIPE, POWER POLE  
 PPEF PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT  
 PPL PREFORMED PERMEABLE LINER  
 PPP PERFORATED PLASTIC PIPE  
 PRC POINT OF REVERSE CURVE  
 PRF PAVEMENT REINFORCING FABRIC  
 PROP PROPOSED  
 PRVC POINT OF REVERSE VERTICAL CURVE  
 PS&E PLANS, SPECIFICATIONS AND ESTIMATES  
 PS, P/S PRESTRESSED, PARALLELING STATION  
 PSP PERFORATED STEEL PIPE  
 PT POINT OF TANGENCY  
 PTEF PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT  
 PTSW POINT OF TRACK SWITCH  
 PVC POLYVINYL CHLORIDE  
 PVI POINT OF VERTICAL INTERSECTION  
 PVMT PAVEMENT

Q

QTY QUANTITY

R

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

R CONTINUED

R/W RIGHT OF WAY  
 RWY RAILWAY

S

S SOUTH, SUPPLEMENT  
 SAE STRUCTURE APPROACH EMBANKMENT  
 SALV SALVAGE  
 SAPP STRUCTURAL ALUMINUM PLATE PIPE  
 SB SOUTHBOUND  
 SC SPIRAL TO CURVE  
 SCE SOUTHERN CALIFORNIA EDISON  
 SCSP SLOTTED CORRUGATED STEEL PIPE  
 SD STORM DRAIN  
 SEC SECOND  
 SECT SECTION  
 SEP SEPARATION  
 SG SUBGRADE  
 SHLD SHOULDER  
 SHT SHEET  
 SIM SIMILAR  
 S STATION LINE  
 SM SELECTED MATERIAL  
 SPEC SPECIAL, SPECIFICATIONS  
 SPP SLOTTED PLASTIC PIPE  
 SS SLOPE STAKE, SPIRAL TO SPIRAL,  
 SUPPLY STATION  
 SSBM STRAP AND SADDLE BRACKET METHOD  
 SSD STRUCTURAL SECTION DRAIN  
 SSPA STRUCTURAL STEEL PLATE ARCH  
 SSPP STRUCTURAL STEEL PLATE PIPE  
 SSPPA STRUCTURAL STEEL PLATE PIPE ARCH  
 SSRP STEEL SPIRAL RIB PIPE  
 SR STATE ROUTE  
 ST STREET, SPIRAL TO TANGENT  
 STA STATION  
 STBB SINGLE THRIE BEAM BARRIER  
 STD STANDARD  
 STR STRUCTURE  
 SRS STAND ALONE RADIO SITE  
 SURF SURFACING  
 SW SIDEWALK, SOUND WALL  
 SWR SEWER  
 SWS SWITCHING STATION  
 SYM SYMMETRICAL  
 S4S SURFACE 4 SIDES  
 SJVR SAN JOAQUIN VALLEY RAILROAD

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
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 CHECKED BY  
**S. LANDOLT**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**03/06/2019**

**RECORD  
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SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
GENERAL  
ABBREVIATIONS  
SHEET 2 OF 3

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
GE-B0005  
 SCALE  
NO SCALE  
 SHEET NO.

**T**

T SEMI-TANGENT  
 TAB TABLET  
 TAN TANGENT  
 TBB THRIE BEAM BARRIER  
 TBR TIMBER  
 TC TOP OF CURB, TANGENT TO CURVE  
 TCB TRAFFIC CONTROL BOX  
 TEL TELEPHONE  
 TEMP TEMPORARY  
 TF TOP OF FOOTING  
 TG TOP OF GRADE  
 TM TECHNICAL MEMORANDUM  
 TOT TOTAL  
 TP TRACTION POWER, TUNNEL PORTAL  
 TPB TREATED PERMEABLE BASE  
 TPF TRACTION POWER FACILITY  
 TPM TREATED PERMEABLE MATERIAL  
 TRANS TRANSITION, TRANSVERSE  
 TS TRAFFIC SIGNAL, TUBULAR STEEL,  
 TANGENT TO SPIRAL  
 TOR TOP OF RAIL  
 TW TOP OF WALL  
 TYP TYPICAL

**U**

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

**V**

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

**W**

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

**X**

X SEC CROSS SECTION  
 XING CROSSING

**Y**

YR YEAR  
 YRS YEARS

**Z**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
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**G. CAMPBELL**  
 DATE  
**03/06/2019**

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**TYLIN INTERNATIONAL**



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

CCNM DESIGN OPTION  
 GENERAL  
 ABBREVIATIONS  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR13-44  
 DRAWING NO.  
 GE-B0006  
 SCALE  
 NO SCALE  
 SHEET NO.

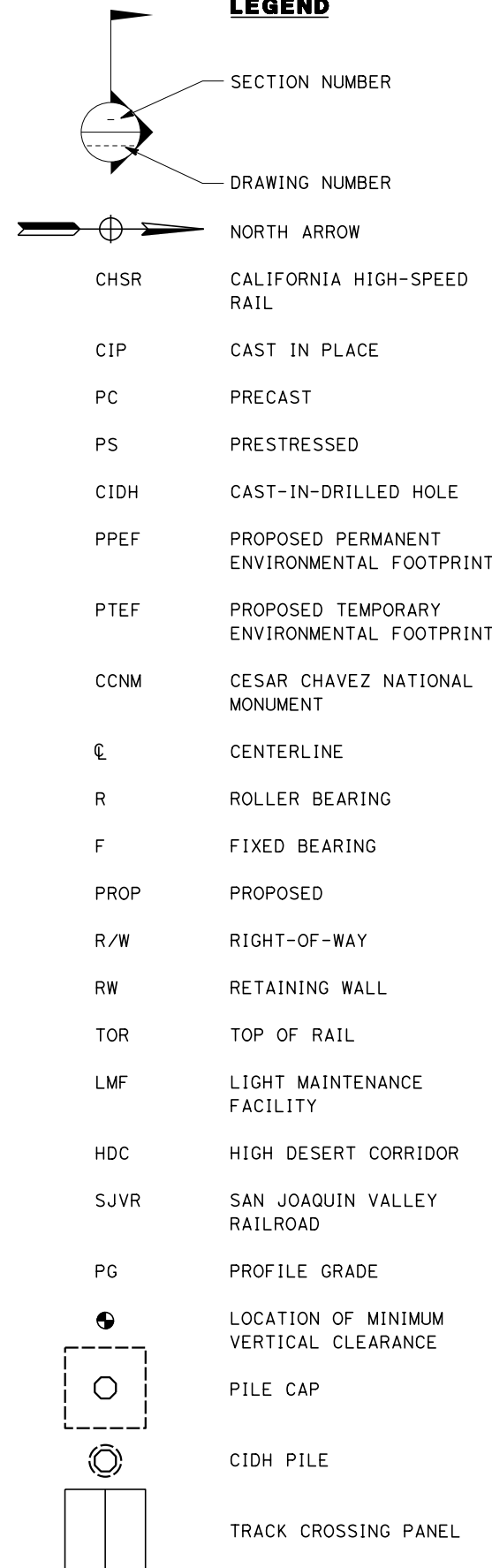
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TYLIN\Y.Wang

**LEGEND**



- ① CONCRETE BARRIER INTRUSION PROTECTION
- ② CONCRETE BARRIER TYPE 742
- ③ CONCRETE BARRIER TYPE 732SW
- ④ SOLID METAL FENCE ON CONCRETE BARRIER WITHOUT SIDEWALK. SEE NOTE K.
- ⑤ STRUCTURE APPROACH SLAB
- ⑥ RETAINING WALL
- ⑦ SOLID METAL FENCE ON CONCRETE BARRIER WITH SIDEWALK
- ⑧ CONCRETE BARRIER TYPE 732
- ⑨ METAL HANDRAILING
- ⑩ CHAIN LINK FENCE

**GENERAL NOTES**

- A. UTILITY LOCATIONS TO BE DETERMINED.
- B. FOR DETAILS NOT NOTED ON PLAN AND ELEVATION SHEETS, SEE TYPICAL SECTION SHEETS FOR TRACK STRUCTURES.
- C. GRADE ELEVATIONS SHOWN ARE AT TOP OF RAIL.
- D. ALL COLUMNS ARE NORMAL TO THE STATION LINE UNLESS OTHERWISE SHOWN.
- E. REFER TO TRACK ALIGNMENT DRAWINGS FOR CURVE AND TANGENT INFORMATION.
- F. NOT ALL PILES ARE SHOWN.
- G. PILE SIZES AND LENGTHS TO BE DETERMINED.
- H. SUPERSTRUCTURE CONSISTS OF PRECAST CONCRETE GIRDERS UNLESS OTHERWISE NOTED.
- I. BEARINGS ARTICULATION FOR PC GIRDER SPANS ARE FIXED-ROLLER AT OPPOSING SPAN ENDS UNLESS OTHERWISE NOTED.
- J. REFER TO ROADWAY DRAWINGS FOR GEOMETRIC INFORMATION OF ROADWAY STRUCTURES.
- K. EXTEND SOLID FENCE 30 FEET FROM CENTERLINE OF OUTERMOST TRACK OR 10 FEET BEYOND THE OUTERMOST ENERGIZED CONDUCTOR OR COMPONENT, WHICHEVER IS GREATER.
- L. REFER TO TRACK ALIGNMENT DRAWINGS FOR LIMITS OF RETAINING WALLS, UNLESS OTHERWISE SHOWN.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOBIAN**

DRAWN BY  
**YIHONG WANG**

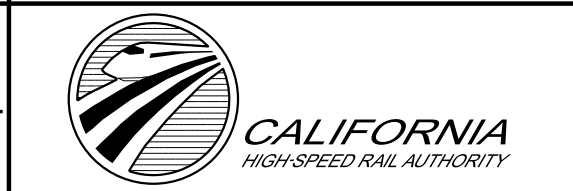
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**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**

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CONSTRUCTION**

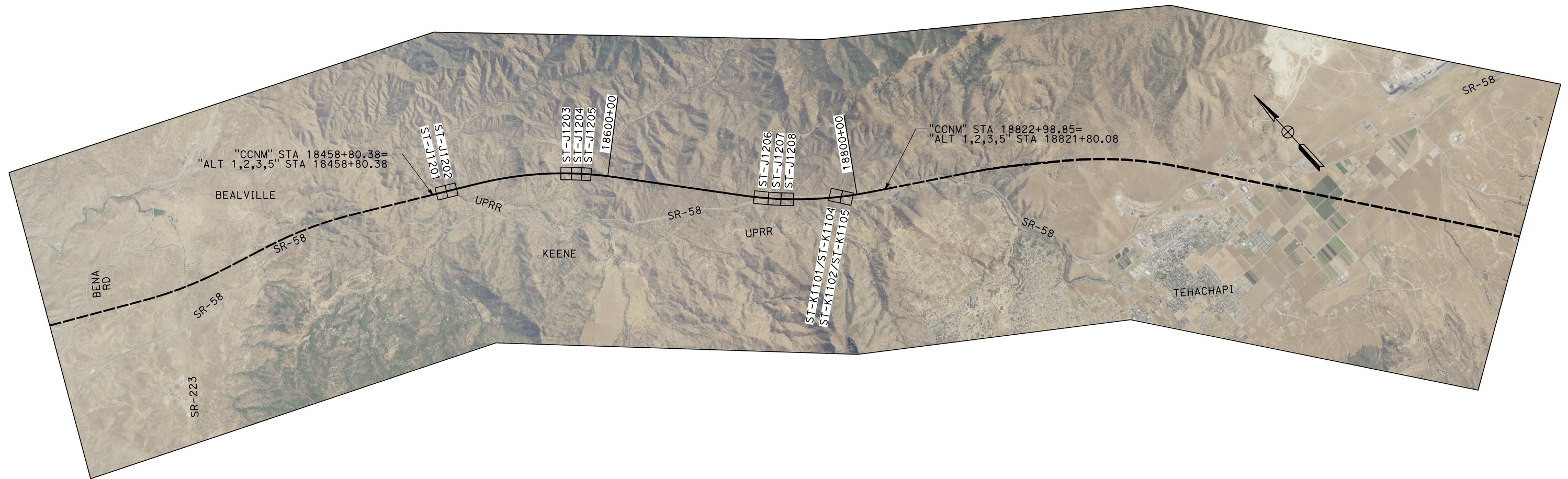
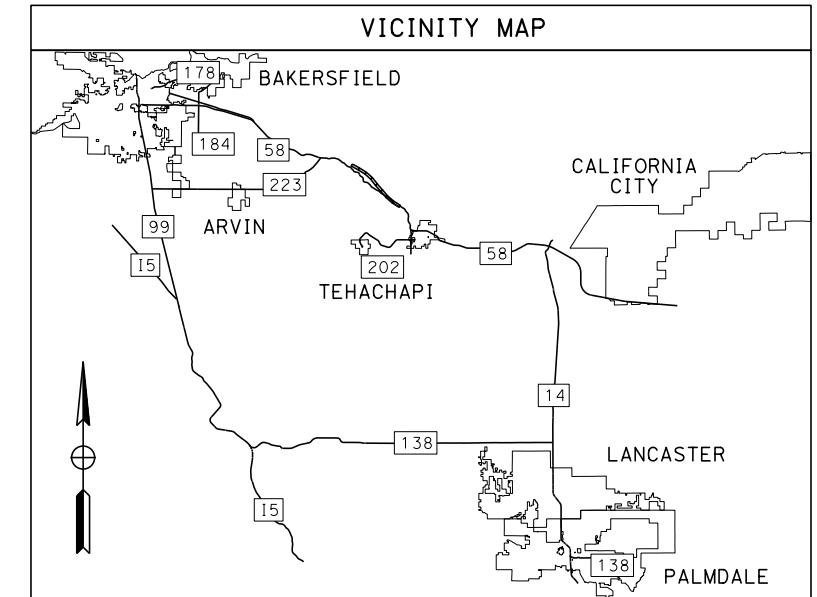


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
TRACK AND ROADWAY STRUCTURES  
GENERAL NOTES AND LEGEND

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>ST-J0001</b>
SCALE <b>NO SCALE</b>
SHEET NO.

# CCNM DESIGN OPTION



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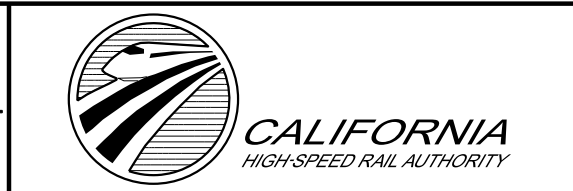
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**ROB BARTON**

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**STEVE SMITH**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACK AND ROADWAY STRUCTURES  
KEY MAP

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**ST-J0002**

SCALE  
**AS SHOWN**

SHEET NO.

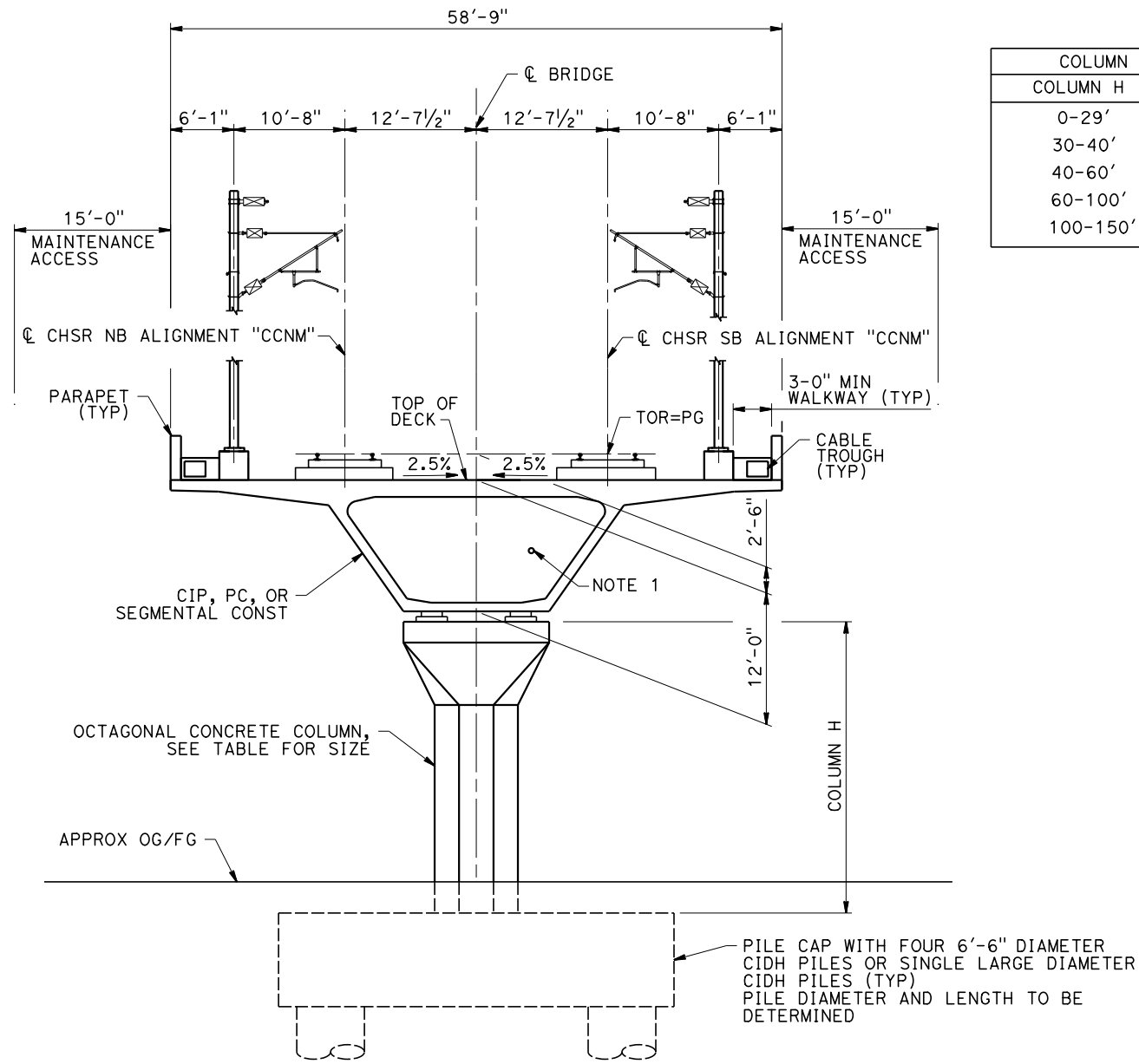


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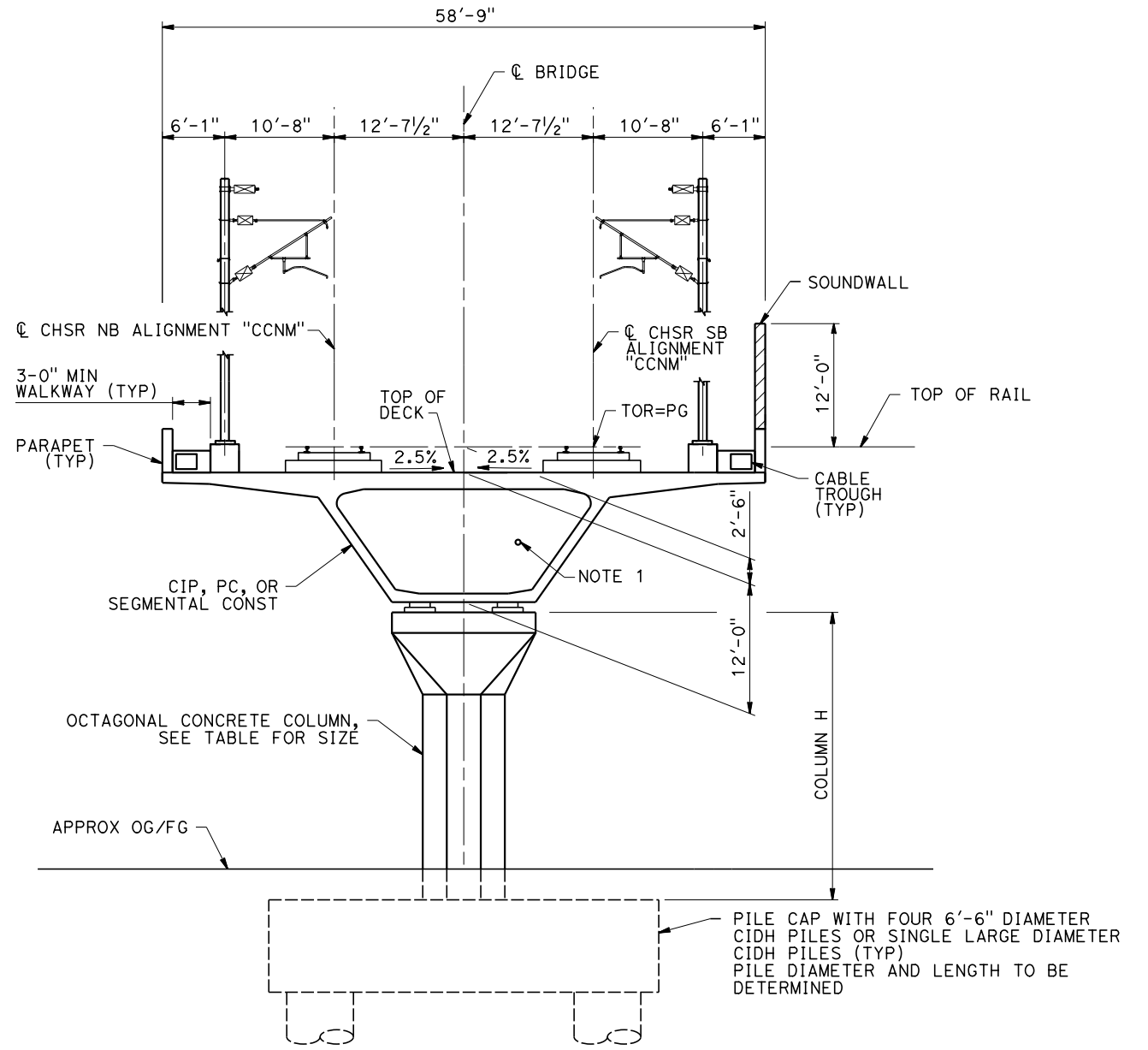
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**SECTION A-1**

SCALE: 1/2"=1'-0"

COLUMN SIZE	
COLUMN H	SIZE
0-29'	8'
30-40'	10'
40-60'	12'
60-100'	14'
100-150'	16'



**SECTION A-2**

SCALE: 1/2"=1'-0"

NOTE:

1. PROPOSED 4" CHSR WATERLINE FROM STATION 18034+00 TO 19591+00.

STA 18463+56 TO STA 18469+10 (CCNM DESIGN OPTION)  
 STA 18474+20 TO STA 18475+16 (CCNM DESIGN OPTION)  
 STA 18718+57 TO STA 18719+44 (CCNM DESIGN OPTION)  
 STA 18724+54 TO STA 18725+74 (CCNM DESIGN OPTION)  
 STA 18735+94 TO STA 18747+94 (CCNM DESIGN OPTION)

STA 18564+23 TO STA 18571+43 (CCNM DESIGN OPTION)  
 STA 18577+30 TO STA 18585+67 (CCNM DESIGN OPTION)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
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 DRAWN BY  
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**ROB BARTON**  
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**STEVE SMITH**  
 DATE  
**03/06/2019**

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

CCNM DESIGN OPTION  
 GENERAL  
 TYPICAL SECTIONS  
 SHEET 1 OF 3

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
ST-J0003  
 SCALE  
AS SHOWN  
 SHEET NO.



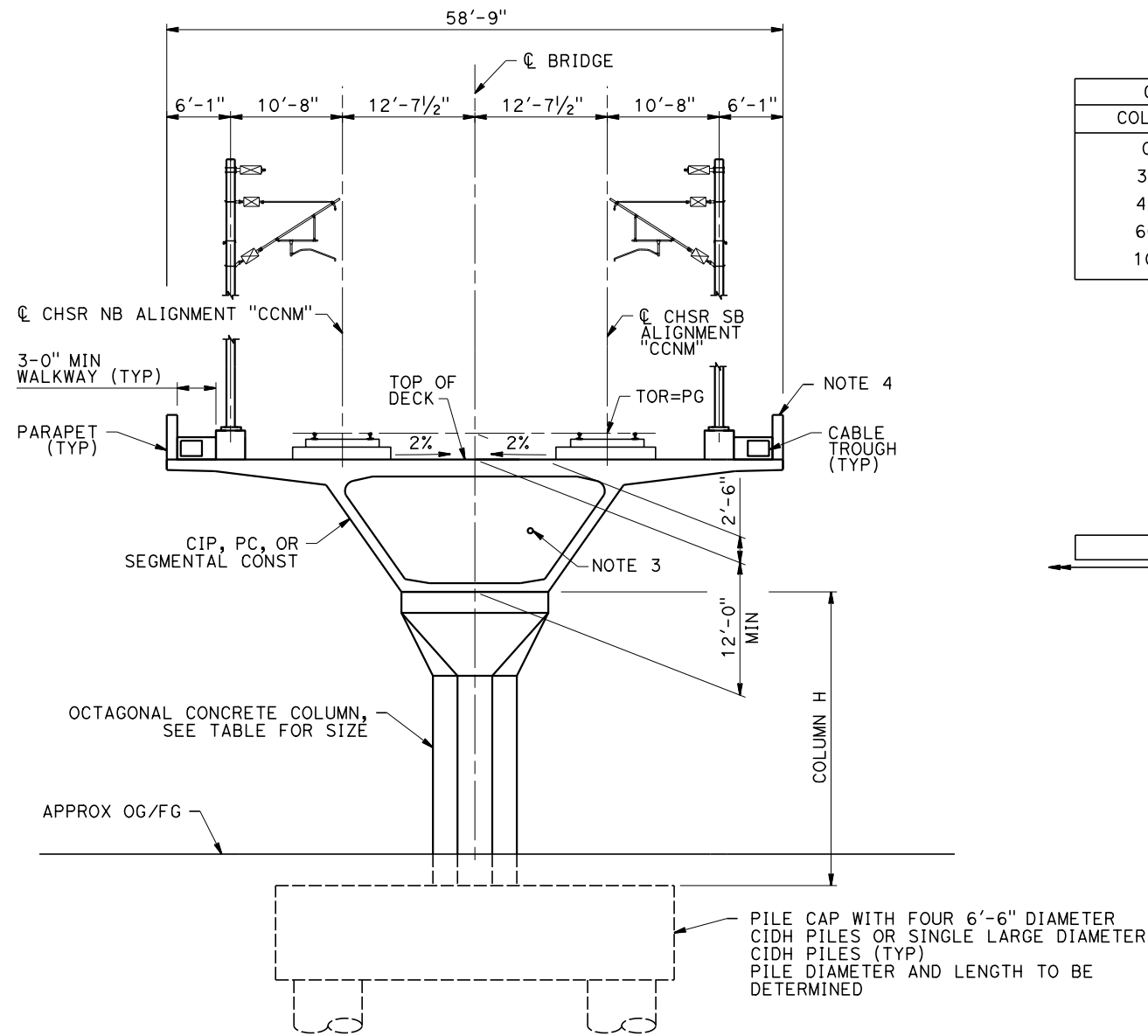


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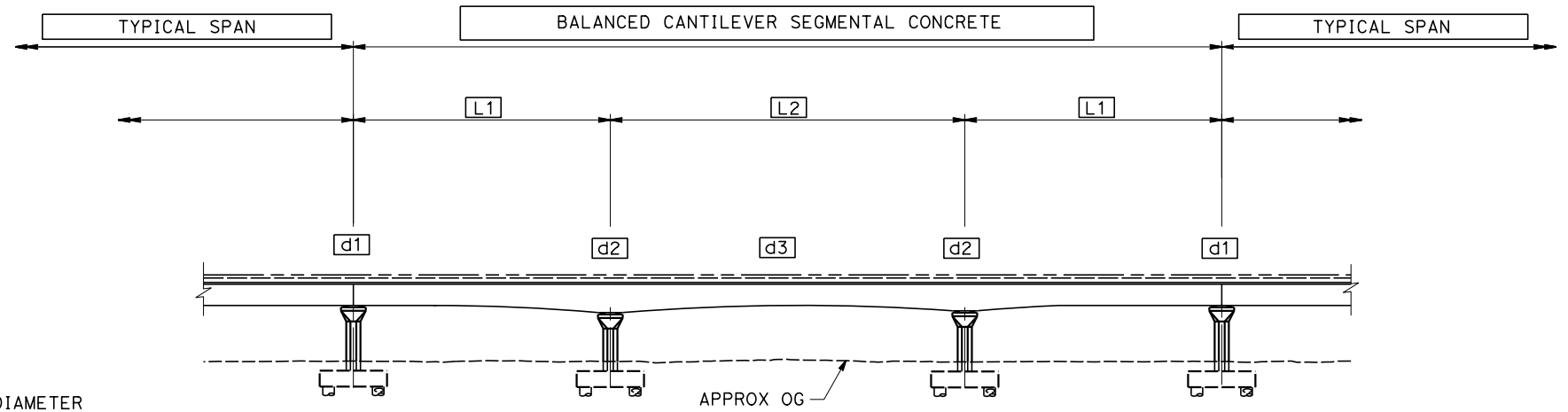
**SECTION C**  
SCALE: 1/2"=1'-0"

STA 18469+10 TO STA 18474+20 (CCNM DESIGN OPTION)  
 STA 18571+43 TO STA 18577+30 (CCNM DESIGN OPTION)  
 STA 18719+44 TO STA 18724+54 (CCNM DESIGN OPTION) - NOTE 4

COLUMN SIZE	
COLUMN H	SIZE
0-29'	8'
30-40'	10'
40-60'	12'
60-100'	14'
100-150'	16'

**NOTES:**

- GIRDER SIDE SLOPE VARIES DEPENDING ON STRUCTURE DEPTH AT SUPPORT.
- WHERE 4-SPAN ARRANGEMENTS ARE SHOWN, THERE ARE 2 CENTER SPANS AND 3 CENTER COLUMNS WITH STRUCTURE DEPTH EQUAL TO d2 ABOVE THE COLUMNS.
- PROPOSED 4" CHSR WATERLINE FROM STATION 18034+00 TO 19591+00.
- SOUNDWALL ON BARRIER NOT SHOWN FOR CLARITY. SEE SECTION A-2 ON DRAWING ST-J0003.



**BALANCED CANTILEVER SEGMENTAL**  
SCALE: 1/4"=1'-0"

d1 = 12'-0"  
 d2 = L2/12  
 d3 = L2/20

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
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 DRAWN BY  
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**ROB BARTON**  
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**STEVE SMITH**  
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**03/06/2019**

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**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 GENERAL  
 TYPICAL SECTIONS  
 SHEET 3 OF 3

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
ST-J0005  
 SCALE  
AS SHOWN  
 SHEET NO.

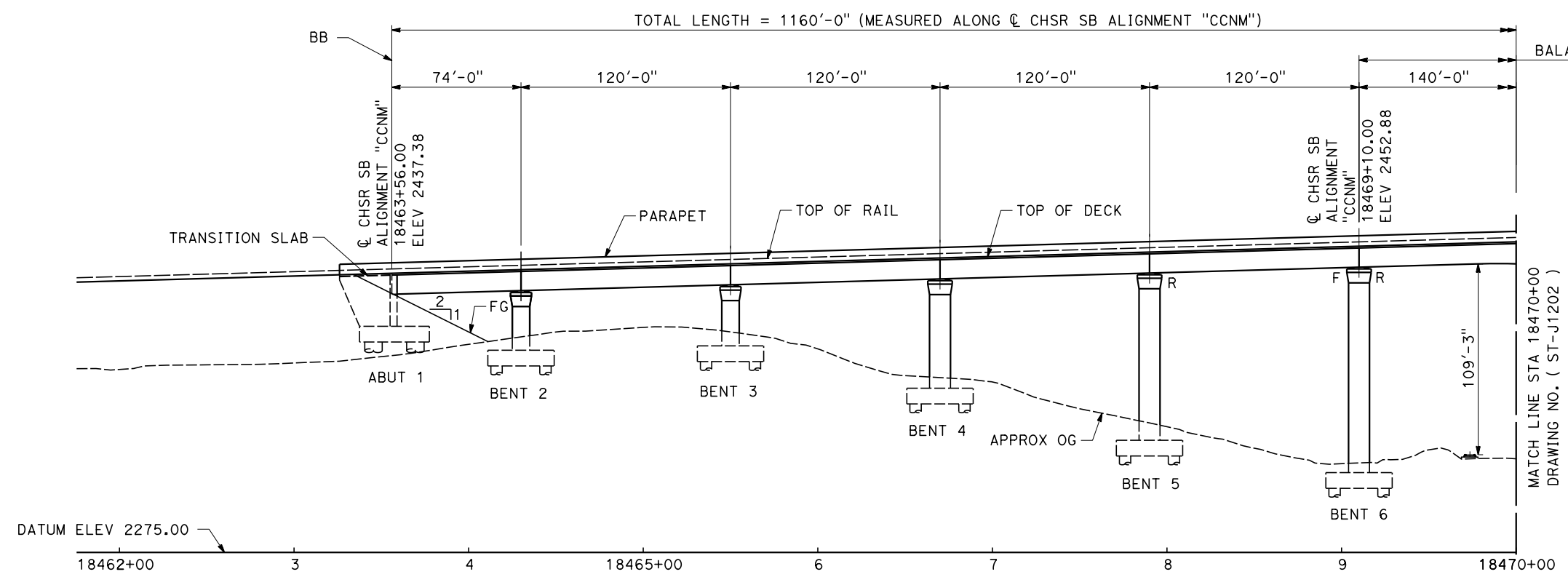
18458+80.38  
ELEV 2424.07

+2.80%

**TOP OF RAIL @ CHSR SB ALIGNMENT "CCNM"**

NO SCALE

18671+00.00 BVC  
ELEV 3017.87



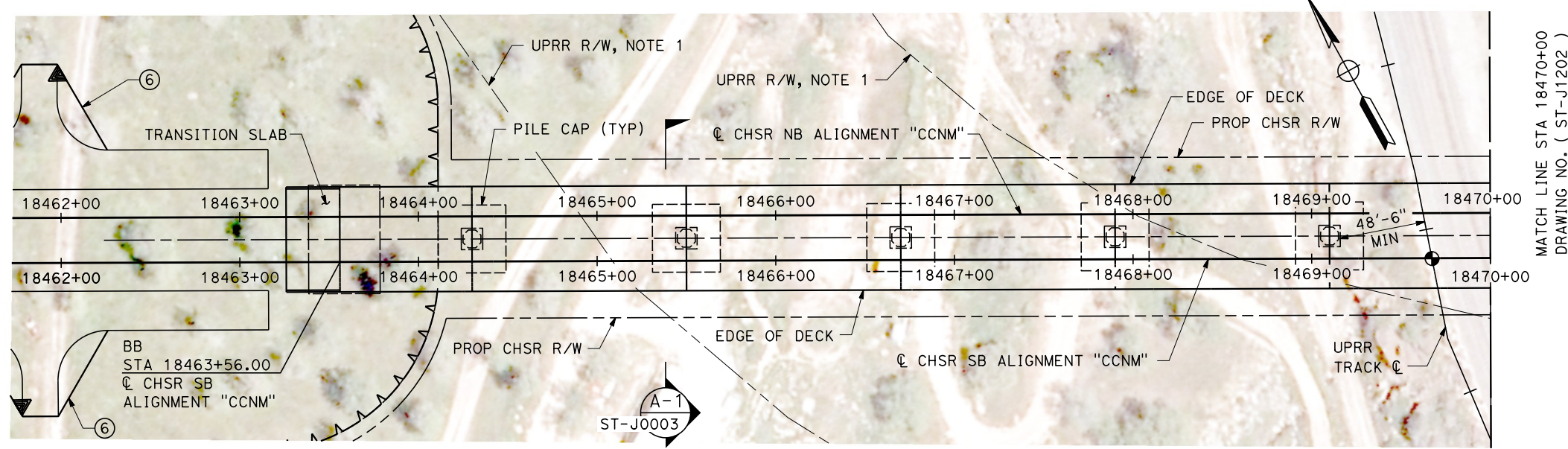
**PROFILE**  
SCALE 1"= 40'

**LEGEND**

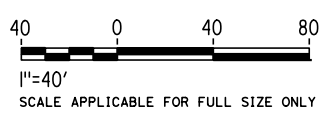
⑥ SEE DRAWING ST-J0001

**NOTE:**

1. RECORD RIGHT-OF-WAY IS NOT CORRECT IN RELATION TO THE LOCATION OF RAILROAD TRACKS.



**PLAN**  
SCALE 1"= 40'



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REV	DATE	BY	CHK	APP	DESCRIPTION

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

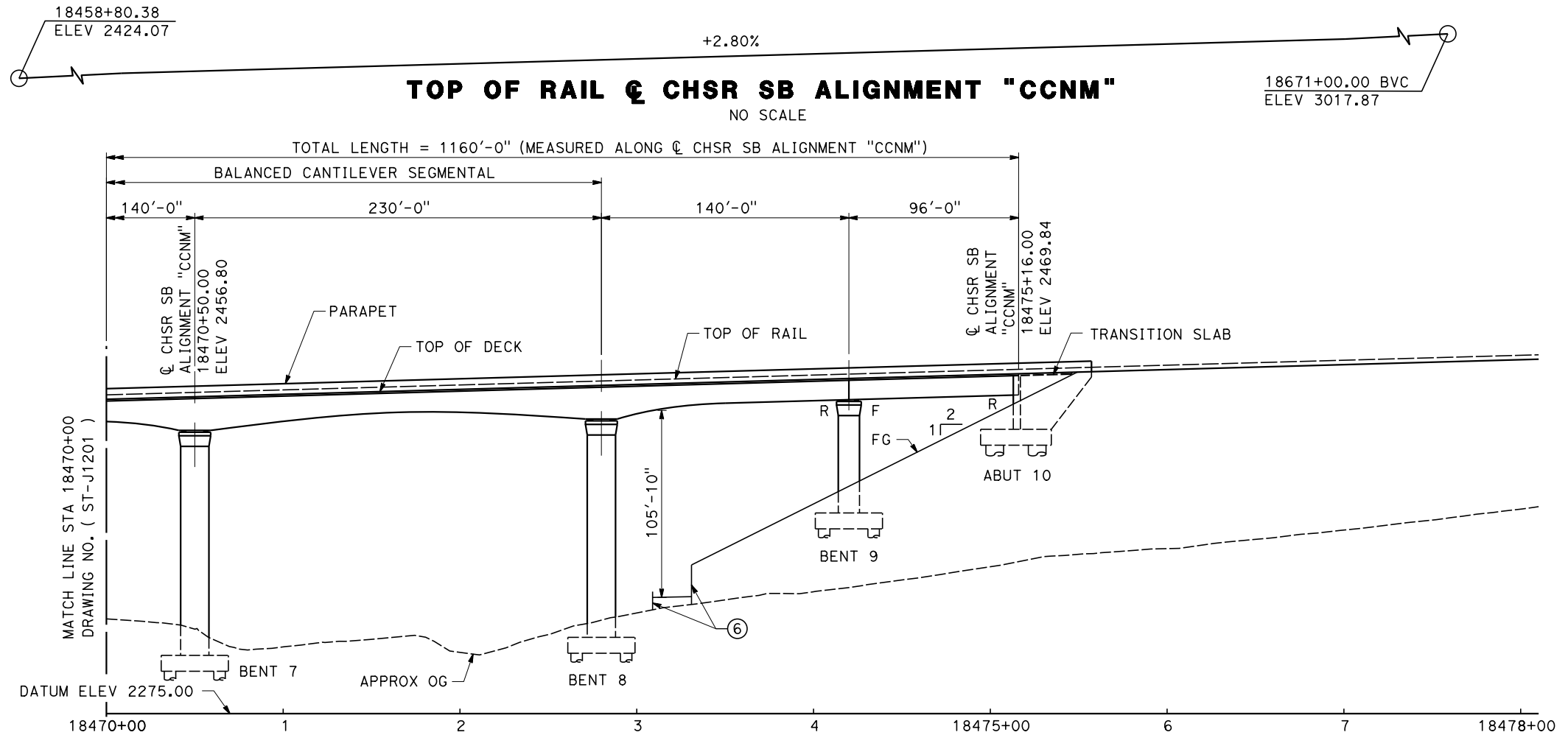
CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18463+56 TO 18475+16  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44

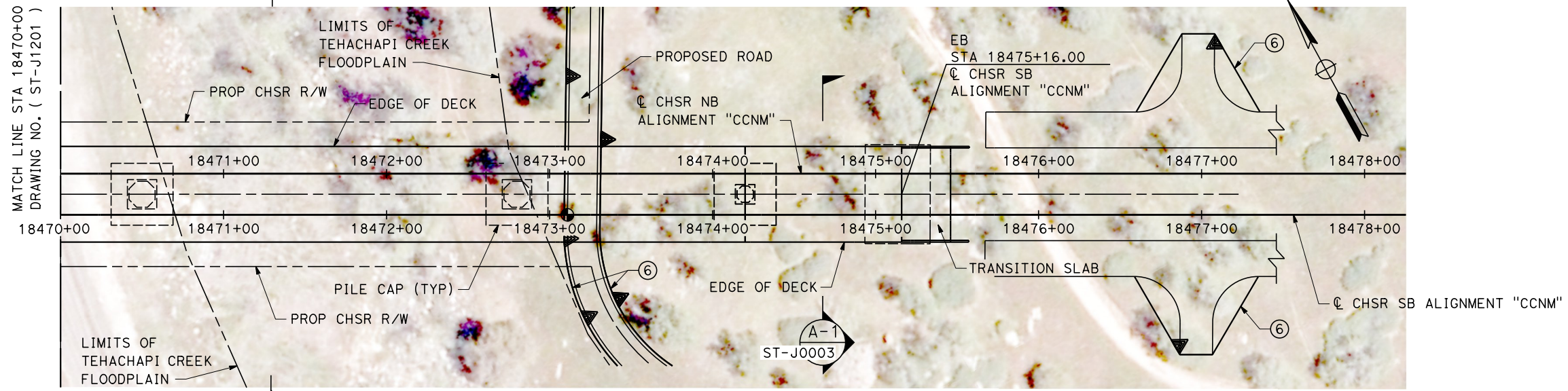
DRAWING NO.  
ST-J1201

SCALE  
AS SHOWN

SHEET NO.

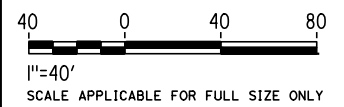


**PROFILE**  
SCALE 1" = 40'



**PLAN**  
SCALE 1" = 40'

**LEGEND**  
⑥ SEE DRAWING ST-J0001



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**  
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IN CHARGE  
**STEVE SMITH**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
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**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18463+56 TO 18475+16  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
ST-J1202  
SCALE  
AS SHOWN  
SHEET NO.



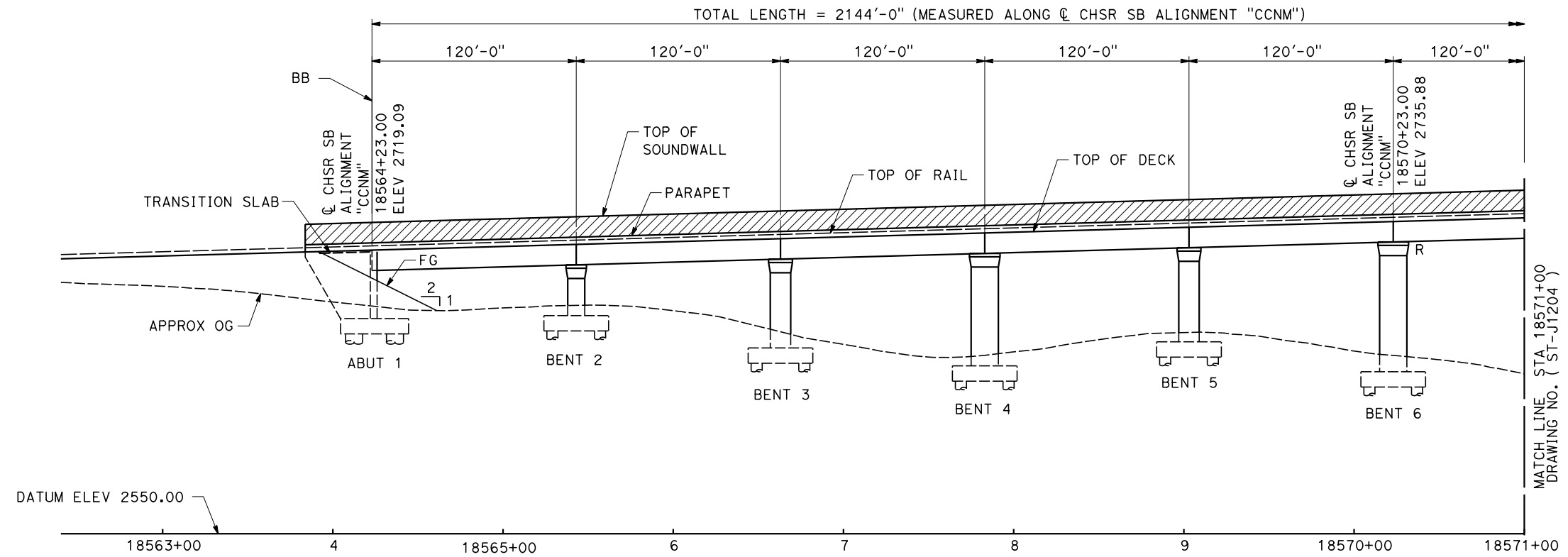
18458+80.38  
ELEV 2424.07

18671+00.00 BVC  
ELEV 3017.87

+2.80%

**TOP OF RAIL & CHSR SB ALIGNMENT "CCNM"**

NO SCALE

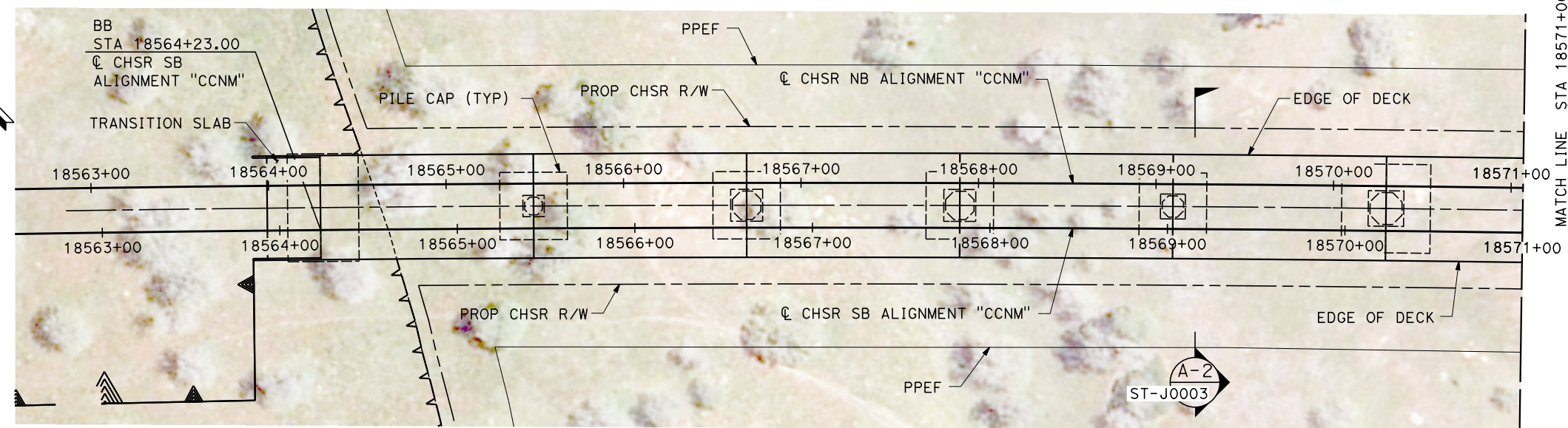
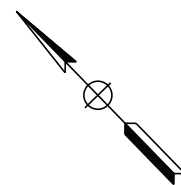


**ELEVATION**

SCALE 1" = 40'

**LEGEND**

SOUNDWALL



**PLAN**

SCALE 1" = 40'



1" = 40'  
SCALE APPLICABLE FOR FULL SIZE ONLY

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-J1203.dgn

12:38:20 PM

2/12/2019

TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**  
DRAWN BY  
**YIHONG WANG**  
CHECKED BY  
**ROB BARTON**  
IN CHARGE  
**STEVE SMITH**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18564+23 TO 18585+67  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
ST-J1203  
SCALE  
AS SHOWN  
SHEET NO.



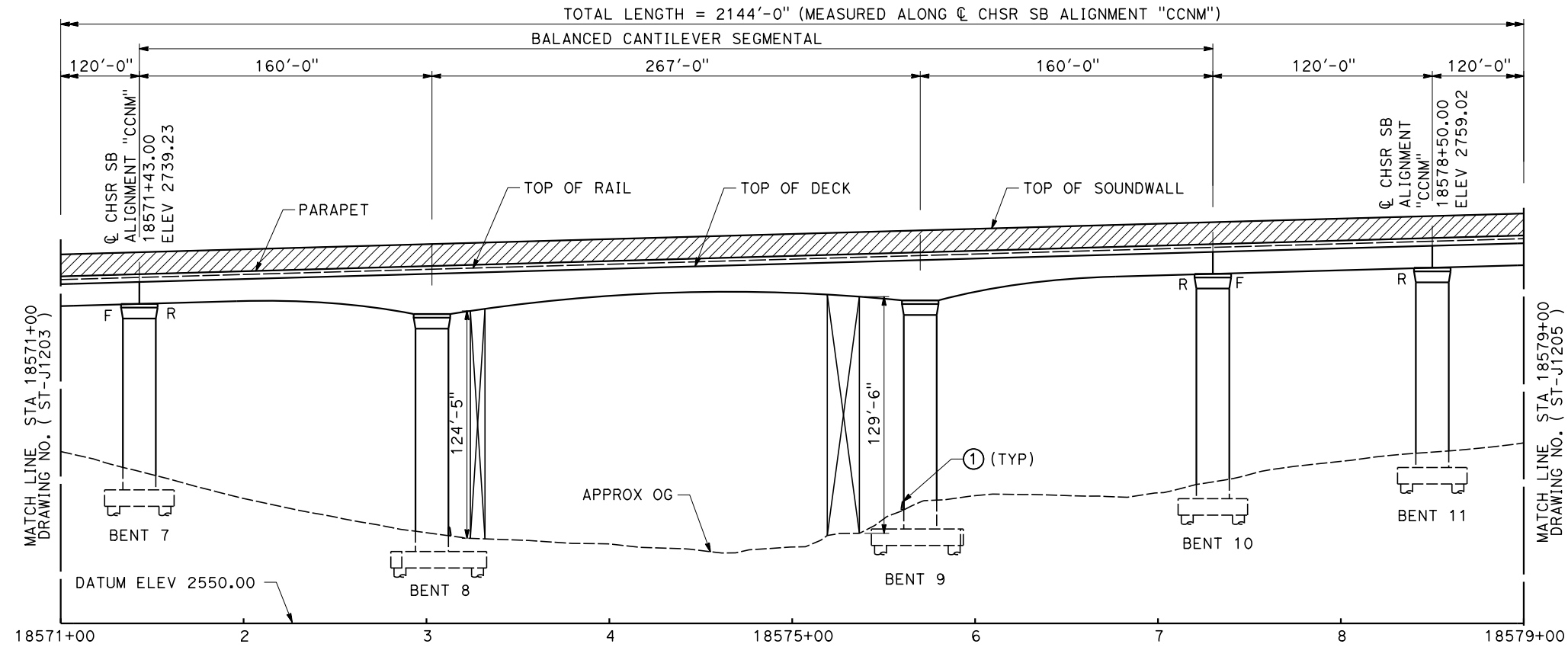
18458+80.38  
ELEV 2424.07

18671+00.00 BVC  
ELEV 3017.87

+2.80%

**TOP OF RAIL @ CHSR SB ALIGNMENT "CCNM"**

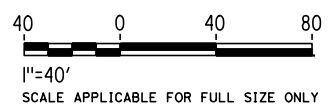
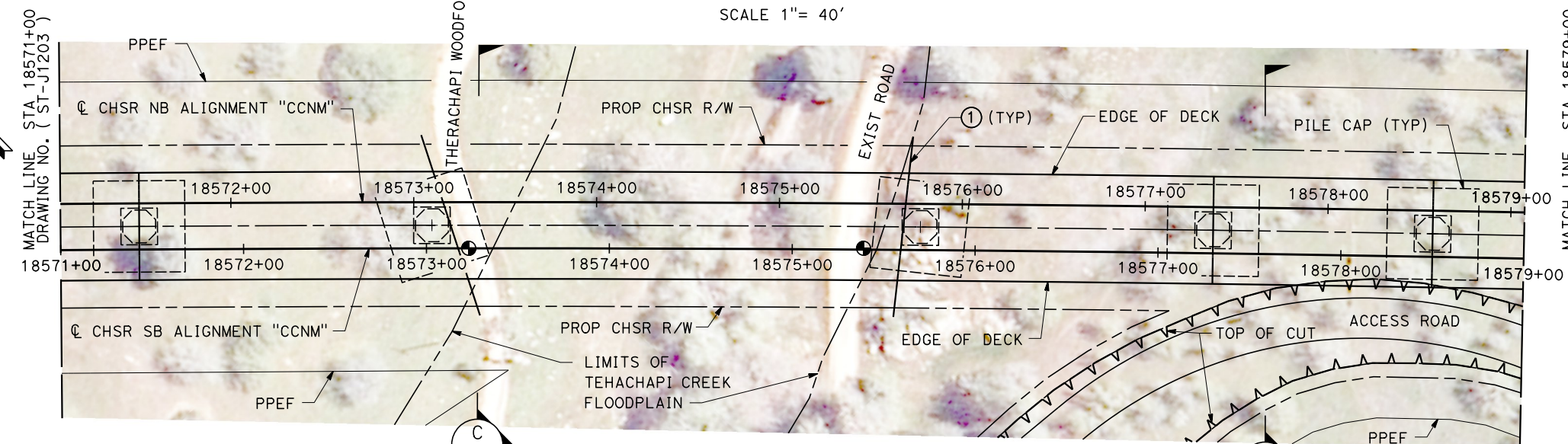
NO SCALE



**LEGEND**

① SEE DRAWING ST-J0001

SOUNDWALL



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-J1204.dgn

12:38:29 PM

2/12/2019

TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOBIAN**

DRAWN BY  
**YIHONG WANG**

CHECKED BY  
**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18564+23 TO 18585+67  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44

DRAWING NO.  
ST-J1204

SCALE  
AS SHOWN

SHEET NO.

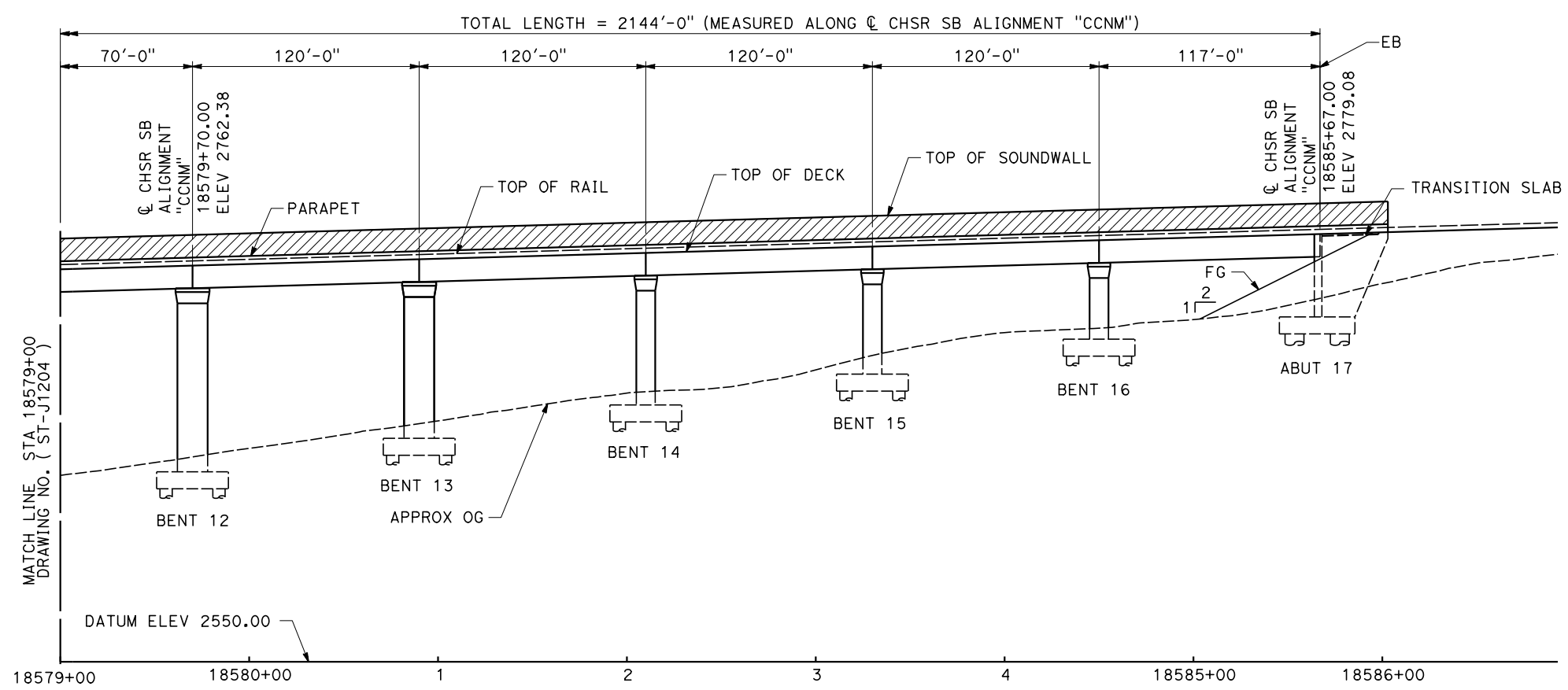
18458+80.38  
ELEV 2424.07

18671+00.00 BVC  
ELEV 3017.87

+2.80%

**TOP OF RAIL @ CHSR SB ALIGNMENT "CCNM"**

NO SCALE

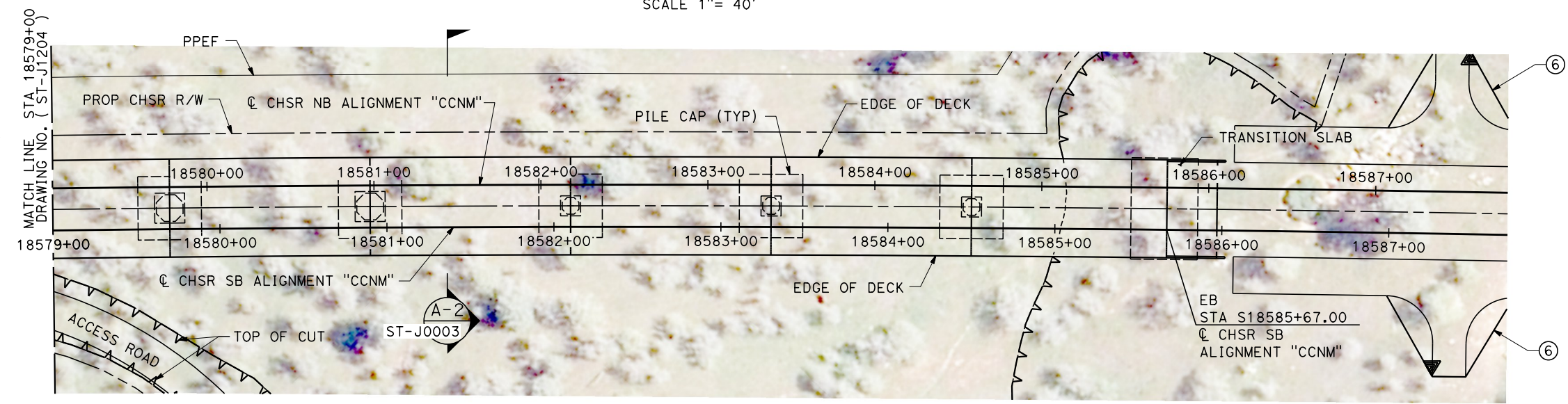
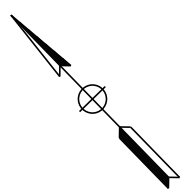


**ELEVATION**

SCALE 1" = 40'

**LEGEND**

- ⑥ SEE DRAWING ST-J0001
- SOUNDWALL



**PLAN**

SCALE 1" = 40'



1"=40'  
SCALE APPLICABLE FOR FULL SIZE ONLY

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-J1205.dgn

12:38:24 PM

2/12/2019

TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**

DRAWN BY  
**YIHONG WANG**

CHECKED BY  
**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18564+23 TO 18585+67  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44

DRAWING NO.  
ST-J1205

SCALE  
AS SHOWN

SHEET NO.



18683+00.00 EVC  
ELEV 3051.25

+2.76%

**TOP OF RAIL & CHSR SB ALIGNMENT "CCNM"**

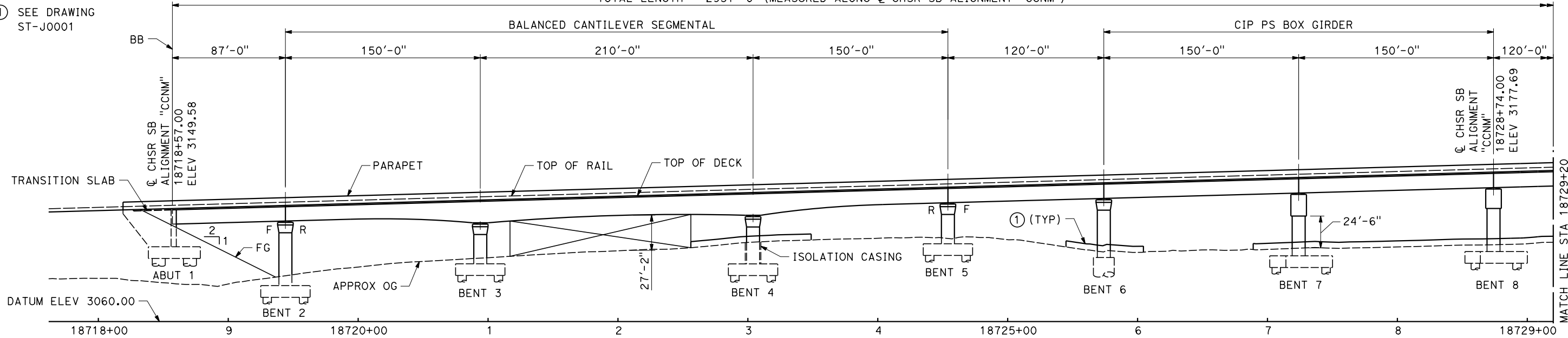
NO SCALE

18769+00.00 BVC  
ELEV 3288.99

**LEGEND**

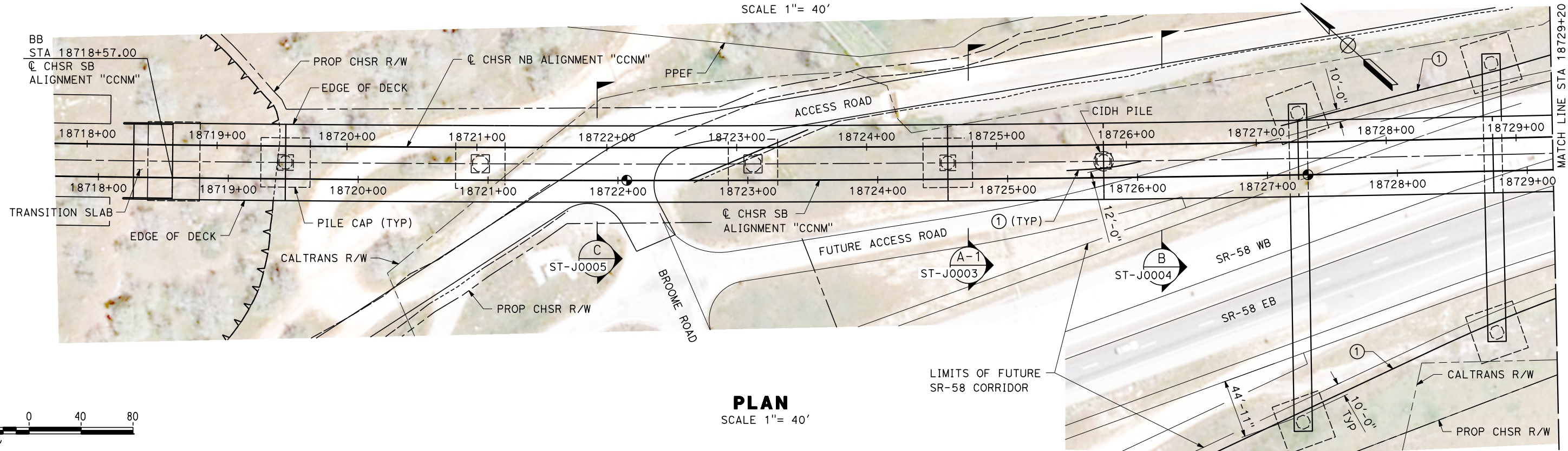
① SEE DRAWING  
ST-J0001

TOTAL LENGTH = 2937'-0" (MEASURED ALONG & CHSR SB ALIGNMENT "CCNM")



**ELEVATION**

SCALE 1" = 40'



**PLAN**

SCALE 1" = 40'



1"=40'  
SCALE APPLICABLE FOR FULL SIZE ONLY

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-J1206.dgn 2/12/2019 12:38:37 PM TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**  
DRAWN BY  
**YIHONG WANG**  
CHECKED BY  
**ROB BARTON**  
IN CHARGE  
**STEVE SMITH**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18718+57 TO 18747+94  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
ST-J1206  
SCALE  
AS SHOWN  
SHEET NO.



18683+00.00 EVC  
ELEV 3051.25

+2.76%

18769+00.00 BVC  
ELEV 3288.99

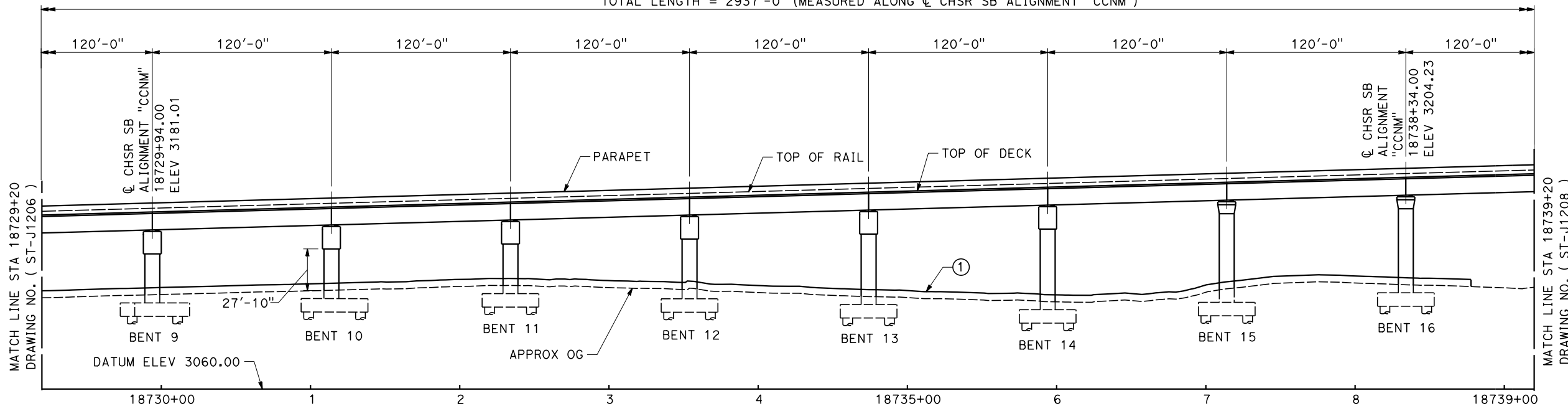
### TOP OF RAIL & CHSR SB ALIGNMENT "CCNM"

NO SCALE

TOTAL LENGTH = 2937'-0" (MEASURED ALONG & CHSR SB ALIGNMENT "CCNM")

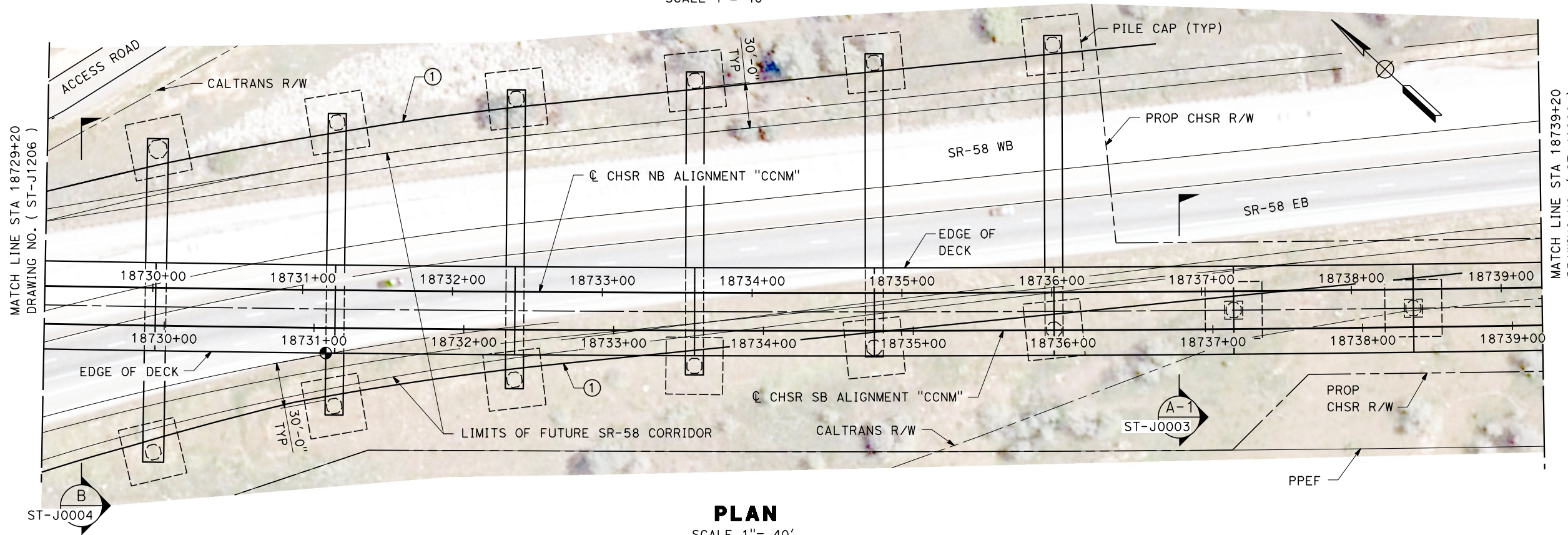
#### LEGEND

① SEE DRAWING  
ST-J0001



### ELEVATION

SCALE 1" = 40'



### PLAN

SCALE 1" = 40'



1" = 40'  
SCALE APPLICABLE FOR FULL SIZE ONLY

DESIGNED BY  
**R. GOLCHOOBIAN**

DRAWN BY  
**YIHONG WANG**

CHECKED BY  
**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**TYLIN INTERNATIONAL**



**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

### CALIFORNIA HIGH-SPEED RAIL PROJECT BAKERSFIELD TO PALMDALE

CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18718+57 TO 18747+94  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44

DRAWING NO.  
ST-J1207

SCALE  
AS SHOWN

SHEET NO.

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-J1207.dgn

12:38:39 PM

2/12/2019

TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

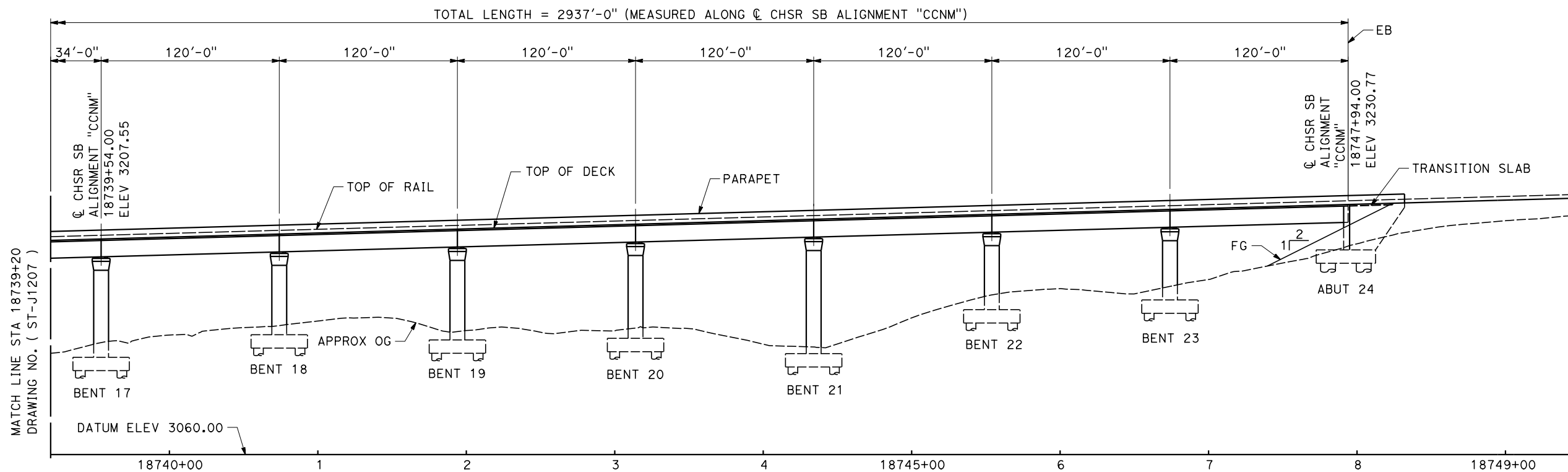
18683+00.00 EVC  
ELEV 3051.25

+2.76%

18769+00.00 BVC  
ELEV 3288.99

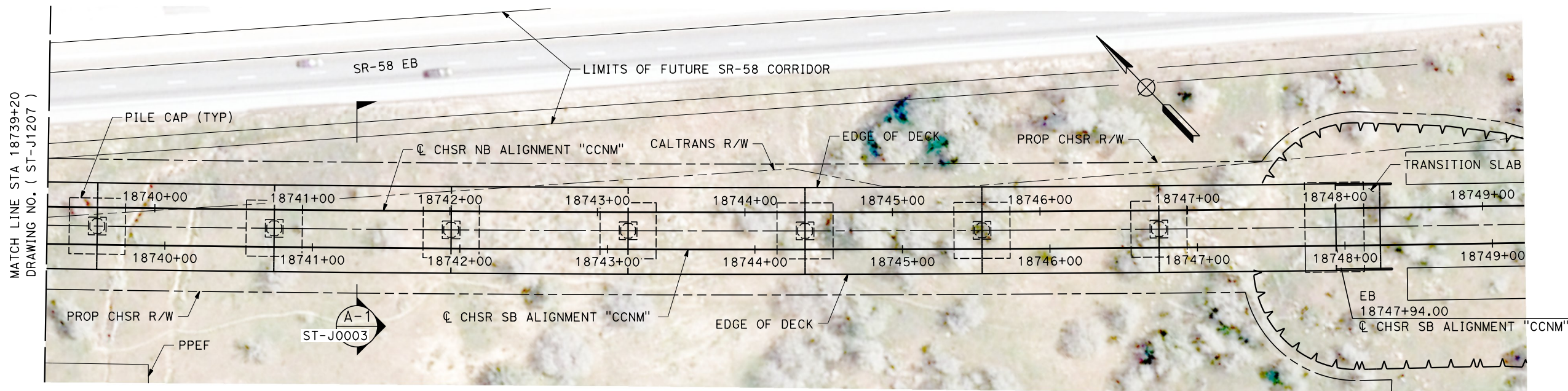
**TOP OF RAIL & CHSR SB ALIGNMENT "CCNM"**

NO SCALE



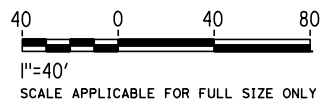
**ELEVATION**

SCALE 1"= 40'



**PLAN**

SCALE 1"= 40'



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-J1208.dgn

12:38:34 PM

2/12/2019

TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**

DRAWN BY  
**YIHONG WANG**

CHECKED BY  
**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACK STRUCTURES  
VIADUCT STATION 18718+57 TO 18747+94  
PLAN AND ELEVATION

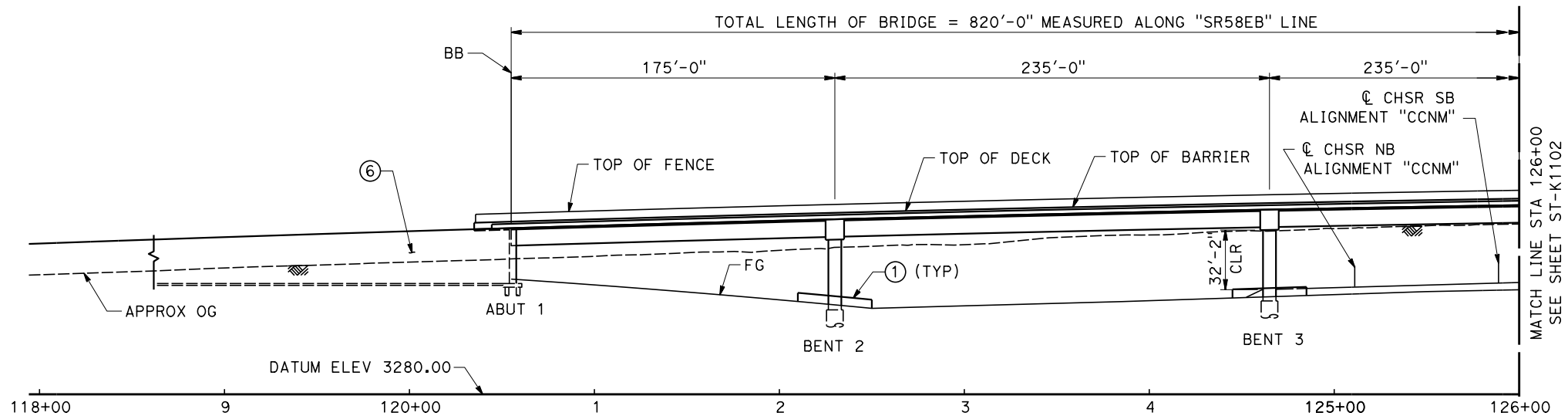
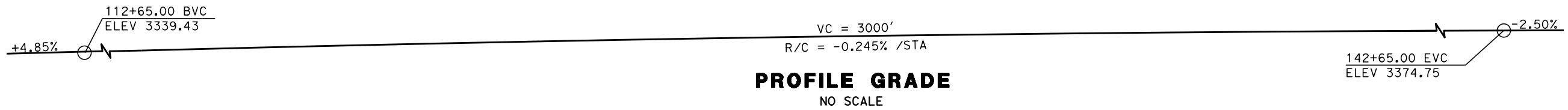
CONTRACT NO.  
HSR13-44

DRAWING NO.  
ST-J1208

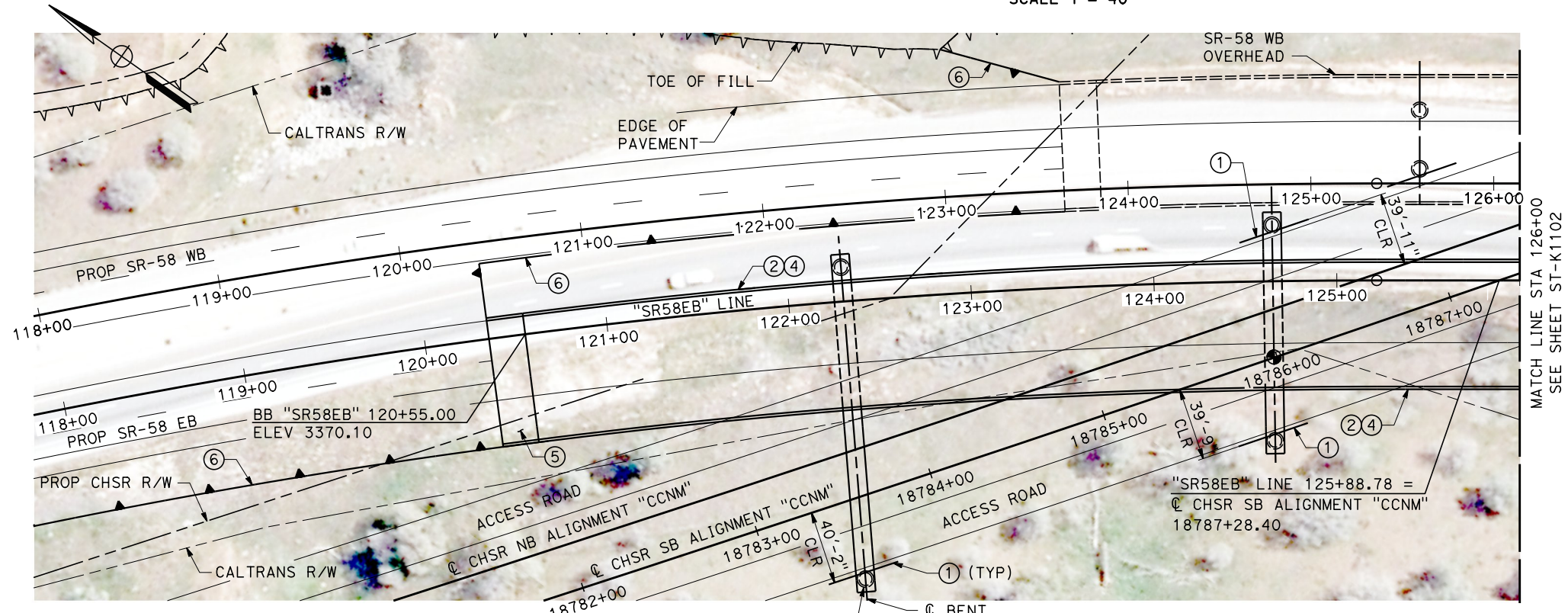
SCALE  
AS SHOWN

SHEET NO.



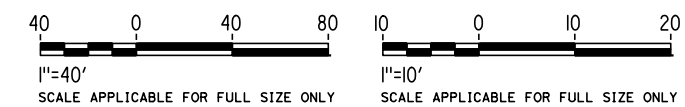


**ELEVATION**  
SCALE 1" = 40'



**PLAN**  
SCALE 1" = 40'

**LEGEND**  
⑥ SEE DRAWING ST-J0001



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-K1101.dgn

12:38:55 PM

2/12/2019

TYLIN\YWang

DESIGNED BY <b>R. GOLCHOBIAN</b>	<b>RECORD PEPD SUBMITTAL</b>  <b>NOT FOR CONSTRUCTION</b>					
DRAWN BY <b>YIHONG WANG</b>						
CHECKED BY <b>ROB BARTON</b>						
IN CHARGE <b>STEVE SMITH</b>						
DATE <b>03/06/2019</b>						
REV	DATE	BY	CHK	APP	DESCRIPTION	

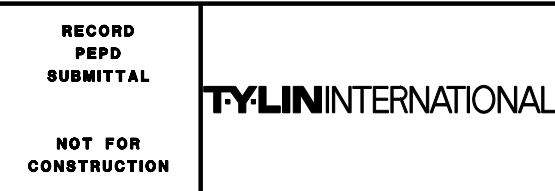
DESIGNED BY  
**R. GOLCHOBIAN**

DRAWN BY  
**YIHONG WANG**

CHECKED BY  
**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**



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

CCNM DESIGN OPTION  
ROADWAY STRUCTURES  
SR 58 EB OVERHEAD  
PLAN AND ELEVATION

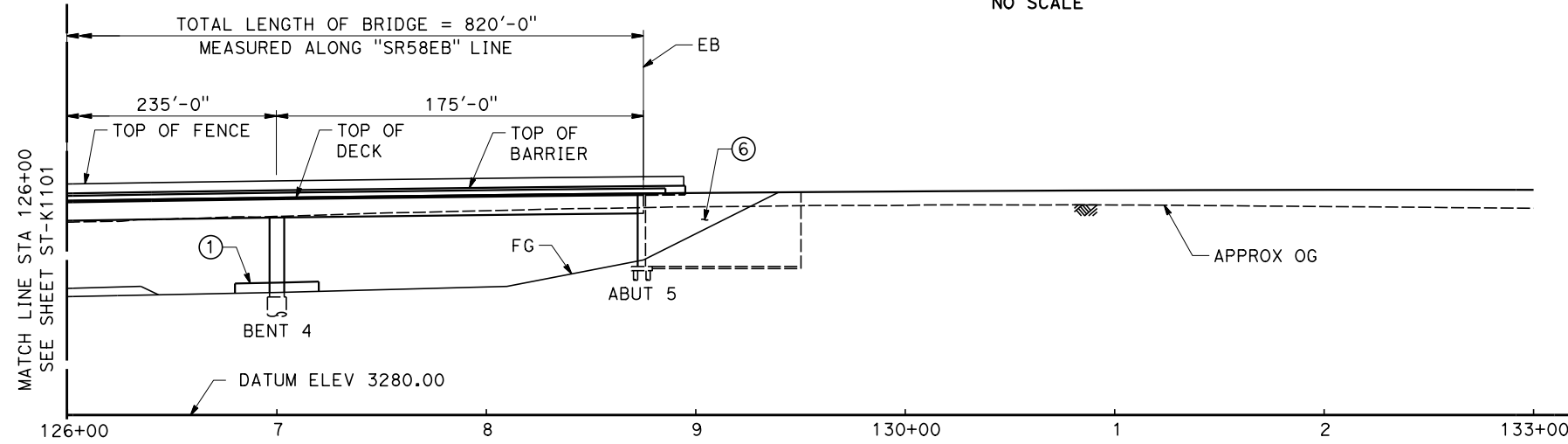
CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>ST-K1101</b>
SCALE <b>AS SHOWN</b>
SHEET NO.

112+65.00 BVC  
ELEV 3339.43  
+4.85%

VC = 3000'  
R/C = -0.245% /STA

142+65.00 EVC  
ELEV 3374.75  
-2.50%

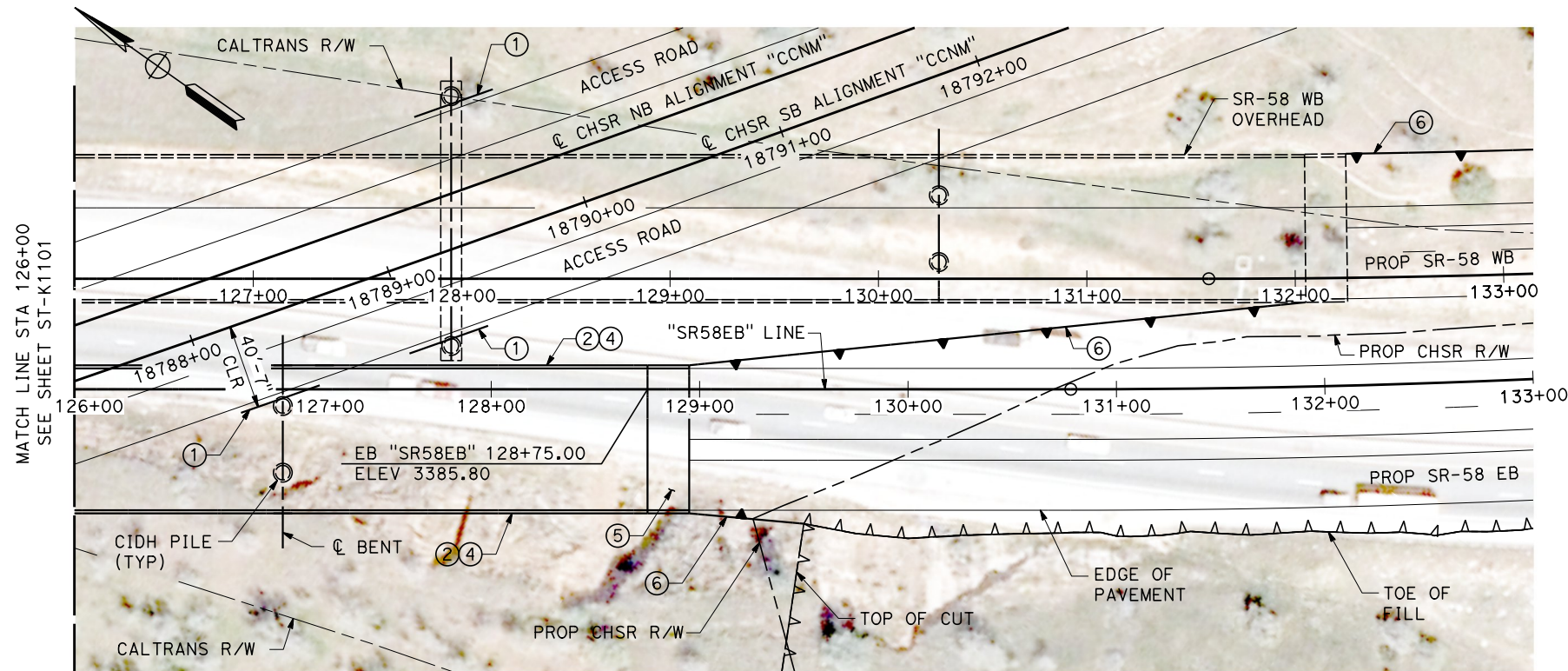
**PROFILE GRADE**  
NO SCALE



**ELEVATION**  
SCALE 1"= 40'

**LEGEND**

⊕ SEE DRAWING ST-J0001



**PLAN**  
SCALE 1"= 40'



Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-K1102.dgn

12:39:25 PM

2/12/2019

TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOBIAN**  
DRAWN BY  
**YIHONG WANG**  
CHECKED BY  
**ROB BARTON**  
IN CHARGE  
**STEVE SMITH**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**TYLIN INTERNATIONAL**



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

CCNM DESIGN OPTION  
ROADWAY STRUCTURES  
SR 58 EB OVERHEAD  
PLAN AND ELEVATION

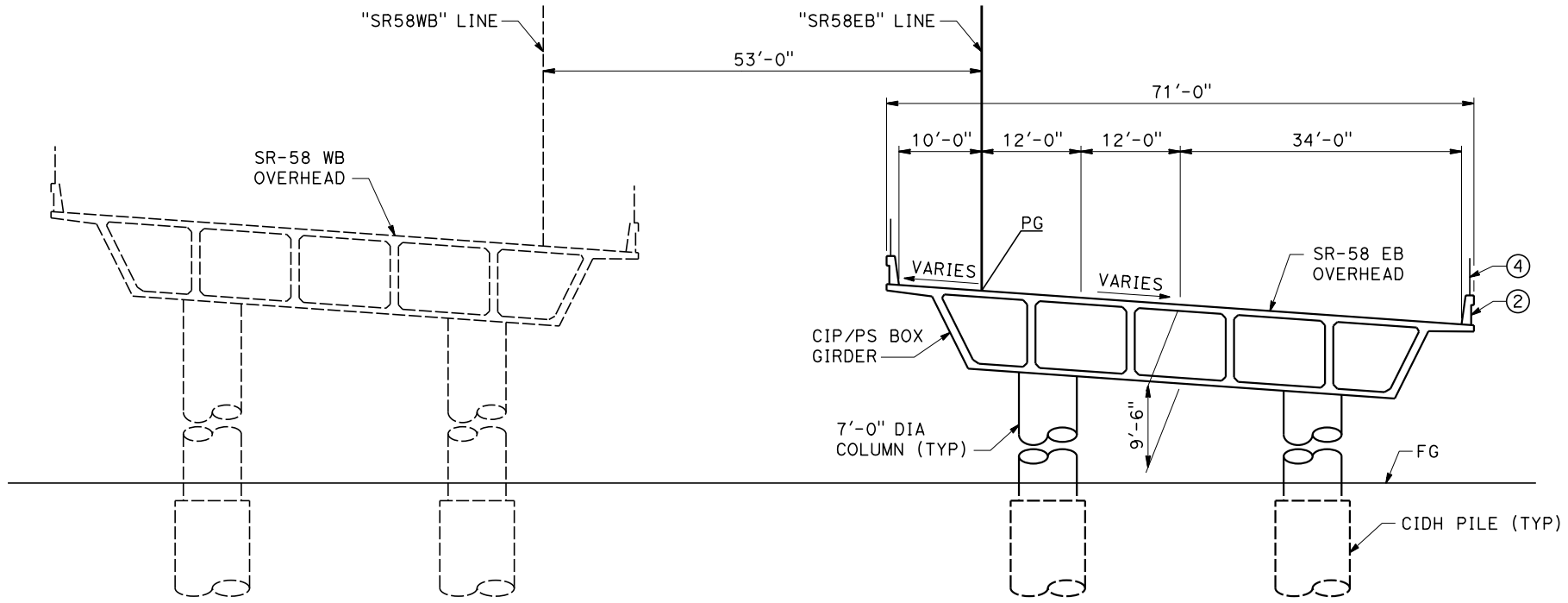
CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**ST-K1102**  
SCALE  
**AS SHOWN**  
SHEET NO.

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-K1103.dgn

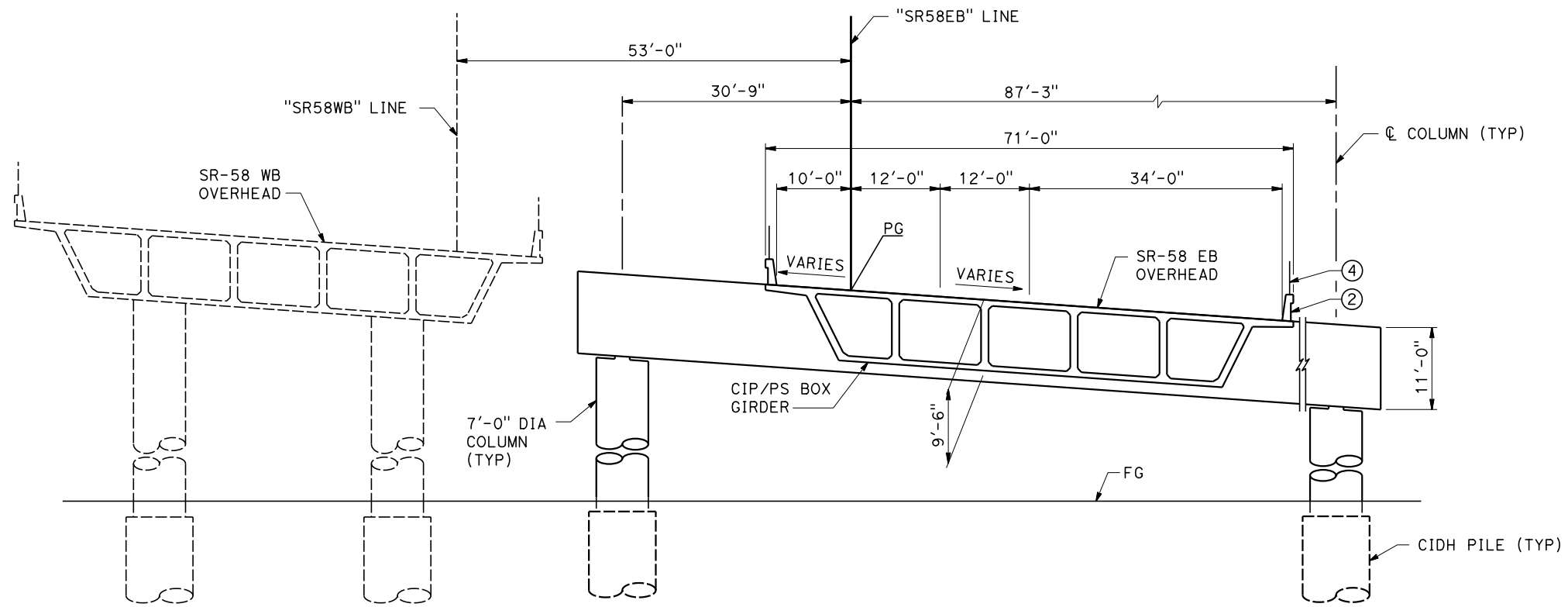
12:38:39 PM

2/12/2019

TYL\Y.Wang



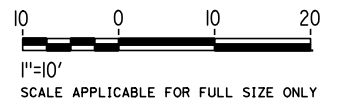
SECTION AT BENT 4



SECTION AT BENT 3  
**TYPICAL SECTION**  
SCALE 1" = 10'

**LEGEND**

Ⓢ SEE DRAWING ST-J0001



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**

DRAWN BY  
**YIHONG WANG**

CHECKED BY  
**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
ROADWAY STRUCTURES  
SR 58 EB OVERHEAD  
TYPICAL SECTION

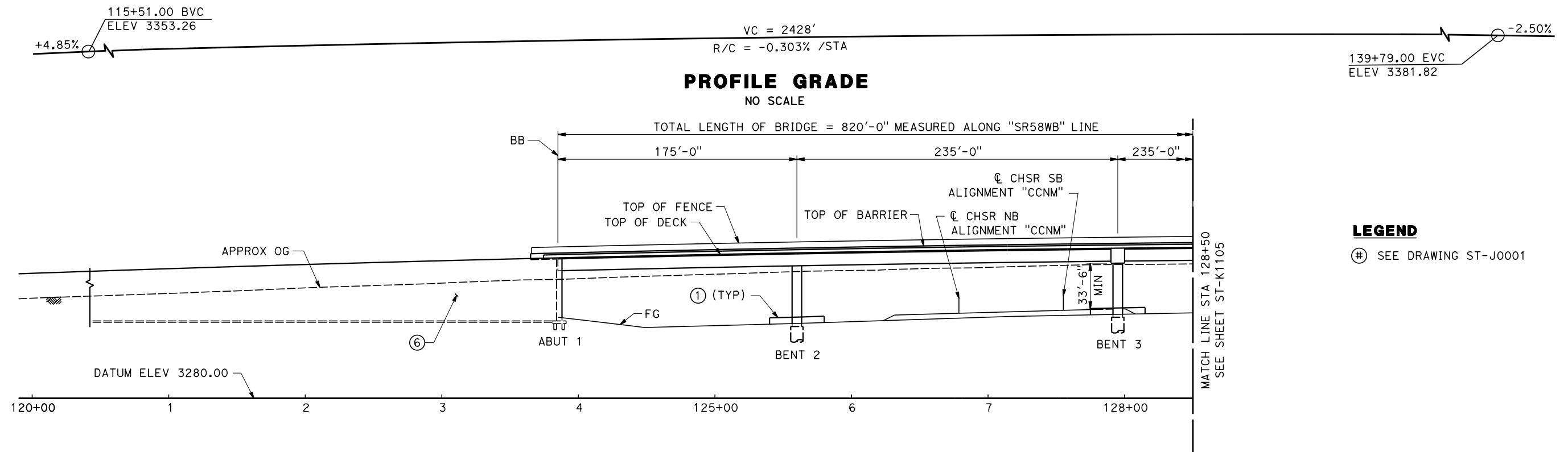
CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**ST-K1103**

SCALE  
**AS SHOWN**

SHEET NO.





**PROFILE GRADE**

NO SCALE

TOTAL LENGTH OF BRIDGE = 820'-0" MEASURED ALONG "SR58WB" LINE

175'-0" 235'-0" 235'-0"

TOP OF FENCE  
TOP OF DECK  
TOP OF BARRIER  
CHSR SB ALIGNMENT "CCNM"  
CHSR NB ALIGNMENT "CCNM"

APPROX OG

① (TYP)

FG

ABUT 1

BENT 2

BENT 3

MATCH LINE STA 128+50  
SEE SHEET ST-K1105

DATUM ELEV 3280.00

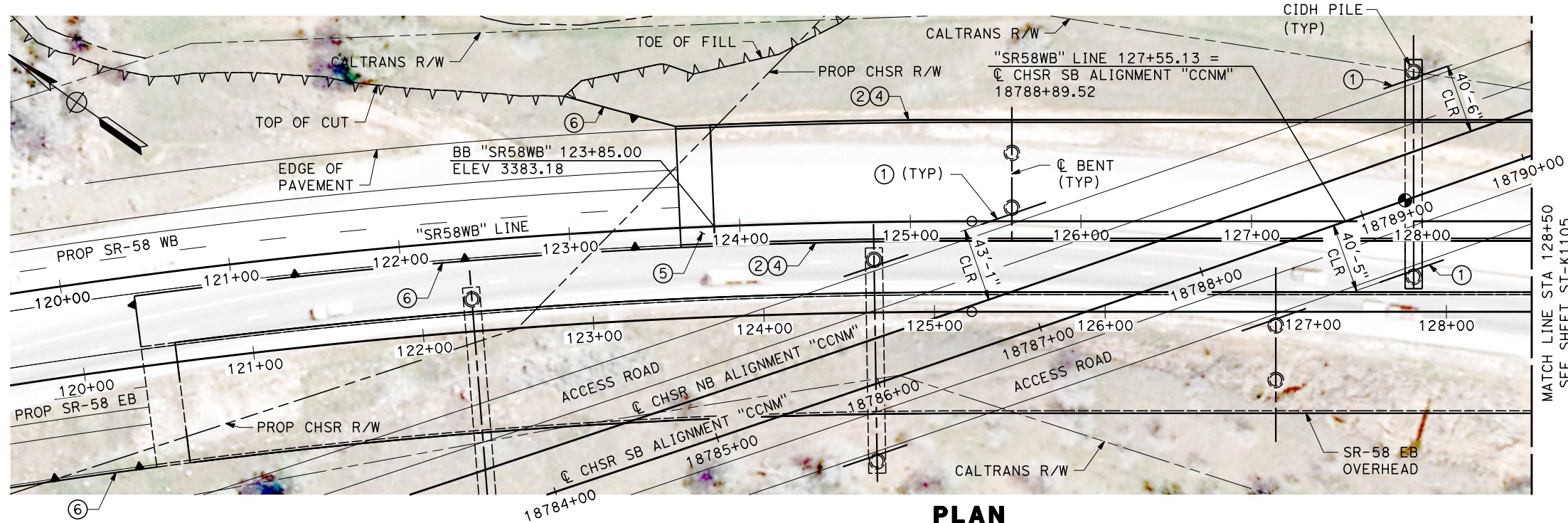
120+00 1 2 3 4 125+00 6 7 128+00

**LEGEND**

⊕ SEE DRAWING ST-J0001

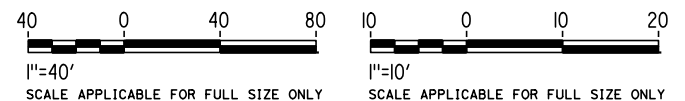
**ELEVATION**

SCALE 1" = 40'



**PLAN**

SCALE 1" = 40'



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-K1104.dgn

12:39:18 PM

2/12/2019

TYLWang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**  
DRAWN BY  
**YIHONG WANG**  
CHECKED BY  
**ROB BARTON**  
IN CHARGE  
**STEVE SMITH**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

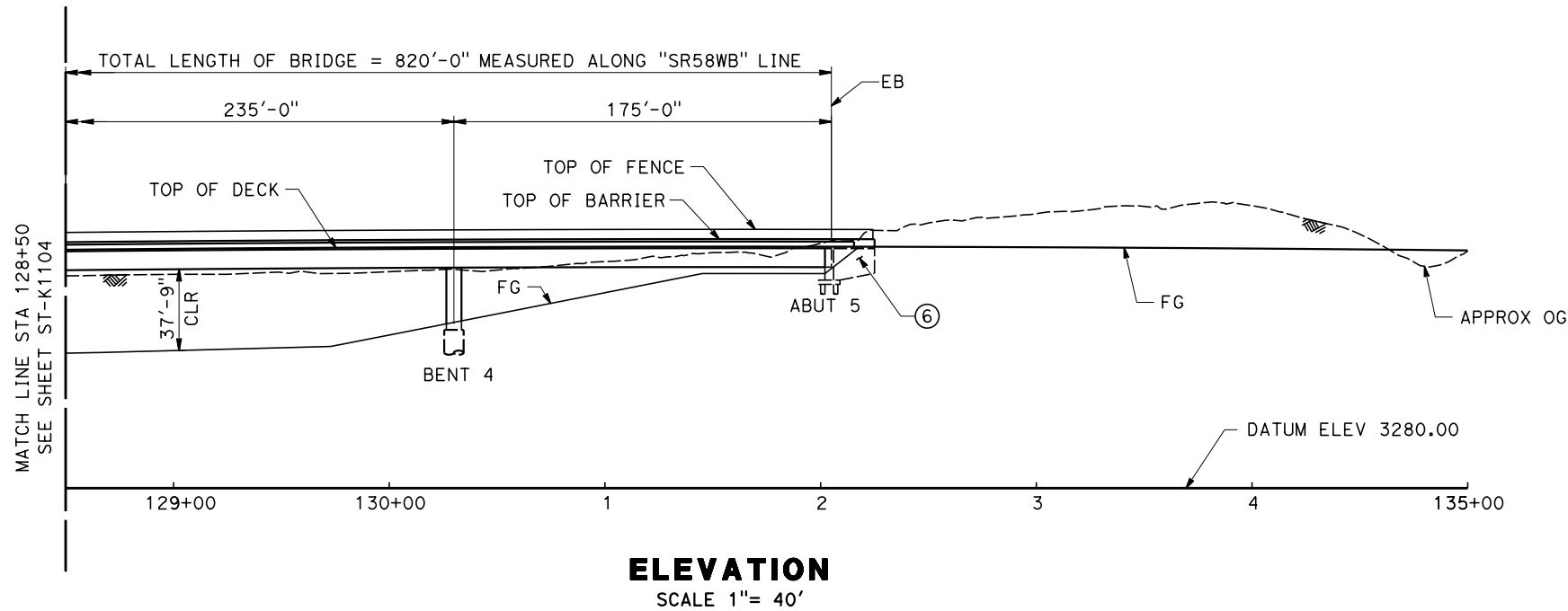
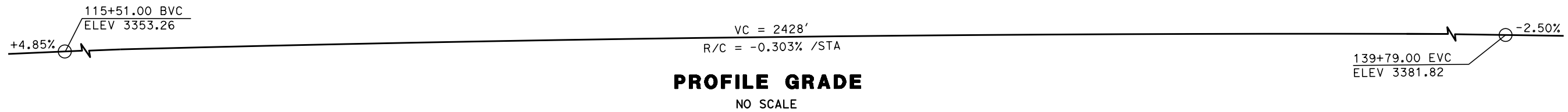
**NOT FOR  
CONSTRUCTION**



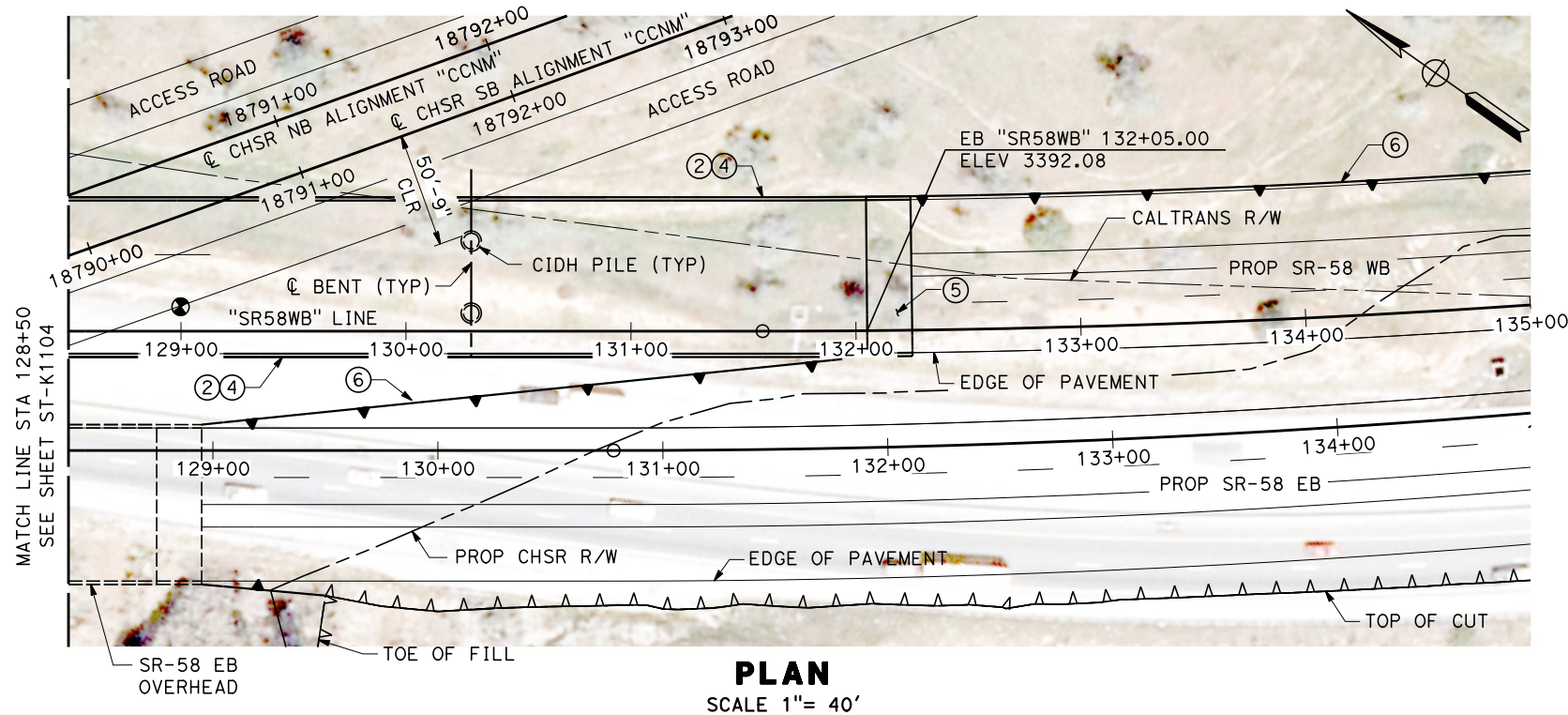
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
ROADWAY STRUCTURES  
SR 58 WB OVERHEAD  
PLAN AND ELEVATION

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**ST-K1104**  
SCALE  
**AS SHOWN**  
SHEET NO.



**LEGEND**  
⊕ SEE DRAWING ST-J0001



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-K1105.dgn

12:39:12 PM

2/12/2019

TYLIN\Wang

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOOBIAN**

DRAWN BY  
**YIHONG WANG**

CHECKED BY  
**ROB BARTON**

IN CHARGE  
**STEVE SMITH**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
ROADWAY STRUCTURES  
SR 58 WB OVERHEAD  
PLAN AND ELEVATION

CONTRACT NO.  
HSR13-44

DRAWING NO.  
ST-K1105

SCALE  
AS SHOWN

SHEET NO.

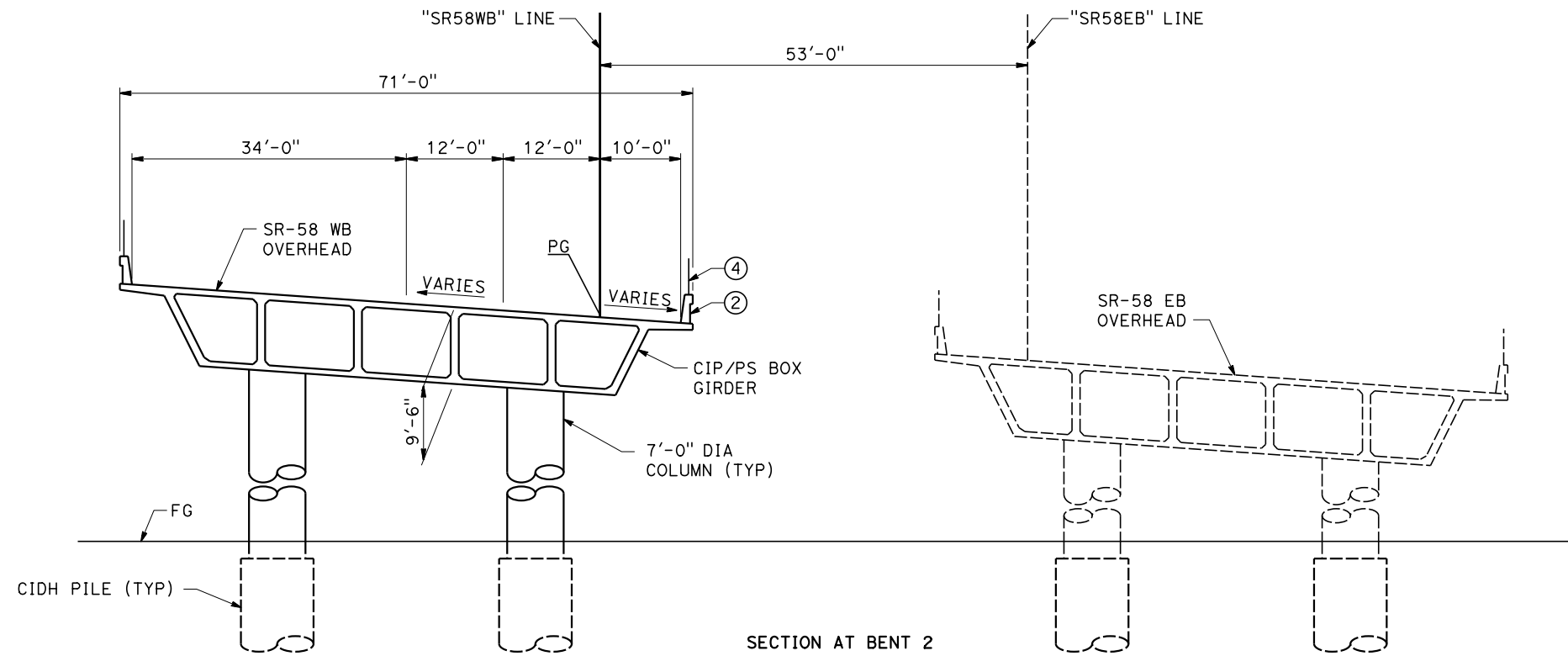


Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\ST\BP-ST-K1106.dgn

12:38:45 PM

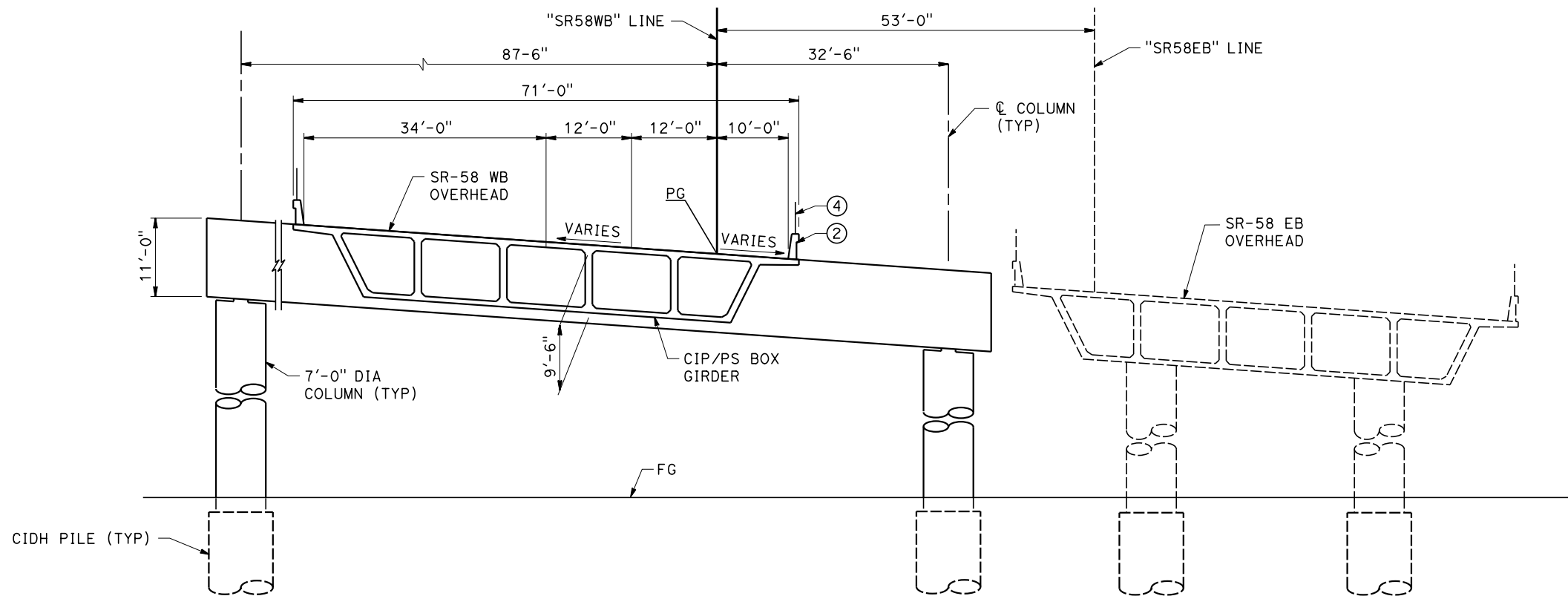
2/12/2019

TYL\YWang

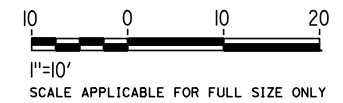


**LEGEND**

⊕ SEE DRAWING ST-J0001



SECTION AT BENT 3  
**TYPICAL SECTION**  
 SCALE 1"= 10'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GOLCHOBIAN**  
 DRAWN BY  
**YIHONG WANG**  
 CHECKED BY  
**ROB BARTON**  
 IN CHARGE  
**STEVE SMITH**  
 DATE  
**03/06/2019**

**RECORD  
 PECD  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**



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

CCNM DESIGN OPTION  
 ROADWAY STRUCTURES  
 SR 58 WB OVERHEAD  
 TYPICAL SECTION

CONTRACT NO.  
**HSR13-44**


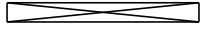
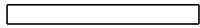
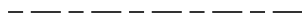

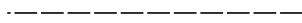
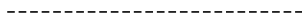




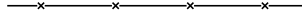

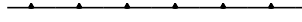









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**ST-K1106**

SCALE  
**AS SHOWN**


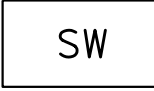

SHEET NO.

**LEGEND:**


**PLAN**

-  NORTH ARROW
-  VIADUCT
-  TUNNEL
-  PROPOSED RIGHT OF WAY
-  EXIST RIGHT OF WAY
-  LIMITS OF EXCAVATION (CUT)
-  LIMITS OF EMBANKMENT (FILL)
-  FAULT ZONE
-  EXIST RETAINING WALL
-  PPEF
-  PROPOSED COLUMN
-  PROPOSED FENCE
-  PROPOSED PHASE BREAK
-  PROPOSED RETAINING WALL
-  PROPOSED TUNNEL
-  PTEF
-  PROPOSED TURNOUT
-  SRS  
STANDALONE RADIO SITE
-  A  
TRAIN CONTROL SYSTEM SITE A
-  B  
TRAIN CONTROL SYSTEM SITE B
-  D  
TRAIN CONTROL SYSTEM SITE D
-  E  
TRAIN CONTROL SYSTEM SITE E
-  TRACK CROSSING PANEL




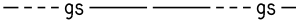

**PLAN**

-  SS  
SUPPLY STATION
-  SW  
SWITCHING STATION
-  PS  
PARALLELING STATION

**CROSS SECTION**

-  AR FENCE

**UTILITIES**

-  -e- EXISTING ELECTRICAL TRANSMISSION
-  EXISTING ELECTRICAL TRANSMISSION TOWER
-  -E- PROPOSED TRACTION POWER SUPPLY LINE
-  -gs- EXISTING GAS LINE
-  -sd- EXISTING STORM DRAIN

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\TP\BP-TP-B0101

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2/27/2019

O.I.C.:ARIVERA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

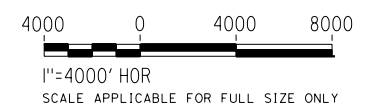
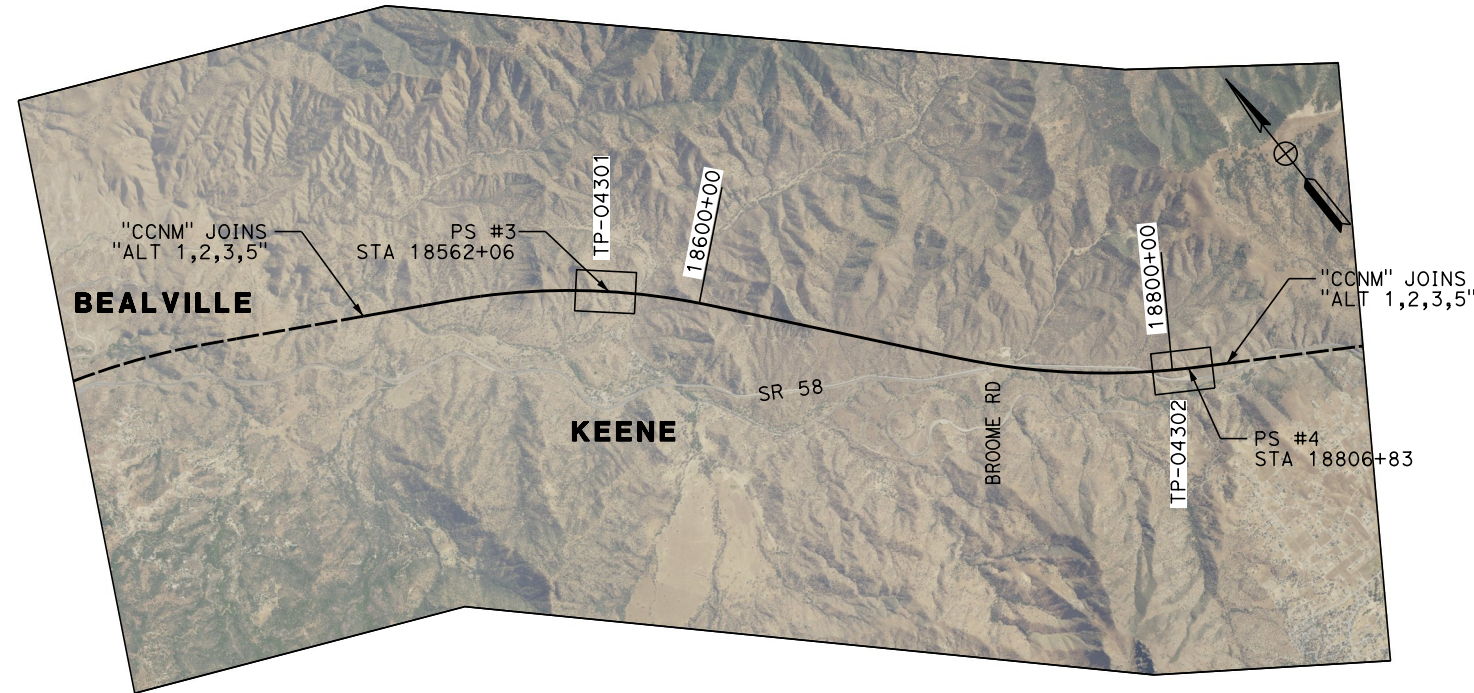
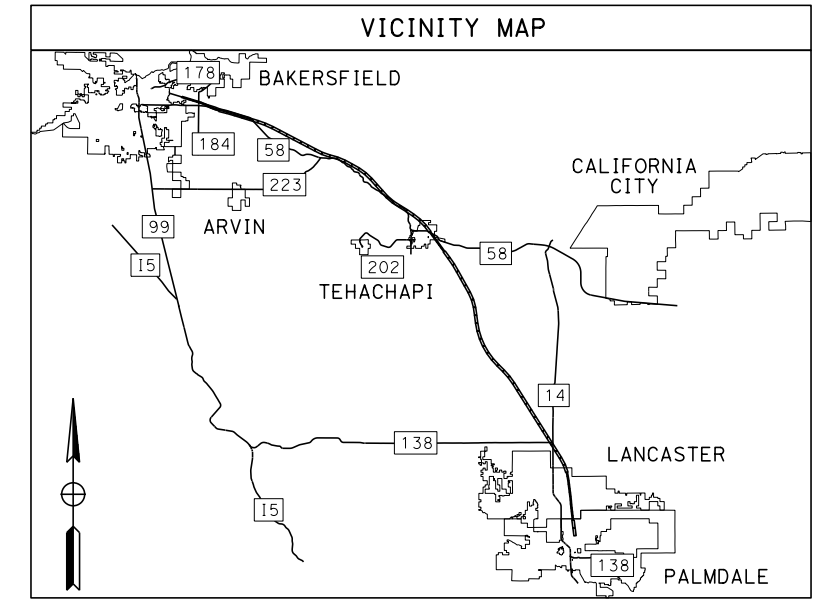


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
TRACTION POWER GENERAL  
LEGEND  
SHEET 1 OF 1

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TP-B0101  
SCALE  
NO SCALE  
SHEET NO.

# CCNM DESIGN OPTION



Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CCNM\TP\BP-TP-B0102 2/27/2019 6:18:10 PM OIC:ARivera

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
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**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACTION POWER GENERAL  
KEY MAP  
SHEET 1 OF 1

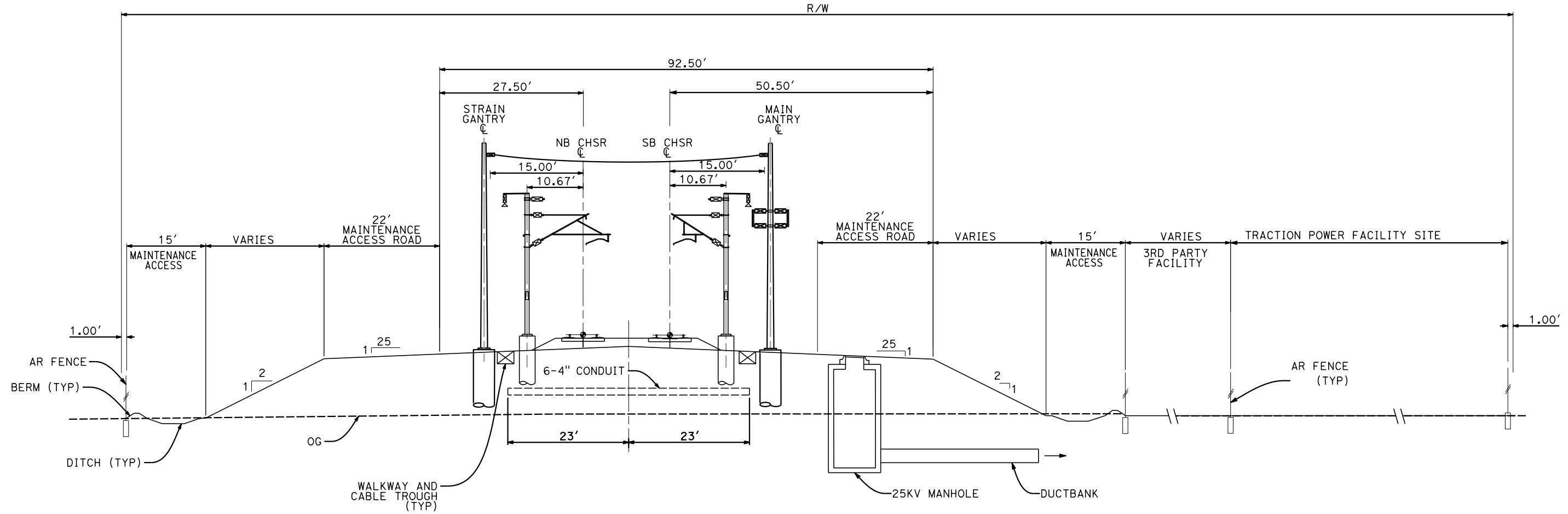
CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TP-B0102  
SCALE  
AS SHOWN  
SHEET NO.

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\TP\BP-TP-B3101

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2/27/2019

OJC:ARIVERGA



**NOTES:**

- FOR STRUCTURAL DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
- TRACKFORM SHOWN IS INDICATIVE.
- SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE TABLES.
- SECTION IS REPRESENTATIVE; DOES NOT ACCURATELY PORTRAY TRACK PROFILE RELATIVE TO EXISTING GROUND.

**SECTION D**

STA 18562+05.59 PARALLELING STATION  
 STA 18806+83.08 PARALLELING STATION

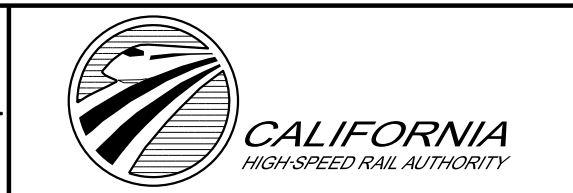


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
 DRAWN BY  
**A. RIVERA**  
 CHECKED BY  
**J. SIHOTA**  
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**G. CAMPBELL**  
 DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



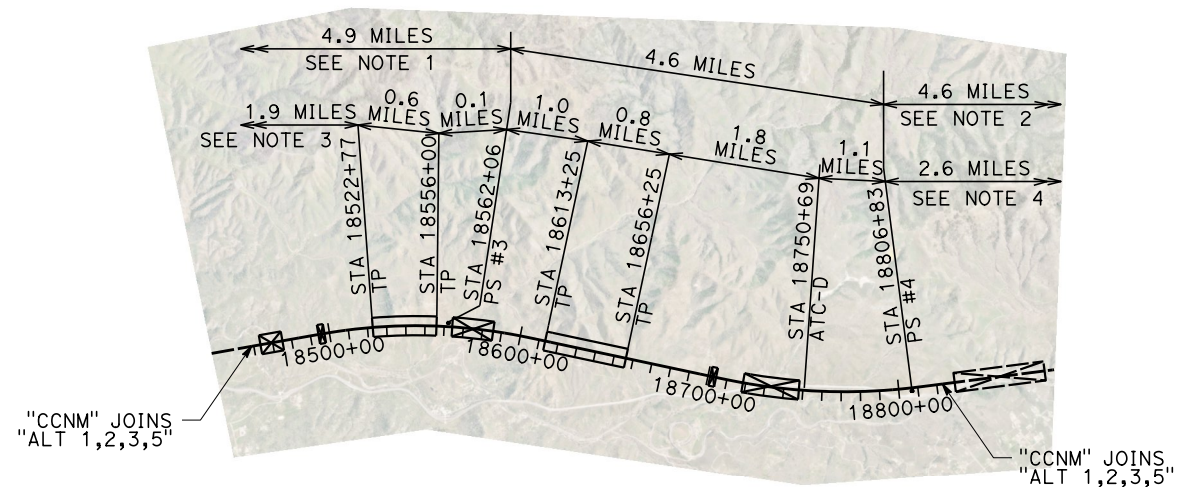
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
 BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
 TRACTION POWER GENERAL  
 TYPICAL SECTIONS  
 SHEET 1 OF 1

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
TP-B3101  
 SCALE  
AS SHOWN  
 SHEET NO.

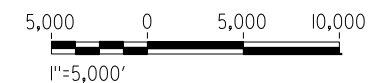


# CCNM DESIGN OPTION



**NOTES:**

1. SEE "ALT 1,2,3,5" FOR SWS #2 STA 18302+00.
2. SEE "ALT 1,2,3,5" FOR SS #15 STA 19050+36.
3. SEE "ALT 1,2,3,5" FOR TP STA 18420+51.
4. SEE "ALT 1,2,3,5" FOR TP STA 18940+50.



Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\TP\BP-TP-D0101

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2/27/2019

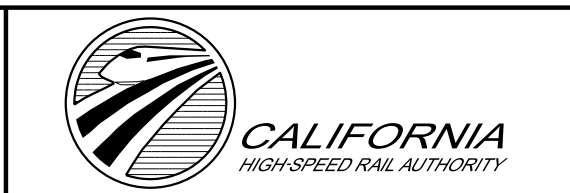
O.I.C.:ARIVERA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
DRAWN BY  
**A. RIVERA**  
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**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

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PEPD  
SUBMITTAL**

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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
CCNM DESIGN OPTION  
TRACTION POWER FACILITY LAYOUT

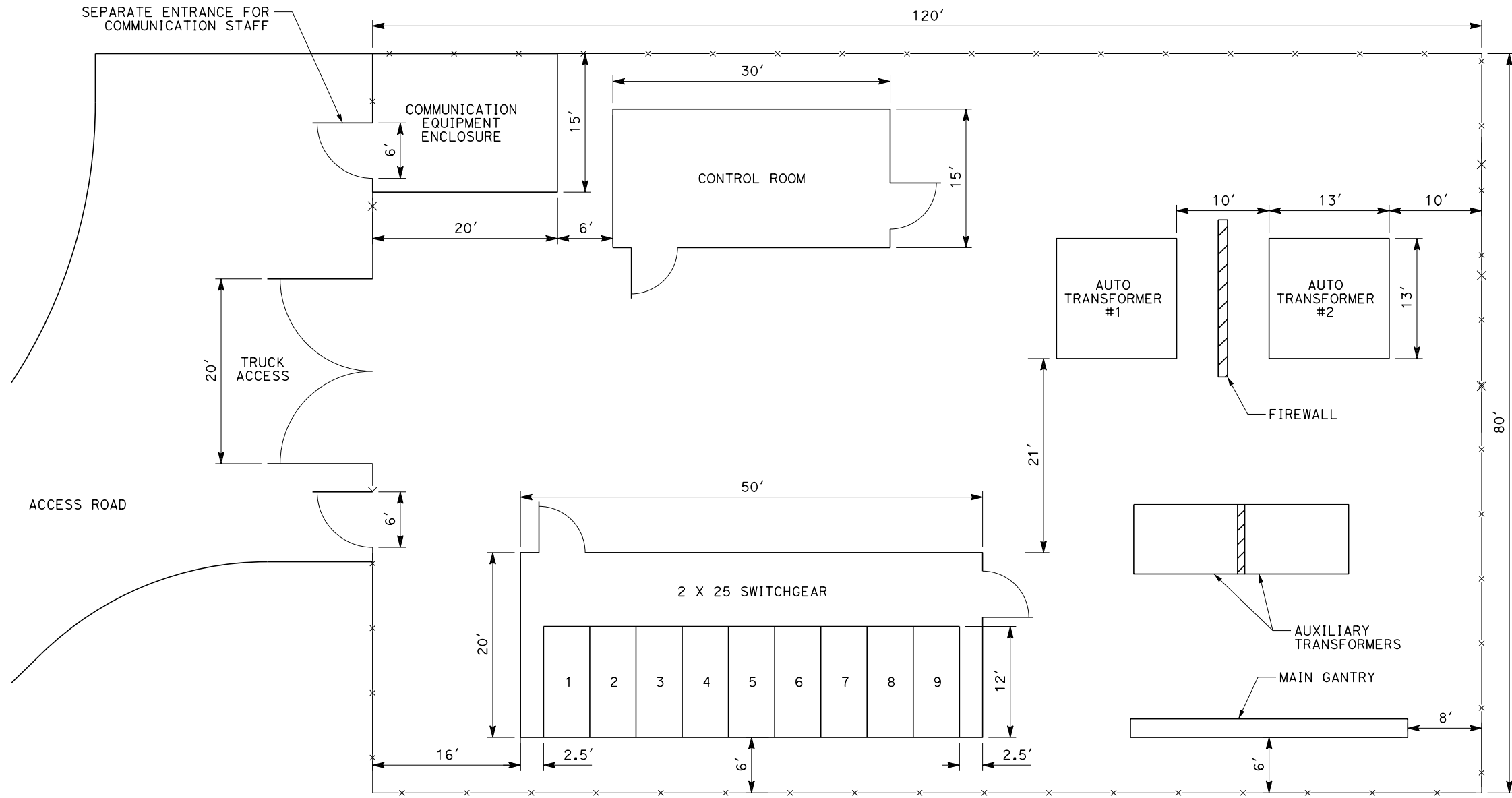
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HSR13-44  
DRAWING NO.  
TP-D0101  
SCALE  
AS SHOWN  
SHEET NO.

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\TP\BP-TP-E4101

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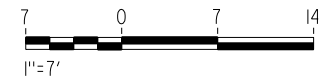
2/27/2019

OIC:ARIVERA



**NOTES:**

1. THIS IS A TYPICAL LAYOUT AND THE ORIENTATION OF THE STATION WITH RESPECT TO TRACK, LOCATION OF UTILITY SUPPLY CIRCUITS, EQUIPMENT, AND ROAD ACCESS TO BE DETERMINED ON A SITE-BY-SITE BASIS.
2. THE MAIN GANTRY POSITION SHALL BE PARALLEL AND ADJACENT TO THE TRACK.
3. THERE WILL BE A STRAIN GANTRY LOCATED WITHIN THE RAILROAD R/W, PARALLEL TO AND ON THE OPPOSITE SIDE OF THE TRACK WITH FOOTPRINTS EXACTLY EQUAL TO THAT OF THE MAIN GANTRY.
4. IF THE TPF IS LOCATED AWAY FROM THE TRACK, THE MAIN GANTRY WILL BE LOCATED WITHIN THE RAILROAD R/W, PARALLEL TO AND TOWARDS TPF SIDE OF THE TRACK. IN THIS CASE AN ADDITIONAL 40' WIDE STRIP OF LAND WILL BE REQUIRED FROM THE TPF TO THE RAILROAD R/W FOR LAYING UNDERGROUND DUCT BANKS AND MANHOLES.
5. THE COMMUNICATION EQUIPMENT ROOM SHALL HOUSE COMMUNICATION INTERFACE EQUIPMENT FOR SCADA SYSTEM AND OTHER WAYSIDE COMMUNICATION EQUIPMENT.
6. THE GANTRIES SHALL BE 40' HIGH.
7. THIS LAYOUT IS PER TM 3.1.1.3-D AND SHOWN HERE FOR REFERENCE AND COMPLETENESS.



**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
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**A. RIVERA**  
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**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

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PEPD  
SUBMITTAL**

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CONSTRUCTION**

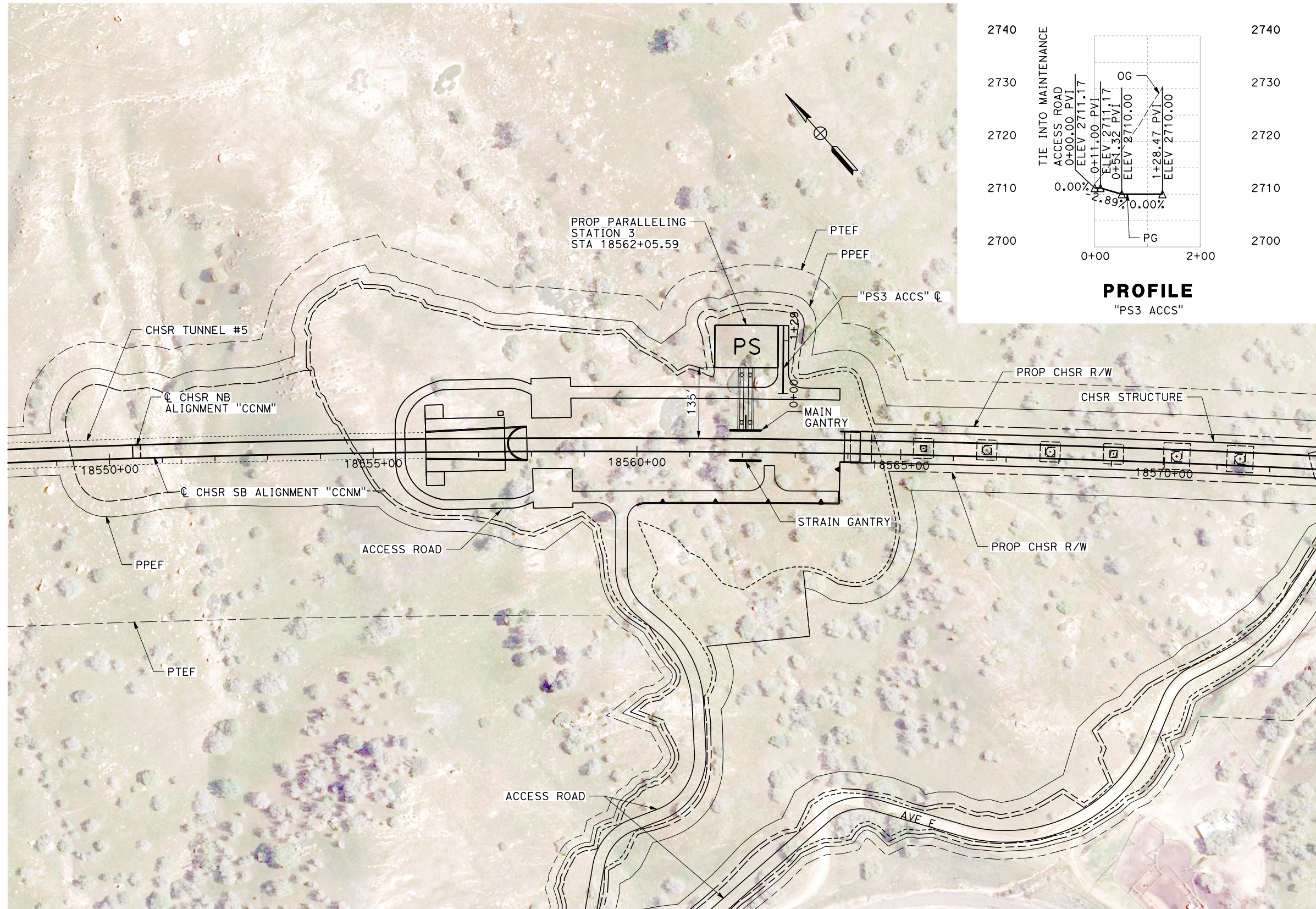


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

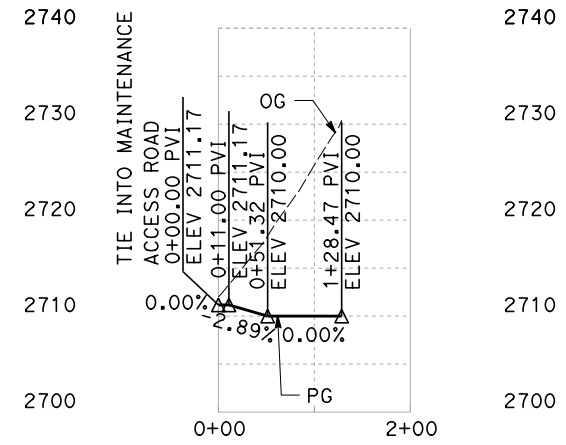
CCNM DESIGN OPTION  
TYPICAL LAYOUT  
PARALLELING STATION  
WITH 2 AUTOTRANSFORMERS

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TP-E4101  
SCALE  
AS SHOWN  
SHEET NO.

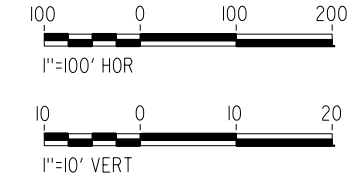




**PLAN**



**PROFILE**  
"PS3 ACCS"



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

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SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
CCNM DESIGN OPTION  
TRACTION POWER SITE PLAN  
PROPOSED PARALLELING STATION 3

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TP-04301  
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SHEET NO.

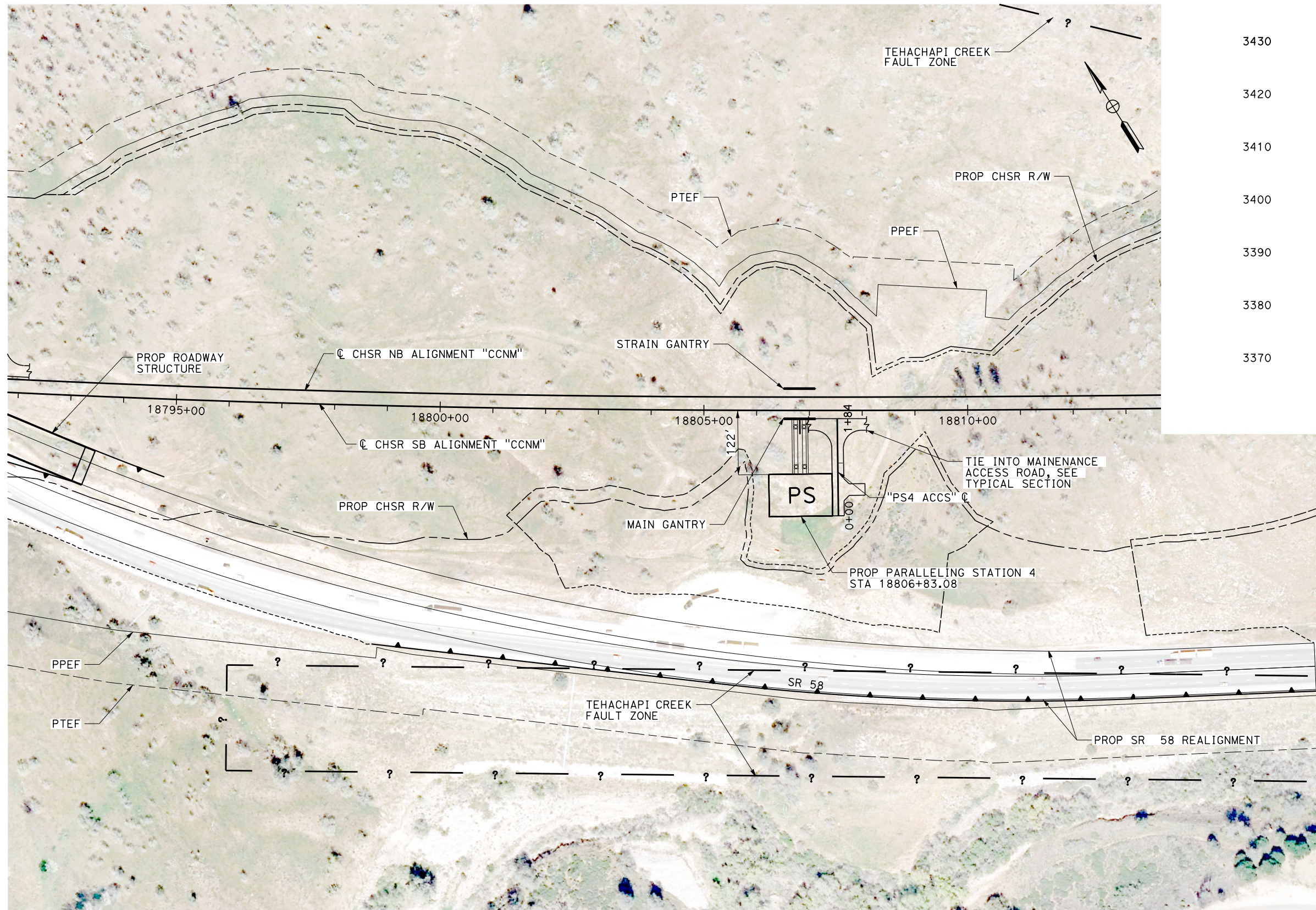


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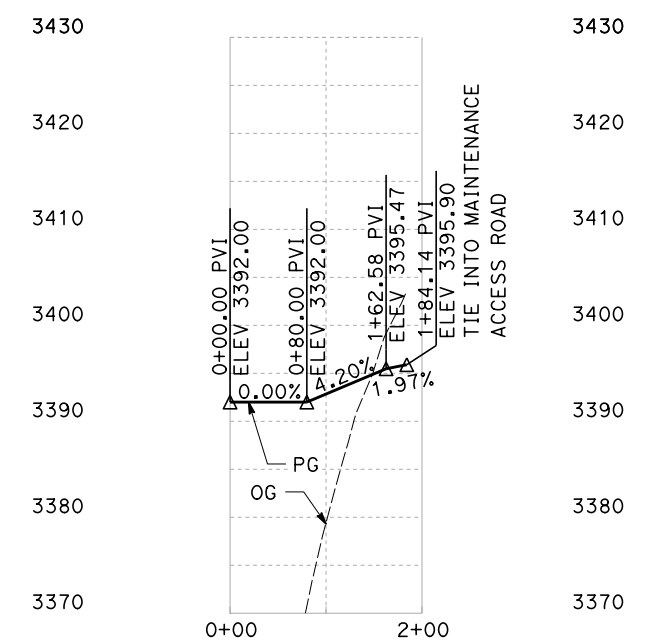
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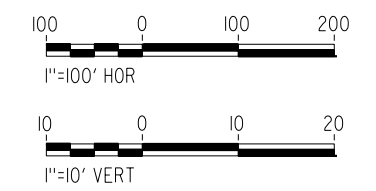
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**PLAN**



**PROFILE**  
"PS3 ACCS"



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

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PEPD  
SUBMITTAL**

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CONSTRUCTION**



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

CCNM DESIGN OPTION  
TRACTION POWER SITE PLAN  
PROPOSED PARALLELING STATION 4

CONTRACT NO.  
HSR13-44

DRAWING NO.  
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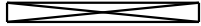
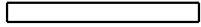

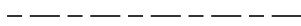

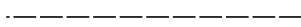
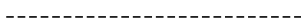




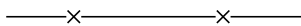


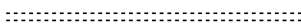
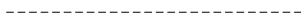







SCALE  
AS SHOWN

SHEET NO.



**LEGEND:**

**PLAN**

-  NORTH ARROW
-  BRIDGE
-  VIADUCT
-  TUNNEL
-  PROPOSED RIGHT OF WAY
-  EXIST RIGHT OF WAY
-  LIMITS OF EXCAVATION (CUT)
-  LIMITS OF EMBANKMENT (FILL)
-  FAULT ZONE
-  EXIST RETAINING WALL
-  PPEF
-  PROPOSED COLUMN
-  PROPOSED FENCE
-  PROPOSED PHASE BREAK
-  PROPOSED RETAINING WALL
-  PROPOSED TUNNEL
-  PTEF
-  PROPOSED TURNOUT
-  SRS  
STANDALONE RADIO SITE - SIZE: 40' X 25'
-  AUTOMATIC TRAIN CONTROL SYSTEM SITE A - SIZE: 70' X 35'
-  AUTOMATIC TRAIN CONTROL SYSTEM SITE B - SIZE: 30' X 35'
-  AUTOMATIC TRAIN CONTROL SYSTEM SITE D - SIZE: 100' X 65'
-  AUTOMATIC TRAIN CONTROL SYSTEM SITE E - SIZE: 110' X 65'
-  TRACK CROSSING PANEL

**PLAN**

 -E- PROPOSED TRACTION POWER SUPPLY LINE

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2/27/2019

O.I.C.:A.RIVERA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
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CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**TYLIN INTERNATIONAL**

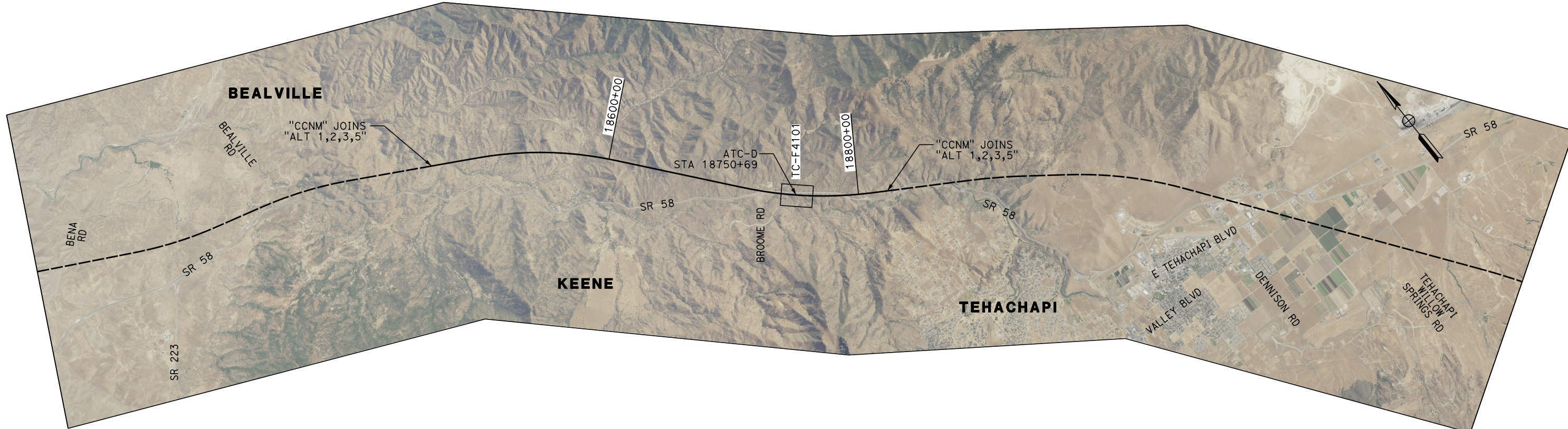
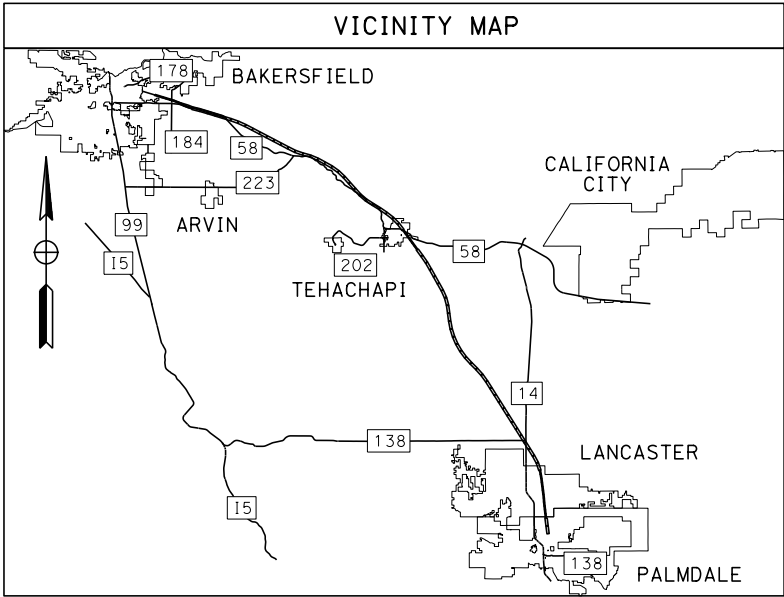


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
AUTOMATIC TRAIN CONTROL GENERAL  
ABBREVIATIONS AND LEGEND  
SHEET 1 OF 1

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TC-B0101  
SCALE  
NO SCALE  
SHEET NO.

# CCNM DESIGN OPTION



Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CCNM\TC\BP-TC-B0102  
OIC:ARivera 2/27/2019 6:40:29 PM

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

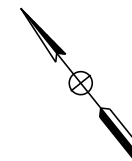
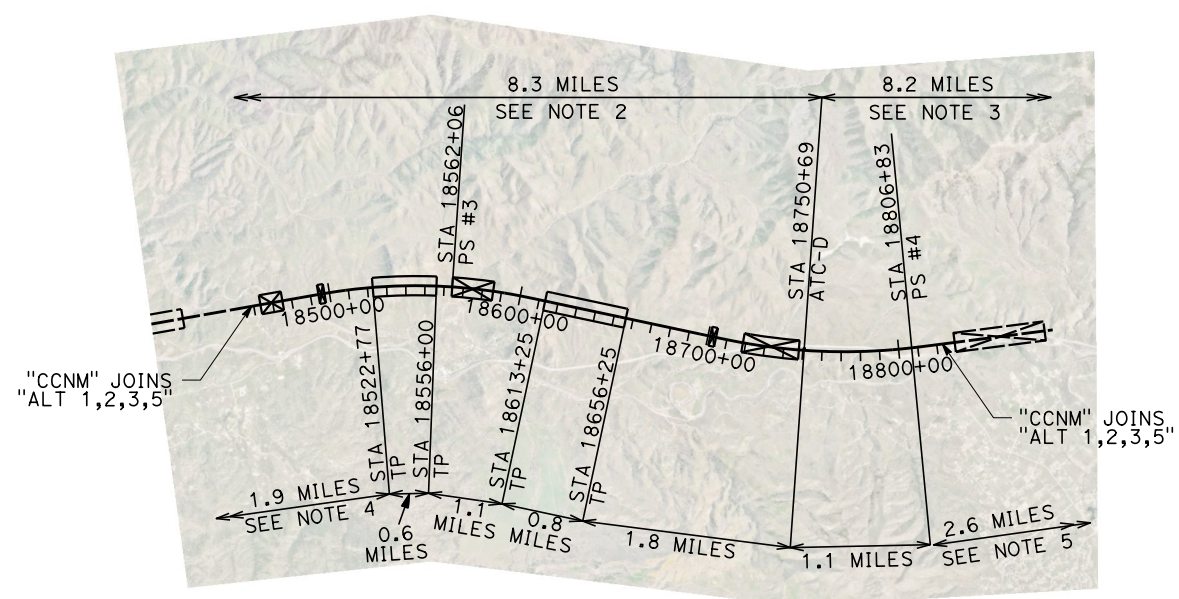


**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
CCNM DESIGN OPTION  
AUTOMATIC TRAIN CONTROL GENERAL  
KEY MAP  
SHEET 1 OF 1

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TC-B0102  
SCALE  
AS SHOWN  
SHEET NO.

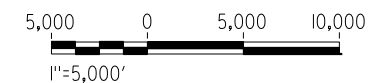


# CCNM DESIGN OPTION



**NOTES:**

1. TP (TUNNEL PORTAL) SITES HAVE RADIO ANTENNAS.
2. SEE "ALT 1,2,3,5" FOR ATC-D STA 18310+00.
3. SEE "ALT 1,2,3,5" FOR ATC-E STA 19185+00.
4. SEE "ALT 1,2,3,5" FOR TP STA 18420+51.
5. SEE "ALT 1,2,3,5" FOR TP STA 18940+50.



Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\TC\BP-TC-D0101

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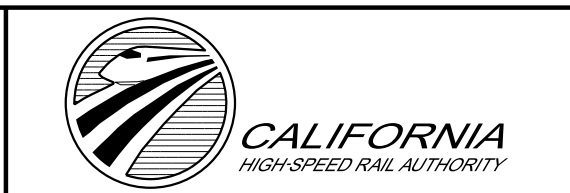
O.I.C.:A.RIVERA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
CCNM DESIGN OPTION  
AUTOMATIC TRAIN CONTROL LAYOUT

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**TC-D0101**  
SCALE  
**AS SHOWN**  
SHEET NO.

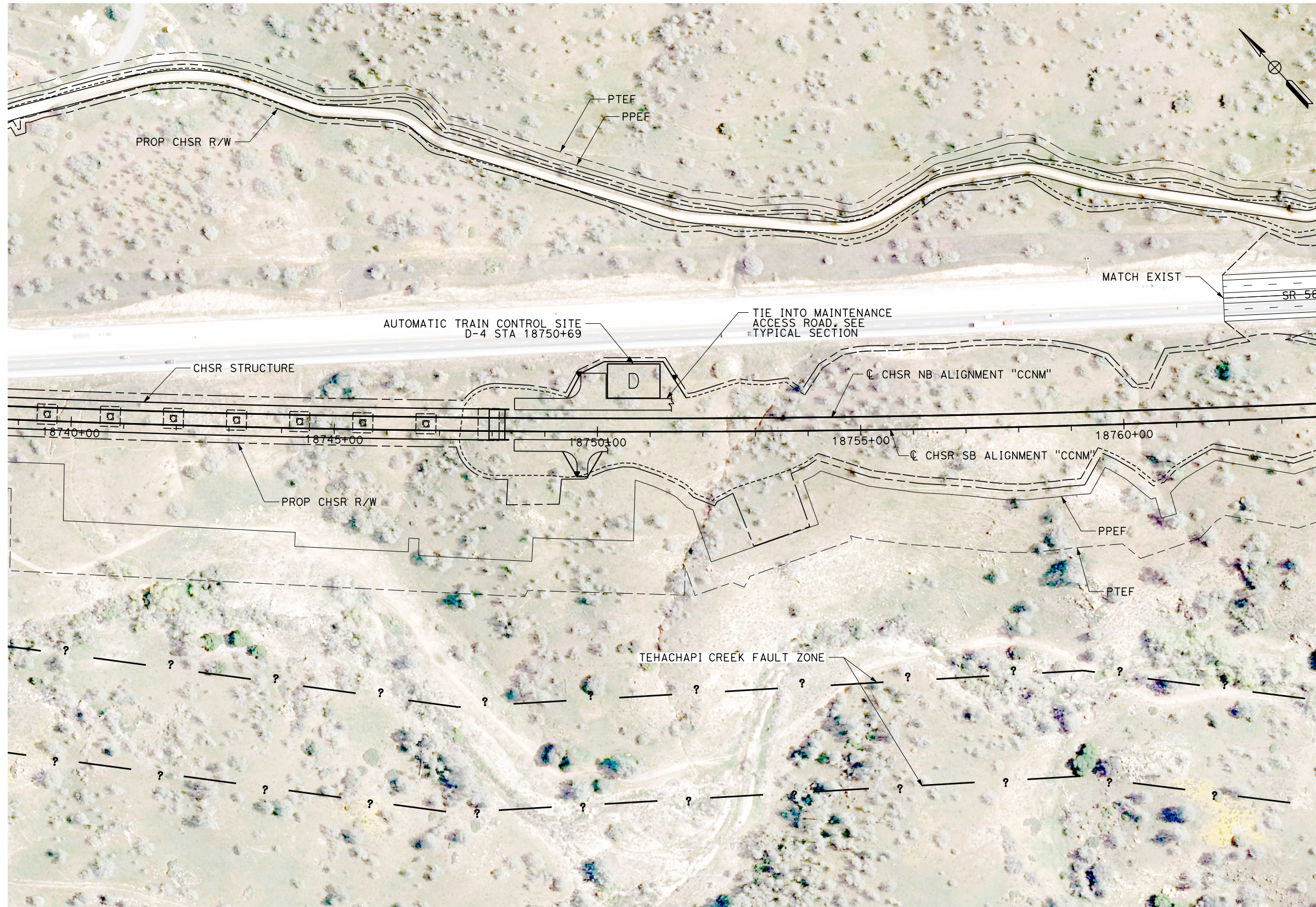


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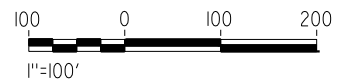
2/27/2019

OJC:ARivera



**NOTES:**

1. SITE D SIZE: 100' X 65'.



**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. RIVERA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

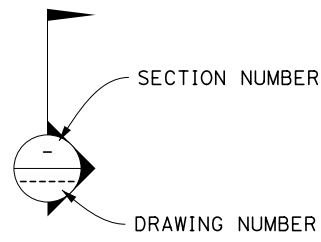
CCNM DESIGN OPTION  
AUTOMATIC TRAIN CONTROL SITE PLAN  
SITE @ 18750+69

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TC-F4101  
SCALE  
AS SHOWN  
SHEET NO.





**LEGEND:**


**PLAN**


- 


SECTION NUMBER


DRAWING NUMBER
  - 


CURVE DATA (ALIGNMENTS, ROADWAYS)
  - 


CURVE DATA (STRUCTURES)
  - 

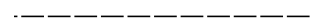
LINE DATA (ALIGNMENTS, ROADWAYS)
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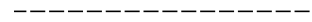
NORTH ARROW
  - 


PROPOSED RIGHT OF WAY
  - 


PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT (PTEF)
  - 


PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT (PEF)
  - 


EXISTING RIGHT OF WAY
  - 


LIMITS OF EXCAVATION (CUT)
  - 


LIMITS OF EMBANKMENT (FILL)
  - 


FAULT ZONE
  - 


EXISTING RETAINING WALL
  - 


PROPOSED RETAINING WALL
  - 

TUNNEL EXCAVATION LIMITS
  - 

TRACK CROSSING PANEL
- UTILITIES**
- 

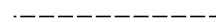
EXISTING ELECTRICAL TRANSMISSION
  - 


EXISTING ELECTRICAL TRANSMISSION TOWER
  - 

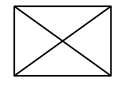
EXISTING STORM DRAIN
  - 

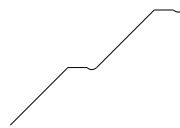
EXISTING GAS LINE

**PROFILE**

- 

ORIGINAL GROUND
- 

PROPOSED CHSR ELEVATION
- 

STRUCTURAL CLEARANCE ENVELOPE
- 

FACE EXCAVATION (CUT AND BENCH)

**GENERAL NOTES**

1. ROADWAY IMPROVEMENTS NOT PART OF THIS SET.
2. FOR PROPOSED RETAINING WALL SEE SHEET SERIES ST-G.

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\TNBP-TN-B0101.dgn

2/28/2019 1:12:05 PM

nof\_cow

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**N. FORTEZ**

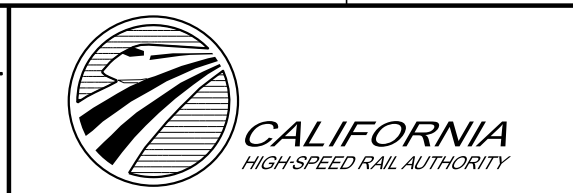
CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TUNNEL LEGEND

CONTRACT NO.  
HSR13-44

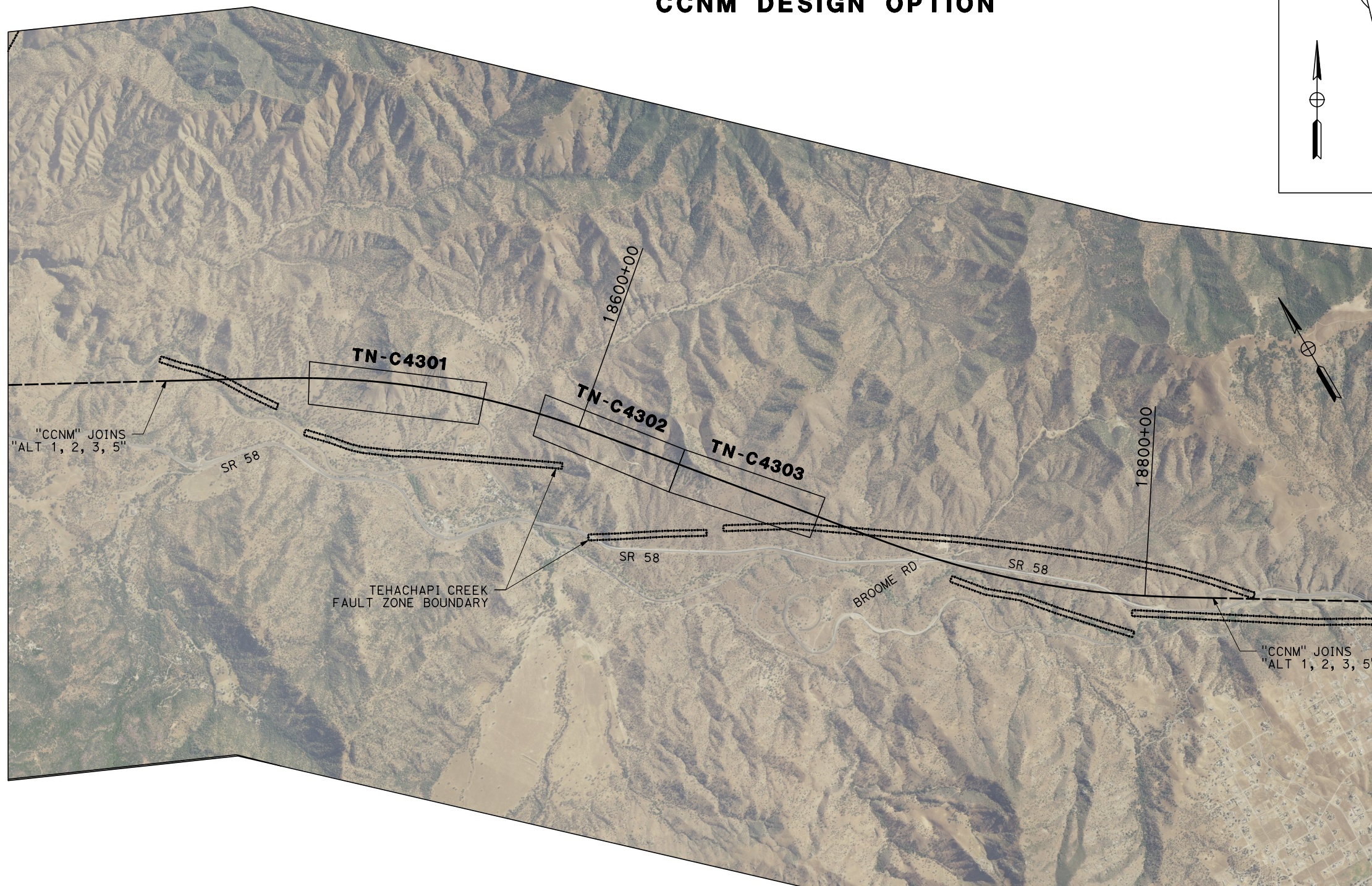
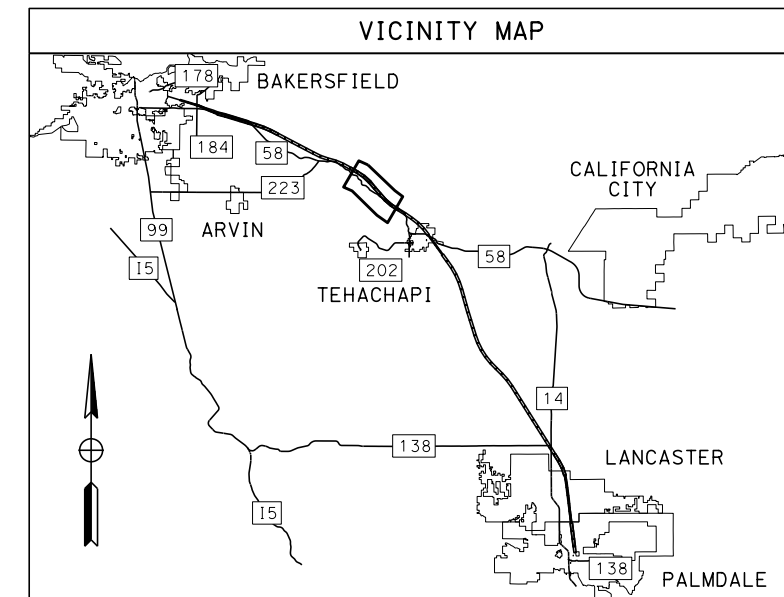
DRAWING NO.  
TN-B0101

SCALE

SHEET NO.



# CCNM DESIGN OPTION

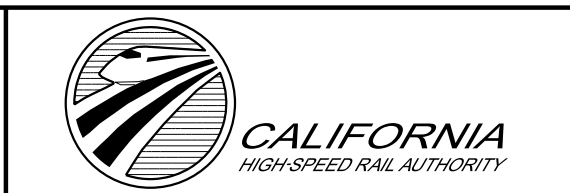


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**N. FORTEZ**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
CCNM DESIGN OPTION  
KEY MAP - ALIGNMENT TUNNELS

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TN-B0102  
SCALE  
NTS  
SHEET NO.

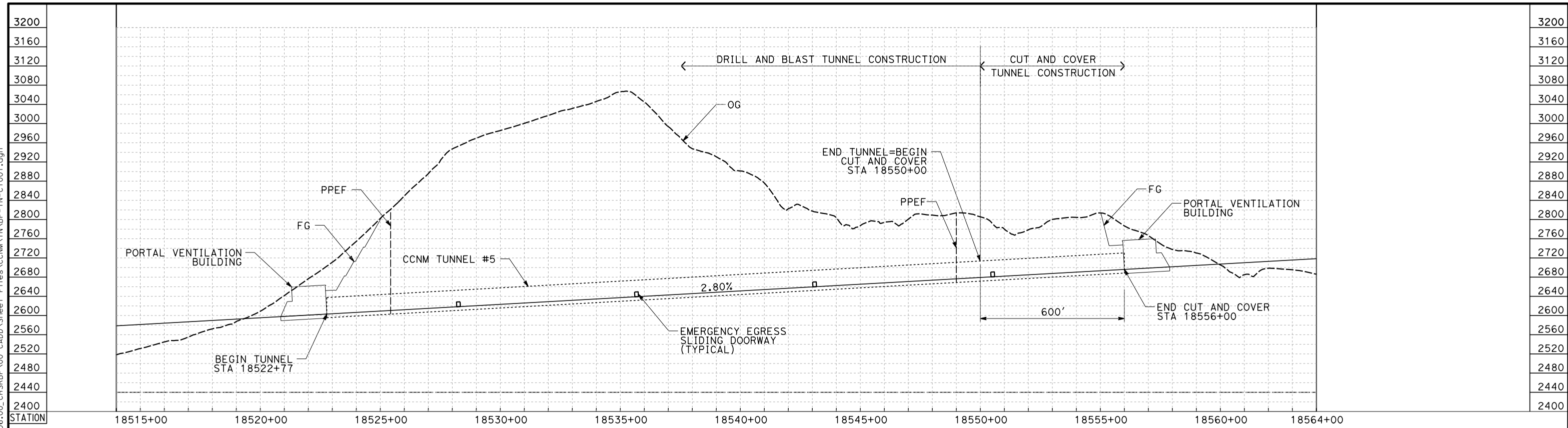


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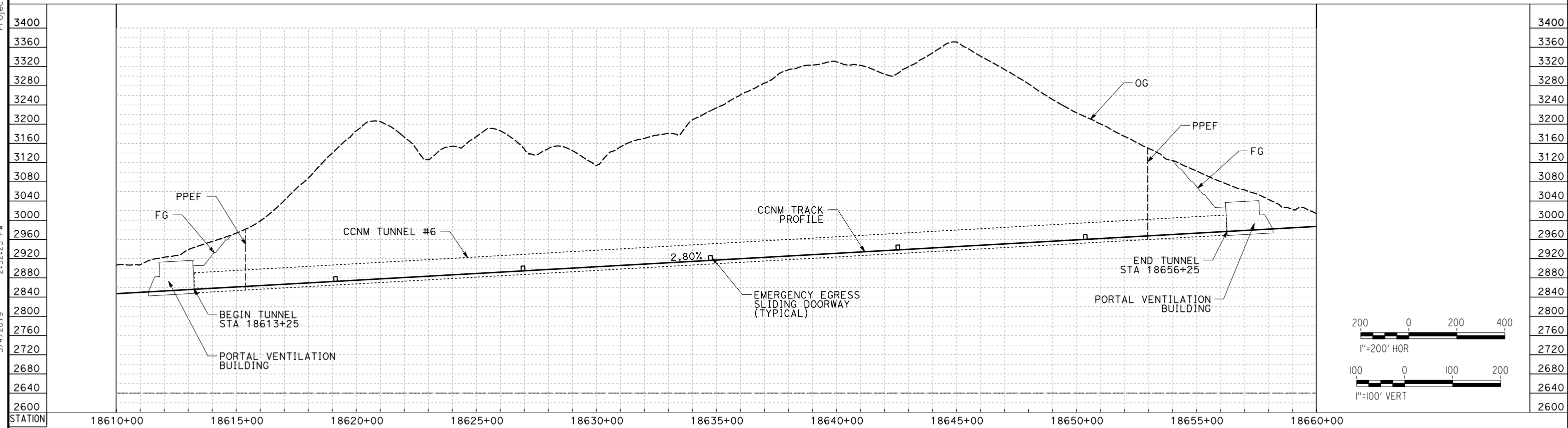
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3/4/2019

OIC:Arivega



**TUNNEL 5**



**TUNNEL 6**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**N. FORTEZ**

CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
TUNNEL PROFILE - TUNNEL 5 AND 6

CONTRACT NO.  
HSR13-44

DRAWING NO.  
TN-C1001

SCALE  
AS SHOWN

SHEET NO.



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\TNBP-TN-C4301.dgn

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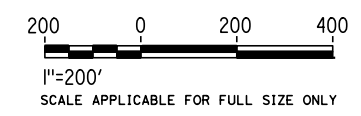
2/28/2019

nof\_cow



**PLAN**

- NOTES:**
1. FAULT ZONE LOCATIONS ARE APPROXIMATE, TO BE CONFIRMED.
  2. FOR PROFILE INFORMATION SEE SHEET TN-C1001.
  3. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18458+80 TO 18822+99.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
 DRAWN BY  
**N. FORTEZ**  
 CHECKED BY  
**R. KUNDU**  
 IN CHARGE  
**J. MORRISON**  
 DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

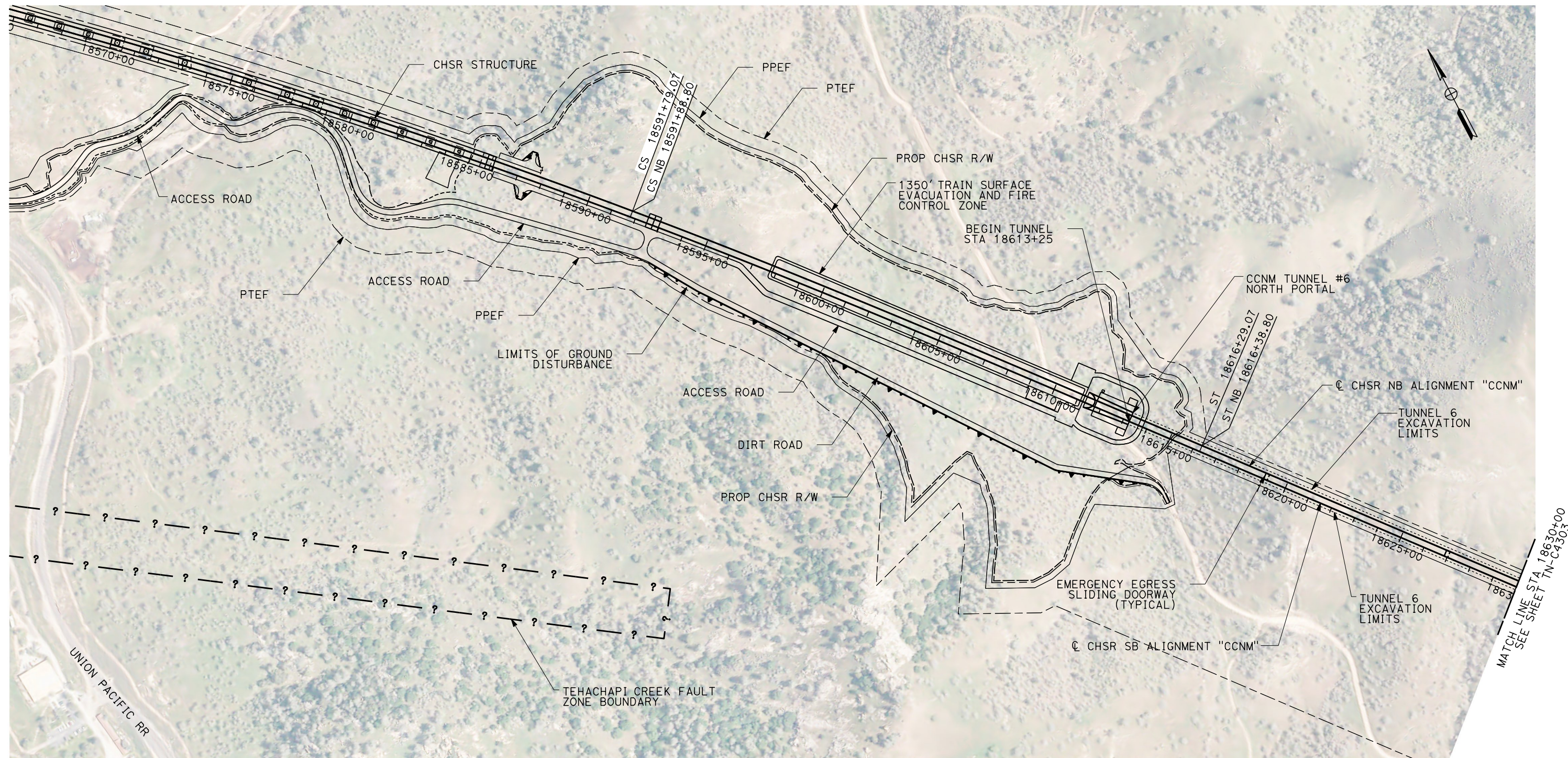
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 TUNNEL 5 - NORTH AND SOUTH PORTALS  
 STA 18505+00 TO STA 18566+00

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**TN-C4301**  
 SCALE  
**AS SHOWN**  
 SHEET NO.

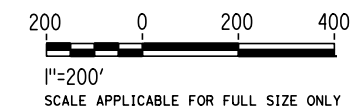




**PLAN**

**NOTES:**

1. FAULT ZONE LOCATIONS ARE APPROXIMATE, TO BE CONFIRMED.
2. FOR PROFILE INFORMATION SEE SHEET TN-C1001.
3. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18458+80 TO 18822+99.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**N. FORTEZ**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFILED TO PALMDALE**  
CCNM DESIGN OPTION  
TUNNEL 6 - NORTH PORTAL  
STA 18566+00 TO STA 18630+00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**TN-C4302**  
SCALE  
**AS SHOWN**  
SHEET NO.

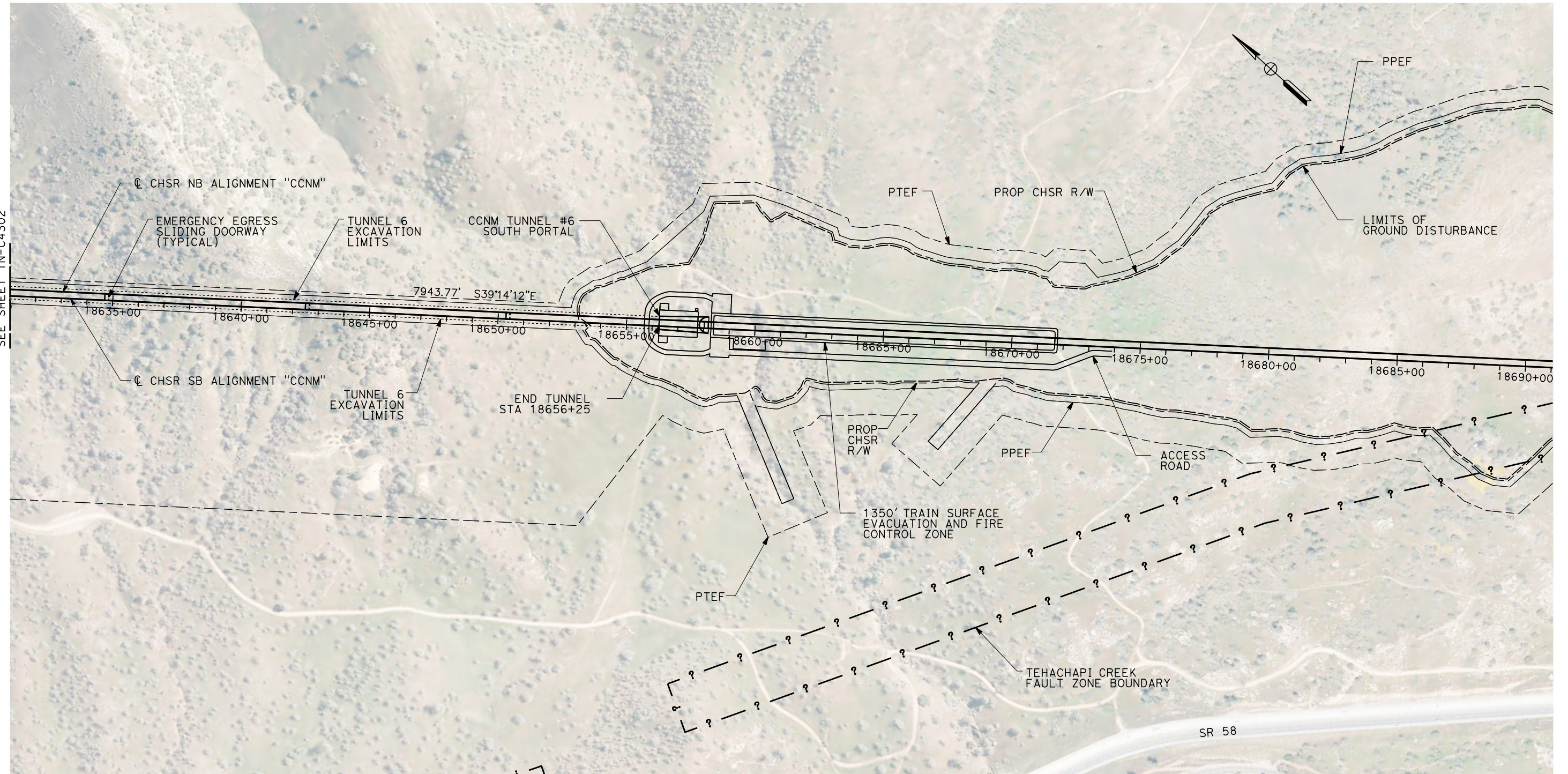


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2/28/2019

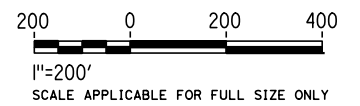
nof\_cow



**PLAN**

**NOTES:**

1. FAULT ZONE LOCATIONS ARE APPROXIMATE, TO BE CONFIRMED.
2. FOR PROFILE INFORMATION SEE SHEET TN-C1001.
3. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18458+80 TO 18822+99.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**N. FORTEZ**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



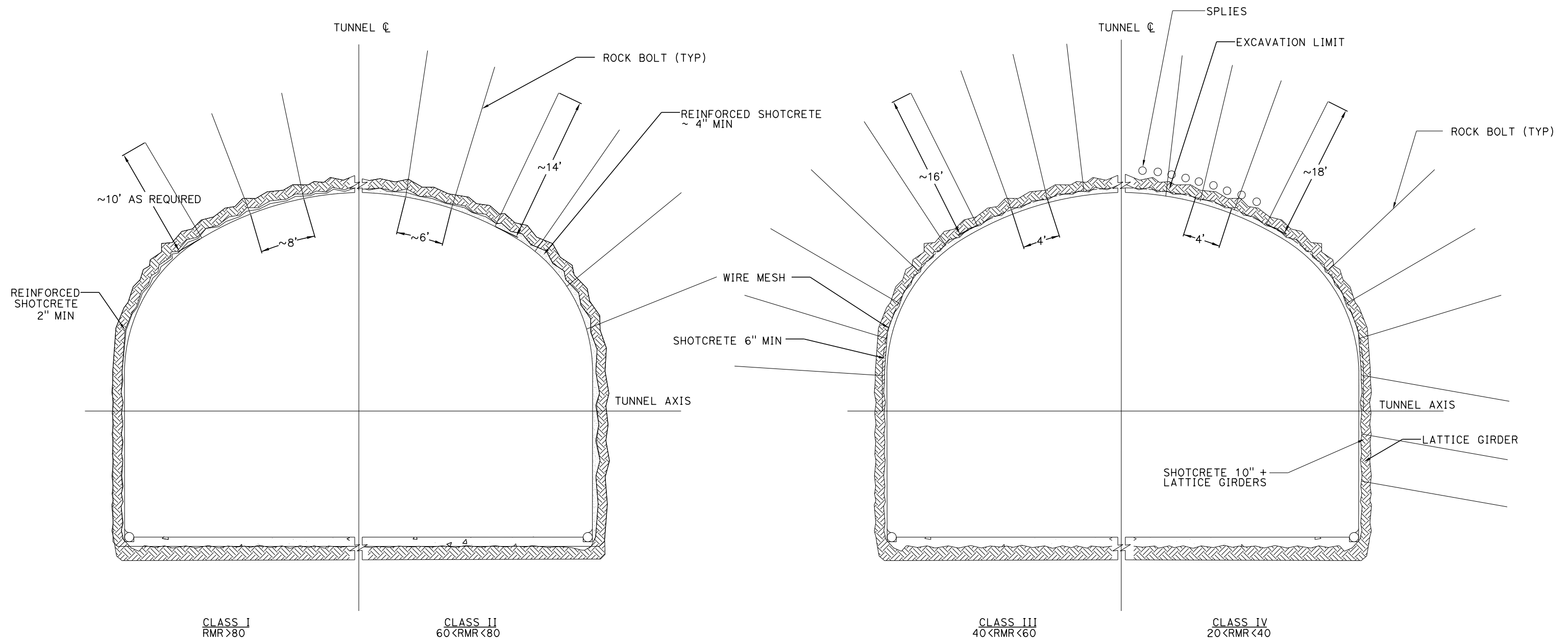
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
CCNM DESIGN OPTION  
TUNNEL 6 - SOUTH PORTAL  
STA 18630+00 TO STA 18690+00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**TN-C4303**  
SCALE  
**AS SHOWN**  
SHEET NO.









**GENERAL NOTES:**

1. A DRILL AND BLAST OPTION IS IDENTIFIED FOR THE 15% IN-PROGRESS DESIGN OF TWIN, SINGLE TRACK TUNNELS FOR TUNNEL 5 AND 6 IN HARD ROCK UNITS.
2. EXCAVATION, GROUND SUPPORT, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND TUNNEL-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. CLASS I AND II MAY BE EXCAVATED FULL FACE. CLASS III MAY REQUIRE HEADING AND BENCH EXCAVATION WITH FACE SUPPORT AS REQUIRED. CLASS IV MAY REQUIRE TOP HEADING AND BENCH WITH SIDE SLASH, SPLIES, AND FACE SUPPORT AS NEEDED. CLASS IV MAY REQUIRE A CHANGE IN EXCAVATION METHOD TO AN SEM CONSTRUCTION ALTERNATIVE.
5. THE COMPOSITE VEHICLE STATIC AND DYNAMIC ENVELOPES SHOWN FOLLOW TM1.1.10-A AND C.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
 DRAWN BY  
**N. FORTEZ**  
 CHECKED BY  
**R. KUNDU**  
 IN CHARGE  
**J. MORRISON**  
 DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**

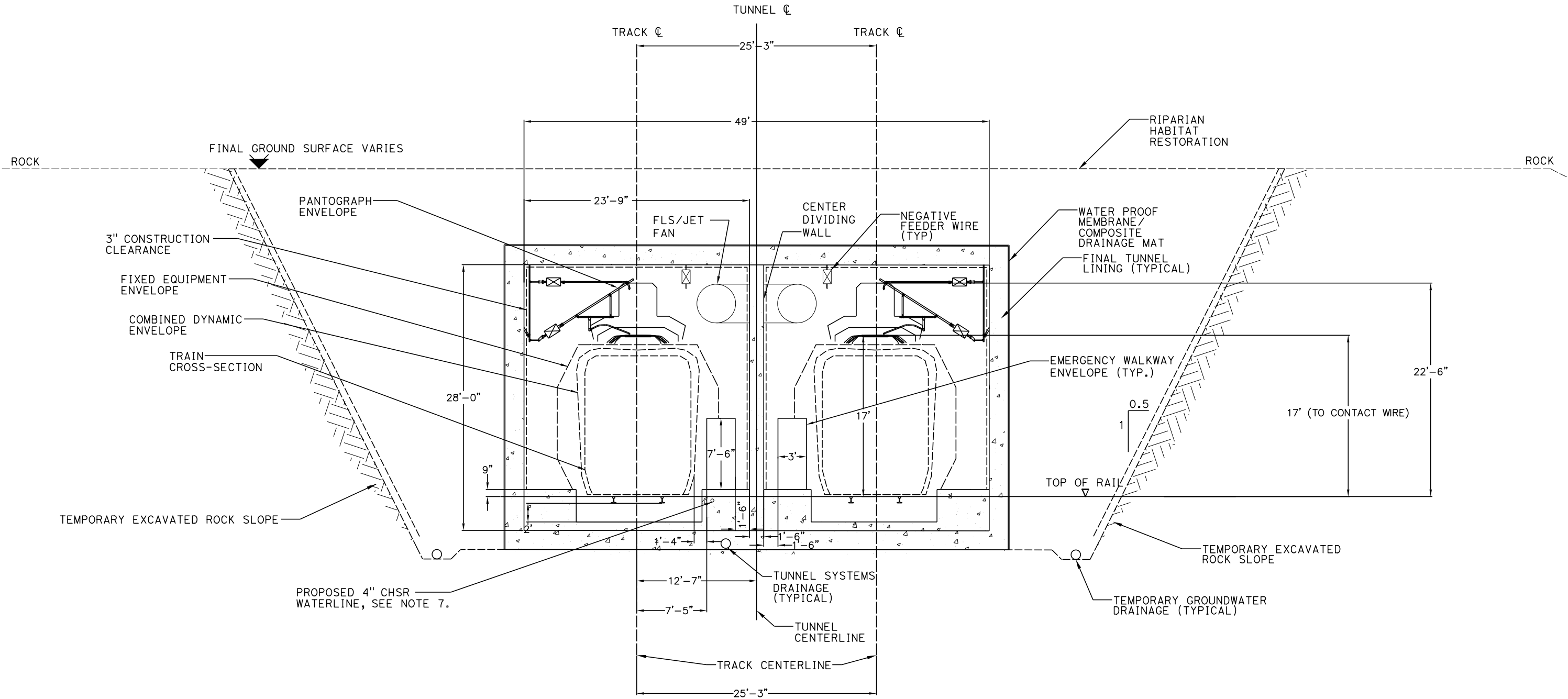
**BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 TUNNEL DRILL AND BLAST METHOD  
 SINGLE TUNNEL

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**TN-D3002**

SCALE  
**NTS**

SHEET NO.



**GENERAL NOTES:**

1. TEMPORARY SLOPE AND BENCH GEOMETRIES SHOWN ARE BASED ON GUIDANCE PROVIDED IN TM 2.6.7.
2. SLOPE PROTECTION, DRAINAGE, STRUCTURAL DIMENSIONS, AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. EXCAVATION, GROUND SUPPORT, LINING AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND CUT AND COVER-SPECIFIC DESIGN WORK.
5. CUT AND COVER BOX TYPICAL SECTION TO BE USED AT TUNNEL 5 STATIONS 18550+00 TO 18556+00.
6. CENTER DIVIDING WALL SHALL CONFORM TO NFPA 130 AND HAVE A 2 HOUR FIRE RATING.
7. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18458+80 TO 18822+99.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**N. FORTEZ**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**

**BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
TUNNEL CUT AND COVER BOX  
CLEARANCE DIAGRAM - TANGENT TRACK

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**TN-D3003**

SCALE  
**NTS**

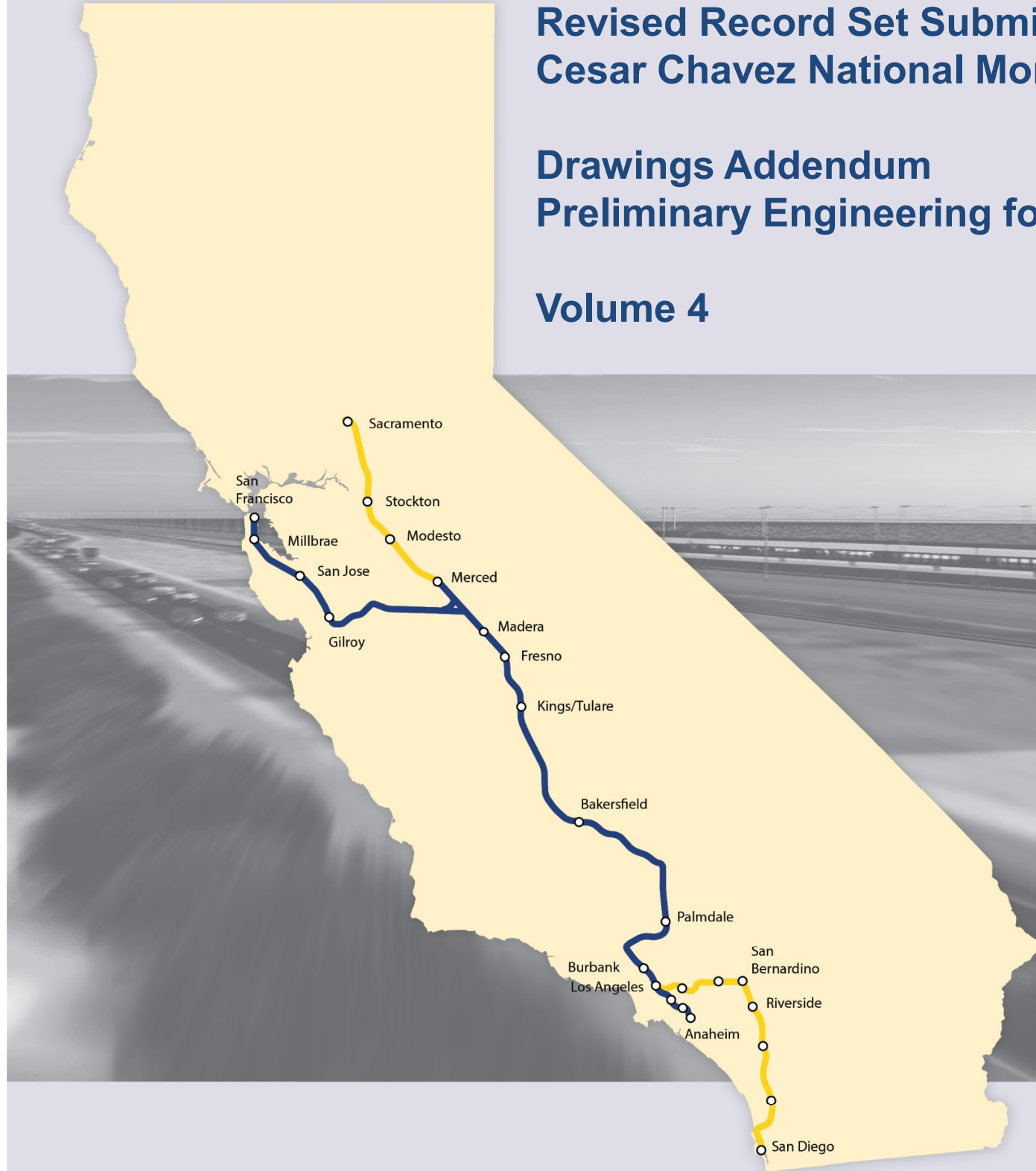
SHEET NO.

# Bakersfield to Palmdale

Revised Record Set Submittal  
Cesar Chavez National Monument (CCNM) Design Option

Drawings Addendum  
Preliminary Engineering for Project Definition – March 2019

Volume 4





**VOLUME 1  
GENERAL SHEETS**

DRAWING No.	DRAWING DESCRIPTION
GE-B0002	CCNM DESIGN OPTION - GENERAL - INDEX OF DRAWING - SHEET 1 OF 2
GE-B0003	CCNM DESIGN OPTION - GENERAL - INDEX OF DRAWING - SHEET 2 OF 2
GE-B0004	CCNM DESIGN OPTION - GENERAL - ABBREVIATIONS - SHEET 1 OF 3
GE-B0005	CCNM DESIGN OPTION - GENERAL - ABBREVIATIONS - SHEET 2 OF 3
GE-B0006	CCNM DESIGN OPTION - GENERAL - ABBREVIATIONS - SHEET 3 OF 3

**ALIGNMENT**

DRAWING No.	DRAWING DESCRIPTION
TT-B0101	CCNM DESIGN OPTION - TRACK GENERAL - SYMBOLS, LEGEND, AND GENERAL NOTES - SHEET 1 OF 1
TT-B0102	CCNM DESIGN OPTION - TRACK GENERAL - HORIZONTAL ALIGNMENT DATA TABLE - SHEET 1 OF 1
TT-B3101	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 1 OF 4
TT-B3102	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 2 OF 4
TT-B3103	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 3 OF 4
TT-B3104	CCNM DESIGN OPTION - TRACK GENERAL - TYPICAL SECTIONS - SHEET 4 OF 4
TT-C6101	CCNM DESIGN OPTION - TRACK GENERAL - KEY MAP - SHEET 1 OF 1
TT-D1301	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18458+80 TO 18485+00 - PLAN AND PROFILE
TT-D1302	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18485+00 TO 18535+00 - PLAN AND PROFILE
TT-D1303	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18535+00 TO 18585+00 - PLAN AND PROFILE
TT-D1304	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18585+00 TO 18635+00 - PLAN AND PROFILE
TT-D1305	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18635+00 TO 18685+00 - PLAN AND PROFILE
TT-D1306	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18685+00 TO 18735+00 - PLAN AND PROFILE
TT-D1307	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18735+00 TO 18785+00 - PLAN AND PROFILE
TT-D1308	CCNM DESIGN OPTION - TRACK GUIDEWAY - STA 18785+00 TO 18822+99 - PLAN AND PROFILE
TT-Y5001	CCNM DESIGN OPTION - TRACK GUIDEWAY - ACCESS ROAD TURN-AROUND - DETAILS

**ROADWAY**

DRAWING No.	DRAWING DESCRIPTION
CV-R0001	CCNM DESIGN OPTION - ROADWAY GENERAL - SYMBOLS, LEGEND, AND GENERAL NOTES - SHEET 1 OF 1
CV-R0002	CCNM DESIGN OPTION - ROADWAY GENERAL - TYPICAL SECTIONS - SHEET 1 OF 2
CV-R0003	CCNM DESIGN OPTION - ROADWAY GENERAL - TYPICAL SECTIONS - SHEET 2 OF 2
CV-R0004	CCNM DESIGN OPTION - ROADWAY GENERAL - KEY MAP - SHEET 1 OF 1
CV-R1599	CCNM DESIGN OPTION - ROADWAY - BOX CULVERT CROSSING "18497" - PLAN AND SECTIONS
CV-R1600	CCNM DESIGN OPTION - ROADWAY - BOX CULVERT CROSSING "18700" - PLAN AND SECTIONS
CV-R1601	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18473" - PLAN AND PROFILE
CV-R1602	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18495" - PLAN AND PROFILE
CV-R1603	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18616" - PLAN AND PROFILE
CV-R1604	CCNM DESIGN OPTION - ROADWAY - DIRT ROAD "18701" - PLAN AND PROFILE
CV-R1605	CCNM DESIGN OPTION - ROADWAY - EASTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1606	CCNM DESIGN OPTION - ROADWAY - EASTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1607	CCNM DESIGN OPTION - ROADWAY - EASTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1608	CCNM DESIGN OPTION - ROADWAY - WESTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1609	CCNM DESIGN OPTION - ROADWAY - WESTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1610	CCNM DESIGN OPTION - ROADWAY - WESTBOUND STATE ROUTE 58 - PLAN AND PROFILE
CV-R1612	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18519" - HORIZONTAL ALIGNMENT DATA TABLE
CV-R1613	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18519" - PLAN AND PROFILE
CV-R1614	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18560" - PLAN AND PROFILE
CV-R1615	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18593" - HORIZONTAL ALIGNMENT DATA TABLE
CV-R1616	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18593" - PLAN AND PROFILE
CV-R1618	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18713" - PLAN AND PROFILE
CV-R1619	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18790" - HORIZONTAL ALIGNMENT DATA TABLE
CV-R1620	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18790" - PLAN AND PROFILE
CV-R1621	CCNM DESIGN OPTION - ROADWAY - ACCESS ROAD "18790" - PLAN AND PROFILE

**VOLUME 2  
CONSTRUCTION SEQUENCING**

DRAWING No.	DRAWING DESCRIPTION
CV-I0001	CCNM DESIGN OPTION - CONSTRUCTION SEQUENCING - GENERAL - NOTES AND LEGEND
CV-I0002	CCNM DESIGN OPTION - CONSTRUCTION SEQUENCING - GENERAL - KEY MAP
CV-I1101	CCNM DESIGN OPTION - CONSTRUCTION SEQUENCING - SHEET 1 OF 1

**GRADING, DRAINAGE AND RETAINING WALLS**

DRAWING No.	DRAWING DESCRIPTION
CV-G0101	CCNM DESIGN OPTION - GRADING, DRAINAGE AND RETAINING WALLS GENERAL - LEGEND, ABBREVIATIONS, AND GENERAL NOTES
CV-G0102	CCNM DESIGN OPTION - GRADING, DRAINAGE AND RETAINING WALLS GENERAL - KEY MAP - SHEET 1 OF 1
CV-G1401	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18482+70, 18487+63 - OFFSITE CULVERT PROFILE
CV-G1402	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18493+35 - OFFSITE CULVERT PROFILE
CV-G1403	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18497+86, 18500+69 - OFFSITE CULVERT PROFILE
CV-G1404	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18504+01, 18513+70 - OFFSITE CULVERT PROFILE
CV-G1405	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18561+59, 18658+50 - OFFSITE CULVERT PROFILE
CV-G1406	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18670+42, 18703+22 - OFFSITE CULVERT PROFILE
CV-G1407	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18714+89, 18752+96 - OFFSITE CULVERT PROFILE
CV-G1408	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18760+49, 18765+43 - OFFSITE CULVERT PROFILE
CV-G1409	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18769+58, 18771+12 - OFFSITE CULVERT PROFILE
CV-G1410	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18778+37, 18780+95 - OFFSITE CULVERT PROFILE
CV-G1411	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18805+46, 18808+99 - OFFSITE CULVERT PROFILE
CV-G4601	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18458+80 TO 18485+00 - PLAN
CV-G4602	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18485+00 TO 18510+00 - PLAN
CV-G4603	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18510+00 TO 18535+00 - PLAN
CV-G4604	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18535+00 TO 18560+00 - PLAN
CV-G4605	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18560+00 TO 18585+00 - PLAN
CV-G4606	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18585+00 TO 18610+00 - PLAN
CV-G4607	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18610+00 TO 18635+00 - PLAN
CV-G4608	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18635+00 TO 18660+00 - PLAN
CV-G4609	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18660+00 TO 18685+00 - PLAN
CV-G4610	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18685+00 TO 18710+00 - PLAN
CV-G4611	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18710+00 TO 18735+00 - PLAN
CV-G4612	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18735+00 TO 18760+00 - PLAN
CV-G4613	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18760+00 TO 18785+00 - PLAN
CV-G4614	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18785+00 TO 18810+00 - PLAN
CV-G4615	CCNM DESIGN OPTION - GRADING AND DRAINAGE - STA 18810+00 TO 18822+99 - PLAN
CV-G4616	CCNM DESIGN OPTION - GRADING AND DRAINAGE - ACCESS ROAD STA 18519+00 - PLAN
CV-G4617	CCNM DESIGN OPTION - GRADING AND DRAINAGE - ACCESS ROAD STA 18560+00 - PLAN
CV-G4618	CCNM DESIGN OPTION - GRADING AND DRAINAGE - ACCESS ROAD STA 18519+00 - PLAN
ST-G1101	CCNM DESIGN OPTION - RETAINING WALL - 18473 - PLAN AND PROFILE
ST-G1102	CCNM DESIGN OPTION - RETAINING WALL - 18474 - PLAN AND PROFILE
ST-G1103	CCNM DESIGN OPTION - RETAINING WALL - 18769 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1104	CCNM DESIGN OPTION - RETAINING WALL - 18781 AND 18783 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1105	CCNM DESIGN OPTION - RETAINING WALL - 18789 AND 18790 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1106	CCNM DESIGN OPTION - RETAINING WALL - 18792 (STATE ROUTE 58) - PLAN AND PROFILE
ST-G1107	CCNM DESIGN OPTION - RETAINING WALL - STATE ROUTE 58 - PLAN AND PROFILE

Projects\701206\_00\_CHSRBP\_00\_CADD\Sheet Files\CCNM\BP-GE-B0002

2:17:18 PM

3/12/2019

TYLINjmered14h

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>S. LANDOLT</b>
DRAWN BY <b>A. RIVERA</b>
CHECKED BY <b>S. LANDOLT</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>03/06/2019</b>

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
GENERAL  
INDEX OF DRAWING  
SHEET 1 OF 2

CONTRACT NO. HSR13-44
DRAWING NO. GE-B0002
SCALE NO SCALE
SHEET NO.

## VOLUME 3 TRACK AND ROADWAY STRUCTURES

DRAWING No.	DRAWING DESCRIPTION
ST-J0001	CCNM DESIGN OPTION - TRACK AND ROADWAY STRUCTURES - GENERAL NOTES AND LEGEND
ST-J0002	CCNM DESIGN OPTION - TRACK AND ROADWAY STRUCTURES - KEY MAP
ST-J0003	CCNM DESIGN OPTION - GENERAL - TYPICAL SECTIONS - SHEET 1 OF 3
ST-J0004	CCNM DESIGN OPTION - GENERAL - TYPICAL SECTIONS - SHEET 2 OF 3
ST-J0005	CCNM DESIGN OPTION - GENERAL - TYPICAL SECTIONS - SHEET 3 OF 3
ST-J1201	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18463+56 TO 18475+16 - PLAN AND ELEVATION
ST-J1202	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18463+56 TO 18475+16 - PLAN AND ELEVATION
ST-J1203	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18564+23 TO 18585+67 - PLAN AND ELEVATION
ST-J1204	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18564+23 TO 18585+67 - PLAN AND ELEVATION
ST-J1205	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18564+23 TO 18585+67 - PLAN AND ELEVATION
ST-J1206	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18718+57 TO 18747+94 - PLAN AND ELEVATION
ST-J1207	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18718+57 TO 18747+94 - PLAN AND ELEVATION
ST-J1208	CCNM DESIGN OPTION - TRACK STRUCTURES - VIADUCT STATION 18718+57 TO 18747+94 - PLAN AND ELEVATION
ST-K1101	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 EB OVERHEAD - PLAN AND ELEVATION
ST-K1102	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 EB OVERHEAD - PLAN AND ELEVATION
ST-K1103	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 EB OVERHEAD - TYPICAL SECTION
ST-K1104	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 WB OVERHEAD - PLAN AND ELEVATION
ST-K1105	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 WB OVERHEAD - PLAN AND ELEVATION
ST-K1106	CCNM DESIGN OPTION - ROADWAY STRUCTURES - SR 58 WB OVERHEAD - TYPICAL SECTION

## TRACTION POWER

DRAWING No.	DRAWING DESCRIPTION
TP-B0101	CCNM DESIGN OPTION - TRACTION POWER GENERAL - LEGEND - SHEET 1 OF 1
TP-B0102	CCNM DESIGN OPTION - TRACTION POWER GENERAL - KEY MAP - SHEET 1 OF 1
TP-B3101	CCNM DESIGN OPTION - TRACTION POWER GENERAL - TYPICAL SECTIONS - SHEET 1 OF 1
TP-D0101	CCNM DESIGN OPTION - TRACTION POWER FACILITY LAYOUT
TP-E4101	CCNM DESIGN OPTION - TYPICAL LAYOUT - PARALLELING STATION WITH 2 AUTOTRANSFORMERS
TP-O4301	CCNM DESIGN OPTION - TRACTION POWER SITE PLAN - PROPOSED PARALLELING STATION 3
TP-O4302	CCNM DESIGN OPTION - TRACTION POWER SITE PLAN - PROPOSED PARALLELING STATION 4

## AUTOMATIC TRAIN CONTROL

DRAWING No.	DRAWING DESCRIPTION
TC-B0101	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL GENERAL - ABBREVIATIONS AND LEGEND - SHEET 1 OF 1
TC-B0102	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL GENERAL - KEY MAP - SHEET 1 OF 1
TC-D0101	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL LAYOUT
TC-F4101	CCNM DESIGN OPTION - AUTOMATIC TRAIN CONTROL SITE PLAN - SITE @ 18750+69

## TUNNEL

DRAWING No.	DRAWING DESCRIPTION
TN-B0101	CCNM DESIGN OPTION - TUNNEL LEGEND
TN-B0102	CCNM DESIGN OPTION - KEY MAP - ALIGNMENT TUNNELS
TN-C1001	CCNM DESIGN OPTION - TUNNEL PROFILE - TUNNEL 5 AND 6
TN-C4301	CCNM DESIGN OPTION - TUNNEL 5 - NORTH AND SOUTH PORTALS - STA 18505+00 TO STA 18566+00
TN-C4302	CCNM DESIGN OPTION - TUNNEL 6 - NORTH PORTAL - STA 18566+00 TO STA 18630+00
TN-C4303	CCNM DESIGN OPTION - TUNNEL 6 - SOUTH PORTAL - STA 18630+00 TO STA 18690+00
TN-D3001	CCNM DESIGN OPTION - TUNNEL DRILL AND BLAST METHOD - SINGLE TUNNEL CLEARANCE DIAGRAM
TN-D3002	CCNM DESIGN OPTION - TUNNEL DRILL AND BLAST METHOD - SINGLE TUNNEL
TN-D3003	CCNM DESIGN OPTION - TUNNEL CUT AND COVER BOX - CLEARANCE DIAGRAM - TANGENT TRACK

## VOLUME 4 UTILITIES

DRAWING No.	DRAWING DESCRIPTION
UT-B0001	CCNM DESIGN OPTION - COMPOSITE UTILITY GENERAL - ABBREVIATIONS AND LEGEND
UT-B0002	CCNM DESIGN OPTION - COMPOSITE UTILITY GENERAL - GENERAL NOTES AND UTILITY OWNERS
UT-B0003	CCNM DESIGN OPTION - COMPOSITE UTILITY GENERAL - KEY MAP - SHEET 1 OF 1
UT-C4601	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18458+80 TO 18485+00 - PLAN
UT-C4602	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18485+00 TO 18510+00 - PLAN
UT-C4603	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18510+00 TO 18535+00 - PLAN
UT-C4604	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18535+00 TO 18560+00 - PLAN
UT-C4605	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18560+00 TO 18585+00 - PLAN
UT-C4606	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18585+00 TO 18610+00 - PLAN
UT-C4607	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18610+00 TO 18635+00 - PLAN
UT-C4608	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18635+00 TO 18660+00 - PLAN
UT-C4609	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18660+00 TO 18685+00 - PLAN
UT-C4610	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18685+00 TO 18710+00 - PLAN
UT-C4611	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18710+00 TO 18735+00 - PLAN
UT-C4612	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18735+00 TO 18760+00 - PLAN
UT-C4613	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18760+00 TO 18785+00 - PLAN
UT-C4614	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18785+00 TO 18810+00 - PLAN
UT-C4615	CCNM DESIGN OPTION - COMPOSITE UTILITY PLAN - STA 18810+00 TO 18822+99 - PLAN

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\BP-GE-B0003

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3/12/2019

TYLIN\jmeredith

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>S. LANDOLT</b>
DRAWN BY <b>A. RIVERA</b>
CHECKED BY <b>S. LANDOLT</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>03/06/2019</b>

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
GENERAL  
INDEX OF DRAWING  
SHEET 2 OF 2

CONTRACT NO. HSR13-44
DRAWING NO. GE-B0003
SCALE NO SCALE
SHEET NO.



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CCNM\BP-GE-B0004

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2/27/2019

OJC:ARivera

**A**

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

**B**

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

**C**

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

**D**

D DEPTH  
 DD DOWNDRAIN, DIRECTIVE DRILLING  
 DBL DOUBLE  
 DEG DEGREE  
 DEL DELINEATOR  
 DET DETAIL, DETOUR  
 DF DOUGLAS FIR  
 DI DRAINAGE INLET, DROP INLET  
 DIA DIAMETER  
 DIAPH DIAPHRAGM  
 DIST DISTANCE, DISTRICT  
 DMBB DOUBLE METAL BEAM BARRIER  
 DR DRIVE  
 DS DESIGN SPEED  
 DTBB DOUBLE THRIE BEAM BARRIER  
 DWG DRAWING  
 DWP DEPARTMENT OF WATER AND POWER  
 DWY DRIVEWAY

**E**

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

**F**

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

**G**

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

**H**

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

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**J. MEREDITH**  
 CHECKED BY  
**S. LANDOLT**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**03/06/2019**

**RECORD  
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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 GENERAL  
 ABBREVIATIONS  
 SHEET 1 OF 3

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
GE-B0004  
 SCALE  
NO SCALE  
 SHEET NO.

I

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

J

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

K

K DISTANCE TO ACHIEVE 1% GRADE CHANGE  
 KV KILOVOLT

L

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

M

MAINT MAINTENANCE  
 MAX MAXIMUM  
 MB METAL BEAM  
 MBB METAL BEAM BARRIER  
 MBGR METAL BEAM GUARD RAILING  
 MED MEDIAN  
 MH MANHOLE  
 MIN MINIMUM  
 MISC MISCELLANEOUS  
 MISC I & S MISCELLANEOUS IRON AND STEEL  
 MKR MARKER  
 M/L MAIN LINE (RAILWAY)  
 MOD MODIFIED, MODIFY  
 MON MONUMENT  
 MOIF MAINTENANCE OF INFRASTRUCTURE FACILITY  
 MOIS MAINTENANCE OF INFRASTRUCTURE SIDING  
 MP METAL PLATE

M CONTINUED

MPGR METAL PLATE GUARD RAILING  
 MPH MILES PER HOUR  
 MR MOVEMENT RATING  
 MSE MECHANICALLY STABILIZED EARTH  
 MSS MOVING SCAFFOLDING SYSTEM  
 MTL MATERIAL  
 MVP MAINTENANCE VEHICLE PULLOUT

N

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

O

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

P

P PAGE  
 PAP PERFORATED ALUMINUM PIPE  
 PB PULL BOX, PALMDALE TO BURBANK  
 PC POINT OF CURVATURE, PRECAST  
 PCC POINT OF COMPOUND CURVE,  
 PORTLAND CEMENT CONCRETE  
 PCP PERFORATED CONCRETE PIPE,  
 PRESTRESSED CONCRETE PIPE  
 PCVC POINT OF COMPOUND VERTICAL CURVE  
 PED PEDESTRIAN  
 PED OC PEDESTRIAN OVERCROSSING  
 PED UC PEDESTRIAN UNDERCROSSING  
 PERM MTL PERMEABLE MATERIAL  
 PG PROFILE GRADE  
 PG&E PACIFIC GAS AND ELECTRIC  
 PI POINT OF INTERSECTION  
 PJP PARTIAL JOINT PENETRATION  
 PL PLATE  
 P/L PROPERTY LINE  
 PM POST MILE, TIME FROM NOON TO MIDNIGHT  
 PN PAVING NOTCH

P CONTINUED

POB POINT OF BEGINNING  
 POC POINT OF HORIZONTAL CURVE  
 POE POINT OF ENDING  
 POT POINT OF TANGENT  
 POVC POINT OF VERTICAL CURVE  
 PP PIPE PILE, PLASTIC PIPE, POWER POLE  
 PPEF PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT  
 PPL PREFORMED PERMEABLE LINER  
 PPP PERFORATED PLASTIC PIPE  
 PRC POINT OF REVERSE CURVE  
 PRF PAVEMENT REINFORCING FABRIC  
 PROP PROPOSED  
 PRVC POINT OF REVERSE VERTICAL CURVE  
 PS&E PLANS, SPECIFICATIONS AND ESTIMATES  
 PS, P/S PRESTRESSED, PARALLELING STATION  
 PSP PERFORATED STEEL PIPE  
 PT POINT OF TANGENCY  
 PTEF PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT  
 PTSW POINT OF TRACK SWITCH  
 PVC POLYVINYL CHLORIDE  
 PVI POINT OF VERTICAL INTERSECTION  
 PVMT PAVEMENT

Q

QTY QUANTITY

R

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

R CONTINUED

R/W RIGHT OF WAY  
 RWY RAILWAY

S

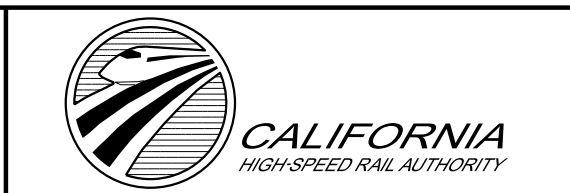
S SOUTH, SUPPLEMENT  
 SAE STRUCTURE APPROACH EMBANKMENT  
 SALV SALVAGE  
 SAPP STRUCTURAL ALUMINUM PLATE PIPE  
 SB SOUTHBOUND  
 SC SPIRAL TO CURVE  
 SCE SOUTHERN CALIFORNIA EDISON  
 SCSP SLOTTED CORRUGATED STEEL PIPE  
 SD STORM DRAIN  
 SEC SECOND  
 SECT SECTION  
 SEP SEPARATION  
 SG SUBGRADE  
 SHLD SHOULDER  
 SHT SHEET  
 SIM SIMILAR  
 S STATION LINE  
 SM SELECTED MATERIAL  
 SPEC SPECIAL, SPECIFICATIONS  
 SPP SLOTTED PLASTIC PIPE  
 SS SLOPE STAKE, SPIRAL TO SPIRAL,  
 SUPPLY STATION  
 SSBM STRAP AND SADDLE BRACKET METHOD  
 SSD STRUCTURAL SECTION DRAIN  
 SSPA STRUCTURAL STEEL PLATE ARCH  
 SSPP STRUCTURAL STEEL PLATE PIPE  
 SSPPA STRUCTURAL STEEL PLATE PIPE ARCH  
 SSRP STEEL SPIRAL RIB PIPE  
 SR STATE ROUTE  
 ST STREET, SPIRAL TO TANGENT  
 STA STATION  
 STBB SINGLE THRIE BEAM BARRIER  
 STD STANDARD  
 STR STRUCTURE  
 SRS STAND ALONE RADIO SITE  
 SURF SURFACING  
 SW SIDEWALK, SOUND WALL  
 SWR SEWER  
 SWS SWITCHING STATION  
 SYM SYMMETRICAL  
 S4S SURFACE 4 SIDES  
 SJVR SAN JOAQUIN VALLEY RAILROAD

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**J. MEREDITH**  
 CHECKED BY  
**S. LANDOLT**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

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CONSTRUCTION**



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

CCNM DESIGN OPTION  
GENERAL  
ABBREVIATIONS  
SHEET 2 OF 3

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
GE-B0005  
 SCALE  
NO SCALE  
 SHEET NO.



**T**

T SEMI-TANGENT  
 TAB TABLET  
 TAN TANGENT  
 TBB THRIE BEAM BARRIER  
 TBR TIMBER  
 TC TOP OF CURB, TANGENT TO CURVE  
 TCB TRAFFIC CONTROL BOX  
 TEL TELEPHONE  
 TEMP TEMPORARY  
 TF TOP OF FOOTING  
 TG TOP OF GRADE  
 TM TECHNICAL MEMORANDUM  
 TOT TOTAL  
 TP TRACTION POWER, TUNNEL PORTAL  
 TPB TREATED PERMEABLE BASE  
 TPF TRACTION POWER FACILITY  
 TPM TREATED PERMEABLE MATERIAL  
 TRANS TRANSITION, TRANSVERSE  
 TS TRAFFIC SIGNAL, TUBULAR STEEL,  
 TANGENT TO SPIRAL  
 TOR TOP OF RAIL  
 TW TOP OF WALL  
 TYP TYPICAL

**U**

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

**V**

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

**W**

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

**X**

X SEC CROSS SECTION  
 XING CROSSING

**Y**

YR YEAR  
 YRS YEARS

**Z**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**J. MEREDITH**  
 CHECKED BY  
**S. LANDOLT**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**03/06/2019**

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**TYLIN INTERNATIONAL**



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

CCNM DESIGN OPTION  
 GENERAL  
 ABBREVIATIONS  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR13-44  
 DRAWING NO.  
 GE-B0006  
 SCALE  
 NO SCALE  
 SHEET NO.

**LEGEND AND SYMBOLS**

**ABBREVIATIONS**

EXISTING	NEW	DESCRIPTION
-e- -e-	-E- -E-	ELECTRICAL UNDERGROUND
-e- (oh)-	-E- (OH)-	ELECTRICAL OVERHEAD
---gs---gs---	---GS---GS---	GAS
-g- -g-	-G- -G-	NATURAL GAS
-irr- -irr-	-IRR- -IRR-	IRRIGATION
---o---o---	---O---O---	OIL
---sd---sd-	---SD---SD-	STORM DRAIN
---s---s---	---S---S---	SEWER
-st- -st-	-ST- -ST-	STEAM
---tc---(oh)-	---TC---(OH)-	TELECOMMUNICATION OVERHEAD
---tc---tc-	---TC---TC-	TELECOMMUNICATION UNDERGROUND
---t---(oh)-	---T---(OH)-	TELEPHONE OVERHEAD
---t---t---	---T---T---	TELEPHONE UNDERGROUND
---tv---(oh)-	---TV---(OH)-	TELEVISION OVERHEAD
---tv---tv---	---TV---TV---	TELEVISION UNDERGROUND
-w- -w-	-W- -W-	WATER, RECYCLED WATER
-fo- -fo-	-FO- -FO-	FIBER OPTIC
		IRRIGATION WELL, WEIR, TURNOUT, PUMP
		SEWER, STORM DRAIN MANHOLE
		UTILITY POLE
		FIRE HYDRANT
		DROP INLET
		POWER TRANSMISSION TOWER
		STREET LIGHT
		NORTH ARROW
		PROP CHSR RIGHT-OF-WAY
		CHSR TRACK CENTER LINE
		RETAINING WALL
		STRUCTURE FOUNDATION
		PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT
		PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT
		UTILITY TO BE REMOVED OR RELOCATED
		RETENTION BASIN
		KEY NOTE, UTILITY NUMBER
		WIND TURBINE - TO BE RELOCATED

AB	AGGREGATE BASE	FH	FIRE HYDRANT	R	RADIUS
ABN	ABANDON	FM	FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
AC	ASPHALT CONCRETE	F-B	FRESNO TO BAKERSFIELD	RD	ROAD
ACB	ASPHALT CONCRETE BASE	FO	FIBER OPTIC	RDWY	ROADWAY
ACP	ASBESTOS CEMENT PIPE	FUT	FUTURE	REQD	REQUIRED
A/G	AT GRADE	G	GAS	RR	RAILROAD
APPROX	APPROXIMATE	GALV	GALVANIZED	RT	RIGHT
AVE	AVENUE	GB	GRADE BREAK	RTE	ROUTE
BEG	BEGIN	GIS	GEOGRAPHICAL INFORMATION SYSTEM	R/W, ROW	RIGHT-OF-WAY
BFSSA	BAKERSFIELD F STREET STATION ALIGNMENT	GND	GROUND	RWY	RAILWAY
BLDG	BUILDING	GTR	GUTTER	S	SOUTH
BLVD	BOULEVARD	GV	GAS VALVE	SB	SOUTHBOUND
BNSF	BURLINGTON NORTHERN SANTA FE	GWTR	GROUNDWATER	SD	STORM DRAIN
BO	BLOW-OFF	GWMW	GROUNDWATER MONITOR WELL	SDMH	STORM DRAIN MANHOLE
CB	CATCH BASIN	GWAW	GROUNDWATER ACTIVE WELL	SF	SQUARE FEET
CD	CURB DRAIN	HOR	HORIZONTAL	SHLD	SHOULDER
C&G	CURB AND GUTTER	HSR	HIGH-SPEED RAIL	SR	STATE ROUTE
CHSR	CALIFORNIA HIGH-SPEED RAIL	HST	HIGH-SPEED TRAIN	SS	SANITARY SEWER, SUPPLY STATION
CHST	CALIFORNIA HIGH-SPEED TRAIN	IN	INCH	SSMH	SANITARY SEWER MANHOLE
CIP	CAST IRON PIPE	INV	INVERT	ST	STREET
CL	CENTERLINE, CLASS	IRR	IRRIGATION	STA	STATION
CLM	CENTERLINE	LT	LENGTH	SW	SIDEWALK, SWITCHING STATION
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LT	LEFT	SWR	SEWER
CPUC	CALIFORNIA PUBLIC UTILITIES COMMISSION	L	LENGTH	T	TELEPHONE, TOTAL
CMP	CORRUGATED METAL PIPE	MAX	MAXIMUM	TC	TELECOMMUNICATION
CTV	CABLE TELEVISION	MIN	MINIMUM	TCE	TEMPORARY CONSTRUCTION EASEMENT
CV	CURVE	N	NORTH, NEW	TEL	TELEPHONE
D	DEPTH	NA	NOT APPLICABLE	TP	TRACTION POWER
DI	DRAINAGE INLET	NB	NORTHBOUND	TOR	TOP OF RAIL
DIA	DIAMETER	NIC	NOT IN CONTRACT	TS	TRAFFIC SIGNAL
DIP	DUCTILE IRON PIPE	NO	NUMBER	TYP	TYPICAL
DIST	DISTANCE	NTS	NOT TO SCALE	UG, U/G	UNDERGROUND
DWG	DRAWING	OCS	OVERHEAD CONTACT SYSTEM	UNK	UNKNOWN
E	ELECTRICAL, EAST	PROP, (P)	PROPOSED	UPRR	UNION PACIFIC RAILROAD
EB	EASTBOUND	PED	PEDESTRIAN	VAR	VARIES
EL	ELEVATION	PPEF	PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT	VC	VERTICAL CURVE
ELEC	ELECTRIC	PS	PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT	VCP	VITRIFIED CLAY PIPE
EP	EDGE OF PAVEMENT	PTEF	PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT	W	WEST, WATER
EXIST, (E)	EXISTING	PVC	POLYVINYL CHLORIDE	W/	WITH
		PVMT	PAVEMENT	WB	WESTBOUND
		PG	PROPOSED GRADE	WM	WATER MAIN
				WV	WATER VALVE

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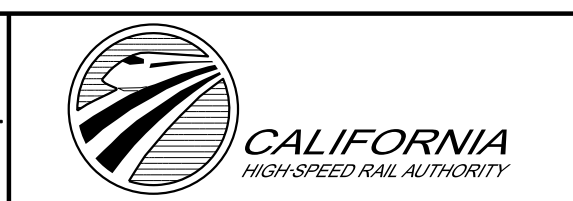
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. ARUTA</b>
DRAWN BY <b>A. RIVERA</b>
CHECKED BY <b>D. ARUTA</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>03/06/2019</b>

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
COMPOSITE UTILITY GENERAL  
ABBREVIATIONS AND LEGEND

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>UT-B0001</b>
SCALE <b>NO SCALE</b>
SHEET NO.



UTILITY OWNERS	
OWNER	ABBREVIATION
ANTELOPE VALLEY EAST KERN WATER AGENCY	AVEKWA
APR CORPORATION	APR CORP
ARVIN-EDISON WATER STORAGE DISTRICT	AEWSD
AT&T TRANSMISSION	AT&T TRANS
AT&T/PACBELL	PACBELL
BRIGHT HOUSE NETWORKS	BRIGHTHOUSE
CALIFORNIA WATER SERVICE	CALWATER
CALTRANS	CALTRANS
CENTURYLINK COMMUNICATION CA	CENTURYLINK
CITY OF BAKERSFIELD	CITY OF BAKERSFIELD
CITY OF LANCASTER	CITY OF LANCASTER
CITY OF PALMDALE	CITY OF PALMDALE
CITY OF TEHACHAPI	CITY OF TEHACHAPI
COUNTY OF KERN	COUNTY OF KERN
CVIN LLC	CVIN
DOLE ENTERPRISES	DOLE ENT
EAST NILES COMMUNITY SERVICES DISTRICT	ENCSD
GOLDEN HILLS COMMUNITY SERVICE DISTRICT	GHCSO
KERN DELTA WATER DISTRICT	KDWD
KERN OIL & REFINING	KERN OIL
KERN SANITATION AUTHORITY	KSA
KINDER MORGAN (EL PASO PIPELINE)	EL PASO/KM
KINDER MORGAN (MOJAVE PIPELINE)	MOJAVE/KM
LANDALE MUTUAL WATER COMPANY	LMWC
LEVEL 3 COMMUNICATIONS	LEVEL 3
LOS ANGELES DEPARTMENT OF WATER AND POWER	LADWP
LOS ANGELES COUNTY DPW WATER WORKS	LACDPW-WW
LOS ANGELES COUNTY DEPARTMENT OF PARKS AND RECREATION	LACDPR
LOS ANGELES COUNTY SANITATION DISTRICT	LACSD
NAFTEX OPERATING COMPANY	NAFTEX
NEXTERA ENERGY RESOURCES	NEXTERA
PG&E - DISTRIBUTION	PG&E DIST
PG&E - TRANSMISSION	PG&E TRANS
PHILLIPS 66 - TOSCO	PHILLIPS66
ROSAMOND COMMUNITY SERVICE DISTRICT	RCSD
SHELL PIPELINE CO	SHELL
SOUTHERN CALIFORNIA EDISON - TRANSMISSION	SCE TRANS
SOUTHERN CALIFORNIA EDISON - DISTRIBUTION	SCE DIST
SOUTHERN CALIFORNIA GAS CO/SEMPRA - DISTRIBUTION	SEMPRA DIST

UTILITY OWNERS CONT.	
OWNER	ABBREVIATION
SOUTHERN CALIFORNIA GAS CO/SEMPRA - TRANSMISSION	SEMPRA TRANS
SPRINT	SPRINT
SUNESYS, LLC	SUNESYS
TEHACHAPI CUMMINGS WATER	TEHACHAPI CUMMINGS
TIME WARNER	TIME WARNER
UNITED STATES BUREAU OF RECLAMATION	USBR
VALLEY WATER MANAGEMENT COMPANY	VWMC
VAQUERO ENERGY	VAQUERO
VERIZON	VERIZON

GENERAL NOTES:

- EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE LOCATION OF EXISTING UTILITIES ARE BASED ON FOUR SOURCES:
  - TOPOGRAPHIC SURVEY
  - GIS
  - AS-BUILT DRAWINGS
  - LIMITED FIELD RECONNAISSANCE
 THE CONTRACTOR SHALL CONDUCT ITS OWN SURVEY AND VERIFY THE LOCATION OF EXISTING UTILITIES AND RECONCILE THE SURVEY DATA AND GIS DATA.
- SERVICE LATERALS FOR POTABLE WATER, SANITARY SEWER AND NATURAL GAS ARE NOT SHOWN.
- EXISTING UTILITIES IDENTIFIED WITH THE DISPOSITION 'RELOCATE' AND 'REMOVE' PERTAIN TO ONLY THAT PORTION OF THE UTILITY WITHIN THE PROPOSED CHSR ROW OR IMPACTED BY PROPOSED IMPROVEMENTS.
- ABANDONMENT OF EXISTING OIL WELLS SHALL CONFORM TO THE REQUIREMENTS OF AGENCIES HAVING JURISDICTION REGARDING DECOMMISSIONING OF EXISTING OIL WELLS AND APPURTENANT EQUIPMENT.

HIGH VOLTAGE TRANSMISSION LINE RELOCATION NOTES:

- ELECTRICAL TOWER AND WIRE HEIGHTS ARE NOT BASED ON FIELD SURVEY AND MAY NOT REPRESENT ACTUAL FIELD CONDITIONS.
- CPUC VERTICAL CLEARANCE FROM OCS POLE NEGATIVE FEEDER WIRE TO LOWEST HIGH VOLTAGE ELECTRICAL CONDUCTOR: CPUC GO 95 RULE 38 TABLE 2 (CASE 12).
- ELECTRICAL TRANSMISSION TOWERS/POLES SUBJECT TO ADDITIONAL CLEARANCE REQD BY UTILITY OWNER.
- PROPOSED HV TRANSMISSION TOWERS REPRESENTED CONCEPTUALLY.
- NEGATIVE FEEDER WIRE DISTANCE ABOVE TOP RAIL: 30' FOR 2 TRACK CONFIGURATION, 35' FOR 3 OR MORE TRACK CONFIGURATION.

DRAINAGE SYSTEM AND RELOCATION NOTES:

EXISTING STORM DRAINAGE PIPES, CULVERTS, OR CHANNELS ARE SHOWN FOR INFORMATION ONLY. REFER TO GRADING AND DRAINAGE PLANS FOR DETAILED DRAINAGE INFORMATION.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. ARUTA</b>
DRAWN BY <b>A. RIVERA</b>
CHECKED BY <b>D. ARUTA</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>03/06/2019</b>

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

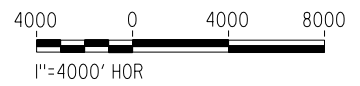
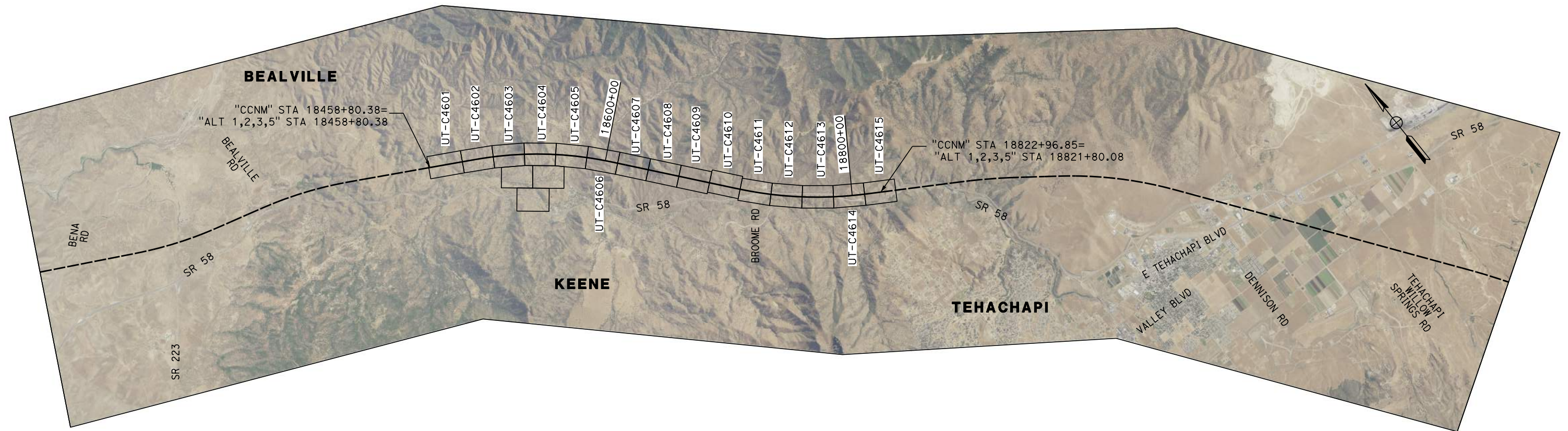
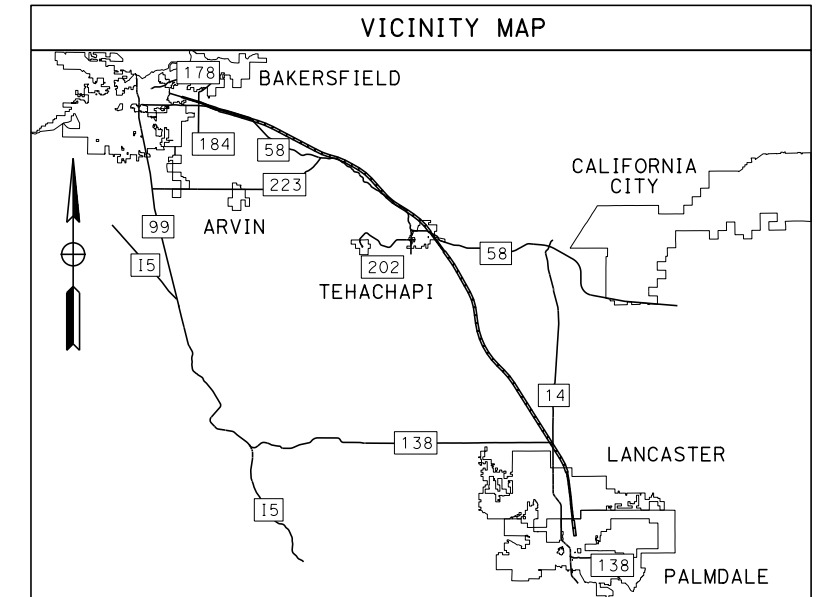


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY GENERAL  
GENERAL NOTES AND UTILITY OWNERS

CONTRACT NO. HSR13-44
DRAWING NO. UT-B0002
SCALE NO SCALE
SHEET NO.

# CCNM DESIGN OPTION



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**

DRAWN BY  
**A. RIVERA**

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**D. ARUTA**

IN CHARGE  
**G. CAMPBELL**

DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 COMPOSITE UTILITY GENERAL  
 KEY MAP  
 SHEET 1 OF 1

CONTRACT NO.  
HSR13-44

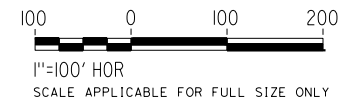
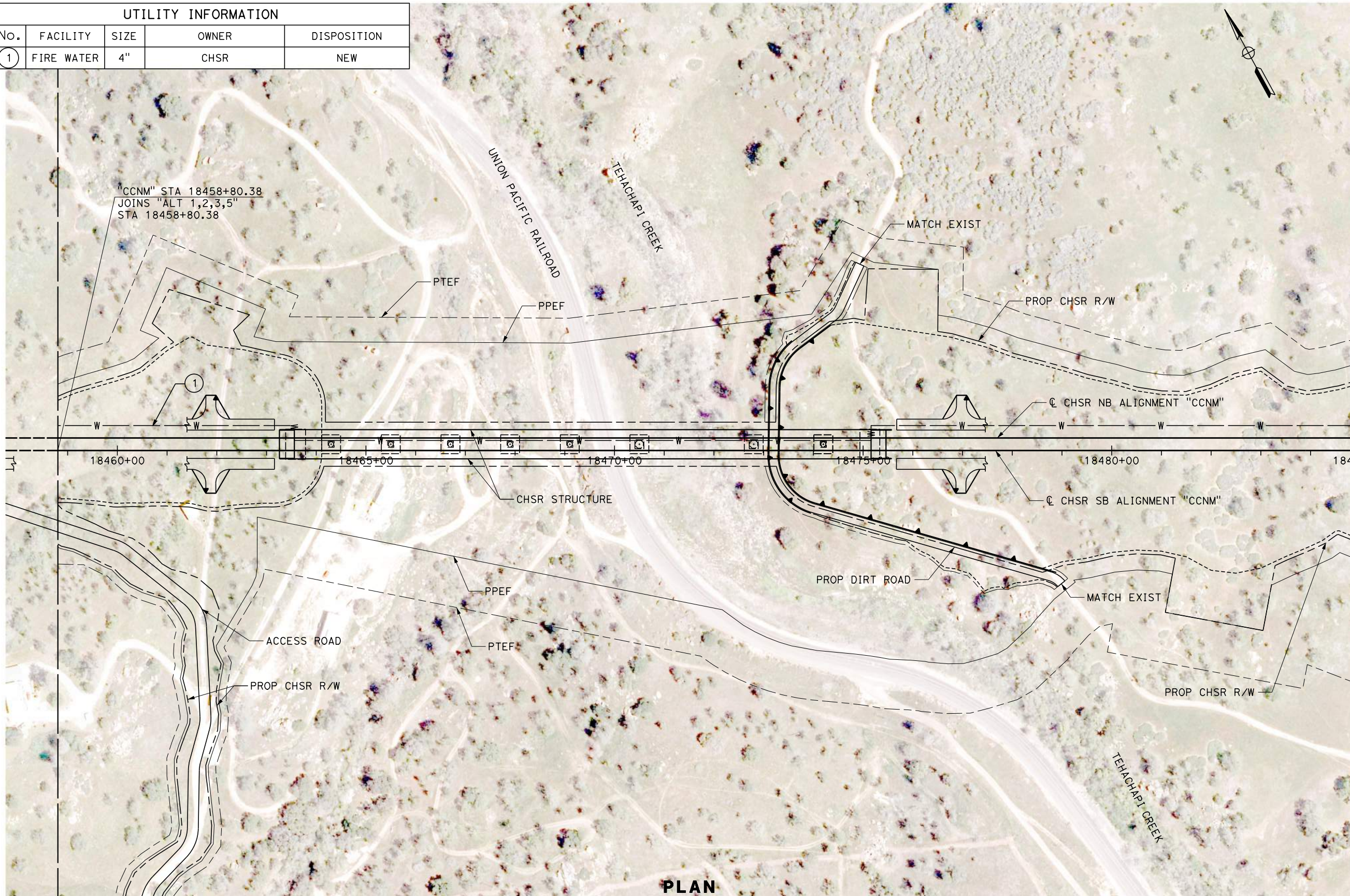
DRAWING NO.  
UT-B0003

SCALE  
AS SHOWN

SHEET NO.



UTILITY INFORMATION				
NO.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



PLAN

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CCNM\UT\BP-UT-C4601

3/4/2019 11:48:01 AM

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. ARUTA</b>
DRAWN BY <b>A. RIVERA</b>
CHECKED BY <b>D. ARUTA</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>03/06/2019</b>

**RECORD  
PEPD  
SUBMITTAL**

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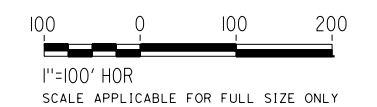
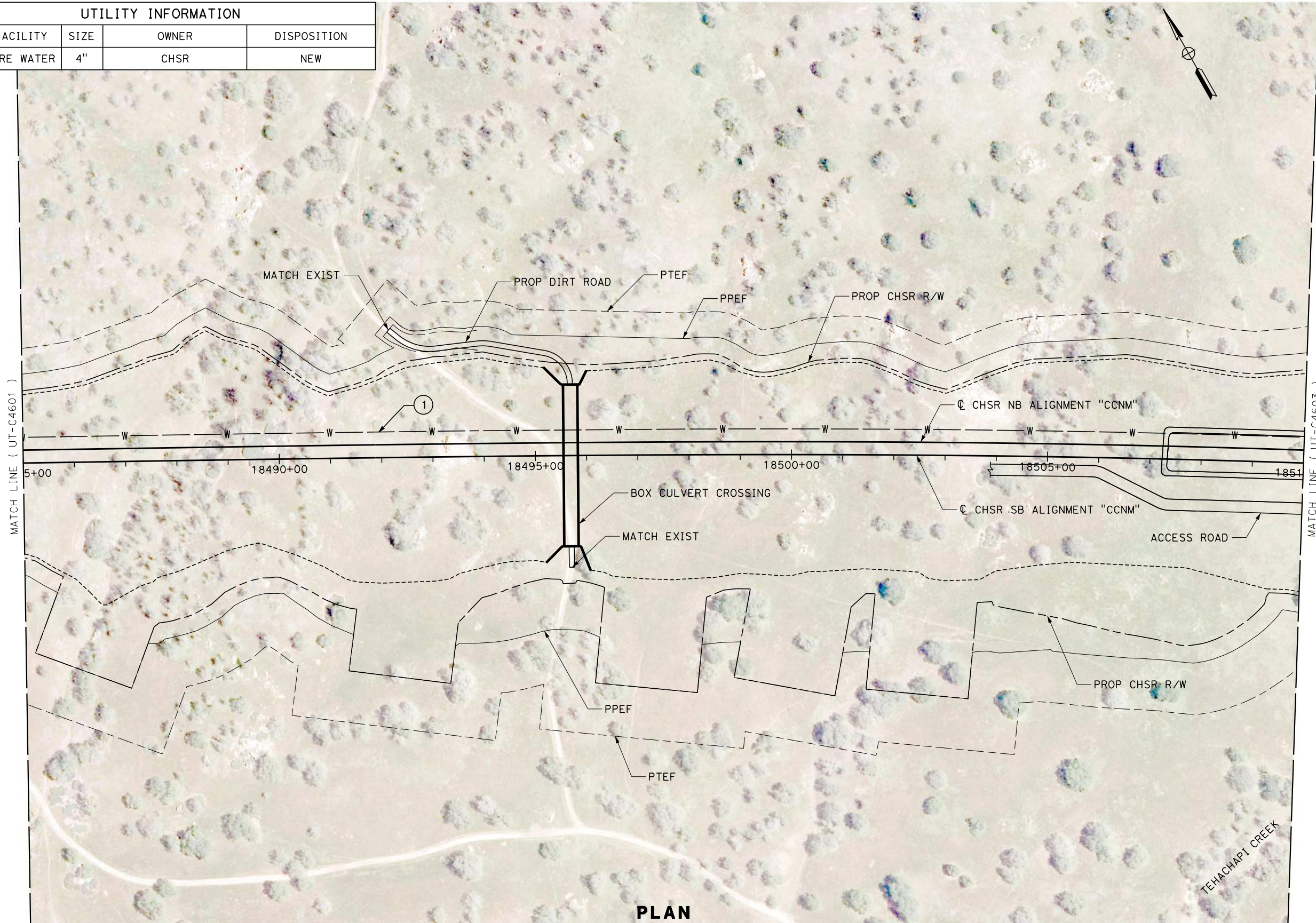
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18458+80 TO 18485+00  
PLAN

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>UT-C4601</b>
SCALE <b>AS SHOWN</b>
SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\_BP-UT-C4602

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TYLIN\jmeredit

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. ARUTA</b>
DRAWN BY <b>A. RIVERA</b>
CHECKED BY <b>D. ARUTA</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>03/06/2019</b>

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



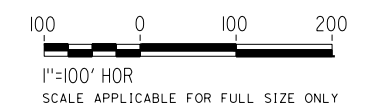
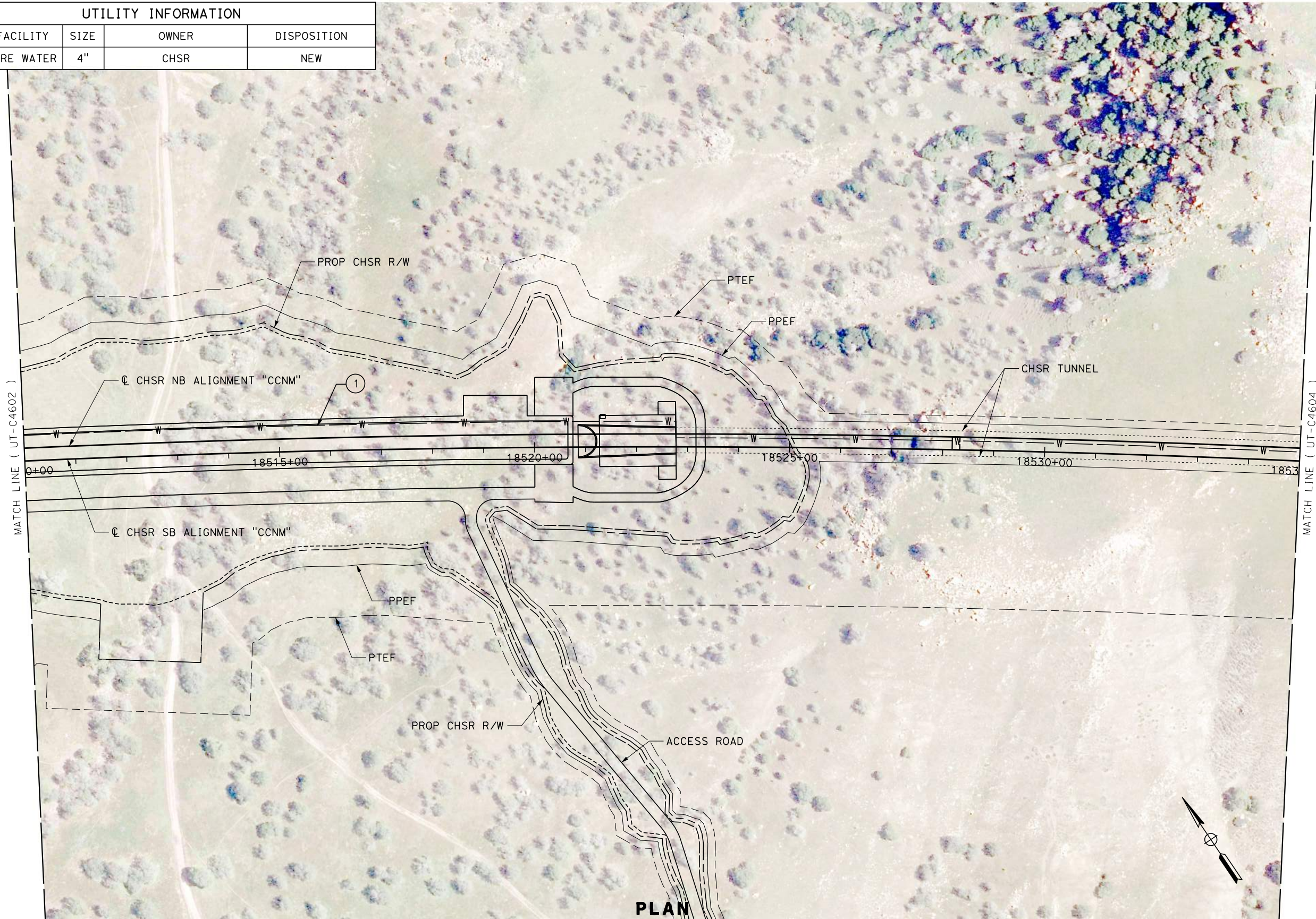
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18485+00 TO 18510+00  
PLAN

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>UT-C4602</b>
SCALE <b>AS SHOWN</b>
SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\BP-UT-C4603

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

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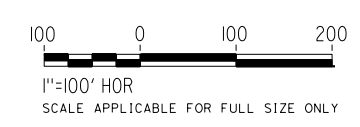
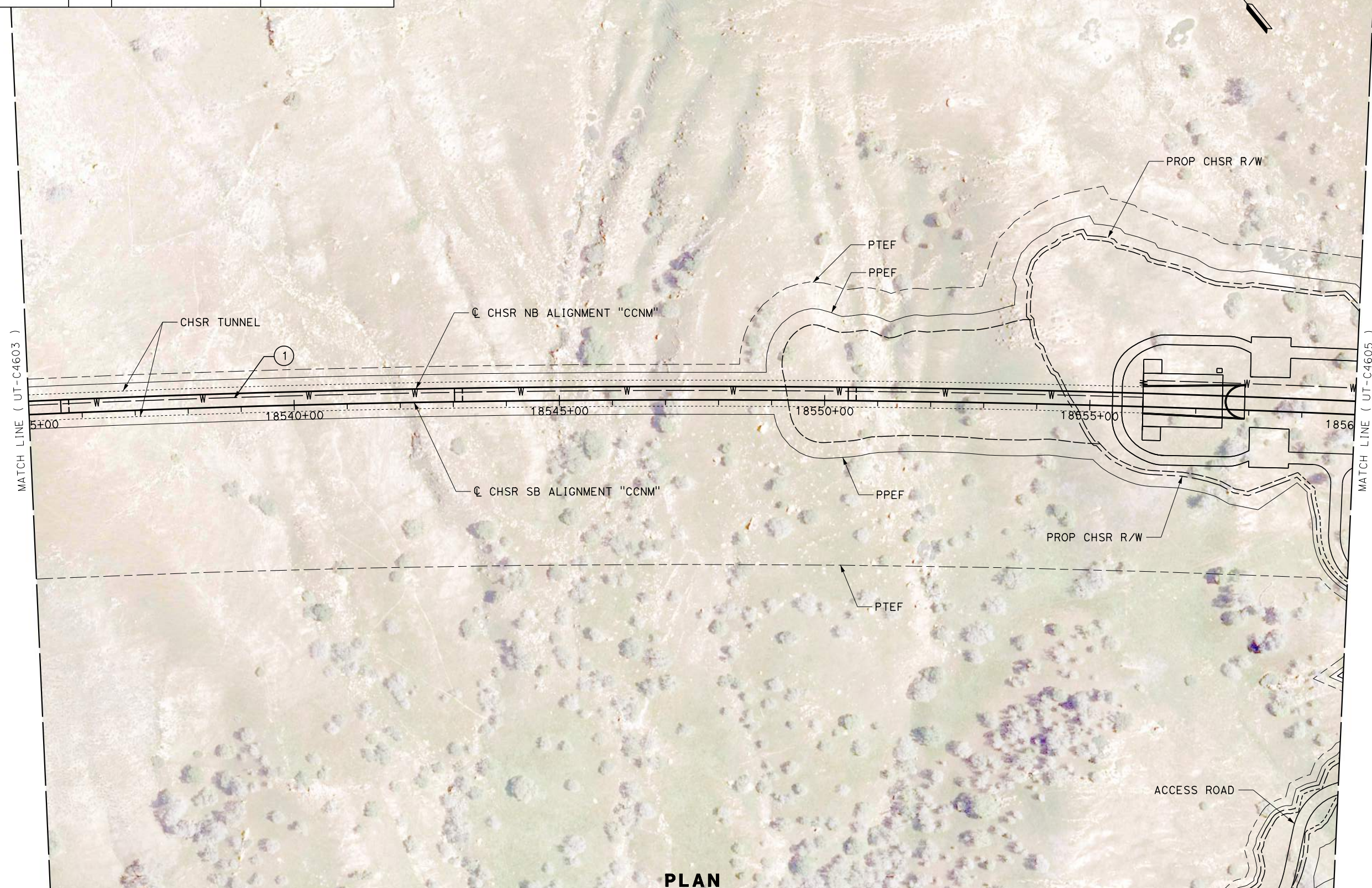
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18510+00 TO 18535+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4603  
SCALE  
AS SHOWN  
SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
①	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\_BP-UT-C4604

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TYLIN\jmered\th

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
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**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18535+00 TO 18560+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4604  
SCALE  
AS SHOWN  
SHEET NO.

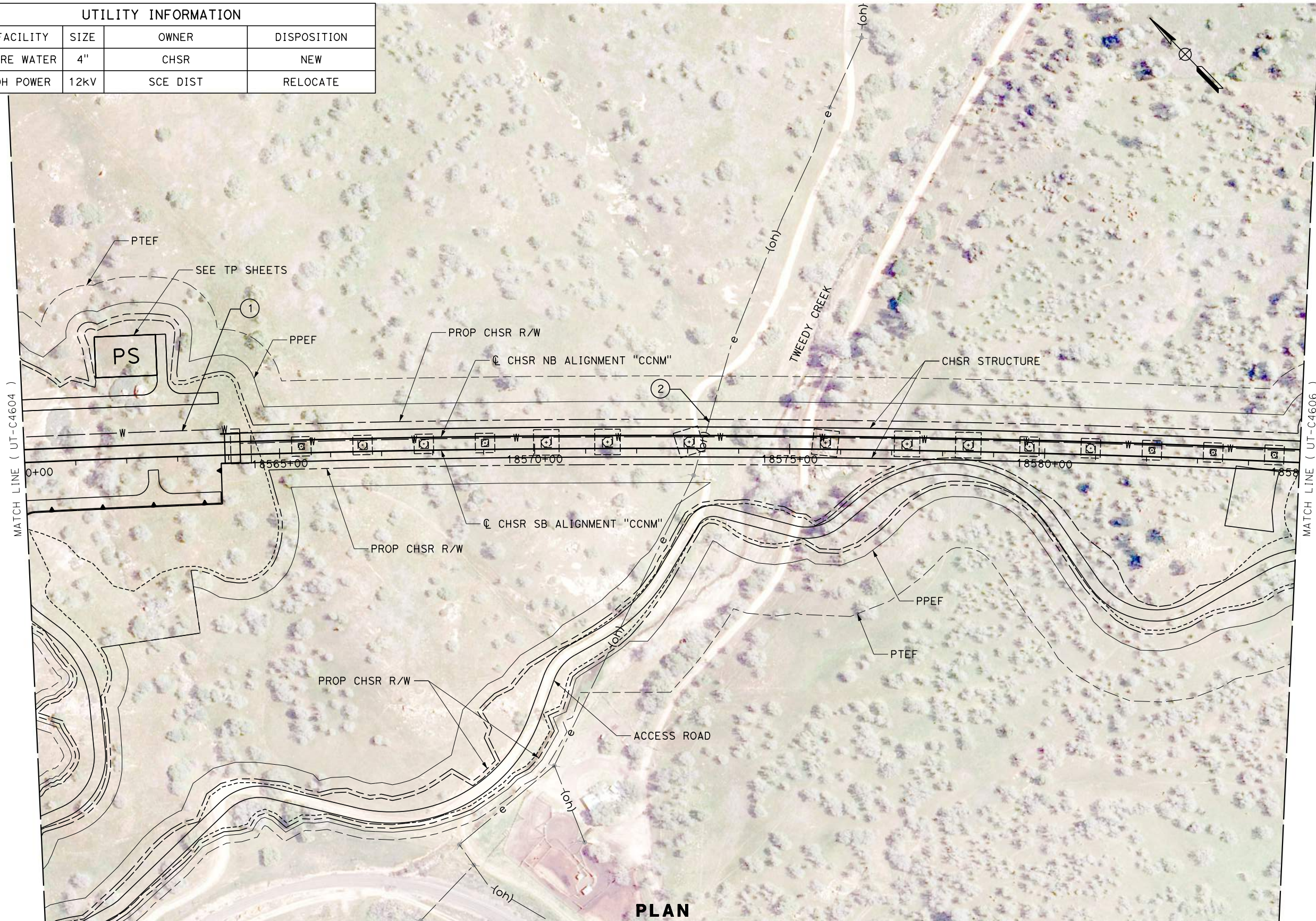


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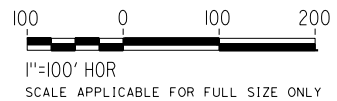
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UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW
2	OH POWER	12kV	SCE DIST	RELOCATE



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
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**D. ARUTA**  
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**NOT FOR  
CONSTRUCTION**



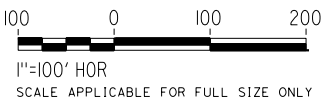
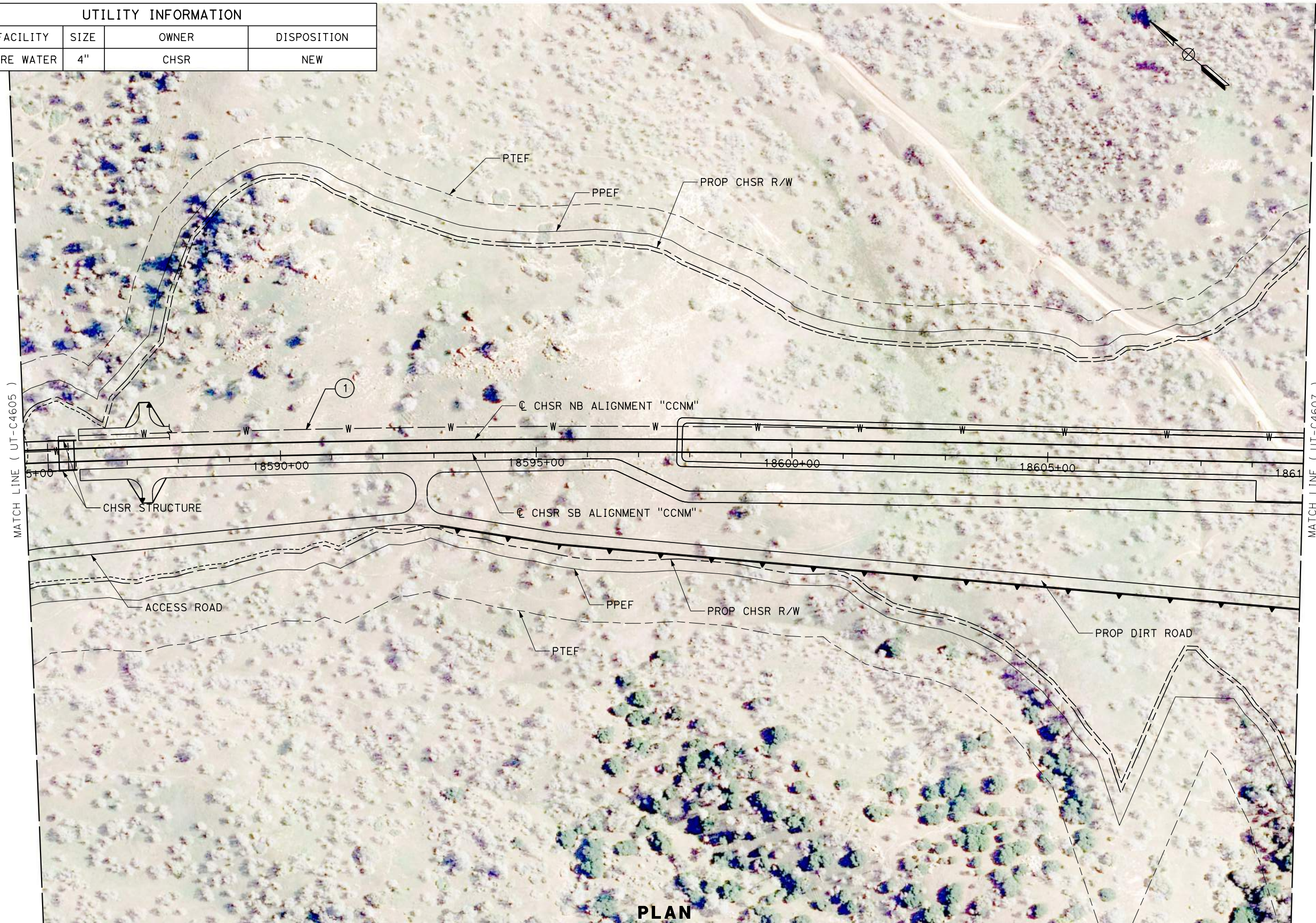
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18560+00 TO 18585+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4605  
SCALE  
AS SHOWN  
SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CCNM\UT\BP-UT-C4606

3/4/2019 11:48:13 AM

TYLIN\jmeredith

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



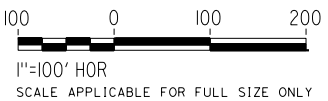
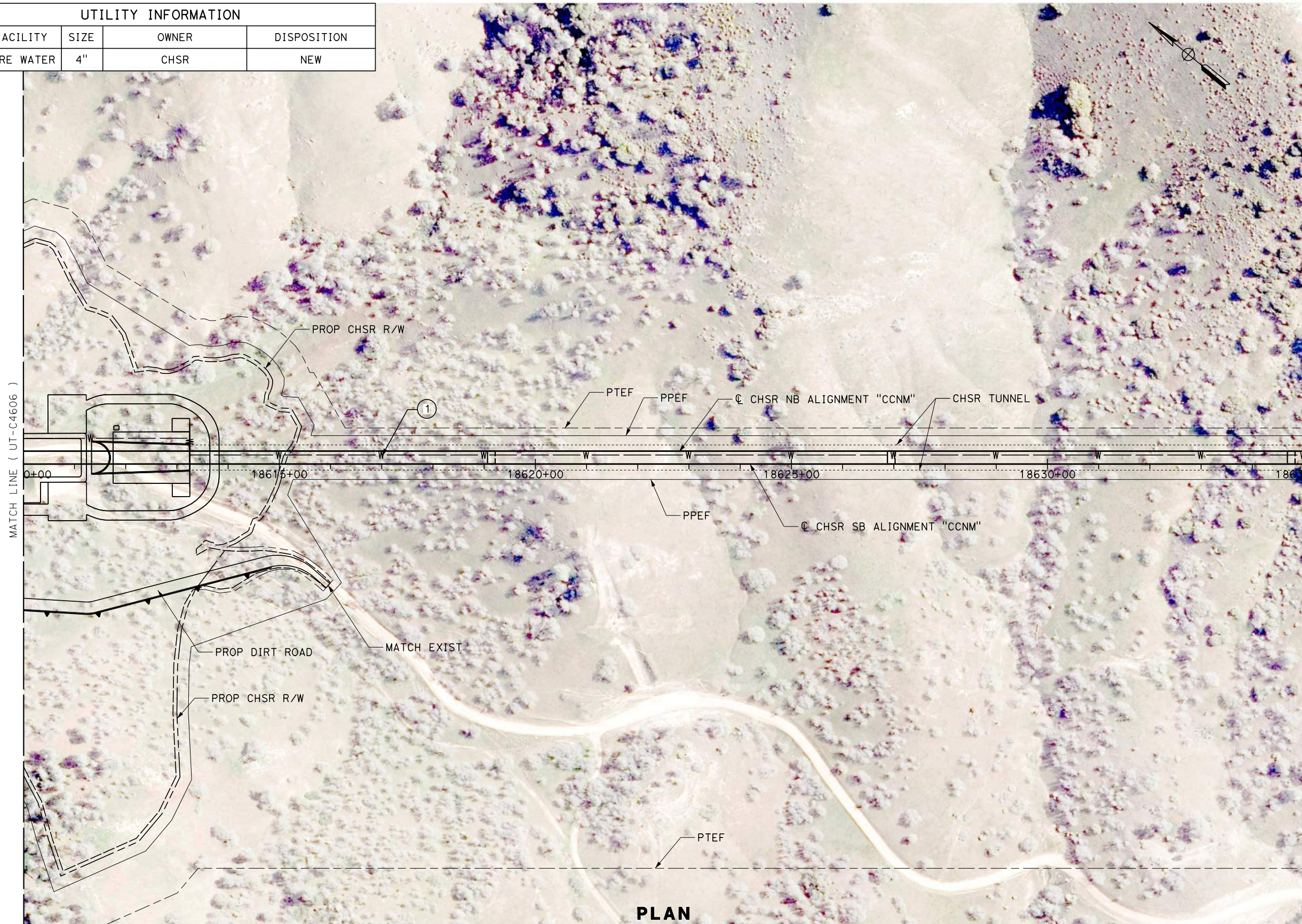
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18585+00 TO 18610+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4606  
SCALE  
AS SHOWN  
SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206\00\_CHSRBP\00\_CADD\Sheet Files\CCNM\UT\BP-UT-C4607

3/4/2019 11:48:20 AM

TYLIN\jmeredit

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



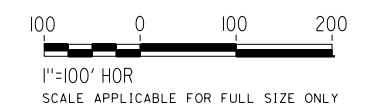
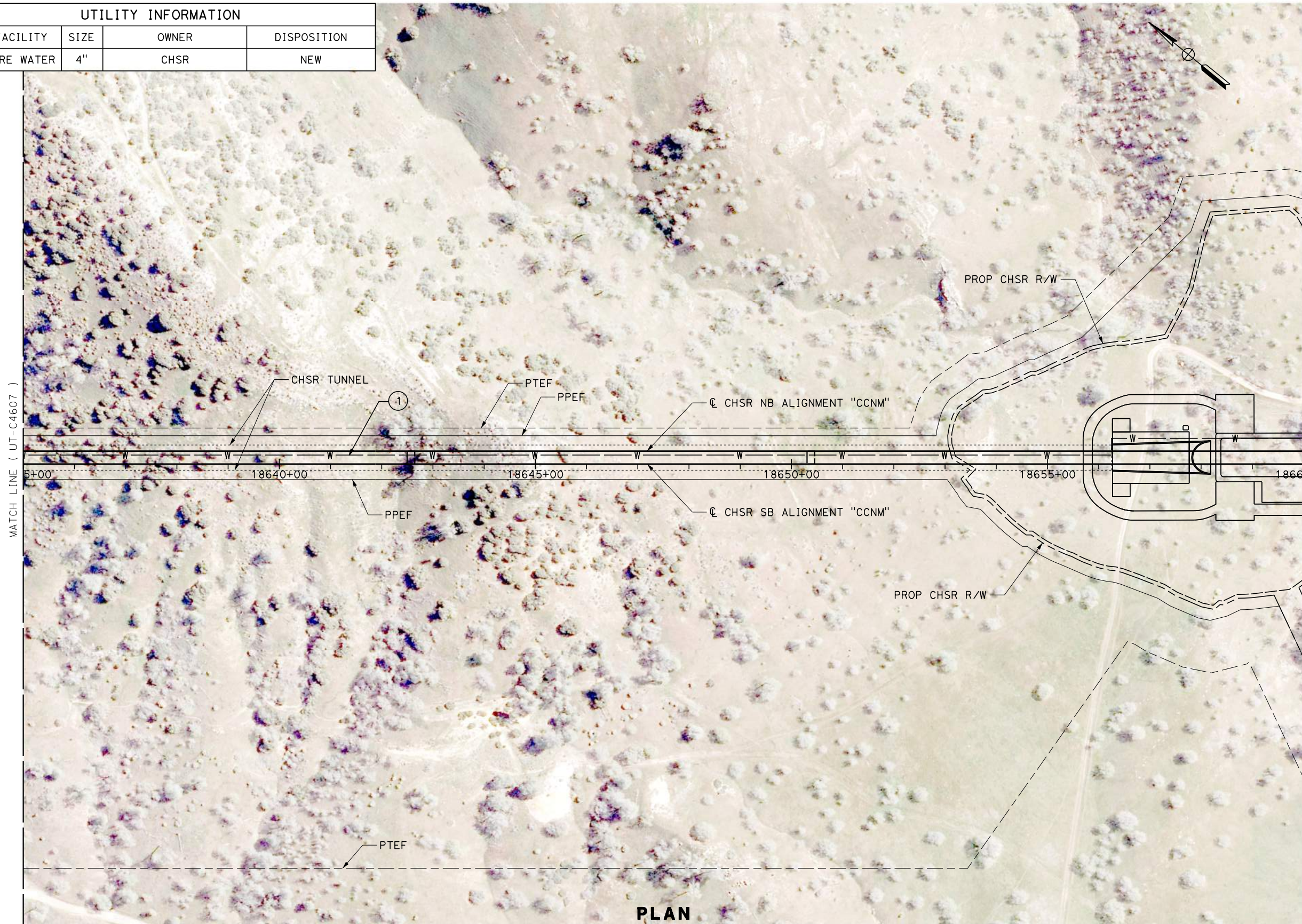
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18610+00 TO 18635+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4607  
SCALE  
AS SHOWN  
SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\BP-UT-C4608

3/4/2019 11:48:10 AM

TYLIN\jmeredit@h

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18635+00 TO 18660+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4608  
SCALE  
AS SHOWN  
SHEET NO.

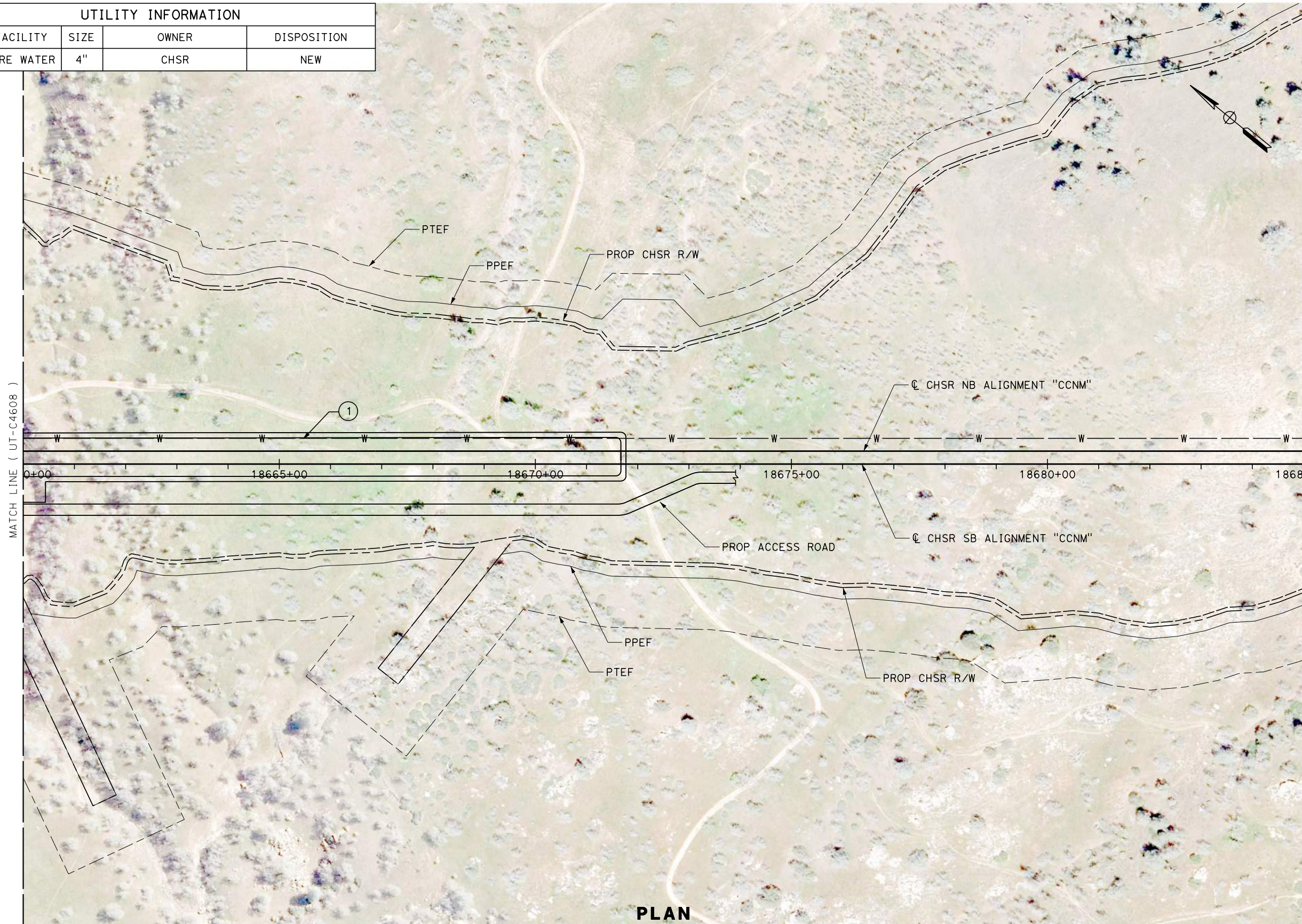


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3/4/2019 11:48:23 AM

TYLIN\jmeredith

UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



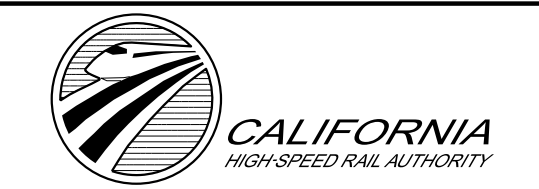
PLAN

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



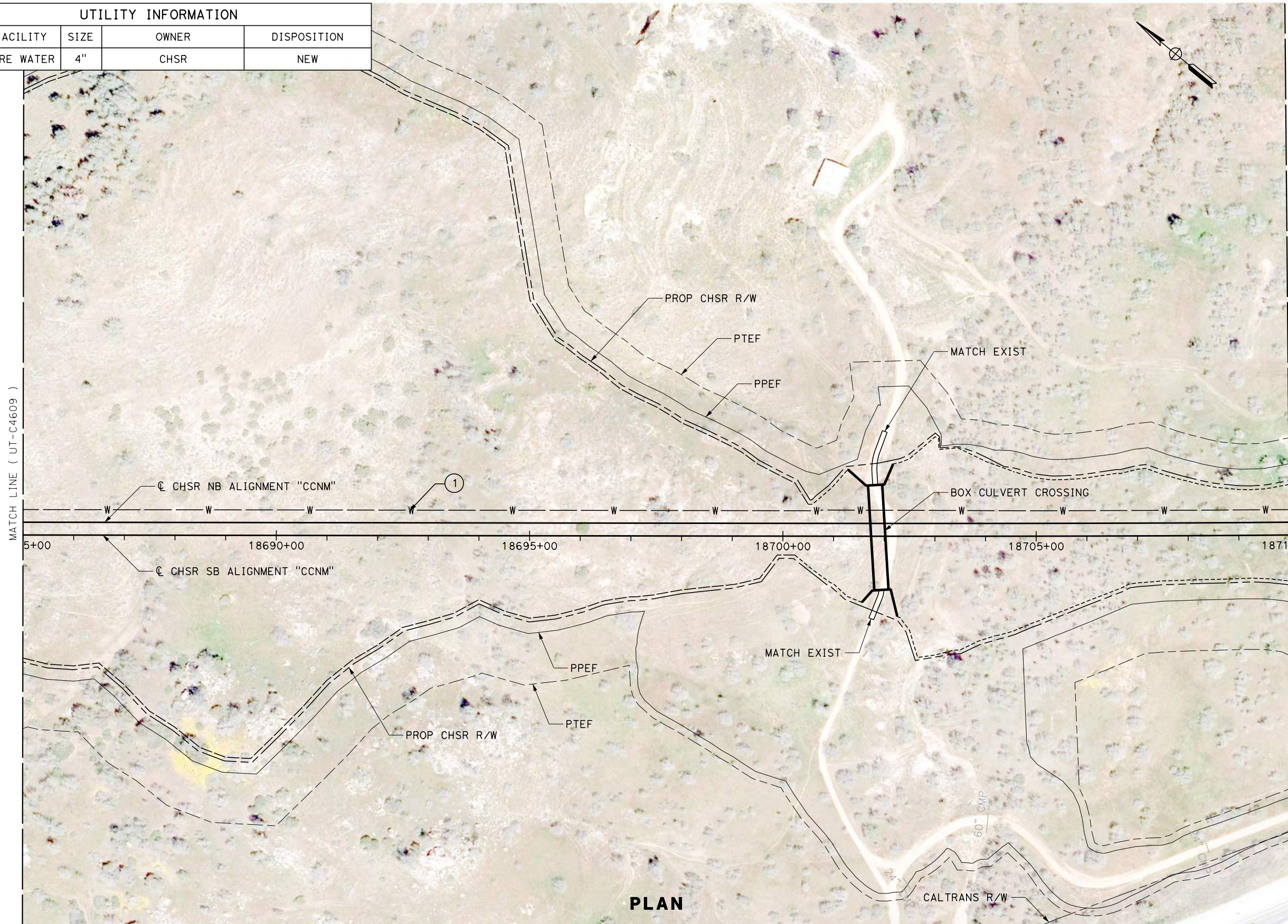
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18660+00 TO 18685+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4609  
SCALE  
AS SHOWN  
SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



MATCH LINE ( UT-C4609 )

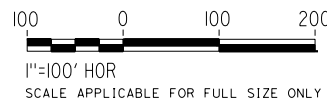
MATCH LINE ( UT-C4611 )

5+00 18690+00 18695+00 18700+00 18705+00 1871

CHSR NB ALIGNMENT "CCNM"

CHSR SB ALIGNMENT "CCNM"

PLAN



Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\BP-UT-C4610 3/4/2019 11:49:05 AM TYLIN\jmeredit

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN:  
STA 18685+00 TO 18710+00  
PLAN

CONTRACT NO.  
**HSR13-44**

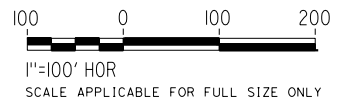
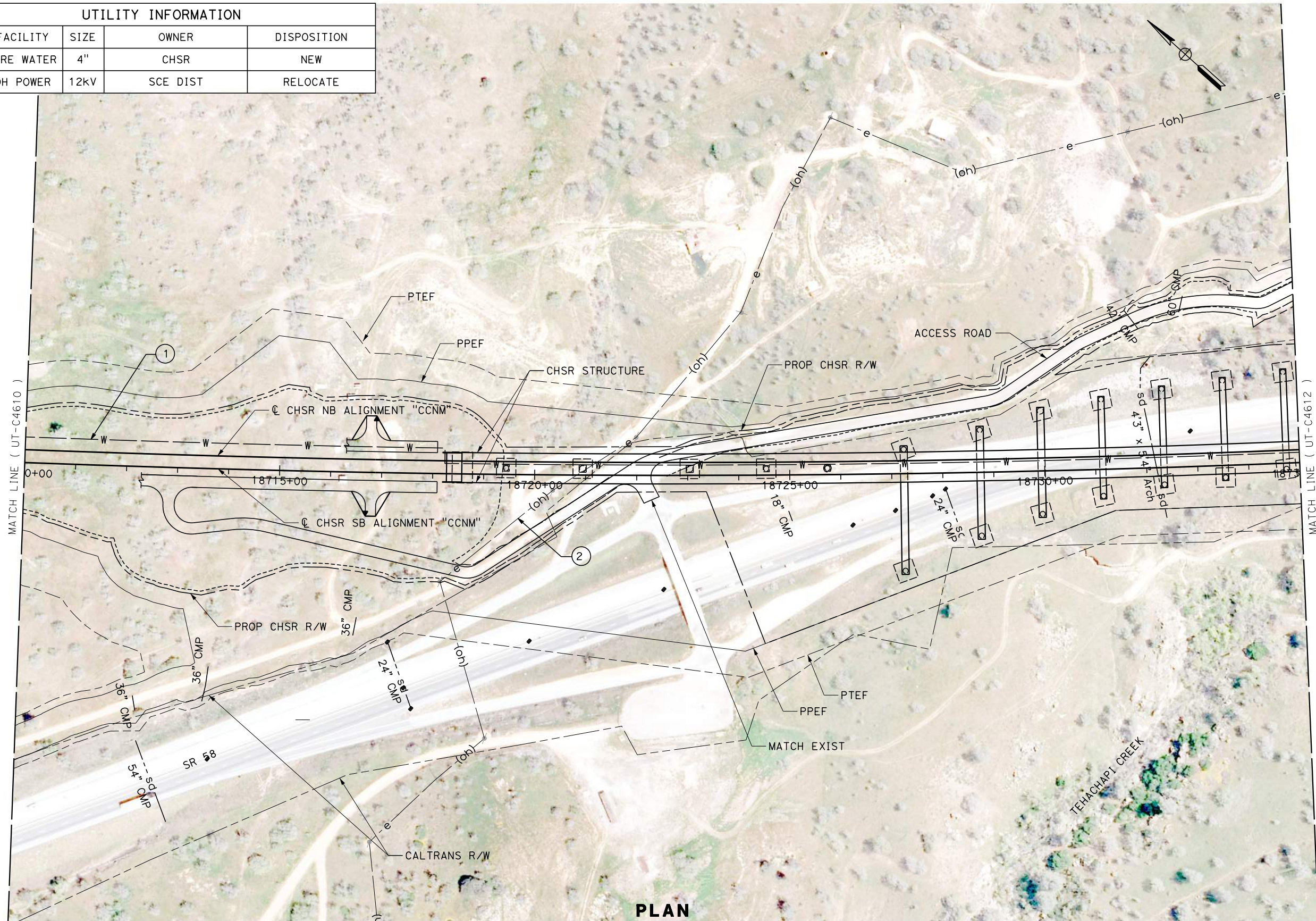
DRAWING NO.  
**UT-C4610**

SCALE  
**AS SHOWN**

SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW
2	OH POWER	12kV	SCE DIST	RELOCATE



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\_BP-UT-C4611

3/4/2019 11:48:39 AM

TYLIN\jmeredith

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



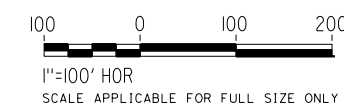
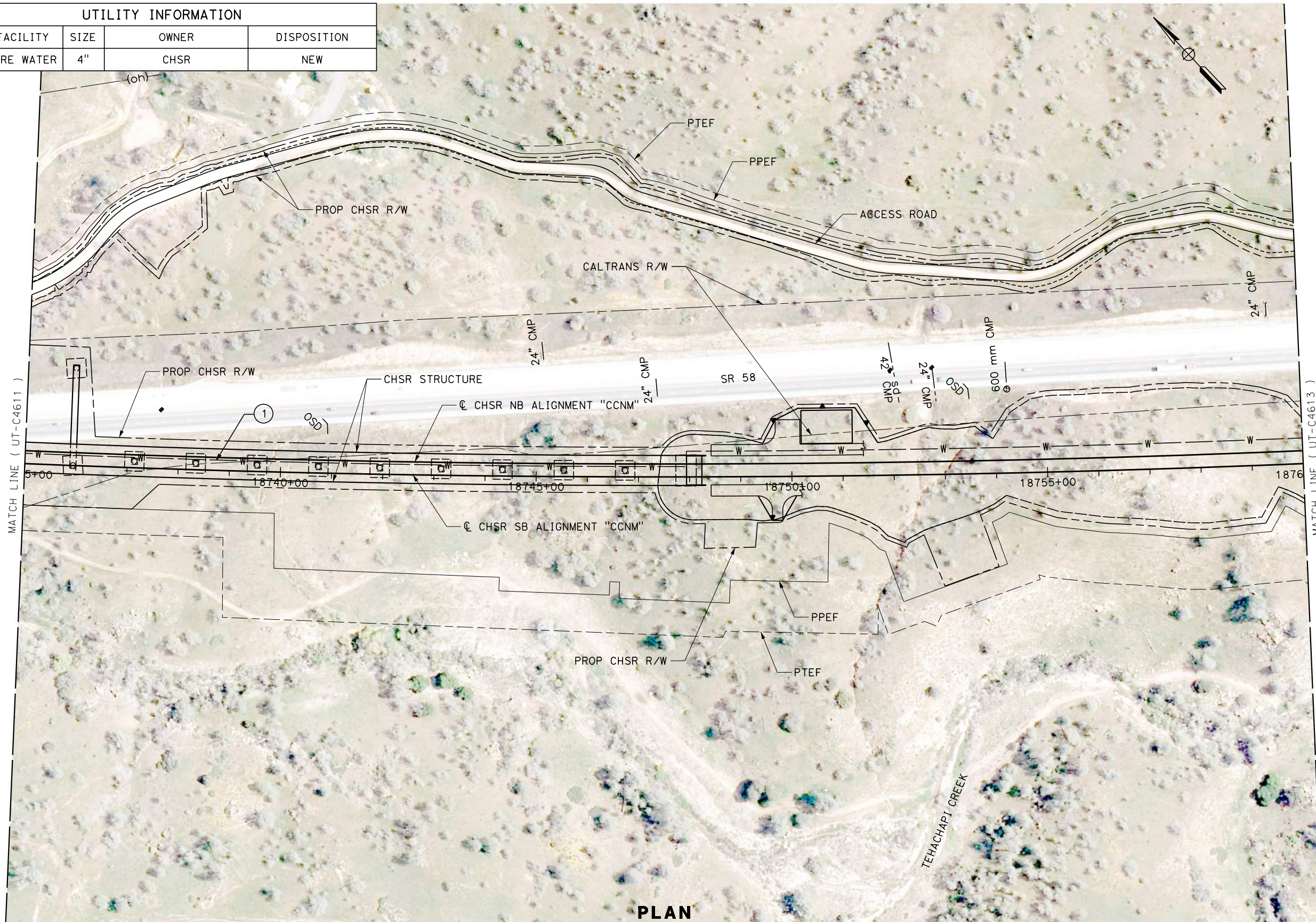
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18710+00 TO 18735+00  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4611  
SCALE  
AS SHOWN  
SHEET NO.



UTILITY INFORMATION				
NO.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\BP-UT-C4612  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
 DRAWN BY  
**A. RIVERA**  
 CHECKED BY  
**D. ARUTA**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**03/06/2019**

**RECORD  
 PEPD  
 SUBMITTAL**  
  
**NOT FOR  
 CONSTRUCTION**

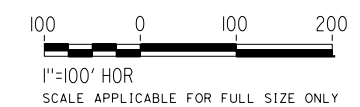
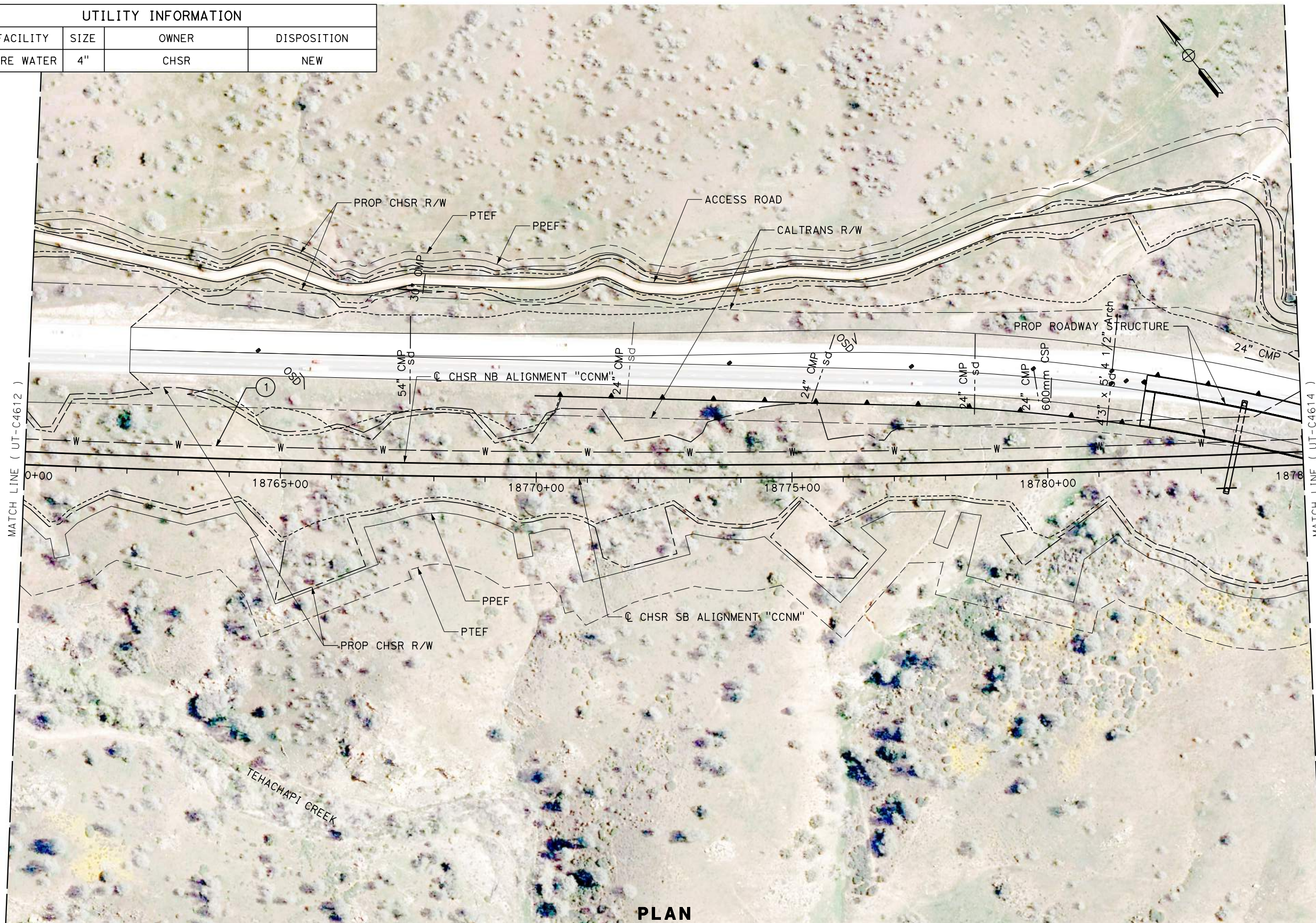


**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 COMPOSITE UTILITY PLAN  
 STA 18735+00 TO 18760+00  
**PLAN**

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**UT-C4612**  
 SCALE  
**AS SHOWN**  
 SHEET NO.



UTILITY INFORMATION				
NO.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

3/4/2019 11:48:41 AM  
 Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\_BP-UT-C4613  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
 DRAWN BY  
**A. RIVERA**  
 CHECKED BY  
**D. ARUTA**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**03/06/2019**

**RECORD  
 PEPD  
 SUBMITTAL**  
  
**NOT FOR  
 CONSTRUCTION**

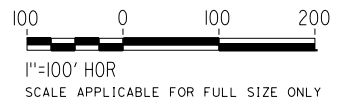
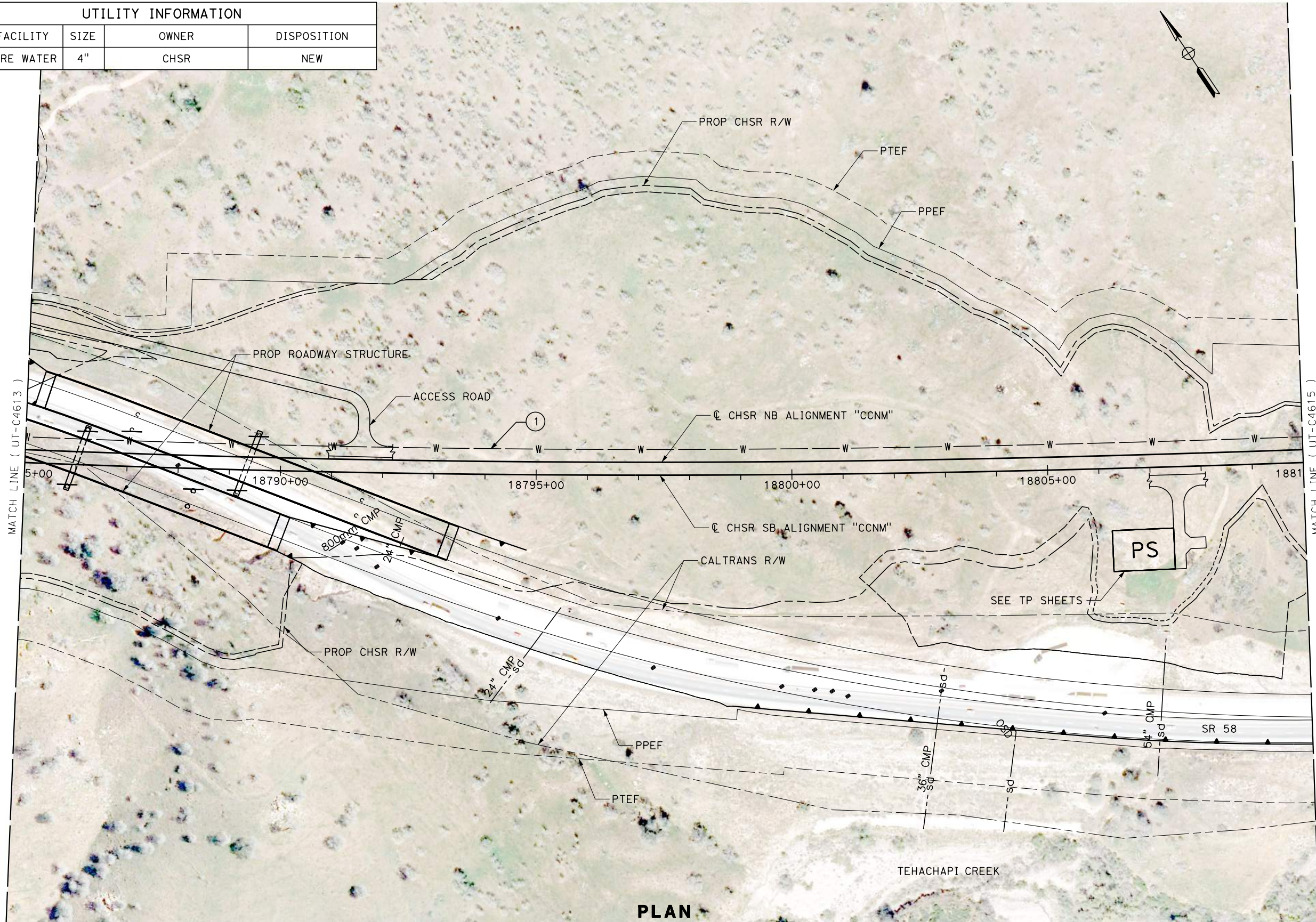


**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 CCNM DESIGN OPTION  
 COMPOSITE UTILITY PLAN  
 STA 18760+00 TO 18785+00  
 PLAN

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**UT-C4613**  
 SCALE  
**AS SHOWN**  
 SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
1	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CCNM\UT\BP-UT-C4614

3/4/2019 11:49:01 AM

TYLIN\jmeredith

REV	DATE	BY	CHK	APP.	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18785+00 TO 18810+00  
PLAN

CONTRACT NO.  
**HSR13-44**

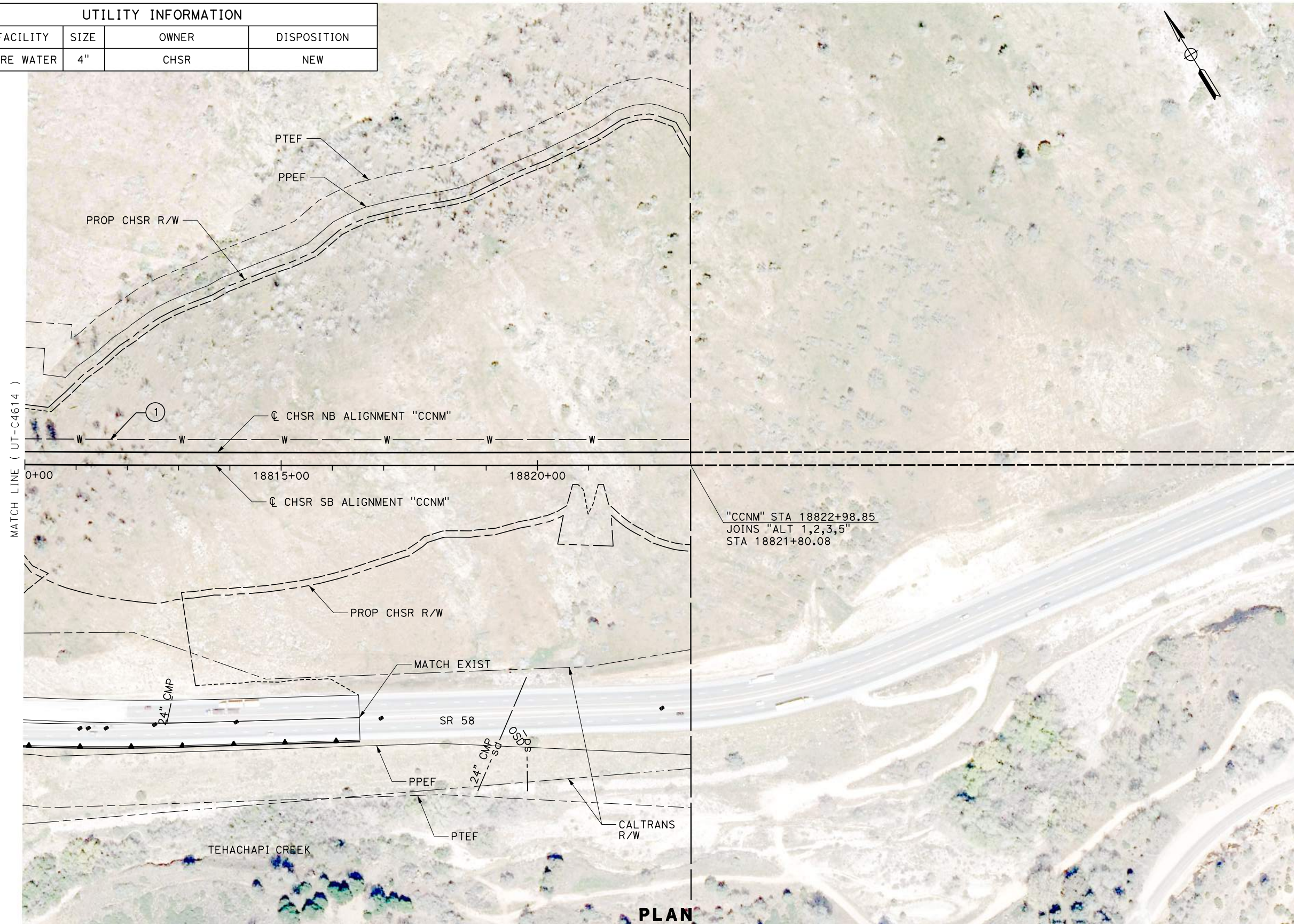
DRAWING NO.  
**UT-C4614**

SCALE  
**AS SHOWN**

SHEET NO.



UTILITY INFORMATION				
No.	FACILITY	SIZE	OWNER	DISPOSITION
①	FIRE WATER	4"	CHSR	NEW



**PLAN**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CCNM\UT\BP-UT-C4615

3/4/2019 11:48:48 AM

TYLIN\jmered\th

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. ARUTA**  
DRAWN BY  
**A. RIVERA**  
CHECKED BY  
**D. ARUTA**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**03/06/2019**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

CCNM DESIGN OPTION  
COMPOSITE UTILITY PLAN  
STA 18810+00 TO 18822+99  
PLAN

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4615  
SCALE  
AS SHOWN  
SHEET NO.