

# CALIFORNIA HIGH-SPEED TRAIN COMMUNICATION SYSTEMS

## RECORD SET PEPD DESIGN SUBMISSION

### **Bakersfield to Palmdale** Communication Systems

October 2017



CALIFORNIA  
High-Speed Rail Authority



GENERAL SHEETS

DRAWING No.	DRAWING DESCRIPTION	SHEET No.
CO-B0001	COVER SHEET	
CO-B0002	GENERAL - INDEX OF DRAWING - SHEET 1 OF 1	
CO-B0003	ALTERNATIVE 1,2,3,5 - GENERAL - ABBREVIATIONS - SHEET 1 OF 4	
CO-B0004	ALTERNATIVE 1,2,3,5 - GENERAL - ABBREVIATIONS - SHEET 2 OF 4	
CO-B0005	ALTERNATIVE 1,2,3,5 - GENERAL - ABBREVIATIONS - SHEET 3 OF 4	
CO-B0006	ALTERNATIVE 1,2,3,5 - GENERAL - ABBREVIATIONS - SHEET 4 OF 4	
CO-C6001	ALTERNATIVE 1,2,3,5 - GENERAL - KEY MAP - SHEET 1 OF 2	
CO-C6002	ALTERNATIVE 1,2,3,5 - GENERAL - KEY MAP - SHEET 2 OF 2	

COMMUNICATIONS LAYOUTS AND SITE PLANS

DRAWING No.	DRAWING DESCRIPTION	SHEET No.
CO-D0001	ALTERNATIVE 1 - COMMUNICATIONS LAYOUT	
CO-D0002	ALTERNATIVE 2 - COMMUNICATIONS LAYOUT	
CO-D0003	ALTERNATIVE 3 - COMMUNICATIONS LAYOUT	
CO-D0004	ALTERNATIVE 5 - COMMUNICATIONS LAYOUT	
CO-F4001	ALTERNATIVE 1,2,3,5 - COMMUNICATIONS SYSTEM SITE PLAN - SITE @ 17329+98	
CO-F4002	ALTERNATIVE 1,2,3,5 - COMMUNICATIONS SYSTEM SITE PLAN - SITE @ 20210+00	
CO-F4003	ALTERNATIVE 1,2,3,5 - COMMUNICATIONS SYSTEM SITE PLAN - SITE @ 20720+00	
CO-F4004	ALTERNATIVE 1,2,3 - COMMUNICATIONS SYSTEM SITE PLAN - SITE @ 21004+00	
CO-F4015	ALTERNATIVE 5 - COMMUNICATIONS SYSTEM SITE PLAN - SITE 20975+71	

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CO\BP-CO-B0002  
 11/8/2017 2:38:51 PM  
 OIC:ARIVEGA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

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

**TYLIN INTERNATIONAL**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
 BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 1,2,3,5  
 GENERAL  
 INDEX OF DRAWINGS  
 SHEET 1 OF 1

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**CO-B0002**  
 SCALE  
**AS SHOWN**  
 SHEET NO.



**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 BENCH MARK  
 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  
 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  
 DTBB DOUBLE THRIE BEAM BARRIER  
 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  
 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  
 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  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
 PEPD  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
 BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 1,2,3,5  
 GENERAL  
 ABBREVIATIONS AND LEGEND  
 SHEET 1 OF 4

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**CO-B0003**  
 SCALE  
**AS SHOWN**  
 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

**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  
 MTL MATERIAL  
 MSS MOVING SCAFFOLDING SYSTEM

**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  
 PVP MAINTENANCE VEHICLE PULLOUT

**Q**

QTY QUANTITY

**R**

R RADIUS  
 R & D REMOVE AND DISPOSE  
 R & S REMOVE AND SALVAGE  
 R/C RATE OF CHANGE  
 RCA REINFORCED CONCRETE ARCH  
 RCB REINFORCED CONCRETE BOX  
 RCP REINFORCED CONCRETE PIPE  
 RCPA REINFORCED CONCRETE PIPE ARCH  
 RD ROAD  
 REINF REINFORCED, REINFORCEMENT, REINFORCING  
 REL RELOCATE  
 REPL REPLACEMENT  
 RET RETAINING  
 REV REVISED  
 RDWY ROADWAY  
 RM ROAD-MIXED  
 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  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

ALTERNATIVE 1,2,3,5  
 GENERAL  
 ABBREVIATIONS AND LEGEND  
 SHEET 2 OF 4

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**CO-B0004**

SCALE  
**AS SHOWN**

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  
 TG TOP OF GRADE  
 TM TECHNICAL MEMORANDUM  
 TOT TOTAL  
 TP TRACTION POWER, TUNNEL PORTAL  
 TPB TREATED PERMEABLE BASE  
 TPM TREATED PERMEABLE MATERIAL  
 TRANS TRANSITION, TRANSVERSE  
 TS TRAFFIC SIGNAL, TUBULAR STEEL,  
 TANGENT TO SPIRAL  
 TOR TOP OF RAIL  
 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  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
 PEPD  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**

**TYLIN INTERNATIONAL**



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


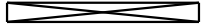
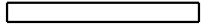

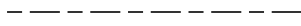

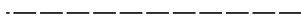


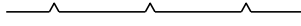


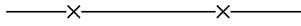



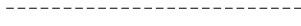




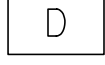
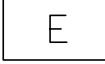

ALTERNATIVE 1,2,3,5  
 GENERAL  
 ABBREVIATIONS AND LEGEND  
 SHEET 3 OF 4

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**CO-B0005**  
 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'
-  A  
AUTOMATIC TRAIN CONTROL SYSTEM SITE A - SIZE: 70' X 35'
-  B  
AUTOMATIC TRAIN CONTROL SYSTEM SITE B - SIZE: 30' X 35'
-  D  
AUTOMATIC TRAIN CONTROL SYSTEM SITE D - SIZE: 100' X 65'
-  E  
AUTOMATIC TRAIN CONTROL SYSTEM SITE E - SIZE: 110' X 65'
-  TRACK CROSSING PANEL

Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\CO\BP-CO-B0006

11/8/2017 2:38:54 PM

OJC:ARIVEGA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**

DRAWN BY  
**E. REVOLORIO**

CHECKED BY  
**J. SIHOTA**

IN CHARGE  
**S. SMITH**

DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

ALTERNATIVE 1,2,3,5  
GENERAL  
ABBREVIATIONS AND LEGEND  
SHEET 4 OF 4

CONTRACT NO.  
HSR13-44

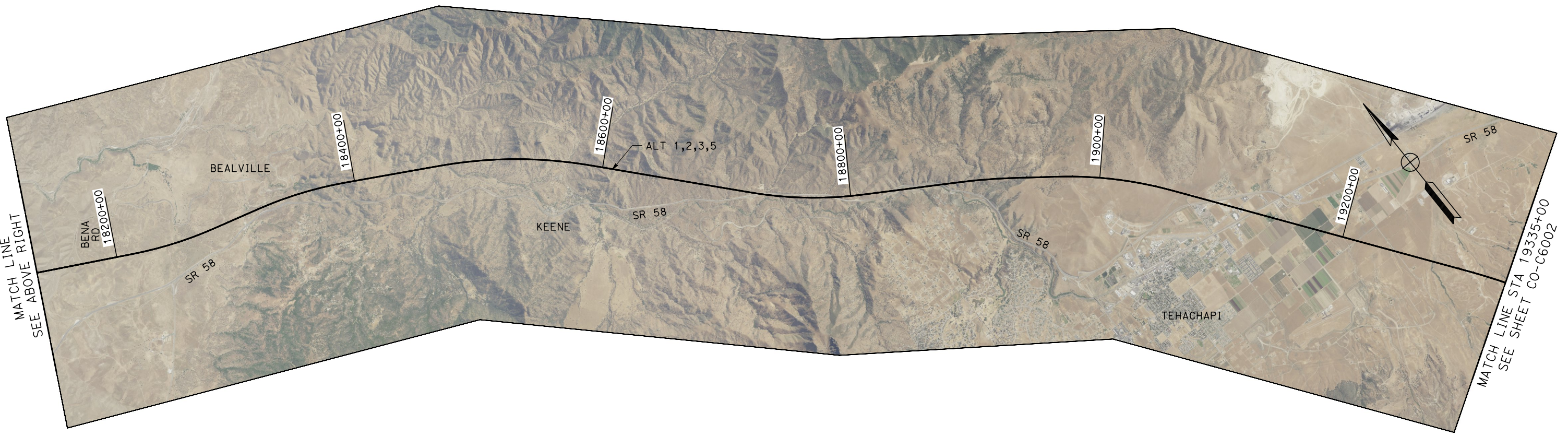
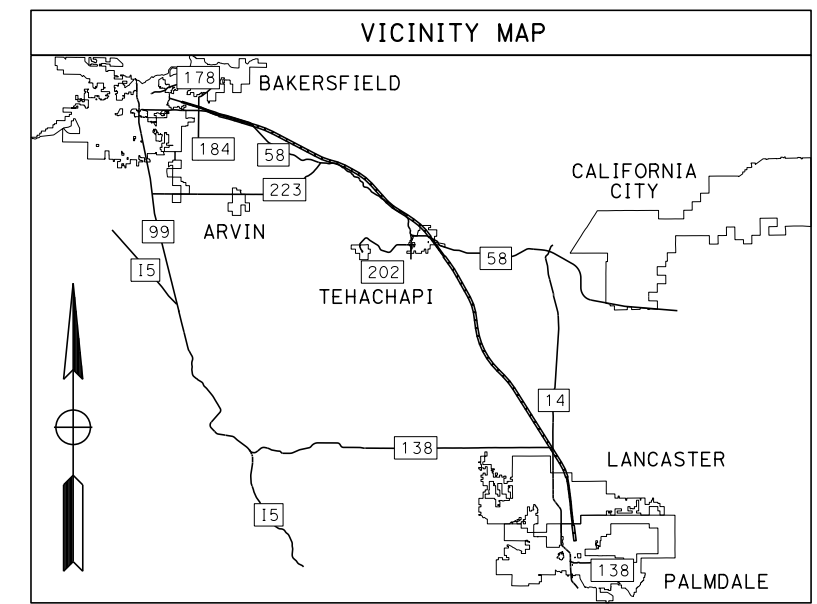
DRAWING NO.  
CO-B0006

SCALE  
AS SHOWN

SHEET NO.



# ALTERNATIVE 1,2,3,5



Projects\701206\_00\_CHSRBP\00\_CADD\Sheet\_Files\CO\BP-CO-C6001.dgn

11/8/2017 2:40:59 PM

OIC:ARIVEGA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**

DRAWN BY  
**E. REVOLORIO**

CHECKED BY  
**J. SIHOTA**

IN CHARGE  
**S. SMITH**

DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



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

ALTERNATIVE 1,2,3,5  
GENERAL  
KEY MAP  
SHEET 1 OF 2

CONTRACT NO.  
HSR13-44

DRAWING NO.  
CO-C6001

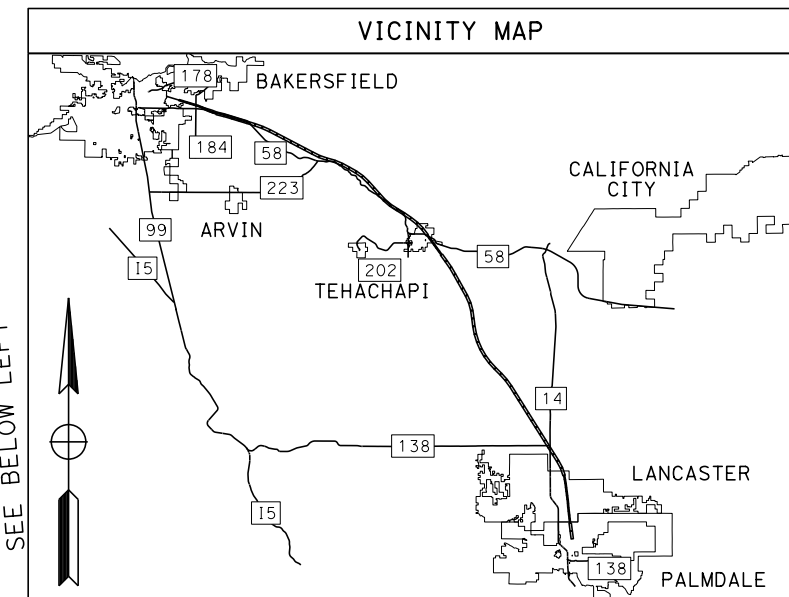
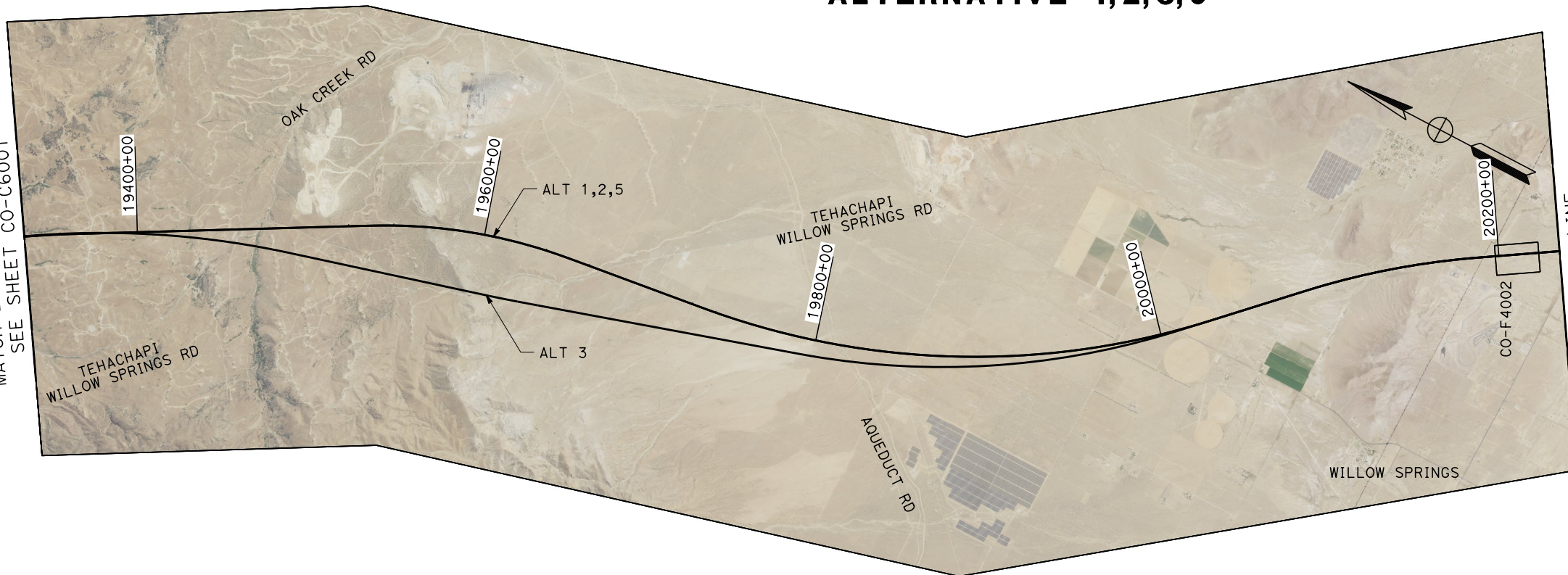
SCALE  
AS SHOWN

SHEET NO.



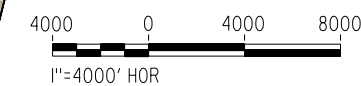
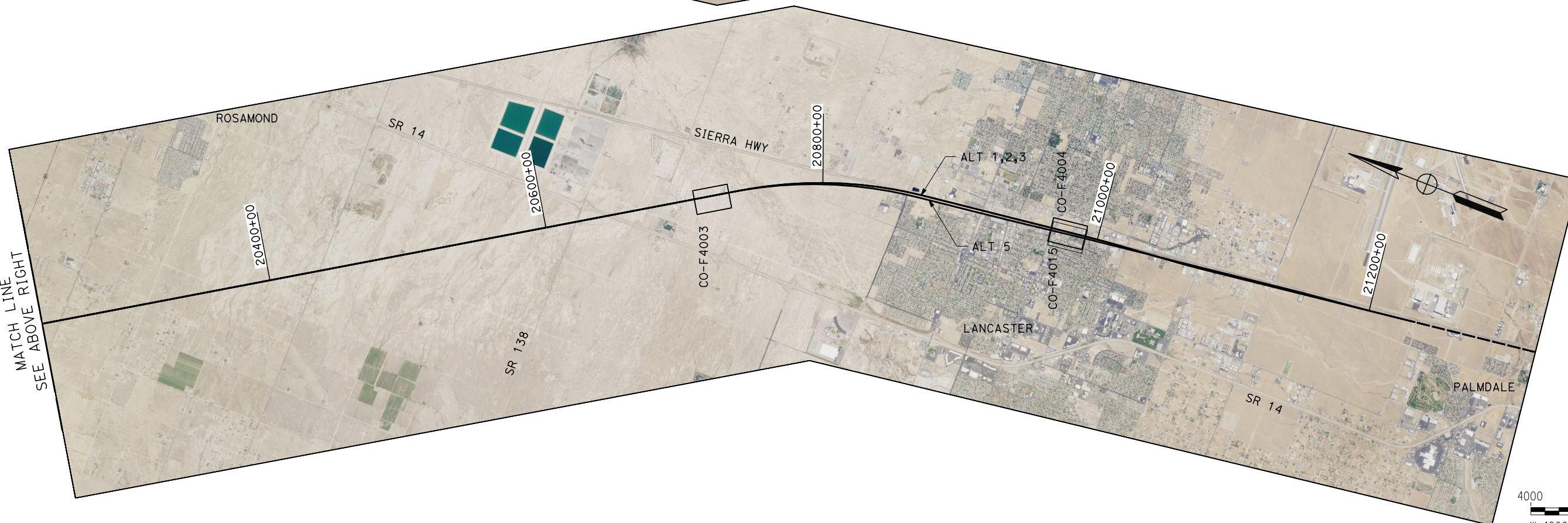
# ALTERNATIVE 1,2,3,5

MATCH LINE STA 19335+00  
SEE SHEET CO-C6001



MATCH LINE  
SEE BELOW LEFT

MATCH LINE  
SEE ABOVE RIGHT



Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CO\BP-CO-C6002.dgn

11/8/2017 2:40:54 PM

OIC:ARIVEGA

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
DRAWN BY  
**E. REVOLORIO**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**S. SMITH**  
DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

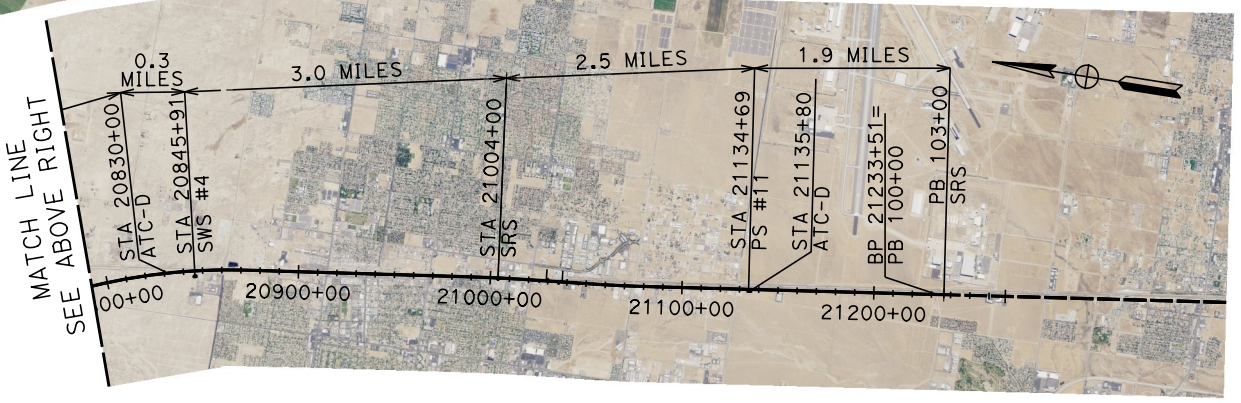
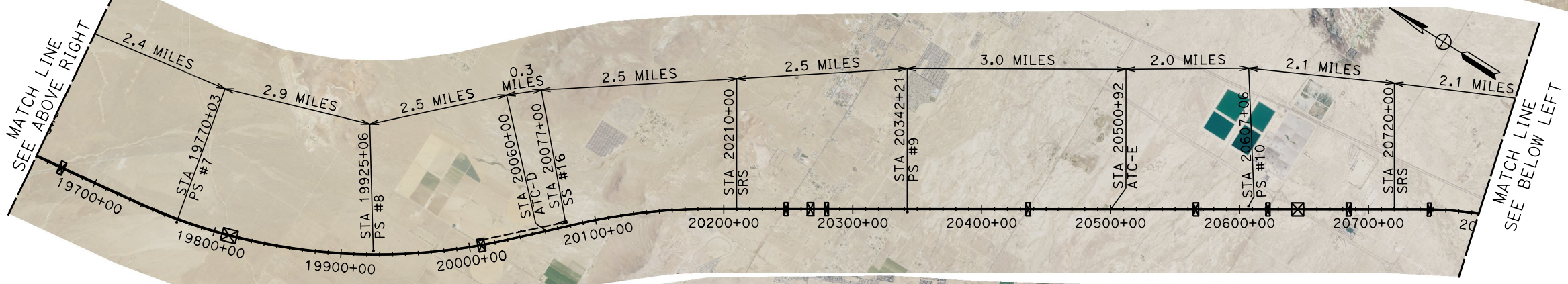
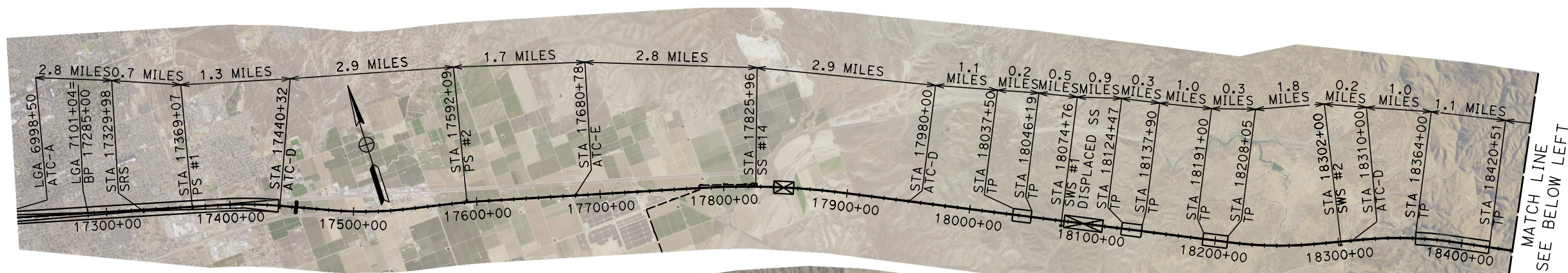


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

ALTERNATIVE 1,2,3,5  
GENERAL  
KEY MAP  
SHEET 2 OF 2

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
CO-C6002  
SCALE  
AS SHOWN  
SHEET NO.





**NOTE**  
 1. ATC (AUTOMATIC TRAIN CONTROL)- "A" SITES HAVE RADIO ANTENNAS.  
 2. TP (TUNNEL PORTAL) SITES HAVE RADIO ANTENNAS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
 PEPD  
 SUBMITTAL**

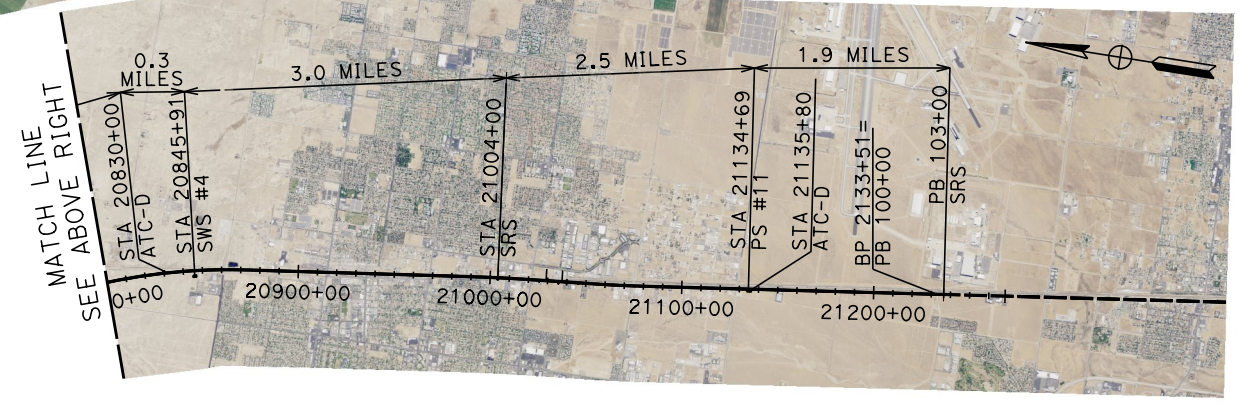
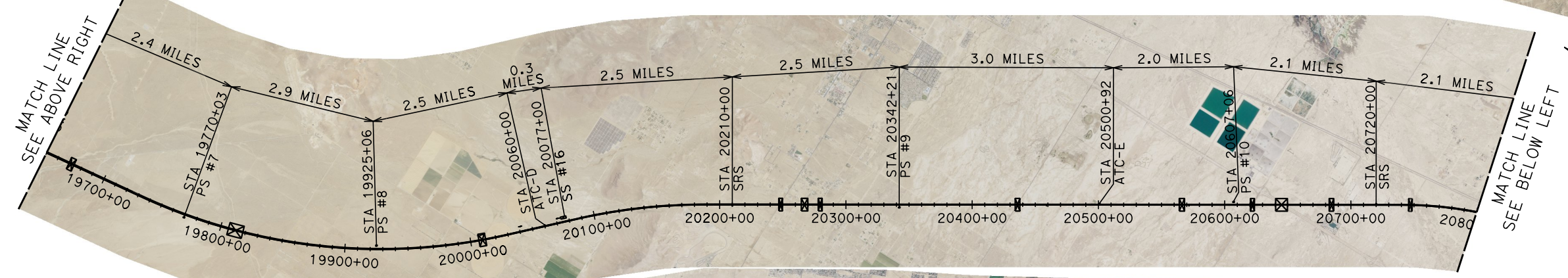
**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 1  
 COMMUNICATIONS LAYOUT

CONTRACT NO.  
HSR13-44  
 DRAWING NO.  
CO-D0001  
 SCALE  
AS SHOWN  
 SHEET NO.





**NOTE**  
 1. ATC (AUTOMATIC TRAIN CONTROL)- "A" SITES HAVE RADIO ANTENNAS.  
 2. TP (TUNNEL PORTAL) SITES HAVE RADIO ANTENNAS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
 PECD  
 SUBMITTAL**

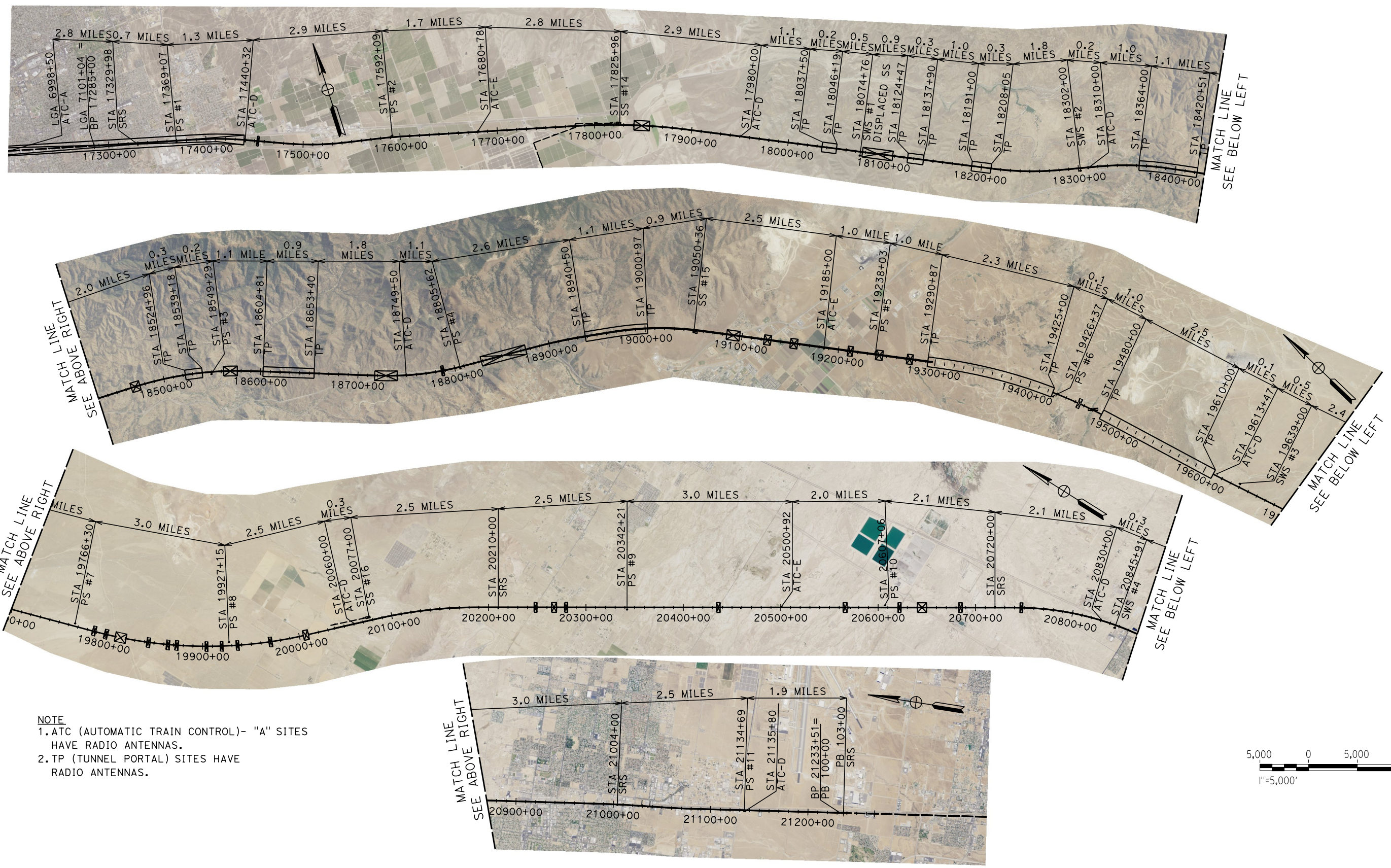
**NOT FOR  
 CONSTRUCTION**



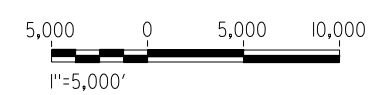
**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 2  
 COMMUNICATIONS LAYOUT

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**CO-D0002**  
 SCALE  
**AS SHOWN**  
 SHEET NO.





**NOTE**  
 1. ATC (AUTOMATIC TRAIN CONTROL)- "A" SITES HAVE RADIO ANTENNAS.  
 2. TP (TUNNEL PORTAL) SITES HAVE RADIO ANTENNAS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
 PECD  
 SUBMITTAL**

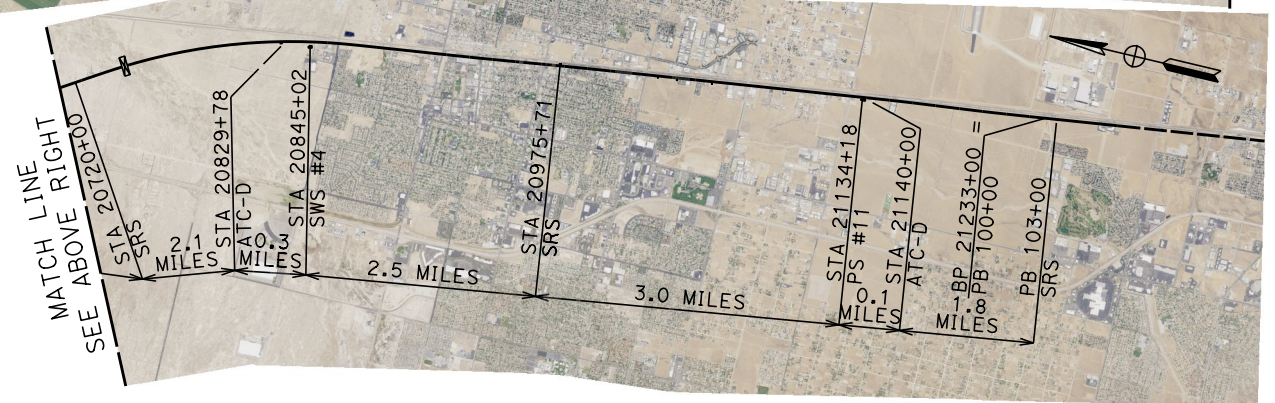
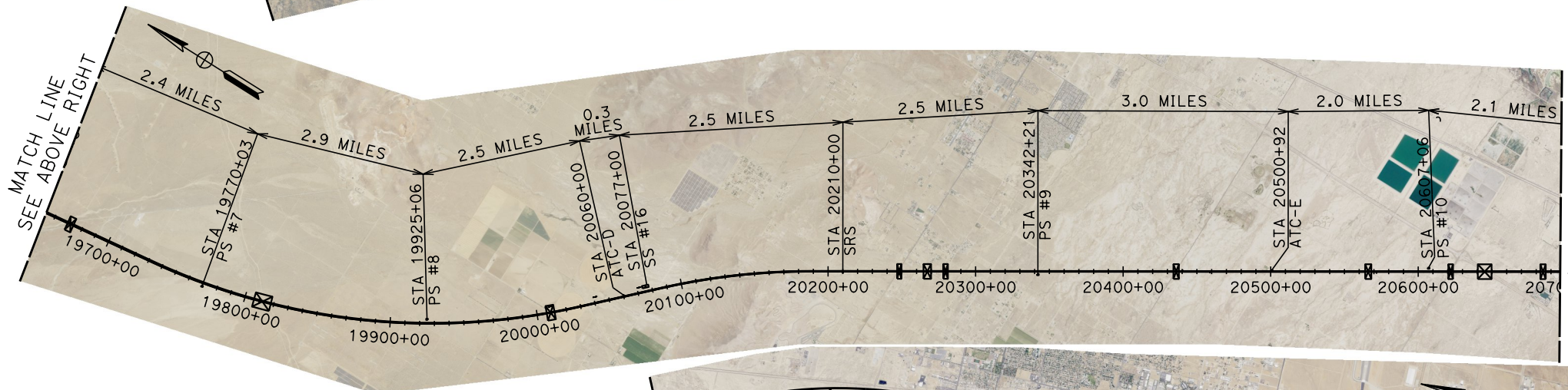
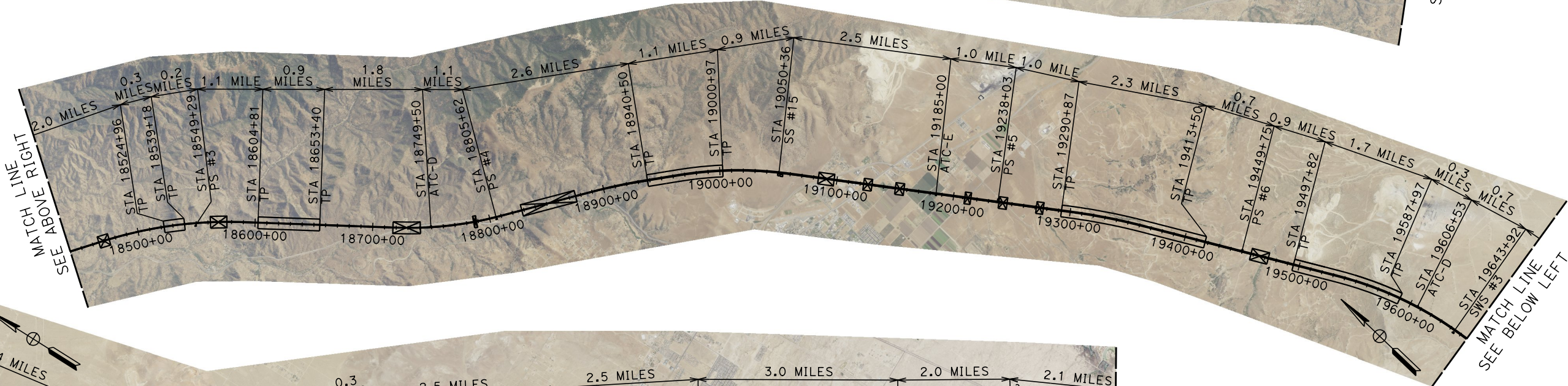
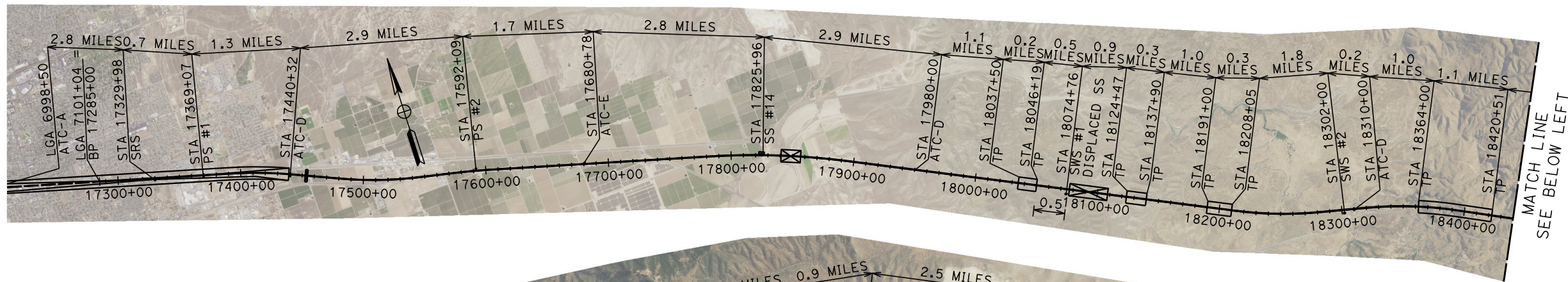
**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
 BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 3  
 COMMUNICATIONS LAYOUT

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**CO-D0003**  
 SCALE  
**AS SHOWN**  
 SHEET NO.





**NOTE**  
 1. ATC (AUTOMATIC TRAIN CONTROL)- "A" SITES HAVE RADIO ANTENNAS.  
 2. TP (TUNNEL PORTAL) SITES HAVE RADIO ANTENNAS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
 PEPD  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
 BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 5  
 COMMUNICATIONS LAYOUT

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**CO-D0004**  
 SCALE  
**AS SHOWN**  
 SHEET NO.



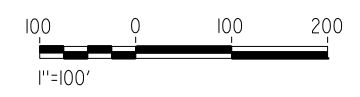
Projects\701206\_00\_CHSRBP\00\_CADD\Sheet\_Files\CO\BP-CO-F4001

9/29/2017 4:57:04 PM

9/29/2017



NOTE  
1. STANDALONE RADIO SIZE: 40' X 25'



**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
DRAWN BY  
**E. REVOLORIO**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**S. SMITH**  
DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 1,2,3,5  
COMMUNICATIONS SYSTEM SITE PLAN  
SITE @ 17329+98.00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**CO-F4001**  
SCALE  
**AS SHOWN**  
SHEET NO.



Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CO\BP-CO-F4002

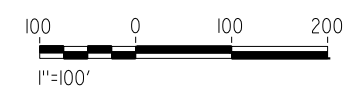
12:10:54 PM

9/26/2017

OIC:ARIVEGA



NOTE  
1. STANDALONE RADIO SIZE: 40' X 25'



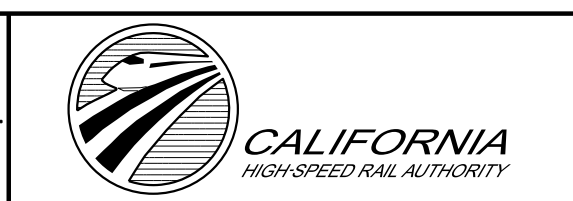
**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
DRAWN BY  
**E. REVOLORIO**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**S. SMITH**  
DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 1,2,3,5  
COMMUNICATIONS SYSTEM SITE PLAN  
SITE @ 20210+00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**CO-F4002**  
SCALE  
**AS SHOWN**  
SHEET NO.

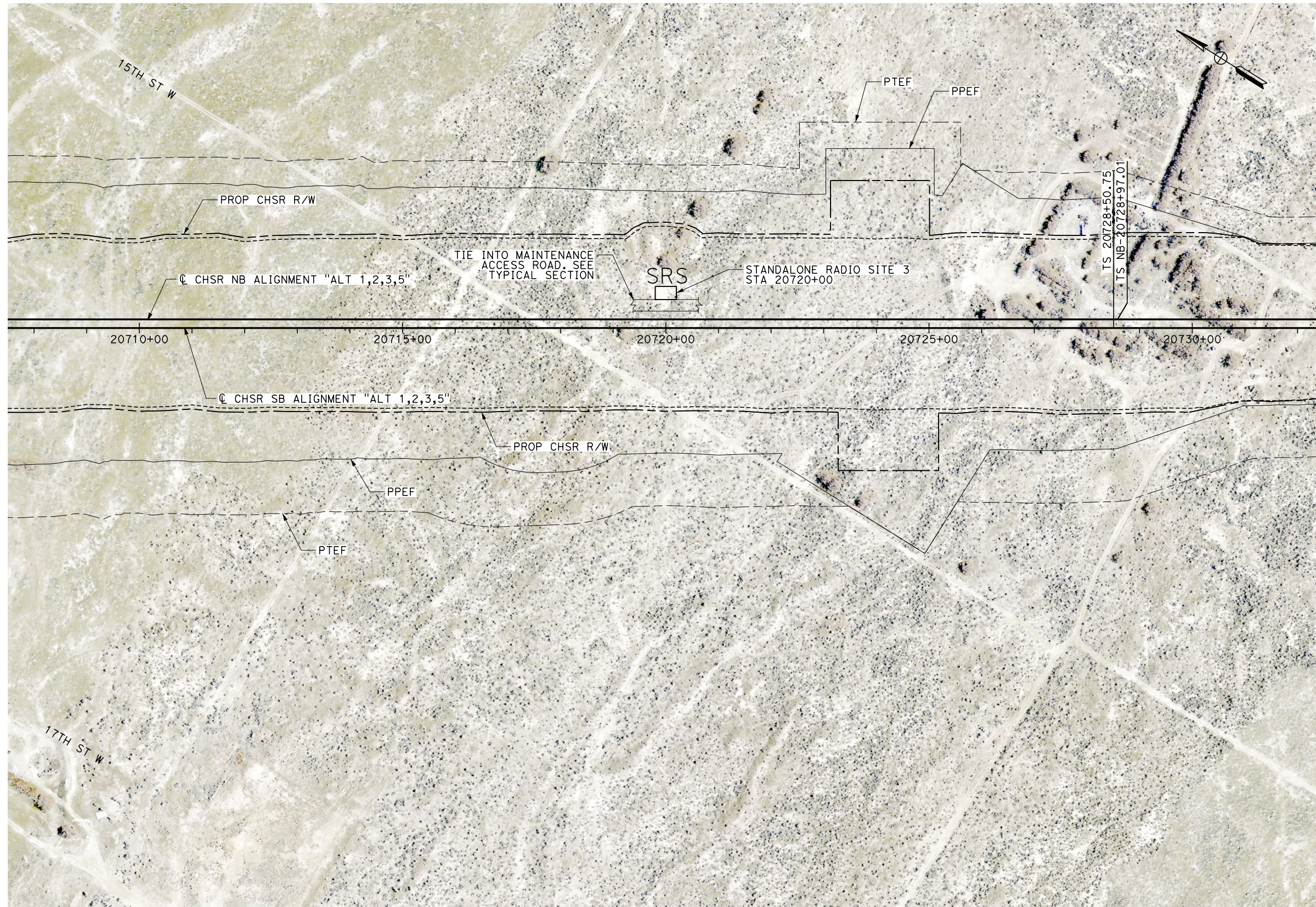


Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\CO\BP-CO-F4003

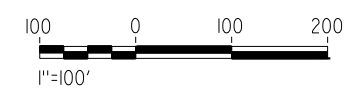
12:11:20 PM

9/26/2017

OJC:ARIVEGA



NOTE  
1. STANDALONE RADIO SIZE: 40' X 25'



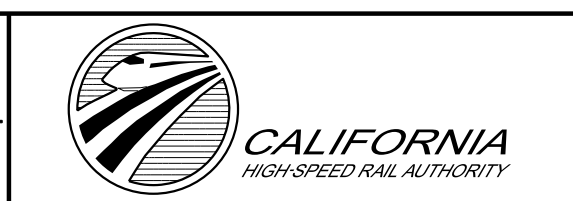
**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
DRAWN BY  
**E. REVOLORIO**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**S. SMITH**  
DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

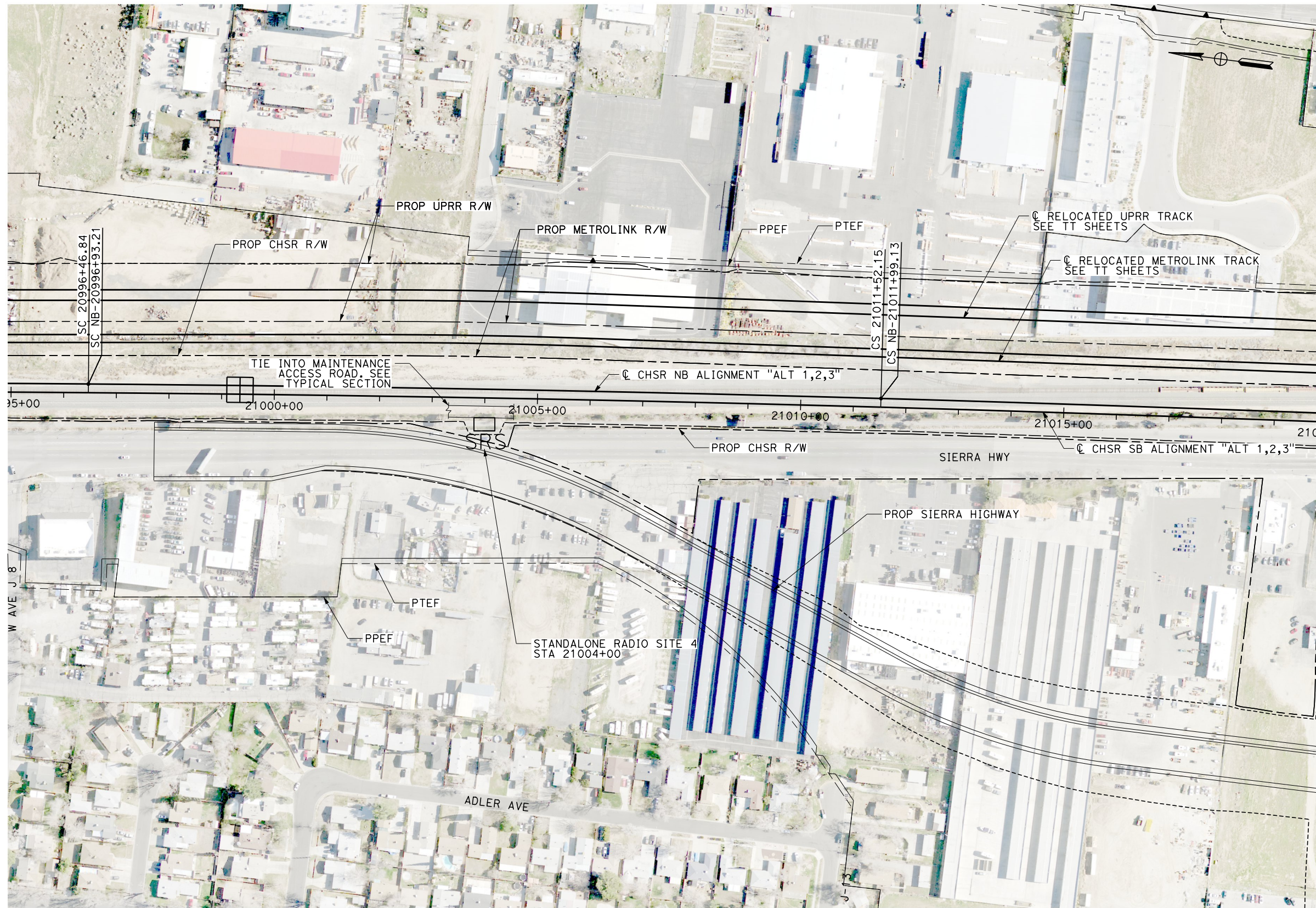


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 1,2,3,5  
COMMUNICATIONS SYSTEM SITE PLAN  
SITE @ 20720+00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**CO-F4003**  
SCALE  
**AS SHOWN**  
SHEET NO.



9/26/2017 12:10:51 PM Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\CO\BP-CO-F4004



NOTE  
 1. STANDALONE RADIO SIZE: 40' X 25'



**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
 DRAWN BY  
**E. REVOLORIO**  
 CHECKED BY  
**J. SIHOTA**  
 IN CHARGE  
**S. SMITH**  
 DATE  
**10/31/2017**

**RECORD  
 PECD  
 SUBMITTAL**  
  
**NOT FOR  
 CONSTRUCTION**

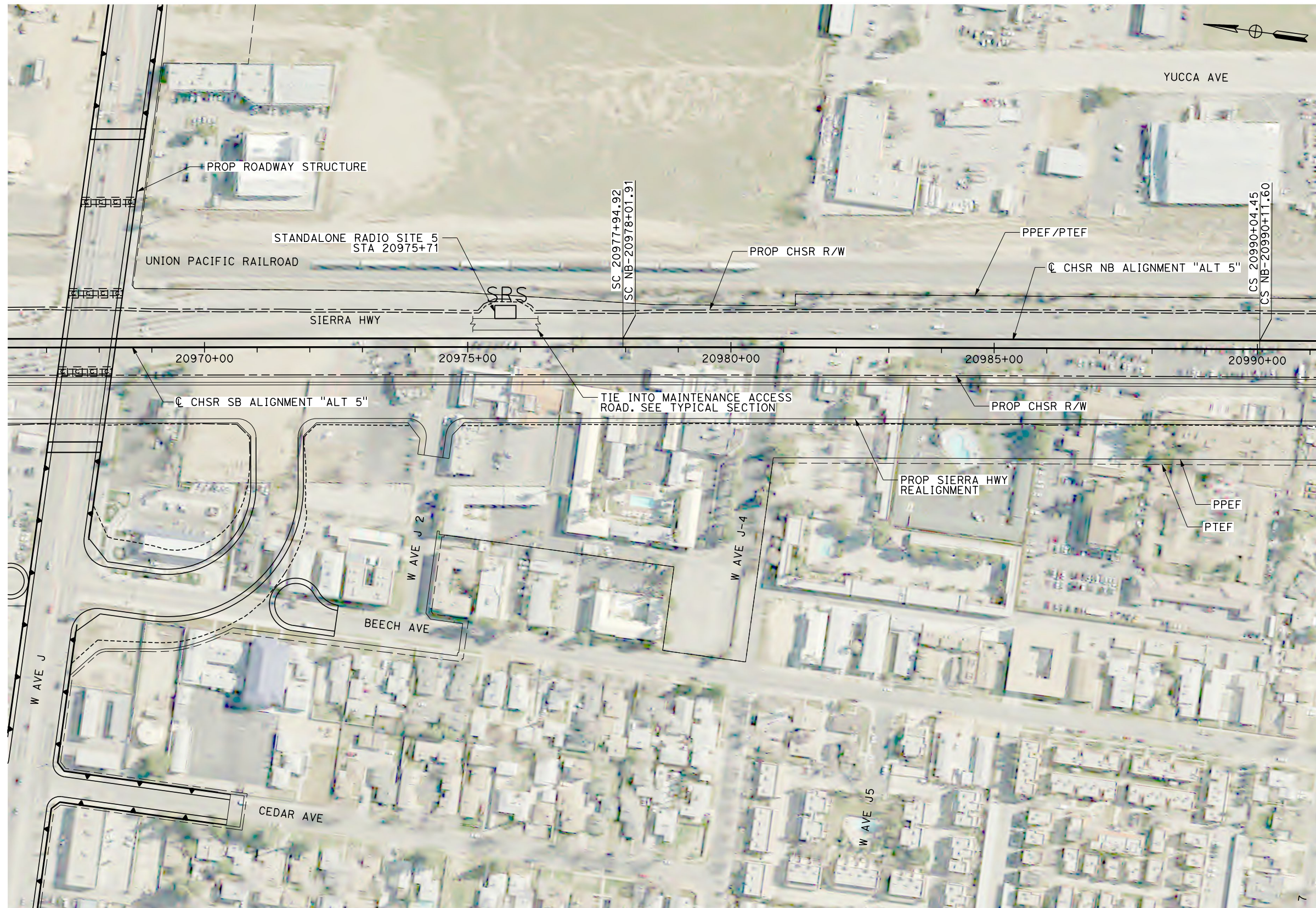


**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 1,2,3  
 COMMUNICATIONS SYSTEM SITE PLAN  
 SITE @ 21004+00

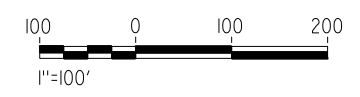
CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**CO-F4004**  
 SCALE  
**AS SHOWN**  
 SHEET NO.



9/26/2017 12:10:29 PM Projects\701206\_00\_CHSRBP\00\_CADD\Sheet\_Files\CO\BP-CO-F4015.dgn



NOTE  
1. STANDALONE RADIO SIZE: 40' X 25'



**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. LANDOLT**  
DRAWN BY  
**E. REVOLORIO**  
CHECKED BY  
**J. SIHOTA**  
IN CHARGE  
**S. SMITH**  
DATE  
**10/31/2017**

**RECORD  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 5  
COMMUNICATIONS SYSTEM SITE PLAN  
SITE @ 20975+71

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
CO-F4015  
SCALE  
AS SHOWN  
SHEET NO.