
APPENDIX D - PLAN AND PROFILE DRAWINGS

SHEET DRAWING DRAWING TITLE

GENERAL SHEETS

| | | |
|---|------------|-----------------------|
| 1 | LAP-CB0000 | COVER SHEET |
| | LAP-CB0101 | DRAWING INDEX |
| 2 | LAP-CB0102 | GENERAL ABBREVIATIONS |

LAUS TO SR-2 ALTERNATIVE "LAPT1"

| | | | |
|---|------------|------------------|--------------------------|
| 1 | LAP-CB1110 | PLAN AND PROFILE | STA 273+62 TO STA 300+00 |
| 2 | LAP-CB1111 | PLAN AND PROFILE | STA 300+00 TO STA 350+00 |
| 3 | LAP-CB1112 | PLAN AND PROFILE | STA 350+00 TO STA 400+00 |
| 4 | LAP-CB1113 | PLAN AND PROFILE | STA 400+00 TO STA 460+00 |
| 5 | LAP-CB1114 | PLAN AND PROFILE | STA 460+00 TO STA 520+00 |

LAUS TO SR-2 ALTERNATIVE "LAPT2"

| | | | |
|---|------------|------------------|--------------------------|
| 1 | LAP-CB1210 | PLAN AND PROFILE | STA 263+21 TO STA 290+00 |
| 2 | LAP-CB1211 | PLAN AND PROFILE | STA 290+00 TO STA 340+00 |
| 3 | LAP-CB1212 | PLAN AND PROFILE | STA 340+00 TO STA 400+00 |
| 4 | LAP-CB1213 | PLAN AND PROFILE | STA 400+00 TO STA 460+00 |
| 5 | LAP-CB1214 | PLAN AND PROFILE | STA 460+00 TO STA 520+00 |

LAUS TO SR-2 ALTERNATIVE "LAPT3"

| | | | |
|---|------------|------------------|--------------------------|
| 1 | LAP-CB1310 | PLAN AND PROFILE | STA 270+33 TO STA 290+00 |
| 2 | LAP-CB1311 | PLAN AND PROFILE | STA 290+00 TO STA 340+00 |
| 3 | LAP-CB1312 | PLAN AND PROFILE | STA 340+00 TO STA 400+00 |
| 4 | LAP-CB1313 | PLAN AND PROFILE | STA 400+00 TO STA 460+00 |
| 5 | LAP-CB1314 | PLAN AND PROFILE | STA 460+00 TO STA 520+00 |

LAUS TO SR-2 ALTERNATIVE "LAP1A"

| | | | |
|---|------------|------------------|--------------------------|
| 1 | LAP-CB1410 | PLAN AND PROFILE | STA 247+56 TO STA 290+00 |
| 2 | LAP-CB1411 | PLAN AND PROFILE | STA 290+00 TO STA 340+00 |
| 3 | LAP-CB1412 | PLAN AND PROFILE | STA 340+00 TO STA 400+00 |
| 4 | LAP-CB1413 | PLAN AND PROFILE | STA 400+00 TO STA 460+00 |
| 5 | LAP-CB1414 | PLAN AND PROFILE | STA 460+00 TO STA 507+56 |

LAUS TO SR-2 ALTERNATIVE "LAP1B"

| | | | |
|---|------------|------------------|--------------------------|
| 1 | LAP-CB1510 | PLAN AND PROFILE | STA 258+98 TO STA 290+00 |
| 2 | LAP-CB1511 | PLAN AND PROFILE | STA 290+00 TO STA 340+00 |
| 3 | LAP-CB1512 | PLAN AND PROFILE | STA 340+00 TO STA 400+00 |
| 4 | LAP-CB1513 | PLAN AND PROFILE | STA 400+00 TO STA 460+00 |
| 5 | LAP-CB1514 | PLAN AND PROFILE | STA 460+00 TO STA 507+56 |

LAUS TO SR-2 ALTERNATIVE "LAP1C"

| | | | |
|---|------------|------------------|--------------------------|
| 1 | LAP-CB1610 | PLAN AND PROFILE | STA 253+47 TO STA 290+00 |
| 2 | LAP-CB1611 | PLAN AND PROFILE | STA 290+00 TO STA 340+00 |
| 3 | LAP-CB1612 | PLAN AND PROFILE | STA 340+00 TO STA 400+00 |
| 4 | LAP-CB1613 | PLAN AND PROFILE | STA 400+00 TO STA 460+00 |
| 5 | LAP-CB1614 | PLAN AND PROFILE | STA 460+00 TO STA 507+56 |

SHEET DRAWING DRAWING TITLE

SR-2 TO SYLMAR ALTERNATIVE "ESS"

| | | | |
|----|------------|------------------|----------------------------|
| 1 | LAP-CB2201 | PLAN AND PROFILE | STA 507+56 TO STA 550+00 |
| 2 | LAP-CB2202 | PLAN AND PROFILE | STA 550+00 TO STA 610+00 |
| 3 | LAP-CB2203 | PLAN AND PROFILE | STA 610+00 TO STA 670+00 |
| 4 | LAP-CB2204 | PLAN AND PROFILE | STA 670+00 TO STA 730+00 |
| 5 | LAP-CB2205 | PLAN AND PROFILE | STA 730+00 TO STA 790+00 |
| 6 | LAP-CB2206 | PLAN AND PROFILE | STA 790+00 TO STA 850+00 |
| 7 | LAP-CB2207 | PLAN AND PROFILE | STA 850+00 TO STA 910+00 |
| 8 | LAP-CB2208 | PLAN AND PROFILE | STA 910+00 TO STA 970+00 |
| 9 | LAP-CB2209 | PLAN AND PROFILE | STA 970+00 TO STA 1030+00 |
| 10 | LAP-CB2210 | PLAN AND PROFILE | STA 1030+00 TO STA 1090+00 |
| 11 | LAP-CB2211 | PLAN AND PROFILE | STA 1090+00 TO STA 1150+00 |
| 12 | LAP-CB2212 | PLAN AND PROFILE | STA 1150+00 TO STA 1210+00 |
| 13 | LAP-CB2213 | PLAN AND PROFILE | STA 1210+00 TO STA 1270+00 |
| 14 | LAP-CB2214 | PLAN AND PROFILE | STA 1270+00 TO STA 1330+00 |
| 15 | LAP-CB2215 | PLAN AND PROFILE | STA 1330+00 TO STA 1390+00 |
| 16 | LAP-CB2216 | PLAN AND PROFILE | STA 1390+00 TO STA 1450+00 |
| 17 | LAP-CB2217 | PLAN AND PROFILE | STA 1450+00 TO STA 1500+00 |

BURBANK BUENA VISTA STATION ALTERNATIVE "BVS"

| | | | |
|---|------------|------------------|----------------------------|
| 1 | LAP-CB2308 | PLAN AND PROFILE | STA 880+00 TO STA 940+00 |
| 2 | LAP-CB2309 | PLAN AND PROFILE | STA 940+00 TO STA 1000+00 |
| 3 | LAP-CB2310 | PLAN AND PROFILE | STA 1000+00 TO STA 1060+00 |

BRANFORD STREET STATION ALTERNATIVE "BSS"

| | | | |
|---|------------|------------------|----------------------------|
| 1 | LAP-CB2412 | PLAN AND PROFILE | STA 1120+00 TO STA 1180+00 |
| 2 | LAP-CB2413 | PLAN AND PROFILE | STA 1180+00 TO STA 1240+00 |
| 3 | LAP-CB2414 | PLAN AND PROFILE | STA 1240+00 TO STA 1300+00 |

PACOIMA WASH STATION ALTERNATIVE "PWS"

| | | | |
|---|------------|------------------|----------------------------|
| 1 | LAP-CB2514 | PLAN AND PROFILE | STA 1240+00 TO STA 1300+00 |
| 2 | LAP-CB2515 | PLAN AND PROFILE | STA 1300+00 TO STA 1360+00 |
| 3 | LAP-CB2516 | PLAN AND PROFILE | STA 1360+00 TO STA 1420+00 |

SYLMAR/SAN FERNANDO STATION ALTERNATIVE "SFS"

| | | | |
|---|------------|------------------|----------------------------|
| 1 | LAP-CB2615 | PLAN AND PROFILE | STA 1300+00 TO STA 1360+00 |
| 2 | LAP-CB2616 | PLAN AND PROFILE | STA 1360+00 TO STA 1420+00 |
| 3 | LAP-CB2617 | PLAN AND PROFILE | STA 1420+00 TO STA 1480+00 |

SHEET DRAWING DRAWING TITLE

SYLMAR TO PALMDALE ALTERNATIVE "SR 14 EAST"

| | | | |
|----|------------|------------------|----------------------------|
| 1 | LAP-CB3100 | PLAN AND PROFILE | STA 1480+00 TO STA 1610+00 |
| 2 | LAP-CB3101 | PLAN AND PROFILE | STA 1610+00 TO STA 1740+00 |
| 3 | LAP-CB3102 | PLAN AND PROFILE | STA 1740+00 TO STA 1870+00 |
| 4 | LAP-CB3103 | PLAN AND PROFILE | STA 1870+00 TO STA 2000+00 |
| 5 | LAP-CB3104 | PLAN AND PROFILE | STA 2000+00 TO STA 2130+00 |
| 6 | LAP-CB3105 | PLAN AND PROFILE | STA 2130+00 TO STA 2260+00 |
| 7 | LAP-CB3106 | PLAN AND PROFILE | STA 2260+00 TO STA 2390+00 |
| 8 | LAP-CB3107 | PLAN AND PROFILE | STA 2390+00 TO STA 2520+00 |
| 9 | LAP-CB3108 | PLAN AND PROFILE | STA 2520+00 TO STA 2650+00 |
| 10 | LAP-CB3109 | PLAN AND PROFILE | STA 2650+00 TO STA 2780+00 |
| 11 | LAP-CB3110 | PLAN AND PROFILE | STA 2780+00 TO STA 2910+00 |
| 12 | LAP-CB3111 | PLAN AND PROFILE | STA 2910+00 TO STA 3040+00 |
| 13 | LAP-CB3112 | PLAN AND PROFILE | STA 3040+00 TO STA 3170+00 |
| 14 | LAP-CB3113 | PLAN AND PROFILE | STA 3170+00 TO STA 3300+00 |
| 15 | LAP-CB3114 | PLAN AND PROFILE | STA 3300+00 TO STA 3430+00 |
| 16 | LAP-CB3115 | PLAN AND PROFILE | STA 3430+00 TO STA END |

SYLMAR TO PALMDALE ALTERNATIVE "SR 14 WEST"

| | | | |
|----|------------|------------------|----------------------------|
| 5 | LAP-CB3204 | PLAN AND PROFILE | STA 2000+00 TO STA 2130+00 |
| 6 | LAP-CB3205 | PLAN AND PROFILE | STA 2130+00 TO STA 2260+00 |
| 7 | LAP-CB3206 | PLAN AND PROFILE | STA 2260+00 TO STA 2390+00 |
| 8 | LAP-CB3207 | PLAN AND PROFILE | STA 2390+00 TO STA 2520+00 |
| 9 | LAP-CB3208 | PLAN AND PROFILE | STA 2520+00 TO STA 2650+00 |
| 10 | LAP-CB3209 | PLAN AND PROFILE | STA 2650+00 TO STA 2780+00 |
| 11 | LAP-CB3210 | PLAN AND PROFILE | STA 2780+00 TO STA 2910+00 |
| 12 | LAP-CB3211 | PLAN AND PROFILE | STA 2910+00 TO STA 3040+00 |
| 13 | LAP-CB3212 | PLAN AND PROFILE | STA 3040+00 TO STA 3170+00 |
| 14 | LAP-CB3213 | PLAN AND PROFILE | STA 3170+00 TO STA 3300+00 |
| 15 | LAP-CB3214 | PLAN AND PROFILE | STA 3300+00 TO STA END |

SYLMAR TO PALMDALE ALTERNATIVE "SR 14 SOUTH"

| | | | |
|----|------------|------------------|----------------------------|
| 5 | LAP-CB3304 | PLAN AND PROFILE | STA 2000+00 TO STA 2130+00 |
| 6 | LAP-CB3305 | PLAN AND PROFILE | STA 2130+00 TO STA 2260+00 |
| 7 | LAP-CB3306 | PLAN AND PROFILE | STA 2260+00 TO STA 2390+00 |
| 8 | LAP-CB3307 | PLAN AND PROFILE | STA 2390+00 TO STA 2520+00 |
| 9 | LAP-CB3308 | PLAN AND PROFILE | STA 2520+00 TO STA 2650+00 |
| 10 | LAP-CB3309 | PLAN AND PROFILE | STA 2650+00 TO STA 2780+00 |
| 11 | LAP-CB3310 | PLAN AND PROFILE | STA 2780+00 TO STA 2910+00 |
| 12 | LAP-CB3311 | PLAN AND PROFILE | STA 2910+00 TO STA 3040+00 |
| 13 | LAP-CB3312 | PLAN AND PROFILE | STA 3040+00 TO STA 3170+00 |
| 14 | LAP-CB3313 | PLAN AND PROFILE | STA 3170+00 TO STA 3300+00 |
| 15 | LAP-CB3314 | PLAN AND PROFILE | STA 3300+00 TO STA 3430+00 |
| 16 | LAP-CB3315 | PLAN AND PROFILE | STA 3430+00 TO STA END |

SYLMAR TO PALMDALE ALTERNATIVE "SOLEDAD CANYON"

| | | | |
|----|------------|------------------|----------------------------|
| 5 | LAP-CB3404 | PLAN AND PROFILE | STA 2000+00 TO STA 2130+00 |
| 6 | LAP-CB3405 | PLAN AND PROFILE | STA 2130+00 TO STA 2260+00 |
| 7 | LAP-CB3406 | PLAN AND PROFILE | STA 2260+00 TO STA 2390+00 |
| 8 | LAP-CB3407 | PLAN AND PROFILE | STA 2390+00 TO STA 2520+00 |
| 9 | LAP-CB3408 | PLAN AND PROFILE | STA 2520+00 TO STA 2650+00 |
| 10 | LAP-CB3409 | PLAN AND PROFILE | STA 2650+00 TO STA 2780+00 |
| 11 | LAP-CB3410 | PLAN AND PROFILE | STA 2780+00 TO STA 2910+00 |
| 12 | LAP-CB3411 | PLAN AND PROFILE | STA 2910+00 TO STA 3040+00 |
| 13 | LAP-CB3412 | PLAN AND PROFILE | STA 3040+00 TO STA 3170+00 |
| 14 | LAP-CB3413 | PLAN AND PROFILE | STA 3170+00 TO STA 3300+00 |
| 15 | LAP-CB3414 | PLAN AND PROFILE | STA 3300+00 TO STA 3430+00 |
| 16 | LAP-CB3415 | PLAN AND PROFILE | STA 3430+00 TO STA 3560+00 |
| 17 | LAP-CB3416 | PLAN AND PROFILE | STA 3560+00 TO STA END |

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| | |
|-------------|--------------|
| DESIGNED BY | B. HORNSTEIN |
| DRAWN BY | D. ORIZA |
| CHECKED BY | N. CARSTAIRS |
| IN CHARGE | R. HOLMQUIST |
| DATE | 07/02/2010 |

| | | | | | |
|-----|------|----|-----|-----|-------------|
| REV | DATE | BY | CHK | APP | DESCRIPTION |
| | | | | | |



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE



CALIFORNIA HIGH-SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

CALIFORNIA HIGH-SPEED TRAIN PROJECT
PALMDALE TO LOS ANGELES

ALTERNATIVE ANALYSIS

DRAWING INDEX

| | |
|--------------|------------|
| CONTRACT NO. | |
| DRAWING NO. | LAP-CB0101 |
| SCALE | NONE |
| SHEET NO. | 1 OF 2 |

TRACK GEOMETRY - HORIZONTAL

| | |
|-----|---|
| CC | COMPOUND CURVATURE |
| CS | POINT OF CHANGE FROM CIRCULAR CURVE TO SPIRAL |
| k1 | TANGENT DISTANCE OF SHIFTED PC REFERRED TO THE TS |
| k2 | TANGENT DISTANCE OF SHIFTED PC REFERRED TO THE ST |
| Lc | TOTAL LENGTH OF CIRCULAR CURVE FROM PC TO PT OR SC TO CS |
| Lsc | LENGTH OF COMPOUND SPIRAL FROM CS TO SC |
| Ls1 | LENGTH OF SPIRAL FROM TS TO SC |
| Ls2 | LENGTH OF SPIRAL FROM CS TO ST |
| p1 | OFFSET FROM INITIAL TANGENT TO PC OF THE SHIFTED CIRCLE OF SPIRALIZED CURVE |
| p2 | OFFSET FROM INITIAL TANGENT TO PT OF THE SHIFTED CIRCLE OF SPIRALIZED CURVE |
| PC | POINT OF CURVATURE/POINT OF CHANGE FROM TANGENT TO CIRCULAR CURVE |
| PCC | POINT OF COMPOUND CURVE |
| PI | POINT OF INTERSECTION |
| POC | POINT OF CIRCULAR CURVE |
| POS | POINT OF SPIRAL |
| POT | POINT OF TANGENT |
| PRC | POINT OF REVERSE CURVATURE |
| PS | POINT OF SWITCH |
| PT | POINT OF TANGENCY/POINT OF CHANGE FROM CIRCULAR CURVE TO TANGENT |
| SC | POINT OF CHANGE FROM SPIRAL TO CIRCULAR CURVE |
| SS | POINT OF CHANGE FROM ONE SPIRAL |
| ST | POINT OF CHANGE FROM SPIRAL TO TANGENT |
| SPO | POINT OF ORIGIN OF COMPOUND SPIRAL |
| Ts1 | TANGENT DISTANCE FROM TS TO PI |
| Ts2 | TANGENT DISTANCE FROM ST TO PI |
| TS | POINT OF CHANGE FROM TANGENT TO SPIRAL |
| Xs1 | TANGENT OFFSET AT THE SC |
| Xs2 | TANGENT OFFSET AT THE CS |
| Δ | TOTAL CENTRAL ANGLE OF THE SPIRALIZED CURVE |
| Δc | CENTRAL ANGLE OF THE CIRCULAR CURVE (Lc) FROM SC TO CS COMPOUND CURVATURE |
| Δc2 | CENTRAL ANGLE OF SECOND CIRCULAR CURVE OF COMPOUND CURVE |
| θs1 | CENTRAL ANGLE OF SPIRAL LENGTH Ls1 OR SPIRAL ANGLE OF FIRST SPIRAL IN SPIRALIZED CURVE |
| θs2 | CENTRAL ANGLE OF SPIRAL LENGTH Ls2 OR SPIRAL ANGLE OF SECOND SPIRAL IN SPIRALIZED CURVE |
| θsc | CENTRAL ANGLE OF COMPOUND SPIRAL OR COMPOUND SPIRAL ANGLE FROM CS TO SC |

TRACK GEOMETRY - VERTICAL

| | |
|------|---|
| BVC | BEGIN VERTICAL CURVE |
| Ea | SUPER ELEVATION IN INCHES |
| EVC | END VERTICAL CURVE |
| PCVC | POINT OF COMPOUND VERTICAL CURVE |
| PIVC | POINT OF INTERSECTION OF TWO PROFILE TANGENTS |
| POVC | POINT OF VERTICAL CURVE |
| POVT | POINT ON VERTICAL TANGENT |
| U | UNBALANCED SUPER ELEVATION IN INCHES |
| VC | VERTICAL CURVE |

GENERAL ABBREVIATIONS AND ACRONYMS

| | | | | | | | | | |
|-----------|---|------|-------------------------------------|-----------|---|--------|---|---------|-------------------------------------|
| AA | ALTERNATIVES ANALYSIS | CTR | CENTER DELINEATORS | GIS | GEOGRAPHICAL INFORMATION SYSTEM | (N) | NEW | SL | SLOPE |
| AB | AGGREGATE BASE | CULV | CULVERT | GM | GUIDE MARKER | N | NORTH | SPEC | SPECIFICATION |
| ABM | AIR- BLOWN MORTAR | CVR | COVER | GND | GROUND | N/A | NOT APPLICABLE | SO | SQUARE |
| ABN | ABANDON | CWA | CLEAN WATER ACT | GP | GRADING PLANE | NB | NORTHBOUND | SS | SANITARY SEWER |
| ABUT | ABUTMENT | CWR | CONTINUOUS WELDED RAIL | GR | GUARDRAIL | NEG | NEGATIVE | SR | STAINLESS STEEL |
| AC | ASPHALT CONCRETE | CY | CUBIC YARDS | GSP | GALVANIZED STEEL PIPE | NEPA | NATIONAL ENVIRONMENTAL PROTECTION ACT | SST | STATE ROUTE |
| AD | AREA DRAIN | | | | | | | ST | STREET |
| ADJ | ADJUSTABLE | | | | | | | STA | STATION, ALIGNMENT |
| AHD | AHEAD | DEP | DEPTH | | | NEUT | NEUTRAL | STD | STANDARD |
| ALIGN | ALIGNMENT | DET | DETAIL | HB | HOSE BIB | NIC | NOT IN CONTRACT | STIFF | STIFFENER |
| ALT | ALTERNATE | DFX | DIRECT FIXATION | HC | HANDICAP | NO. | NUMBER | STL | STEEL |
| AMTRACK | NATIONAL RAILROAD PASSENGER CORPORATION | DGAC | DENSE GRADED ASPHALT CONCRETE | HD | HEAVY DUTY | NOM | NOMINAL | STRL | STRUCTURAL |
| APPROX | APPROXIMATE | | | HEX | HEXAGONAL | NRHP | NATIONAL REGISTER OF HISTORIC PLACES | STRUCT | STRUCTURE |
| ARCH | ARCHITECTURAL | D1 | DRAINAGE INLET | HH | HAND HOLE | NTS | NOT TO SCALE | SW | SWITCH |
| AS | AGGREGATE SUBBASE | DIA | DIAMETER | HI | HIGH | | | SWG | STAKEHOLDER WORKING GROUP |
| ASPH | ASPHALT | DIAG | DIAGONAL | HMAC | HOT MIX ASPHALT CONCRETE | | | SWL | SOUND WALL |
| AUTHORITY | CALIFORNIA HIGH-SPEED RAIL AUTHORITY AVENUE | DIM | DIMENSION | HOR | HORIZONTAL | OA | OVERALL | SWK | SIDEWALK |
| | | DIR | DIRECTION | HOV | HIGH OCCUPANCY VEHICLE | OC | ON CENTER | SY | SQUARE YARDS |
| | | DIST | DISTRIBUTION | HP | HIGH POINT | OD | OUTSIDE DIAMETER | SYMM | SYMMETRICAL |
| | | DMU | DIESEL MULTIPLE UNIT | HR | HANDRAIL | OHD | OVERHEAD | | |
| | | DN | DOWN | HS | HIGH STRENGTH | OP | OVERPASS | | |
| | | DR | DRIVE | HST | HIGH-SPEED TRAIN | OPNG | OPENING | T | SEMI- TANGENT |
| | | DRWY | DRIVEWAY | HT | HEIGHT | OPP | OPPOSITE | T&B | TOP & BOTTOM |
| | | DTR | DETOUR | HW | HEADWALL | | | TAN | TANGENT |
| | | DWG | DRAWING | HWY | HIGHWAY | | | TBD | TO BE DETERMINED |
| | | | | | | PB | PULL BOX | TC | TOP OF CONCRETE |
| | | | | | | PED | PEDESTRIAN | TCB | TRAFFIC CONTROL BOX |
| | | (E) | EXISTING | ID | INSIDE DIAMETER | PERM | PERMEABLE | TD | TRENCH DRAIN |
| | | E | EAST | IE | INVERT ELEVATION | PERF | PERFORATED | TEL | TELEPHONE |
| | | EA | EACH | IN | INCH | PG | PAGE | TEMP | TEMPORARY |
| | | EB | EASTBOUND | INSUL | INSULATION | PGL | PROFILE GRADE LINE | TF | TRACK FEET |
| | | EBR | END OF BRIDGE | INT | INTERIOR | PH | POTHOLE | TO | TURNOUT |
| | | ECR | END CURB RETURN | INV | INVERT | PL | PLATE | TM | TECHNICAL MEMORANDUM |
| | | EE | EACH END | IR | INSIDE RADIUS | P/L | PROPERTY LINE | TOC | TOP OF CURB |
| | | EF | EACH FACE | | | PMT | PROGRAM MANAGEMENT TEAM | TOD | TRANSIT- ORIENTED DEVELOPMENT |
| | | EIC | EMPLOYEE IN CHARGE | | | PNL | PANEL | TOG | TOP OF GRATE |
| | | EIR | ENVIRONMENTAL IMPACT REPORT | JB | JUNCTION BOX | PPL | PERFORMED PERMISSIBLE LINE | TOL | TOLERANCE |
| | | EIS | ENVIRONMENTAL IMPACT STATEMENT | JT | JOINT | PPP | PERFORATED PLASTIC PIPE | TOP | TOP OF PAVEMENT |
| | | | | | | PR | PAIR | TOR | TOP OF RAIL |
| | | EJ | EXPANSION JOINT | LADOT | CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION | PSI | POUNDS PER SQUARE INCH | TOS | TOP OF SLOPE |
| | | ELEC | ELECTRICAL | | | PT | POINT | TOT | TOP OF TIE |
| | | EL | ELEVATION | LAP | LOS ANGELES TO PALMDALE | PVC | POLYVINYL CHLORIDE | TOW | TOP OF WALL |
| | | ELEV | ELEVATOR | LASHP | LOS ANGELES RIVER | PVMT | PAVEMENT | TP | TELEPHONE POLE |
| | | EMB | EMBANKMENT | | | | | TRANS | TRANSITION |
| | | EMER | EMERGENCY | | | | | TS | TRAFFIC SIGNAL |
| | | EMT | ENGINEERING MANAGEMENT TEAM | LAUS | LOS ANGELES UNION STATION | | | TYP | TYPICAL |
| | | | | LB | POUNDS | (R) | RELOCATED | TYP SEC | TYPICAL SECTION |
| | | ENGR | ENGINEERING | LF | LINEAR FEET | R | RADIUS | | |
| | | EP | EDGE OF PAVEMENT | LG | LONG | RC | REINFORCED CONCRETE | | |
| | | EQ | EQUATION | LGT | LIGHT | RCB | REINFORCED CONCRETE BOX | | |
| | | EQUI | EQUIPMENT | LH | LEFT HAND | RD | REINFORCED CONCRETE PIPE | UB | UTILITY BOX |
| | | ES | EDGE OF SHOULDER | LN | LANE | RDLASP | RIO DE LOS ANGELES STATE PARK | UD | UNDERDRAIN |
| | | ESMT | EASEMENT | LOC | LOCATION | | | UG | UNDERGROUND |
| | | ESO | EAST SIDE, OUTSIDE ALIGNMENT OPTION | LOL | LAYOUT LINE | RDWY | ROADWAY | UON | UNLESS OTHERWISE NOTED |
| | | | | LOSSAN | LOS ANGELES TO SAN DIEGO PASSENGER RAIL CORRIDOR | RECT | RECTANGLE | UP | UNDERPASS |
| | | ESS | EAST SIDE, SHARING ALIGNMENT OPTION | | | REF | REFERENCE | UPRR | UNION PACIFIC RAILROAD |
| | | ETW | EDGE OF TRAVELED WAY | | | REINF | REINFORCED | USGS | UNITED STATES GEOLOGICAL SURVEY |
| | | EW | ENDWALL | LP | LOW POINT | REL | RELOCATE | UTIL | UTILITY |
| | | EXC | EXCAVATION | LPL | LIGHT POLE | REOD | REQUIRED | | |
| | | EXP | EXPANSION | LT | LEFT | REV | REVISION | | |
| | | EXT | EXTERIOR | LTG | LIGHTING | RH | RIGHT HAND | V | DESIGN SPEED OR VALVE |
| | | | | LVL | LEVEL | RO | ROUGH OPENING | VAR | VARIABLES |
| | | (F) | FUTURE | | | ROW | RIGHT-OF-WAY | VC | VERTICAL CURVE |
| | | FC | FACE OF CONCRETE | MAX | MAXIMUM | RP | REFERENCE POINT | VCP | VITRIFIED CLAY PIPE |
| | | FDN | FOUNDATION | MECH | MECHANICAL | RR | RAILROAD | VERT | VERTICAL |
| | | FEMA | FEDERAL EMERGENCY MANAGEMENT AGENCY | MED | MEDIAN | RT | ROUTE | VIA | VIADUCT |
| | | | | MEM | MEMBRANE | RTE | RETAINING WALL | | |
| | | FF | FILTER FABRIC | MET | METAL | RW | | W | WEST |
| | | FG | FINISHED GRADE | METRO | LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY | S | SOUTH | W/ | WITH |
| | | FH | FIRE HYDRANT | | | SB | SOUTHBOUND | W/O | WITHOUT |
| | | FIN | FINISH | | | SCHD | SCHEDULE | WB | WESTBOUND |
| | | FL | FLOW LINE | METROLINK | METROLINK CENTRAL MAINTENANCE FACILITY | SCG | SOUTHERN CALIFORNIA GAS COMPANY | WP | WORK POINT |
| | | FLR | FLOOR | CMF | | | | WPF | WATERPROOF |
| | | FOC | FIBER OPTIC CABLE | MH | MANHOLE | SCRRA | SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (METROLINK) | WRT | WITH RESPECT TO |
| | | FR | FRAME | MIC | MICROPHONE | | | WSO | WEST SIDE, OUTSIDE ALIGNMENT OPTION |
| | | FRA | FEDERAL RAILROAD ADMINISTRATION | MIN | MINIMUM | SD | STORM DRAIN | WSS | WEST SIDE, SHARED ALIGNMENT OPTION |
| | | | | MISC | MISCELLANEOUS | SDMH | STORM DRAIN MANHOLE | WT | WEIGHT |
| | | FT | FEET | MOD | MODIFIED | SECT | SECTION | WWF | WELDED WIRE FABRIC |
| | | FTG | FOOTING | MON | MONUMENT | SERV | SERVICE | WWM | WELDED WIRE MESH |
| | | FWY | FREEWAY | MOW | MAINTENANCE OF WAY | SF | SQUARE FEET | | |
| | | | | MP | MILEPOST | SG | SUBGRADE | | |
| | | GA | GAUGE | MPH | MILES PER HOUR | SHLDR | SHOULDER | | |
| | | GALV | GALVANIZED | MSL | MEAN SEA LEVEL | SHT | SHEET | XING | CROSSING |
| | | GCL | GRADING CONTROL LINE | MTA | LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY MATERIAL | SIM | SIMILAR | X SEC | CROSS SECTION |
| | | | | MTL | | | | YD | YARDS |

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| DESIGNED BY | J. LANGHAM |
| DRAWN BY | B. BODIN |
| CHECKED BY | N. CARSTAIRS |
| IN CHARGE | R. HOLMQUIST |
| DATE | 07/02/2010 |



Hatch Mott MacDonald, URS, & Arup
A HIGH-SPEED RAIL JOINT VENTURE



CALIFORNIA HIGH-SPEED TRAIN PROJECT
LOS ANGELES TO PALMDALE
 ALTERNATIVE ANALYSIS
 GENERAL ABBREVIATIONS

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| CONTRACT NO. | |
| DRAWING NO. | LAP-CB0102 |
| SCALE | NONE |
| SHEET NO. | 2 OF 2 |

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