

CALIFORNIA HIGH-SPEED TRAIN

Engineering Plans

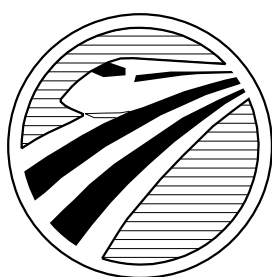
Burbank to Los Angeles

Volume 6

General, Construction Phasing Plans

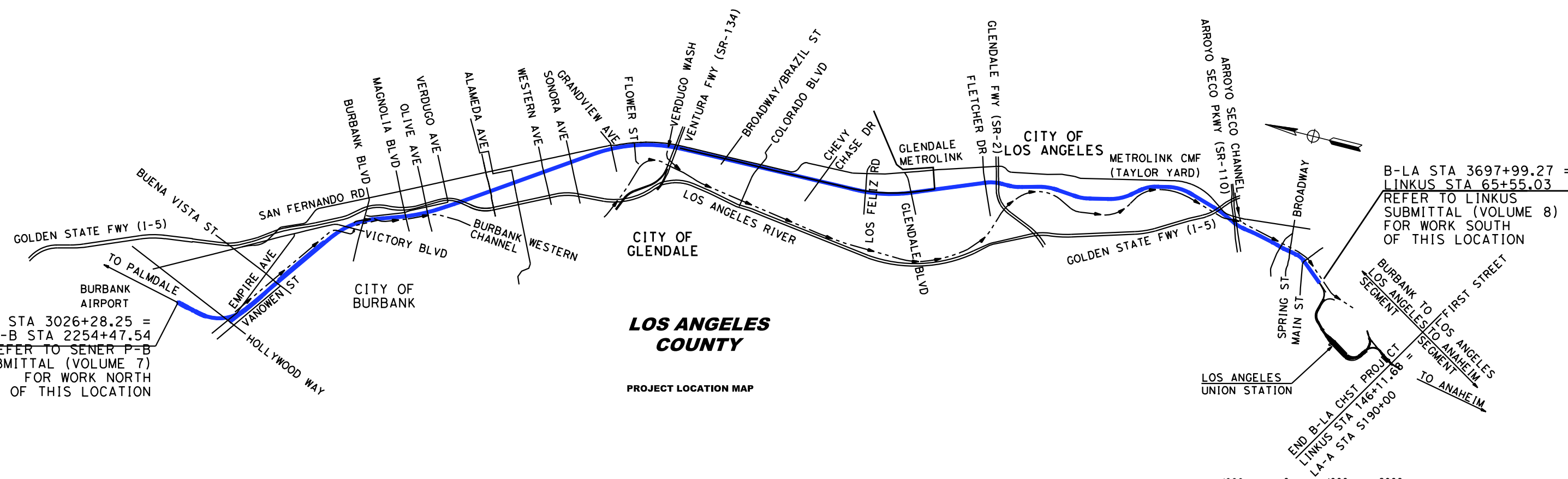
April 2019





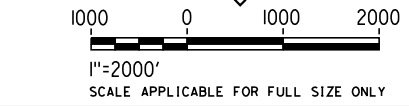
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

PRELIMINARY ENGINEERING FOR PROJECT DEFINITION (PEPD) CALIFORNIA HIGH-SPEED TRAIN PROJECT VALLEY/RIVER SUBDIVISION BURBANK TO LOS ANGELES VOLUME 6 GENERAL, CONSTRUCTION PHASING PLANS



B-LA STA 3026+28.25 = P-B STA 2254+47.54 REFER TO SENER P-B PEPD SUBMITTAL (VOLUME 7) FOR WORK NORTH OF THIS LOCATION

B-LA STA 3697+99.27 = LINKUS STA 65+55.03 REFER TO LINKUS SUBMITTAL (VOLUME 8) FOR WORK SOUTH OF THIS LOCATION



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REV	DATE	BY	CHK	APP	DESCRIPTION

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

PEPD RECORD SET

NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

PEPD
VOLUME 6
PROJECT LOCATION MAP

CONTRACT NO.
HSR14-39
DRAWING NO.
GE-A0601
SCALE
NO SCALE
SHEET NO.

PEPD INDEX OF VOLUMES

VOLUME NO.	CONTENT
VOLUME 1	GENERAL
	TRACK ALIGNMENT
	RIGHT-OF-WAY IMPACT
VOLUME 2	GENERAL
	AERIAL STRUCTURES
	TUNNEL
	RETAINING WALLS
VOLUME 3	GENERAL
	GRADE SEPARATIONS
	ROADWAY IMPROVEMENTS
VOLUME 4	GENERAL
	UTILITIES
	GRADING AND DRAINAGE
	TRACTION POWER FACILITIES SITE
	COMMUNICATION SYSTEM SITE
	AUTOMATIC TRAIN CONTROL SITE

VOLUME NO.	CONTENT
VOLUME 5	GENERAL
	STATIONS
	MAINTENANCE FACILITIES
	TRACKSIDE ACCESS
VOLUME 6	GENERAL
	CONSTRUCTION PHASING PLANS
VOLUME 7	GENERAL
	BURBANK AIRPORT STATION
VOLUME 8	GENERAL
	LINK UNION STATION (LINK US) BY LA METRO

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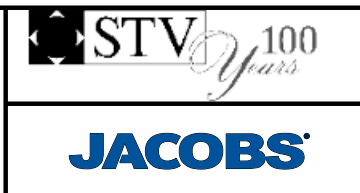
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
INDEX OF VOLUMES

CONTRACT NO.
HSR14-39
DRAWING NO.
GE-A0610
SCALE
NO SCALE
SHEET NO.

VOLUME 6 - GENERAL, CONSTRUCTION PHASING PLANS

GENERAL	
DRAWING NO.	DRAWING TITLE
GE-A0600	COVER SHEET VOLUME 6
GE-A0601	PROJECT LOCATION MAP VOLUME 6
GE-A0610	INDEX OF VOLUMES
GE-A0611	INDEX OF DRAWINGS VOLUME 6
GE-D0601	KEY MAP VOLUME 6 - CONSTRUCTION SEQUENCING
GE-B0601	BASIS OF DESIGN SUMMARY
GE-C0601	ACRONYMS AND ABBREVIATIONS - SHEET 1 OF 5
GE-C0602	ACRONYMS AND ABBREVIATIONS - SHEET 2 OF 5
GE-C0603	ACRONYMS AND ABBREVIATIONS - SHEET 3 OF 5
GE-C0604	ACRONYMS AND ABBREVIATIONS - SHEET 4 OF 5
GE-C0605	ACRONYMS AND ABBREVIATIONS - SHEET 5 OF 5
GE-C0611	SYMBOLS - SHEET 1 OF 2
GE-C0612	SYMBOLS - SHEET 2 OF 2
GE-B0611	GENERAL NOTES
GE-D6601	TRACK SCHEMATIC

CONSTRUCTION PHASING PLANS	
DRAWING NO.	DRAWING TITLE
CV-I6101	CONSTRUCTION SEQUENCING - SHEET 1 OF 48
CV-I6102	CONSTRUCTION SEQUENCING - SHEET 2 OF 48
CV-I6103	CONSTRUCTION SEQUENCING - SHEET 3 OF 48
CV-I6104	CONSTRUCTION SEQUENCING - SHEET 4 OF 48
CV-I6105	CONSTRUCTION SEQUENCING - SHEET 5 OF 48
CV-I6106	CONSTRUCTION SEQUENCING - SHEET 6 OF 48
CV-I6107	CONSTRUCTION SEQUENCING - SHEET 7 OF 48
CV-I6108	CONSTRUCTION SEQUENCING - SHEET 8 OF 48
CV-I6109	CONSTRUCTION SEQUENCING - SHEET 9 OF 48
CV-I6110	CONSTRUCTION SEQUENCING - SHEET 10 OF 48
CV-I6111	CONSTRUCTION SEQUENCING - SHEET 11 OF 48
CV-I6112	CONSTRUCTION SEQUENCING - SHEET 12 OF 48
CV-I6113	CONSTRUCTION SEQUENCING - SHEET 13 OF 48
CV-I6114	CONSTRUCTION SEQUENCING - SHEET 14 OF 48
CV-I6115	CONSTRUCTION SEQUENCING - SHEET 15 OF 48
CV-I6116	CONSTRUCTION SEQUENCING - SHEET 16 OF 48
CV-I6117	CONSTRUCTION SEQUENCING - SHEET 17 OF 48

CONSTRUCTION PHASING PLANS	
DRAWING NO.	DRAWING TITLE
CV-I6118	CONSTRUCTION SEQUENCING - SHEET 18 OF 48
CV-I6119	CONSTRUCTION SEQUENCING - SHEET 19 OF 48
CV-I6120	CONSTRUCTION SEQUENCING - SHEET 20 OF 48
CV-I6121	CONSTRUCTION SEQUENCING - SHEET 21 OF 48
CV-I6122	CONSTRUCTION SEQUENCING - SHEET 22 OF 48
CV-I6123	CONSTRUCTION SEQUENCING - SHEET 23 OF 48
CV-I6124	CONSTRUCTION SEQUENCING - SHEET 24 OF 48
CV-I6125	CONSTRUCTION SEQUENCING - SHEET 25 OF 48
CV-I6126	CONSTRUCTION SEQUENCING - SHEET 26 OF 48
CV-I6127	CONSTRUCTION SEQUENCING - SHEET 27 OF 48
CV-I6128	CONSTRUCTION SEQUENCING - SHEET 28 OF 48
CV-I6129	CONSTRUCTION SEQUENCING - SHEET 29 OF 48
CV-I6130	CONSTRUCTION SEQUENCING - SHEET 30 OF 48
CV-I6131	CONSTRUCTION SEQUENCING - SHEET 31 OF 48
CV-I6132	CONSTRUCTION SEQUENCING - SHEET 32 OF 48
CV-I6133	CONSTRUCTION SEQUENCING - SHEET 33 OF 48
CV-I6134	CONSTRUCTION SEQUENCING - SHEET 34 OF 48
CV-I6135	CONSTRUCTION SEQUENCING - SHEET 35 OF 48
CV-I6136	CONSTRUCTION SEQUENCING - SHEET 36 OF 48
CV-I6137	CONSTRUCTION SEQUENCING - SHEET 37 OF 48
CV-I6138	CONSTRUCTION SEQUENCING - SHEET 38 OF 48
CV-I6139	CONSTRUCTION SEQUENCING - SHEET 39 OF 48
CV-I6140	CONSTRUCTION SEQUENCING - SHEET 40 OF 48
CV-I6141	CONSTRUCTION SEQUENCING - SHEET 41 OF 48
CV-I6142	CONSTRUCTION SEQUENCING - SHEET 42 OF 48
CV-I6143	CONSTRUCTION SEQUENCING - SHEET 43 OF 48
CV-I6144	CONSTRUCTION SEQUENCING - SHEET 44 OF 48
CV-I6145	CONSTRUCTION SEQUENCING - SHEET 45 OF 48
CV-I6146	CONSTRUCTION SEQUENCING - SHEET 46 OF 48
CV-I6147	CONSTRUCTION SEQUENCING - SHEET 47 OF 48
CV-I6148	CONSTRUCTION SEQUENCING - SHEET 48 OF 48
CV-I6149	CONSTRUCTION SEQUENCING LEGEND - SHEET 1 OF 1

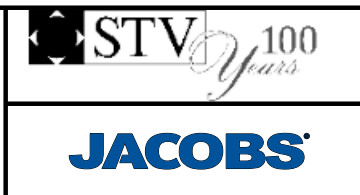
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES**

PEPD
INDEX OF DRAWINGS
VOLUME 6

CONTRACT NO.
HSR14-39
DRAWING NO.
GE-A0611
SCALE
NO SCALE
SHEET NO.

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

- CV-16102
- CV-16105
- CV-16108
- CV-16111
- CV-16114
- CV-16117
- CV-16120
- CV-16123
- CV-16126
- CV-16129
- CV-16132
- CV-16135
- CV-16138
- CV-16141
- CV-16144
- CV-16147

BURBANK AIRPORT
 STATION

BURBANK METROLINK
 STATION

- CV-16101
- CV-16104
- CV-16107
- CV-16110
- CV-16113
- CV-16116
- CV-16119
- CV-16122
- CV-16125
- CV-16128
- CV-16131
- CV-16134
- CV-16137
- CV-16140
- CV-16143
- CV-16146

MATCH 3307+00
 SEE BELOW

MATCH 3307+00
 SEE ABOVE

MATCH 3554+00
 SEE BELOW

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

BURBANK TO
 LOS ANGELES
 SEGMENT

LOS ANGELES
 TO ANAHEIM
 SEGMENT

WORK END
 LINKUS STA 146+11.68 =
 LA-A STA S190+00



1"=1000' HOR.
 SCALE APPLICABLE FOR FULL SIZE ONLY

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

PEPD
 VOLUME 6 KEY MAP

CONTRACT NO.
HSR14-39

DRAWING NO.
GE-D0601

SCALE
AS SHOWN

SHEET NO.

E CONTINUED

F CONTINUED

H CONTINUED

L CONTINUED

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

FS FINISHED SURFACE
FTEL FIRE TELEPHONE
FTG FOOTING
FTP FILE TRANSFER PROTOCOL
FTW FIXED END TAIL WIRE
FUT FUTURE
FW FEEDER WIRE
FWY FREEWAY

G

G1 ENTRANCE GRADE,
GRADE BEFORE CURVE
G2 EXIT GRADE,
GRADE POST CURVE
GALV GALVANIZED
GCL GRADING CONTROL LINE
GD GRADE
GHS GALVANIZED HIGH STRENGTH
GI GENERAL INFORMATION
GIGE GIGABIT ETHERNET
GIS GAS INSULATED SWITCH,
GEOGRAPHIC INFORMATION SYSTEM
GL GLASS
G/L GROUND LINE
GMA GROUND MOTION ANALYSIS
GND GROUND
GO-95 PUC GENERAL ORDER 95
GP GRADING PLANE
GPS GLOBAL POSITIONING SYSTEM
GR GUARDRAIL,
GROUND ROD
GRP GLASS REINFORCED PLASTIC ROD
GRS GALVANIZED RIGID STEEL
GRX GRADE CROSSING
GSHA GEOLOGIC AND SEISMIC HAZARDS ANALYSIS
GSP GALVANIZED STEEL PIPE
GT GENERAL INFORMATION
GTGM GEOTECHNICAL TECHNICAL GUIDANCE
MANUAL (FHWA)
GTR GUTTER
GW GUY WIRE
GYP GYPSUM
GYPBD GYPSUM BOARD

HWY HIGHWAY

I

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

LWP LOWER WORKING POINT

M

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

F

H

K

L

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

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

J

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

K

KV KILOVOLT

L

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

N

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

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

CONTRACT NO. HSR14-39
DRAWING NO. GE-C0602
SCALE NO SCALE
SHEET NO.

N CONTINUED

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

O

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

P

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

P CONTINUED

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

Q

QOS QUALITY OF SERVICE
 QT QUARRY TILE
 QTY QUANTITY

R

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

R CONTINUED

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

S

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

S CONTINUED

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

T

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

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CHECKED BY K. PIRBAZARI
IN CHARGE K. PIRBAZARI
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SCALE NO SCALE
SHEET NO.

T CONTINUED

W CONTINUED

TRACK GEOMETRY - HORIZONTAL

UNITS OF MEASUREMENT

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

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

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

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

X

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

TRACK GEOMETRY - VERTICAL

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

U

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

V

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

W

W WEST,
 WIDTH

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DESIGNED BY
C. CUSSON
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C. CUSSON
 CHECKED BY
K. PIRBAZARI
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K. PIRBAZARI
 DATE
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
 OPTION B REFINED ALIGNMENT
 PEPD
 ACRONYMS AND ABBREVIATIONS
 SHEET 4 OF 5

CONTRACT NO.
 HSR14-39
 DRAWING NO.
 GE-C0604
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 NO SCALE
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(AGENCIES/ORGANIZATIONS/REFERENCE)

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

(AGENCIES/ORGANIZATIONS/REFERENCE CONTINUED)

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

(SEGMENT/COUNTY CODES AND SUBDIVISIONS)

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

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TRACK

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

CIVIL

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

CIVIL CONTINUED

	ELEVATION (EXISTING)
	ELECTROLIER, ELECTROLIER ON POLE
	EXISTING GUARD RAILING
	EXISTING WALL
	FENCE
	FIRE HYDRANT
	GRADED/LANDSCAPED AREA
	GAS METER
	GAS VALVE
	GUARD POST
	GUARD RAIL
	GRAVEL OR DIRT ROAD
	GUY WIRE
	HIGH MAST LIGHTING
	HORIZONTAL & VERTICAL CONTROL MONUMENT
	HORIZONTAL CONTROL MONUMENT
	ICV
	MAIL BOX
	MANHOLE
	MATCH LINE (DWG NO.)
	NEW ASPHALTIC CONCRETE
	NEW GUARD RAILING
	NEWS STAND
	NORTH ARROW
	ORIGINAL GROUND
	PARKING METER
	POINT OF INTERSECTION

CIVIL CONTINUED

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

SECTION
SCALE 1"=1'-0"

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REV	DATE	BY	CHK	APP	DESCRIPTION

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

PEPD RECORD SET

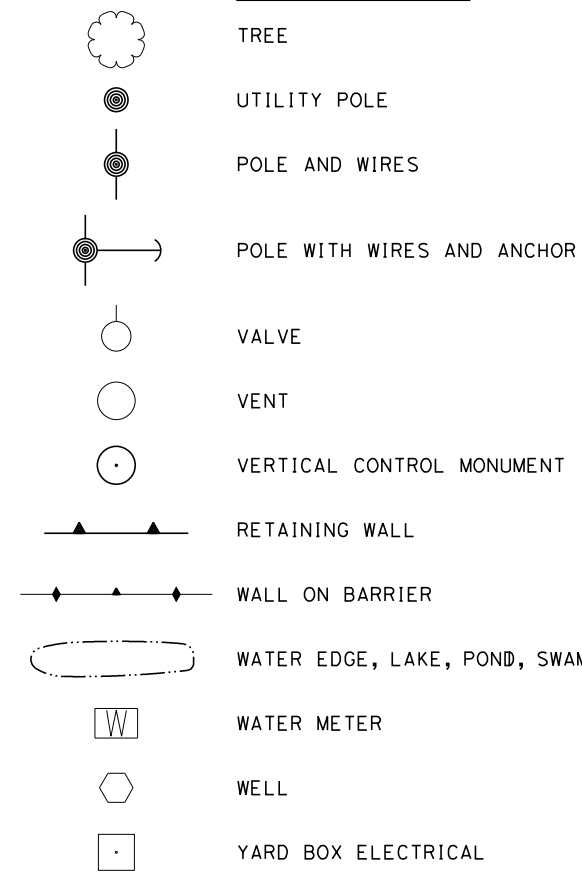
NOT FOR CONSTRUCTION



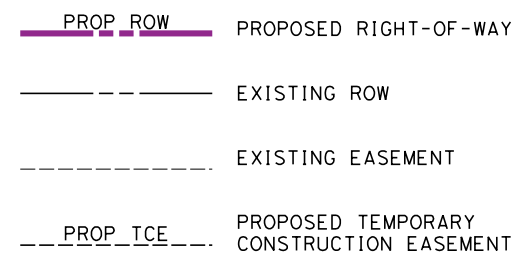
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
PEPD
SYMBOLS
SHEET 1 OF 2

CONTRACT NO.
HSR14-39
DRAWING NO.
GE-C0611
SCALE
NO SCALE
SHEET NO.

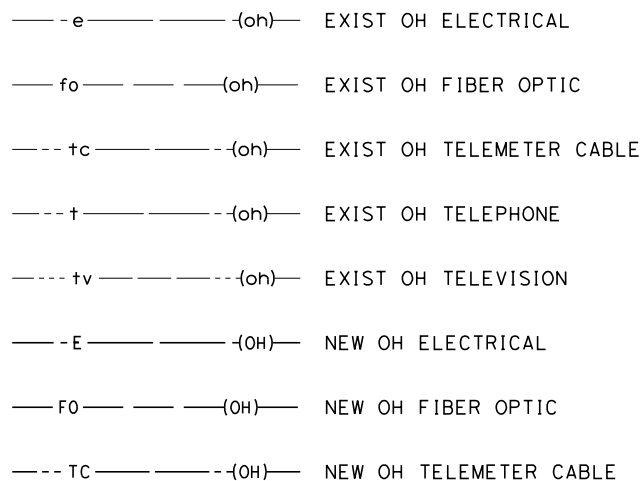
CIVIL CONTINUED



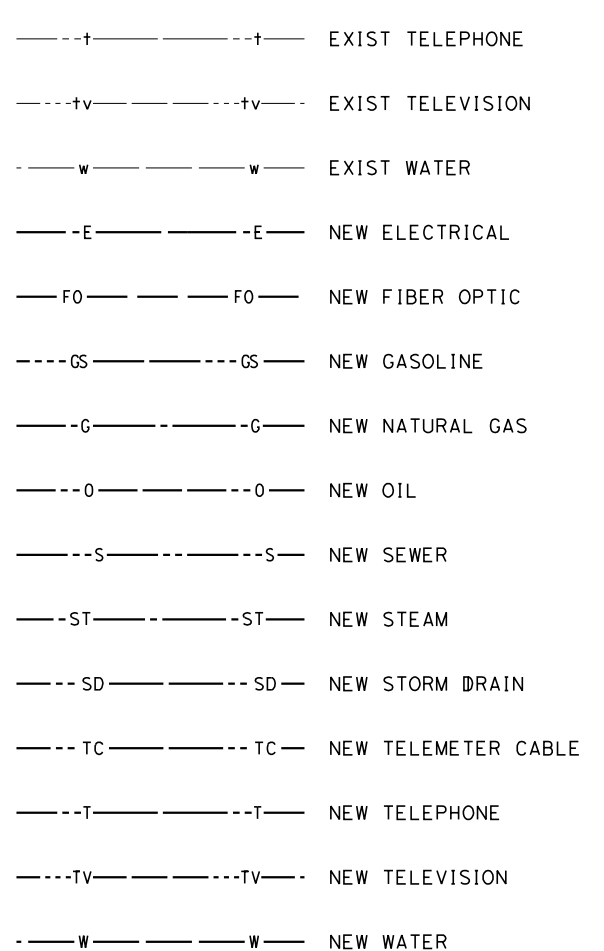
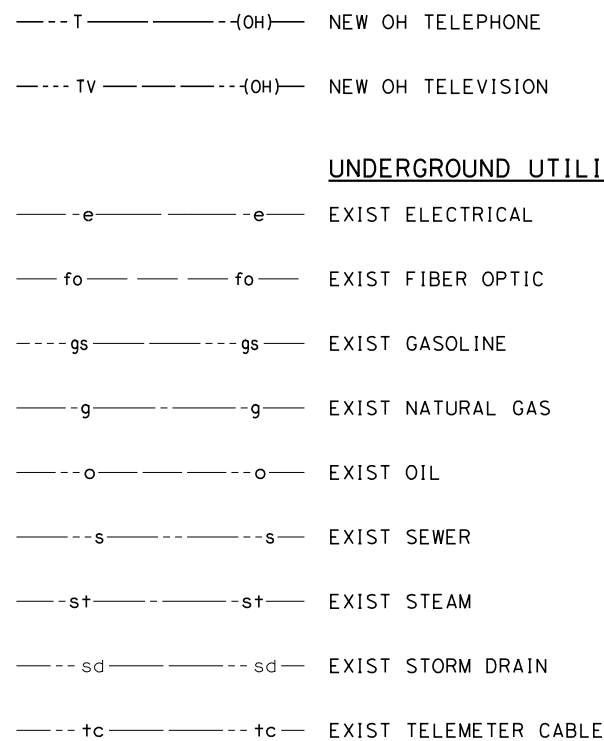
RIGHT-OF-WAY



AERIAL UTILITIES

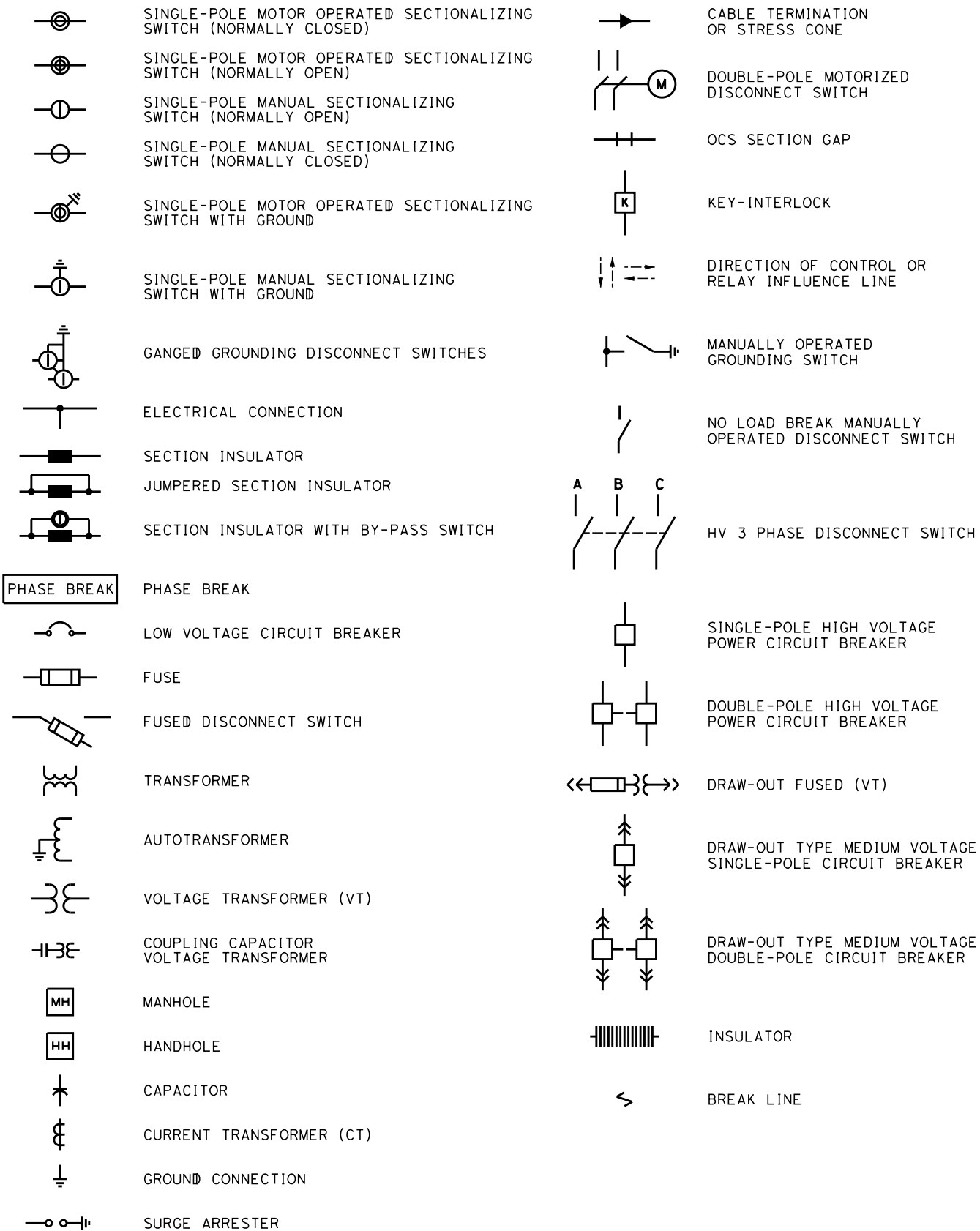


AERIAL UTILITIES CONTINUED



UNDERGROUND UTILITIES

TRACTION POWER



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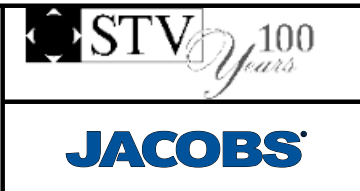
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C. CUSSON
DRAWN BY
C. CUSSON
CHECKED BY
K. PIRBAZARI
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

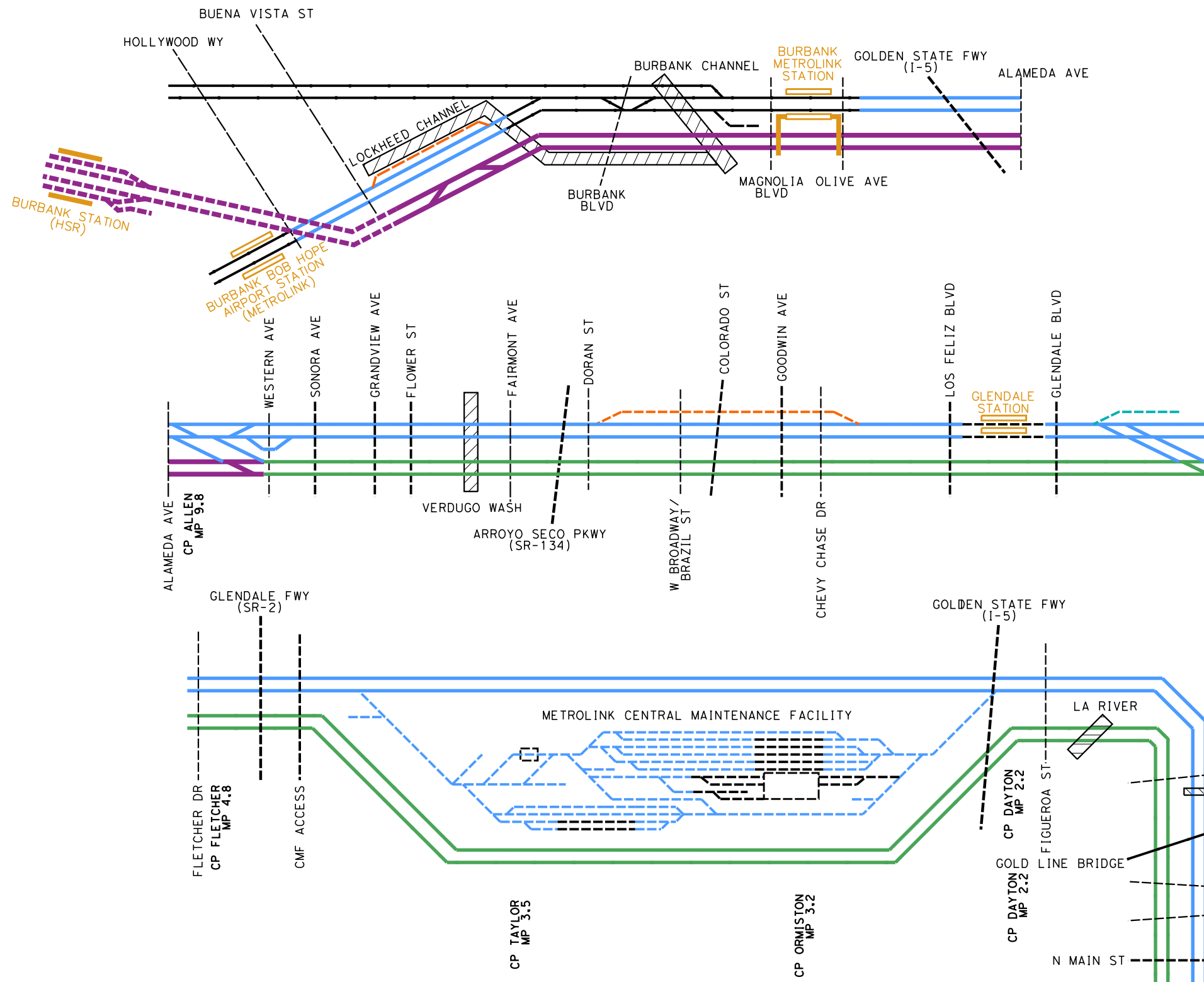
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
PEPD
SYMBOLS
SHEET 2 OF 2

CONTRACT NO.
HSR14-39
DRAWING NO.
GE-C0612
SCALE
NO SCALE
SHEET NO.



LEGEND (TRACKWORK)

- EXISTING FREIGHT/PASSENGER MAINLINE TRACK
- - - EXISTING FREIGHT/PASSENGER SECONDARY TRACK
- NEW AMTRAK/METROLINK/UPRR MAINLINE TRACK
- NEW AMTRAK/METROLINK TRENCH/TUNNEL
- - - NEW AMTRAK/METROLINK SECONDARY TRACK
- NEW UPRR MAINLINE TRACK
- - - NEW UPRR SECONDARY TRACK
- - - NEW TERRY LUMBER SPUR TRACK
- NEW HSR TRACK ELEVATED
- NEW HSR TRACK AT GRADE
- - - NEW HSR TRACK TRENCH/TUNNEL
- NEW SHARED MAINLINE TRACK
- - - NEW SHARED SECONDARY TRACK
- NEW TRACK BRIDGE

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

LEGEND (ROADWAY)

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

LEGEND (GENERAL)

- ▨ DRAINAGE SYSTEM

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4/29/2019 8:11:01 AM c:\j\p\pwworkdir\haynesma\d0137221\k2l-ge-d6601.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
C. LEE

DRAWN BY
C. CUSSON

CHECKED BY
K. PIRBAZARI

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT

BURBANK TO LOS ANGELES

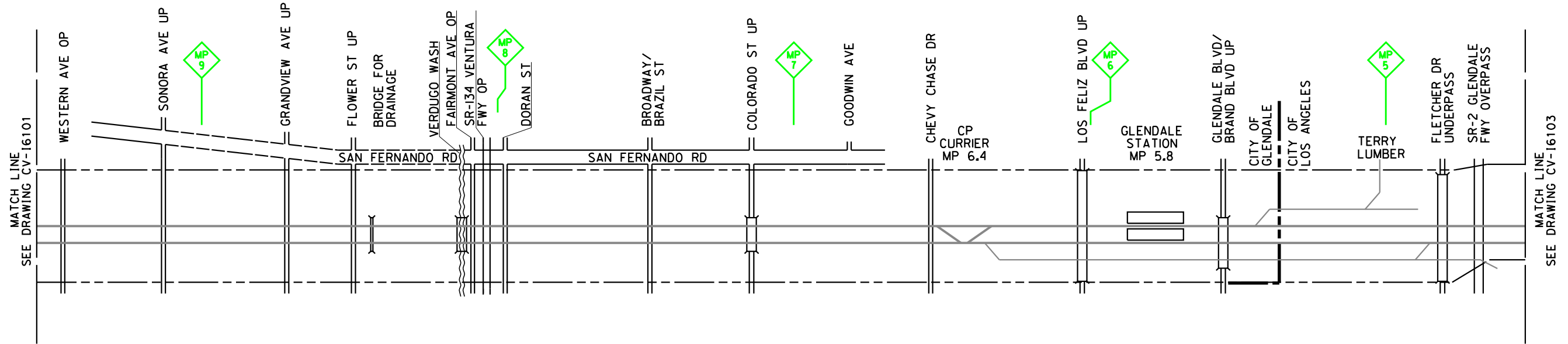
OPTION B REFINED ALIGNMENT

PEPD

TRACK SCHEMATIC

CONTRACT NO. HSR14-39
DRAWING NO. GE-D6601
SCALE NO SCALE
SHEET NO.

EXISTING CONDITION



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DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
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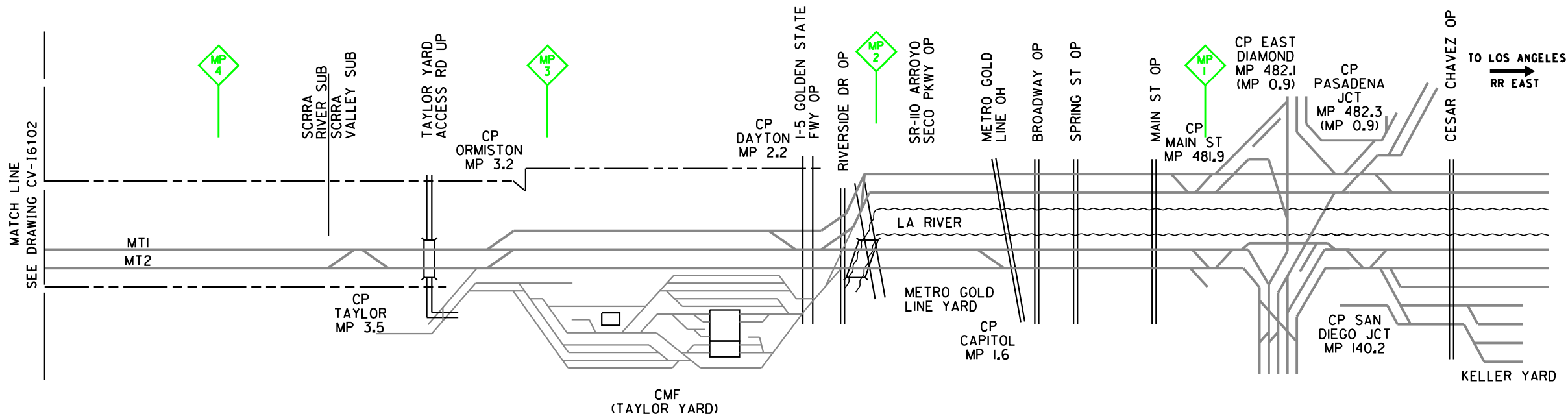
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CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 2 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16102
SCALE AS SHOWN
SHEET NO.

EXISTING CONDITION



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J. CANDELARIO
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K. PIRBAZARI
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04/30/2019

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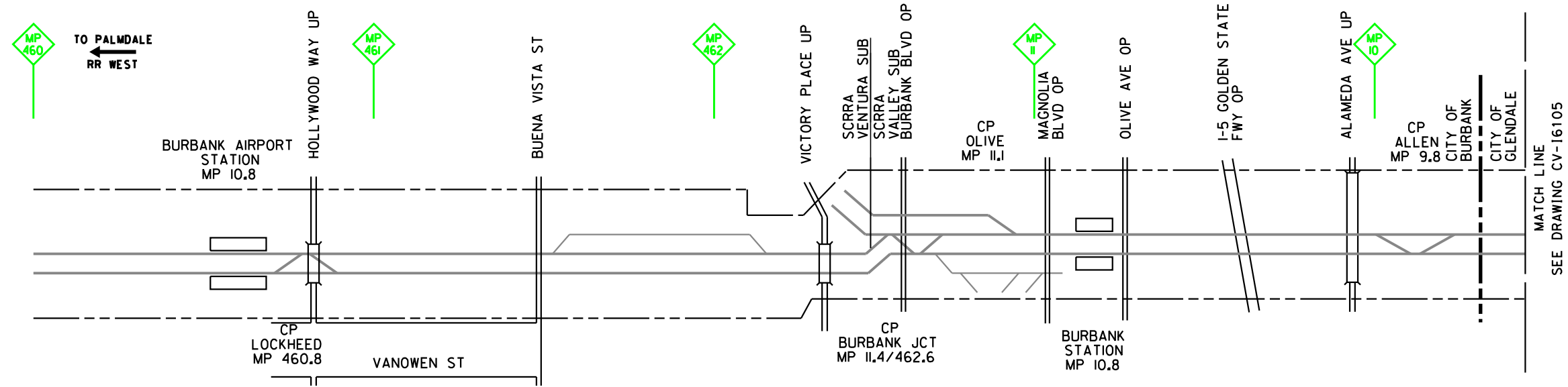
**NOT FOR
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 3 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16103
SCALE
AS SHOWN
SHEET NO.

PHASE 1



MATCH LINE
SEE DRAWING CV-16105

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K. PIRBAZARI
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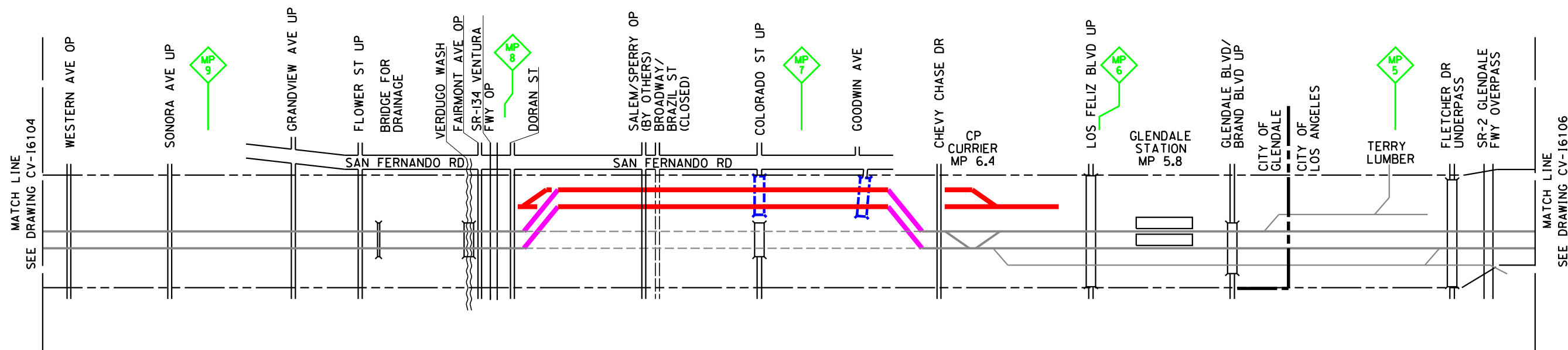
**NOT FOR
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 4 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16104
SCALE
AS SHOWN
SHEET NO.

PHASE 1



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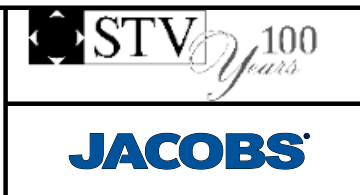
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DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
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IN CHARGE
K. PIRBAZARI
DATE
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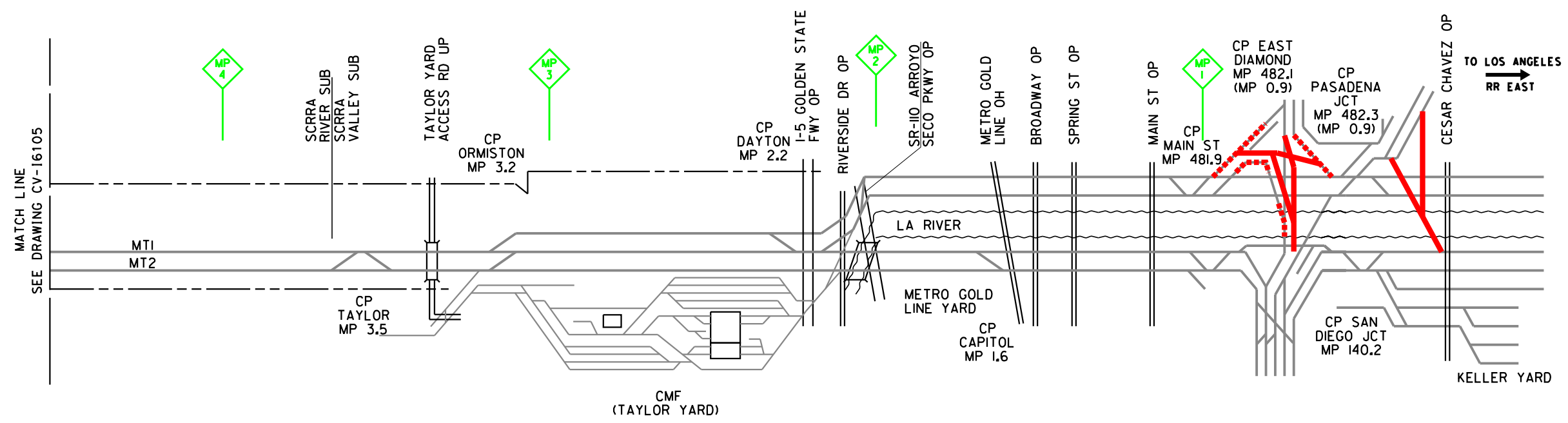
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BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 5 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16105
SCALE
AS SHOWN
SHEET NO.

PHASE 1



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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 6 OF 48

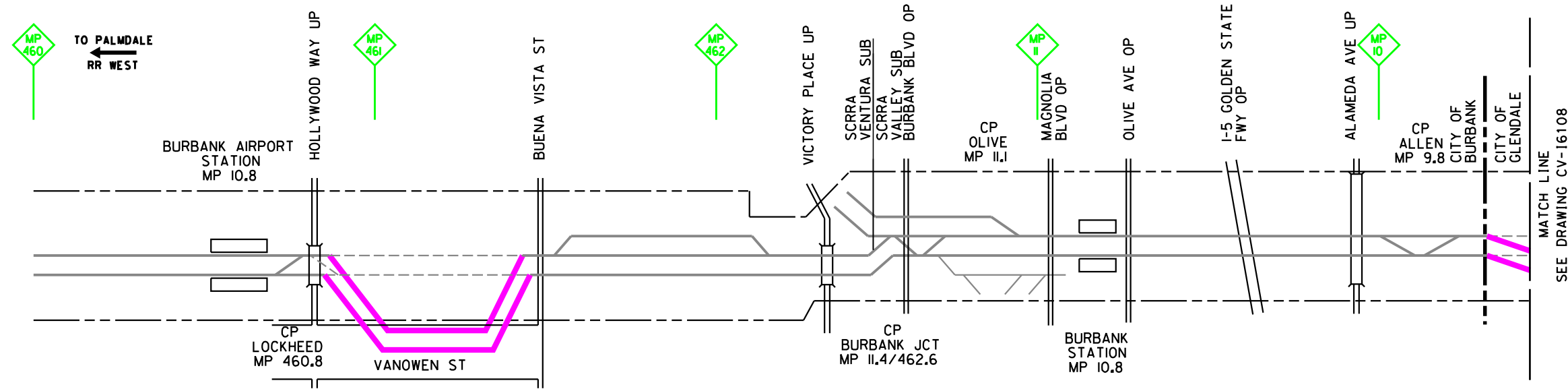
CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16106

SCALE
AS SHOWN

SHEET NO.

PHASE 2



MATCH LINE
SEE DRAWING CV-16108

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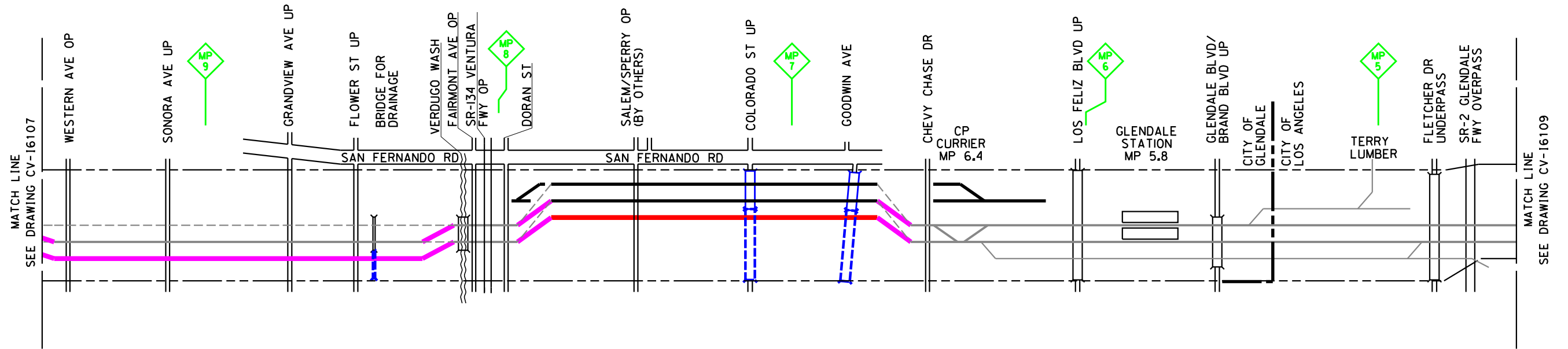
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 7 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16107
SCALE
AS SHOWN
SHEET NO.

PHASE 2



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J. CANDELARIO
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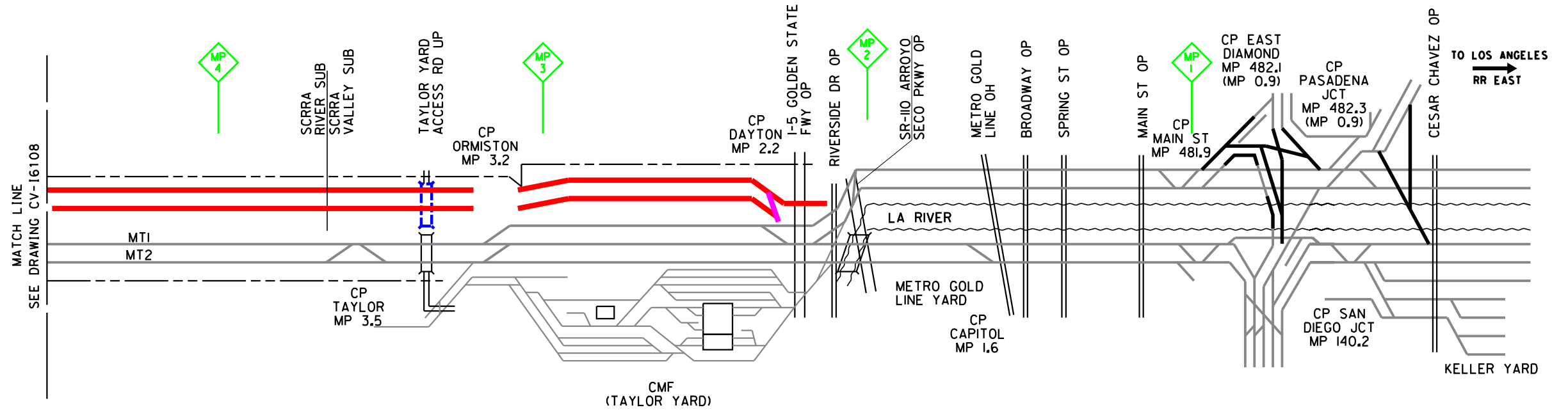
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 8 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16108
SCALE AS SHOWN
SHEET NO.

PHASE 2



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

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J. CANDELARIO

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 9 OF 48

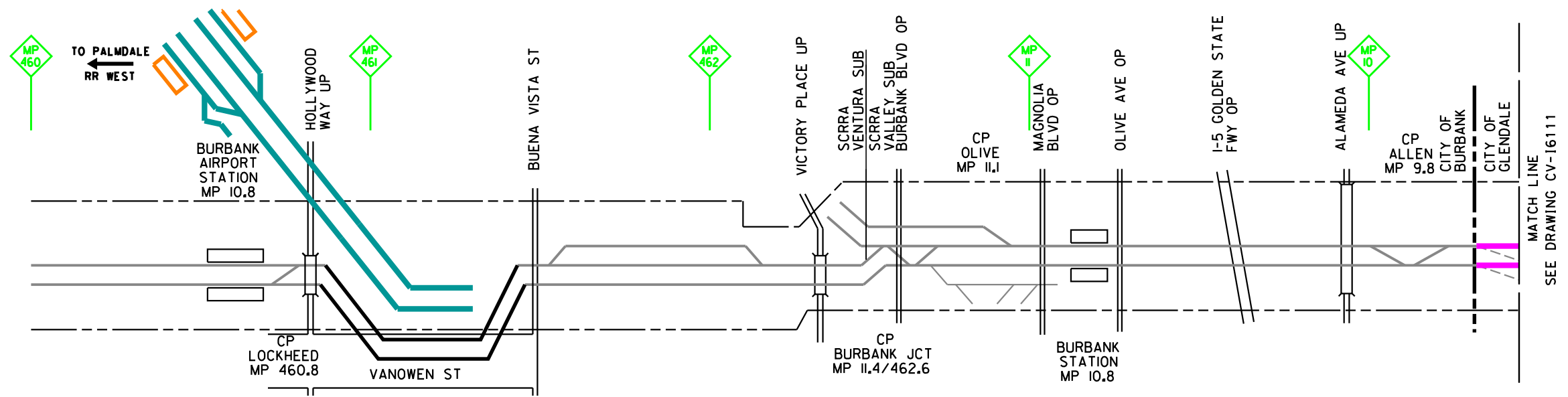
CONTRACT NO.
HSR14-39

DRAWING NO.
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SCALE
AS SHOWN

SHEET NO.

PHASE 3



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J. CANDELARIO
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04/30/2019

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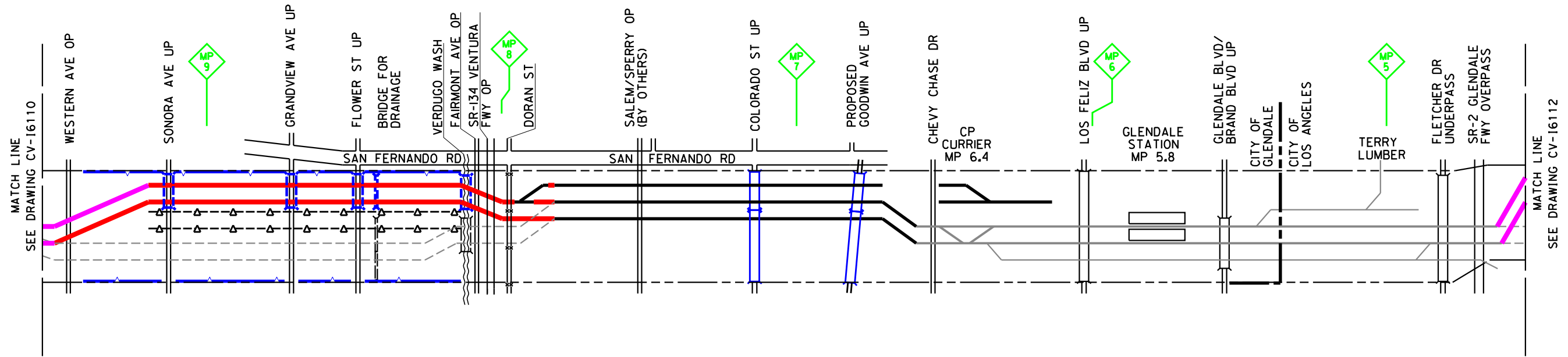
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 10 OF 48

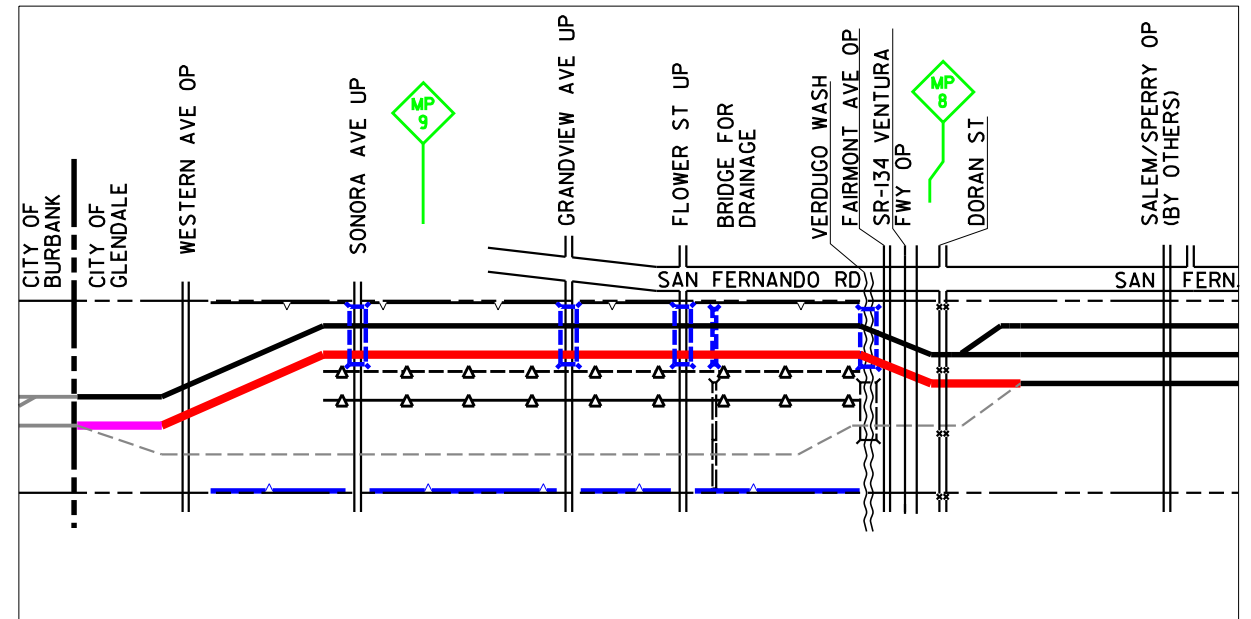
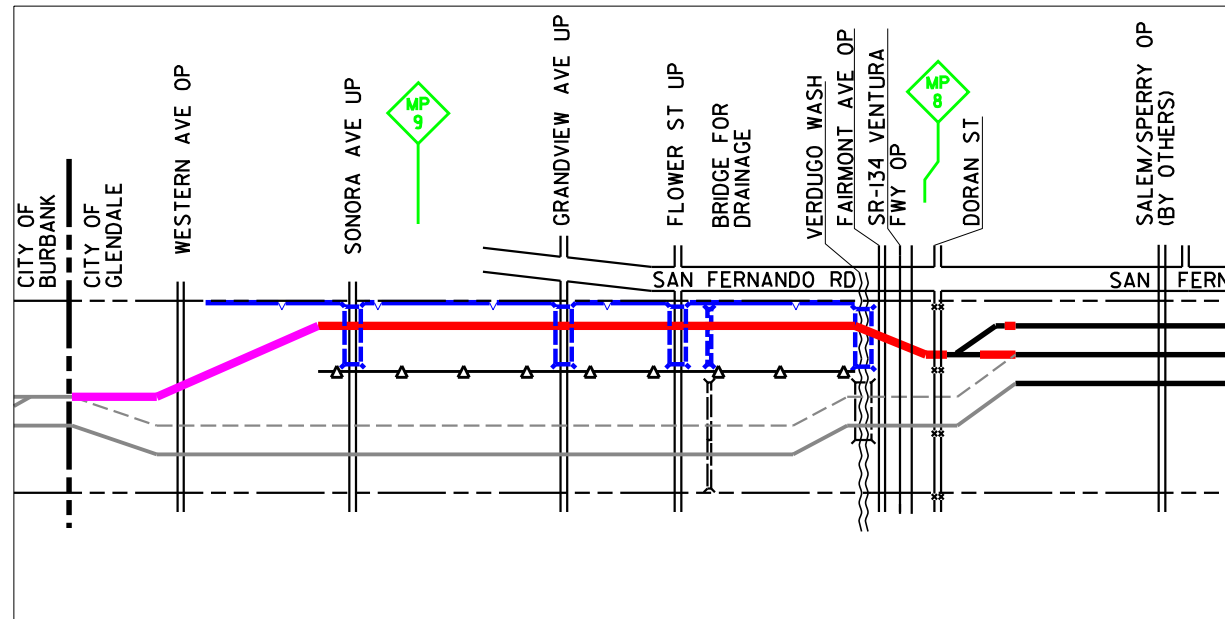
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HSR14-39
DRAWING NO.
CV-16110
SCALE
AS SHOWN
SHEET NO.

PHASE 3*



PHASE 3A DETAIL

PHASE 3B DETAIL



* PHASES 3A AND 3B ARE INTERMEDIATE CONSTRUCTION STEPS FOR COMPLETING PHASE 3

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REV	DATE	BY	CHK	APP	DESCRIPTION

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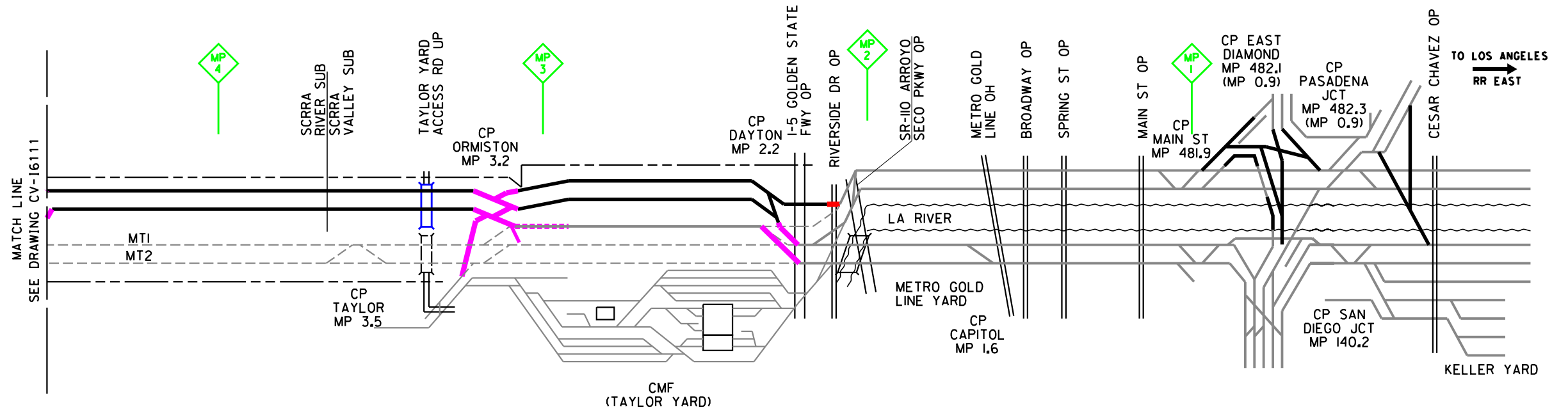
**NOT FOR
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 11 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16111
SCALE AS SHOWN
SHEET NO.

PHASE 3



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REV	DATE	BY	CHK	APP	DESCRIPTION

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J. CANDELARIO

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K. PIRBAZARI

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04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 12 OF 48

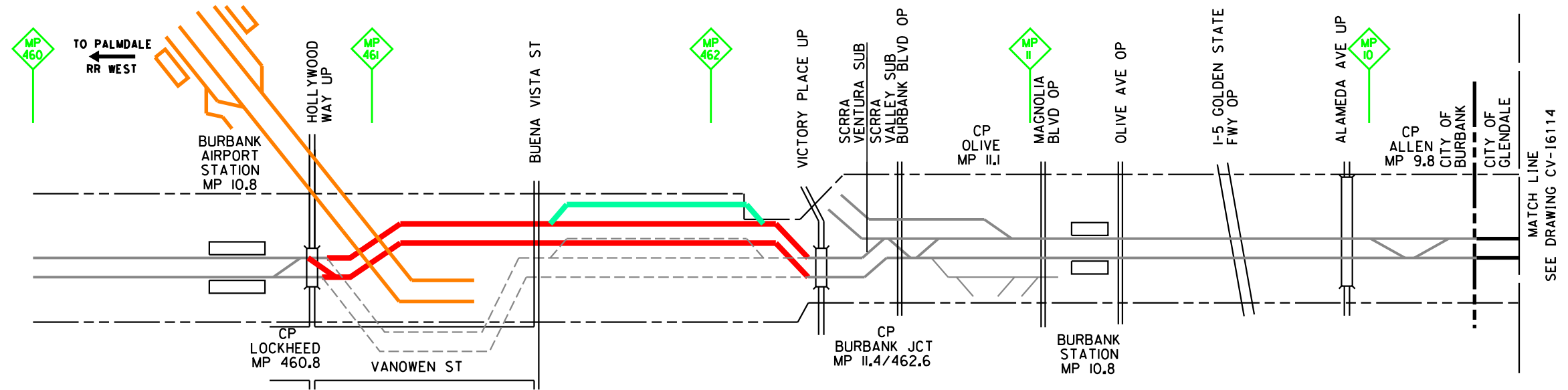
CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16112

SCALE
AS SHOWN

SHEET NO.

PHASE 4



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REV	DATE	BY	CHK	APP	DESCRIPTION

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P. MAHONEY

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J. CANDELARIO

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W. QUESADA

IN CHARGE
K. PIRBAZARI

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 13 OF 48

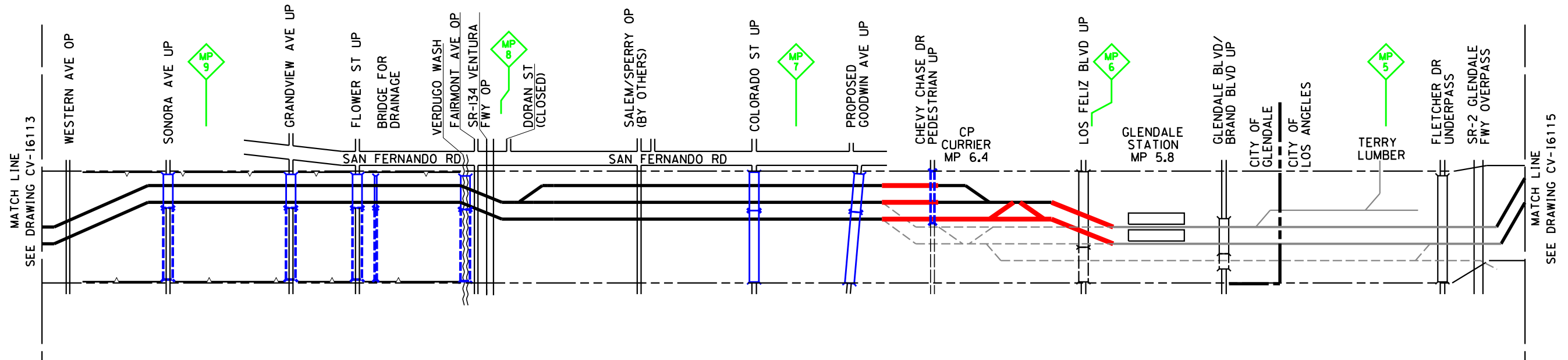
CONTRACT NO.
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DRAWING NO.
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SCALE
AS SHOWN

SHEET NO.

PHASE 4



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REV	DATE	BY	CHK	APP	DESCRIPTION

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J. CANDELARIO
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IN CHARGE
K. PIRBAZARI
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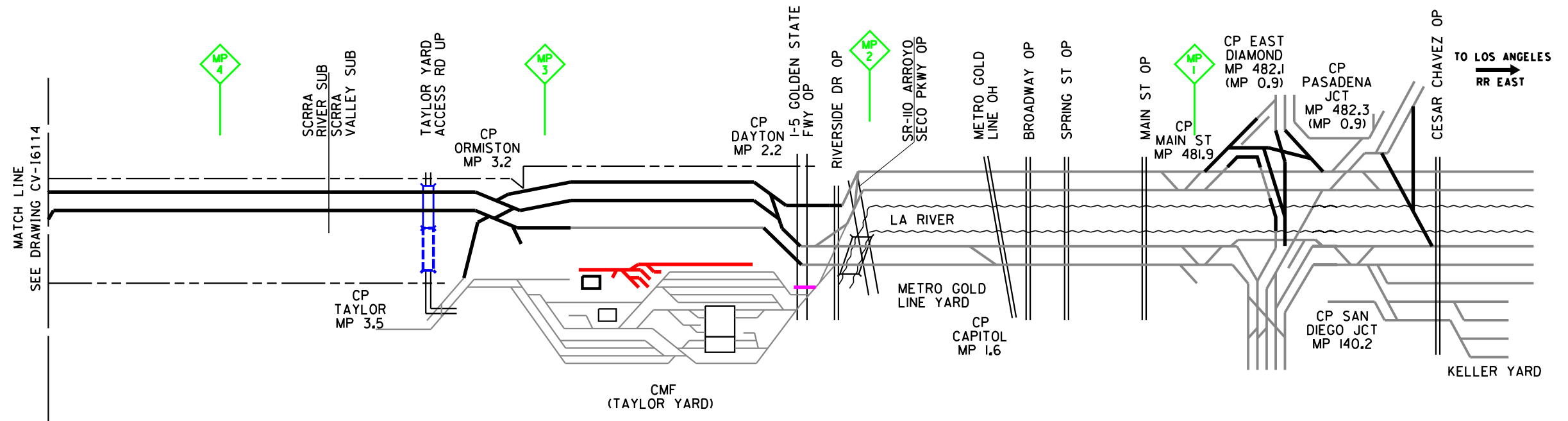
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 14 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16114
SCALE
AS SHOWN
SHEET NO.

PHASE 4



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4/29/2019 7:31:42 AM c:\jip\pwworkdir\haynesma\d0138982\k2l-cv-16115.snt

REV	DATE	BY	CHK	APP	DESCRIPTION

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 15 OF 48

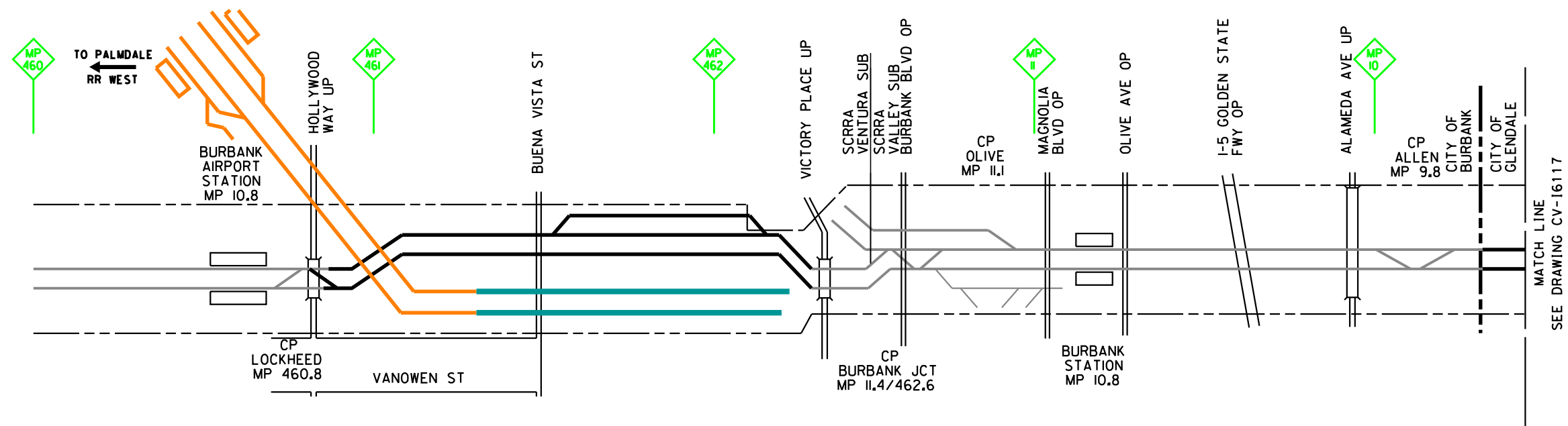
CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16115

SCALE
AS SHOWN

SHEET NO.

PHASE 5



MATCH LINE
SEE DRAWING CV-16117

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4/29/2019 7:32:12 AM c:\jip\pwworkdir\haynesma\d0138982\k2L-CV-16116.sht

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IN CHARGE
K. PIRBAZARI

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 16 OF 48

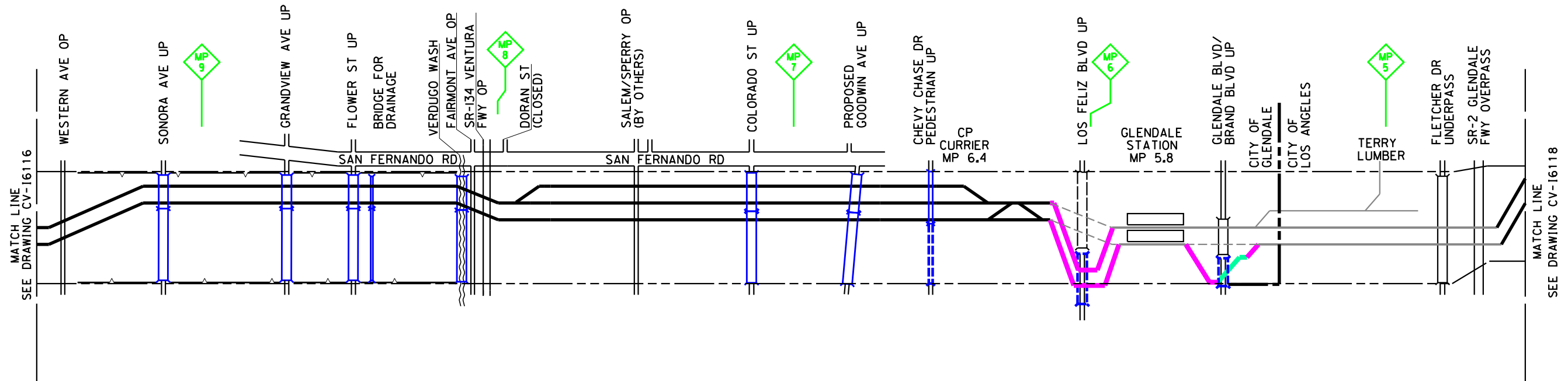
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HSR14-39

DRAWING NO.
CV-16116

SCALE
AS SHOWN

SHEET NO.

PHASE 5



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DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
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W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
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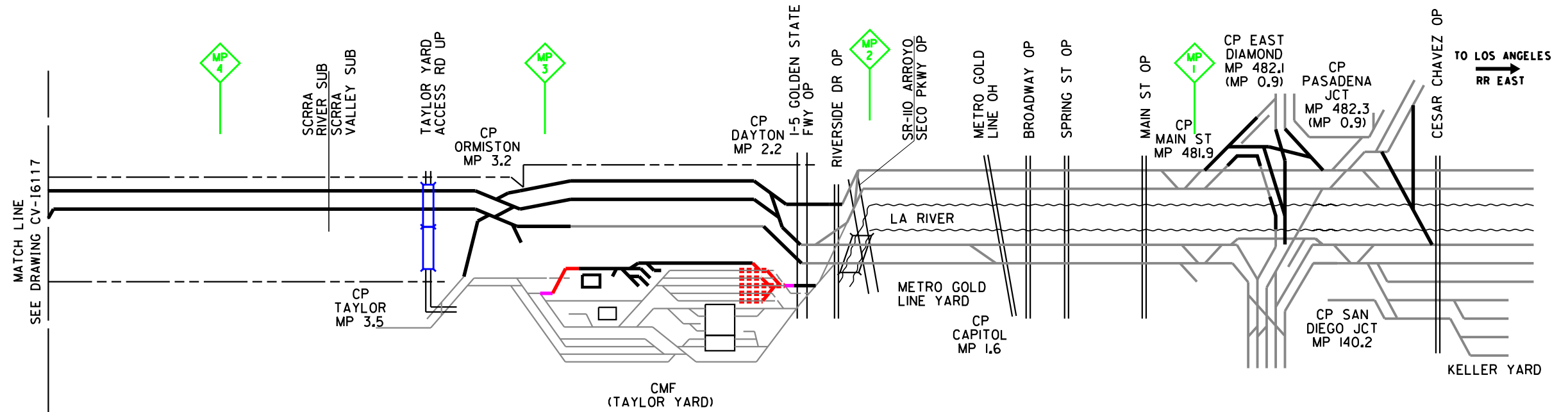
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 17 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16117
SCALE AS SHOWN
SHEET NO.

PHASE 5



4/29/2019 7:33:25 AM c:\j\p\work\dir\haynesma\d0138982\k2L-CV-16118.sht

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

DRAWN BY
J. CANDELARIO

CHECKED BY
W. QUESADA

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

**PEPD
RECORD SET**

**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B Refined ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 18 OF 48

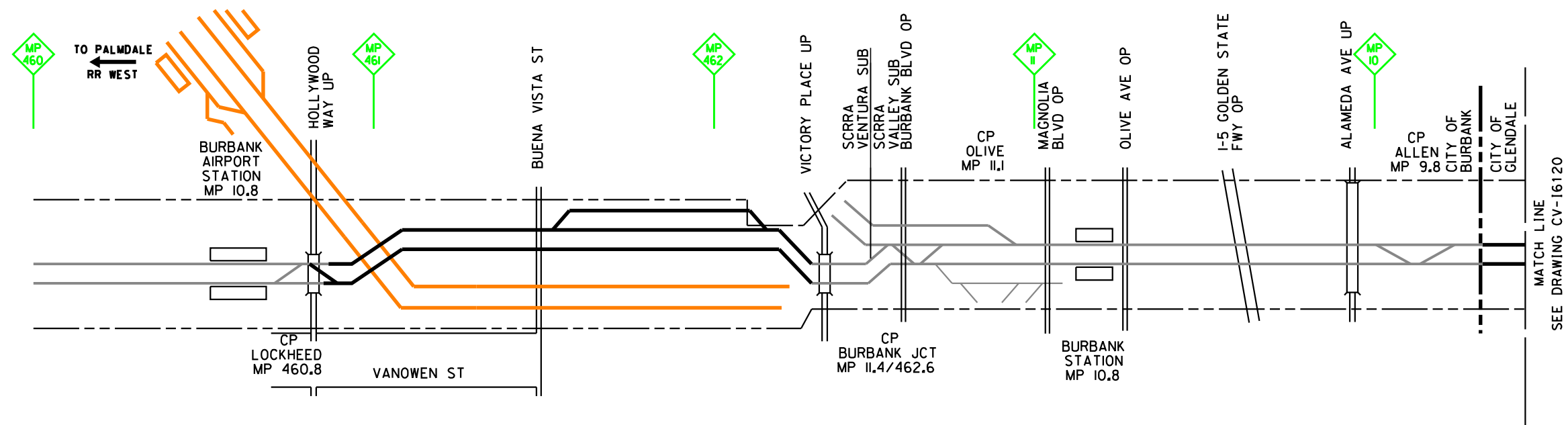
CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16118

SCALE
AS SHOWN

SHEET NO.

PHASE 6



MATCH LINE
SEE DRAWING CV-16120

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4/29/2019 7:34:11 AM c:\jip\pwworkdir\haynesma\d0138982\k2l-cv-16119.sht

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
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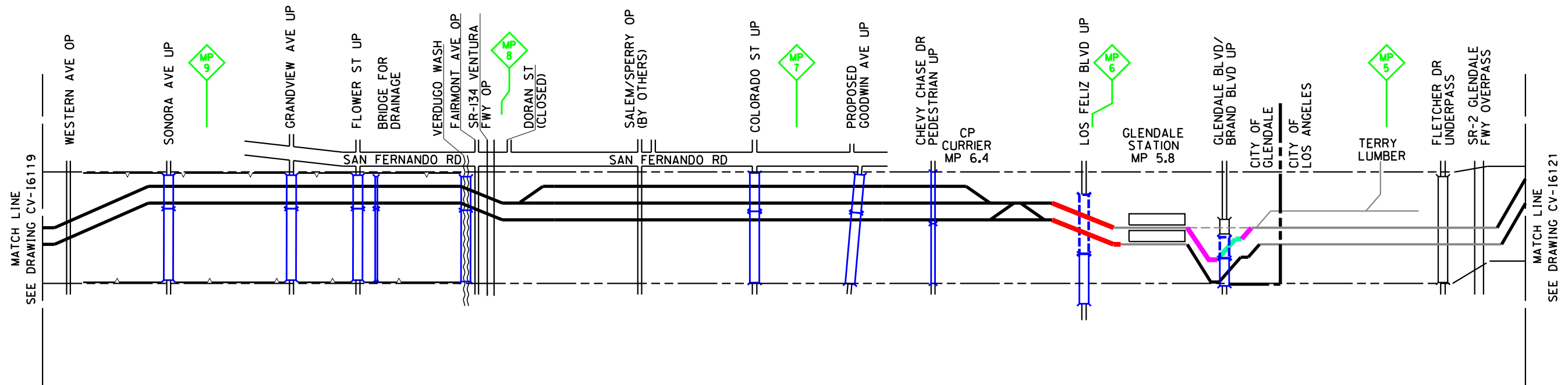
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 19 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16119
SCALE
AS SHOWN
SHEET NO.

PHASE 6



4/29/2019 7:34:56 AM c:\j\p\pwworkdir\haynesma\d0138982\k2l-cv-16120.sht

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
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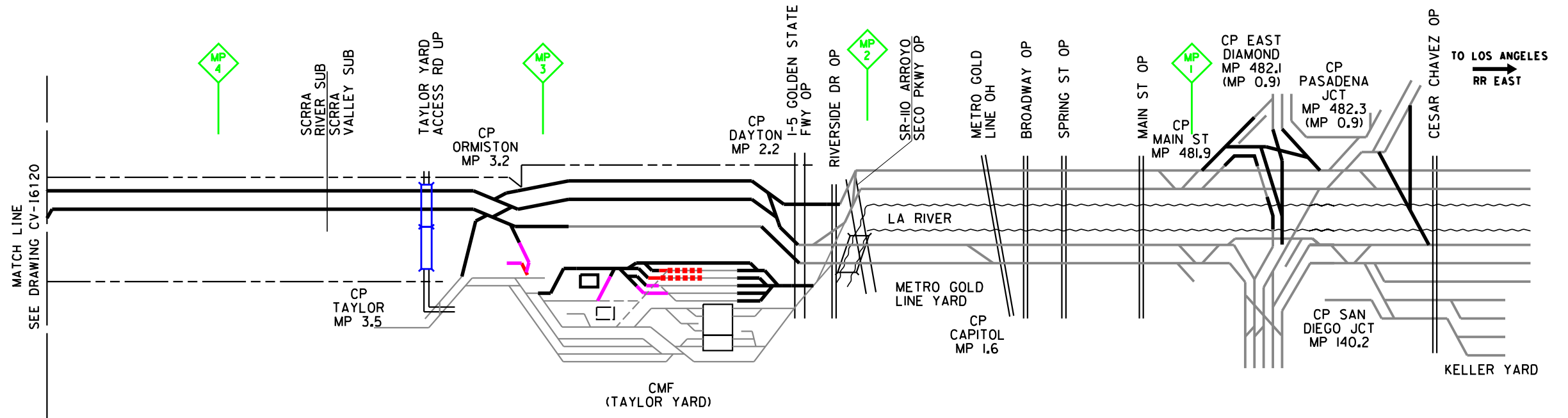
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CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 20 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16120
SCALE
AS SHOWN
SHEET NO.

PHASE 6



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

DRAWN BY
J. CANDELARIO

CHECKED BY
W. QUESADA

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 21 OF 48

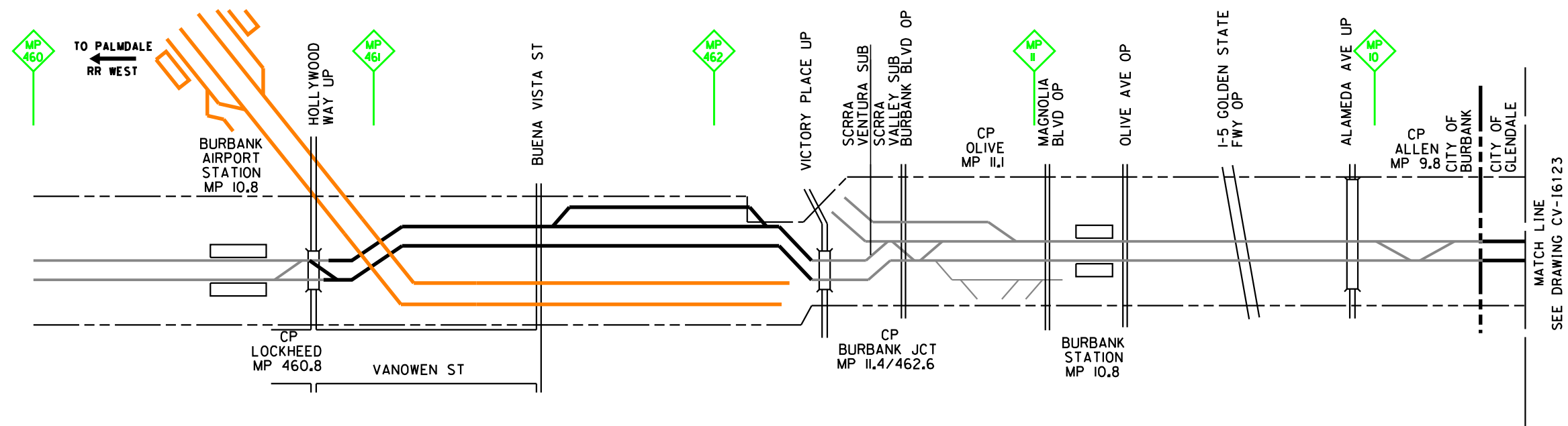
CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16121

SCALE
AS SHOWN

SHEET NO.

PHASE 7



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

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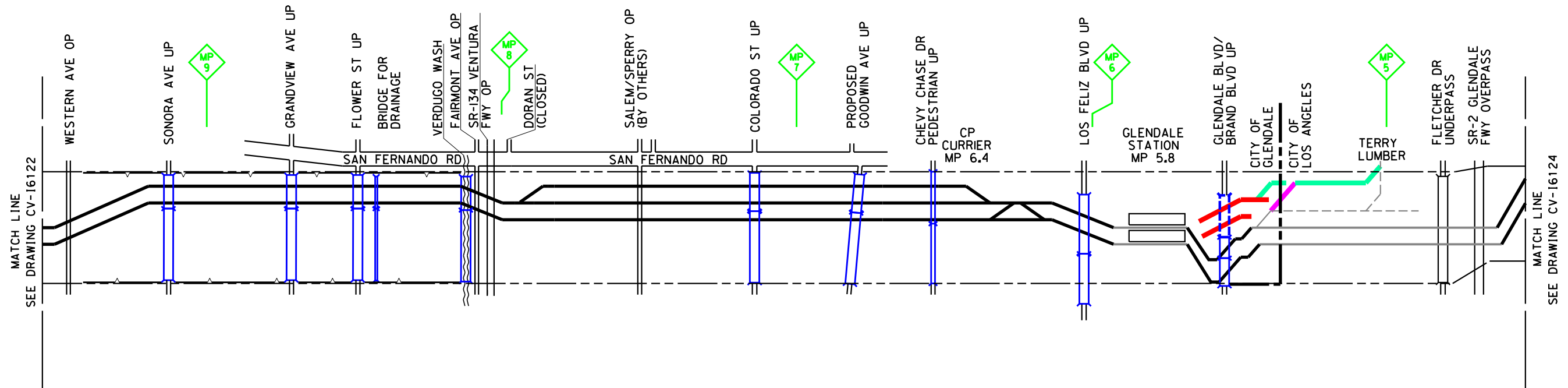
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 22 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16122
SCALE AS SHOWN
SHEET NO.

PHASE 7



4/29/2019 7:36:51 AM c:\j\p\pwworkdir\haynesma\d0138982\k2l-cv-16123.sht

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

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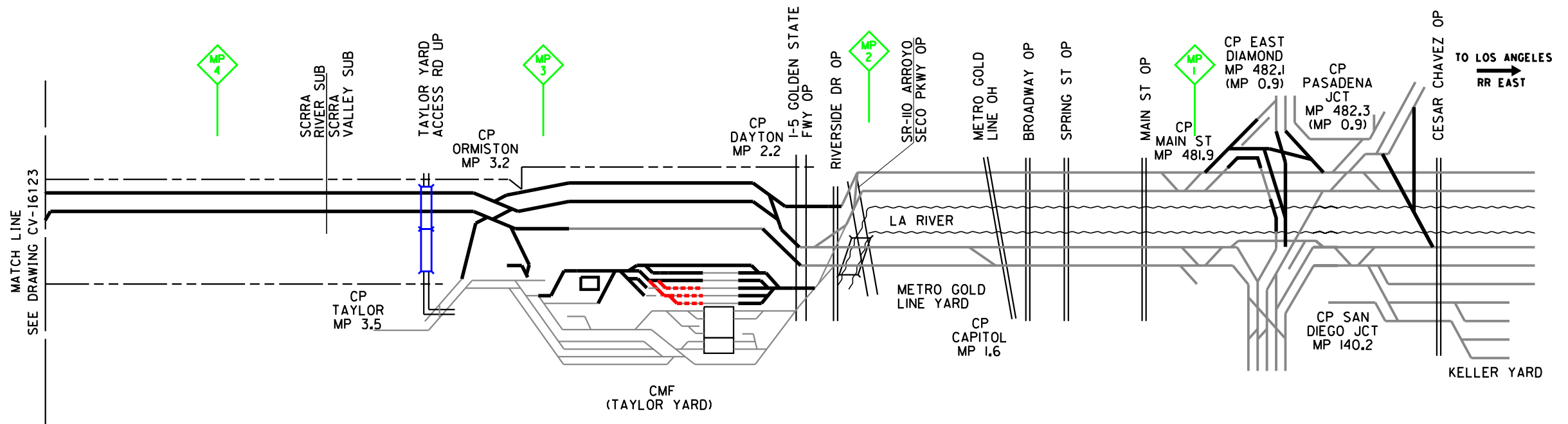
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 23 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16123
SCALE
AS SHOWN
SHEET NO.

PHASE 7



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

DRAWN BY
J. CANDELARIO

CHECKED BY
W. QUESADA

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 24 OF 48

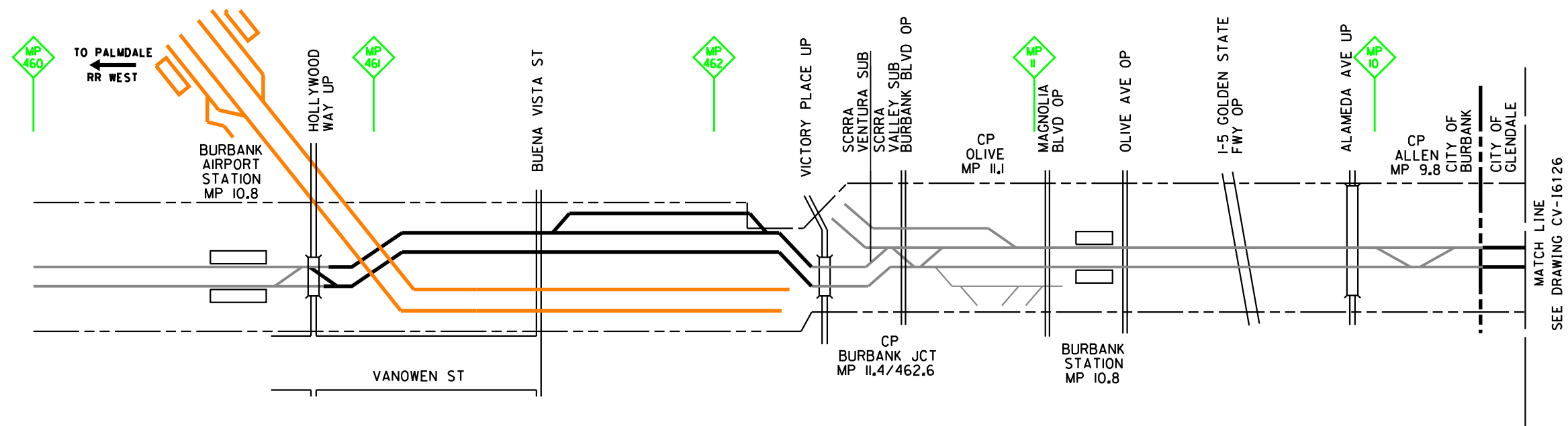
CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16124

SCALE
AS SHOWN

SHEET NO.

PHASE 8



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

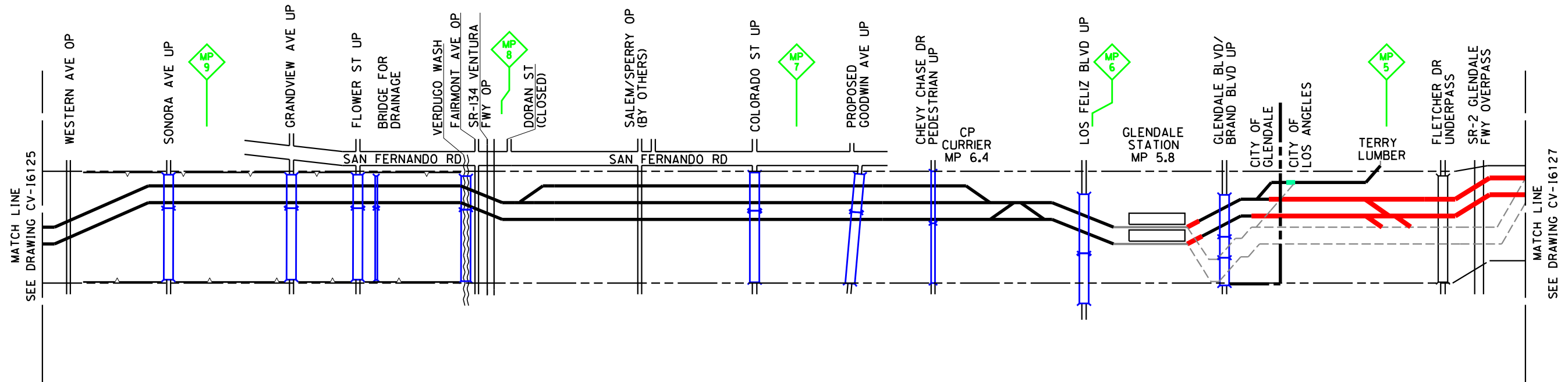
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 25 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16125
SCALE
AS SHOWN
SHEET NO.



4/29/2019 7:38:45 AM c:\jip\pwworkdir\haynesma\d0138982\k2l-cv-16126.sht

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
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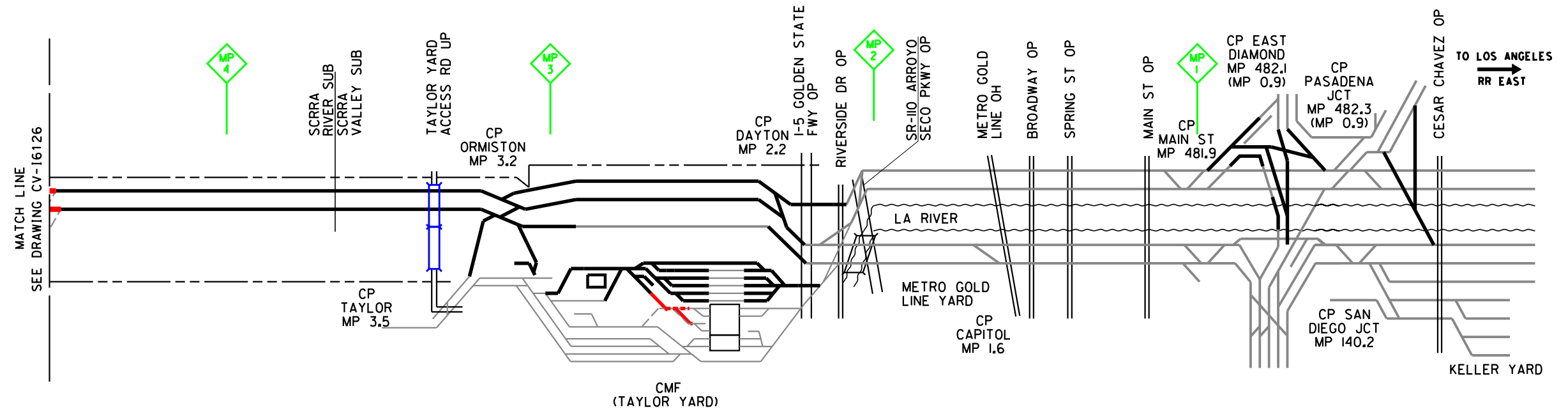
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CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 26 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16126
SCALE
AS SHOWN
SHEET NO.

PHASE 8



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

DRAWN BY
J. CANDELARIO

CHECKED BY
W. QUESADA

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K. PIRBAZARI

DATE
04/30/2019

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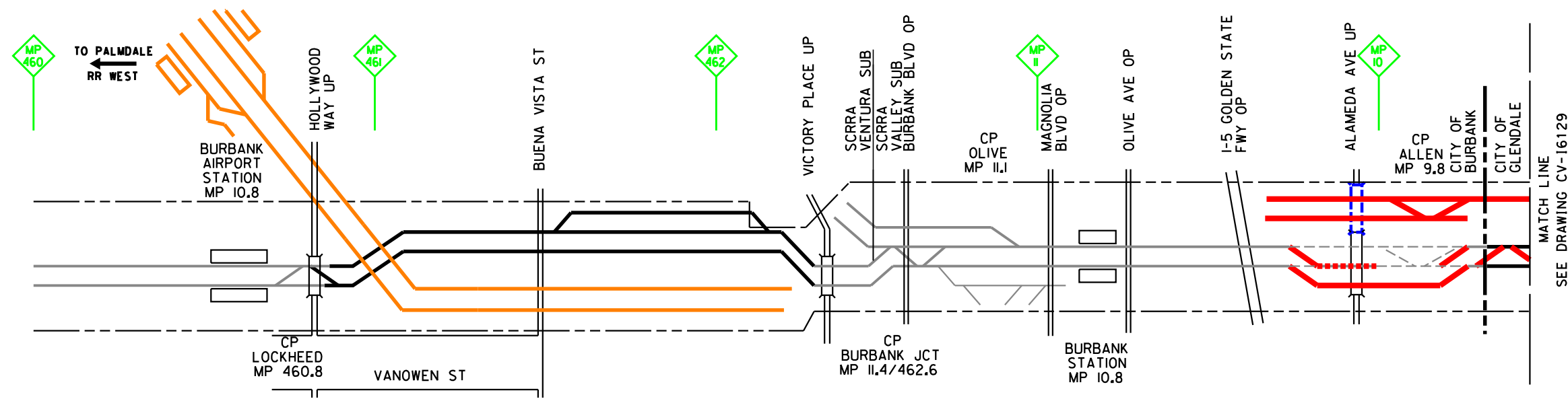
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 27 OF 48

CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16127

SCALE
AS SHOWN

SHEET NO.



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
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K. PIRBAZARI
DATE
04/30/2019

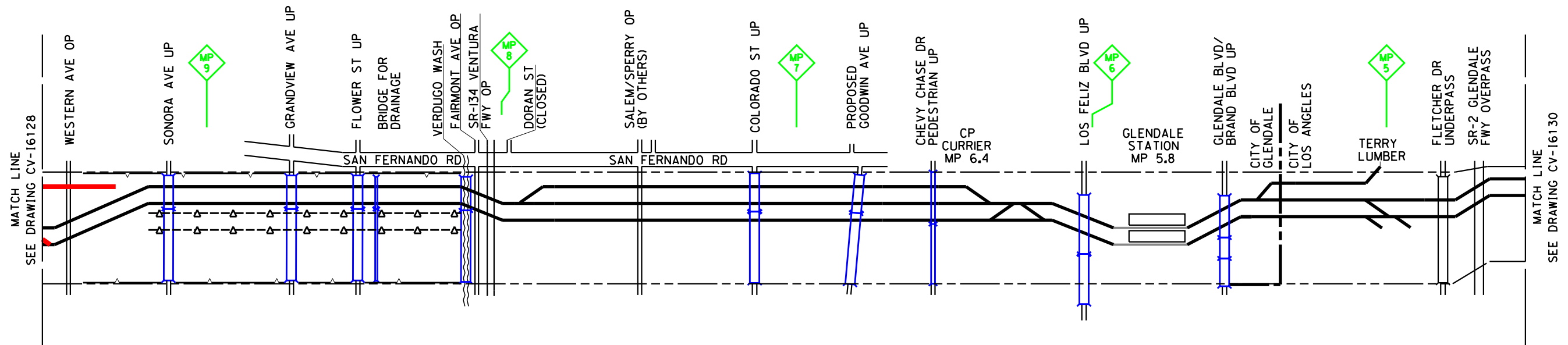
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CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 28 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16128
SCALE AS SHOWN
SHEET NO.



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REV	DATE	BY	CHK	APP	DESCRIPTION

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES

OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 29 OF 48

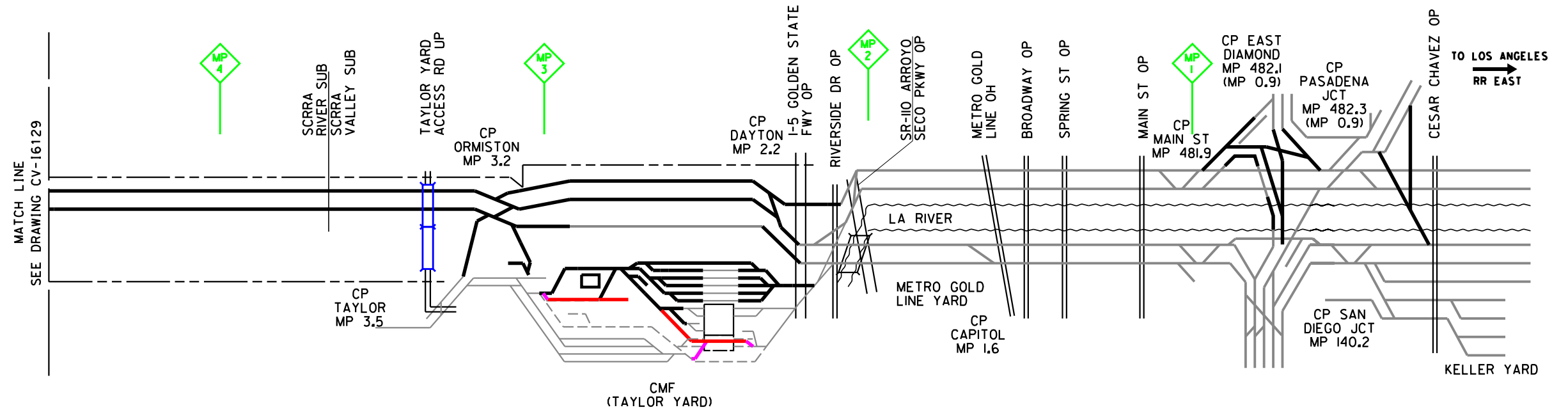
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HSR14-39

DRAWING NO.
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SCALE
AS SHOWN

SHEET NO.

PHASE 9



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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J. CANDELARIO

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 30 OF 48

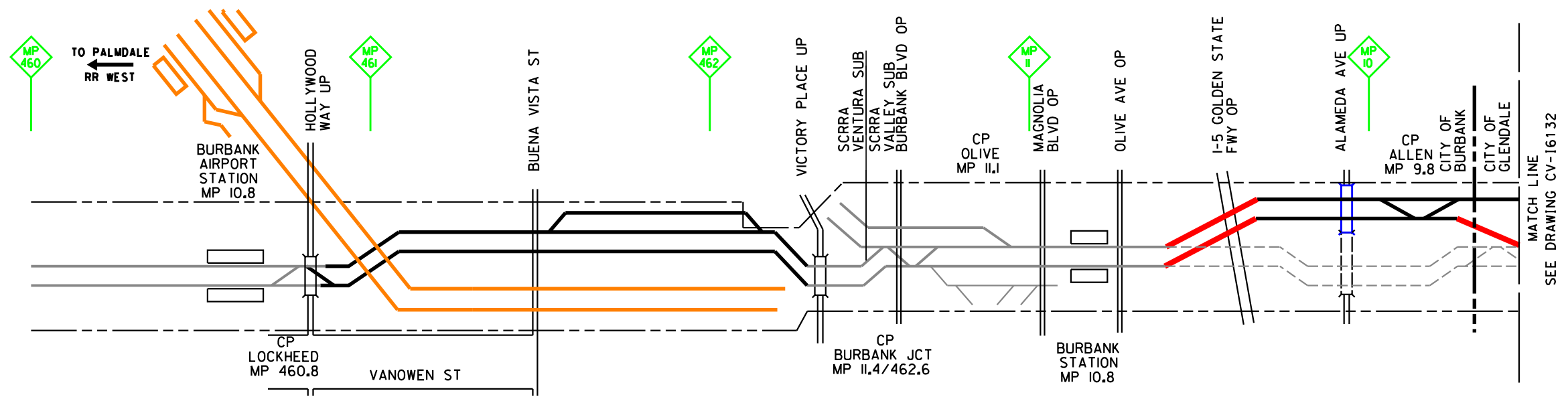
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CV-16130

SCALE
AS SHOWN

SHEET NO.

PHASE 10



MATCH LINE
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

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J. CANDELARIO

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W. QUESADA

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K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 31 OF 48

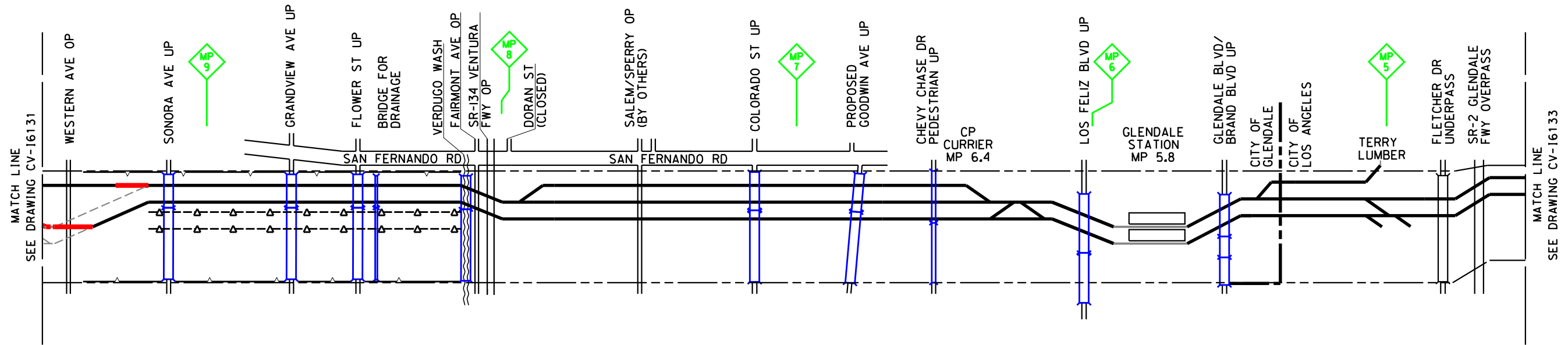
CONTRACT NO.
HSR14-39

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CV-16131

SCALE
AS SHOWN

SHEET NO.

PHASE 10



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REV	DATE	BY	CHK	APP	DESCRIPTION

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

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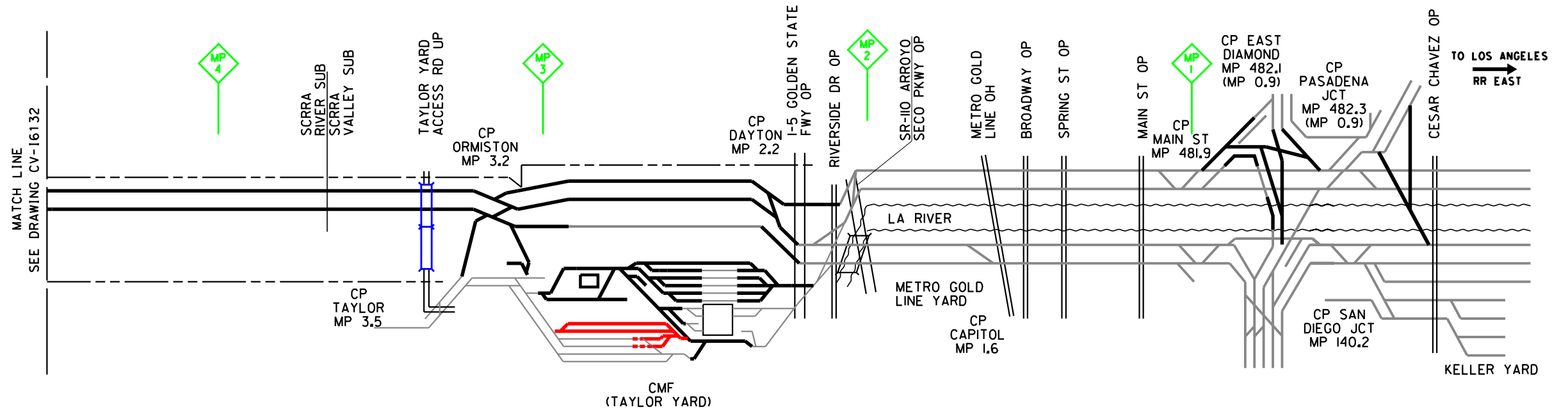
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CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 32 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16132
SCALE
AS SHOWN
SHEET NO.

PHASE 10



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DESIGNED BY
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04/30/2019

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CONSTRUCTION**

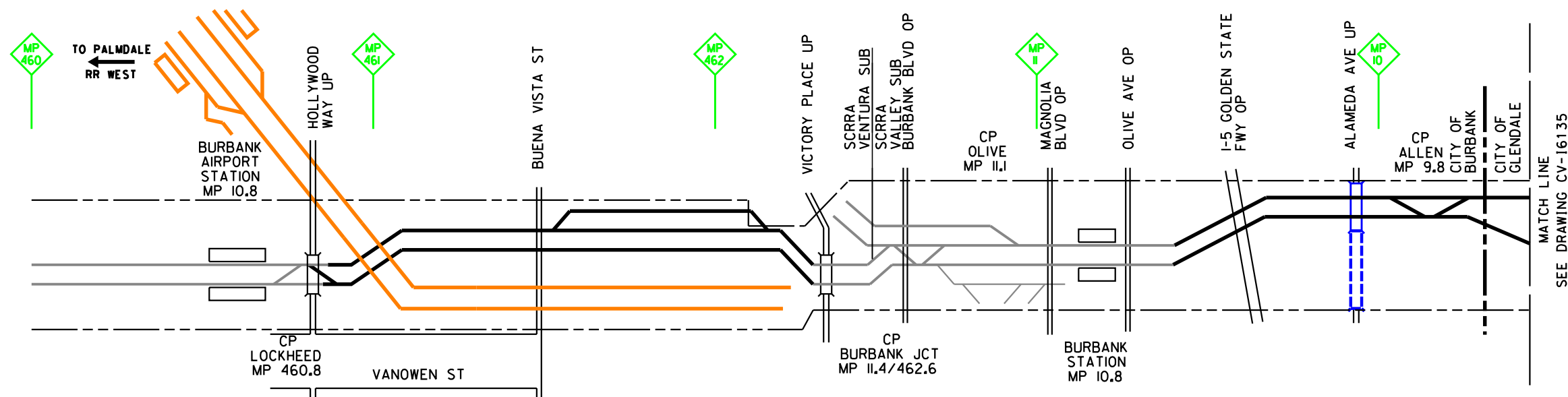


CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 33 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16133
SCALE
AS SHOWN
SHEET NO.

REV	DATE	BY	CHK	APP	DESCRIPTION

4/29/2019 7:42:05 AM c:\jip\pwworkdir\haynesma\d0138982\k2l-cv-16133.sht



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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DRAWN BY
J. CANDELARIO
CHECKED BY
W. QUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

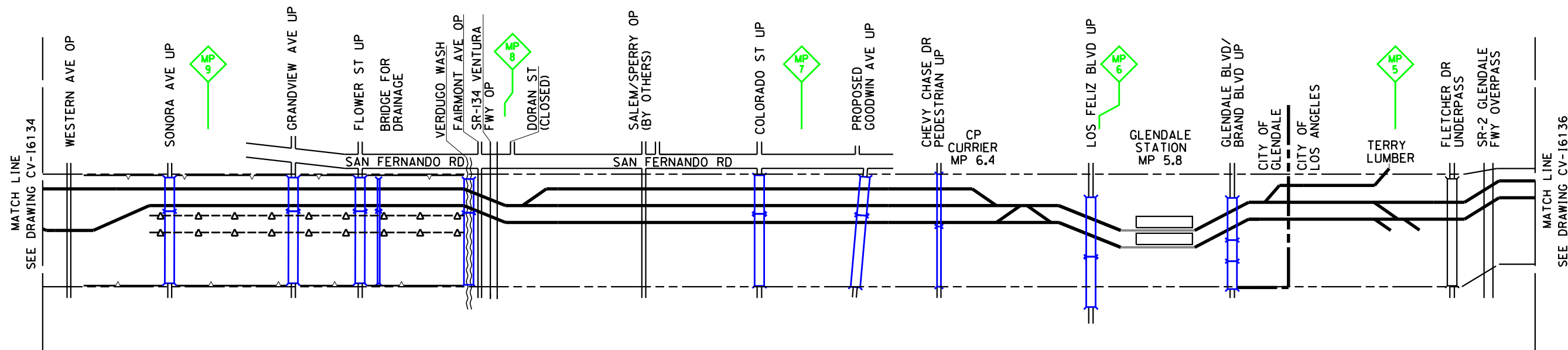
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CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 34 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16134
SCALE AS SHOWN
SHEET NO.



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DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
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IN CHARGE
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DATE
04/30/2019

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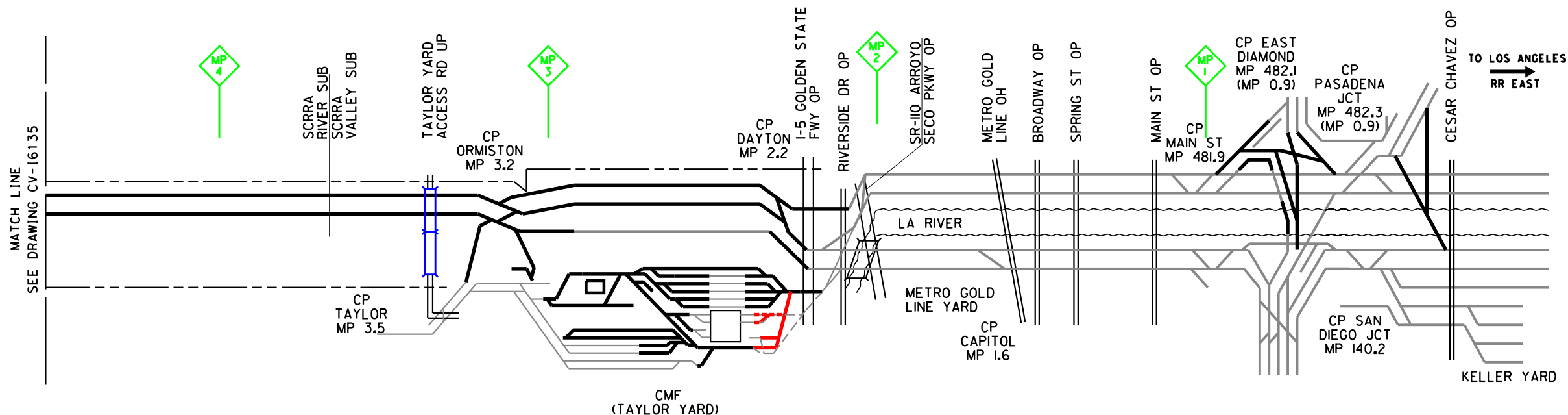
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 35 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16135
SCALE AS SHOWN
SHEET NO.

PHASE 11



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DESIGNED BY
P. MAHONEY

DRAWN BY
J. CANDELARIO

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IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 36 OF 48

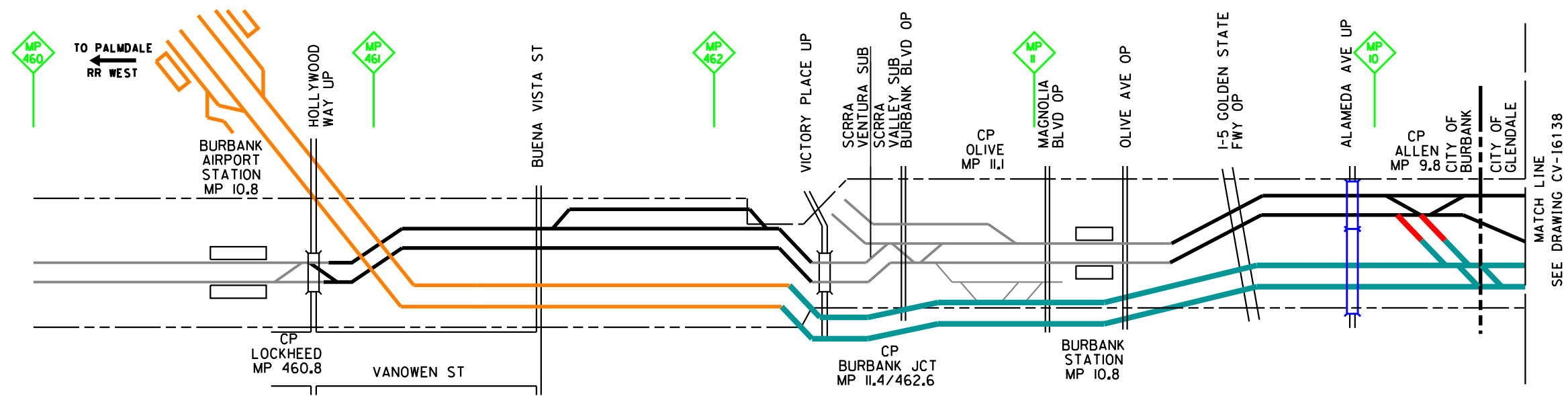
CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16136

SCALE
AS SHOWN

SHEET NO.

PHASE 12



MATCH LINE
SEE DRAWING CV-16138

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4/29/2019 7:44:12 AM c:\j\p\work\dir\haynesma\d0138982\k2L-CV-16137.sht

REV	DATE	BY	CHK	APP	DESCRIPTION

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J. CANDELARIO

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04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 37 OF 48

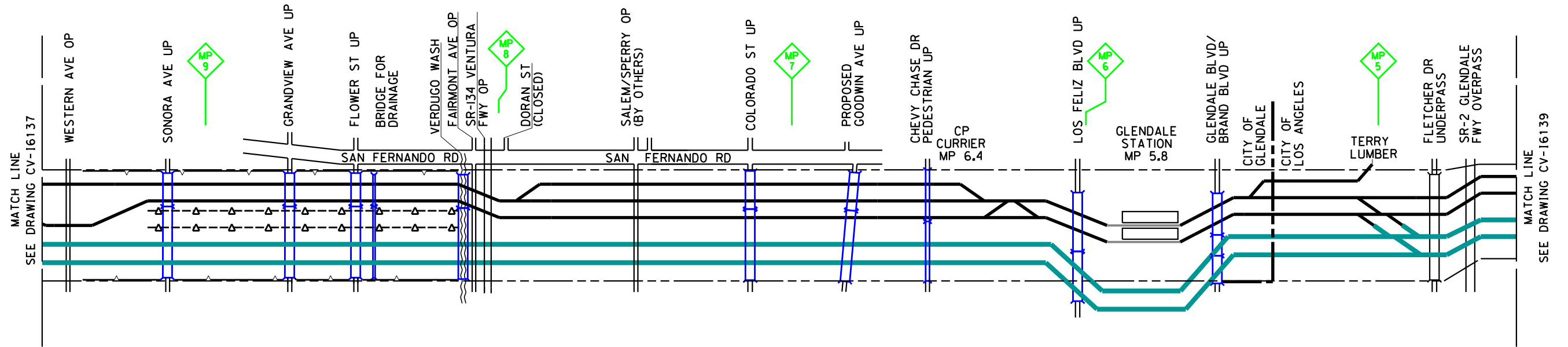
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DRAWING NO.
CV-16137

SCALE
AS SHOWN

SHEET NO.

PHASE 12



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
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K. PIRBAZARI
DATE
04/30/2019

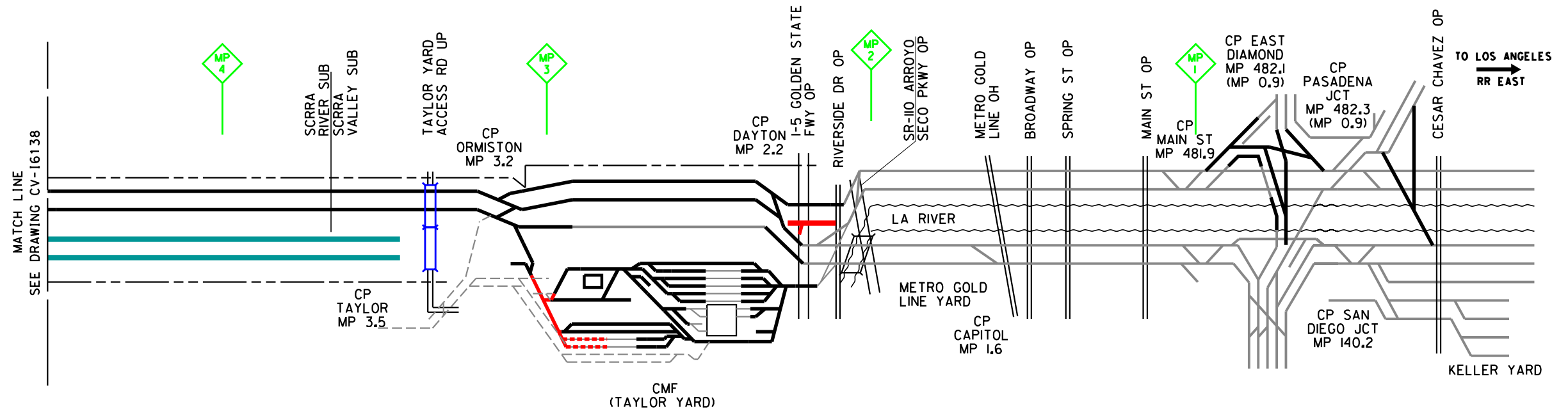
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 38 OF 48

CONTRACT NO.
HSR14-39
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CV-16138
SCALE
AS SHOWN
SHEET NO.



4/29/2019 7:45:26 AM c:\j\p\pwworkdir\haynesma\d0138982\k2l-cv-16139.sht

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

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W. QUESADA

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 39 OF 48

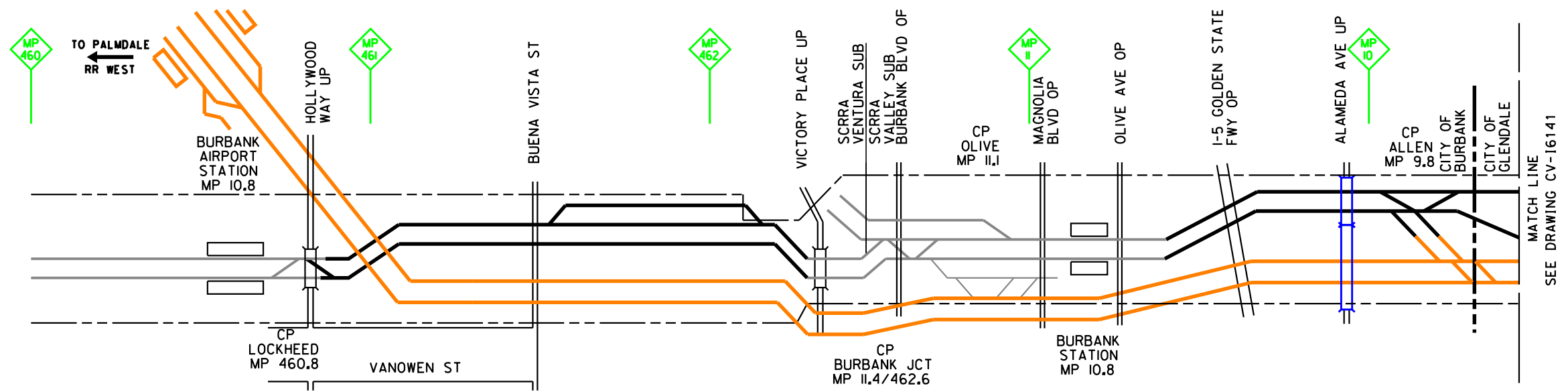
CONTRACT NO.
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SCALE
AS SHOWN

SHEET NO.

PHASE 13



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DESIGNED BY
P. MAHONEY

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W. QUESADA

IN CHARGE
K. PIRBAZARI

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04/30/2019

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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 40 OF 48

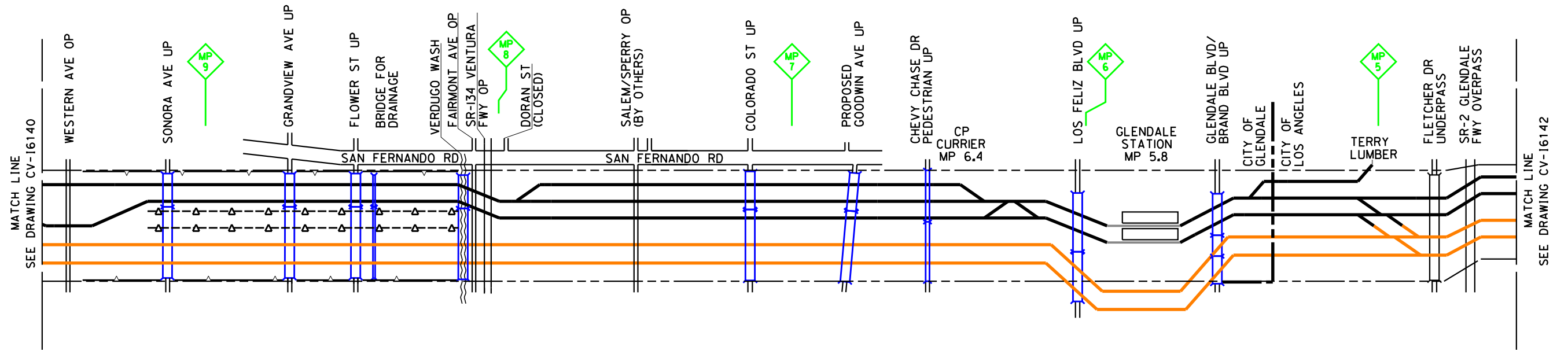
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SCALE
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SHEET NO.

PHASE 13



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DESIGNED BY
P. MAHONEY
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J. CANDELARIO
CHECKED BY
W. QUE SADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

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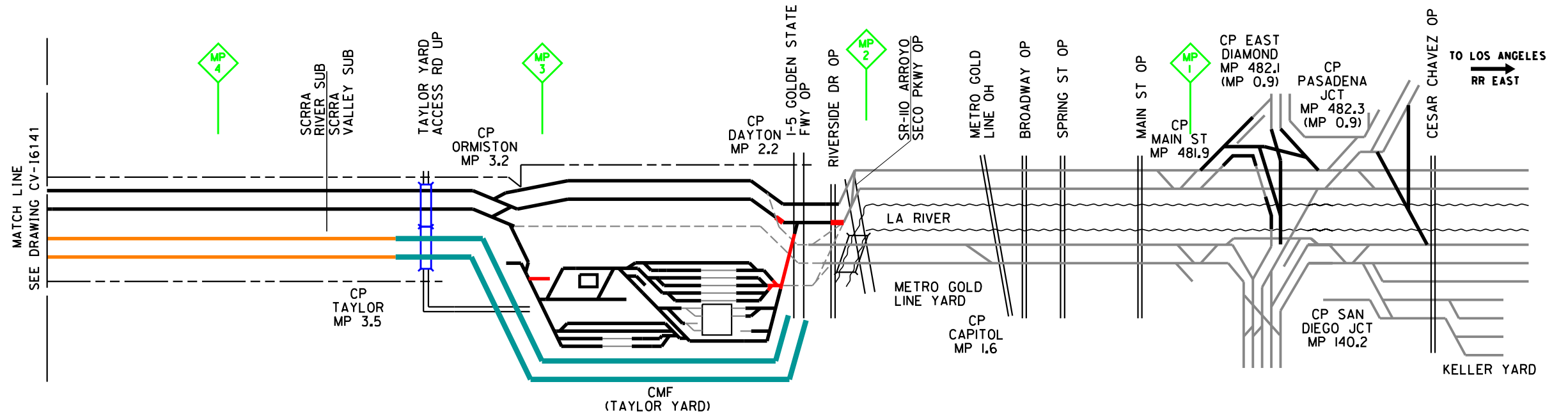
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 41 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16141
SCALE
AS SHOWN
SHEET NO.

PHASE 13



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4/29/2019 7:47:22 AM c:\jip\pwworkdir\haynesma\d0138982\k2l-cv-16142.sht

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
P. MAHONEY

DRAWN BY
J. CANDELARIO

CHECKED BY
W. QUESADA

IN CHARGE
K. PIRBAZARI

DATE
04/30/2019

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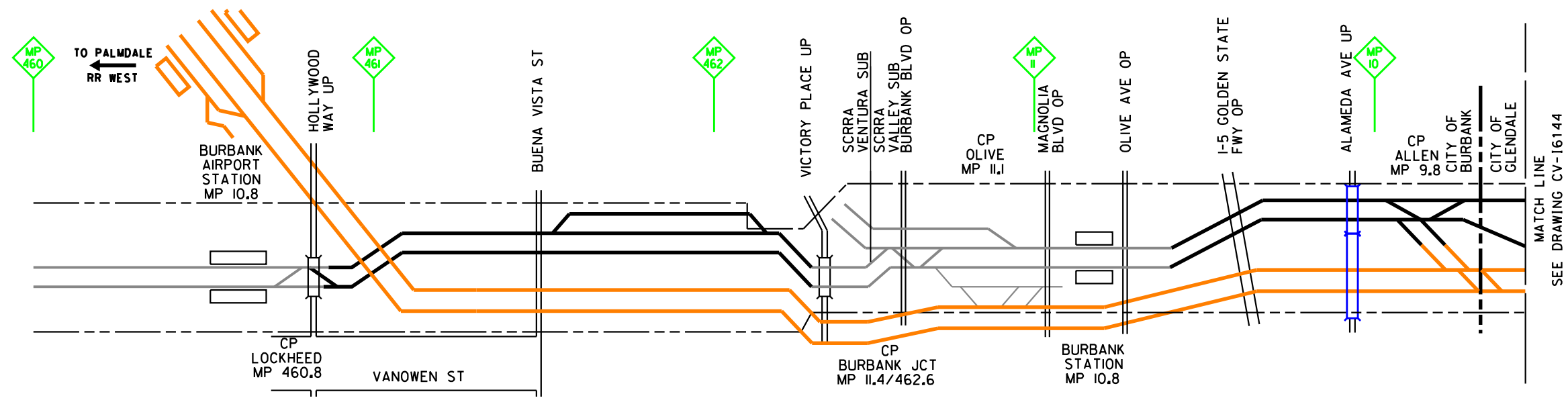
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BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 42 OF 48

CONTRACT NO.
HSR14-39

DRAWING NO.
CV-16142

SCALE
AS SHOWN

SHEET NO.



MATCH LINE
SEE DRAWING CV-16144

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K. PIRBAZARI
DATE
04/30/2019

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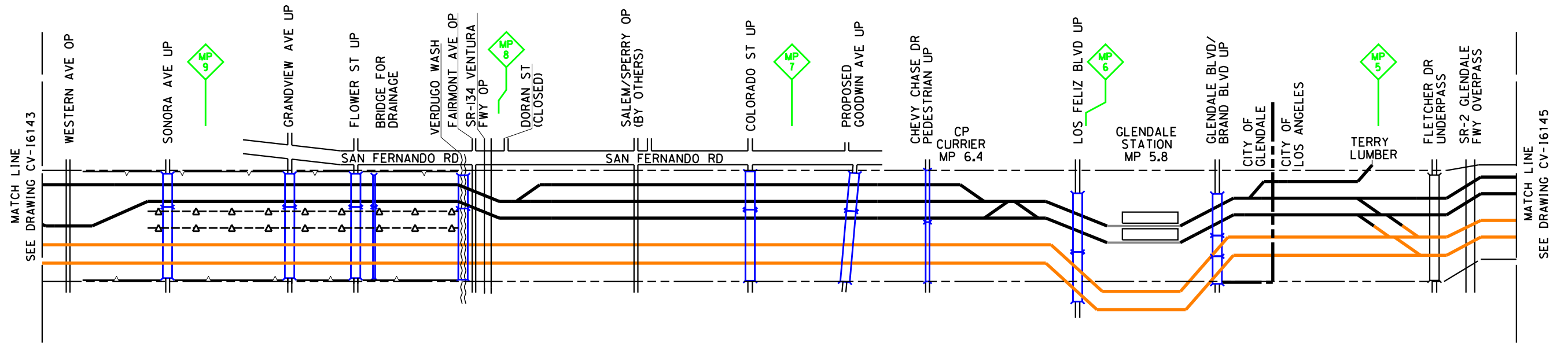
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 43 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16143
SCALE AS SHOWN
SHEET NO.

PHASE 14



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DATE
04/30/2019

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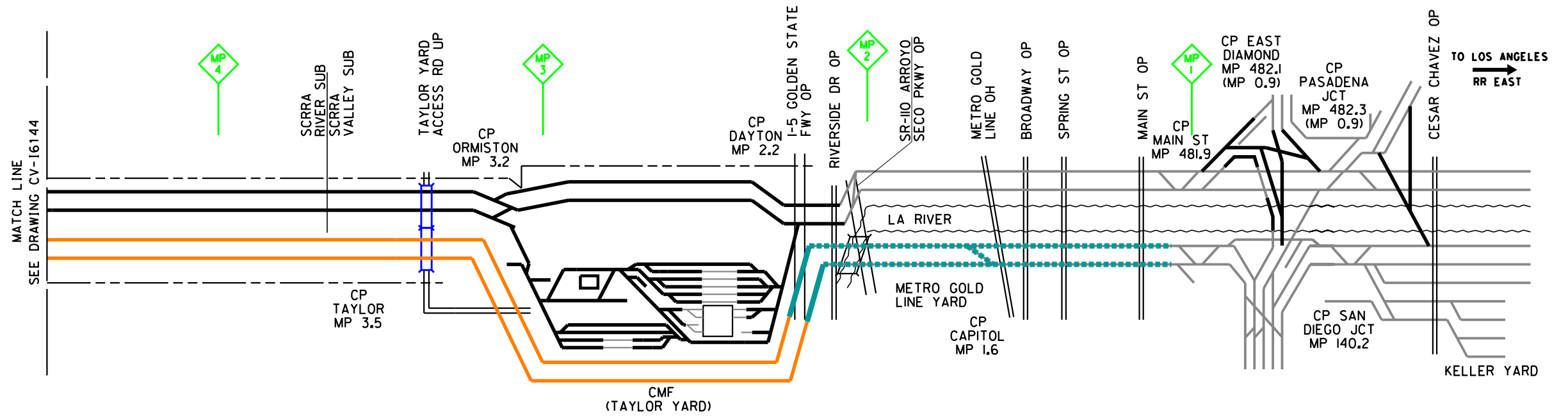
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 44 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16144
SCALE
AS SHOWN
SHEET NO.

PHASE 14



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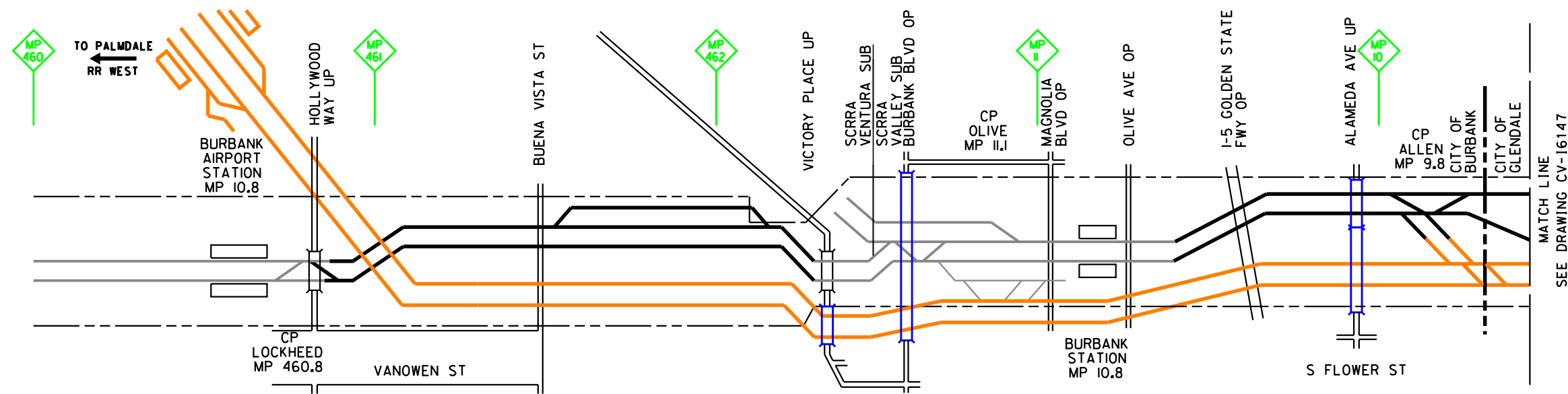


CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 45 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16145
SCALE
AS SHOWN
SHEET NO.

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REV	DATE	BY	CHK	APP	DESCRIPTION



MATCH LINE
SEE DRAWING CV-16147

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REV	DATE	BY	CHK	APP	DESCRIPTION

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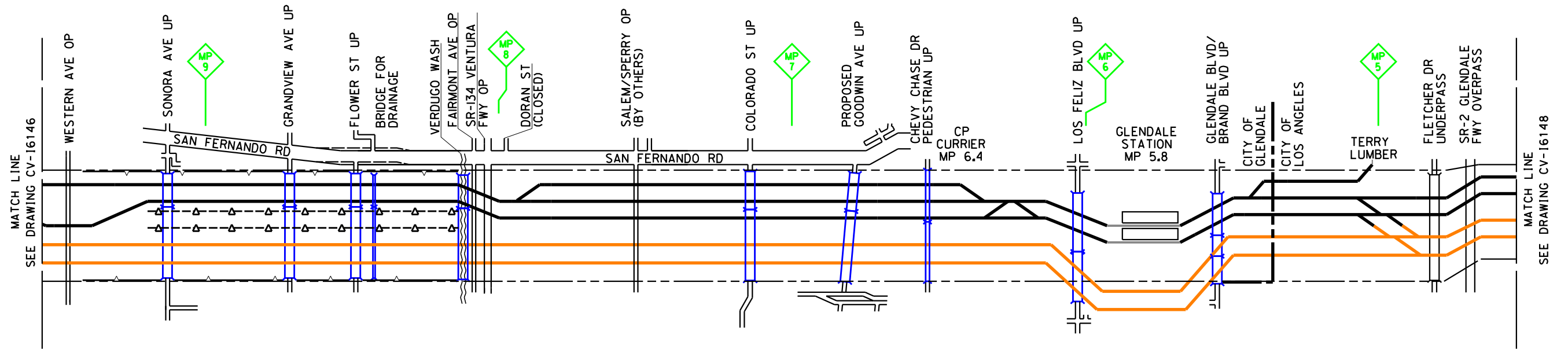
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CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 46 OF 48

CONTRACT NO. HSR14-39
DRAWING NO. CV-16146
SCALE AS SHOWN
SHEET NO.

PHASE 15



4/29/2019 7:50:15 AM c:\j\p\pwworkdir\haynesma\d0138982\k2l-cv-16147.sht

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REV	DATE	BY	CHK	APP	DESCRIPTION

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IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

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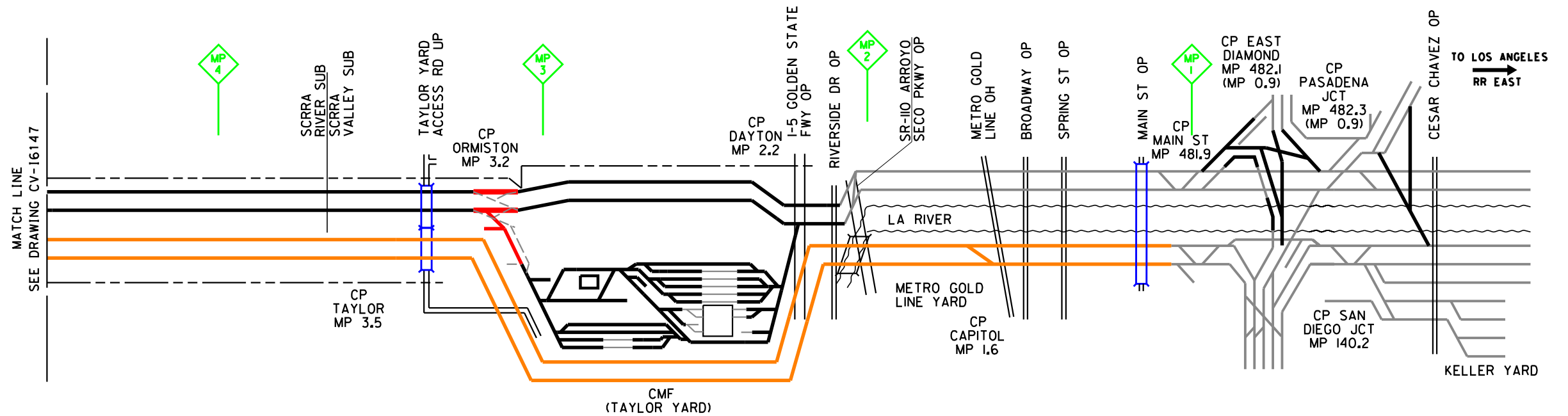
**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 47 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16147
SCALE
AS SHOWN
SHEET NO.

PHASE 15



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DESIGNED BY
P. MAHONEY
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J. CANDELARIO
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W. QUESADA
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K. PIRBAZARI
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04/30/2019

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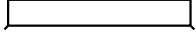

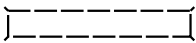





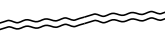










CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING
SHEET 48 OF 48

CONTRACT NO.
HSR14-39
DRAWING NO.
CV-16148
SCALE
AS SHOWN
SHEET NO.

REV	DATE	BY	CHK	APP	DESCRIPTION

4/29/2019 7:50:42 AM c:\jip\pwworkdir\haynesma\d0138982\k2l-cv-16148.sht

LEGEND

RIGHT OF WAY		HSR STATION PLATFORM	
CITY BOUNDARY		STATION PLATFORM	
EXISTING TRACK		GRADE CROSSING	
NEW FREIGHT TRACK		MILEPOST	
PROPOSED PASSENGER TRACK AT FINAL DESIGN LOCATION		STREET	
CONSTRUCTED HSR TRACK AT SCRRRA TRACK REMOVAL		EXISTING BRIDGE	
PROPOSED HSR TRACK		BRIDGE DEMOLITION	
HSR TRACK CONSTRUCTED IN PREVIOUS PHASE		PROPOSED BRIDGE	
PASSENGER/FREIGHT TRACK CONSTRUCTED IN PREVIOUS PHASE		NEW BRIDGE	
REMOVED TRACK		WATER WAY/CHANNEL	
SHIFTED TRACK		BUILDINGS	
SHOOFLY TRACK			
SHOOFLY TRACK SHIFTED			
NEWLY CONSTRUCTED WALL			
EXISTING WALL			
STREET REALIGNMENT			
ROAD TO BE REMOVED			
LEAVE-IN SHORING			
IN PHASE SHORING			

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REV	RDATE	BY	CHK	APP	REV_DESC

DESIGNED BY
P. MAHONEY
DRAWN BY
J. CANDELARIO
CHECKED BY
W. KUESADA
IN CHARGE
K. PIRBAZARI
DATE
04/30/2019

**PEPD
RECORD SET**

**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REFINED ALIGNMENT
CONSTRUCTION SEQUENCING LEGEND
SHEET 1 OF 1

CONTRACT NO. HSR14-39
DRAWING NO. CV-16149
SCALE AS SHOWN
SHEET NO.