

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3-8	CONSTRUCTION DETAILS
9-12	UTILITY PLAN
13	CONSTRUCTION AREA SIGNS
14	DELINEATION DETAILS AND QUANTITIES
15	SUMMARY OF QUANTITIES
16	EROSION CONTROL LEGEND AND QUANTITIES
17-30	REVISED STANDARD PLANS

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

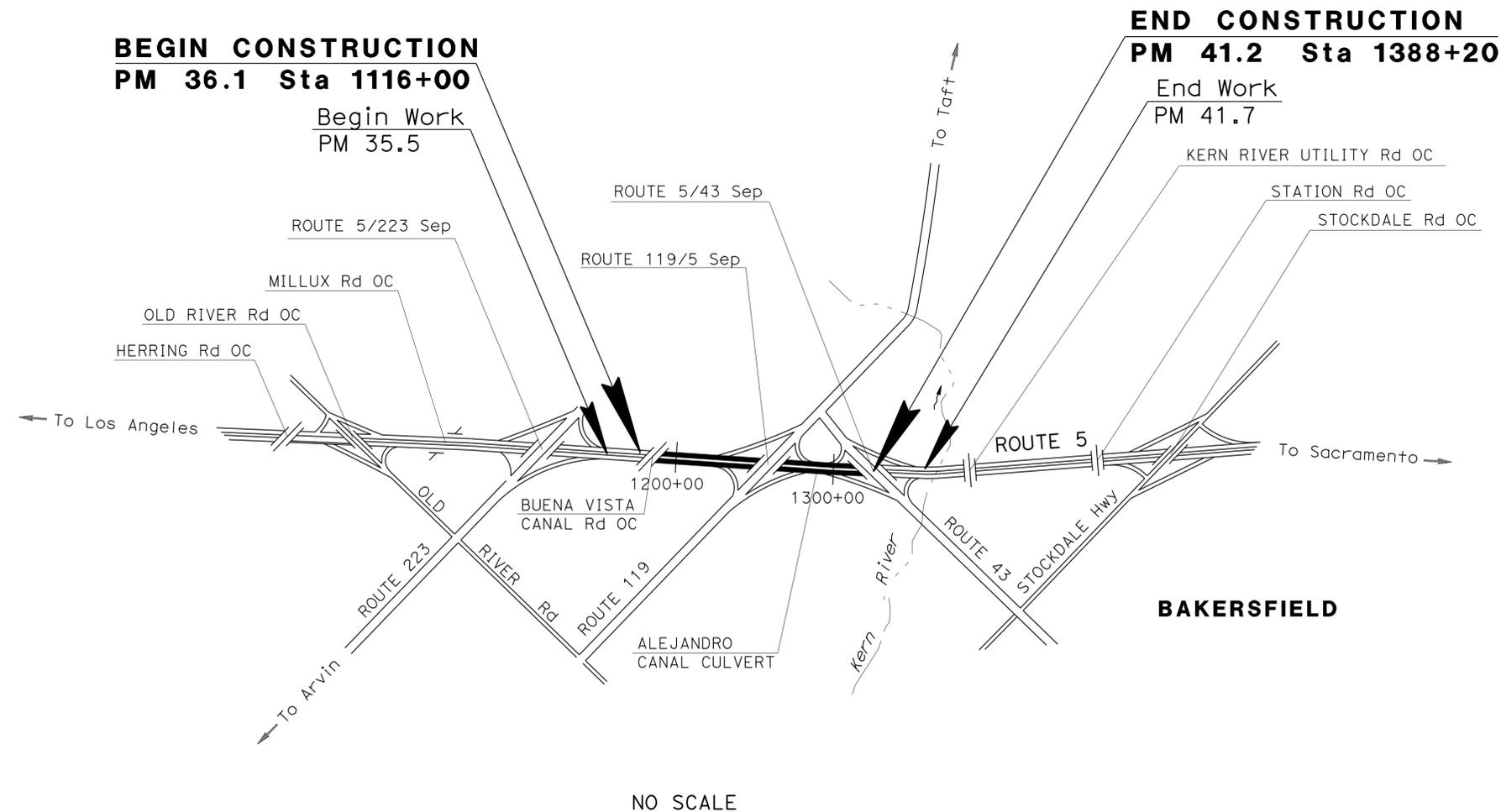
ACHSNHPIG-005-
 4(197)241E

PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY
 IN KERN COUNTY
 NEAR BAKERSFIELD
 FROM BUENA VISTA CANAL ROAD OVERCROSSING
 TO ROUTE 5/43 SEPARATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	1	30

LOCATION MAP



PROJECT MANAGER
 JUDY AGUILAR

DESIGN ENGINEER
 SEAN PLEDGER

Sean Pledger 12-28-15
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER

December 28, 2015
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CONTRACT No. **06-0S6504**
 PROJECT ID **0614000207**

DATE PLOTTED => 24-FEB-2016
 TIME PLOTTED => 10:52

NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- HTCB SYSTEM REQUIREMENTS ARE 4-ROPE, TEST LEVEL 4. HTCB IS TO BE OFFSET 12' FROM "I-5" LINE, EXCEPT FOR TRANSITION STATION LIMITS.
- REFER TO SUMMARY OF QUANTITIES SHEET FOR MIDWEST GUARDRAIL SYSTEM LOCATIONS AND QUANTITIES.
- REFER TO CONSTRUCTION DETAIL SHEETS FOR HTCB ANCHOR LOCATIONS.
- LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY IDENTIFIED. UTILITY LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR BY POTHOLING PRIOR TO CONSTRUCTION.
- FOR DRAINAGE FACILITY LOCATIONS, SEE SUMMARY OF QUANTITIES SHEET. LOCATIONS OF DRAINAGE INLETS ARE APPROXIMATE. PRIOR TO CONSTRUCTION, CONTRACTOR IS TO FIELD VERIFY EXISTING DRAINAGE INLETS AND CROSS CULVERTS TO IDENTIFY ANY CONFLICT WITH HTCB POST FOOTINGS OR HTCB ANCHOR SYSTEMS.
- SEE ECL-1 FOR EROSION CONTROL.

ABBREVIATION:

HTCB HIGH TENSION CABLE BARRIER

PAVEMENT CLIMATE REGION

INLAND VALLEY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	2	30

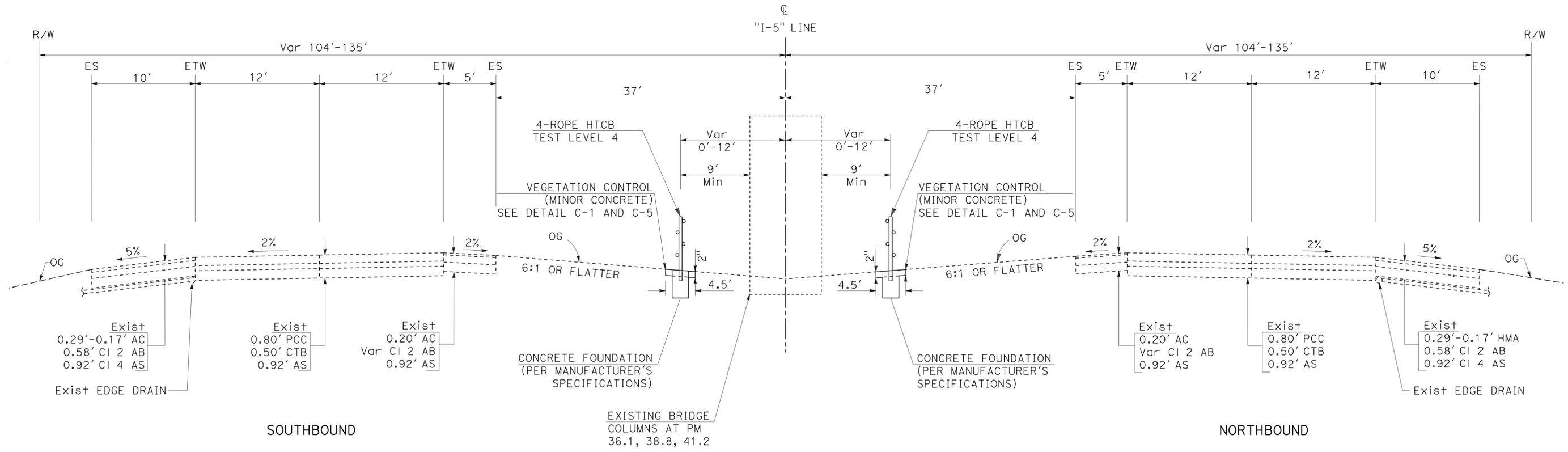
Sean M. Pledger 12-28-15
 REGISTERED CIVIL ENGINEER DATE
 12-28-15
 PLANS APPROVAL DATE

SEAN M. PLEDGER
 No. 56328
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: SEAN PLEDGER
 CALCULATED/DESIGNED BY: SEAN PLEDGER
 CHECKED BY:
 REVISED BY: SEAN PLEDGER
 DATE REVISED:



ROUTE 5
 PM 36.1 TO 41.2
 Sta 1116+00 to 1387+92

TYPICAL CROSS SECTIONS
 NO SCALE
X-1

LAST REVISION DATE PLOTTED => 08-JAN-2016
 11-19-15 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	3	30

Sean Pledger 12-28-15
 REGISTERED CIVIL ENGINEER DATE

12-28-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 SEAN M. PLEDGER
 No. 56328
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

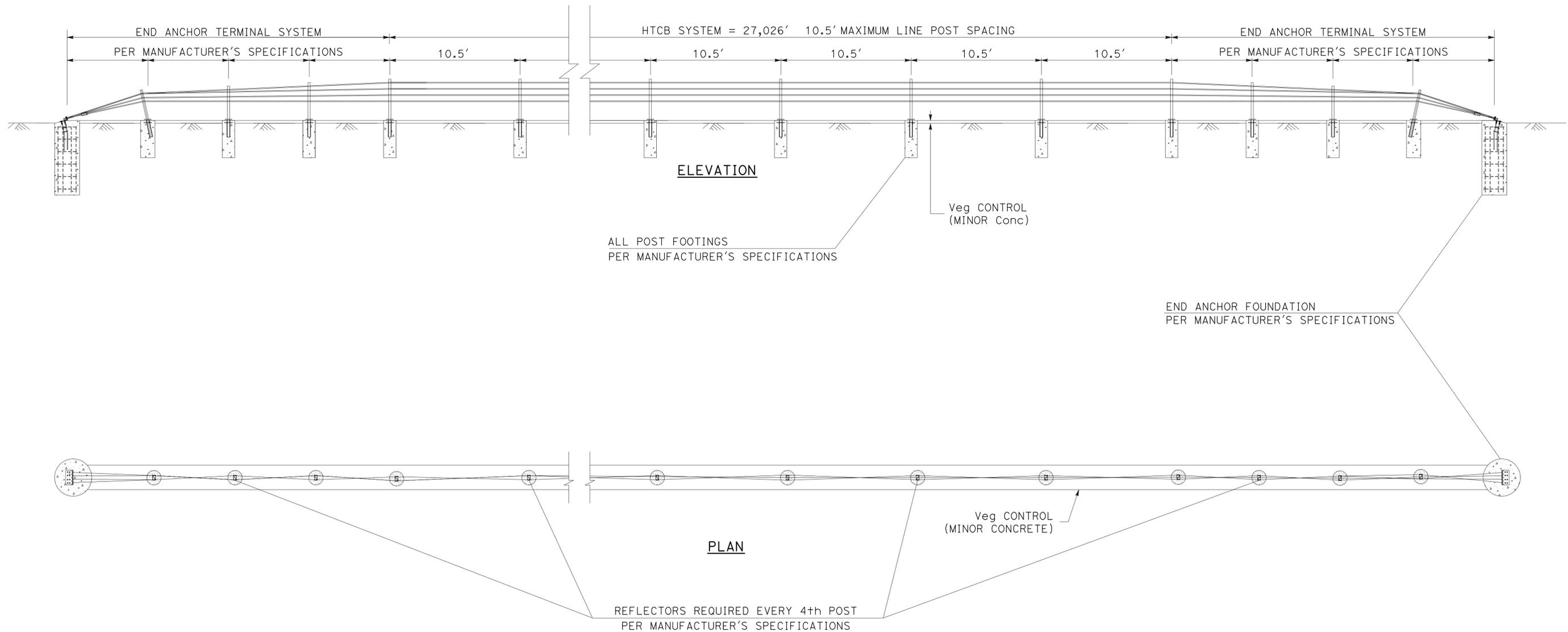
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. MANUFACTURER'S DRAWINGS, SPECIFICATIONS, AND PRODUCT MANUAL SHALL BE REVIEWED PRIOR TO STARTING INSTALLATION OF HTCB.
2. THE LENGTH OF NEED DOES NOT INCLUDE END ANCHOR TERMINAL SYSTEMS.
3. POST SPACING MAY BE DECREASED TO AVOID OBSTRUCTIONS OR UTILITIES. MAXIMUM POST SPACING IS 10.5'.
4. HTCB SHALL BE PLACED ON A SMOOTH SURFACE, WITHOUT HOLES, DROP-OFFS, OR HUMPS THAT WOULD INTERFERE WITH THE STABILITY OF AN ERRANT VEHICLE. GRADING, FILL AND COMPACTION MAY BE REQUIRED TO ASSURE THAT WIRE ROPES ARE INSTALLED AT THE DESIGN HEIGHT.
5. ANCHOR AND LINE POST DIMENSIONS AND STEEL REINFORCEMENT WILL BE DETERMINED BY PROJECT SPECIFIC SOIL CLASSIFICATION, PROPERTIES AND TEMPERATURE EXTREMES. CONTACT THE MANUFACTURER FOR ADDITIONAL INFORMATION.
6. ALL REINFORCEMENT STEEL AND CONCRETE FOR THE ANCHORS AND LINE POSTS SHALL MEET CALTRANS SPECIFICATIONS.
7. CABLE TENSION SHALL BE ADJUSTED FOR TEMPERATURE DURING INSTALLATION PER MANUFACTURER'S SPECIFICATIONS.

ABBREVIATIONS:

- HTCB HIGH TENSION CABLE BARRIER
 MGS MIDWEST GUARDRAIL SYSTEM
 Veg VEGETATION



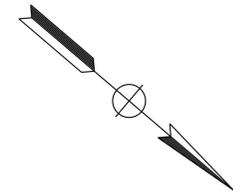
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 SEAN PLEDGER
 FUNCTIONAL SUPERVISOR
 SEAN PLEDGER
 CHECKED BY
 RANDY BOWLES
 REVISOR
 SEAN PLEDGER
 DATE REVISED
 DATE

CONSTRUCTION DETAILS
NO SCALE
C-1

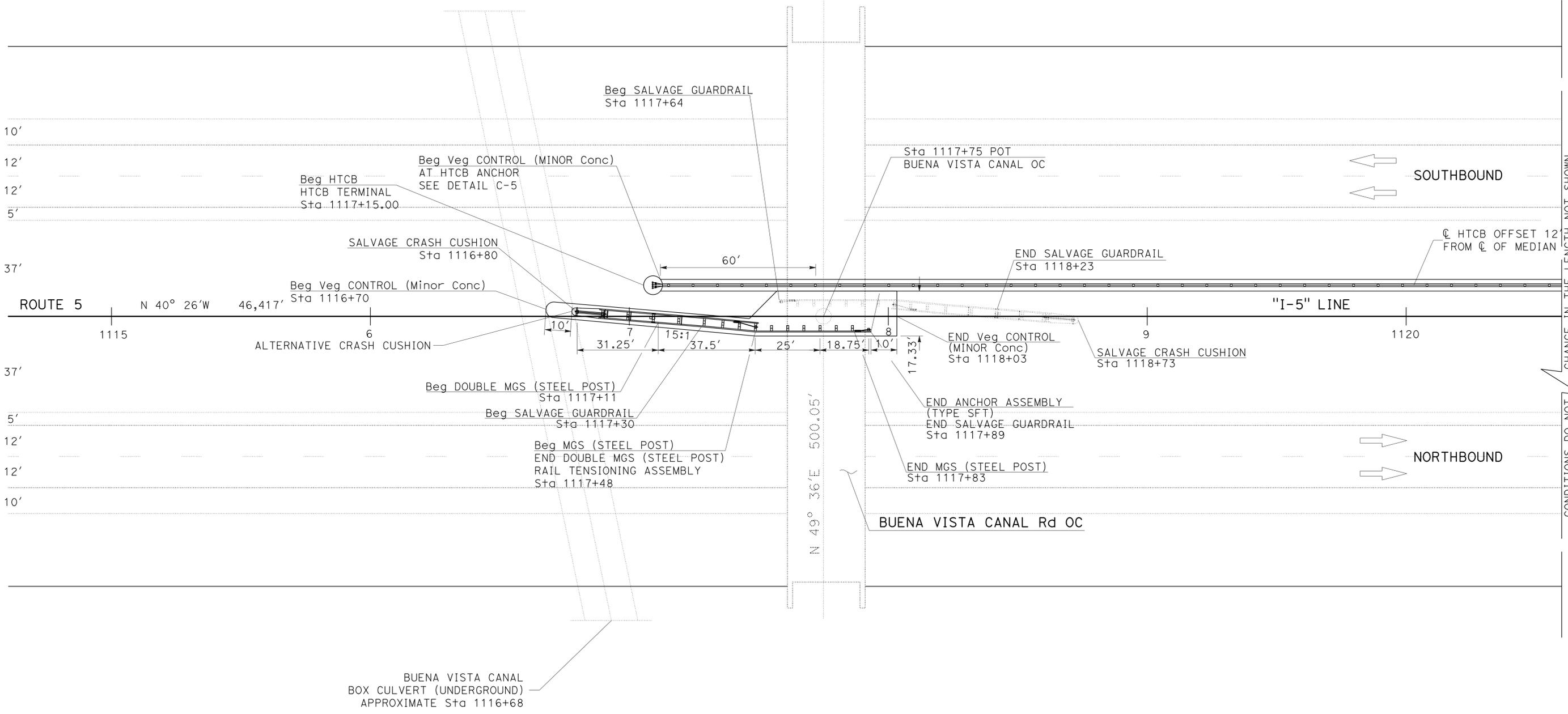
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	4	30

Sean Pledger 12-28-15
 REGISTERED CIVIL ENGINEER DATE
 12-28-15
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
SEAN M. PLEDGER
 No. 56328
 Exp. 2-31-16
 CIVIL
STATE OF CALIFORNIA



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR
 SEAN PLEDGER
 CALCULATED/DESIGNED BY
 CHECKED BY
 RANDY BOWLES
 SEAN PLEDGER
 REVISED BY
 DATE
 REVISIONS: 11-19-15, 08-JAN-2016



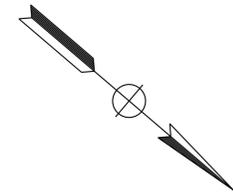
CONSTRUCTION DETAILS
 SCALE 1"=20'
C-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	5	30

Sean Pledger 12-28-15
 REGISTERED CIVIL ENGINEER DATE
 12-28-15
 PLANS APPROVAL DATE

SEAN M. PLEDGER
 No. 56328
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



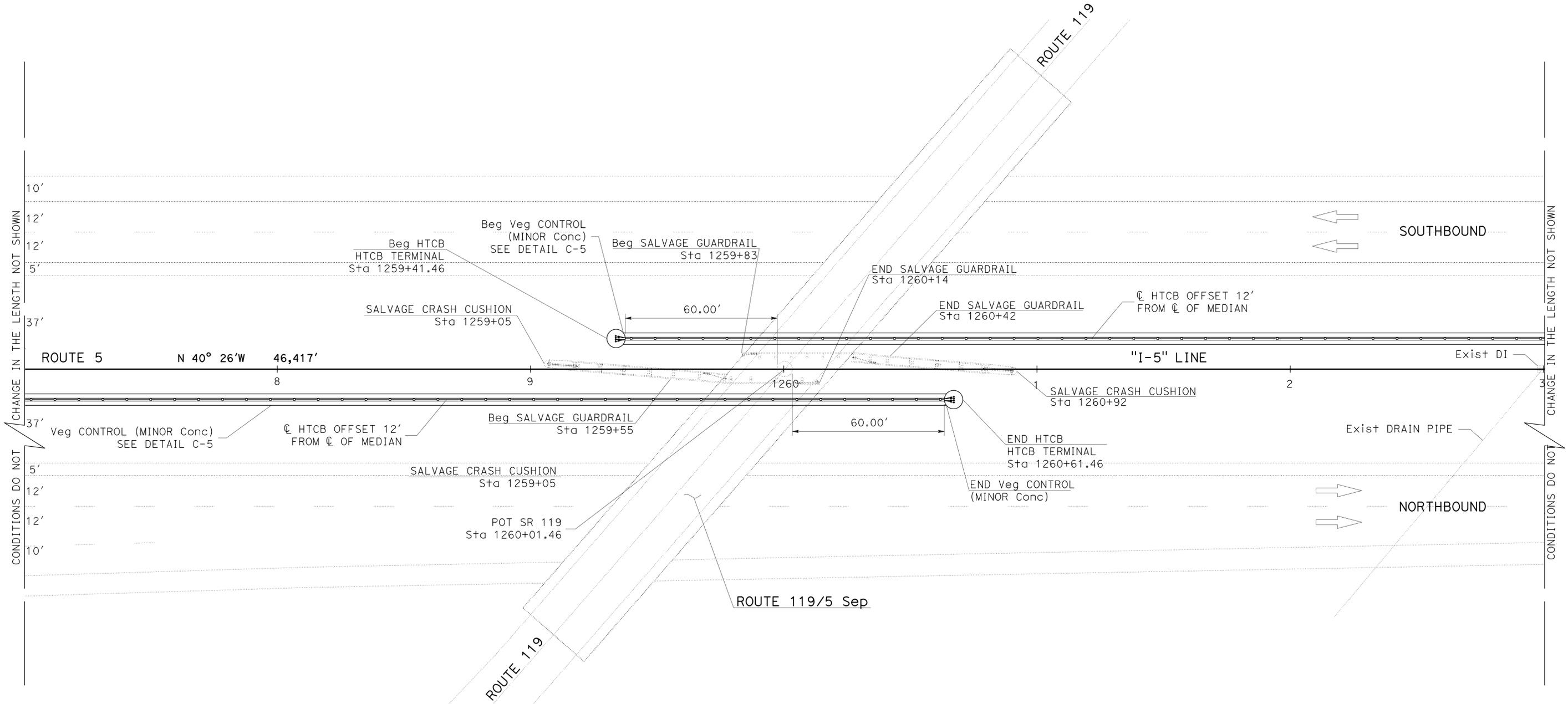
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 SEAN PLEDGER

CALCULATED/DESIGNED BY
 CHECKED BY

RANDY BOWLES
 SEAN PLEDGER

REVISED BY
 DATE REVISED



CONSTRUCTION DETAILS
 SCALE 1"=20'
C-3

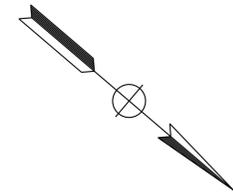
LAST REVISION | DATE PLOTTED => 08-JAN-2016
 11-19-15 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	6	30

Sean Pledger 12-28-15
 REGISTERED CIVIL ENGINEER DATE
 12-28-15
 PLANS APPROVAL DATE

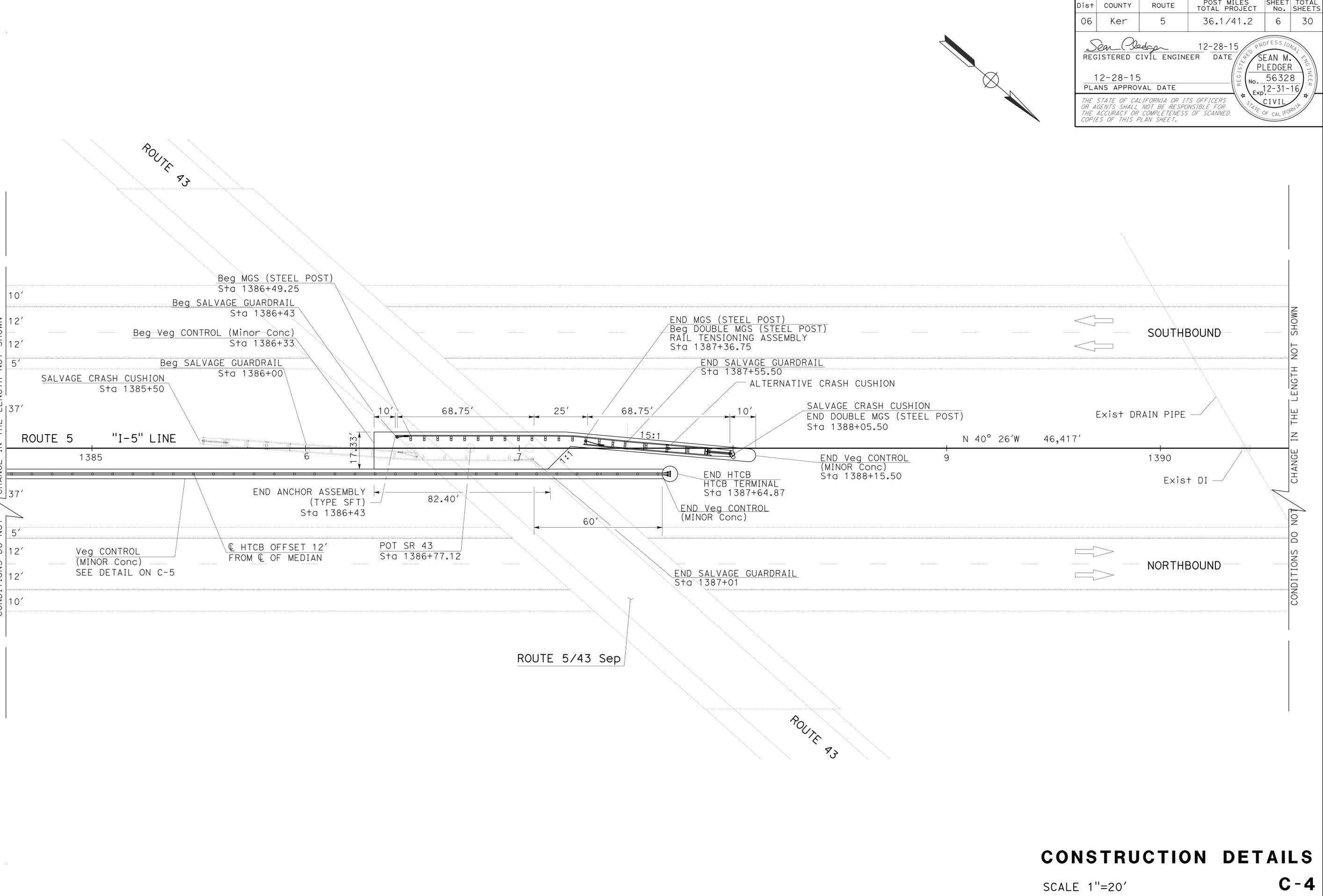
SEAN M. PLEDGER
 No. 56328
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR: SEAN PLEDGER
 CALCULATED/DESIGNED BY: SEAN PLEDGER
 CHECKED BY:
 REVISED BY: SEAN PLEDGER
 DATE REVISED:



CONSTRUCTION DETAILS
 SCALE 1"=20'
C-4

LAST REVISION: 11-19-15
 DATE PLOTTED => 08-JAN-2016
 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Ker	5	36.1/41.2	7	30

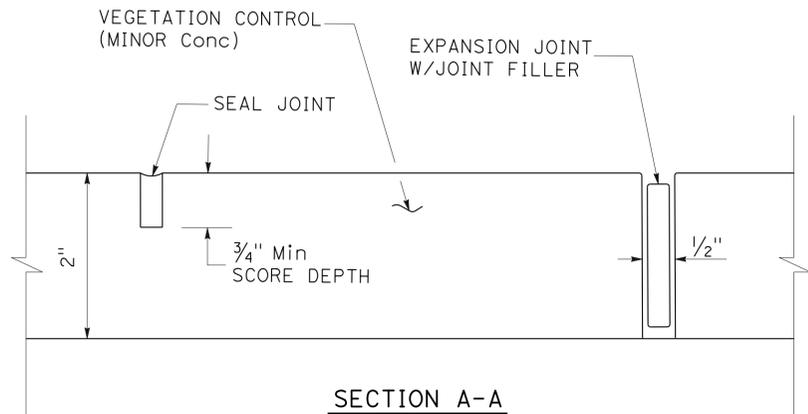
<i>Sean Pledger</i>	12-28-15
REGISTERED CIVIL ENGINEER	DATE
12-28-15	PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER	SEAN M. PLEDGER
No. 56328	Exp. 12-31-16
CIVIL	STATE OF CALIFORNIA

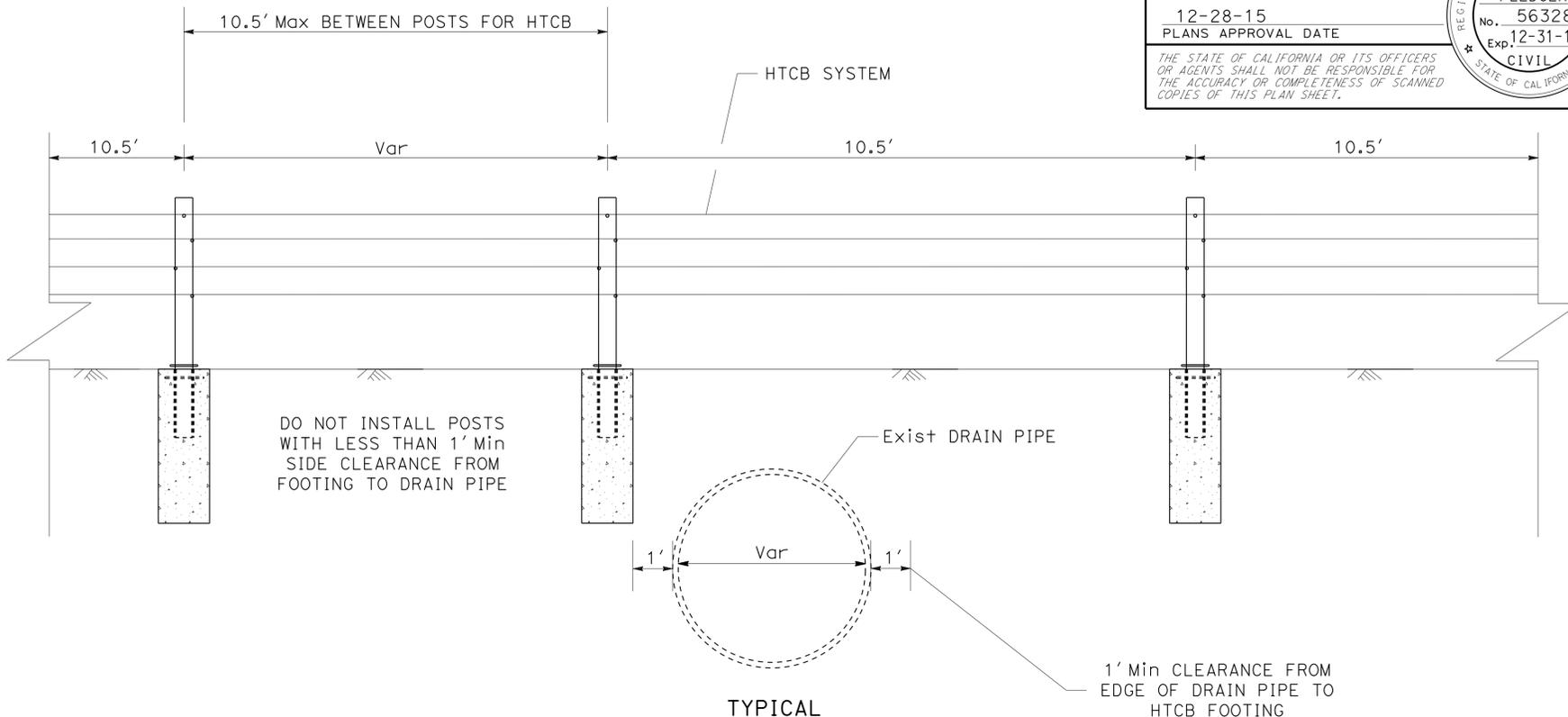
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

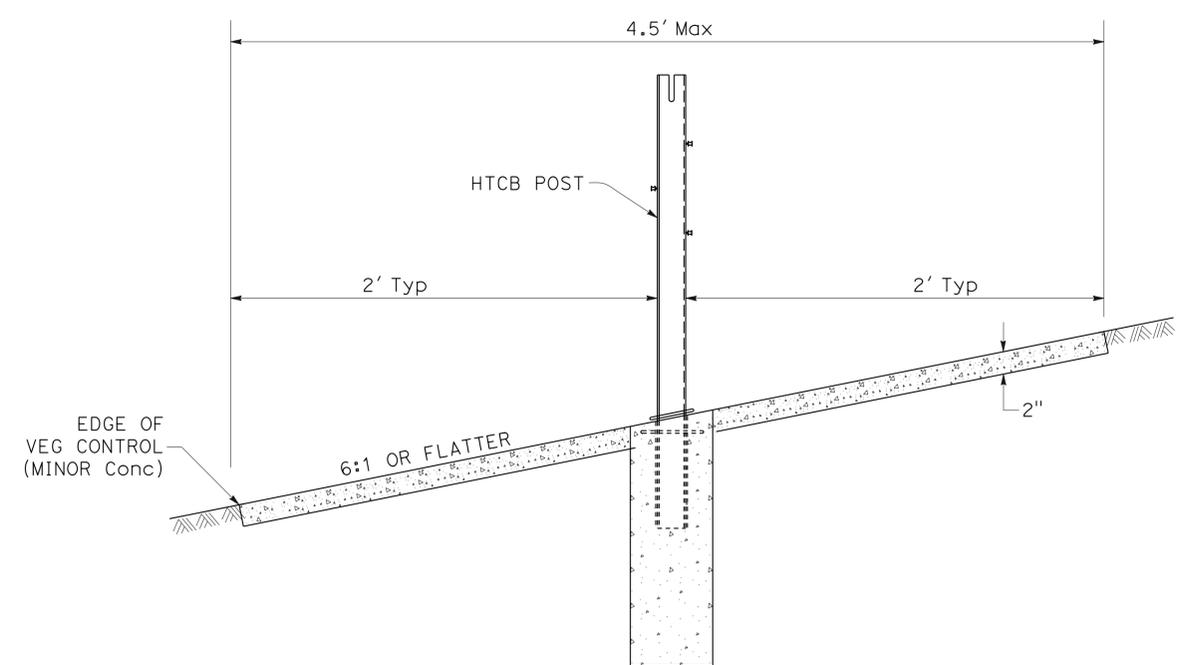
1. MANUFACTURER'S DRAWINGS, SPECIFICATIONS, AND PRODUCT MANUAL SHALL BE REVIEWED PRIOR TO STARTING INSTALLATION OF HTC.B.
2. THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS.
3. SEE REVISED STANDARD PLANS FOR OTHER DETAILS NOT SHOWN.



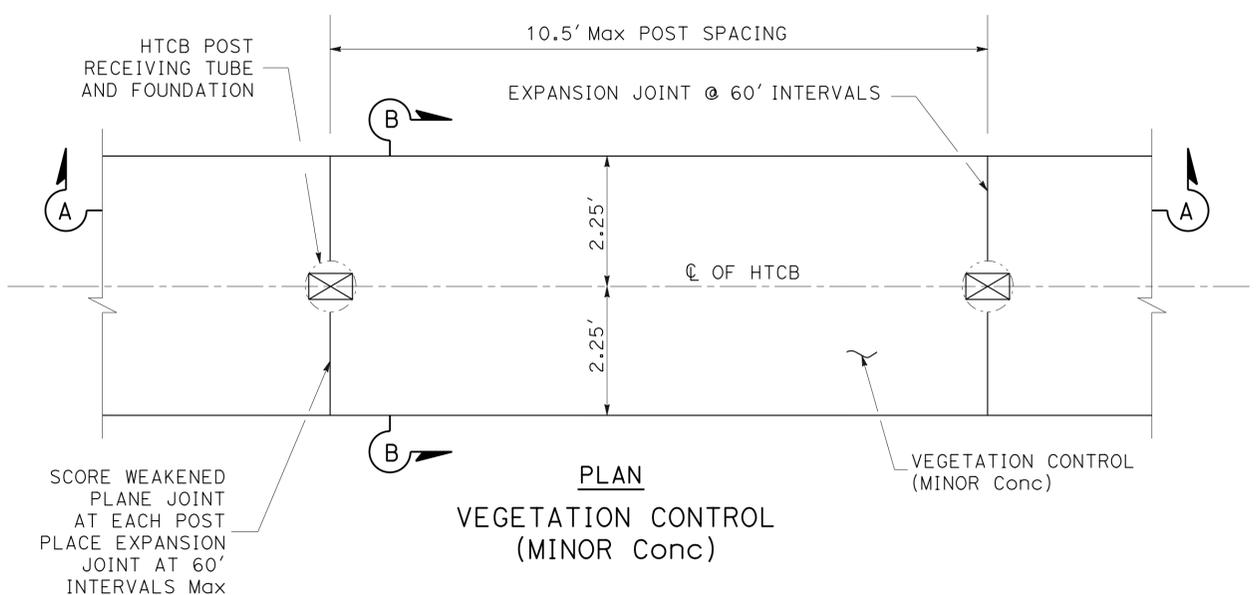
SECTION A-A



TYPICAL
HTC.B FOOTING INSTALLATION CONFLICTING WITH EXISTING DRAIN PIPE OR UTILITY OBSTACLE



SECTION B-B



PLAN
VEGETATION CONTROL (MINOR Conc)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: SEAN PLEDGER
CALCULATED/DESIGNED BY: SEAN PLEDGER
REVISOR: RANDY BOWLES
DATE REVISED: SEAN PLEDGER
DATE: 12-28-15

CONSTRUCTION DETAILS
NO SCALE
C-5

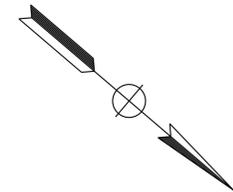
LAST REVISION: 11-19-15 DATE PLOTTED => 08-JAN-2016 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	8	30

<i>Sean Pledger</i>	12-28-15
REGISTERED CIVIL ENGINEER	DATE
12-28-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
SEAN M. PLEDGER
No. 56328
Exp. 12-31-16
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



NOTES:

- ENGINEER MAY DETERMINE EXACT LOCATION OF EACH 720' HTCBB TRANSITION TAPER TO AVOID DRAINAGE OR UTILITY CONFLICTS.

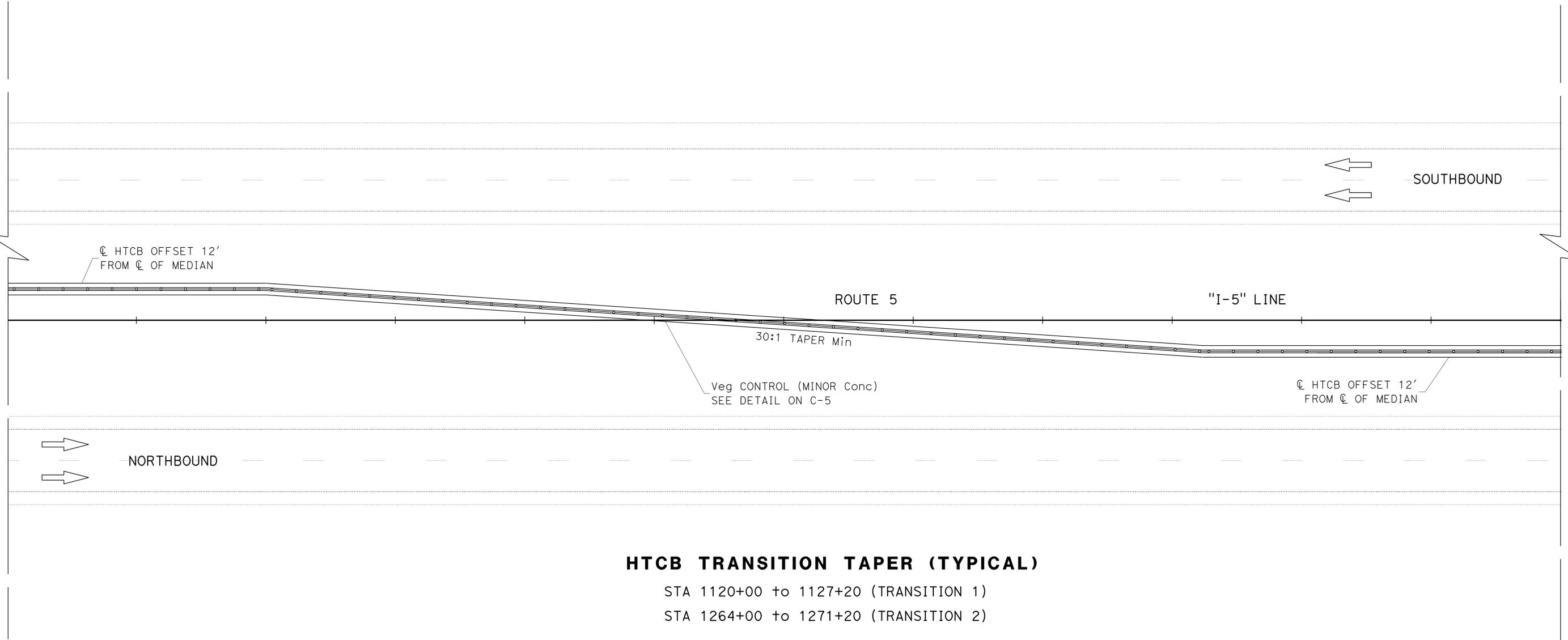
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
SEAN PLEDGER

CALCULATED/DESIGNED BY
CHECKED BY

REVISOR
RANDY BOWLES
SEAN PLEDGER

REVISOR
DATE



HTCB TRANSITION TAPER (TYPICAL)

STA 1120+00 to 1127+20 (TRANSITION 1)
 STA 1264+00 to 1271+20 (TRANSITION 2)

CONSTRUCTION DETAILS

NO SCALE

C-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	9	30

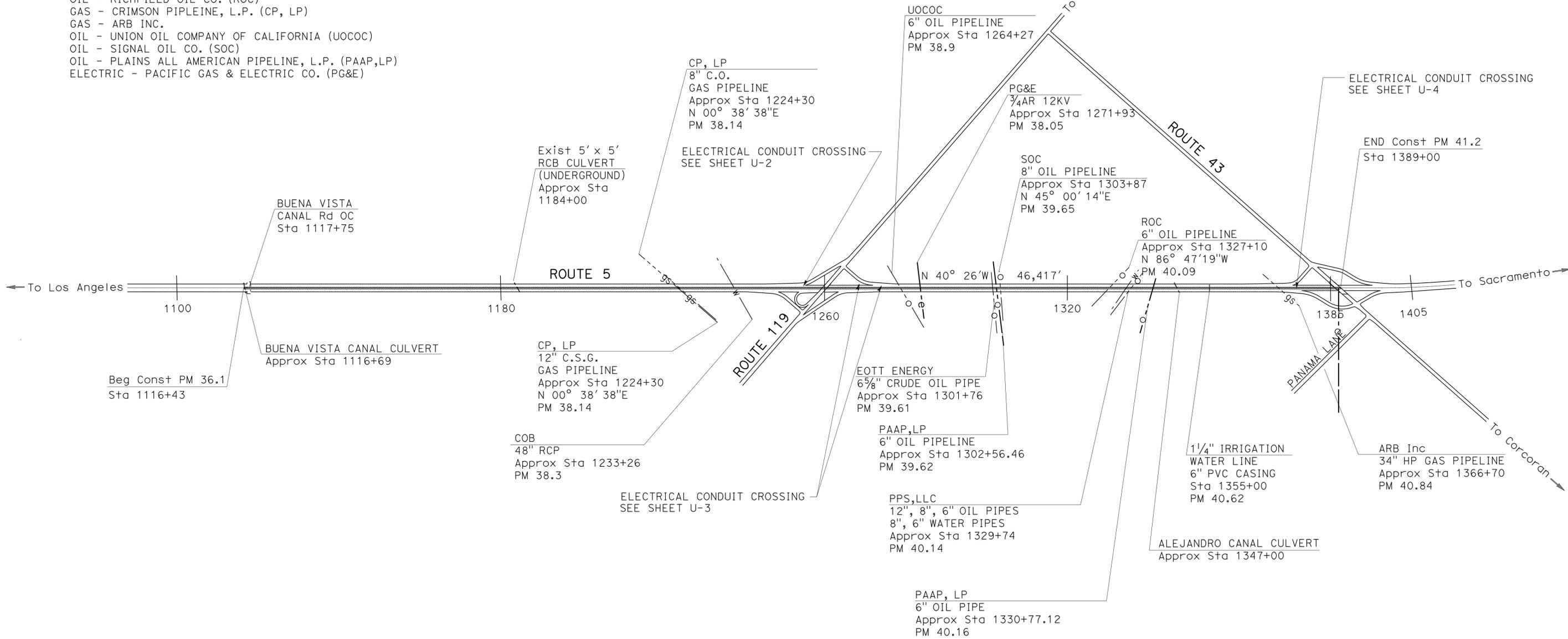
12-28-15	DATE
12-28-15	PLANS APPROVAL DATE

SEAN M. PLEDGER	REGISTERED PROFESSIONAL ENGINEER
No. 56328	Exp. 12-31-16
CIVIL	

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING FACILITIES.
- UTILITY OWNERSHIP ON THIS PROJECT:
 WATER - CITY OF BAKERSFIELD (COB)
 OIL - EOTT ENERGY (EE)
 OIL/WATER - PACIFIC PIPELINE SYSTEM, LLC (PPS, LLC)
 OIL - RICHFIELD OIL CO. (ROC)
 GAS - CRIMSON PIPELINE, L.P. (CP, LP)
 GAS - ARB INC.
 OIL - UNION OIL COMPANY OF CALIFORNIA (UOCOC)
 OIL - SIGNAL OIL CO. (SOC)
 OIL - PLAINS ALL AMERICAN PIPELINE, L.P. (PAAP,LP)
 ELECTRIC - PACIFIC GAS & ELECTRIC CO. (PG&E)



APPROXIMATE UTILITY LOCATIONS

APPROVED FOR UTILITY INFORMATION ONLY

NO SCALE

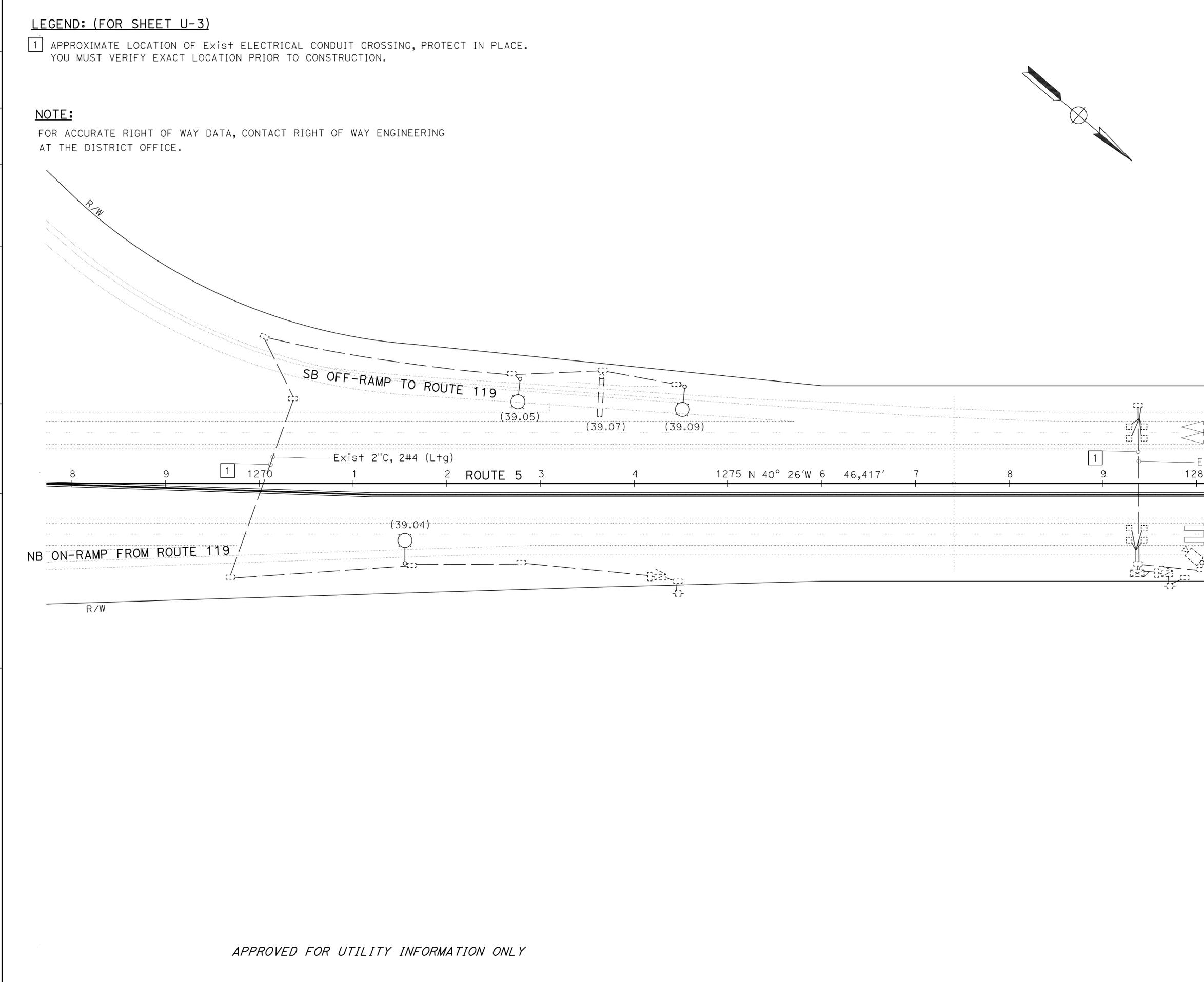
UTILITY PLAN U-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

x
x
x
x
x
x
x

LAST REVISION DATE PLOTTED => 08-JAN-2016 11-19-15 TIME PLOTTED => 13:48

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

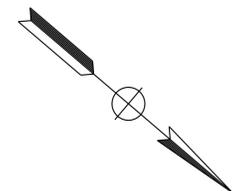


LEGEND: (FOR SHEET U-3)

1 APPROXIMATE LOCATION OF Exist ELECTRICAL CONDUIT CROSSING, PROTECT IN PLACE. YOU MUST VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	11	30

<i>Sean Pledger</i>	12-28-15
REGISTERED CIVIL ENGINEER	DATE
12-28-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
SEAN M. PLEDGER
No. 56328
Exp. 12-31-16
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REVISOR: RANDY BOWLES / SEAN PLEDGER
 CALCULATED/DESIGNED BY: SEAN PLEDGER
 FUNCTIONAL SUPERVISOR: SEAN PLEDGER

BORDER LAST REVISED 7/2/2010
 USERNAME => s115755
 DGN FILE => 0614000207ka003.dgn

APPROVED FOR UTILITY INFORMATION ONLY

**UTILITY PLAN
 U-3**

SCALE 1"=50'

LAST REVISION: 11-19-15 DATE PLOTTED => 08-JAN-2016 TIME PLOTTED => 13:48

NOTES:

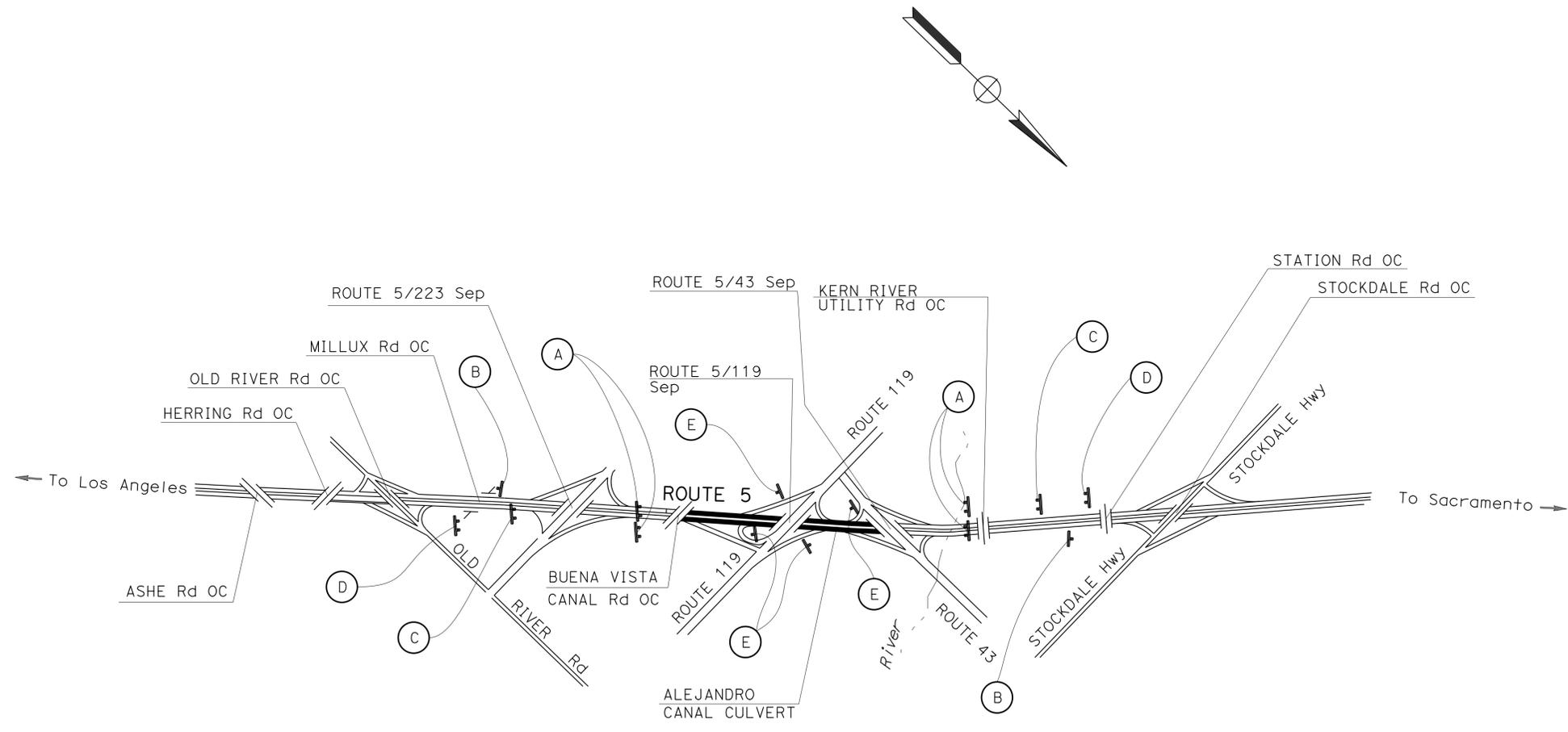
- EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
- FOR SIGN "C40" (TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES), ALL LETTERS MUST BE BLACK ON WHITE BACKGROUND.

LEGEND:

⊗ CONSTRUCTION AREA SIGN NUMBER

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS
(A)	W20-1	ROAD WORK AHEAD	60" x 60"	2 - 4" x 6"	4
(B)	C14(CA)	END ROAD WORK	48" x 24"	1 - 4" x 6"	2
(C)	C40(CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	144" x 60"	2 - 6" x 8"	2
(D)	C11(CA)	ROAD CONSTRUCTION NEXT 5 MILES	90" x 48"	2 - 6" x 6"	2
(E)	W20-1	ROAD WORK AHEAD	48" x 48"	1 - 6" x 6"	4



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMED QATAMI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 MUNIR ASSAF
 HASSAN TAHA
 REVISED BY: [Blank]
 DATE REVISED: [Blank]

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS
 NO SCALE
CS-1

LAST REVISION | DATE PLOTTED => 08-JAN-2016
 10-19-15 | TIME PLOTTED => 1:3:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	14	30

Hassan M. Taaha 10-06-14
REGISTERED CIVIL ENGINEER DATE

12-28-15
PLANS APPROVAL DATE

HASSAN M. TAHA
No. 60130
Exp 06/30/16
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

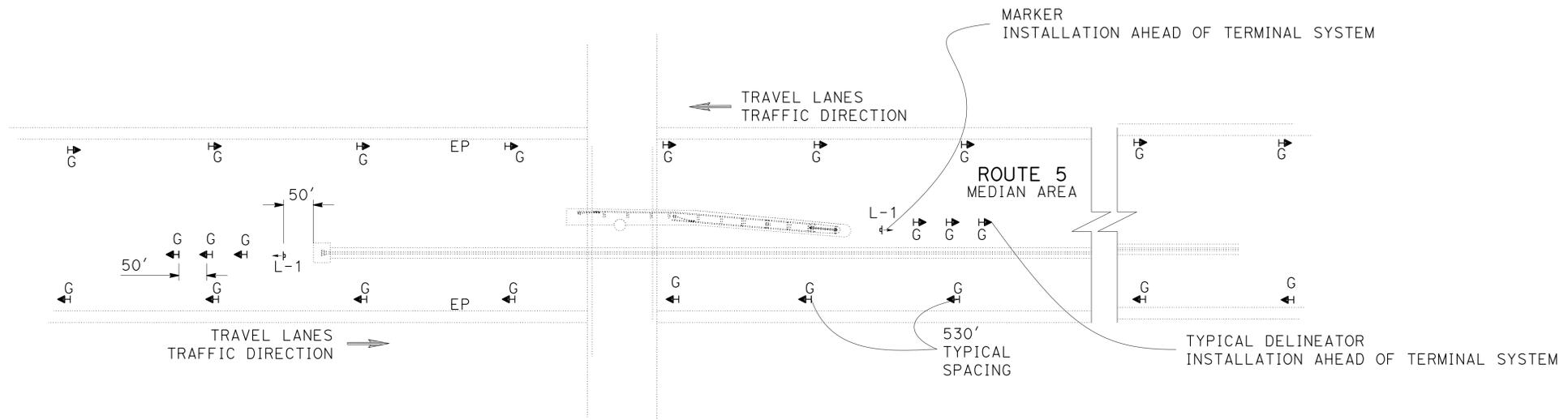
EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.

LEGEND:

- TRAFFIC DIRECTION
- DELINEATOR CLASS 1 FLEXIBLE POST (TYPE G)
- OBJECT MARKER (TYPE L-1)

DELINEATION QUANTITIES

ROUTE	STATION LOCATION		DIRECTION	DELINEATOR (CLASS 1)	OBJECT MARKER
	FROM	TO		TYPE G	TYPE L-1
5	1114+80	1390+05	SB	EA	EA
5	1114+80	1390+05	NB	61	3
TOTAL				122	6



TYPICAL DELINEATOR INSTALLATION ALONG FREEWAY MEDIAN AREA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
 CALCULATED/DESIGNED BY: CHECKED BY:
 MUNIR ASSAF HASSAN TAHA
 REVISED BY: DATE REVISED:

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

**PAVEMENT DELINEATION
 DETAILS AND QUANTITIES
 PDD - 1**

SCALE: 1"=50'

ABBREVIATION:

HTCB HIGH TENSION CABLE BARRIER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	15	30

12-28-15
REGISTERED CIVIL ENGINEER DATE

12-28-15
PLANS APPROVAL DATE

SEAN M. PLEDGER
No. 56328
Exp. 12-31-16
CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

GUARD RAILING

"I-5" LINE STATION TO STATION	ALTERNATIVE CRASH CUSHION	SALVAGE GUARDRAIL	MIDWEST GUARDRAIL SYSTEM (STEEL POST)	DOUBLE MIDWEST GUARDRAIL SYSTEM (STEEL POST)	END ANCHOR ASSEMBLY (TYPE SFT)	RAIL TENSIONING ASSEMBLY	SALVAGE CRASH CUSHION	TREATED WOOD WASTE
	EA	LF	LF	LF	EA	EA	EA	LB
1117+11.00 TO 1117+48.00				37				
1387+36.75 TO 1388+05.50				69				
1117+48.00 TO 1117+83.00			35					
1386+49.25 TO 1387+36.75			88					
1117+64.00 TO 1118+23.00		59					1	567
1117+30.00 TO 1117+89.00	1	59			1	1	1	567
1259+55.00 TO 1260+14.00		59					1	567
1259+83.00 TO 1260+42.00		59					1	567
1386+00.00 TO 1387+01.00		101					1	785
1386+43.00 TO 1387+55.50	1	113			1	1	1	785
TOTAL	2	450	123	106	2	2	6	3838

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

"I-5" LINE Approx STATION	Temp DRAINAGE INLET PROTECTION EA
1104+00	1
1123+00	1
1131+00	1
1150+15	1
1164+00	1
1171+00	1
1179+00	1
1194+00	1
1206+00	1
1211+00	1
1219+00	1
1229+00	1
1235+00	1
1239+00	1
1252+00	1
1263+00	1
1277+40	1
1285+00	1
1295+00	1
1307+00	1
1315+00	1
1325+00	1
1333+00	1
1339+00	1
1358+20	1
1371+00	1
1382+00	1
1390+40	1
TOTAL	28

VEGETATION CONTROL (MINOR CONCRETE)

"I-5" LINE STATION TO STATION	SQYD
NB 1117+15.00 TO 1387+64.87 (HTCB)	13,586
NB 1116+70.00 TO 1118+03.00 (MGS)	158
NB 1386+33.00 TO 1388+15.50 (MGS)	231
TOTAL	13,975

HIGH TENSION CABLE BARRIER

"I-5" LINE STATION TO STATION	HTCB	HTCB TERMINAL
	LF	EA
1117+15.00 TO 1260+61.46	14,347	2
1259+41.46 TO 1387+64.87	12,824	2
TOTAL	27,171	4

TRAFFIC MANAGEMENT SYSTEM ELEMENTS (EXISTING)

PM	LOCATION	TYPE	DESCRIPTION
39.169	NORTH OF JUNCTION RTE 119	TCS	TRAFFIC COUNT STATION
39.170	RTE 119 SEPERATION	VDS	VIDEO DETECTION SYSTEM

TRAFFIC MANAGEMENT SYSTEM ELEMENT LOCATIONS ARE APPROXIMATE.

SUMMARY OF QUANTITIES Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN IV
 SEAN PLEDGER
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 RANDY BOWLES
 SEAN PLEDGER
 REVISOR BY
 DATE REVISOR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	16	30


 LICENSED LANDSCAPE ARCHITECT
 12-28-15
 PLANS APPROVAL DATE



THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

EROSION CONTROL (TYPE 1)

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	HYDROSEED	SEED	MIX 1	25.1 LB/ACRE
		FIBER	WOOD	500 LB/ACRE
STEP 2	HYDROMULCH	FIBER	WOOD	1,500 LB/ACRE
		TACKIFIER	PSYLLIUM	100 LB/ACRE

SEED MIX

BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
BROMUS CARINATUS (CALIFORNIA BROME)	80	14.5
VULPIA MICROSTACHYS (SMALL FESCUE)	80	7.9
VULPIA OCTOFLORA (SIX WEEKS FESCUE)	60	2.7

EROSION CONTROL QUANTITIES

SHEET	"I-5" LINE STATION TO STATION	HYDROSEED	HYDROMULCH	REMARKS
		SQFT	SQFT	
NOT SHOWN ON PLANS	1116+70.00 TO 1260+61.46	602,574	602,574	APPLY EROSION CONTROL ON DISTURBED SOIL AREAS 21 FEET ON EACH SIDE OF VEGETATION CONTROL
	1259+41.46 TO 1388+15.50	538,608	538,608	
	TOTAL	1,141,182	1,141,182	

EROSION CONTROL LEGEND AND QUANTITIES ECL-1

APPROVED FOR EROSION CONTROL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 KEVIN GALLO
 DAVID MARTIN
 CALCULATED-DESIGNED BY
 CHECKED BY
 BRAD COLE
 REVISED BY
 DATE REVISED

	M	
Maint	MAINTENANCE	
Max	MAXIMUM	
MB	METAL BEAM	
MBB	METAL BEAM BARRIER	
MBGR	METAL BEAM GUARD RAILING	
Med	MEDIAN	
MGS	MIDWEST GUARDRAIL SYSTEM	
MH	MANHOLE	
Min	MINIMUM	
Misc	MISCELLANEOUS	
Misc I & S	MISCELLANEOUS IRON AND STEEL	
Mkr	MARKER	
Mod	MODIFIED, MODIFY	
Mon	MONUMENT	
MP	METAL PLATE	
MPGR	METAL PLATE GUARD RAILING	
MR	MOVEMENT RATING	
MSE	MECHANICALLY STABILIZED EMBANKMENT	
Mt	MOUNTAIN, MOUNT	
MtI	MATERIAL	
MVP	MAINTENANCE VEHICLE PULLOUT	
	N	
N	NORTH	
NB	NORTHBOUND	
No.	NUMBER (MUST HAVE PERIOD)	
Nos.	NUMBERS (MUST HAVE PERIOD)	
NPS	NOMINAL PIPE SIZE	
NS	NEAR SIDE	
NSP	NEW STANDARD PLAN	
NTS	NOT TO SCALE	
	O	
Obir	OBLITERATE	
OC	OVERCROSSING	
OD	OUTSIDE DIAMETER	
OF	OUTSIDE FACE	
OG	ORIGINAL GROUND	
OGAC	OPEN GRADED ASPHALT CONCRETE	
OGFC	OPEN GRADED FRICTION COURSE	
OH	OVERHEAD	
OHWM	ORDINARY HIGH WATER MARK	
O-O	OUT TO OUT	
Opp	OPPOSITE	
OSD	OVERSIDE DRAIN	
	P	
p	PAGE	
PAP	PERFORATED ALUMINUM PIPE	
PB	PULL BOX	
PC	POINT OF CURVATURE, PRECAST	
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE	
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN	
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE	
PCVC	POINT OF COMPOUND VERTICAL CURVE	
PEC	PERMIT TO ENTER AND CONSTRUCT	
Ped	PEDESTRIAN	
Ped OC	PEDESTRIAN OVERCROSSING	
Ped UC	PEDESTRIAN UNDERCROSSING	
Perm MtI	PERMEABLE MATERIAL	

	P continued	
PG	PROFILE GRADE	
PI	POINT OF INTERSECTION	
PJP	PARTIAL JOINT PENETRATION	
Pkwy	PARKWAY	
PL, PL	PLATE	
P/L	PROPERTY LINE	
PM	POST MILE, TIME FROM NOON TO MIDNIGHT	
PN	PAVING NOTCH	
POC	POINT OF HORIZONTAL CURVE	
POT	POINT OF TANGENT	
POVC	POINT OF VERTICAL CURVE	
PP	PIPE PILE, PLASTIC PIPE, POWER POLE	
PPL	PREFORMED PERMEABLE LINER	
PPP	PERFORATED PLASTIC PIPE	
PRC	POINT OF REVERSE CURVE	
PRF	PAVEMENT REINFORCING FABRIC	
PRVC	POINT OF REVERSE VERTICAL CURVE	
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES	
PS, P/S	PRESTRESSED	
PSP	PERFORATED STEEL PIPE	
PT	POINT OF TANGENCY	
PVC	POLYVINYL CHLORIDE	
Pvmt	PAVEMENT	
	Q	
Qty	QUANTITY	
	R	
R	RADIUS	
R & D	REMOVE AND DISPOSE	
R & S	REMOVE AND SALVAGE	
R/C	RATE OF CHANGE	
RCA	REINFORCED CONCRETE ARCH	
RCB	REINFORCED CONCRETE BOX	
RCP	REINFORCED CONCRETE PIPE	
RCPA	REINFORCED CONCRETE PIPE ARCH	
Rd	ROAD	
Reinf	REINFORCED, REINFORCEMENT, REINFORCING	
Rel	RELOCATE	
Repl	REPLACEMENT	
Ret	RETAINING	
Rev	REVISED, REVISION	
Rdwy	ROADWAY	
RHMA	RUBBERIZED HOT MIX ASPHALT	
Riv	RIVER	
RM	ROAD-MIXED	
RP	RADIUS POINT, REFERENCE POINT	
RR	RAILROAD	
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN	
Rt	RIGHT	
Rte	ROUTE	
RW	REDWOOD, RETAINING WALL	
R/W	RIGHT OF WAY	
Rwy	RAILWAY	

	S	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
SL	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	T	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
TeI	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	T continued	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	
	U	
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	
	V	
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	
	W	
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWL	WINGWALL LAYOUT LINE	
	X	
X Sec	CROSS SECTION	
Xing	CROSSING	
	Y	
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	17	30

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Grace M. Tsushima
 No. C49814
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 12-28-15

UNIT OF MEASUREMENT SYMBOLS:

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kip	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	18	30

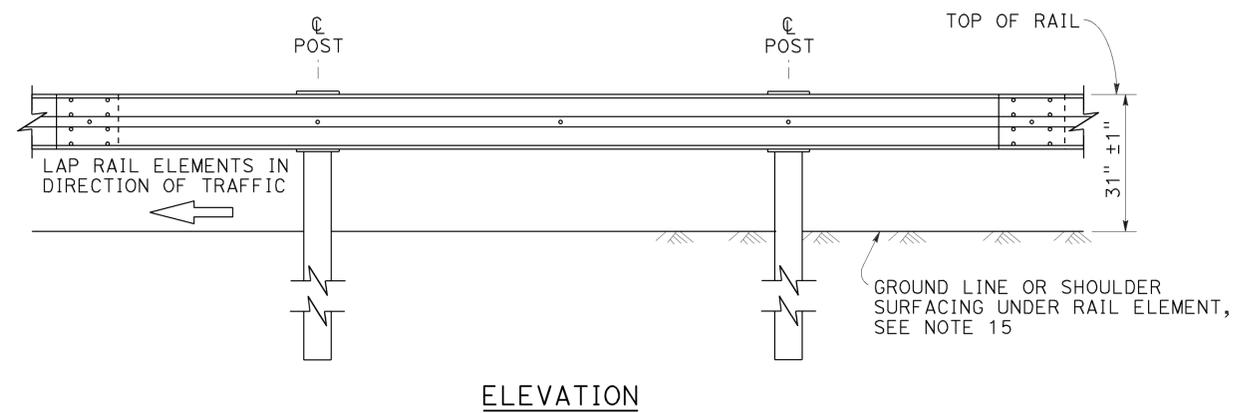
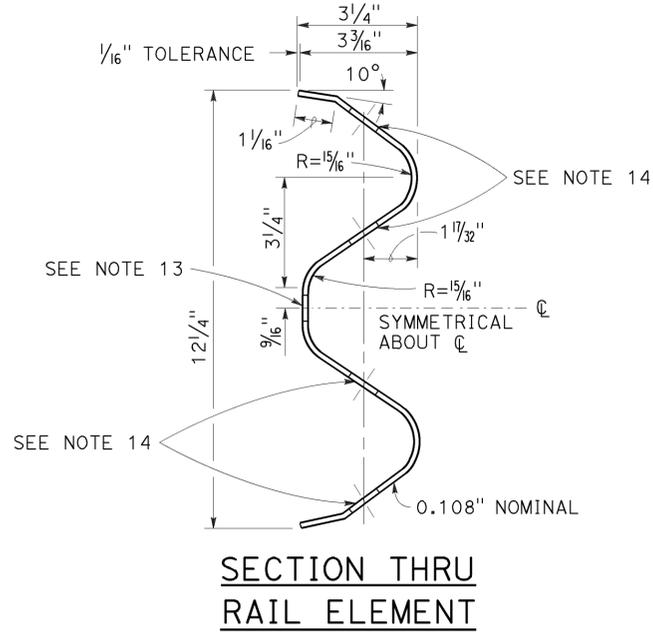
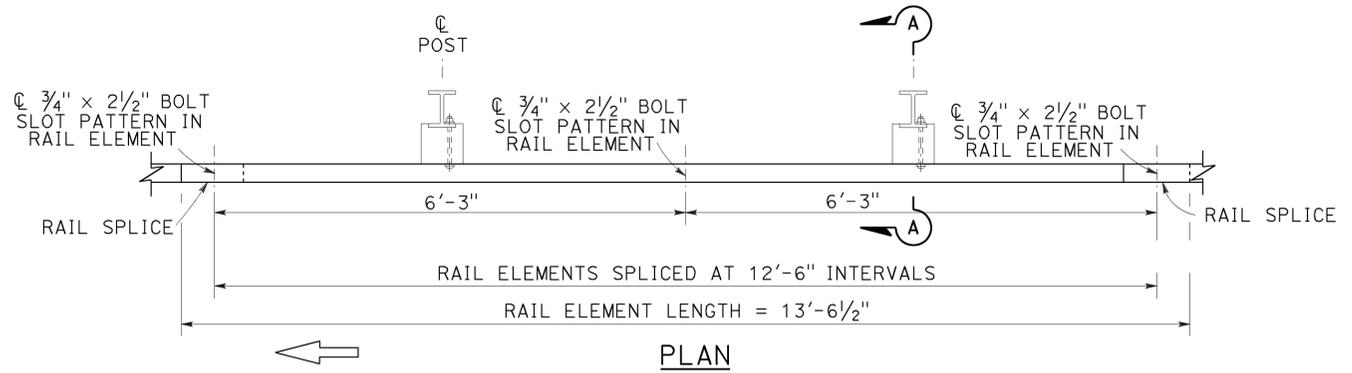
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 12-28-15

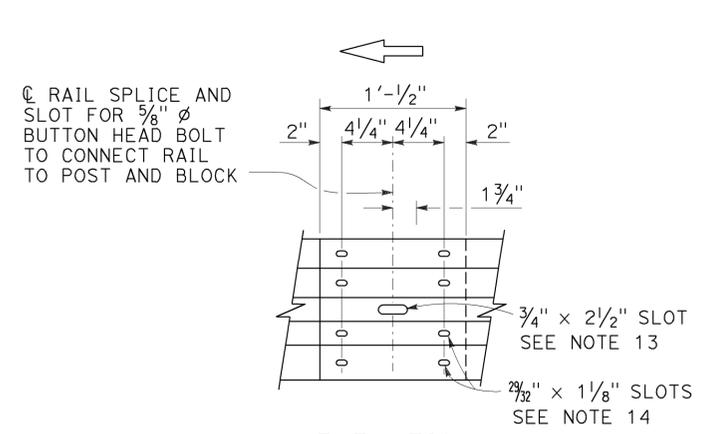
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA



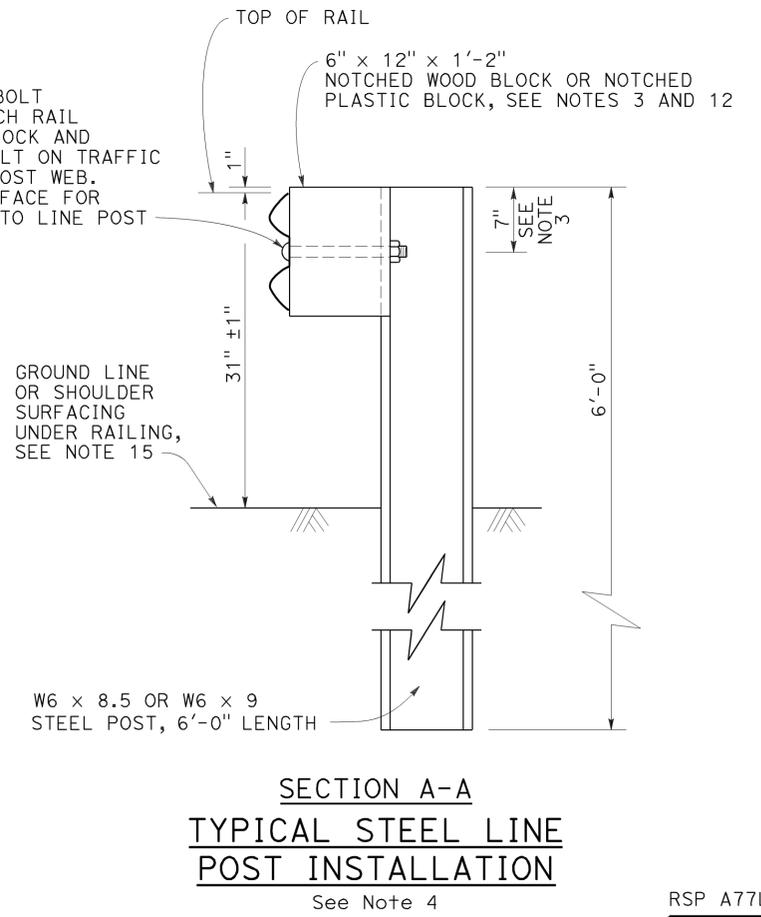
MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS

NOTES:

- For details of wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.



- Connect the over lapped end of the rail elements with 5/8" ø x 1 3/8" button head oval shoulder splice bolts inserted into the 2 7/32" x 1 1/8" slots and bolted together with 5/8" ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



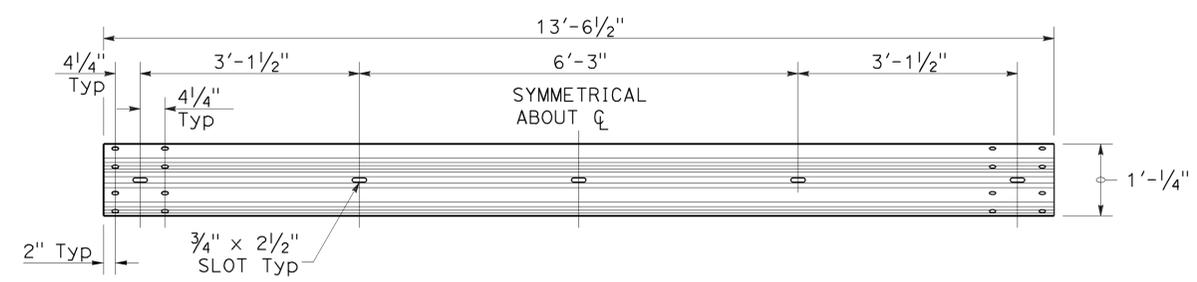
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

2010 REVISED STANDARD PLAN RSP A77L2

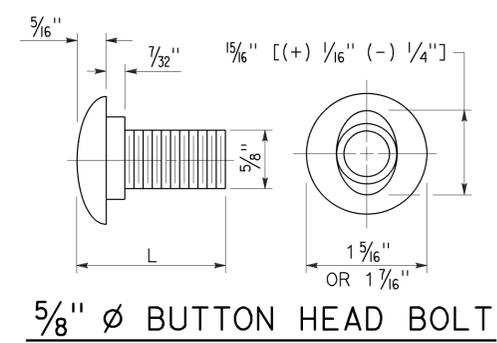
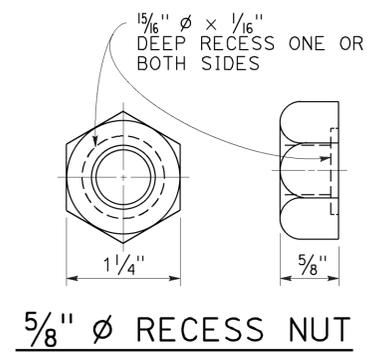
TO ACCOMPANY PLANS DATED 12-28-15



TYPICAL RAIL ELEMENT

NOTE:

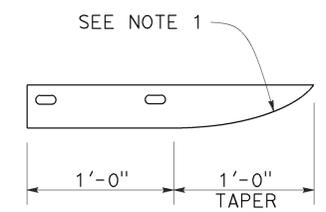
1. Slotted holes for splice bolts to overlap ends of rail element.



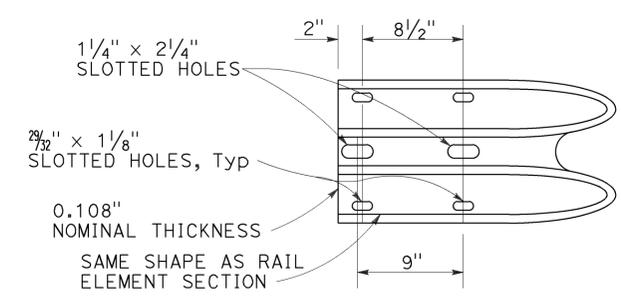
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



**ELEVATION
END CAP
(TYPE A)**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	20	30

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

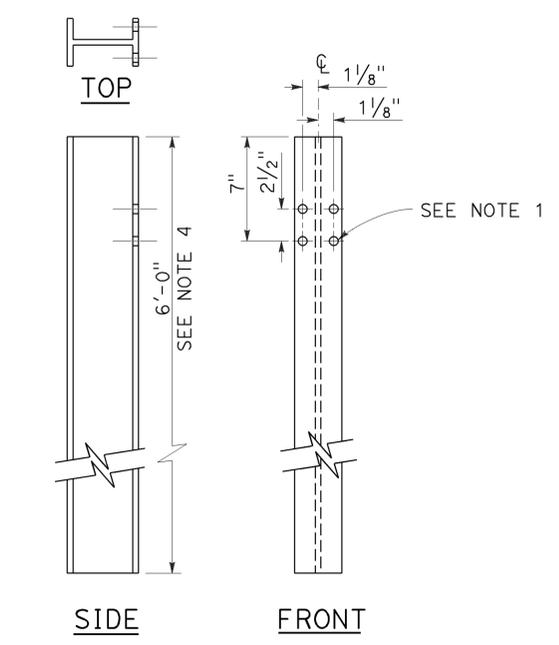
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

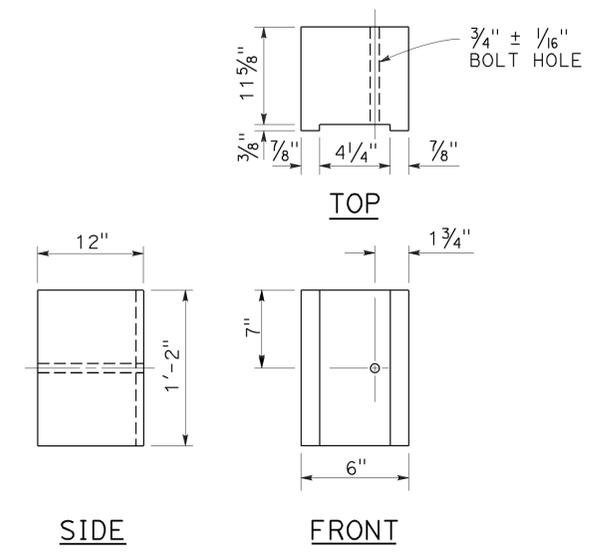
TO ACCOMPANY PLANS DATED 12-28-15

NOTES:

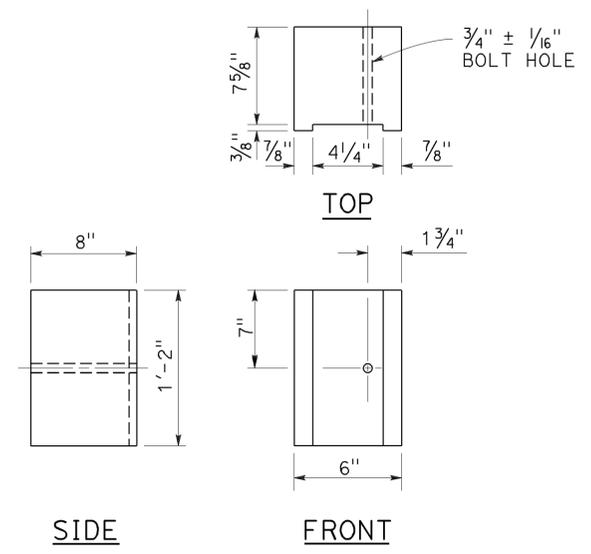
1. All holes in steel post shall be 1 3/8" Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.



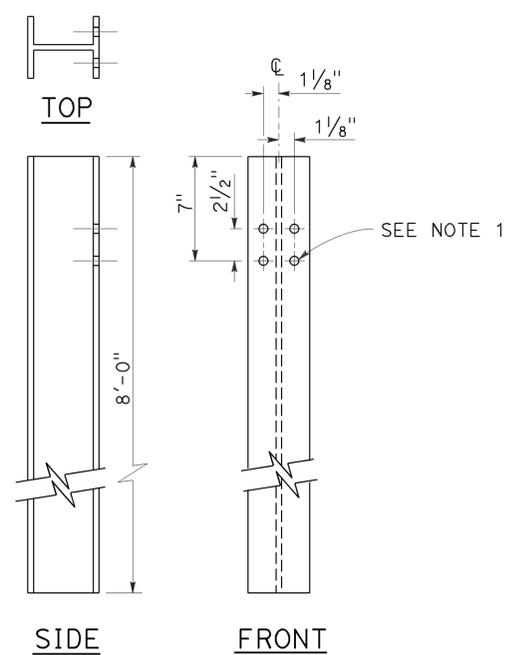
**W6 x 9 OR W6 x 8.5
STEEL POST**
See Note 4



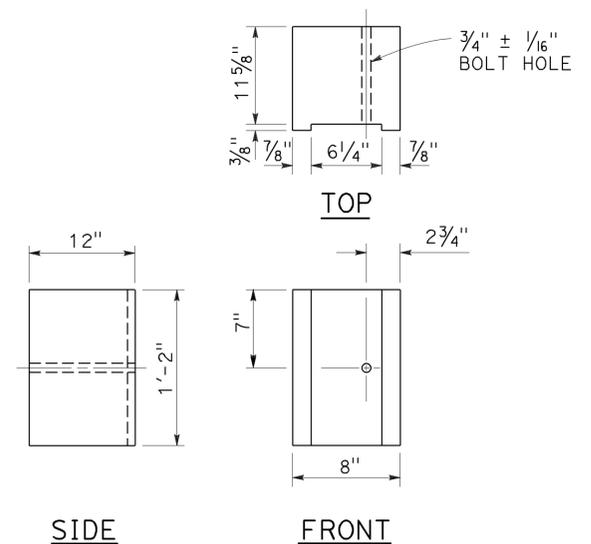
**6" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



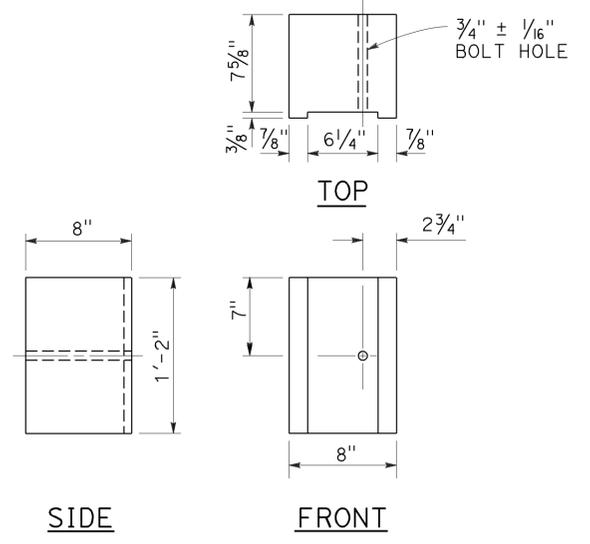
**6" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5



**W6 x 15
STEEL POST**
See Note 6



**8" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



**8" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STEEL POST AND
NOTCHED WOOD BLOCK DETAILS**

NO SCALE

RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N2

2010 REVISED STANDARD PLAN RSP A77N2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	21	30

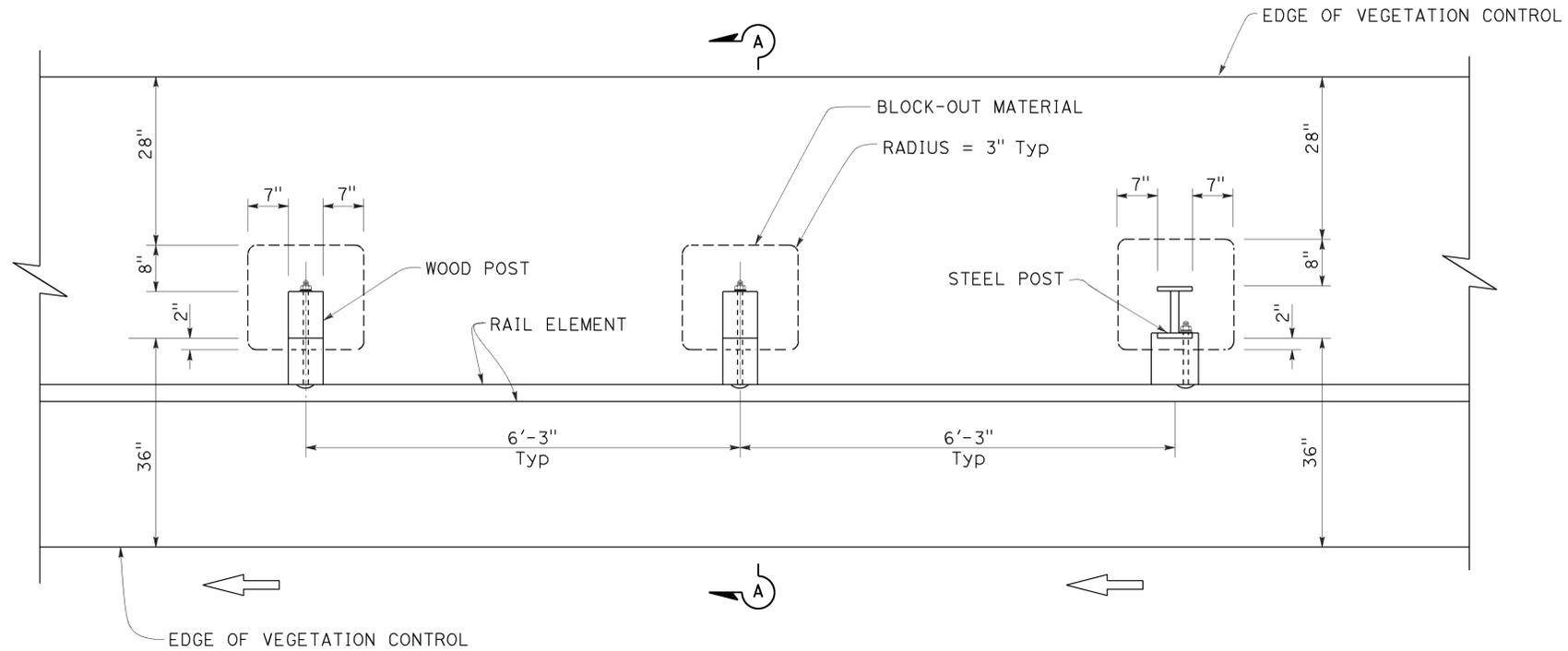
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

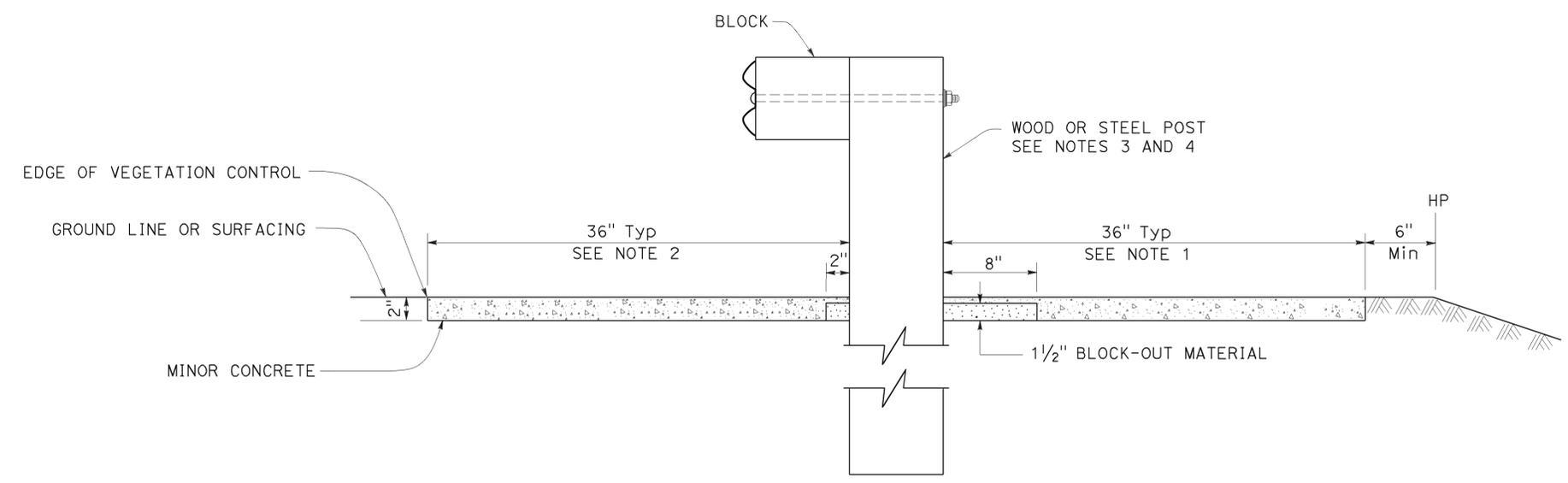
TO ACCOMPANY PLANS DATED 12-28-15



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	22	30

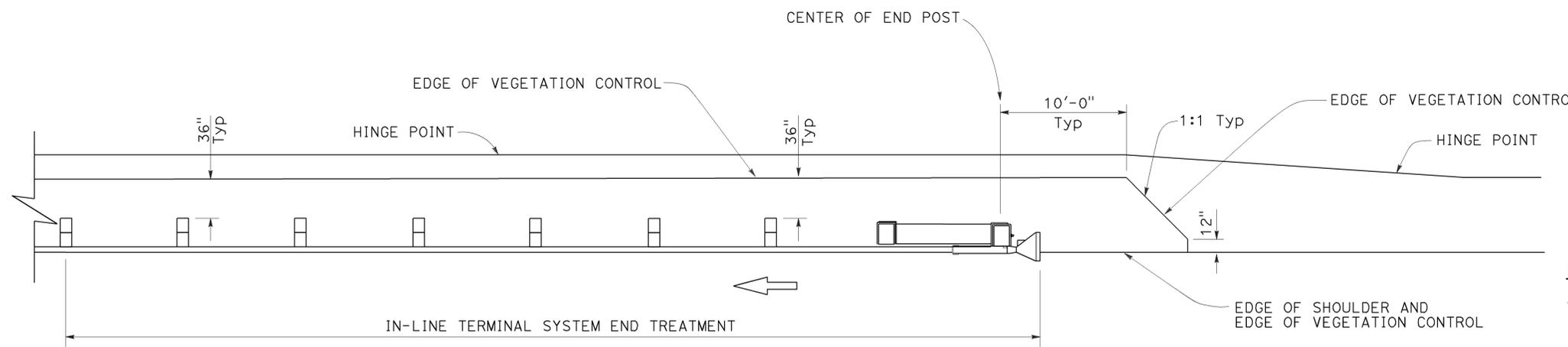
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

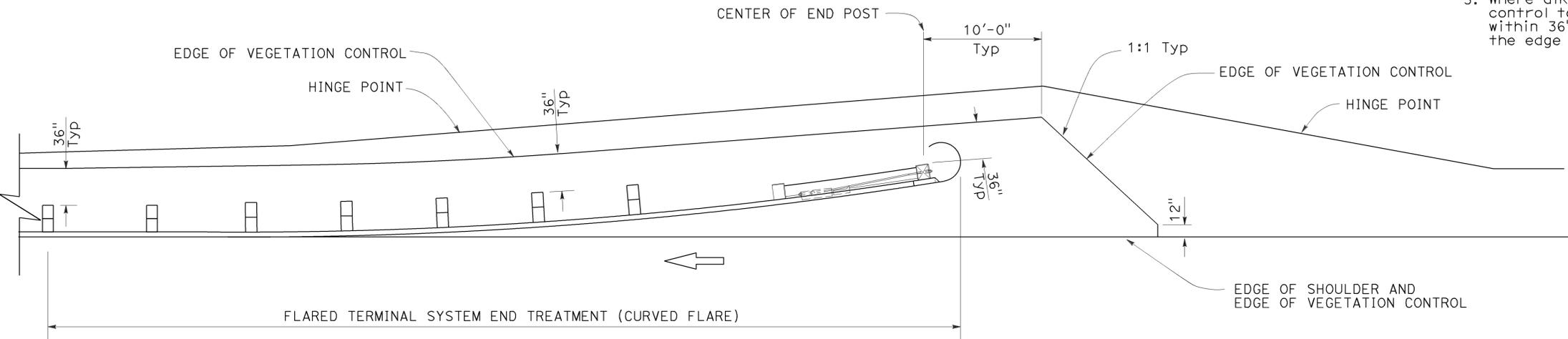
TO ACCOMPANY PLANS DATED 12-28-15



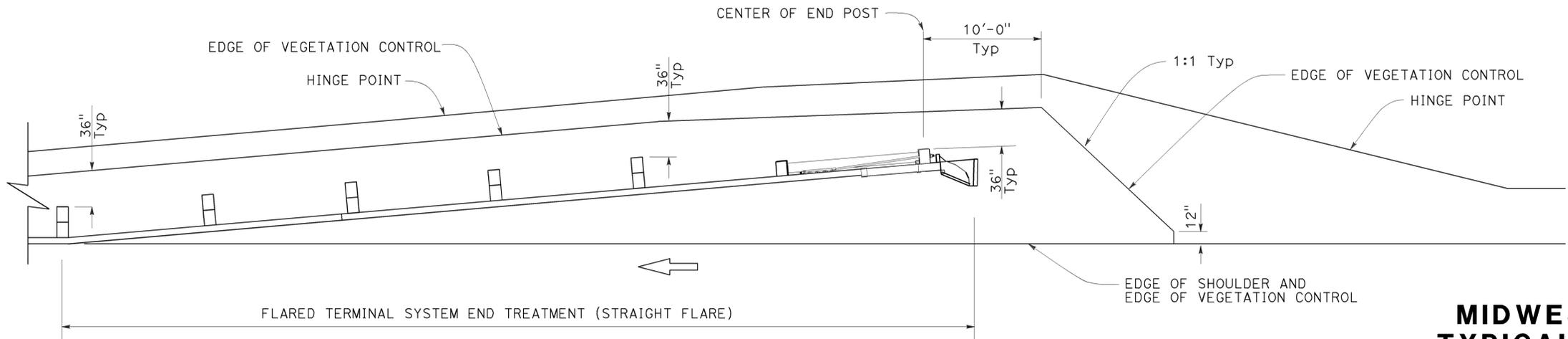
PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	23	30

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

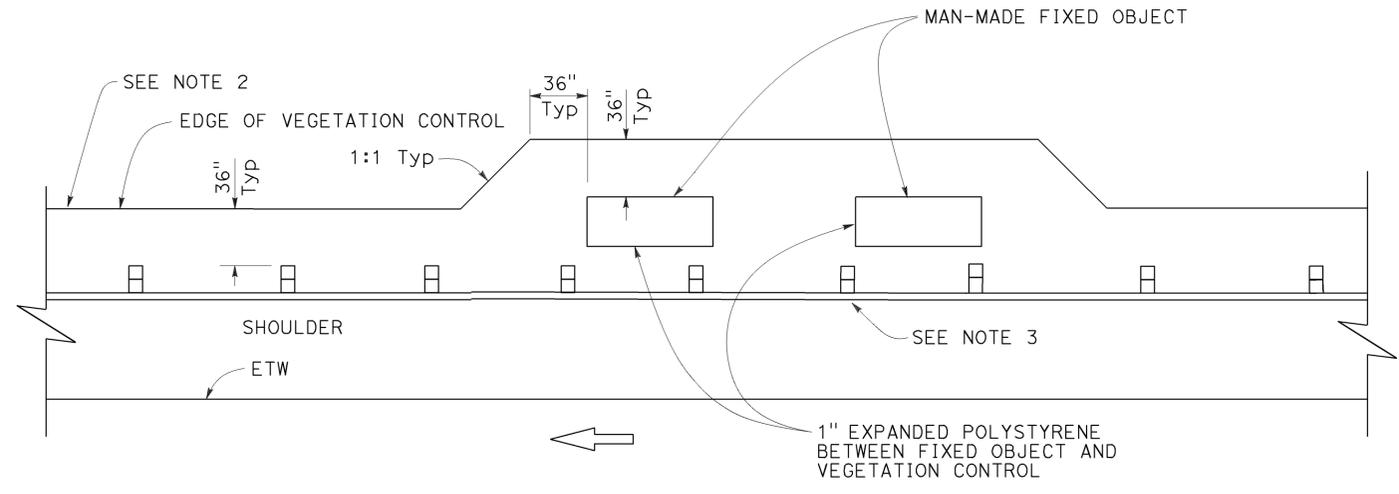
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-28-15

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN

Fixed object(s) on shoulder

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N8 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N8

2010 REVISED STANDARD PLAN RSP A77N8

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	24	30

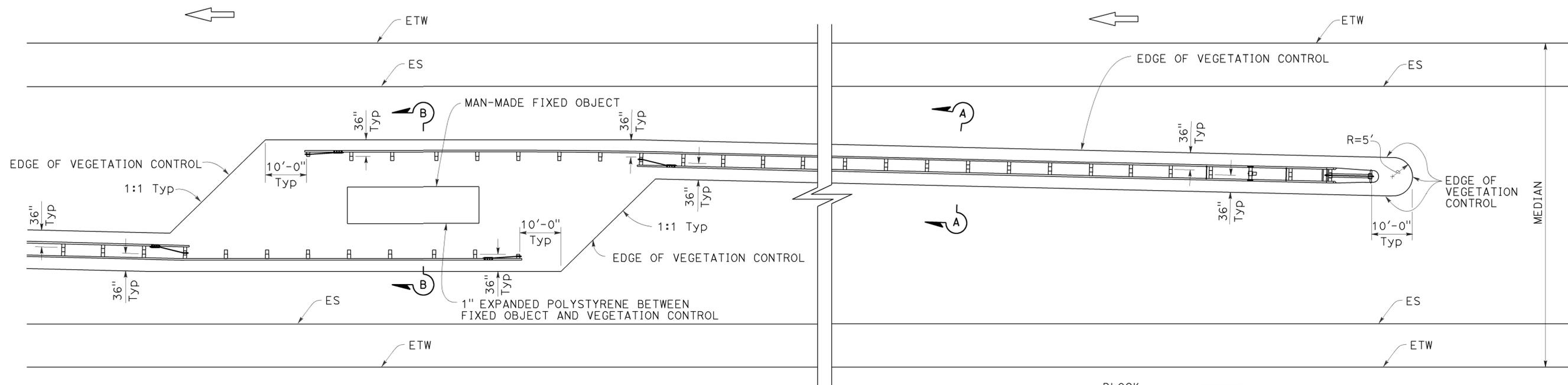
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

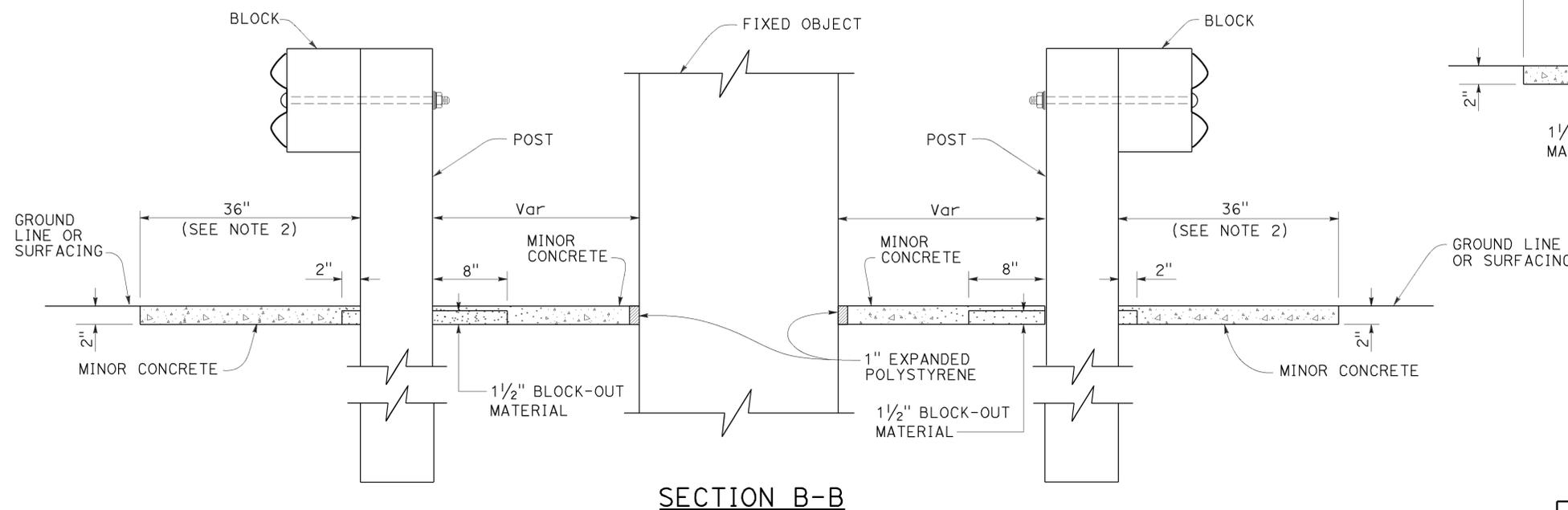
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 12-28-15

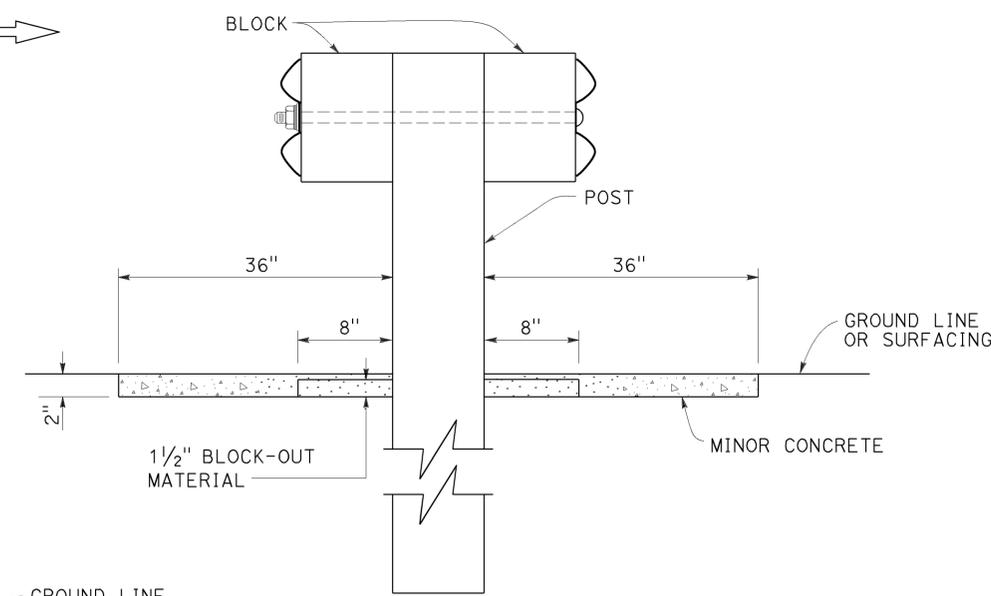


PLAN

Fixed object(s) in median



SECTION B-B



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N9 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N9

2010 REVISED STANDARD PLAN RSP A77N9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	25	30

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

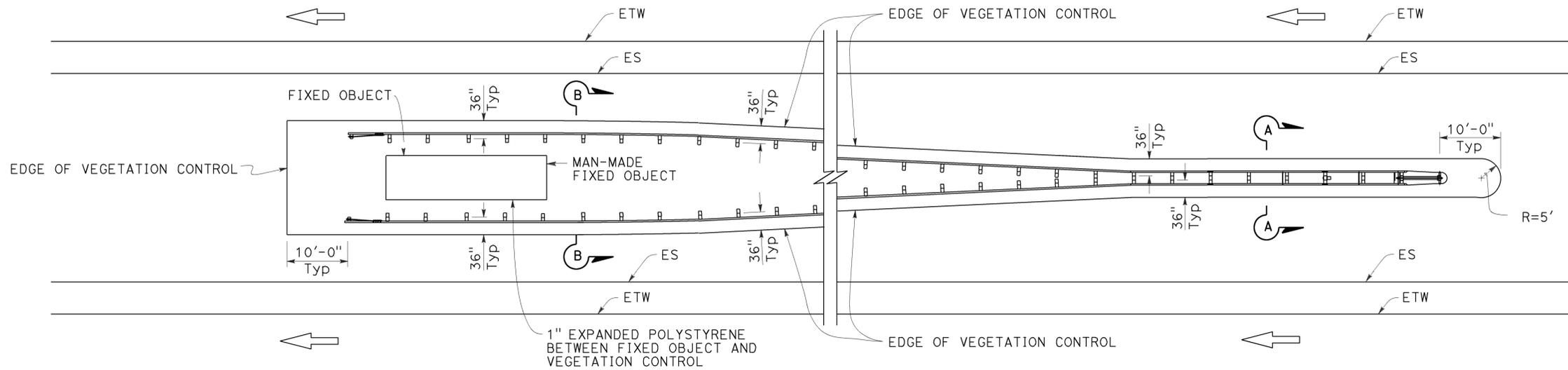
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 12-28-15



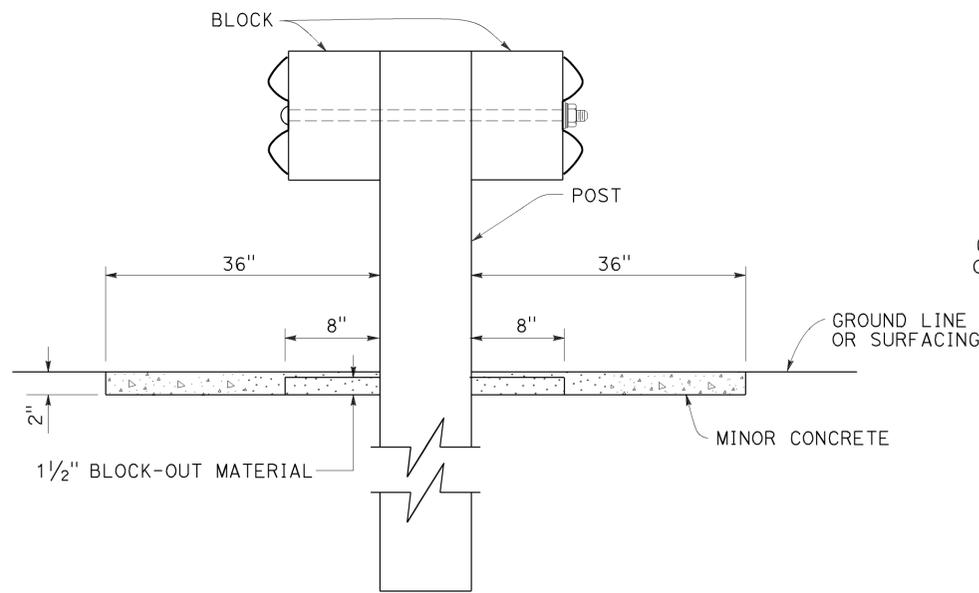
NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.

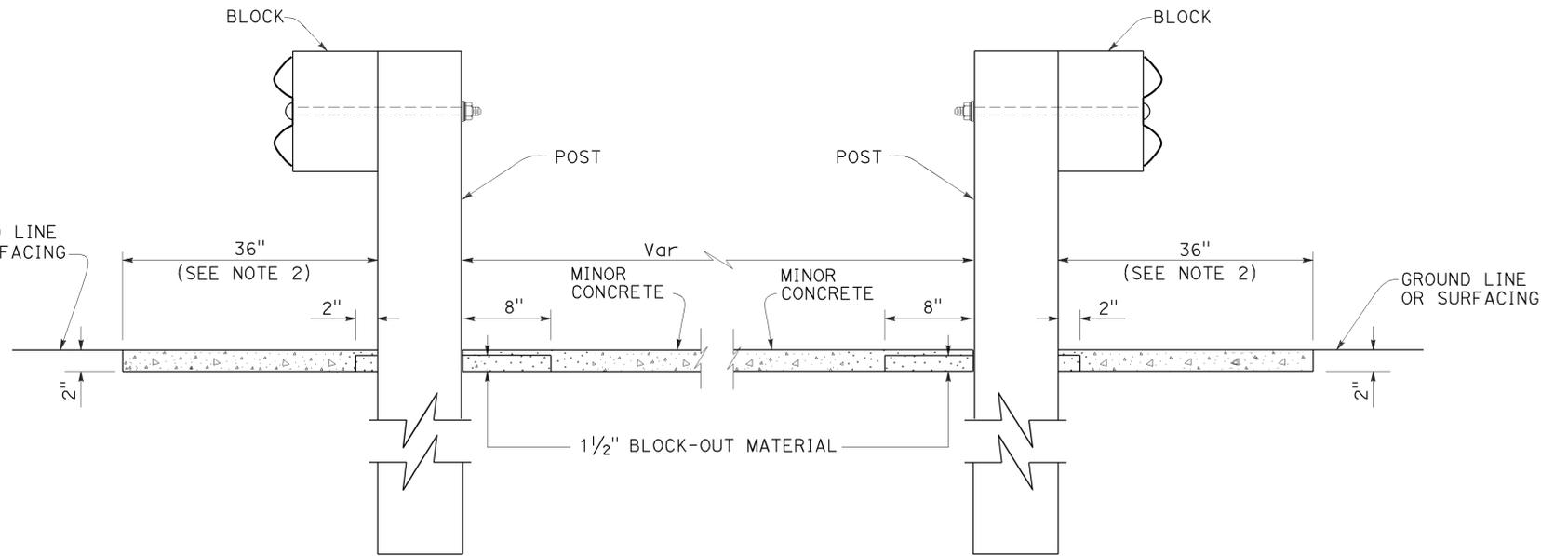


PLAN

Fixed object(s) between separate roadbeds
(One-Way Traffic)



SECTION A-A



SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N10 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N10

2010 REVISED STANDARD PLAN RSP A77N10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	26	30

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

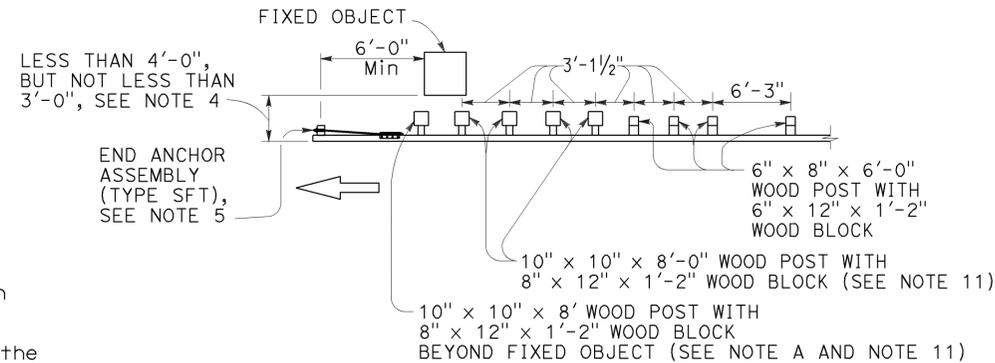
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 12-28-15

5/8" Ø BUTTON HEAD BOLT WITH Hex NUT OR 5/8" Ø ROD, THREADED BOTH ENDS, WITH Hex NUTS. 1/2" Max EXPOSED THREADS AFTER Hex NUT(S) TIGHTENED. NO WASHER ON RAIL FACES FOR BOLTED CONNECTION TO LINE POST

NOTES:

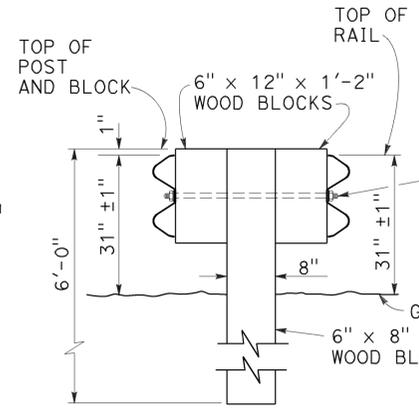
- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1, and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing of 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- For details of Rail Tensioning Assembly, see Revised Standard Plan RSP A77S2.
- The type of crash cushion to be used will be shown on the Project Plans.
- Type 14A layout is typically used on multilane freeways or expressways to shield fixed objects where a median type barrier is not constructed between the separated roadbeds.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- The 15:1 or flatter flare is measured off of the edge of traveled way.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".



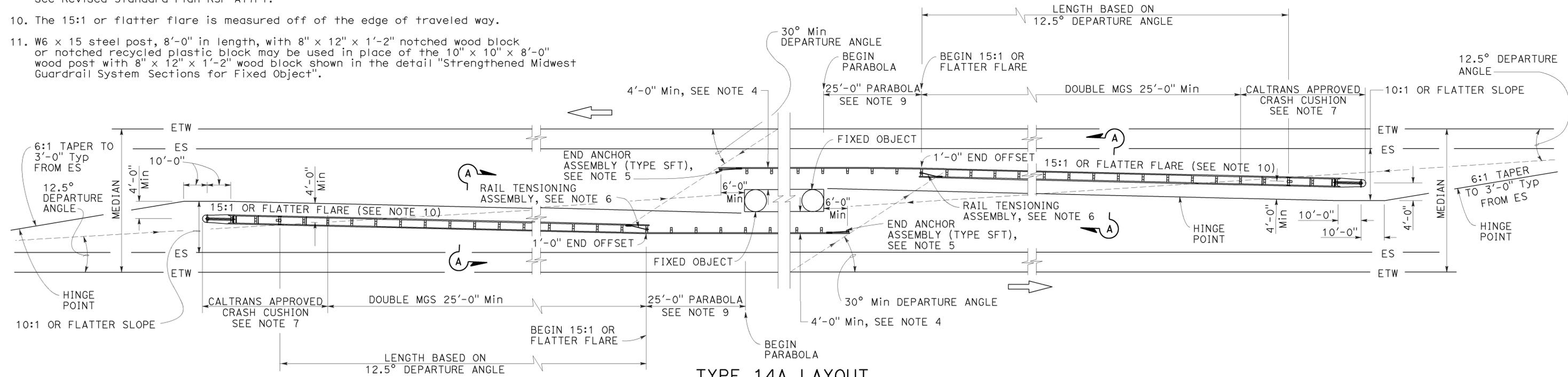
NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

Use strengthened MGS sections with Type 14A layout where minimum clearance between the face of the railing and fixed object(s) is less than 4'-0", but not less than 3'-0", See Note 4.

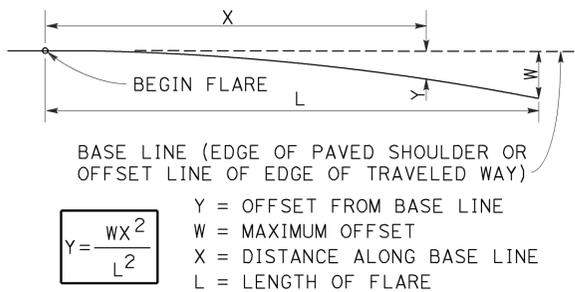


SECTION A-A TYPICAL DOUBLE MIDWEST GUARDRAIL SYSTEM

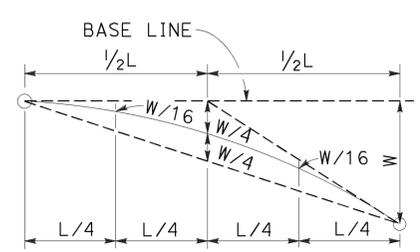


TYPE 14A LAYOUT

See Note 8



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR FIXED OBJECTS BETWEEN SEPARATE ROADBEDS (TWO-WAY TRAFFIC)

NO SCALE

RSP A77R1 DATED AUGUST 14, 2015 SUPERSEDES RSP A77R1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R1

2010 REVISED STANDARD PLAN RSP A77R1

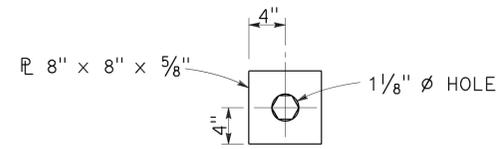
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	27	30

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

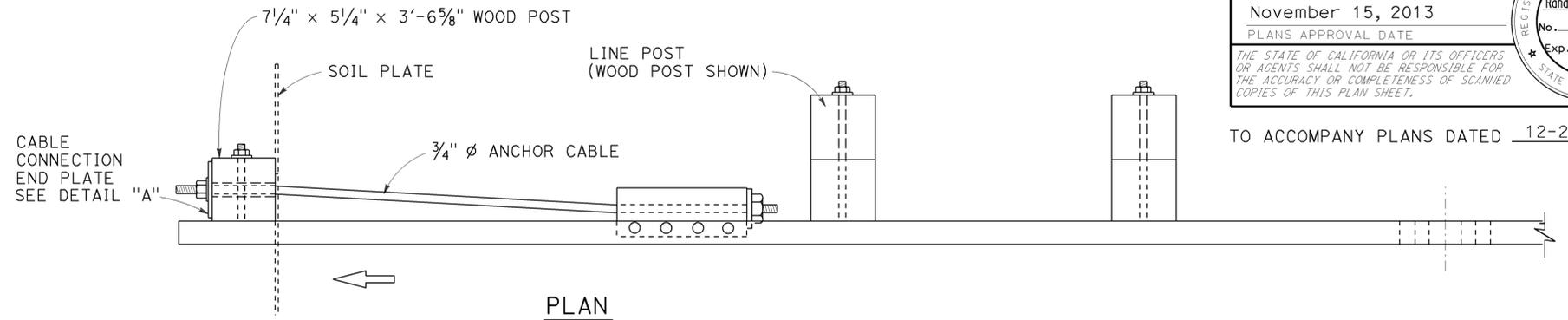
November 15, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

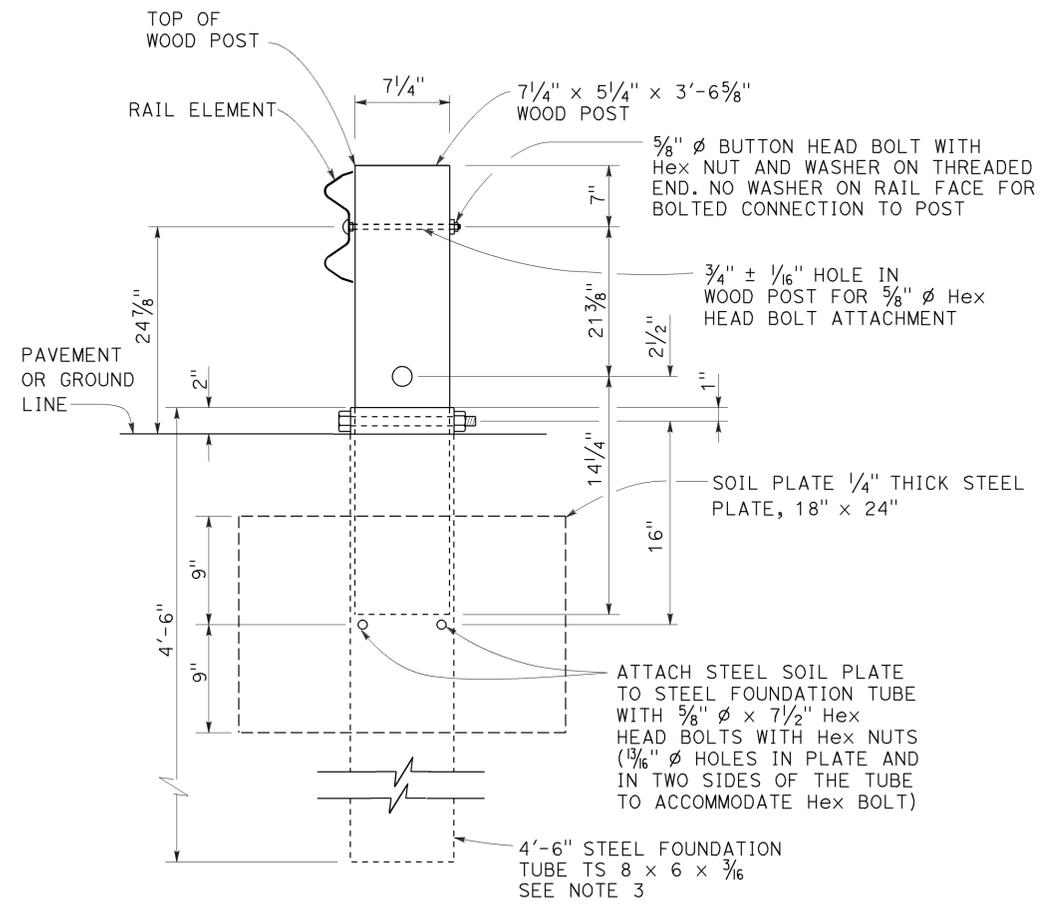
TO ACCOMPANY PLANS DATED 12-28-15



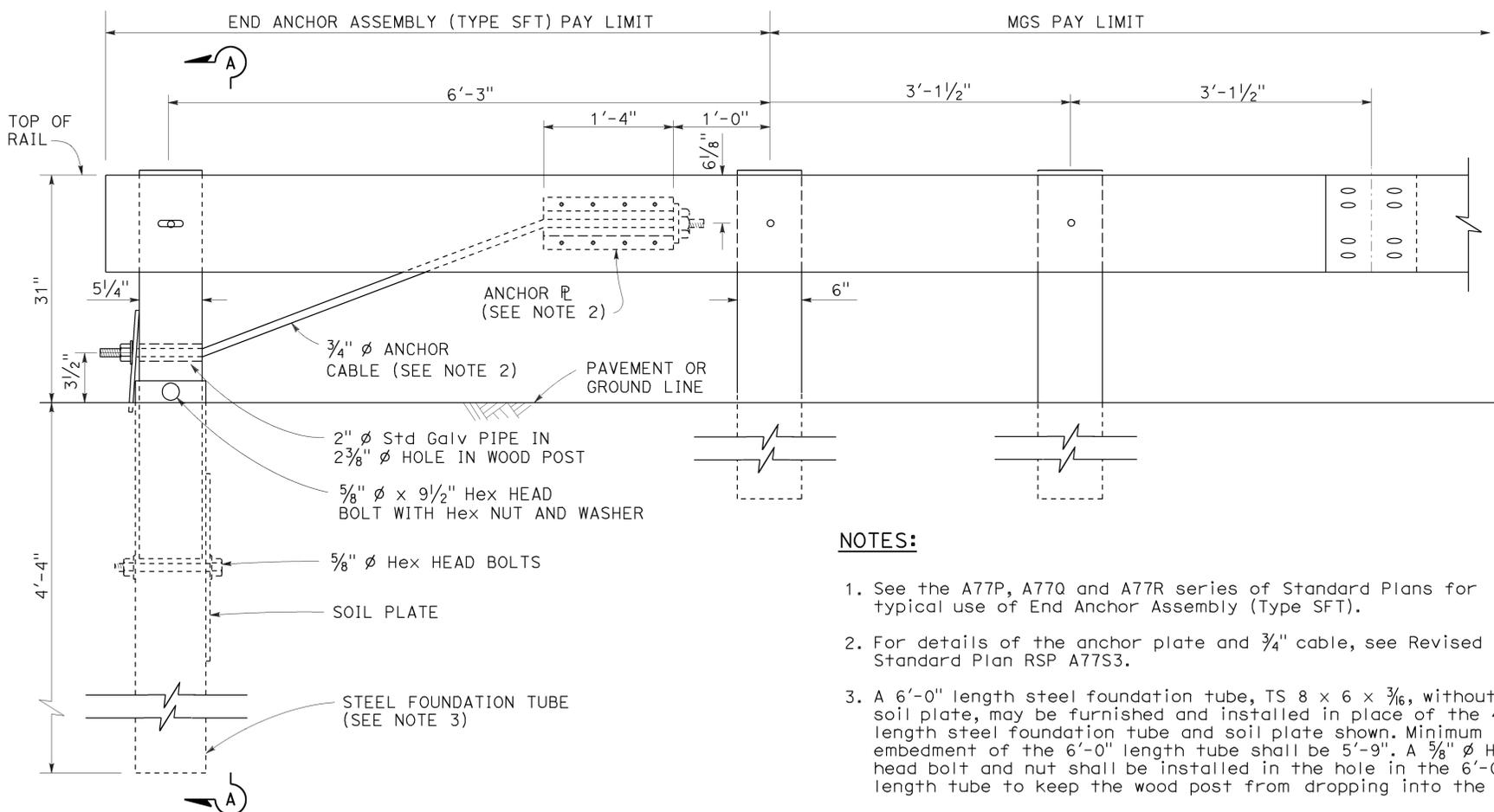
DETAIL "A"
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION

END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

1. See the A77P, A77Q and A77R series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter Hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77S1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S1

2010 REVISED STANDARD PLAN RSP A77S1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	28	30

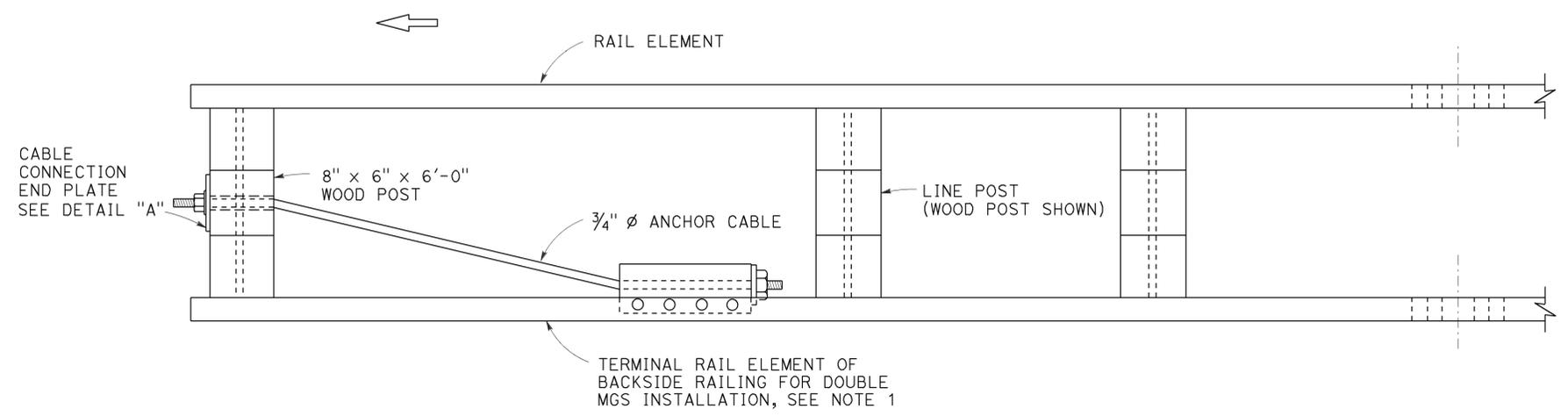
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

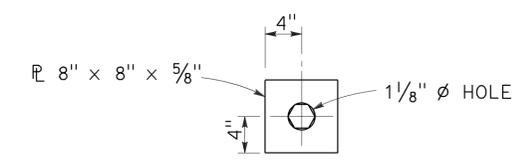
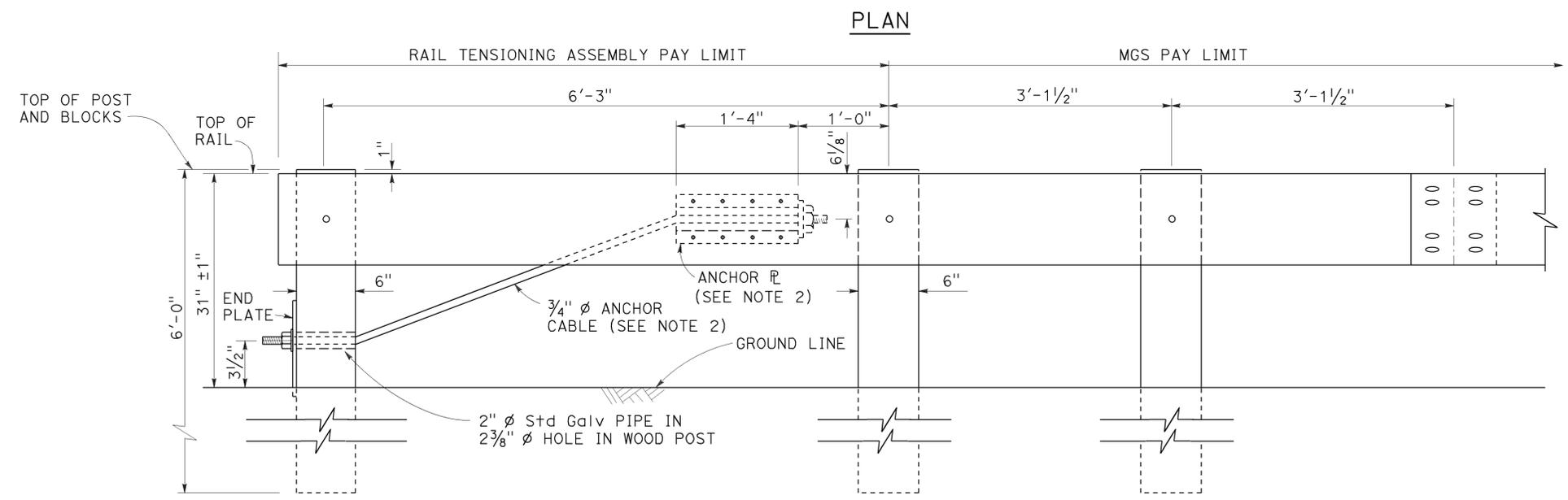
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-28-15



NOTES:

1. See Revised Standard Plans RSP A77Q3 and RSP A77R1 for typical use of rail tensioning assembly.
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.



DETAIL "A"
CABLE CONNECTION
END PLATE

ELEVATION
RAIL TENSIONING
ASSEMBLY
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
RAIL TENSIONING ASSEMBLY

NO SCALE

RSP A77S2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S2

2010 REVISED STANDARD PLAN RSP A77S2

TO ACCOMPANY PLANS DATED 12-28-15

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

* - For other offsets, use the following merging taper length formula for L:
 For speed of 40 mph or less, $L = WS^2/60$
 For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
 W = Width of offset in feet
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph
 ** - Longitudinal buffer space or flagger station spacing
 *** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM TABLES
 FOR LANE AND RAMP CLOSURES**

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

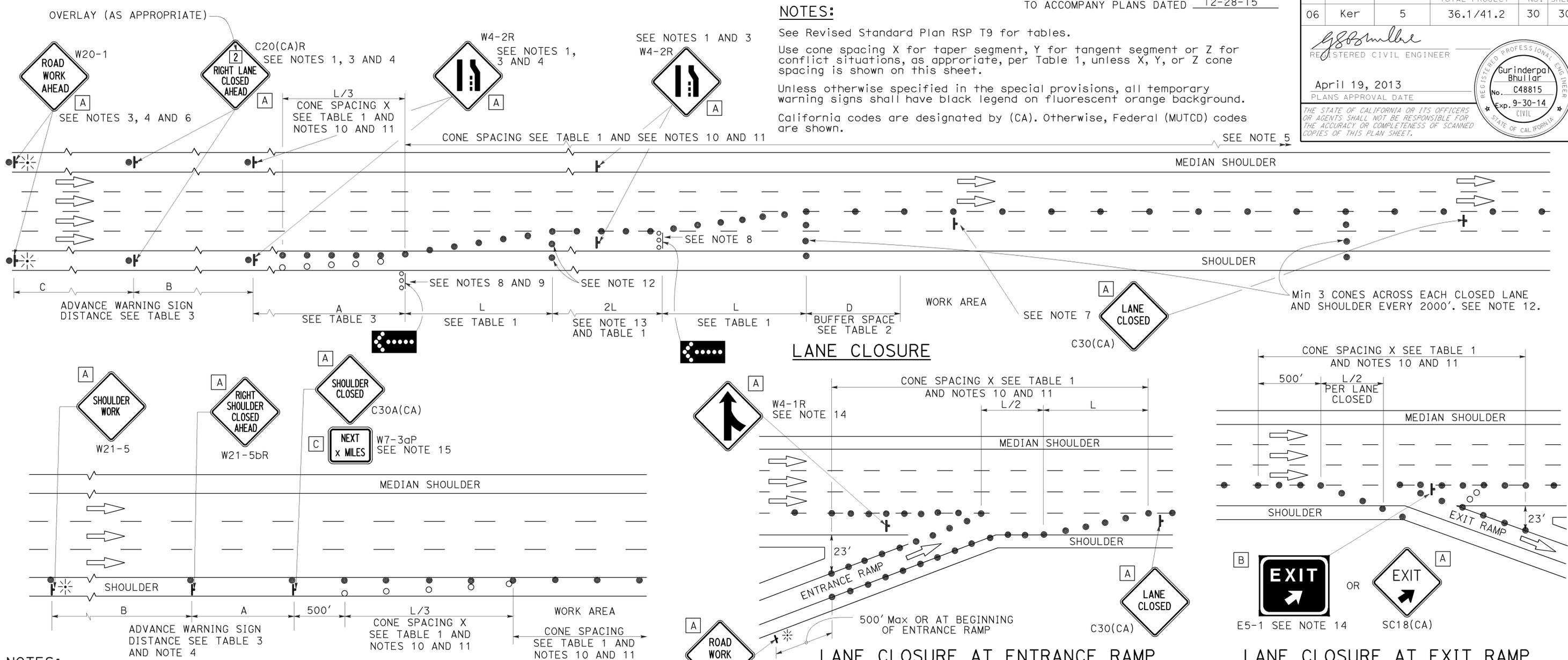
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	36.1/41.2	30	30

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-28-15

NOTES:

See Revised Standard Plan RSP T9 for tables.
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



NOTES:

- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Duplicate sign installations are not required:
 - On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

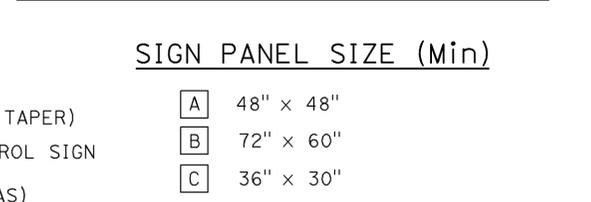
SHOULDER CLOSURE

- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA)L and W4-2L signs shall be used.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

LANE CLOSURE AT ENTRANCE RAMP

- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
- A W7-3aP "NEXT _____ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

LANE CLOSURE AT EXIT RAMP



LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ⬢ FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 72" x 60"
- C 36" x 30"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURE ON
 FREEWAYS AND EXPRESSWAYS**
 NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10