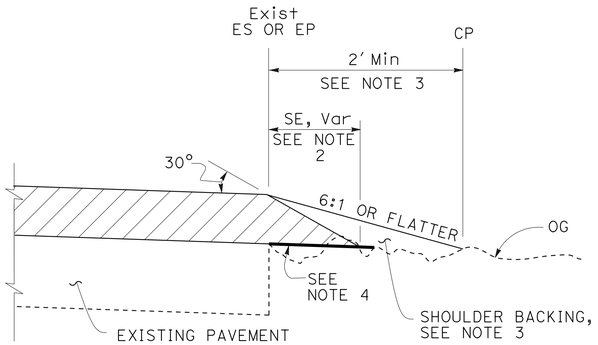
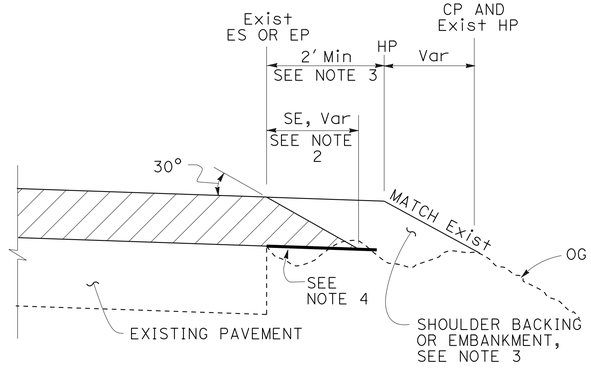
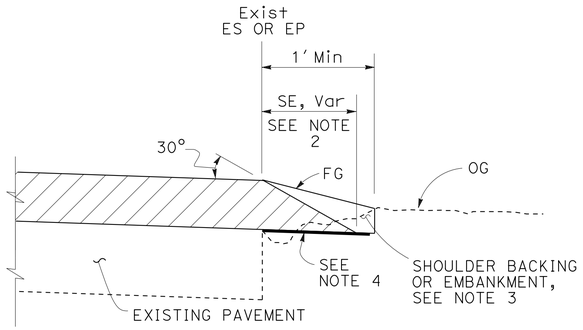


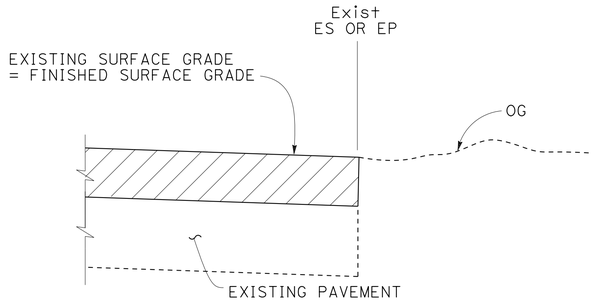
CASE A
Safety Edge



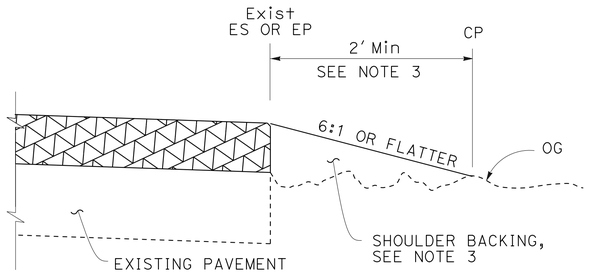
CASE B
Safety Edge



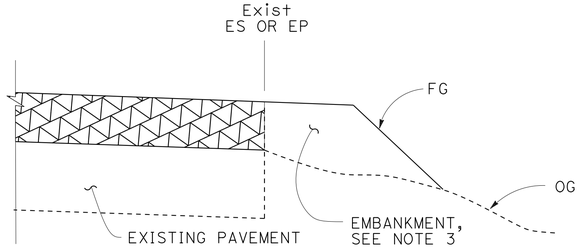
CASE C
Safety Edge



CASE D
Vertical Edge



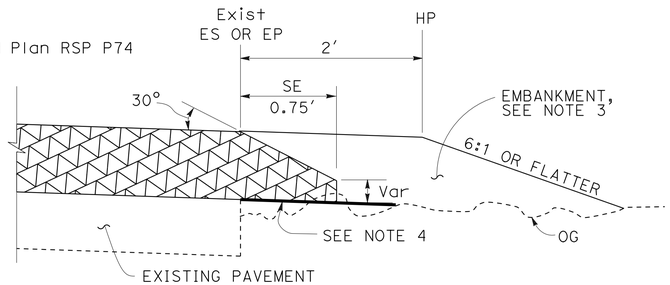
CASE E
Vertical Edge



CASE F
Vertical Edge
* See Table A and Revised Std Plan RSP P74

NOTES:

1. For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74.
2. Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
3. For locations and limits of shoulder backing or embankment see project plans.
4. Grade existing ground to place safety edge. 1' minimum width
5. Safety edge transverse joint must match overlay transverse joint. End of #6 longitudinal bar must be 2" ±½" clear from transverse joint.
6. Safety edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.



DETAIL "A"
For HMA overlay thickness more than 0.43' or concrete overlay

LEGEND:

HMA OVERLAY

HMA OR CONCRETE OVERLAY

CONCRETE OVERLAY

ABBREVIATIONS:

SE SAFETY EDGE
TT TOTAL THICKNESS OF SE

TABLE A
EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

	OVERLAY THICKNESS	
FIELD CONDITION	LESS THAN 0.15'	0.15' OR MORE
Exist SLOPE 6:1 OR FLATTER	CASE E	CASE A
Exist SLOPE 3:1 TO 6:1	CASE E	CASE B
Exist SLOPE STEEPER THAN 3:1	CASE F	CASE F
CUT SECTION (REPLACE, COLD PLANE, MILL PAVEMENT)	CASE D	CASE C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1001	1168

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Cornelis M. Hakim
No. C55610
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

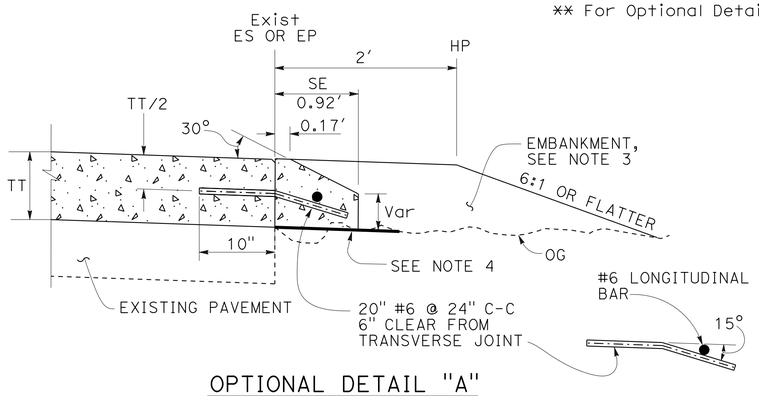
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 3-3-14

ADDITIONAL HMA OR CONCRETE QUANTITIES FOR SE/SIDE/MILE

TYPICAL CROSS SECTION	TT	TOTAL ADDITIONAL MATERIAL FOR SE/SIDE/MILE		
		HMA (TON)	CONCRETE (CY)*	CONCRETE (CY)**
TT	0.15'	NA	NA	NA
	0.20'	13.7	NA	NA
	0.30'	30.9	NA	NA
	0.40'	54.9	NA	NA
	0.45'	69.4	NA	NA
TT, 0.43	0.50'	84.2	NA	NA
	0.60'	113.9	NA	NA
	0.70'	143.6	70.9	94.2
	0.80'	173.3	85.6	112.2
	0.90'	203.0	100.3	130.2
	1.00'	232.7	114.9	148.2
	1.10'	262.4	129.6	166.2
	1.20'	292.1	144.3	184.2

* For Detail "A"
** For Optional Detail "A"



OPTIONAL DETAIL "A"
For concrete overlay
See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS-OVERLAYS

NO SCALE

RSP P75 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P75 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P75

2010 REVISED STANDARD PLAN RSP P75

10-4-13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1002	1168

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

Cornelis M. Hakim
No. C55610
Exp. 12-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-3-14

LEGEND:

HMA PAVEMENT

HMA OR CONCRETE PAVEMENT

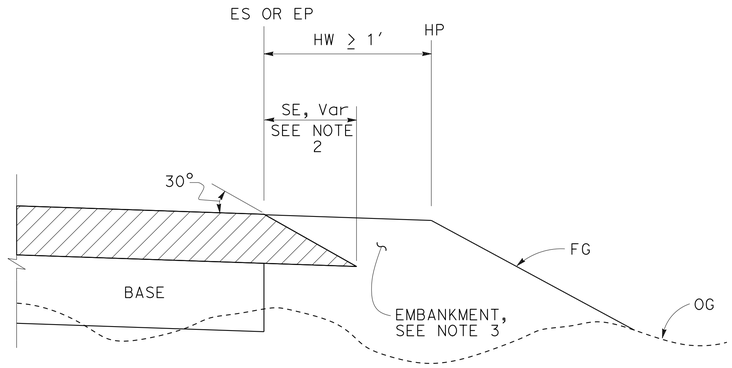
CONCRETE PAVEMENT

ABBREVIATIONS:

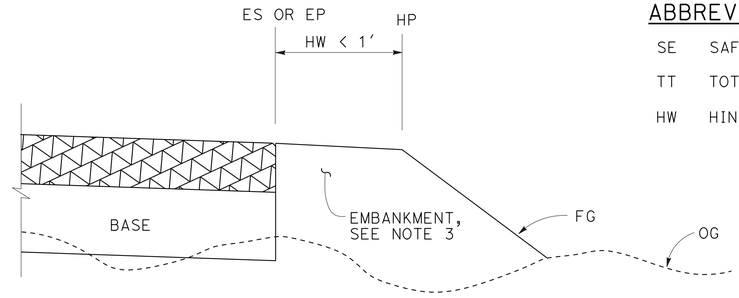
SE SAFETY EDGE

TT TOTAL THICKNESS OF SE

HW HINGE WIDTH, DISTANCE FROM ES OR EP TO HP

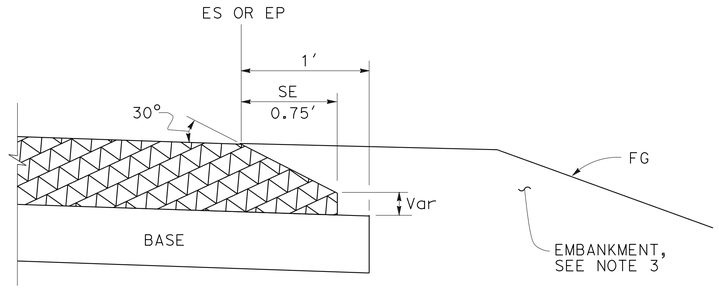


CASE K
Safety Edge - Fill Section, HW ≥ 1′

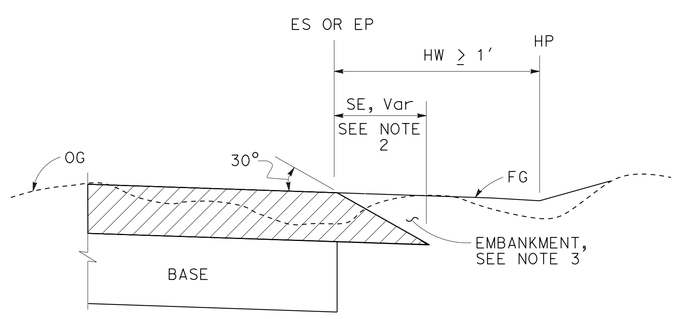


CASE L
Vertical Edge - Fill Section, HW < 1′

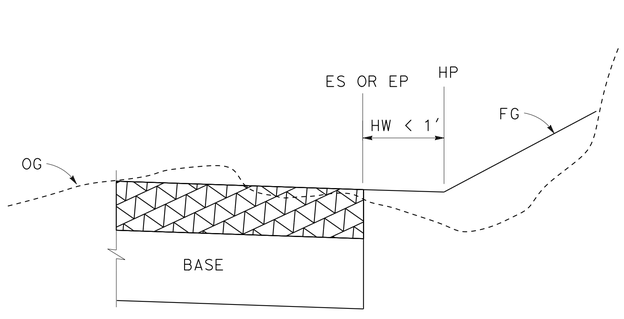
FILL SECTION



DETAIL "B"
For HMA pavement thickness
more than 0.43′ or concrete pavement

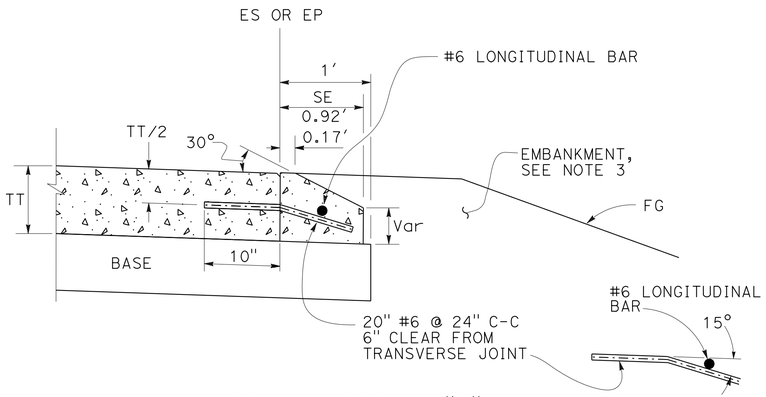


CASE M
Safety Edge - Cut Section, HW ≥ 1′



CASE N
Vertical Edge - Cut Section, HW < 1′

CUT SECTION



OPTIONAL DETAIL "B"
For concrete pavement
See Note 4

NOTES:

1. For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74
2. Details shown for HMA pavement thickness less than 0.43′. See Detail "B" for HMA pavement thickness more than 0.43′ or concrete pavement.
3. For locations and limits of embankment see project plans.
4. Safety edge transverse joint must match pavement transverse joint. End of #6 longitudinal bar must be 2" ±½" clear from transverse joint.
5. Safety edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS- NEW CONSTRUCTION

NO SCALE

RSP P76 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P76 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P76

2010 REVISED STANDARD PLAN RSP P76

10-4-13

TO ACCOMPANY PLANS DATED 3-3-14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1003	1168

Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Glenn DeCou, No. C34547, Exp. 9-30-13, CIVIL, STATE OF CALIFORNIA

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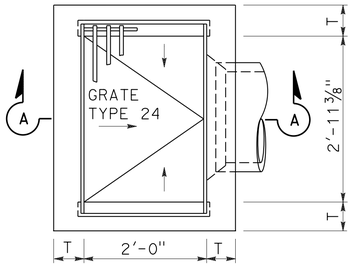
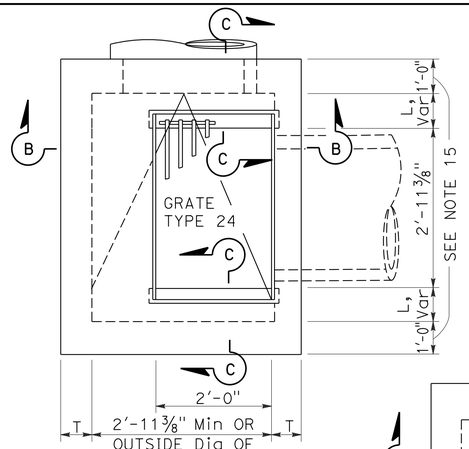
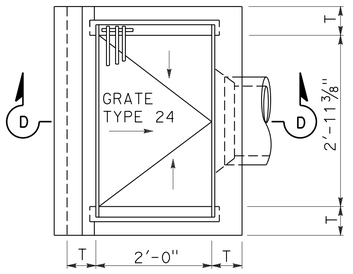


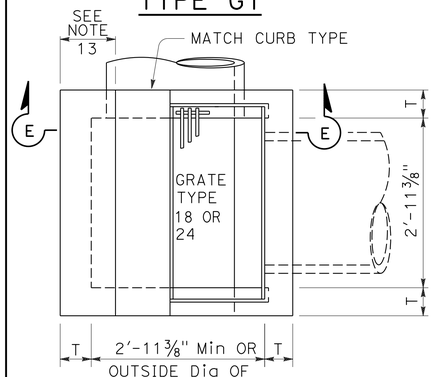
TYPE G1



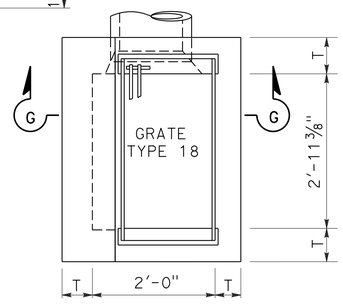
TYPE G2



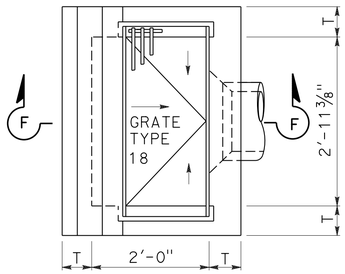
TYPE G3



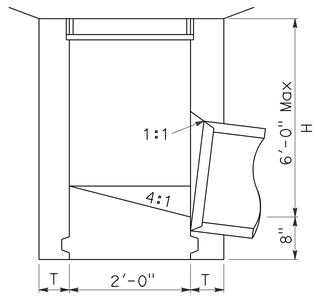
TYPE G4



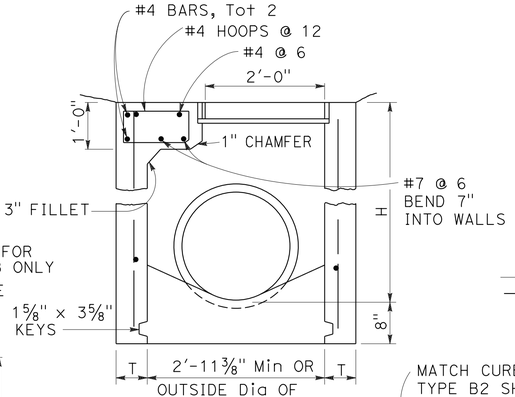
TYPE G6



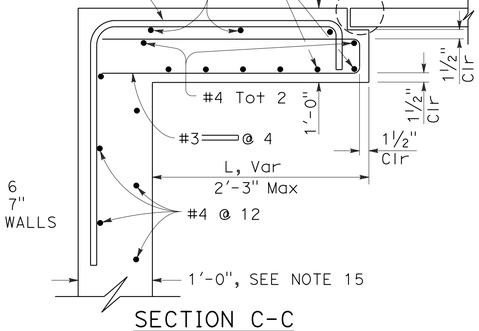
TYPE G5



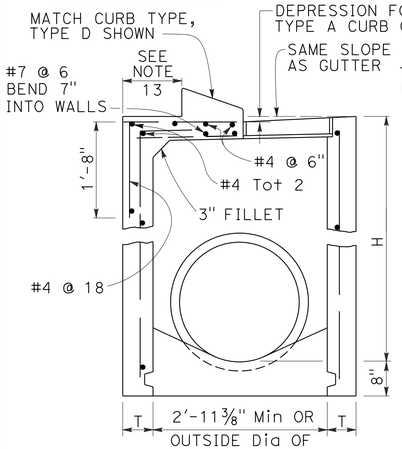
SECTION A-A



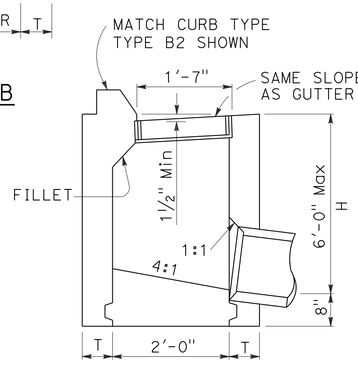
SECTION B-B



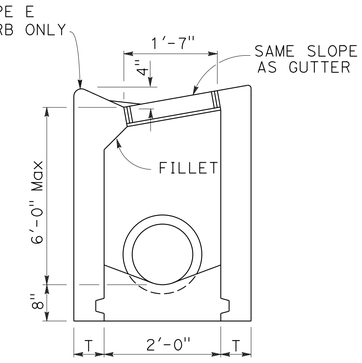
SECTION C-C



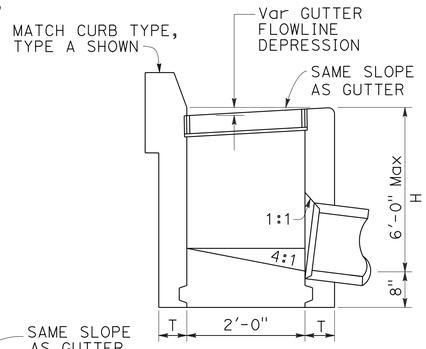
SECTION E-E



SECTION F-F



SECTION G-G



SECTION D-D

NOTES:

1. "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
2. For "T" wall thickness, see Table A below.
3. Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 bars @ 1'-6" ± centers placed 1½" clear to inside of box unless otherwise shown.
4. Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom and alternative half round bottom.
5. Steps-None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below top of inlet. The distance between steps shall not exceed 1'-0" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
6. Details shown apply to both metal and concrete pipe.
7. Pipe(s) can be placed in any wall.
8. Curb section shall match adjacent curb.
9. Basin floors shall have wood trowel finish and a minimum slope of 12:3 from all directions toward outlet pipe.
10. Set inlet so that grate bars are parallel to direction of principal surface flow.
11. See Revised Standard Plans D77A and D77B for grate and frame details and weights of miscellaneous iron and steel.
12. See Standard Plan D78A for gutter depression details.
13. This dimenison will vary with different grates, curbs types, box width and wall thickness.
14. Bar may be rotated as necessary to clear opening. Where "L" is 6" or less, bar may be omitted.
15. Where "L" is 6" or less, wall thickness shall be as shown in Table A.
16. Cast-in-place inlets to be formed around all pipes/stubs intersecting the inlet, and concrete poured in one continuous operation. Precast inlets shall have mortared connections conforming to details for Type GCP Inlet shown on Standard Plan D75B. See Standard Specifications for mortar composition.

TABLE A

TYPE	CONCRETE QUANTITIES			
	H=3'-0" TO 8'-0" (T=6")		H=8'-1" TO 20'-0" (T=8")	
	H=3'-0" (CY)	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
G-1	0.95	0.220	See Note A	SEE NOTE A
G-2*	1.31	0.255	3.50	0.357
G-3	1.03	0.220	See Note A	SEE NOTE A
G-4* (TYPE 24)	1.27	0.255	3.48	0.357
G-4* (TYPE 18)	1.30	0.255	3.50	0.357
G-5	1.02	0.220	SEE NOTE A	SEE NOTE A
G-6	1.04	0.220	SEE NOTE A	SEE NOTE A

TABLE BASED ON 8" FLOOR SLAB. NO DEDUCTIONS ARE TO BE MADE TO THESE QUANTITIES BECAUSE OF PIPE OPENINGS, DIFFERENT FLOOR ALTERNATIVES OR DIFFERENT CURB TYPES. * QUANTITIES FOR TYPE G-2 AND G-4 INLETS BASED ON THE MINIMUM INTERIOR DIMENSIONS.

NOTE A:

Maximum allowable height 6'-0".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLETS

NO SCALE

RSP D73 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN D73 DATED MAY 20, 2011 - PAGE 156 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D73

2010 REVISED STANDARD PLAN RSP D73

7-19-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1004	1168

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Raymond Don Tsztoo No. C37332 Exp. 6-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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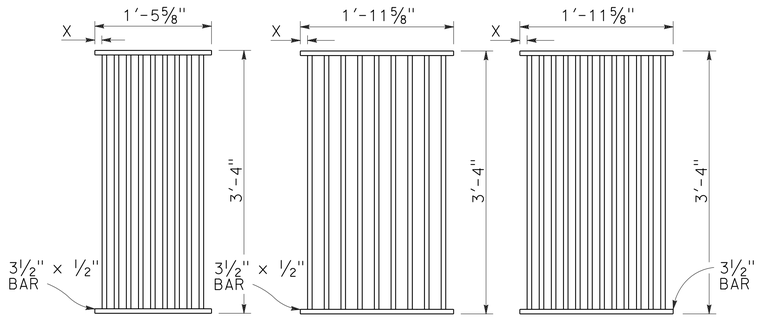
TO ACCOMPANY PLANS DATED 3-3-14

2010 REVISED STANDARD PLAN RSP D77A



TYPE 18-9

1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

TYPE 24-9

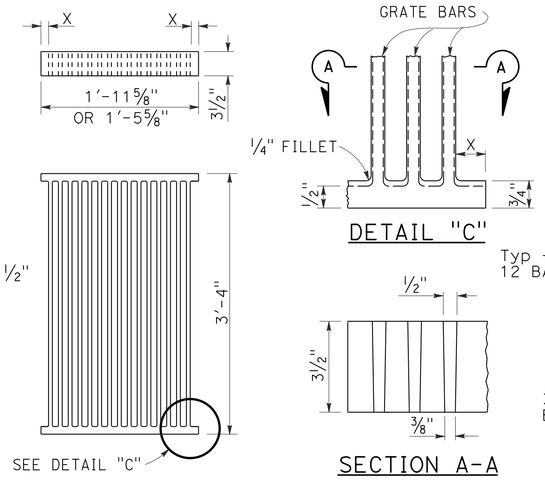
2" Clear spacing. Use in locations off the roadbed on all types of highways.

TYPE 24-12

1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

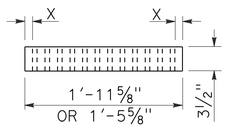
RECTANGULAR GRATE DETAILS

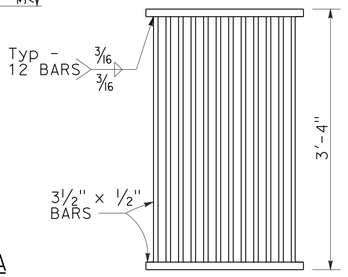
(See table below)



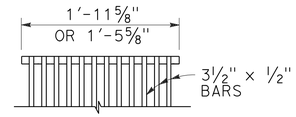
DETAIL "C"

SECTION A-A

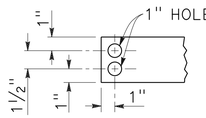




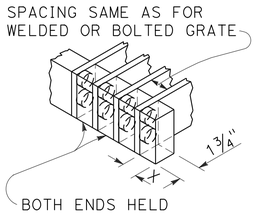
ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE



CAST END BLOCK



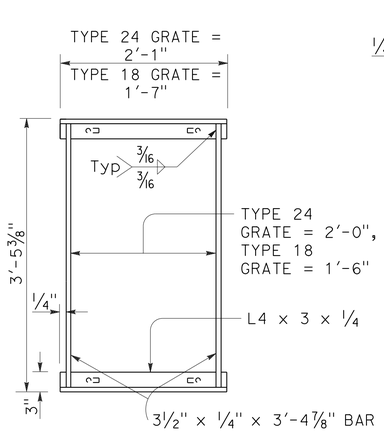
END OF BAR



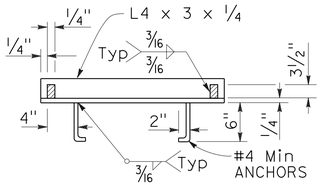
ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE

NOTES:

1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast ductile iron, cast carbon steel, welded, bolted, or cast end block grate.
3. Rounded top of bars optional on all grates.
4. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
5. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
6. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
7. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
8. Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron grates.

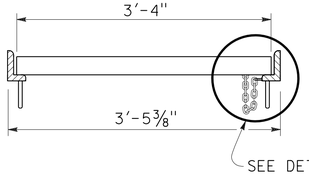


TYPICAL FRAME



CROSS SECTION

(Thru frame)

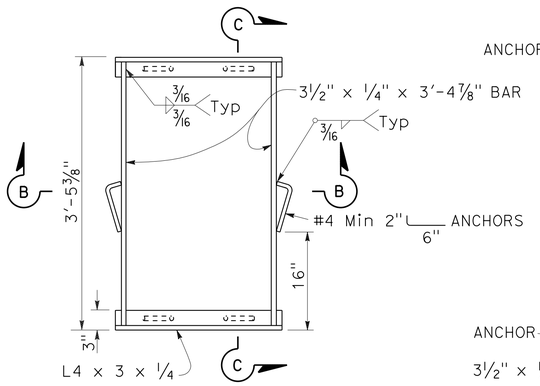


LONGITUDINAL SECTION

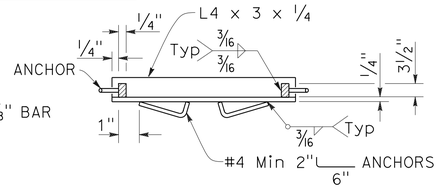
(Thru frame and grate)

RECTANGULAR FRAME DETAILS

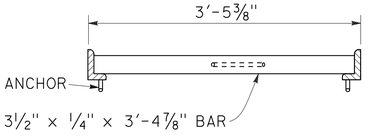
(For all rectangular grates)



TYPICAL FRAME



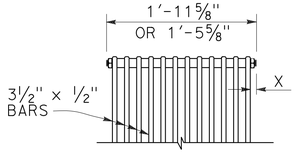
SECTION B-B



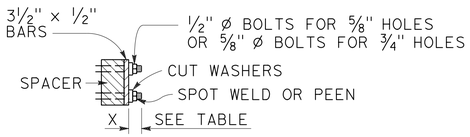
SECTION C-C

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME

(For details not shown, See Rectangular Frame Details)

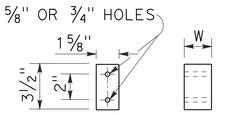


BOLTED END BLOCK

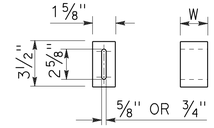


BOLTING DETAIL

ALTERNATIVE BOLTED GRATE

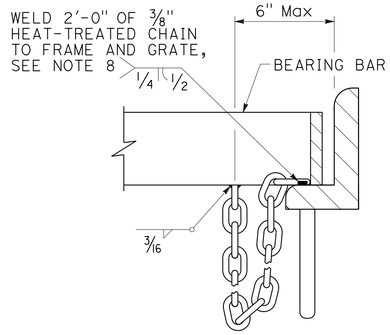


BAR SPACER



ALTERNATIVE SPACER

W = 1⅜" or 2"



DETAIL "D"

(Steel grates only)

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING	X
18-9	9	1⅜"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1⅜"	1¼"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCP	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
GO,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22
GRATE CHAIN			3

BASIS FOR Misc IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

(See Note 7)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

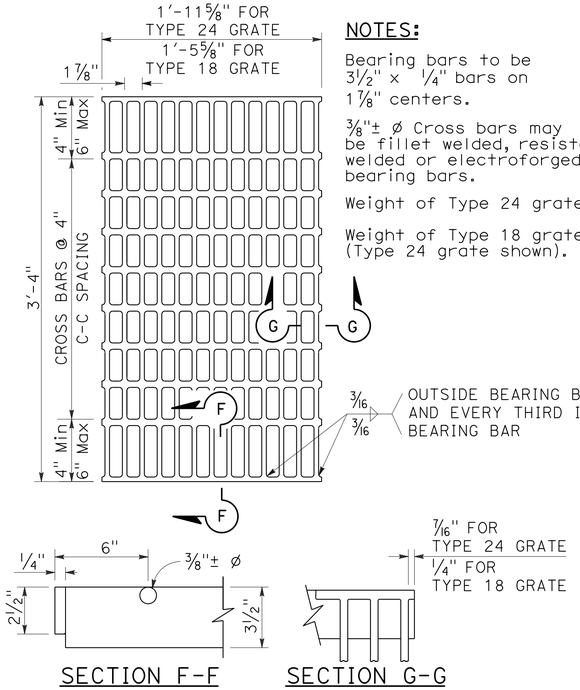
GRATE DETAILS No. 1

NO SCALE

RSP D77A DATED APRIL 19, 2013 SUPERSEDES RSP D77A DATED JULY 20, 2012 AND STANDARD PLAN D77A DATED MAY 20, 2011 - PAGE 164 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77A

4-4-13



SECTION F-F SECTION G-G

NOTES:

Bearing bars to be 3½" x ¼" bars on 1⅞" centers.

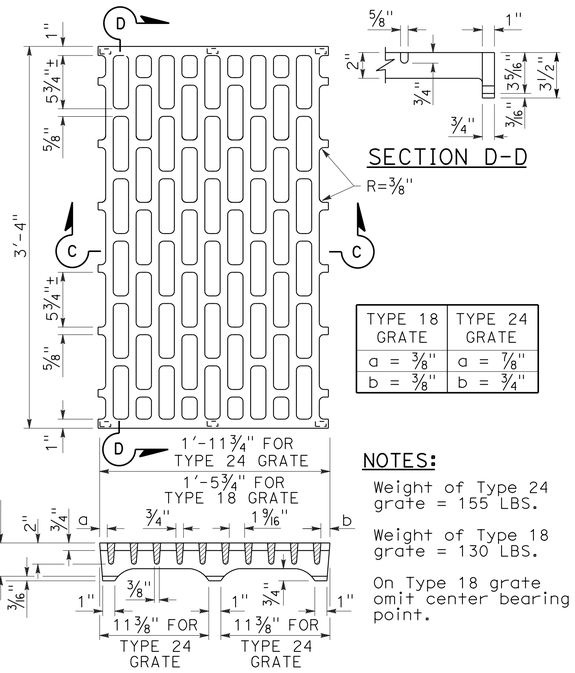
⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

Weight of Type 24 grate = 141 LBS.

Weight of Type 18 grate = 107 LBS. (Type 24 grate shown).

TYPE 18-10 AND 24-13 GRATE

(Welded Steel)



SECTION D-D

TYPE 18 GRATE	TYPE 24 GRATE
a = ⅜"	a = 7/8"
b = ⅜"	b = ¾"

SECTION C-C

NOTES:

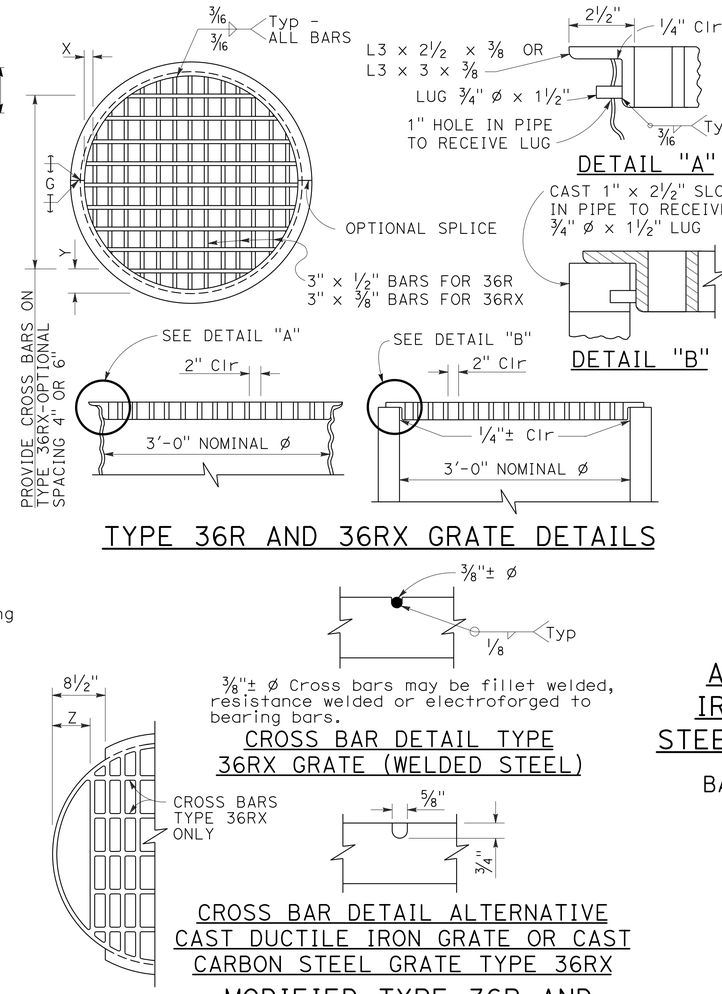
Weight of Type 24 grate = 155 LBS.

Weight of Type 18 grate = 130 LBS.

On Type 18 grate omit center bearing point.

TYPE 18-8C AND 24-10C GRATE

(Cast ductile iron)



DETAIL "A"

DETAIL "B"

TYPE 36R AND 36RX GRATE DETAILS

⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

CROSS BAR DETAIL TYPE 36RX GRATE (WELDED STEEL)

CROSS BAR DETAIL ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE TYPE 36RX

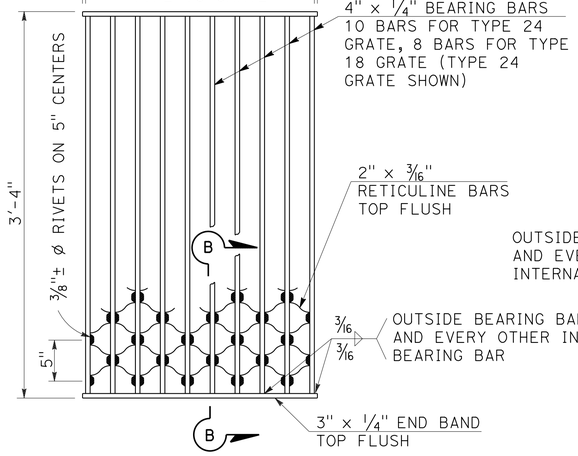
MODIFIED TYPE 36R AND 36RX GRATE FOR ODI INLET

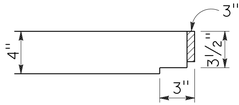
NOTES:

1. When alternative grates are allowed - Final pay based on alternative with the lesser weight.
2. Use frame shown on Standard Plan D74A, D74B or RSP D77A as appropriate.
3. When Type 24-10S, 24-12X or 24-13 grates are used with GDO Inlets, a ¼" x 3½" x 3'-4⅞" steel bar shall be welded across the center of inlet frame to separate the individual grates.
4. See Revised Standard Plan RSP D77A for connecting chain to welded grate and frame. When chain is required, do not use cast ductile iron grate.

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING	X	Y		Z
				4" SPACING	6" SPACING	
36R	13	2"	2⅛"	-	-	-
36RX (STEEL)	15	2"	9/16"	3¾"	5¾"	-
36RX (CAST)	13	2"	2⅛"	3¾"	5¾"	-
36R Mod	12	2"	2⅛"	-	-	5"
36RX Mod (STEEL)	13	2"	9/16"	3¾"	5¾"	5 11/16"
36RX Mod (CAST)	12	2"	2⅛"	3¾"	5¾"	5"





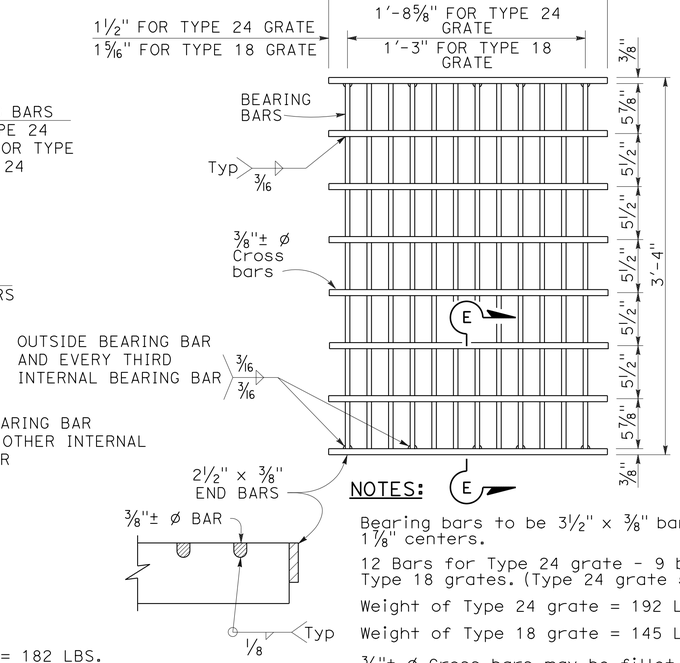
SECTION B-B

NOTES:

Weight of Type 24 grate = 182 LBS.
Weight of Type 18 grate = 145 LBS.

TYPE 18-8S AND 24-10S GRATE

(Welded Steel) Reticuline type



SECTION E-E

NOTES:

Bearing bars to be 3½" x ⅜" bars on 1⅛" centers.

12 Bars for Type 24 grate - 9 bars for Type 18 grates. (Type 24 grate shown).

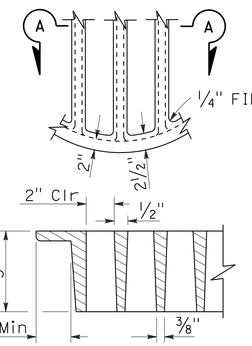
Weight of Type 24 grate = 192 LBS.

Weight of Type 18 grate = 145 LBS.

⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

TYPE 18-9X AND 24-12X GRATE

(Welded Steel)



SECTION A-A

ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE TYPE 36R AND 36RX

BASIS FOR Misc IRON AND STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO (SEE NOTE 4)	24-10C	2	391
	24-10S	2	456
	24-12X	2	473
	24-13	2	374
G0,G0L,G1,G2, G3,G4 (TYPE 24)	24-10C	1	202
	24-10S	1	229
	24-12X	1	239
	24-13	1	188
G4 (TYPE 18) G5,G6	18-8S	1	187
	18-9X	1	187
	18-10	1	149
GT1,GT2	18-8S	2	374
	18-9X	2	374
	18-10	2	298
GT3,GT4	24-10C	2	404
	24-10S	2	458
	24-12X	2	478
	24-13	2	376
ODI	36RX (Mod)	1	196
GMP,GCP,GCPI	36RX	1	215
ODI	36R (Mod)	1	220
GMP,GCP,GCPI	36R	1	236
TRASH RACK			22
GRATE CHAIN			3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1005	1168

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Raymond Don Tsztoo No. C37332 Exp. 6-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-3-14

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS No. 2

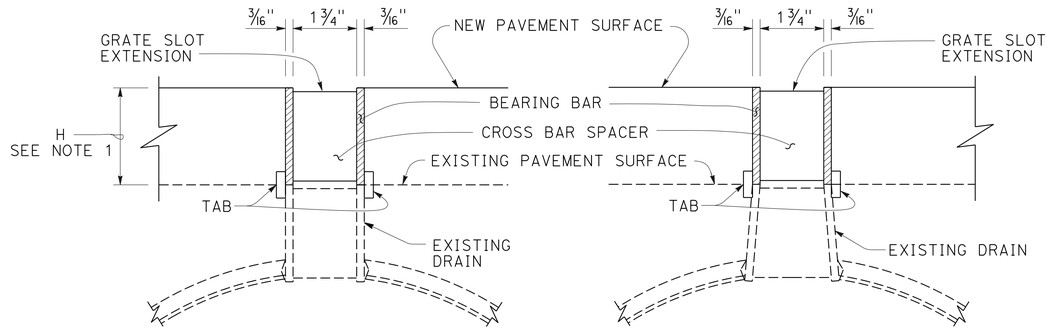
NO SCALE

RSP D77B DATED APRIL 19, 2013 SUPERSEDES RSP D77B DATED JULY 20, 2012 AND STANDARD PLAN D77B DATED MAY 20, 2011 - PAGE 165 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77B

2010 REVISED STANDARD PLAN RSP D77B

4-4-13



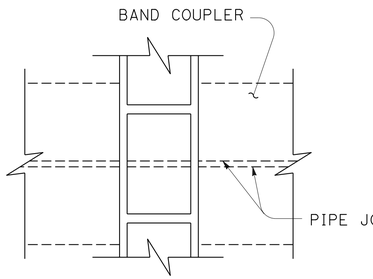
RECTANGULAR SPACER

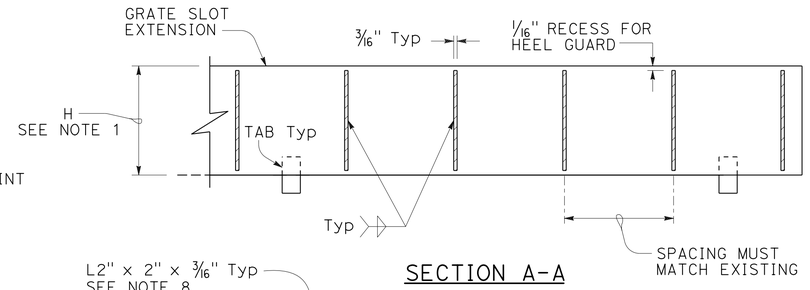
SECTION

TAPERED SPACER

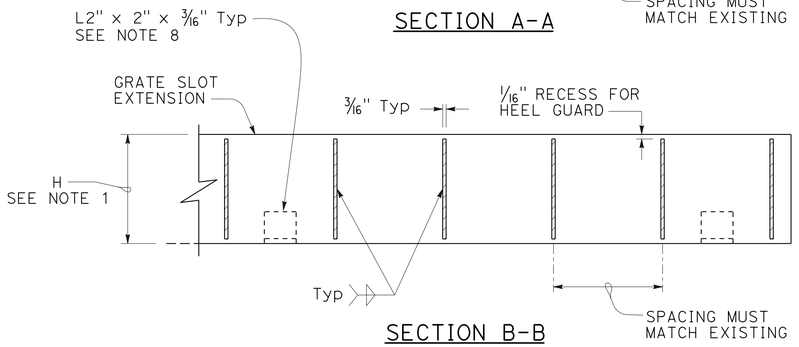
SLOTTED CORRUGATED STEEL PIPE

Grate slot extension

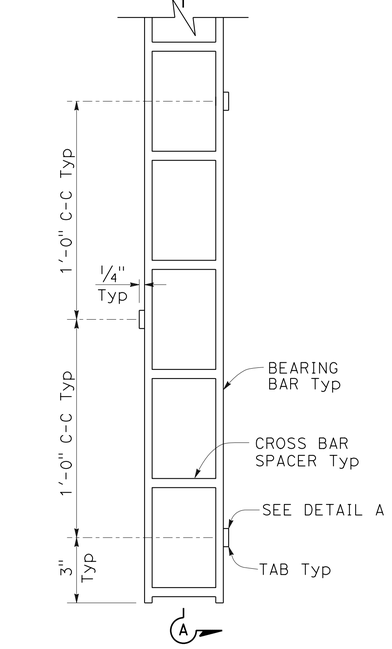




SECTION A-A



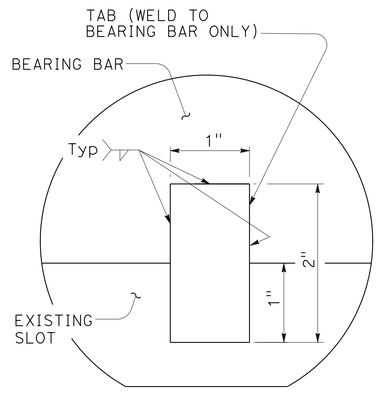
SECTION B-B



PLAN

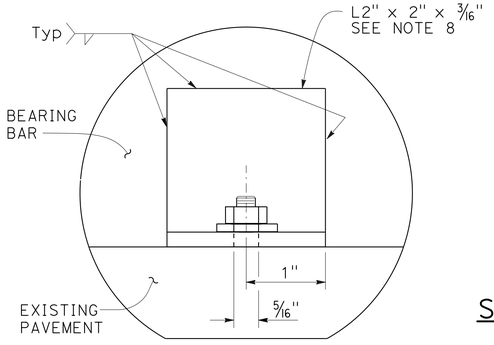
SLOTTED CORRUGATED STEEL PIPE

Grate slot extension



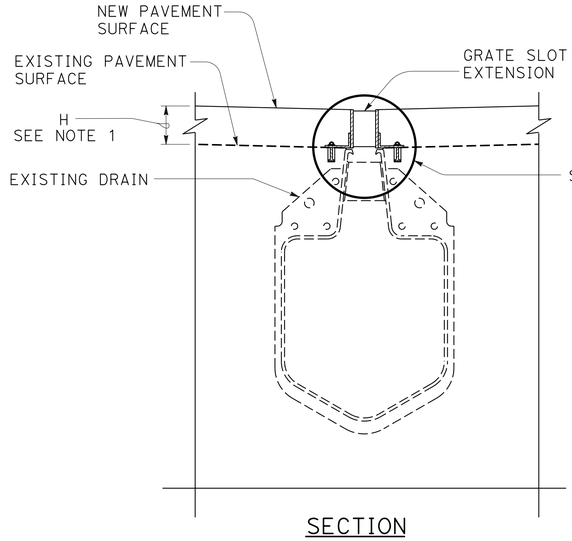
DETAIL A

Tab alignment



DETAIL B

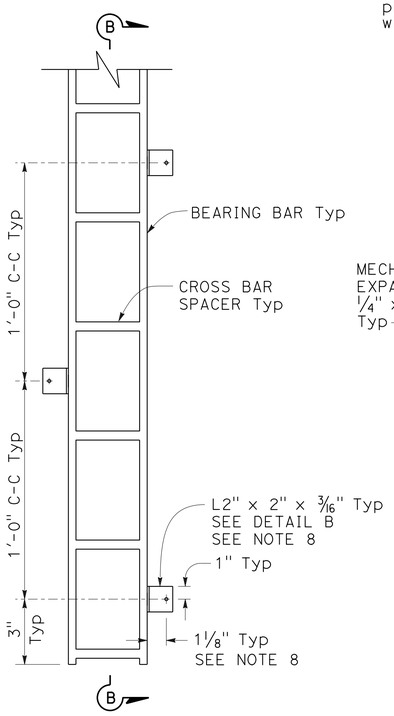
Angle alignment



SECTION

SLOTTED PLASTIC PIPE

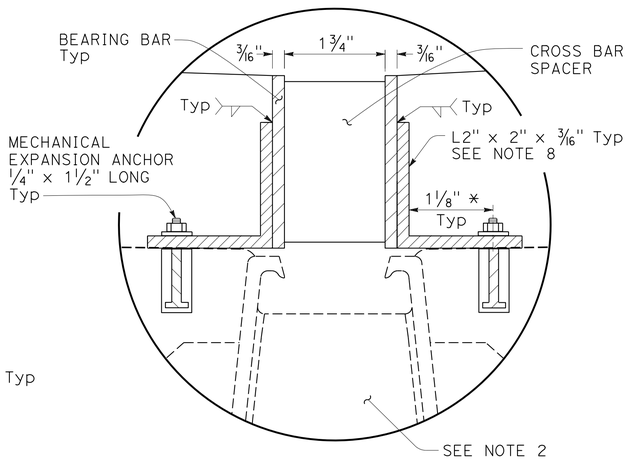
Grate slot extension



PLAN

SLOTTED PLASTIC PIPE

Grate slot extension



DETAIL C

* When an existing heel resistant grate is encountered, this offset is 2".

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1006	1168

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztoo
No. C37332
Exp. 6-30-14
CIVIL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-3-14

NOTES:

1. H must be a minimum of 2½", or otherwise shown on the plans.
2. For Slotted Plastic Pipe Drain Details, see Standard Plan D98D.
3. For Slotted Corrugated Steel Pipe Drain Details, see Standard Plans D98A and D98B.
4. Use heel guard when shown. See Standard Plan D98B for heel guard details.
5. Minimum grate slot extension length is 80".
6. The top corners of the grate slot extension's bearing bars must not vary from a straight line more than ½" in 20'-0".
7. Cross bar spacers must be welded to the grate slot extension's bearing bars to achieve a minimum tensile strength of 12,000 LB normal to the longitudinal axis of the bearing bars.
8. When an existing heel resistant grate for a slotted plastic pipe drain is encountered, use a L3" X 2" X 3/16" with a mechanical expansion anchor centerline offset of 2".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SLOTTED PIPE GRATE EXTENSION DETAILS

NO SCALE

RSP D98F DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D98F

2010 REVISED STANDARD PLAN RSP D98F

5-10-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1007	1168

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT
Gregory A. Balzer 2576
6-30-13 Date
Renewal Date 2-28-15
7-19-13 Date
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-3-14

A

AB	AGGREGATE BASE
ABS	ACRYLONITRILE-BUTADIENE-STYRENE
AC	ASPHALT CONCRETE
ACC	ARMOR-CLAD CONDUCTORS
Adj	ADJACENT/ADJUSTABLE
AIC	AUXILIARY IRRIGATION CONTROLLER
Alt	ALTERNATIVE
AMEND	AMENDMENT
ARV	AIR RELEASE VALVE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVB	ATMOSPHERIC VACUUM BREAKER

B

B&B	BALLED AND BURLAPPED
B/B	BRASS/BRONZE
B/B/PL	BRASS/BRONZE/PLASTIC
B/PL	BRASS/PLASTIC
BFM	BONDED FIBER MATRIX
Bit Ctd	BITUMINOUS COATED
BP	BOOSTER PUMP
BPA	BACKFLOW PREVENTER ASSEMBLY
BPE	BACKFLOW PREVENTER ENCLOSURE
BV	BALL VALVE

C

C	CONDUIT
CAP	CORRUGATED ALUMINUM PIPE
CARV	COMBINATION AIR RELEASE VALVE
CB	COUPLING BAND
CCA	CAM COUPLER ASSEMBLY
CEC	CONTROLLER ENCLOSURE CABINET
CHDPE	CORRUGATED HIGH DENSITY POLYETHYLENE
CL	CHAIN LINK
CNC	CONTROL AND NEUTRAL CONDUCTORS
Conc	CONCRETE
CP	COPPER PIPE
CS	COMPOST SOCK
CSP	CORRUGATED STEEL PIPE
CST	CENTER STRIP
CV	CHECK VALVE

D

Dia	DIAMETER
DIP	DUCTILE IRON PIPE
DIT	DRIP IRRIGATION TUBING
DG	DECOMPOSED GRANITE
DN	DIAMETER NOMINAL
DVA	DRIP VALVE ASSEMBLY

E

EC	EROSION CONTROL
ECTC	EROSION CONTROL TECHNOLOGY COUNCIL
Elect	ELECTRIC/ELECTRICAL
Elev	ELEVATION
ELL	ELBOW
ENCL	ENCLOSURE
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
EST	END STRIP
ESTB	ESTABLISHMENT
ETW	EDGE OF TRAVELED WAY

F

F	FULL CIRCLE
F/P	FULL/PART CIRCLE
FCV	FLOW CONTROL VALVE
FERT	FERTILIZER
FG	FINISHED GRADE
FH	FLEXIBLE HOSE
FIPT	FEMALE IRON PIPE THREAD
FIS	FERTILIZER INJECTOR SYSTEM
FL	FLOW LINE
FR	FIBER ROLL
FS	FLOW SENSOR
FSC	FLOW SENSOR CABLE
FV	FLUSH VALVE

G

Galv	GALVANIZED
GARV	GARDEN VALVE
GARVA	GARDEN VALVE ASSEMBLY
GM	GRAVEL MULCH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE

H

H	HALF CIRCLE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSEPOWER/HINGE POINT
HPL	HIGH PRESSURE LINE
Hwy	HIGHWAY

I

IC	IRRIGATION CONTROLLER
ICC	IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET
ID	INSIDE DIAMETER
IFS	IRRIGATION FILTRATION SYSTEM
IPS	IRON PIPE SIZE
IPT	IRON PIPE THREAD
Irr	IRRIGATION

L

L	LENGTH

M

Max	MAXIMUM
MBGR	METAL BEAM GUARD RAILING
MCV	MANUAL CONTROL VALVE
MIC	MASTER IRRIGATION CONTROLLER
Min	MINIMUM
MIPT	MALE IRON PIPE THREAD
Misc	MISCELLANEOUS
Mtl	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT

N

NCN	NO COMMON NAME
NL	NOZZLE LINE
No.	NUMBER
NPT	NATIONAL PIPE THREAD

O

O/C	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLAP

P

P	PART CIRCLE
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PE	POLYETHYLENE
Pkt	PACKET
PL	PLASTIC
PLS	PURE LIVE SEED
PLT	PLANT/PLANTING
PLT ESTB	PLANT ESTABLISHMENT
PM	POST MILE
PR	PRESSURE RATED
PRLV	PRESSURE RELIEF VALVE
PRV	PRESSURE REGULATING VALVE
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT

Q

Q	QUARTER CIRCLE
QCV	QUICK COUPLING VALVE

R

R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RCV	REMOTE CONTROL VALVE
RCVM	REMOTE CONTROL VALVE (MASTER)
RCVMF	REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR
RCVP	REMOTE CONTROL VALVE W/PRESSURE REGULATOR
RCW	RECYCLED WATER
RECP	ROLLED EROSION CONTROL PRODUCT
REQ	REQUIRED
RICS	REMOTE IRRIGATION CONTROL SYSTEM
R/W	RIGHT OF WAY

S

S	SLIP
SCH	SCHEDULE
SF	STATE-FURNISHED
Shld	SHOULDER
Sq	SQUARE
SST	SIDE STRIP
Sta	STATION
Std	STANDARD
SW	SIDEWALK/SOUND WALL

T

T	THIRD CIRCLE/THREAD
TLS	TRUCK LOADING STANDPIPE
TQ	THREE QUARTER CIRCLE
TRM	TURF REINFORCEMENT MAT
TT	TWO-THIRDS CIRCLE
TWSA	TREE WELL SPRINKLER ASSEMBLY
Typ	TYPICAL

U

UG	UNDERGROUND

W

W	WIDTH
W/	WITH
WM	WATER METER
WS	WYE STRAINER
WSA	WYE STRAINER ASSEMBLY
WSP	WELDED STEEL PIPE
WWM	WELDED WIRE MESH

NOTE:
For additional abbreviations, see Standard Plans A10A and A10B.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE AND EROSION CONTROL ABBREVIATIONS

NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1
DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H1

2010 REVISED STANDARD PLAN RSP H1

6-28-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1008	1168

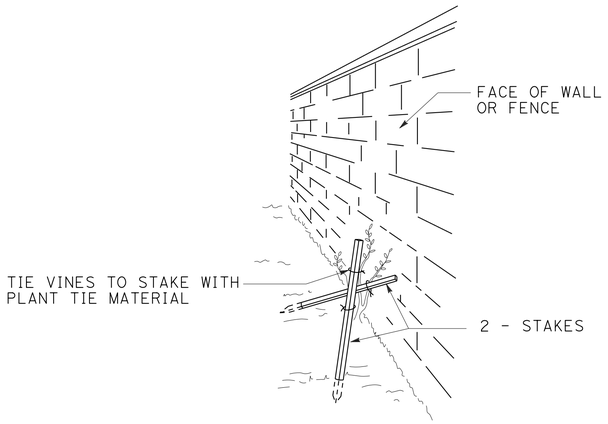
Gregory A Barzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

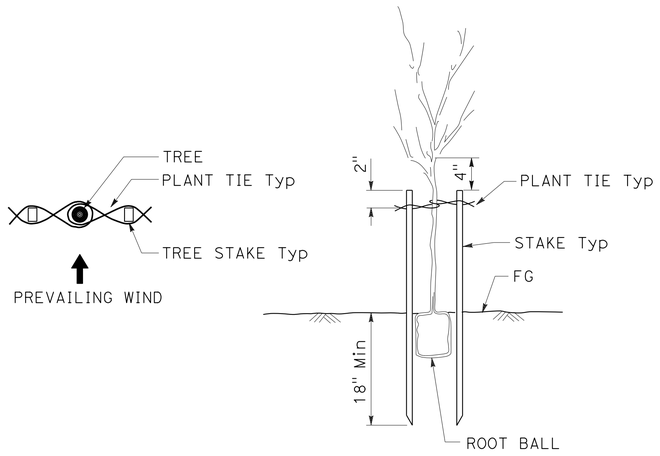
Gregory A. Barzer 2516 — LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA
08 County
2-28-15 Renewal Date
7-19-13 Date

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.

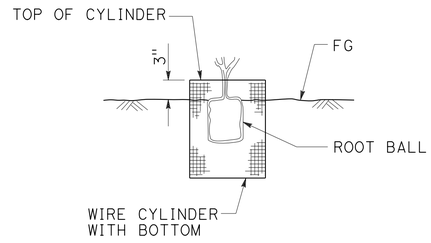
TO ACCOMPANY PLANS DATED 3-3-14



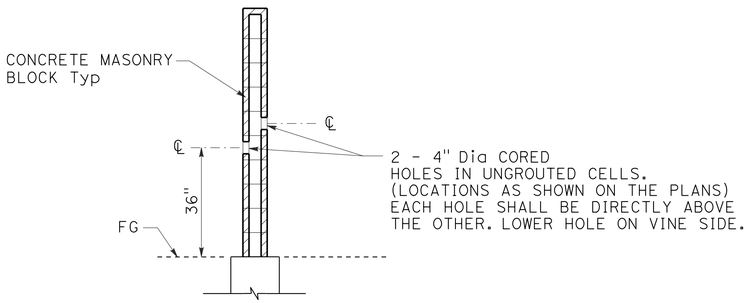
PERSPECTIVE
VINE STAKING



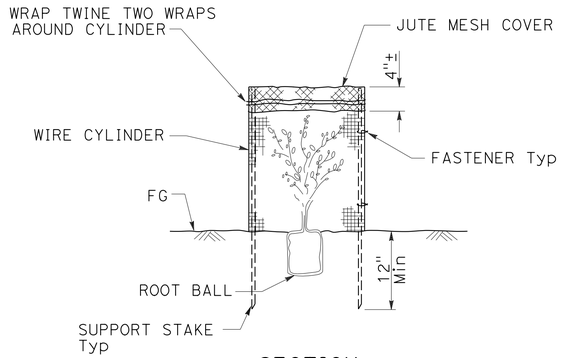
TREE STAKING



SECTION
ROOT PROTECTOR



SECTION
CORE HOLE (VINE)



SECTION
FOLIAGE PROTECTOR

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

RSP H4 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H4
DATED MAY 20, 2011 - PAGE 221 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H4

2010 REVISED STANDARD PLAN RSP H4

6-28-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1009	1168

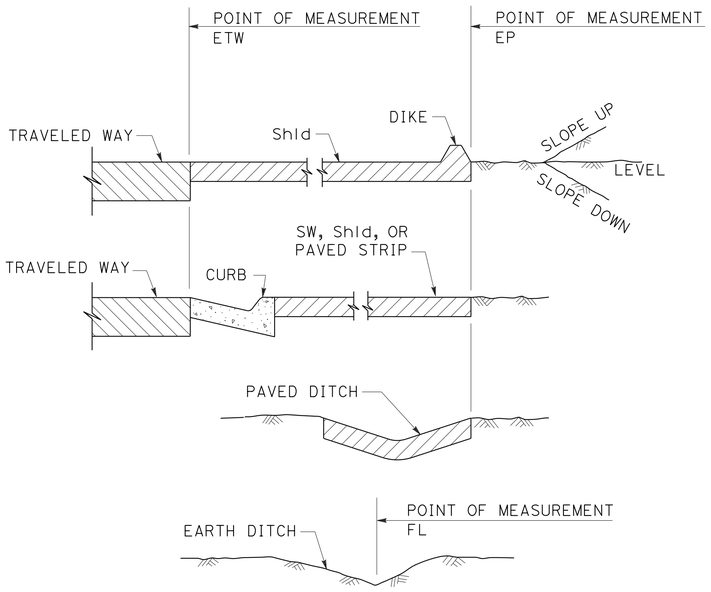
Gregory A Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

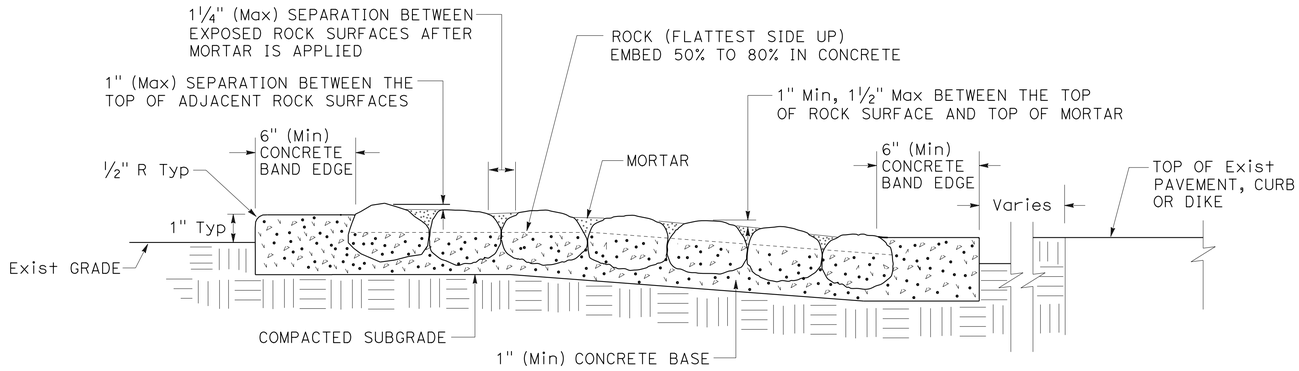
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LICENSED LANDSCAPE ARCHITECT
Gregory A. Balzer 2516
Gregory A Balzer
Original Date
2-28-15
Renewal Date
7-19-13
Date
STATE OF CALIFORNIA

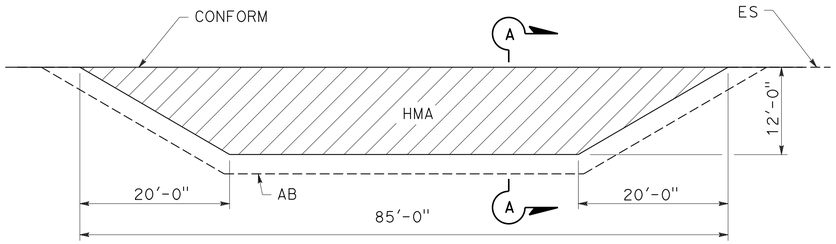
TO ACCOMPANY PLANS DATED 3-3-14



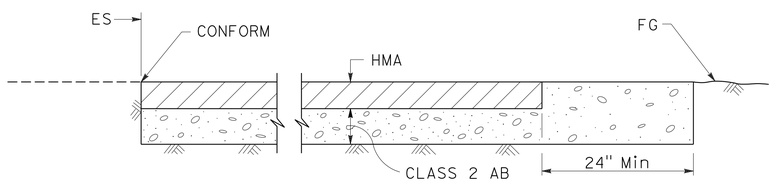
SECTION
POINTS OF MEASUREMENT



SECTION
ROCK BLANKET



PLAN



SECTION A-A
MAINTENANCE VEHICLE PULLOUT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

RSP H9A DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H9A

2010 REVISED STANDARD PLAN RSP H9A

6-21-13

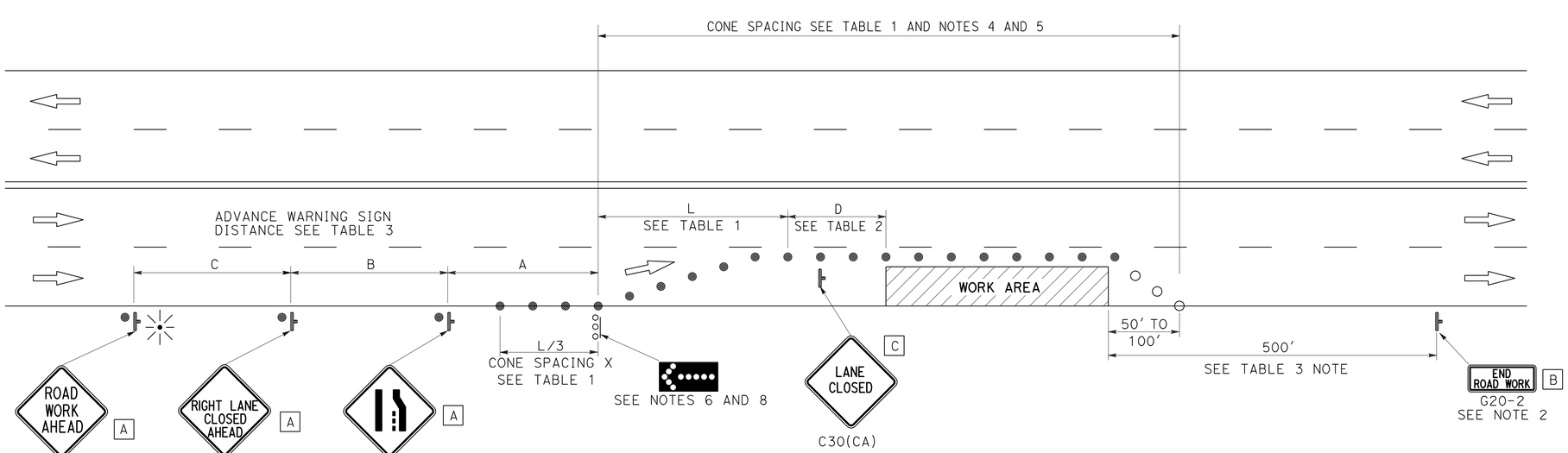
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1010	1168

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14



TYPICAL LANE CLOSURE

NOTES:

1. Each advance warning sign 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.
2. A G20-2 "END ROAD WORK" sign, 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.
3. 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) sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
8. 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 the top of crest vertical curve or on a horizontal curve.
9. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
11. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

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 approriate, 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.

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	36" x 18"
C	30" x 30"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1011	1168

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gurinderpal Bhullar — No. C48815 — Exp. 9-30-14 CIVIL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 24" x 24"
- C 36" x 18"

NOTES:

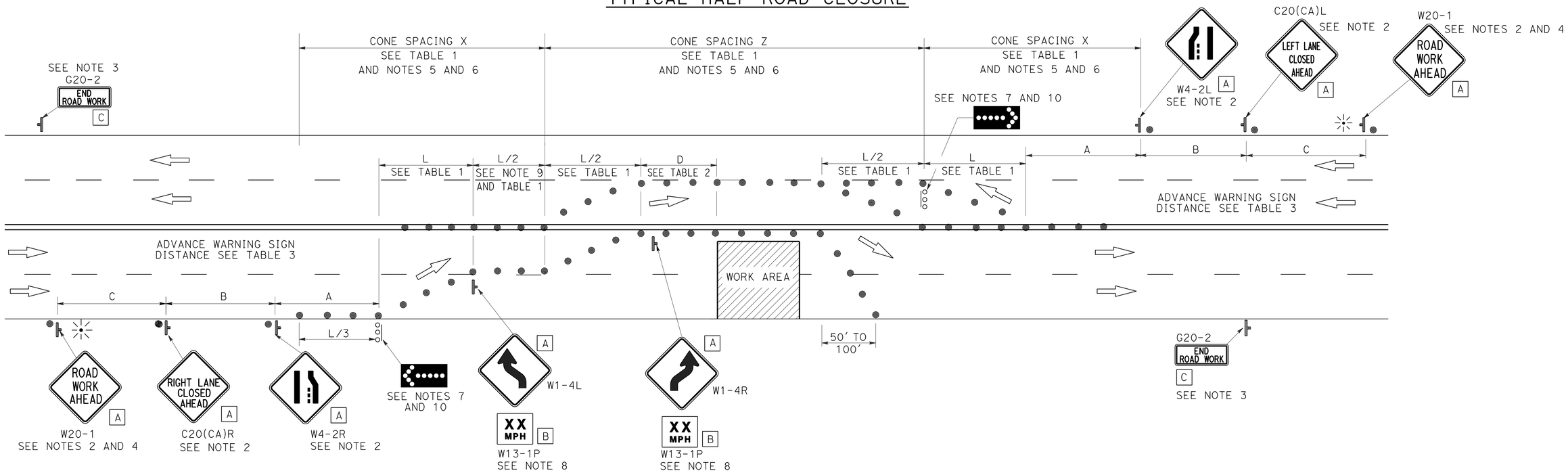
See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, 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.

TYPICAL HALF ROAD CLOSURE



NOTES:

1. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.
2. Each advance warning sign in each direction of travel 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.
3. A G20-2 "END ROAD WORK" sign, 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.
4. 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) sign for the first advance warning sign.
5. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
7. Flashing arrow signs shall be either Type I or Type II.
8. Advisory speed will be determined by the Engineer. The W13-1P Plaque will not be required when advisory speed is more than the posted or maximum speed limit.
9. Unless otherwise specified in the special provisions, the tangent (L/2) shall be used.
10. 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 the top of crest vertical curve or on a horizontal curve.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR HALF ROAD CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS AND EXPRESSWAYS

NO SCALE

RSP T12 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T12
DATED MAY 20, 2011 - PAGE 240 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T12

2010 REVISED STANDARD PLAN RSP T12

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1012	1168

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gurinderpal Bhullar — No. C48815 — Exp. 9-30-14 CIVIL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

NOTES:

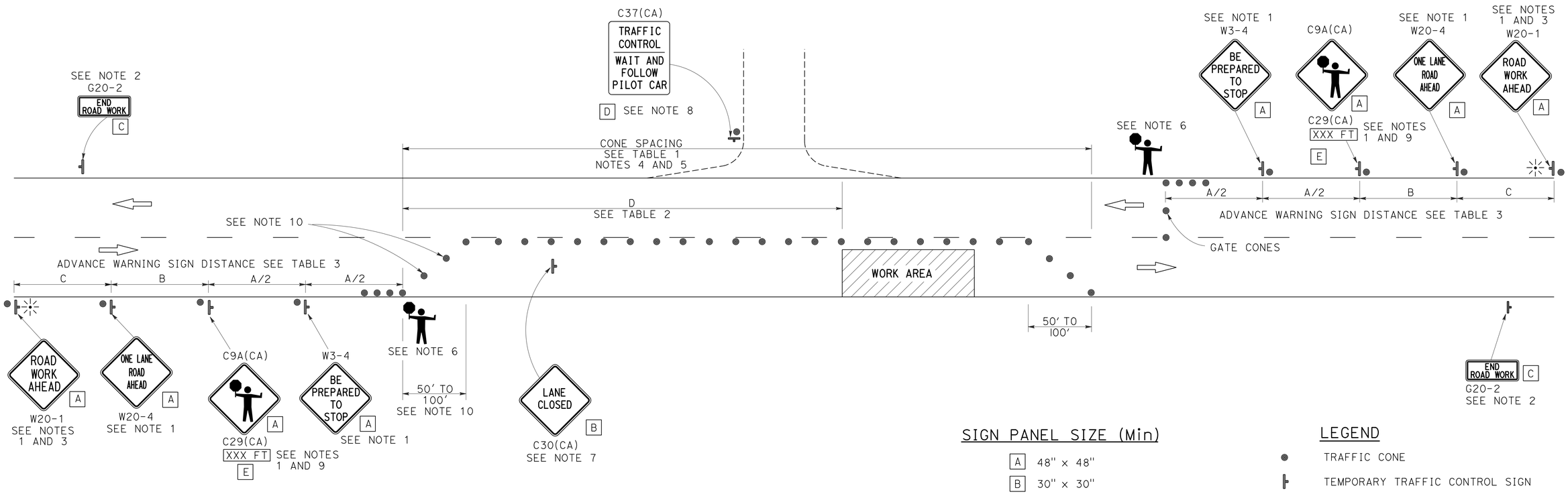
See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, 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.

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



SIGN PANEL SIZE (Min)

A	48" x 48"
B	30" x 30"
C	36" x 18"
D	36" x 42"
E	20" x 7"

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- PORTABLE FLASHING BEACON
- FLAGGER

NOTES:

1. Each advance warning sign in each direction of travel 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.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
7. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
8. When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
9. An optional C29(CA) sign may be placed below the C9A(CA) sign.
10. Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T13

2010 REVISED STANDARD PLAN RSP T13

4-2-13

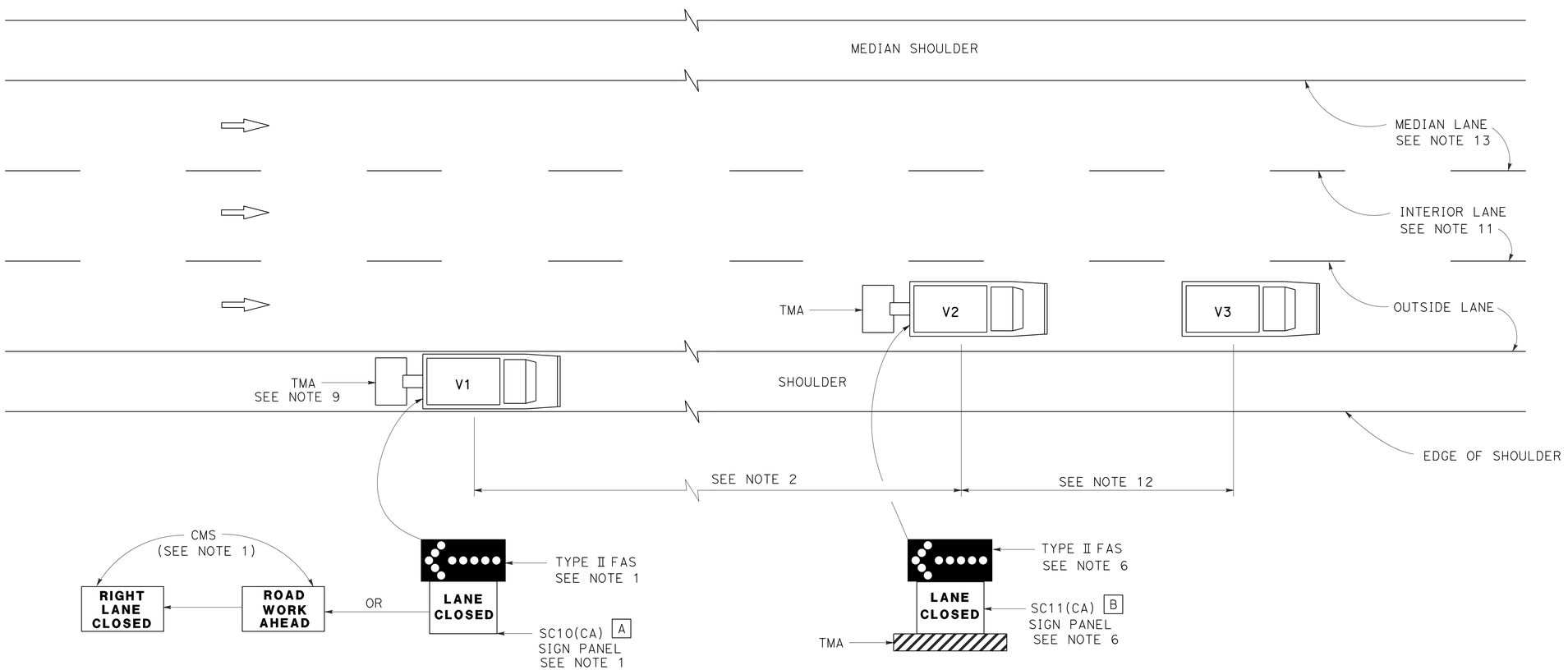
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1013	1168

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14



SIGN PANEL SIZE (Min)

A 66" x 36"

B 54" x 42"

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	FLASHING ARROW SIGN (FAS)
CMS	CHANGEABLE MESSAGE SIGN
TMA	TRUCK-MOUNTED ATTENUATOR

MOVING LANE CLOSURE ON MEDIAN LANE OR OUTSIDE LANE OF MULTILANE HIGHWAYS

NOTES:

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500′ should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500′.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15
DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T15

2010 REVISED STANDARD PLAN RSP T15

12-18-12

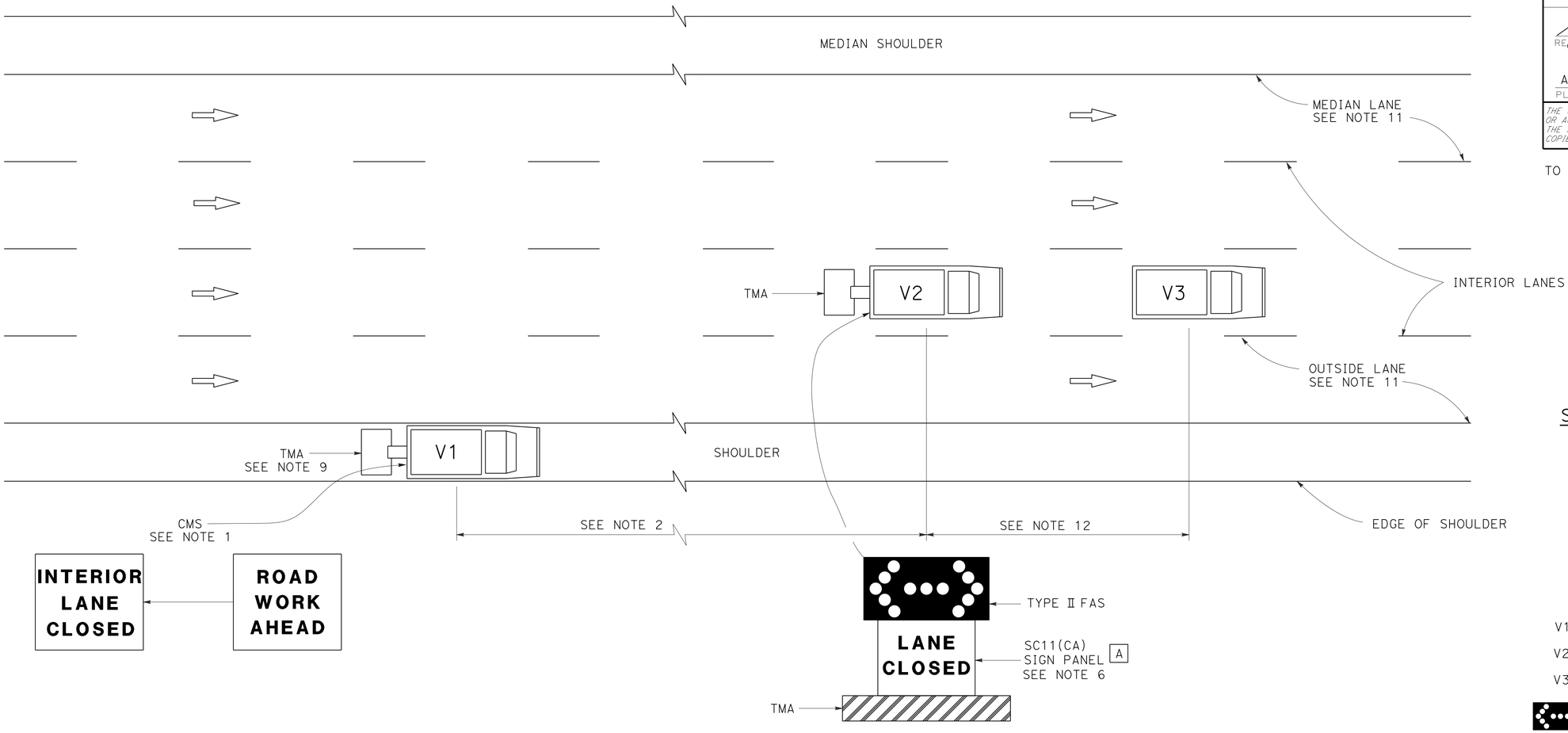
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1014	1168

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14



MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	FLASHING ARROW SIGN (FAS) IN FLASHING DOUBLE ARROW MODE
CMS	CHANGEABLE MESSAGE SIGN
TMA	TRUCK-MOUNTED ATTENUATOR

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500′ should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500′.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16
DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T16

2010 REVISED STANDARD PLAN RSP T16

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1015	1168

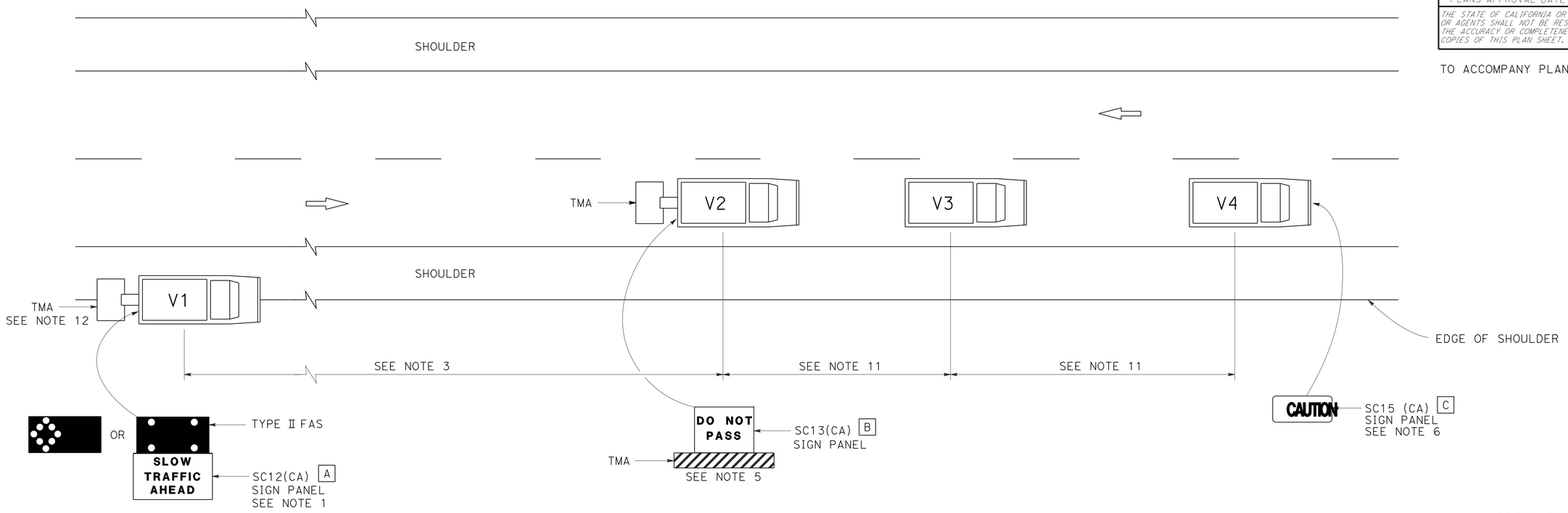
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
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 3-3-14



NOTES:

1. Either a changeable message sign or a SC12(CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "CAUTION" message first, follow by the "SLOW TRAFFIC AHEAD" message. A Type II flashing arrow sign may be used with the SC12(CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Shadow vehicle shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.
7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan T13) for this condition.
11. Minimize spacing between vehicles V2 and V3 and vehicles V3 and V4 to deter road users from driving in between them.
12. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
V4	SIGN VEHICLE
TMA	TRUCK-MOUNTED ATTENUATOR
	FLASHING ARROW SIGN (FAS) IN FLASHING CAUTION MODE
	FLASHING ARROW SIGN (FAS) IN ALTERNATING DIAMOND CAUTION

SIGN PANEL SIZE (Min)

A	72" x 42"
B	54" x 42"
C	54" x 24"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON TWO LANE HIGHWAYS

NO SCALE

RSP T17 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T17
DATED MAY 20, 2011 - PAGE 245 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T17

2010 REVISED STANDARD PLAN RSP T17

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1016	1168

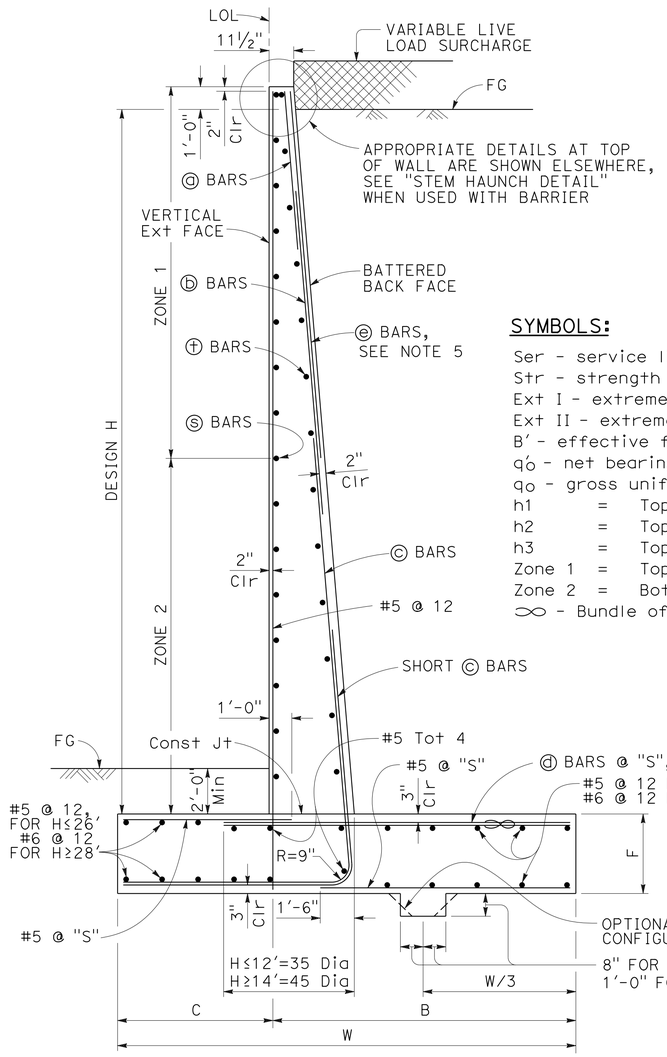
Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

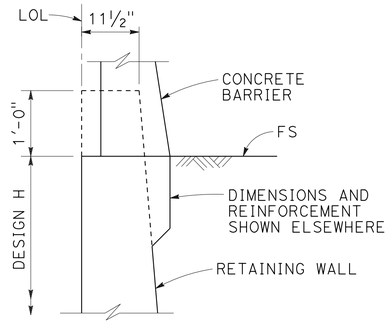
REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size.
Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.



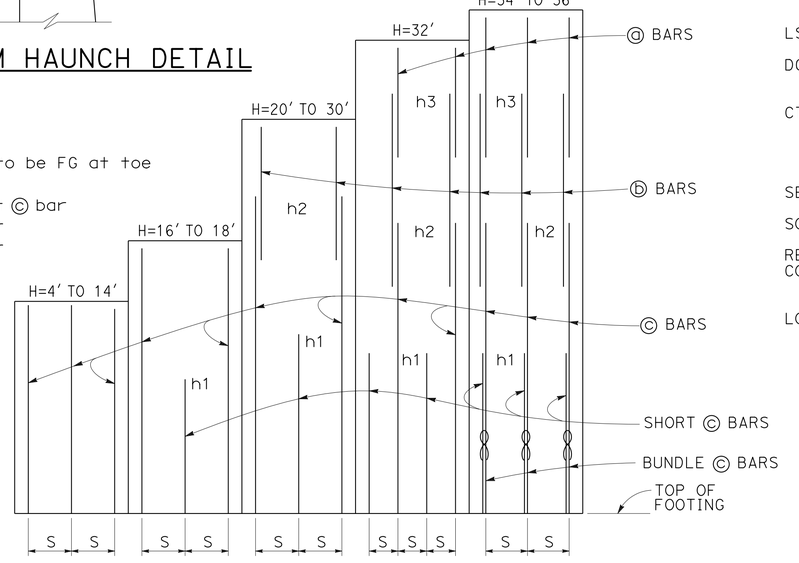
TYPICAL SECTION



STEM HAUNCH DETAIL

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext I - extreme event limit state I
Ext II - extreme event limit state II
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)
h1 = Top of footing to top of short ⓒ bar
h2 = Top of footing to top of ⓒ bar
h3 = Top of footing to top of ⓑ bar
Zone 1 = Top half of stem height
Zone 2 = Bottom half of stem height
∞ - Bundle of two bars



ELEVATION

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At ⓒ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.
4. Bundle ⓓ bars for H = 34' & 36'.
5. Provide #6 @ 10" x 15'-0" ⓔ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations. For H ≤ 14', hook ⓔ bar into footing and reduce bar length as needed to maintain Min Clr cover.

DESIGN NOTES:

TO ACCOMPANY PLANS DATED 3-3-14

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied at He = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: f'c = 3,600 psi, fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
Extreme II	Q = 1.00DC+1.00EV+1.00EH+1.00CT

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia
CT:	Vehicular Collision Force

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"	9'-7"	10'-9"	12'-0"	13'-3"	14'-6"	15'-9"	17'-1"	18'-5"	19'-10"	21'-2"	22'-7"	24'-0"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"	6'-0"	6'-6"	7'-2"	7'-8"	8'-2"	9'-0"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"	6'-7"	7'-3"	8'-0"	8'-9"	9'-6"	10'-4"	11'-1"	11'-11"	12'-8"	13'-6"	14'-5"	15'-0"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"	1'-8"	1'-8"	1'-9"	1'-9"	1'-11"	2'-2"	2'-5"	2'-10"	3'-3"	3'-6"	4'-0"	4'-3"
BATTER	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	⅝: 12	⅝: 12	⅝: 12	⅞: 12	1 : 12	1 : 12	1 : 12
SPACING "S"	9"	9"	9"	9"	9"	7"	6"	5"	6"	6"	6"	6"	6"	6"	6"	10"	8"
ⓐ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#7	#7	#6
ⓑ BARS	-	-	-	-	-	-	-	-	#7	#7	#7	#7	#7	#7	#9	#9	#8
ⓒ BARS	#6	#6	#6	#6	#6	#6	#7	#7	#8	#9	#9	#10	#10	#10	#11	#11	#11
ⓓ BARS	#5	#5	#6	#6	#6	#6	#9	#8	#8	#9	#9	#10	#10	#10	#11	#11	#11
h1	-	-	-	-	-	-	5'-9"	5'-10"	8'-0"	9'-0"	10'-1"	11'-0"	12'-1"	13'-0"	13'-0"	12'-7"	11'-6"
h2	-	-	-	-	-	-	-	-	10'-5"	13'-0"	14'-7"	17'-6"	19'-0"	20'-5"	19'-0"	18'-0"	20'-2"
h3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21'-2"	21'-10"	24'-0"
ZONE 1 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12
ZONE 1 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12
ZONE 2 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Ser: B', q'_o	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0	7.5, 2.1	8.6, 2.2	9.8, 2.3	11.0, 2.4	12.1, 2.5	13.2, 2.8	14.4, 2.9	15.5, 3.1	16.8, 3.3	18.0, 3.5	19.2, 3.7	20.6, 3.7
Str: B', q_o	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0	4.3, 3.8	5.3, 3.7	6.4, 3.7	7.4, 3.8	8.2, 4.1	9.0, 4.4	9.9, 4.6	10.7, 4.9	11.7, 5.2	12.6, 5.4	13.6, 5.8	14.6, 5.9
Ext I: B', q_o	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8	3.2, 5.3	3.6, 5.7	4.1, 6.1	4.6, 6.4	5.0, 6.9	5.3, 7.6	5.8, 8.1	6.1, 8.9	6.7, 9.4	7.1, 10.0	7.5, 10.7	8.2, 10.9
Ext II: B', q_o	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6	5.2, 3.3	6.7, 3.1	8.3, 3.0	9.8, 3.0	11.2, 3.1	12.5, 3.2	13.9, 3.4	15.2, 3.6	16.7, 3.8	18.0, 4.0	19.3, 4.2	20.8, 4.3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1 (CASE 1)

NO SCALE

RSP B3-1A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-1A

2010 REVISED STANDARD PLAN RSP B3-1A

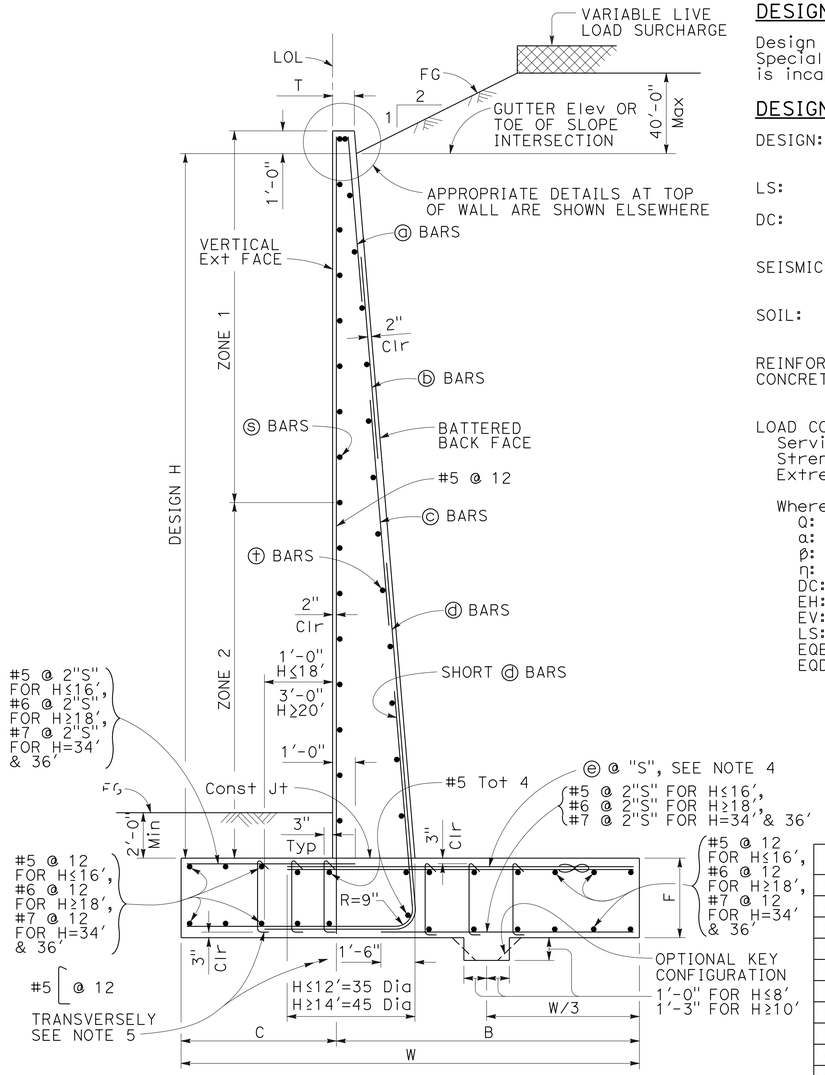
2-22-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1017	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA



TYPICAL SECTION

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At ⓓ and short ⓓ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.
4. Bundle ⓔ bars for H ≥ 26'.
5. Hook stirrups around & space with alternating transverse reinforcement at 2 x "S".

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi, $fy = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

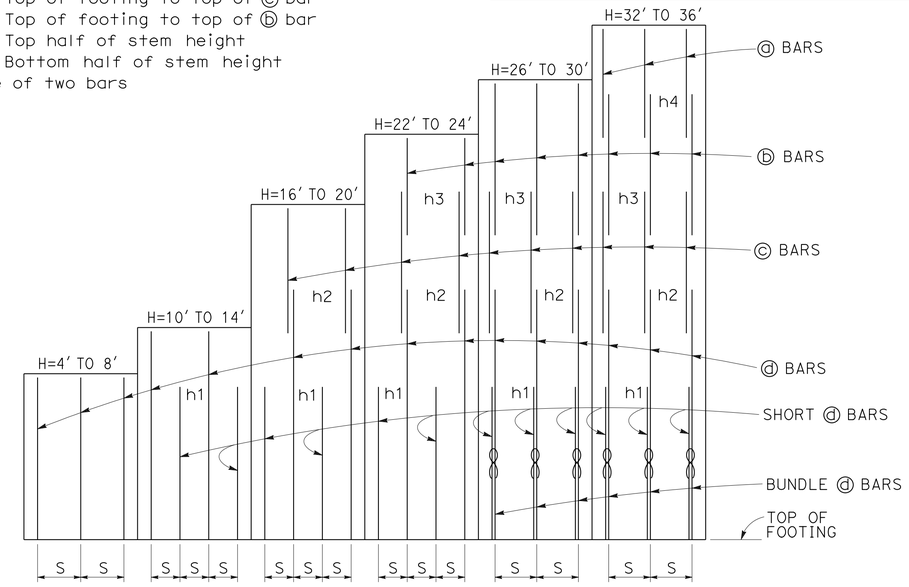
Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

SYMBOLS:

TO ACCOMPANY PLANS DATED 3-3-14

Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)
h1 = Top of footing to top of short ⓓ bar
h2 = Top of footing to top of ⓓ bar
h3 = Top of footing to top of ⓒ bar
h4 = Top of footing to top of ⓑ bar
Zone 1 = Top half of stem height
Zone 2 = Bottom half of stem height
∞ - Bundle of two bars



ELEVATION

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-0"	7'-6"	9'-6"	11'-0"	12'-6"	15'-6"	17'-3"	19'-6"	21'-9"	23'-6"	26'-0"	28'-1"	30'-3"	31'-6"	33'-0"	34'-8"	35'-11"
C	2'-0"	2'-6"	3'-3"	3'-6"	4'-3"	5'-0"	5'-3"	5'-9"	6'-9"	7'-3"	8'-3"	8'-9"	9'-0"	9'-6"	10'-0"	10'-10"	11'-3"
B	4'-0"	5'-0"	6'-3"	7'-6"	8'-3"	10'-6"	12'-0"	13'-9"	15'-0"	16'-3"	17'-9"	19'-4"	21'-3"	22'-0"	23'-0"	23'-10"	24'-8"
F	1'-6"	1'-6"	2'-0"	2'-3"	2'-6"	2'-8"	2'-10"	3'-0"	3'-4"	3'-6"	3'-6"	3'-7"	3'-7"	3'-9"	3'-9"	4'-0"	4'-4"
T	11½"	11½"	11½"	11½"	11½"	11½"	11½"	11½"	11½"	11½"	11½"	11½"	1'-2"	1'-5"	1'-10"	2'-3"	2'-9"
BATTER	½: 12	½: 12	½: 12	½: 12	½: 12	⅝: 12	⅝: 12	¾: 12	⅞: 12	1 : 12	1⅛: 12	1⅛: 12	1⅛: 12	1⅛: 12	1⅛: 12	1⅛: 12	1⅛: 12
SPACING "S"	16"	12"	10"	7"	7"	7"	7"	7"	7"	6"	6"	10"	8"	7"	7"	7"	7"
ⓐ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#5	#5	#5
ⓑ BARS	-	-	-	-	-	-	-	-	-	#5	#5	#5	#5	#5	#7	#7	#7
ⓒ BARS	-	-	-	-	-	-	#6	#6	#6	#7	#8	#8	#8	#8	#9	#9	#9
ⓓ BARS	#5	#5	#6	#6	#7	#8	#9	#10	#10	#10	#11	#11	#11	#11	#11	#11	#11
ⓔ BARS	#5	#5	#6	#6	#7	#8	#9	#10	#10	#10	#11	#11	#11	#11	#11	#11	#11
h1	-	-	-	5'-3"	6'-4"	7'-6"	8'-9"	9'-9"	11'-0"	11'-3"	11'-6"	10'-3"	11'-9"	12'-3"	12'-6"	13'-3"	13'-8"
h2	-	-	-	-	-	-	12'-8"	15'-6"	17'-0"	16'-6"	17'-3"	18'-0"	17'-6"	17'-4"	14'-10"	15'-9"	16'-4"
h3	-	-	-	-	-	-	-	-	-	18'-9"	21'-3"	21'-3"	22'-4"	22'-8"	18'-0"	18'-6"	19'-6"
h4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26'-3"	27'-4"	28'-6"
No. of Toe Stirrups	0	0	0	0	0	0	0	0	0	0	0	5	5	6	7	8	9
No. of Heel Stirrups	0	0	0	0	0	0	0	0	4	6	7	8	10	10	11	11	11
ZONE 1 Ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 10	#6 @ 10
ZONE 2 Ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12	#7 @ 12	#7 @ 12	#7 @ 10	#7 @ 10
ZONE 1 Ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 Ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12
Ser: B', q'_o	4.0, 0.9	5.5, 1.0	9.3, 1.0	10.9, 1.3	12.3, 1.5	14.8, 1.9	16.6, 2.1	18.7, 2.4	20.6, 2.7	22.3, 3.0	24.2, 3.3	26.1, 3.5	28.2, 3.9	29.6, 4.0	31.1, 4.2	32.7, 4.4	34.1, 4.6
Str: B', q_o	2.2, 2.2	3.5, 2.2	5.1, 2.3	6.3, 2.6	7.6, 2.7	12.9, 3.1	14.3, 3.6	16.5, 3.9	19.4, 4.5	20.7, 4.8	22.5, 5.2	24.3, 5.6	26.2, 6.0	27.5, 6.3	28.8, 6.6	30.3, 6.9	31.8, 7.2
Ext: B', q_o	2.3, 3.4	2.7, 4.4	3.6, 5.0	3.8, 6.5	4.5, 7.0	7.0, 6.1	7.6, 6.9	9.3, 7.0	11.0, 7.1	11.8, 7.6	14.1, 7.4	15.6, 7.7	17.1, 8.0	17.2, 8.7	18.1, 9.0	19.0, 9.4	19.4, 10.0

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1 (CASE 2)

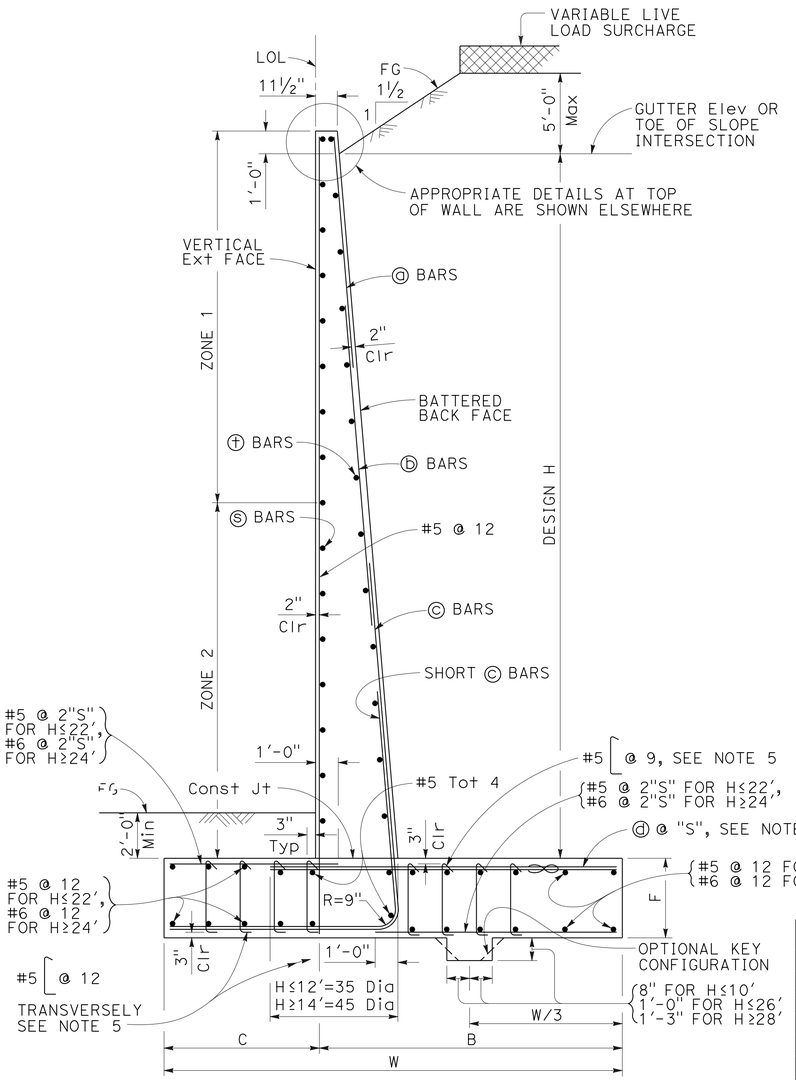
NO SCALE

RSP B3-1B DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-1B

REVISED STANDARD PLAN RSP B3-1B

3-30-12



TYPICAL SECTION

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At ⓒ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.
4. Bundle ⓓ bars for H = 36'.
5. Hook stirrups around & space with alternating transverse reinforcement at 2 x "S".

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi, $fy = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	$Q = 1.00DC+1.00EV+1.00EH+1.00LS$
Strength I	$Q = \alpha DC+\beta EV+\eta EH+1.75LS$
Extreme I	$Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

TO ACCOMPANY PLANS DATED 3-3-14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1018	1168

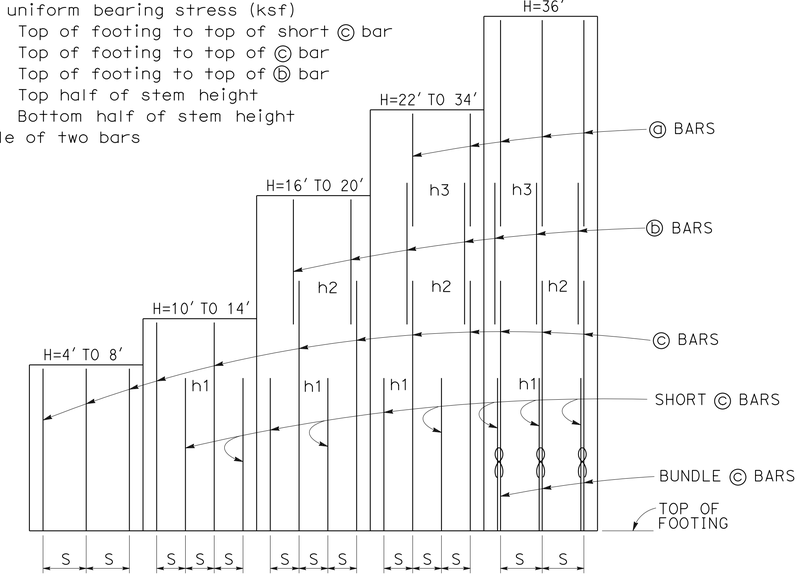
Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)
h1 = Top of footing to top of short ⓒ bar
h2 = Top of footing to top of ⓒ bar
h3 = Top of footing to top of ⓑ bar
Zone 1 = Top half of stem height
Zone 2 = Bottom half of stem height
∞ - Bundle of two bars



ELEVATION

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-5"	7'-3"	8'-3"	9'-3"	10'-8"	12'-6"	13'-9"	15'-1"	16'-6"	17'-10"	19'-3"	20'-4"	21'-5"	22'-8"	23'-11"	25'-1"	26'-4"
C	2'-2"	2'-6"	3'-0"	3'-6"	3'-8"	3'-11"	4'-0"	4'-7"	5'-3"	6'-0"	7'-0"	7'-9"	8'-3"	8'-8"	9'-0"	9'-6"	9'-10"
B	4'-3"	4'-9"	5'-3"	5'-9"	7'-0"	8'-7"	9'-9"	10'-6"	11'-3"	11'-10"	12'-3"	12'-7"	13'-2"	14'-0"	14'-11"	15'-7"	16'-6"
F	1'-4"	1'-4"	1'-4"	1'-6"	1'-6"	1'-6"	1'-8"	2'-0"	2'-4"	2'-9"	3'-2"	3'-0"	3'-0"	3'-0"	3'-3"	3'-3"	3'-3"
BATTER	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	⅝: 12	¾: 12	1 : 12	1 : 12	1⅛: 12	1⅛: 12	1⅛: 12
SPACING "S"	16"	16"	16"	8"	8"	7"	7"	7"	6"	6"	7"	7"	7"	6"	6"	6"	8"
ⓐ BARS	-	-	-	-	-	-	-	-	-	#5	#5	#5	#5	#5	#5	#6	#6
ⓑ BARS	-	-	-	-	-	-	#5	#5	#5	#7	#7	#7	#8	#8	#8	#9	#9
ⓒ BARS	#5	#5	#6	#5	#6	#6	#7	#8	#8	#9	#10	#10	#10	#10	#10	#11	#11
ⓓ BARS	#5	#5	#6	#5	#6	#8	#9	#9	#9	#10	#11	#9	#9	#9	#10	#10	#9
h1	-	-	-	4'-2"	4'-7"	6'-2"	7'-3"	8'-6"	8'-8"	9'-8"	11'-0"	12'-2"	14'-0"	13'-0"	15'-10"	14'-6"	12'-0"
h2	-	-	-	-	-	-	10'-6"	12'-9"	14'-2"	13'-8"	17'-0"	18'-6"	17'-10"	18'-9"	20'-3"	21'-0"	17'-0"
h3	-	-	-	-	-	-	-	-	-	15'-6"	17'-9"	19'-6"	21'-8"	23'-0"	24'-8"	25'-6"	24'-8"
No. of Toe Stirrups	0	0	0	0	0	0	0	0	0	0	0	6	6	7	7	7	8
No. of Heel Stirrups	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6	6	6
ZONE 1 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12	#7 @ 12
ZONE 1 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12
ZONE 2 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Ser: B', q'_o	4.3, 0.8	4.9, 1.1	5.6, 1.3	7.1, 1.5	8.0, 1.8	9.3, 2.1	10.6, 2.3	11.9, 2.5	13.3, 2.6	14.6, 2.8	15.9, 2.9	17.0, 3.0	18.0, 3.1	19.3, 3.3	20.4, 3.5	21.5, 3.7	22.7, 3.9
Str: B', q_o	2.4, 2.2	2.4, 2.7	2.7, 3.2	3.0, 3.7	4.3, 3.8	5.9, 3.8	7.0, 4.1	7.9, 4.3	9.0, 4.5	9.9, 4.7	10.8, 4.9	11.6, 5.0	12.3, 5.2	13.3, 5.4	14.2, 5.7	15.0, 5.9	16.0, 6.1
Ext: B', q_o	4.1, 1.5	3.9, 2.1	3.8, 2.8	3.5, 3.9	3.6, 4.9	4.2, 5.5	4.6, 6.3	5.0, 7.0	5.6, 7.4	6.0, 8.0	6.5, 8.4	6.9, 8.6	7.2, 9.2	7.7, 9.6	8.1, 10.4	8.4, 10.9	8.9, 11.3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1 (CASE 3)

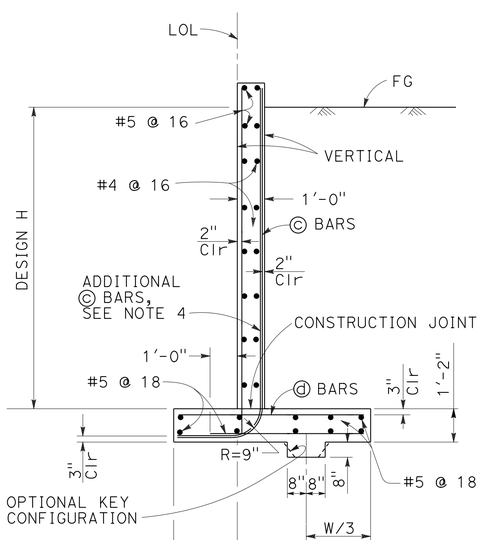
NO SCALE

RSP B3-1C DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-1C

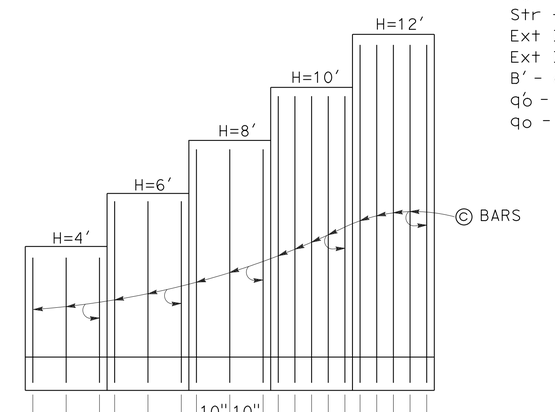
2010 REVISED STANDARD PLAN RSP B3-1C

3-30-12

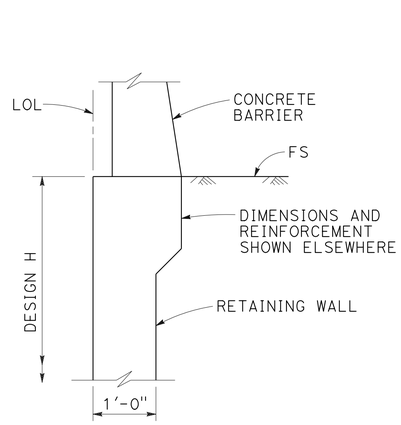


SPREAD FOOTING SECTION

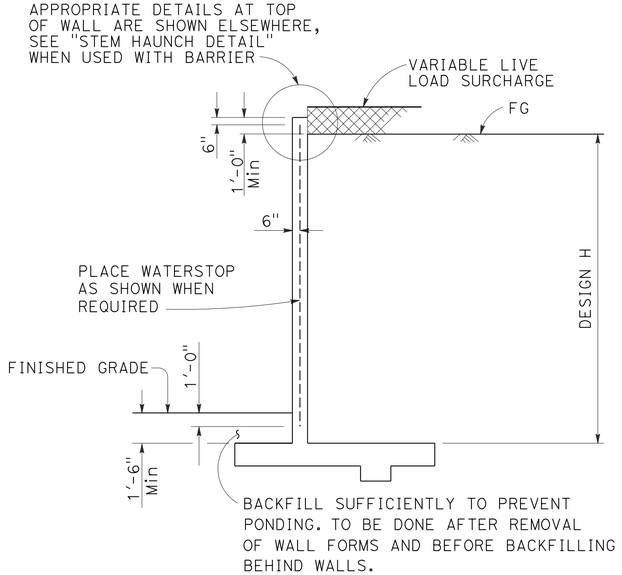
Place concrete in toe against undisturbed material, except as permitted by the Engineer.



ELEVATION



STEM HAUNCH DETAIL



DESIGN SECTION

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	4′	6′	8′	10′	12′
W	7′-0"	7′-0"	7′-3"	7′-5"	8′-2"
C	2′-3"	2′-3"	2′-3"	2′-5"	2′-7"
B	4′-9"	4′-9"	5′-0"	5′-0"	5′-7"
Ⓒ BARS	#6 @ 9	#6 @ 9	#7 @ 10	#7 @ 8	#7 @ 8
ⓓ BARS	#5 @ 9	#5 @ 9	#6 @ 10	#7 @ 8	#7 @ 8
Ser: B′, q_o'	6.7, 0.8	6.7, 1.0	6.3, 1.3	5.8, 1.6	6.2, 1.9
Str: B′, q_o	6.6, 1.6	5.2, 1.7	3.7, 2.2	2.8, 3.3	3.0, 3.9
Ext I: B′, q_o	5.6, 0.9	4.8, 1.4	4.1, 2.0	3.1, 3.2	2.7, 4.5
Ext II: B′, q_o	2.8, 1.9	2.7, 2.5	2.8, 3.0	2.6, 3.7	3.4, 3.6

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext I - extreme event limit state I
Ext II - extreme event limit state II
B′ - effective footing width (ft)
q_o' - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1019	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — 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 3-3-14

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied at He = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40′.

SEISMIC: k_h = 0.2, k_v = 0.0

SOIL: ø = 34°, γ = 120 pcf

REINFORCED CONCRETE: f′c = 3,600 psi, fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
Extreme II	Q = 1.00DC+1.00EV+1.00EH+1.00CT

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia
CT:	Vehicular Collision Force

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At Ⓒ bars:
   H ≤ 6′, no splices are allowed within 1′-8" above the top of footing.
   H > 6′, no splices are allowed within H/4 above the top of footing.
4. Provide #6 @ 8" Ⓒ bars in addition to tabulated Ⓒ bars over a distance of 8′-0" measured from all expansion joints, begin wall and end wall location.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1A (CASE 1)

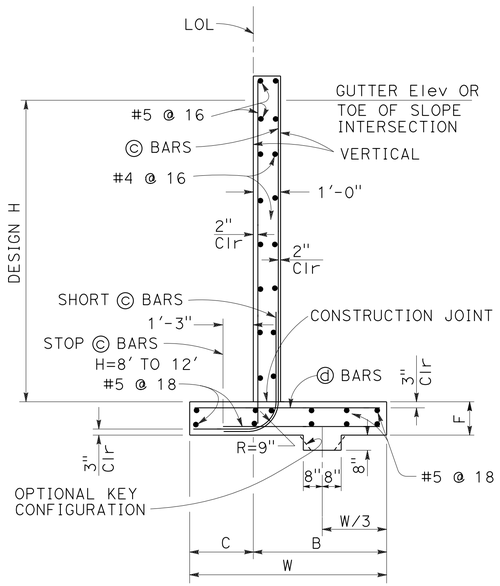
NO SCALE

RSP B3-3A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-3A

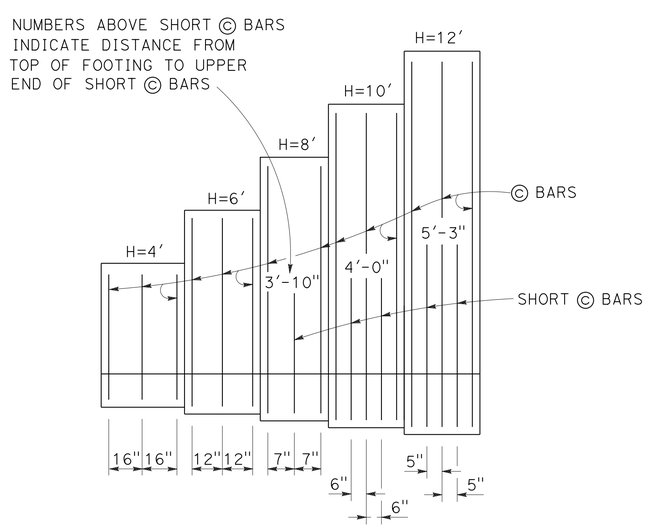
2010 REVISED STANDARD PLAN RSP B3-3A

2-22-12

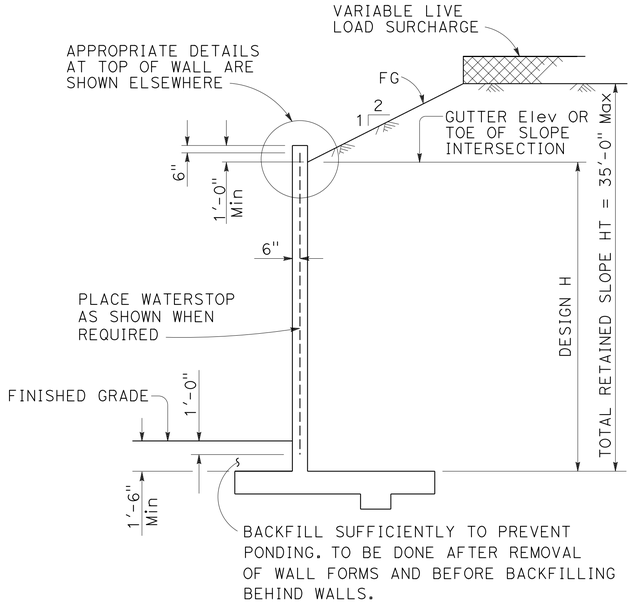


SPREAD FOOTING SECTION

Place concrete in toe against undisturbed material, except as permitted by the Engineer.



ELEVATION



DESIGN SECTION

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	4'	6'	8'	10'	12'
W	5'-10"	7'-7"	9'-0"	11'-0"	12'-5"
C	2'-4"	2'-7"	3'-0"	3'-6"	4'-0"
B	3'-6"	5'-0"	6'-0"	7'-6"	8'-5"
F	1'-4"	1'-7"	1'-7"	1'-9"	1'-9"
© BARS	#5 @ 16	#5 @ 12	#5 @ 7	#6 @ 6	#7 @ 5
ⓓ BARS	#5 @ 16	#5 @ 12	#5 @ 7	#6 @ 6	#7 @ 5
Ser: B', q'_o	4.0, 0.8	5.6, 1.0	8.8, 1.1	10.6, 1.3	12.0, 1.6
Str: B', q_o	1.9, 2.0	3.5, 2.1	4.5, 2.3	6.5, 2.3	7.7, 2.5
Ext: B', q_o	2.8, 2.3	3.3, 3.3	3.9, 3.9	5.3, 4.1	5.9, 4.5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1020	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: f'c = 3,600 psi, fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 / 3-3 and B0-3 / 3-4
3. At © and short © bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1A (CASE 2)

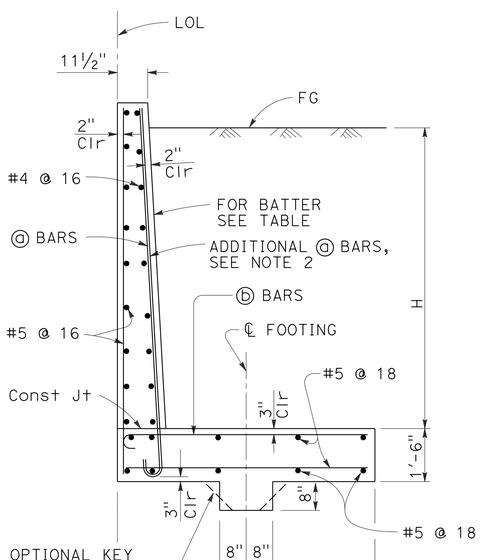
NO SCALE

RSP B3-3B DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

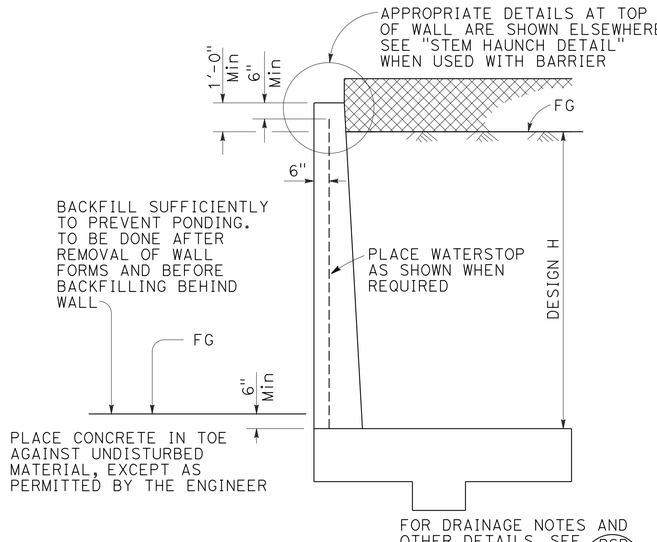
REVISED STANDARD PLAN RSP B3-3B

2-22-12

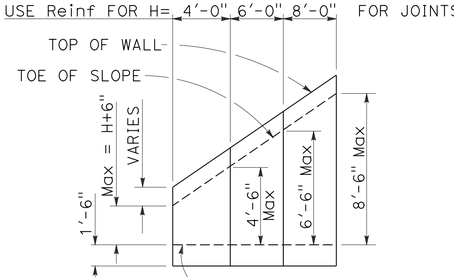
2010 REVISED STANDARD PLAN RSP B3-3B

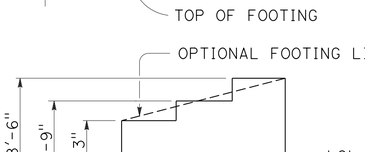


SPREAD FOOTING SECTION

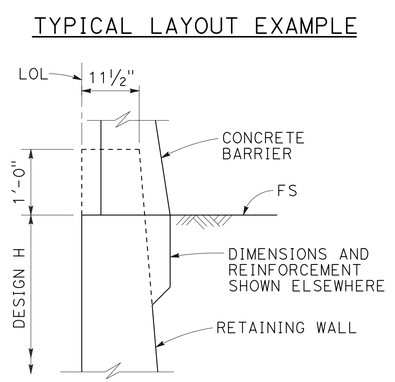


DESIGN SECTION

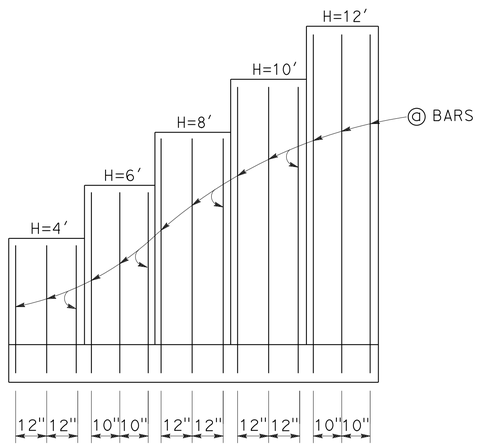




TYPICAL LAYOUT EXAMPLE



STEM HAUNCH DETAIL



ELEVATION

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext I - extreme event limit state I
Ext II - extreme event limit state II
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	4'	6'	8'	10'	12'
W	7'-3"	7'-9"	8'-6"	9'-6"	10'-6"
BATTER	NONE	NONE	100 : 2	100 : 3	100 : 4
ⓐ BARS	#7 @ 12	#7 @ 10	#7 @ 12	#7 @ 12	#7 @ 10
ⓑ BARS	#7 @ 12	#7 @ 10	#8 @ 12	#9 @ 12	#10 @ 10
Ser: B', q'_o	6.2, 1.4	6.1, 1.8	6.4, 2.1	7.0, 2.5	7.7, 2.8
Str: B', q_o	6.2, 2.4	6.1, 2.9	5.3, 3.0	6.0, 3.5	6.6, 4.0
Ext I: B', q_o	4.4, 1.5	4.1, 2.2	4.0, 3.1	4.1, 3.9	4.2, 4.8
Ext II: B', q_o	2.5, 2.7	3.1, 3.0	3.8, 3.2	4.9, 3.3	5.8, 3.5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1021	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied at He = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.

SEISMIC: k_h = 0.2
k_v = 0.0

SOIL: ø = 34°
γ = 120 pcf

REINFORCED CONCRETE: f'c = 3,600 psi
fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
Extreme II	Q = 1.00DC+1.00EV+1.00EH+1.00CT

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia
CT:	Vehicular Collision Force

NOTES:

1. At ⓐ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.

2. Provide #6 @ 8" ⓐ bars in addition to tabulated ⓐ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 5 (CASE 1)

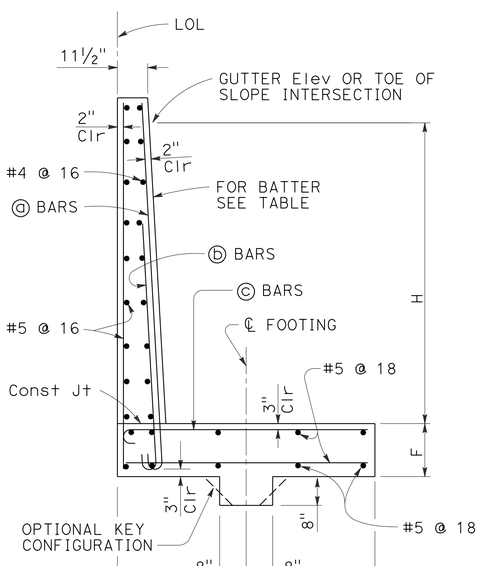
NO SCALE

RSP B3-4A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

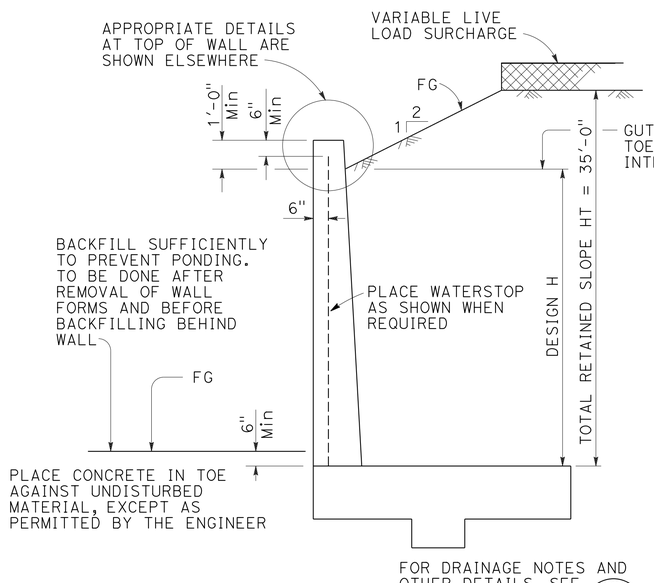
REVISED STANDARD PLAN RSP B3-4A

2010 REVISED STANDARD PLAN RSP B3-4A

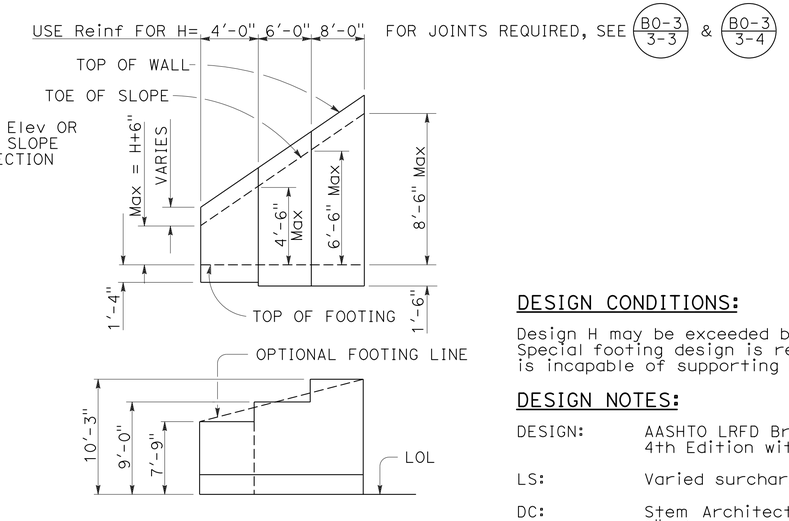
3-1-12



SPREAD FOOTING SECTION



DESIGN SECTION



TYPICAL LAYOUT EXAMPLE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1022	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — 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 3-3-14

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi, $fy = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

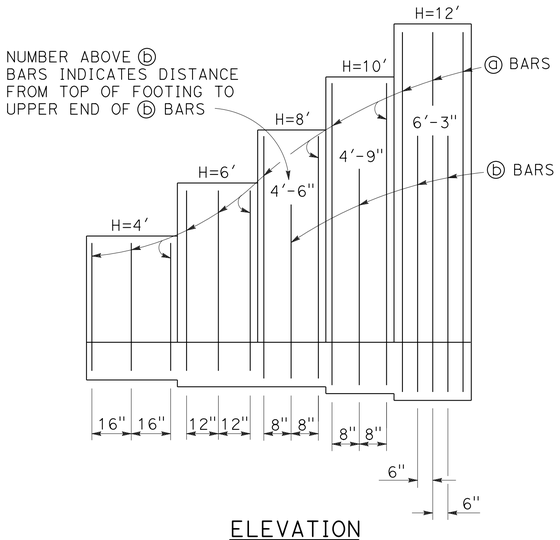
Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

NOTES:

1. At ⓐ and ⓑ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.



ELEVATION

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'
W	7'-9"	9'-0"	10'-3"	11'-6"	13'-3"
F SPREAD FOOTING	1'-4"	1'-6"	1'-6"	1'-6"	1'-10"
BATTER	NONE	NONE	NONE	100 : 3	100 : 5
ⓐ BARS	#5 @ 16	#5 @ 12	#5 @ 16	#6 @ 16	#5 @ 12
ⓑ BARS	NONE	NONE	#6 @ 16	#6 @ 16	#6 @ 12
ⓒ BARS	#7 @ 8	#7 @ 12	#8 @ 8	#9 @ 8	#10 @ 6
Ser: B', q'_o	5.2,1.3	6.0,1.8	9.1,1.8	10.0,2.3	11.4,2.7
Str: B', q_o	3.6,2.2	4.1,2.8	4.8,3.4	5.5,3.9	6.7,4.3
Ext: B', q_o	3.7,2.9	3.6,4.5	3.7,5.9	3.9,7.2	4.4,8.4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 5 (CASE 2)

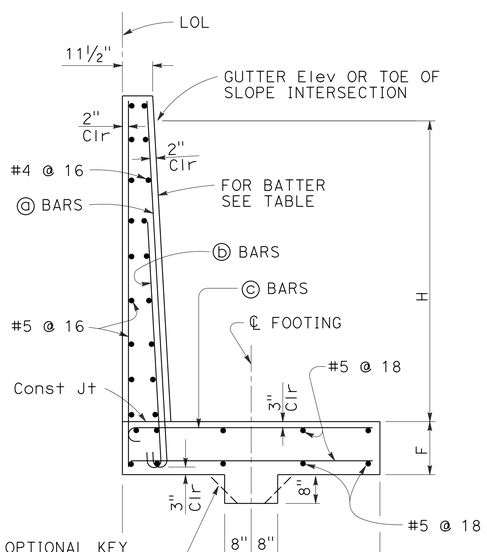
NO SCALE

RSP B3-4B DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

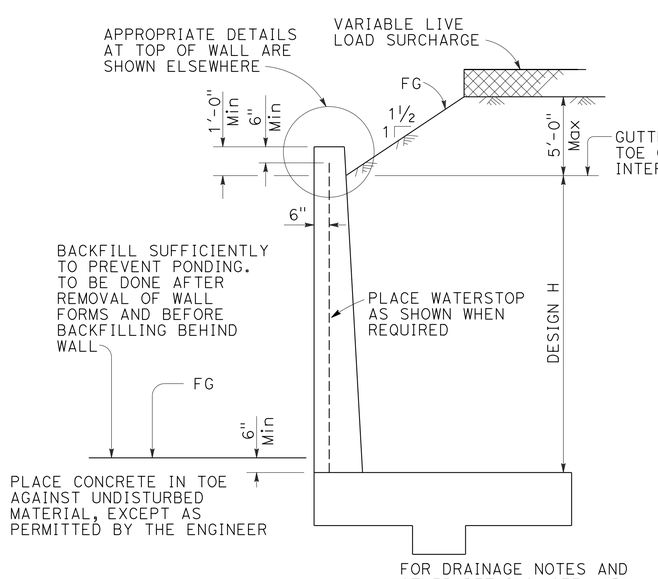
REVISED STANDARD PLAN RSP B3-4B

2010 REVISED STANDARD PLAN RSP B3-4B

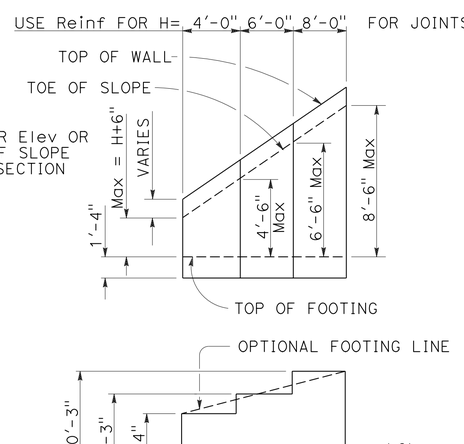
3-30-12



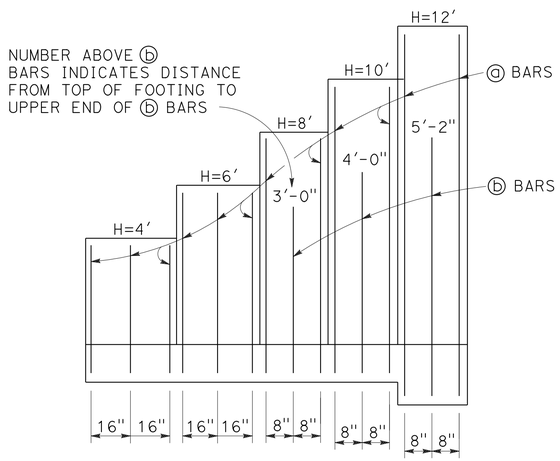
SPREAD FOOTING SECTION



DESIGN SECTION



TYPICAL LAYOUT EXAMPLE



ELEVATION

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'
W	8'-4"	9'-3"	10'-3"	11'-0"	12'-4"
F SPREAD FOOTING	1'-4"	1'-4"	1'-4"	1'-4"	1'-7"
BATTER	NONE	NONE	NONE	100 : 3	100 : 5
ⓐ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
ⓑ BARS	NONE	NONE	#5 @ 16	#5 @ 16	#5 @ 16
ⓒ BARS	#6 @ 8	#7 @ 8	#8 @ 8	#9 @ 8	#9 @ 8
Ser: B', q'_o	5.6, 1.4	6.4, 1.8	7.4, 2.2	7.8, 2.6	8.9, 3.0
Str: B', q_o	3.6, 2.4	4.2, 3.0	5.0, 3.4	5.3, 4.0	6.4, 4.2
Ext: B', q_o	4.4, 2.1	4.2, 3.0	4.2, 4.0	3.9, 5.5	4.2, 6.7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1023	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-3-14

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi, $fy = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

NOTES:

1. At ⓐ and ⓑ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 5 (CASE 3)

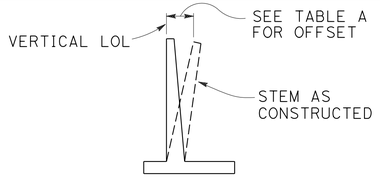
NO SCALE

RSP B3-4C DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-4C

2010 REVISED STANDARD PLAN RSP B3-4C

3-30-12

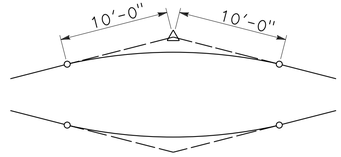


APPROXIMATE WALL OFFSET VALUES

Values for offseting forms to be determined by the Engineer.

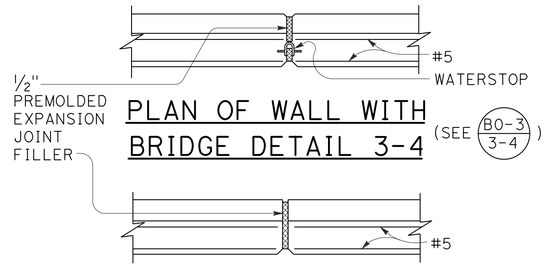
TABLE A

H	OFFSET
4'-12'	H/200
14'-16'	H/160
18'-20'	H/140
22'-24'	H/130
26'-36'	2½"



20'-0" VC AT TOP OF WALL SLOPE CHANGE

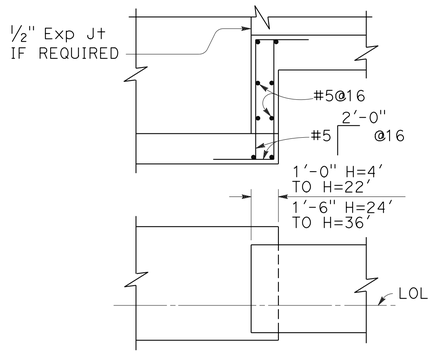
Where shown on the plans



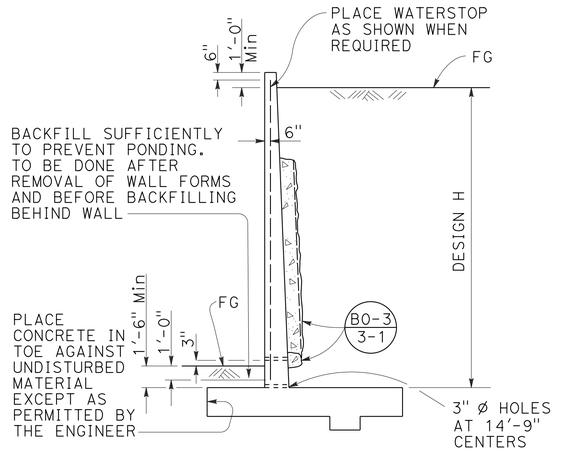
PLAN OF WALL WITH BRIDGE DETAIL 3-4

(SEE B0-3 / 3-4)

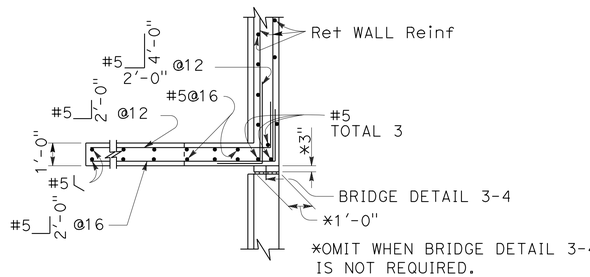
PLAN OF WALL WITH EXPANSION JOINT ONLY



FOOTING STEP

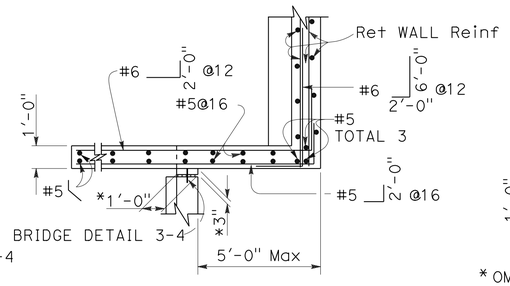


DESIGN AND DRAINAGE



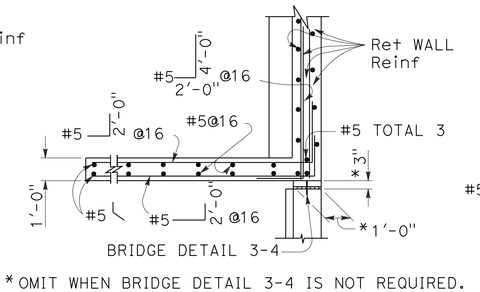
PLAN

(For return wall Type "A")



PLAN

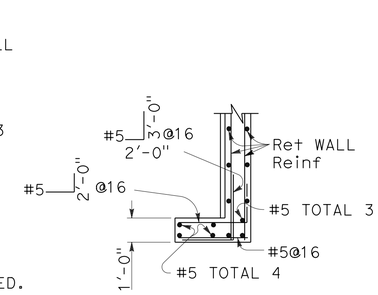
(For return wall Type "B")



*OMIT WHEN BRIDGE DETAIL 3-4 IS NOT REQUIRED.

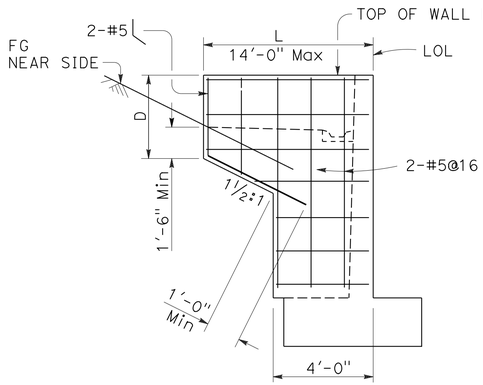
PLAN

(For return wall Type "C")



PLAN

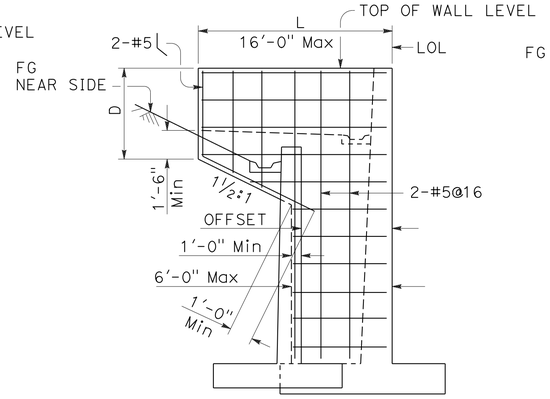
(For return wall Type "D")



ELEVATION

RETURN WALL TYPE "A"

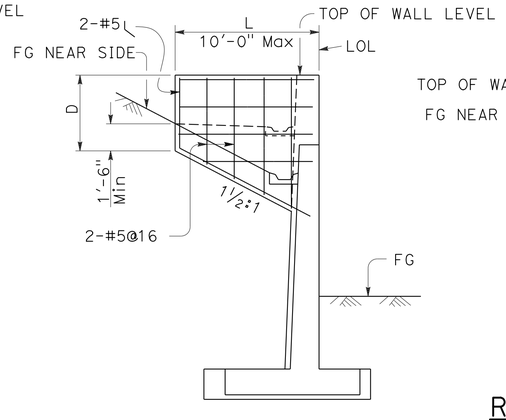
Use where H=8' or less



ELEVATION

RETURN WALL TYPE "B"

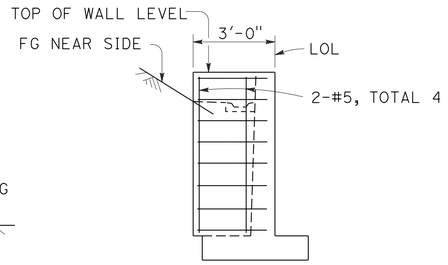
Use where H=10' or more on offset walls



ELEVATION

RETURN WALL TYPE "C"

Use where H=10' or more on straight walls



ELEVATION

RETURN WALL TYPE "D"

Use where H=6' or less

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1024	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-3-14

DESIGN CONDITIONS:

Design "H" may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in table

Return wall not required unless shown elsewhere

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

LIVE LOAD: Surcharge on level ground surface

SOIL: ø = 34°
γ = 120 pcf

REINFORCED CONCRETE: fy = 60,000 psi
fc' = 3,600 psi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS No. 1

NO SCALE

RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-5

2010 REVISED STANDARD PLAN RSP B3-5

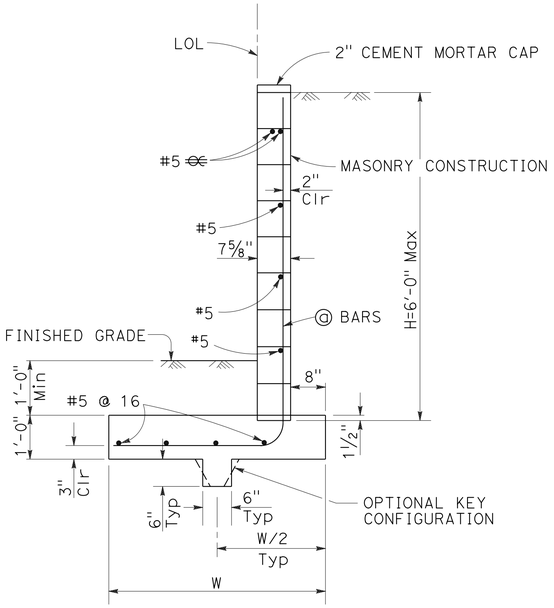
2-22-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1025	1168

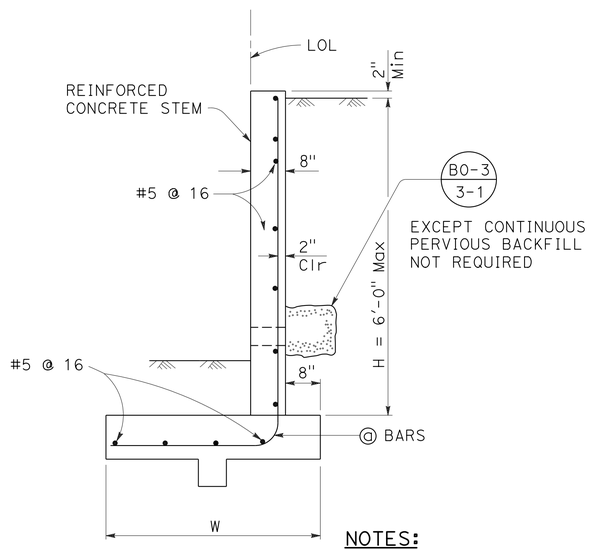
Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA



TYPE 6A WALL



SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

NOTES:

1. For details not shown at "6B", see "6A", similarly, for details not shown at "6A", see "6B".
2. Design loading for both Type "6A" and "6B" is as shown at "6B".
3. Type 6 retaining wall shall be limited to use for walls of Design H of 6'-0" or less.
4. Where traffic is adjacent to the top of wall, guard railing should be set back from the top front face of wall at least 4'-0" or 5'-0", dependent on wall type.
5. For reinforced concrete wall stem joint details, See B0-3 3-3 and B0-3 3-4
6. No splices are allowed on @ bars.
7. See "Retaining Wall Type 6 Details" sheet for Elevation View and Footing Step Details.

DESIGN NOTES:

TO ACCOMPANY PLANS DATED 3-3-14

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

Building Code Requirements for Masonry Structures (TMS 402-08/ACI 530-08/ASCE 5-08)

LS: 240 psf surcharge on level ground surface as limited by Guard Railing location

SEISMIC: $k_h = 0.2$
$k_v = 0.0$

SOIL: $\phi = 34°$
$\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi
$fy = 60{,}000$ psi

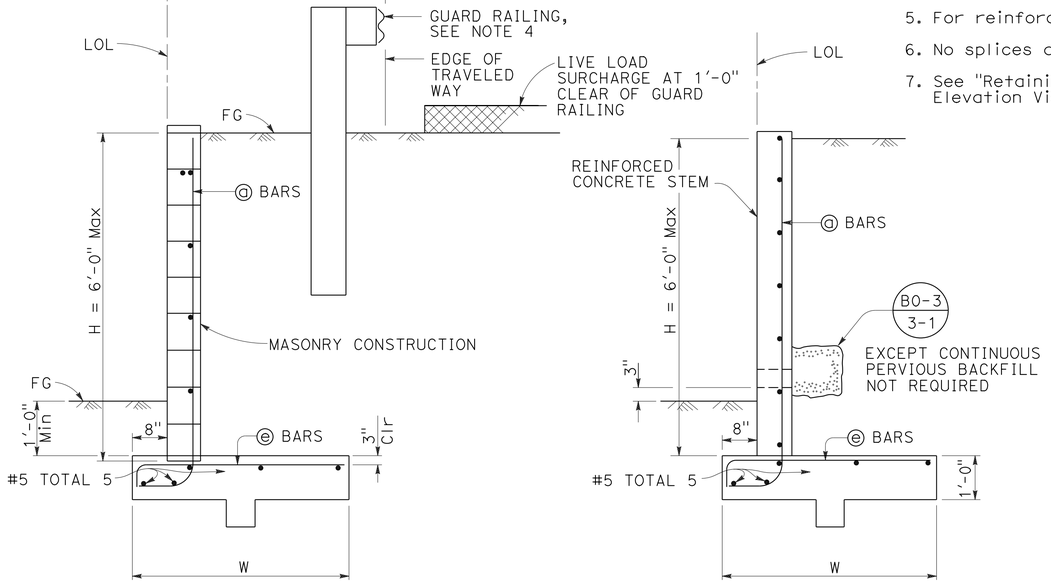
REINFORCED MASONRY: $fm' = 1{,}500$ psi
$fy = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+ØEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
Ø:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia



TYPE 6B WALL

TYPE 6A WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	3'-4"	4'-0"	4'-8"	5'-4"	6'-0"
W	3'-0"	3'-3"	3'-8"	4'-2"	4'-8"
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
Ser: B', q'_o	2.8, 0.2	3.0, 0.3	3.4, 0.3	3.8, 0.3	4.3, 0.3
Str: B', q_o	2.7, 0.6	2.9, 0.7	3.2, 0.7	3.6, 0.7	3.3, 0.6
Ext: B', q_o	1.7, 0.8	1.6, 0.9	1.7, 1.0	2.0, 1.0	2.1, 1.0

TYPE 6B WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	3'-4"	4'-0"	4'-8"	5'-4"	6'-0"
W	3'-0"	3'-9"	4'-0"	4'-6"	4'-9"
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
ⓔ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
Ser: B', q'_o	2.6, 0.4	3.4, 0.4	2.7, 0.8	3.1, 0.8	3.2, 1.0
Str: B', q_o	2.6, 0.8	3.3, 0.9	1.7, 1.6	2.1, 1.6	2.0, 1.8
Ext: B', q_o	1.5, 1.1	2.0, 1.1	2.0, 1.4	2.2, 1.5	2.1, 1.9

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 6 (CASE 1)

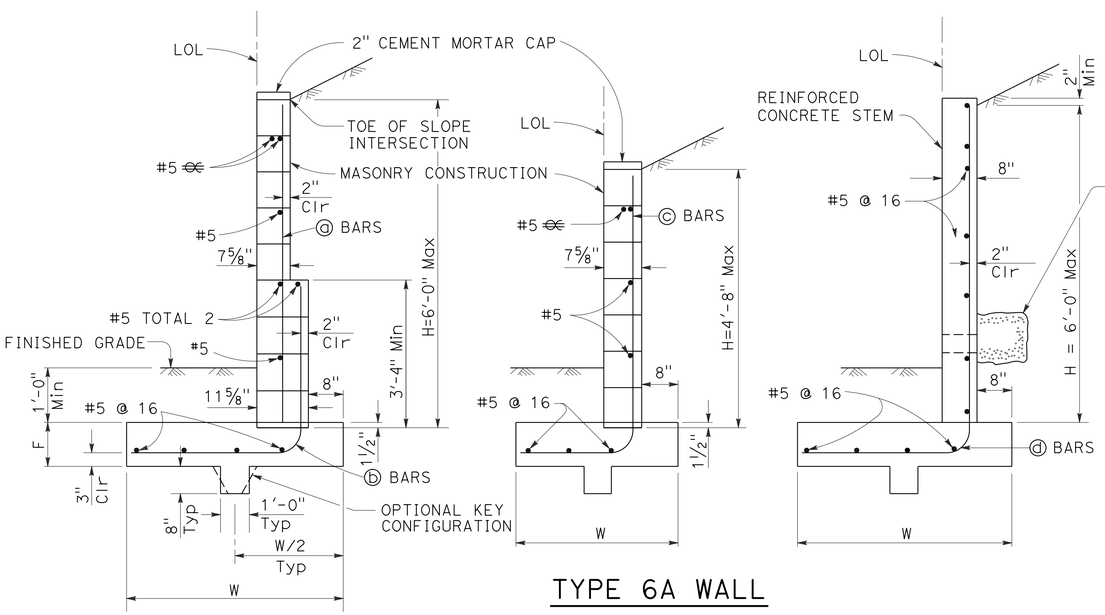
NO SCALE

RSP B3-7A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

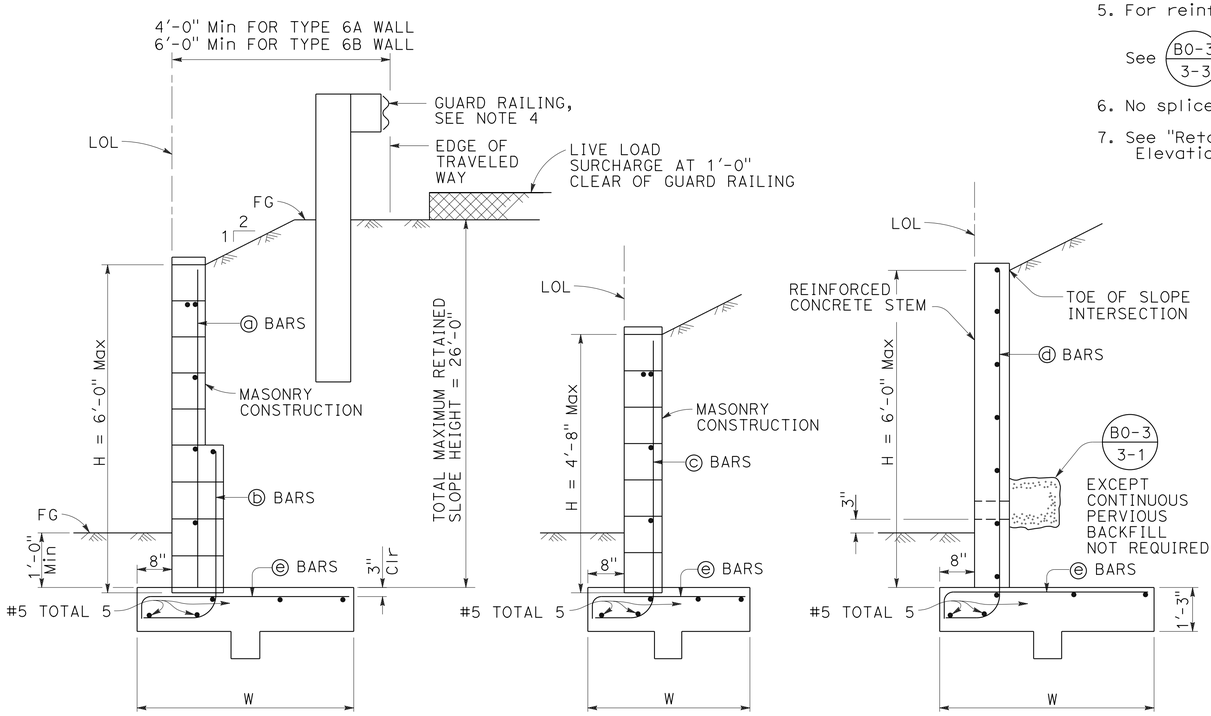
REVISED STANDARD PLAN RSP B3-7A

2-22-12

REVISED STANDARD PLAN RSP B3-7A



TYPE 6A WALL



TYPE 6B WALL

SYMBOLS:

Ser - service limit state 1
Str - strength limit state 1
Ext - extreme event limit state I
B′ - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

NOTES:

1. For details not shown at "6B", see "6A", similarly, for details not shown at "6A", see "6B".
2. Design loading for both Type "6A" and "6B" is as shown at "6B".
3. Type 6 retaining wall shall be limited to use for walls of Design H of 6′-0" or less.
4. Where traffic is adjacent to the top of wall, guard railing should be set back from the top front face of wall at least 4′-0" or 6′-0", dependent on wall type.
5. For reinforced concrete wall stem joint details, See B0-3 / 3-3 and B0-3 / 3-4
6. No splices are allowed on ⓐ, ⓑ, ⓒ and ⓓ bars.
7. See "Retaining Wall Type 6 Details" sheet for Elevation View and Footing Step Details.

DESIGN NOTES:

TO ACCOMPANY PLANS DATED 3-3-14

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

Building Code Requirements for Masonry Structures (TMS 402-08/ACI 530-08/ASCE 5-08)

LS: 240 psf surcharge on level ground surface as limited by Guard Railing location

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi, $f_y = 60{,}000$ psi

REINFORCED MASONRY: $f'_m = 1{,}500$ psi, $f_y = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	$Q = 1.00DC+1.00EV+1.00EH+1.00LS$
Strength I	$Q = \alpha DC+\phi EV+\eta EH+1.75LS$
Extreme I	$Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
ϕ:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

TYPE 6A WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	3′-4"	4′-0"	4′-8"	5′-4"	6′-0"
W	3′-8"	4′-1"	4′-8"	5′-3"	6′-9"
F	1′-0"	1′-0"	1′-2"	1′-3"	1′-4"
ⓐ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
ⓑ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
ⓒ BARS	#5 @ 16	#5 @ 16	#5 @ 16	NONE	NONE
ⓓ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#6 @ 16
Ser: B′, q'_o	3.4, 0.3	3.8, 0.3	4.3, 0.3	4.9, 0.4	6.0, 0.4
Str: B′, q_o	3.3, 0.7	3.6, 0.7	4.1, 0.8	4.7, 0.8	5.7, 0.9
Ext: B′, q_o	1.3, 1.9	1.4, 2.0	1.7, 2.1	1.9, 2.2	3.9, 1.4

TYPE 6B WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	3′-4"	4′-0"	4′-8"	5′-4"	6′-0"
W	4′-6"	5′-1"	5′-7"	6′-2"	6′-9"
ⓐ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
ⓑ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
ⓒ BARS	#5 @ 16	#5 @ 16	#5 @ 16	NONE	NONE
ⓓ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#6 @ 16
ⓔ BARS	#5 @ 16	#5 @ 16	#6 @ 16	#6 @ 16	#7 @ 16
Ser: B′, q'_o	3.3, 0.6	3.7, 0.8	4.0, 0.9	4.5, 1.0	4.1, 1.4
Str: B′, q_o	1.9, 1.4	2.3, 1.6	2.5, 1.8	2.8, 1.9	1.8, 3.6
Ext: B′, q_o	1.5, 2.8	1.8, 3.1	1.9, 3.6	2.1, 3.8	2.4, 3.9

RSP B3-7B DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 6 (CASE 2)

NO SCALE

REVISED STANDARD PLAN RSP B3-7B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1026	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

2010 REVISED STANDARD PLAN RSP B3-7B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1027	1168

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gary Wang
No. C58298
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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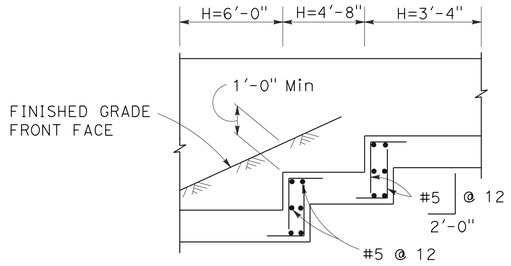
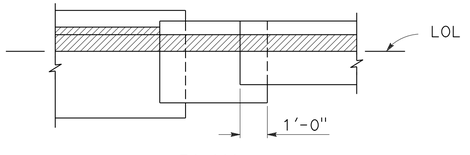
TO ACCOMPANY PLANS DATED 3-3-14

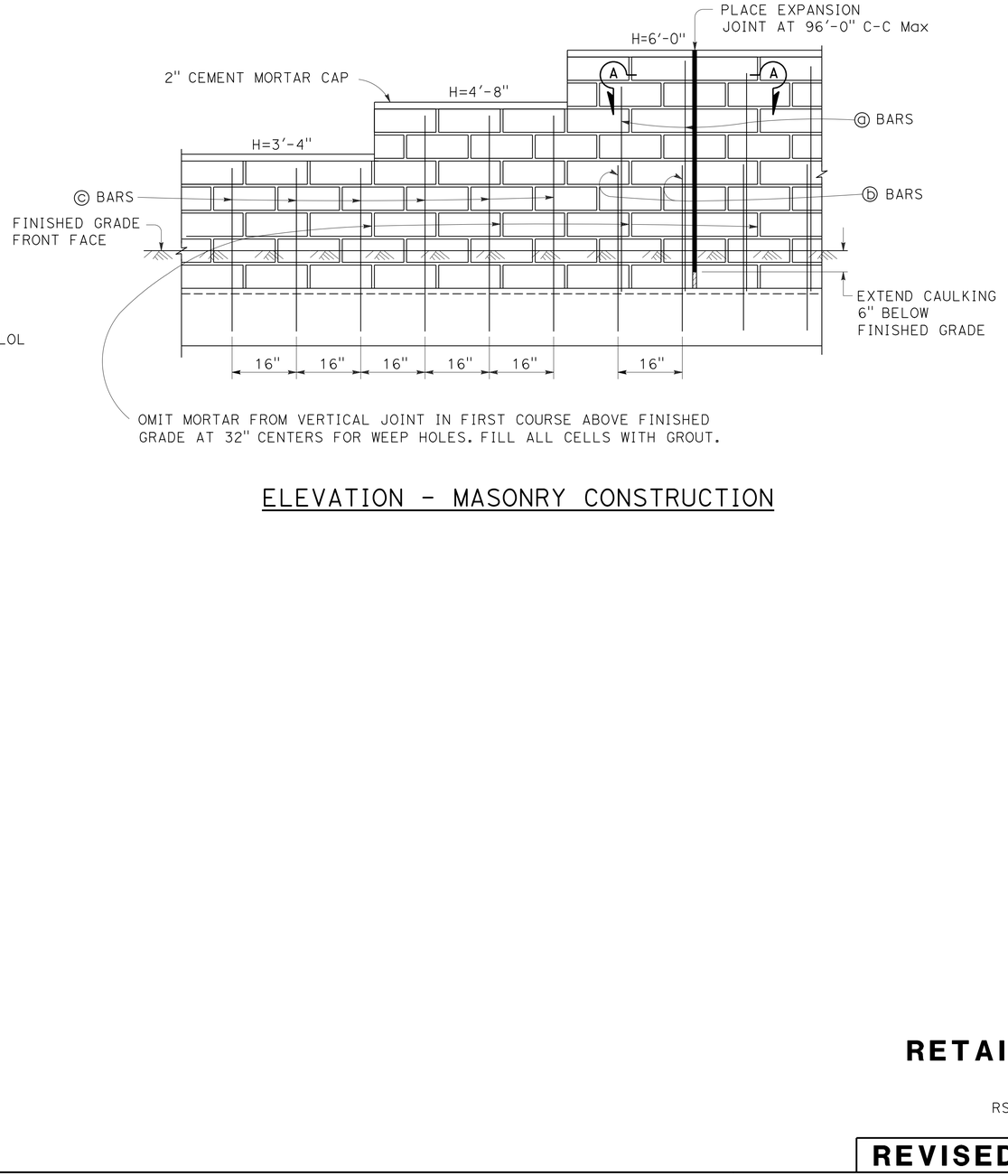


ELEVATION

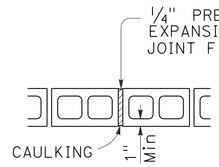


PLAN

FOOTING STEP DETAILS



ELEVATION - MASONRY CONSTRUCTION



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 6 DETAILS

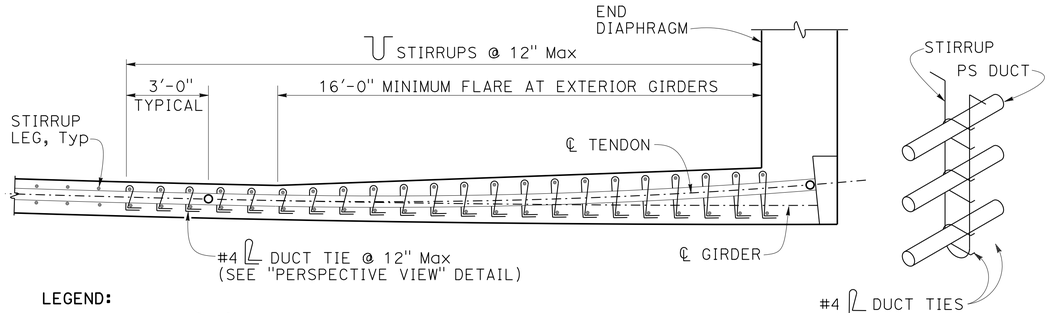
NO SCALE

RSP B3-7C DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-7C

2010 REVISED STANDARD PLAN RSP B3-7C

2-22-12



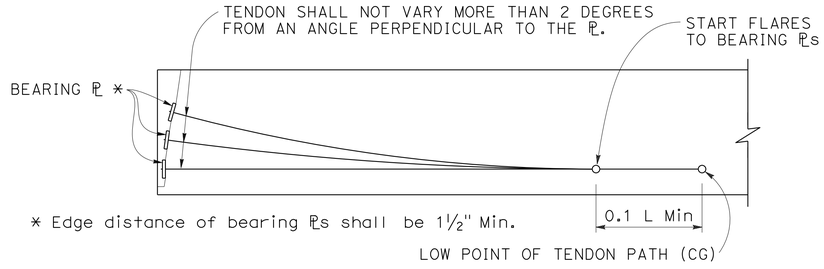
LEGEND:

o - Denotes beginning or end of tendon horizontal angle change (BC, EC or PCC)

PLAN

PERSPECTIVE VIEW

DUCT TIES AT TENDON HORIZONTAL ANGLE CHANGES
DETAIL 5-1



* Edge distance of bearing ℄s shall be 1½" Min.

ELEVATION - BEARING PLATE AND PRESTRESSING PATH
DETAIL 5-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1028	1168

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Marc Friedheim
No. C57968
Exp. 6-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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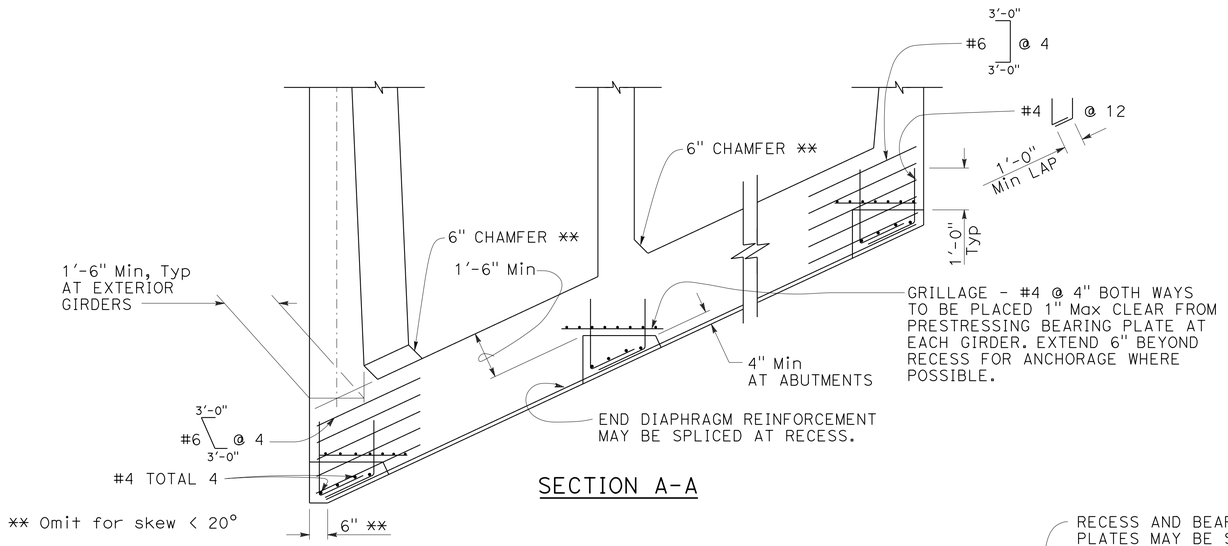
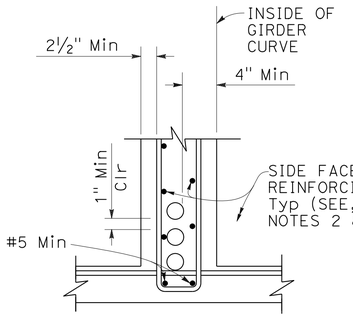
TO ACCOMPANY PLANS DATED 3-3-14

NOTES FOR DETAIL 5-1

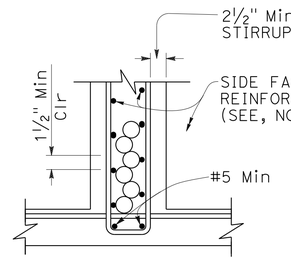
1. Tendon horizontal angle change at end diaphragm shown. Duct tie placement similar for other locations where tendon horizontal angle changes occur. For curved girders place duct ties at tendon angle changes where ℄ tendon radius is smaller than ℄ girder radius.
2. Adjacent duct ties may be staggered to facilitate placement if stirrup spacing is less than 12 inches.
3. Place closed end of duct ties toward inside of tendon curve.
4. Wrap duct ties around both stirrup legs.
5. Individual duct ties may only be used to anchor one duct.



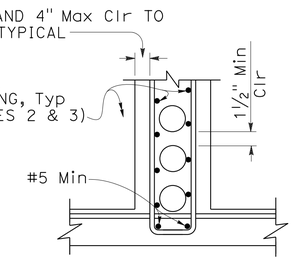
SECTION A-A



DUCTS 4½" OD AND LESS FOR HORIZONTAL CURVE RADIUS ≤ 2000'



DUCTS 4½" OD AND LESS

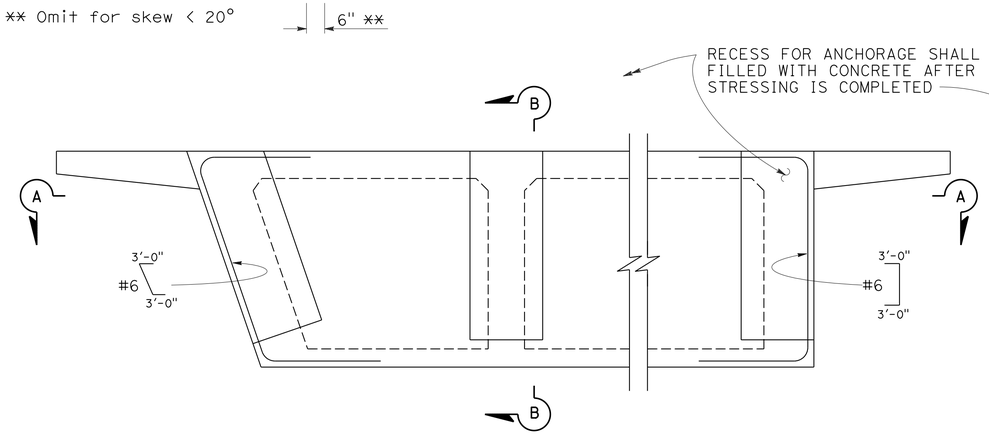


DUCTS OVER 4½" OD

CLEARANCE REQUIREMENTS FOR DUCTS
DETAIL 5-4

NOTES FOR DETAIL 5-4:

1. ⊔ Stirrups may also be used.
2. For additional details, see Standard Plan B7-1, and Project Plans.
3. Bar reinforcing which interferes with prestressing ducts may be adjusted as approved by the Engineer.



PRESTRESS ANCHORAGE DETAILS AT END DIAPHRAGMS
DETAIL 5-3

SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS

NO SCALE

RSP B8-5 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN B8-5 DATED MAY 20, 2011 - PAGE 291 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B8-5

2010 REVISED STANDARD PLAN RSP B8-5

4-17-13

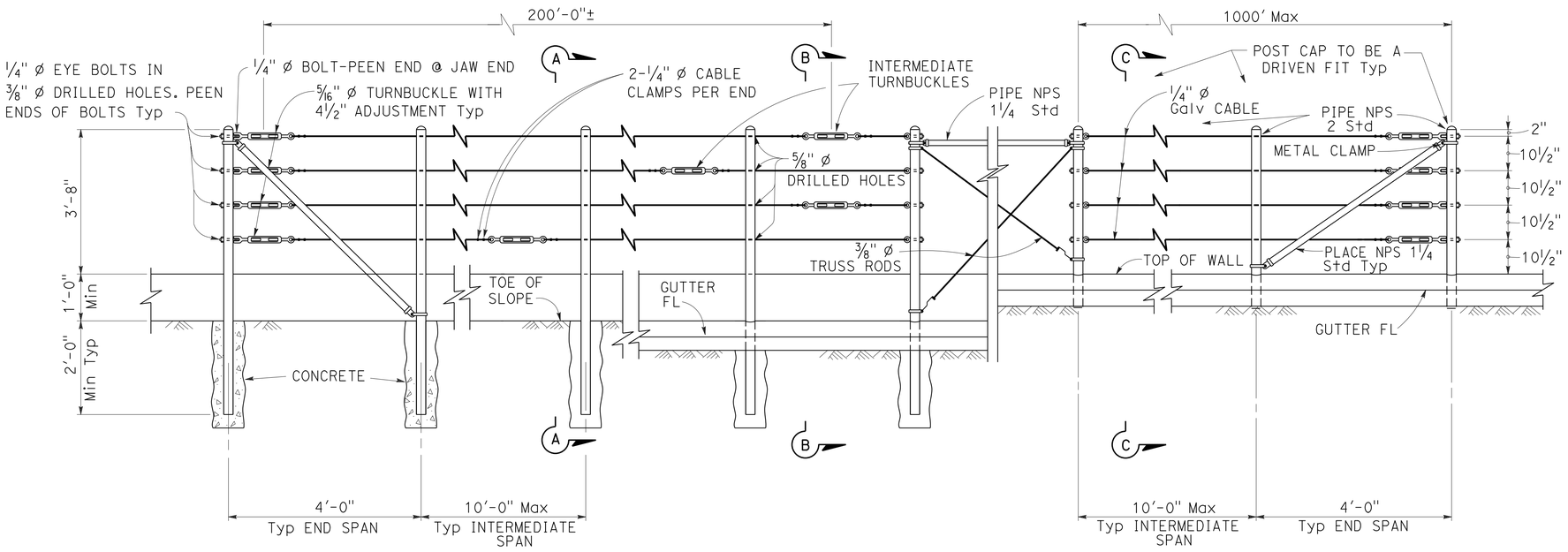
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1029	1168

REGISTERED CIVIL ENGINEER

October 21, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tillat Satter — No. C42892 — Exp. 3-31-12 — CIVIL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

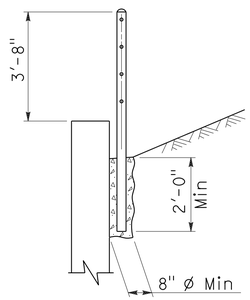


EXISTING WALL (WITHOUT GUTTER)
Existing

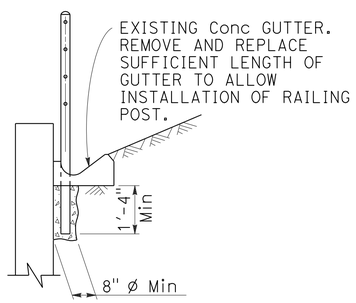
RETAINING WALL (WITH GUTTER)
Existing

RETAINING WALL (WITH GUTTER)
New construction

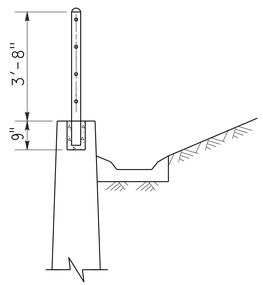
ELEVATION



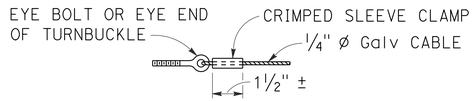
SECTION A-A
Existing



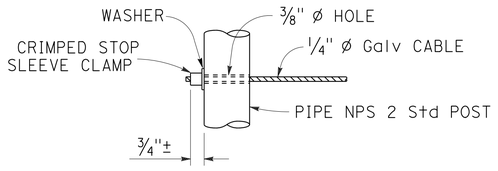
SECTION B-B
Existing



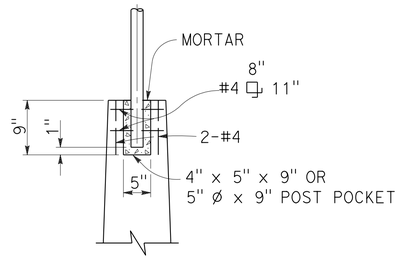
SECTION C-C
New construction



ALTERNATIVE CABLE CONNECTION



ALTERNATIVE DEAD END ANCHORAGE



POST POCKET

NOTES:

1. Maximum distance between turnbuckles shall be 200'-0"±.
2. Intermediate turnbuckles to be placed in adjacent spans.
3. Cable shall not be spliced between intermediate turnbuckles and end posts.
4. Posts to be vertical.
5. Alignment of holes in posts may vary to conform to slope of top of retaining wall.
6. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.
7. Line posts shall be braced horizontally and trussed diagonally in both directions at intervals not to exceed 1000'.
8. Post pockets to be centered in top of wall.
9. Typical end spans, braced in both directions, shall be constructed at changes in line where the angle of deflection is 15° or more.
10. Provide thimbles at all cable loops.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CABLE RAILING

NO SCALE

RSP B11-47 DATED OCTOBER 21, 2011 SUPERSEDES STANDARD PLAN B11-47 DATED MAY 20, 2011 - PAGE 293 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-47

2010 REVISED STANDARD PLAN RSP B11-47

9-14-11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1030	1168

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tillat Satter — No. C42892 — Exp. 3-31-14 — CIVIL — STATE OF CALIFORNIA

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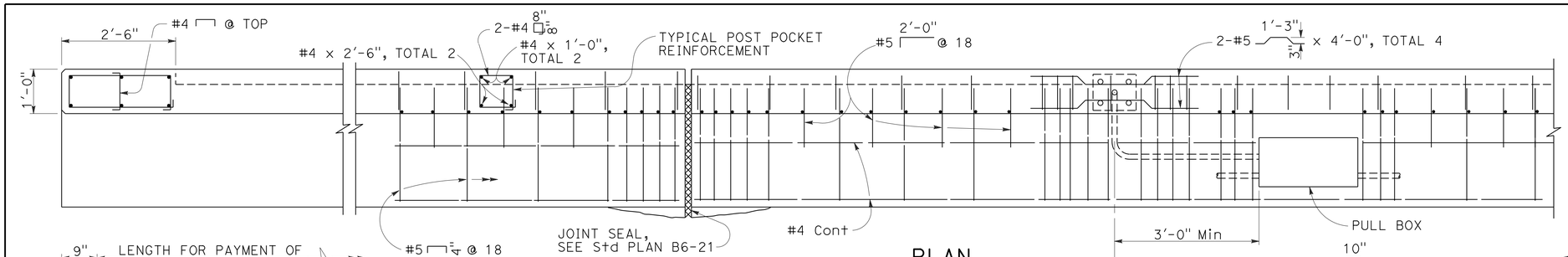
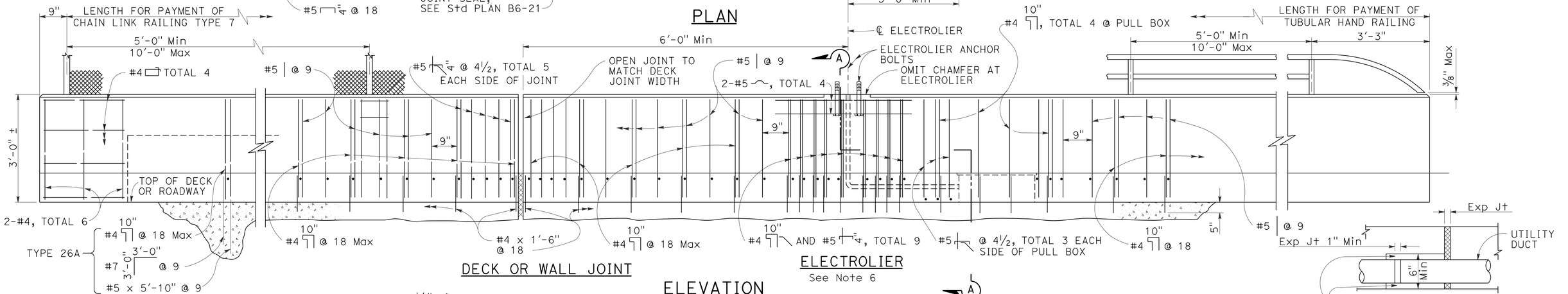
TO ACCOMPANY PLANS DATED 3-3-14

2010 REVISED STANDARD PLAN RSP B11-54



PLAN



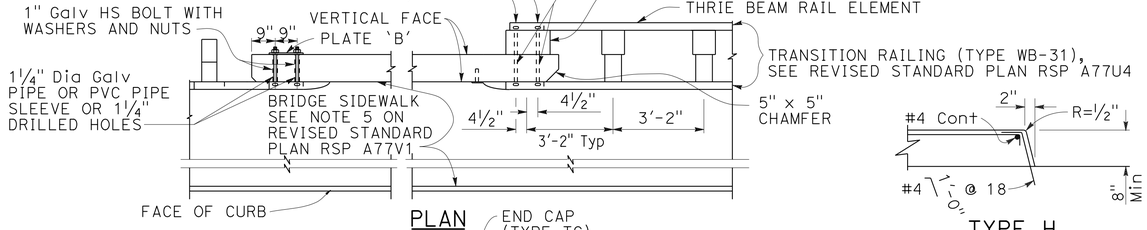
DECK OR WALL JOINT

ELEVATION

ELECTROLIER

See Note 6

UTILITY DUCT EXPANSION JOINT

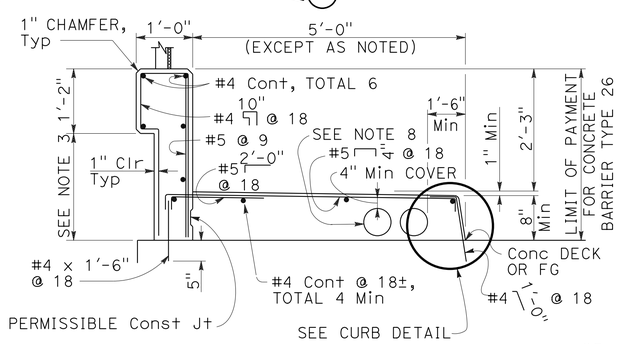


PLAN

TYPE H

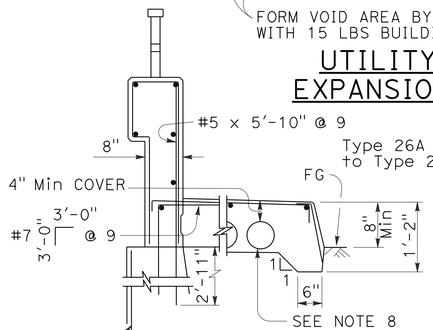
To be used unless otherwise shown on plans.

CURB DETAIL



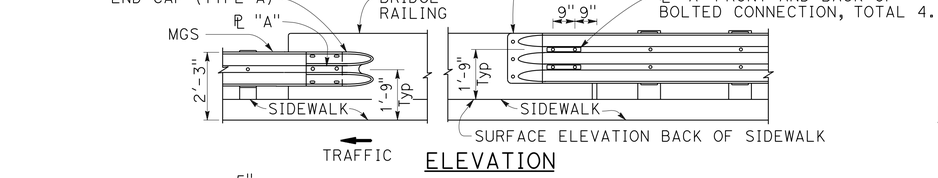
TYPE 26

On bridge deck



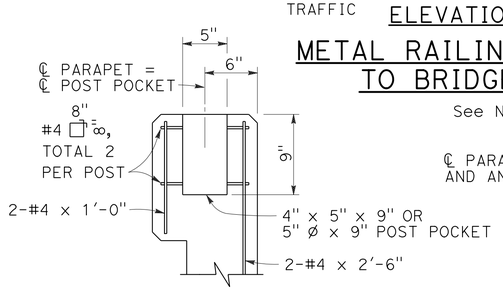
TYPE 26A

Off bridge deck



ELEVATION

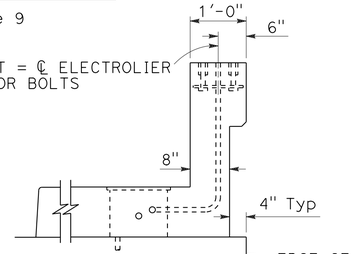
METAL RAILING CONNECTION TO BRIDGE RAILING



POST ANCHORAGE DETAIL

Applies to Chain Link Railing Type 7 and Tubular Hand Railing. See respective Standard Plans for additional details.

See Note 9



SECTION A-A

NOTES:

1. For Chain Link Railing notes and details not shown, see Standard Plan B11-52.
2. For Hand Railing notes and details not shown, see Standard Plan B11-51.
3. Dimensions will vary with cross slope and with certain thicknesses of surfacing. See Project Plans.
4. Walls are to be backfilled before railing is placed.
5. Clearance to reinforcing steel in curb and railing to be 1" except as noted. Longitudinal reinforcement to stop at all expansion joints.
6. See Project Plans for electrolier locations and pull box type.
7. For electrical details, see Standard Plans ES-9A, ES-9B, ES-9C, ES-9D, and ES-9E.
8. A maximum of five - 4" and a minimum of two - 4" round openings for future utilities. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down. Minimum of 6" from face of rail to utility opening.
9. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77V1 and RSP A77V2.
10. This barrier is to be used only for speeds of 45 MPH or less. For speeds greater than 45 MPH, pedestrians should be protected by a separation traffic barrier.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 26

NO SCALE

RSP B11-54 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-54 DATED JULY 19, 2013 AND STANDARD PLAN B11-54 DATED MAY 20, 2011 - PAGE 296 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-54

10-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1031	1168

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tillat Satter — No. C42892 — Exp. 3-31-14 — CIVIL — STATE OF CALIFORNIA

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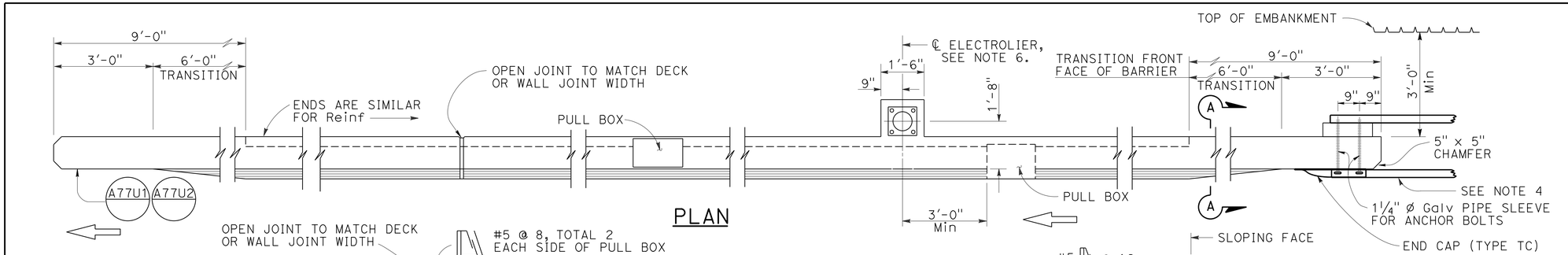
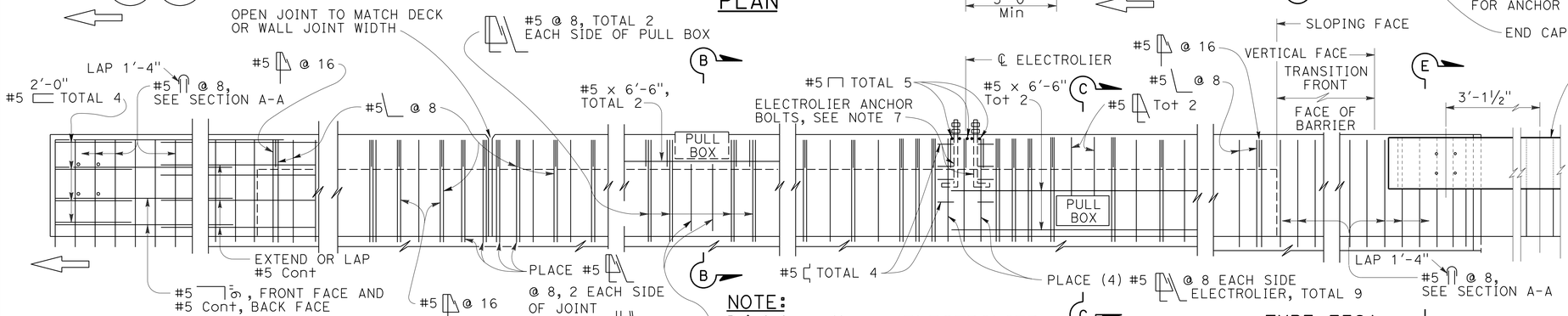
TO ACCOMPANY PLANS DATED 3-3-14

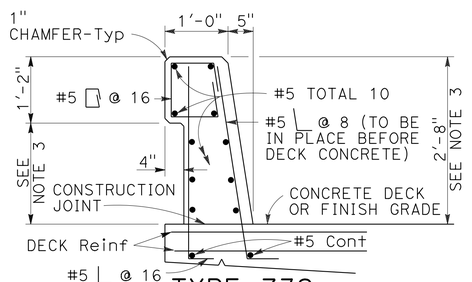
2010 REVISED STANDARD PLAN RSP B11-55

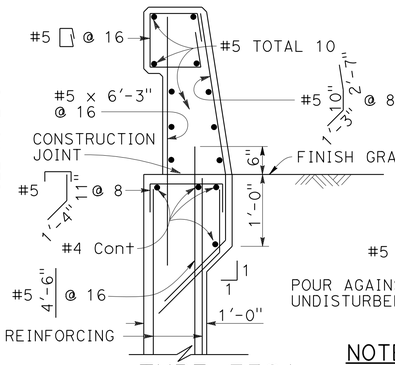


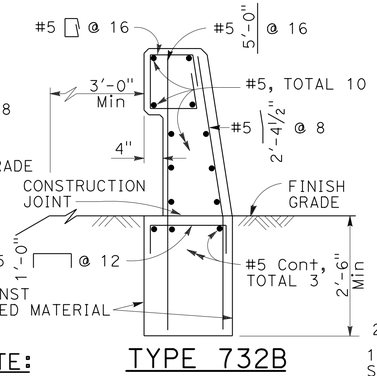


NOTES:

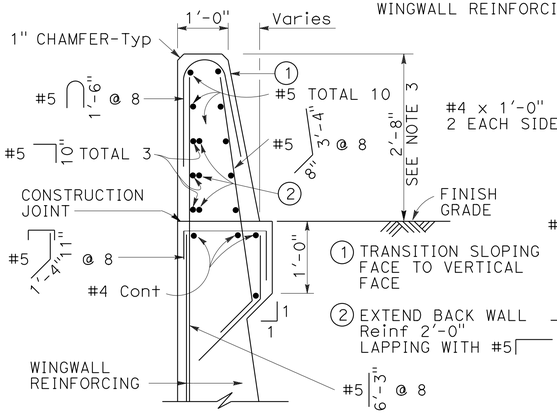
1. Walls are to be backfilled before barrier is placed.
2. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
3. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
4. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
6. For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
7. Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectual treatment.



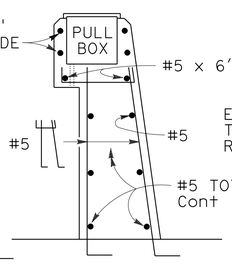


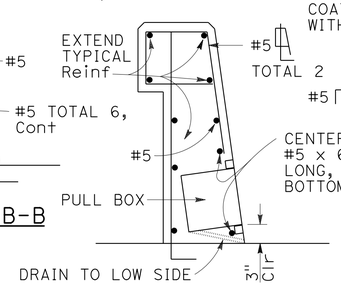


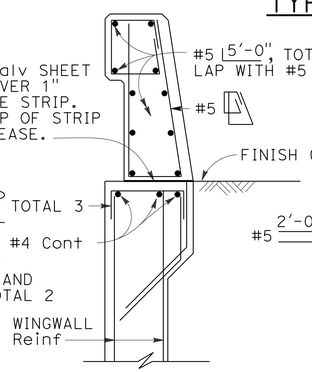
NOTE: Types 732A and 732B are similar to Type 732 except as noted.

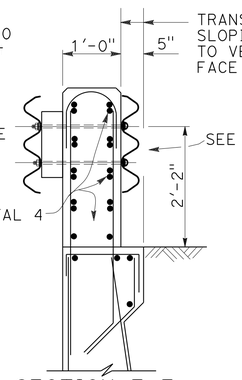


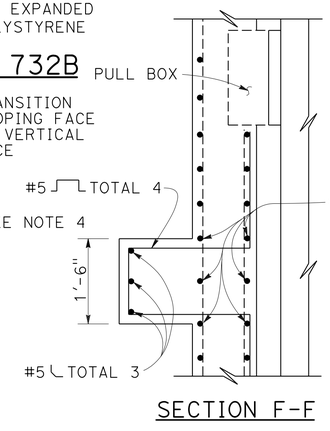
Details shown for barrier anchorage to Type 732A. Anchorage for barrier Types 732 and 732A are similar to their respective details.

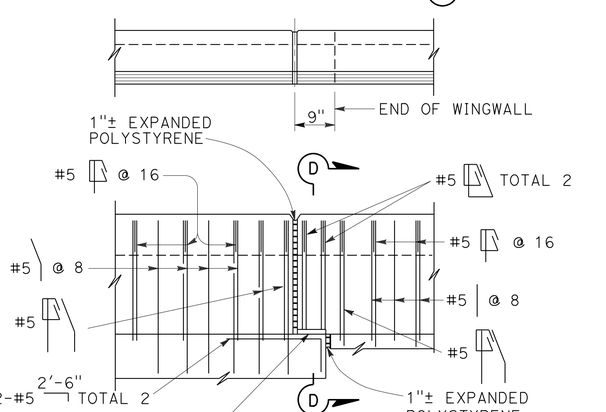


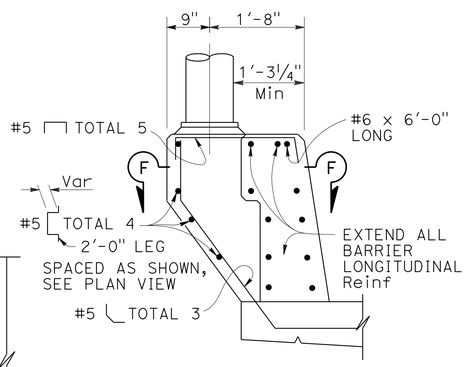












STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 732

NO SCALE

RSP B11-55 DATED NOVEMBER 15, 2013 SUPERSEDES
RSP B11-55 DATED JULY 19, 2013 AND STANDARD PLAN B11-55
DATED MAY 20, 2011 - PAGE 297 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-55

10-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1032	1168

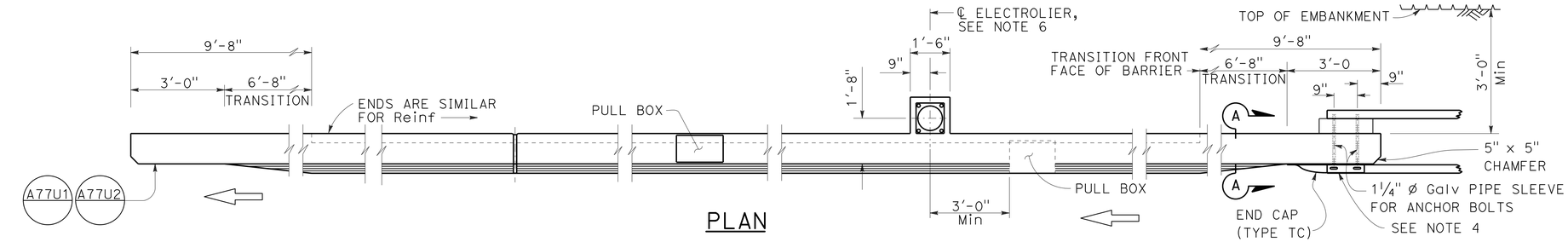
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

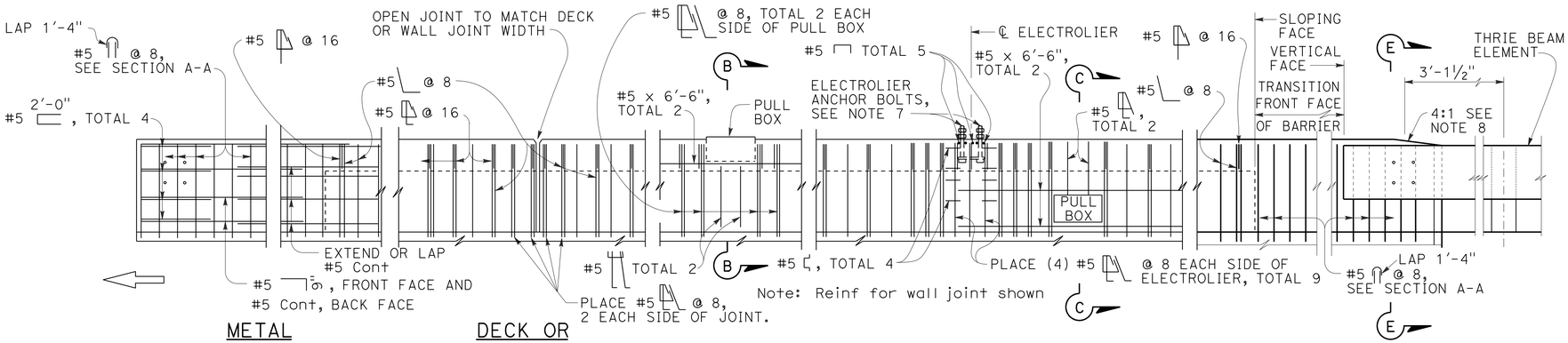
REGISTERED PROFESSIONAL ENGINEER — Tillat Satter — No. C42892 — Exp. 3-31-14 — CIVIL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

2010 REVISED STANDARD PLAN RSP B11-56



PLAN



METAL RAILING CONNECTION

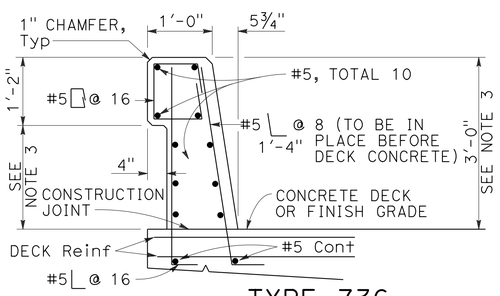
DECK OR WALL JOINT

ELECTROLIER

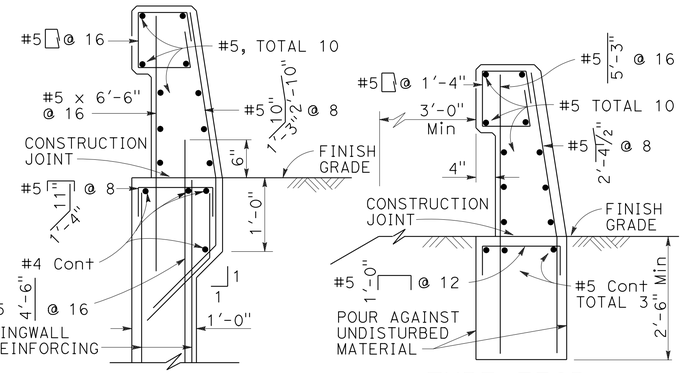
See Note F

TYPE 736A

ELEVATION

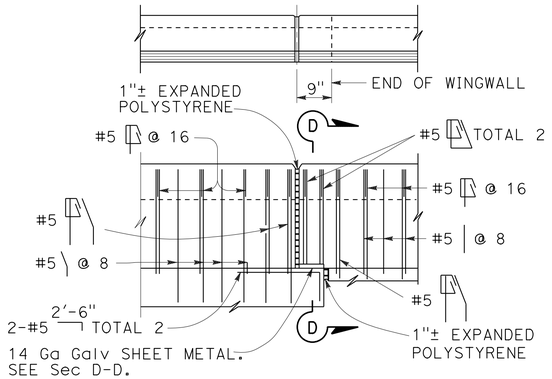


TYPE 736

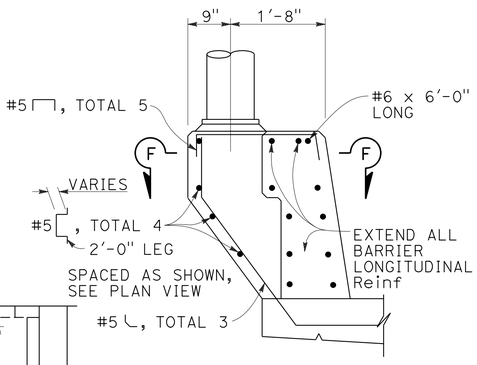


TYPE 736A

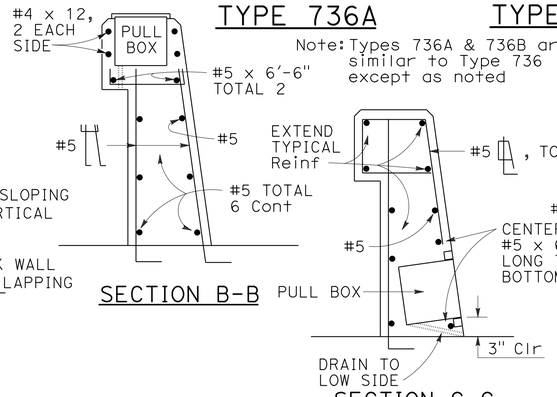
TYPE 736B



TYPE 736A TYPE 736B



PEDESTAL ELEVATION

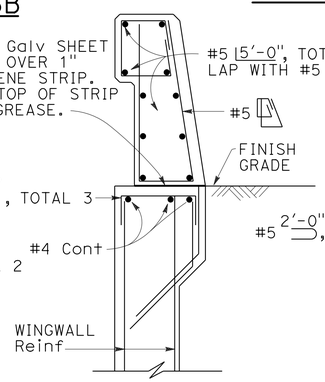


SECTION B-B

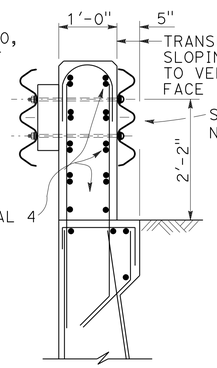
Note: Types 736A & 736B are similar to Type 736 except as noted

SECTION C-C

See Notes

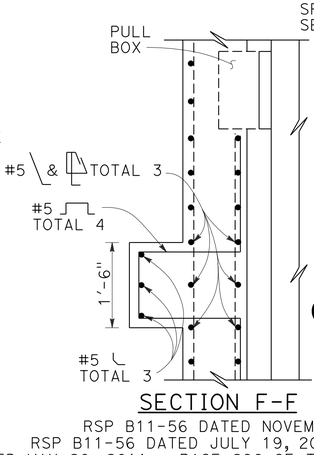


SECTION D-D

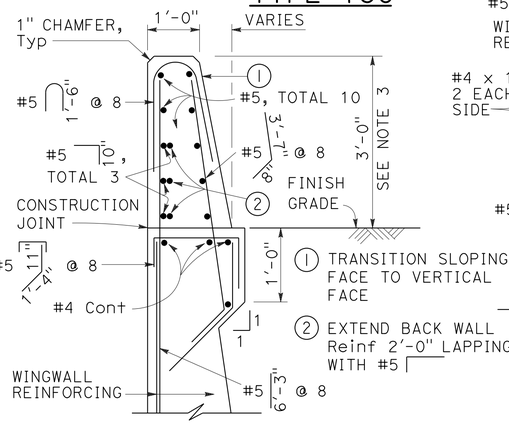


SECTION E-E

See Notes



SECTION F-F



SECTION A-A

Details shown for barrier anchorage to Type 736A. Anchorgae for barrier Types 736 and 736B are similar to their respective details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 736

NO SCALE

RSP B11-56 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-56 DATED JULY 19, 2013 AND STANDARD PLAN B11-56 DATED MAY 20, 2011 - PAGE 298 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-56

NOTES:

1. Walls are to be backfilled before barrier is placed.
2. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
3. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
4. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
6. For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
7. Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectual treatment.
8. Taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail element.

10-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1033	1168

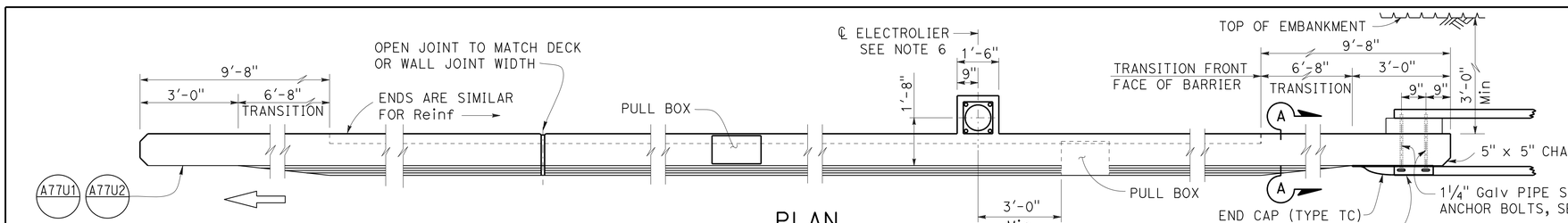
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

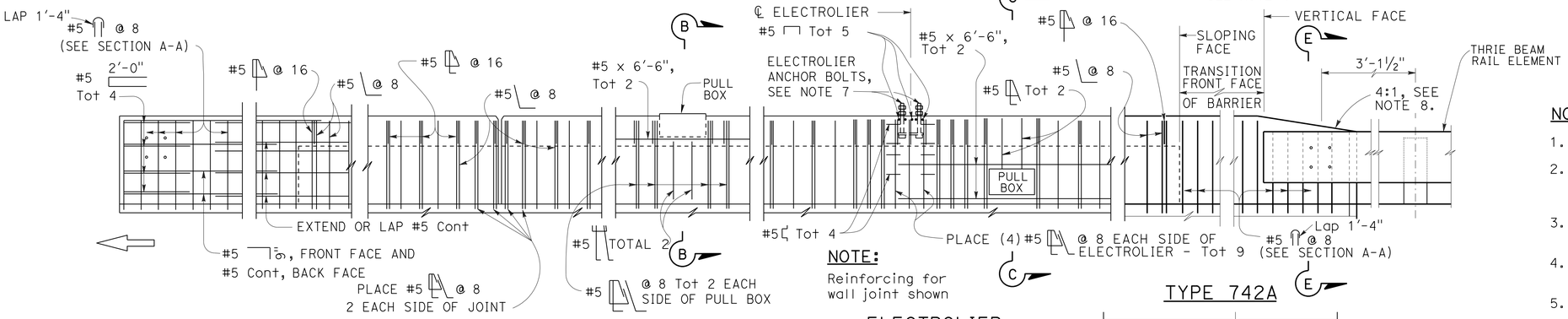
REGISTERED PROFESSIONAL ENGINEER — Tillat Satter — No. C42892 — Exp. 3-31-14 — CIVIL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

2010 REVISED STANDARD PLAN RSP B11-57



PLAN



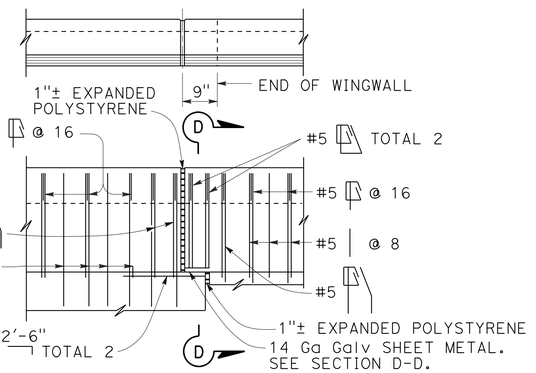
METAL RAILING CONNECTION

DECK OR WALL JOINT

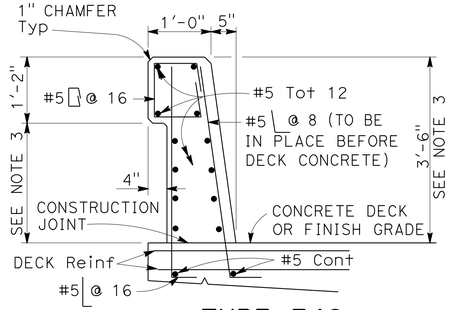
NOTE:
Reinforcing for wall joint shown

ELECTROLIER ELEVATION

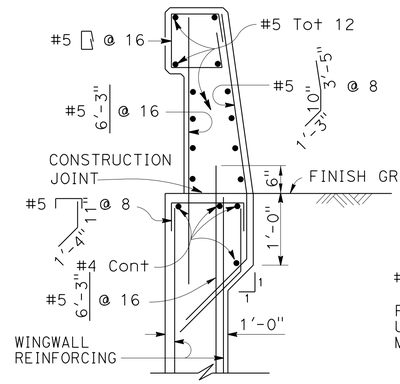
(See Note 5)



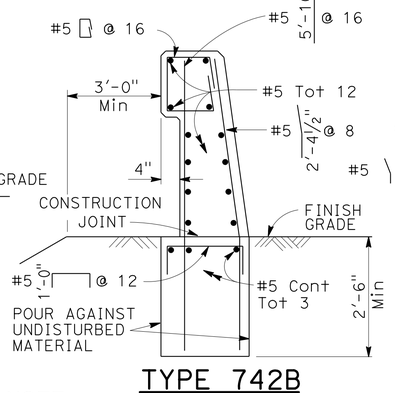
TYPE 742A TYPE 742B



TYPE 742

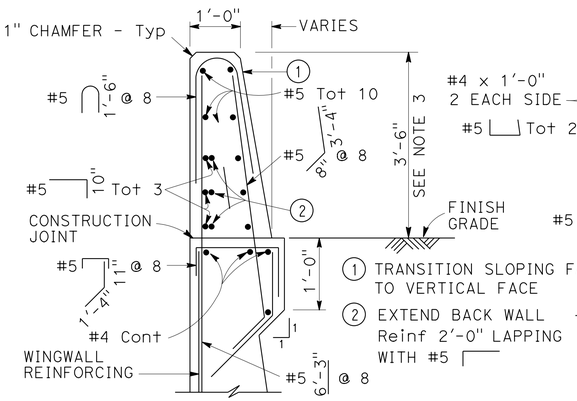


TYPE 742A

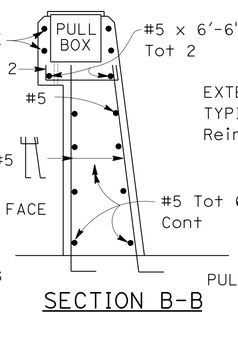


TYPE 742B

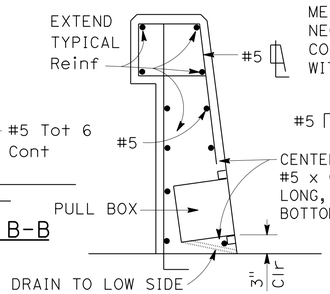
NOTE:
Types 742A & 742B are similar to Type 742 except as noted



SECTION A-A

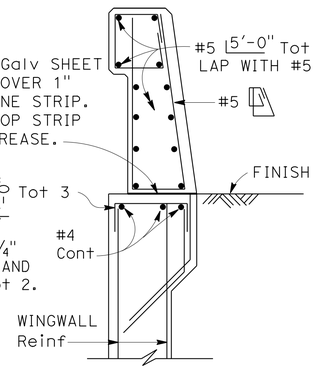


SECTION B-B

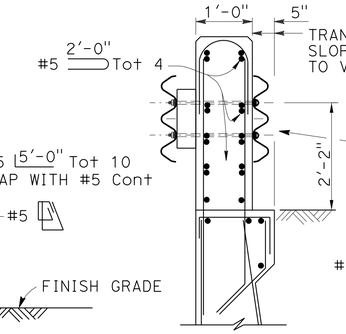


SECTION C-C

See Notes

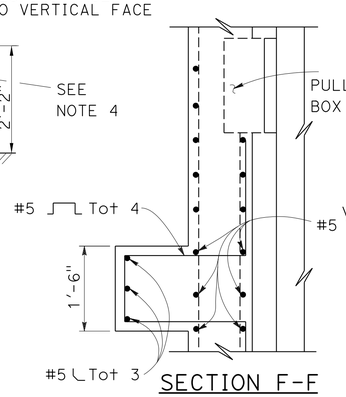


SECTION D-D

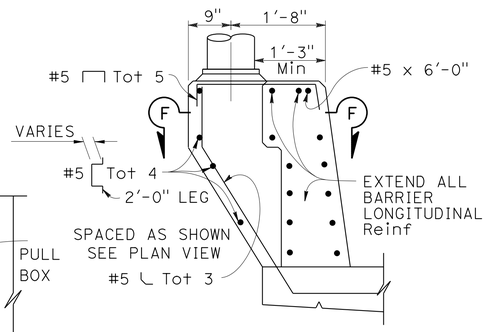


SECTION E-E

See Note 4



SECTION F-F



PEDESTAL ELEVATION

NOTES:

1. Walls are to be backfilled before barrier is placed.
2. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
3. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
4. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
6. For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
7. Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectual treatment.
8. Taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail element.

Details shown for barrier anchorage to Type 742A. Anchorage for barrier Types 742 and 742A are similar to their respective details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 742

NO SCALE

RSP B11-57 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-57 DATED JULY 19, 2013 AND STANDARD PLAN B11-57 DATED MAY 20, 2011 - PAGE 299 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-57

10-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1034	1168

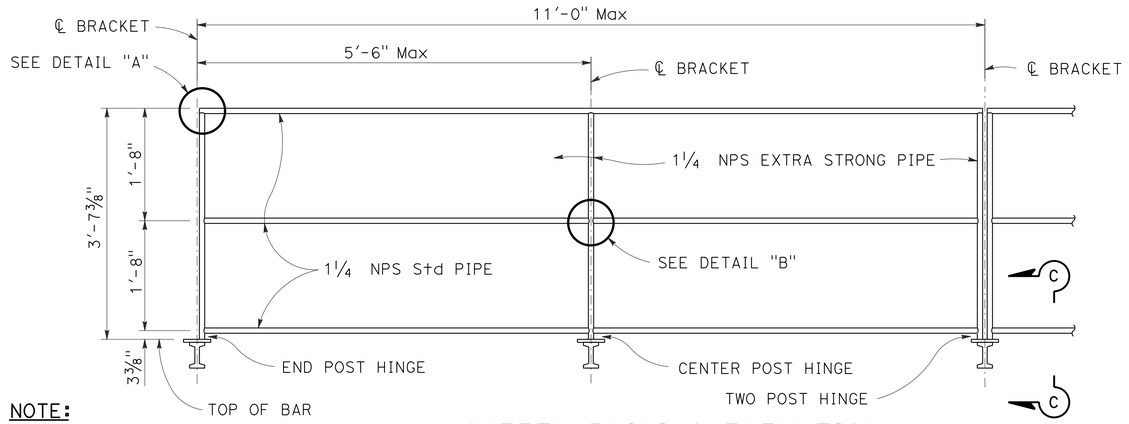
Stanley P. Johnson
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Stanley P. Johnson — No. C57793 — Exp. 3-31-14 — 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.

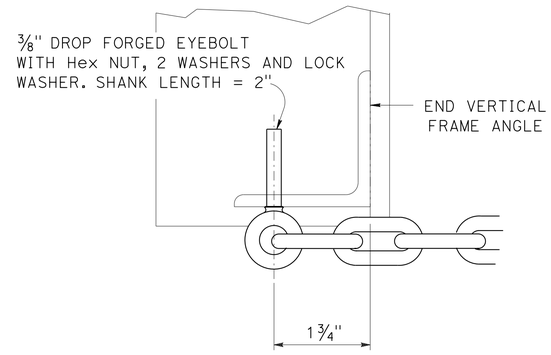
TO ACCOMPANY PLANS DATED 3-3-14



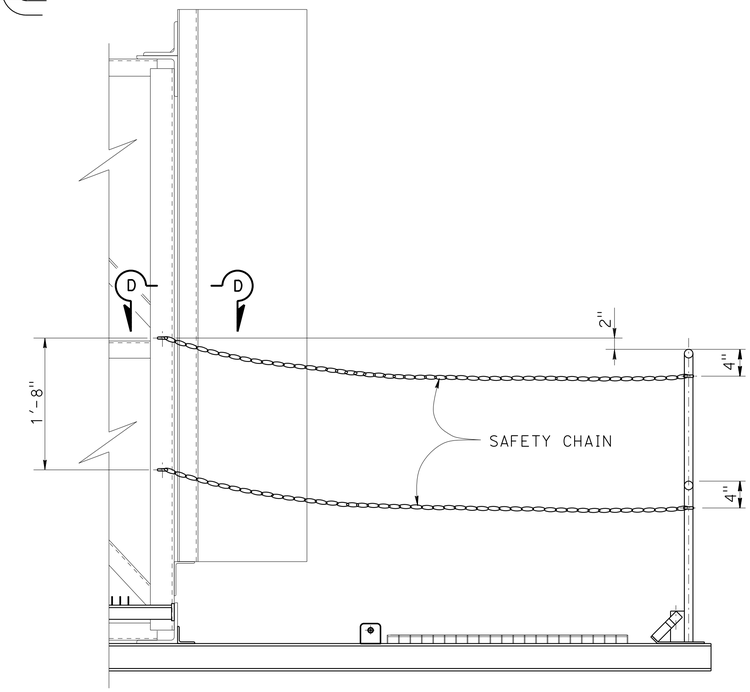
SAFETY RAILING ELEVATION

NOTE:
Chain assembly behind (see detail this page)

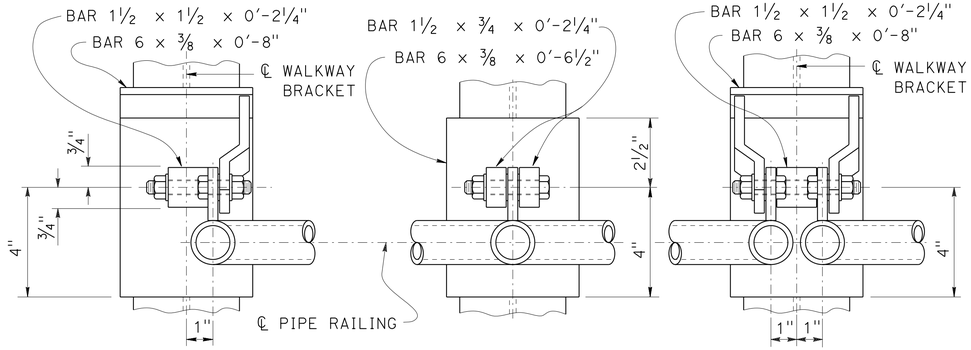
NOTE:
See Standard Plans S101 and S105 and S109 for walkway bracket spacing.



SECTION D-D

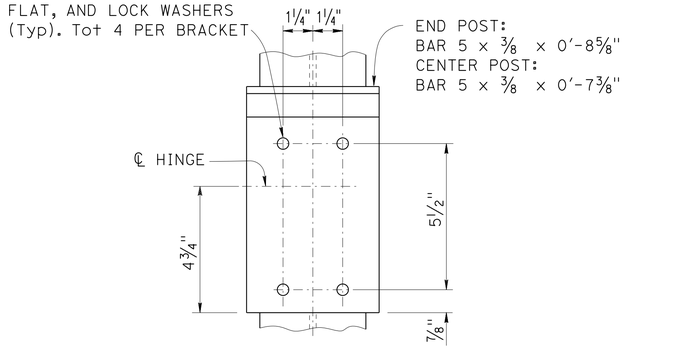


CHAIN ASSEMBLY



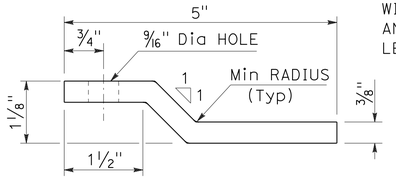
END POST — CENTER POST — TWO POST

WELDED HINGE - PLAN

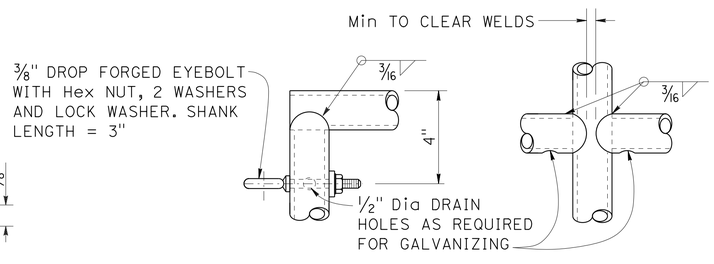


TYPICAL BOLTED (ALTERNATIVE)

HINGED CONNECTION

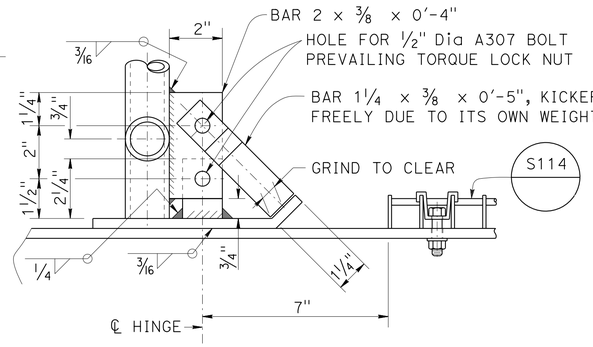


PLAN - KICKER BAR



DETAIL "A" — DETAIL "B"

NOTE:
Alternative venting methods may be used if approved by the Engineer.



SECTION C-C
ELEVATION VIEW

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN-TRUSS SINGLE POST TYPE WALKWAY SAFETY RAILING DETAILS CHANGEABLE MESSAGE SIGNS MODEL 500 AND 510

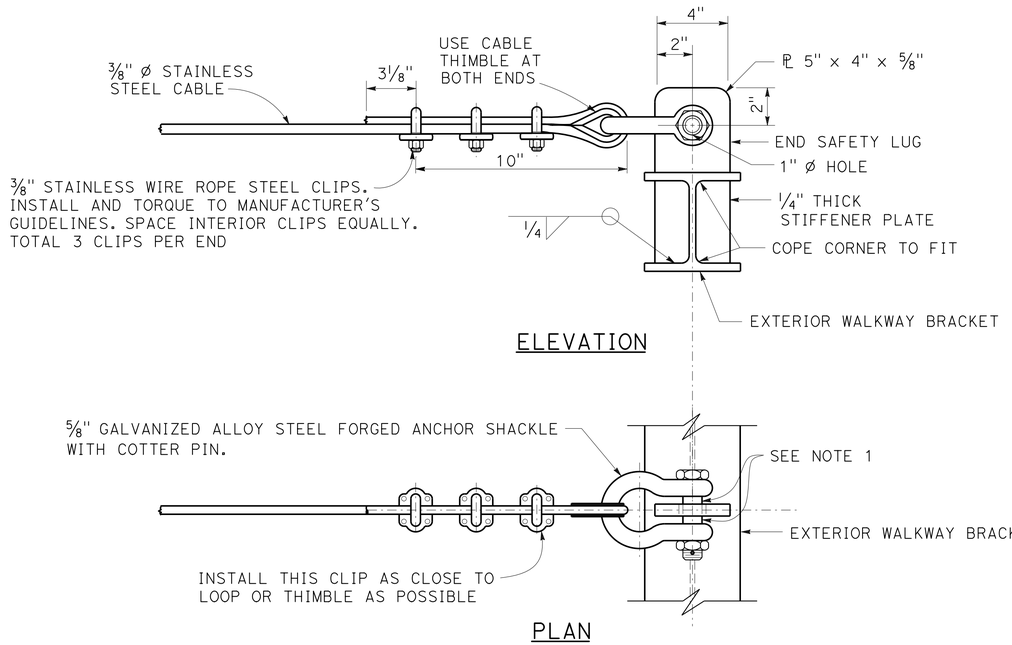
NO SCALE

RSP S140 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN S140 DATED MAY 20, 2011 - PAGE 422 OF THE STANDARD PLANS BOOK DATED 2010.

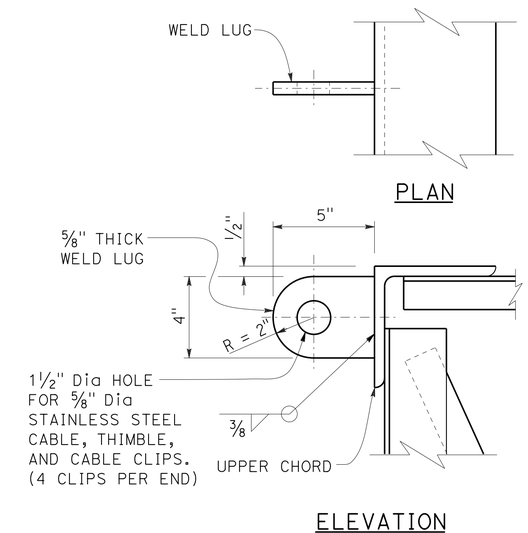
REVISED STANDARD PLAN RSP S140

2010 REVISED STANDARD PLAN RSP S140

7-11-13

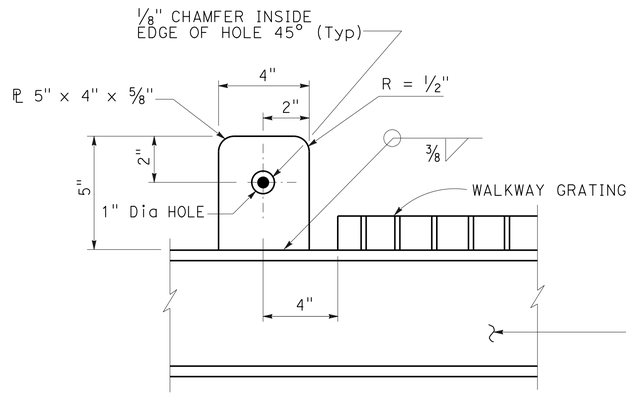


END SAFETY CABLE DETAIL

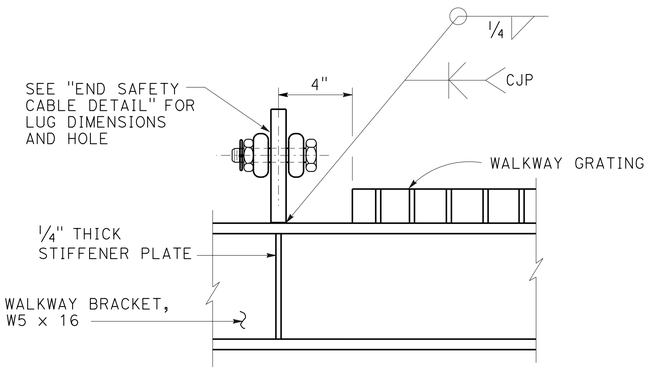


BACKSIDE WELD LUG DETAIL

NOTE: Backside weld lug shall be installed only for projects requiring backside walkways.



INTERIOR SAFETY LUG DETAIL



END SAFETY LUG DETAIL

NOTES:

1. Place an equal amount of washers on each side to align cable with end lug without restricting shakle bolt rotation or contacting cable.
2. For walkway grating details, see Standard Plan S114.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1035	1168

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Stanley P. Johnson No. C57793 Exp. 3-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — 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 3-3-14

2010 REVISED STANDARD PLAN RSP S141

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN-TRUSS SINGLE POST TYPE SAFETY CABLE ANCHORAGE DETAILS CHANGEABLE MESSAGE SIGNS MODEL 500 AND 510

NO SCALE

RSP S141 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN S141 DATED MAY 20, 2011 - PAGE 423 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP S141

7-11-13

LEGEND:

AB	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
BC	INSTALL PULL BOX IN EXISTING CONDUIT RUN
BP	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
CC	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
CF	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
DH	DETECTOR HANDHOLE
FA	FOUNDATION TO BE ABANDONED
IS	INSTALL SIGN ON SIGNAL MAST ARM
NS	NO SLIP BASE ON STANDARD
PEC	PHOTOELECTRIC CONTROL
PEU	PHOTOELECTRIC UNIT
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RE	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
RL	RELOCATE EQUIPMENT
RR	REMOVE AND REUSE EQUIPMENT
RS	REMOVE AND SALVAGE EQUIPMENT
SC	SPLICE NEW TO EXISTING CONDUCTORS
SD	SERVICE DISCONNECT
TSP	TELEPHONE SERVICE POINT

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL
BBS	BATTERY BACKUP SYSTEM
BC	BOLT CIRCLE
BPB	BICYCLE PUSH BUTTON
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
Ckt	CIRCUIT
CMS	CHANGEABLE MESSAGE SIGN
Ctid	CALTRANS IDENTIFICATION
Comm	COMMUNICATION
DLC	LOOP DETECTOR LEAD-IN CABLE
EMS	EXTINGUISHABLE MESSAGE SIGN
EVUC	EMERGENCY VEHICLE UNIT CABLE
EVUD	EMERGENCY VEHICLE UNIT DETECTOR
FB	FLASHING BEACON
FBCA	FLASHING BEACON CONTROL ASSEMBLY
FBS	FLASHING BEACON WITH SLIP BASE
FO	FIBER OPTIC
G	EQUIPMENT GROUNDING CONDUCTOR
GB	GROUND BUS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HAR	HIGHWAY ADVISORY RADIO
Hex	HEXAGONAL
HPS	HIGH PRESSURE SODIUM
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN
ISL	INDUCTION SIGN LIGHTING
LED	LIGHT EMITTING DIODE
LMA	LUMINAIRE MAST ARM
LPS	LOW PRESSURE SODIUM
Ltg	LIGHTING
Lum	LUMINAIRE
M	METERED
MAT	MAST ARM MOUNTING TOP ATTACHMENT
MAS	MAST ARM MOUNTING SIDE ATTACHMENT
M/M	MULTIPLE TO MULTIPLE TRANSFORMER
Mtg	MOUNTING
MV	MERCURY VAPOR LIGHTING FIXTURE
MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
N	NEUTRAL (GROUNDED CONDUCTOR)
NB	NEUTRAL BUS
NC	NORMALLY CLOSE
NO	NORMALLY OPEN
P	CIRCUIT BREAKER'S POLE
PB	PULL BOX
PBA	PUSH BUTTON ASSEMBLY
PEC	PHOTOELECTRIC CONTROL
Ped	PEDESTRIAN
PEU	PHOTOELECTRIC UNIT
PT	CONDUIT WITH PULL TAPE
RE	RELOCATED EQUIPMENT
RM	RAMP METERING
RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
SB	SLIP BASE
SIC	SIGNAL INTERCONNECT CABLE
Sig	SIGNAL
SMA	SIGNAL MAST ARM
SNS	STREET NAME SIGN
SP	SERVICE POINT
TDC	TELEPHONE DEMARCATION CABINET
TMS	TRAFFIC MONITORING STATION
TOS	TRAFFIC OPERATIONS SYSTEM
Veh	VEHICLE
VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
WIM	WEIGH-IN-MOTION
Xfmr	TRANSFORMER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1036	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 3-3-14

SOFFIT AND WALL MOUNTED LUMINAIRES

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- (M) EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
Hz	HERTZ

MISCELLANEOUS ELECTROLIERS

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

NOTES:

1. HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
2. LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
3. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1037	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 3-3-14

CONDUIT

NEW	EXISTING	
		LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
		TRAFFIC SIGNAL CONDUIT
C	c	COMMUNICATION CONDUIT
T	t	TELEPHONE CONDUIT
F	f	FIRE ALARM CONDUIT
FO	fo	FIBER OPTIC CONDUIT
		CONDUIT TERMINATION
R	r	CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

SERVICE EQUIPMENT

NEW	EXISTING	
OH	oh	OVERHEAD LINES
U	U	WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
III	III	SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
T	t	TELEPHONE DEMARCATION CABINET

POLE-MOUNTED SERVICE DESIGNATION

TYPE H SERVICE, 28'-10" — TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE

FLASHING BEACON

NEW	EXISTING	
R	R	FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
Y Y	Y Y	FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
R R	R R	FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

SIGNAL EQUIPMENT

NEW	EXISTING	
C	C	PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
PV	PV	MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.

ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

2010 REVISED STANDARD PLAN RSP ES-1B

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1038	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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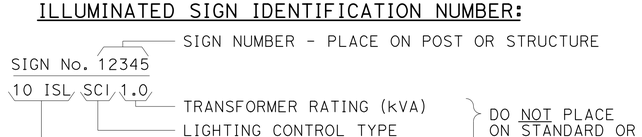
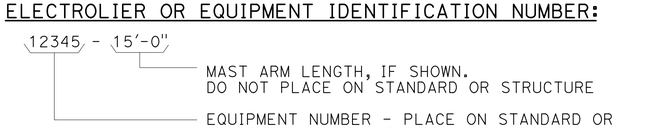
TO ACCOMPANY PLANS DATED 3-3-14

EQUIPMENT IDENTIFICATION

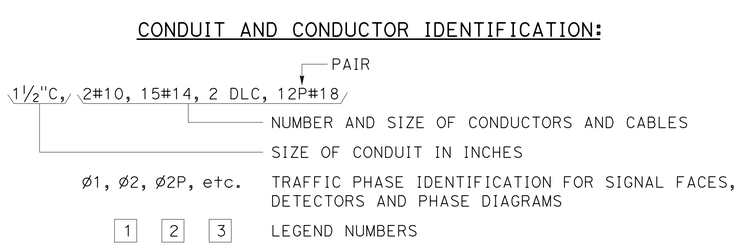
ILLUMINATED SIGN IDENTIFICATION NUMBER:



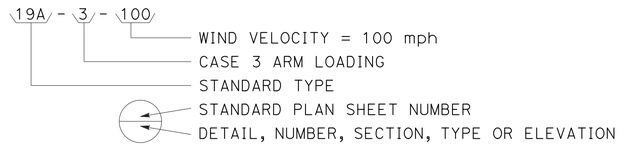
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



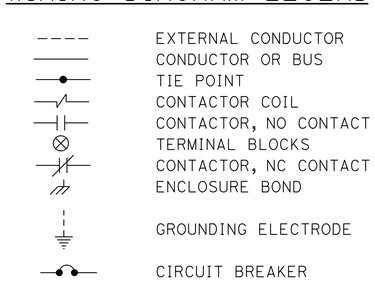
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

NEW	EXISTING	
CMS	cms	CHANGEABLE MESSAGE SIGN
		CLOSED CIRCUIT TELEVISION CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
EMS	ems	EXTINGUISHABLE MESSAGE SIGN
M V	m v	DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO IMAGE SENSOR

WIRING DIAGRAM LEGEND



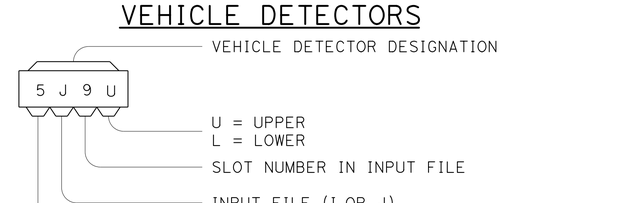
PULL BOXES

NEW	EXISTING	
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED OR NOTED
3	9A(21)	PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

3 No. 3½ PULL BOX
5 No. 5 PULL BOX
6 No. 6 PULL BOX
7 No. 7 (CEILING PULL BOX)
8 No. 8 (PENDANT SOFFIT PULL BOX)
9 No. 9 PULL BOX
9A No. 9A PULL BOX

(C) COMMUNICATIONS PULL BOX
(E) PULL BOX WITH EXTENSION
(S) SPRINKLER CONTROL PULL BOX
(21) ANCHOR BOLTS AND CONDUIT FOR FUTURE INSTALLATION OF TYPE 21 STANDARD
(T) TRAFFIC PULL BOX

VEHICLE DETECTORS



NEW	EXISTING	
		TYPE A DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE B DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE C DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE D DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE E DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE Q DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		MAGNETIC DETECTOR
DH	dh	DETECTOR HANDHOLE
		MICROWAVE OR VIDEO DETECTION ZONE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

7-11-13

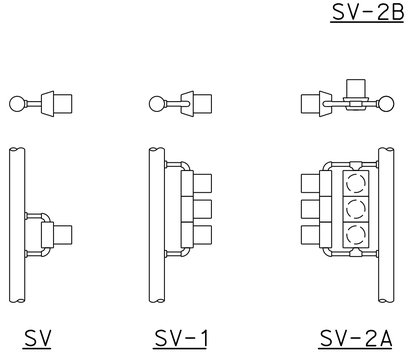
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1039	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

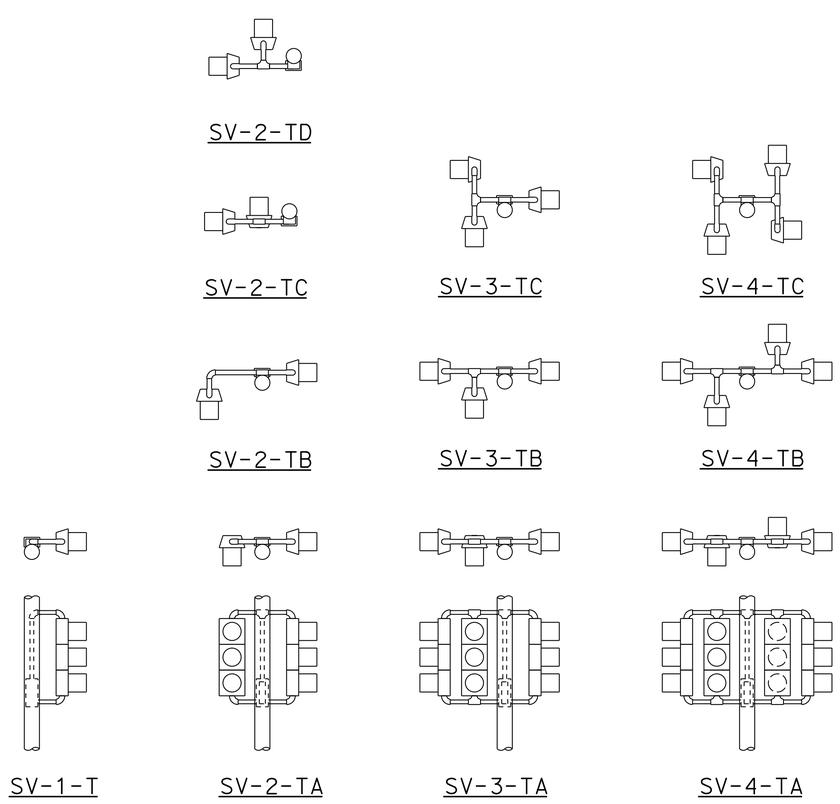
July 19, 2013
PLANS APPROVAL DATE

TO ACCOMPANY PLANS DATED 3-3-14



SV SV-1 SV-2A

SIDE MOUNTINGS



SV-1-T SV-2-TA SV-3-TA SV-4-TA

PLAN VIEW OF SIDE MOUNTINGS

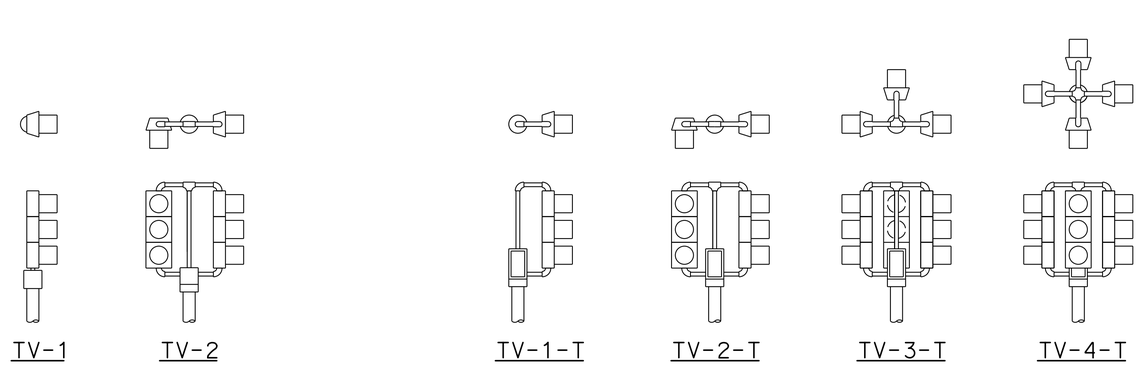
SV-2-TD SV-2-TC SV-3-TC SV-4-TC SV-2B SV-2-TB SV-3-TB SV-4-TB

ABBREVIATIONS:

SV	SIDE MOUNTED VEHICLE SIGNALS
T	TERMINAL COMPARTMENT
TV	TOP MOUNTED VEHICLE SIGNALS
1, 2, 3, 4	NUMBER OF SIGNAL FACES (3 - SECTION, UNLESS OTHERWISE INDICATED)
A, B, C, D	CONFIGURATION OF SIGNALS

NOTES:

1. Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals and backplate installation.
3. See Standard Plans ES-4D and ES-4E for attachment fitting details.



TV-1 TV-2 TV-1-T TV-2-T TV-3-T TV-4-T

PLAN VIEW OF TOP MOUNTINGS

TOP MOUNTINGS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4A
DATED MAY 20, 2011 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4A

2010 REVISED STANDARD PLAN RSP ES-4A

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1040	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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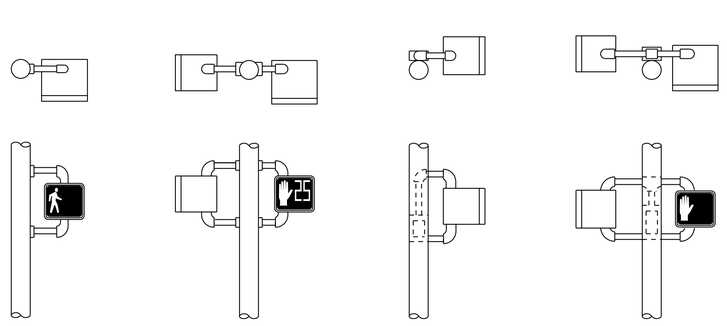
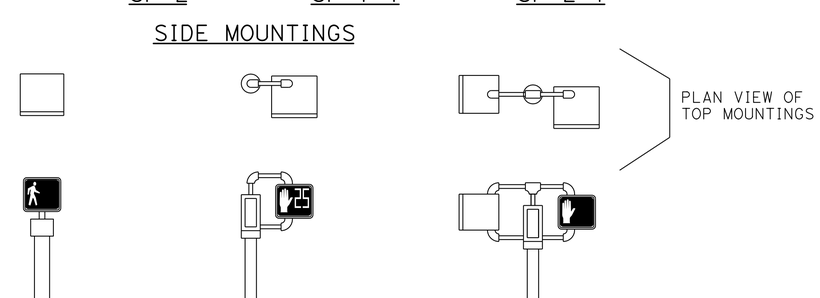
TO ACCOMPANY PLANS DATED 3-3-14



SIDE MOUNTINGS



TOP MOUNTINGS

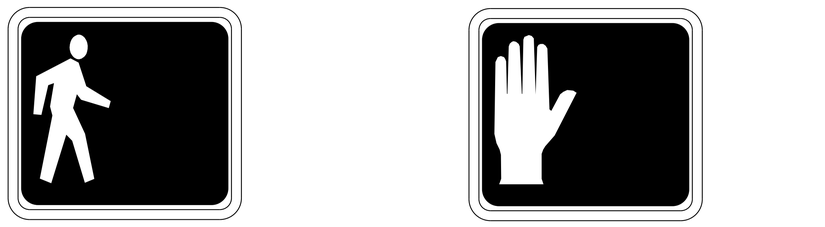
PEDESTRIAN SIGNALS AND MOUNTINGS

DETAIL A

PERSON WALKING INTERVAL — FLASHING UPRAISED HAND INTERVAL — STEADY UPRAISED HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITH COUNTDOWN

DETAIL B



PERSON WALKING INTERVAL — STEADY UPRAISED HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITHOUT COUNTDOWN

DETAIL C

RAMP METERING SIGN

DETAIL D

NOTES:

1. Mounting shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals.
3. See Standard Plan ES-4D for attachment fittings details.

ABBREVIATIONS:

1, 2	NUMBER OF SIGNAL FACES
SP	SIDE MOUNTED PEDESTRIAN SIGNAL
T	TERMINAL COMPARTMENT
TP	TOP MOUNTED PEDESTRIAN SIGNAL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (PEDESTRIAN SIGNAL AND RAMP METERING SIGN)

NO SCALE

RSP ES-4B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4B DATED MAY 20, 2011 - PAGE 444 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4B

2010 REVISED STANDARD PLAN RSP ES-4B

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1041	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

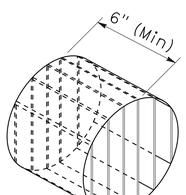
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

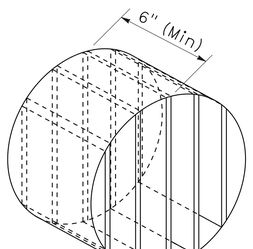
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 3-3-14

VISORS

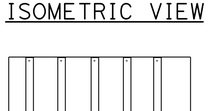


ISOMETRIC VIEW

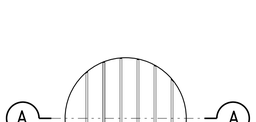


ISOMETRIC VIEW

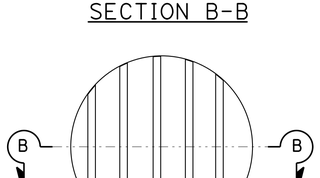
SECTION A-A



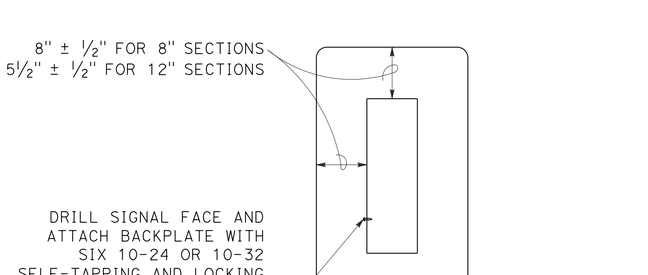
SECTION B-B



8" DIAMETER FRONT VIEW



12" DIAMETER FRONT VIEW



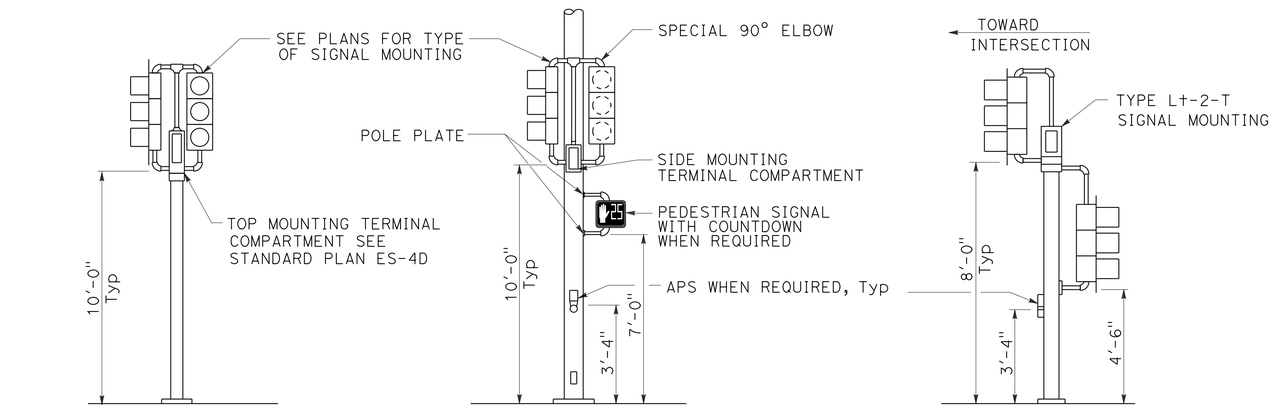
8" AND 12" SECTIONS

BACKPLATE

1/16" minimum thickness
3001-14 aluminum or plastic
when specified

DIRECTIONAL LOUVER

Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.



TOP MOUNTED SIGNALS (TV)

Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

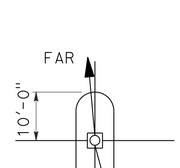
SIDE MOUNTED SIGNALS (SV AND SP)

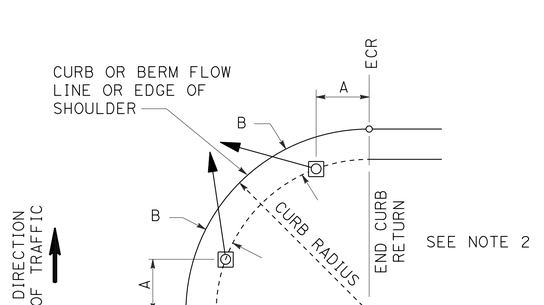
Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans

TYPICAL SIGNAL INSTALLATIONS

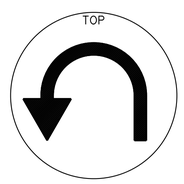




NOTES:

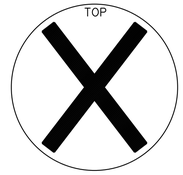
1. Typical signal pole placement unless dimensioned on plans.
2. For A and B dimensions, see Pole Schedule, or as directed by the Engineer.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



U-TURN

BICYCLE



LANE CONTROL

LANE CONTROL

SIGNAL FACES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-04C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4C

2010 REVISED STANDARD PLAN RSP ES-4C

7-10-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1042	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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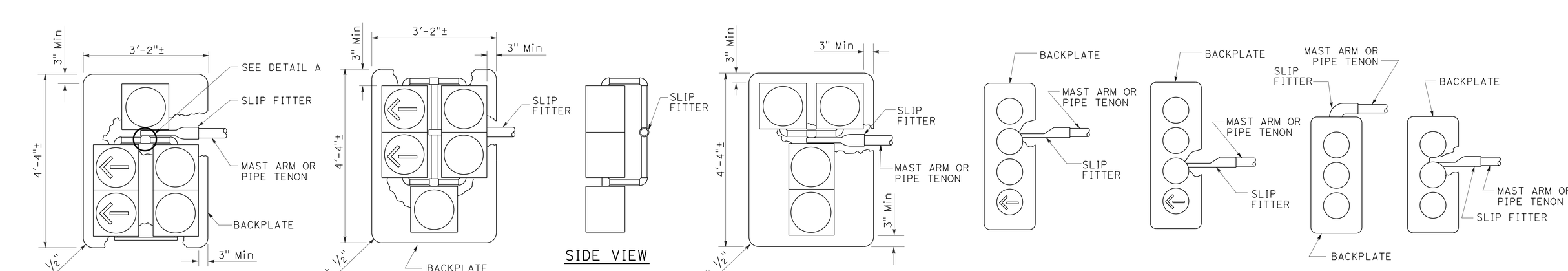
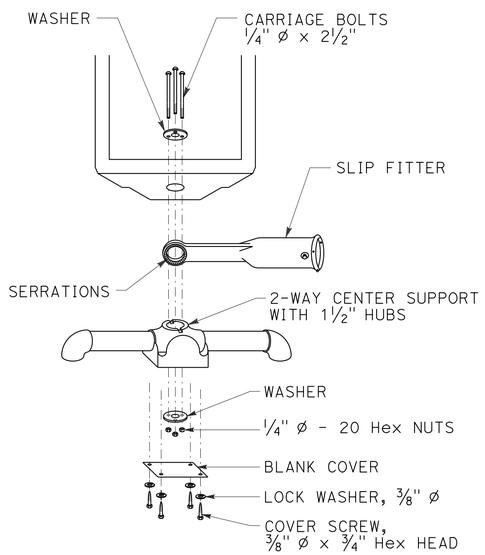
TO ACCOMPANY PLANS DATED 3-3-14

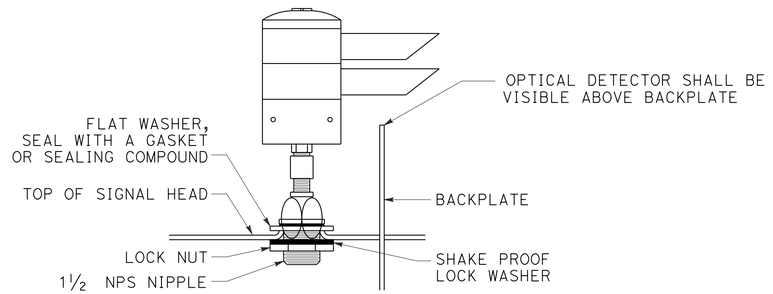
2010 REVISED STANDARD PLAN RSP ES-4E



MAST ARM MOUNTINGS



DETAIL A



OPTICAL DETECTOR MOUNTING FOR EMERGENCY VEHICLE DETECTION SYSTEM

DETAIL B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND OPTICAL DETECTOR MOUNTING)

NO SCALE

RSP ES-4E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4E DATED MAY 20, 2011 - 447 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4E

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1043	1168

Theresa Gabriel
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STATE OF CALIFORNIA

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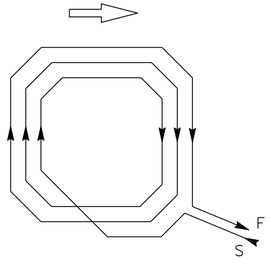
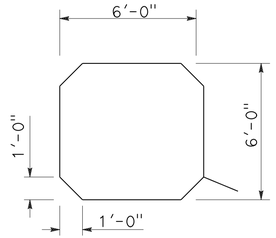
TO ACCOMPANY PLANS DATED 3-3-14

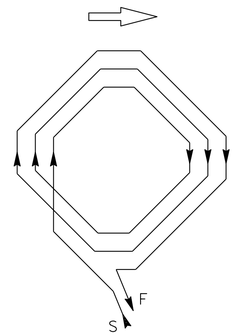


WINDING DETAIL

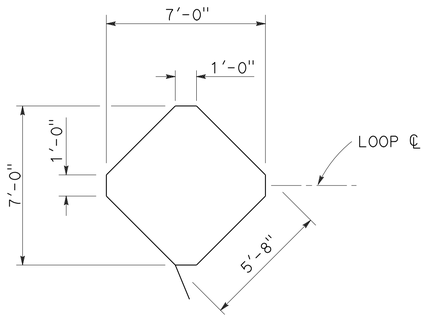


SAWCUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION

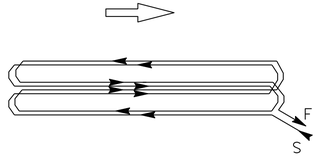


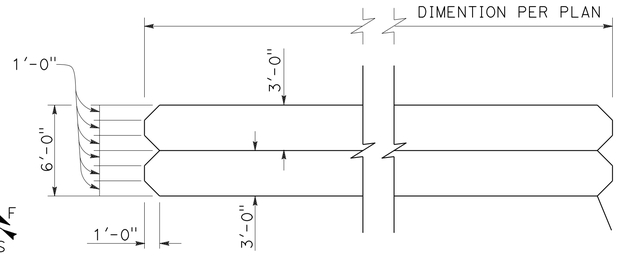
WINDING DETAIL



SAWCUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION

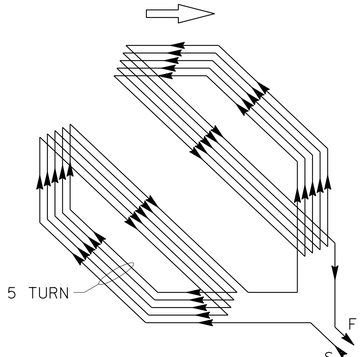




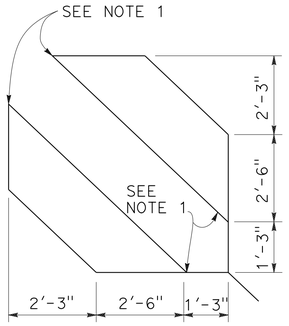
WINDING DETAIL

SAWCUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION

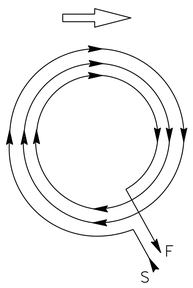


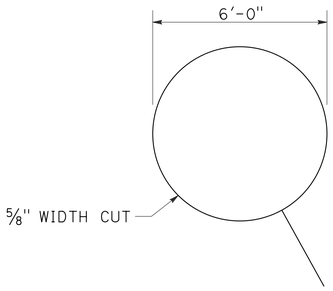
WINDING DETAIL



SAWCUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION

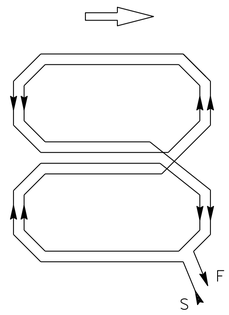


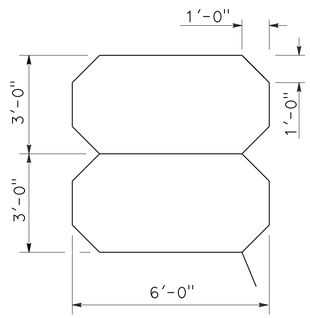


WINDING DETAIL

SAWCUT DETAIL

TYPE E LOOP DETECTOR CONFIGURATION

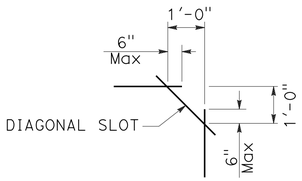




WINDING DETAIL

SAWCUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

NOTES:

1. Round corners of acute angle sawcuts to prevent damage to conductors.
2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5B

2010 REVISED STANDARD PLAN RSP ES-5B

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1044	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

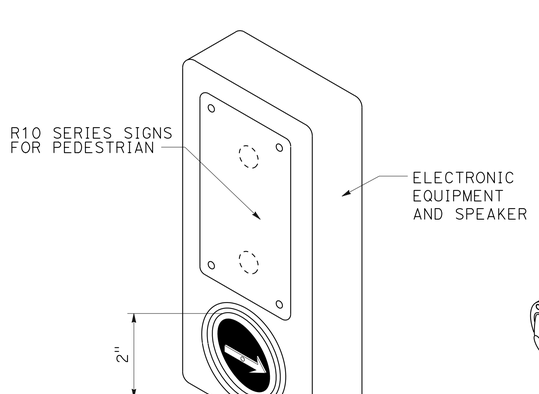
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

TO ACCOMPANY PLANS DATED 3-3-14

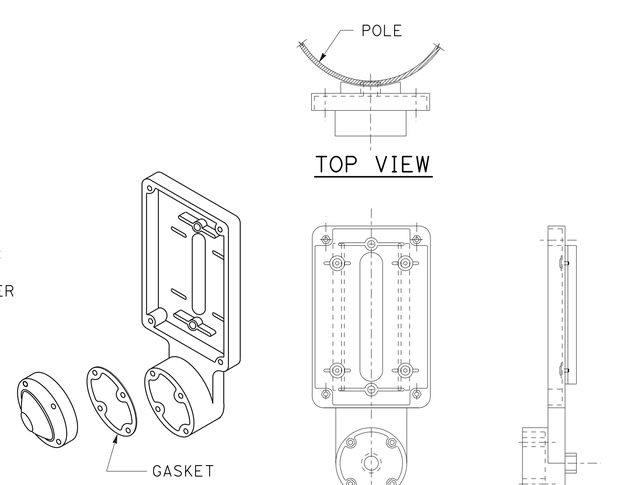
NOTES:

1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



ACCESSIBLE PEDESTRIAN SIGNAL

DETAIL A
(See note 1 to 4)

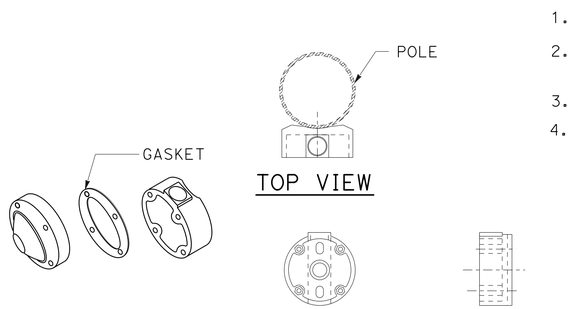


TOP VIEW

FRONT VIEW SIDE VIEW

TYPE B PUSH BUTTON ASSEMBLY

DETAIL B
(See note 1 to 4)

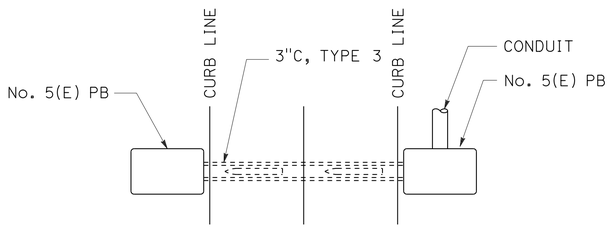


TOP VIEW

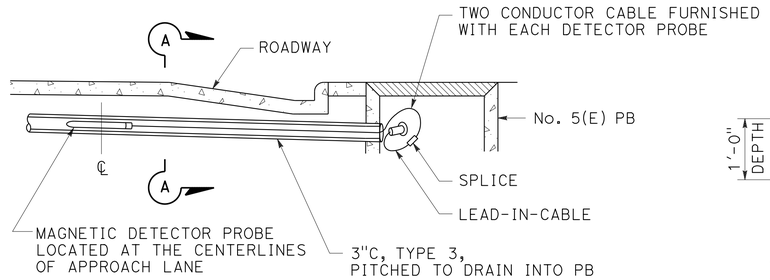
FRONT VIEW SIDE VIEW

TYPE C PUSH BUTTON ASSEMBLY

DETAIL C
(See note 1 to 4)



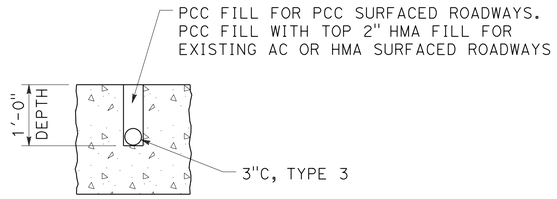
PLAN



ELEVATION

MAGNETIC VEHICLE DETECTOR INSTALLATION DETAILS

DETAIL D



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ACCESSIBLE PEDESTRIAN SIGNAL, PUSH BUTTON ASSEMBLIES AND MAGNETIC VEHICLE DETECTOR)

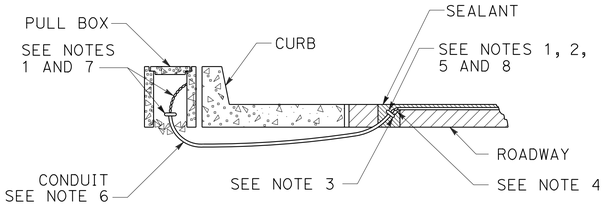
NO SCALE

RSP ES-5C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5C
DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5C

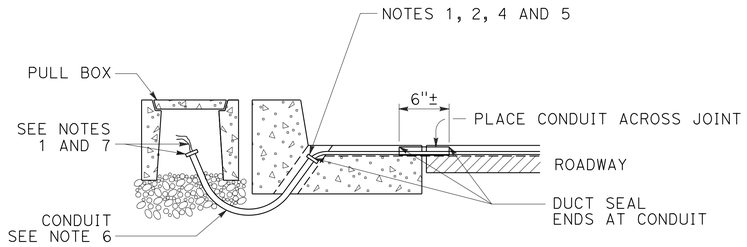
2010 REVISED STANDARD PLAN RSP ES-5C

7-9-13

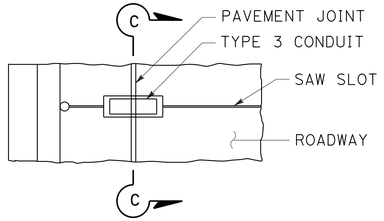


TYPE A

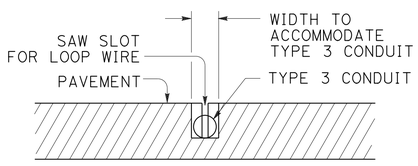
CURB TERMINATION DETAIL



CROSS SECTION



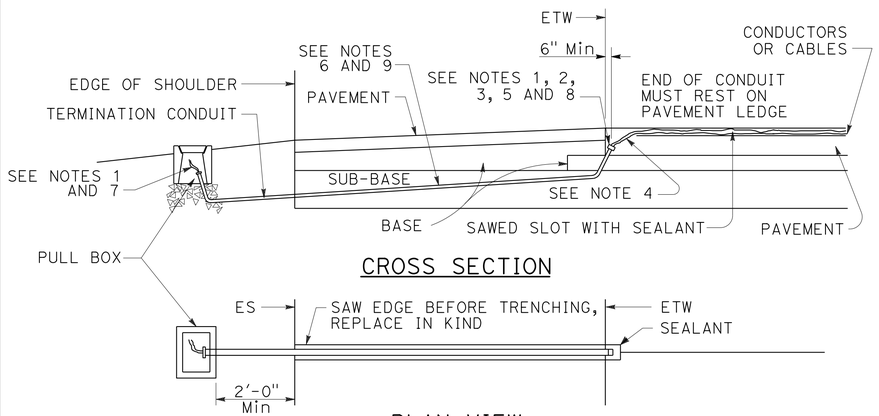
PLAN VIEW



SECTION C-C

TYPE B

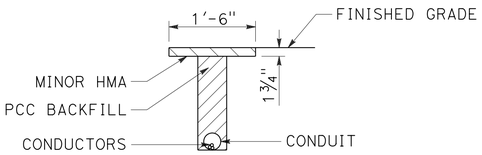
CURB TERMINATION DETAIL



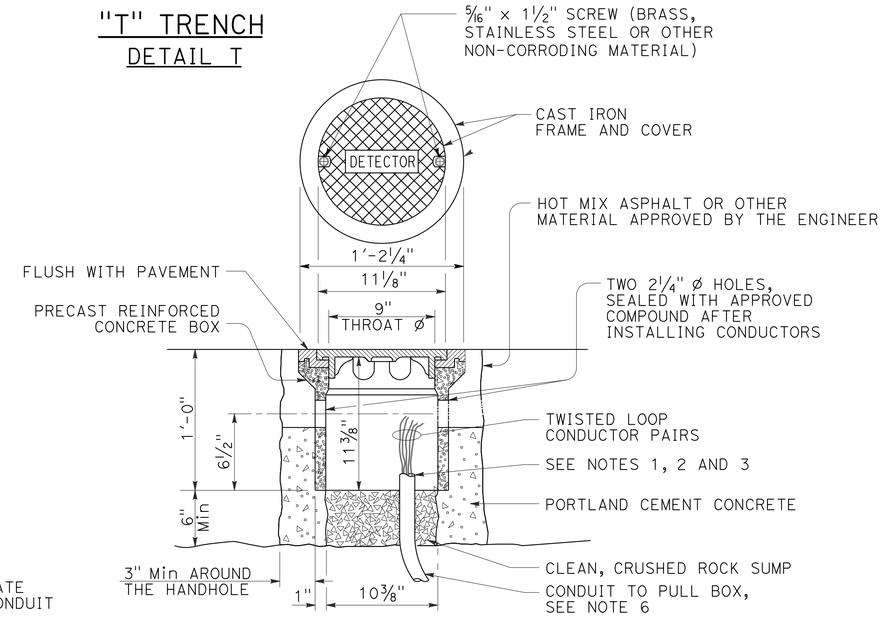
CROSS SECTION

PLAN VIEW

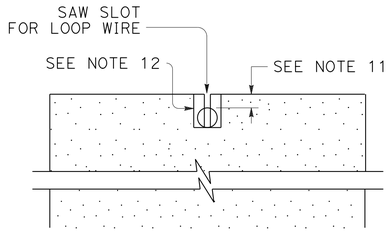
SHOULDER TERMINATION DETAILS



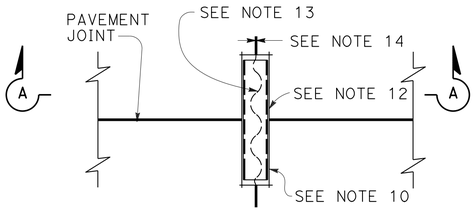
"T" TRENCH DETAIL T



DETECTOR HANDHOLE DETAIL

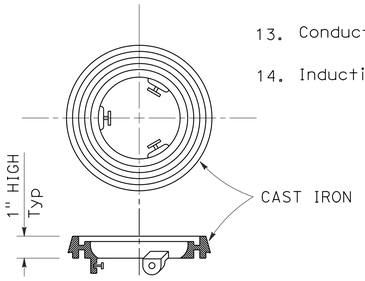


SECTION A-A



PLAN VIEW

TYPICAL LOOP LEAD-IN DETAIL AT PAVEMENT JOINT



LOCKING GRADE RING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1045	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Theresa Aziz Gabriel — No. E15129 — Exp. 6-30-14 — ELECTRICAL — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14

NOTES:

1. Bushing shall be used at end of conduit.
2. Tape detector conductors or cables 3" each side of bushings.
3. Install duct seal compound to each end of termination conduit before installing sealant.
4. Round all sharp edges where detector conductors or cables have to pass.
5. End of conduit shall be 3⅛" below roadway surface.
6.

Conduit size	Loop conductors
1"C minimum	1 to 2 pairs
1½"C minimum	3 to 4 pairs
2"C minimum	5 or more pairs

7. Splice detector conductors or cables to detector lead-in-cable.
8. Location of detector handhole when shown on plans.
9. When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
10. ¾"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
11. ½" Minimum between top of conduit and pavement surface.
12. Sawcut shall not exceed 1" in width and ⅛" longer than conduit to be installed.
13. Conductors with ½" minimum slack inside conduit.
14. Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CURB TERMINATION AND HANDHOLE)

NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D
DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1046	1168

Stanley P. Johnson
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

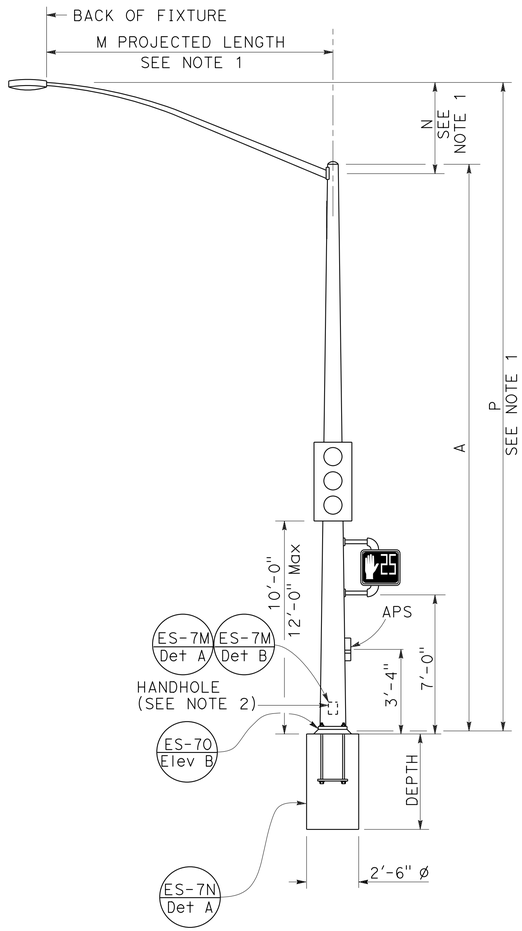
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 3-3-14

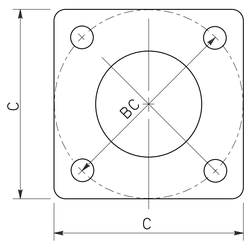
2010 REVISED STANDARD PLAN RSP ES-7A

NOTES:

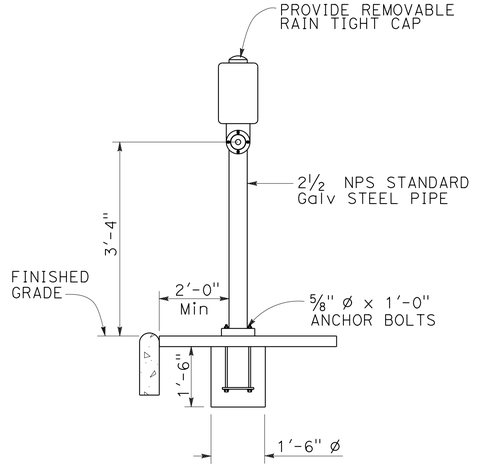
1. For additional notes, details and data for Type 15TS and Type 21TS Standards, see Standard Plan ES-6A.
2. Handhole shall be located on the downstream side of traffic.



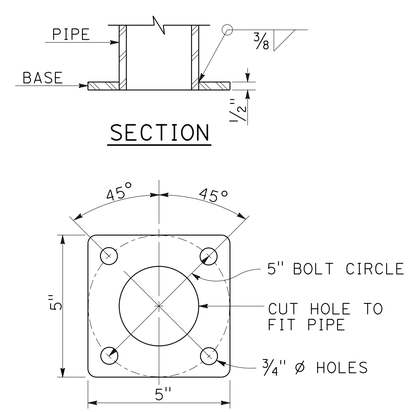
TYPE 15TS AND 21TS STANDARD
ELEVATION A
(See Note 1)



BASE PLATE
TYPE 15TS AND 21TS
DETAIL A

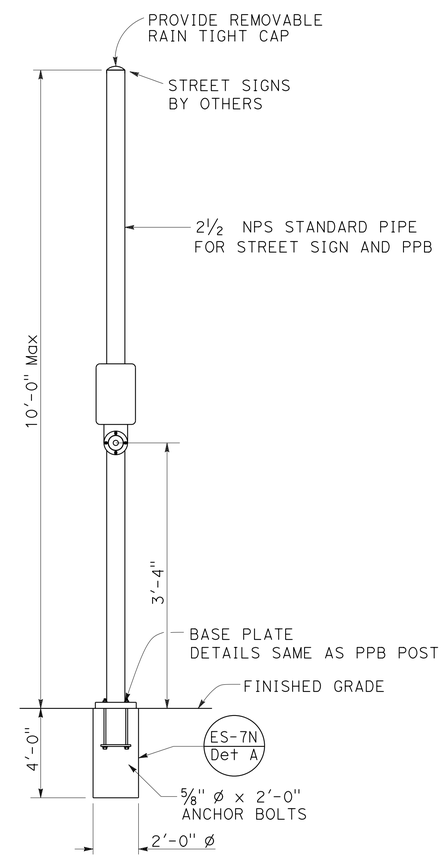


ELEVATION



BASE PLATE
PBA POST

PUSH BUTTON ASSEMBLY POST
DETAIL B



COMBINED STREET SIGN
PUSH BUTTON ASSEMBLY POST
DETAIL C

POLE TYPE	POLE DATA				BASE PLATE DATA				CIDH
	A HEIGHT	Min OD BASE	Min OD TOP	WALL THICKNESS	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	DEPTH
15TS	30'-0"	8"	3 11/16"	0.1793"	1'-1½"	1'-0"	2"	1½" ø x 42"	7'-6"
21TS	35'-0"	9⅜"	3 9/16"		1'-3"	1'-2"			8'-6"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, TYPE TS, AND PUSH BUTTON ASSEMBLY POST)

NO SCALE

RSP ES-7A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7A DATED MAY 20, 2011 - PAGE 462 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7A

6-18-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1047	1168

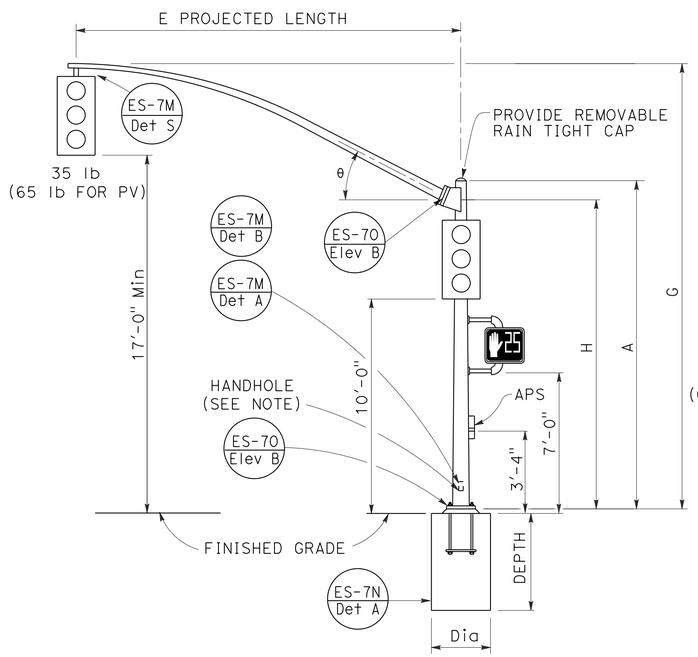
Stanley P. Johnson
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

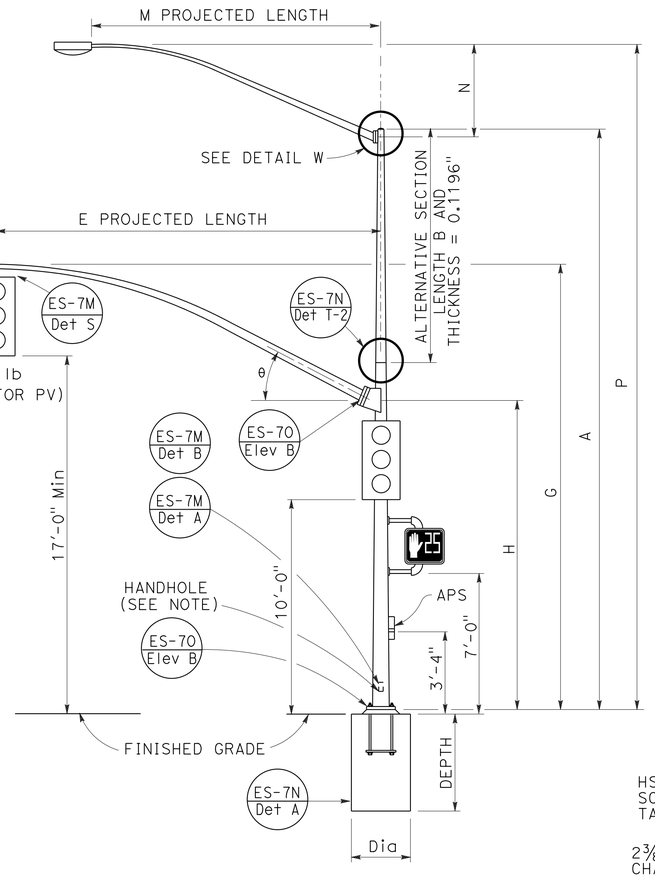
REGISTERED PROFESSIONAL ENGINEER — Stanley P. Johnson — No. C57793 — Exp. 3-31-14 CIVIL — STATE OF CALIFORNIA

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.

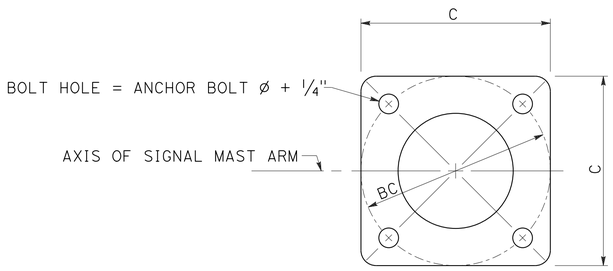
TO ACCOMPANY PLANS DATED 3-3-14



TYPE 16-1-100, 18-1-100
ELEVATION A



TYPE 19-1-100, 19A-1-100
ELEVATION B

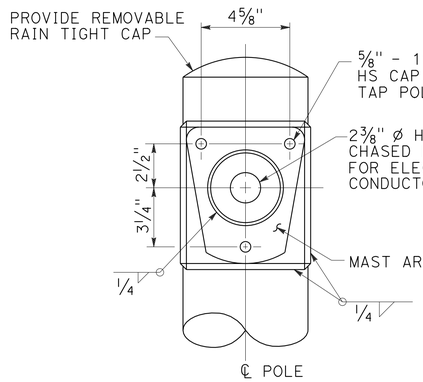


BASE PLATE
DETAIL D

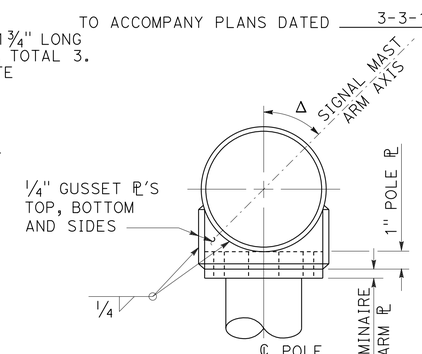
Δ = LUMINAIRE MAST ARM SKEW -90° TO +90°
DEFAULT 0°

NOTE:

Handhole shall be located on the downstream side of traffic.

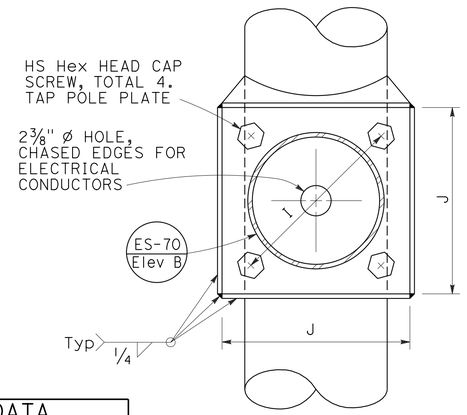


DETAIL W-1

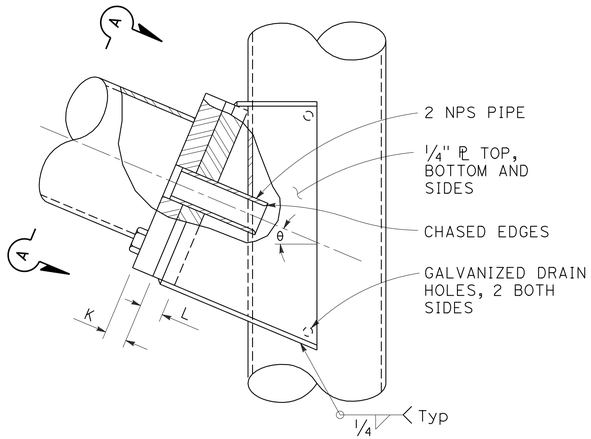


DETAIL W-2

LUMINAIRE MAST ARM CONNECTION
DETAIL W



VIEW A-A



ELEVATION C

SIGNAL MAST ARM CONNECTION
DETAIL C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SIGNAL MAST ARM DATA

E PROJECTED LENGTH	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM ℄ THICKNESS	L POLE ℄ THICKNESS	θ
15'-0"	21'-8"±	17'-6"	7 3/8"	0.1196"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°
20'-0"										
25'-0"	22'-8"±	16'-0"								
30'-0"	23'-0"±		8"							

LUMINAIRE MAST ARM DATA

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT 30'-0" POLE	P MOUNTING HEIGHT 35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

POLE DATA / BASE PLATE DATA / CIDH PILE FOUNDATION

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA: A HEIGHT	Min OD: BASE	Min OD: TOP	POLE DATA: THICKNESS	ALTERNATIVE SECTION: B LENGTH	ALTERNATIVE SECTION: BOTTOM	ALTERNATIVE SECTION: TOP	BASE PLATE DATA: C	BC = BOLT CIRCLE	BASE PLATE DATA: THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION: DIAMETER	DEPTH	REINFORCED
16-1-100	1	100	18'-6"	10 3/4"	8 1/16"	0.1793"	None	7 7/8"		1'-5 1/2"	1'-5 1/2"	3"	1 1/2" Ø x 42"	NONE	15'-0", [20'-0"]	2'-6"	9'-0"	YES
18-1-100			17'-0"		8 5/16"		None							NONE				
19-1-100			30'-0"		6 7/16"		10'-0"		6 7/16"					6'-15' [12'-0"]	25'-0", [30'-0"]			
19A-1-100			35'-0"		5 11/16"		15'-0"		5 11/16"					6'-15' [15'-0"]				

[ ] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, CASE 1 SIGNAL MAST ARM LOADING, WIND VELOCITY = 100 MPH AND SIGNAL MAST ARM LENGTHS 15' TO 30')

NO SCALE

RSP ES-7C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7C DATED MAY 20, 2011 - PAGE 464 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7C

2010 REVISED STANDARD PLAN RSP ES-7C

6-18-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1048	1168

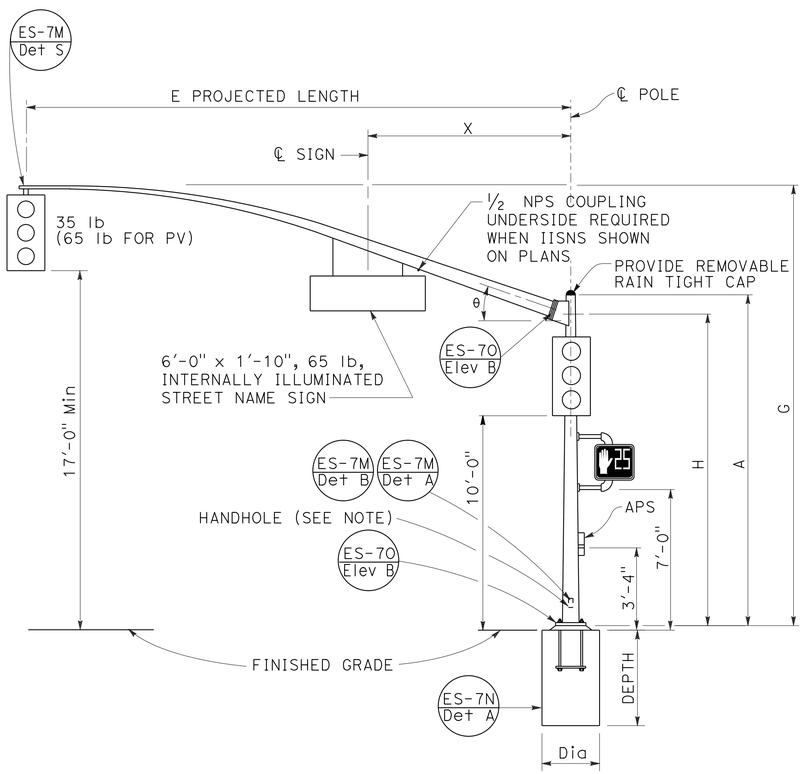
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

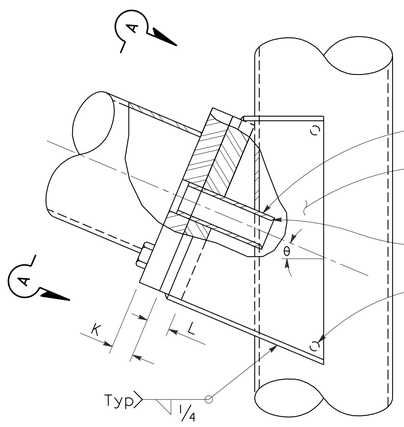
Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

NOTE: TO ACCOMPANY PLANS DATED 3-3-14

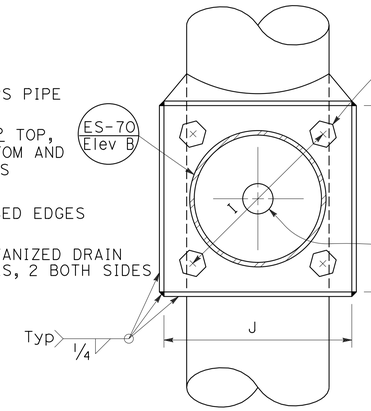
Handhole shall be located on the downstream side of traffic.



TYPE 16-2-100, 18-2-100
ELEVATION A

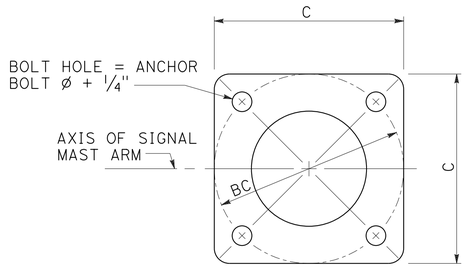


ELEVATION C

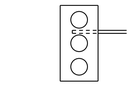


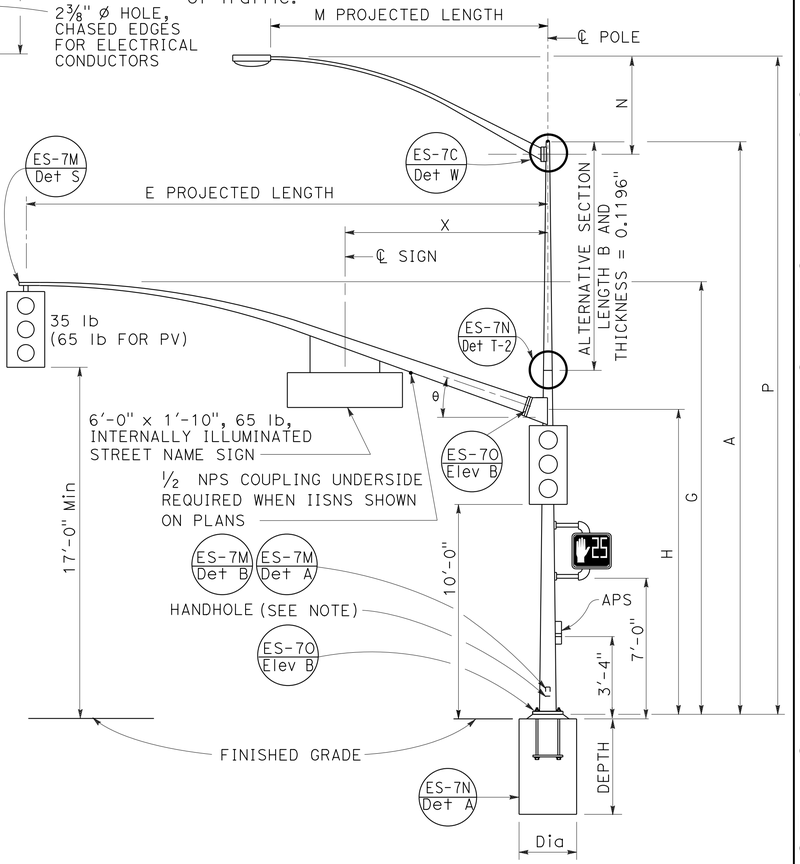
VIEW A-A

SIGNAL MAST ARM CONNECTION
DETAIL A



BASE PLATE
DETAIL B





TYPE 17-2-100, 17A-2-100, 19-2-100, 19A-2-100
ELEVATION B

SIGNAL MAST ARM DATA											
E PROJECTED LENGTH	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM ℄ THICKNESS	L POLE ℄ THICKNESS	θ	X Max
15′-0"	21′-8"±	17′-6"	7⅜"	0.1793"	12"	1¼"-7NC-3"	1′-0"	1¼"	1½"	23°	10′-6"
20′-0"	21′-8"±		7⅜"								
25′-0"	22′-8"±	16′-0"	7⅜"								
30′-0"	23′-0"±		8"								

LUMINAIRE MAST ARM DATA					
M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30′-0" POLE	35′-0" POLE
6′-0"	2′-0"±	3¼"	0.1196"	31′-6"±	36′-6"±
8′-0"	2′-6"±	3½"		32′-0"±	37′-0"±
10′-0"	3′-3"±	3⅞"		32′-9"±	37′-9"±
12′-0"	4′-3"±			33′-9"±	38′-9"±
15′-0"	4′-9"±	4¼"		34′-3"±	39′-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA							BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION		
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION			C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE			DIAMETER	DEPTH	REINFORCED
				BASE	TOP		B LENGTH	BOTTOM	TOP									
16-2-100	2	100	18′-6"	10¾"	8 1/16"	0.1793"	NONE			1′-5½"	1′-5½"	3"	1½"Ø x 42"	NONE	15′-0", 20′-0"	2′-6"	9′-0"	YES
17-2-100			30′-0"		6 7/16"		10′-0"	7⅞"	6 7/16"					6′-15′ 12′-0"				
17A-2-100			35′-0"		5 11/16"		15′-0"		5 11/16"					6′-15′ 15′-0"				
18-2-100			17′-0"		8 5/16"		NONE							None	25′-0", 30′-0"			
19-2-100			30′-0"		6 7/16"	0.2391"	10′-0"	7⅞"	6 7/16"	1′-7"			2"Ø x 42"	6′-15′ 12′-0"			9′-6"	
19A-2-100			35′-0"		5 11/16"		15′-0"		5 11/16"					6′-15′ 15′-0"				

[ ] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, CASE 2 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 15' TO 30')

NO SCALE

RSP ES-7D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7D
DATED MAY 20, 2011 - PAGE 465 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7D

2010 REVISED STANDARD PLAN RSP ES-7D

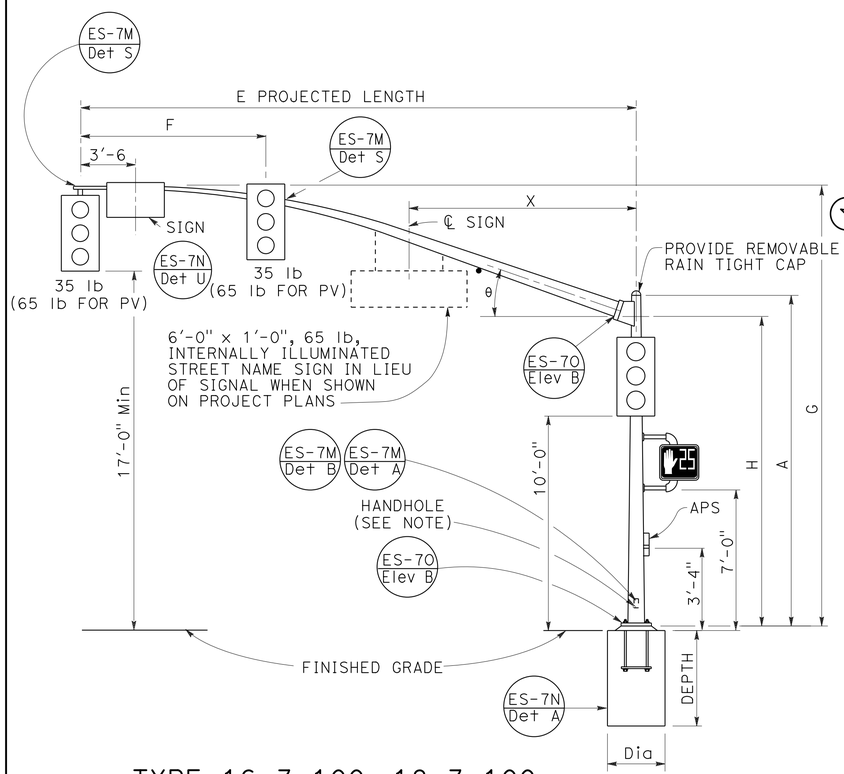
6-18-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1049	1168

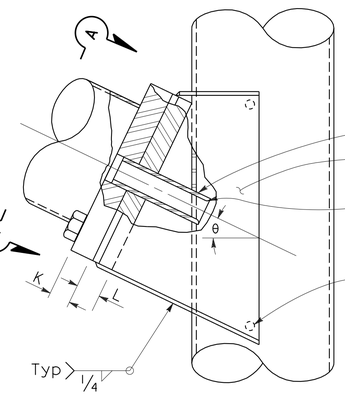
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

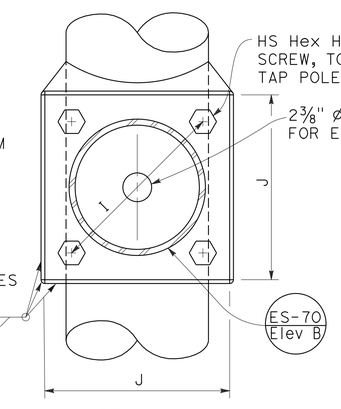
Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA



TYPE 16-3-100, 18-3-100,
23-3-100, 27-3-100
ELEVATION A

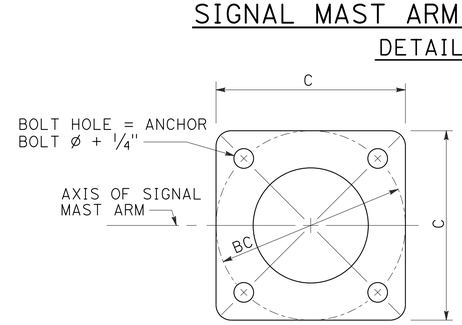


ELEVATION C



VIEW A-A

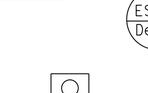
SIGNAL MAST ARM CONNECTION
DETAIL A

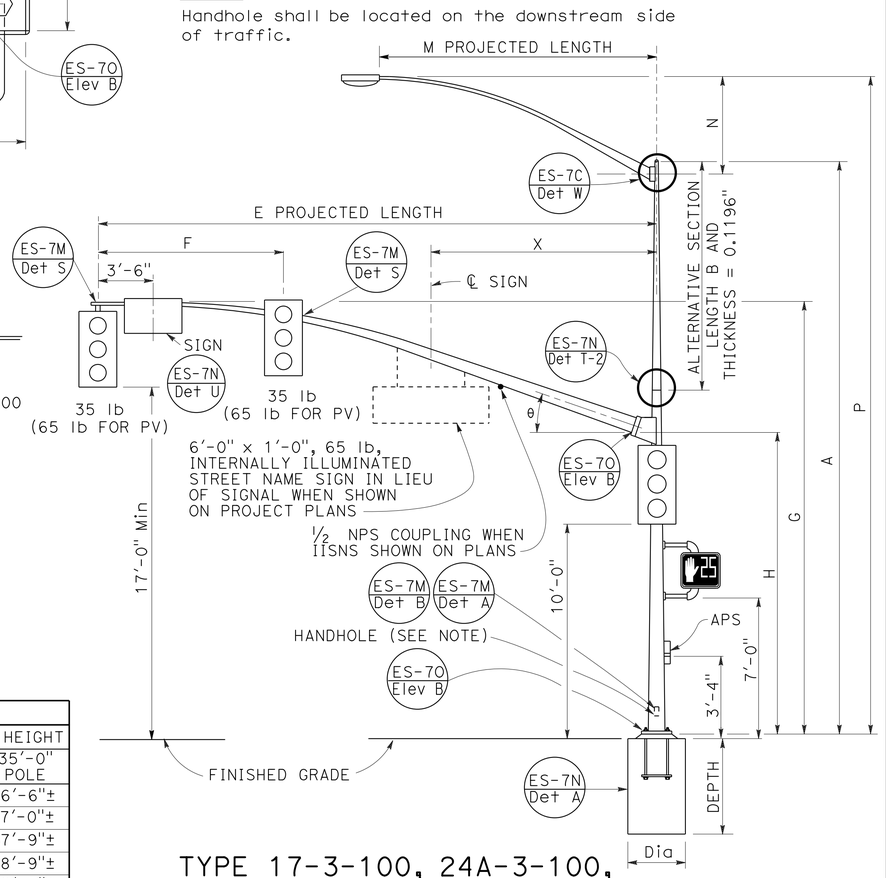


BASE PLATE
DETAIL B

NOTE:
Handhole shall be located on the downstream side of traffic.

TO ACCOMPANY PLANS DATED 3-3-14





TYPE 17-3-100, 24A-3-100,
19-3-100, 26-3-100,
19A-3-100, 26A-3-100, 24-3-100
ELEVATION B

SIGNAL MAST ARM DATA

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM ℙ THICKNESS	L POLE ℙ THICKNESS	θ	X Max
15'-0"	8'-0"	21'-8"±	17'-6"	7 3/8"	0.1793"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	-
20'-0"		21'-8"±		7 3/8"								
25'-0"	12'-0"	22'-8"±		7 3/8"								10'-6"
30'-0"				8"								
35'-0"	14'-0"	23'-0"±	16'-0"	8 3/4"	0.2391"	13"		1'-1"	1 1/2"	1 3/4"	21°	
40'-0"	15'-0"			9 3/8"							15°	13'-0"
45'-0"		23'-8"±		10 1/16"								

LUMINAIRE MAST ARM DATA

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT 30'-0" POLE	P MOUNTING HEIGHT 35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

POLE DATA / BASE PLATE DATA / CIDH PILE FOUNDATION

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	A HEIGHT	Min OD BASE	Min OD TOP	POLE THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	C	BC = BOLT CIRCLE	BASE PLATE THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION DIAMETER	CIDH PILE FOUNDATION DEPTH	CIDH PILE FOUNDATION REINFORCED
16-3-100	3	100	18'-6"	10 3/4"	8 1/16"	0.1793"	NONE			1'-5 1/2"	1'-5 1/2"	3"	1 1/2" ø x 42"	NONE	15'-0", [20'-0"]	3'-0"	8'-6"	YES
17-3-100			30'-0"		6 7/16"		10'-0"	7 7/8"	6 7/16"					6'-15' [12'-0"]				
18-3-100			17'-0"		8 5/16"	0.2391"	NONE			1'-7"			2" ø x 42"	NONE	25'-0", [30'-0"]		9'-6"	
19-3-100			30'-0"		7 11/16"		10'-0"	9 1/8"	7 11/16"					6'-15' [12'-0"]			11'-0"	
19A-3-100			35'-0"	1'-0"	6 15/16"		15'-0"		6 15/16"					6'-15' [15'-0"]				
23-3-100			17'-0"		9 9/16"		NONE							NONE	35'-0"			
24-3-100			30'-0"		7 11/16"		10'-0"	9 1/8"	7 11/16"					6'-15' [12'-0"]				
24A-3-100			35'-0"		6 15/16"		15'-0"		6 15/16"					6'-15' [15'-0"]				
26-3-100			30'-0"	1'-2"	7 13/16"	0.3125"	10'-0"	9 1/4"	7 13/16"	1'-11"	1'-9"		2 1/2" ø x 42"	6'-15' [12'-0"]	40'-0", [45'-0"]	3'-6"	12'-0"	
26A-3-100			35'-0"		7 1/16"		15'-0"		7 1/16"					6'-15' [15'-0"]				
27-3-100			17'-0"		9 11/16"		NONE							NONE				

[ ] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, CASE 3 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 15' TO 45')

NO SCALE

RSP 7E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN 7E
DATED MAY 20, 2011 - PAGE 466 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7E

2010 REVISED STANDARD PLAN RSP ES-7E

6-17-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1050	1168

Stanley P. Johnson
REGISTERED CIVIL ENGINEER

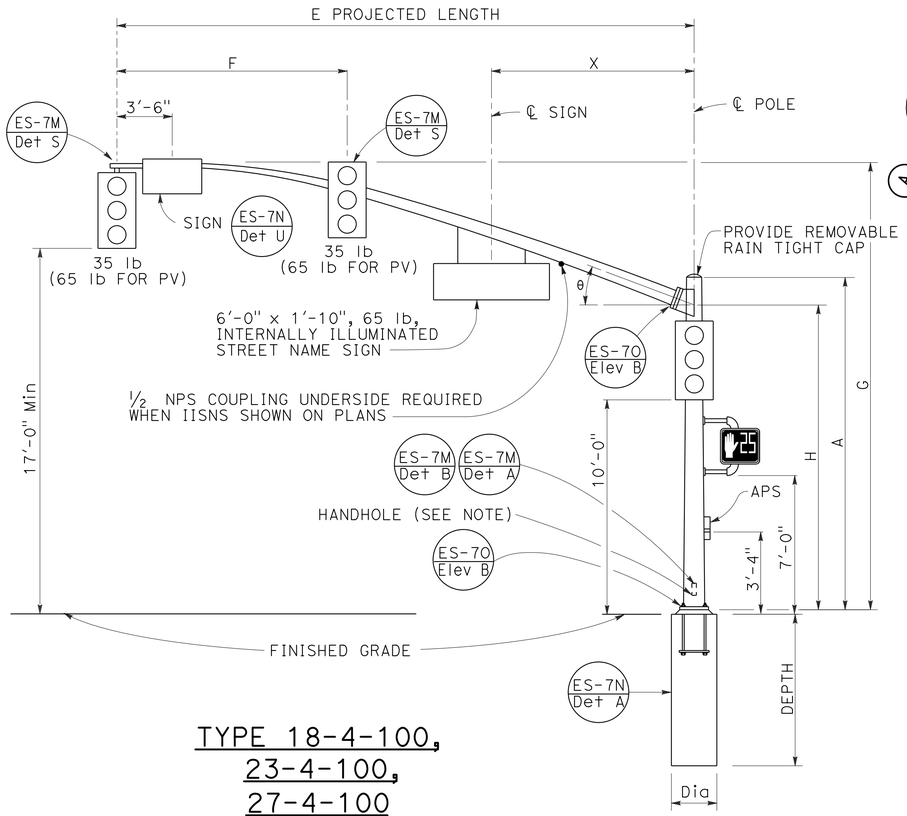
July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

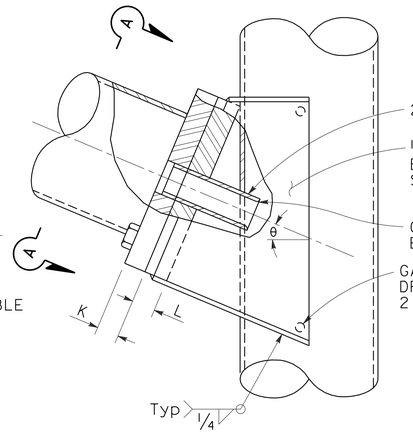
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 3-3-14

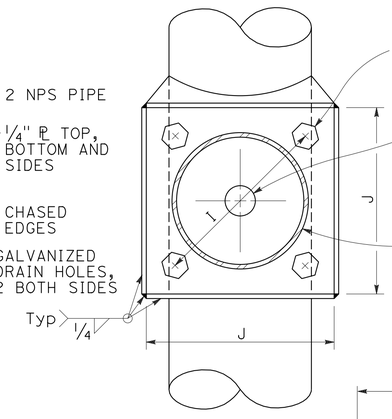
NOTE:
1. Handhole shall be located on the downstream side of traffic.



TYPE 18-4-100,
23-4-100,
27-4-100
ELEVATION A

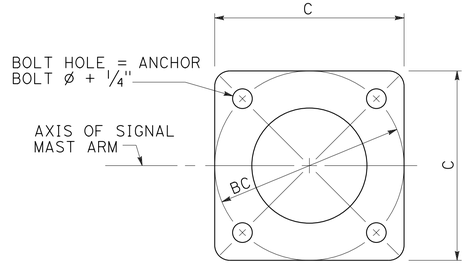


ELEVATION C

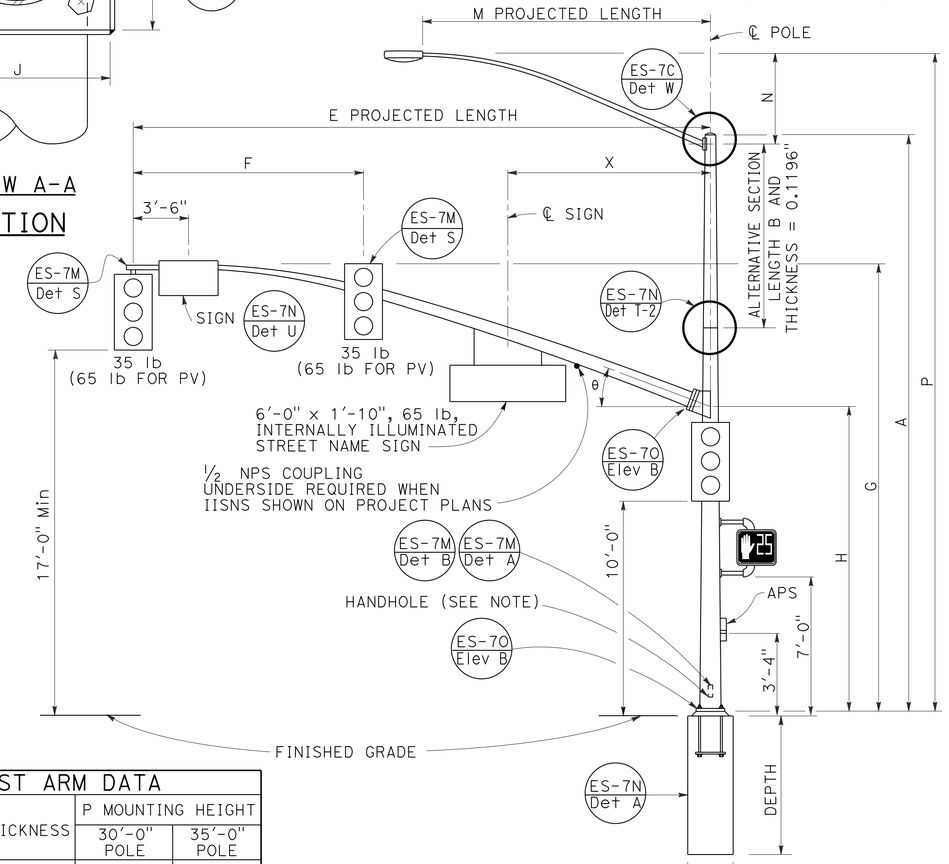


VIEW A-A

SIGNAL MAST ARM CONNECTION
DETAIL A



BASE PLATE
DETAIL B



TYPE 19-4-100, 19A-4-100,
24-4-100, 24A-4-100,
26-4-100, 26A-4-100
ELEVATION B

SIGNAL MAST ARM DATA

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM ℄ THICKNESS	L POLE ℄ THICKNESS	θ	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7⅜"	0.2391"	12"	1¼"-7NC-3"	1'-0"	1¼"	1½"	23°	10'-6"
30'-0"	12'-0"	23'-0"±		8"								
35'-0"	14'-0"			8 11/16"		13½"		1'-1½"	1½"	1¾"	21°	
40'-0"	15'-0"			9⅜"							15°	13'-0"
45'-0"		23'-8"±		10¼"								

LUMINAIRE MAST ARM DATA

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT 30'-0" POLE	P MOUNTING HEIGHT 35'-0" POLE
6'-0"	2'-0"±	3¼"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3½"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3⅞"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4¼"		34'-3"±	39'-3"±

POLE DATA / BASE PLATE DATA / CIDH PILE FOUNDATION

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA A HEIGHT	Min OD BASE	Min OD TOP	POLE DATA THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	BASE PLATE DATA C	BC = BOLT CIRCLE	BASE PLATE DATA THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION Dia	DEPTH	REINFORCED
18-4-100	4	100	17'-0"	12⅛"	9 9/16"	0.3125"	NONE			1'-7"	1'-5½"	3"	2" Ø x 42"	NONE	25'-0", [30'-0"]	3'-0"	11'-0"	YES
19-4-100			30'-0"		7 11/16"		10'-0"	9⅛"	7 11/16"					6'-15' [12'-0"]				
19A-4-100			35'-0"		6 15/16"		15'-0'		6 15/16"					6'-15' [15'-0"]				
23-4-100			17'-0"		9 9/16"		NONE							NONE	35'-0"			
24-4-100			30'-0"		7 11/16"		10'-0"	9⅛"	7 11/16"					6'-15' [12'-0"]				
24A-4-100			35'-0"		6 15/16"		15'-0"		6 15/16"					6'-15' [15'-0"]				
26-4-100			30'-0"	14"	8 3/16"		10'-0"	9⅝"	8 3/16"	23"	21"		2½" Ø x 42"	6'-15' [12'-0"]	40'-0", [45'-0"]	3'-6"	12'-0"	
26A-4-100			35'-0"		7 7/16"		15'-0"		7 7/16"					6'-15' [15'-0"]				
27-4-100			17'-0"		10 1/16"		NONE							NONE				

[ ] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, CASE 4 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 25' TO 45')

NO SCALE

RSP ES-7F DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7F DATED MAY 20, 2011 - PAGE 467 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7F

2010 REVISED STANDARD PLAN RSP ES-7F

6-18-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1051	1168

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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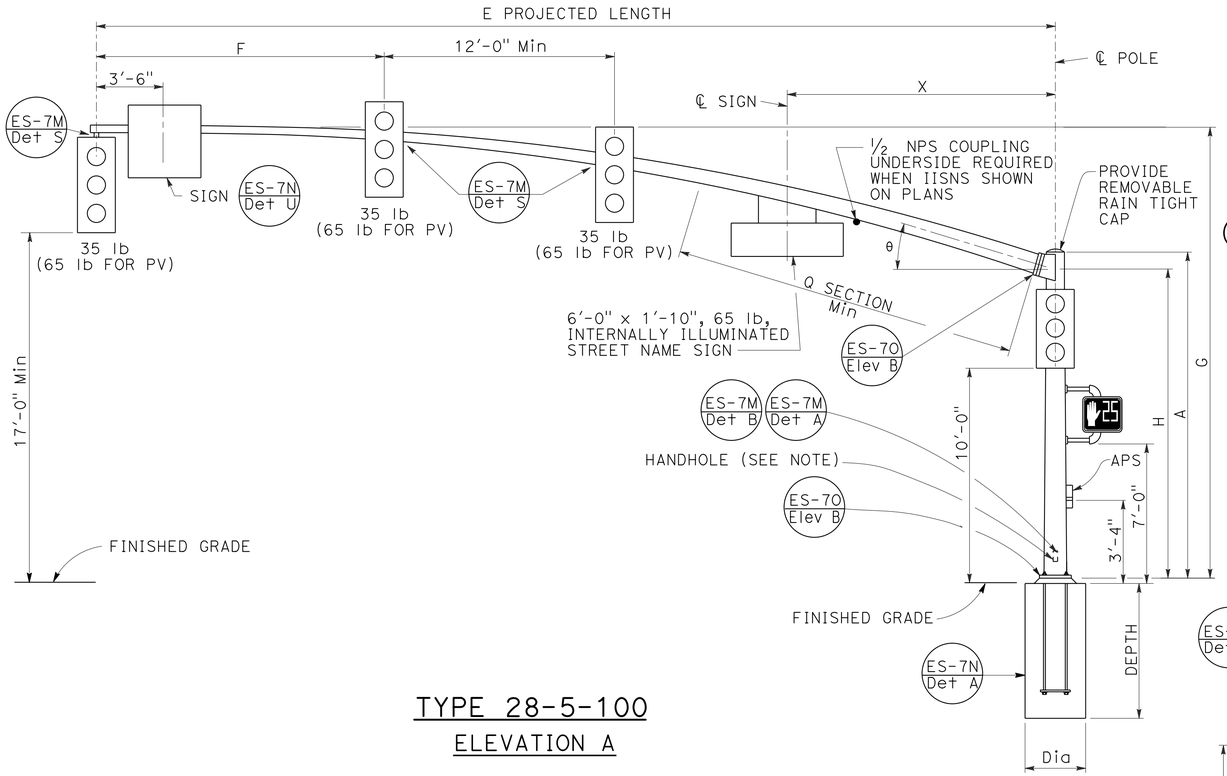
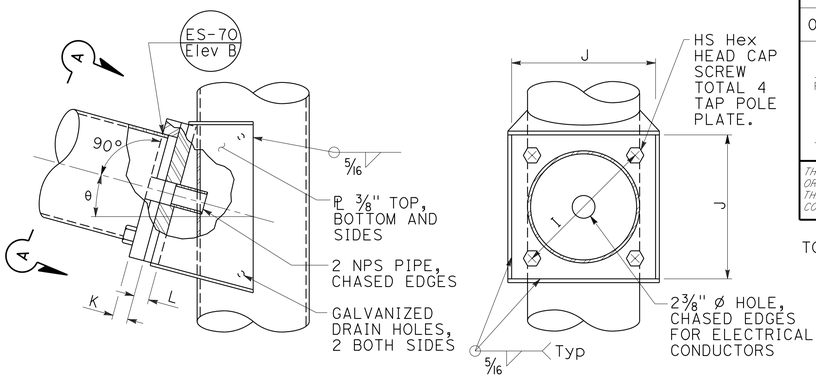
TO ACCOMPANY PLANS DATED 3-3-14

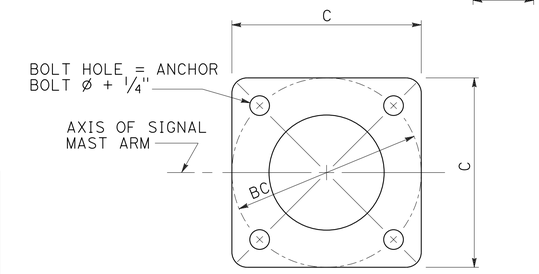


TYPE 28-5-100
ELEVATION A



ELEVATION C VIEW A-A

SIGNAL MAST ARM CONNECTION
DETAIL A



BASE PLATE
DETAIL B

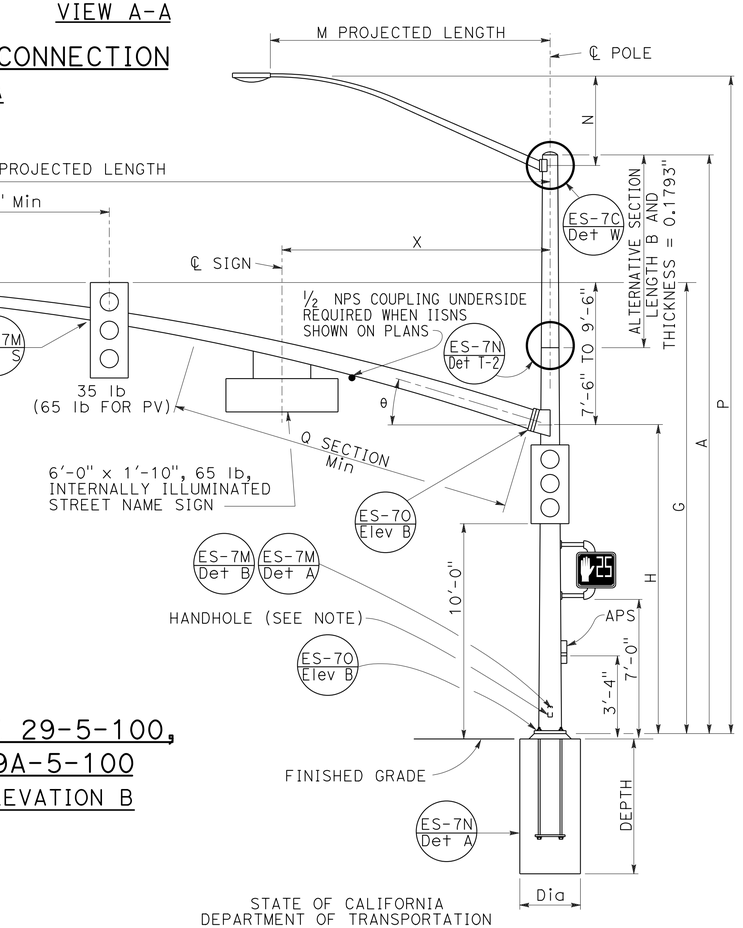
LUMINAIRE MAST ARM DATA					
M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT 30'-0" POLE	P MOUNTING HEIGHT 35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

SIGNAL MAST ARM DATA														
E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM ℄ THICKNESS	L POLE ℄ THICKNESS	θ	Q SECTION LENGTH	Q SECTION THICKNESS	X Max
50'-0"	15'-0"	23'-7"± TO 25'-7"±	16'-0"	11 7/16"	0.1793"	16"	1 1/2"-6NC-3 1/4"	1'-4"	1 3/4"	1 3/4"	15°	18'-0"	0.2391"	14'-0"
55'-0"				1'-1 1/4"								23'-0"		

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	BASE PLATE DATA C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION Dia	DEPTH	REINFORCED
28-5-100	5	100	17'-0"	14"	11 9/16"	0.3125"	NONE			23"	21"	3"	2 1/2" Ø x 42"	NONE	50'-0", [55'-0"]	3'-6"	12'-0"	YES
29-5-100			30'-0"		9 11/16"		10'-0"	11 1/8"	9 11/16"					6'-15' [15'-0"]				
29A-5-100			35'-0"		8 15/16"		15'-0"		8 15/16"									

[ ] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

NOTE:
Handhole shall be located on the downstream side of traffic.



TYPE 29-5-100, 29A-5-100
ELEVATION B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, CASE 5 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 50' TO 55')

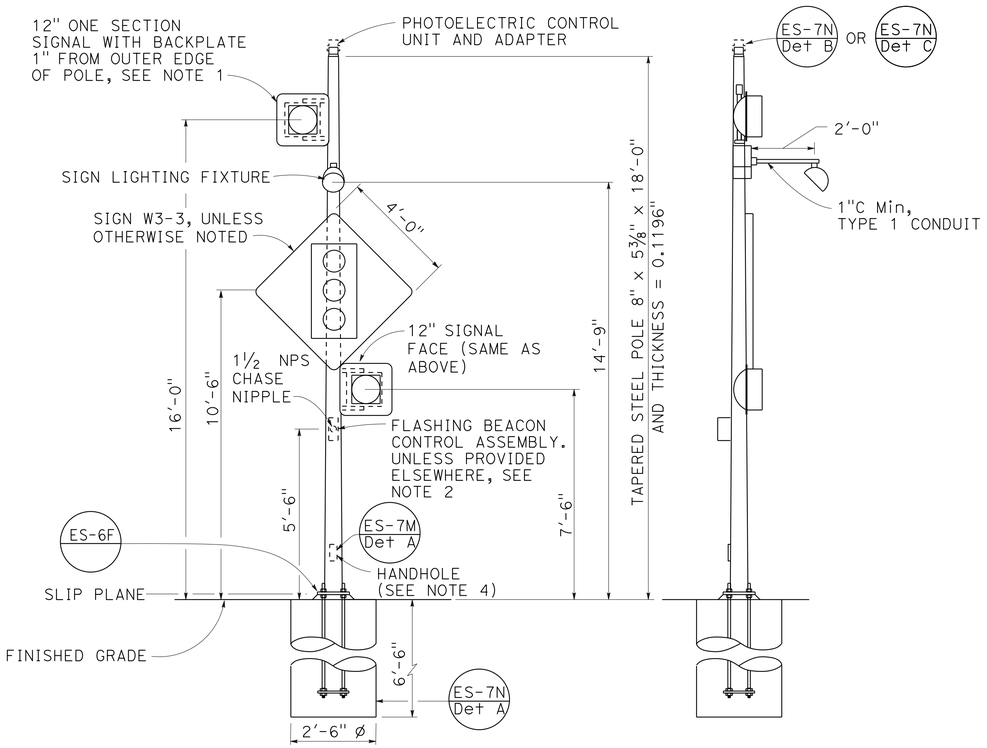
NO SCALE

RSP ES-7G DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7G DATED MAY 20, 2011 - PAGE 468 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7G

2010 REVISED STANDARD PLAN RSP ES-7G

6-18-13



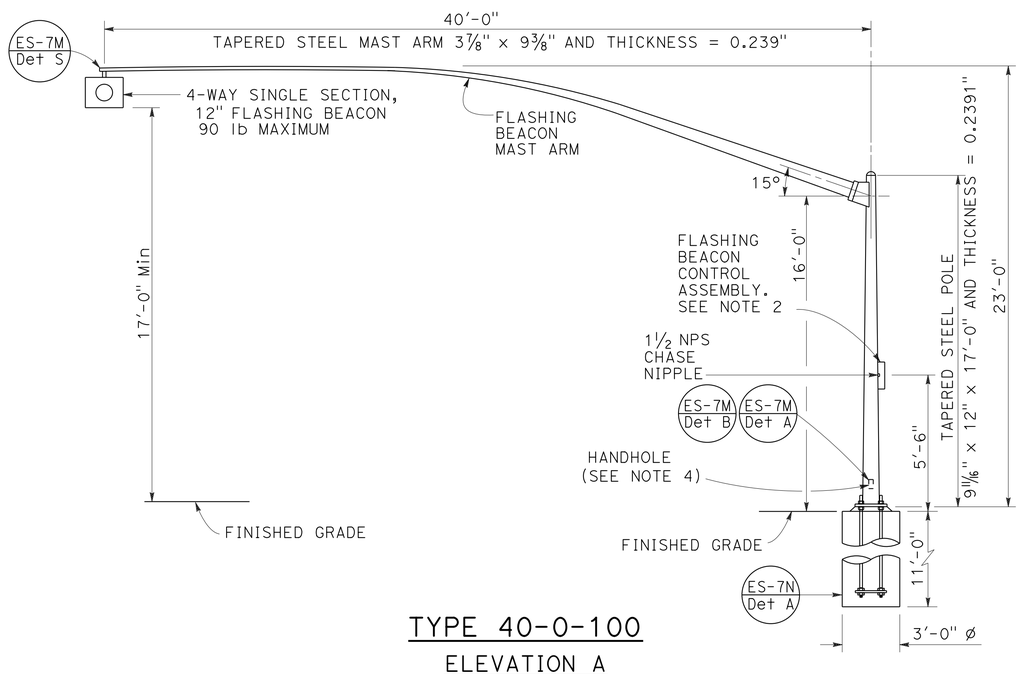
FRONT VIEW

SIDE VIEW

TYPE 15-FBS

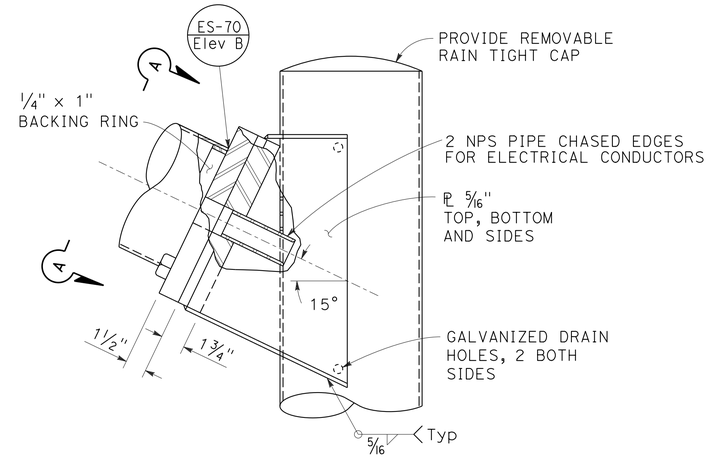
ADVANCE FLASHING BEACON WITH SLIP BASE INSTALLATION

DETAIL A

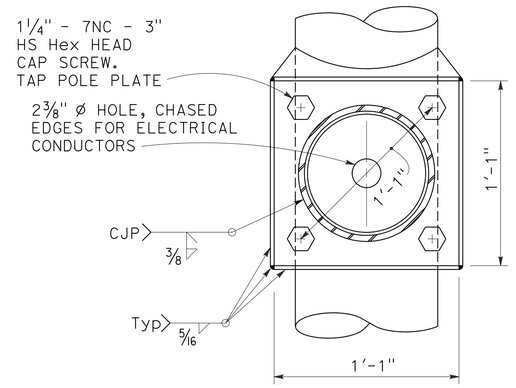


TYPE 40-0-100

ELEVATION A



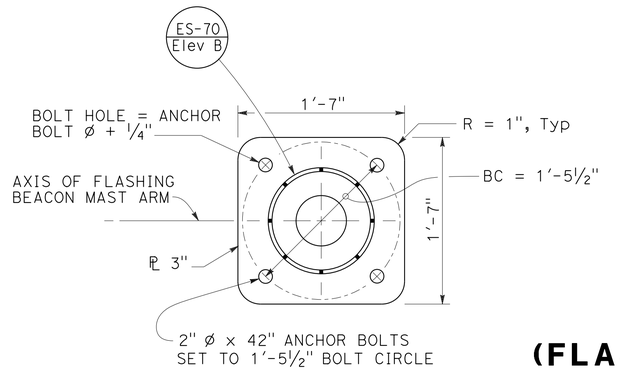
ELEVATION B



VIEW A-A

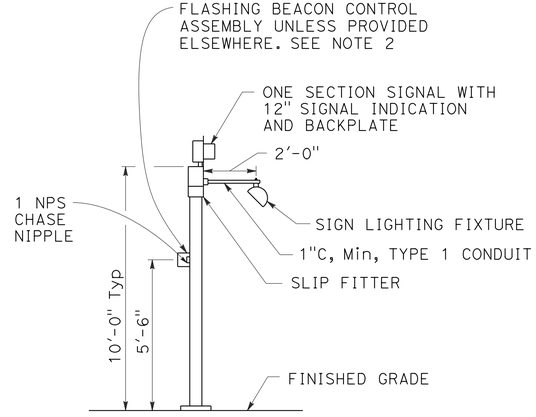
FLASHING BEACON MAST ARM CONNECTION DETAIL

DETAIL B



BASE PLATE

DETAIL C



TYPE 1-A, 1-B, 1-C AND 1-D

ADVANCE FLASHING BEACON INSTALLATION

DETAIL D

See Note 5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1052	1168

Stanley P. Johnson
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-14
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 3-3-14

NOTES:

1. See Revised Standard Plan RSP ES-4A and Standard Plan ES-4D for attachment fitting details.
2. For wiring diagram, see Standard Plan ES-14B.
3. For additional notes and details, see Standard Plans ES-7M and ES-7N.
4. Handhole shall be located on the downstream side of traffic.
5. See project plans for type of standard to be installed.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (FLASHING BEACON ON A TYPE 1, TYPE 15-FBS AND TYPE 40 STANDARD)

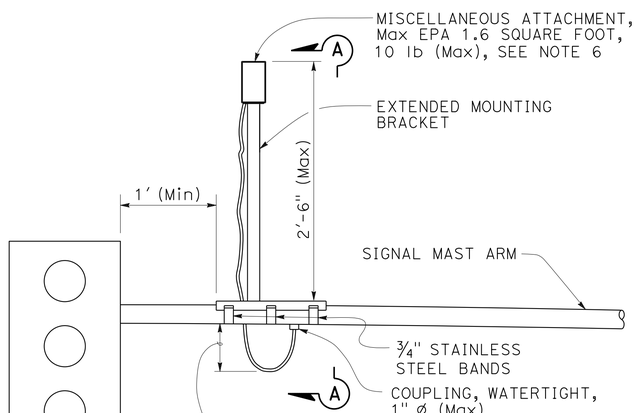
NO SCALE

RSP ES-7J DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7J DATED MAY 20, 2011 - PAGE 471 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7J

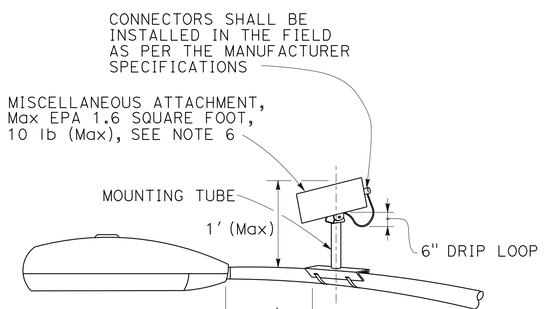
2010 REVISED STANDARD PLAN RSP ES-7J

6-26-13



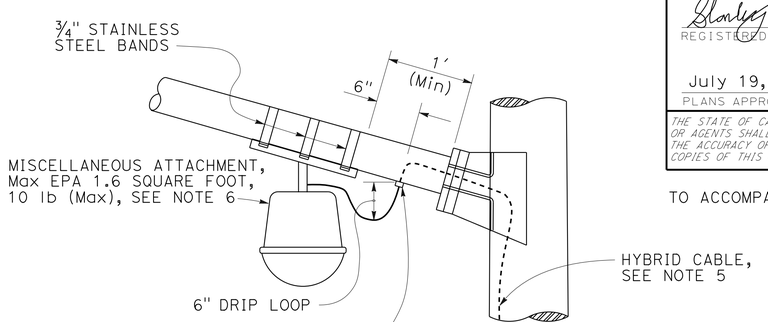
SIGNAL MAST ARM MOUNT

DETAIL A



LUMINAIRE MAST ARM MOUNT

DETAIL B



LUMINAIRE MAST ARM MOUNT

DETAIL C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1053	1168

Stanley P Johnson
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

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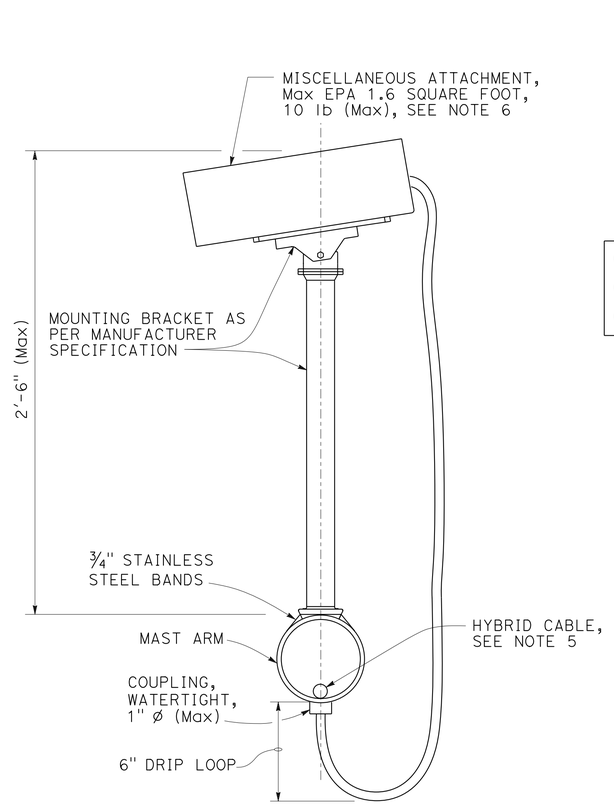
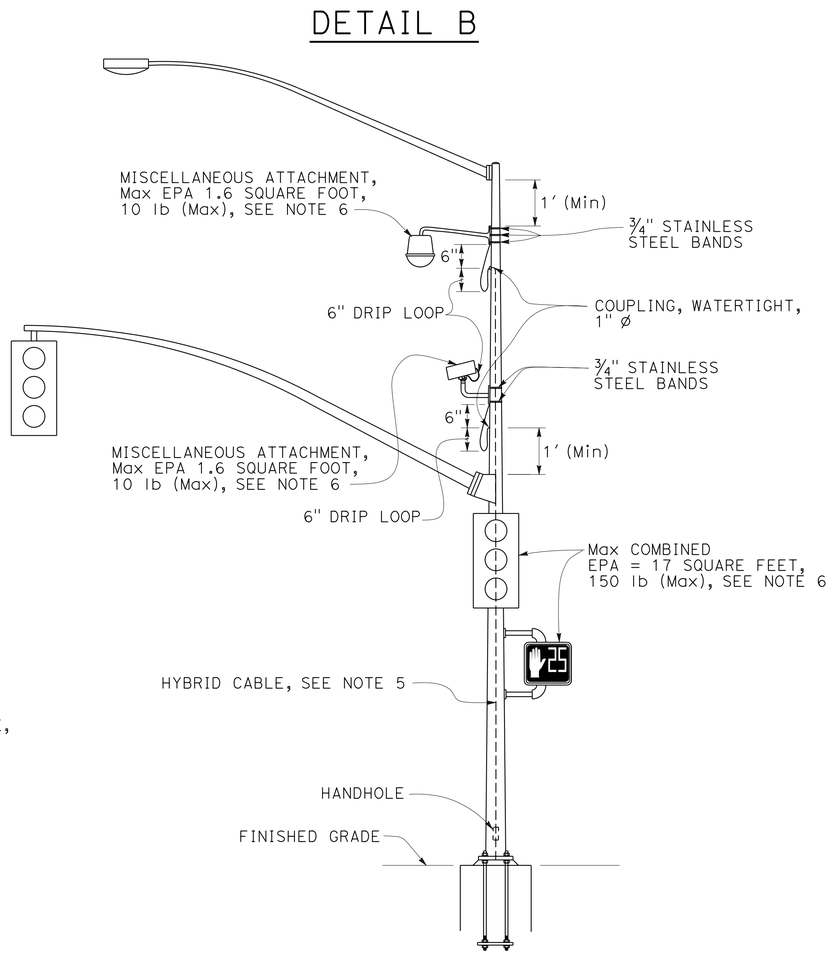
TO ACCOMPANY PLANS DATED 3-3-14



SECTION A-A



SIGNAL POLE MOUNT

DETAIL D

NOTES:

1. Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
2. Location of cable entrances on signal pole shall be a minimum of 1′ from any flange or base plate.
3. Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
4. Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
5. A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
6. Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet.
7. Maximum of two miscellaneous attachments per traffic signal structure.
8. Maximum of one miscellaneous attachment per mast arm.
9. Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING, MISCELLANEOUS ATTACHMENT)

NO SCALE

RSP ES-7R DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7R
DATED MAY 20, 2011 - PAGE 479 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7R

2010 REVISED STANDARD PLAN RSP ES-7R

6-17-13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1054	1168

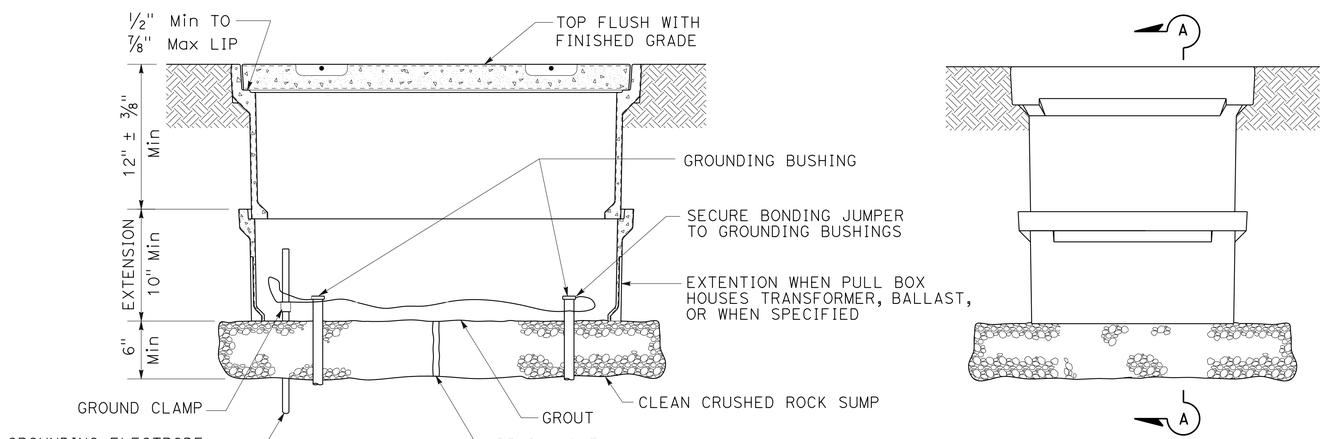
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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 3-3-14

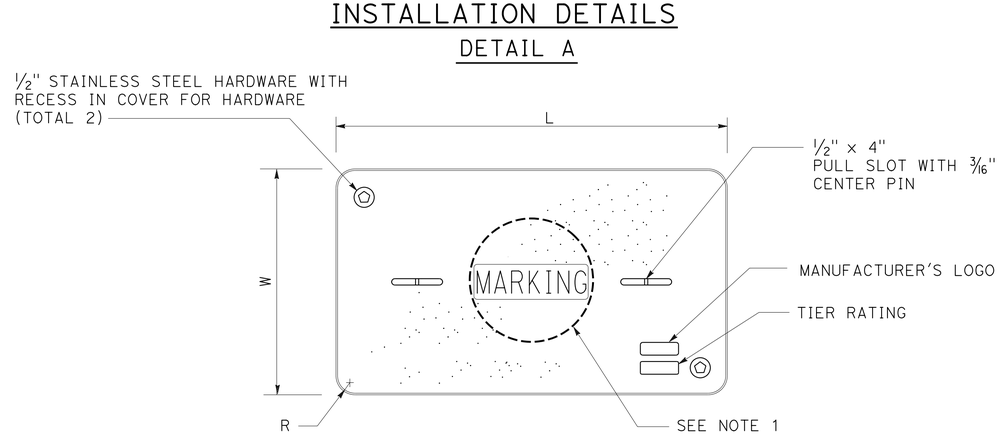


SECTION A-A

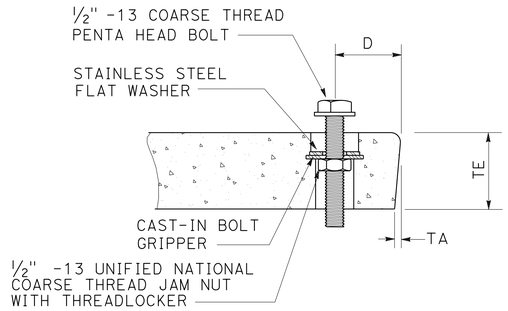
SIDE VIEW

INSTALLATION DETAILS

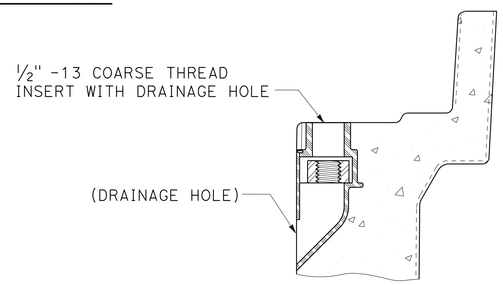
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

DIMENSION TABLE

PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3½	12"	N/A	40 lb	1′ - 3⅜"	10⅛"	1⅜"	2"	⅛"	1¾"	30 lb
No. 5	12"	10"	55 lb	1′ - 11¼"	1′ - 1¾"	1⅜"	2"	⅛"	1¾"	60 lb
No. 6	12"	10"	70 lb	2′ - 6½"	1′ - 5½"	1⅜"	2"	⅛"	2"	85 lb

NOTES:

1. Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
   - A) No. 3½ pull box.
     1) "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
     2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
   - B) No. 5, 6, 9 or 9A pull box.
     1) "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
     2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
     3) "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
     4) "IRRIGATION" - Circuits to irrigation controller 120 V or more.
     5) "RAMP METER" - Ramp meter circuits.
     6) "COUNT STATION" - Count or speed monitor circuits.
     7) "COMMUNICATIONS" - Communication circuits.
     8) "TOS COMMUNICATIONS" - TOS communication line.
     9) "TOS POWER" - TOS power.
     10) "TDC POWER" - Telephone demarcation cabinet power.
     11) "CCTV" - Closed circuit television circuits.
     12) "TMS" - Traffic monitoring station circuits.
     13) "CMS" - Changeable message sign circuits.
     14) "HAR" - Highway advisory radio circuits.
     15) "BOOSTER PUMP" - Booster pump circuit.
2. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be ⅛" greater.
3. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within ⅛". Top outside radius of covers and pull boxes shall have a ⅛" radius.
4. Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
5. All dimensions for the cover for non-traffic pull box are nominal values.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (NON-TRAFFIC PULL BOX)

NO SCALE

RSP ES-8A DATED JULY 19, 2013 SUPERSEDES RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8A

2010 REVISED STANDARD PLAN RSP ES-8A

7-15-13

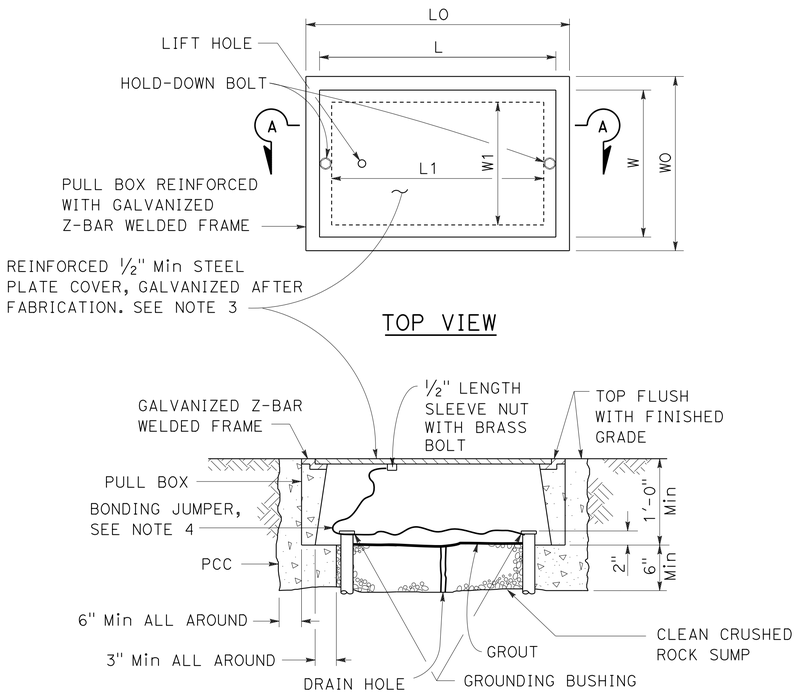
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1055	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-3-14



SECTION A-A

No. 3½(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX

NOTES:

1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
3. Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
   A) No. 3½(T) pull box.
      1) "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
      2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
   B) No. 5(T) or 6(T) pull box.
      1) "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
      2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
      3) "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
      4) "IRRIGATION" - Circuits to irrigation controller 120 V or more.
      5) "RAMP METER" - Ramp meter circuits.
      6) "COUNT STATION" - Count or speed monitor circuits.
      7) "COMMUNICATION" - Communication circuits.
      8) "TOS COMMUNICATIONS" - TOS communications line.
      9) "TOS POWER" - TOS power.
      10) "TDC POWER" - Telephone demarcation cabinet power.
      11) "CCTV" - Closed circuit television circuits.
      12) "TMS" - Traffic monitoring station circuits.
      13) "CMS" - Changeable message sign circuits.
      14) "HAR" - Highway advisory radio circuits.
      15) "BOOSTER PUMP" - Booster pump circuit.
4. Bonding jumper for metal covers shall be 3' long, minimum.
5. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be ⅛" greater.
6. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within ⅛".

DIMENSION TABLE

PULL BOX	PULL BOX						COVER				
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	WO	LO	L1	W1	L **	W **	R	EDGE THICKNESS	EDGE TAPER
No. 3½(T)	1½"	1'-0"	1'-5"± 1"	1'-8⅞"±	1'-2½"±	10⅝"± 1"	1'-8"±	1'-1¾"±	0"	½"	NONE
No. 5(T)	1¾"	1'-0"	1'-11½"± 1"	2'-5½"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	½"	NONE
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11½"±	1'-11½"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	½"	NONE

* EXCLUDING CONDUIT WEB ** TOP DIMENSION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (TRAFFIC PULL BOX)

NO SCALE

RSP ES-8B DATED JULY 19, 2013 SUPERSEDES RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8B

2010 REVISED STANDARD PLAN RSP ES-8B

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1056	1168

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

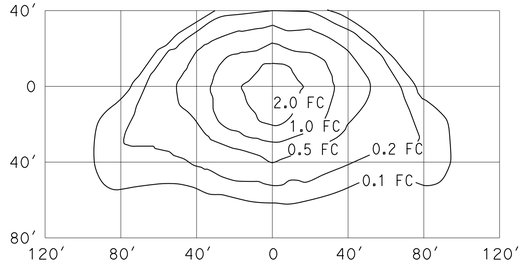
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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 3-3-14

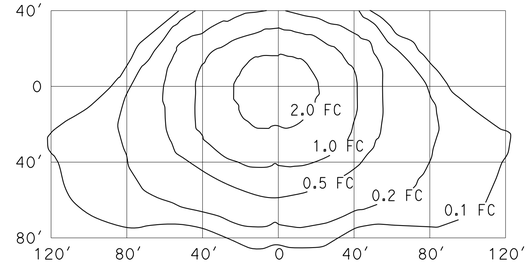
ISOFOOTCANDLE CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
34′ Mounting Height
Lamp operated at 22,000 lm
200-W high pressure sodium lamp
ANSI Designation S66

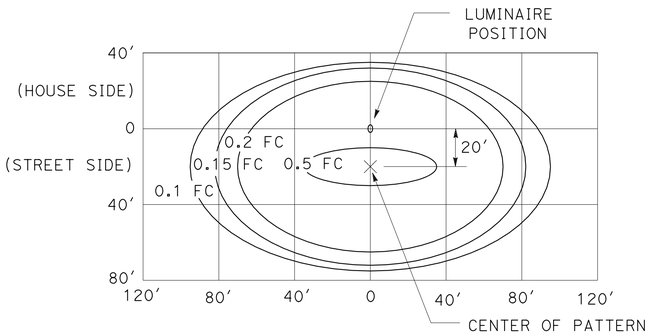
ISOFOOTCANDLE CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
40′ Mounting Height
Lamp operated at 37,000 lm
310-W high pressure sodium lamp
ANSI Designation S67

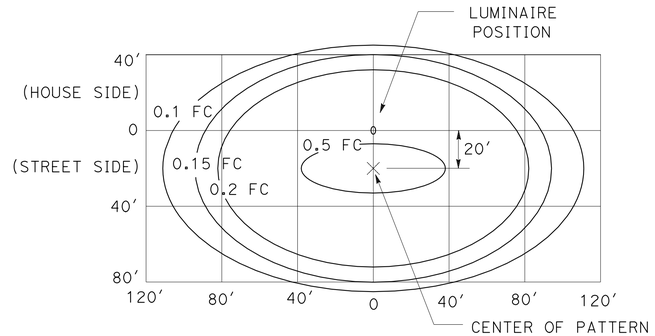
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 1

165-W at 34′ Mounting Height

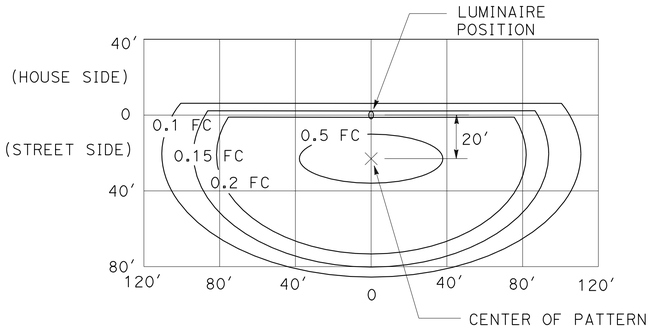
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 2

235-W at 40′ Mounting Height

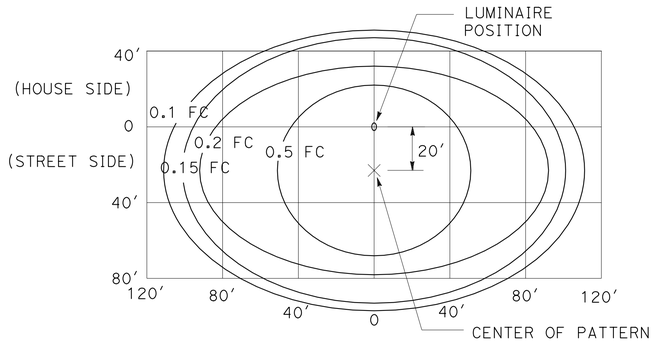
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3

235-W at 40′ Mounting Height
with back side control

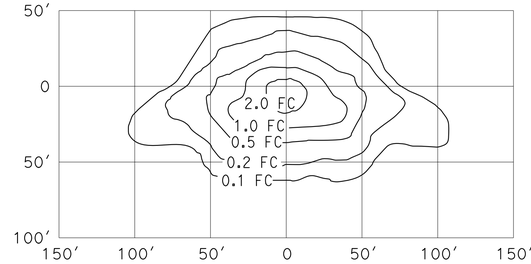
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 4

300-W at 40′ Mounting Height

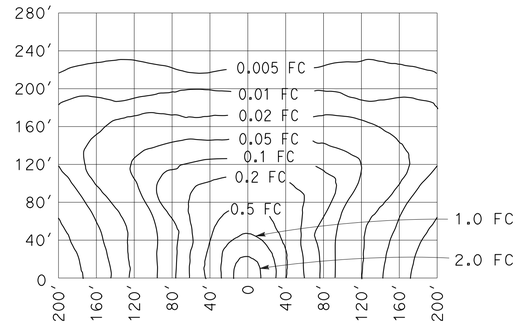
ISOFOOTCANDLE CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
30′ Mounting Height
Lamp operated at 16,000 lm
150-W high pressure sodium lamp
ANSI Designation S55

ISOFOOTCANDLE CURVE - MINIMUM



LOW PRESSURE SODIUM LUMINAIRE

40′ Mounting Height
Lamp operated at 33,000 lm
180-W low pressure sodium lamp

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ISOFOOTCANDLE DIAGRAMS)

NO SCALE

RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-10A

2010 REVISED STANDARD PLAN RSP ES-10A

7-9-13

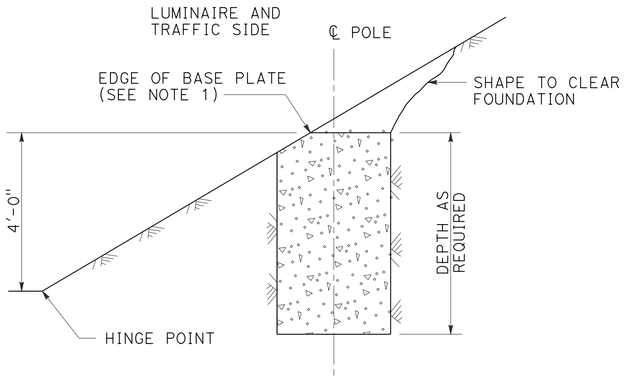
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1057	1168

REGISTERED CIVIL ENGINEER

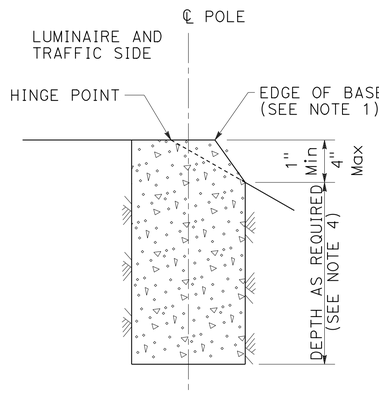
July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

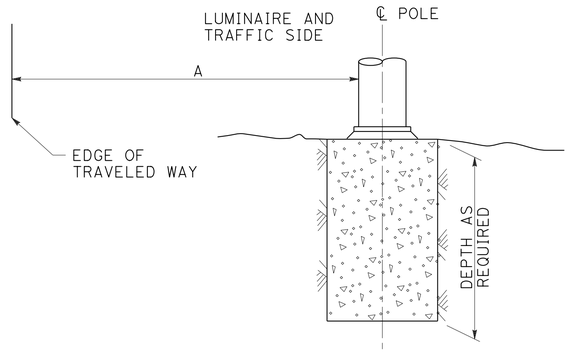
TO ACCOMPANY PLANS DATED 3-3-14



CUT SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-1
See Note 2 and 3



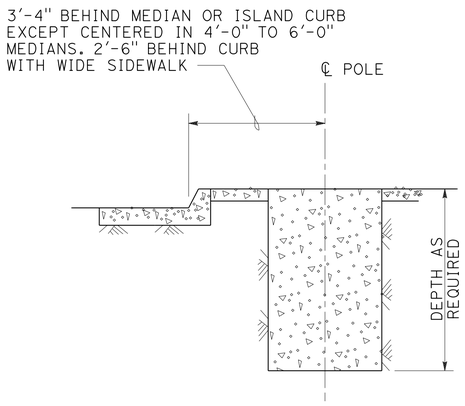
FILL SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-2
See Note 2 and 3



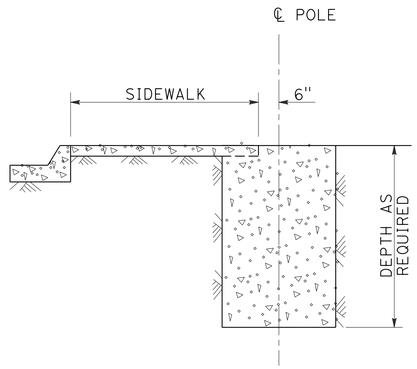
FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3
See Note 2

STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)

FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL A



MEDIAN, ISLAND
OR WIDE SIDEWALK
DETAIL B-1
7' Wide and wider



NARROW SIDEWALK
DETAIL B-2
Less than 7' wide

FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL B

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
2. Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
3. Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
4. CIDH embedment depth shall be increased beyond standard depths by the diameter of the CIDH.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (FOUNDATION INSTALLATIONS)

NO SCALE

RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11
DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-11

2010 REVISED STANDARD PLAN RSP ES-11

7-9-13

POLE TYPE	POLE DATA				BASE PLATE DATA				CIDH	
	HEIGHT "h"	Min OD		THICKNESS	"C"	THICKNESS	ANCHOR BOLT SIZE	BC = BOLT CIRCLE	Dia	"d"
		BASE	TOP							
CCTV 25	25′	7 3/8"	3 3/4"	0.1793"	1′-1"	1"	1 1/2" ø x 36"	11 1/2"	2′-6"	7′-0"
CCTV 30	30′	8"			1′-1 1/2"			1′-0"		7′-6"
CCTV 35	35′	8 5/8"			1′-2"			1′-1"		8′-0"
CCTV 40	40′	9 3/8"			1′-3"			1′-1 1/2"		8′-6"
CCTV 45	45′	10"						1′-2"		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1058	1168

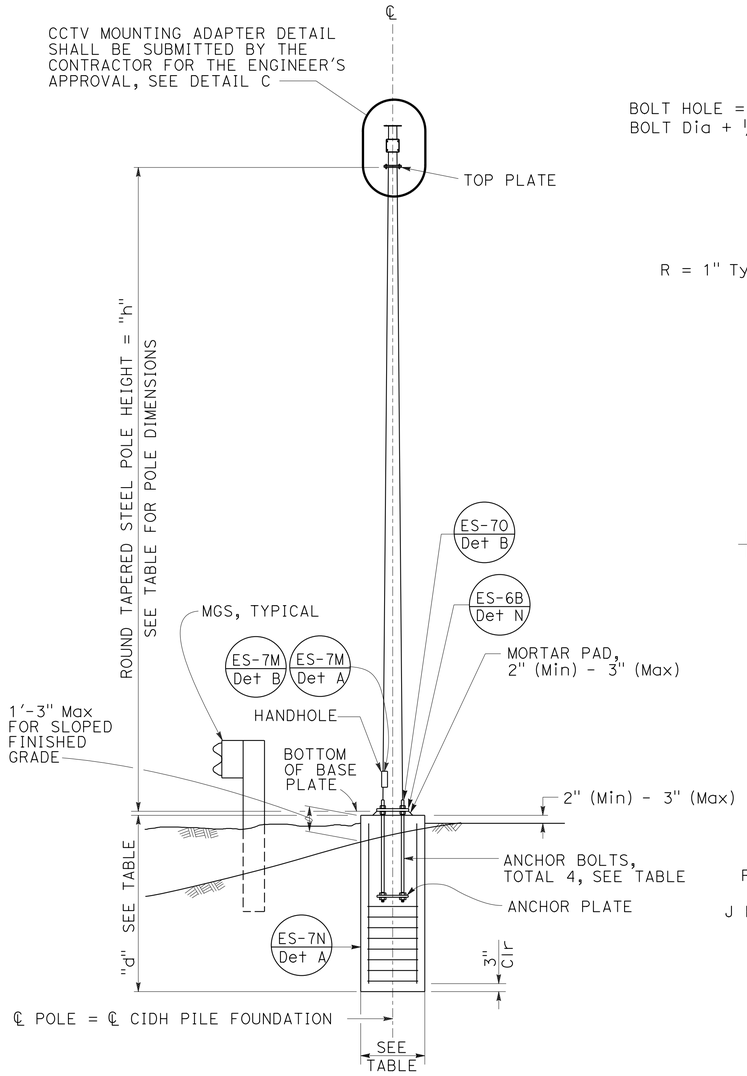
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

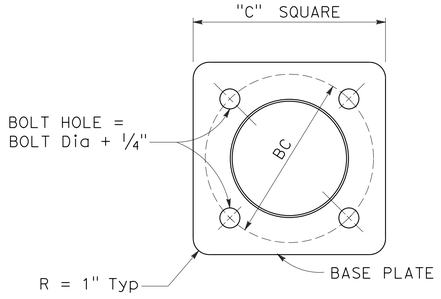
Stanley P. Johnson
No. C57793
Exp. 3-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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.

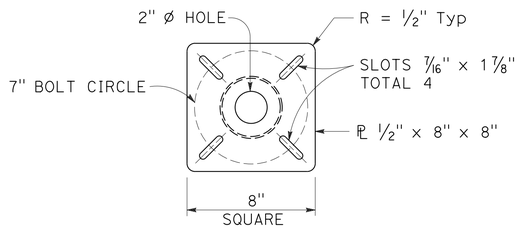
TO ACCOMPANY PLANS DATED 3-3-14



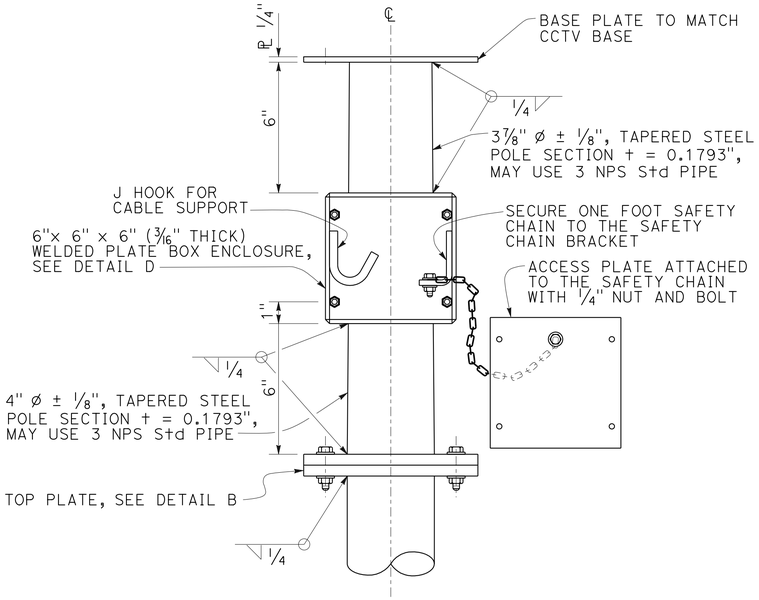
ELEVATION A



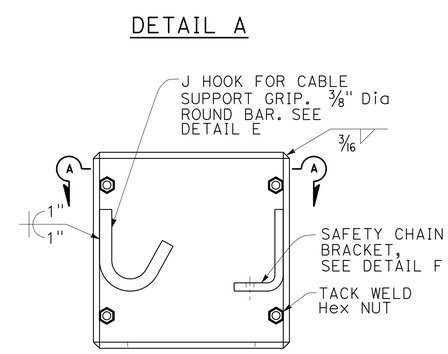
BASE PLATE
DETAIL A



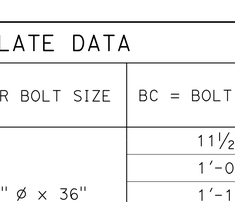
TOP PLATE
DETAIL B



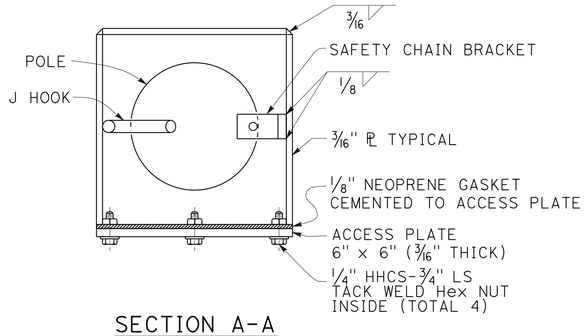
CLOSED CIRCUIT TELEVISION MOUNTING ADAPTER
DETAIL C



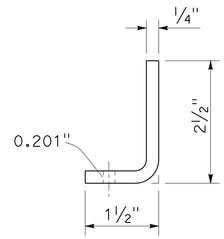
BOX ENCLOSURE
DETAIL D



J HOOK
DETAIL E



SECTION A-A



SAFETY CHAIN BRACKET
DETAIL F

NOTES:

1. The Contractor shall verify controlling field dimensions before ordering or fabricating any material.
2. During pole installation, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
3. Wind Loadings (3-second gust): 100 mph
4. Unit Stresses (Structural Steel):
   a. fy = 55,000 psi (tapered steel tube and anchor bolts)
   b. fy = 50,000 psi (unless otherwise noted)
5. Unit Stresses (Reinforced Concrete):
   a. f′c = 3,625 psi
   b. fy = 60,000 psi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CLOSED CIRCUIT TELEVISION, 25' TO 45' POLE)

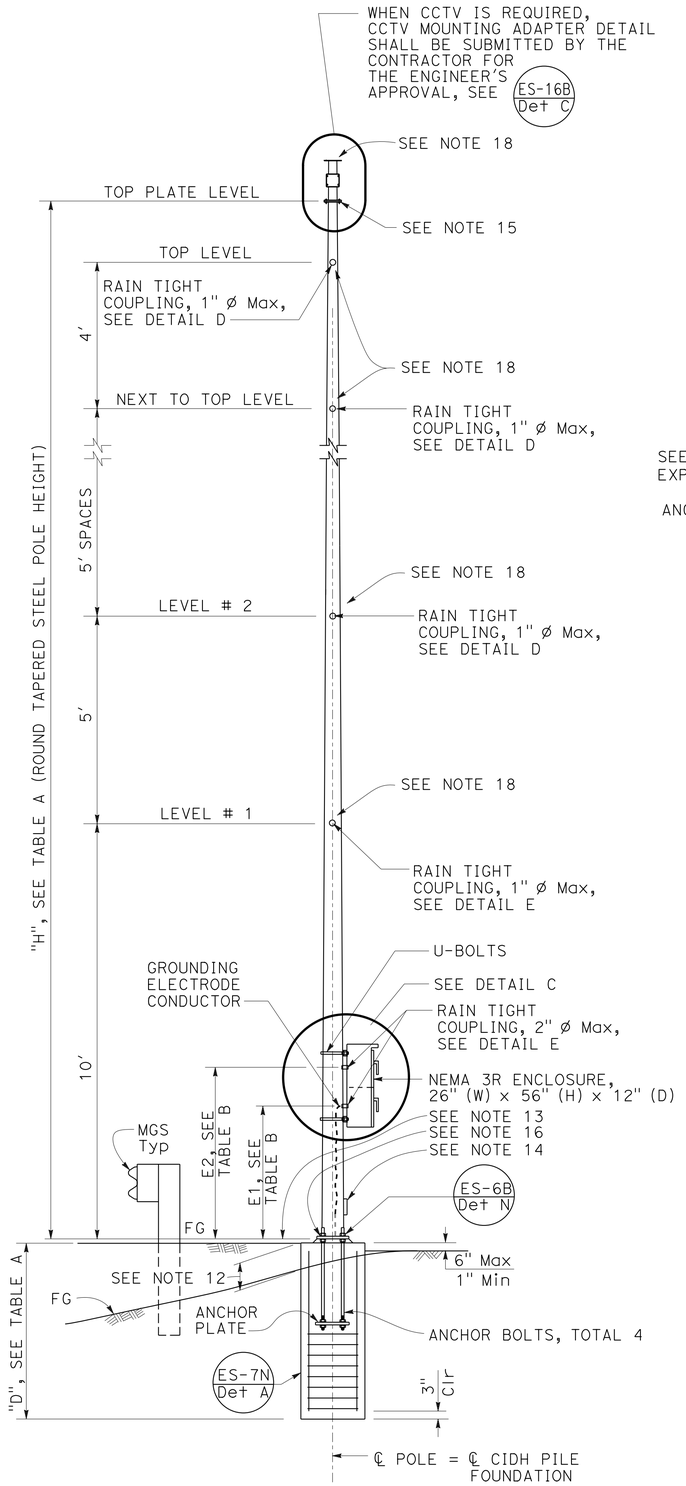
NO SCALE

RSP ES-16B DATED NOVEMBER 15, 2013 SUPERSEDES STANDARD PLAN ES-16B DATED MAY 20, 2011 - PAGE 501 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-16B

2010 REVISED STANDARD PLAN RSP ES-16B

10-4-13

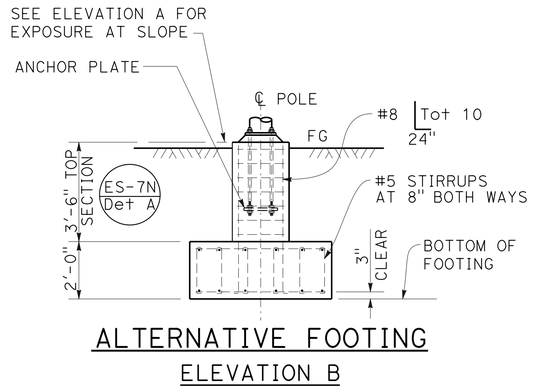


ELEVATION A

TABLE A										
POLE TYPE	POLE DATA				BASE PLATE DATA				"D" 2'-6" ø CIDH Pile	
	HEIGHT "H"	Min OD		THICKNESS	"C"	THICKNESS	ANCHOR BOLTS SIZE	BC = BOLT CIRCLE	LEVEL GROUND	UP TO 2:1
		BASE	TOP							
VDS 30	30'	8"	3⅞"	0.1793"	1'-1½"	1½"	1½" ø x 3'-0"	1'-1½"	11'-0"	13'-0"
VDS 35	35'	8⅝"			1'-2"			1'-2"	11'-0"	
VDS 40	40'	9⅜"			1'-3"			1'-3"	12'-0"	14'-0"

TABLE B		
POLE TYPE	COUPLING	
	E1(Max)	E2(Max)
VDS 30	3'-6"	4'-9"
VDS 35		
VDS 40		

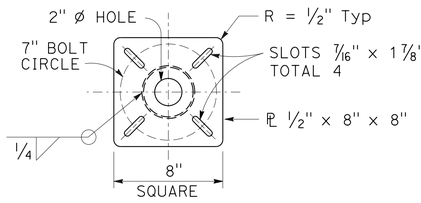
TABLE C		
SPREAD FOOTING		
GROUND	FOOTING SIZE (LENGTH x WIDTH x DEPTH)	REINFORCEMENT TOP & BOTTOM
LEVEL	8'-6" x 8'-6" x 2'-0"	12 - #5 EW
UP TO 2:1	10'-0" x 10'-0" x 2'-0"	15 - #5 EW



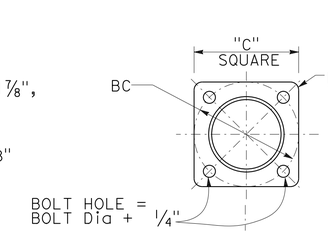
ALTERNATIVE FOOTING
ELEVATION B

TABLE D - LIMITATION ON ATTACHMENTS *		
LOCATION	MAXIMUM TOTAL EPA PER LEVEL (SQUARE FEET)	MAXIMUM TOTAL WEIGHT (lb)
LEVEL #1	14	200
LEVEL #2		
LEVEL #3	10 ***	
LEVEL #4 (VDS 35 AND VDS 40 ONLY)	2.5	50
LEVEL #5 (VDS 40 ONLY)		
NEXT TO TOP LEVEL		
TOP LEVEL		
ON TOP PLATE LEVEL **		

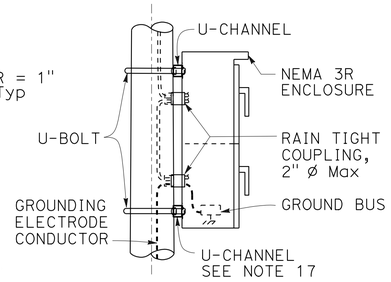
* MAXIMUM HORIZONTAL EXTENT BEYOND POLE FACE IS 4 FEET.
** MAXIMUM EXTENT ABOVE TOP PLATE IS 3 FEET.
*** 14 IF LEVEL #1 IS ZERO.



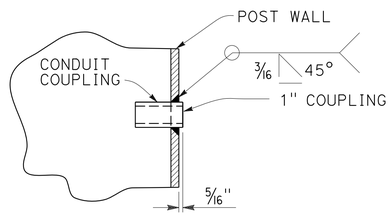
TOP PLATE
DETAIL A



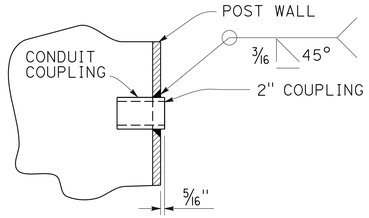
BASE PLATE
DETAIL B



DETAIL C



1" COUPLING
DETAIL D



2" COUPLING
DETAIL E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1059	1168

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-14
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 3-3-14

NOTES:

1. All steel shall be galvanized after fabrication.
2. During pole installation the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
3. The foundation shall be treated as level ground condition if the slope inclination is flatter than 4 : 1 (Horizontal : Vertical)
4. For devices mounted and mounting heights, see TABLE B.
5. Design Specification: AASHTO Standard Specification for structural support for highway signs, luminaires and traffic signal dated 2001.
6. Wind Loadings: 100 mph (3-second gust)
7. Unit Stresses (Structural Steel):
   a. fy = 55,000 psi (tapered steel tube)
   b. fy = 50,000 psi (unless otherwise noted)
8. Anchor bolts: fy = 55,000 psi
9. Unit Stresses (Reinforced Concrete):
   a. f'c = 3,600 psi
   b. fy = 60,000 psi
10. The Contractor shall verify all controlling field dimensions before ordering of fabricating any material.
11. When no barriers are used, the NEMA 3R enclosure shall be located on the downstream side and perpendicular to the roadway.
12. 1'-3" (Max) for sloped finished grade.
13. Bottom of base plate.
14. Handhole. ES-7M Det B / ES-7M Det A
15. Top plate.
    Install a blank flange on the top plate when closed circuit television is not used.
16. ES-7O Elev B
17. U-channel with bracket.
18. Use the manufacturer's Effective Projected Area (EPA) for attachments. Assign attachments to nearest level and sum each level, see Table D for limitations.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CLOSED CIRCUIT TELEVISION WITH VEHICLE DETECTION SYSTEM, 30' TO 40' POLE)

NO SCALE

RSP ES-16D DATED NOVEMBER 15, 2013 SUPERSEDES RSP ES-16D DATED JULY 19, 2013 AND STANDARD PLAN ES-16D DATED MAY 20, 2011 - PAGE 503 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-16D

2010 REVISED STANDARD PLAN RSP ES-16D

10-4-13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1060	1168

REGISTERED CIVIL ENGINEER — 9/9/13 DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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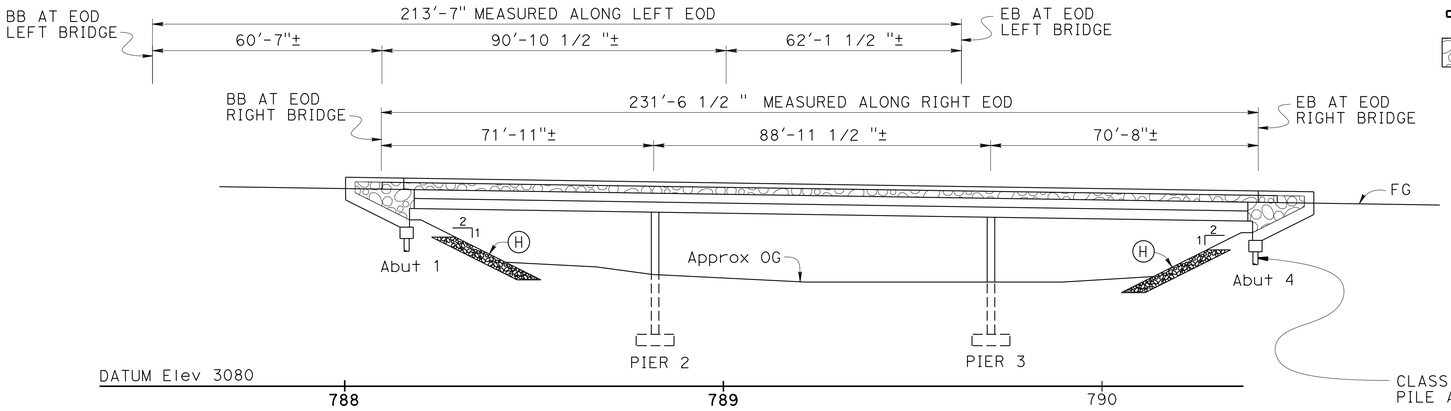
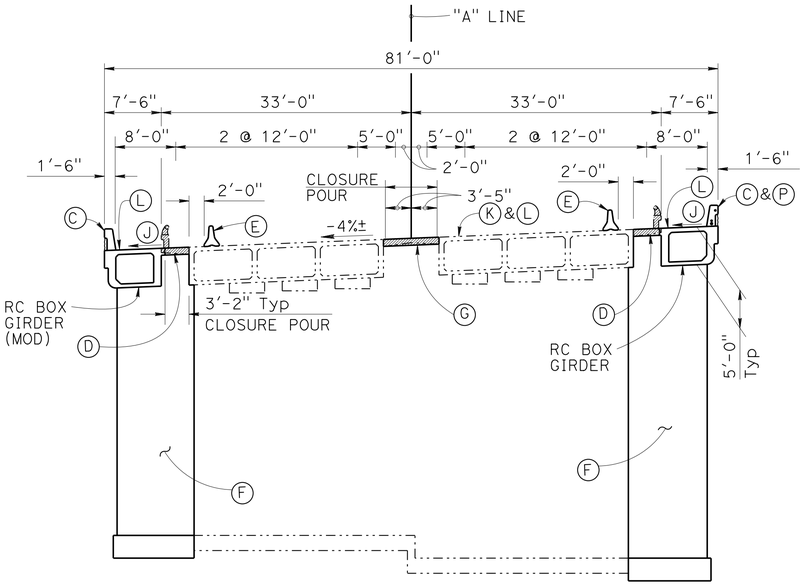
LEGEND:

- INDICATES NEW STRUCTURE
- INDICATES EXISTING STRUCTURE
- BRIDGE REMOVAL PORTION
- DIRECTION OF TRAFFIC FLOW
- CONCRETE SURFACE TEXTURE



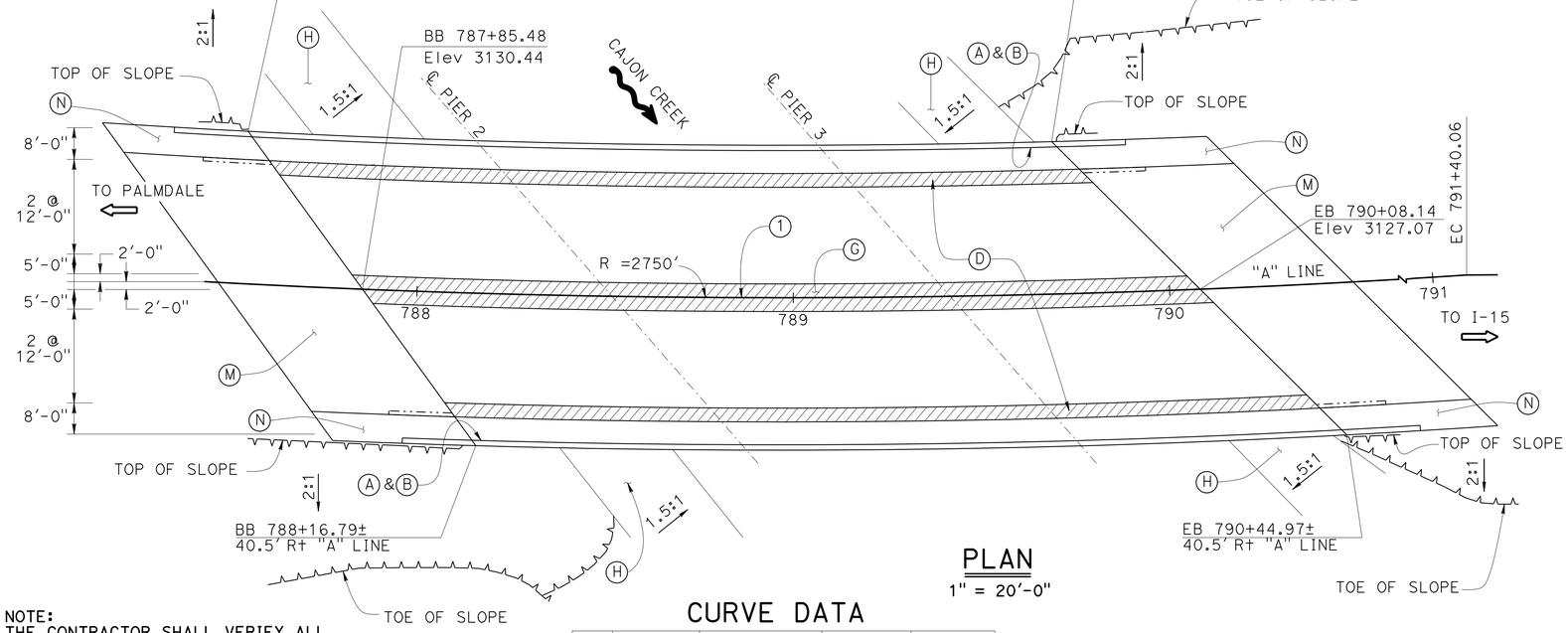
DEVELOPED ELEVATION

1" = 20'-0"



TYPICAL SECTION

1" = 10'



PLAN

1" = 20'-0"

CURVE DATA

No.	R	Δ	T	L
1	2750.00	22°03'38"	536.05	1058.83

NOTES:

- (A) Paint "BRIDGE NO. 54-0561"
- (B) Paint "CAJON CREEK BRIDGE"
- (C) Concrete Barrier Type 736 (mod)
- (D) Remove existing Type 1 Barrier Rail and Overhang
- (E) Temporary Railing Type K
- (F) Pier wall
- (G) Remove existing interior overhangs and longitudinal joint
- (H) Rock slope protection, see "ROAD PLANS"
- (J) Match existing slope
- (K) Remove existing AC overlay, and methacrylate existing deck.
- (L) Place 2" polyester concrete overlay over new deck.
- (M) Existing AC roadway to be replaced by Structure Approach Type R (30D) (MODIFIED).
- (N) Structure Approach Type N (30D) (MODIFIED).
- (O) Stain all exposed concrete surfaces to 1'-0" below FG of widened portion at the bridge and to OG on existing bridge. Stain shall not be placed on deck between barrier rails.
- (P) B14-3 / ES-9A See "ROAD PLANS"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

B. Gunter
DESIGN ENGINEER

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	H. Barbhaiya/M. Tran/ H.I.	R. Wang
QUANTITIES	F. Tannous/R. Padre	R. Novik/ J. Klieby/J. Duffin

LOAD & RESISTANCE FACTOR DESIGN — LIVE LOADING: HL93 W/"LOW-BOY": PERMIT DESIGN VEHICLE

	BY	CHECKED
LAYOUT	J. Torres	R. Wang
SPECIFICATIONS	S. Seifert	PLANS AND SPECS COMPARED W. Siu

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
GENERAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12-14-09		12-12-13	12-11-13	1	25

USERNAME => s1124096 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 54-0561-a-gp_01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1061	1168

10/03/13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

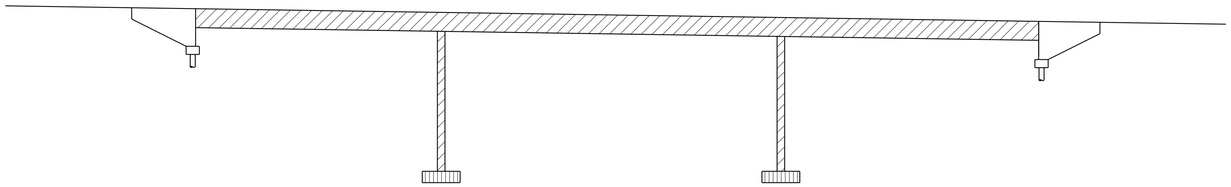
REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Structural Concrete, Bridge (f'_c = 4000 psi @ 28 days)

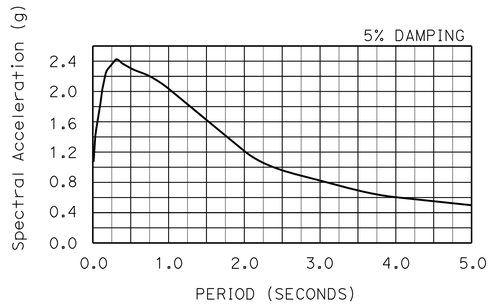
Structural Concrete, Bridge (f'_c =3600 psi @ 28 days)

Structural Concrete, Bridge Footing



CONCRETE STRENGTH AND TYPE LIMITS

No Scale



ACCELERATION RESPONSE SPECTRUM

STANDARD PLANS DATED 2010

	A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
	A10F	LEGEND-SOIL (SHEET 1 OF 2)
	A10G	LEGEND-SOIL (SHEET 2 OF 2)
	A10H	LEGEND-ROCK
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
	B0-1	BRIDGE DETAILS
	B0-3	BRIDGE DETAILS
	B0-5	BRIDGE DETAILS
	B0-13	BRIDGE DETAILS
	B2-5	PILE DETAILS CLASS 90 AND CLASS 140
	B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
	B7-1	BRIDGE GIRDER DETAILS
RSP	B11-56	CONCRETE BARRIER TYPE 736
	B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4")
	ES-9A	ELECTRICAL SYSTEMS (STRUCTURE PULL BOX INSTALLATIONS)
	ES-9B	ELECTRICAL SYSTEMS (CONDUIT RISER AND EXPANSION FITTING, STRUCURE INSTALLATIONS)
	ES-9C	ELECTRICAL SYSTEMS (STRUCTURE PULL BOX)
	ES-9D	ELECTRICAL SYSTEMS (STRUCTURE PULL BOX INSTALLATIONS)
	T3A	TEMPORARY RAILING (TYPE K)

STANDARD PLAN SHEET NO. / DETAIL NO.

RSP REVISED STANDARD PLAN SHEET NO. / DETAIL NO.

SPREAD FOOTING DATA TABLE

SUPPORT LOCATION	LOAD AND RESITENCE FACTOR DESIGN (LRFD)		
	SERVICE PERMISSIBLE NET CONTACT STRESS (SETTLEMENT) (ksf) (2)	STRENGTH FACTORED GROSS NOMINAL BEARING RESISTANCE Øb = 0.45 (ksf) (3)	EXTREME EVENT FACTORED GROSS NOMINAL BEARING RESISTANCE Øb = 1.00 (ksf) (2) (3)
Pier 2 (Left)	7.2	12.3	36.9
Pier 2 (Right)	10.1	12.9	38.5
Pier 3 (Left)	7.5	12.0	35.5
Pier 3 (Right)	10.5	12.5	36.8

NOTE: 1) Controlling load case is strength.
2) For Service-I Limit State, controlling load combination is the one resulting in the highest ratio of the Net Uniform Bearing Stress (qn,u) divided by the Permissible Net Contract Stress (qpn) for foundations on soil.
3) For Strength, Construction, and Extreme Limit States, the controlling load combinations is the one resulting in the highest ratio of the Gross Uniform Bearing Stress (qg,u) divided bt the Factored Gross Nominal Bearing Resistance (qR) for foundations on soil.

PILE DATA TABLE

SUPPORT LOCATION	PILE TYPE	REQUIRED NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)	NOMINAL DRIVING RESISTANCE (kips)
		COMPRESSION	TENSION			
Abutment 1 (Left and Right)	Class 140 Alternative "W" (Mod)	270	0	3076 (a)	3076	270
Abutment 4 (Left)	Class 140 Alternative "W" (Mod)	270	0	3074 (a)	3074	270
Abutment 4 (Right)	Class 140 Alternative "W" (Mod)	270	0	3073 (a)	3073	270

NOTE: 1) Design Tip Elevations are controlled by: (a) Compression,
2) Left and Right widenings are in reference to looking eastward up station
3) "Modified" Class 140, Alternative "W" pipe pile is to be driven with either flat or conical steel tip welded to pile tip. See: "ABUTMENT DETAILS NO. 1" sheet.

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

Design:
AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated November 2011

Seismic Design:
Caltrans Seismic Design Criteria (SDC), Version 1.6, November 2010

Dead Load:
Wearing Surface will be placed as part of this project

Live Loading:
HL93 and permit design load

Seismic Loading:
Soil profile: vs30 = 300 m/s
Moment Magnitude: M max = 7.8
Peak Ground Acceleration = 1.07g

Concrete:
f_y = 60 ksi
f'_c = 3.6 ksi (except as shown on "concrete strength and type limits")
n= 8.

INDEX TO PLANS

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	H. Barbhaiya/ M. Tran/ H.I	R. Wang
QUANTITIES	F. Tannous/R. Padre	R. Novik/ J. Kliéby/J. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
03-14-13		11-18-13 12-11-13	2	25

FILE => 54-0561-b-itp_01.dgn

USERNAME => 6124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1062	1168

REGISTERED CIVIL ENGINEER — 8/26/13 DATE

3-3-14 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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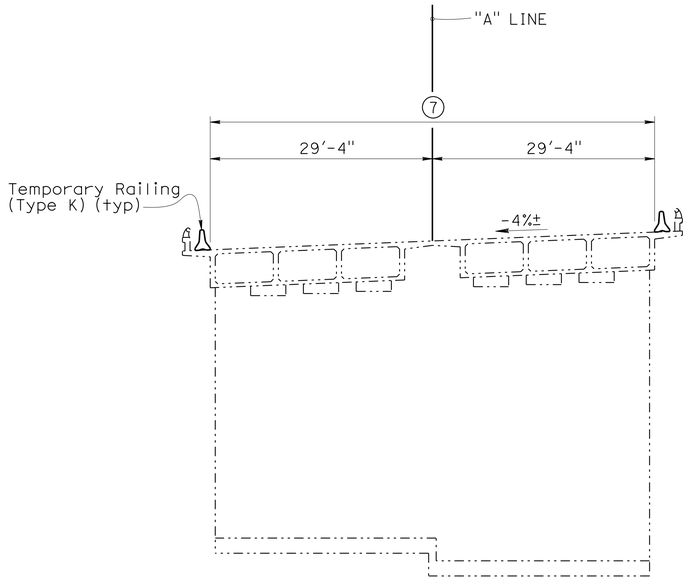
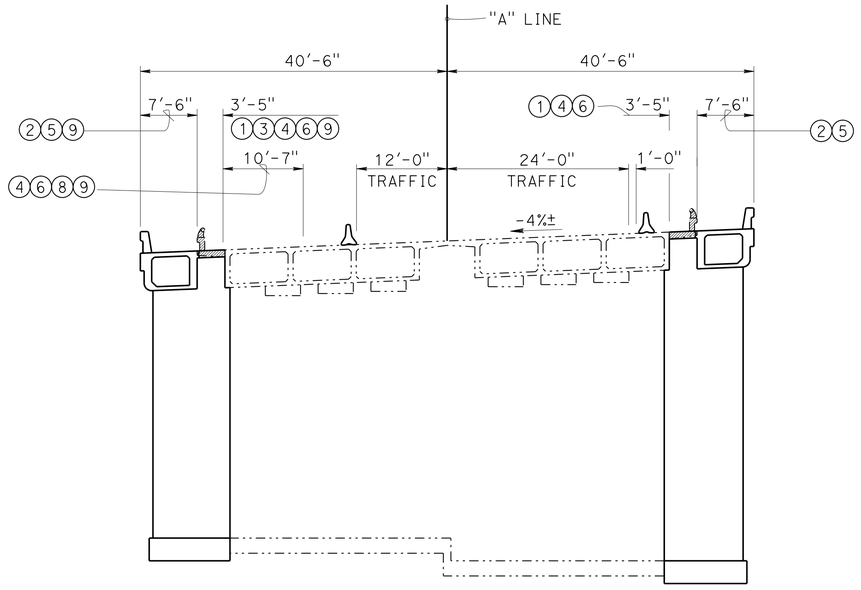


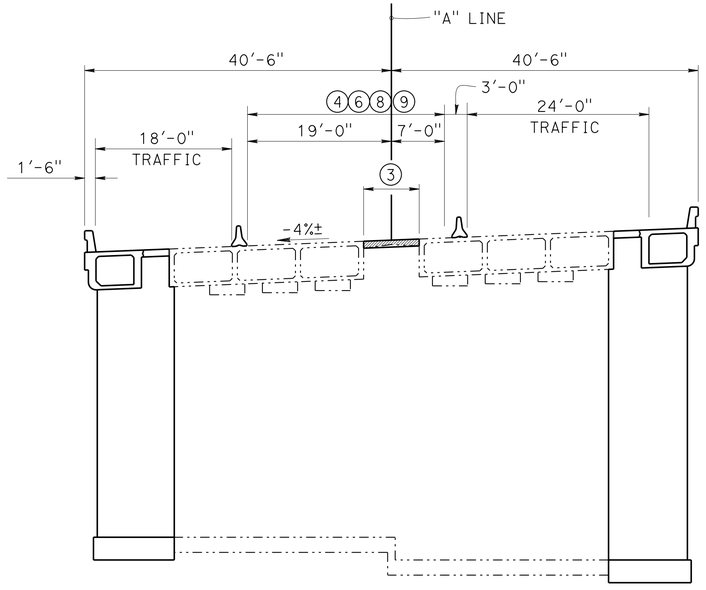
STAGE 1- PHASE A CONSTRUCTION

1" = 10'



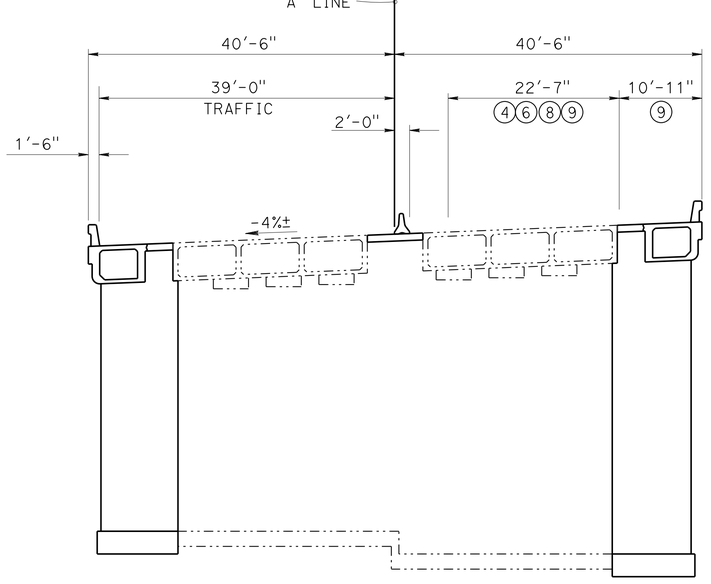
STAGE 1- PHASE B CONSTRUCTION

1" = 10'



STAGE 2- PHASE A CONSTRUCTION

1" = 10'



STAGE 2- PHASE B CONSTRUCTION

1" = 10'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

1. Remove Existing Barrier Rail and Existing Overhang
2. Construct Outside Bridge Widening, including Barrier Rail Type 736 (mod)
3. Place Closure Pour
4. Place Geocomposite Drain at existing abutments
5. Place Structure Approach Slab Type N(30D)
6. Place Structure Approach Type R(30D)
7. Remove AC Overlay on Bridge Deck
8. Prepare Bridge Deck surface and place high molecular weight Methacrylate Resin Prime coat
9. Place 2" Polyester Concrete Overlay. (Do not place under Barrier Rail Type 736 (mod)

QUANTITIES

REMOVE ASPHALT CONCRETE SURFACING	11,787	SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	17,410	SQFT
FURNISH POLYESTER CONCRETE OVERLAY	2,902	CF
PLACE POLYESTER CONCRETE OVERLAY	17,410	SQFT
CORE CONCRETE	15	LF
BRIDGE REMOVAL (PORTION), LOCATION A	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	844	CY
STRUCTURE BACKFILL (BRIDGE)	661	CY
FURNISH PILING (CLASS 140) (ALTERNATIVE W) (MODIFIED)	333	LF
DRIVE PILE (CLASS 140) (ALTERNATIVE W) (MODIFIED)	8	EA
STRUCTURAL CONCRETE, BRIDGE FOOTING	94	CY
STRUCTURAL CONCRETE, BRIDGE	622	CY
AGGREGATE BASE (APPROACH SLAB)	20	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R MODIFIED)	197	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N MODIFIED)	45	CY
CONCRETE SURFACE TEXTURE	500	SQFT
DRILL AND BOND DOWEL	400	LF
JOINT SEAL (MR 1")	210	LF
BAR REINFORCING STEEL (BRIDGE)	108,118	LB
BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	96,269	LB
PREPARE AND STAIN CONCRETE	40,776	SQFT
CONCRETE BARRIER (TYPE 736 MODIFIED)	525	LF

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	F. Hosseinioun/H.I.	R. Wang
QUANTITIES	F. Tannous/R. Padre	R. Novik/ J. Klieby/J. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)

STAGE CONSTRUCTION

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000606
CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05-14-13	07-31-13	11-18-13	12-12-13	3	25

FILE => 54-0561-c-stagg_1.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

HYDRAULIC SUMMARY			
Drainage Area: 24.7 SQUARE MILES			
	DESIGN FLOOD	BASE FLOOD	OVERTOPPING FLOOD
Frequency (YEARS)	50	100	N/A
Discharge (cfs)	9177	13157	N/A
Average Velocity (fps)	20.1	N/A	N/A
Minimum Soffit Elevation (feet)	3115.9	N/A	N/A

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1063	1168

REGISTERED CIVIL ENGINEER — DATE 8/26/13

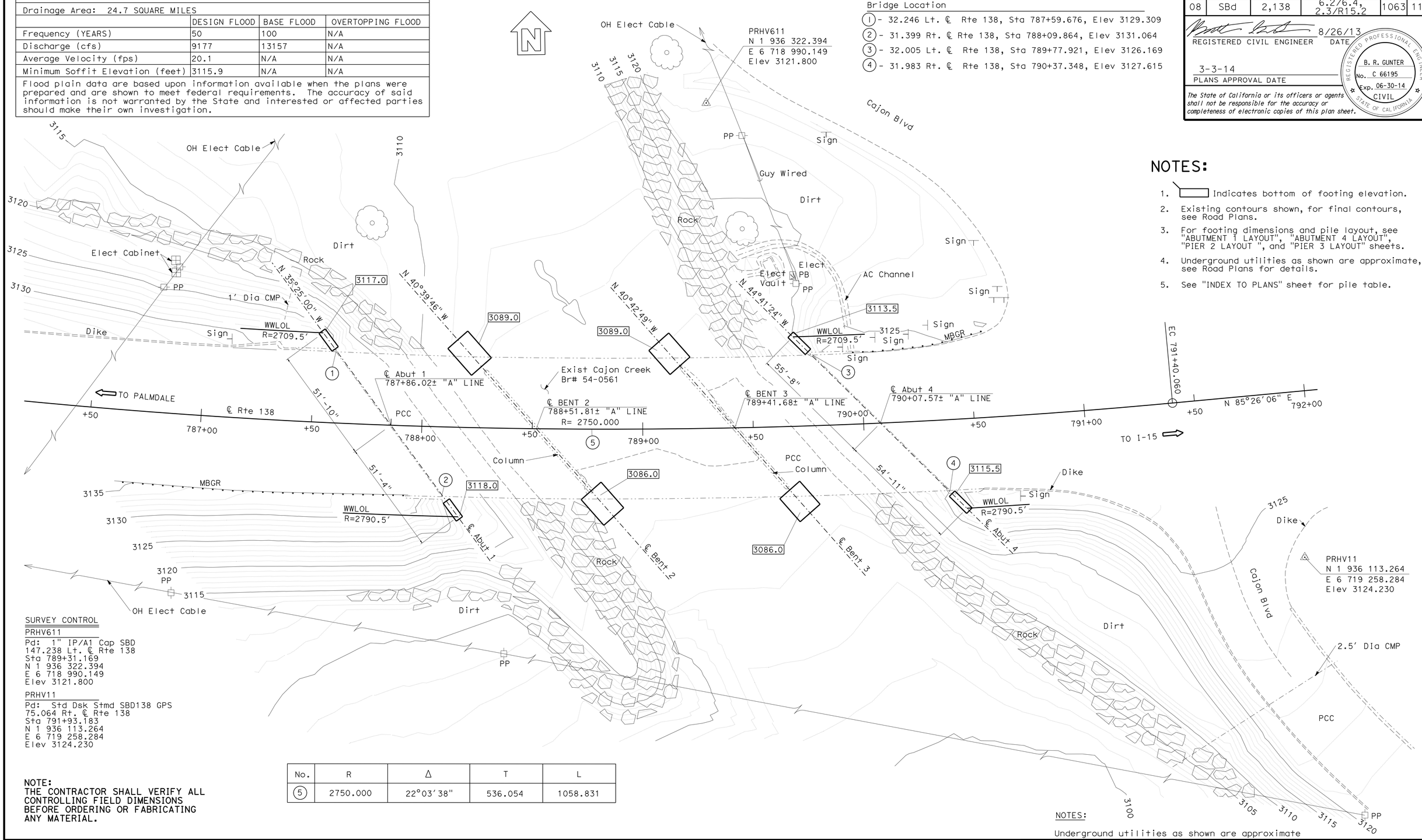
REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Bridge Location

(1) - 32.246 Lt. ℄ Rte 138, Sta 787+59.676, Elev 3129.309
(2) - 31.399 Rt. ℄ Rte 138, Sta 788+09.864, Elev 3131.064
(3) - 32.005 Lt. ℄ Rte 138, Sta 789+77.921, Elev 3126.169
(4) - 31.983 Rt. ℄ Rte 138, Sta 790+37.348, Elev 3127.615



SURVEY CONTROL

PRHV611

Pd: 1" IP/A1 Cap SBD
147.238 Lt. ℄ Rte 138
Sta 789+31.169
N 1 936 322.394
E 6 718 990.149
Elev 3121.800

PRHV11

Pd: Std Dsk Stmd SBD138 GPS
75.064 Rt. ℄ Rte 138
Sta 791+93.183
N 1 936 113.264
E 6 719 258.284
Elev 3124.230

No.	R	Δ	T	L
(5)	2750.000	22°03'38"	536.054	1058.831

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

1. ▭ Indicates bottom of footing elevation.
2. Existing contours shown, for final contours, see Road Plans.
3. For footing dimensions and pile layout, see "ABUTMENT 1 LAYOUT", "ABUTMENT 4 LAYOUT", "PIER 2 LAYOUT ", and "PIER 3 LAYOUT" sheets.
4. Underground utilities as shown are approximate, see Road Plans for details.
5. See "INDEX TO PLANS" sheet for pile table.

NOTES:
Underground utilities as shown are approximate

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NGVD29	PHOTOGRAMMETRY AS OF: X		
	HORZ.DATUM NAD83	SURVEYED BY T. Phung	CHECKED BY E. Viajar	
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED BY C. Pham	CHECKED BY E. Viajar	

DESIGN	BY J. Torres	CHECKED R. Wang
DETAILS	BY H. Barbhaiya/H. Iniguez	CHECKED R. Wang
QUANTITIES	BY F. Tannous/ R. Padre	CHECKED R. Novik/ J. Klieby/ J. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
FOUNDATION PLAN

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3647
PROJECT NUMBER & PHASE: 0800000609 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
04/15/13		08-22-13	07-31-13	4	25

FILE => 54-0561-e-fp01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1064	1168

10/03/13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

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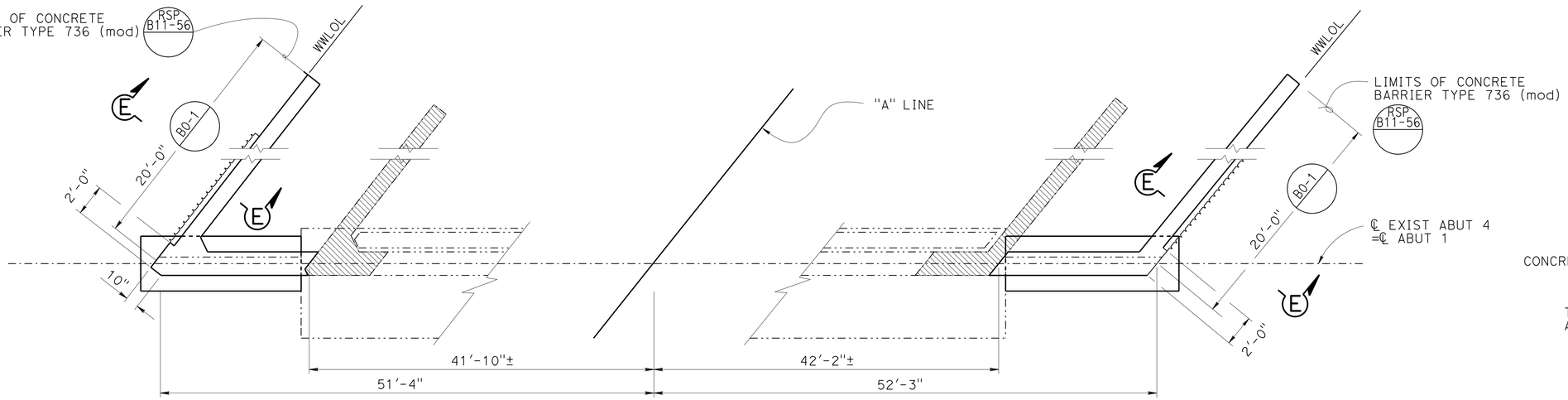
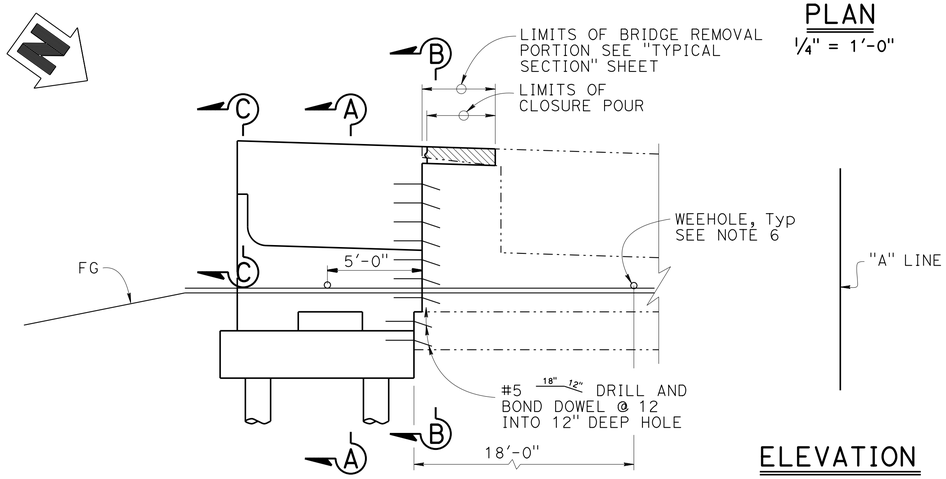
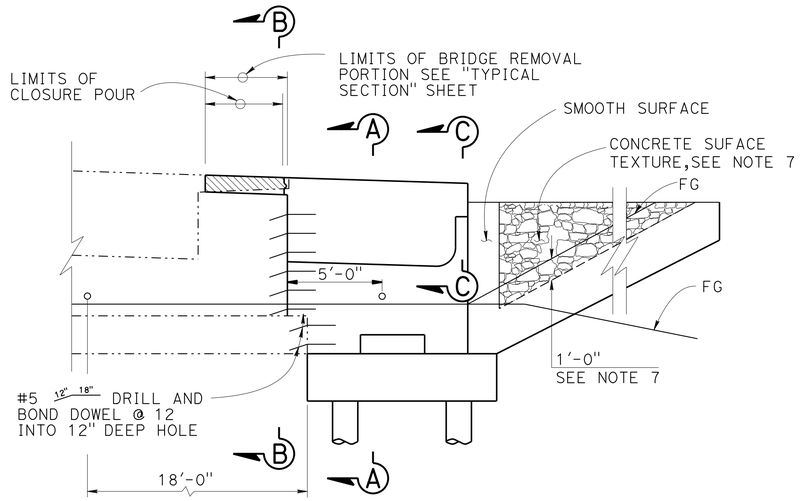
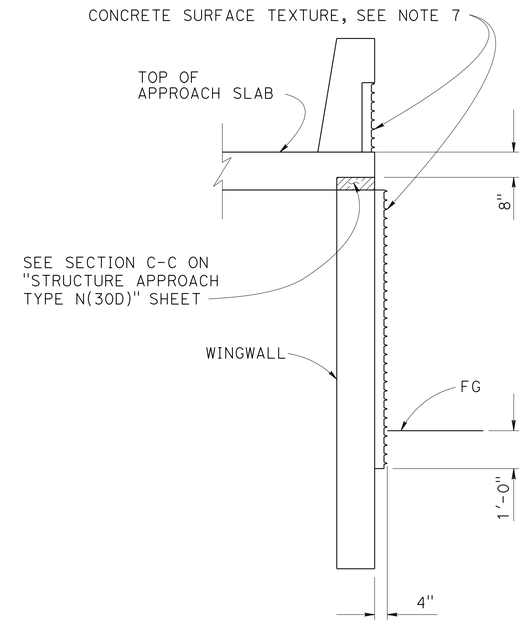


PLAN
1/4" = 1'-0"



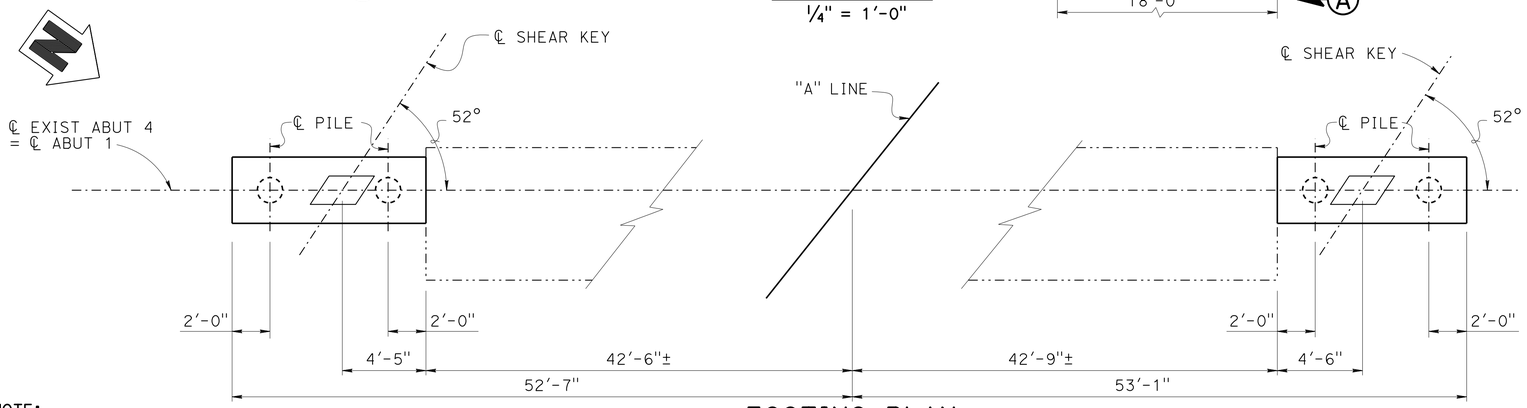
ELEVATION
1/4" = 1'-0"





SECTION E-E
1/2" = 1'-0"

B0-1 EXCEPT AS NOTED



FOOTING PLAN
1/4" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALLCONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND:

- Indicates Existing Structure
- Bridge Removal Portion See "ABUTMENT DETAILS NO. 1" sheet & "TYPICAL SECTION" sheets
- 4" Polystyrene

NOTES:

1. For SECTION A-A, B-B and C-C, see "ABUTMENT DETAILS NO.1" sheet.
2. For WINGWALL REMOVAL detail, see "ABUTMENT DETAILS" sheet.
3. The backfill shall be placed simultaneously at both Abutments after the deck has been completed.
4. Barrier not shown.
5. For Shear Key details, see "ABUTMENT DETAILS NO. 1" sheet
6. For details see "ABUTMENT DETAILS NO. 2" and "STRUCTURE APPROACH DRAINAGE DETAILS" sheets.
7. Architectural Treament limit typical at all 4 wingwalls, see "ARCHITECTURAL TREAMENT NO. 1" and "ARCHITECTURAL TREATMENT NO. 2" sheets for more details.

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	H. Mahboobi/H. Iniguez	R. Wang
QUANTITIES	F. Tannous / R. Padre	R. Novik/J. Klieby/J. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
ABUTMENT 1 LAYOUT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05-13-13		11-18-13	09-26-13	5	25

FILE => 54-0561-f_a1_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1065	1168

10/03/13
REGISTERED CIVIL ENGINEER DATE

B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

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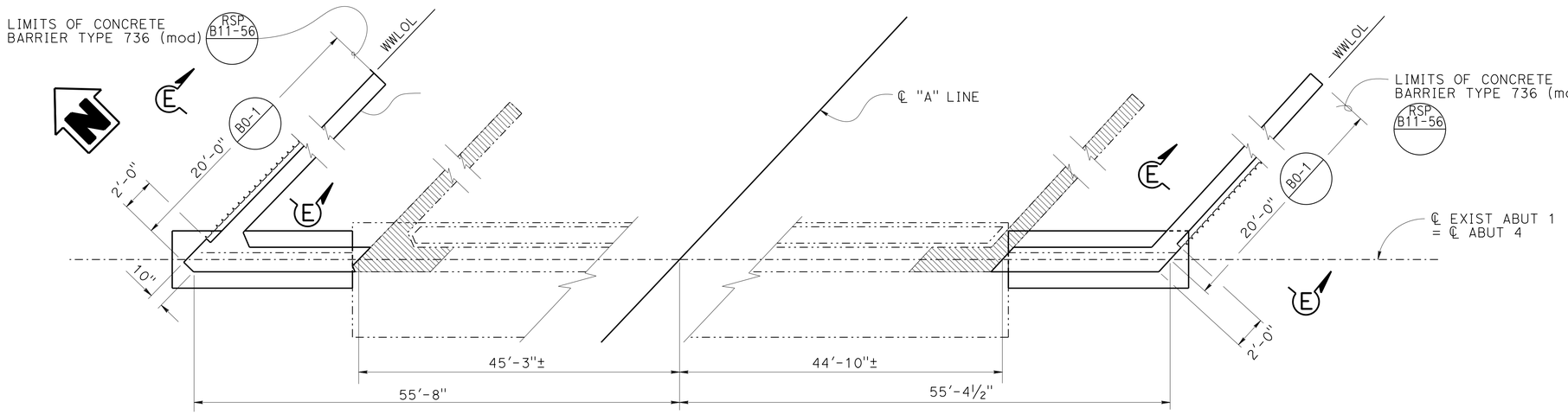
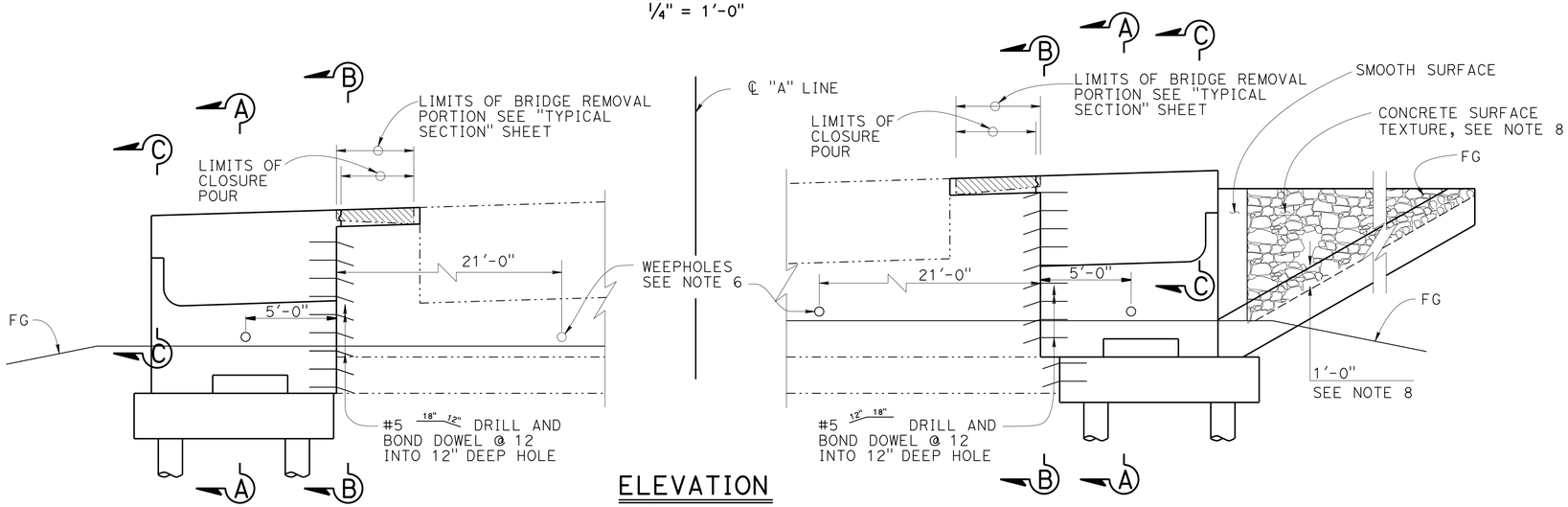
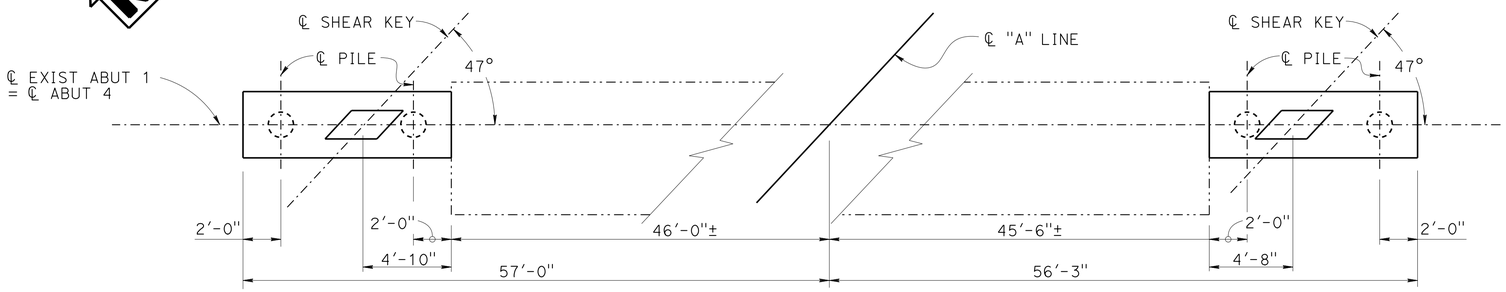


PLAN
¼" = 1'-0"



ELEVATION
¼" = 1'-0"



FOOTING PLAN
¼" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALLCONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

1. For SECTION A-A, B-B and C-C, see "ABUTMENT DETAILS NO.1" sheet.
2. For WINGWALL REMOVAL detail, see "ABUTMENT DETAILS 1" sheet.
3. The backfill shall be placed simultaneously at both Abutments after the deck has been completed.
4. Barrier not shown.
5. For Shear Key details, see "ABUTMENT DETAILS NO.1" sheet
6. For details see "ABUTMENT DETAILS NO. 2" and "STRUCTURE APPROACH DRAINAGE DETAILS" sheets.
7. For SECTION E-E, see "ABUTMENT 1 LAYOUT"sheet.
8. Architectural Treament limit typical at all 4 wingwalls, see "ARCHITECTURAL TREAMENT NO. 1" and "ARCHITECTURAL TREATMENT NO. 2" sheets for more details.

LEGEND:

Indicates Existing Structure

Bridge Removal Portion See "ABUTMENT DETAILS NO. 1" & "TYPICAL SECTION" sheets

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561
DETAILS	BY H. Barbhaiya/ H. I. F. Hosseinioun	CHECKED R. Wang			POST MILE R14.94
QUANTITIES	BY F. Tannous / R. Padre	CHECKED R. Novik/J. Klieby/J. Duffin			

CAJON CREEK BRIDGE (WIDEN)

ABUTMENT 4 LAYOUT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
05-15-13		09-26-13 11-18-13	6	25

FILE => 54-0561-f_ai_04.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1066	1168

REGISTERED CIVIL ENGINEER — 8/26/13 DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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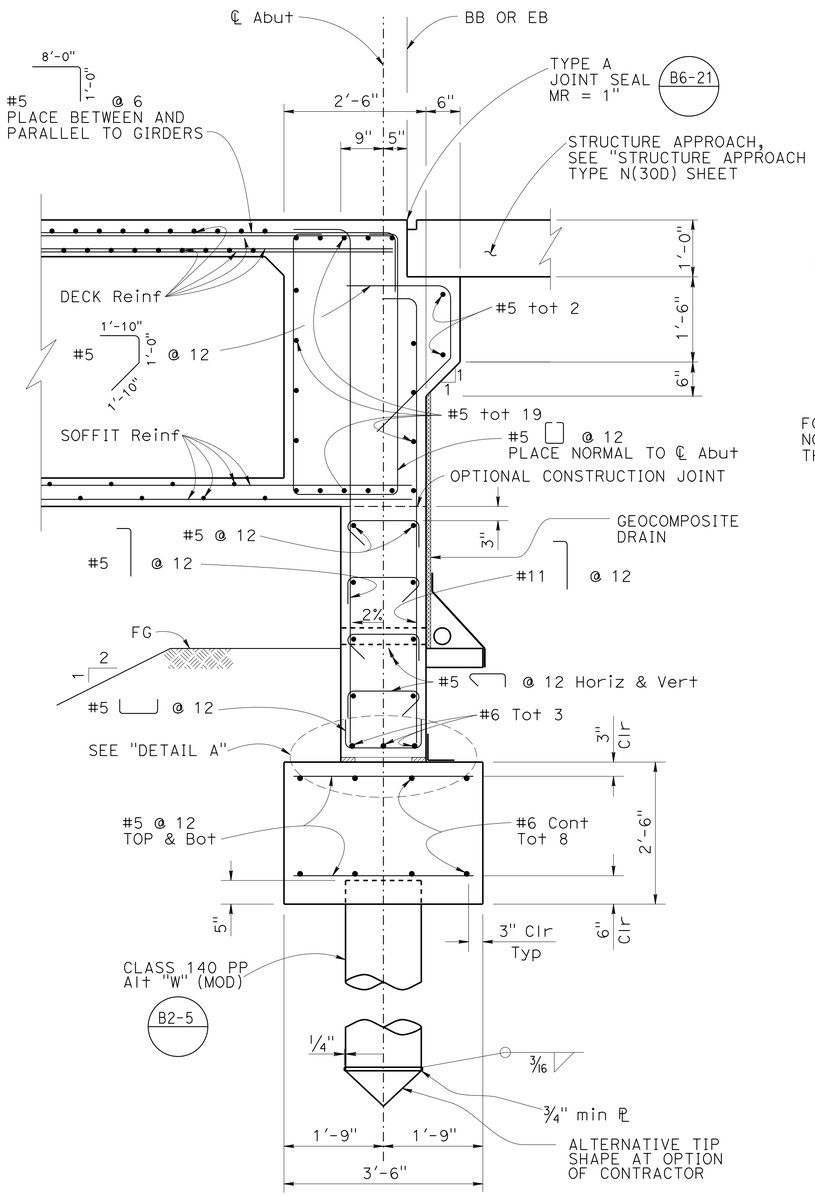
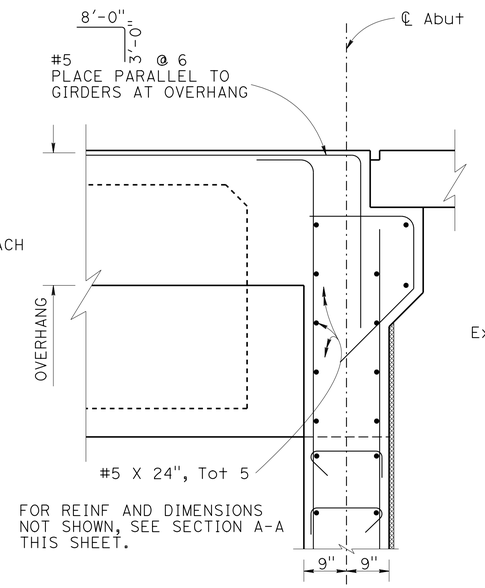
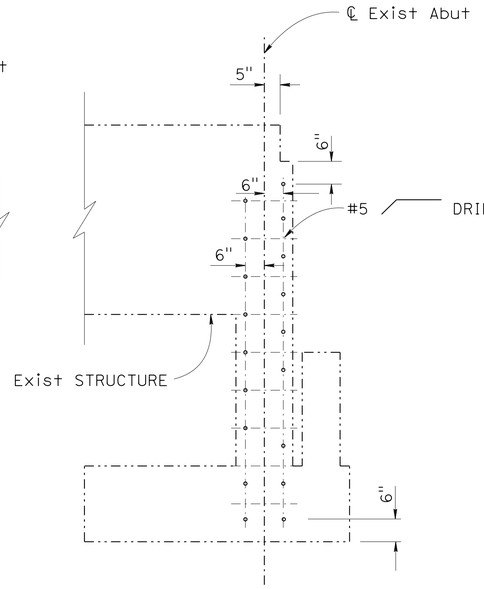


SECTION A-A
3/4" = 1'-0"

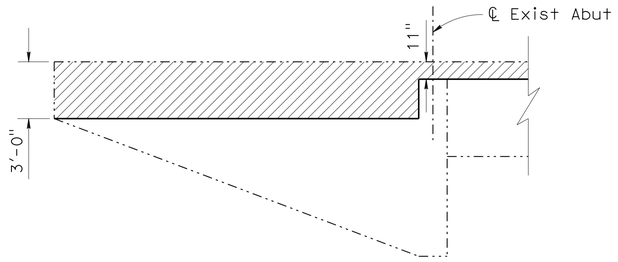


FOR REINF AND DIMENSIONS NOT SHOWN, SEE SECTION A-A THIS SHEET.

SECTION C-C
3/4" = 1'-0"



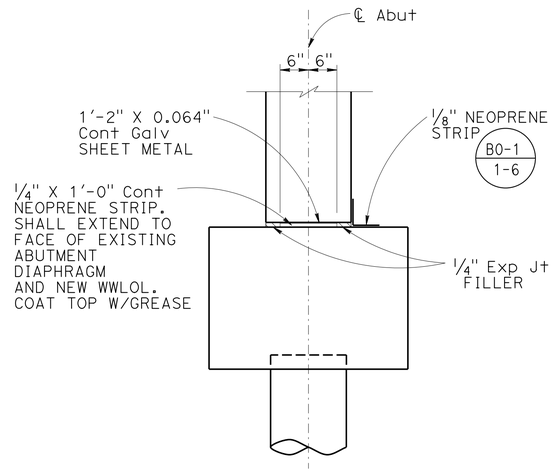
SECTION B-B
1/2" = 1'-0"



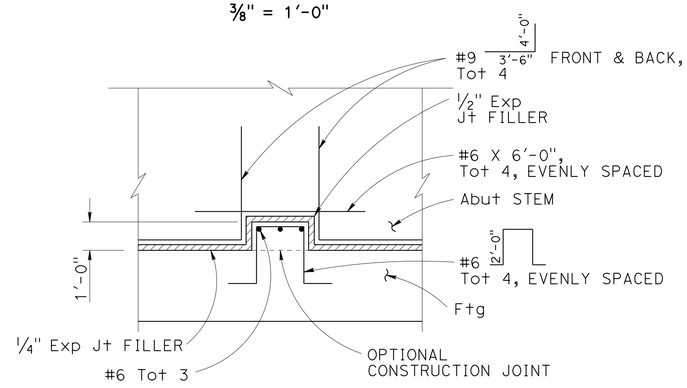
WINGWALL REMOVAL
No Scale

LEGEND
- Bridge Removal Portion
- Existing Structure
- New Structure

TRANSVERSE SHEAR KEY PLAN
3/8" = 1'-0"



DETAIL A
3/4" = 1'-0"



TRANSVERSE SHEAR KEY DETAIL
3/8" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY / H. I. H. Barbhaiya/F. Hosseiniour	CHECKED R. Wang	
QUANTITIES	BY F. Tannnous / R. Padre	CHECKED R. Novik/J. Klieby/J. Duffin	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
ABUTMENT DETAILS NO.1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
5-01-13		12-11-13	11-18-13	7	25

FILE => 54-0561-f-adet_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 13:48

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1067	1168

8/26/13
REGISTERED CIVIL ENGINEER DATE

B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

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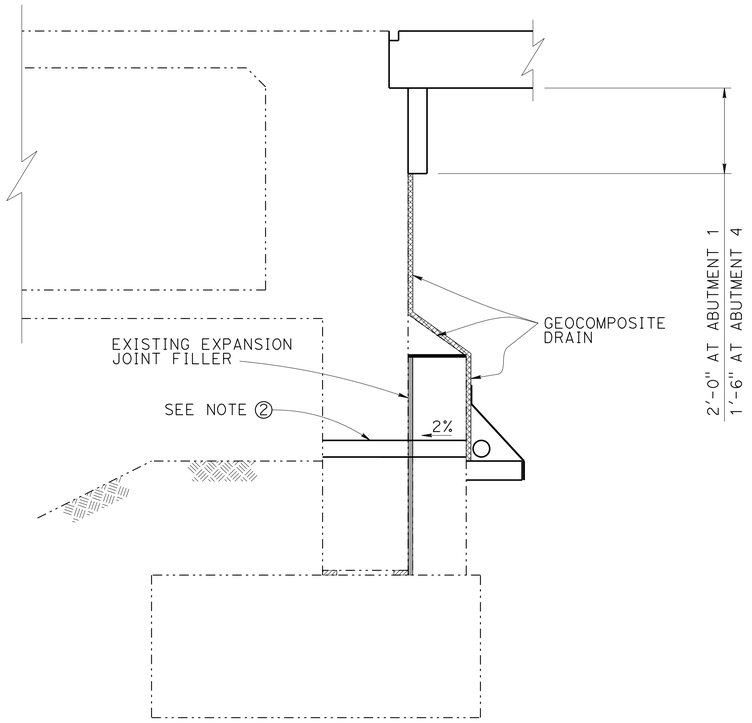
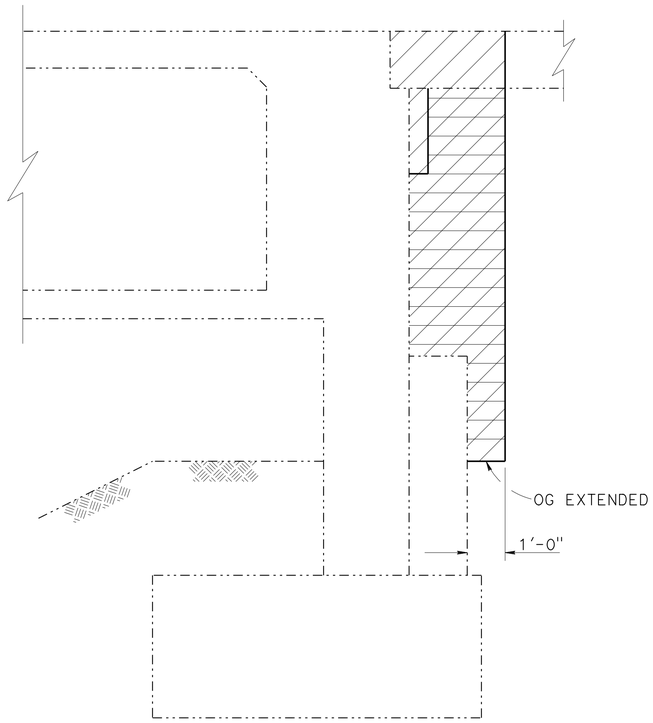


GEOCOMPOSITE DRAIN DETAILS FOR EXISTING ABUTMENTS

½" = 1'-0"



LIMITS OF EXCAVATION AND BACKFILL

½" = 1'-0"

LEGEND:

STRUCTURAL EXCAVATION

STRUCTURAL BACKFILL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

① For details not shown see "STURCTURE APPROACH TYPE R(30D)

② Core total 3, 3½" ø holes per Abutment @ 24'-0" max O.C. Place 3" PVC into cored holes.

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	F. Hosseinioun/ H. I.	R. Wang
QUANTITIES	F. Tannous/R. Padre	R. Novik/J. Klieby/J. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
ABUTMENT DETAILS NO.2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 05-13-13 | 08-28-13 | 12-11-13

SHEET 8 OF 25

FILE => 54-0561-f-adet_02.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 13:48

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1068	1168

REGISTERED CIVIL ENGINEER — 9/9/13 DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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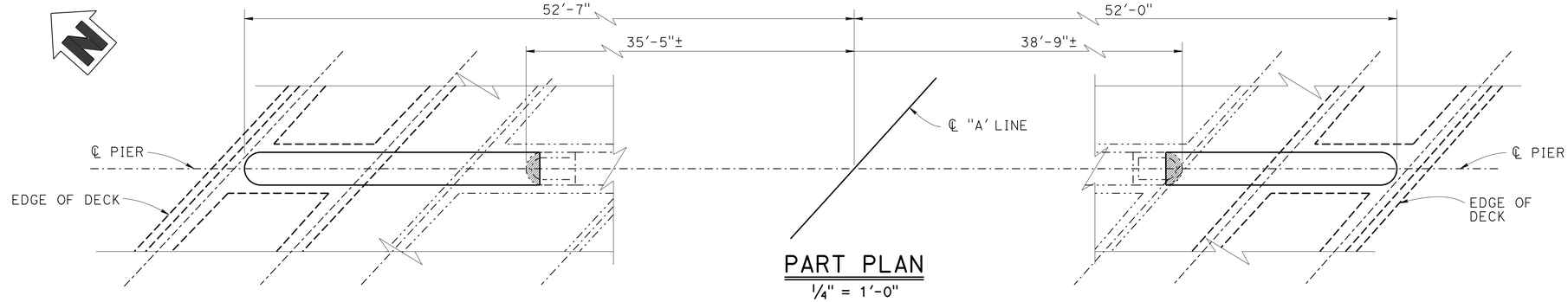
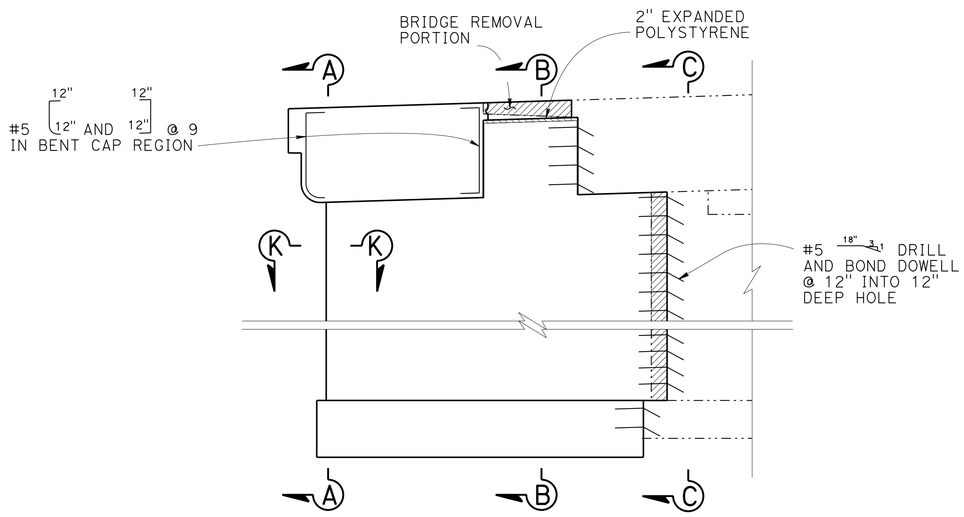
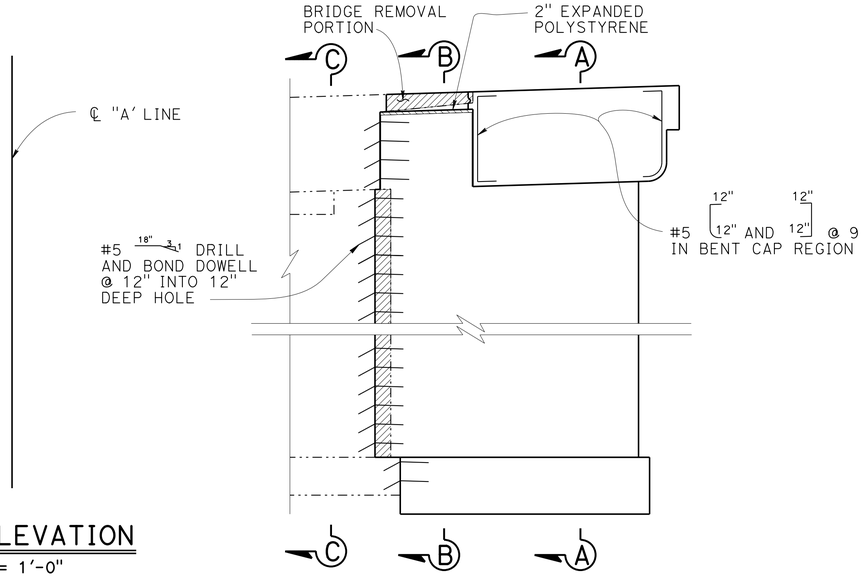
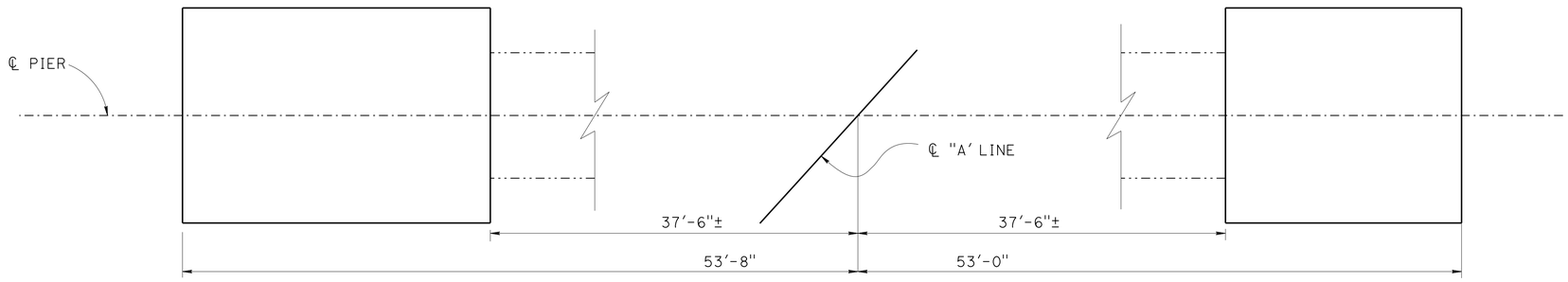


PART PLAN
1/4" = 1'-0"





PART ELEVATION
1/4" = 1'-0"

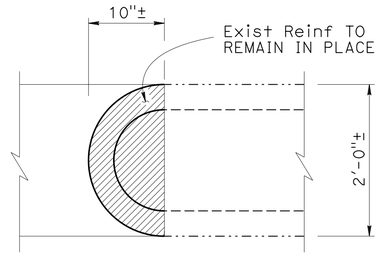


PART FOOTING PLAN
1/4" = 1'-0"

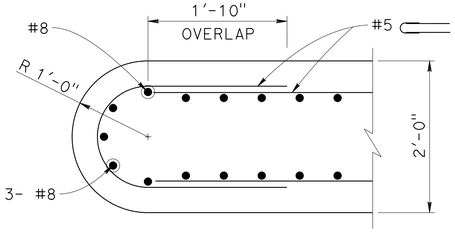
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND:

- Bridge Removal Portion
- Existing sturcture
- New sturcture



PIER NOSE REMOVAL
1" = 1'-0"



SECTION K-K
1" = 1'-0"

NOTE:
Horiz TIE BARS NOT SHOWN

NOTES:

1. For SECTIONS A-A, B-B and C-C see "PIER DETAILS" sheet

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561 / POST MILE R14-.94
DETAILS	BY H. Mahboobi / F. Hosseinioun/ H I.	CHECKED R. Wang			
QUANTITIES	BY F. Tannous/ R. Padre	CHECKED R. Novik/ J. Klieby/ J. Duffin			

CAJON CREEK BRIDGE (WIDEN)
PIER 2 LAYOUT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
10-21-10		09-09-13	11-18-13	9	25

FILE => 54-0561-i_pi_02.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1069	1168

REGISTERED CIVIL ENGINEER — 9/9/13 DATE

B. R. GUNTER No. C 66195 Exp. 06-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

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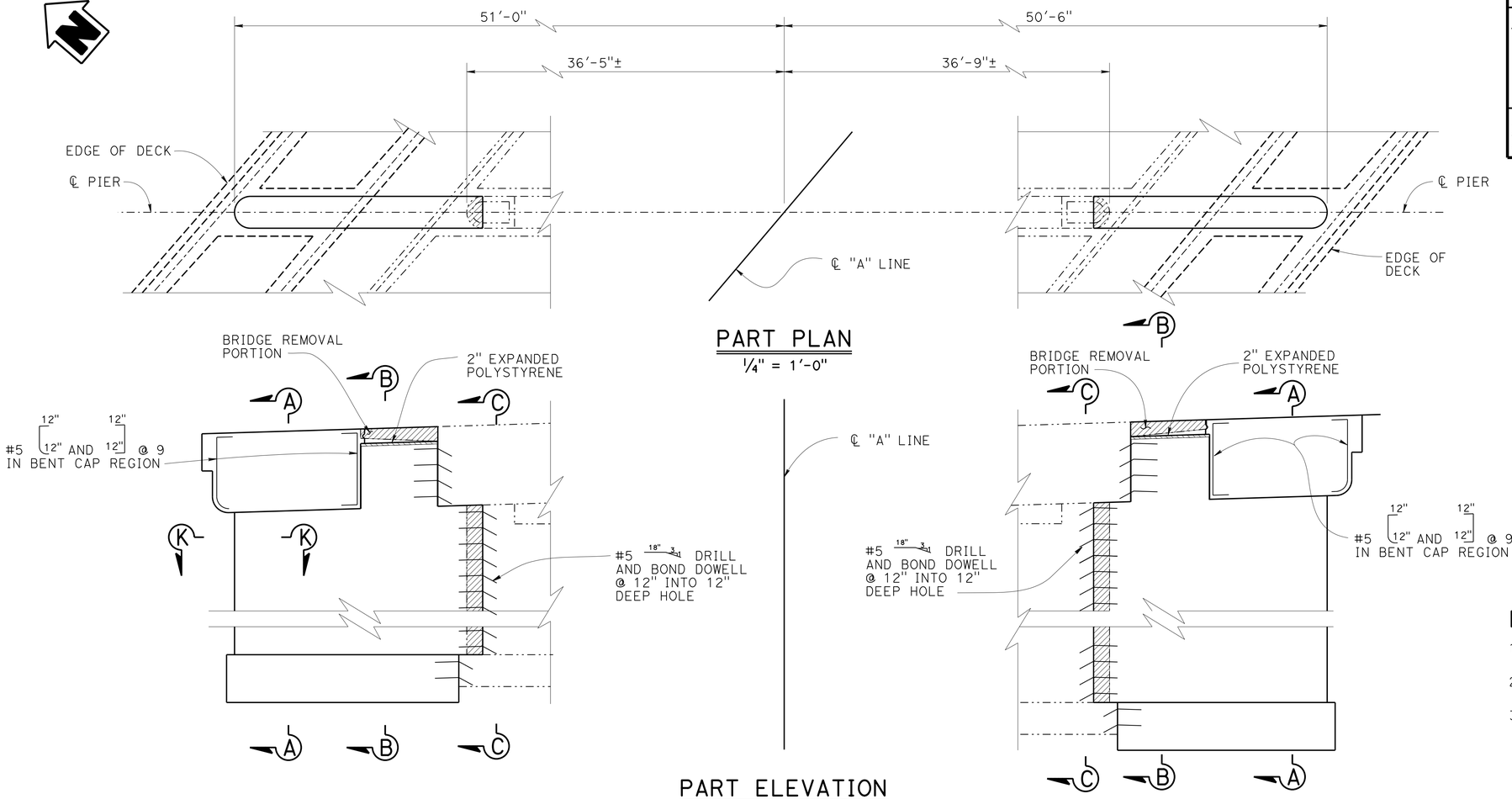
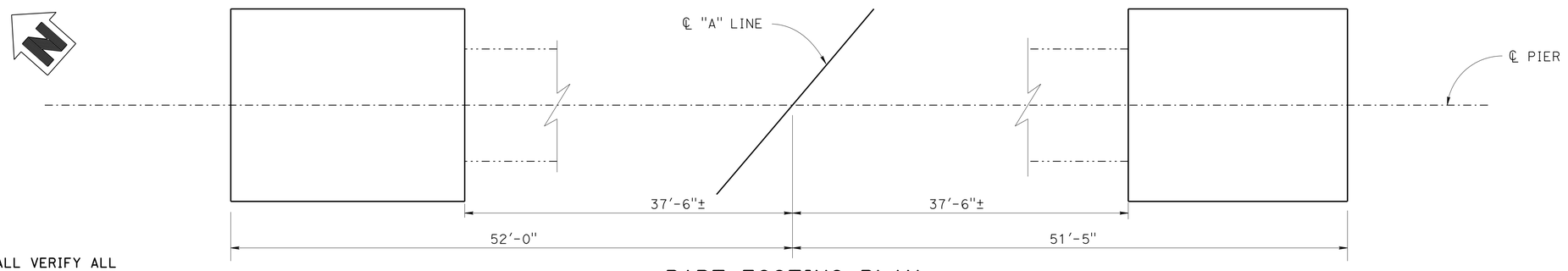


PART PLAN
1/4" = 1'-0"

PART ELEVATION
1/4" = 1'-0"



PART FOOTING PLAN
1/4" = 1'-0"

LEGEND:

- Bridge Removal Portion
- Existing sturcture
- New sturcture

NOTES:

1. For Pier Nose details see "PIER 2 LAYOUT" sheet
2. For Section K-K see "PIER 2 LAYOUT" sheet
3. For Sections "A-A" ,"B-B" and "C-C" see "PIER DETAILS" sheet

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	H. B./ F. Hosseinioun/ H. I	R. Wang
QUANTITIES	F. Tannous/R. Padre	R. Novik/J. Klieby/M. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
PIER 3 LAYOUT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 10-21-10 | 12-12-13 | 11-18-13

SHEET 10 OF 25

FILE => 54-0561-1_pl_03.dgn

USERNAME => s124096 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1070	1168

10/03/13
REGISTERED CIVIL ENGINEER DATE

B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

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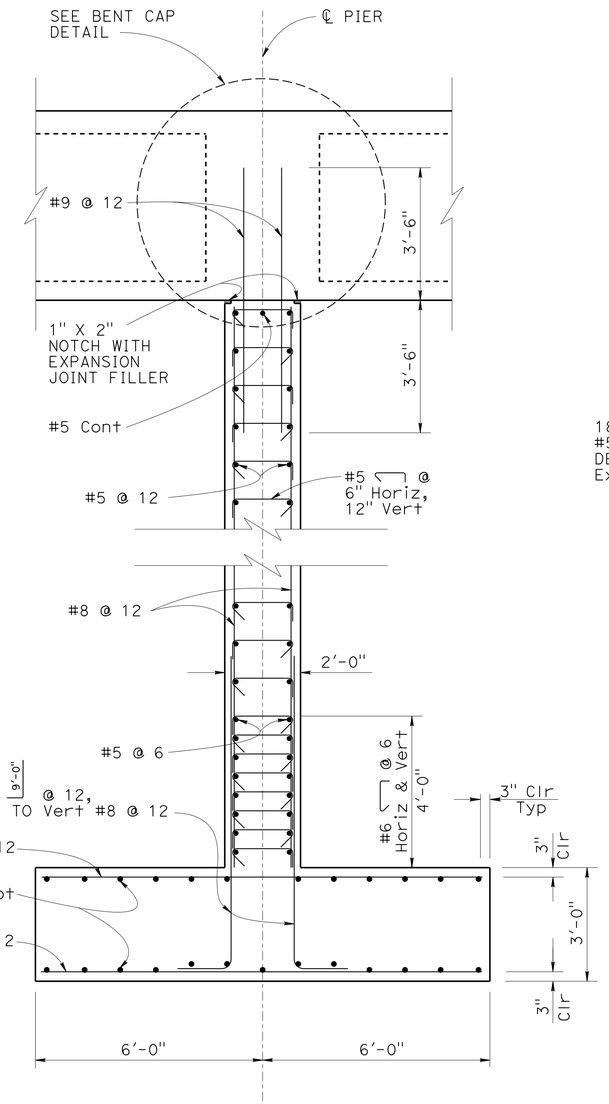
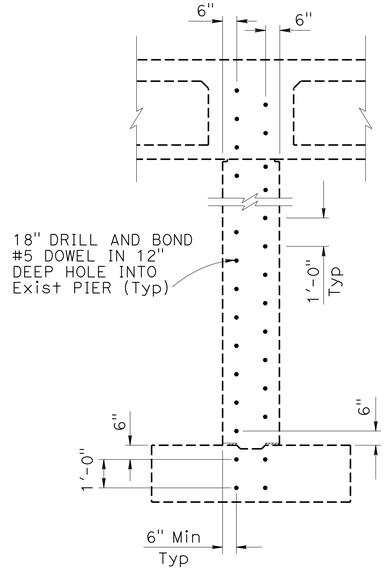
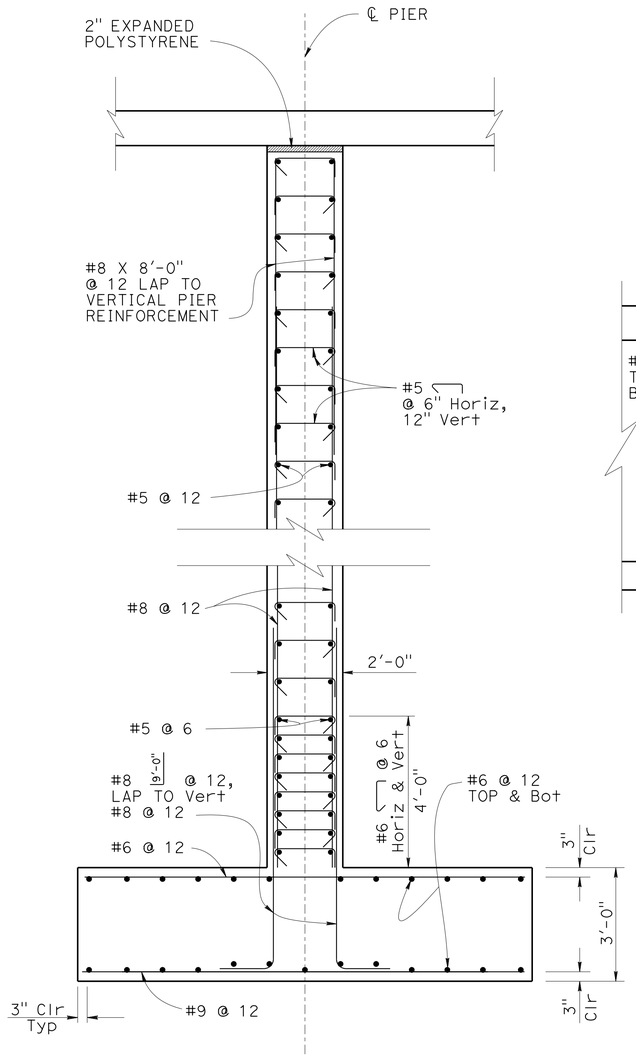


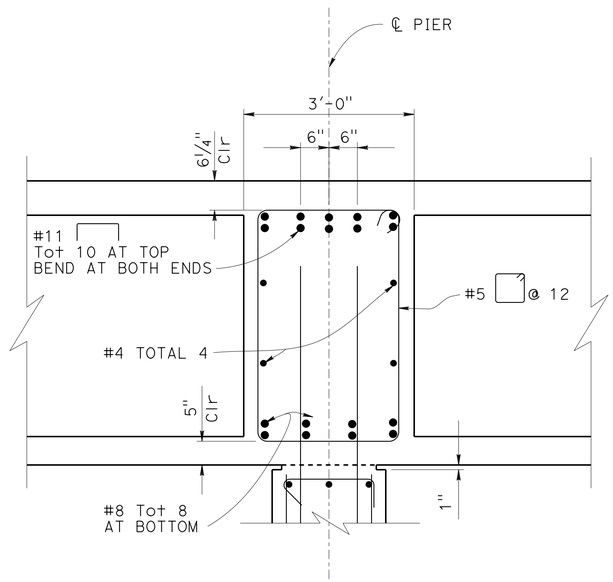
SECTION A-A
½" = 1'-0"



SECTION C-C
⅜" = 1'-0"



SECTION B-B
½" = 1'-0"



BENT CAP DETAIL
¾" = 1'-0"

NOTE:

1. For locations of "SECTION A-A, B-B AND C-C" see " PIER 2 LAYOUT" and sheet "PIER 3 LAYOUT" sheets

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY H. B./F. Hosseinioun/H.I.	CHECKED R. Wang	
QUANTITIES	BY F. Tannous/R. Padre	CHECKED R. Novick/J. Klieby/J. Duffin	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
PIER DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-01-13		09-01-13	10-01-13	11	25

FILE => 54-0561-i-pdet_01.dgn

DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44
USERNAME => s124096

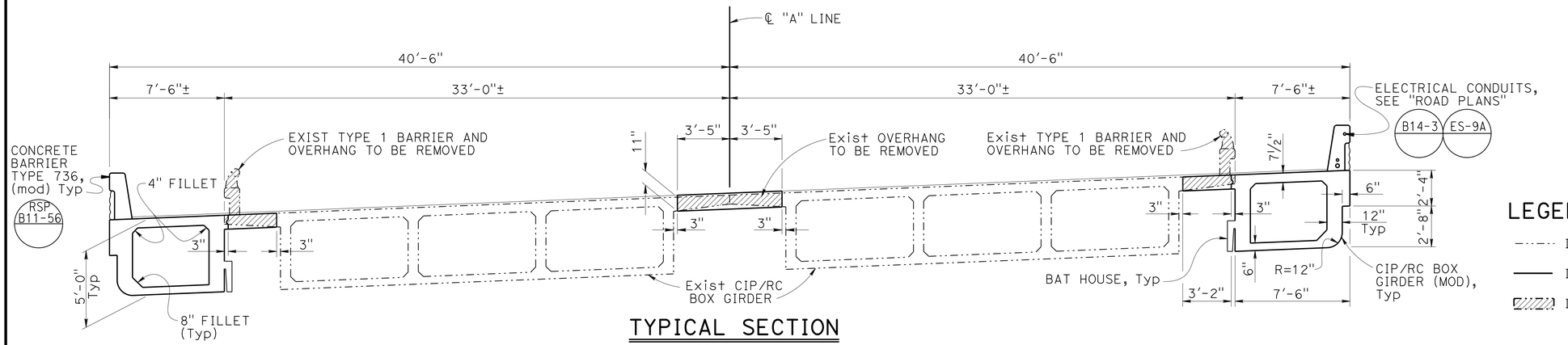
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1071	1168

REGISTERED CIVIL ENGINEER — DATE 10/03/13

3-3-14
PLANS APPROVAL DATE

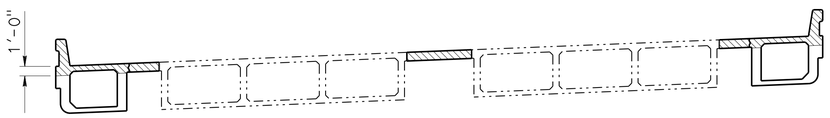
REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



TYPICAL SECTION

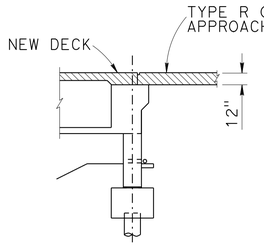
1/4" = 1'-0"



EPOXY COATED REINFORCEMENT LIMITS

1/8" = 1'-0"

All reinforcement within or extending into this area shall be epoxy coated in their entirety.



ABUTMENT

NO SCALE

FALSEWORK RELEASE

Alternative 1:

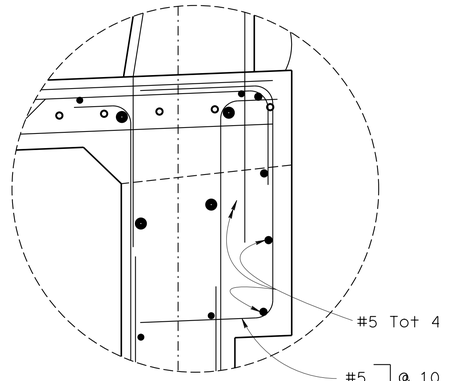
Falsework shall be released as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework had been released.

Alternative 2:

Falsework shall not be released less than 28 days after the last concrete has been placed. Closure pour shall not be placed sooner than 14 days after the falsework has been released.
When Falsework Release Alternative 2 is used, camber values are 0.75 times those shown.

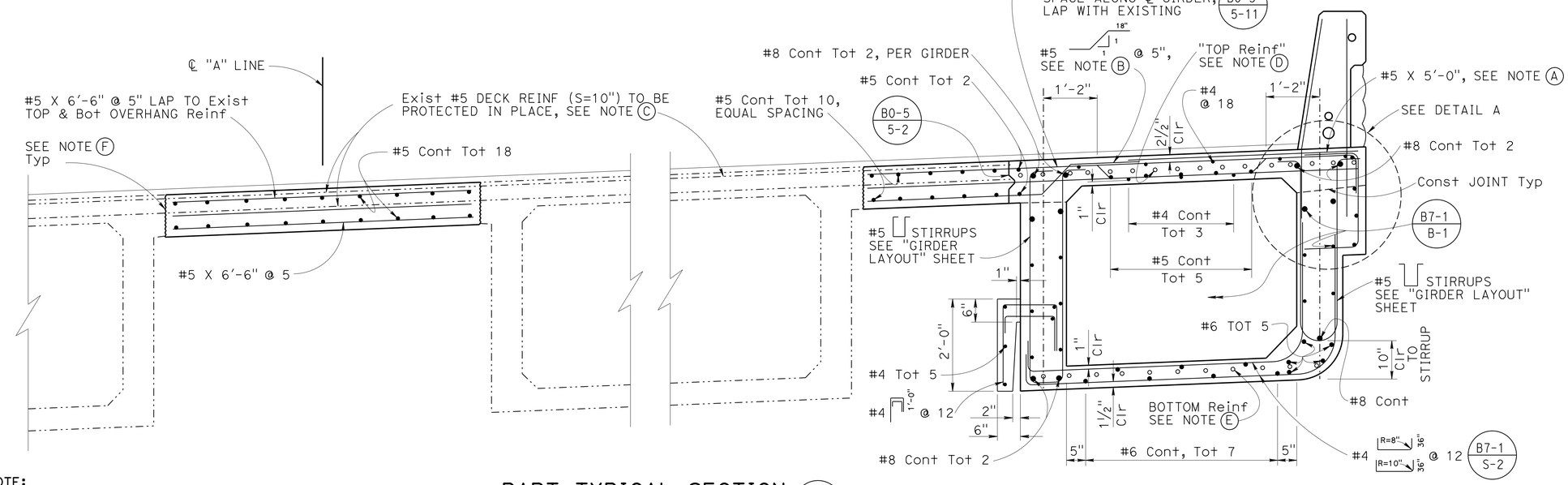
LEGEND:

- Indicates Exist Structure
- Indicates New Structure
- Indicates Bridge Removal



DETAIL A

1½" = 1'-0"



PART TYPICAL SECTION

B0-5

¾" = 1'-0"

NOTES:

(A) Bar shall be placed within 5'-0" of BB & EB, bundle with alternate top transverse bars.

(B) Adjust bars as needed. B0-5 5-11

(C) Field bend the existing deck reinf as necessary to provide 2½" deck cover as required.

(D) For "Top Reinforcement", see "GIRDER REINFORCEMENT NO. 1" and "GIRDER REINFORCEMENT NO. 2" sheets.

(E) For "Bottom Reinforcement" see "GIRDER REINFORCEMENT NO. 3" and "GIRDER REINFORCEMENT NO. 4" sheets.

(F) Roughen existing concrete surface to ¼" amplitude

(G) For stirrup spacing, see "GIRDER LAYOUT" sheet.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	H. Barbhaiya / H. M.	R. Wang
QUANTITIES	F. Tannous / R. Padre	R. Novik/J. Klieby/J. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)

TYPICAL SECTION

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
05-05-13		11-18-13	12-12-13	12	25

FILE => 54-0561-k-ts_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1072	1168

8/26/13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

NOTES:

(A) ▭ Indicates Girder Stem width in inches

(B) Girder, Soffit, flare, & ⋃ or ⋂ stirrup spacing measured along ℄ of girder.

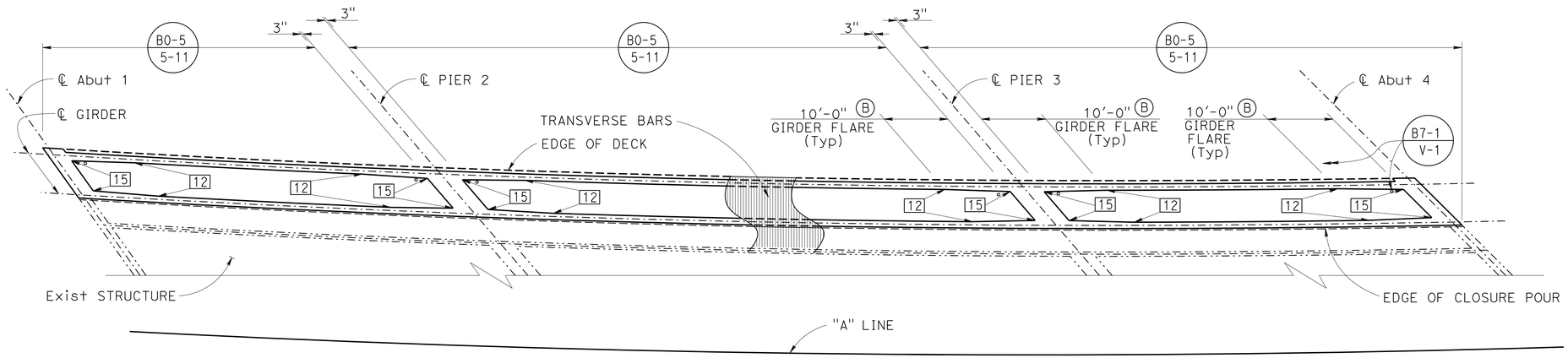
(C) –·–·–·– Indicates existing structure.

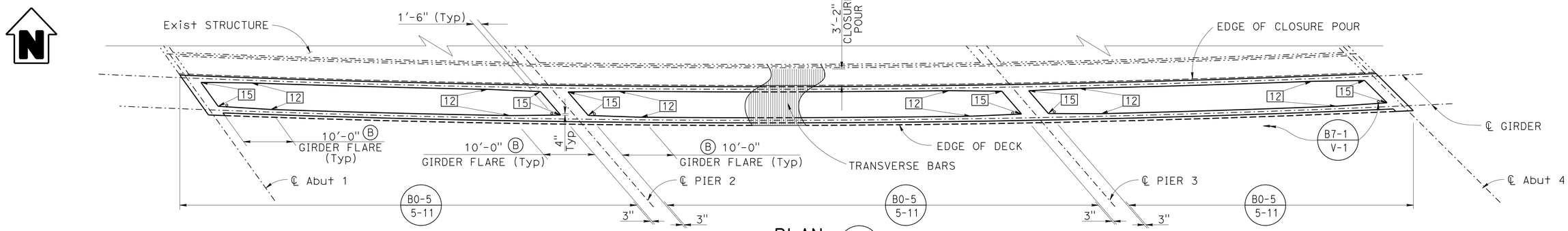
(D) Place B0-5 / 5-11 normal to ℄ girder.

(E) Extend alternate top transverse Reinf, 1'-6" Min into diaphragm. Stop remaining transverse Reinf 3" from face of Abut.

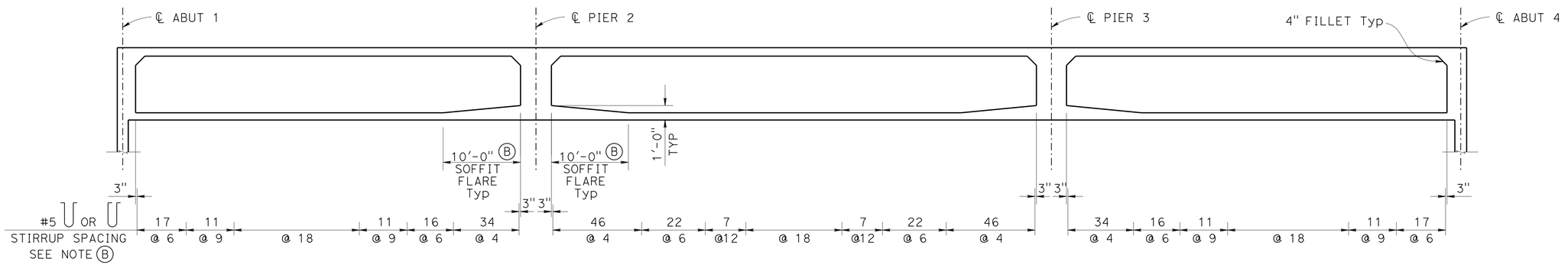
(F) • Soffit Vent B7-1 / V-1

(G) Transverse Soffit Reinforcement to be placed similar to Transverse Deck Reinforcement





PLAN
1" = 10'-0" B7-1 / V-1



LONGITUDINAL SECTION
NO SCALE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY	CHECKED
DESIGN	J. Torres	R. Wang
DETAILS	H. Barbhaiya / H. M.	R. Wang
QUANTITIES	F. Tannous / R. Padre	R. Novik/J. Klieby/J. Duffin

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
GIRDER LAYOUT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-02-13		08-22-13	07-31-13	13	25

FILE => 54-0561-1-gl_01.dgn

USERNAME => s124396 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1073	1168

REGISTERED CIVIL ENGINEER — 8/26/13 DATE

3-3-14 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER No. C 66195 Exp. 06-30-14 CIVIL — STATE OF CALIFORNIA

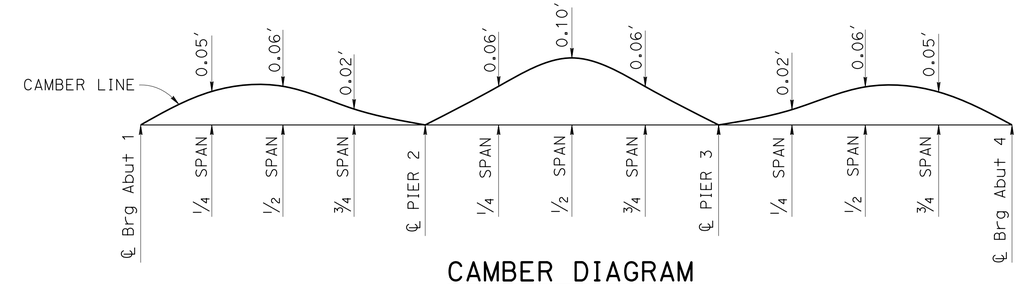
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

NOTES:

Ⓐ Not all bars shown, see "TYPICAL SECTION" sheet.

Ⓑ All longitudinal reinforcement and dimensions are parallel to ℄ girder

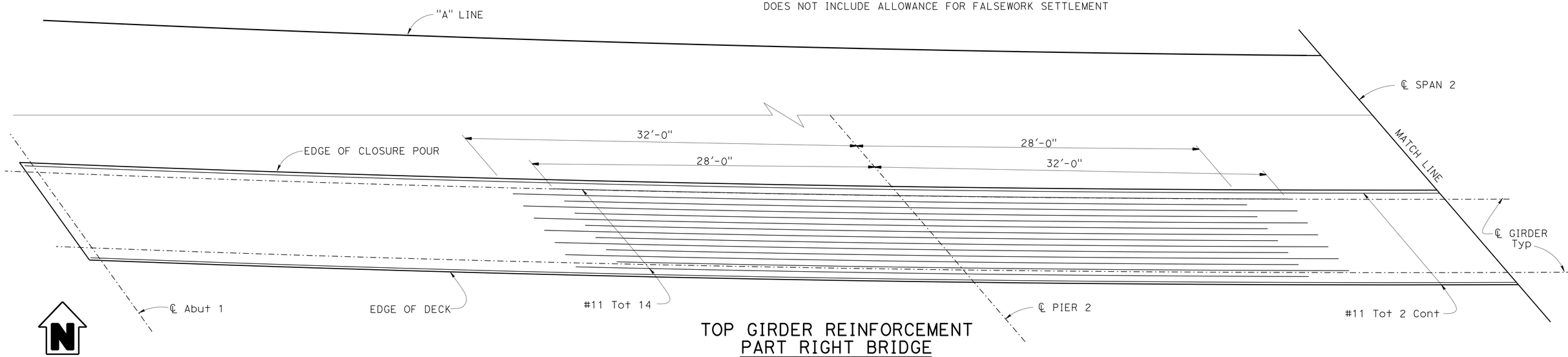
Ⓒ Service Splice required for all #11 Cont.



CAMBER DIAGRAM

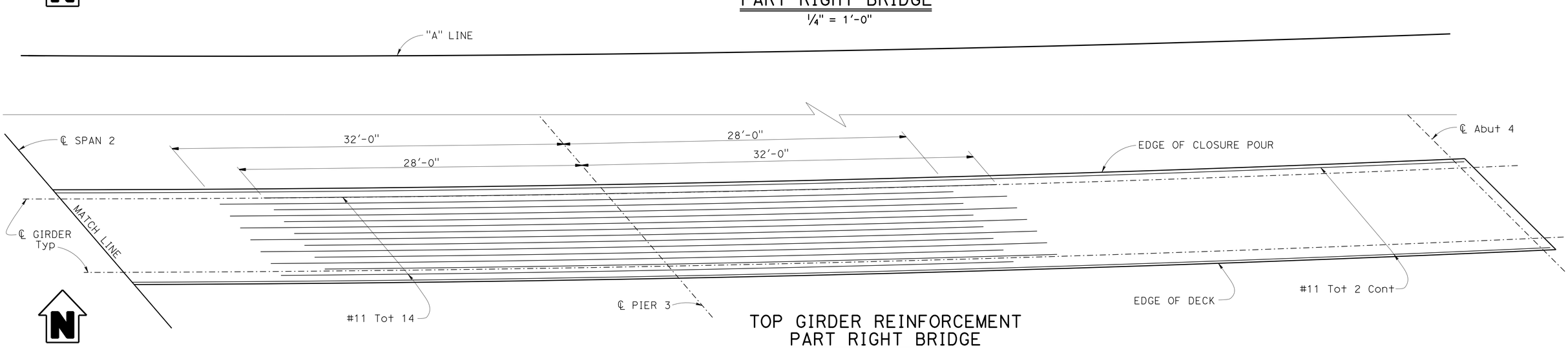
NO SCALE

DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT



TOP GIRDER REINFORCEMENT PART RIGHT BRIDGE

¼" = 1'-0"



TOP GIRDER REINFORCEMENT PART RIGHT BRIDGE

¼" = 1'-0"

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY H. Barbhaiya / H. M.	CHECKED R. Wang	
QUANTITIES	BY T. Tannous / R. Padre	CHECKED R. Novik/J. Klieby/J. Duffin	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN — DESIGN BRANCH 19

BRIDGE NO. 54-0561 — POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)

GIRDER REINFORCEMENT NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621 PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11-22-10		08-22-13	07-31-13	14	25

FILE => 54-0561-o-gir-rf_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1074	1168

REGISTERED CIVIL ENGINEER — 8/26/13 DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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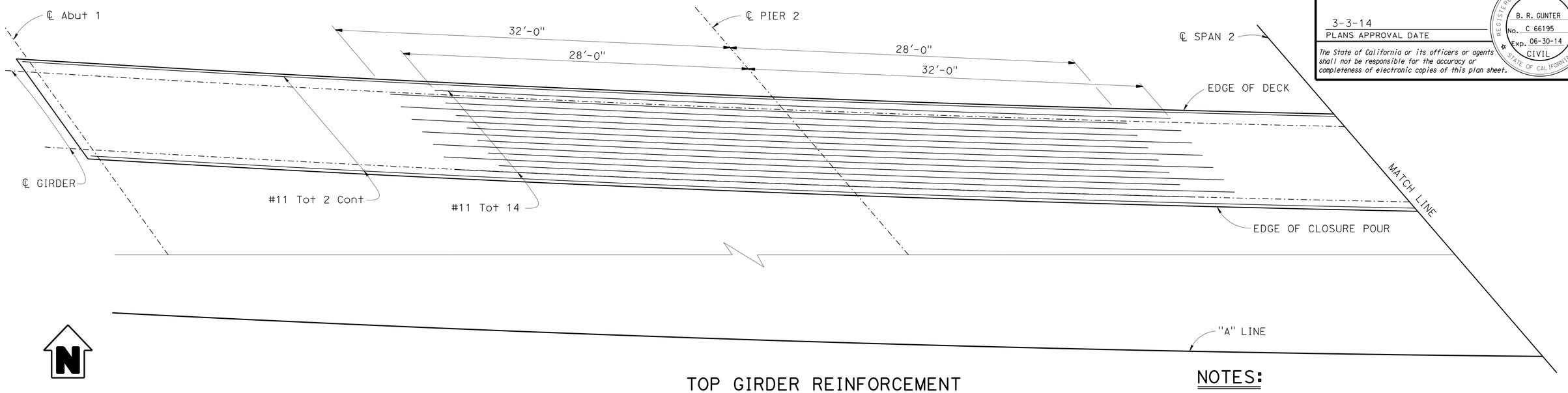


TOP GIRDER REINFORCEMENT
PART LEFT BRIDGE

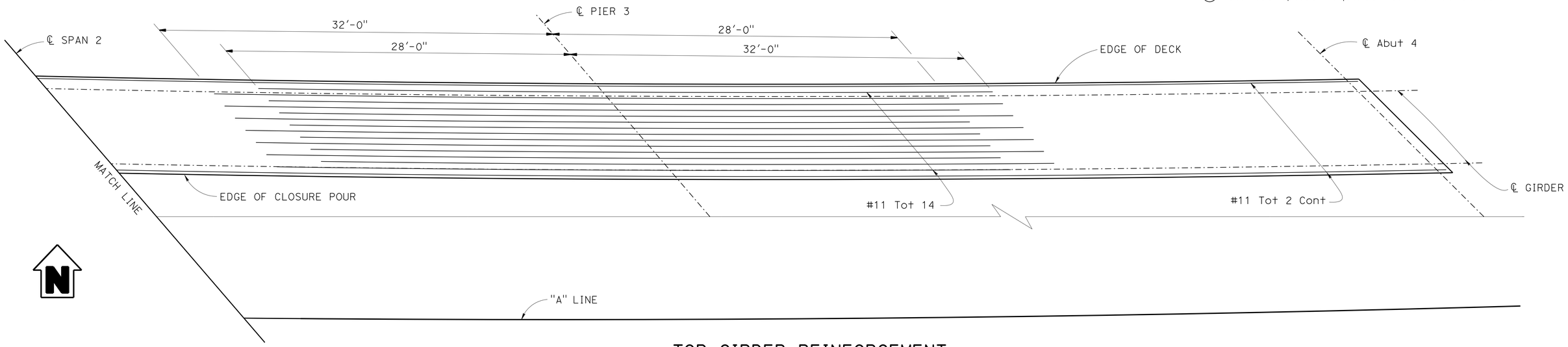
1/4" = 1'-0"

NOTES:

(A) Not all bars shown, see "TYPICAL SECTION" sheet.

(B) All longitudinal reinforcement and dimensions are parallel to ℄ girder

(C) Service Splice required for all #11 Cont.



TOP GIRDER REINFORCEMENT
PART LEFT BRIDGE

1/4" = 1'-0"

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561	CAJON CREEK BRIDGE (WIDEN)
DETAILS	BY H. Barbhaiya / H. M.	CHECKED R. Wang			POST MILE R14.94	GIRDER REINFORCEMENT NO. 2
QUANTITIES	BY F. Tannous / R. Padre	CHECKED R. Novik/J. Klieby/J. Duffin				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11-22-10		08-22-13	07-31-13	15	25

FILE => 54-0561-o-gir-rf_02.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1075	1168

REGISTERED CIVIL ENGINEER — 8/26/13 DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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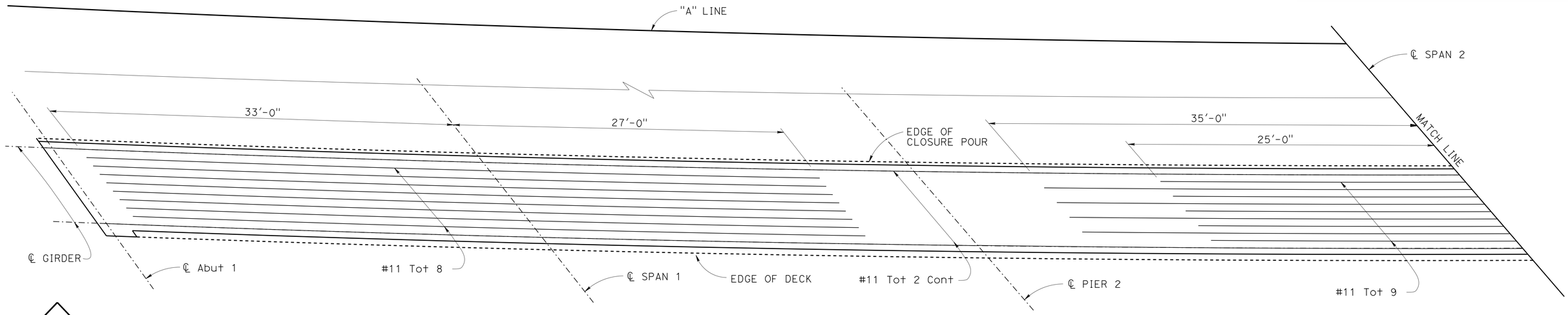
NOTES:

(A) Not all bars shown, see "TYPICAL SECTION" sheet.

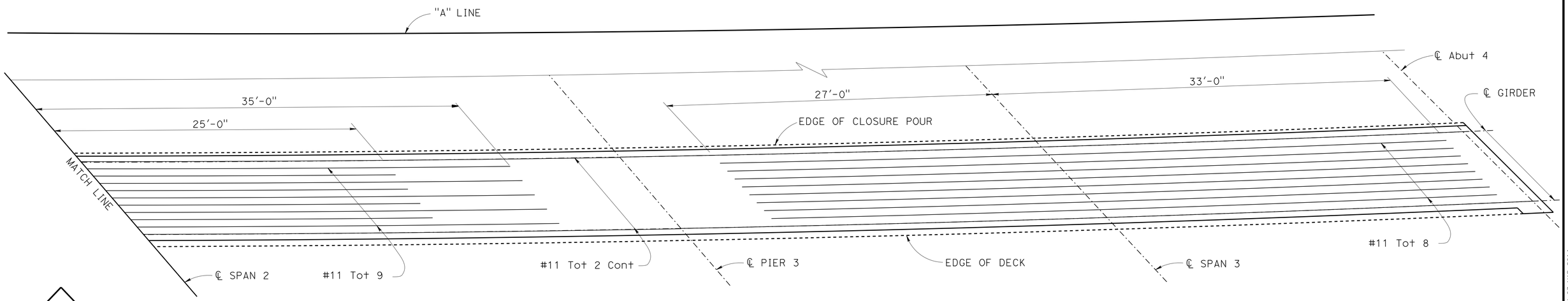
(B) All longitudinal reinforcement and dimensions are parallel to ℄ girder

(C) Service Splice required for all #11 Cont.



BOTTOM GIRDER REINFORCEMENT
PART RIGHT BRIDGE

1/4" = 1'-0"



BOTTOM GIRDER REINFORCEMENT
PART RIGHT BRIDGE

1/4" = 1'-0"

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561	CAJON CREEK BRIDGE (WIDEN)
DETAILS	BY H. Barbhaiya / H. M.	CHECKED R. Wang			POST MILE R14.94	GIRDER REINFORCEMENT NO. 3
QUANTITIES	BY F. Tannous / R. Padre	CHECKED R. Novik/J. Klieby/J. Duffin				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11-22-10 | 08-22-13 | 07-31-13

SHEET 16 OF 25

FILE => 54-0561-o-gir-rf_03.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1076	1168

REGISTERED CIVIL ENGINEER — 8/26/13 DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

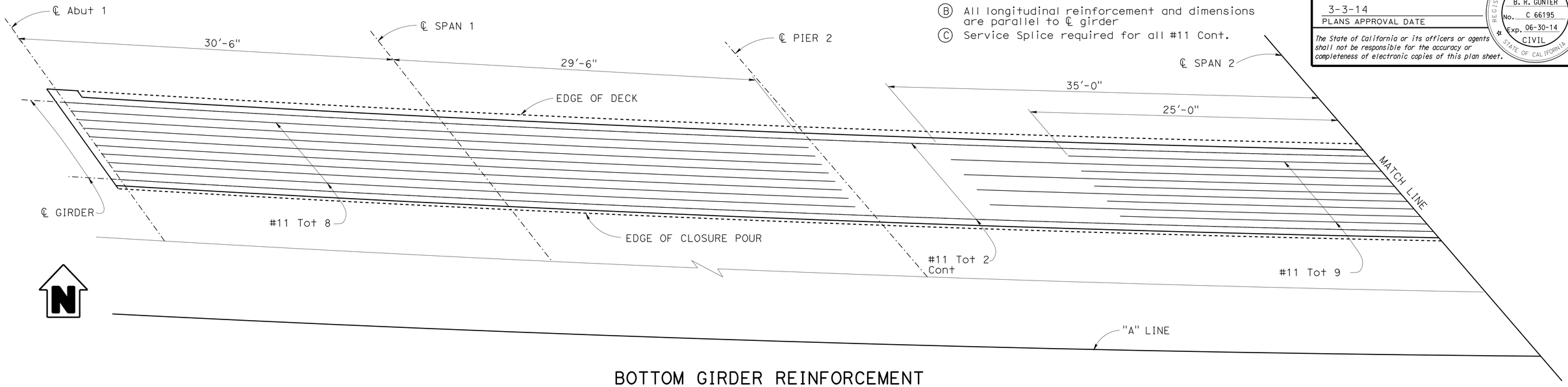
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

NOTES:

(A) Not all bars shown, see "TYPICAL SECTION" sheet.

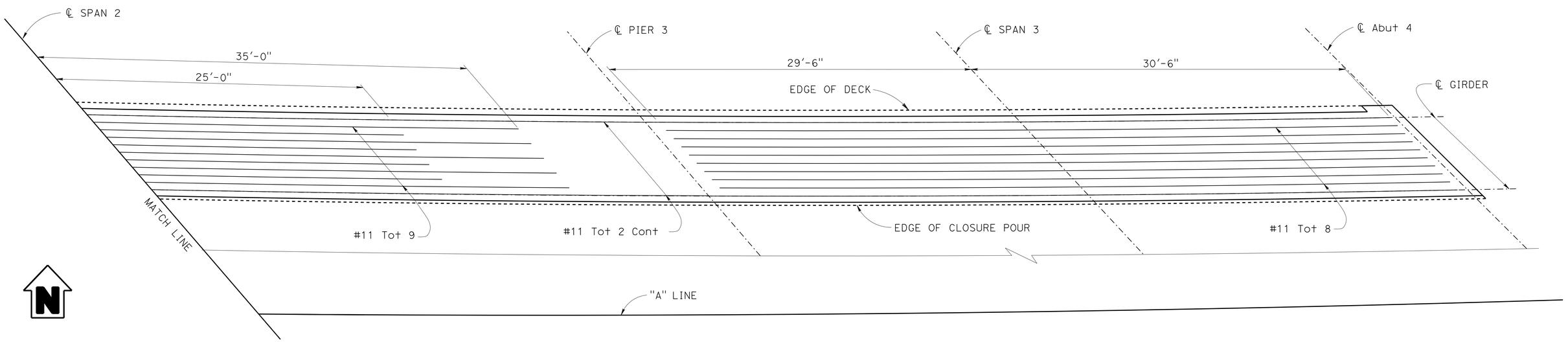
(B) All longitudinal reinforcement and dimensions are parallel to ℄ girder

(C) Service Splice required for all #11 Cont.



BOTTOM GIRDER REINFORCEMENT
PART LEFT BRIDGE

1/4" = 1'-0"



BOTTOM GIRDER REINFORCEMENT
PART LEFT BRIDGE

1/4" = 1'-0"

DESIGN	BY J. Torres	CHECKED R. Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY H. B./ H. Mahboobi	CHECKED R. Wang	
QUANTITIES	BY F. Tannous / R. Padre	CHECKED R. Novik/J. Klieby/J. Duffin	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
GIRDER REINFORCEMENT NO. 4

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11-22-10 | 08-22-13 | 07-31-13

SHEET 17 OF 25

FILE => 54-0561-o-gir-rf_04.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1077	1168

REGISTERED CIVIL ENGINEER — DATE 8/26/13

JEFF SIMS No. C 46471 Exp. 6/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

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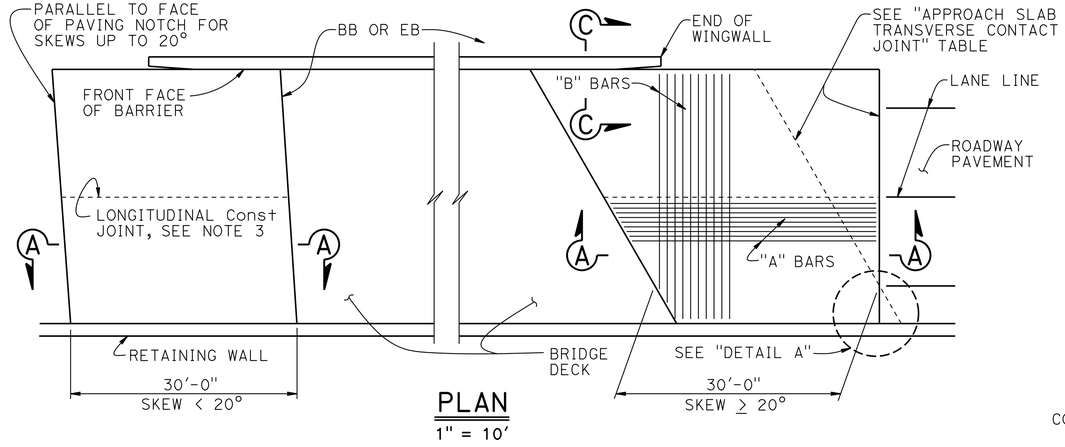
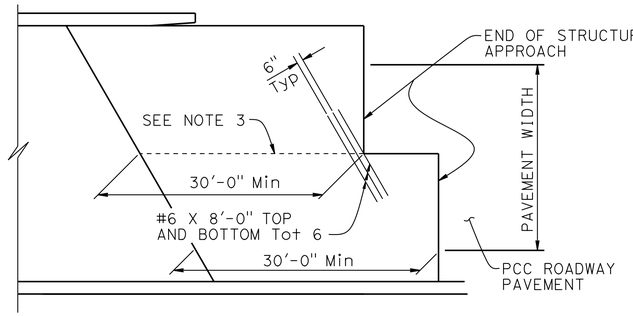
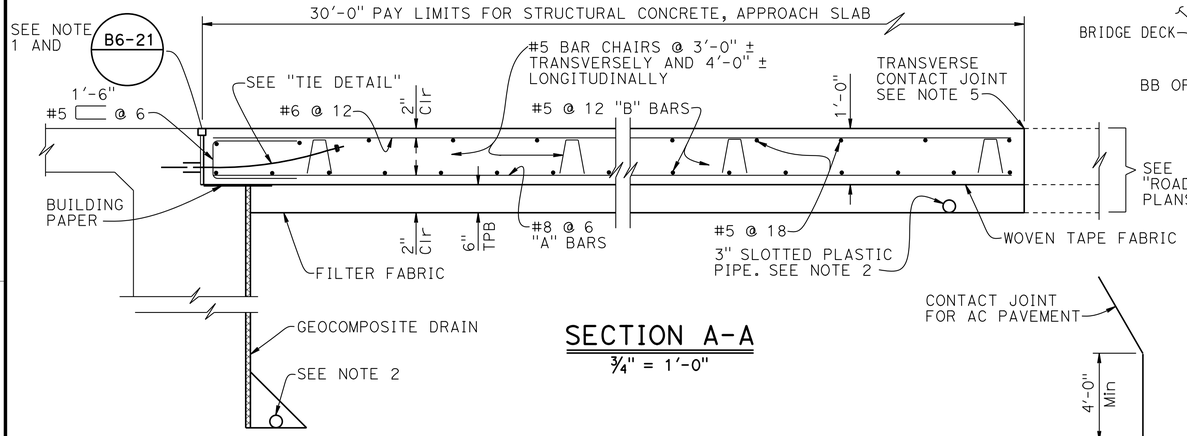


PLAN
1" = 10'



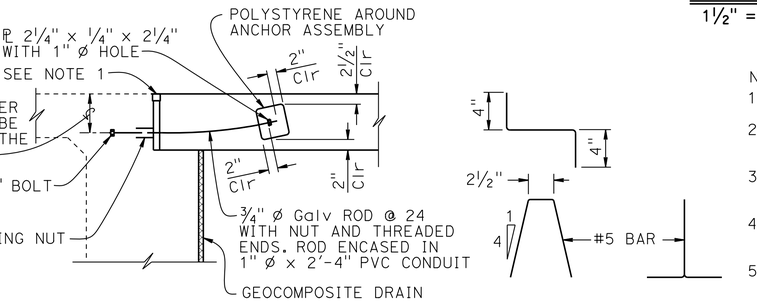
STRUCTURE APPROACH - END STAGGER DETAIL
NO SCALE

APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE

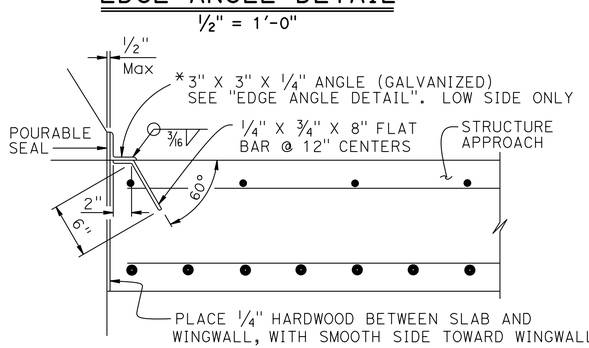


SECTION A-A
¾" = 1'-0"

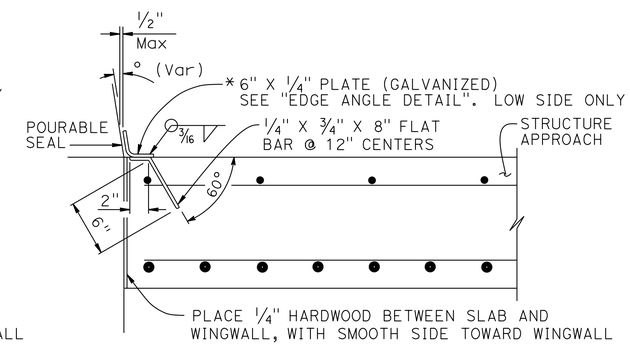
DETAIL A
NO SCALE



EDGE ANGLE DETAIL
½" = 1'-0"

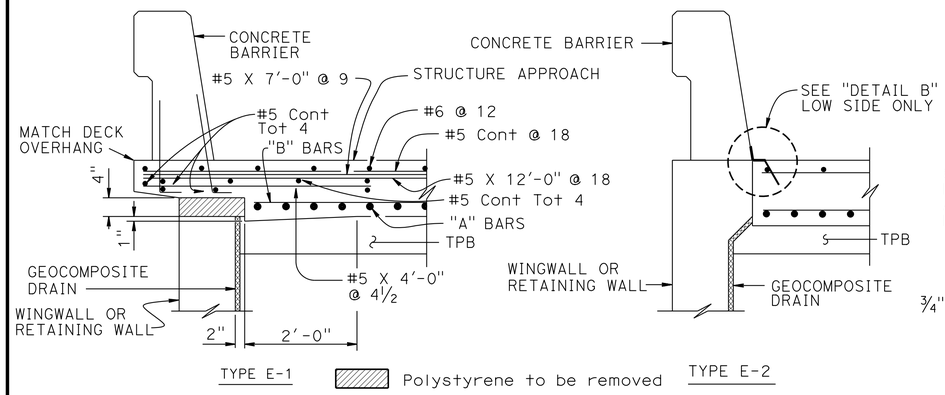


*(TO BE USED WITH CONCRETE BARRIER WITH VERTICAL FACE)



*(TO BE USED WITH CONCRETE BARRIER WITH SLOPING FACE)

DETAIL B
1½" = 1'-0"



SECTION C-C
¾" = 1'-0"
(Type E-1 to be used, unless otherwise shown on plans)

TIE DETAIL
¾" = 1'-0"

BAR CHAIR DETAIL
1½" = 1'-0"

NOTES:
1. For details not noted or shown, see Structure Plans
2. For drainage details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet
3. Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines
4. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable
5. For transverse contact joint with new PCC paving, refer to Standard Plan P10
6. At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along ℄ roadway

STANDARD DRAWING

FILE NO. xs3-140

APPROVAL DATE July 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
STRUCTURE APPROACH TYPE N(30D)

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

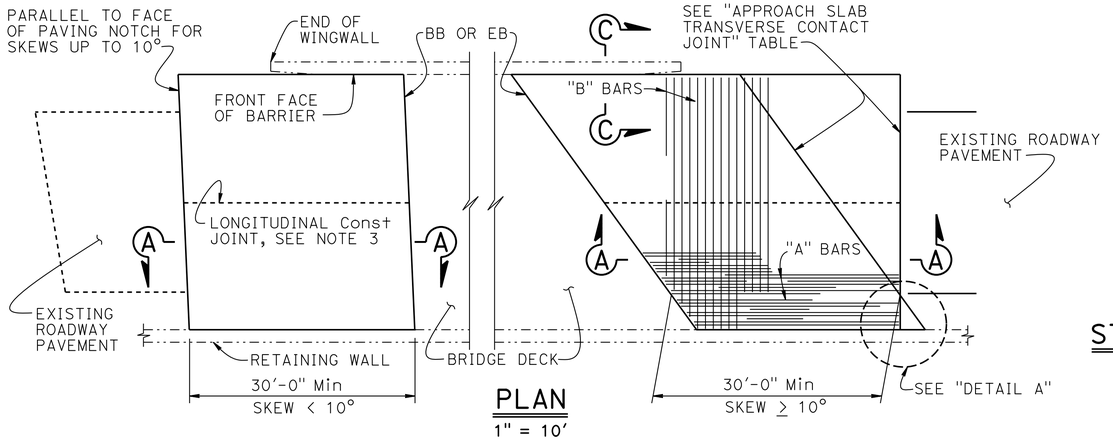
UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1
CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

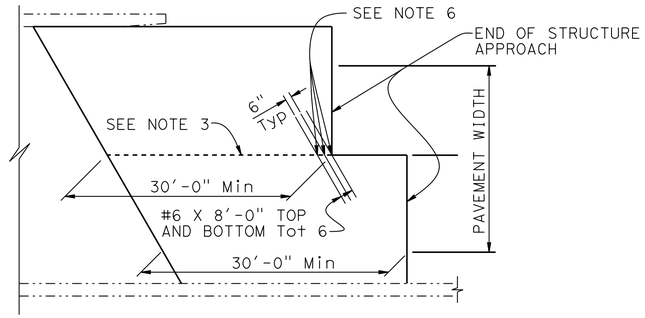
REVISION DATES				SHEET	OF
05-23-13	07-31-13			18	25

FILE => 54-0561-s_sa-n30s.dgn

USERNAME => s1244496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45



PLAN
1" = 10'



STRUCTURE APPROACH - END STAGGER DETAIL
NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1078	1168

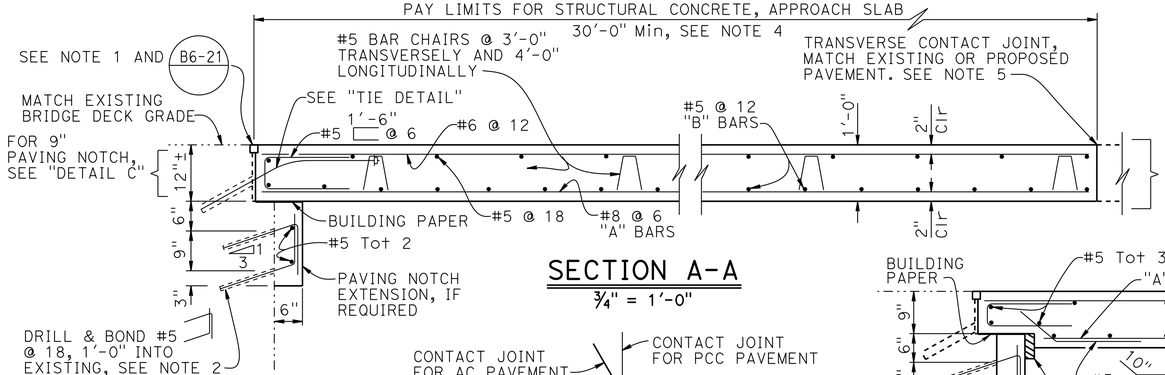
REGISTERED CIVIL ENGINEER — 8/26/13 DATE

3-3-14 PLANS APPROVAL DATE

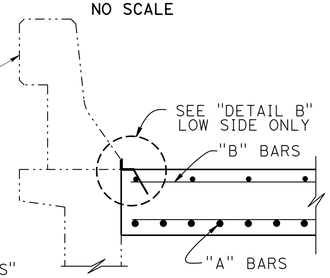
REGISTERED PROFESSIONAL ENGINEER — JEFF SIMS No. C 46471 Exp. 6/30/15 CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

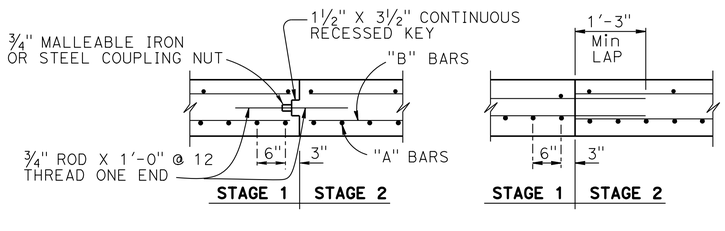
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PAVING NOTCH
10° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE

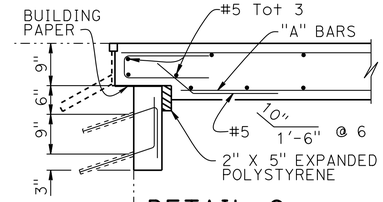


SECTION A-A
¾" = 1'-0"

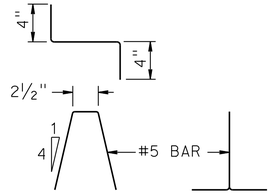


SECTION C-C
¾" = 1'-0"

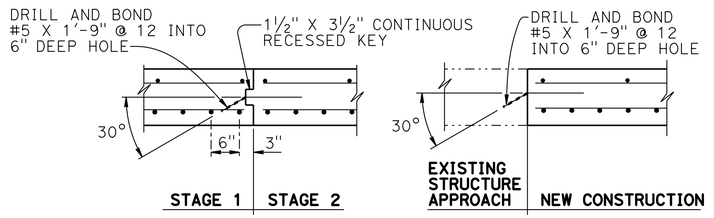




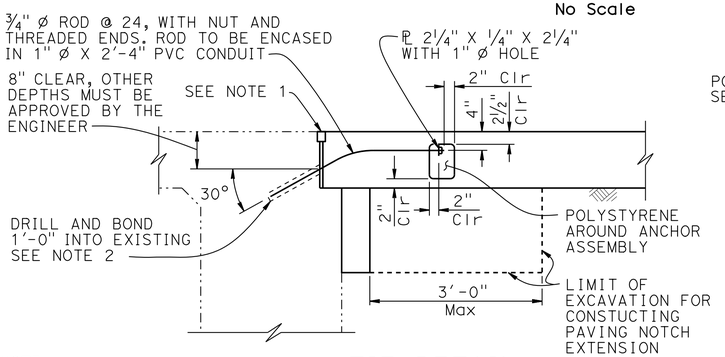
DETAIL C
¾" = 1'-0"



BAR CHAIR DETAIL
1½" = 1'-0"



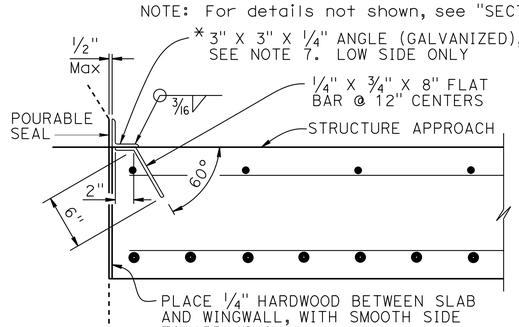
LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
¾" = 1'-0"



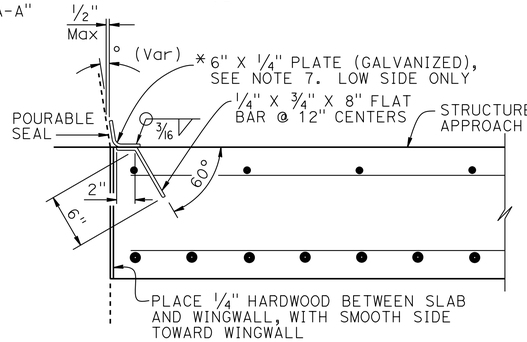
TIE DETAIL
¾" = 1'-0"

DETAIL A
No Scale

NOTE: For details not shown, see "SECTION A-A"



*(TO BE USED WITH CONCRETE BARRIER WITH VERTICAL FACE)



*(TO BE USED WITH CONCRETE BARRIER WITH SLOPING FACE)

DETAIL B
1½" = 1'-0"

NOTES:
1. For details not shown or noted, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required
2. Space to avoid existing prestress anchorages and main reinforcement
3. Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines
4. Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint
5. For transverse contact joint with new PCC paving. refer to Standard Plan P10
6. Couplers are required for stage construction
7. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STANDARD DRAWING

FILE NO. xs3-150

APPROVAL DATE July 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 54-0561
POST MILE R14.94

CAJON CREEK BRIDGE (WIDEN)
STRUCTURE APPROACH TYPE R(30D)

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-31-13	07-31-13			19	25

FILE => 54-0561-s_sa-r30d.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1079	1168

REGISTERED CIVIL ENGINEER — 8/26/13 DATE

3-3-14 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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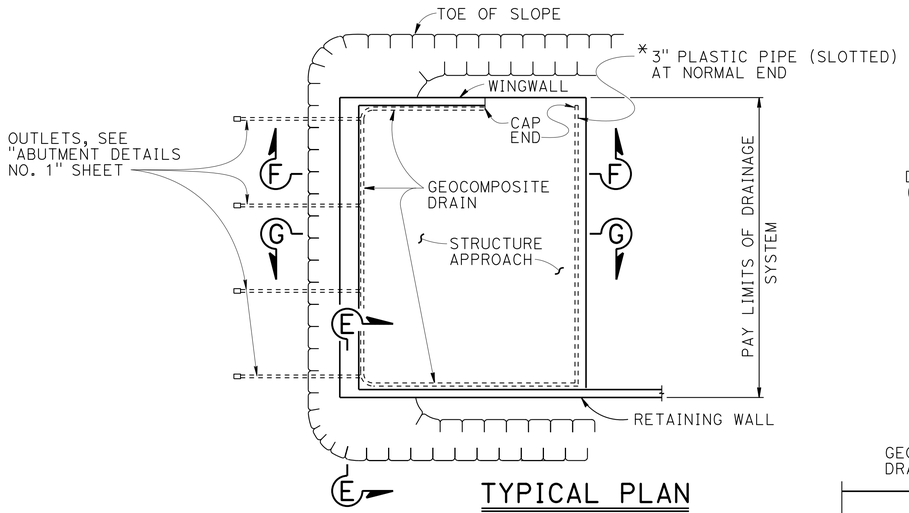
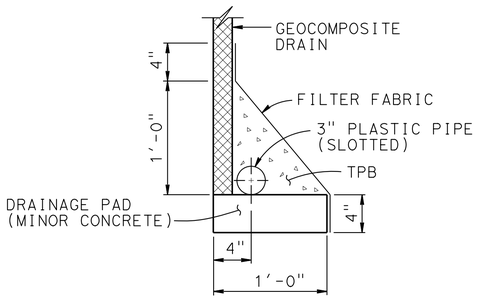


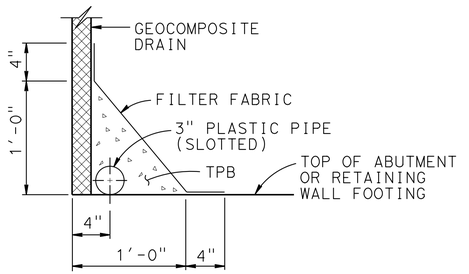
TYPICAL PLAN

NO SCALE

* FOR PIPE LAYOUT AT STAGGERED END, SEE "DETAIL C"



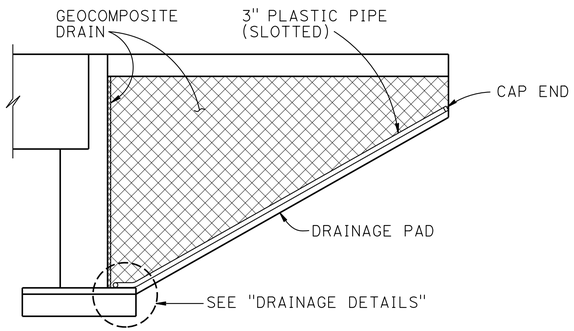
WITHOUT FOOTING



WITH FOOTING

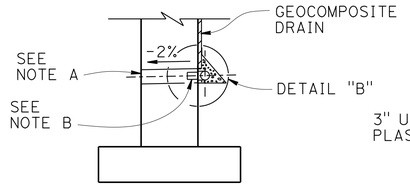
DRAINAGE DETAILS

1½" = 1'-0"

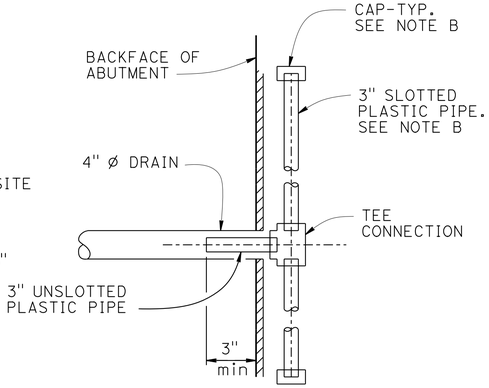


CANTILEVER WINGWALL

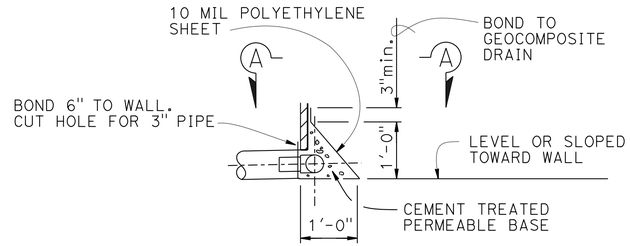
SECTION F-F



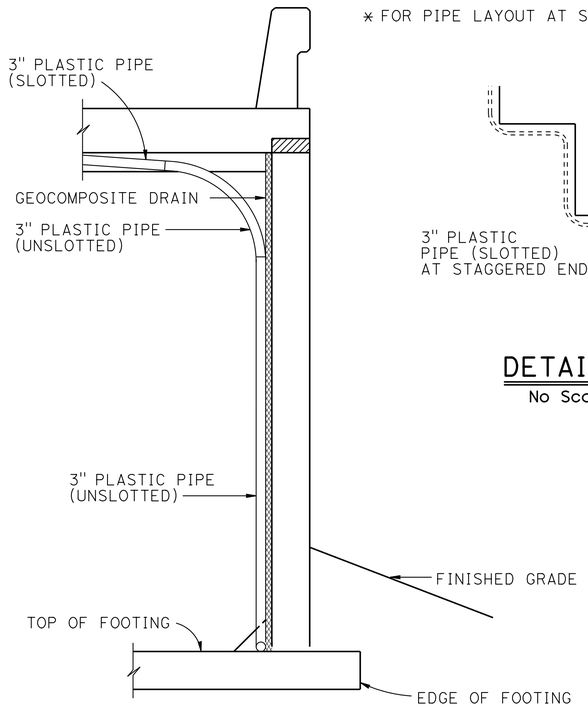
WALL SECTION



SECTION A-A



DETAIL "B"



SECTION E-E

½" = 1'-0"

NOTE: Bends and junctions in 3" plastic pipe are 30" radius Min

DETAIL B

No Scale

WEEP HOLE AND GEOCOMPOSITE DRAIN

NO SCALE

BO-3
3-1

Notes:

A. 4" ø drains, see "TYPICAL PLAN". Exposed wall drains shall be located 3" above Finished Grade.

B. Geocomposite drain, cement treated permeable base, and 3" slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4" ø drain.

C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

DESIGN	BY C. Lomicka	CHECKED B. Gunter	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561
DETAILS	BY H. Mahboobi	CHECKED B. Gunter			POST MILE R14.94
QUANTITIES	BY H. Win	CHECKED V. Altamirano			

CAJON CREEK BRIDGE (WIDEN)

STRUCTURE APPROACH DRAINAGE DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 -1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 05-13-13 | 08-05-13 | 12-11-13 |

SHEET 20 OF 25

FILE => 54-0561-s-sadd.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1080	1168

LICENSED LANDSCAPE ARCHITECT

3-3-14
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — Matthew Harry Hall — No. 5124 — Signature — 10/31/2013 — Renewal Date — 9/05/2013 — Date — STATE OF CALIFORNIA

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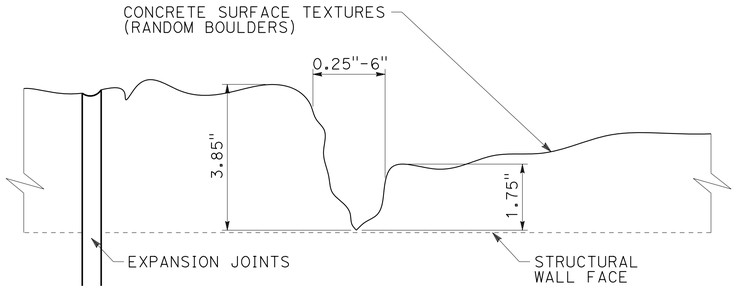
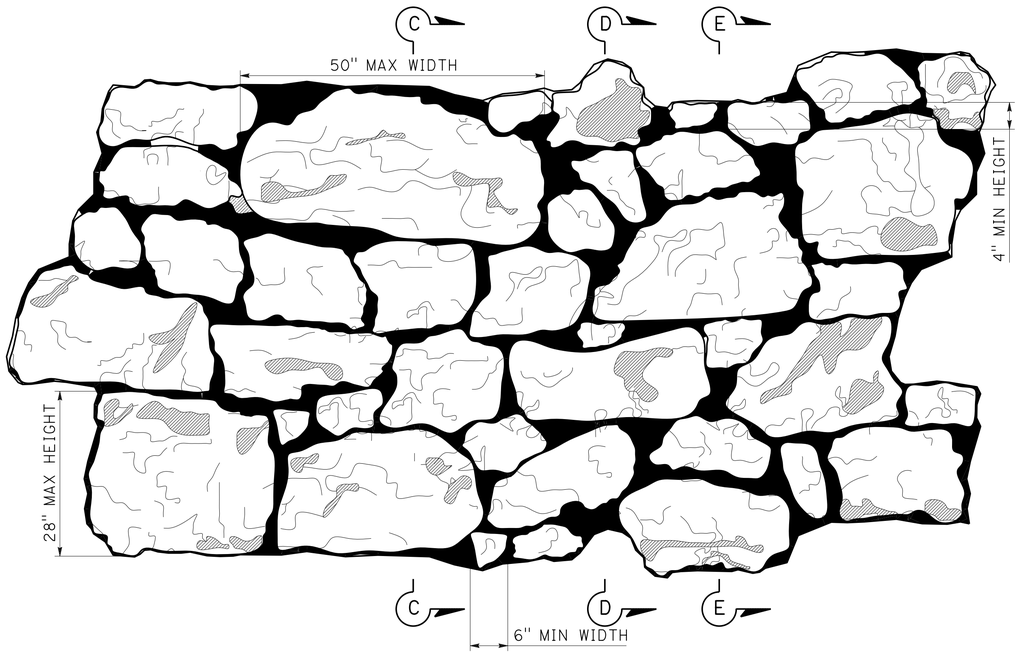


NOTE: CONCRETE SURFACE TEXTURES (RANDOM BOULDERS) WILL BE CONTINUED THROUGH EXPANSION JOINTS

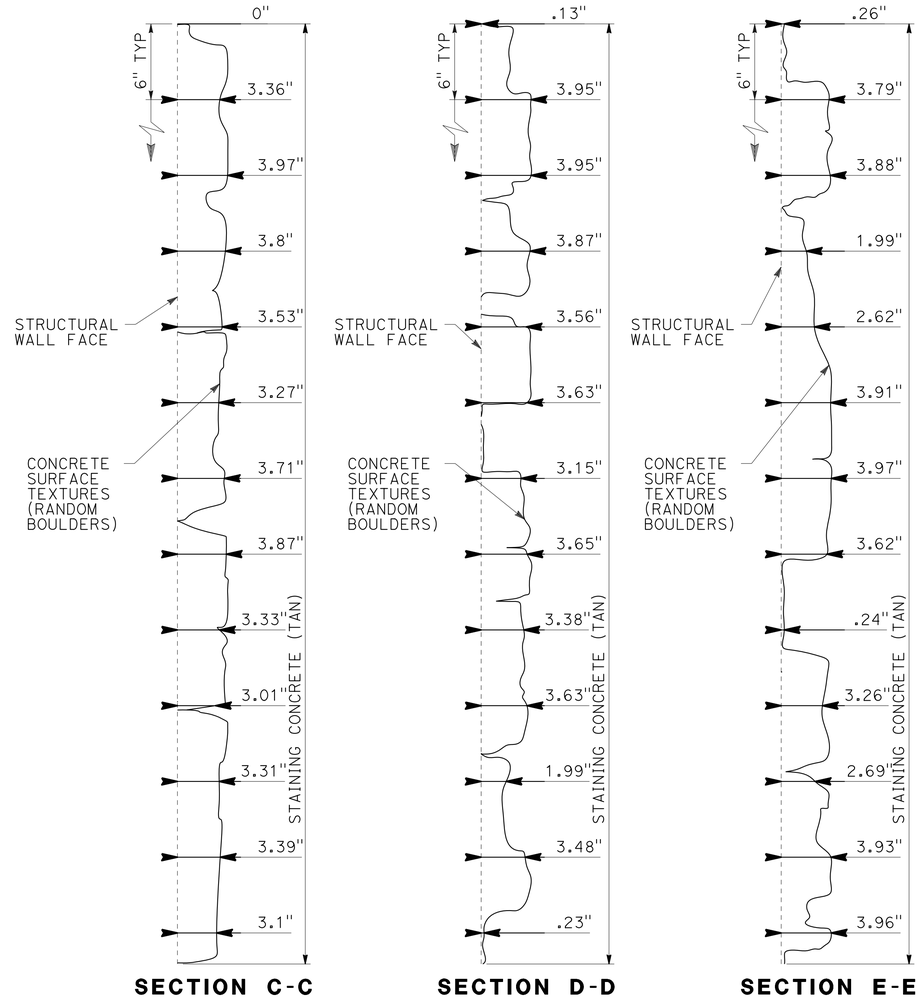
EXPANSION JOINTS DETAIL FOR CONCRETE SURFACE TEXTURES (RANDOM BOULDERS)

NO SCALE



RANDOM BOULDER ELEVATION

SCALE: 1"=1'-0"



NOTE: MAX DEPTH OF 4"

RANDOM BOULDER SECTIONS C,D,E

SCALE: 2"=1'-0"

DESIGN	BY M. Hall	CHECKED R. Desselle	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561	CAJON CREEK BRIDGE (WIDEN)	
DETAILS	BY M. Hall	CHECKED R. Desselle			POST MILE R14.94	ARCHITECTURAL TREATMENT NO. 1	
QUANTITIES	BY N. Shan	CHECKED M. Thach					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
06-05-13				21	25

FILE => 54-0561-u-archtr_01.dgn

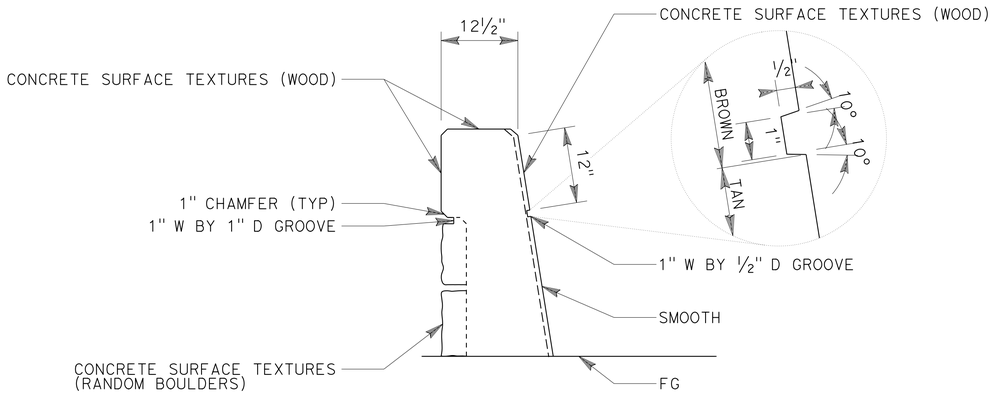
USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1081	1168

LICENSED LANDSCAPE ARCHITECT

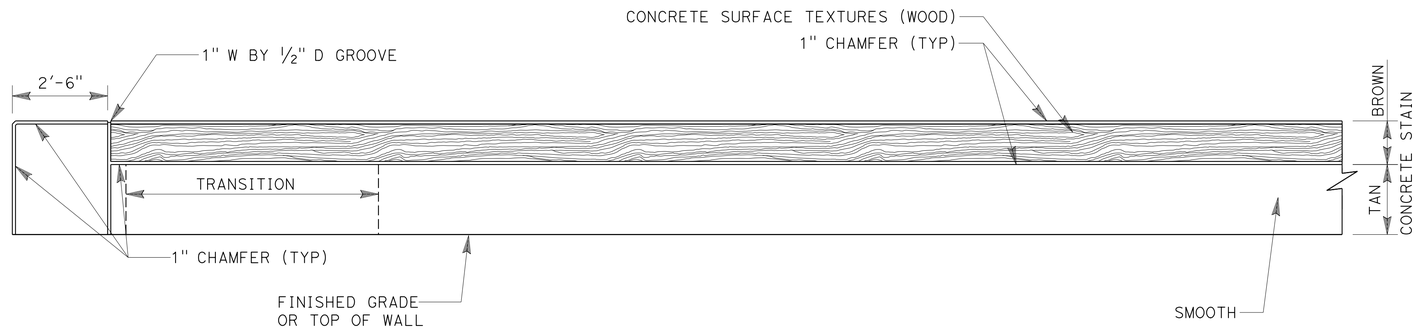
3-3-14
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — James Terry Hall, No. 3124 — Signature — 10/31/2013 Renewal Date — 9/05/2013 Date — STATE OF CALIFORNIA



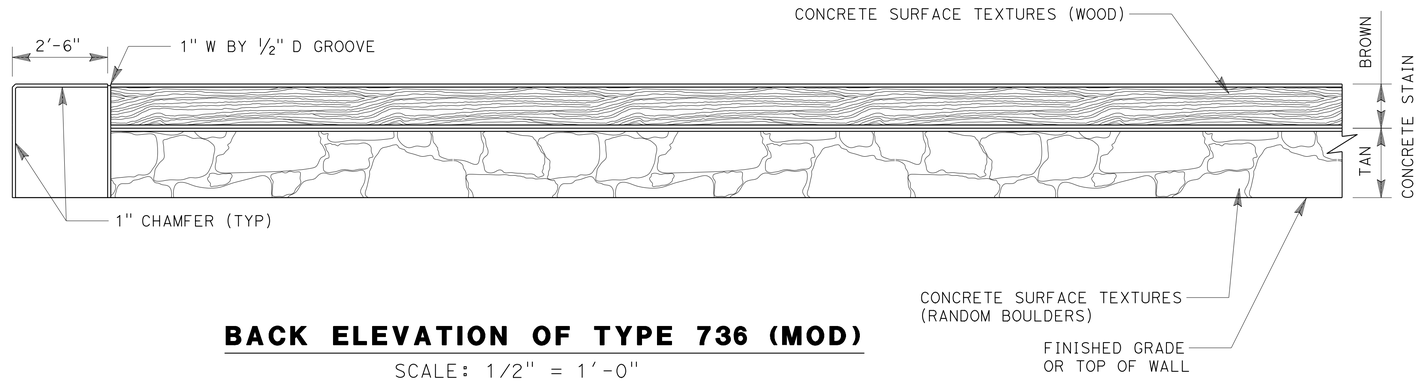
TYPICAL SECTION OF TYPE 736 (MOD)

SCALE: 1" = 1'-0"



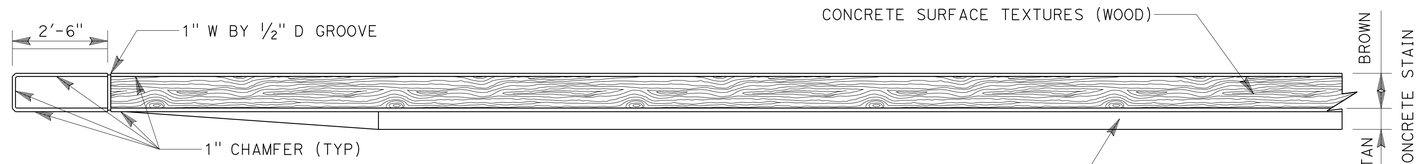
FRONT ELEVATION OF TYPE 736 (MOD)

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



BACK ELEVATION OF TYPE 736 (MOD)

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



PLAN OF TYPE 736 (MOD)

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

DESIGN	BY M. Hall	CHECKED R. Desselle	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561	CAJON CREEK BRIDGE (WIDEN)
DETAILS	BY M. Hall	CHECKED R. Desselle			POST MILE R14.94	ARCHITECTURAL TREATMENT NO. 2
QUANTITIES	BY N. Shan	CHECKED M. Thach				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
06-05-13				22	25

FILE => 54-0561-u-archtr_02.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1082	1168

PROFESSIONAL GEOLOGIST — 8-6-13 DATE

Hector Valencia No. 7776 Exp. 02-28-14 — PROFESSIONAL GEOLOGIST — STATE OF CALIFORNIA

3-3-14 PLANS APPROVAL DATE

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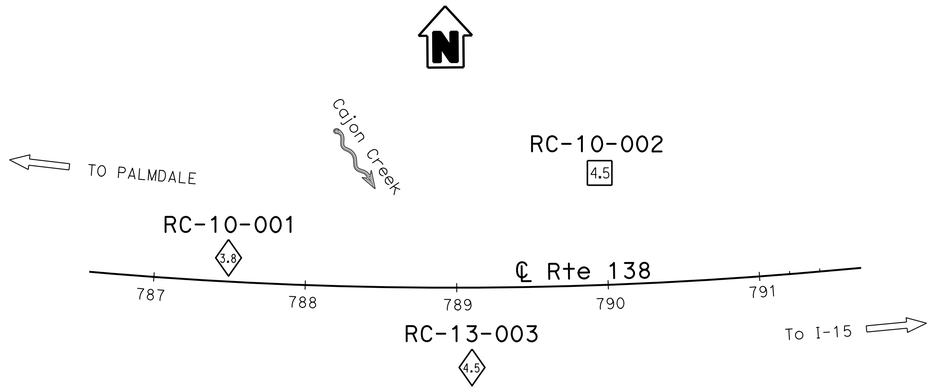
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

BENCH MARK

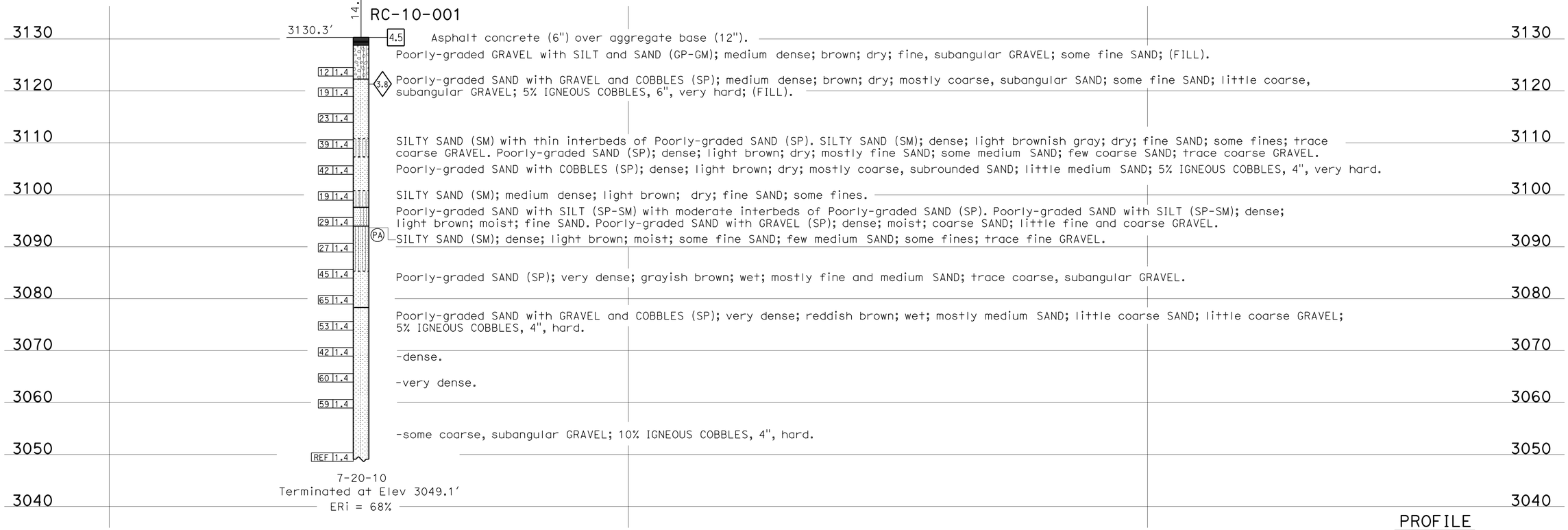
PRHV611 Elev 3121.80
1" IP/ALCAP Stmd SBD 138 540561A
WITH WITNESS GUARD POST
APPROX 120' NNW OF ABUT 4
N 1936322.394
E 6718990.149
NGVD 29

PRHV11 Elev 3124.23
Std Dsk Stmd SBD GPS
NEAR BASE OF STOP SIGN AT N. CAJON
BLVD APPROX 170' E OF ABUT 4
N 1936113.264
E 6719258.284
NGVD 29



PLAN
1" = 50'

NOTE: Groundwater was encountered in Boring RC-10-001, but elevation was not measured.



PROFILE
Horiz: 1" = 10'
Vert: 1" = 10'

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561	CAJON CREEK BRIDGE (WIDEN)
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 12/10 CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: J. Klamecki		POST MILE R14.94	LOG OF TEST BORINGS 1 OF 3

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 08000006091 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
03-16-11	02-15-13	06-26-13	07-15-13	23	25

FILE => 54-0561-z-lotb_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1083	1168

PROFESSIONAL GEOLOGIST — 8-6-13 DATE

Hector Valencia No. 7776 Exp. 02-28-14 — PROFESSIONAL GEOLOGIST — STATE OF CALIFORNIA

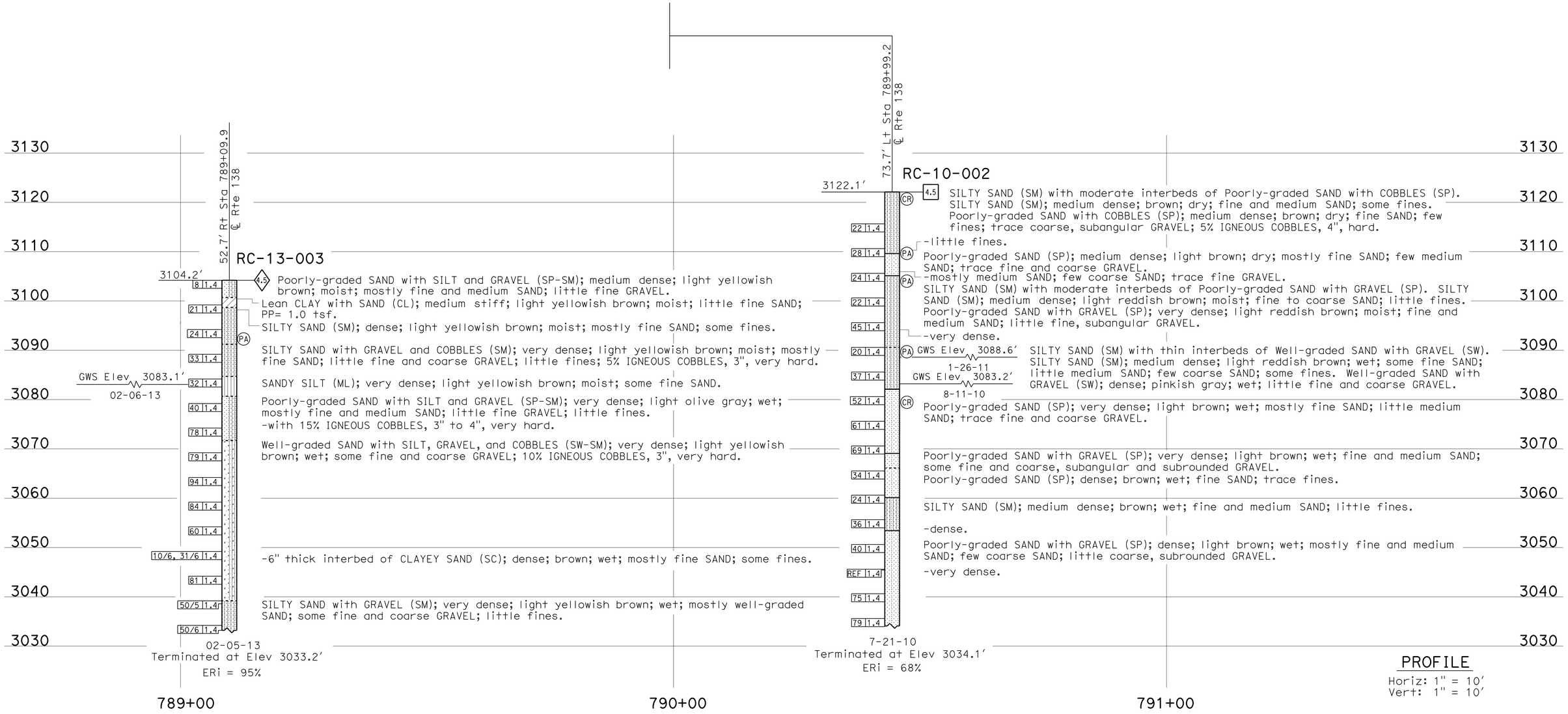
3-3-14
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 3"



PROFILE
Horiz: 1" = 10'
Vert: 1" = 10'

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0561 POST MILE R14.94	CAJON CREEK BRIDGE (WIDEN) LOG OF TEST BORINGS 2 OF 3
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: J. Klamecki / H. Valencia			
OGS CIVIL LOG OF TEST BORINGS SHEET	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3643 PROJECT NUMBER & PHASE: 08000006091 CONTRACT NO.: 08-3401U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES 03-16-11 02-15-13 06-26-13 07-15-13	SHEET 24 OF 25

FILE => 54-0561-z-lotb_02.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:45

FED. ROAD DIV. NO.	STATE	F. A. PROJECT NO.	SHEET NO.	TOTAL SHEETS
7	CALIF.			

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
08	SBD.	138	4/10.6	398	398

DATE APPROVED November 28, 1966

LEGEND OF BORING OPERATIONS

- Penetrometer
- 2½" Cone Penetrometer
- Sampler Boring (Dry)
- Rotary Boring (Wet)
- Auger Boring (Dry)
- Jet Boring
- Core Boring
- Test Pit

LEGEND OF EARTH MATERIALS

- Gravel
- Sand
- Silt
- Clay
- Silty Clay or Clayey Silt
- Peat and/or Organic Matter
- Fill Material
- Igneous Rock
- Sedimentary Rock
- Metamorphic Rock
- Sandy Clay or Gravelly Clay
- Sandy Silt or Silty Sand

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

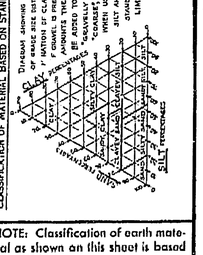


Diagram showing the basis for estimates of range size distribution used in determination of class names.

Amounts the term "gravelly" may be added to the class name, viz, gravelly sand. The terms "cobbly" and "bouldery" may be used to describe sand, silt and gravel. Refer to grade size limits.

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

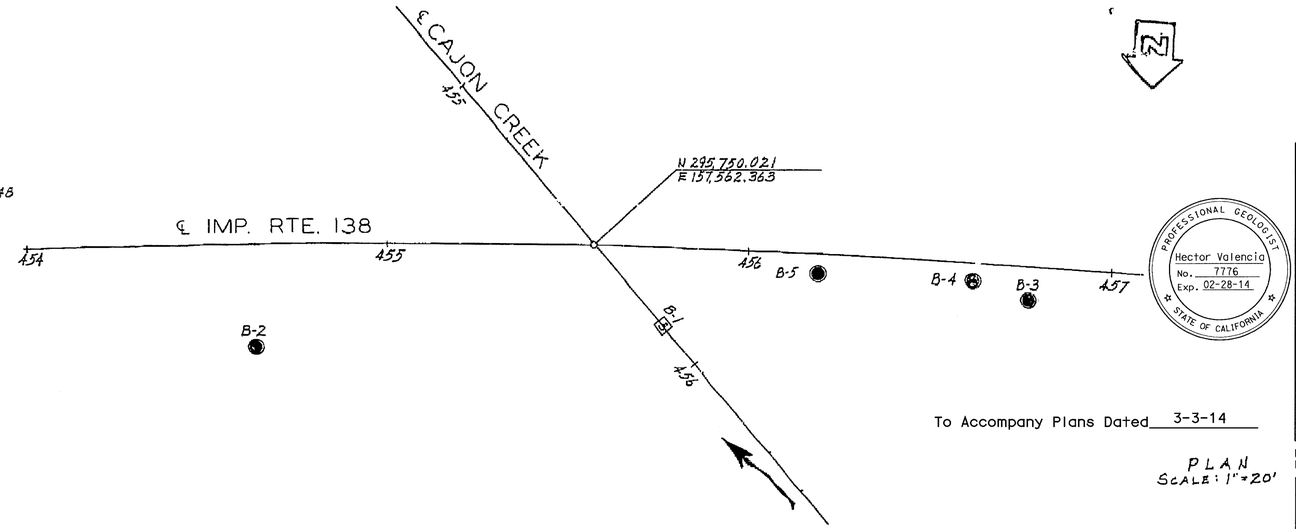
	BY	DATE
DRAWN	R. E. SILVEY	5-11-66
CHECKED	W. E. CHAN	5-22-66

Approval Recommended by: C. A. C. S. Engineering Geologist

BENCH MARK

BM 60-A-63
BATNEY STAKE & CAP BURIED 0.3', 201.9' LT.
STA. 445+21.9 ℄ IMP. RTE. 15.

ELEV. 3115.48



PROFESSIONAL GEOLOGIST
Hector Valencia
No. 7776
Exp. 02-28-14
STATE OF CALIFORNIA

To Accompany Plans Dated 3-3-14

PLAN
SCALE: 1"=20'

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
08	SBd	2,138	6.2/6.4,2.3/R15.2	1084	1168

PROFESSIONAL GEOLOGIST — DATE 8-6-13

CAJON CREEK BRIDGE (WIDEN)

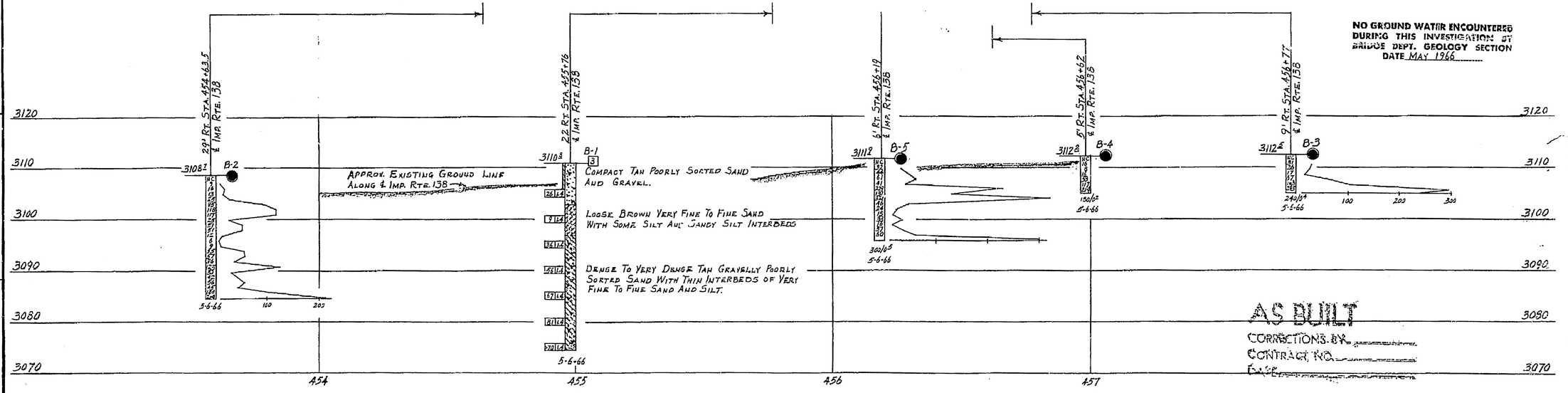
LOG OF TEST BORINGS 3 OF 3

UNIT: 3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE: 08000006091	08-3401U1	54-0561
AS-BUILT VERT DATUM: NGVD 29 CONVERSION: N/A	Sheet	of
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA	25	25

Revisions made to this Log of Test Borings from the original As-Built Log of Test Borings are the addition of the following table and note:

Boring	Station	Offset from New ℄ 138
B-1	788+81.00	22' Lt
B-2	789+93.50	29' LT
B-3	787+80.00	9' Lt
B-4	787+95.00	5' Lt
B-5	788+38.00	6' Lt

The data are the As-Built Test Borings referenced to the proposed new structure location. This table is presented on the As-Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.



NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION
DATE MAY 1966

AS BUILT
CORRECTIONS BY
CONTRACT NO.
DATE

PROFILE
SCALE: VERT. 1"=10'
HORIZ. 1"=20'

AS BUILT PLANS
Contract No. 08-049114
Date Completed 11-10-69
Document No. 80000217

SHEET 7 OF

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

CAJON CREEK BRIDGE

LOG OF TEST BORINGS

SCALE AS NOTED | BRIDGE 54-561 | FILE | DRAWING 54561-7

CHARGE: 05200
W.A.: 100501

Disregard prints bearing earlier numbers → PREL. DRAWING No. PR- 9/66

54-0561-z-lotb_03.tif

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1085	1168

08-26-13
REGISTERED CIVIL ENGINEER — DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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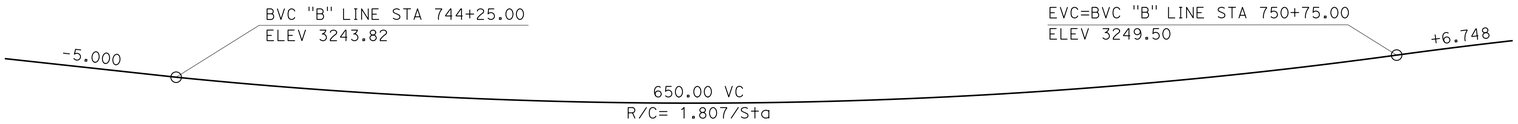
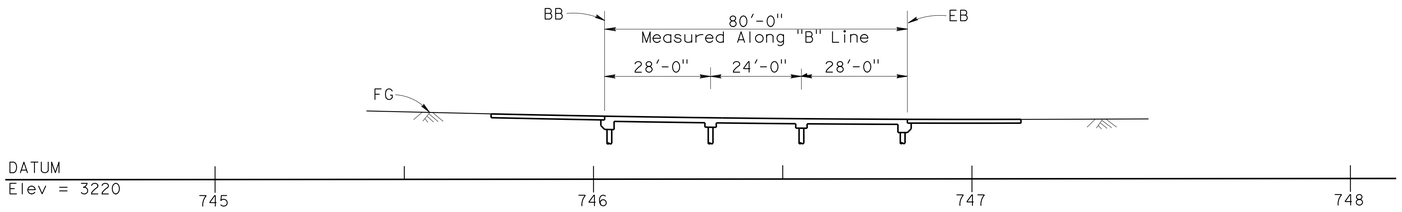
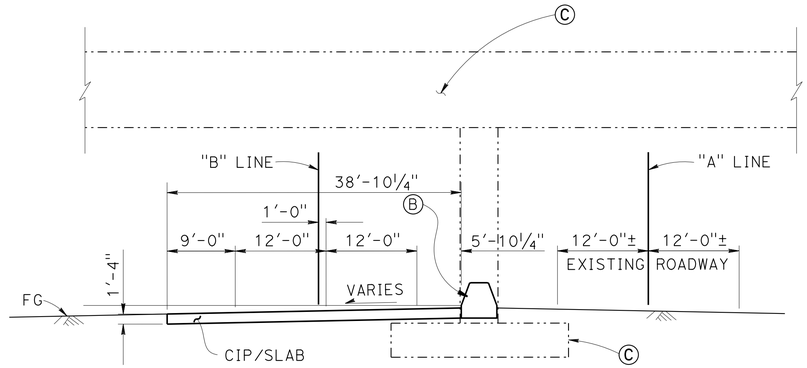


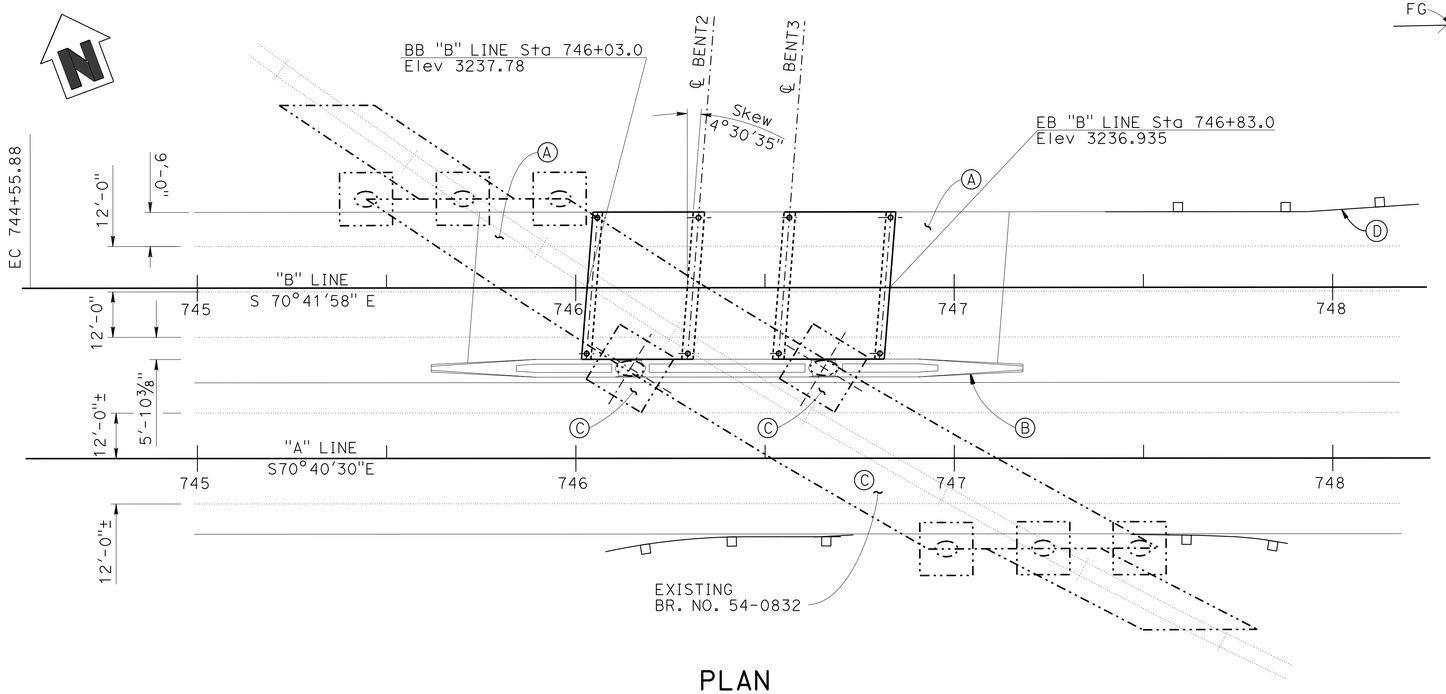
PROFILE GRADE
NO SCALE



MIRRORED ELEVATION
1" = 20'



TYPICAL SECTION
1" = 10'



PLAN
1" = 20'

NOTES:
Ⓐ Structure Approach Type N(30D) (MODIFIED)
Ⓑ Type 60 Barrier Rail See "ROAD PLANS"
Ⓒ Existing Br No. 54-0832 Footings
Ⓓ Midwest Guardrail System, See "ROAD PLANS"

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	94	CY
STRUCTURE BACKFILL (BRIDGE)	25	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	918	LF
STRUCTURAL CONCRETE, BRIDGE	190	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N MODIFIED)	87	CY
JOINT SEAL (MR½")	158	LF
BAR REINFORCING STEEL (BRIDGE)	19,761	LB
BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	20,335	LB

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

B. Gunter
DESIGN ENGINEER

	BY	CHECKED
DESIGN	R. Wang	B. Gunter
DETAILS	H. Mahboobi / H. I.	B. Gunter
QUANTITIES	E. Scott	B. Gunter

LOAD & RESISTANCE FACTOR DESIGN — LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE

	BY	CHECKED
LAYOUT	B. Gunter	R. Wang
SPECIFICATIONS	S. Seifert	PLANS AND SPECS COMPARED W. Siu

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0832
POST MILE 14.2

CAJON MT UP PROTECTION STRUCTURE
GENERAL PLAN

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
03-28-13		11-18-13	12-12-13	1	10

FILE => 54-0832-a-gp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1086	1168

08-26-13
REGISTERED CIVIL ENGINEER DATE

B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Structural Concrete, Bridge (f'_c =3600 psi @ 28 days)

Structural Concrete, Approach Slab

CONCRETE STRENGTH AND TYPE LIMITS

No Scale

PILE DATA TABLE

Support Locations	Pile Type	Nominal Resistance (kips)		CUTOFF Elev (ft)	Design Tip Elev (ft)	Specified Tip Elev (ft)
		Compression	Tension			
Abutment 1	Class 90 16" CIDH	110	N/A	3234.25	3208.0	3208.0
Bent 2	Class 140 16" CIDH	200	N/A	3234.88	3201.0 (a-I)	3201.0
Bent 3	Class 140 16" CIDH	200	N/A	3234.58	3201.0 (a-I)	3201.0
Abutment 4	Class 90 16" CIDH	110	N/A	3233.25	3208.0	3208.0

NOTE: Design Tip Elevations are controlled by: (a) Compression, (a-I) Compression (Strength Limit)

GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated 2010.

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) version 1.6 dated November 2010

DEAD LOAD: Includes 35 PSF future wearing surface.

LIVE LOAD: HL93 and permit design load.

SEISMIC LOADING: Soil Profile: V_{s30} =290 m/s
Moment Magnitude: M_{max} = 7.8
Peak Bed Rock Acceleration = 0.5g

REINFORCED CONCRETE: ASTM A706

f_y = 60 ksi

f'_c = 3.6 ksi (except as shown on Concrete Strength and Type Limits Diagram)

STANDARD PLANS DATED 2010

PLAN NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
B0-13	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")

STANDARD PLAN SHEET NO.

DETAIL NO.

INDEX TO PLANS

DESIGN	BY R.Wang	CHECKED B.Gunter	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY D.Wooten / H. I.	CHECKED B.Gunter	
QUANTITIES	BY E. Scott / H. Win	CHECKED B. Gunter	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0832
POST MILE 14.2

CAJON MT UP PROTECTION STRUCTURE
INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05/07/13 | 08/27/13 | 08/26/13 | 12/12/13

SHEET 2 OF 10

FILE => 54-0832-b-itp.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1087	1168

08-26-13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

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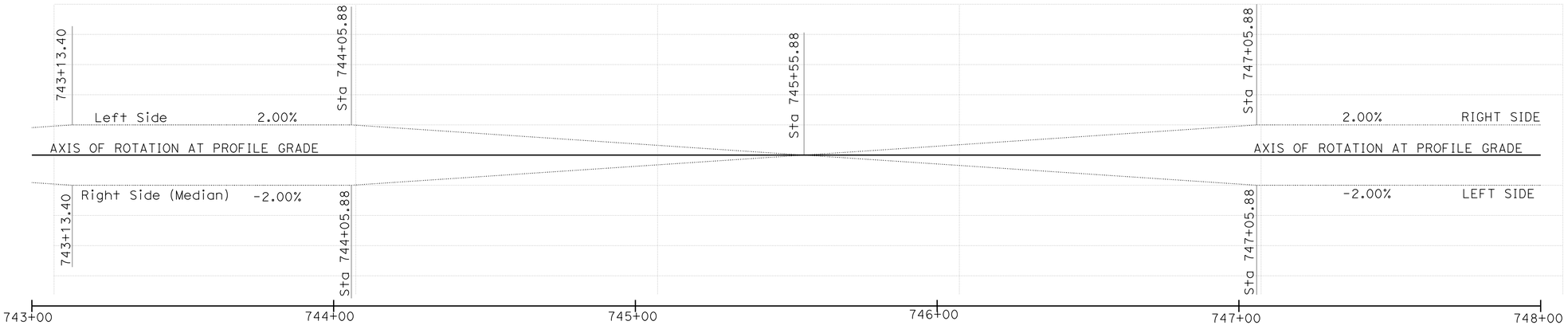
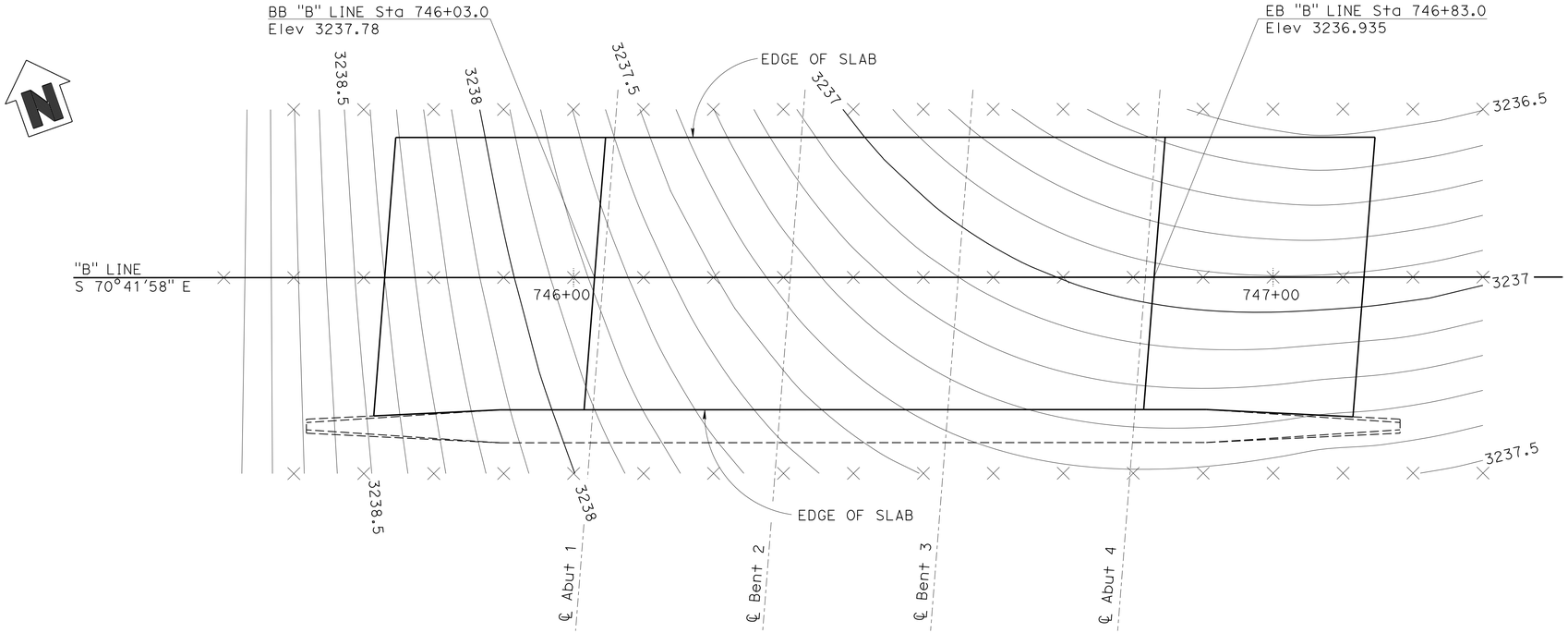


SUPERELEVATION DIAGRAM

NO SCALE



NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DECK CONTOURS

1" = 10'

NOTES:

1. X - 10' intervals along station line.
2. Contour interval = 0.1'.
3. Contours do not include camber.

DESIGN	BY R.Wang	CHECKED B.Gunter	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0832
DETAILS	BY D.Wooten/ H. I.	CHECKED B.Gunter			POST MILE 14.2
QUANTITIES	BY E. Scott / H. Win	CHECKED B. Gunter			

CAJON MT UP PROTECTION STRUCTURE
DECK CONTOURS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
05-01-13		08-22-13 08-26-13	3	10

FILE => 54-0832-d-dc01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1088	1168

08-26-13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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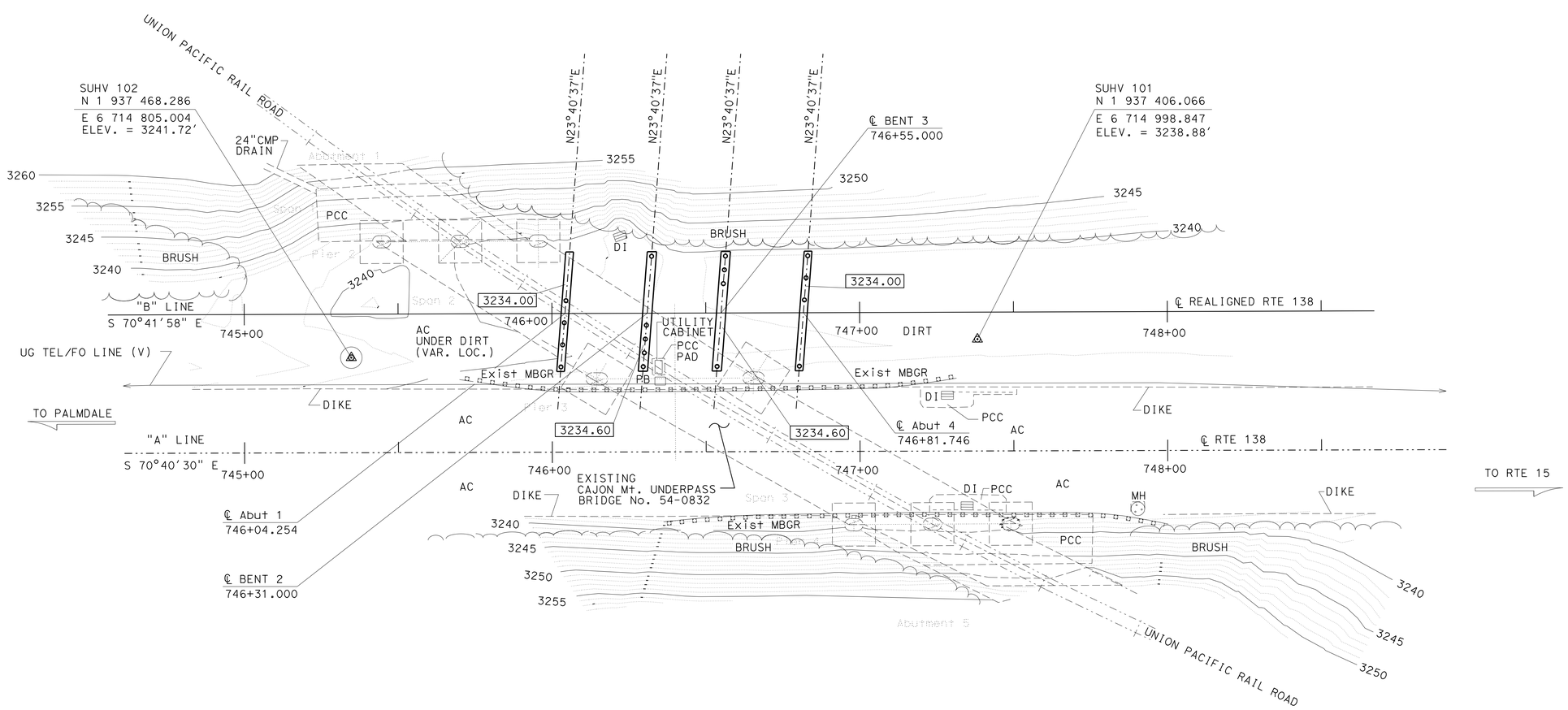

SURVEY CONTROL

SUHV 101

Set Spike
36.33 Ft. Lt. ℄ Rte 138
Sta. 747+38.26
N 1 937 406.066
E 6 714 998.847
ELEV. = 3238.88'

SUHV 102

Set Spk.
30.90 Ft. Lt. ℄ Rte 138
Sta. 745+34.75
N 1 937 468.286
E 6 714 805.004
ELEV. = 3241.72'

NOTES:

Underground utilities as shown are approximate

☐ Indicates bottom of footing elevation.

PRELIMINARY INVESTIGATION SECTION					
SCALE	VERT.DATUM NGVD 29	PHOTOGRAMMETRY AS OF: X			
1"=20'	HORZ.DATUM NAD 83 (1992.88)	SURVEYED	BY C.STEWART / T.PHUNG	CHECKED	BY C. STEWART 5/2013
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY S. ABASSY 5/2013	CHECKED	BY S. ALIVIO 5/2013

DESIGN	BY R. Wang	CHECKED B. Gunter
DETAILS	BY D. Wooten/B. Huddleston	CHECKED B. Gunter
QUANTITIES	BY E. Scott	CHECKED B. Gunter

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO.	POST MILE
54-0832	14.2

CAJON MT UP PROTECTION STRUCTURE
FOUNDATION PLAN

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3647
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/29/13		11/08/13	12/12/13	4	10

FILE => 54-0832-f_fp.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1089	1168

08-26-13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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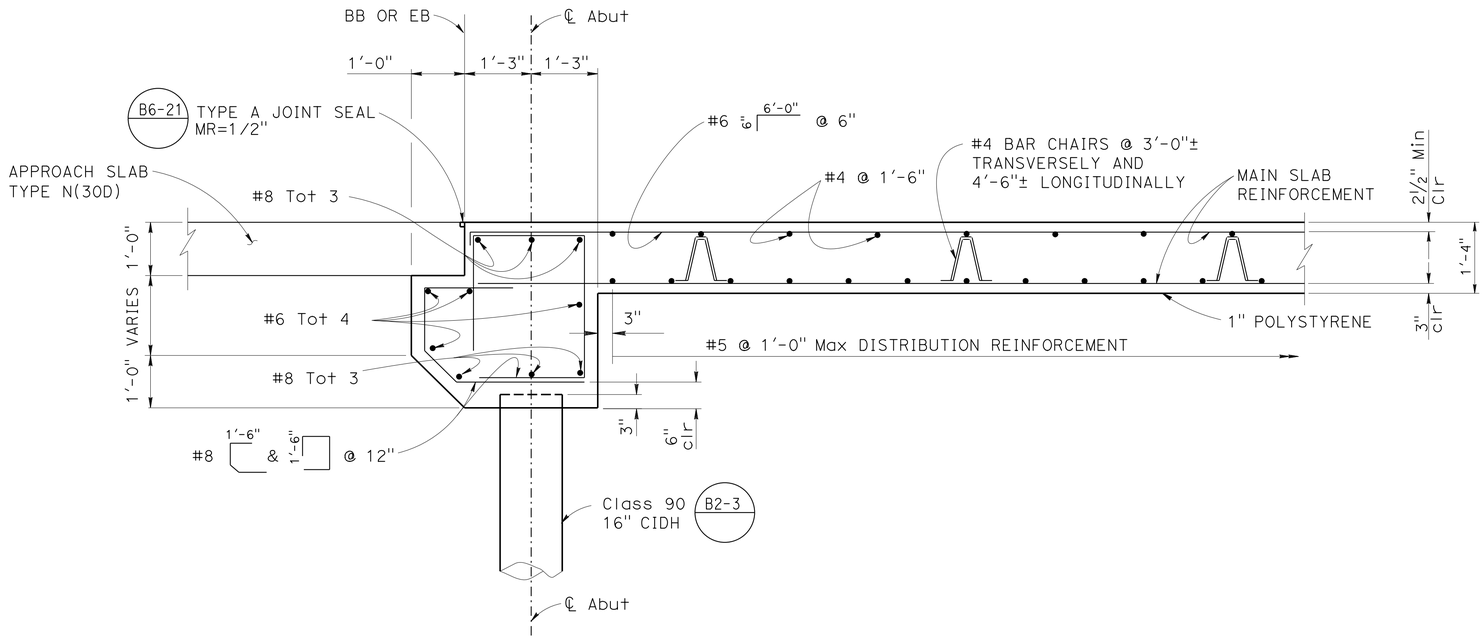
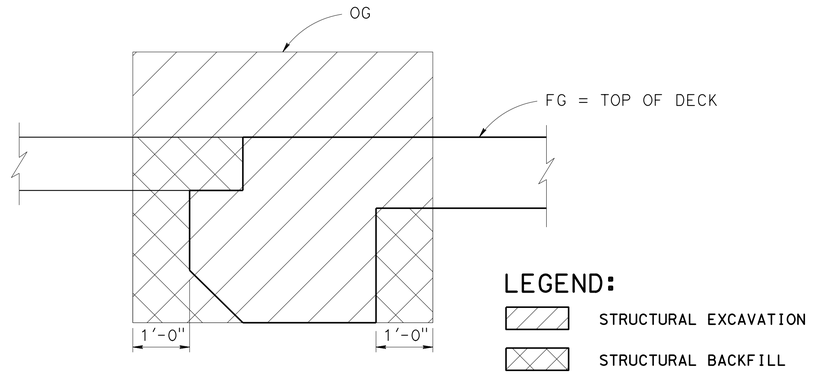


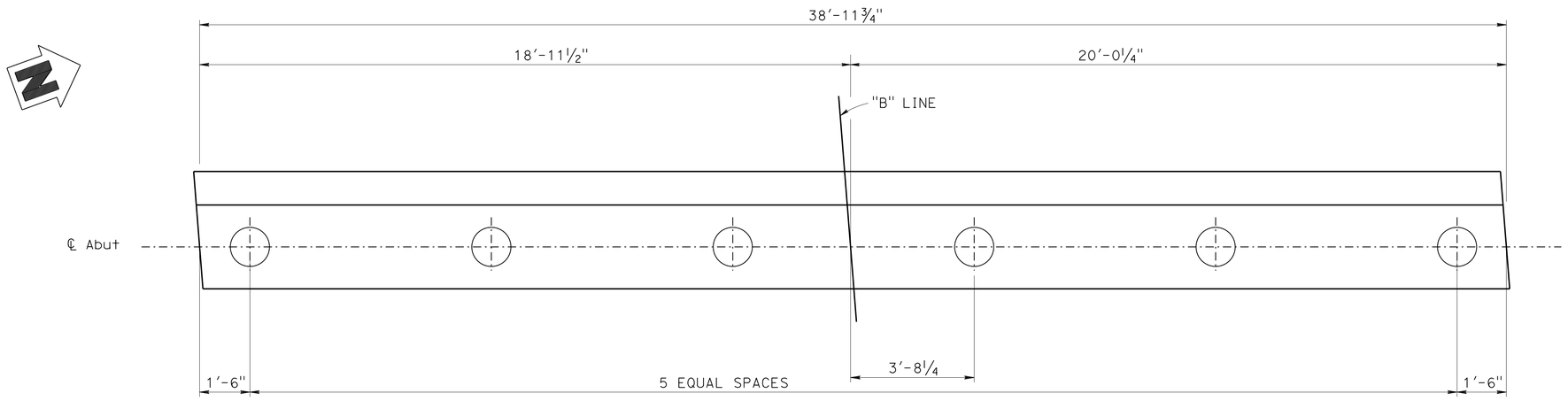
LONGITUDINAL SECTION AT ABUT

¾"=1'-0"



LIMITS OF EXCAVATION AND BACKFILL

¾"=1'-0"



ABUTMENT FOUNDATION

Abut 1 SHOWN, Abut 4 SIMILAR BUT OPPOSITE HAND

½" = 1'-0"

DESIGN	BY R.Wang	CHECKED B.Gunter	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0832	CAJON MT UP PROTECTION STRUCTURE	
DETAILS	BY D.Wooten / H. I.	CHECKED B.Gunter			POST MILE 14.2	ABUTMENT LAYOUT	
QUANTITIES	BY E. Scott / H. Win	CHECKED B. Gunter					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/07/13	05/07/13	08/23/13	12/12/13	5	10

FILE => 54-0832-f-abut_lo.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:46

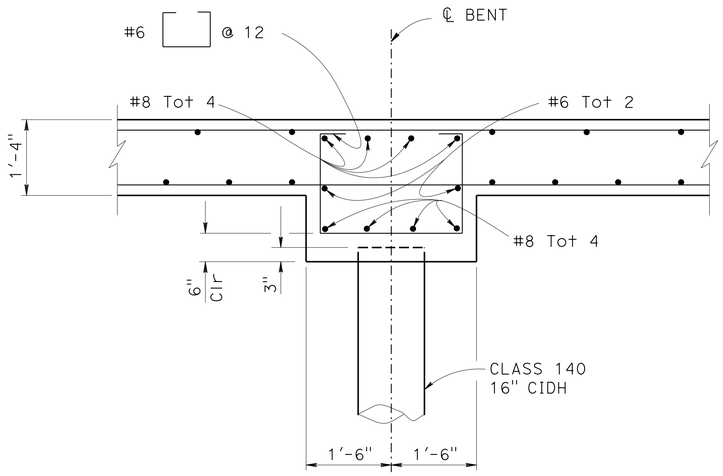
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1090	1168

08-26-13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

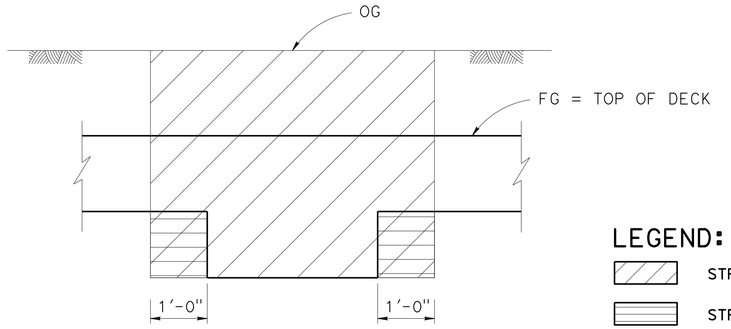
REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



LONGITUDINAL SECTION AT BENT

¾"=1'-0"



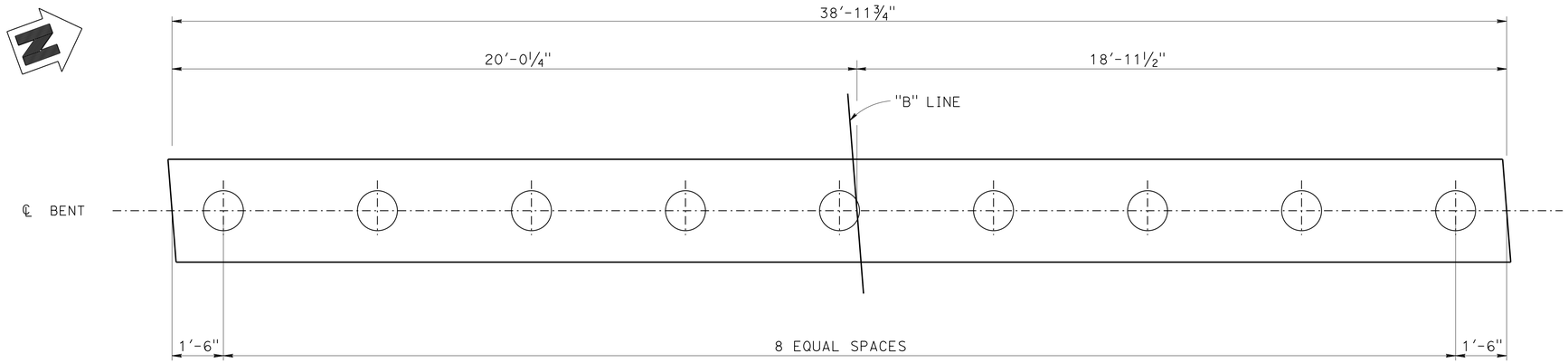
LIMITS OF EXCAVATION AND BACKFILL

¾"=1'-0"

LEGEND:

STRUCTURAL EXCAVATION

STRUCTURAL BACKFILL



BENT FOUNDATION

BENT 2 SHOWN, BENT 3 SIMILAR

½"=1'-0"

DESIGN	BY R.Wang	CHECKED B.Gunter	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0832	CAJON MT UP PROTECTION STRUCTURE	
DETAILS	BY D.Wooten / H. I.	CHECKED B.Gunter			POST MILE 14.2	BENT LAYOUT	
QUANTITIES	BY E. Scott / H. Win	CHECKED B. Gunter					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/23/13	08/22/13	08/23/13	12/12/13	6	10

FILE => 54-0832-h-bnt_lo.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:46

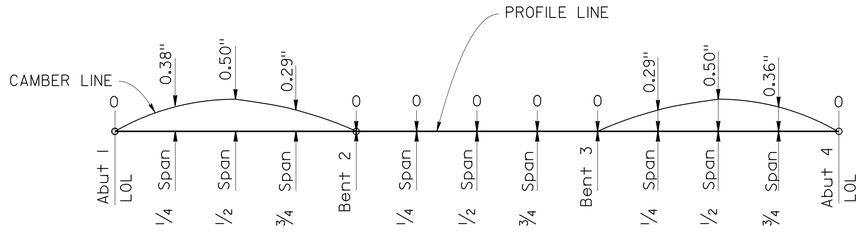
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1091	1168

08-26-13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

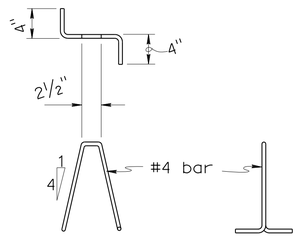
REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA



CAMBER DIAGRAM

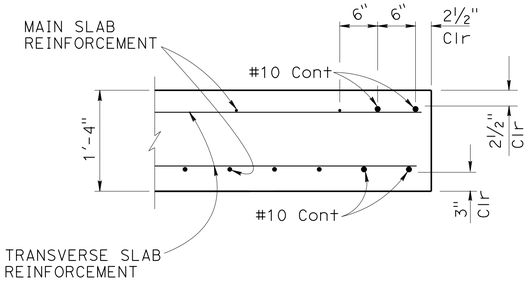
NO SCALE

DO NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT



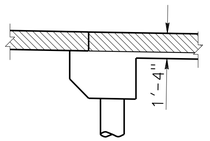
BAR CHAIR DETAIL

No Scale

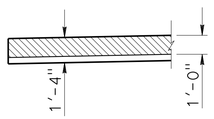


EDGE OF SLAB DETAILS

1" = 1'-0"

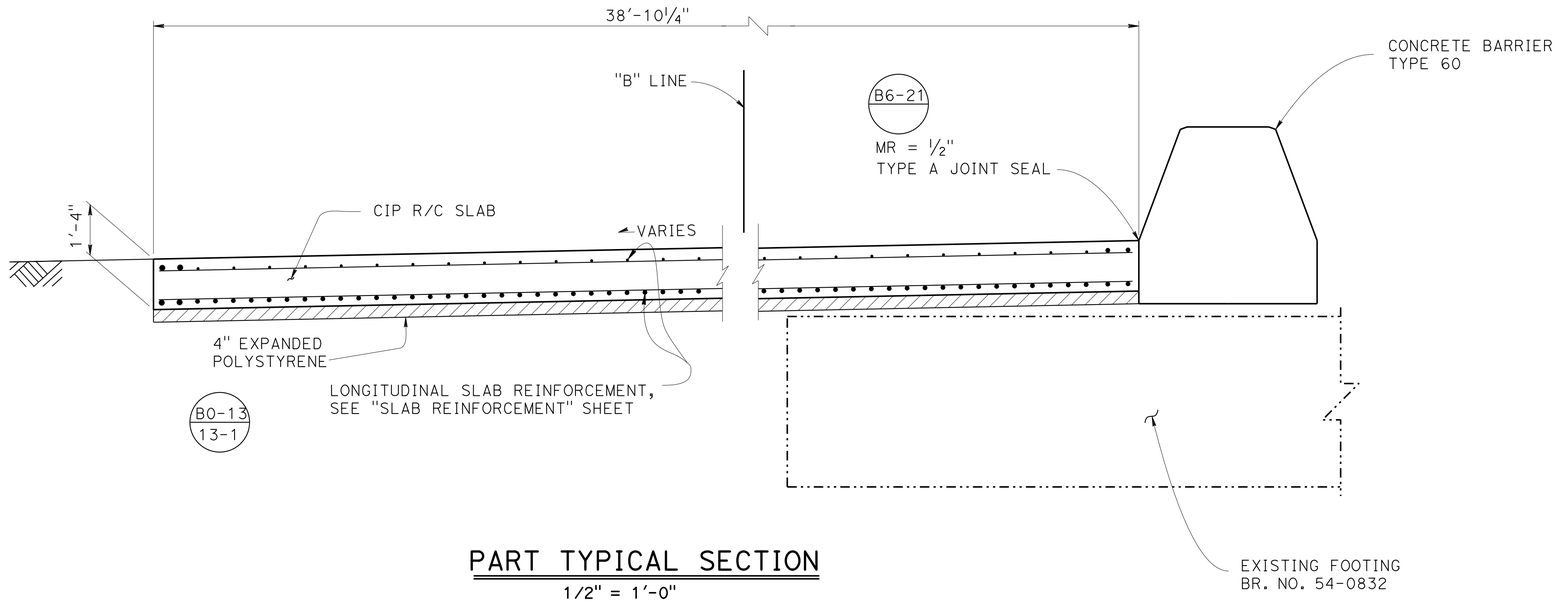


ABUTMENT



TYPICAL SECTION

EPOXY COATED REINFORCEMENT LIMITS



PART TYPICAL SECTION

1/2" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND:

ALL REINFORCEMENT WITHIN OR EXTENDING INTO THIS AREA SHALL BE EPOXY COATED IN THIER ENTIRETY

DESIGN	BY R.Wang	CHECKED B.Gunter	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-0832
DETAILS	BY D.Wooten / H. I.	CHECKED B.Gunter			POST MILE 14.2
QUANTITIES	BY E. Scott / H. Win	CHECKED B. Gunter			

CAJON MT UP PROTECTION STRUCTURE
TYPICAL SECTION

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/24/13	05/24/13	08/22/13	08/26/13	7	10

FILE => 54-0832-k-ts.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:46

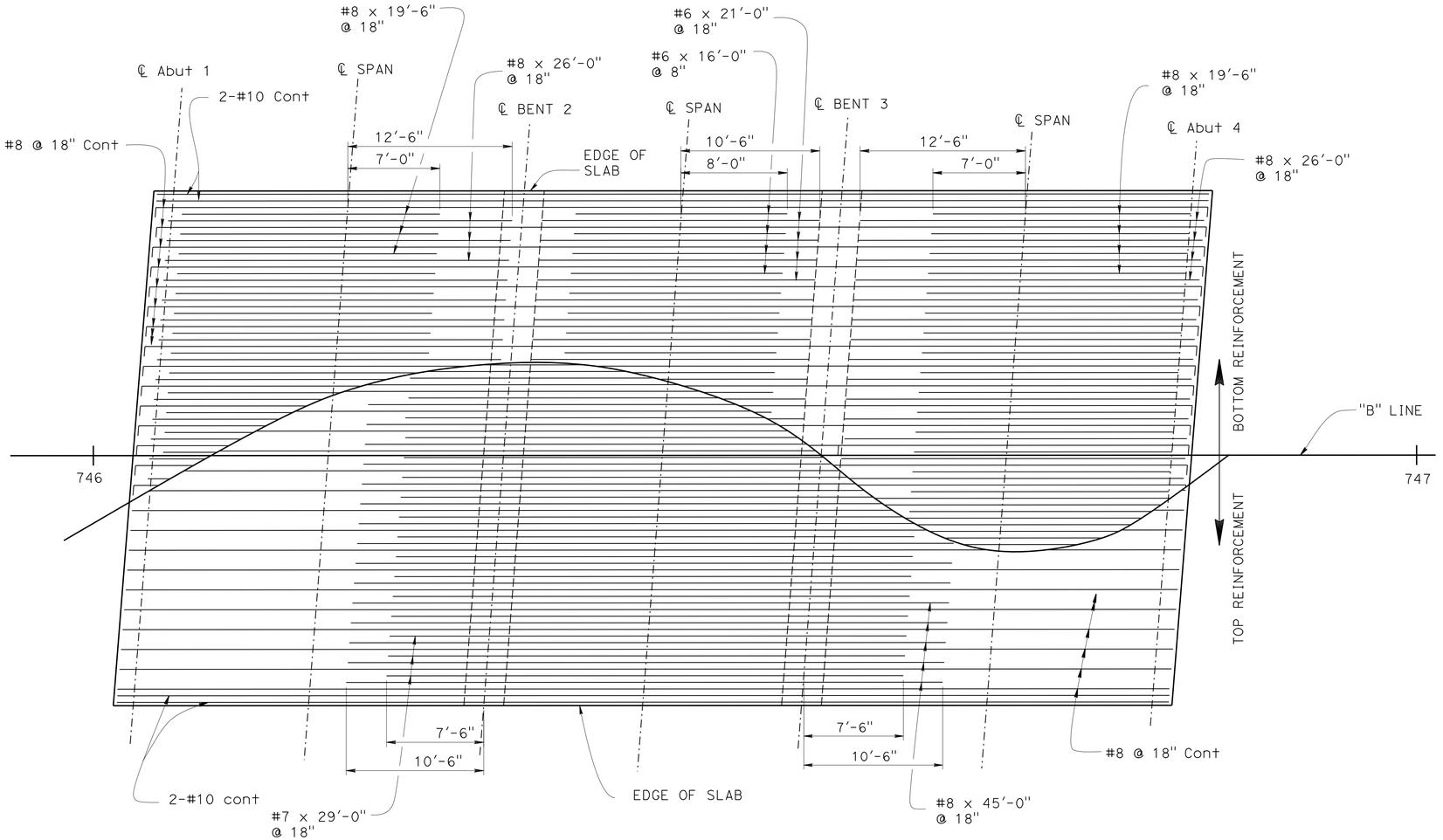
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1092	1168

08-26-13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



REINFORCEMENT PLAN

1" = 5'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY R.Wang	CHECKED B.Gunter	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY D.Wooten / H. I.	CHECKED B.Gunter	
QUANTITIES	BY E. Scott / H. Win	CHECKED B. Gunter	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-0832
POST MILE 14.2

CAJON MT UP PROTECTION STRUCTURE
SLAB REINFORCEMENT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/24/13	05/03/13	08/22/13	08/27/13	8	10

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USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1093	1168

8/26/13
REGISTERED CIVIL ENGINEER — DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JEFF SIMS No. C 46471 Exp. 6/30/15 CIVIL — STATE OF CALIFORNIA

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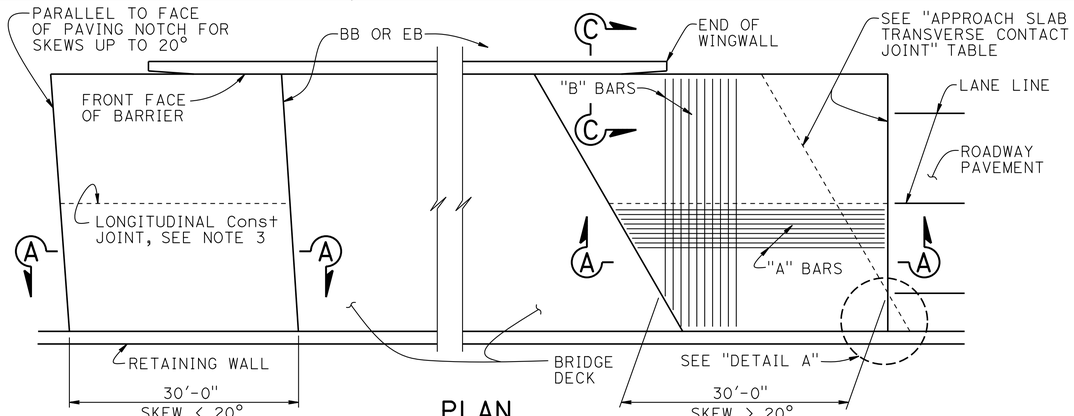
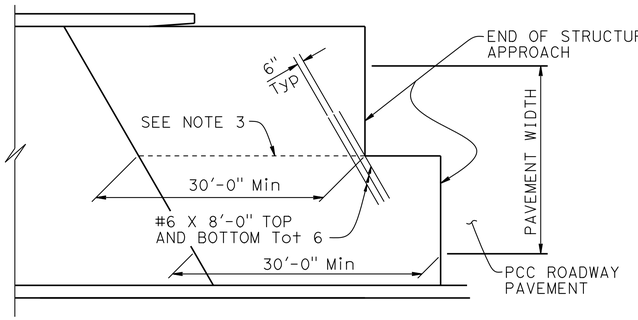
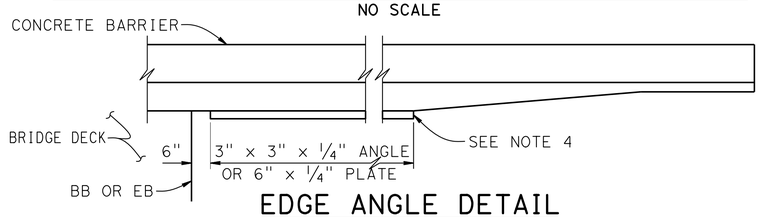


PLAN
1" = 10'

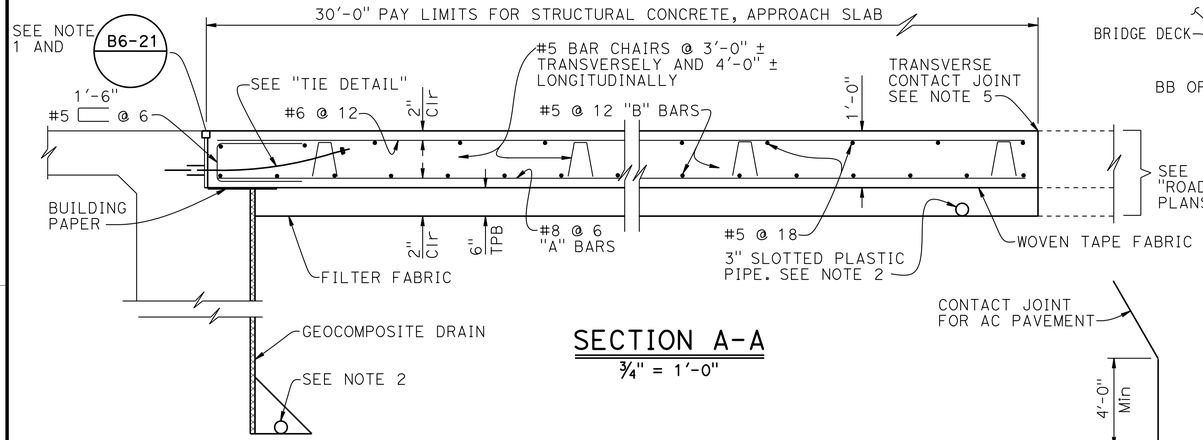


STRUCTURE APPROACH - END STAGGER DETAIL
NO SCALE



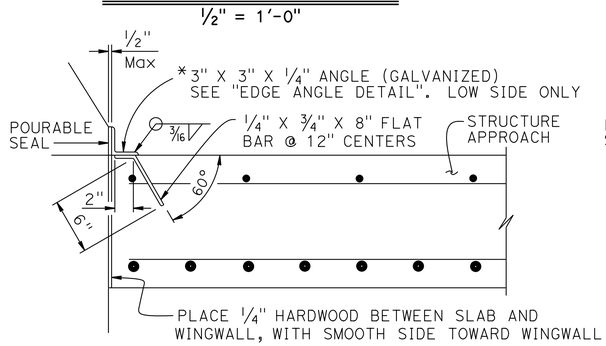
EDGE ANGLE DETAIL
½" = 1'-0"

APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE

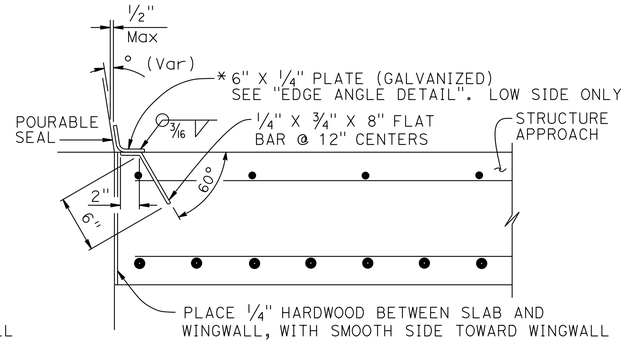


SECTION A-A
¾" = 1'-0"

DETAIL A
NO SCALE

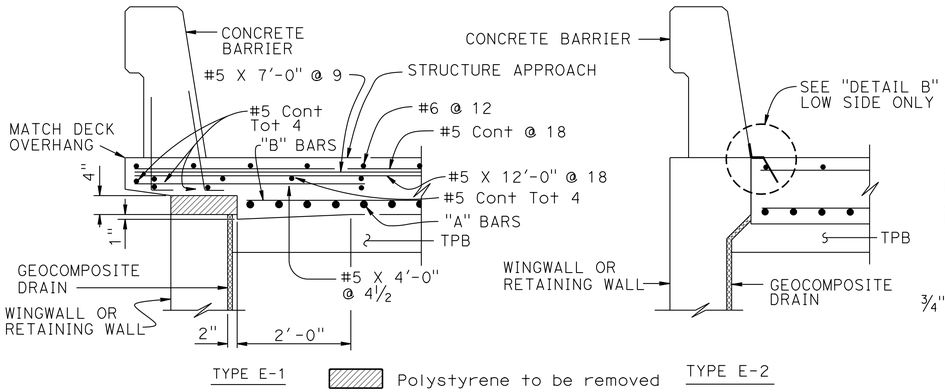


*(TO BE USED WITH CONCRETE BARRIER WITH VERTICAL FACE)

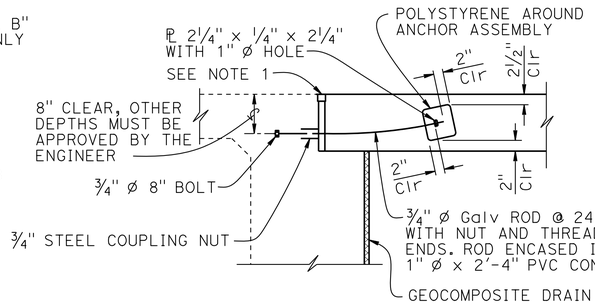


*(TO BE USED WITH CONCRETE BARRIER WITH SLOPING FACE)

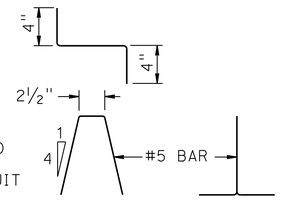
DETAIL B
1½" = 1'-0"



SECTION C-C
¾" = 1'-0"
(Type E-1 to be used, unless otherwise shown on plans)



TIE DETAIL
¾" = 1'-0"



BAR CHAIR DETAIL
1½" = 1'-0"

NOTES:
1. For details not noted or shown, see Structure Plans
2. For drainage details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet
3. Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines
4. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable
5. For transverse contact joint with new PCC paving, refer to Standard Plan P10
6. At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along ℄ roadway

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 54-0832	CAJON MT UP PROTECTION STRUCTURE
FILE NO. xs3-140	APPROVAL DATE July 2011			POST MILE 14.2	STRUCTURE APPROACH TYPE N(30D)

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621 PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

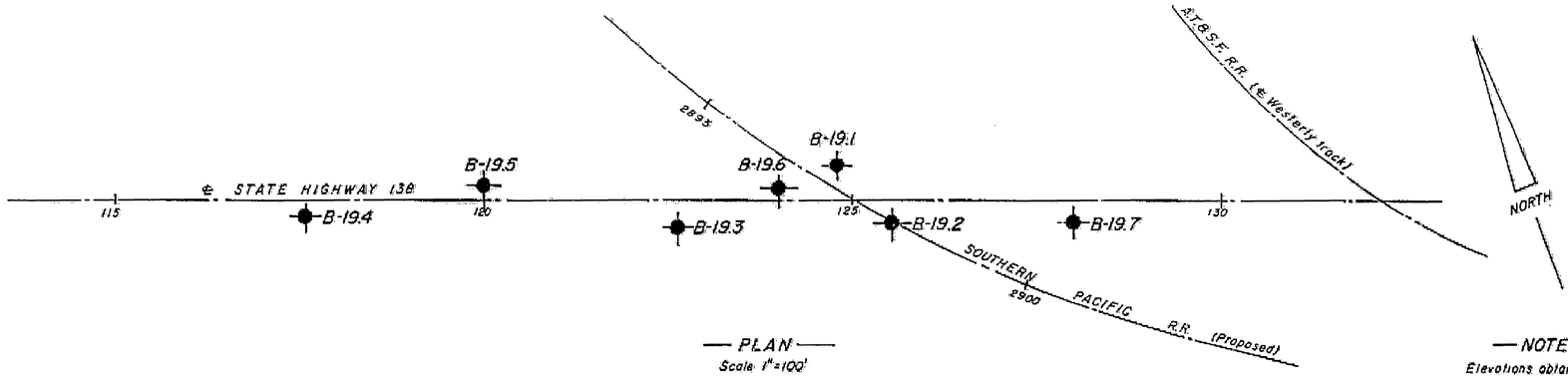
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
08/22/13				9	10

FILE => 54-0832-sa-n30d.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 10:46

VIII-SBd-138-14.2



— PLAN —
Scale 1"=100'

— NOTE —
Elevations obtained from topographic map.
No groundwater encountered.

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES					
As built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirms that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.					
DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
08	SBd	2,138	6.2/6.4,2.3/R15.2	1094	1168

Fernando De Haro, No. C65781, Exp. 9-30-13, CIVIL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

REGISTERED CIVIL ENGINEER 5/21/13 DATE

CAJON MT. UP SLAB ON GRADED
LOG OF TEST BORINGS

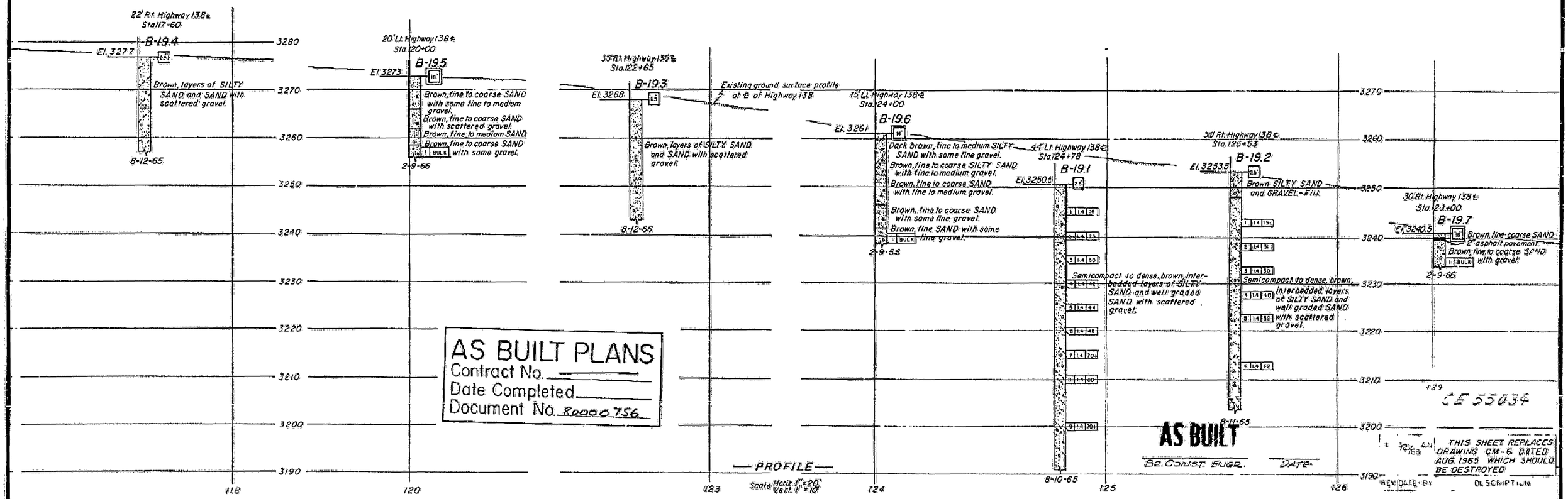
UNITS: 3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE: 08000006091	08-340101	54-0832

AS-BUILT VERT. DATUM: xx CONVERSION: xx

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

Sheet 10 of 10

TO ACCOMPANY PLANS DATED 3-3-14



— PROFILE —
Scale Horiz. 1"=20' Vert. 1"=10'

AS BUILT PLANS
Contract No.
Date Completed
Document No. 80000756

AS BUILT
BR. CONST. ENGR. DATE

THIS SHEET REPLACES DRAWING CM-6 DATED AUG. 1965 WHICH SHOULD BE DESTROYED

CE 55034

REV.	DATE	BY	DESCRIPTION
1	7/21/66	AN	

LEGEND OF EARTH MATERIALS

SIZE CLASSIFICATION

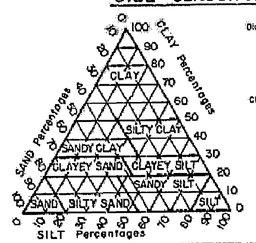


Diagram showing the basis of grain size distribution used in determination of class names. Size classification is based on the A.S.T.M. grade scale in field and laboratory classification unless stated otherwise.

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply mechanical analysis unless so stated.

MATERIAL SYMBOLS

Gravel; Sand; Silt; Clay; Sandy clay or clayey sand; Sandy silt or silty sand; Silty clay or clayey silt; Peat or organic matter; Fill material; Shale; Sandstone; Limestone; Metamorphic rock; Igneous rock

CONSISTENCY CLASSIFICATION

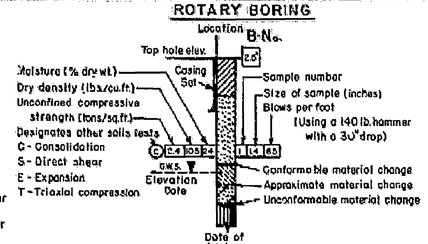
According to the Standard Penetration Test

No. of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
70+	Very dense	Very hard

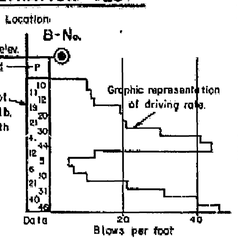
LEGEND OF BORING OPERATIONS

Plan of any boring
Rotary boring
Diamond core boring
Auger boring
Sample boring
Jet boring
Test pit
2¼" Cone penetrometer
2½" Cone penetrometer

ROTARY BORING



PENETRATION TEST



MOORE & TABER • Engineers • Geologists

APPROVED [signature] JOB No. 14-261F-19
REGISTERED CIVIL ENGINEER No. 8389

DE LEUW CATHER & COMPANY

SOUTHERN PACIFIC COMPANY

CAJON MOUNTAIN UNDERPASS

LOG OF TEST BORINGS

Scale As Shown | Date Feb-14 1966 | By ALS | Check by T.D.H | Drawing CM-6a

FILENAME => 54-0832-z-lotb.tif

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1095	1168

10-03-13
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

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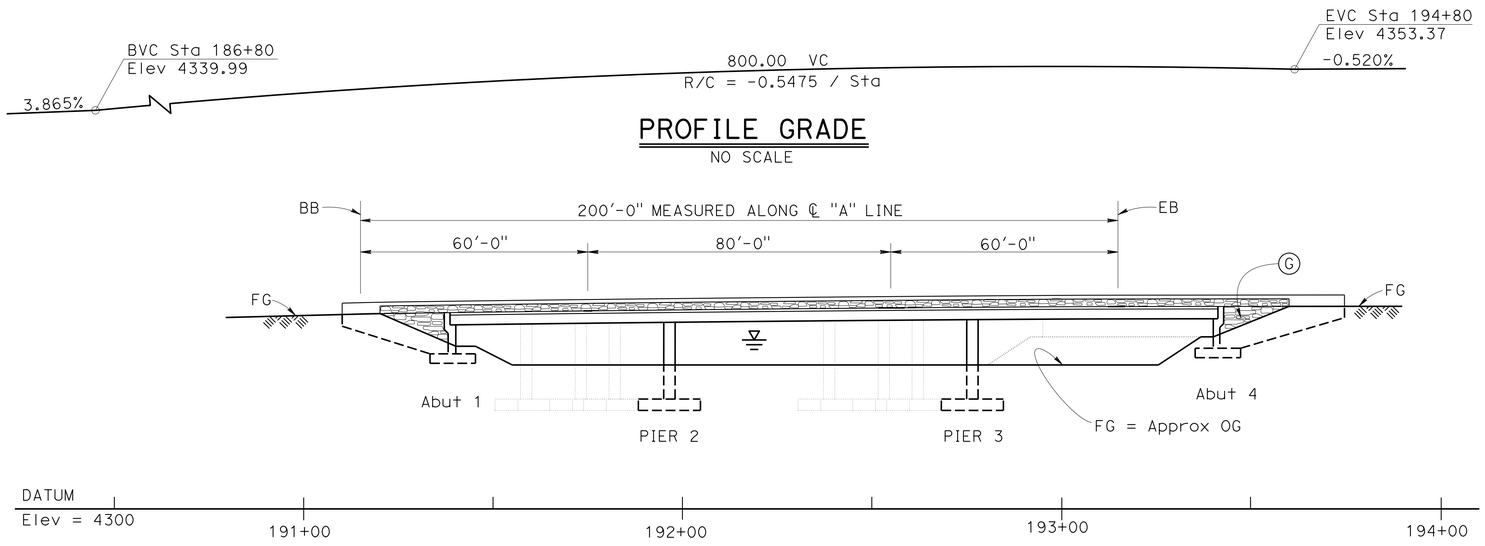
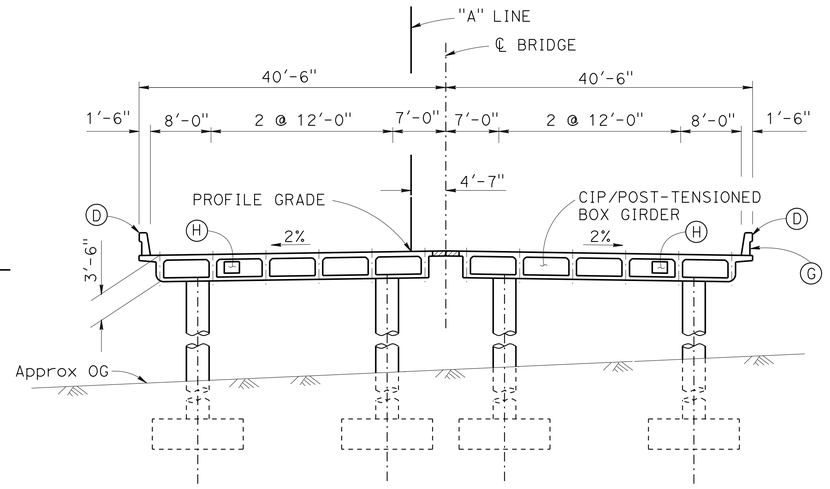
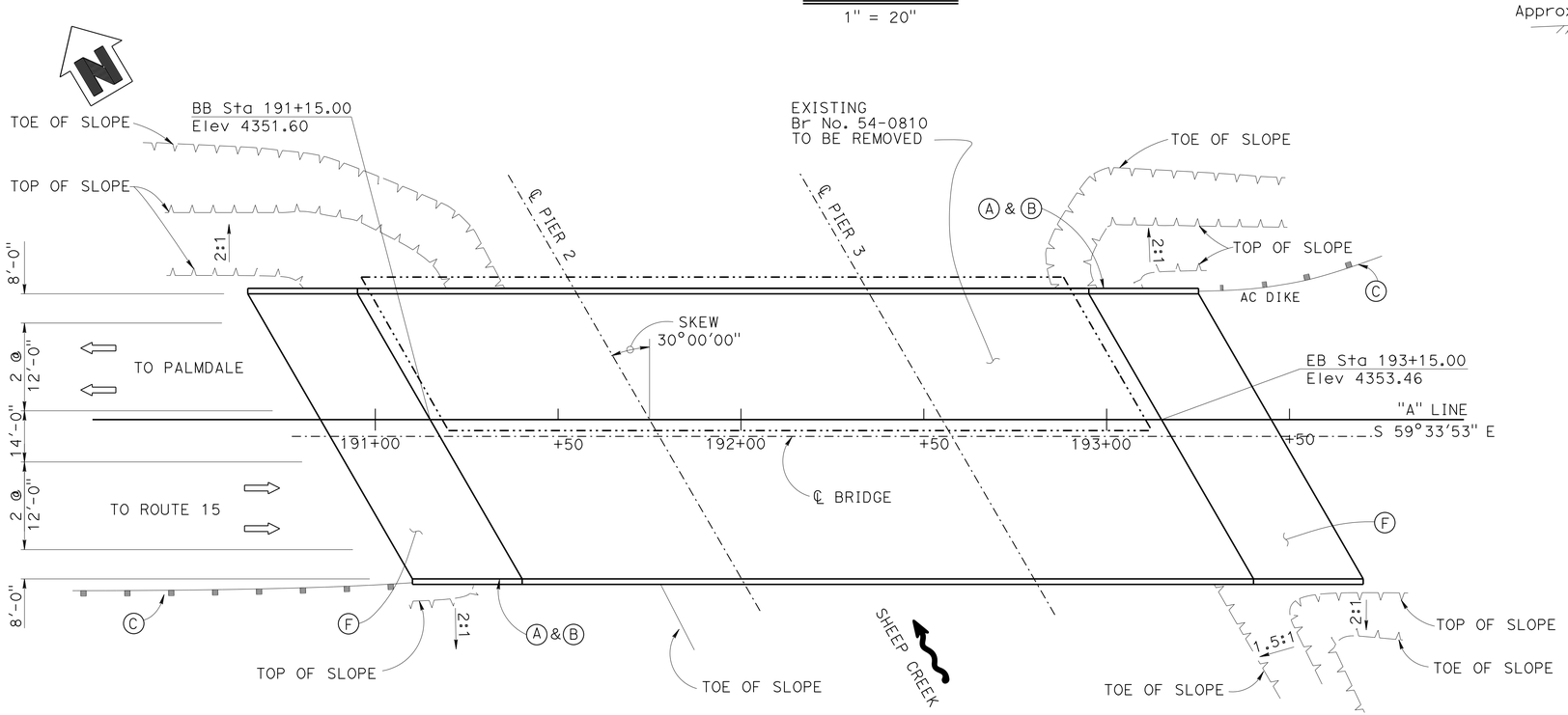


PROFILE GRADE
NO SCALE

ELEVATION
1" = 20'



TYPICAL SECTION
1" = 10'



PLAN
1" = 20'

NOTES:

(A) Paint "SHEEP CREEK BRIDGE"
(B) Paint Bridge number "BRIDGE NO. 54-1286"
(C) Midwest Guardrail System, see "ROAD PLANS"
(D) Concrete Barrier TYPE 736 (MOD)
(E) Stain all exposed concrete surface to 1'-0" below FG not including slope paving Stain shall not be placed on deck between barrier rails.
(F) Structure Approach TYPE N(30S)(MODIFIED)
(G) Stain Concrete & Archtectural Treatment.
(H) Future utility opening 2'-0" (W) X 1'-6" (H) , see B7-10 / U-7

LEGEND:

Indicates existing structure
Indicates new structure
Indicates direction of traffic

DESIGN	BY D. Balbas / B. Gunter	CHECKED J. Fang	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		
DETAILS	BY H. Mahboobi / H. Iniguez	CHECKED J. Fang	LAYOUT	BY D. Balbas	CHECKED B. Gunter	
QUANTITIES	BY D. Balbas/ E. Mercado/ B. Gunter	CHECKED V. Altamirano/ R. Wang/ C. Lomicka	SPECIFICATIONS	BY S. Seifert	PLANS AND SPECS COMPARED W. Siu	

B. Gunter
DESIGN ENGINEER

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-1286
POST MILE 3.6

SHEEP CREEK BRIDGE (REPLACE)
GENERAL PLAN

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1
CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-05-10		12-12-13	11-14-13	1	26

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 54-1286-a-gp_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 11:22

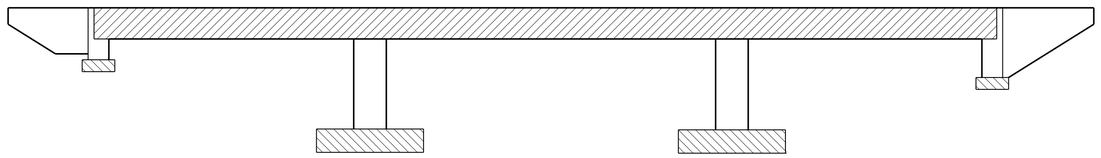
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1096	1168

10-03-13
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER No. C 66195 Exp. 06-30-14 CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



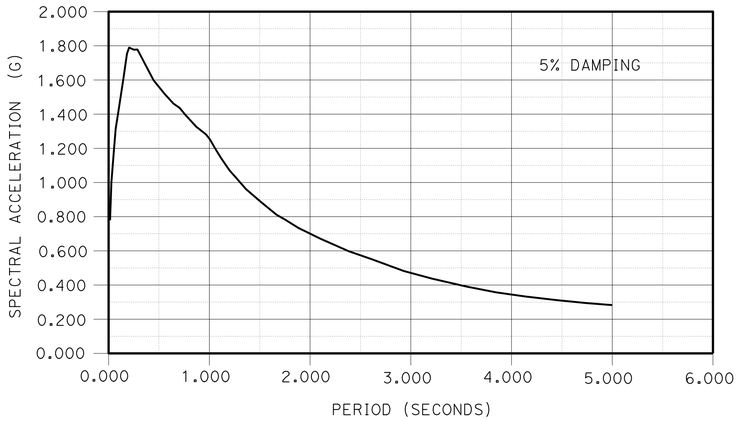
CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

Structural Concrete, Bridge (See Prestressing notes on "GIRDER REINFORCEMENT" sheet)

Structural Concrete, Bridge Footing (f'c = 3.6 ksi @ 28 days)

Structural Concrete, Bridge (f'c = 4.0 ksi @ 28 days)



ARS CURVE

NO SCALE

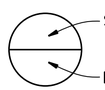
SPREAD FOOTING DATA TABLE

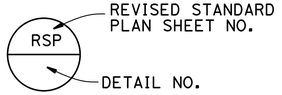
Support Location	Working Stress Design (WSD)		Load and Resistance Factor Design (LRFD)		
	Permissible gross contact stress (settlement) (ksf)	Allowable gross bearing capacity (ksf)	Service Permissible Net Contact Stress (settlement) (ksf)	Strength Factored Gross Nominal Bearing Resistance øb = 0.45 (ksf)	Extreme Event Factored Gross Nominal Bearing Resistance øb = 1.0 (ksf)
Abut 1	3.2	3.2	N/A	N/A	N/A
Pier 2	N/A	N/A	16.0	11.0	32.4
Pier 3	N/A	N/A	17.2	11.9	34.6
Abut 4	2.8	2.8	N/A	N/A	N/A

1. Stresses and Resistances were calculated for controling load combination.
2. Controlling Load combination for service limit state is the one resulting in the highest ratio of $q_{n,u}/q_{pn}$ for foundation on soil, or $q_{n,max}/q_{pn}$ or foundation on rock.
3. Controling Load combination for Strength, Construction, and Extreme event is the one resulting in the highest ratio of $q_{g,u}/q_r$ for foundations on soil, or $q_{g,max}/q_r$ for foundations on rock

STANDARD PLANS DATED 2010

	A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
	A10F	LEGEND-SOIL (SHEET 1 OF 2)
	A10G	LEGEND-SOIL (SHEET 2 OF 2)
	A10H	LEGEND-ROCK
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
	B0-1	BRIDGE DETAILS
	B0-3	BRIDGE DETAILS
	B0-5	BRIDGE DETAILS
	B0-13	BRIDGE DETAILS
	B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
	B7-1	BOX GIRDER DETAILS
	B7-10	UTILITY OPENINGS, (BOX GIRDER)
RSP	B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
RSP	B11-56	CONCRETE BARRIER TYPE 736
	B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZES LESS THAN 4")
	T3A	TEMPORARY RAILING (TYPE K)





INDEX TO PLANS

GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:	AASHTO LRFD Bridge Design Specifications, 4th Edition with Caltrans Amendments, preface dated NOVEMBER 2011
SEISMIC DESIGN:	Caltrans Seismic Design Criteria (SDC) version 1.6 November 2010
DEAD LOAD:	Includes 35 PSF future wearing surface.
LIVE LOAD:	HL-93 and Permit design load.
SEISMIC LOAD:	Soil profile: Vs30=390 m/s Moment Magnitude: Mmax=7.8 Peak ground accelaration 0.79 g
REINFORCED CONCRETE:	f_y = 60 ksi f'c = 3.6 ksi (except as shown on "CONCRETE STRENGTH AND TYPE LIMTS" diagram) See "PRESTRESSING NOTES" on "GIRDER REINFORCEMENT" sheet
SPREAD FOOTING:	See "SPREAD FOOTING DATA TABLE"

DESIGN	BY D. Balbas / B. Gunter	CHECKED J. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY H. Mahboobi / H. I.	CHECKED J. Fang	
QUANTITIES	BY D. Balbas/E. Mercado/ B. Gunter	CHECKED V. Altamirano/ C. Lomicka/R. Wang	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-1286
POST MILE 3.6

SHEEP CREEK BRIDGE (REPLACE)
INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
07-02-10		09-04-13	09-26-13	2	26

FILE => 54-1286-b-itp_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 11:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1097	1168

9-4-2013
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. R. GUNTER — No. C 66195 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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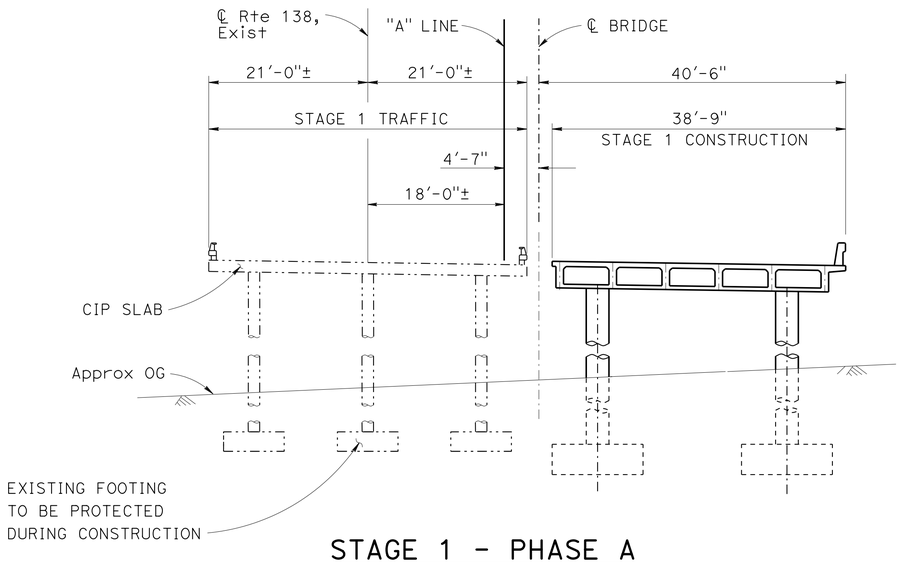
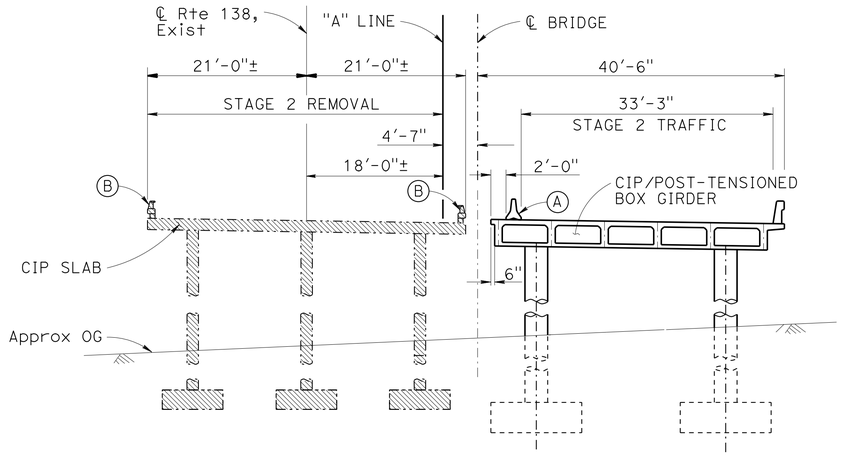
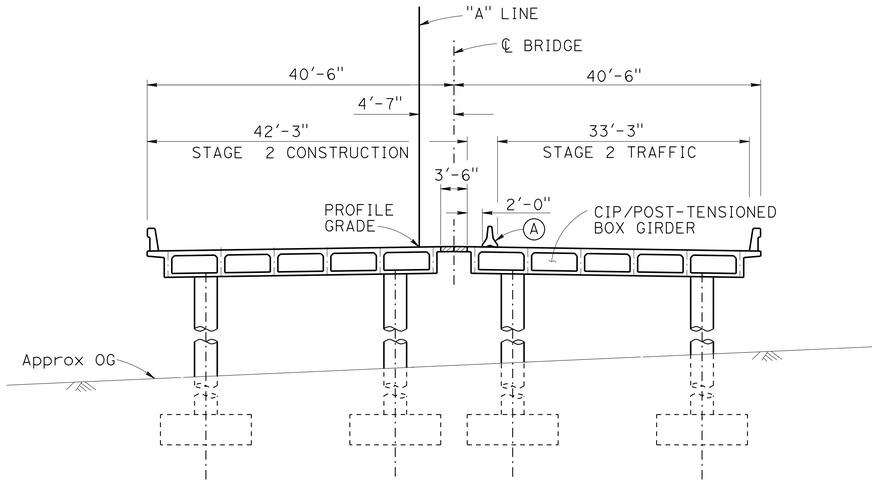


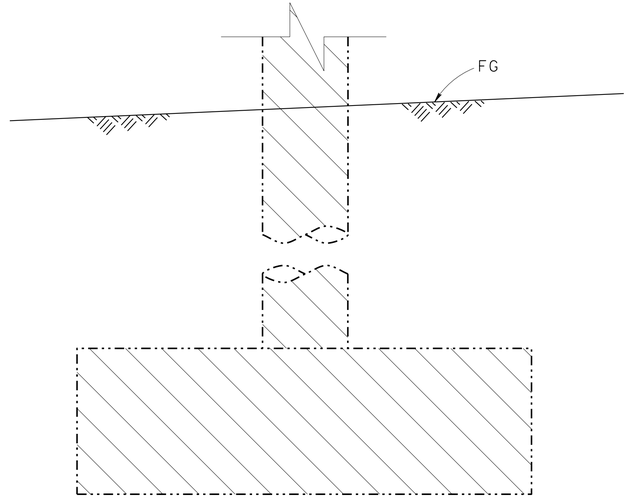
STAGE 1 - PHASE A
1" = 10'-0"



STAGE 2 - PHASE A
1" = 10'-0"



STAGE 2 - PHASE B
1" = 10'-0"



EXISTING PIER REMOVAL
¾" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTE:
Ⓐ Temporary Railing (TYPE K) T3A

Ⓑ Salvage existing Metal Railing

LEGEND:
- Indicates Structural Removal.
- Closure pour.
- Indicates existing structure
- Indicates new structure

QUANTITIES

SALVAGE METAL BRIDGE RAILING	437	LF
BRIDGE REMOVAL, LOCATION C	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	1,614	CY
STRUCTURE BACKFILL (BRIDGE)	1,081	CY
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	363	CY
STRUCTURAL CONCRETE, BRIDGE	1,395	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N MODIFIED)	178	CY
CONCRETE SURFACE TEXTURE	814	SQFT
JOINT SEAL (MR 2")	189	LF
BAR REINFORCING STEEL (BRIDGE)	227,548	LB
BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	235,756	LB
PREPARE AND STAIN CONCRETE	19,314	SQFT
WELDED STEEL PIPE CASING (BRIDGE)	140	LF
SLOPE PAVING (CONCRETE)	10	CY
CONCRETE BARRIER (TYPE 736 MODIFIED)	480	LF

DESIGN	BY B. Gunter	CHECKED J. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY H. Mahboobi / H. I.	CHECKED J. Fang	
QUANTITIES	BY D. Balbas/ E. Mercado/ B. Gunter	CHECKED V. Altamirano/ R. Wang/ C. Lomicka	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-1286
POST MILE 3.6

SHEEP CREEK BRIDGE (REPLACE)
STAGE CONSTRUCTION

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1
CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
02-28-13	09-04-13	12-12-13	3	26

FILE => 54-1286-c-stagconst .dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 11:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1098	1168

9-4-2013
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

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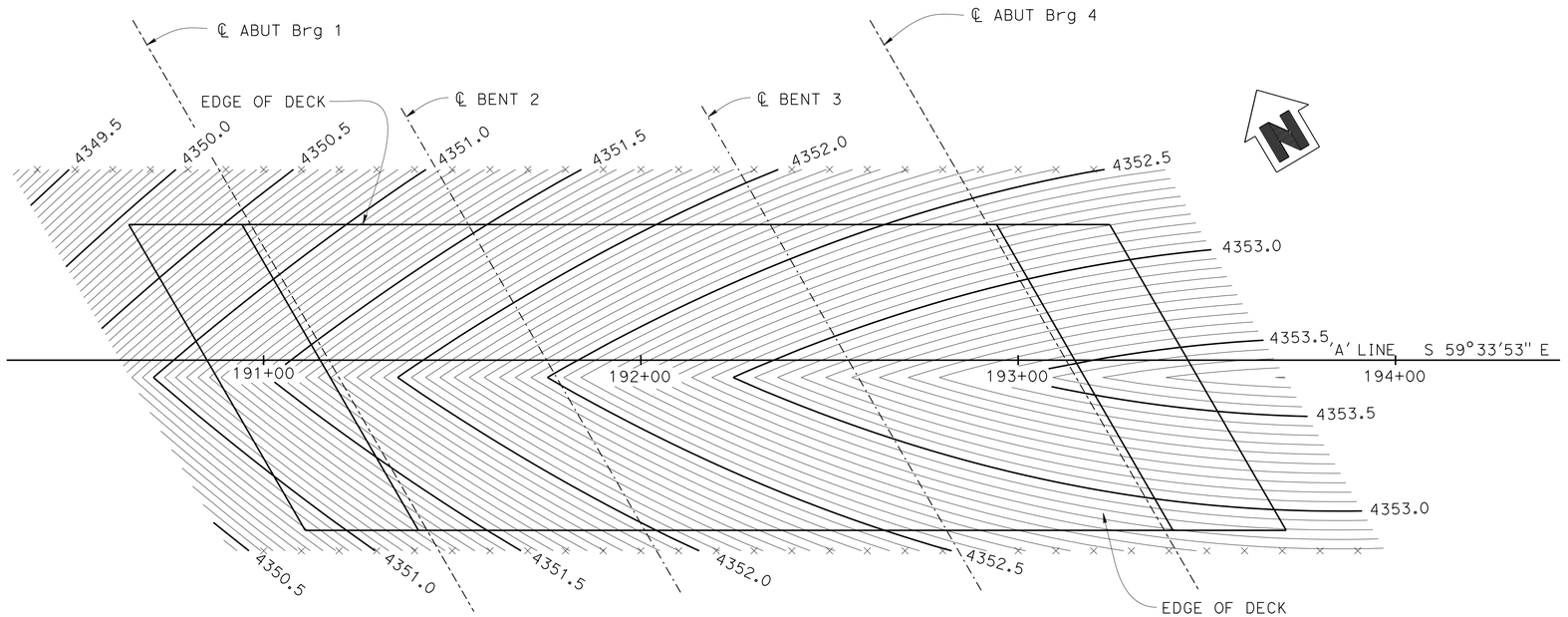

DECK CONTOURS

1" = 20'

NOTES:

1. × Indicates 10' intervals along station line.
2. Contours do not include camber
3. Contour interval is 0.05'

DESIGN	BY D. Balbas	CHECKED J. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 54-1286	SHEEP CREEK BRIDGE (REPLACE)
DETAILS	BY M. Pope / H. I.	CHECKED J. Fang			POST MILE 3.6	DECK CONTOURS
QUANTITIES	BY D. Balbas/ E. Mercado/ B. Gunter	CHECKED V. Altamirano/ R. Wang/ C. Lomicka				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
~~6-03-13~~		09-04-13	~~08-27-13~~	4	26

FILE => 54-1286-d-dc.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 11:22

HYDROLOGIC SUMMARY

DRAINAGE AREA: 14.8 SQUARE MILES

	DESIGN FLOOD	BASE FLOOD	OVERTOPPING FLOOD
FREQUENCY (YEARS)	100	50	-
DISCHARGE (CUBIC METERS PER SECOND)	11,200	7,821	-
WATER SURFACE ELEV. AT BRIDGE (FEET)	4,344.6	-	-

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATIONS.

Bridge Location

① - 37.645 Lt ℄ Sta 190+95.65 Elev=4350.513 ±
② - 37.688 Lt ℄ Sta 192+92.70 Elev=4352.509 ±
③ - 2.175 Rt ℄ Sta 193+15.61 Elev=4353.270 ±
④ - 2.201 Rt ℄ Sta 191+18.31 Elev=4351.509 ±

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1099	1168

9-05-2013
REGISTERED CIVIL ENGINEER DATE

B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

3-3-14
PLANS APPROVAL DATE

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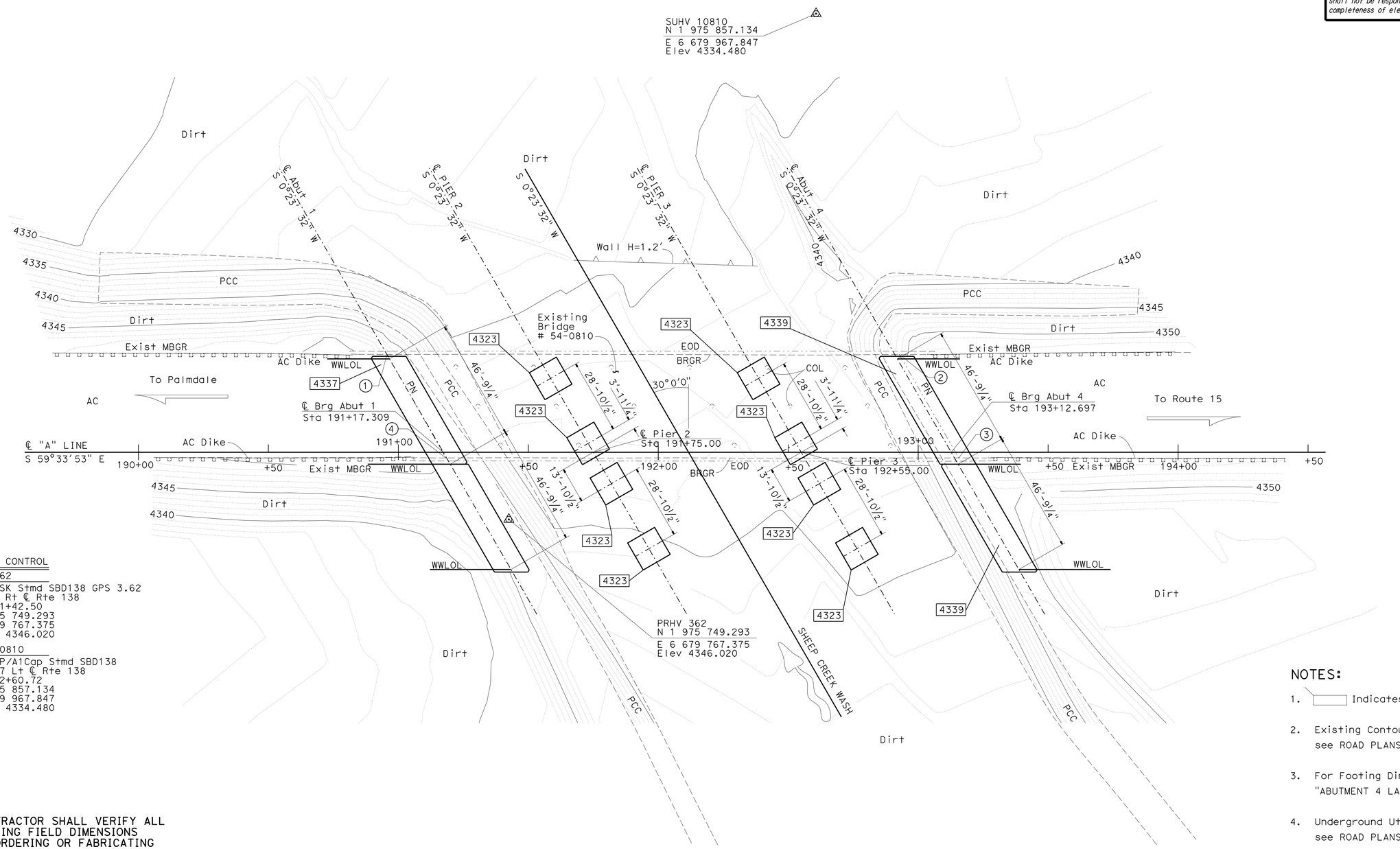

SURVEY CONTROL

PRHV 362
Fnd DSK Stmd SBD138 GPS 3.62
25.815 Rt ℄ Rte 138
Sta 191+42.50
N 1 975 749.293
E 6 679 767.375
Elev = 4346.020

SUHV 10810
Fnd IP/A1Cap Stmd SBD138
168.717 Lt ℄ Rte 138
Sta 192+60.72
N 1 975 857.134
E 6 679 967.847
Elev = 4334.480

NOTES:

1. ☐ Indicates Bottom of Footing Elevation.
2. Existing Contours shown. for Final Contours, see ROAD PLANS.
3. For Footing Dimensions, see "ABUTMENT 1 LAYOUT", "ABUTMENT 4 LAYOUT", and "PIER LAYOUT" sheets
4. Underground Utilities as shown are approximate. see ROAD PLANS for details.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NGVD 29(1992.88)	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD 83	SURVEYED	BY T. Phung 05-10	CHECKED	BY E. Iiajar 05-10
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY M. Sadaghiani 05-10	CHECKED	BY E. Viajar 05-10

DESIGN	BY D. Balbas / B. Gunter	CHECKED J. Fang
DETAILS	BY H. Mahboobi / H. I.	CHECKED J. Fang
QUANTITIES	BY D. Balbas/ E. Mercado/ B. Gunter	CHECKED V. Altamirano/ R. Wang/ C. Lomicka

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-1286
POST MILE 3.6

SHEEP CREEK BRIDGE (REPLACE)
FOUNDATION PLAN

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3647
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
6/30/10		9/9/13 12/12/13	5	26

FILE => 54-1286-e-fp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	2,138	6.2/6.4, 2.3/R15.2	1100	1168

9-4-2013
REGISTERED CIVIL ENGINEER DATE

3-3-14
PLANS APPROVAL DATE

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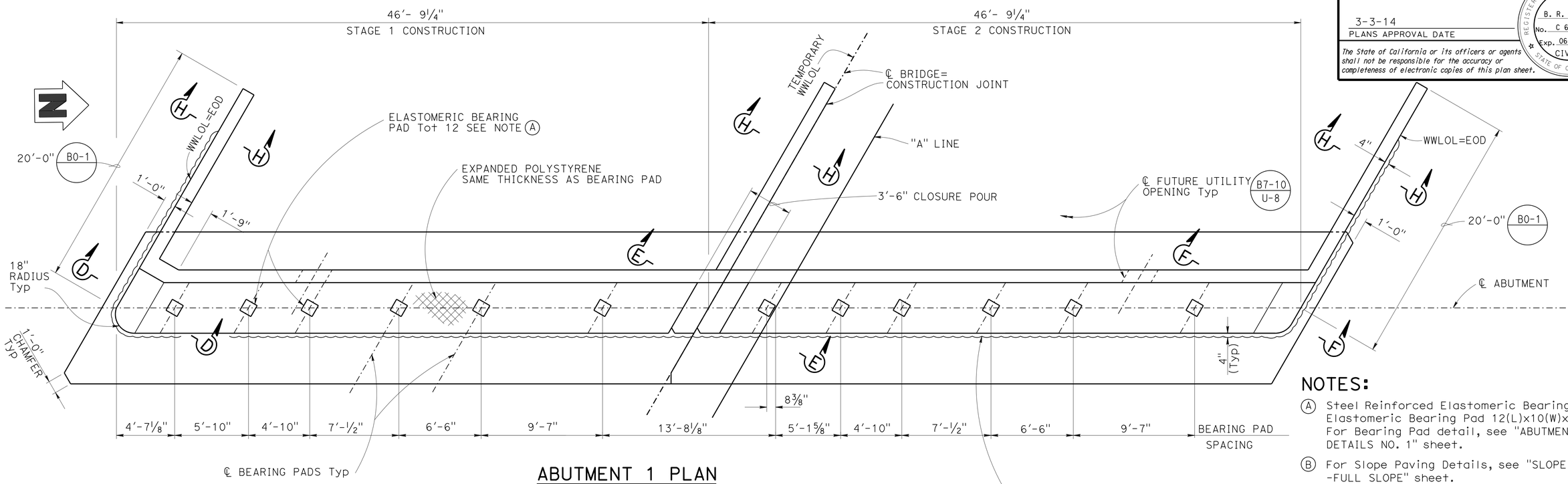
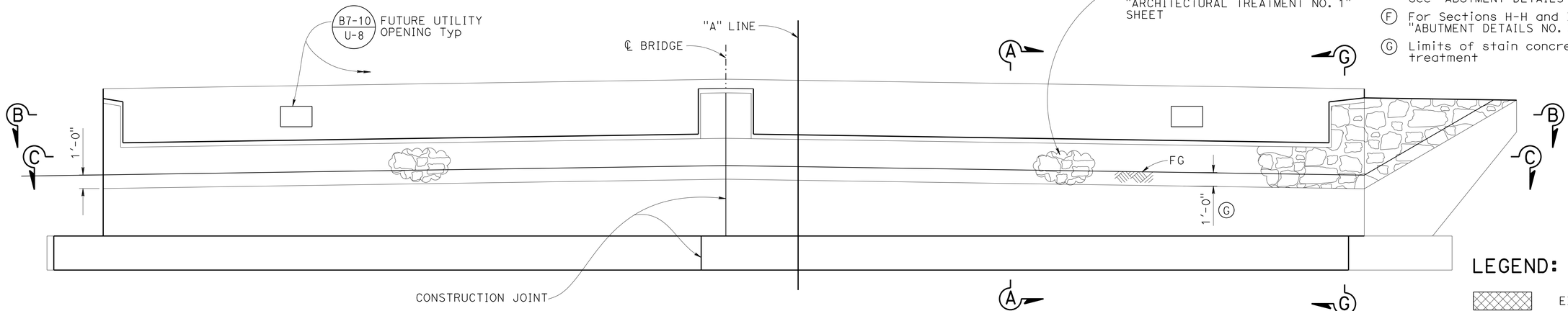
REGISTERED PROFESSIONAL ENGINEER
B. R. GUNTER
No. C 66195
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA



ABUTMENT 1 PLAN

¼" = 1'-0"



ABUTMENT 1 ELEVATION

¼" = 1'-0"

NOTES:

(A) Steel Reinforced Elastomeric Bearing Pad Elastomeric Bearing Pad 12(L)x10(W)x3(H). For Bearing Pad detail, see "ABUTMENT DETAILS NO. 1" sheet.

(B) For Slope Paving Details, see "SLOPE PAVING -FULL SLOPE" sheet.

(C) For Structure Approach Slab details, see "STRUCTURE APPROACH TYPE N(30)" sheet.

(D) For Sections A-A, see "ABUTMENT DETAILS NO. 1" sheet.

(E) For Section B-B, C-C, D-D, E-E and F-F see "ABUTMENT DETAILS NO. 2" sheet.

(F) For Sections H-H and I-I, see "ABUTMENT DETAILS NO. 3" sheet.

(G) Limits of stain concrete and architectural treatment

LEGEND:

EXPANDED POLYSTYRENE

STAIN CONCRETE AND ARCHITECTURAL TREATMENT

DESIGN	BY D. Balbas	CHECKED J. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY H. Mahboobi / H. I.	CHECKED J. Fang	
QUANTITIES	BY D. Balbas/ E. Mercado/ B. Gunter	CHECKED V. Altamirano/ R. Wang/ C. Lomicka	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 19

BRIDGE NO. 54-1286
POST MILE 3.6

SHEEP CREEK BRIDGE (REPLACE)
ABUTMENT 1 LAYOUT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3621
PROJECT NUMBER & PHASE: 0800000609 - 1 CONTRACT NO.: 08-3401U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
07-22-10		09-04-13	12-12-13	6	26

FILE => 54-1286-f_a1_01.dgn

USERNAME => s124496 DATE PLOTTED => 07-MAR-2014 TIME PLOTTED => 11:22