

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	101	142

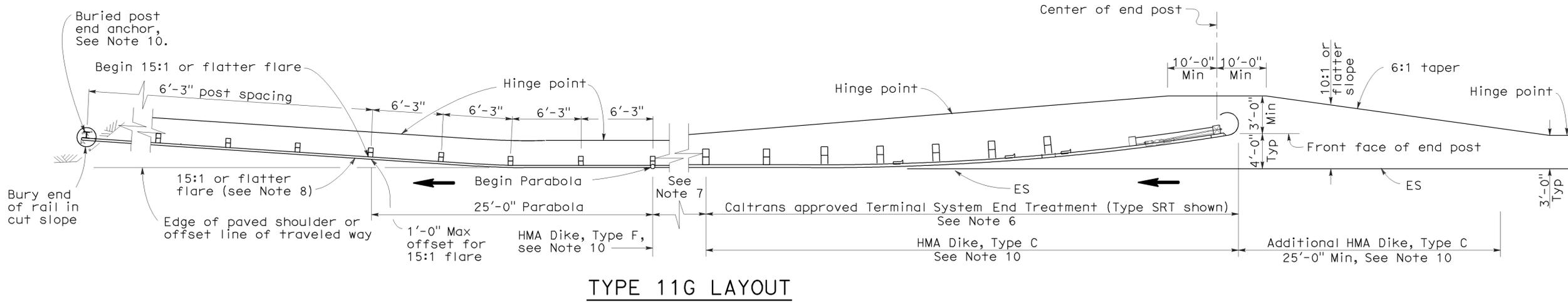
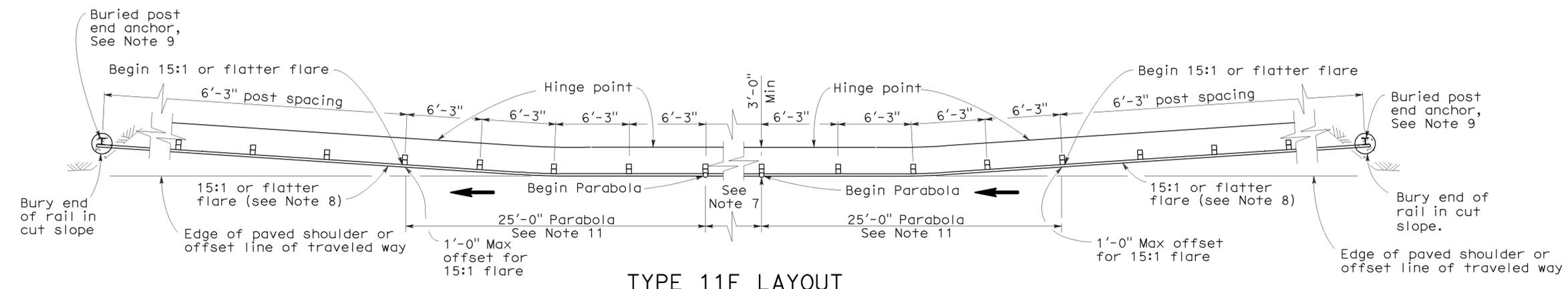
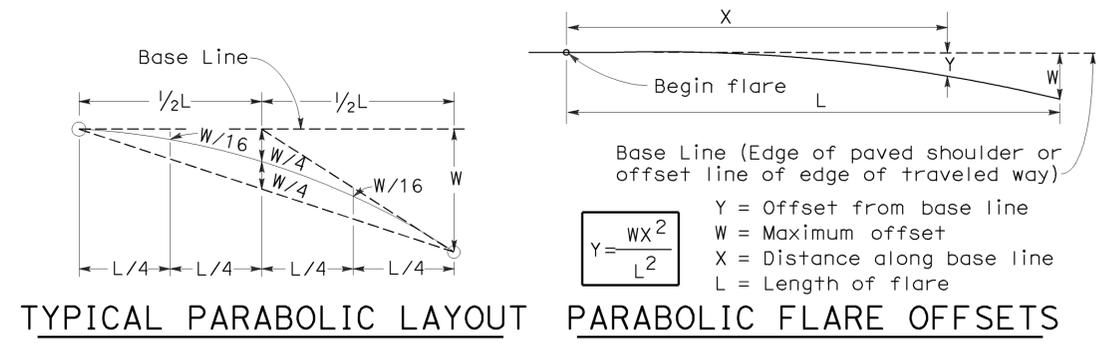
Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 06-01-10



**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by  $\rightarrow$ .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11F and 11G Layouts, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
EMBANKMENTS**

NO SCALE

RSP A77E3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E3  
DATED MAY 1, 2006 - PAGE 50 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77E3**

2006 REVISED STANDARD PLAN RSP A77E3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	102	142

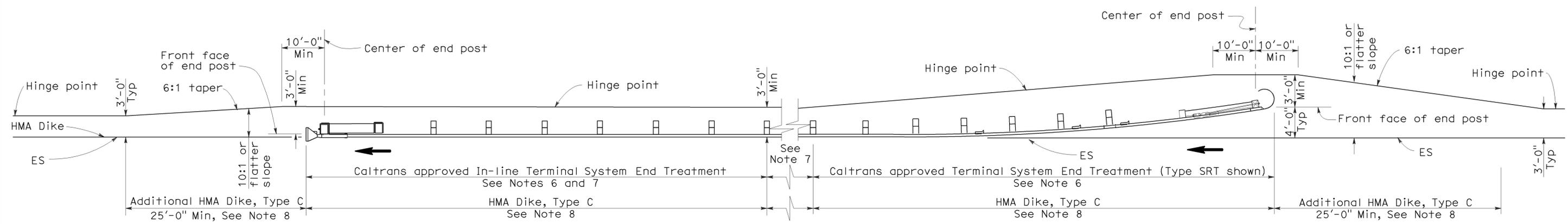
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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To accompany plans dated 06-01-10



**TYPE 11H LAYOUT**

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AND AN IN-LINE TREATMENT AT THE ENDS OF RAILING)  
See Notes 5 and 8

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
EMBANKMENTS**

NO SCALE

RSP A77E4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E4  
DATED MAY 1, 2006 - PAGE 51 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77E4**

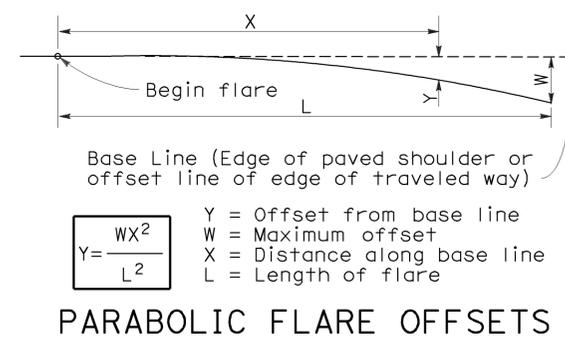
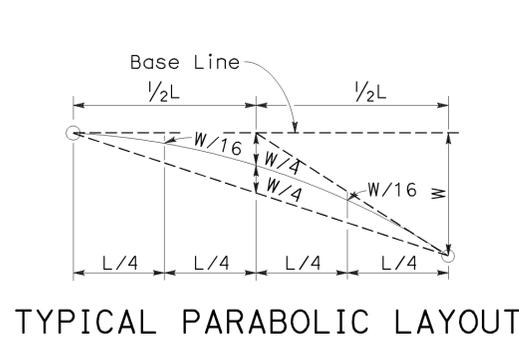
2006 REVISED STANDARD PLAN RSP A77E4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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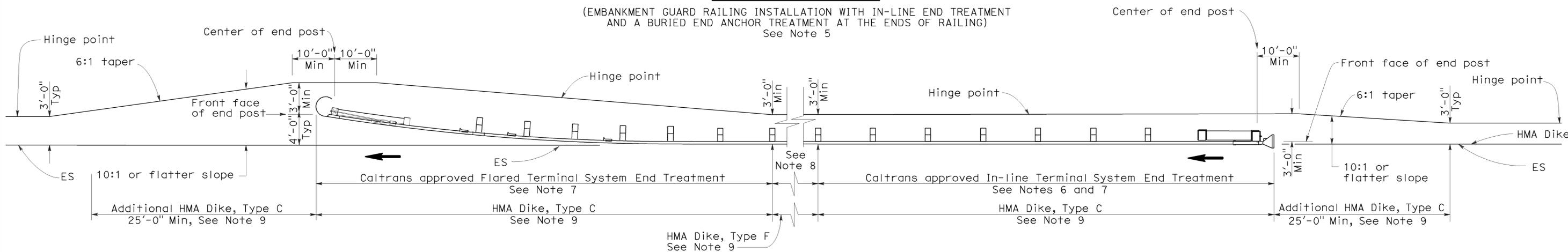
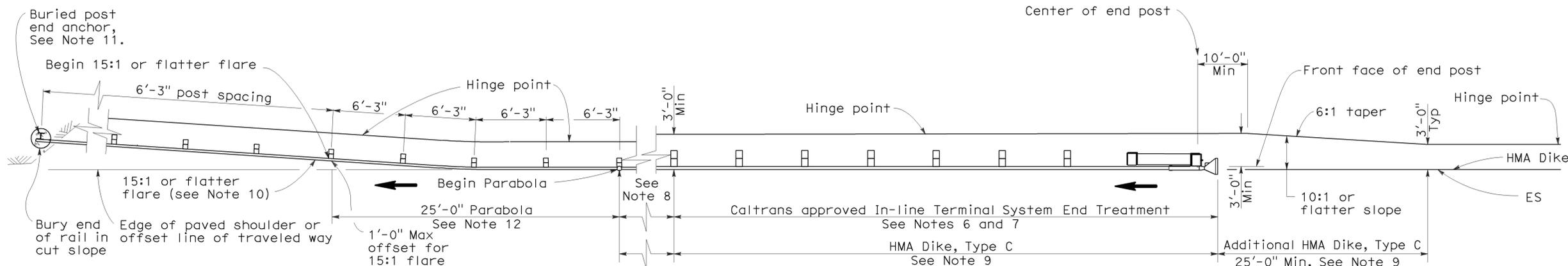
RANDALL D. HIATT  
 REGISTERED CIVIL ENGINEER  
 No. C50200  
 Exp. 6-30-09  
 CIVIL  
 STATE OF CALIFORNIA

June 6, 2008  
 PLANS APPROVAL DATE

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To accompany plans dated 06-01-10



**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by  $\rightarrow$ .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.

- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11I Layout, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**METAL BEAM GUARD RAILING**  
**TYPICAL LAYOUTS FOR**  
**EMBANKMENTS**  
 NO SCALE

RSP A77E5 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E5  
 DATED MAY 1, 2006 - PAGE 52 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77E5**

2006 REVISED STANDARD PLAN RSP A77E5

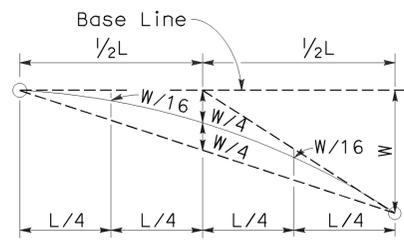
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	104	142

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

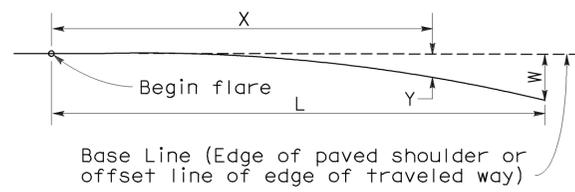
June 6, 2008  
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA



**TYPICAL PARABOLIC LAYOUT**



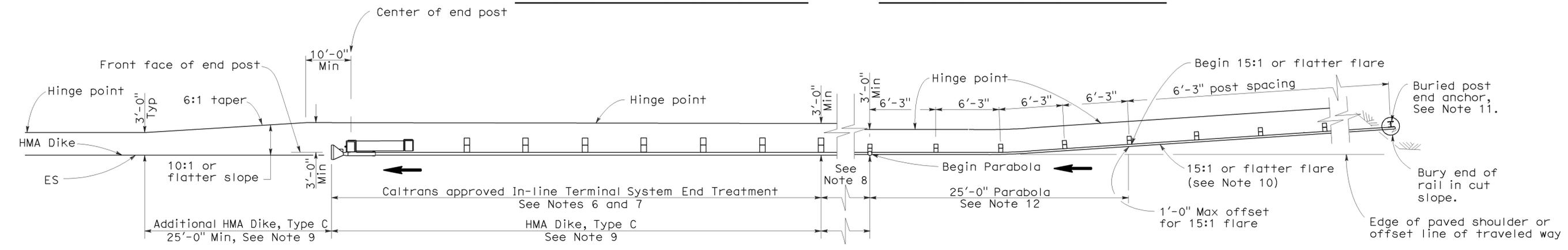
Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$Y = \frac{WX^2}{L^2}$

Y = Offset from base line  
W = Maximum offset  
X = Distance along base line  
L = Length of flare

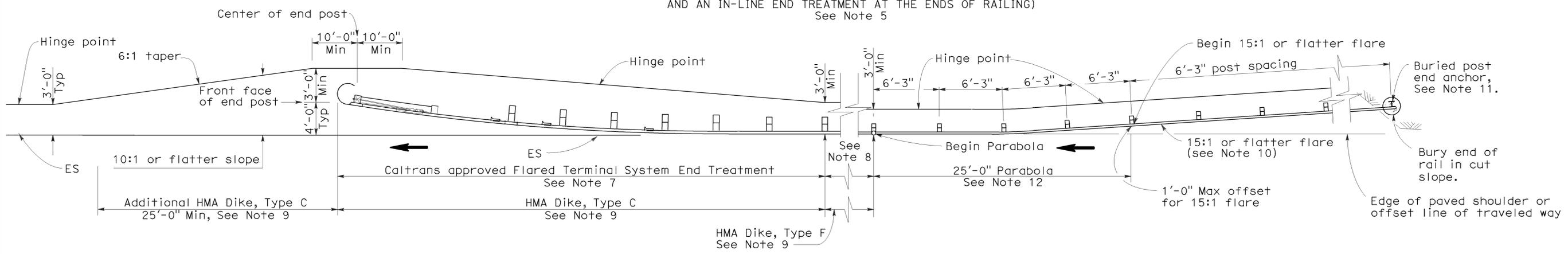
**PARABOLIC FLARE OFFSETS**

To accompany plans dated 06-01-10



**TYPE 11K LAYOUT**

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND AN IN-LINE END TREATMENT AT THE ENDS OF RAILING)  
See Note 5



**TYPE 11L LAYOUT**

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING)  
See Note 5

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11K and 11L Layouts, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
EMBANKMENTS**

NO SCALE

RSP A77E6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E6  
DATED MAY 1, 2006 - PAGE 53 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77E6**

2006 REVISED STANDARD PLAN RSP A77E6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	105	142

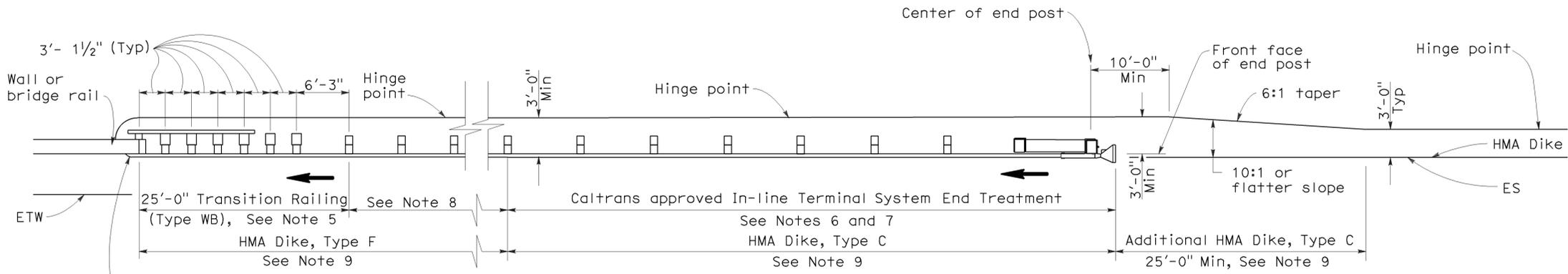
Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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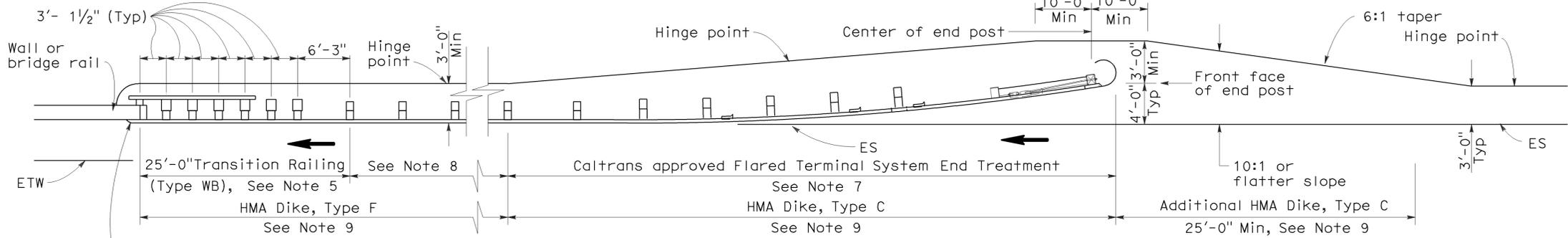
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 06-01-10



**TYPE 12A LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 10



**TYPE 12B LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 10

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by  $\rightarrow$ .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
  - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
  - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
  - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
  - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
STRUCTURE APPROACH**

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1  
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77F1**

2006 REVISED STANDARD PLAN RSP A77F1

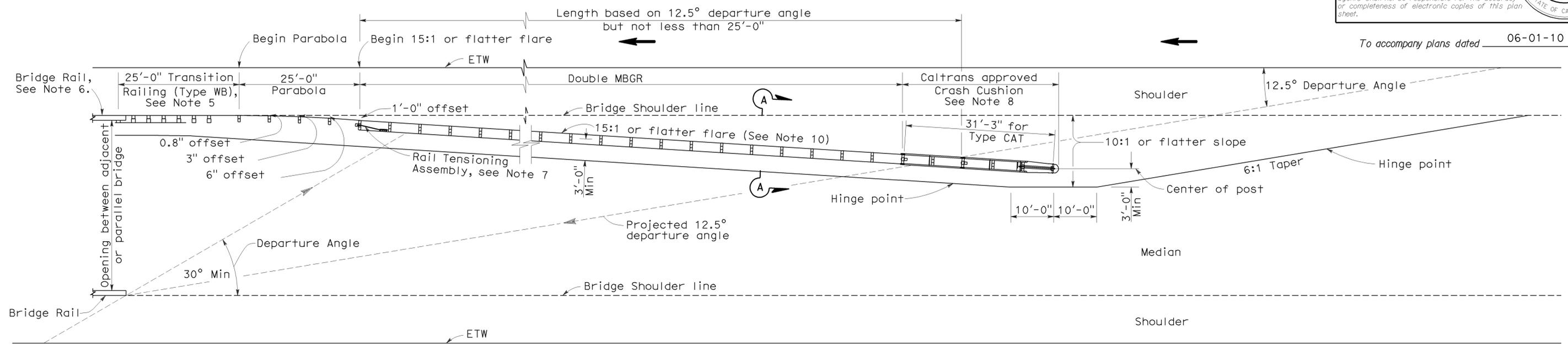
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	106	142

Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

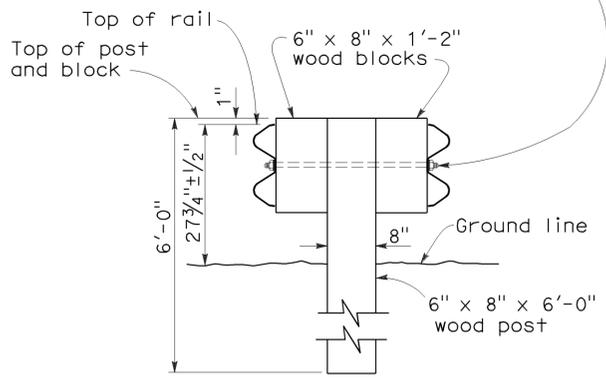


To accompany plans dated 06-01-10

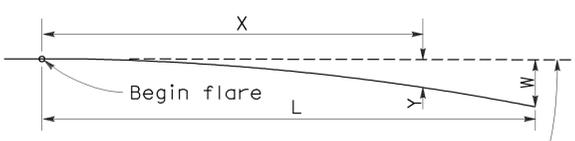
**TYPE 12E LAYOUT**

See Note 10

5/8" Ø Button head bolt with hex nut or 5/8" Ø Rod, threaded both ends, with hex nuts. 1/2" Max exposed threads after hex nut(s) tightened. No washer on rail faces for bolted connection to line post.



**SECTION A-A**  
**TYPICAL DOUBLE METAL BEAM GUARD RAILING**

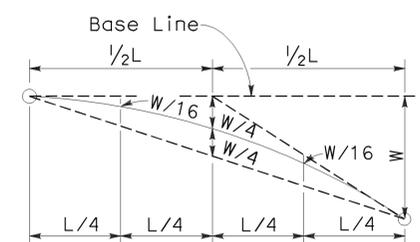


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$Y = \frac{WX^2}{L^2}$

Y = Offset from base line  
W = Maximum offset  
X = Distance along base line  
L = Length of flare

**PARABOLIC FLARE OFFSETS**



**TYPICAL PARABOLIC LAYOUT**

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details, see Standard Plan A77J4.
- For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77J1.
- For Rail Tensioning Assembly details, see Standard Plan A77H2.
- The type of Crash Cushion to be used will be shown on the Project Plans.
- Type 12E Layout is typically used left of approaching traffic at the end of each structure on multilane freeways or expressways where a median type barrier is not constructed between separated roadbeds.
- The 15:1 or flatter flare is measured off of the edge of traveled way.

STATE OF CALIFORNIA  
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**METAL BEAM GUARD RAILING**  
**TYPICAL LAYOUTS FOR**  
**STRUCTURE APPROACH**

NO SCALE

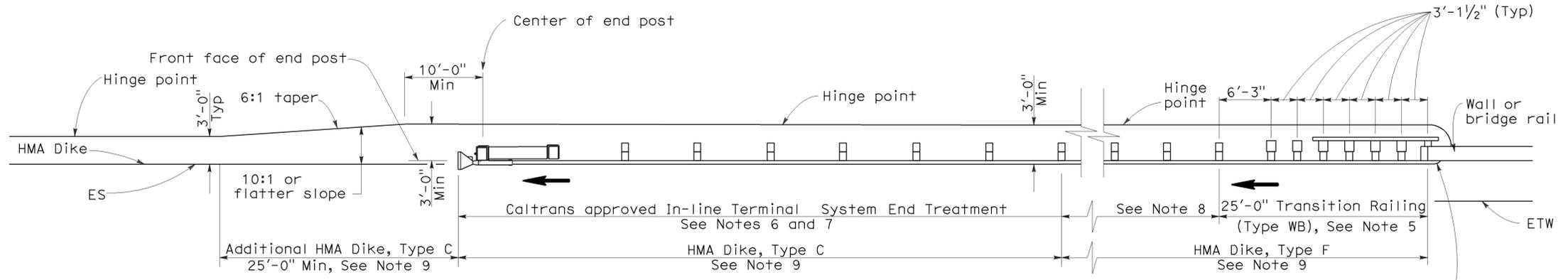
RSP A77F3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F3  
DATED MAY 1, 2006 - PAGE 56 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77F3**

2006 REVISED STANDARD PLAN RSP A77F3

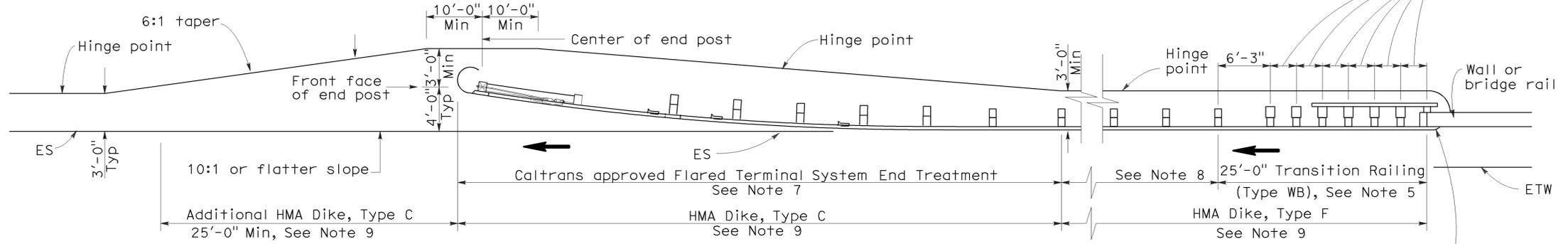
To accompany plans dated 06-01-10

2006 REVISED STANDARD PLAN RSP A77F4



**TYPE 12AA LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)  
See Notes 9 and 10



**TYPE 12BB LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)  
See Notes 9 and 10

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77J2 and Connection Detail HH on Standard Plans A77K2.

STATE OF CALIFORNIA  
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**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
STRUCTURE DEPARTURE**

NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4  
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77F4**

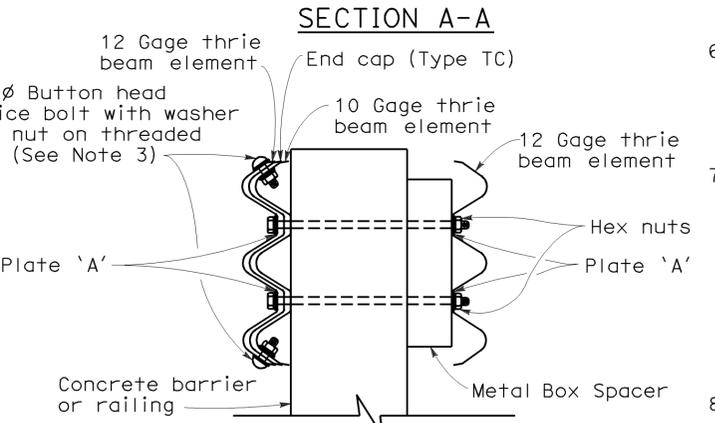
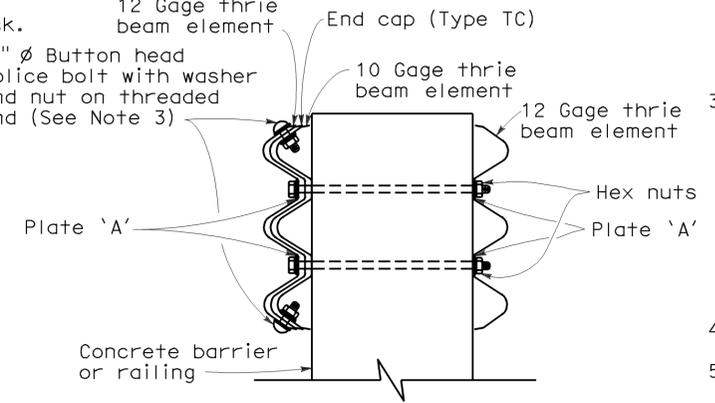
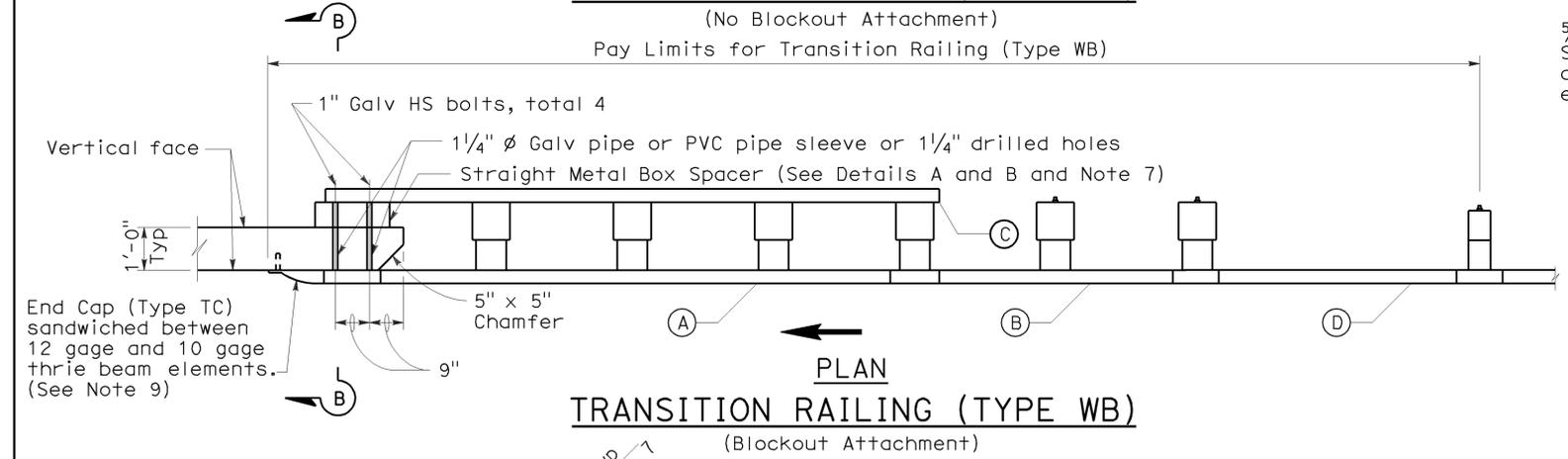
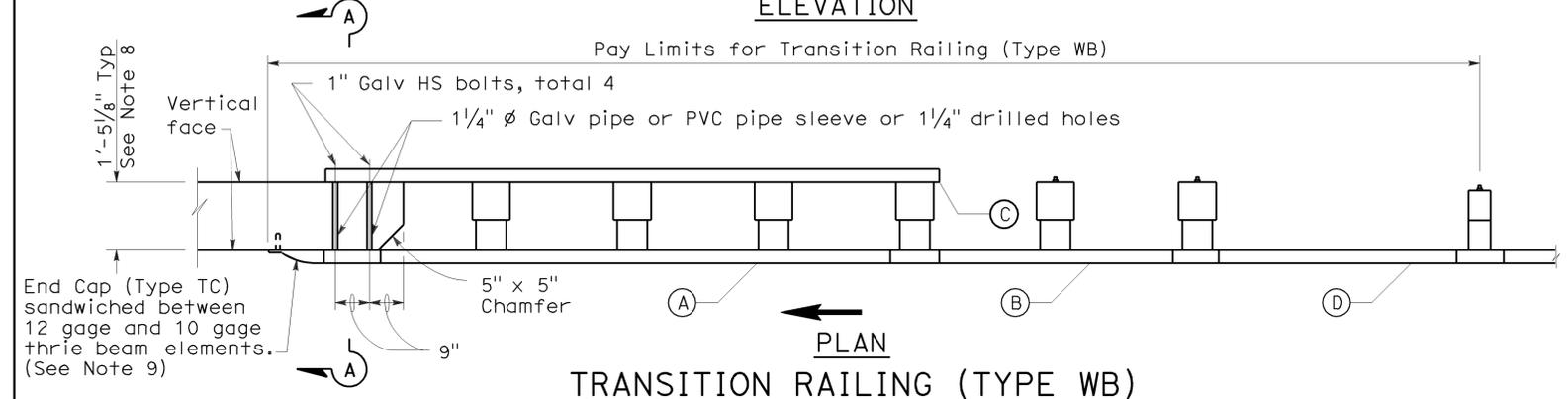
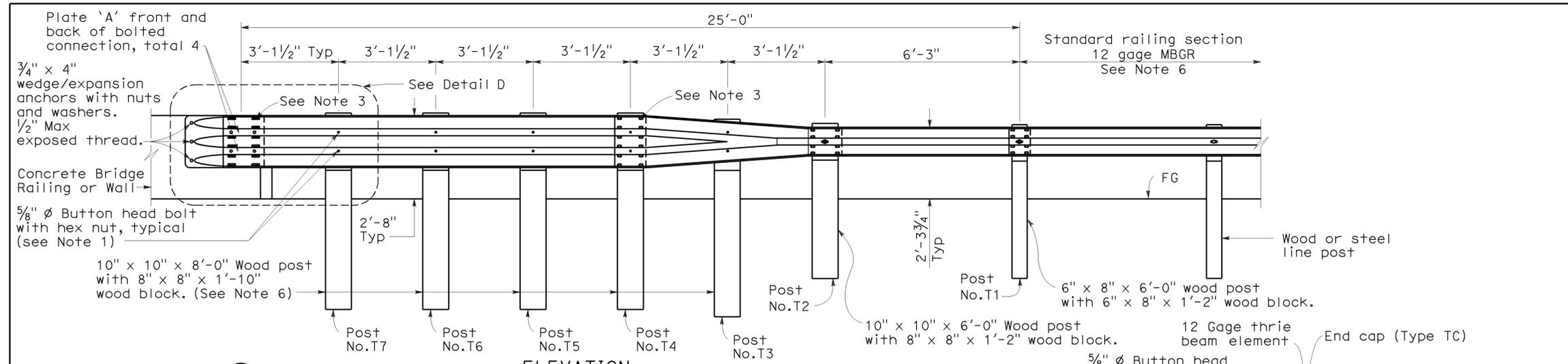
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	108	142

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 5, 2009  
PLANS APPROVAL DATE

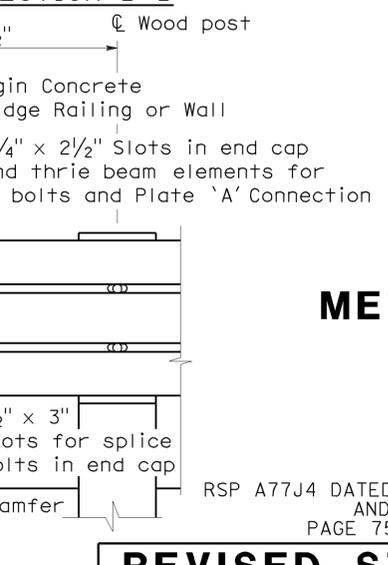
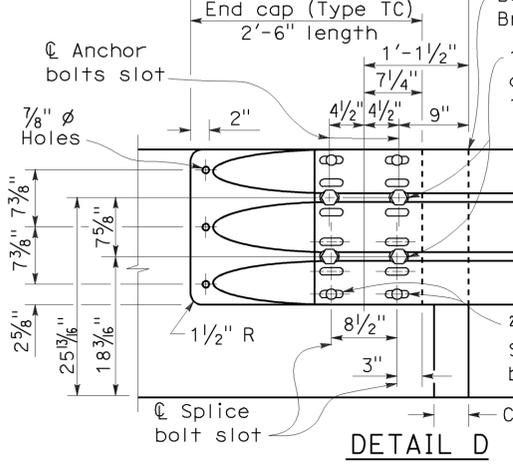
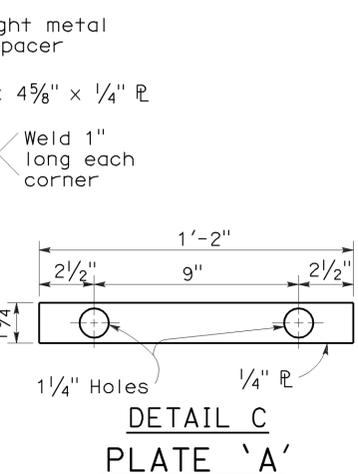
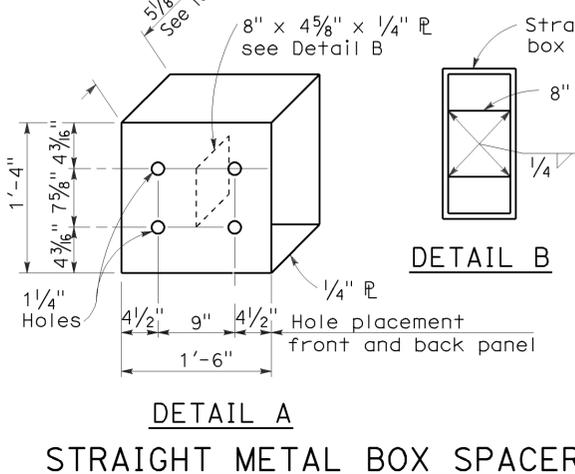
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA



- NOTES:** To accompany plans dated 06-01-10
- Use 5/8 "  $\phi$  Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
  - The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
  - Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 "  $\phi$ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
  - Direction of adjacent traffic indicated by  $\rightarrow$ .
  - The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
  - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
  - The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
  - Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
  - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
  - (B) One 10 gage "W" beam to thrie beam element.
  - (C) One 12 gage thrie beam element.
  - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick  
12 gage = 0.108" thick



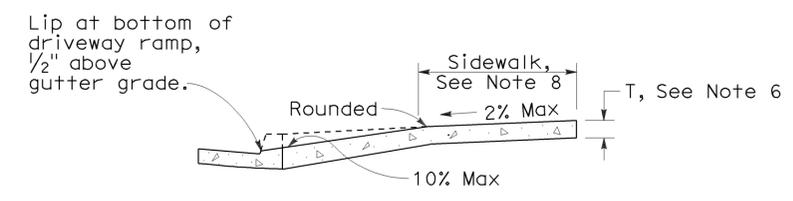
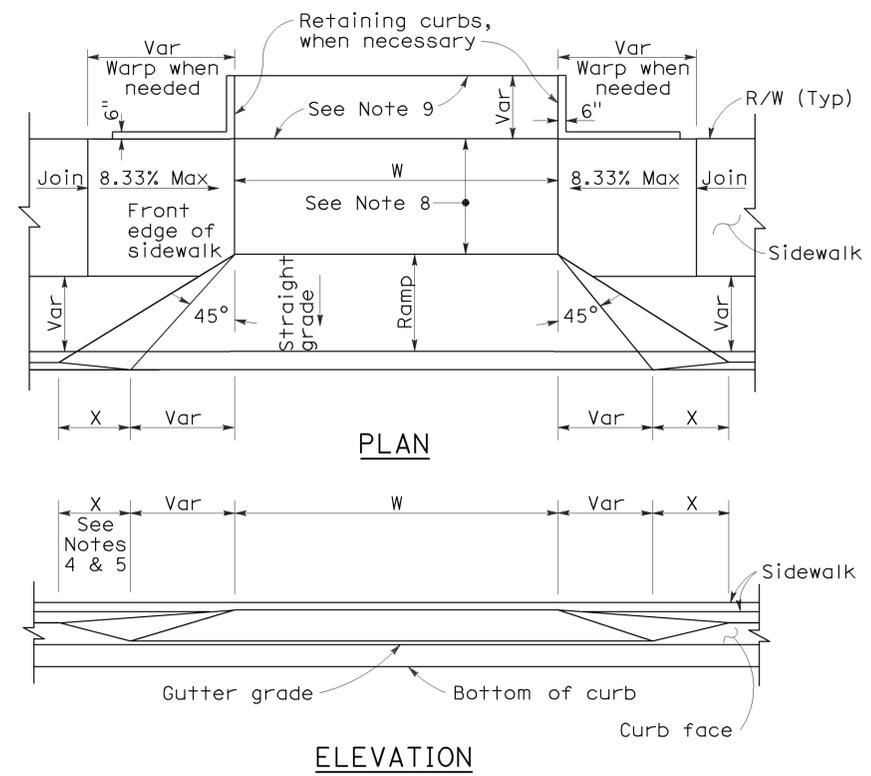
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)

NO SCALE

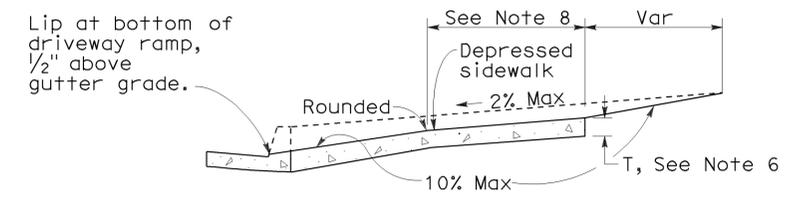
RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008  
AND STANDARD PLAN A77J4 DATED MAY 1, 2006  
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J4



**CASE A**

Typical driveway, sidewalk not depressed



**CASE B**

Driveway with depressed sidewalk

**SECTIONS**

**CURB QUANTITIES**

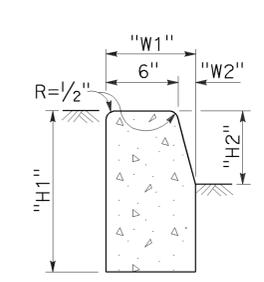
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

**TABLE A**

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-8"

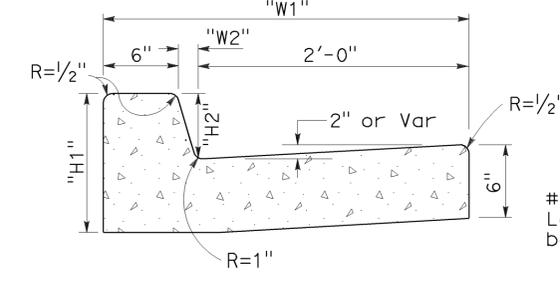
To accompany plans dated 06-01-10

**DRIVEWAYS**



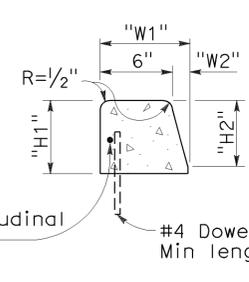
**TYPE A1 CURBS**

See Table A



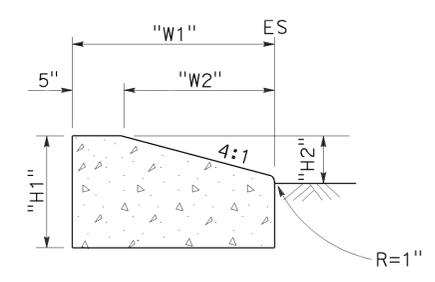
**TYPE A2 CURBS**

See Table A



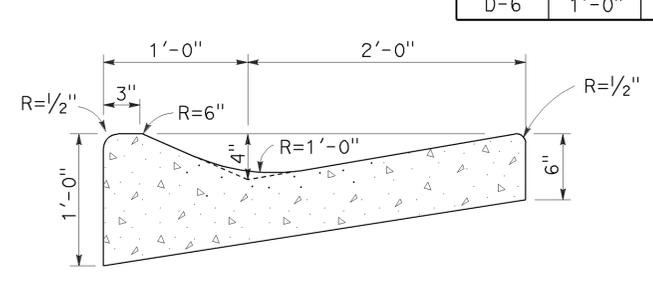
**TYPE A3 CURBS**

Superimposed on existing pavement  
See Table A

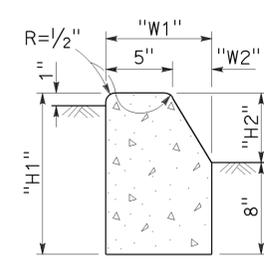


**TYPE D CURBS**

See Table A

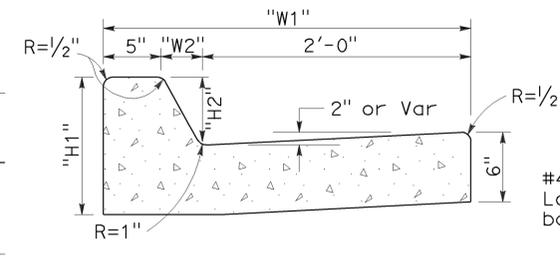


**TYPE E CURB**



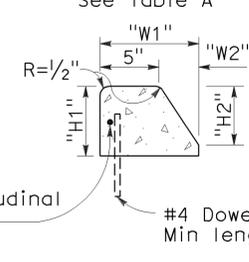
**TYPE B1 CURBS**

See Table A



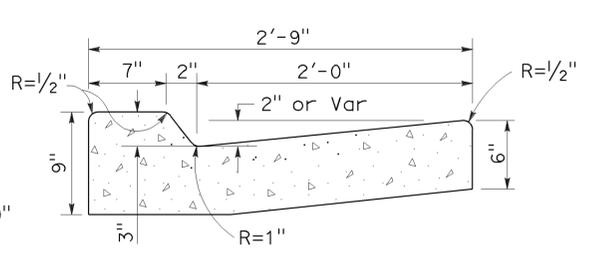
**TYPE B2 CURBS**

See Table A

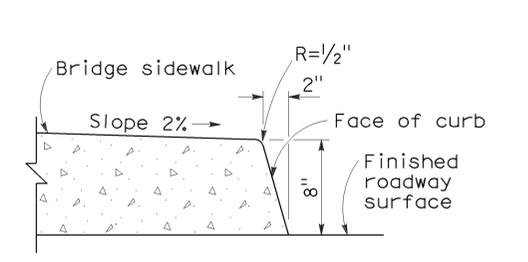


**TYPE B3 CURBS**

Superimposed on existing pavement  
See Table A



**TYPE B4 CURBS**



**TYPE H CURB**

On Bridges

**NOTES:**

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

**CURBS**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CURBS AND DRIVEWAYS**

NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A  
DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.

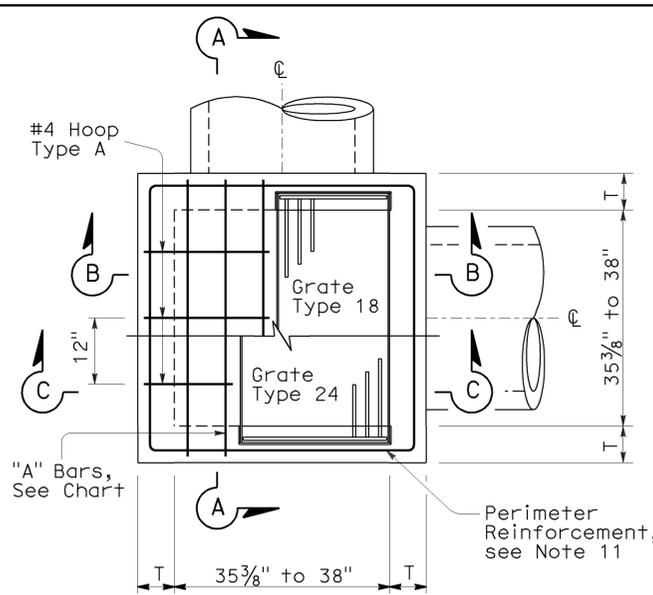
**REVISED STANDARD PLAN RSP A87A**

2006 REVISED STANDARD PLAN RSP A87A

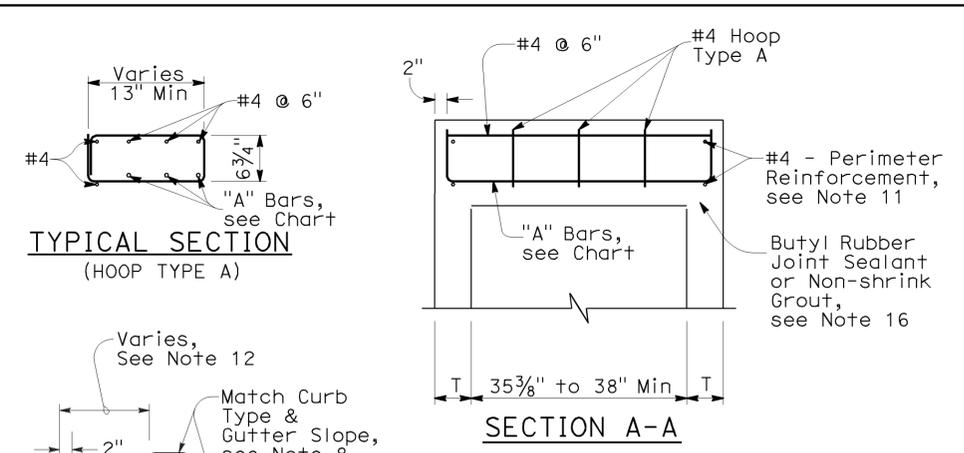
To accompany plans dated 06-01-10

**NOTES:**

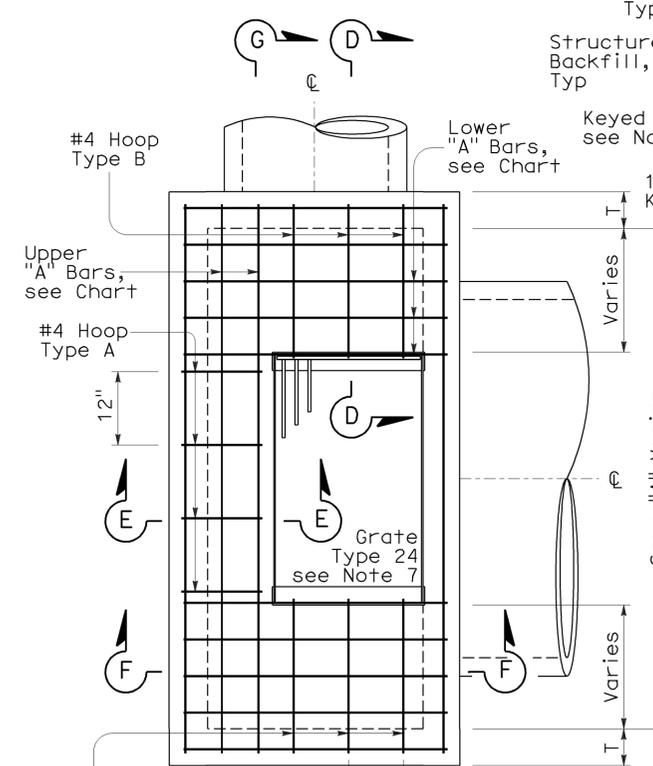
- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undeepressed.
- For "T" wall thickness: T=6" when "H" is 8' or less. T=8" when "H" is over 8'.
- Wall reinforcing not required when "H" is 8' or less and the unsupported width or length is 6'-0" or less. Reinforce wall exceeding these limits with #4 bars @ 1'-6" ± centers placed 2" clear to the inside of inlet unless otherwise shown. Short independent wall sections or height adjustment rings 6" to 24" high must have a minimum of two #4 horizontal bars.
- Seal pre-cast inlet connection openings between wall and pipe with non-shrink grout or resilient connectors as specified in the Special Provisions.
- 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 bottom of lid. The distance between steps must not exceed 1'-0" and 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 must comply with State Industrial Safety Requirements. See Standard Plan D74C for step details.
- Pipe(s) can be placed in any wall.
- Set inlet so that grate bars are parallel to direction of principal surface flow.
- Type G4 inlet can use Grate Type 18 or 24. Type G2 inlet uses Grate Type 24. See Revised Standard Plan RSP D77A and Standard Plan D77B for grate and frame details and weights of miscellaneous Iron and Steel.
- G4 inlet details are the same as the G2 with the addition of a curb and sloped grate that matches the adjacent curb and gutter depression. See Standard Plans D78A & D78B for gutter and inlet depression details. See Revised Standard Plan RSP A87A & Standard Plan A87B for Curb and Dike Details.
- Provide pre-cast inlets with separate top sections for final grade adjustment under Standard Specification Section 51-1.02. Provide keyed joints between the top and wall and multiple wall sections. Joint design may vary but must be 1" to 3" in depth.
- Perimeter reinforcement serves as a rigid frame to position and attach the required structural reinforcement and may be tack welded at outer corners when using ASTM A706 weldable bars.
- This dimension will vary with different grates, curbs types, box width and wall thickness.
- 2" unless inlet is expanded in the Span "A" direction, then clearance is 2" plus the diameter of the lower "A" bar.
- Place "A" Bars at an angle so hooked ends will maintain 2" clear coverage.
- Refer to Standard Plan D73, Table A for concrete quantities.
- Non-shrink grout can be used for upper most joint to facilitate final top grade adjustment.
- Slope inlet floors 4:1 towards the outlet pipe. Pre-cast inlets may have monolithic sloped floors, flat floors, or no floors in which case a sloped floor must be cast in the field. Inlet floors do not require reinforcing.
- Extend sand bedding under all structure backfill.



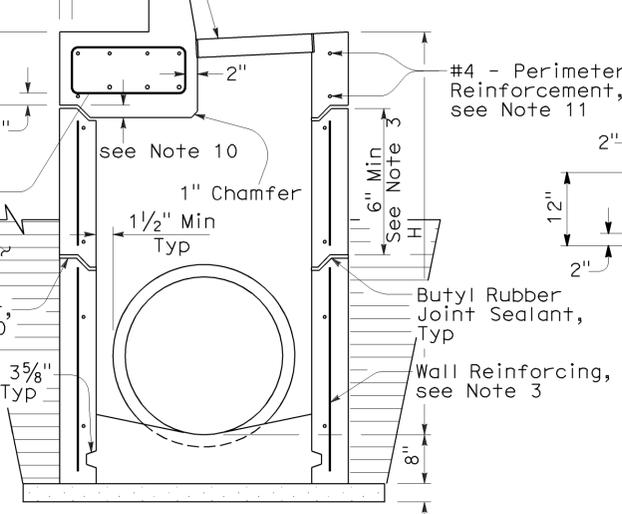
**STANDARD TYPE G2 OR G4**



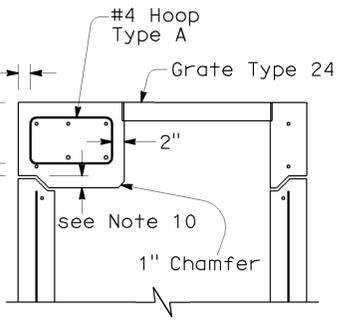
**SECTION A-A**



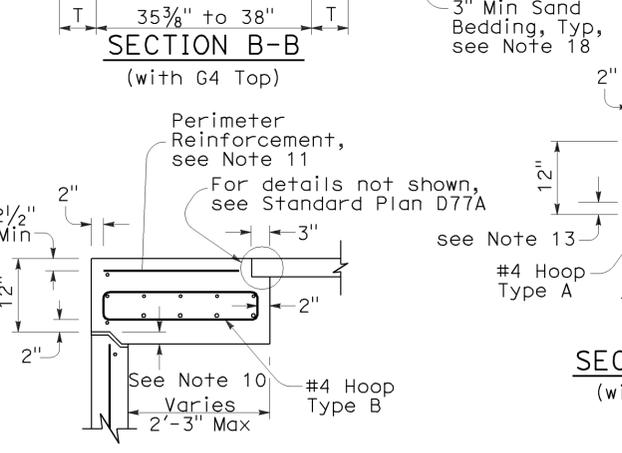
**EXPANDED TYPE G2 OR G4**



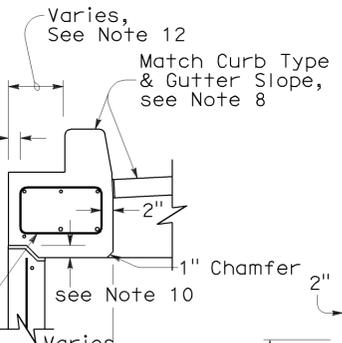
**SECTION B-B (with G4 Top)**



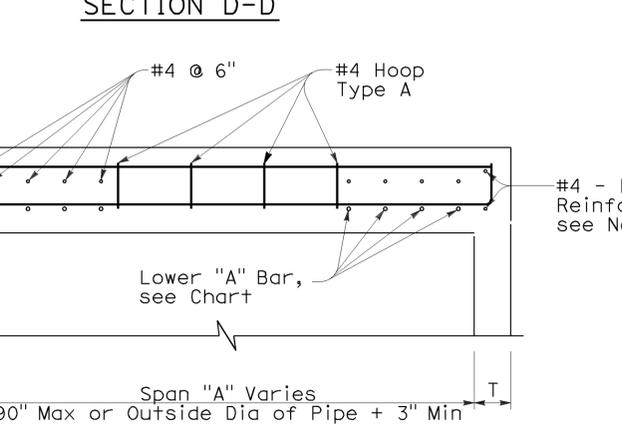
**SECTION C-C (with G2 Top)**



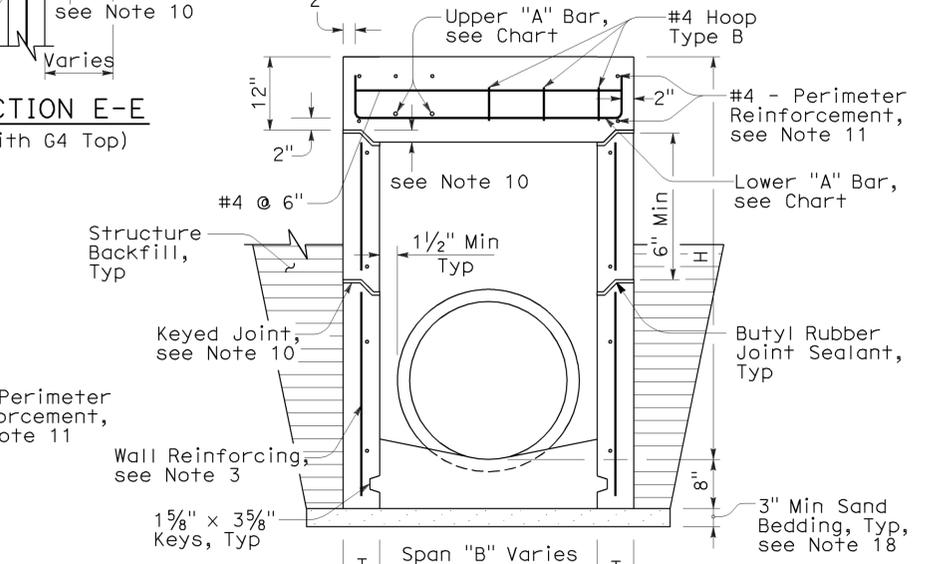
**SECTION D-D**



**SECTION E-E (with G4 Top)**



**SECTION G-G**



**SECTION F-F (with G2 Top)**

TOP REINFORCEMENT CHART		
Span	"A" Bars	Required steel area per foot (in <sup>2</sup> /ft)
Under 38" with Type 24 Grate	#5 @ 7" C-C 2-#5 Min	0.525
Under 38" with Type 18 Grate	#5 @ 7" C-C 3-#5 Min	0.525
38"-60"	#5 @ 6" C-C	0.621
61"-72"	#5 @ 5" C-C	0.744
73"-90"	#6 @ 6" C-C	0.811

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**DRAINAGE INLETS (PRECAST)**

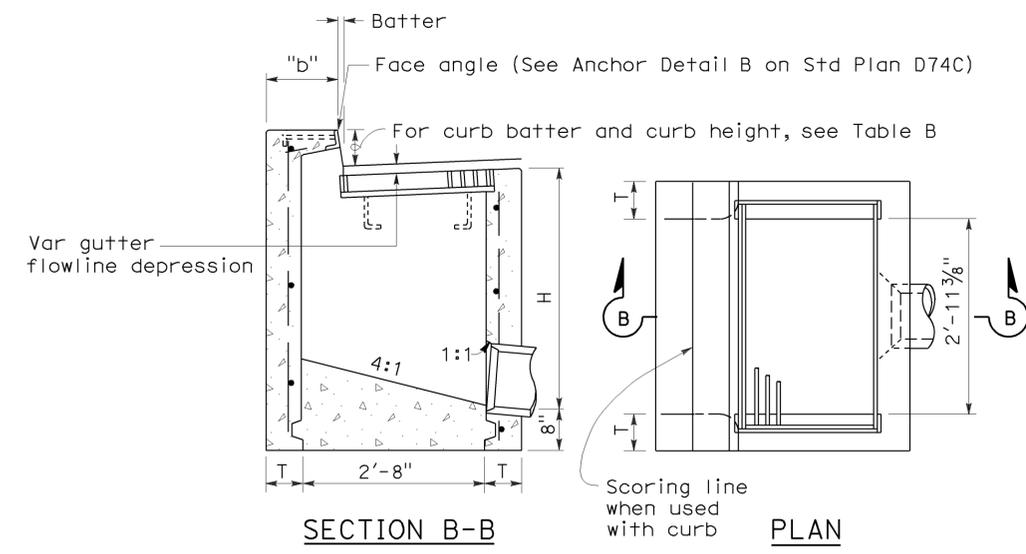
NO SCALE

NSP D73A DATED JUNE 5, 2009 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

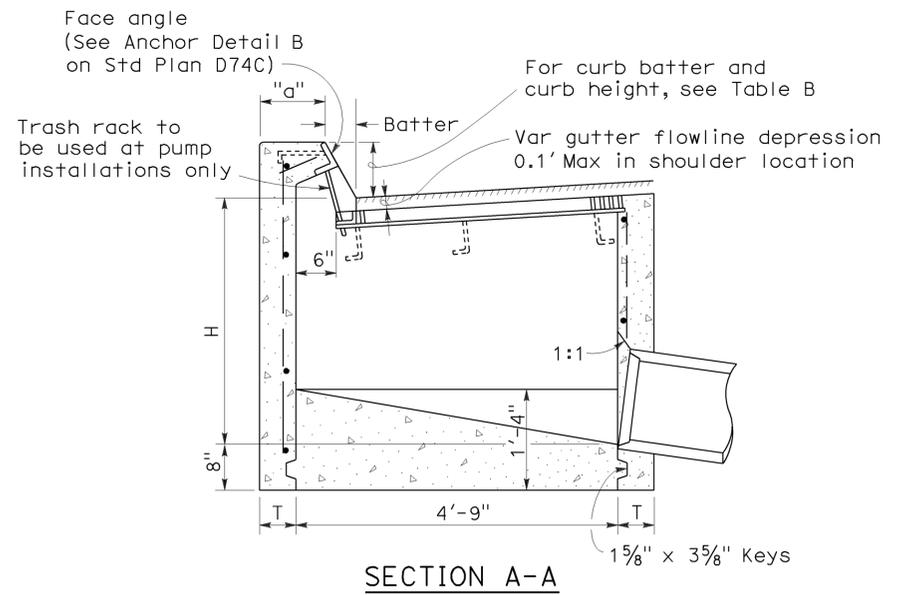
2006 NEW STANDARD PLAN NSP D73A

To accompany plans dated 06-01-10

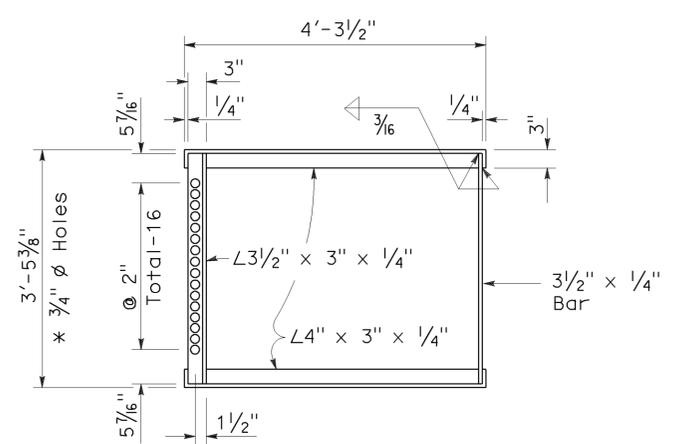
2006 REVISED STANDARD PLAN RSP D74B



**TYPE GO**

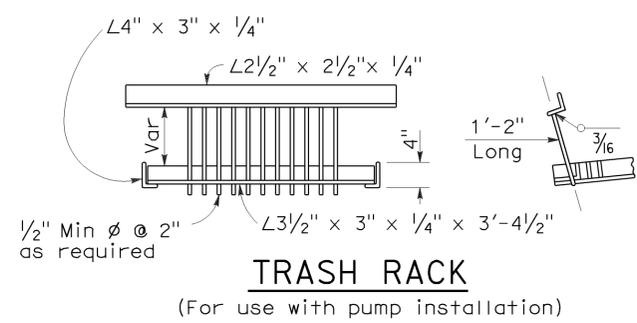


**SECTION A-A**



**GRATE FRAME FOR TYPE GDO INLET**

\* 3/4"  $\phi$  Holes required only with trash rack



**TRASH RACK**

(For use with pump installation)

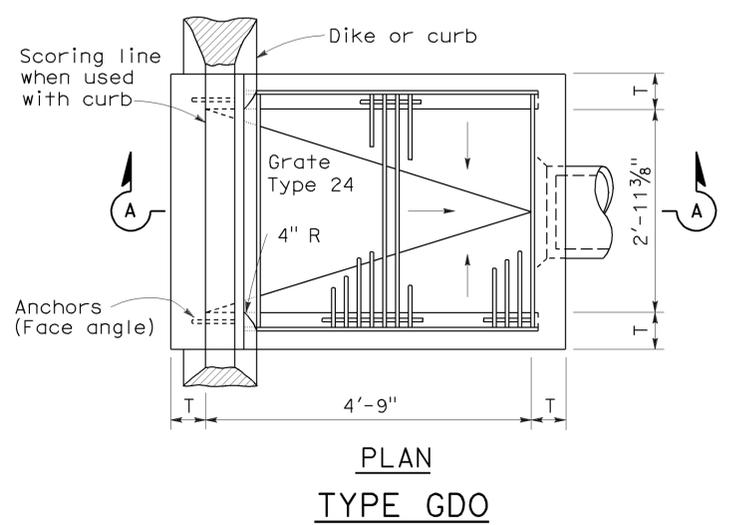
**TABLE A**  
**CONCRETE QUANTITIES**

TYPE	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)
GO	1.24	0.245	3.39	0.346
GDO	1.62	0.322	4.36	0.446

Table based on 8" floor slab, no deduction for pipe openings, and curb type giving highest quantity of concrete. No deductions or adjustments are to be made to these quantities because of pipe openings, different floor alternatives or different curb type.

**TABLE B**

CURB TYPE	NORMAL CURB HEIGHT	CURB BATTER	"a" DIMENSION	"b" DIMENSION
A1-6	6"	1 1/2"	T+7 1/2"	T+6 1/2"
A1-8	8"	2"	T+7"	T+6"
B1-6	6"	4"	T+5"	T+4"
Type A Dike	6"	3"	T+6"	T+5"



**PLAN TYPE GDO**

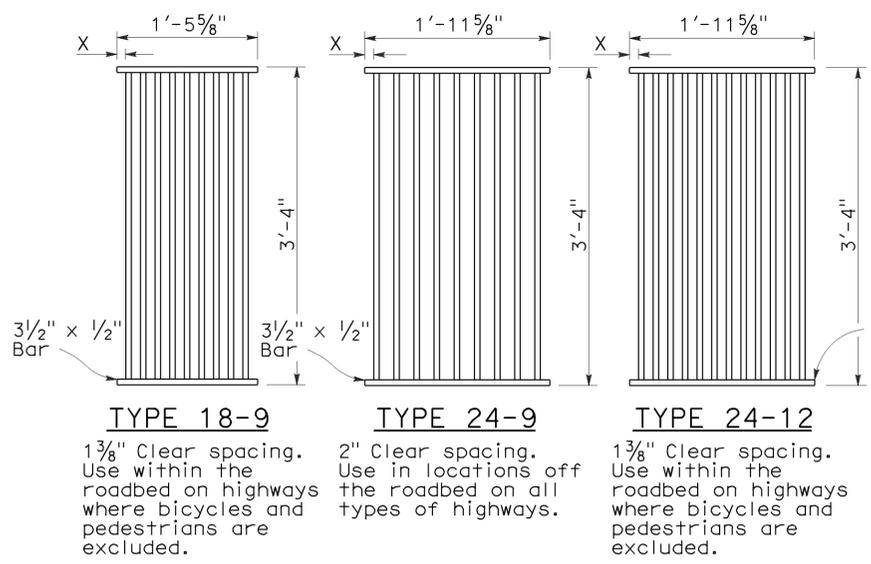
**NOTES:**

- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
- For "T" wall thickness, see Table A below.
- 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 @ 18"  $\pm$  centers placed 1/2" clear to inside of box unless otherwise shown.
- Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom.
- 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. Step inserts may be substituted for the bar steps. Step Inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
- When shown on the project plans, place a 3/4" plain round protection bar horizontally across the length of the opening and bend back 4" into the inlet wall on each side.
- Pipe(s) can be placed in any wall.
- Curb section shall match adjacent curb.
- Basin floors shall have wood trowel finish and shall slope toward the outlet pipe as shown.
- Galvanizing - See Standard Specifications or Special Provisions.
- See Standard Plan D77A and D77B for grate and frame details and weights of miscellaneous iron and Steel.
- See Standard Plan D78A for gutter depression details.
- Full penetration butt welds may be substituted for the fillet welds on all anchors.
- Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
- Cast-in-place or precast alternative is optional with contractor. See Standard Specifications.
- 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 pipe connections conforming to details for Type GCP inlets on Standard Plan D75B. See Standard Specifications for mortar composition.

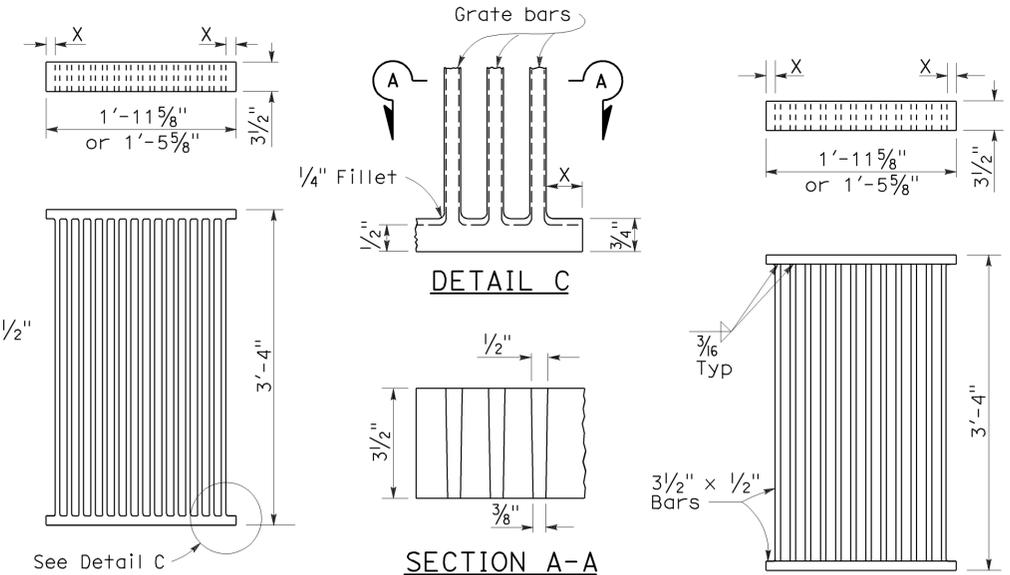
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**DRAINAGE INLETS**  
NO SCALE

RSP D74B DATED JUNE 15, 2007 SUPERSEDES STANDARD PLAN D74B  
DATED MAY 1, 2006 - PAGE 150 OF THE STANDARD PLANS BOOK DATED MAY 2006.

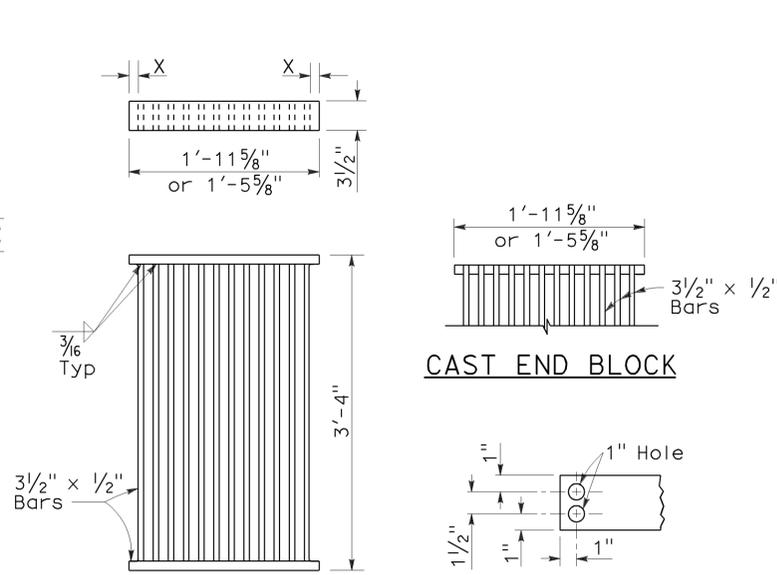
**REVISED STANDARD PLAN RSP D74B**



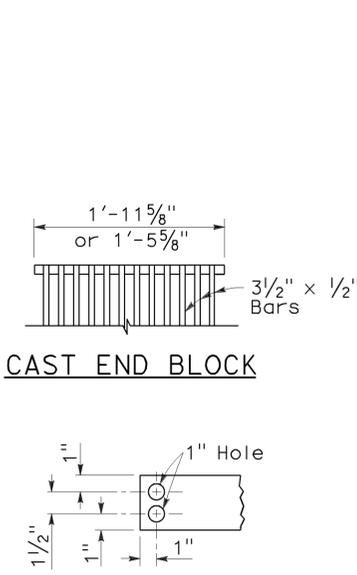
**RECTANGULAR GRATE DETAILS**  
(See table below)



**ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE**



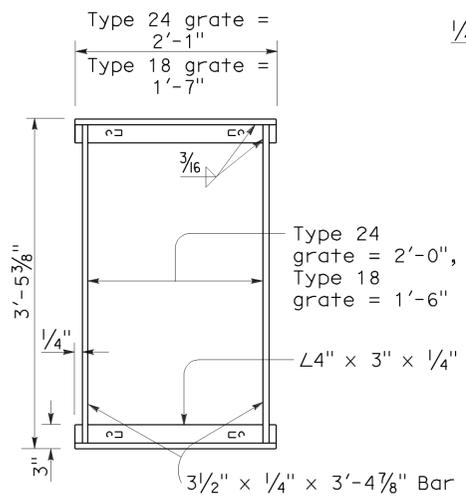
**ALTERNATIVE WELDED GRATE**



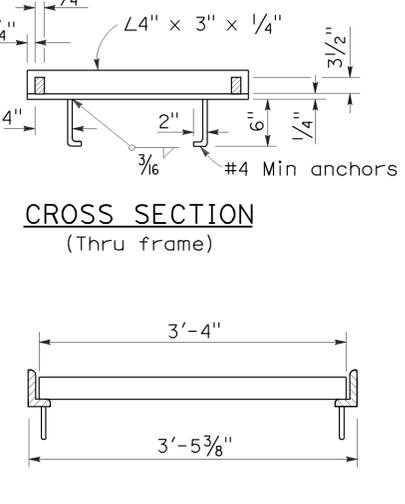
**CAST END BLOCK**

**END OF BAR**

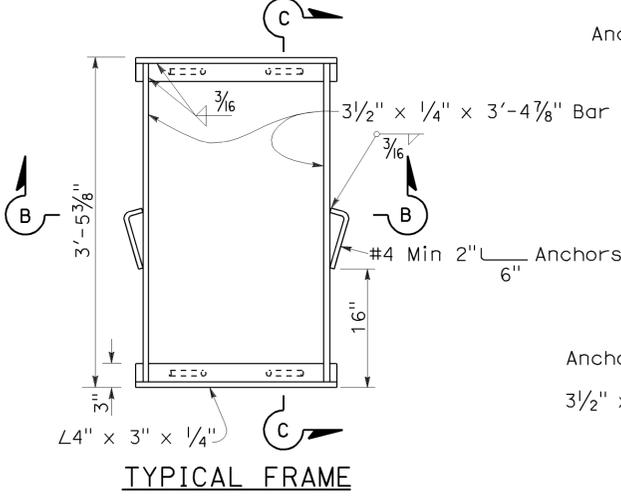
- NOTES:**
1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
  2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
  3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
  4. Rounded top of bars optional on all grates.
  5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
  6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
  7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
  8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).



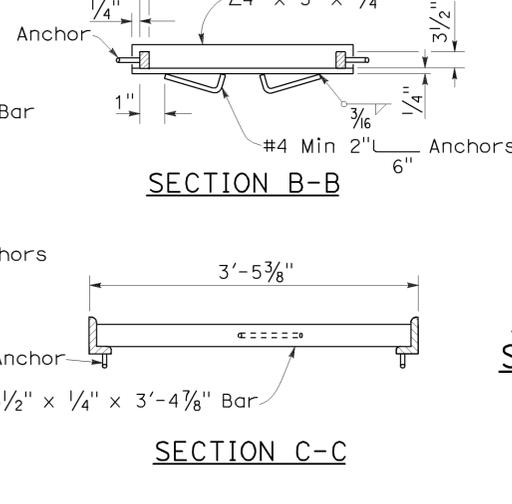
**TYPICAL FRAME**



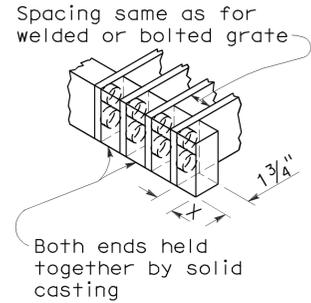
**LONGITUDINAL SECTION**  
(Thru frame and grate)



**TYPICAL FRAME**



**ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME**  
(For details not shown, See Rectangular Frame Details)



**ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE**

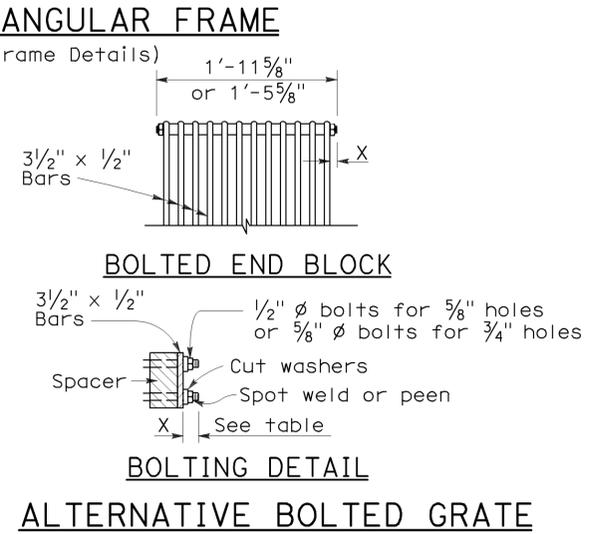
**RECTANGULAR FRAME DETAILS**  
(For all rectangular grates)

**GRATE BAR SPACING TABLE**

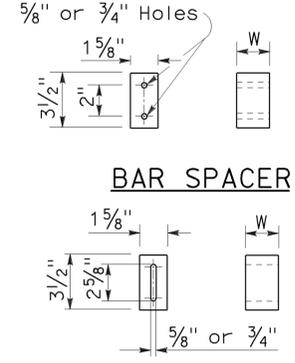
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

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
OCPI	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
G0,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



**BOLTING DETAIL**  
**ALTERNATIVE BOLTED GRATE**



**BAR SPACER**  
**ALTERNATIVE SPACER**  
W = 1 3/8" or 2"

**BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS**

(See General Notes, No 8)

**REVISED STANDARD PLAN RSP D77A**

RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A DATED MAY 1, 2006 - PAGE 155 OF THE STANDARD PLANS BOOK DATED MAY 2006.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**GRATE DETAILS**  
NO SCALE

2006 REVISED STANDARD PLAN RSP D77A

155

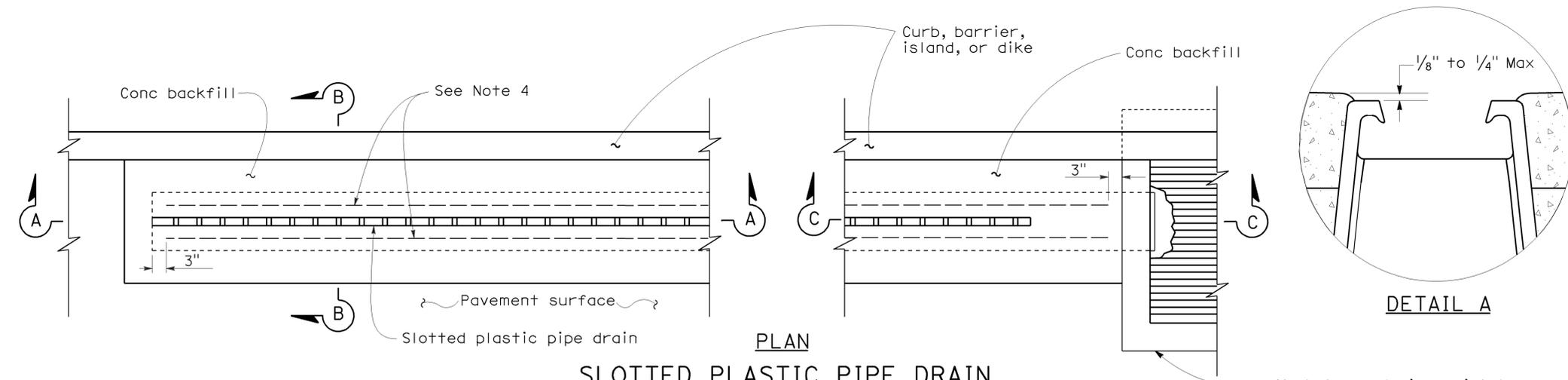
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	113	142

Raymond Don Tsztsoo  
 REGISTERED CIVIL ENGINEER  
 No. C37332  
 Exp. 6-30-08  
 CIVIL  
 STATE OF CALIFORNIA

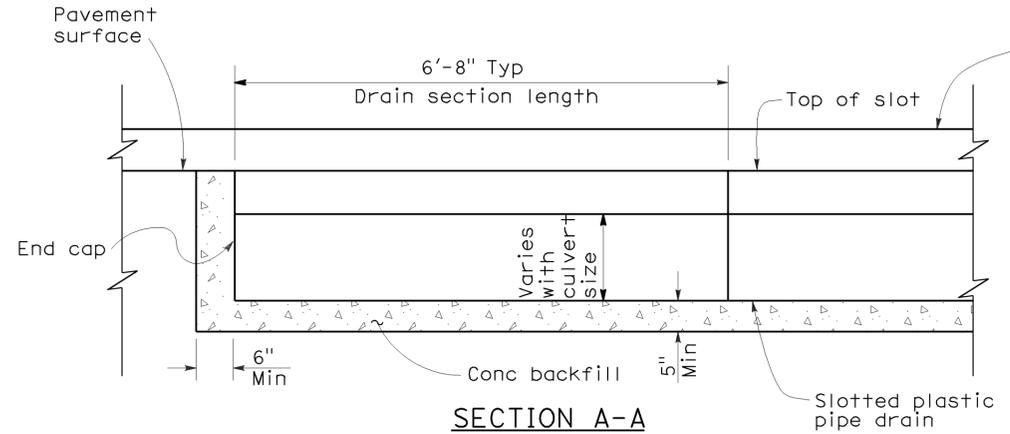
January 18, 2008  
 PLANS APPROVAL DATE

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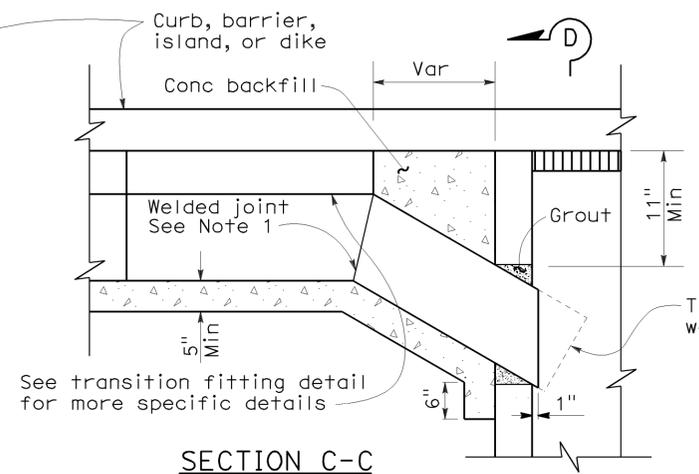
To accompany plans dated 06-01-10



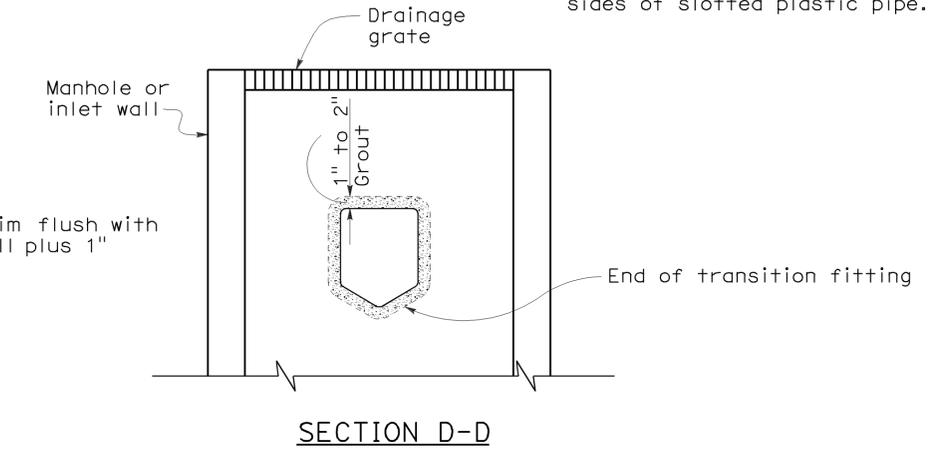
**SLOTTED PLASTIC PIPE DRAIN**



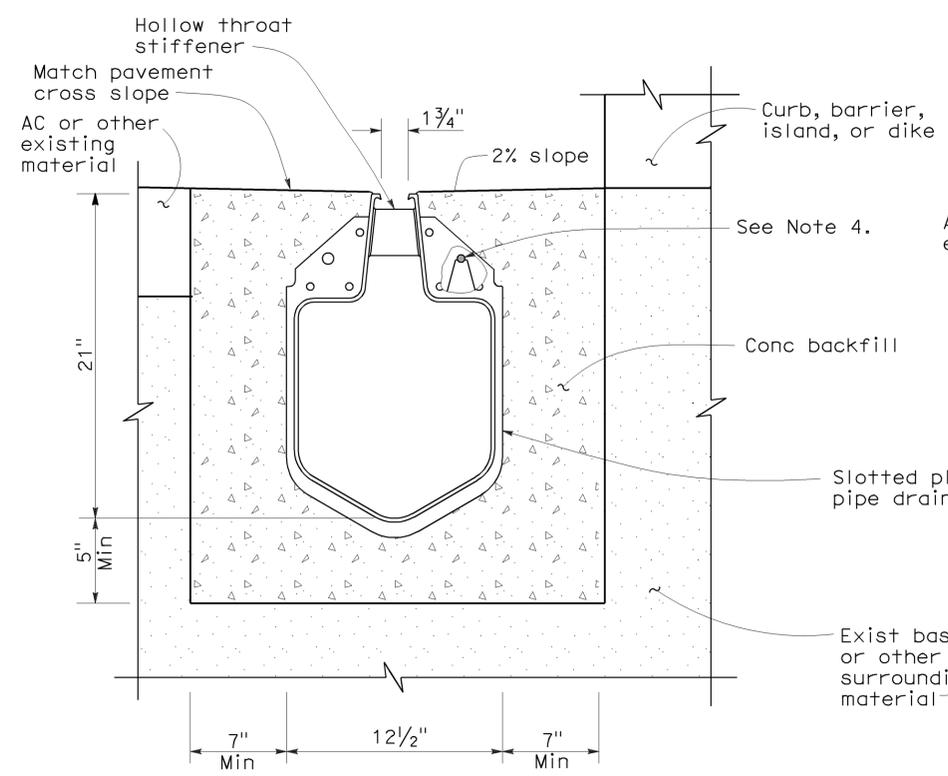
SECTION A-A



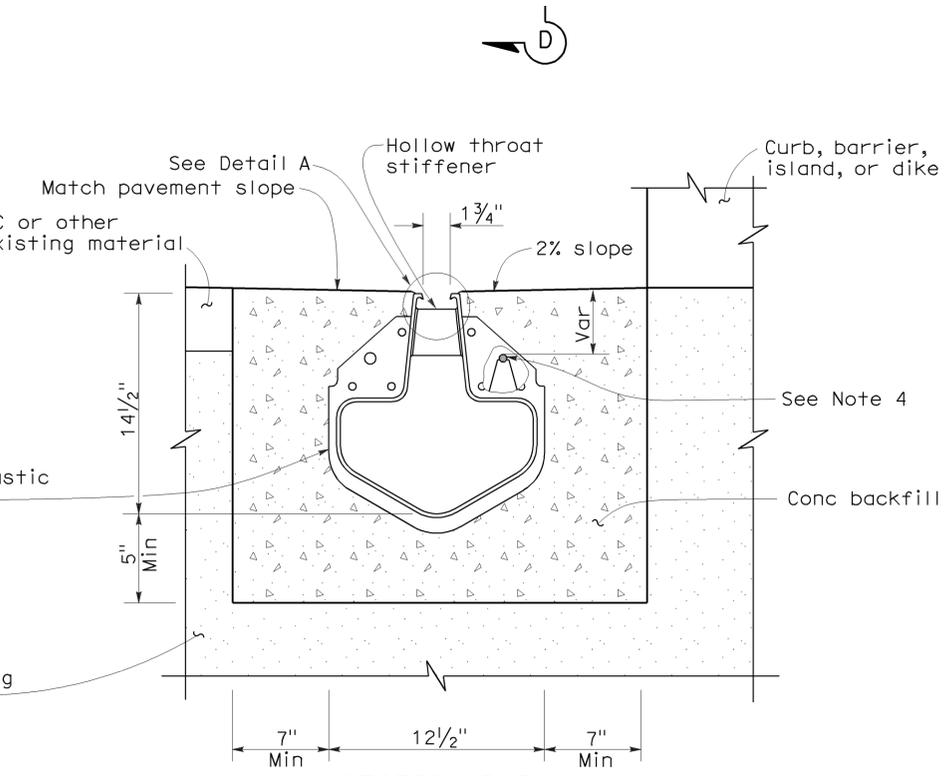
SECTION C-C



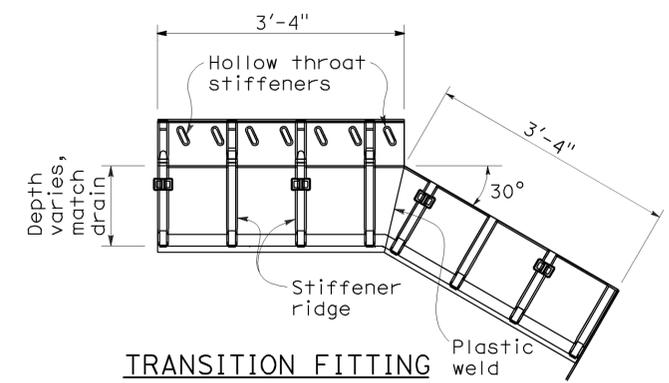
SECTION D-D



SECTION B-B  
18" Slotted Plastic Pipe Drain



SECTION B-B  
12" Slotted Plastic Pipe Drain



TRANSITION FITTING  
with stiffeners and details shown

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**SLOTTED PLASTIC PIPE DRAIN DETAILS**

NO SCALE

NSP D98D DATED JANUARY 18, 2008 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

**NEW STANDARD PLAN NSP D98D**

193A

2006 NEW STANDARD PLAN NSP D98D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	114	142

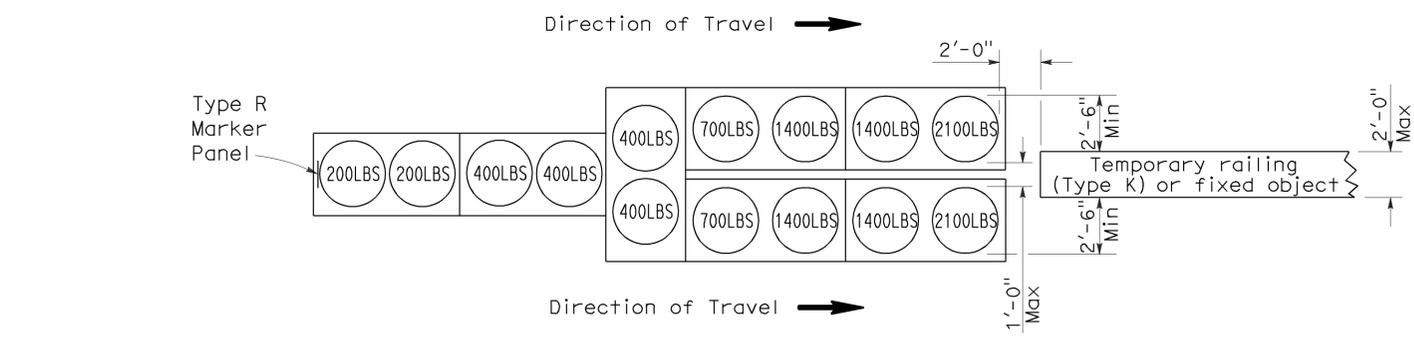
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
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.*

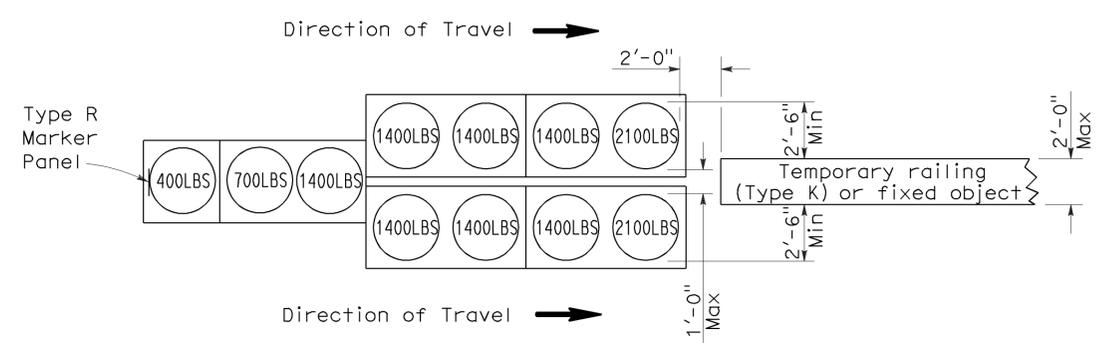
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 06-01-10



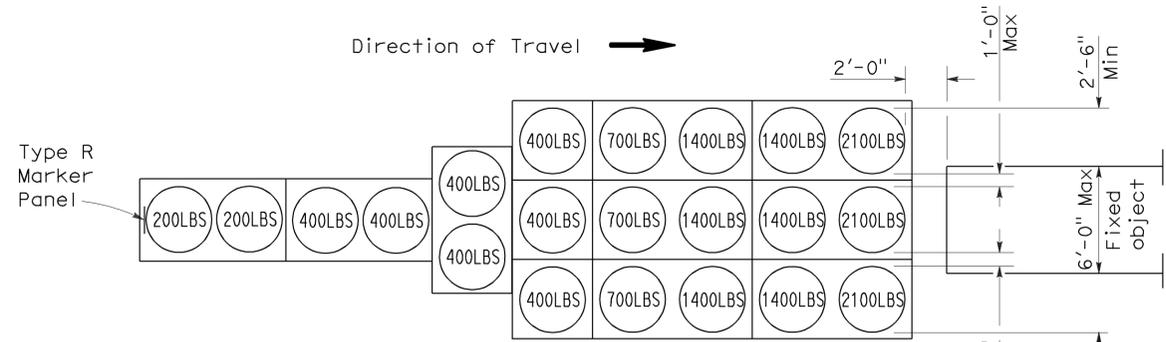
**ARRAY 'TU14'**

Approach speed 45 mph or more



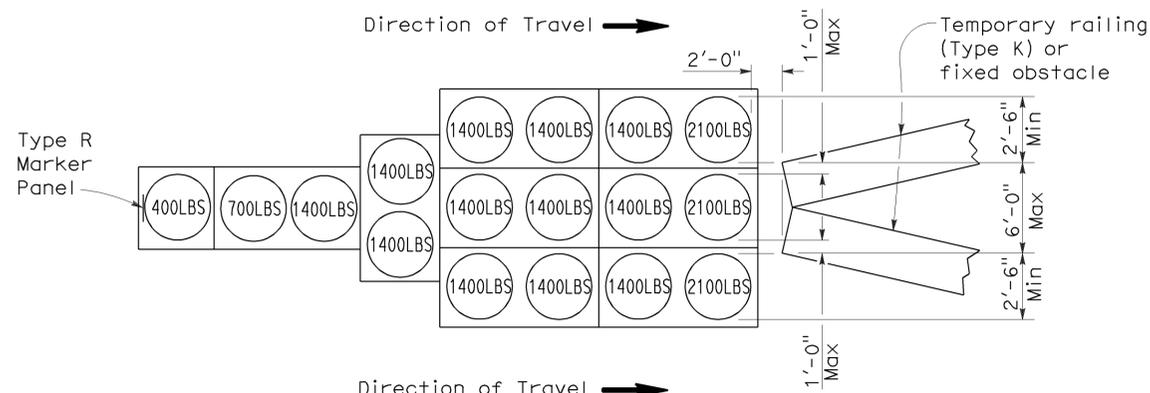
**ARRAY 'TU11'**

Approach speed less than 45 mph



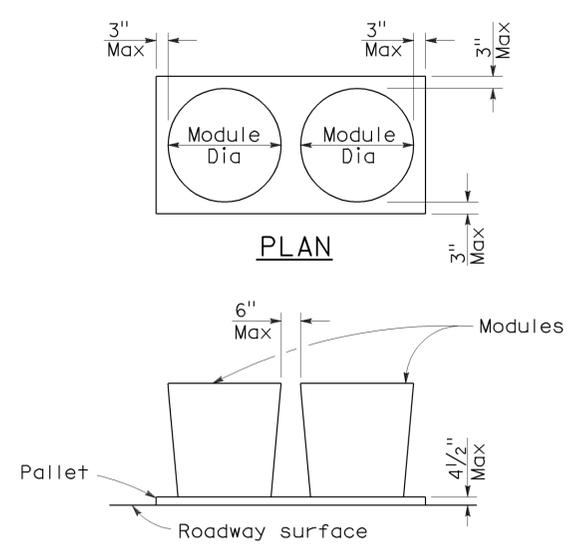
**ARRAY 'TU21'**

Approach speed 45 mph or more



**ARRAY 'TU17'**

Approach speed less than 45 mph



**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A  
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP T1A**

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	115	142

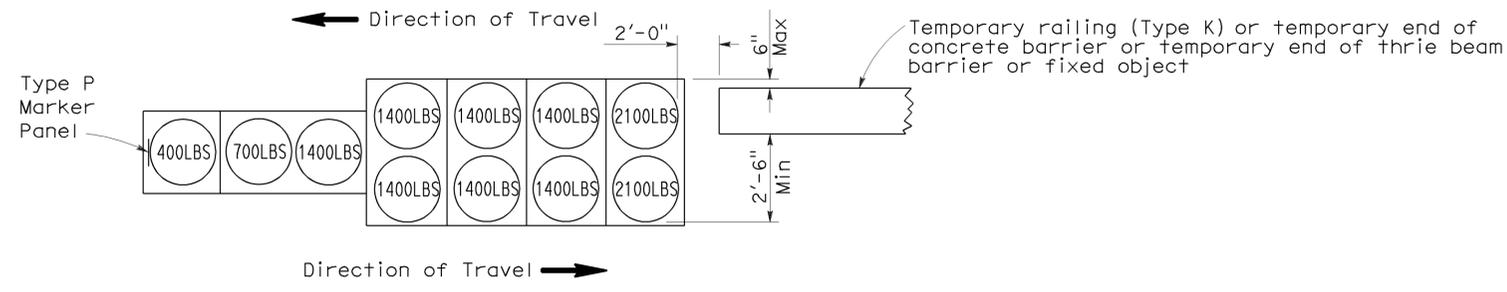
Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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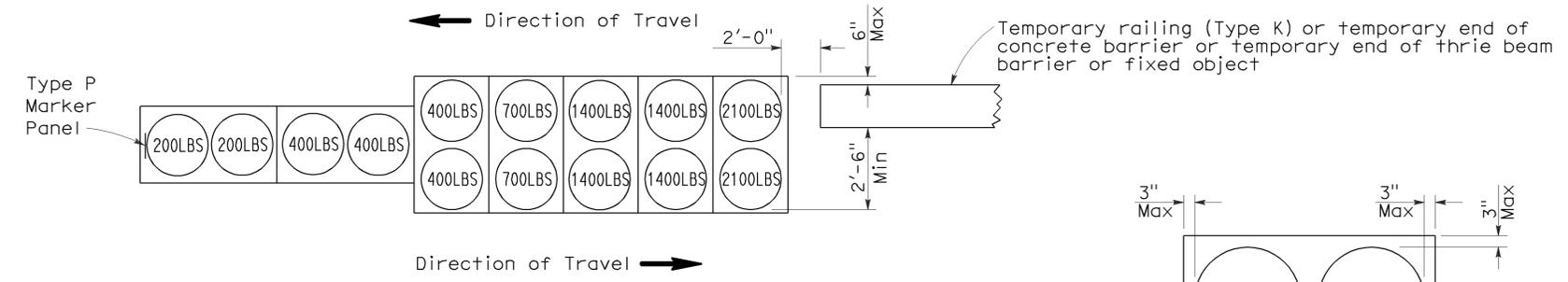
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 06-01-10



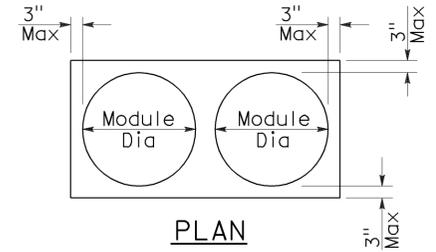
**ARRAY 'TB11'**

Approach speed less than 45 mph

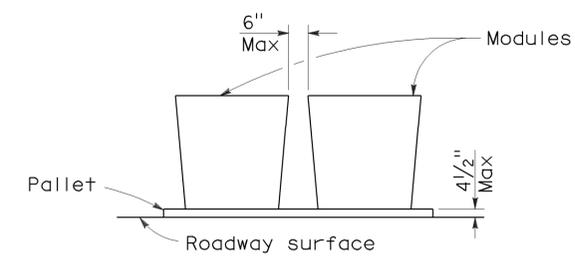


**ARRAY 'TB14'**

Approach speed 45 mph or more



PLAN



ELEVATION

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B  
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP T1B**

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	116	142

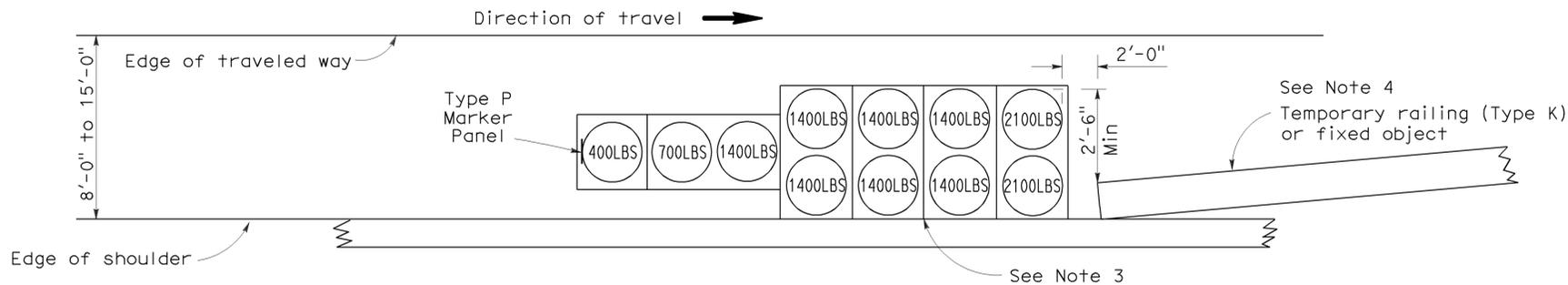
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

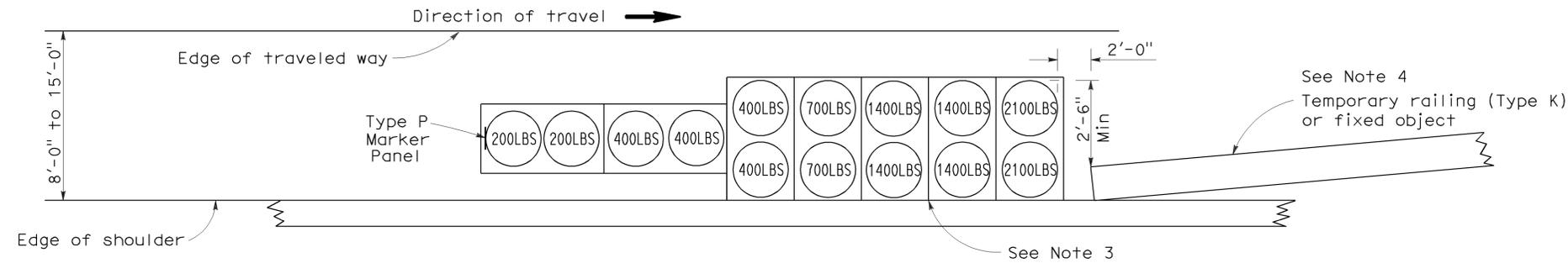
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

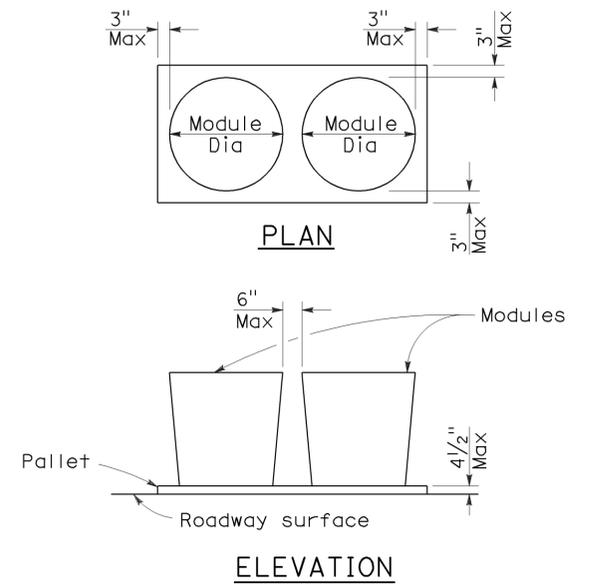
To accompany plans dated 06-01-10



**ARRAY 'TS11'**  
Approach speed less than 45 mph  
See Note 9



**ARRAY 'TS14'**  
Approach speed 45 mph or more  
See Note 9



**CRASH CUSHION PALLET DETAIL**  
See Note 11

**NOTES:**

- (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**

NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2  
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

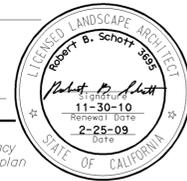
**REVISED STANDARD PLAN RSP T2**

2006 REVISED STANDARD PLAN RSP T2

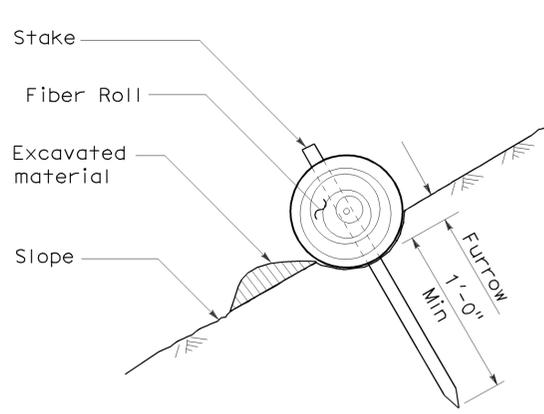


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	118	142

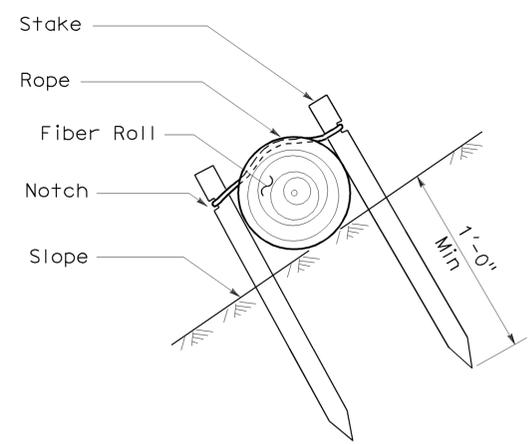
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 April 3, 2009  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



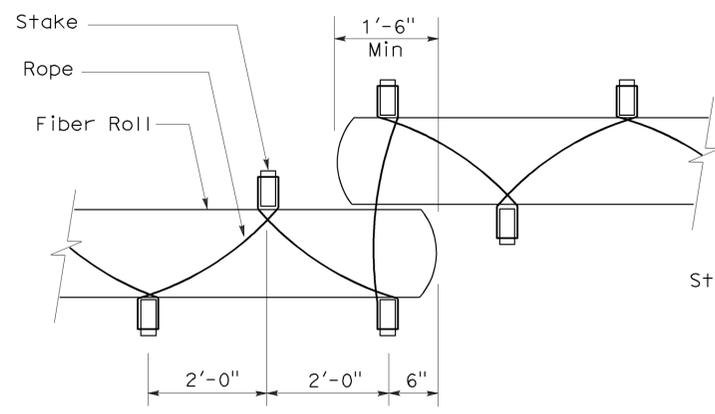
To accompany plans dated 06-01-10



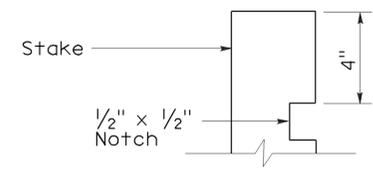
**SECTION**  
**TEMPORARY FIBER ROLL (TYPE 1)**



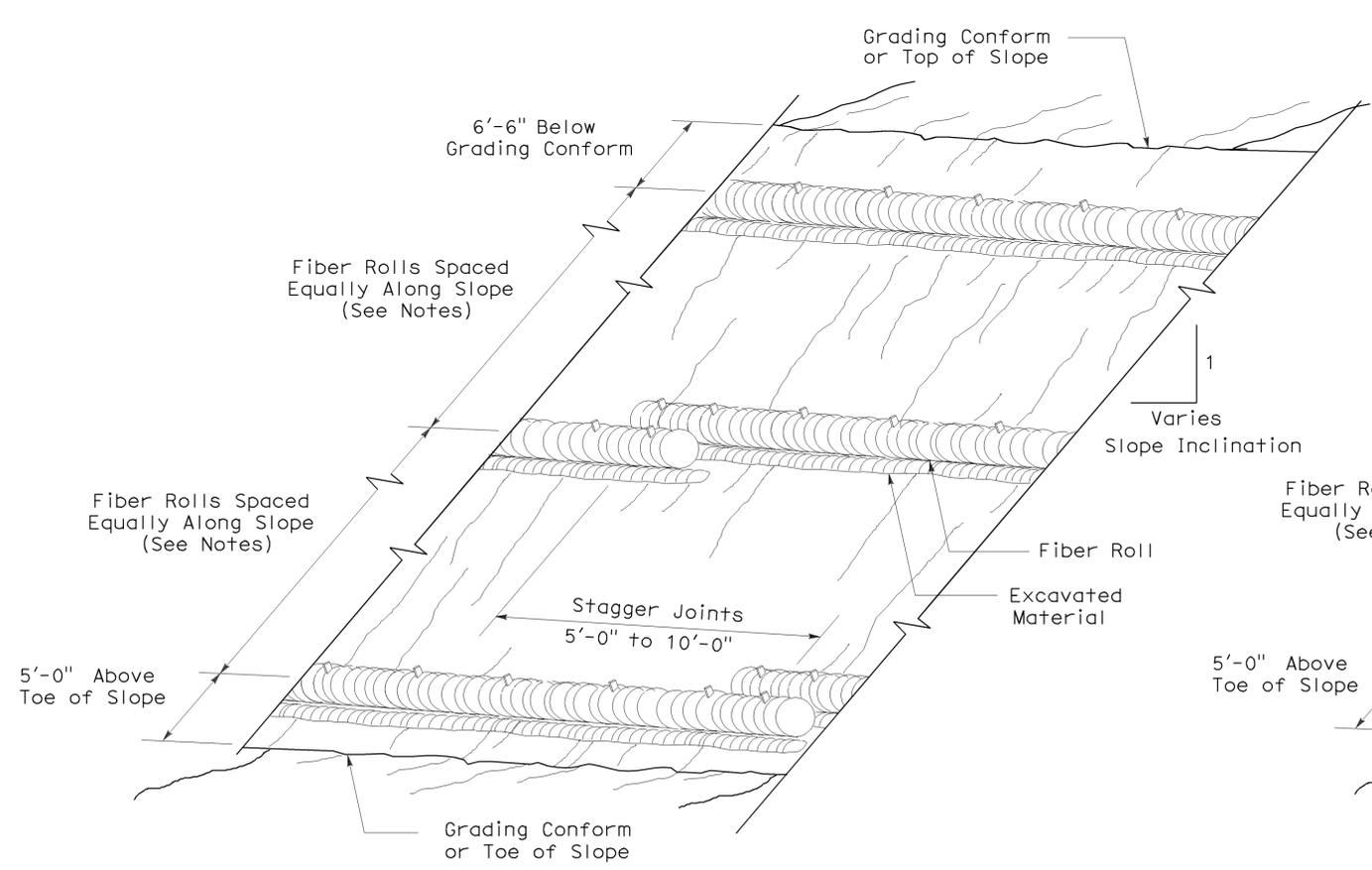
**SECTION**  
**TEMPORARY FIBER ROLL (TYPE 2)**



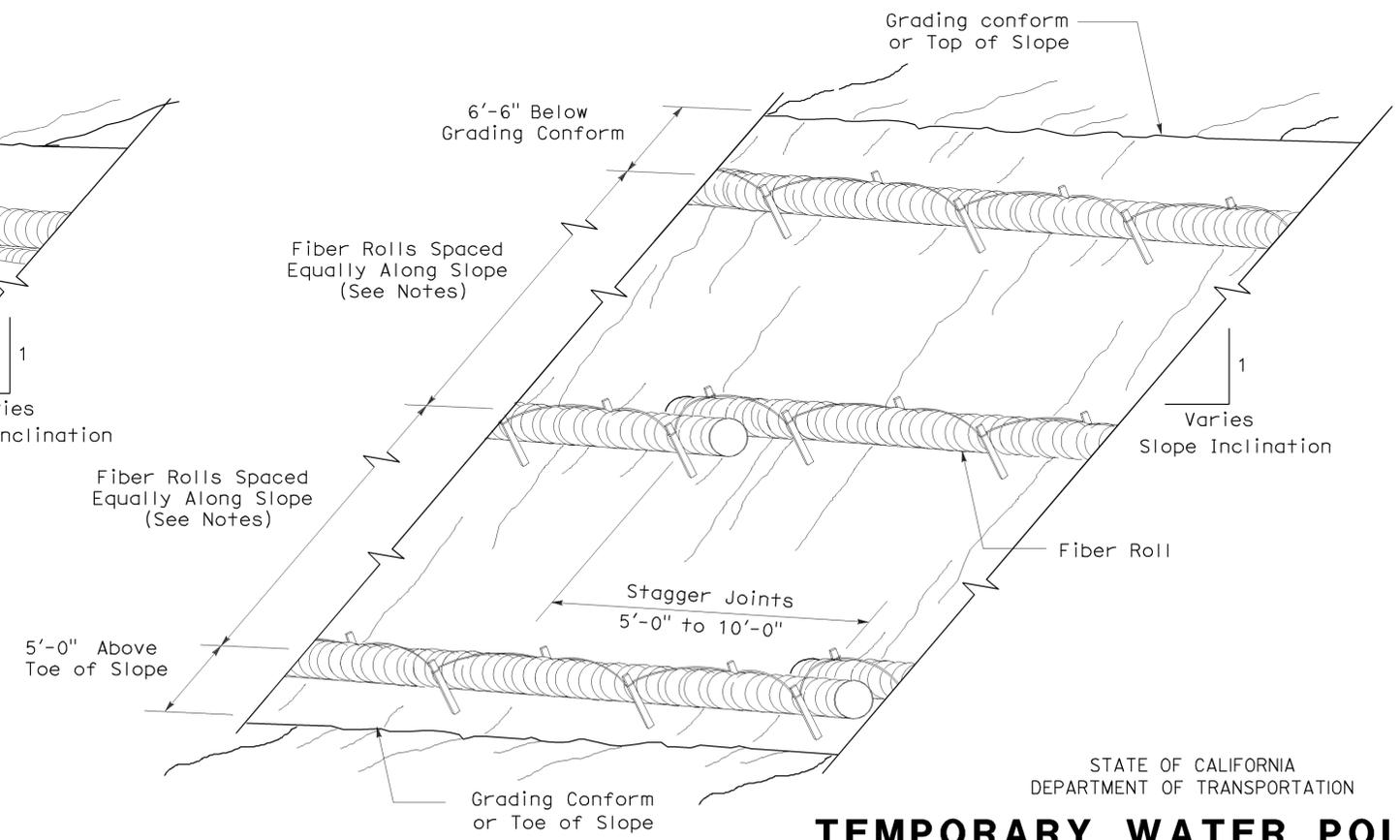
**PLAN**  
**ELEVATION**  
**STAKE NOTCH DETAIL**



- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
  2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



**PERSPECTIVE**  
**TEMPORARY FIBER ROLL (TYPE 1)**



**PERSPECTIVE**  
**TEMPORARY FIBER ROLL (TYPE 2)**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)**  
 NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

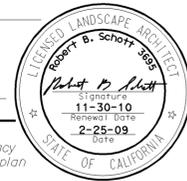
**REVISED STANDARD PLAN RSP T56**

232

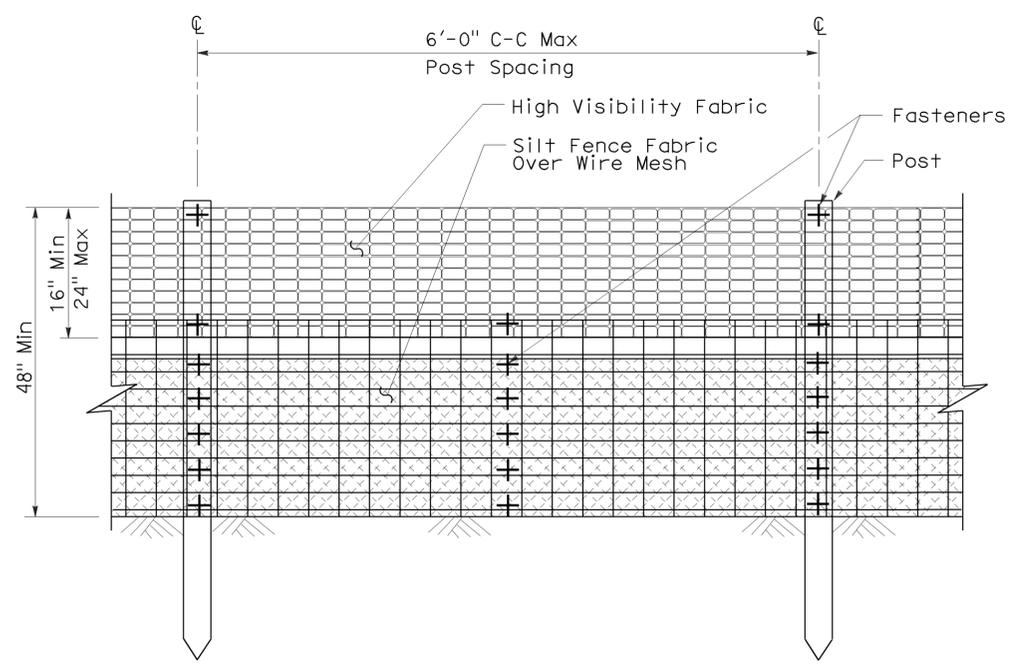
2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	119	142

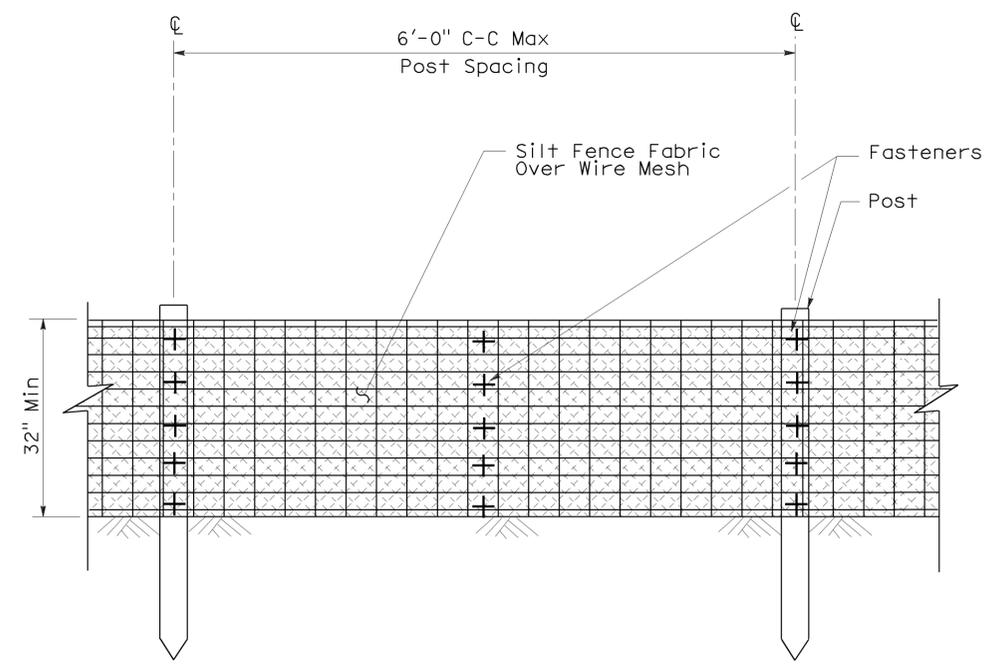
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 April 3, 2009  
 PLANS APPROVAL DATE  
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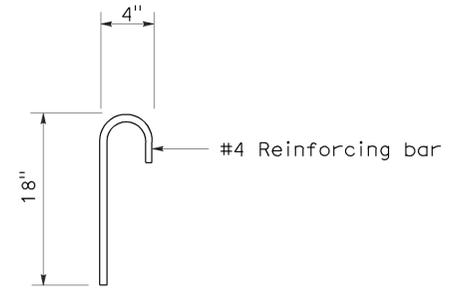
To accompany plans dated 06-01-10



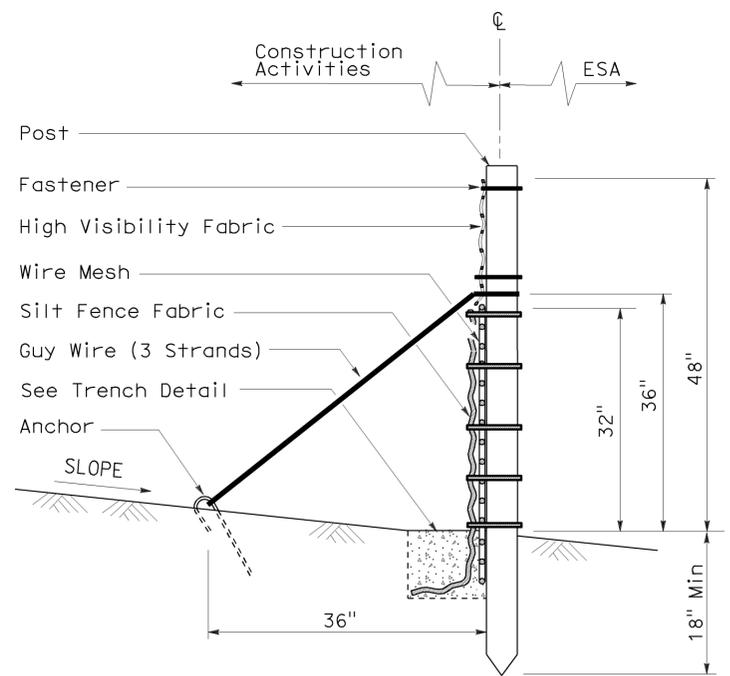
ELEVATION



ELEVATION

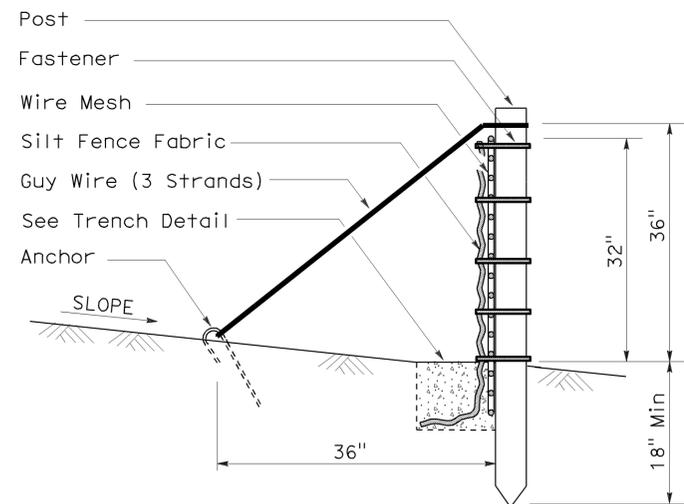


ANCHOR



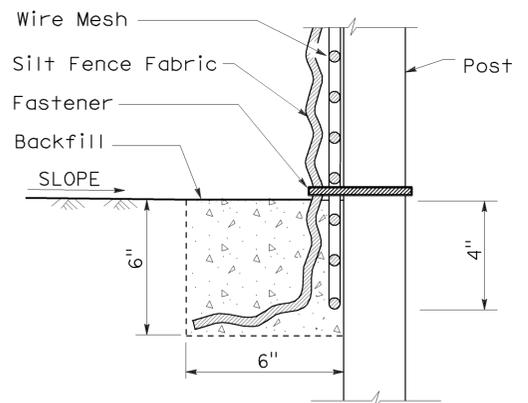
SECTION

TEMPORARY REINFORCED SILT FENCE (TYPE 1)



SECTION

TEMPORARY REINFORCED SILT FENCE (TYPE 2)



SECTION

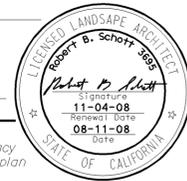
TRENCH DETAIL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS**  
**(TEMPORARY REINFORCED SILT FENCE)**  
 NO SCALE  
 NSP T60 DATED APRIL 3, 2009 SUPPLEMENTS  
 THE STANDARD PLANS BOOK DATED MAY 2006.

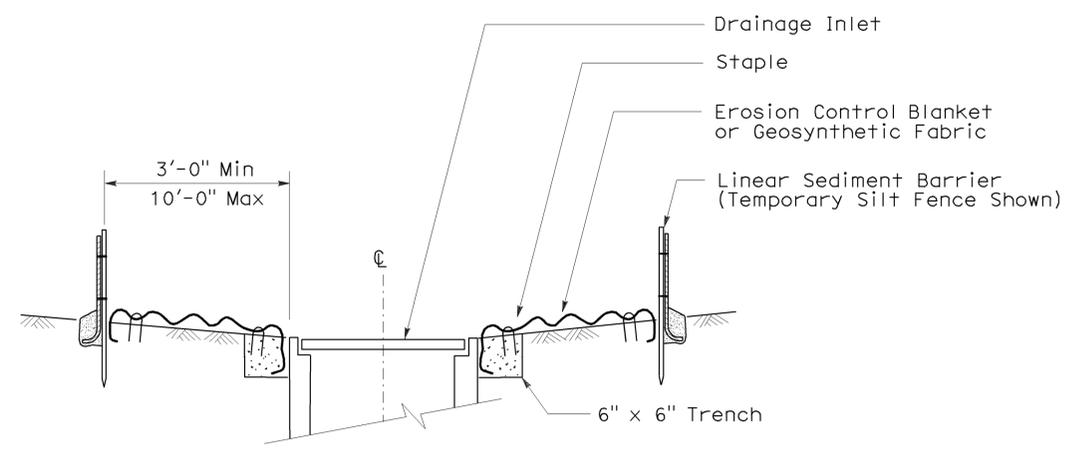
2006 NEW STANDARD PLAN NSP T60

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	120	142

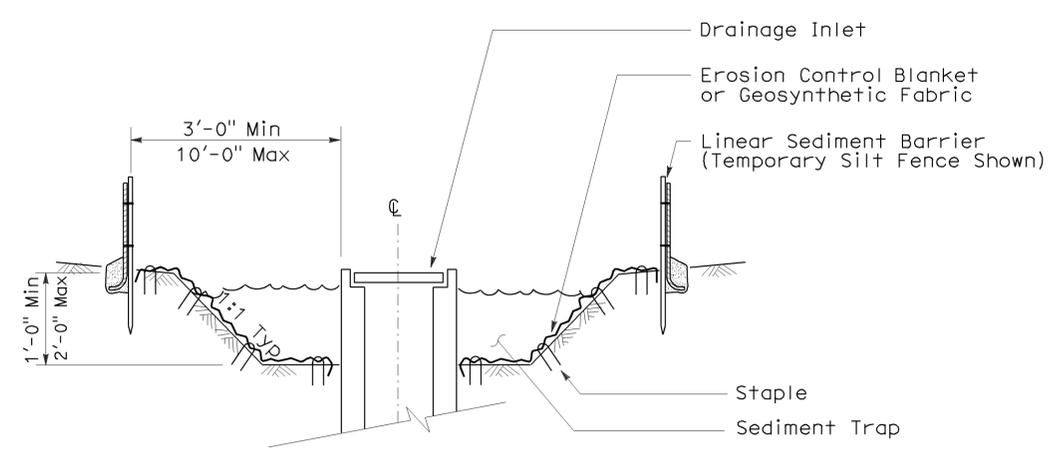
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS Approval DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



To accompany plans dated 06-01-10



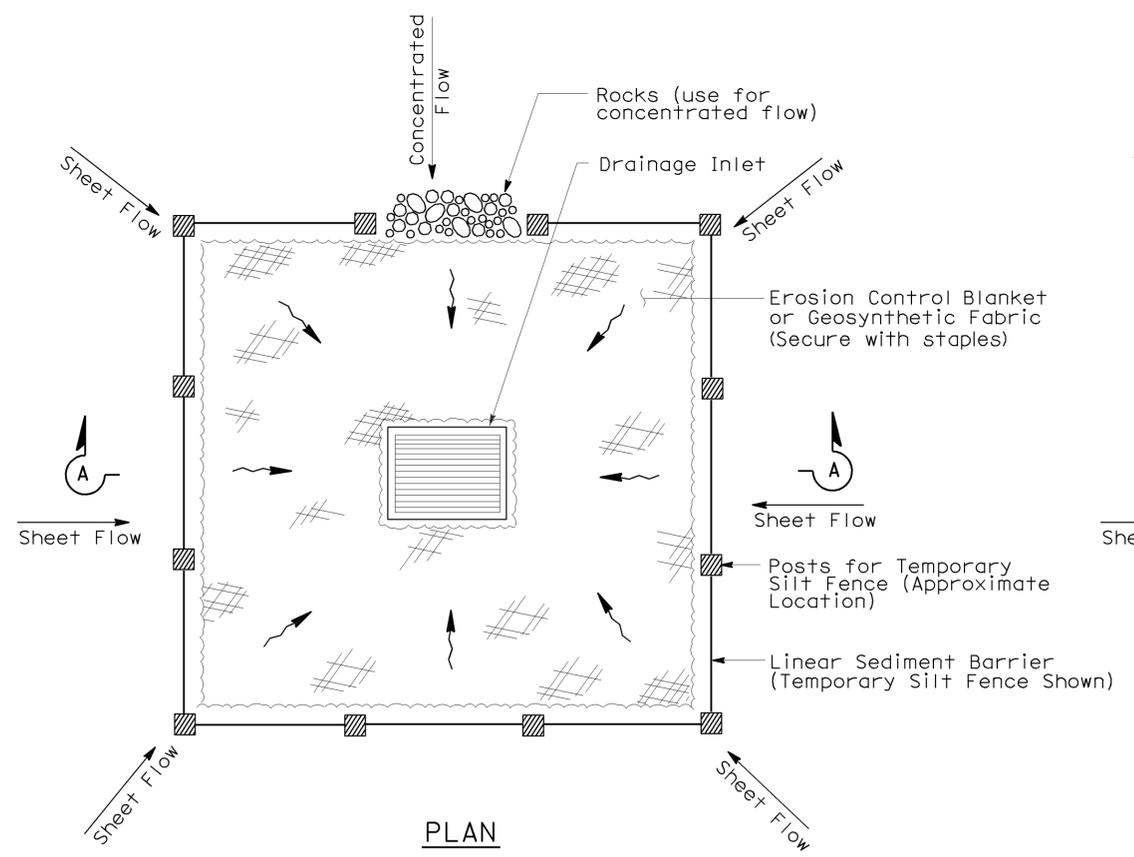
SECTION A-A



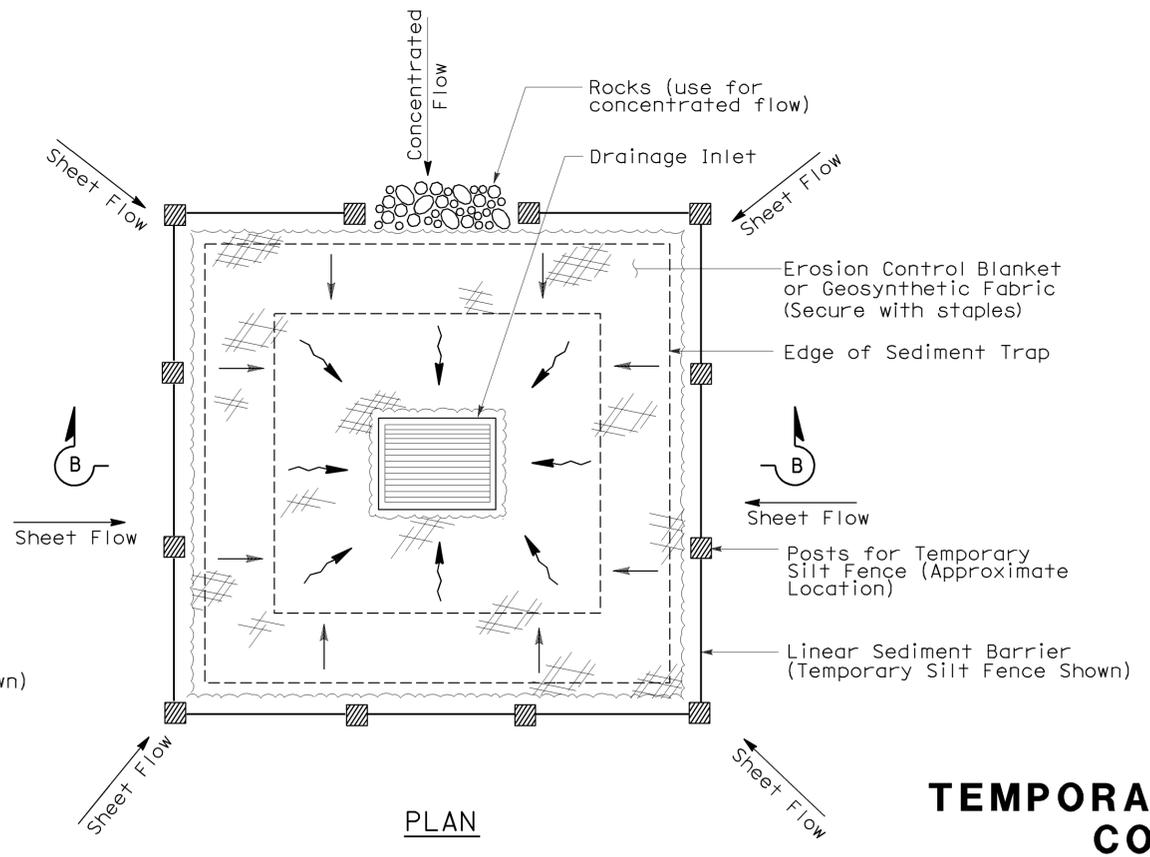
SECTION B-B

**NOTES:**

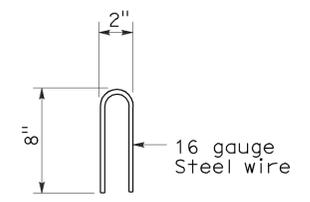
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)

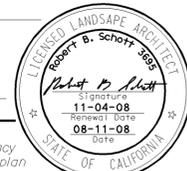


STAPLE DETAIL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS**  
**(TEMPORARY DRAINAGE INLET PROTECTION)**  
 NO SCALE

Nsp t61 dated august 15, 2008 supplements the standard plans book dated may 2006.

2006 NEW STANDARD PLAN NSP T61

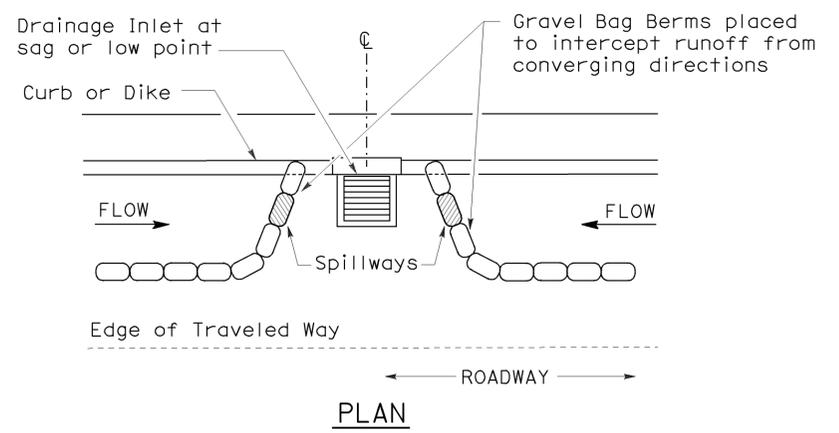


To accompany plans dated 06-01-10

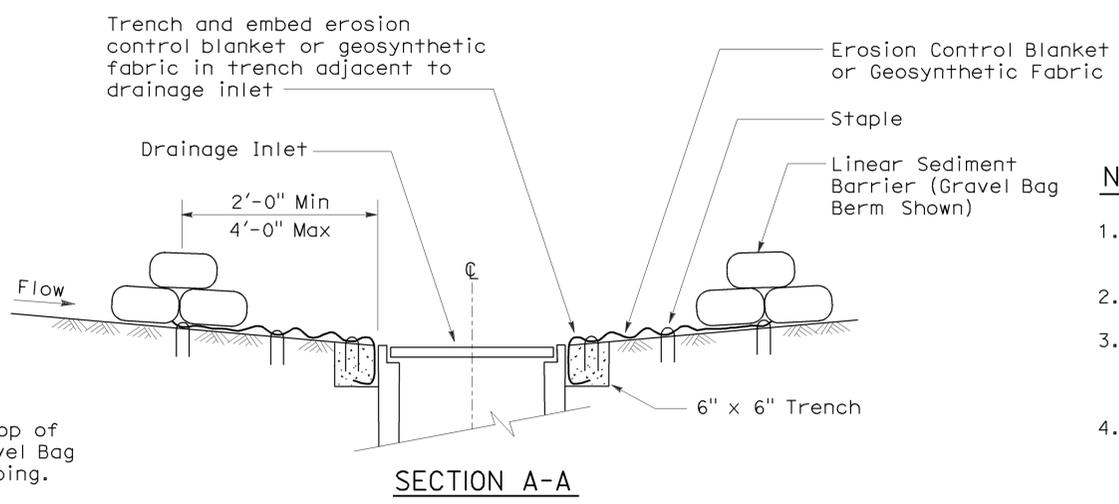
### GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

For slope of less than 1%, install barriers only if erosion/sediment is prevalent



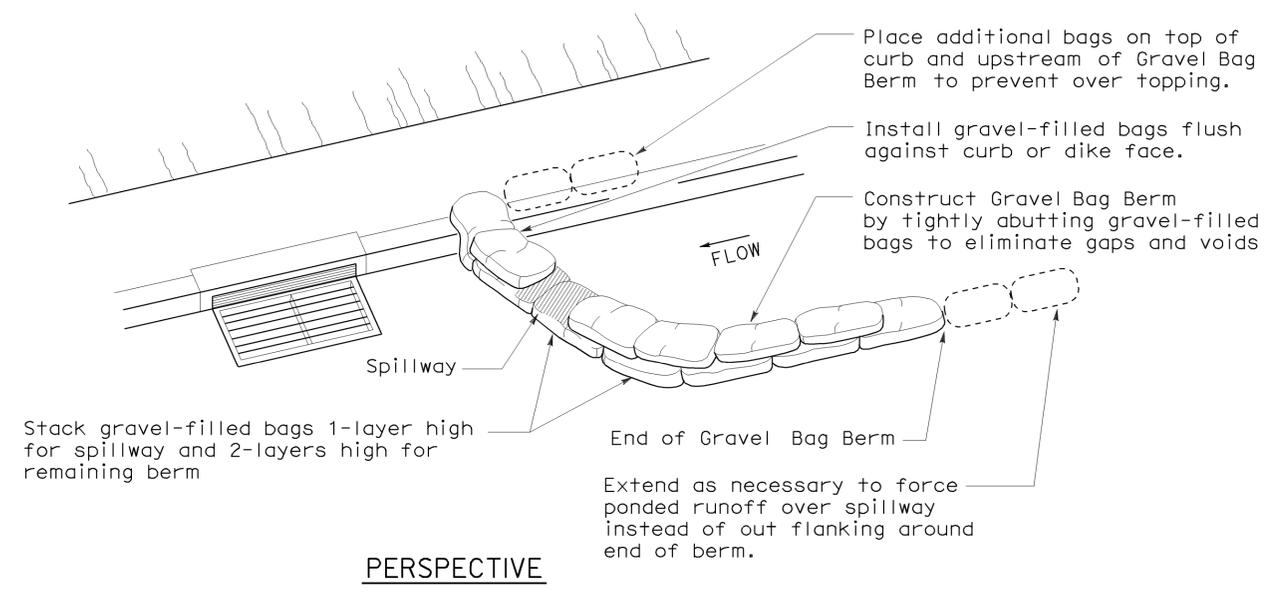
**CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)**



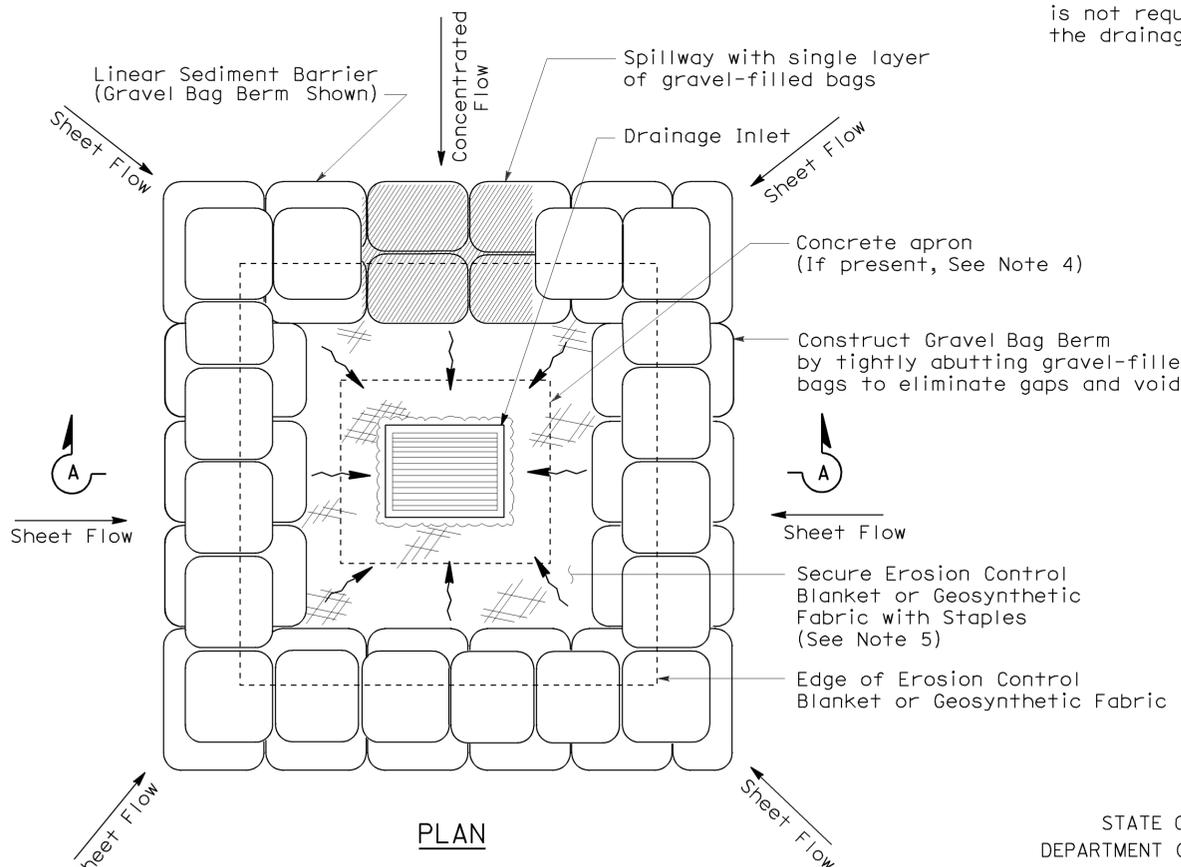
**SECTION A-A**

**NOTES:**

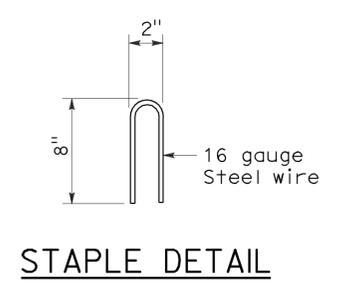
1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



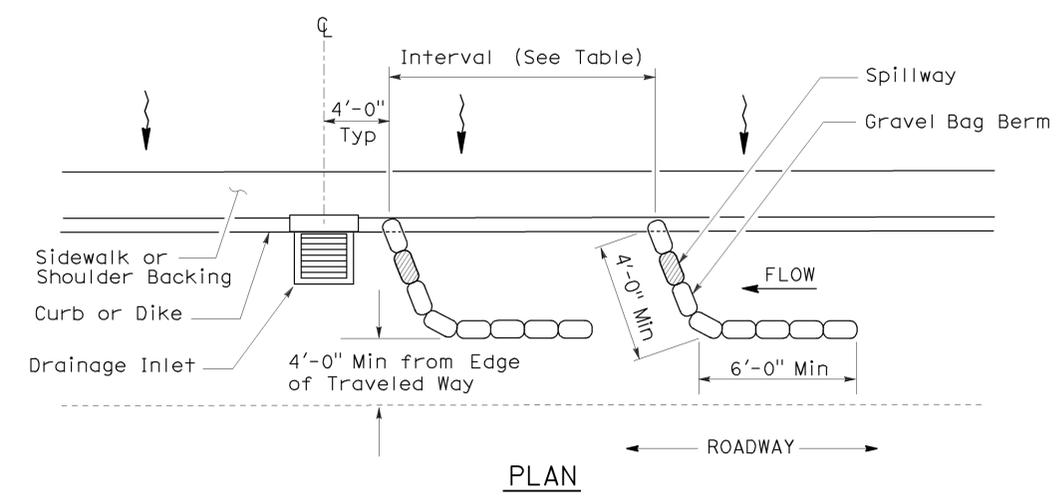
**PERSPECTIVE**



**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)**



**STAPLE DETAIL**



**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A) (GRAVEL BAG BERM)**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)**

NO SCALE  
NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T62

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	122	142

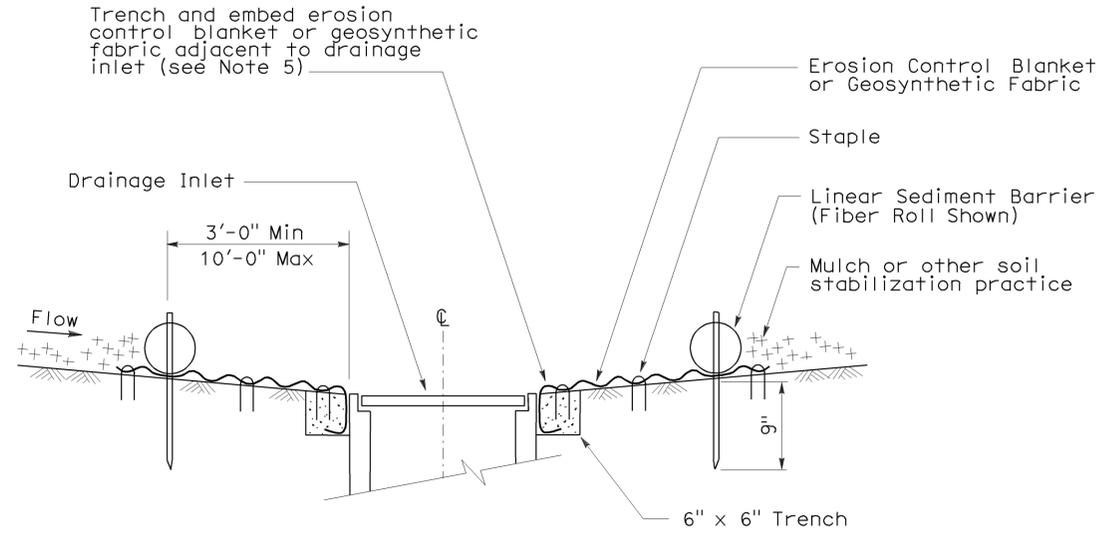
Robert B. Schott  
LICENSED LANDSCAPE ARCHITECT

August 15, 2008  
PLANS APPROVAL DATE

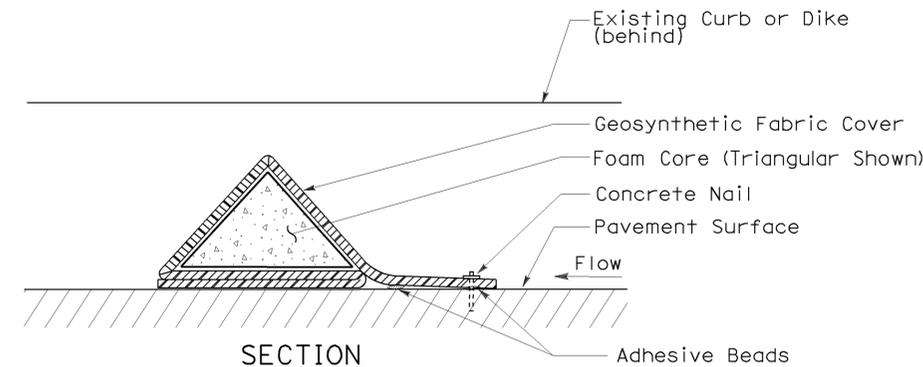
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To accompany plans dated 06-01-10

STATE OF CALIFORNIA  
LICENSED LANDSCAPE ARCHITECT  
Robert B. Schott  
11-04-08  
08-11-08



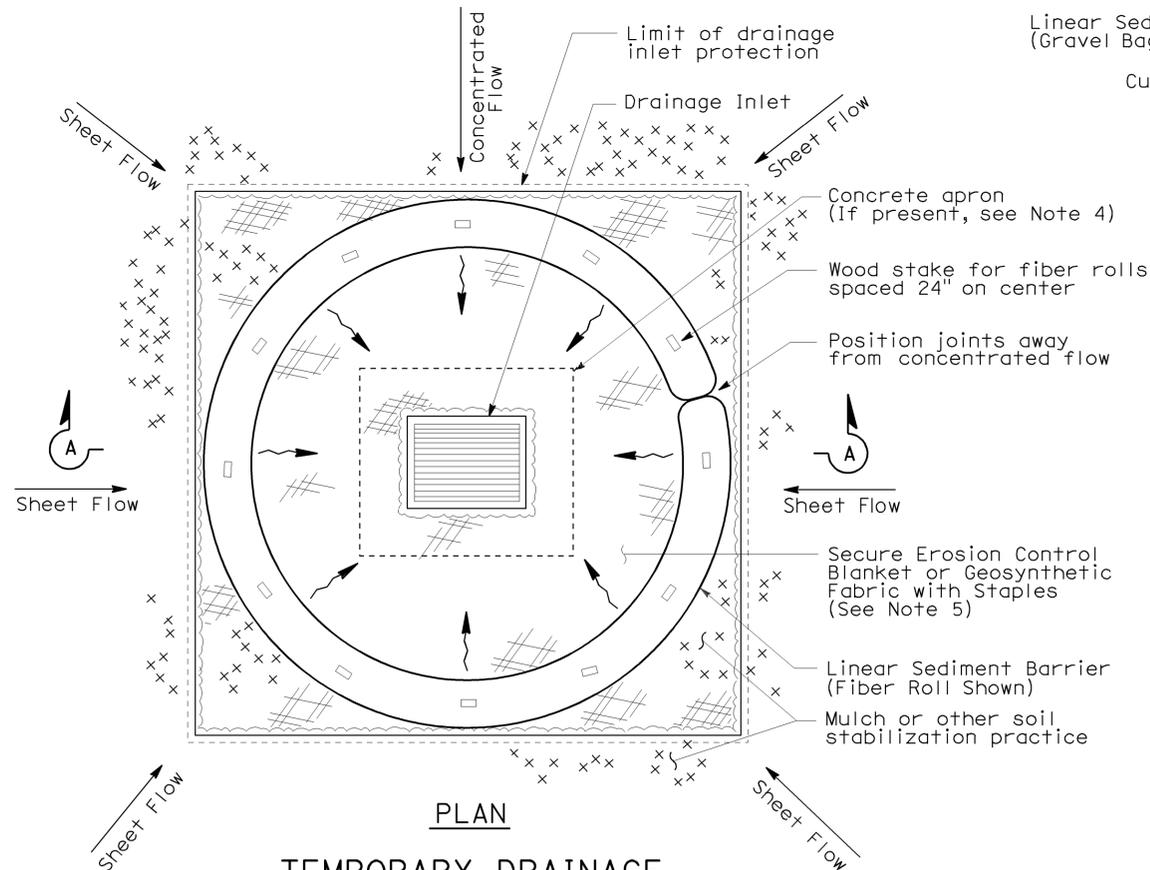
SECTION A-A



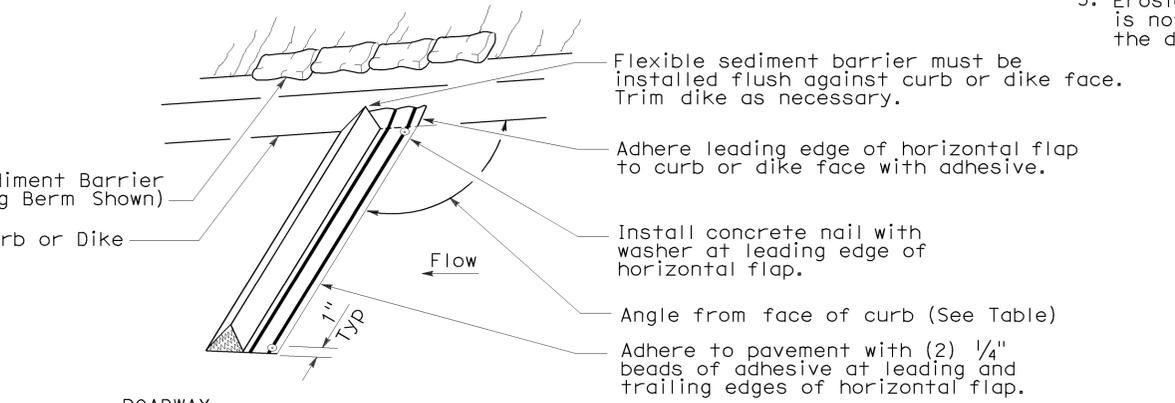
SECTION  
FLEXIBLE SEDIMENT BARRIER DETAIL  
(FOAM BARRIER SHOWN)

NOTES:

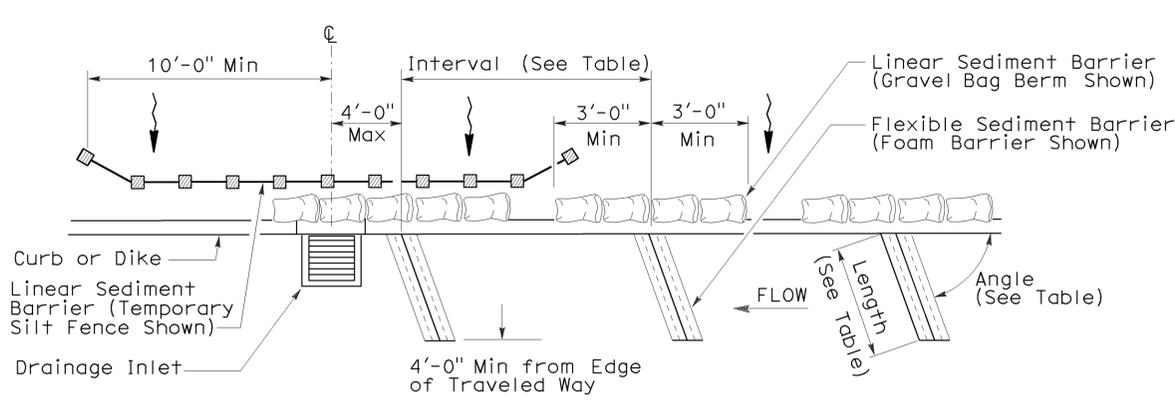
- See Standard Plan T51 for Temporary Silt Fence.
- Dimensions may vary to fit field conditions.
- Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
- Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
- Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.



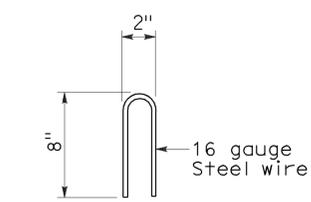
PLAN  
TEMPORARY DRAINAGE  
INLET PROTECTION (TYPE 4A)



PERSPECTIVE



PLAN  
TEMPORARY DRAINAGE  
INLET PROTECTION (TYPE 4B)  
FLEXIBLE SEDIMENT BARRIER



STAPLE DETAIL

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

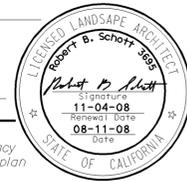
**TEMPORARY WATER POLLUTION  
CONTROL DETAILS  
(TEMPORARY DRAINAGE  
INLET PROTECTION)**

NO SCALE  
NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

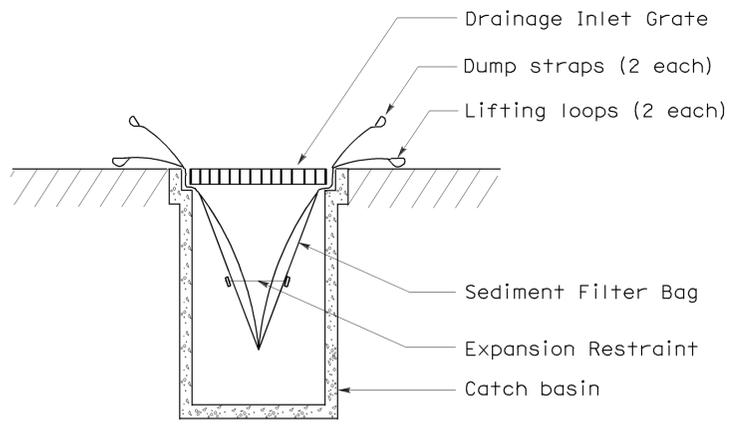
2006 NEW STANDARD PLAN NSP T63

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	123	142

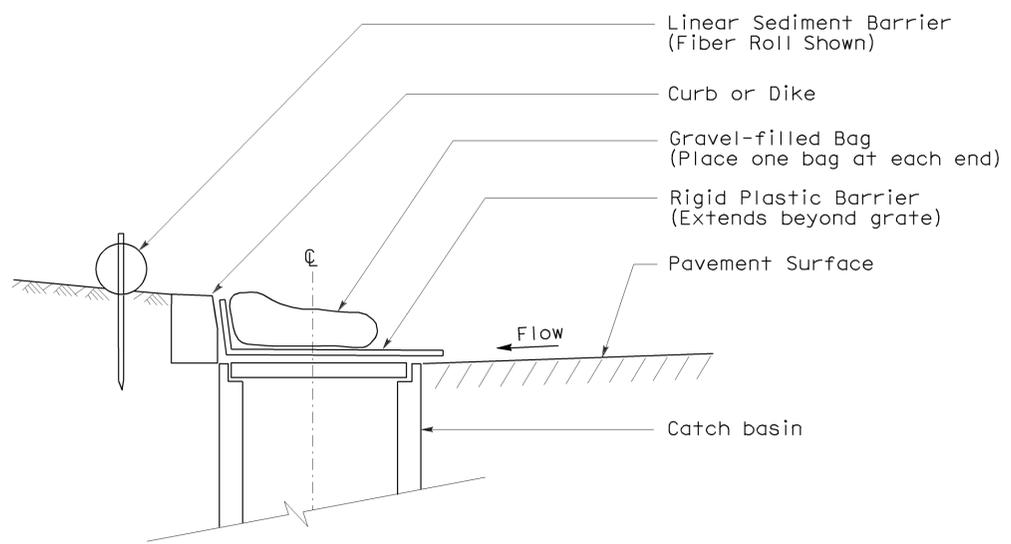
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS APPROVAL DATE  
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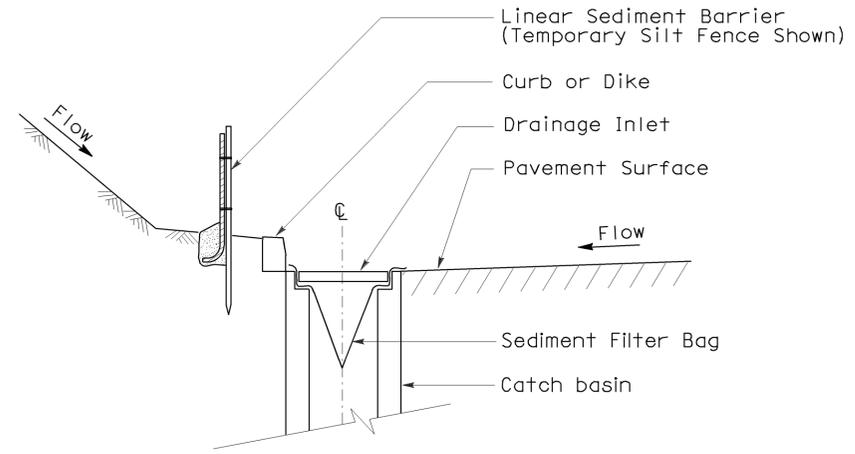
To accompany plans dated 06-01-10



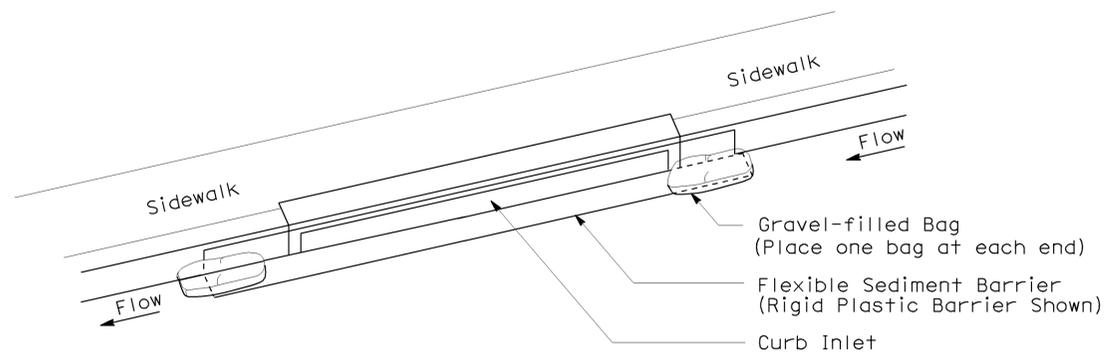
**SECTION B-B**  
**SEDIMENT FILTER BAG DETAIL**



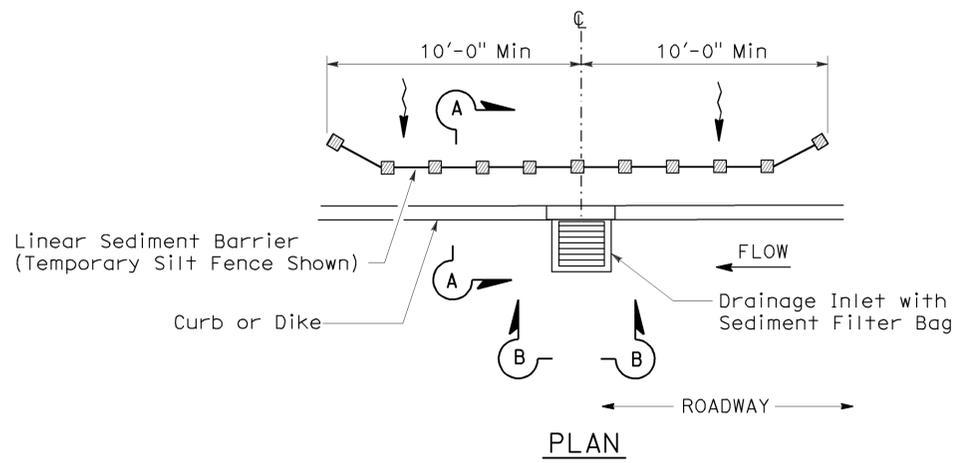
**SECTION**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 6A)**  
**(CATCH BASIN WITH GRATE)**



**SECTION A-A**



**PERSPECTIVE**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 6B)**  
**(CURB INLET WITHOUT GRATE)**



**PLAN**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 5)**  
**(SEDIMENT FILTER BAG)**

**NOTES:**

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)**

NO SCALE

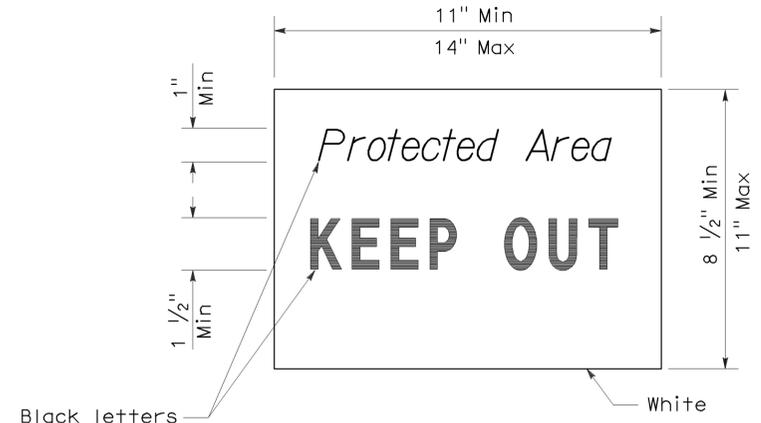
NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

**NEW STANDARD PLAN NSP T64**

2006 NEW STANDARD PLAN NSP T64

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	124	142

*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 April 3, 2009  
 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.

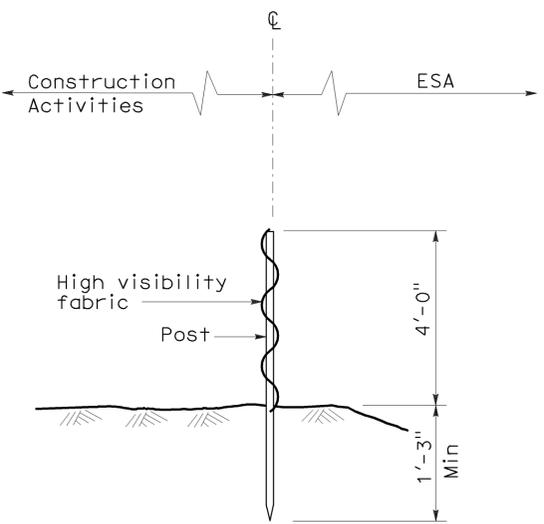


**SIGN DETAIL**

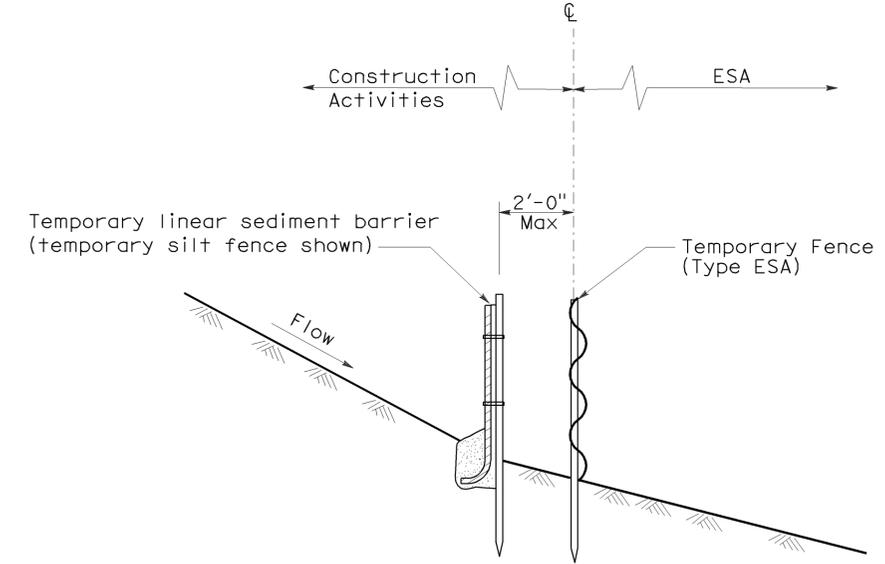
To accompany plans dated 06-01-10

**NOTE:**

1. Temporary silt fence and temporary straw bale barrier shown for reference purposes only.

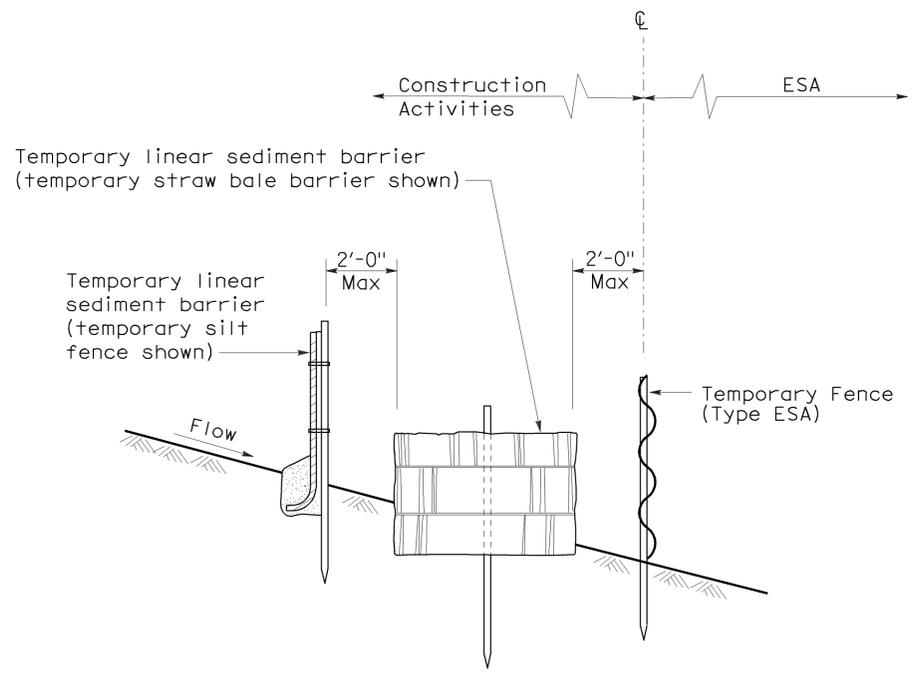


**SECTION TEMPORARY FENCE (TYPE ESA)**



**SECTION PLACEMENT DETAIL FOR TEMPORARY LINEAR SEDIMENT BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)**

(See Note 1)



**SECTION PLACEMENT DETAIL FOR TEMPORARY SILT FENCE AND TEMPORARY STRAW BALE BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)**

(See Note 1)

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION CONTROL DETAILS [TEMPORARY FENCE (TYPE ESA)]**

NO SCALE

NSP T65 DATED APRIL 3, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T65

# ELECTROLIERS

STANDARD TYPES		
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		
32		
35		
36-20A		

**NOTES:**

- Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
- Variations noted adjacent to symbol on project plans.

- Electrolier (see project notes or project plans)
- Luminaire on wood pole

## STANDARD NOTES:

- 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 wire or rope.
- 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.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

# ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

## PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	125	142

*Jeffery G. McRae*  
REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
PLANS APPROVAL DATE

Jeffery G. McRae  
No. E14512  
Exp. 6-30-08  
ELECTRICAL  
STATE OF CALIFORNIA

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To accompany plans dated 06-01-10

## 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.
- Existing soffit or wall luminaire to be modified as specified.

### NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1A**

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	126	142

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

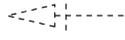
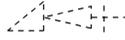
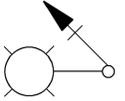
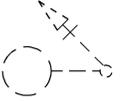
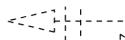
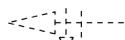
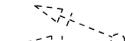
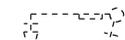
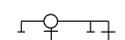
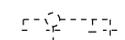
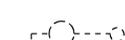
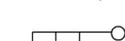
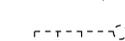
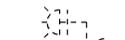
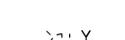
October 5, 2007  
 PLANS APPROVAL DATE

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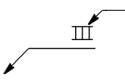
### CONDUIT

PROPOSED	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 
		Conduit riser in/on structure or service pole

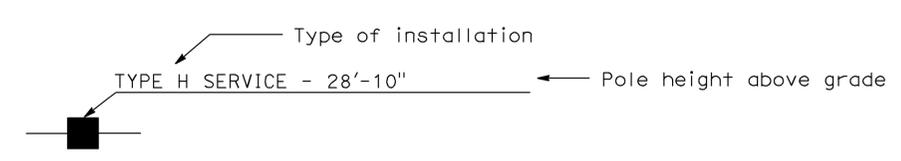
### SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" Indicates all non-arrow sections lowered "LG" Indicates lowered green section only "PV" Indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

### SERVICE EQUIPMENT

PROPOSED	EXISTING	
---OH---	---oh---	Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

### POLE-MOUNTED SERVICE DESIGNATION



### ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

### SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

### NOTES:

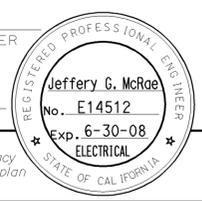
- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.
- Signal indication shall be LED.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (SYMBOLS AND ABBREVIATIONS)**  
 NO SCALE

RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1B**

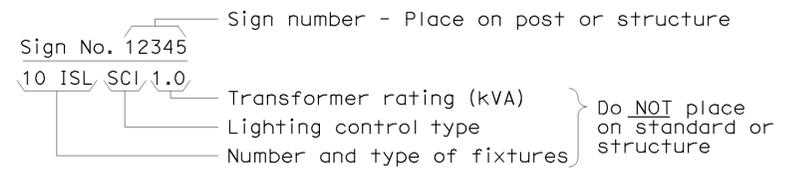
2006 REVISED STANDARD PLAN RSP ES-1B



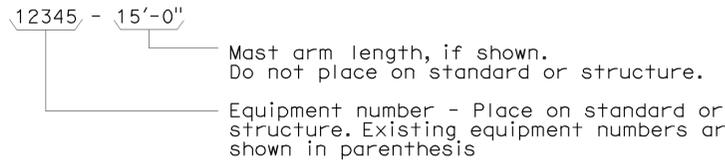
To accompany plans dated 06-01-10

### EQUIPMENT IDENTIFICATION

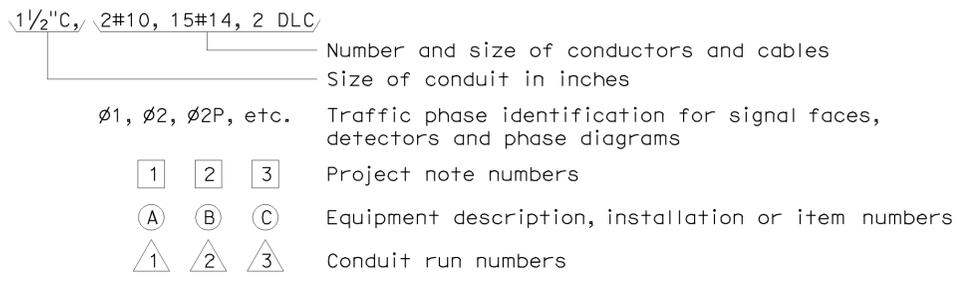
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



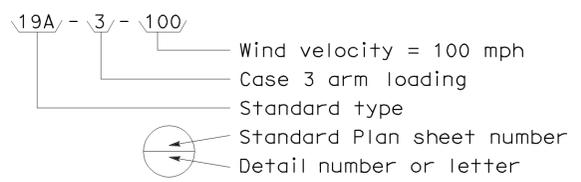
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



#### CONDUIT AND CONDUCTOR IDENTIFICATION:



#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



### MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
		Changeable message sign
		Closed circuit television camera
		Highway advisory radio pole and antenna
		Extinguishable message sign
		Detection device M = Microwave sensor V = Video image sensor

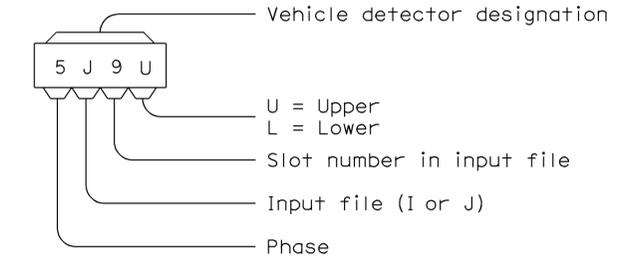
### WIRING DIAGRAM LEGEND

P	Pole	----	External conductor
CB	Circuit breaker	—	Conductor or bus
A	Ampere	—●—	Tie point
V	Volt	—/—	Contactor coil
M	Metered	— —	Contactor, Contact NO
UM	Unmetered	—X—	Terminal blocks
NB	Neutral bus	—/—	Contactor, Contact NC
GB	Ground bus	—/—	Enclosure bond
G	Equipment grounding conductor	— —	Grounding electrode
N	Grounded conductor (Neutral)	—●—	Circuit breaker
		Ⓜ	Receptacle

### PULL BOXES

PROPOSED	EXISTING	
		Pull box-No. 5 unless otherwise indicated or noted.
		Pull box-Additional designations or descriptions
3		(C) = Communications pull box
5		(E) = Pull box with extension
6		(S) = Sprinkler control pull box
7		(21) = Anchor bolts and conduit for future installation of Type 21 Standard
8		(T) = Traffic pull box
9		
9A		

### VEHICLE DETECTORS



PROPOSED	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
		Detector handhole
		Microwave or video detection zone

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SYMBOLS AND ABBREVIATIONS)**  
NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C  
DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1C**

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	128	142

*Jeffery G. McRae*  
REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
PLANS APPROVAL DATE

Jeffery G. McRae  
No. E14512  
Exp. 6-30-08  
ELECTRICAL  
STATE OF CALIFORNIA

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**NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:**

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of  $\frac{7}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
  - a) Incoming terminals (landing lugs)
  - b) Neutral lugs
  - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces,  $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
  - a) Adjacent to the breaker or device with character size a minimum of  $\frac{1}{8}$ ".
  - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of  $\frac{3}{16}$ ".
14. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
15. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
19. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
20. Type III-AR and Type III-BR service equipment enclosures shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

To accompany plans dated 06-01-10

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

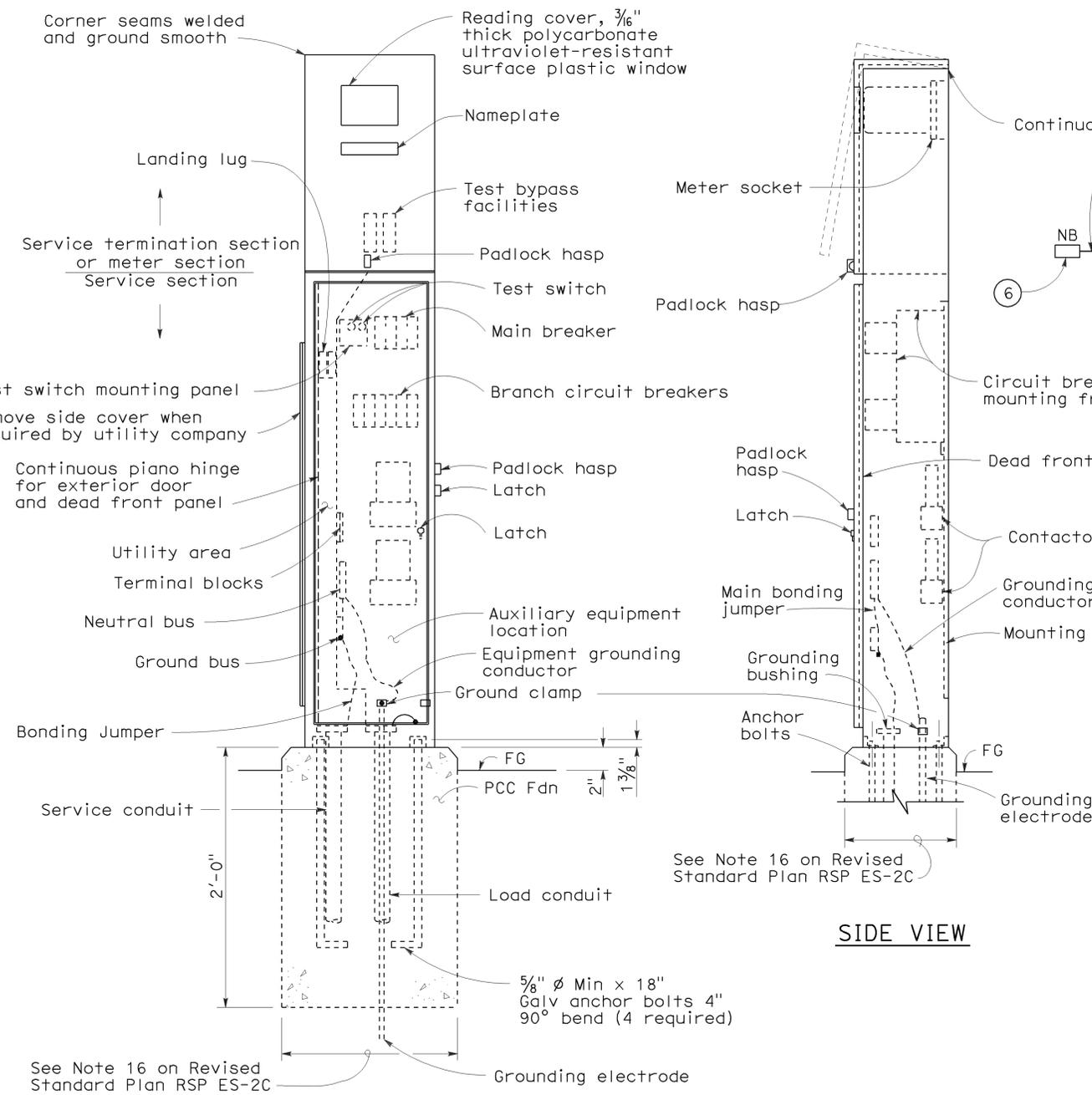
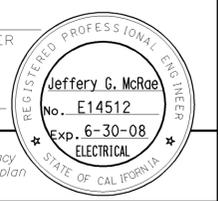
**ELECTRICAL SYSTEMS  
(SERVICE EQUIPMENT NOTES  
TYPE III SERIES)**

NO SCALE

RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C  
DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-2C**

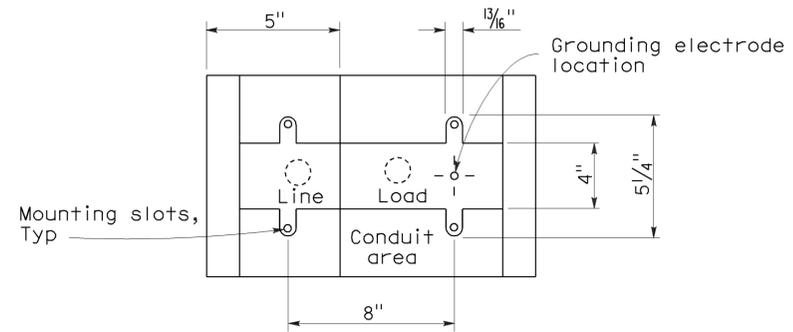
2006 REVISED STANDARD PLAN RSP ES-2C



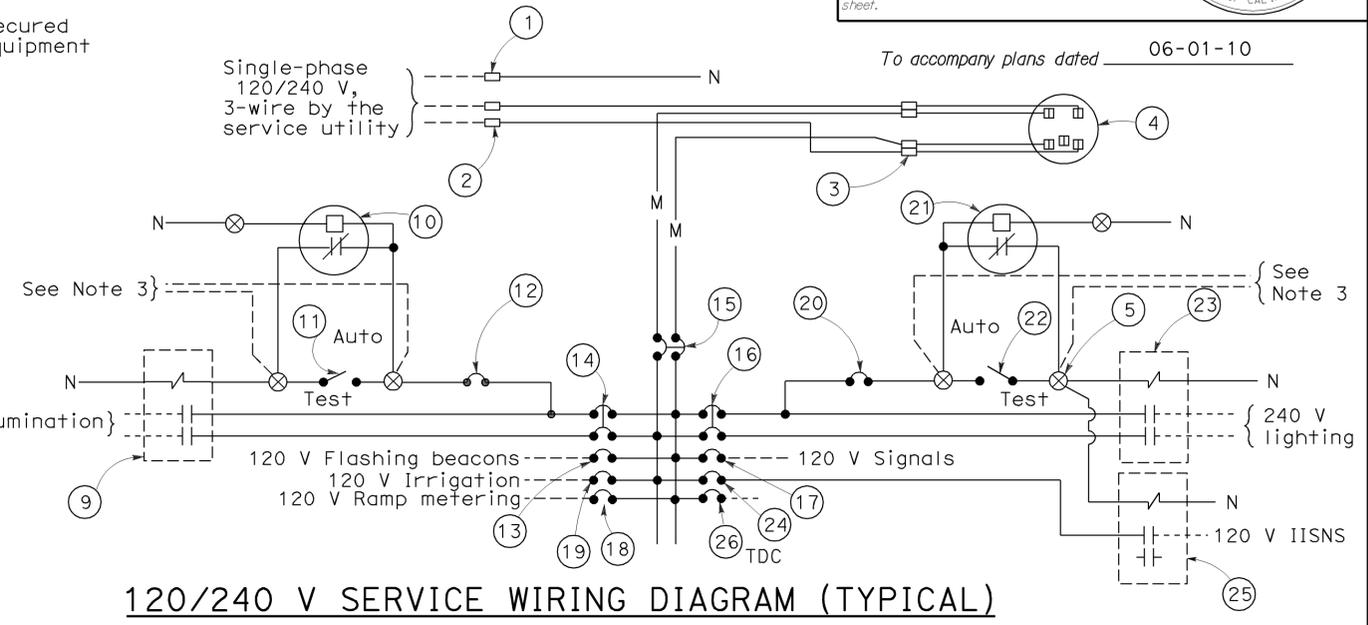
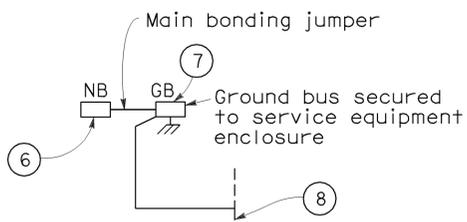
**TYPE III-AF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)**

**FRONT VIEW**

**SIDE VIEW**



**BASE FOR TYPE III-A SERVICE EQUIPMENT ENCLOSURE**



**120/240 V SERVICE WIRING DIAGRAM (TYPICAL)**

TYPE III-A SERVICE (120/240 V) EQUIPMENT LEGEND					
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION	ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
1	Neutral lug		14	30 A, 240 V, 2P, CB	Sign Illumination
2	Landing lug (Note 6)		15	100 A, 240 V, 2P, CB	Main Breaker
3	Test bypass facility		16	30 A, 240 V, 2P, CB	Lighting
4	Meter socket and support		17	50 A, 120 V, 1P, CB	Signals
5	Terminal blocks		18	30 A, 120 V, 1P, CB	Ramp Metering
6	Neutral bus		19	20 A, 120 V, 1P, CB	Irrigation
7	Ground bus		20	15 A, 120 V, 1P, CB	Lighting Control
8	Grounding electrode		21	Photoelectric unit (Note 7)	
9	30 A, 2PNO Contactor	Sign Illumination	22	15 A, 1P, Test switch	Lighting Test Switch
10	Photoelectric unit (Note 7)		23	60 A, 2PNO Contactor	Lighting
11	15 A, 1P, Test switch	Sign Illumination Test Switch	24	15 A, 120 V, 1P, CB	IISNS
12	15 A, 120 V, 1P, CB	Sign Illumination Control	25	30 A, 2PNO Contactor	IISNS
13	15 A, 120 V, 1P, CB	Flashing Beacon	26	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

**NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)**

- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
- Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
- Connect to remote test switch mounted on lighting standards, sign post or structure when required.
- Items No. 1 and 6 shall be isolated from the service equipment enclosure.
- Meter sockets shall be 5 clip type.
- The landing lug shall be suitable for multiple conductors.
- Type I photoelectric control shall be used unless otherwise indicated on the plans.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (SERVICE EQUIPMENT AND TYPICAL WIRING DIAGRAM, TYPE III-A SERIES)**

NO SCALE

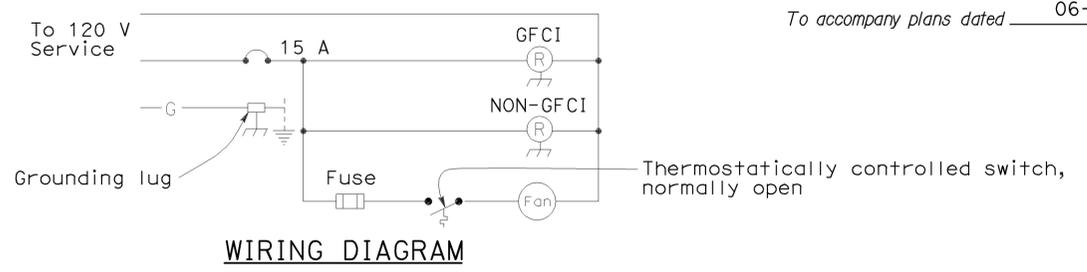
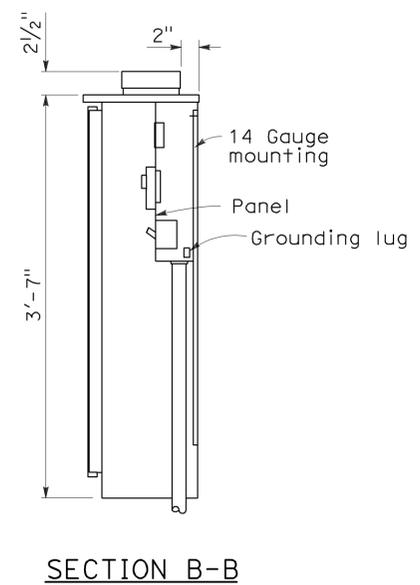
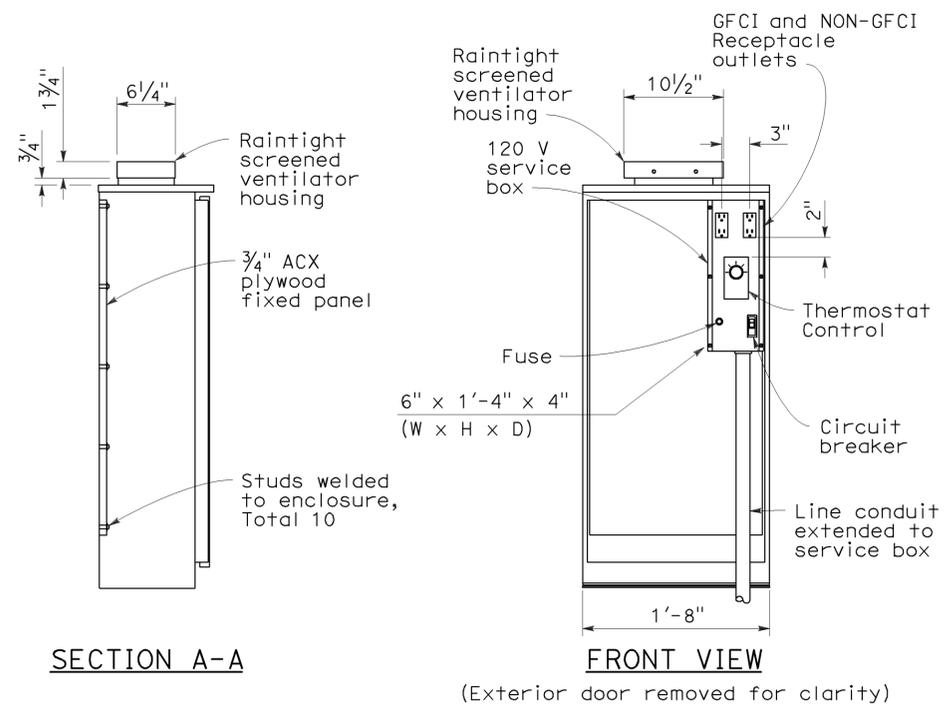
RSP ES-2D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2D DATED MAY 1, 2006 - PAGE 406 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-2D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	130	142

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 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.

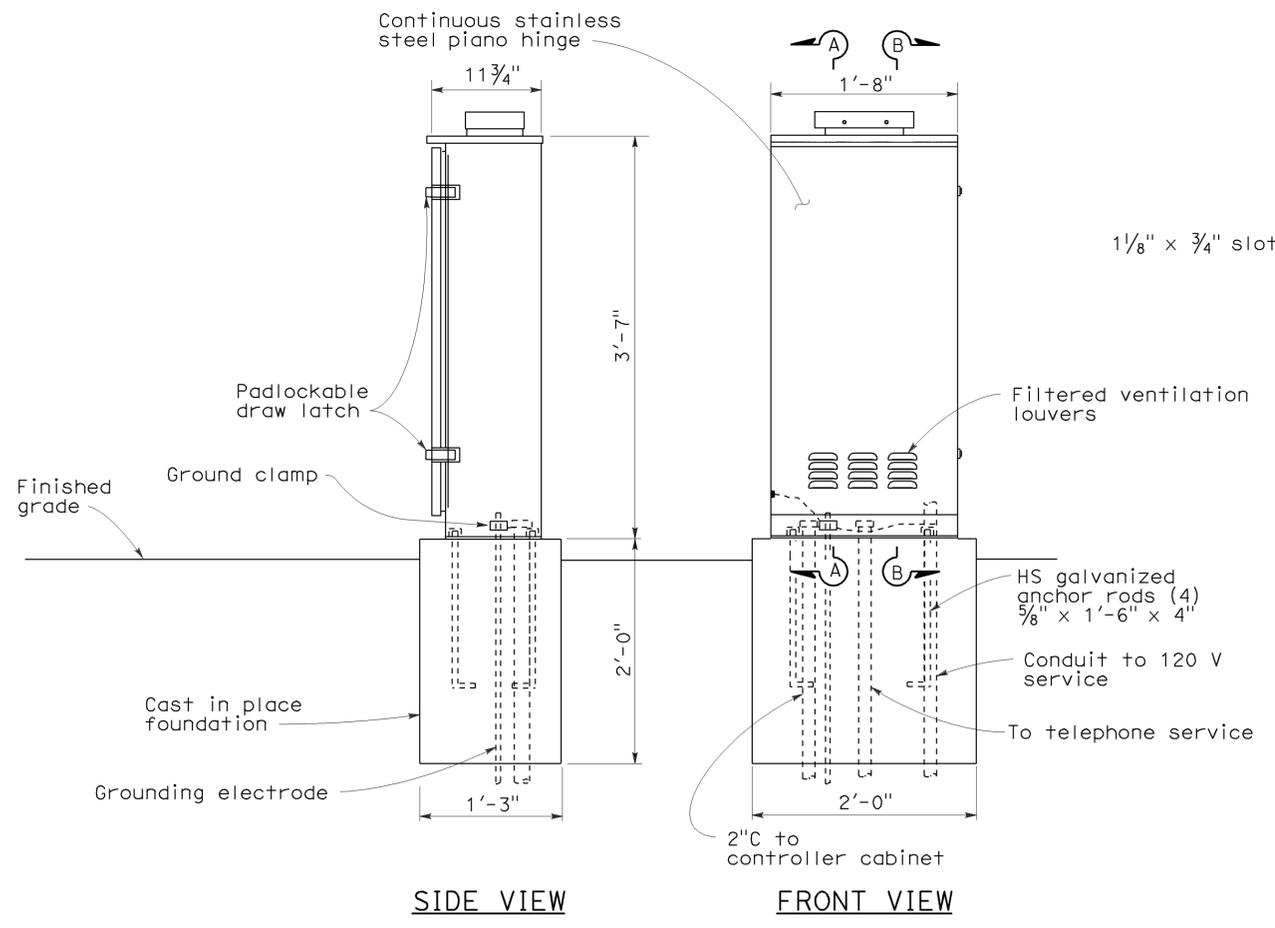
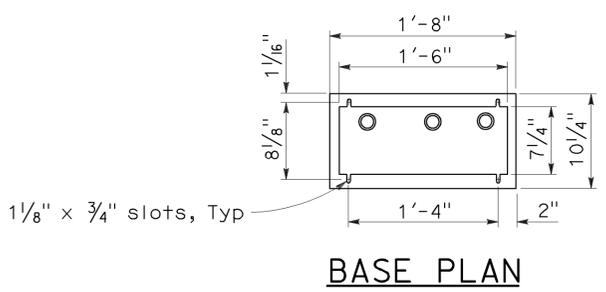
REGISTERED PROFESSIONAL ENGINEER  
 Jeffery G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA



To accompany plans dated 06-01-10

**NOTES:**

- Telephone demarcation cabinet shall be furnished with a mounting panel, outlets, circuit breaker and deadfront plates in place. Dimensions are nominal.
- An approved mastic or caulking compound shall be placed on the foundation prior to placing the cabinet to seal openings between the bottom of the cabinet and the foundation.
- In unpaved areas, a raised PCC pad shall be placed in front of the telephone demarcation cabinet. Pad shall be 2'-0" x 1'-10" x 4" thick, with 2" above the finished grade.
- All conduits shall be bonded to the enclosure.
- Telephone demarcation cabinet:
  - Material shall be anodized aluminum (1/8" thick).
  - Fabrication shall conform to the requirements of the Standard Specifications.
  - The exterior door shall be side hung and secured with a padlockable draw latch, the padlock hole shall be a minimum diameter of 7/16" to receive a padlock.
  - Ventilation louvers shall be located on the door.
  - Fan shall be mounted in a ventilator housing.
  - Fan shall be thermostatically controlled and adjustable to turn on between 80°F and 130°F.
  - Fan circuit shall be fused at 175 percent of the fan motor capacity.
  - Fan capacity shall be at least 25 cubic feet per minute.
  - Fasten fixed mounting panels with nuts, lock and flat washers to 3/16" ø x 1" studs welded to enclosure.



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (TELEPHONE DEMARCATION  
 CABINET, TYPE B)**

NO SCALE

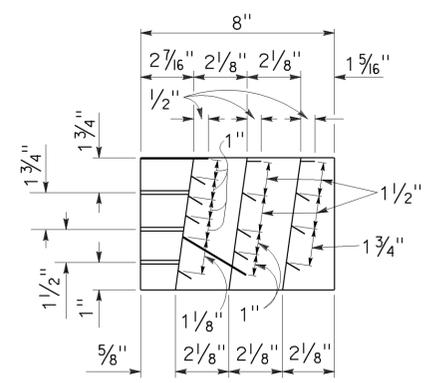
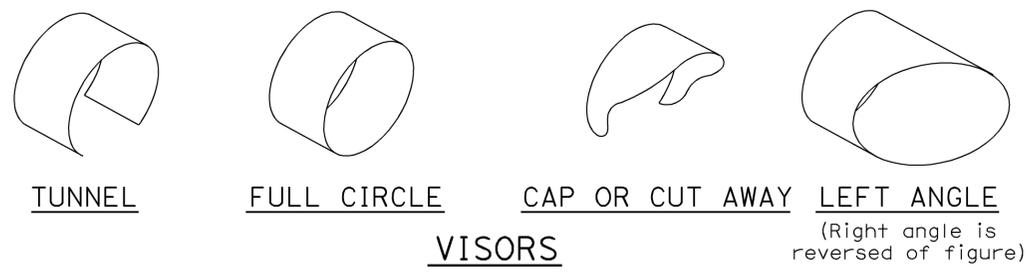
RSP ES-3E DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-3E  
 DATED MAY 1, 2006 - PAGE 414 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-3E

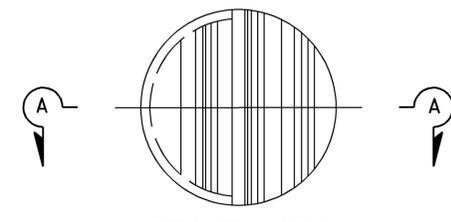
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	131	142

Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 June 6, 2008  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-10  
 ELECTRICAL  
 STATE OF CALIFORNIA



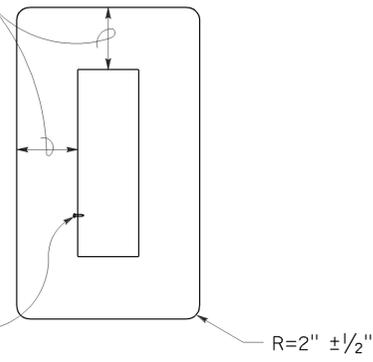
**SECTION A-A**



**FRONT VIEW**  
**DIRECTIONAL LOUVER**

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

8" ± 1/2" for 8" sections  
 5 1/2" ± 1/2" for 12" sections

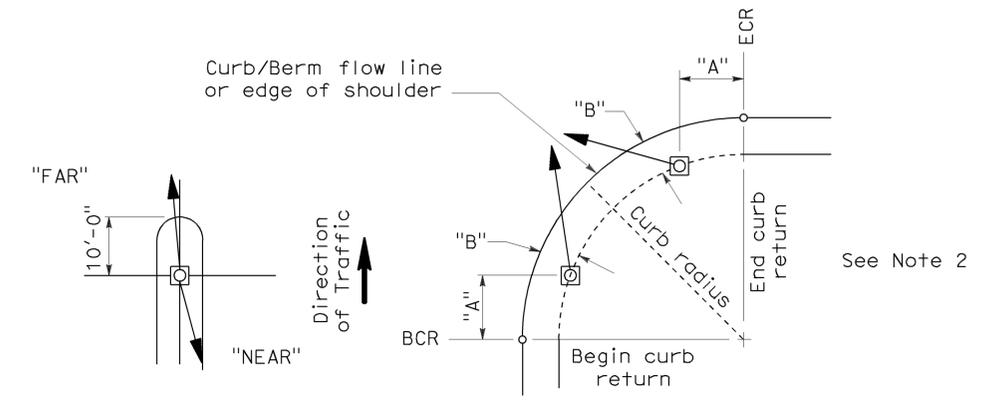


Drill signal face and attach backplate with six 10-24 or 10-32 self-tapping and locking stainless steel machine screws and flat washers

**8" AND 12" SECTIONS**

**BACKPLATE**

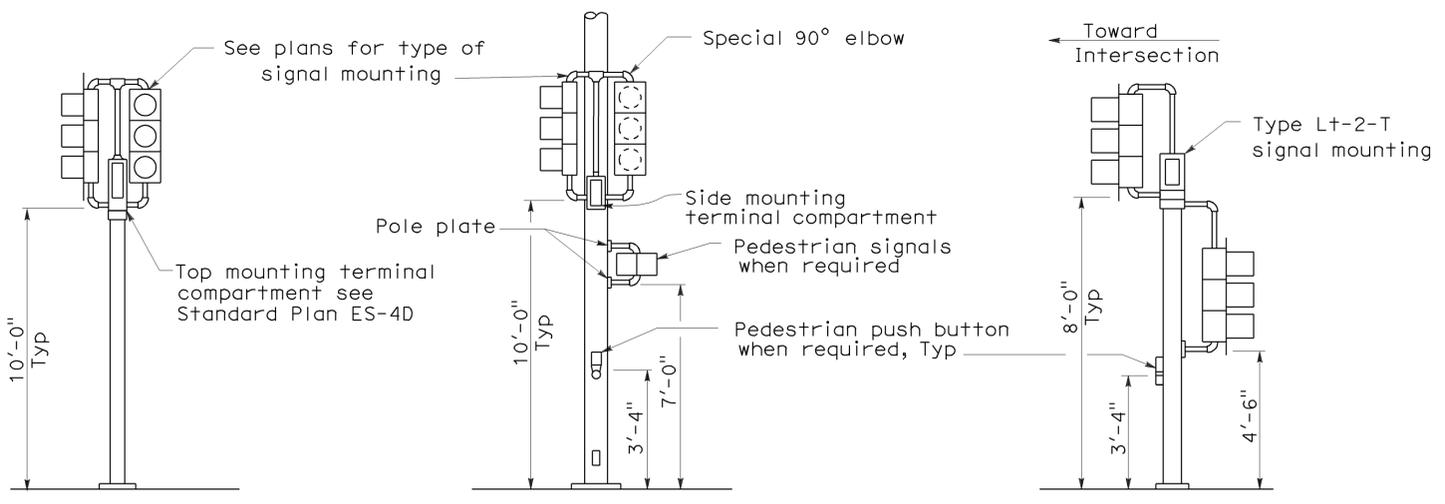
1/16" minimum thickness  
 3001-14 aluminum, or plastic when specified



**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**



**TOP MOUNTED SIGNALS (TV)**

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

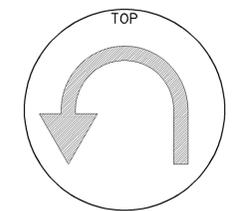
**SIDE MOUNTED SIGNALS (SV AND SP)**

Normally used on standards with luminaire or signal mast arm

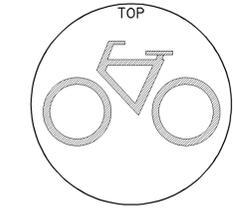
**LEFT TURN LANE SIGNAL**

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

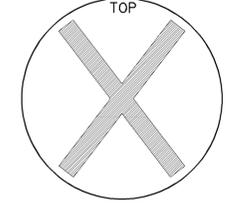
**TYPICAL SIGNAL INSTALLATIONS**



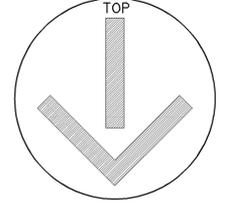
**U-TURN SIGNAL FACE**



**BICYCLE SIGNAL FACE**



**LANE CONTROL SIGNAL FACE**



**LANE CONTROL SIGNAL FACE**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

RSP ES-4C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4C DATED MAY 1, 2006 - PAGE 420 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-4C**

2006 REVISED STANDARD PLAN RSP ES-4C

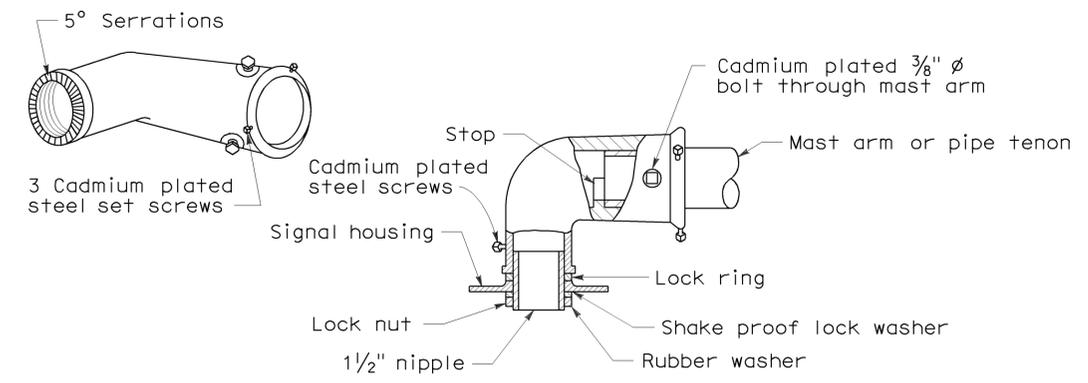
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	132	142

Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 No. E14512  
 Exp. 6-30-10  
 STATE OF CALIFORNIA

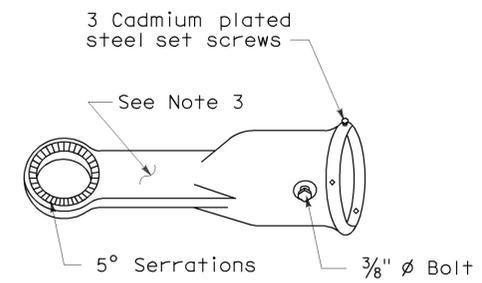
June 6, 2008  
 PLANS APPROVAL DATE

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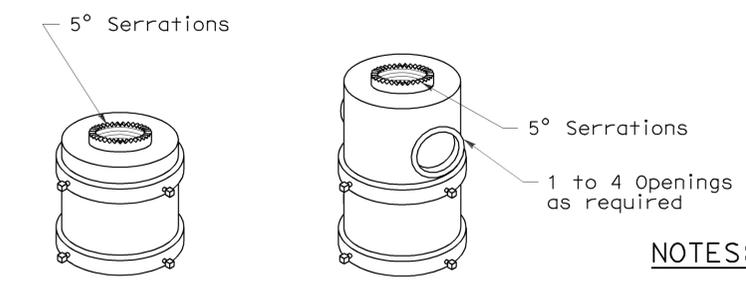
To accompany plans dated 06-01-10



**MAST ARM MOUNTING - TYPE "MAT"**  
 For 2 NPS pipe, see Note 1.



**MAST ARM MOUNTING - TYPE "MAS"**  
 For 2 NPS pipe. See Note 1.

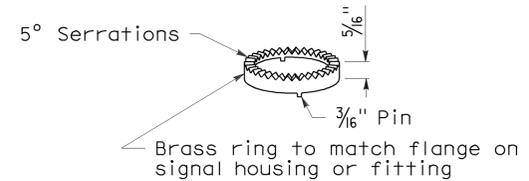


For one mounting For multiple mountings  
**TOP MOUNTINGS**  
 For 4 NPS pipe, see Note 2.

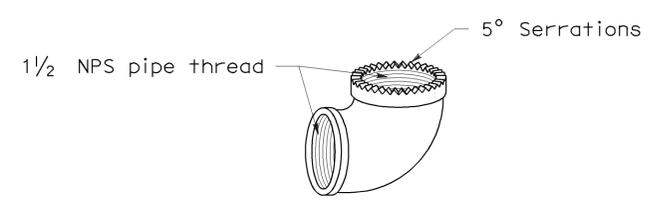
**NOTES:**

- After mast arm signal has been plumbed and secured, drill 1/16" hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated 3/8" ø galvanized bolt with washer under bolt head through hole and secure with washer, nut, and locknut. Seal openings between mast arm mountings and mast arm with mastic.
- (a) Threaded top mounted slip fitter openings shall be 1/2" NPS.  
 (b) Serrations in fittings shall match those on bottom of signal heads or in lock ring.  
 (c) Top opening shall be offset when backplate is used.
- Wireway shall have a cross section area of 0.95 square inch minimum. Minimum width of 1/2".

**SIGNAL SLIP FITTERS**

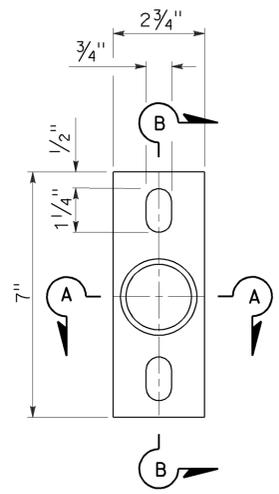


**LOCK RING**  
 Use where locking ring is not integral with signal housing or fitting.

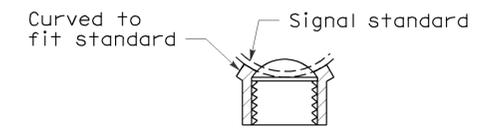
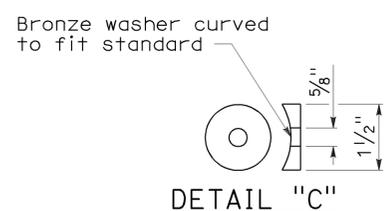


**SPECIAL 90° ELBOW**  
 One for each signal head, except those with special slip fitter mounting

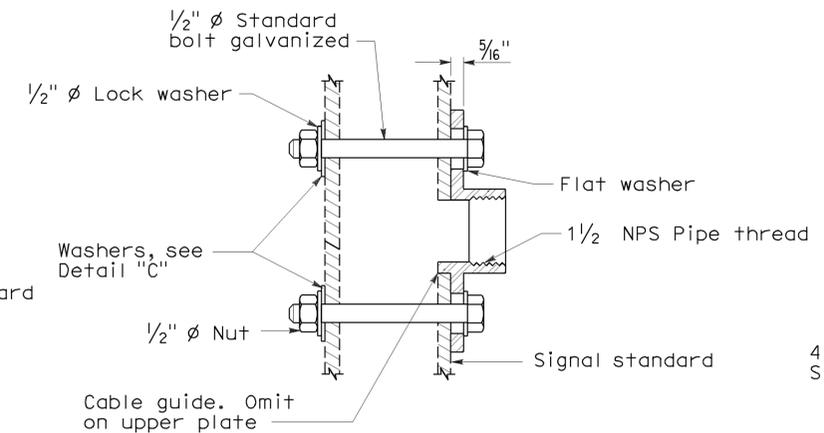
**MISCELLANEOUS MOUNTING HARDWARE**



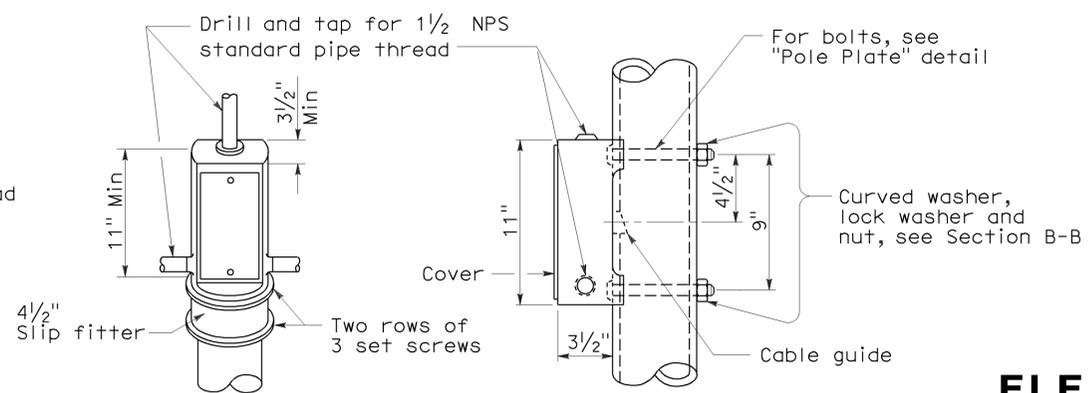
**POLE PLATE**  
 For side mountings



**SECTION A-A**



**SECTION B-B**



**TOP MOUNTING**  
**SIDE MOUNTING**  
**TERMINAL COMPARTMENTS**

**ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

NO SCALE

RSP ES-4D DATED June 6, 2008 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 1, 2006 - PAGE 421 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-4D**

2006 REVISED STANDARD PLAN RSP ES-4D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	133	142

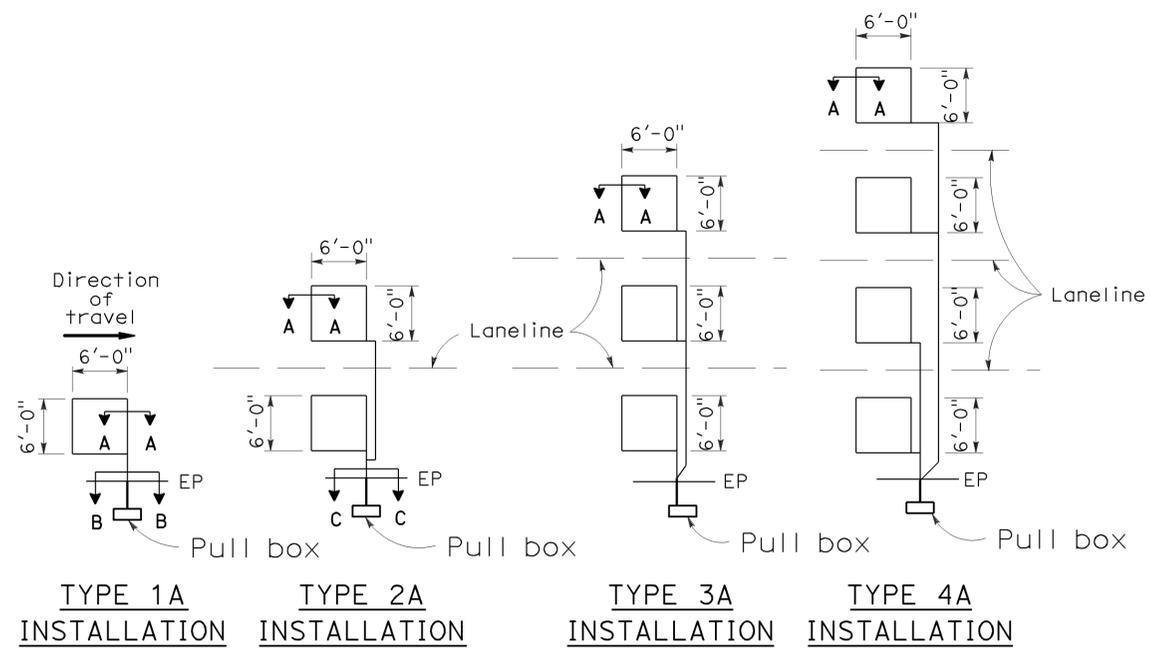
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

October 5, 2007  
 PLANS APPROVAL DATE

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## LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



TYPE 1A INSTALLATION    TYPE 2A INSTALLATION    TYPE 3A INSTALLATION    TYPE 4A INSTALLATION

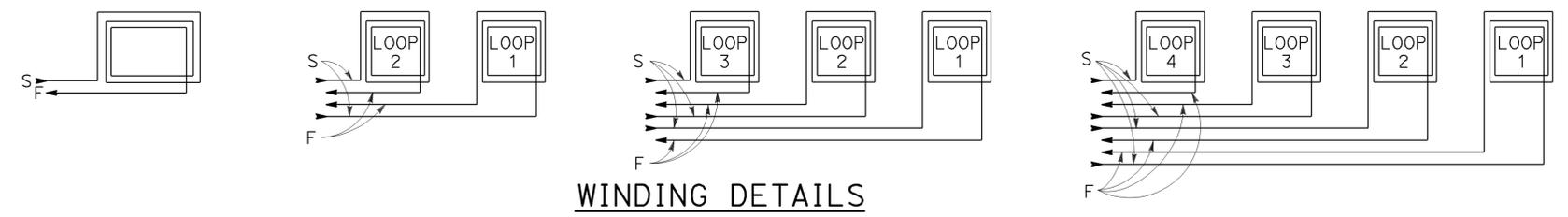
### SAWCUT DETAILS

(Type A loop detector configurations illustrated)

- 1A thru 4A = 1 Type A loop configuration in each lane.
  - 1B thru 4B = 1 Type B loop configuration in each lane.
  - 1C = 1 Type C loop configuration entering lanes as required.
  - 1D thru 4D = 1 Type D loop configuration in each lane.
  - 1E thru 4E = 1 Type E loop configuration in each lane.
  - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)

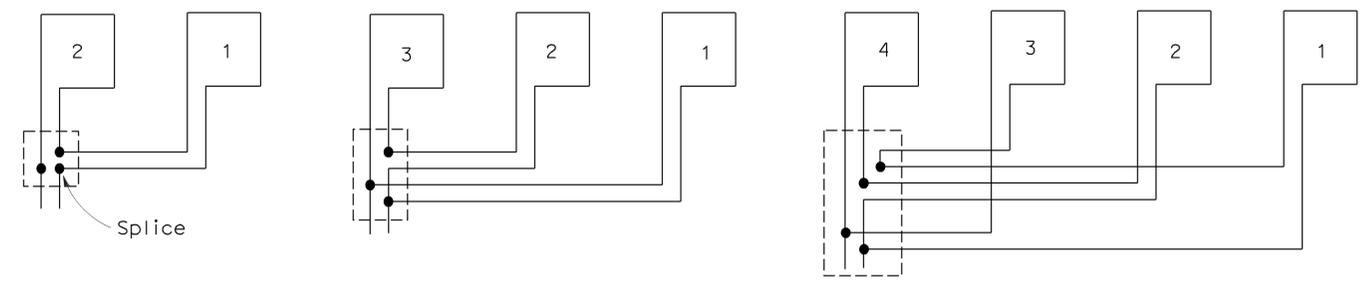
To accompany plans dated 06-01-10

2006 REVISED STANDARD PLAN RSP ES-5A



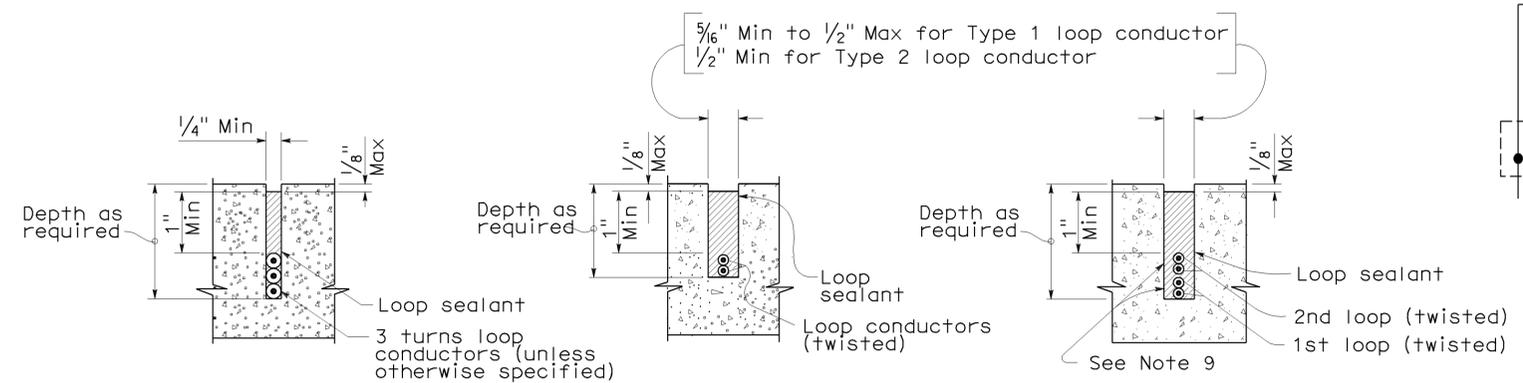
### WINDING DETAILS

See Notes 6 and 7



### TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



SECTION A-A    SECTION B-B    SECTION C-C  
 SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

## ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-5A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R44.0/58.0	134	142

REGISTERED CIVIL ENGINEER DATE 4-30-10  
 Jose M. Aquino III  
 No. 58386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA  
 June 1, 2010  
 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: (APPLIES TO THIS SHEET ONLY)

-  Indicates limits of unsound concrete removal, rapid set concrete patch, prepare bridge deck for polyester concrete overlay, & place 3/4" depth polyester concrete overlay
-  Indicates limits of existing polymer chip seal removal
-  Indicates limits of existing approach removal and Structure Approach Type R(30D) placement
-  Indicates Joint seal replacement See "JOINT SEAL TABLE" on "JOINT SEAL DETAILS" sheet

NOTES: (APPLY TO ALL SHEETS)

- Indicates existing
- THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

**GENERAL NOTES**  
**LOAD FACTOR DESIGN**

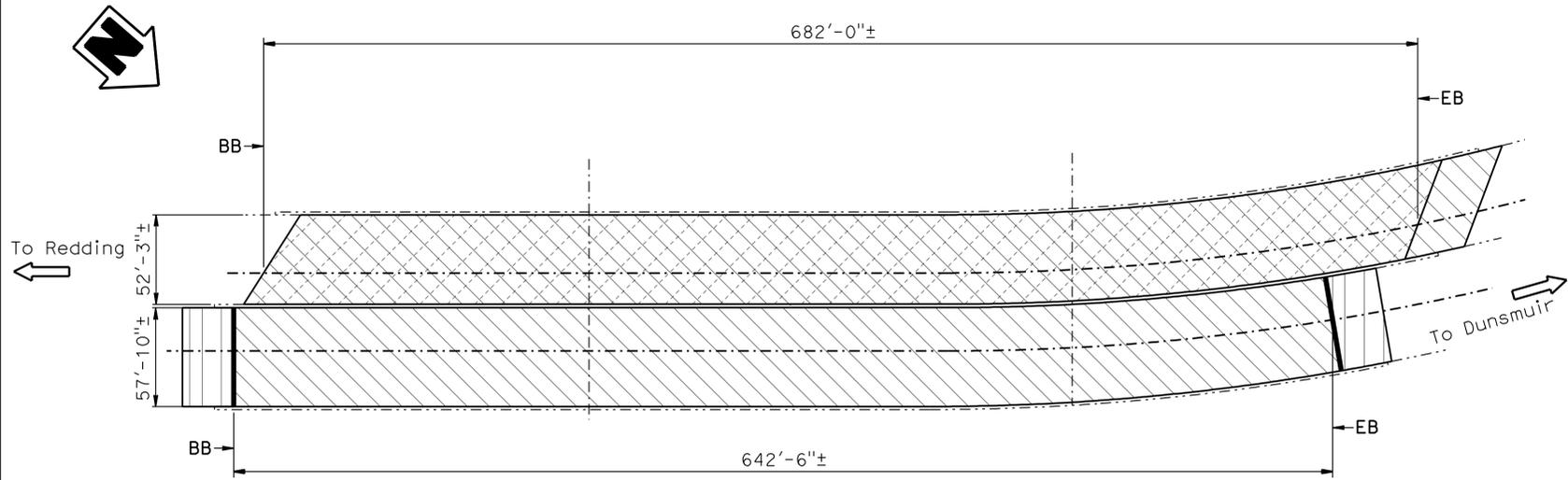
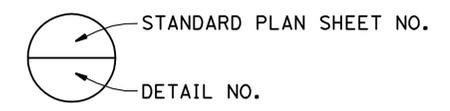
REINFORCED CONCRETE:  
 fy = 60,000 psi  
 f'c = 3,600 psi

**INDEX TO PLANS**

SHEET No.	TITLE
1	GENERAL PLAN No. 1
2	GENERAL PLAN No. 2
3	GENERAL PLAN No. 3
4	GENERAL PLAN No. 4
5	GENERAL PLAN No. 5
6	JOINT SEAL DETAILS
7	STRUCTURE APPROACH TYPE R (30S)
8	STRUCTURE APPROACH TYPE R (30D)
9	STRUCTURE APPROACH DETAILS

**STANDARD PLANS DATED MAY 2006**

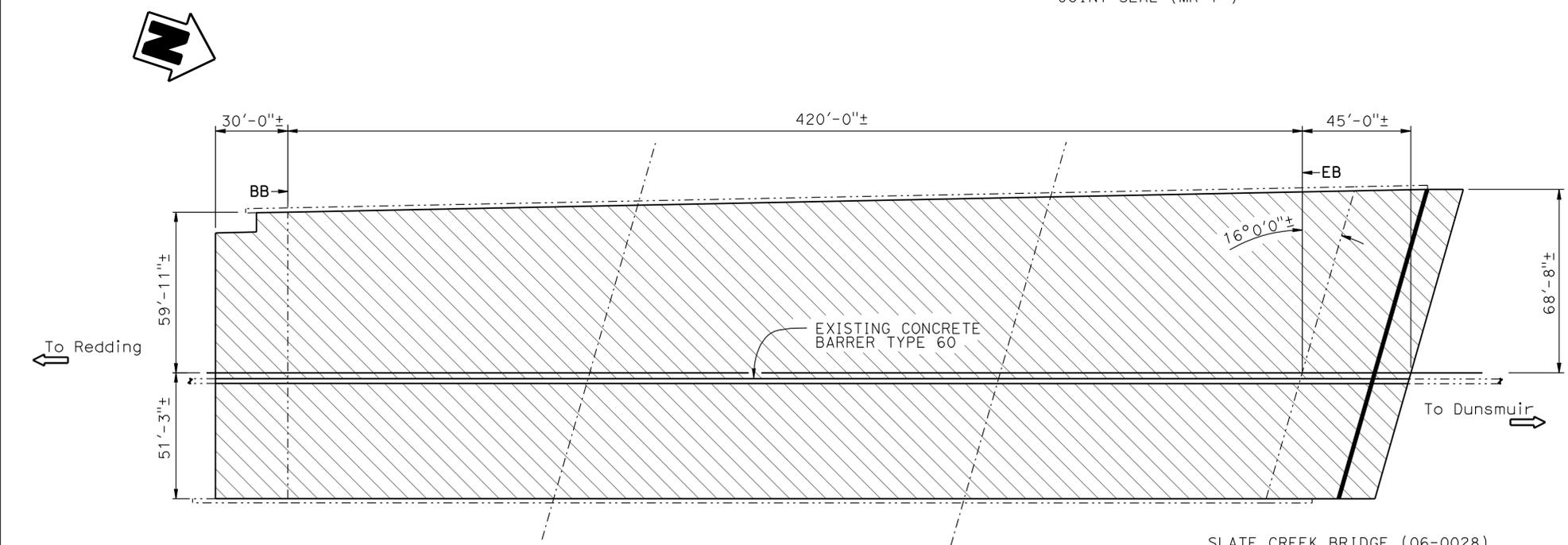
SHEET No.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")



**DOG CREEK BRIDGE**  
 Br. No. 06-0027, PM 45.54  
 1" = 50'

DOG CREEK BRIDGE (06-0027) QUANTITIES

REMOVE CHIP SEAL	35,635	SQFT
REMOVE UNSOUND CONCRETE	372	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	74,345	SQFT
AGGREGATE BASE (APPROACH SLAB)	13	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	129	CY
PAVING NOTCH EXTENSION	87	CF
RAPID SETTING CONCRETE (PATCH)	372	CF
FURNISH POLYESTER CONCRETE OVERLAY	4,647	CF
PLACE POLYESTER CONCRETE OVERLAY	74,345	SQFT
JOINT SEAL (MR 1")	118	LF



**SLATE CREEK BRIDGE**  
 Br. No. 06-0028, PM 48.83  
 1" = 30'

SLATE CREEK BRIDGE (06-0028) QUANTITIES

REMOVE UNSOUND CONCRETE	280	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	56,038	SQFT
CLEAN EXPANSION JOINT	117	LF
RAPID SETTING CONCRETE (PATCH)	280	CF
FURNISH POLYESTER CONCRETE OVERLAY	3,503	CF
PLACE POLYESTER CONCRETE OVERLAY	56,038	SQFT
JOINT SEAL (MR 1")	117	LF

Joseph E. Downing  
 DESIGN ENGINEER

DESIGN	BY Joey Aquino	CHECKED Lewis Shen	LOAD FACTOR DESIGN
DETAILS	BY S Motalebi / J Reid	CHECKED Lewis Shen	LAYOUT
QUANTITIES	BY Joey Aquino	CHECKED Lewis Shen	SPECIFICATIONS
			BY Joey Aquino
			CHECKED Jay Reid
			PLANS AND SPECS COMPARED
			BY Iwa Huang
			CHECKED Iwa Huang

STATE OF CALIFORNIA  
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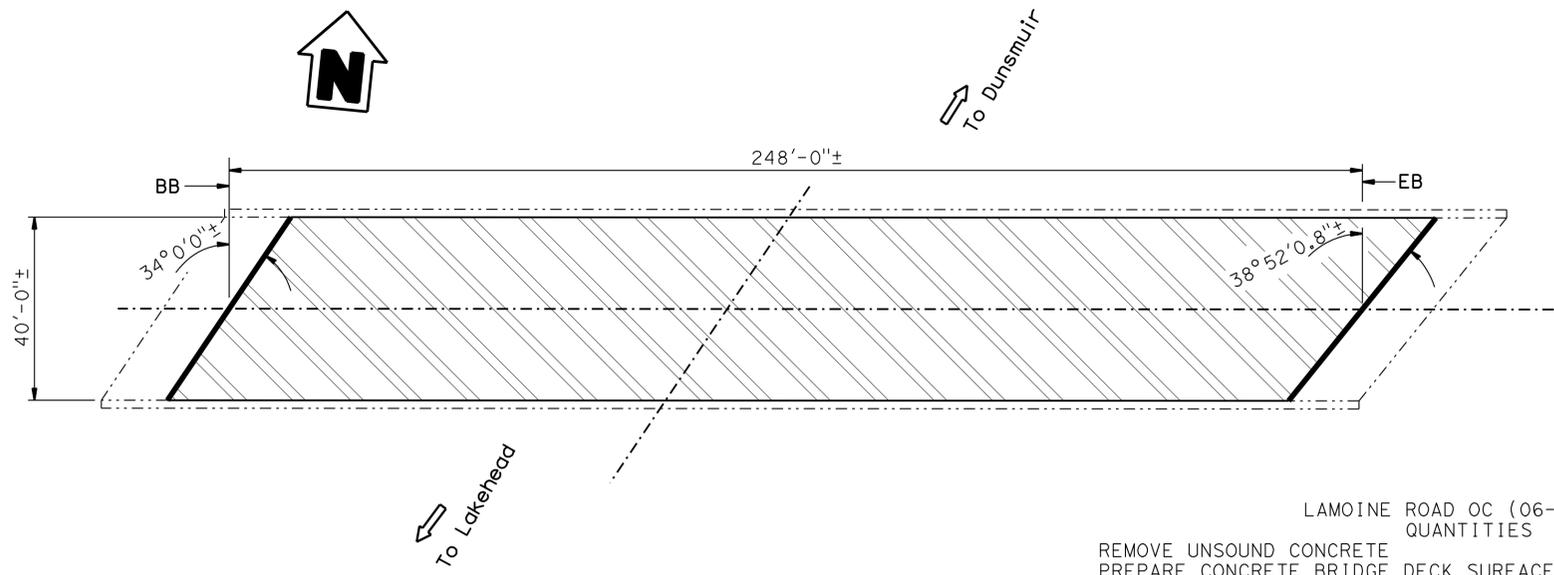
DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH **3**

BRIDGE NO. Various  
 POST MILE Various

**DECK REHABILITATION**  
**ROUTE 5 BRIDGES**  
**GENERAL PLAN NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R44.0/58.0	135	142

REGISTERED CIVIL ENGINEER DATE 4-30-10  
 PLANS APPROVAL DATE June 1, 2010  
 No. 58386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA



**LAMOINE RD OC**  
 Br. No. 06-0180, PM 49.15  
 1" = 20'

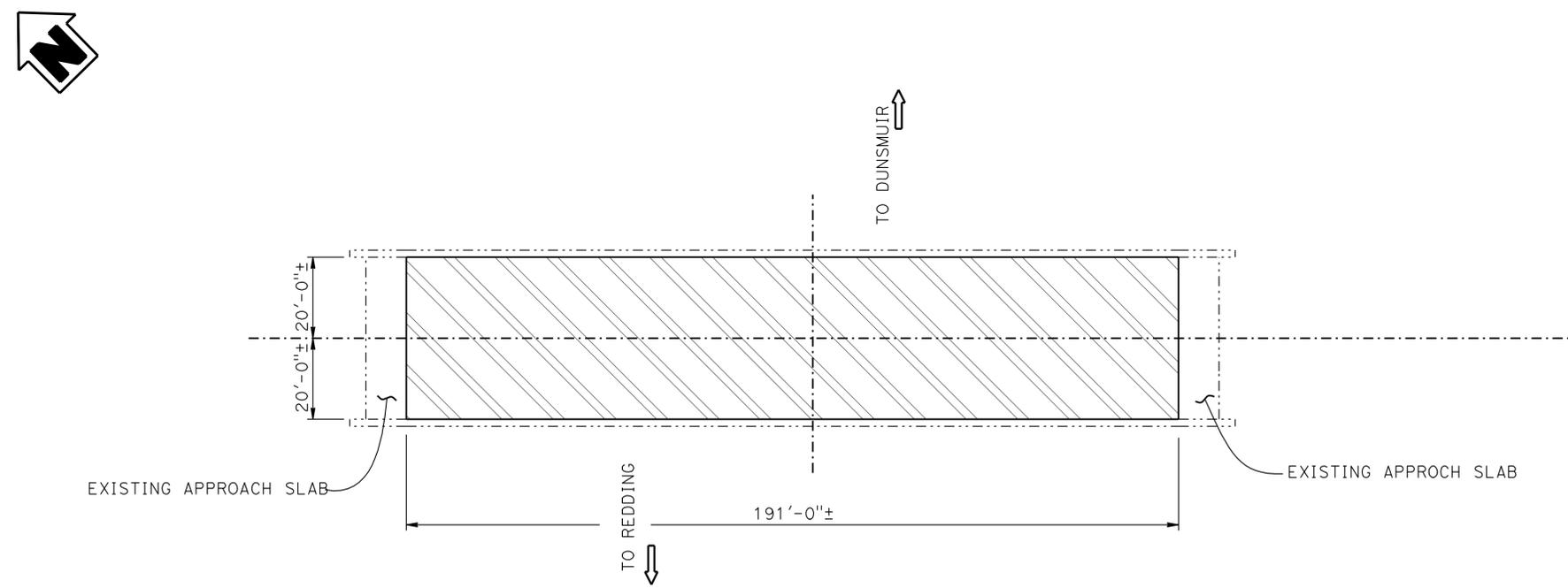
LAMOINE ROAD OC (06-0180)  
 QUANTITIES

REMOVE UNSOUND CONCRETE	50	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	9,920	SQFT
CLEAN EXPANSION JOINT	100	LF
RAPID SETTING CONCRETE (PATCH)	50	CF
MULTILAYER POLYMER CHIP SEAL	9,920	SQFT
JOINT SEAL (MR 1 1/2")	48	LF
JOINT SEAL (MR 2")	52	LF

NOTES: (APPLIES TO THIS SHEET ONLY)

Indicates limits of unsound concrete removal, rapid set concrete patch, prepare bridge deck for polymer chip seal & place polymer chip seal deck overlay

Indicates Joint seal replacement See "JOINT SEAL TABLE" on "JOINT SEAL DETAILS" sheet



**POLARD FLAT OC**  
 Br NO. 06-0176, PM 50.81  
 1" = 20'

POLARD FLAT OC (06-0176)  
 QUANTITIES

REMOVE UNSOUND CONCRETE	38	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	7,640	SQFT
RAPID SETTING CONCRETE (PATCH)	38	CF
MULTILAYER POLYMER CHIP SEAL	7,640	SQFT

Joseph E Downing  
 DESIGN ENGINEER

DESIGN	BY Joey Aquino	CHECKED Lewis Shen	LOAD FACTOR DESIGN
DETAILS	BY S Motalebi / J Reid	CHECKED Lewis Shen	LAYOUT BY Joey Aquino
QUANTITIES	BY Joey Aquino	CHECKED Lewis Shen	SPECIFICATIONS BY Iwa Huang
			CHECKED Jay Reid
			PLANS AND SPECS COMPARED Iwa Huang

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH **3**

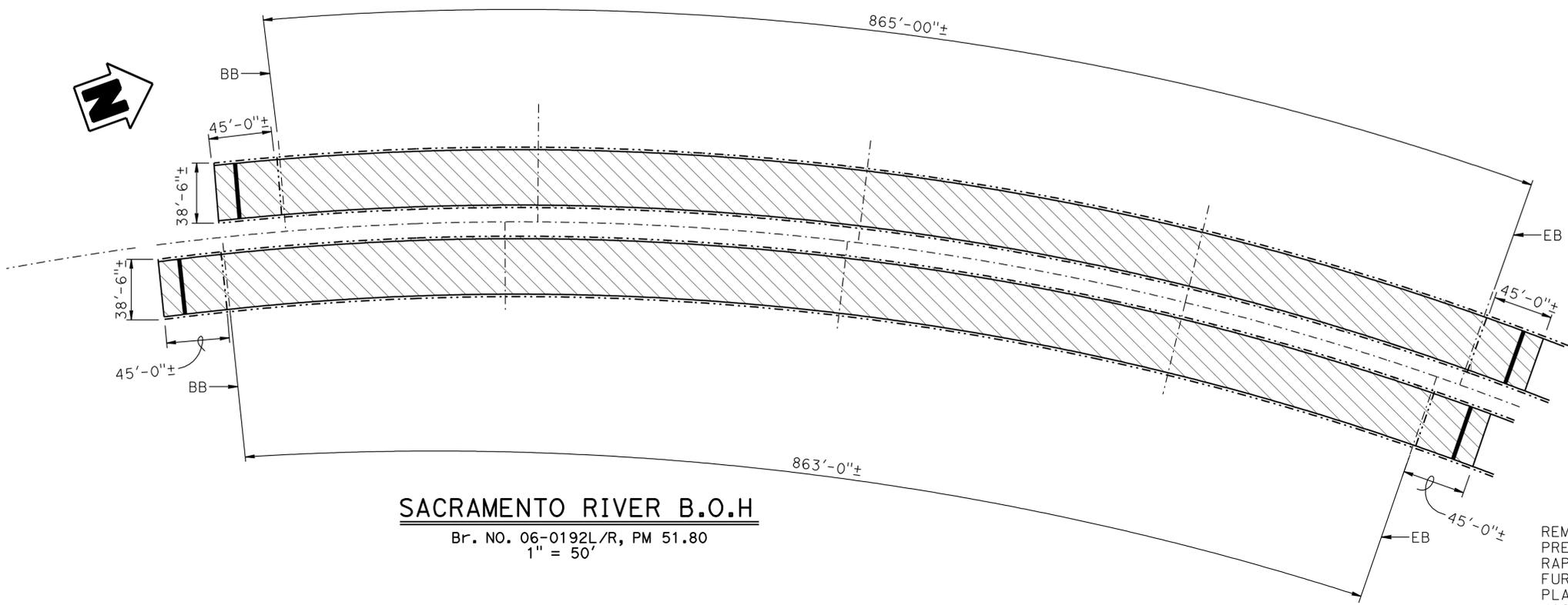
BRIDGE NO.	Various
POST MILE	Various

DECK REHABILITATION  
 ROUTE 5 BRIDGES  
 GENERAL PLAN NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R44.0/58.0	136	142

REGISTERED CIVIL ENGINEER DATE 4-30-10  
 June 1, 2010  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Jose M Aquino III  
 No. 58386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA



NOTES: (APPLIES TO THIS SHEET ONLY)

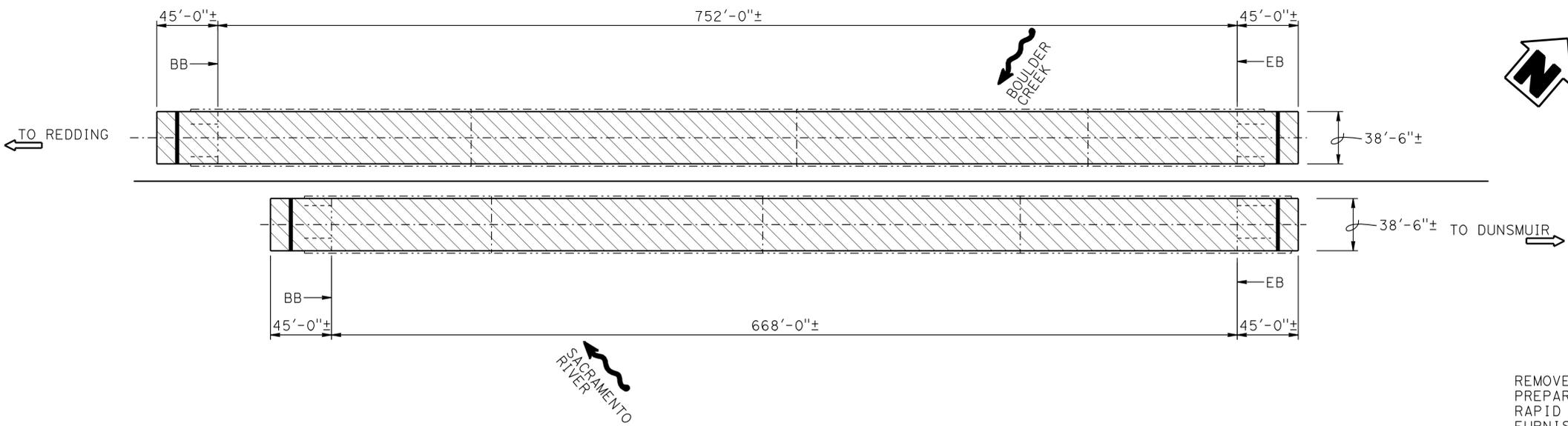
Indicates limits of unsound concrete removal, rapid set concrete patch, prepare bridge deck for polyester concrete overlay, & place 3/4" depth polyester concrete overlay

Indicates Joint seal replacement See "JOINT SEAL TABLE" on "JOINT SEAL DETAILS" sheet

**SACRAMENTO RIVER B.O.H**  
 Br. NO. 06-0192L/R, PM 51.80  
 1" = 50'

SACRAMENTO RIVER B.O.H. (06-0192L/R)  
 QUANTITIES

REMOVE UNSOUND CONCRETE	367	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	73,458	SQFT
RAPID SETTING CONCRETE (PATCH)	367	CF
FURNISH POLYESTER CONCRETE OVERLAY	4,591	CF
PLACE POLYESTER CONCRETE OVERLAY	73,458	SQFT
JOINT SEAL (MR 1")	158	LF
CLEAN EXPANSION JOINT	158	LF



**SACRAMENTO RIVER BRIDGE B.O.H.**  
 Br. NO. 06-193L/R, PM 52.11  
 1" = 50'

SACRAMENTO RIVER BRIDGE B.O.H.(06-193L/R)  
 QUANTITIES

REMOVE UNSOUND CONCRETE	308	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	61,600	SQFT
RAPID SETTING CONCRETE (PATCH)	308	CF
FURNISH POLYESTER CONCRETE OVERLAY	3,850	CF
PLACE POLYESTER CONCRETE OVERLAY	61,600	SQFT
JOINT SEAL (MR 1")	158	LF
CLEAN EXPANSION JOINT	158	LF

Joseph E Downing  
 DESIGN ENGINEER

DESIGN	BY Joey Aquino	CHECKED Lewis Shen	LOAD FACTOR DESIGN
DETAILS	BY S Motalebi / J Reid	CHECKED Lewis Shen	LAYOUT BY Joey Aquino
QUANTITIES	BY Joey Aquino	CHECKED Lewis Shen	SPECIFICATIONS BY Iwn Huang
			CHECKED Jay Reid
			PLANS AND SPECS COMPARED Iwn Huang

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 3

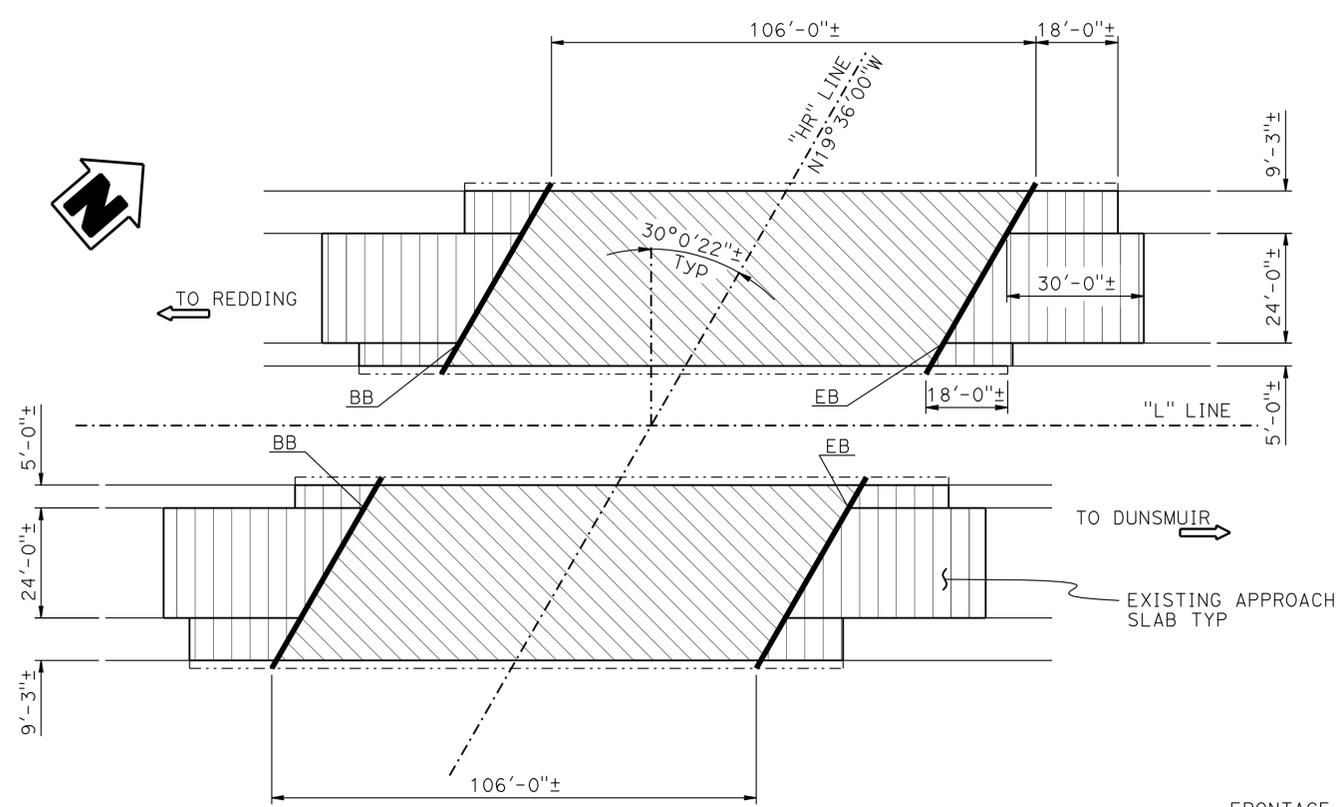
BRIDGE NO.  
 Various  
 POST MILE  
 Various

**DECK REHABILITATION**  
**ROUTE 5 BRIDGES**  
**GENERAL PLAN NO. 3**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R44.0/58.0	137	142

REGISTERED CIVIL ENGINEER DATE 4-30-10  
 June 1, 2010  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Jose M Aquino III  
 No. 58386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

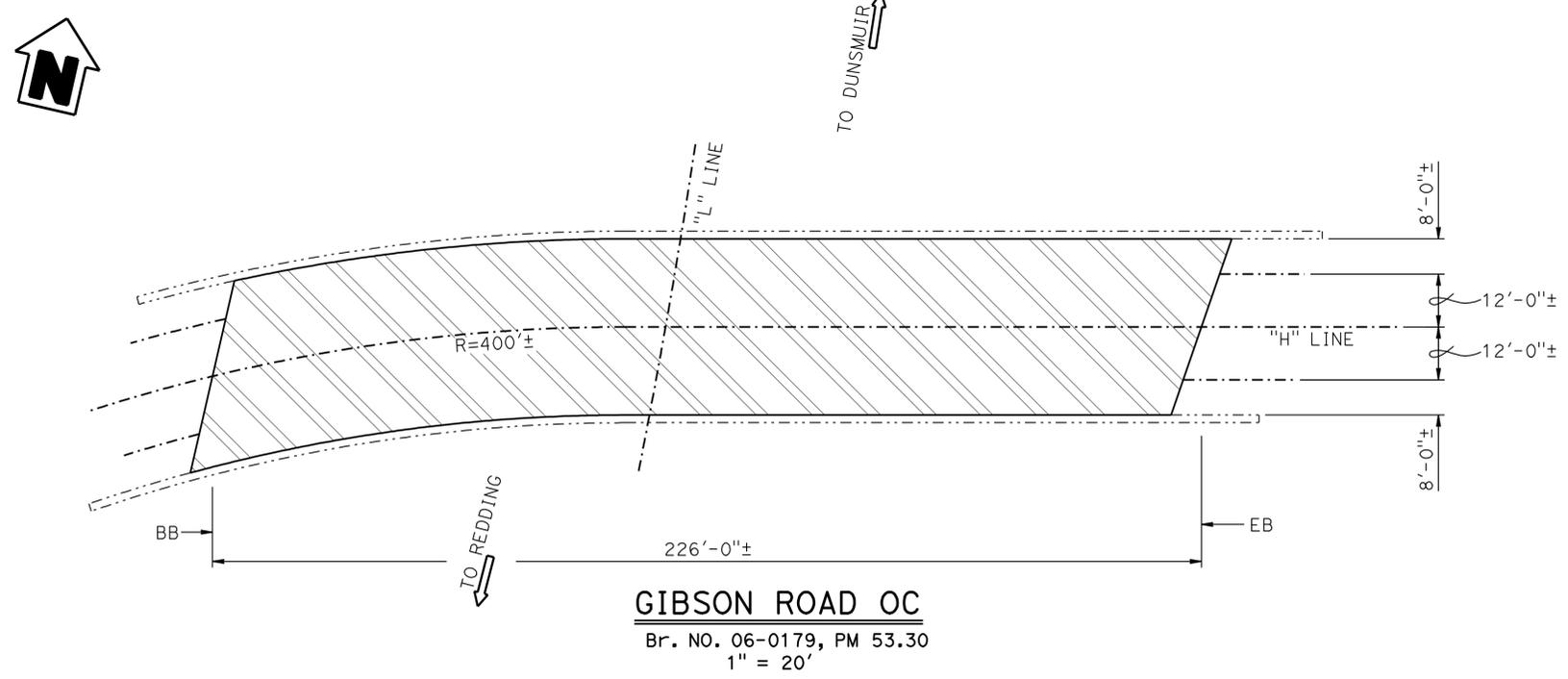


**FRONTAGE ROAD UC**  
 Br. NO. 06-0194L/R, PM 52.84  
 1" = 20'

FRONTAGE ROAD UC NO. 06-0194L/R QUANTITIES

REMOVE UNSOUND CONCRETE	41	CF
AGGREGATE BASE (APPROACH SLAB)	17	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	172	CY
RAPID SETTING CONCRETE (PATCH)	41	CF
JOINT SEAL (MR 1/2")	180	LF

- NOTES: (APPLIES TO THIS SHEET ONLY)
- Indicates limits of unsound concrete removal, rapid set concrete patch, prepare bridge deck for polyester concrete overlay, & place 3/4" depth polyester concrete overlay
  - Indicates limits of unsound concrete removal, rapid set concrete patch, prepare bridge deck for polymer chip seal & place polymer chip seal deck overlay
  - Indicates limits of existing approach removal and Structure Approach Type R(30D) placement
  - Indicates Joint seal replacement See "JOINT SEAL TABLE" on "JOINT SEAL DETAILS" sheet



**GIBSON ROAD OC**  
 Br. NO. 06-0179, PM 53.30  
 1" = 20'

GIBSON ROAD OC (06-0179) QUANTITIES

REMOVE UNSOUND CONCRETE	45	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	9,040	SQFT
RAPID SETTING CONCRETE (PATCH)	45	CF
MULTILAYER POLYMER CHIP SEAL	9,040	SQFT

Joseph E Downing  
 DESIGN ENGINEER

DESIGN	BY Joey Aquino	CHECKED Lewis Shen	LOAD FACTOR DESIGN
DETAILS	BY S Motalebi / J Reid	CHECKED Lewis Shen	LAYOUT
QUANTITIES	BY Joey Aquino	CHECKED Lewis Shen	SPECIFICATIONS
			BY Joey Aquino
			CHECKED Jay Reid
			PLANS AND SPECS COMPARED
			BY Iwa Huang
			CHECKED Iwa Huang

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 3

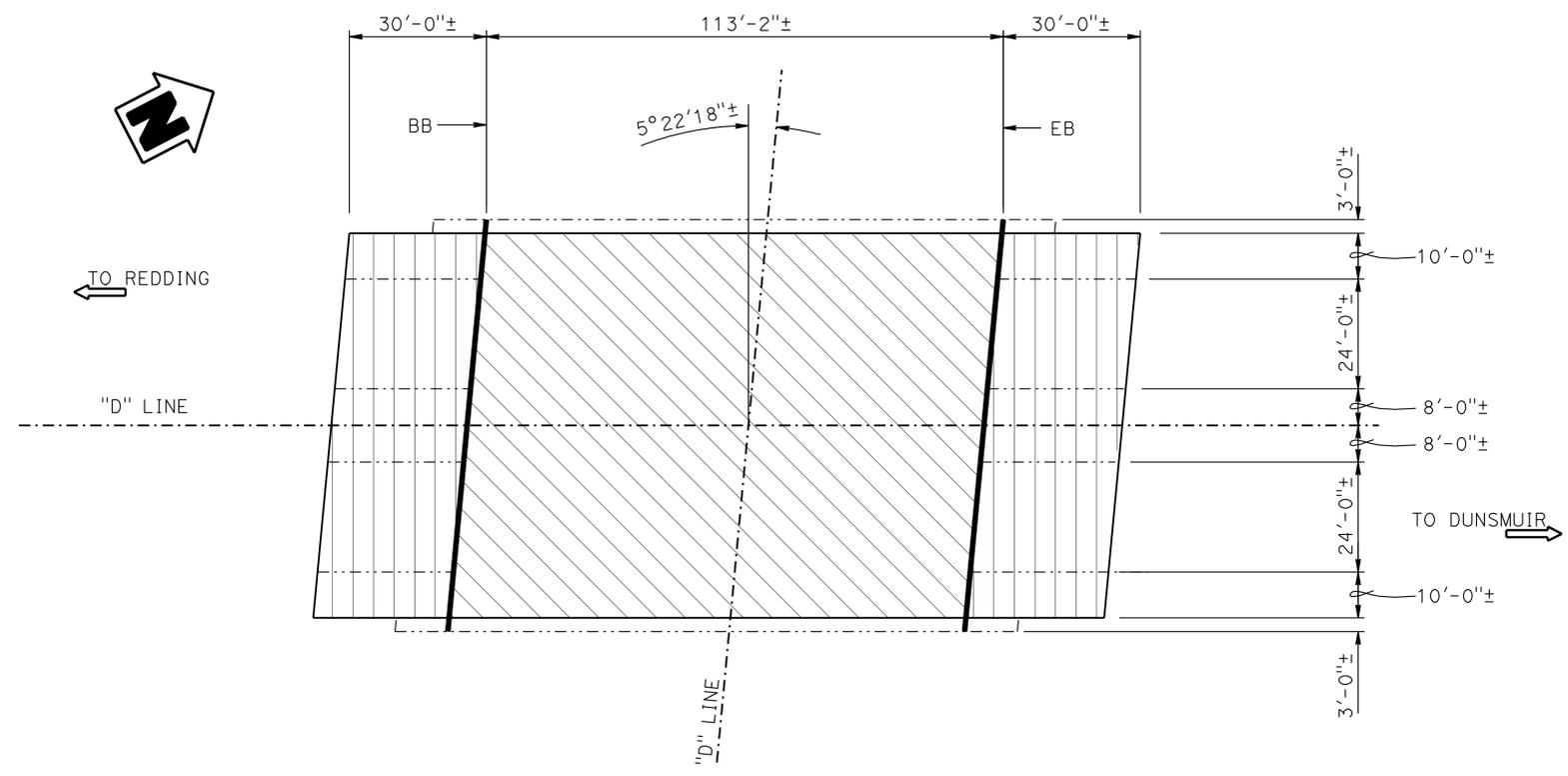
BRIDGE NO. Various  
 POST MILE Various

**DECK REHABILITATION**  
**ROUTE 5 BRIDGES**  
**GENERAL PLAN NO. 4**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R44.0/58.0	138	142

REGISTERED CIVIL ENGINEER DATE 4-30-10  
 REGISTERED CIVIL ENGINEER DATE 4-30-10  
 PLANS APPROVAL DATE June 1, 2010  
 No. 58386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

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- NOTES: (APPLIES TO THIS SHEET ONLY)
- Indicates limits of existing approach removal and Structure Approach Type R(30D) placement
  - Indicates limits of unsound concrete removal, rapid set concrete patch,
  - Indicates Joint seal replacement See "JOINT SEAL TABLE" on "JOINT SEAL DETAILS" sheet

**SIMS ROAD UC**  
 Br. NO. 06-0111, PM 57.41  
 1" = 20'

SIMS ROAD UC (06-0111)  
QUANTITIES

REMOVE UNSOUND CONCRETE	48	CF
AGGREGATE BASE (APPROACH SLAB)	19	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	187	CY
PAVING NOTCH EXTENSION	126	CF
RAPID SETTING CONCRETE (PATCH)	48	CF
JOINT SEAL (MR 2")	171	LF

Joseph E Downing DESIGN ENGINEER	DESIGN	BY Joey Aquino	CHECKED Lewis Shen	LOAD FACTOR DESIGN	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 3</b>	BRIDGE NO.	<b>DECK REHABILITATION</b> <b>ROUTE 5 BRIDGES</b> <b>GENERAL PLAN NO. 5</b>		
	DETAILS	BY S Motalebi / J Reid	CHECKED Lewis Shen	LAYOUT			BY Joey Aquino		CHECKED Jay Reid	Various
	QUANTITIES	BY Joey Aquino	CHECKED Lewis Shen	SPECIFICATIONS			BY Iwn Huang		PLANS AND SPECS COMPARED Iwn Huang	Various
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 03204 EA 2C4501	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 12/24/09 2-16-10 2-18-10 4-15-10 4-21-10 4-21-10 4-22-10 5-20-10 5-25-10	SHEET 5 OF 9	

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06) FILE => 02-2c4501-a-gp05.dgn USERNAME => s136693 DATE PLOTTED => 03-JUN-2010 TIME PLOTTED => 11:13

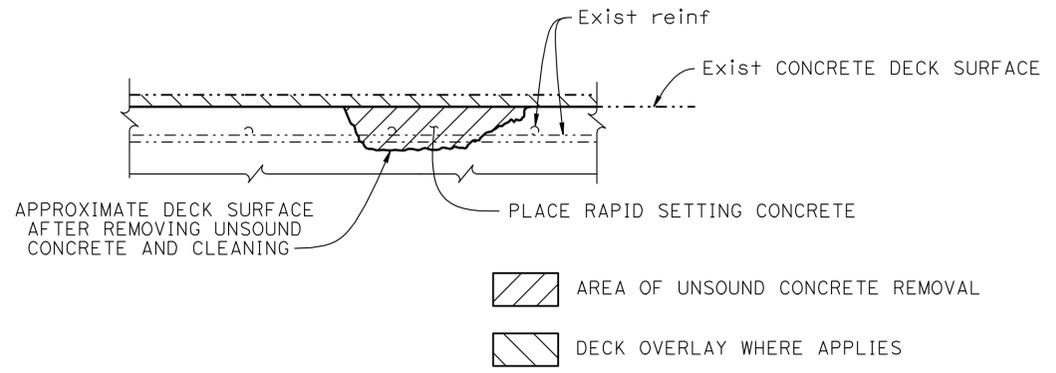
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R44.0/58.0	139	142

REGISTERED CIVIL ENGINEER DATE 4-30-10  
 June 1, 2010  
 PLANS APPROVAL DATE  
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### JOINT SEAL TABLE

BRIDGE NUMBER	BRIDGE NAME	LOCATION	MINIMUM "MR" (in) ±	REPLACE (YES/NO)	APPROXIMATE LENGTH (ft) ±	EXISTING WATERSTOP (YES/NO)	Approx DEPTH TO CLEAN Exp JOINT (in)
06-0027L	DOG CREEK BR	Abut 1 PN	4"	NO	N/A	N/A	N/A
		Abut 4 PN	4"	NO	N/A	N/A	N/A
06-0027R	DOG CREEK BR	Abut 1 PN	1"	YES	59	NO	N/A
		Abut 8 PN	1"	YES	59	NO	N/A
06-0028	SLATE CREEK	Abut 1 PN	2 1/2"	NO	N/A	N/A	N/A
		Abut 4 PN	2 1/2"	NO	N/A	N/A	N/A
		Abut 4 SS	1"	YES	116.75	YES	6"
06-0180	LAMOINE RD OC	Abut 1 PN	1 1/2"	YES	49.25	YES	8"
		Abut 3 PN	2"	YES	49.25	YES	8"
06-0176	POLARD FLATS	Abut 1 PN	1 1/2"	NO	N/A	N/A	N/A
		Abut 3 PN	1 1/2"	NO	N/A	N/A	N/A
06-0192L	SACRAMENTO RIVER BOH	Abut 1 SS	1"	YES	38.5'	YES	6"
		Abut 1 BW	3"	NO	N/A	N/A	N/A
		Abut 5 BW	9"	NO	N/A	N/A	N/A
		Abut 5 SS	1"	YES	38.5'	YES	6"
06-0192R	SACRAMENTO RIVER BOH	Abut 1 SS	1"	YES	38.5'	YES	6"
		Abut 1 BW	3"	NO	N/A	N/A	N/A
		Abut 5 BW	9"	NO	N/A	N/A	N/A
		Abut 5 SS	1"	YES	38.5'	YES	6"
06-0193L	SACRAMENTO RIVER BOH	Abut 1 SS	1"	YES	38.5'	YES	6"
		Abut 1 BW	6"	NO	N/A	N/A	N/A
		Abut 5 BW	6"	NO	N/A	N/A	N/A
		Abut 5 SS	1"	YES	38.5'	YES	6"
06-0193R	SACRAMENTO RIVER BOH	Abut 1 SS	1"	YES	38.5'	YES	6"
		Abut 1 BW	6"	NO	N/A	N/A	N/A
		Abut 5 BW	6"	NO	N/A	N/A	N/A
		Abut 5 SS	1"	YES	38.5'	YES	6"
06-0194L	FRONTAGE ROAD UC	Abut 1 BW	1 1/2"	YES	45.17	NO	N/A
		Abut 2 BW	1 1/2"	YES	45.17	NO	N/A
06-0194R	FRONTAGE ROAD UC	Abut 1 BW	1 1/2"	YES	45.17	NO	N/A
		Abut 2 BW	1 1/2"	YES	45.17	NO	N/A
06-0179	GIBSON ROAD OC	Abut 1	2"	NO	N/A	N/A	N/A
		Abut 3	2"	NO	N/A	N/A	N/A
06-0111	SIMS ROAD UC	Abut 1	2"	YES	85.4	NO	N/A
		Abut 3	2"	YES	85.4	NO	N/A

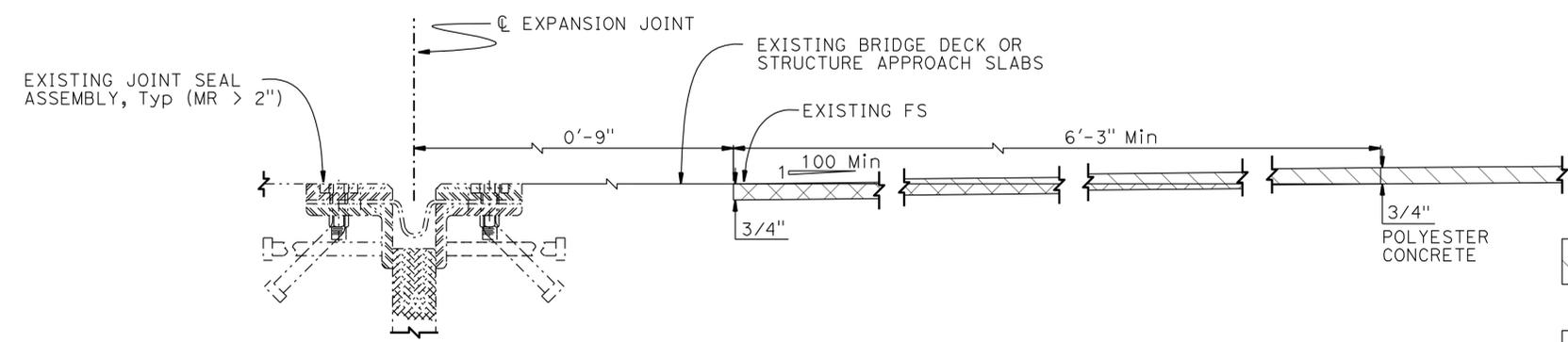
**LEGEND:**  
 PN = Paving Notch  
 BW = Back Wall  
 SS = Sleeper Slab



### DECK REPAIR DETAIL

No Scale  
 LOCATIONS TO BE DETERMINED BY THE ENGINEER. REINFORCEMENT MAY BE ENCOUNTERED DURING DECK CONCRETE REMOVAL

BRIDGE NO.	APPROXIMATE AREA DAMAGED (%) PER BRIDGE	APPROXIMATE DEPTH (in)	REMOVE UNSOUND CONCRETE ft <sup>3</sup>	RAPID SETTING CONCRETE PATCH ft <sup>3</sup>
06-0027L/R	2	3	372	372
06-0028	2	3	280	280
06-0180	2	3	50	50
06-0176	2	3	38	38
06-0192L/R	2	3	367	367
06-0193L/R	2	3	308	308
06-0194L/R	2	3	41	41
06-0179	2	3	45	45
06-0111	2	3	48	48



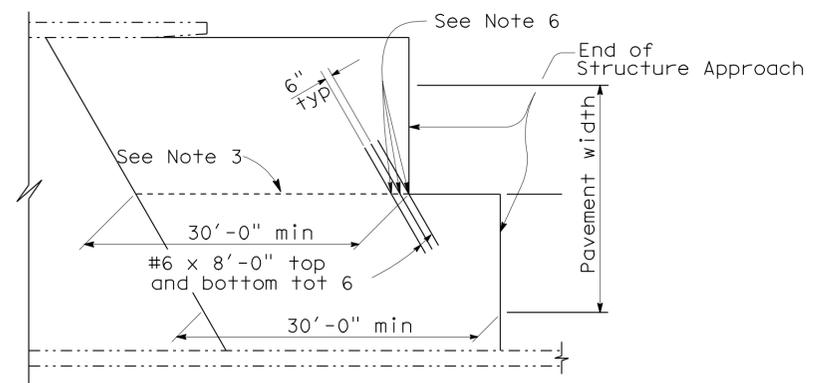
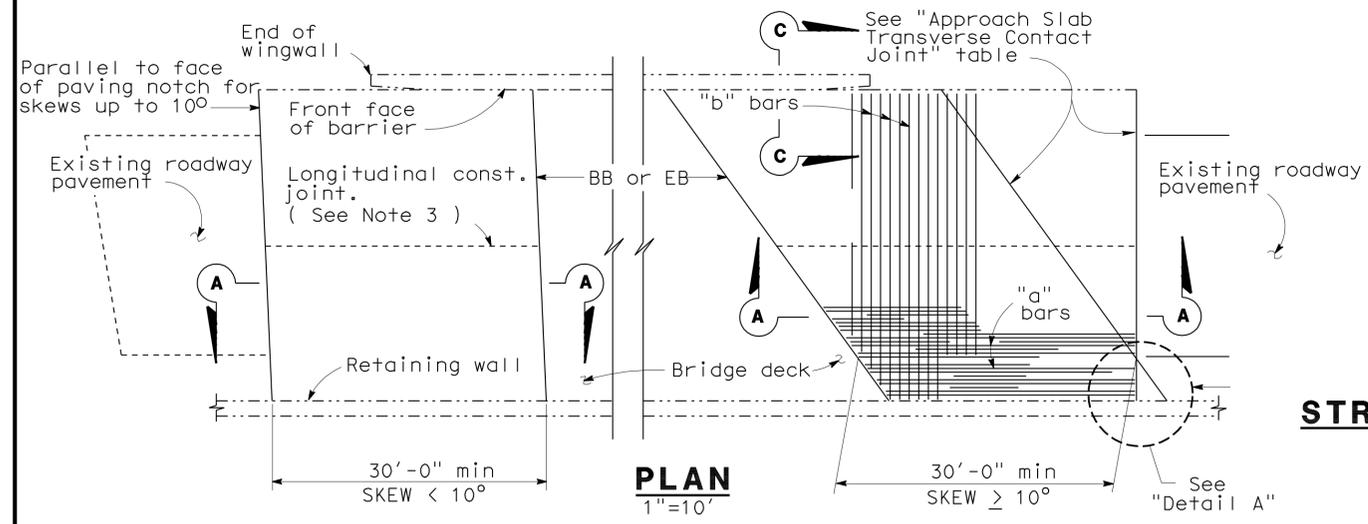
### GRINDING DETAIL @ JOINT SEAL ASSEMBLY (MR > 2'') LOCATIONS

3" = 1'-0"

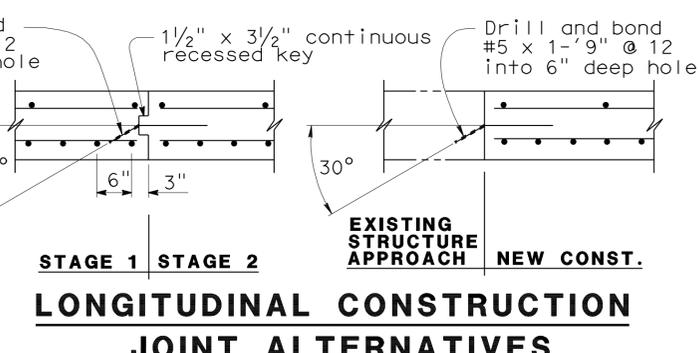
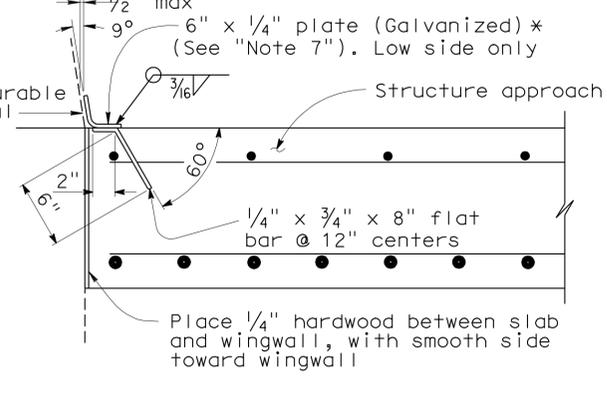
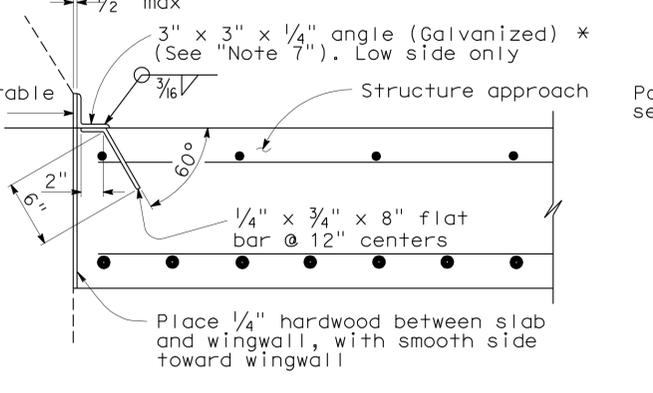
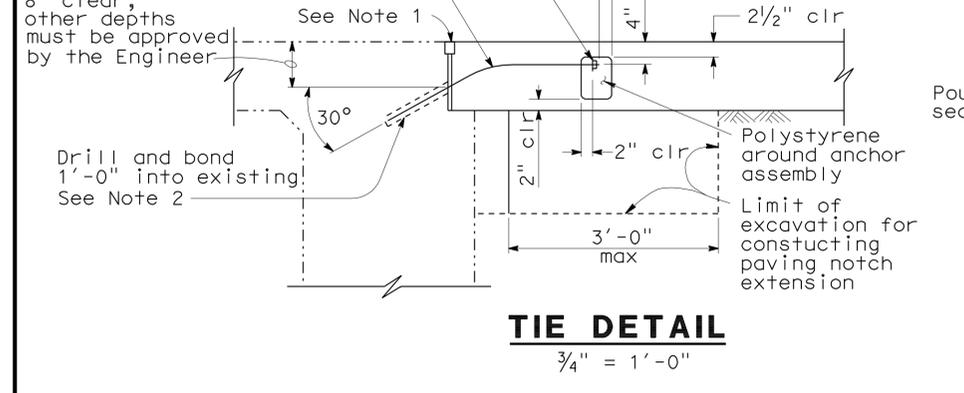
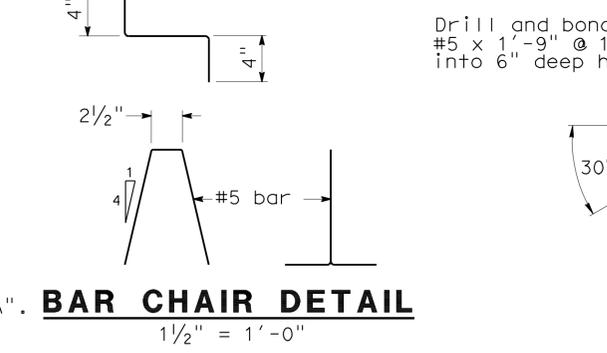
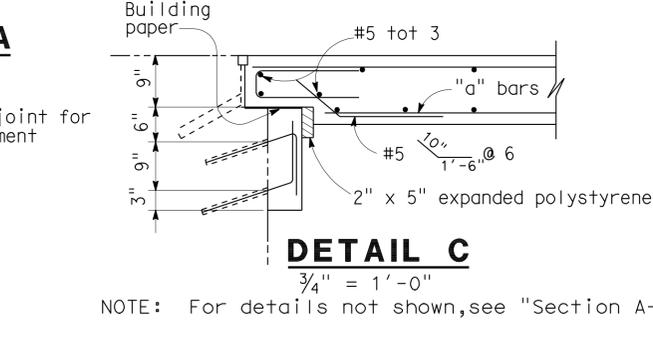
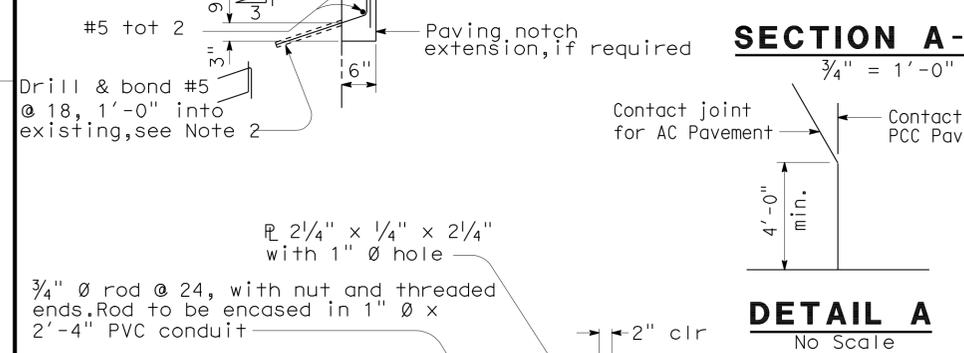
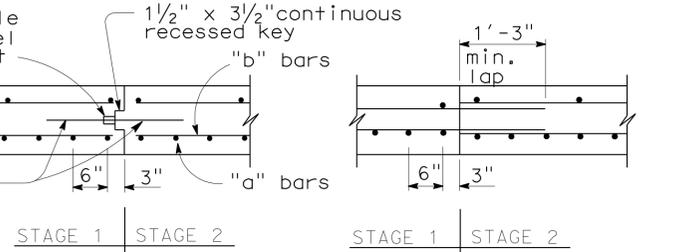
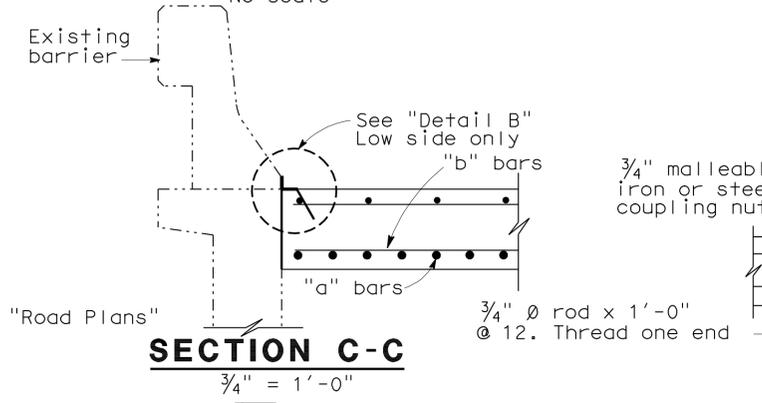
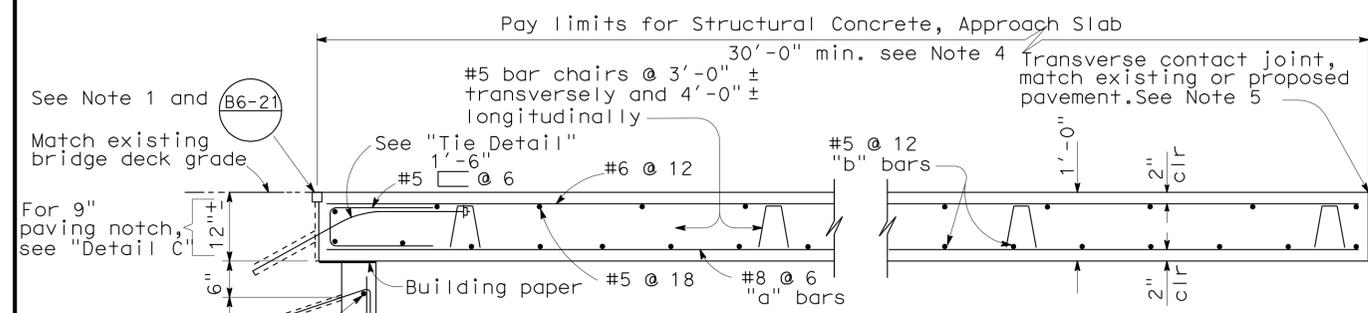
Indicates limits of place 3/4" depth polyester concrete overlay, see "GENERAL PLAN" sheets  
 Indicates taper grind @ Exist deck

DESIGN BY Joey Aquino CHECKED Lewis Shen DETAILS BY S Motalebi / J Reid CHECKED Lewis Shen QUANTITIES BY Joey Aquino CHECKED Lewis Shen	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 3</b>	BRIDGE NO.	<b>DECK REHABILITATION</b> <b>ROUTE 5 BRIDGES</b> <b>JOINT SEAL DETAILS</b>
			Various	
			POST MILE	
Various			REVISION DATES	SHEET 6 OF 9

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3  
 CU 03204 EA 2C4501  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 REVISION DATES: 1-4-2010, 2-4-10, 2-8-10, 2-9-10, 2-16-10, 3-4-10, 4-15-10, 4-22-10, 5-20-10, 5-25-10  
 USERNAME => s136693 DATE PLOTTED => 03-JUN-2010 TIME PLOTTED => 11:13  
 FILE => 02-2c4501-q-jntd+01.dgn



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



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

\*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)

\*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

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

STANDARD DRAWING			
RELEASE DATE	DESIGN	BY	CHECKED
3/14/05	M. TRAFFALIS	M. TRAFFALIS	E. THORKILDSEN
FILE NO.	DETAILS	BY	CHECKED
xs3-140e	R. YEE	R. YEE	E. THORKILDSEN
	SUBMITTED	BY	DRAWING DATE
	M. HA		Revised

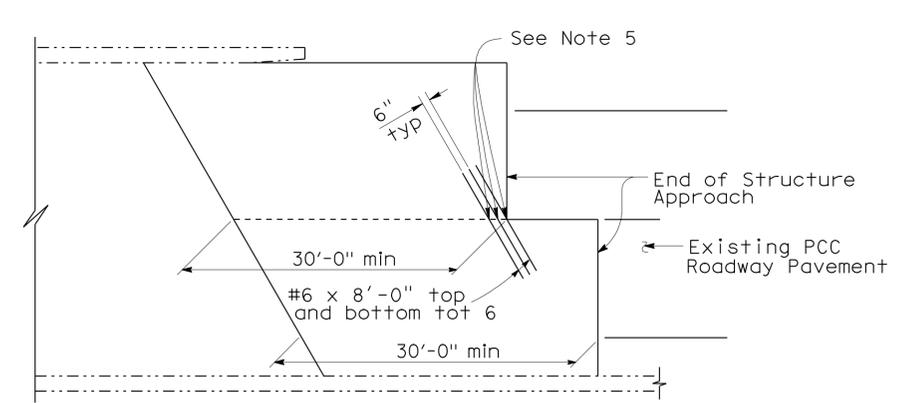
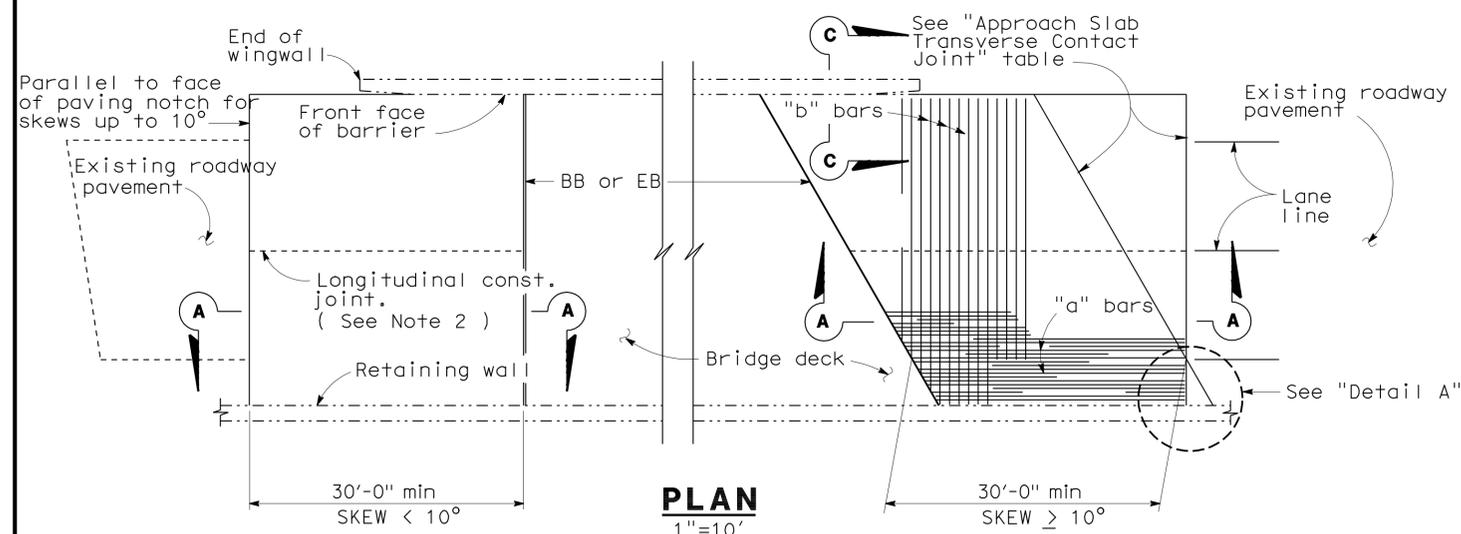
NEW NOTE
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STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES
DEPARTMENT OF TRANSPORTATION	

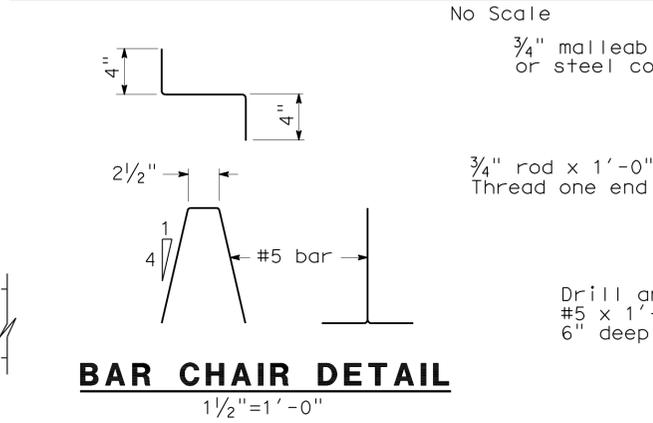
BRIDGE NO.	ROUTE 5 BRIDGES
Various	
MILE POST	
Various	
STRUCTURE APPROACH TYPE R(30D)	

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R44.0/58.0	141	142

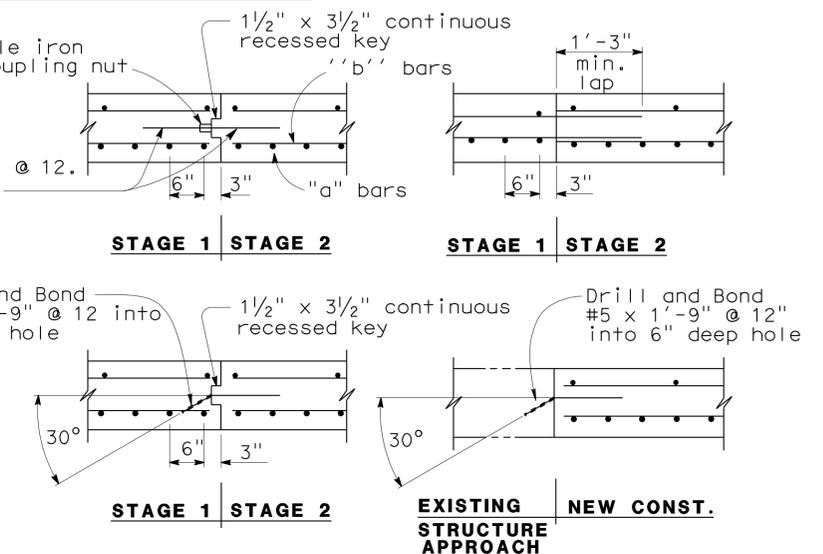
June 1, 2010  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



**STRUCTURE APPROACH - END STAGGER DETAIL**



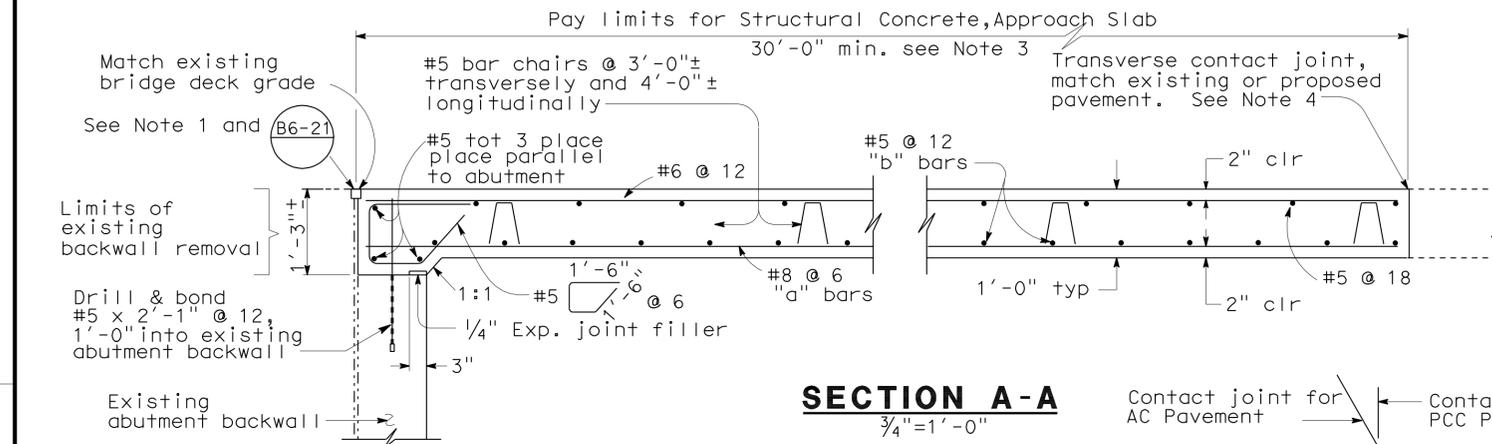
**BAR CHAIR DETAIL**



**LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES**

**NOTES:**

1. Sealed joint, for M.R. see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
2. Longitudinal construction joints, when permitted by Engineer, shall be located on lane lines.
3. Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
4. For transverse contact joint with new PCC paving, refer to Standard Plan P10.
5. Couplers are required for stage construction.
6. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.
7. Reinforcement dowels & rods to be epoxy coated

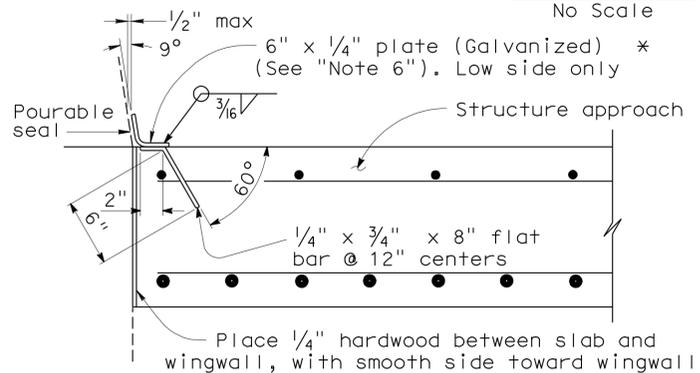
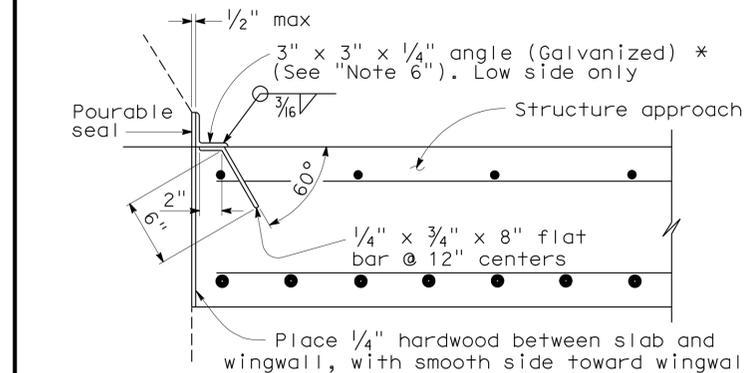


**SECTION A-A**

Contact joint for AC Pavement  
Contact joint for PCC Pavement

**DETAIL A**

No Scale



**DETAIL B**

1 1/2"=1'-0"

APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line

**SPECIAL DETAILS**

**DECK REHABILITATION**

**ROUTE 5 BRIDGES**

**STRUCTURE APPROACH TYPE R(30S)**

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

STANDARD DRAWING			
RELEASE DATE <b>3/14/05</b>	DESIGN BY <i>M. TRAFFALIS</i>	CHECKED BY <i>E. THORKILDSEN</i>	RELEASED BY <i>[Signature]</i>
FILE NO. <b>xs3-130e</b>	DETAILS BY <i>R. YEE</i>	CHECKED BY <i>E. THORKILDSEN</i>	OFFICE CHIEF <i>[Signature]</i>
	SUBMITTED BY <i>M. HA</i>	DRAWING DATE <i>Revised</i>	

NEW NOTE

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.  
Various  
MILE POST  
Various

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 03204  
EA 2C4501

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 8 OF 9

USERNAME => s136693

02-2c4501-s-strap(r30)s.dgn

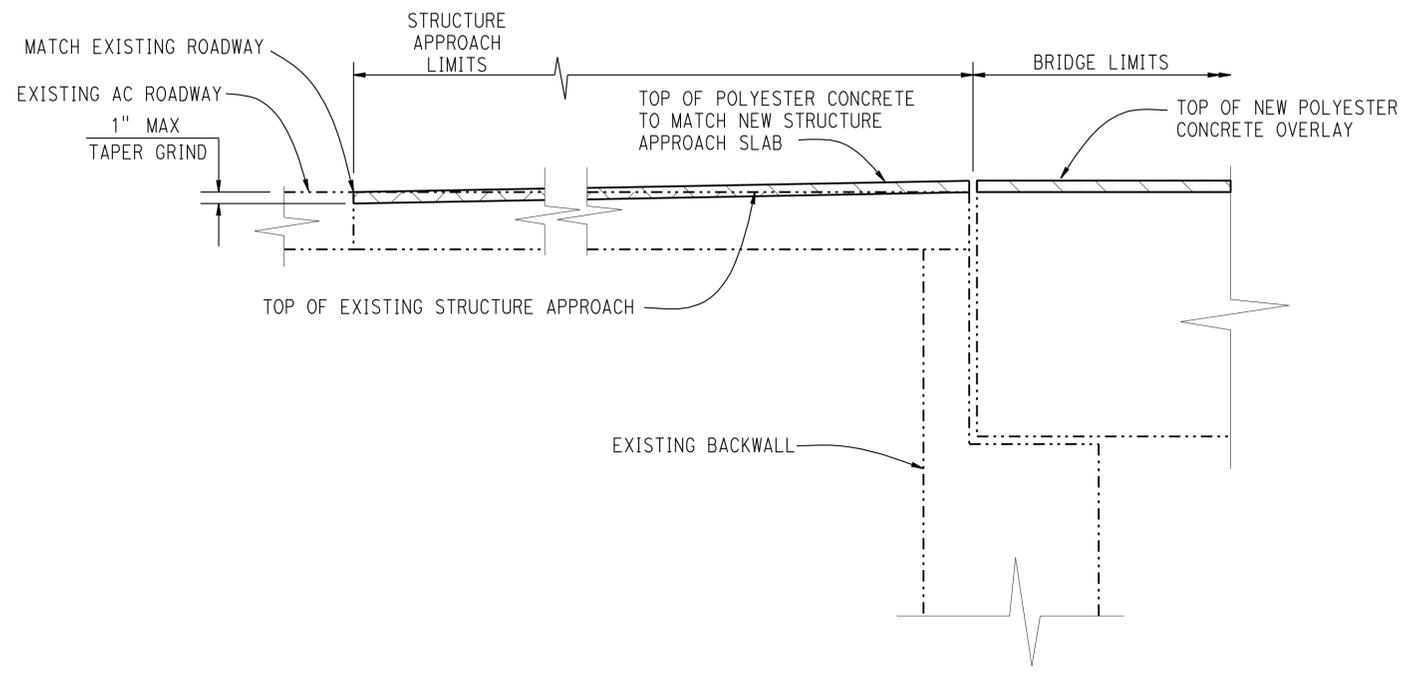
DATE PLOTTED => 03-JUN-2010 TIME PLOTTED => 11:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R44.0/58.0	142	142

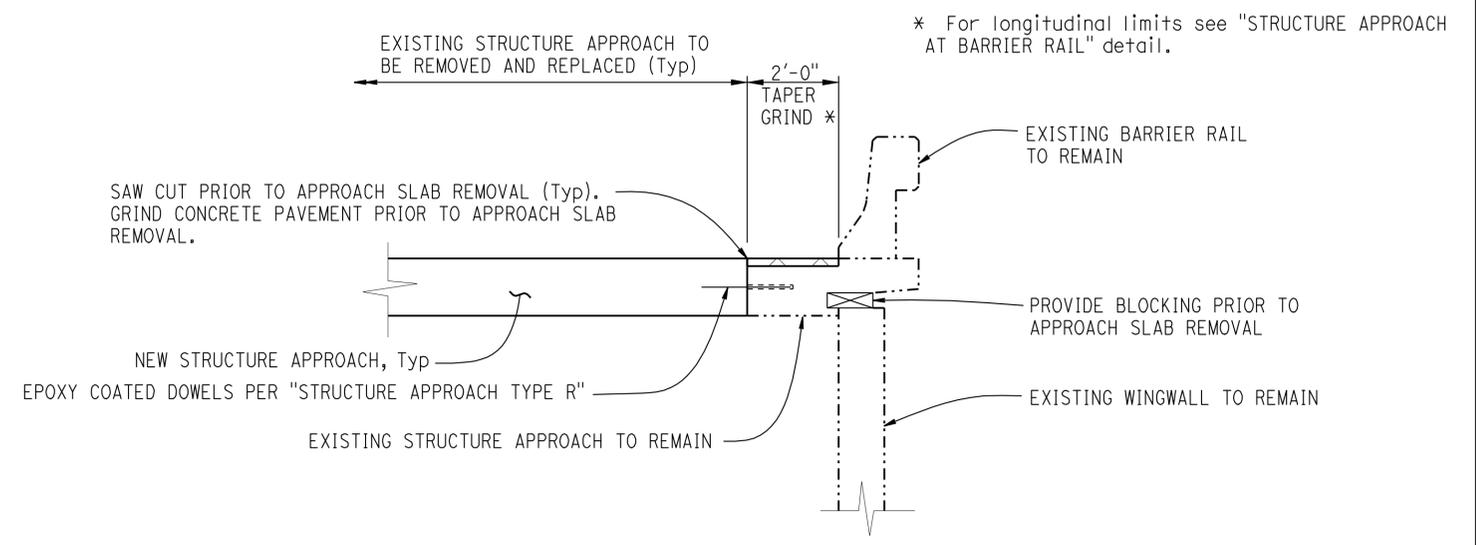
REGISTERED CIVIL ENGINEER DATE 4-30-10  
 Jose M. Aquino III  
 No. 58386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE June 1, 2010  
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NOTES: (APPLIES TO THIS SHEET ONLY)

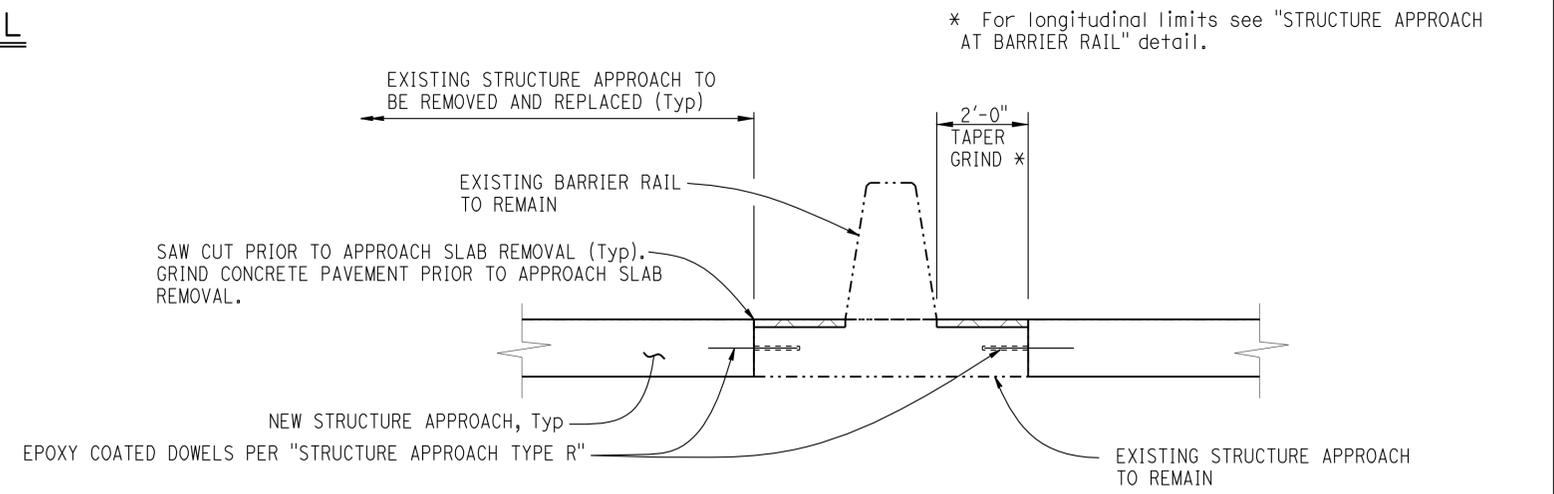
- Indicates existing.
-  Indicates limits of prepare concrete bridge deck surface, furnish and place new 3/4" minimum depth polyester concrete overlay, see "GENERAL PLAN" sheets
-  Indicates limits of grind existing concrete pavement, where polyester concrete overlay is required for the bridge deck, see "GENERAL PLAN" sheets



**STRUCTURE APPROACH AT BARRIER RAIL**  
No Scale



**DETAIL A**  
No Scale



**DETAIL B**  
No Scale

DESIGN	BY Joey Aquino	CHECKED Lewis Shen
DETAILS	BY S Motalebi / J Reid	CHECKED Lewis Shen
QUANTITIES	BY Joey Aquino	CHECKED Lewis Shen

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 3**

**DECK REHABILITATION**  
**ROUTE 5 BRIDGES**  
**STRUCTURE APPROACH DETAILS**