WATER POLLUTION CONTROL

Temp HIGH-VISIBILITY FENCE

Temp SILT FENCE

Temp Reinf SILT FENCE

Temp FIBER ROLL

Temp GRAVEL BAG BERM

Temp STRAW BALE BARRIER

Temp SLOPE DRAIN FLEX PIPE

Temp EARTH BERM

Temp DITCH/SWALE

WASH — Temp CONCRETE WASHOUT

Temp DRAINAGE INLET PROTECTION

Temp DRAINAGE OUTLET PROTECTION

Temp CHECK DAM

Temp CONSTRUCTION ENTRANCE

SP — Temp STOCKPILE

BOUNDARY LINE

STATE OR COUNTRY

COUNTY OR RESERVATION BOUNDARY

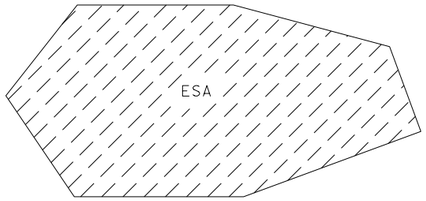
CITY OR MILITARY BOUNDARY

FOREST

SUBDIVISION, SECTION, GRANT

RANCHO

ENVIRONMENTALLY SENSITIVE AREA (ESA)



DRAINAGE

DIRECTION FLOW OF WATER

DRAINAGE SYSTEM SYMBOL

DRAINAGE UNIT SYMBOL

DRAINAGE INLET

DITCH FLOW LINE

DRAFTING

TILDE - DESIGNATES AN AREA

NORTH ARROW

ADDENDUM SHEET SYMBOL
(ADDENDUM NUMBER IS INCLUDED INSIDE THE SYMBOL)

MATCH LINE

BREAK LINE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

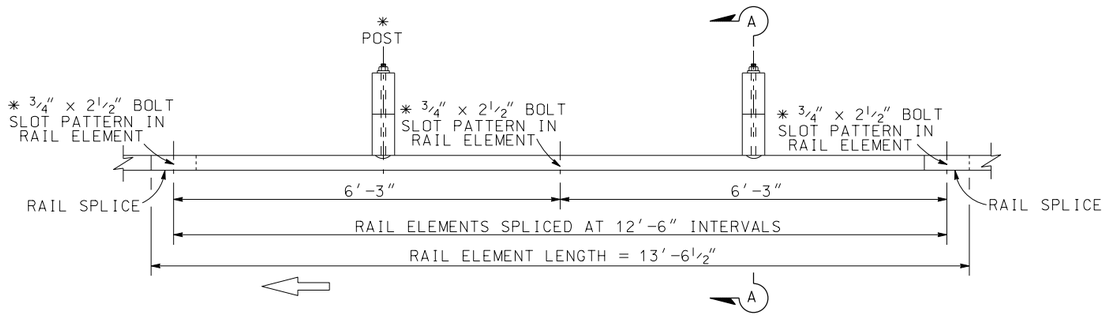
LEGEND
LINES AND SYMBOLS
(SHEET 2 OF 5)

NO SCALE

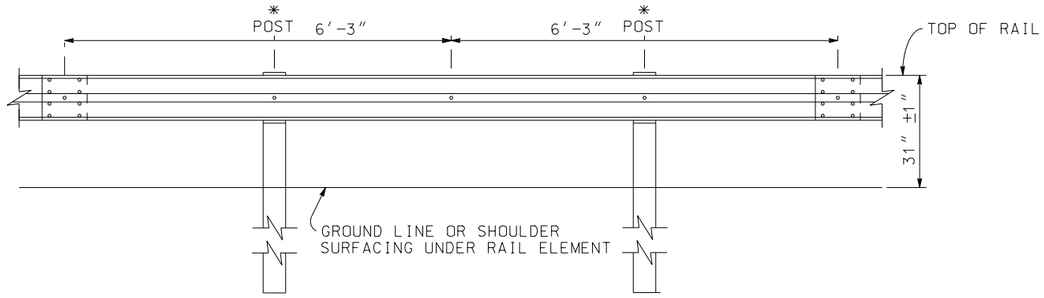
RSP A10B DATED JULY 21, 2017 SUPERSEDES RSP A10B DATED JANUARY 20, 2017 AND STANDARD PLAN A10B DATED OCTOBER 30, 2015 - PAGE 5 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A10B

2015 REVISED STANDARD PLAN RSP A10B

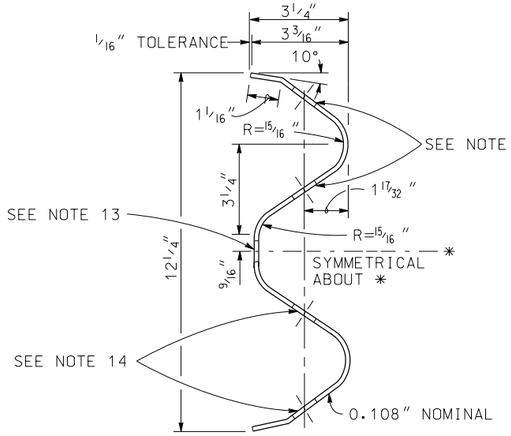


PLAN

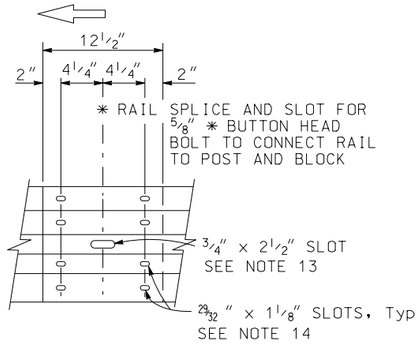


ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



SECTION THRU RAIL ELEMENT



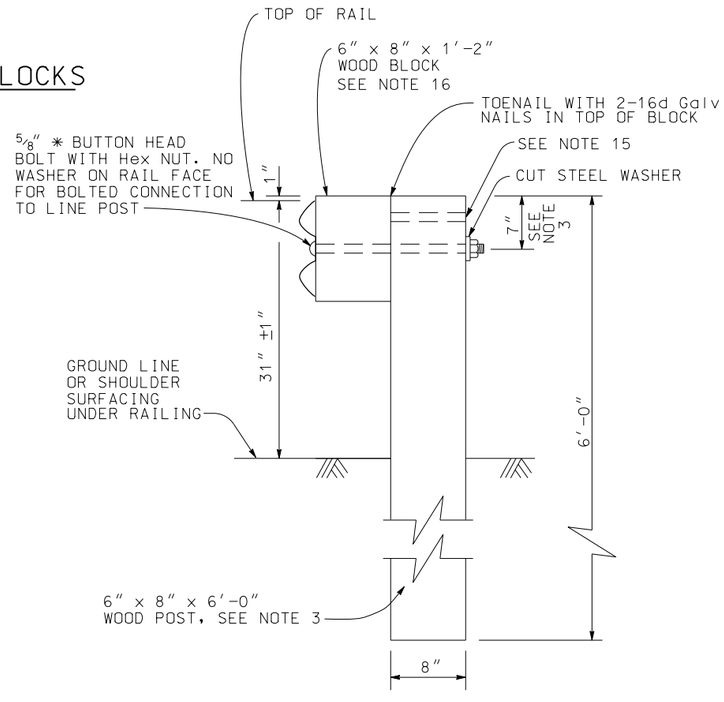
ELEVATION

RAIL ELEMENT SPLICE DETAIL

a) Connect the overlapped end of the rail elements with 5/8" * x 1 3/8" button head oval shoulder splice bolts inserted into the 29/32" x 1 1/8" slots and bolted together with 5/8" * recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.

b) The ends of the rail elements are to be overlapped in the direction of traffic (see details).

c) Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION A-A

TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

1. For details of steel post installations, see Revised Standard Plan RSP A77L2.
2. For details of standard hardware used to construct MGS, see Standard Plan A77M1.
3. For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
4. For additional installation details, see Standard Plan A77N3.
5. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
6. For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
7. If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
8. For MGS end anchor details, see Standard Plans A77S1 and A77T2.
9. For details of MGS transition to bridge railing, see Standard Plan A77U4.
10. For additional details of MSG connection to bridge railing, see Standard Plans A77U1, A77U2 and A77V1.
11. For MGS connection details to abutments and walls, see Standard Plan A77U3.
12. For typical MGS delineation and dike positioning details, see Standard Plan A77N4.
13. Slotted hole for bolted connection of rail element to block and post.
14. Slotted holes for splice bolts to overlap ends of rail element.
15. Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
16. 6" x 12" x 1'-2" block must be used with 6" dike.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

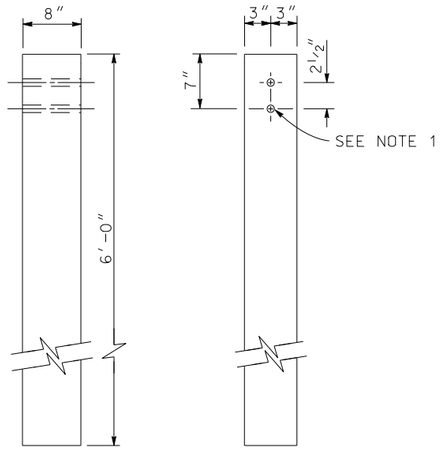
MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (WOOD POST WITH WOOD BLOCK)

NO SCALE

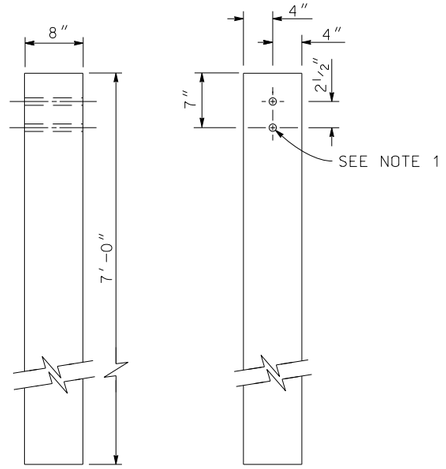
RSP A77L1 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN A77L1 DATED OCTOBER 30, 2015 - PAGE 49 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A77L1

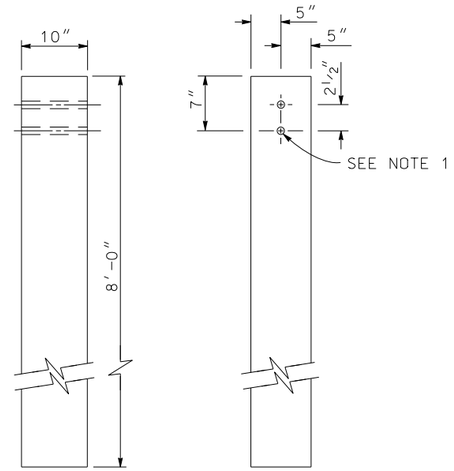
2015 REVISED STANDARD PLAN RSP A77L1



6″ x 8″ WOOD POST
See Note 3



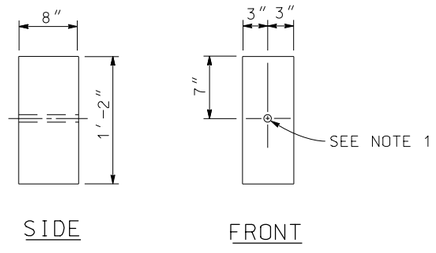
8″ x 8″ WOOD POST
See Note 4



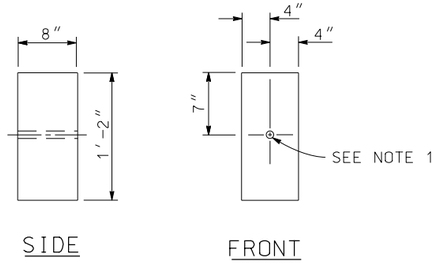
10″ x 10″ WOOD POST
See Note 5

NOTES:

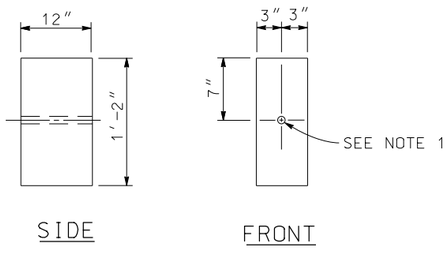
1. All holes in wood posts and blocks shall be ¾″ Dia ± 1/16″.
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8″ x 12″ block combination used for line post sections of MGS on narrow roadways.
5. This post and 8″ x 12″ block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6″ x 8″ and 8″ x 8″ wood blocks.
7. To be used with 8″ x 8″ x 7′-0″ wood post if installed with 6″ height dike.
8. To be used with 6″ x 8″ x 6′-0″ wood post if installed with 6″ height dike.



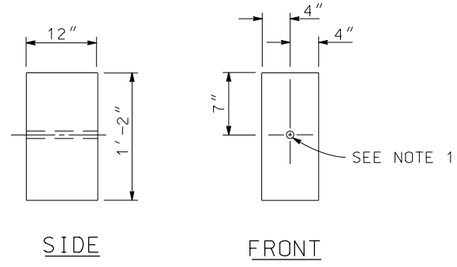
6″ x 8″ WOOD BLOCK
See Note 6 and Note 3



8″ x 8″ WOOD BLOCK
See Note 6 and Note 4



6″ x 12″ WOOD BLOCK
See Note 8



8″ x 12″ WOOD BLOCK
See Note 7

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

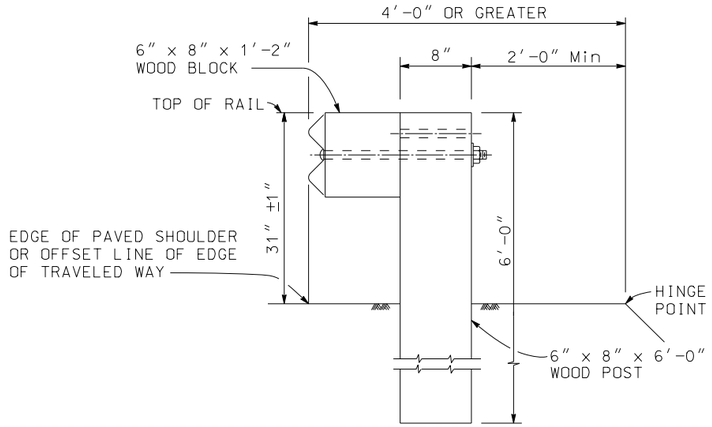
MIDWEST GUARDRAIL SYSTEM WOOD POST AND WOOD BLOCK DETAILS

NO SCALE

RSP A77N1 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN A77N1
DATED OCTOBER 30, 2015 - PAGE 53 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A77N1

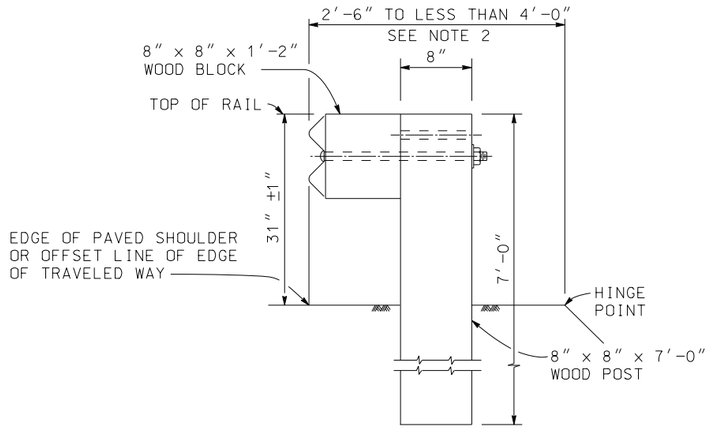
2015 REVISED STANDARD PLAN RSP A77N1



DETAIL A

TYPICAL ROADWAY INSTALLATION

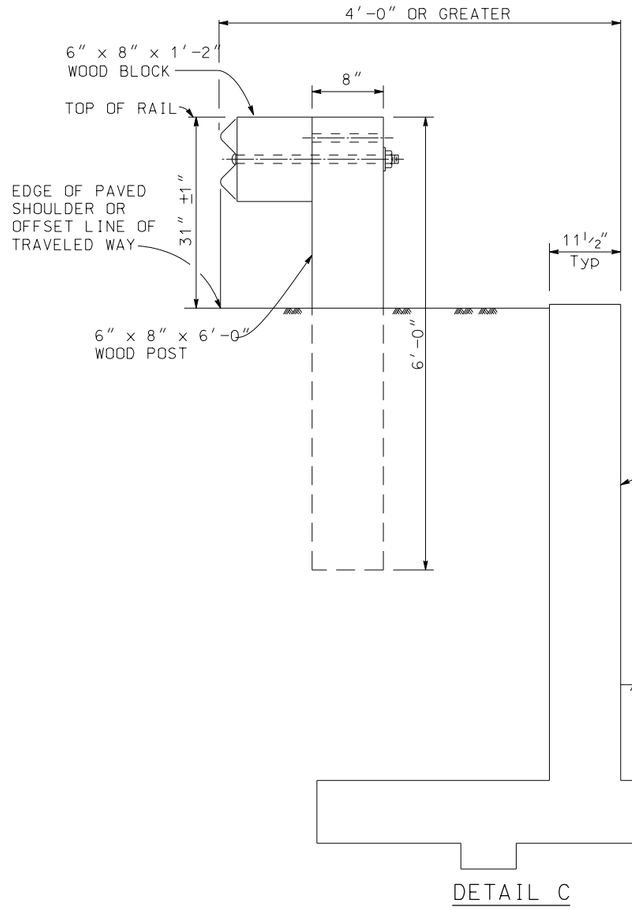
See Note 1



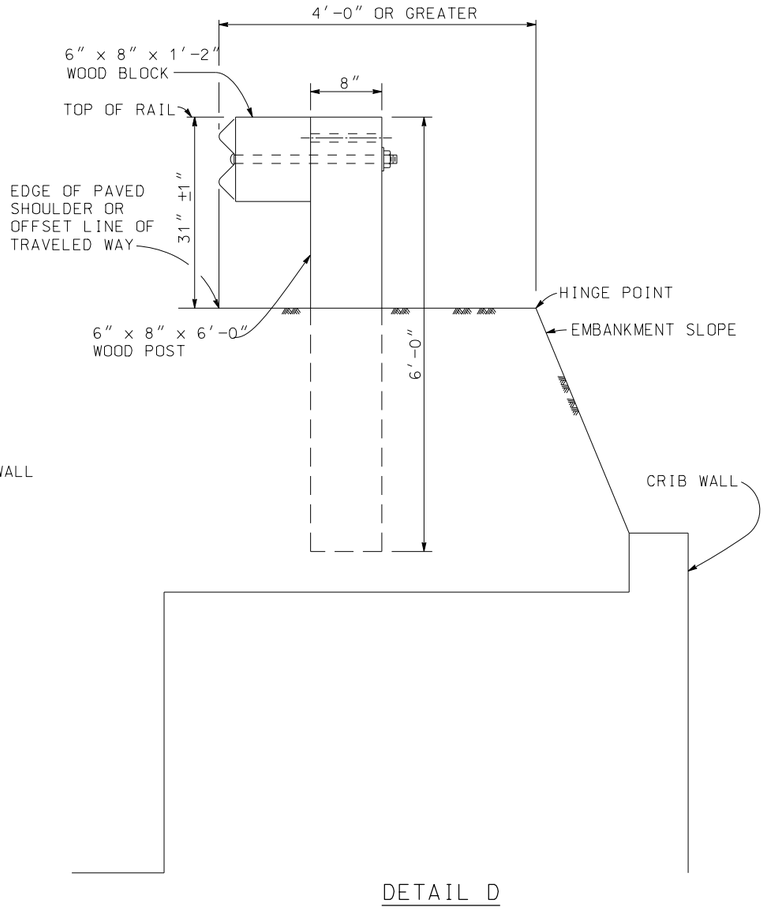
DETAIL B

NARROW ROADWAY INSTALLATION

See Note 1



DETAIL C



DETAIL D

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6′-0″ in length, with 6″ x 8″ x 1′-2″ notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 8′-0″ in length, with 8″ x 8″ x 1′-2″ notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plans RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2′-6″, see the Project Plans for special details.
3. For dike positioning with MGS installations, see Standard Plan A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LINE POST EMBEDMENT AND HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN A77N3
DATED OCTOBER 30, 2015 - PAGE 55 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A77N3

2015 REVISED STANDARD PLAN RSP A77N3

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
					X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	50	100	25
60	1440	720	360	240	50	100	25
65	1560	780	390	260	50	100	25
70	1680	840	420	280	50	100	25
75	1800	900	450	300	50	100	25

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

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

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

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D**	DOWNGRADE Min D ***		
		-3%	-6%	-9%
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891
75	820	866	927	1003

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Longitudinal buffer space or flagger station spacing

*** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

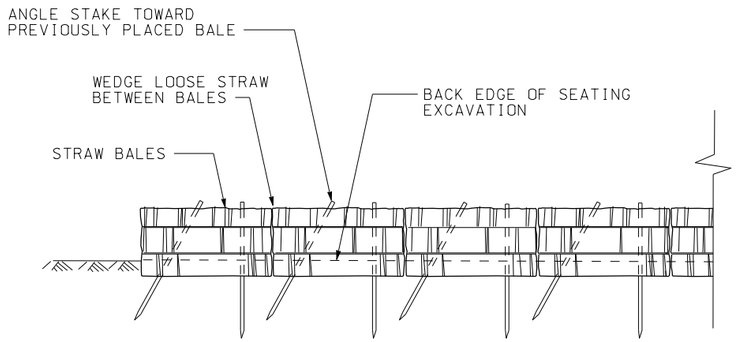
TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

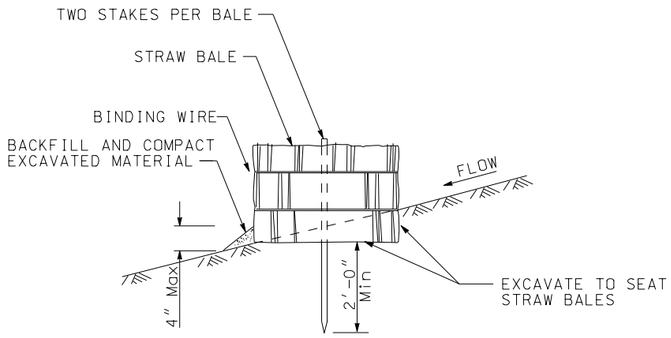
RSP T9 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN T9
DATED OCTOBER 30, 2015 - PAGE 249 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP T9

2015 REVISED STANDARD PLAN RSP T9



FRONT ELEVATION

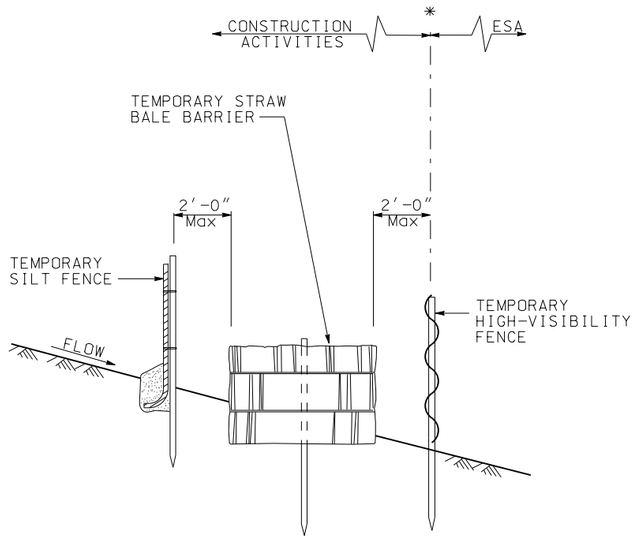


SECTION

TEMPORARY STRAW BALE BARRIER

NOTE:

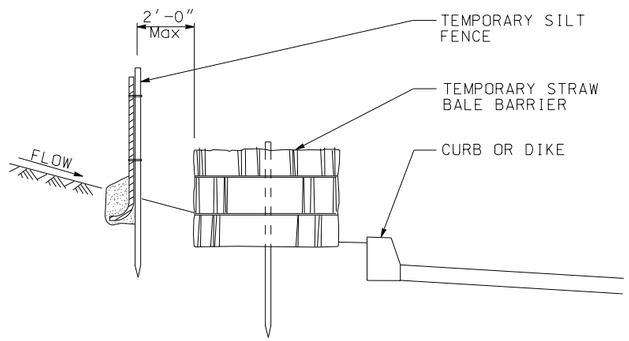
1. Temporary silt fence and temporary high-visibility fence shown for reference purposes only.



SECTION

PLACEMENT DETAIL
FOR TEMPORARY SILT FENCE
AND TEMPORARY HIGH-VISIBILITY FENCE
USED WITH TEMPORARY STRAW BALE BARRIER

(See Note 1)



SECTION

PLACEMENT DETAIL
FOR TEMPORARY SILT FENCE
USED WITH TEMPORARY
STRAW BALE BARRIER

(See Note 1)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

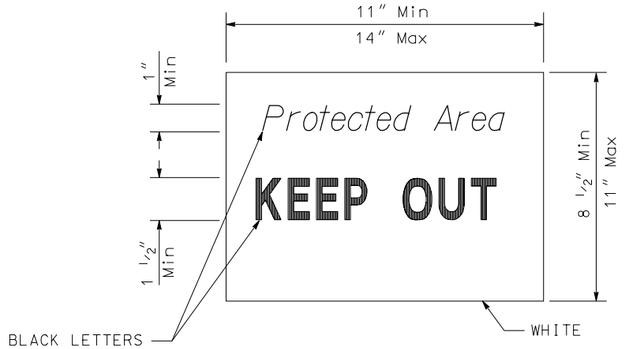
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY STRAW BALE BARRIER)

NO SCALE

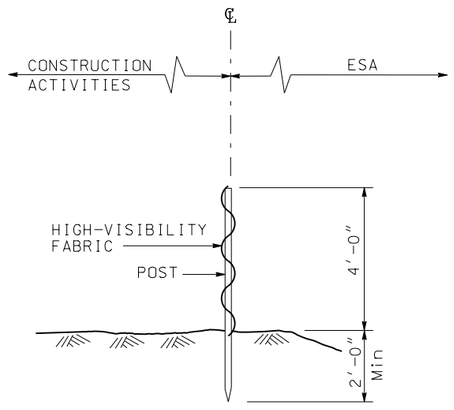
RSP T52 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN T52
DATED OCTOBER 30, 2015 - PAGE 260 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP T52

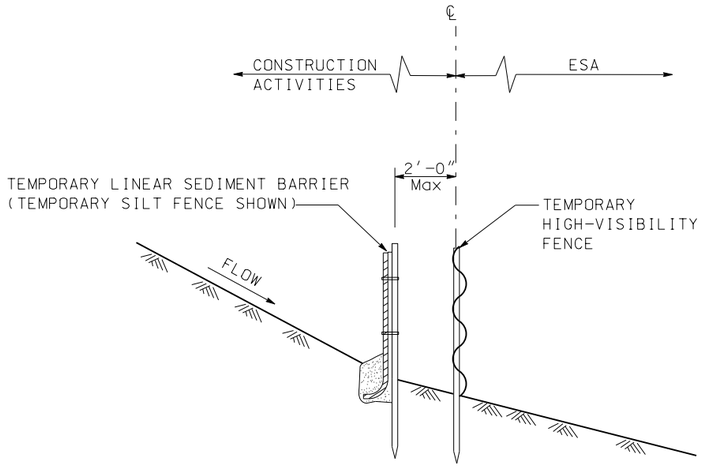
2015 REVISED STANDARD PLAN RSP T52



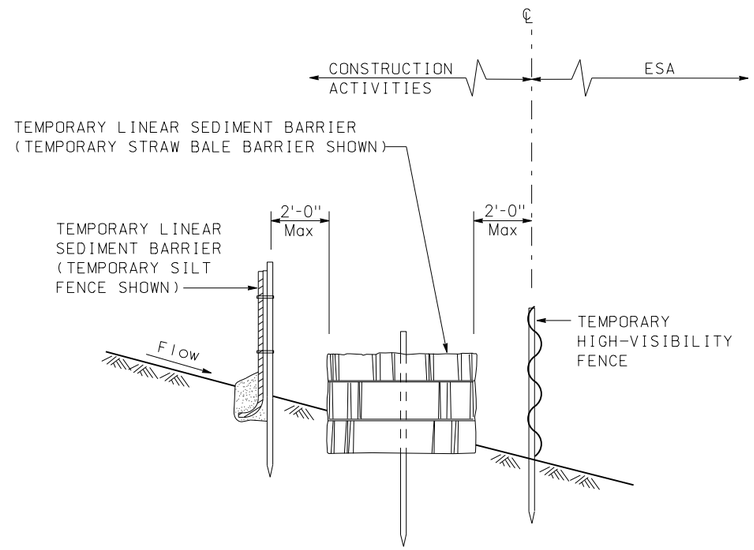
SIGN DETAIL



SECTION
TEMPORARY HIGH-VISIBILITY FENCE



SECTION
PLACEMENT DETAIL
FOR TEMPORARY LINEAR SEDIMENT BARRIER
USED WITH TEMPORARY
HIGH-VISIBILITY FENCE



SECTION
PLACEMENT DETAIL
FOR TEMPORARY SILT FENCE
AND TEMPORARY STRAW BALE BARRIER
USED WITH TEMPORARY HIGH-VISIBILITY FENCE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY HIGH-VISIBILITY FENCE)

NO SCALE

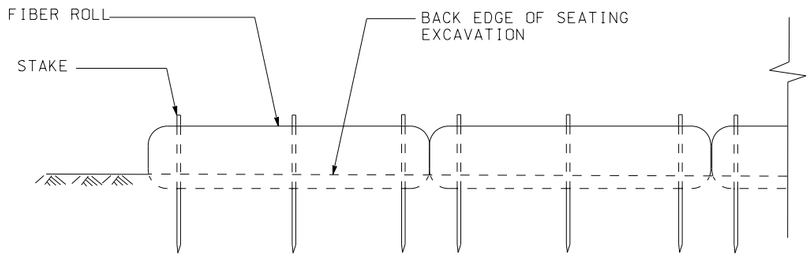
RSP T65 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN T65
DATED OCTOBER 30, 2015 - PAGE 273 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP T65

2015 REVISED STANDARD PLAN RSP T65

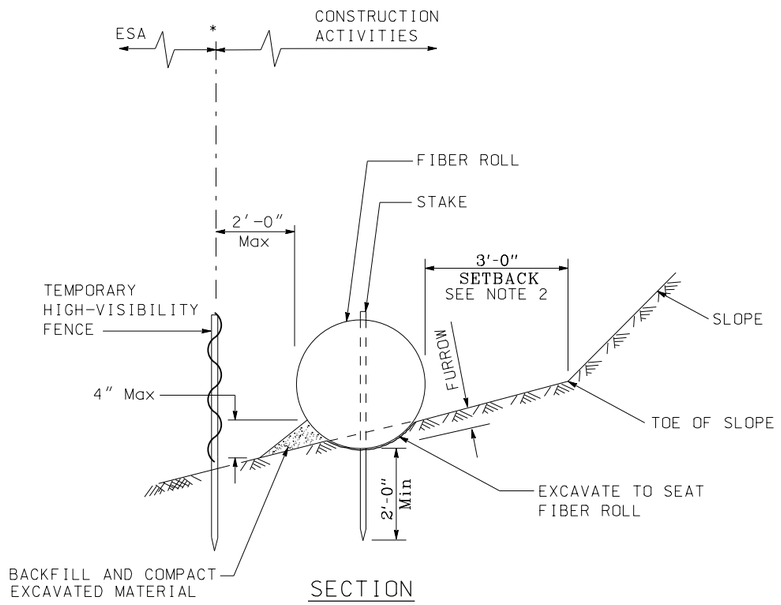
NOTES:

1. Temporary high-visibility fence shown for reference purposes only.
2. Setback dimension may vary according to field conditions or as designated on plans.



FRONT ELEVATION

TEMPORARY LARGE SEDIMENT BARRIER



SECTION

PLACEMENT DETAIL
FOR TEMPORARY HIGH-VISIBILITY FENCE
USED WITH TEMPORARY LARGE SEDIMENT BARRIER

(See Note 1)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY LARGE SEDIMENT BARRIER)

NO SCALE

RSP T66 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN T66
DATED OCTOBER 30, 2015 - PAGE 274 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP T66

2015 REVISED STANDARD PLAN RSP T66