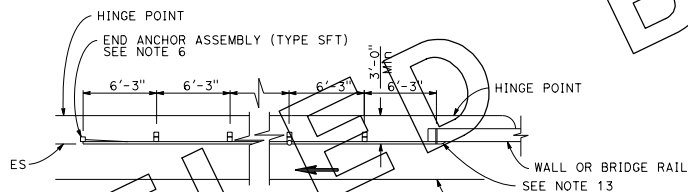


TYPE 12CC LAYOUT

(Guard railing installation at structure departure with a Buried end anchor treatment at trailing end of railing)
See Notes 10 and 11



TYPE 12DD LAYOUT

(Guard railing installation at structure departure With end anchor assembly at trailing end of railing)
See Notes 7 and 10

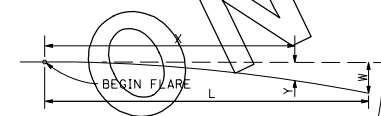
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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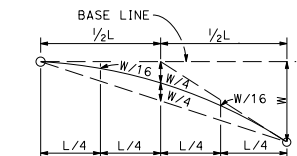
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C60200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA



BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

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 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 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 for Type 12CC Layout, see Standard Plan A77J4.
- For details of End Anchor Assembly (Type SFT) used with Type 12DD Layout, see Standard Plan A77H1.
- Type 12DD layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is equal to or greater than 40 feet and guard railing is recommended (embankment height, side slopes, other fixed objects). Length of railing to be equal to multiples of 12'-6". For guard railing connection details to bridge rail, see Standard Plans A77J1 and A77K1. For guard railing connection details to wall, see Standard Plan A77J3.
- The 15:1 or flatter flare for Type 12CC Layout 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 12CC Layout, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Standard Plan A77C4 for dike positioning details.
- Type 12CC Layout is 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 a typical connection to bridge rail for Layout Type 12CC, see Connection Detail CC on Standard Plan A77J2 and Connection Detail HH on Standard Plan A77K2.
- For additional details of a typical connection to bridge rail for Layout Type 12DD, see Connection Detail BB on Standard Plan A77J1 and Connection Detail GG on Standard Plan A77K1.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Standard Plan A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

A77F5

2010 STANDARD PLAN A77F5