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

REGISTERED CIVIL ENGINEER

July 1, 2002
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Madhwesh Raghavendrachar
No. C51119
EXP. 9-30-05
CIVIL
STATE OF CALIFORNIA

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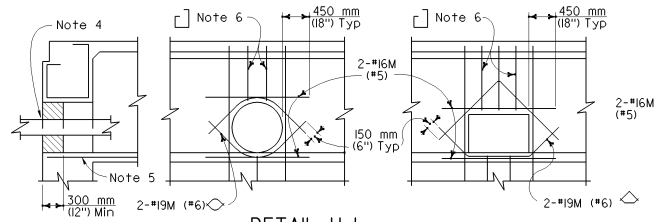
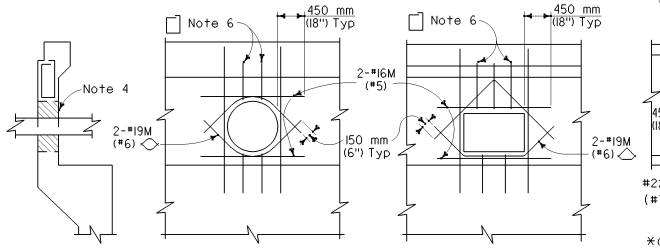
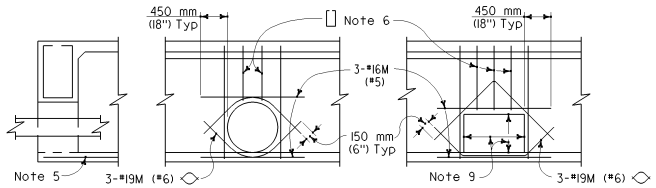
ABUTMENT DIAPHRAGMS



DETAIL U-1



DETAIL U-2



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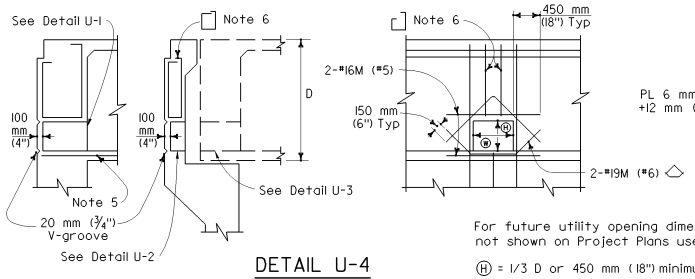


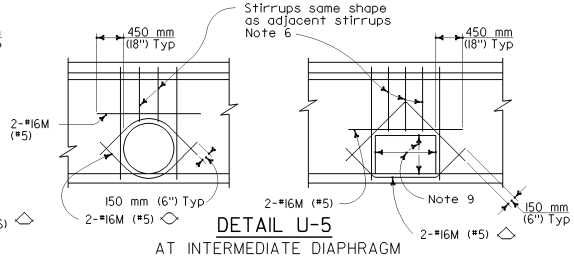
DETAIL U-4
(FOR FUTURE UTILITY OPENING)

For future utility opening dimensions not shown on Project Plans use:

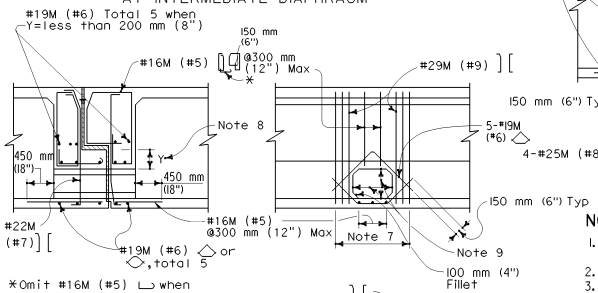
Ⓗ = 1/3 D or 450 mm (18") minimum, whichever is greater.

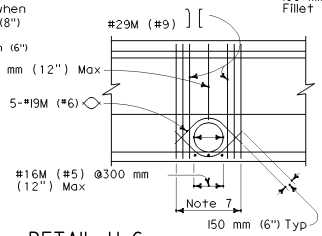
Ⓦ = 1/3 D or 600 mm (24") minimum, whichever is greater.

INTERMEDIATE DIAPHRAGMS AND HINGES

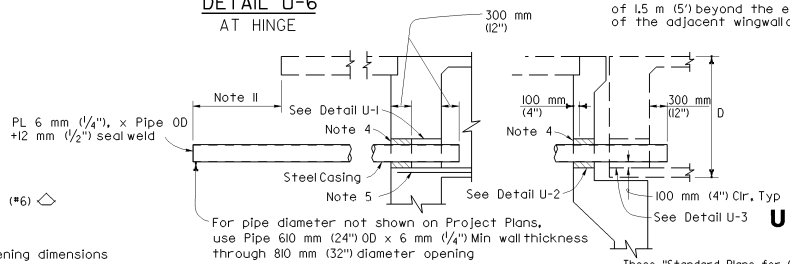


DETAIL U-5
AT INTERMEDIATE DIAPHRAGM



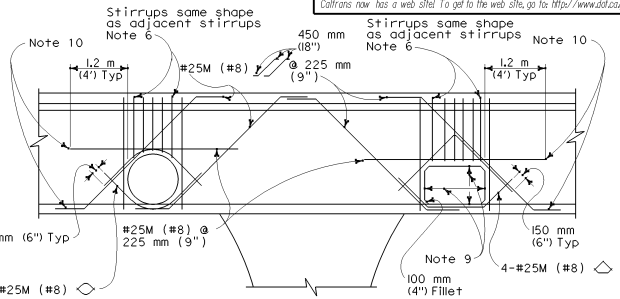


DETAIL U-6
AT HINGE



DETAIL U-8
(FOR FUTURE UTILITY PROVISIONS UNDER APPROACH SLAB)

BENT CAPS



DETAIL U-7
NEAR OR BETWEEN COLUMNS

NOTES:

1. The exact location, elevation, size and direction of openings shall be in accordance with the Project Plans and as directed by the Engineer.
2. Girders not shown. See Project Plans.
3. All reinforcement detailed to be placed in addition to reinforcement shown on Project Plans.
4. Seal utilities at abutments with concrete or mortar, after tightly wrapping utility with 2 layers of 7 kg (15 lbs) building paper. If structure is prestressed, seal to be placed after stressing is completed.
5. Main reinforcement to clear opening.
6. Reinforcement to be same bar size and 2/3 the spacing of adjacent reinforcement shown on Project Plans.
7. Replace each set of 2-#29M (#9) bars cut off by opening. Place 1/2 on each side of opening.
8. When "Y" is less than 200 mm (8"), extend top of opening to bottom of bearing seat elevation.
9. For future utility opening dimensions, see Project Plans and Detail U-4.
10. When there is insufficient space to place reinforcement as shown, hook reinforcement into exterior girder.
11. Unless otherwise shown on Project Plans, casing shall extend to the greater of 1.5 m (5') beyond the end of the approach slab, 1.5 m (5') beyond the end of the adjacent wingwall or 6 m (20') beyond the back of the abutment.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

UTILITY OPENING BOX GIRDER

These "Standard Plans for Construction of Local Streets and Roads" contain units in two systems of measurement: International System of Units (SI or "metric") and United States Standard Measures shown in the parentheses ( ). The measurements expressed in the two systems are not necessarily equal or interchangeable. See the "Foreword" at the beginning of this publication.

NO SCALE

B7-10

2002 DUAL UNITS STD PLAN B7-10