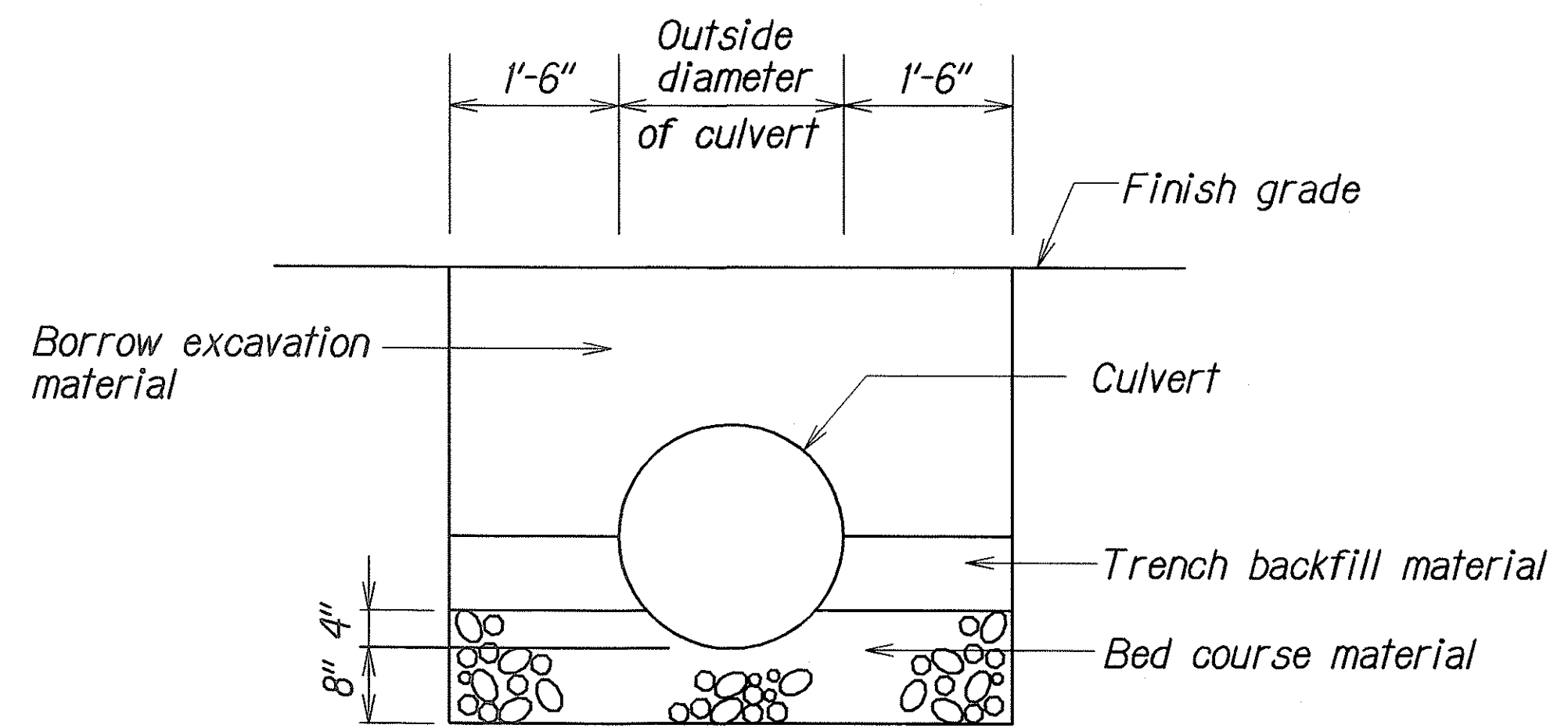
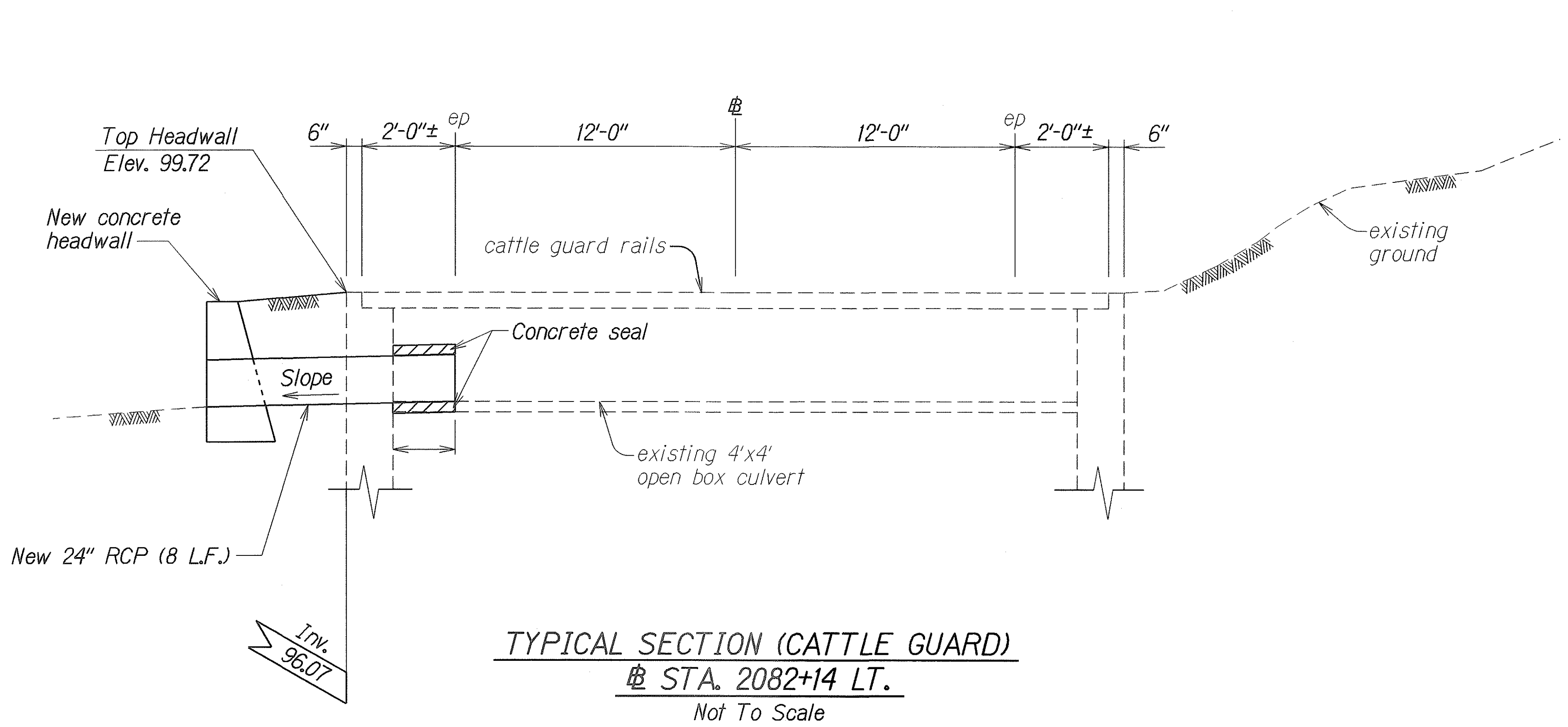
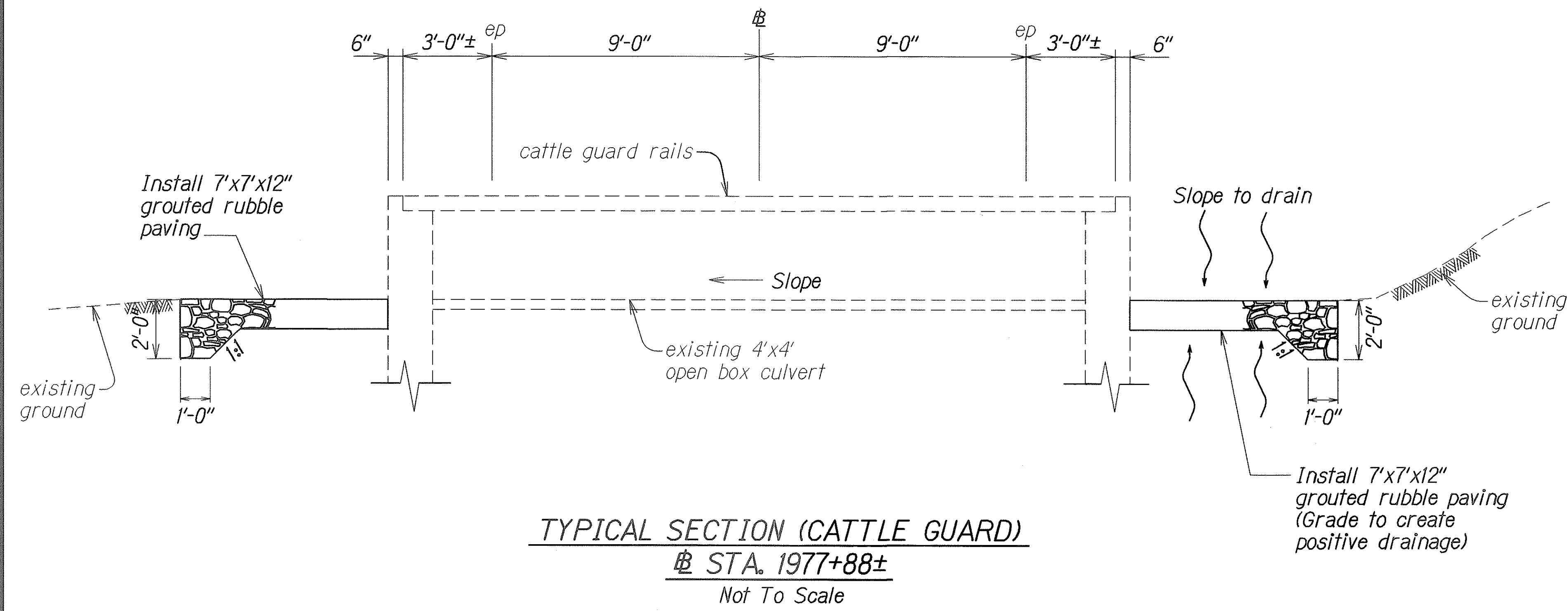


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	30A-01-07M	2007	27	28

MISCELLANEOUS DRAINAGE NOTES:

- Existing drainage system will be functional at all times during construction. Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow, the cost of which shall be incidental to the various contract items.
- Demolishing and removing the existing headwalls and drainage structures shall not be paid for separately, but shall be considered incidental to "Concrete For Drainage System".
- Contractor shall verify the locations of all culverts in the field. Any culvert damaged during construction shall be repaired or replaced by the Contractor at his expense.
- Concrete shall be Class "A".
- Inlet and Outlet conditions shall be cleaned and graded to permit free flow of run-off or as directed by the Engineer. Cleaning and grading shall be to the satisfaction of the Engineer. Above work shall be considered incidental to "Clean Existing Culverts".
- Reinforcing Steel for Concrete Structures will not be paid for separately but shall be considered incidental to various contract items.
- Location and elevations of new structures must be laid out in the field for the Engineer's approval.
- Chamfer all exposed edges 1".
- Excavation and backfilling of culvert structure will not be paid for separately but shall be considered incidental to installation of culverts.



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

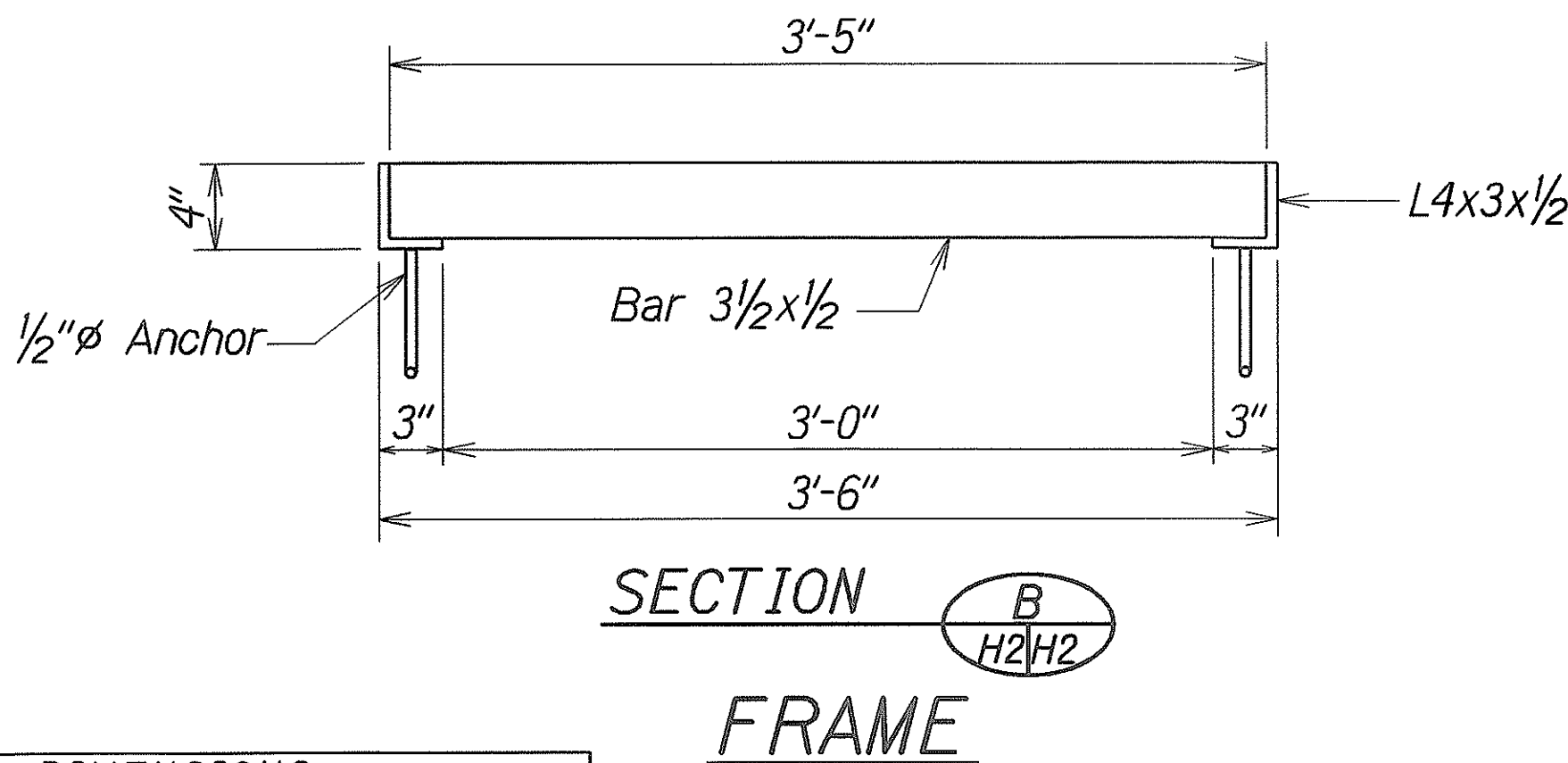
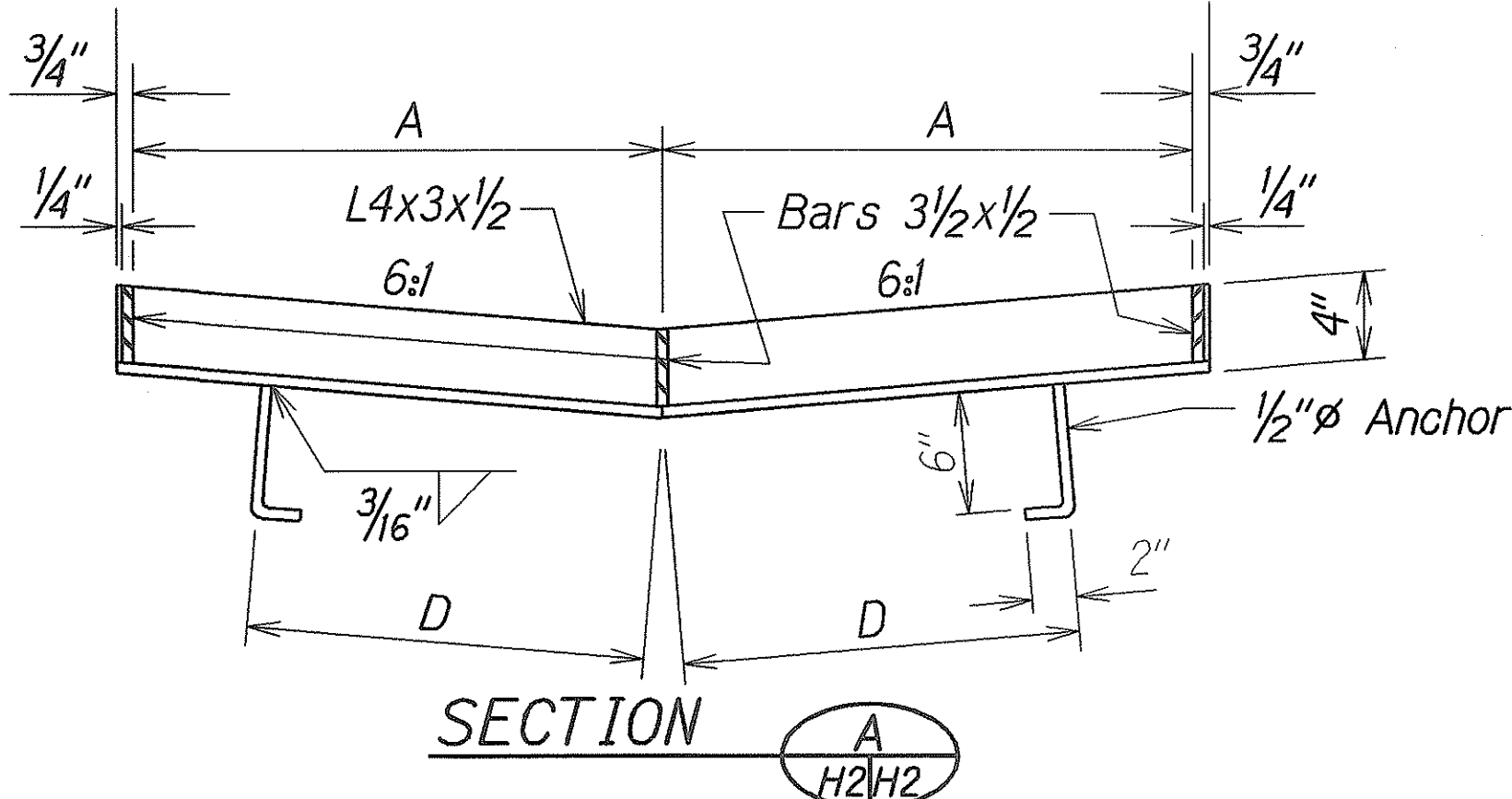
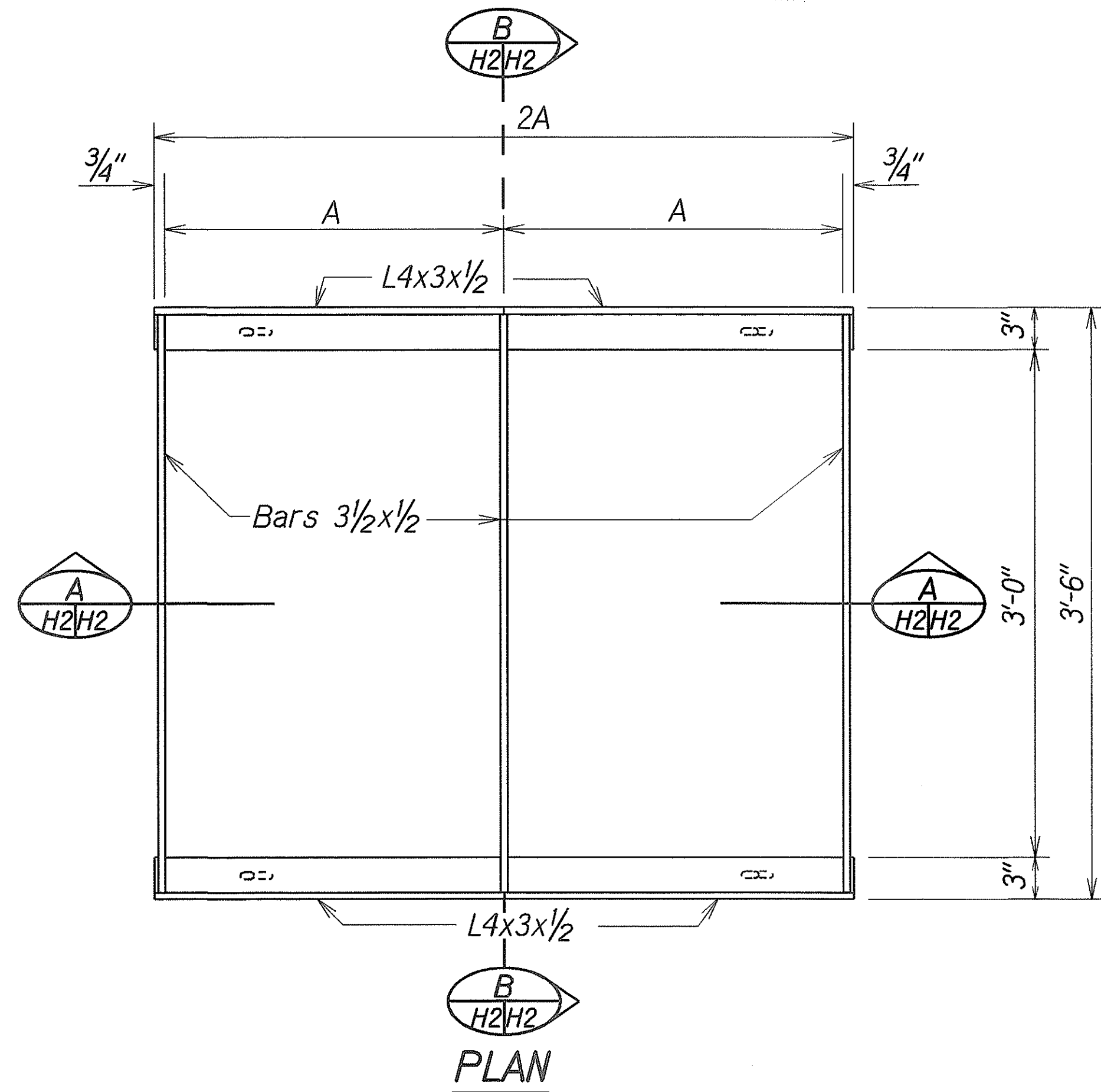
**DRAINAGE DETAILS**  
HONOAPIILANI HIGHWAY RESURFACING  
Vicinity of Napilihau, M.P. 28.60 to M.P. 29.20 and  
KAHEKILI HIGHWAY REPAIRS AND MAINTENANCE  
Honokohau to Papanahoa, M.P. 36.40 to M.P. 41.67  
Project No. 30A-01-07M  
Scale: As Shown      Date: February, 2007

SHEET No. **HI** OF **2** SHEETS

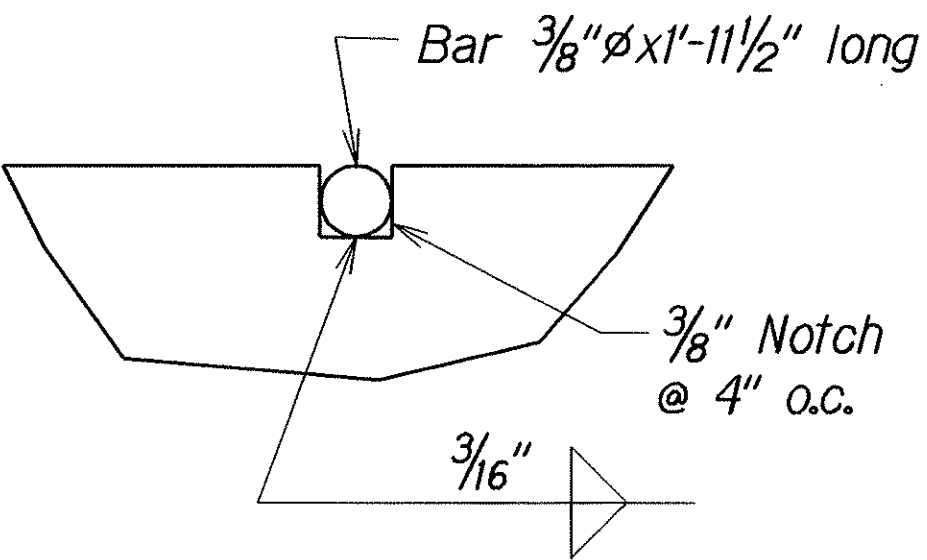
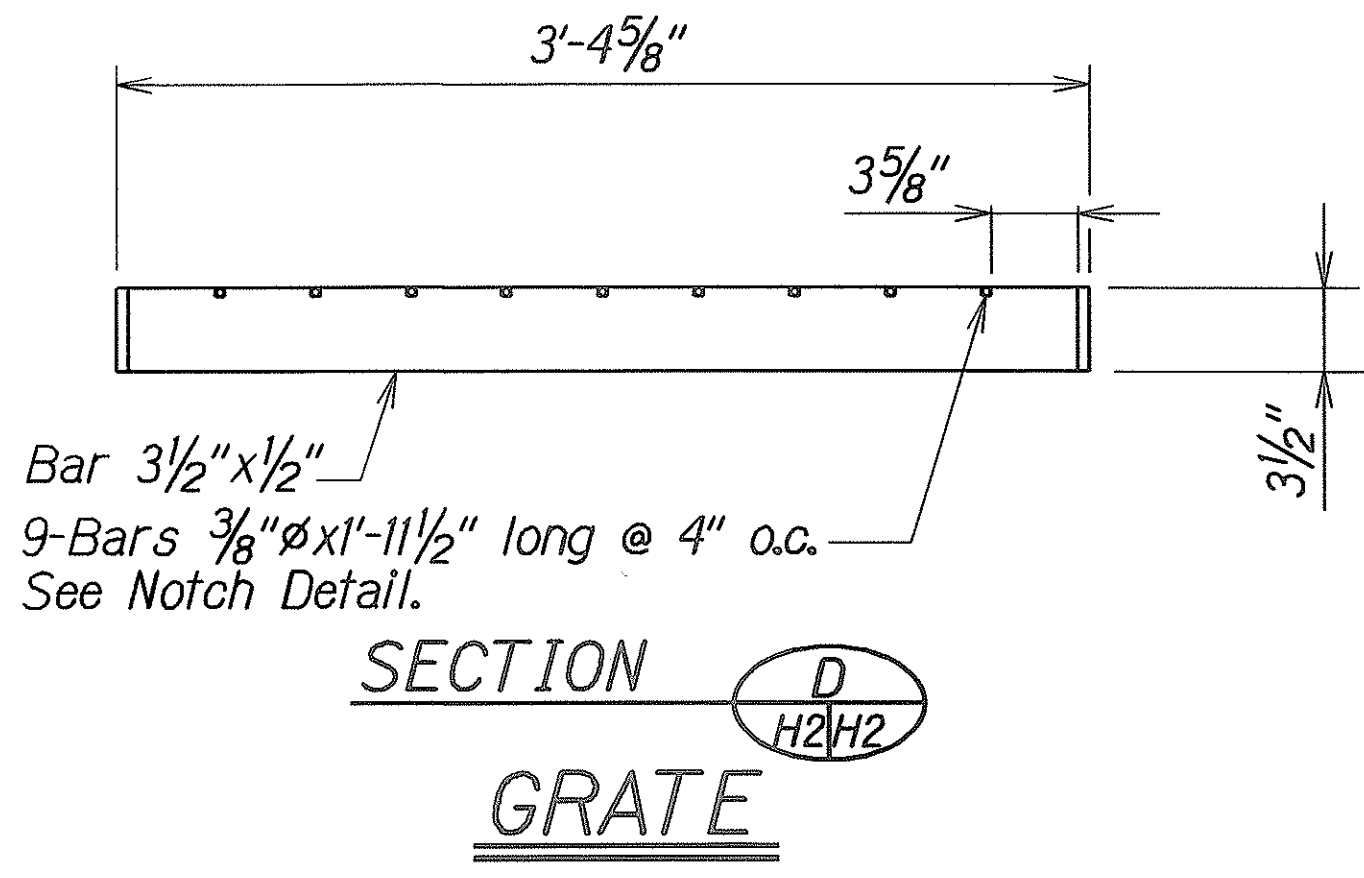
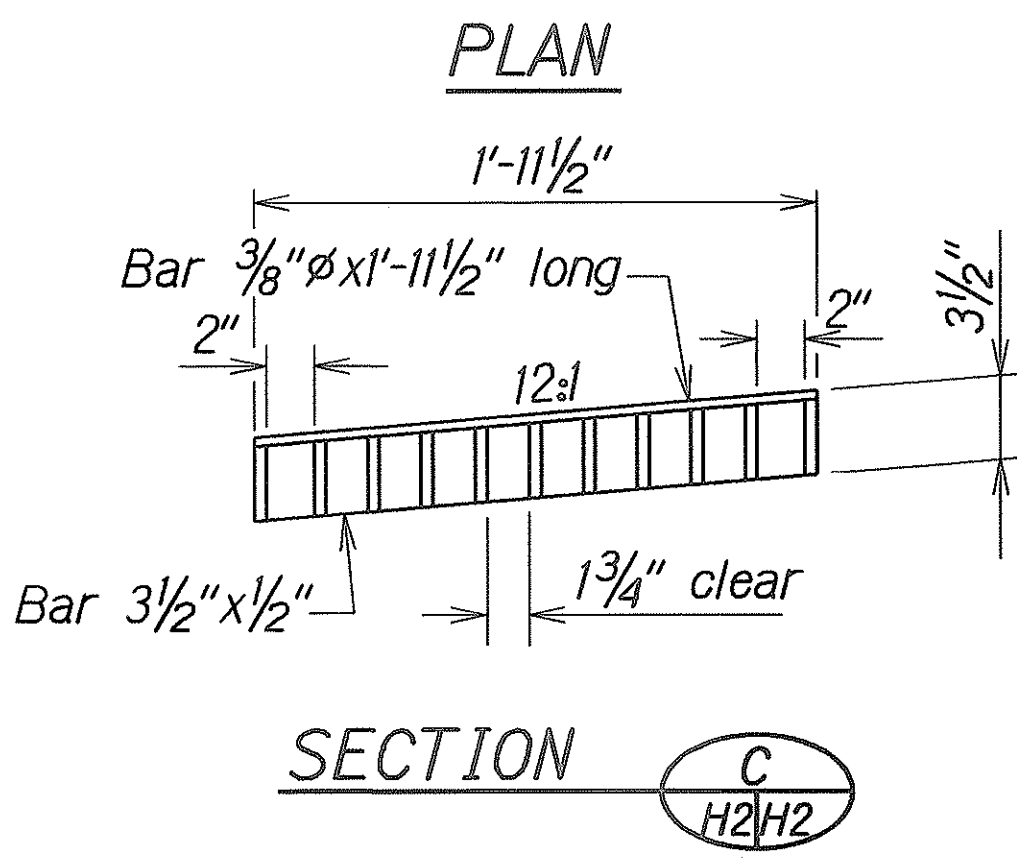
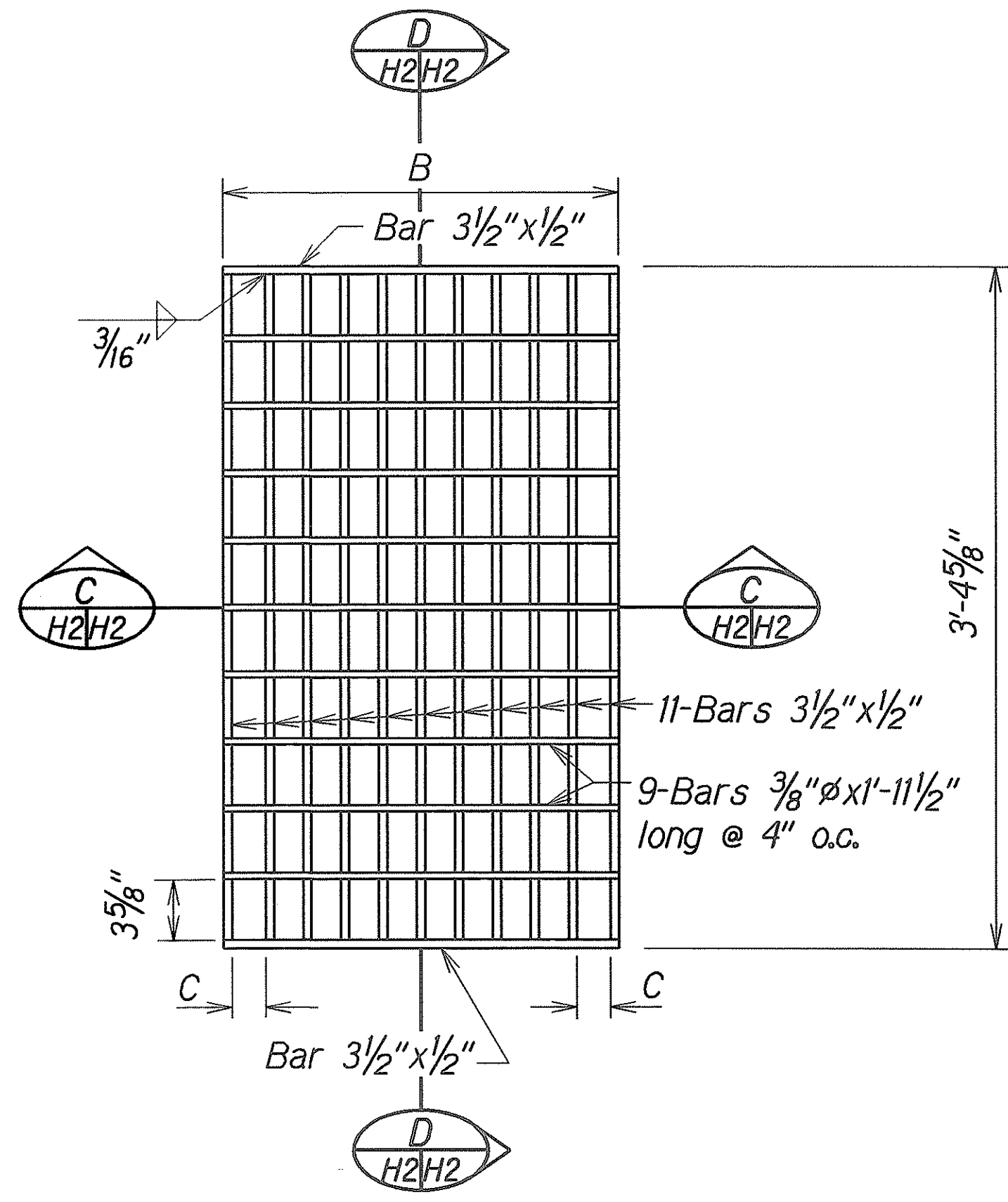
DESIGNED BY	DATE
TRACED BY	2/06
NOTES	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	30A-01-07M	2007	28	28

- GENERAL NOTES
- All welds  $\frac{3}{8}$  unless otherwise noted.
  - Grates and frames shall be zinc coated after fabrication.
  - Anchors shall be ASTM A 307 and zinc coated.
  - See B-01 for additional notes.



DIMENSIONS					
TYPE	NO. BARS	A	B	C	D
61614	11	2'-0"	1'-11 1/2"	1'-1/4"	1'-6"



DIMENSIONS			
TYPE	NO. BARS	B	C
61614P	12	1'-11 1/2"	2"

STATE OF HAWAII  
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**DRAINAGE DETAILS**

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Honokohau to Papanahoa, M.P. 36.40 to M.P. 41.67  
Project No. 30A-01-07M  
Scale: 1/2" = 1'-0" Date: March, 2007  
SHEET No. H2 OF 2 SHEETS

DETAILS OF TYPE "61614P" STEEL FRAME AND GRATES