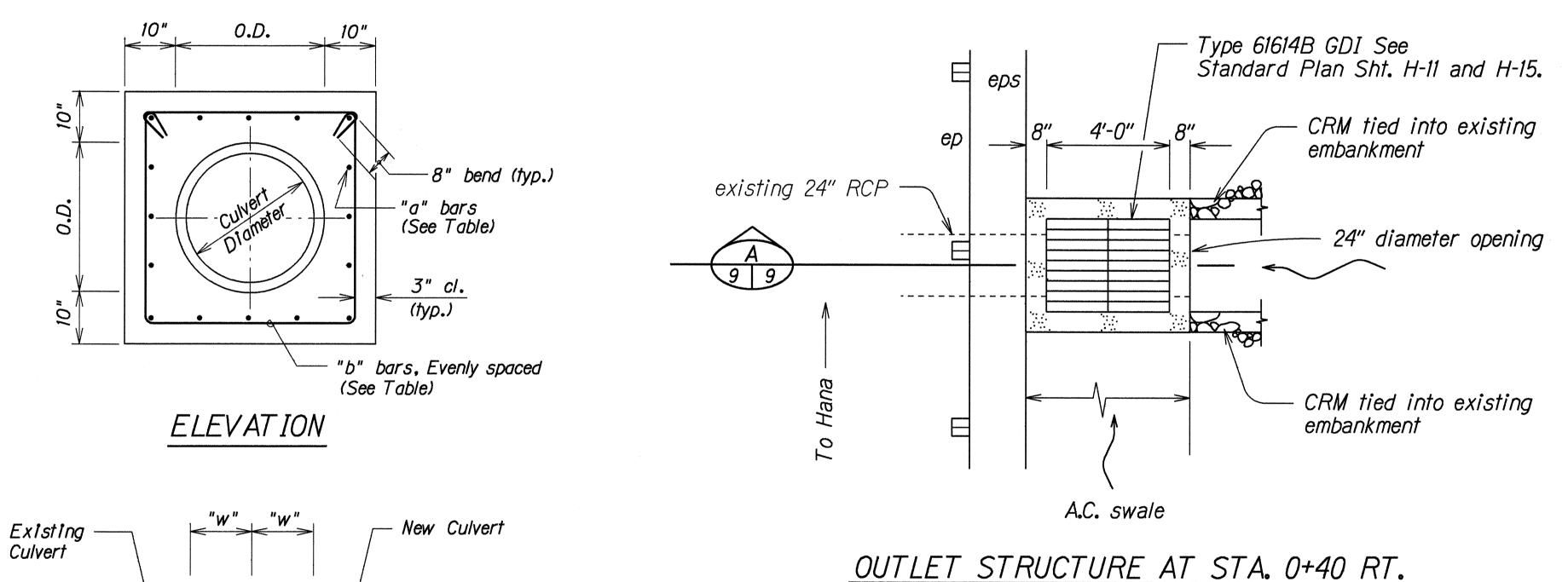
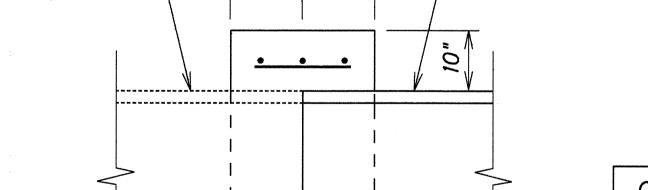


TYPICAL CULVERT EXTENSION DETAIL Scale: /2"=1"





"b" bars,-"a" bars Evenly spaced

SECTION

"a" bars "b" bars Culvert Diameter 18" to 30" #4 @ 9" 3- #4 36" to 48" #5 @ *9"* 15" 4- #4

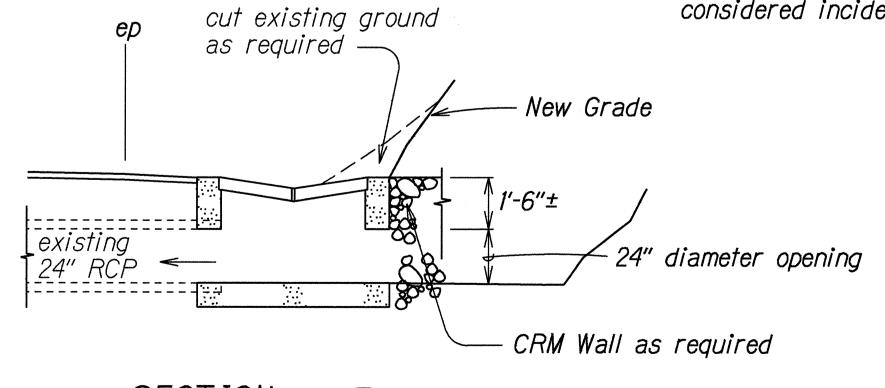
Note: Reinforcing Steel for Concrete Collar shall conform to the requirements of ASTM 615-Grade 60.

TYPICAL DETAILS OF REINFORCED CONCRETE COLLAR

FED. AID PROJ. NO. FED. ROAD DIST. NO. FISCAL YEAR SHEET TOTAL NO. SHEETS HAW. STP-0900(39) 1995

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/or removing a portion or the entire existing structure shall not be paid for separately, but shall considered incidental to the various contract items.
- Culverts within the grated drop inlets shall be cut flush with the inside face of the wall. Above work shall be considered incidental to the various contract items.
- 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 for grated drop inlets, headwalls and other structures shall be Class "A".
- Inlet and Outlet conditions shall be graded to permit free flow of run-off or as directed by the Engineer. Grading shall be to the satisfaction of the Engineer. Above work shall be considered incidental to the various contract items.
- The Contractor shall provide bedding materials for culvert, Class "C" bedding. Payment for this work will not be paid for separately but will be considered incidental to the appropriate culvert pay items.
- The Contractor's attention is directed to Section 102.05 of the Standard Specifications. It is anticipated that borrow materials will be used to backfill the new drainage structures; culverts, etc. Payment for this work will be considered incidental to various culvert pay items.
- Reinforcing Steel for Concrete Structures will not be paid for separately but shall be considered incidental to various concrete pay items.
- Location and elevations of new structures must be laid out in the field for the Engineer's approval.
- Chamfer all exposed edges 1".
- Quantities are approximate only. Contractor shall conduct an independent survey of worksites to verify and validate pay quantities.
- Reinforced concrete collar will not be paid for separately but shall be considered incidental to installation of culverts.



SECTION 9 9 Not To Scale

Not To Scale

STATE OF HAWAII **DEPARTMENT OF TRANSPORTATION**

DRAINAGE DETAILS

HANA HIGHWAY RESURFACING Valley Isle Memorial Cemetery to Huelo Fed. Aid Project No. STP-0900(39)

Scale: As Shown

Date: May, 1995

OF 1 SHEETS SHEET No. 1



