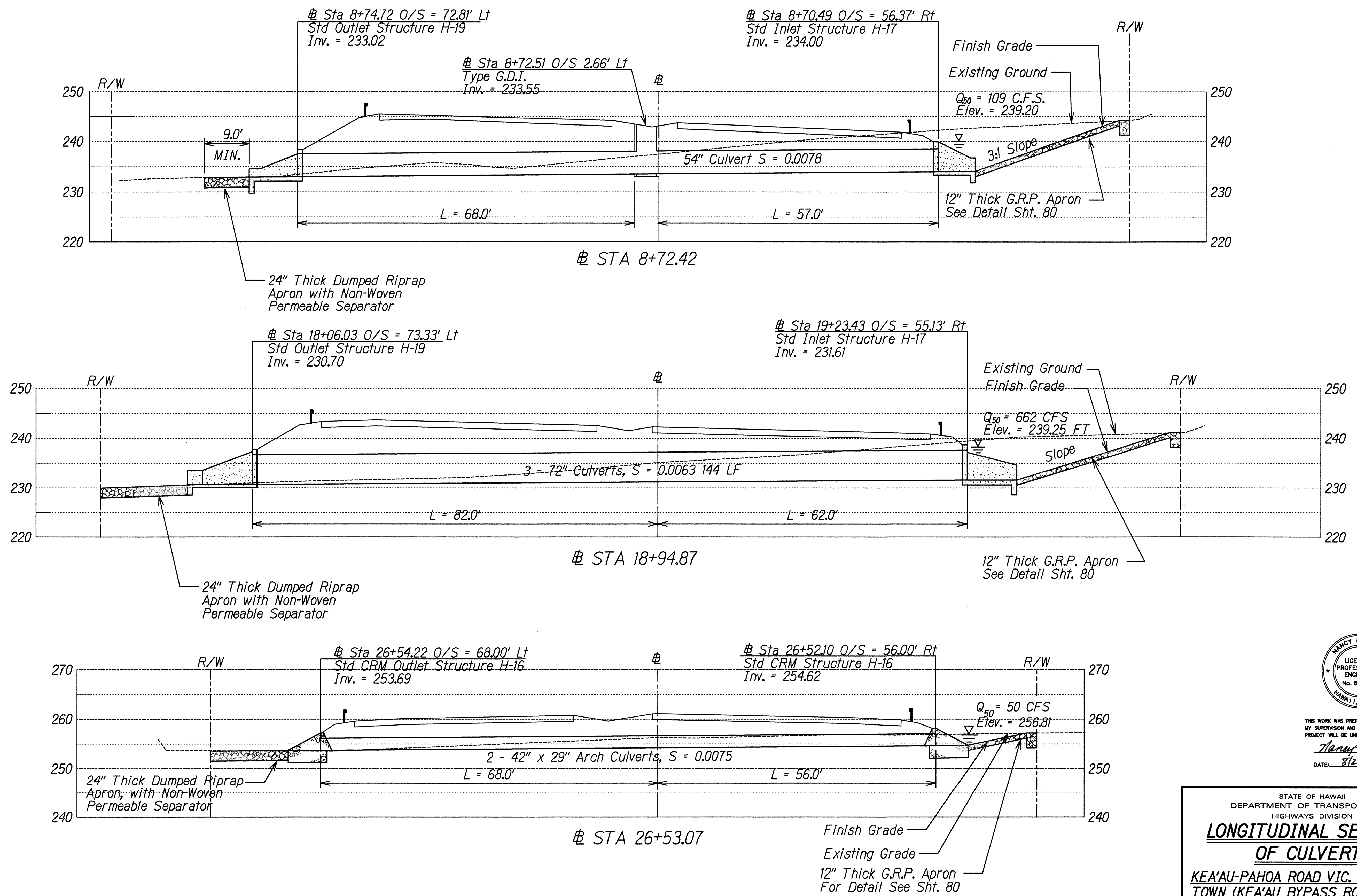
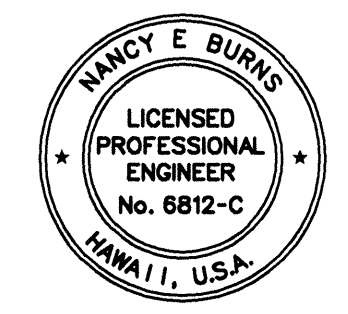


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	130B-01-98	1999	76	210



SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
APPROVED BY	
DATE	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Nancy E. Burns

DATE: 8/24/98

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**LONGITUDINAL SECTIONS
OF CULVERTS**

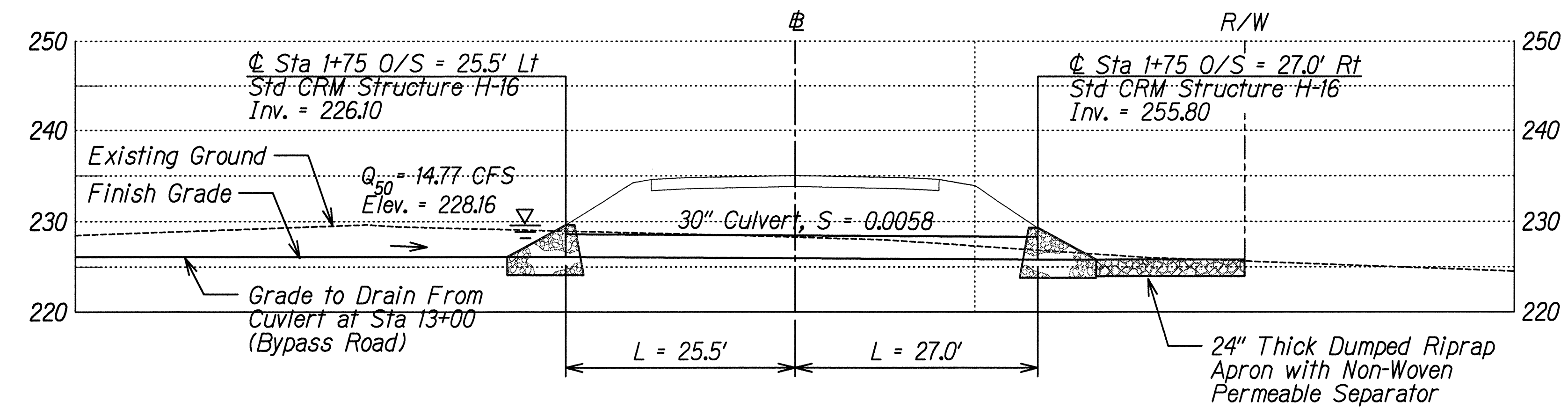
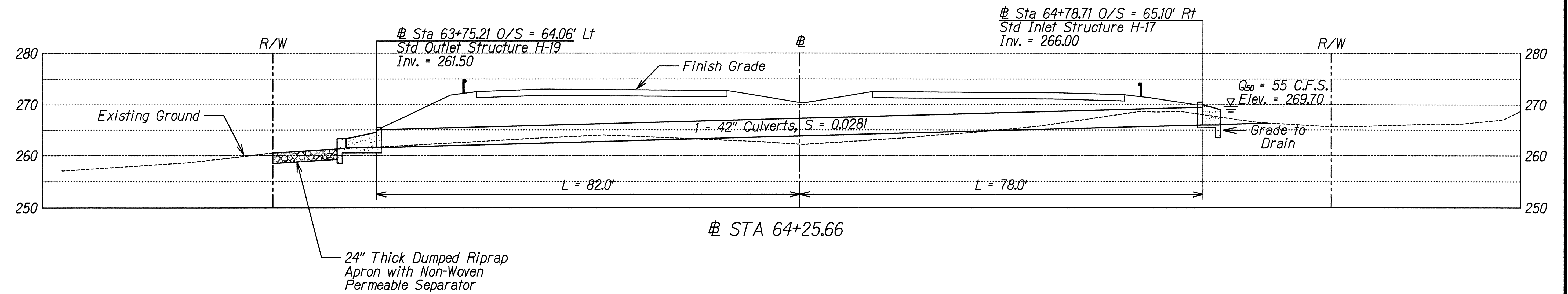
KEA'AU-PAHOA ROAD VIC. OF KEA'AU
TOWN (KEA'AU BYPASS ROAD), PH. 2

PROJECT NO. 130B-01-98

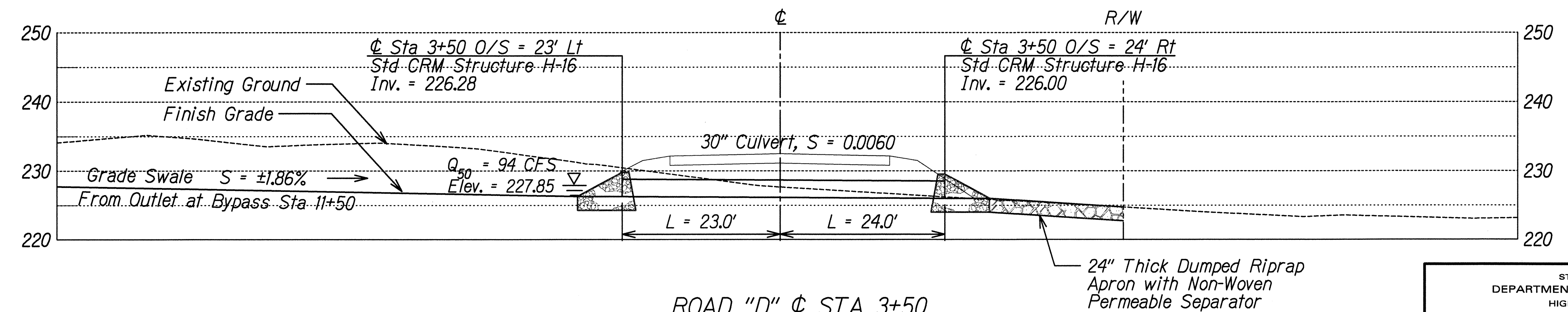
Scale: 1"=10' Date: August, 1998

SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	130B-01-98	1999	78	210



ROAD "C" ϕ STA 1+75



ROAD "D" ϕ STA 3+50



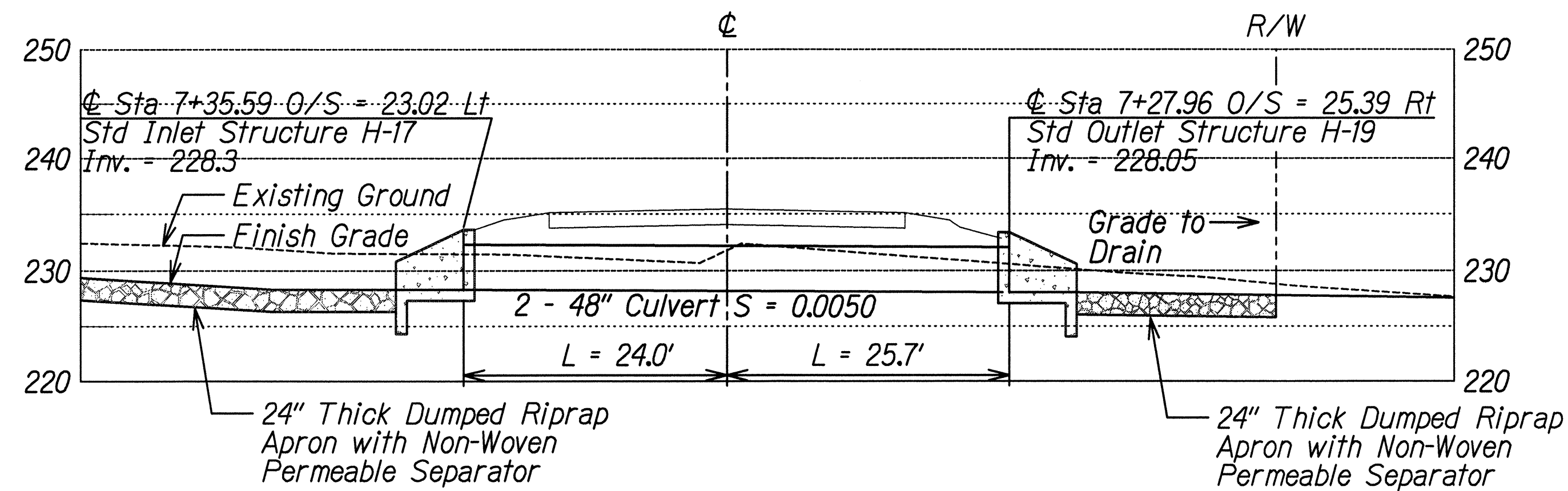
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
 Nancy E. Burns
 DATE: 8/24/98

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

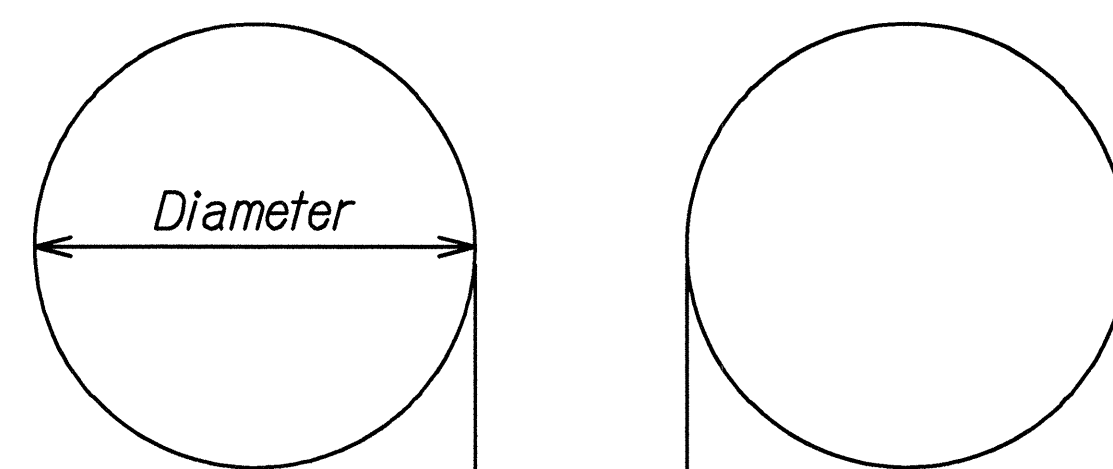
**LONGITUDINAL SECTIONS
OF CULVERTS**
 KEA'AU-PAHOA ROAD VIC. OF KEA'AU
 TOWN (KEA'AU BYPASS ROAD), PH. 2
 PROJECT NO. 130B-01-98
 Scale: 1"=10' Date: August, 1998

SHEET No. 3 OF 4 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	CHECKED BY	
	QUANTITIES BY	
	NAME	



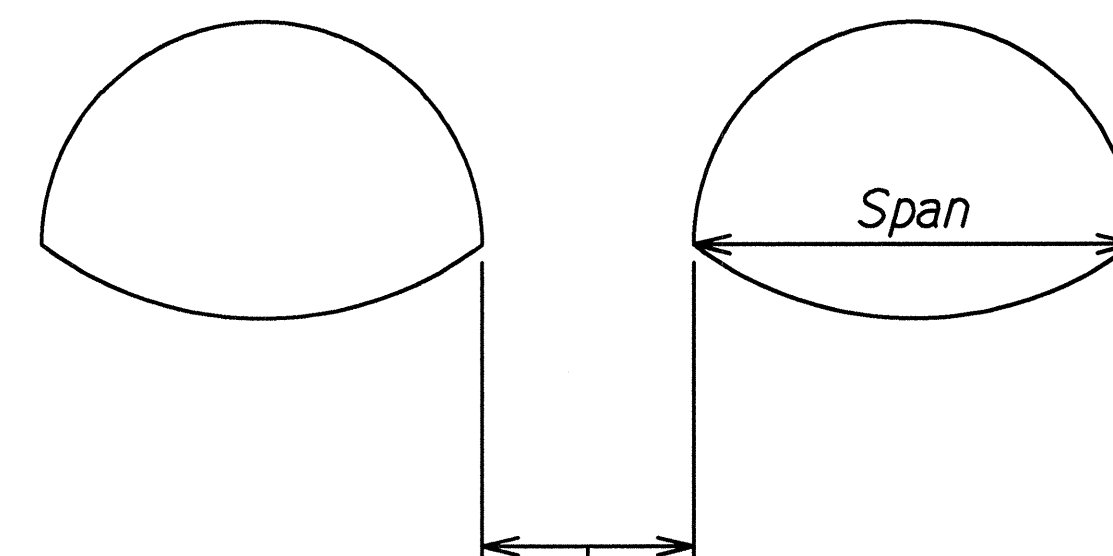
ROAD "D" CL STA 7+31.96



DIAMETER

Up to 24 in. 12 in
24 to 72 in. 1/2 Diameter of Pipe
72 in. and over 36 in

PIPE



SPAN

Up to 36 in. 12 in
36 to 108 in. 1/3 Span of pipe arch
108 to 189 in. 36 in

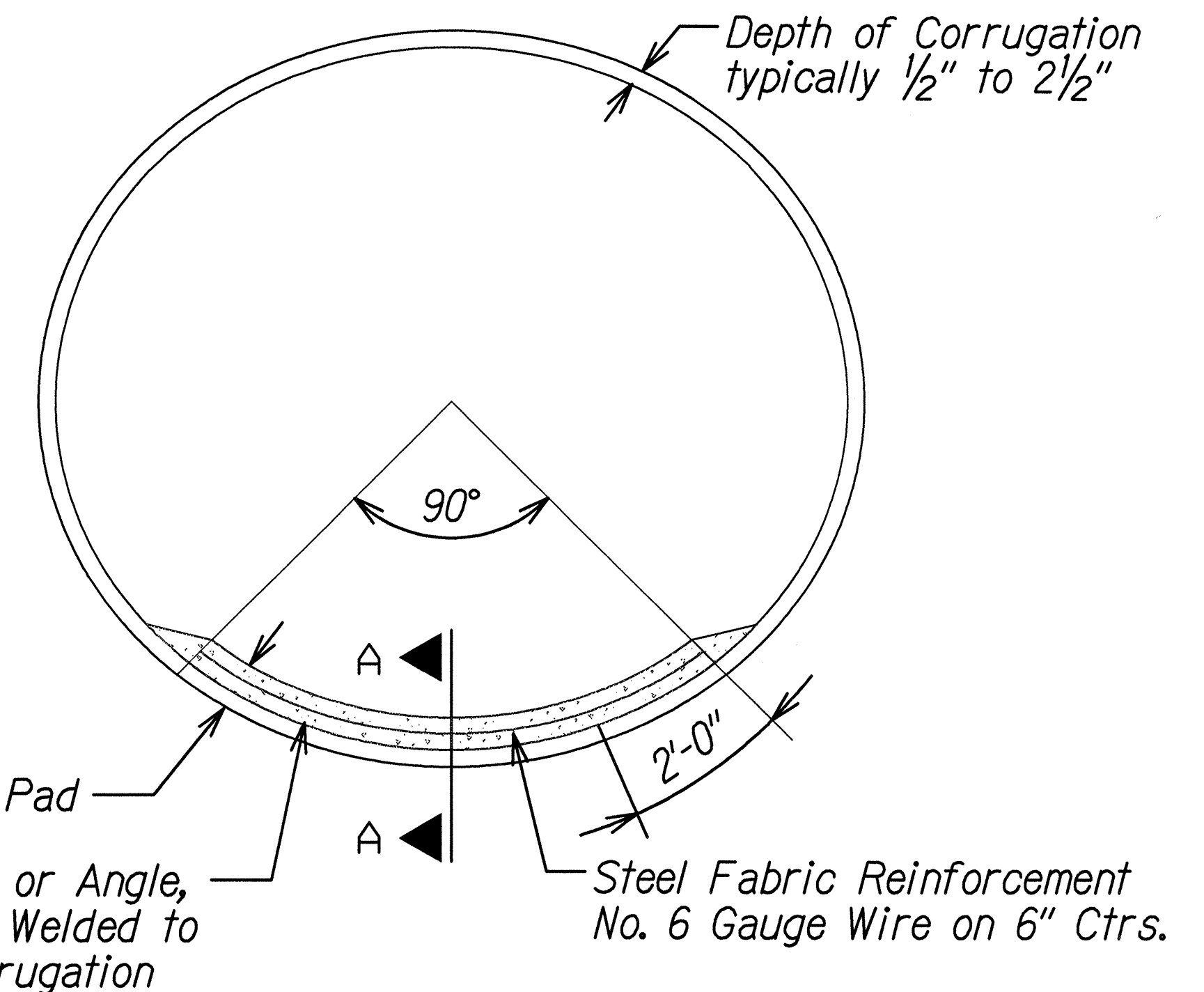
PIPE - ARCHES

SPACING FOR MULTIPLE
CULVERT INSTALLATIONS

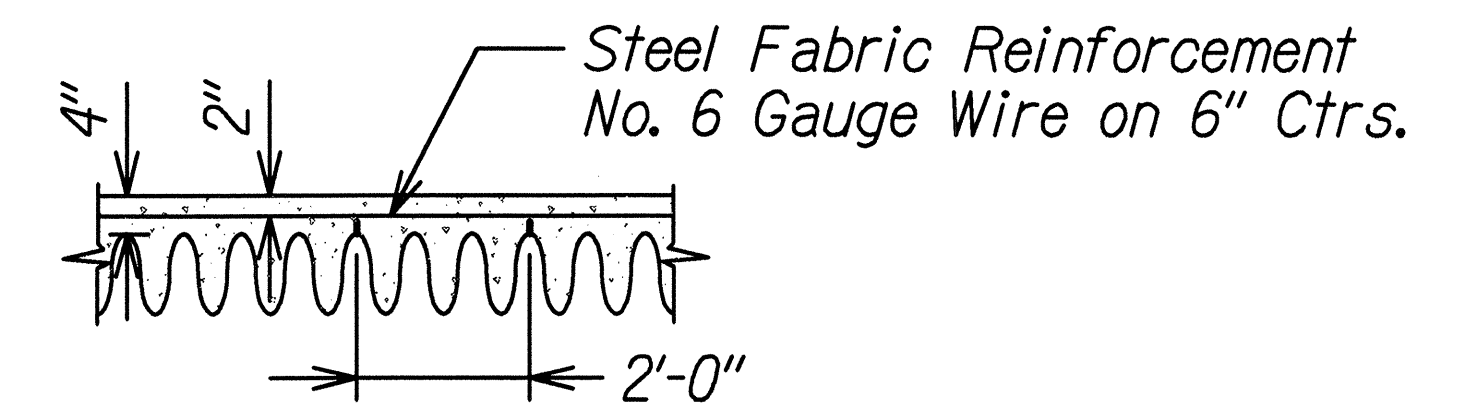
Scale: N.T.S.

NOTES:

- 1 The concrete should meet the requirements of applicable specifications for Class "B" concrete.
- 2 Cover over the inside crests of corrugations is typically 2" for field applied pavement.
- 3 The concrete pavement shall be reinforced with steel fabric reinforcement meeting applicable specifications for reinforcing steel. The reinforcement shall be placed directly on the inside corrugation crests and welded to the crests at no more than 24" spacing in both directions. All laps in reinforcement shall be at least 6". The wire mesh fabric should be at least 6 gage and not greater than 6" x 6" mesh.
- 4 Prior to placement of the concrete, the surface of the pipe in contact with the concrete shall be cleaned and dried to the satisfaction of the project engineer.
- 5 The concrete shall be finished to a smooth surface acceptable to the project engineer. Within 18 hours after finishing, the surface of the concrete shall be protected by either an approved curing cover or an approved membrane curing compound. Inverts exposed to sunlight should be protected in such a fashion immediately after the finishing operations have been completed and surface water has evaporated.
- 6 An asphalt emulsion should be considered to serve as a sealant along edges of the concrete.
- 7 Typically, the concrete should cure a minimum of 48 hours before water is permitted to flow over the invert.



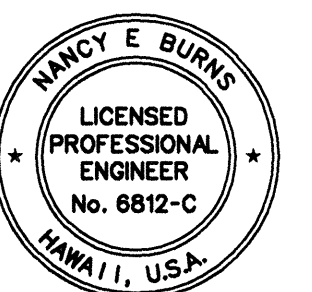
TYPICAL SECTION



SECTION A-A

CONCRETE LINED INVERT
FOR STEEL PIPES

SCALE: N.T.S.



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Nancy E. Burns
DATE: 8/24/98

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**LONGITUDINAL SECTIONS
OF CULVERT AND DETAILS**
KEA'AU-PAHOA ROAD VIC. OF KEA'AU
TOWN (KEA'AU BYPASS ROAD), PH. 2
PROJECT NO. 130B-01-98
Scale: 1"=10' Date: August, 1998

SHEET No. 4 OF 4 SHEETS