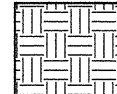
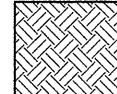


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	8	24

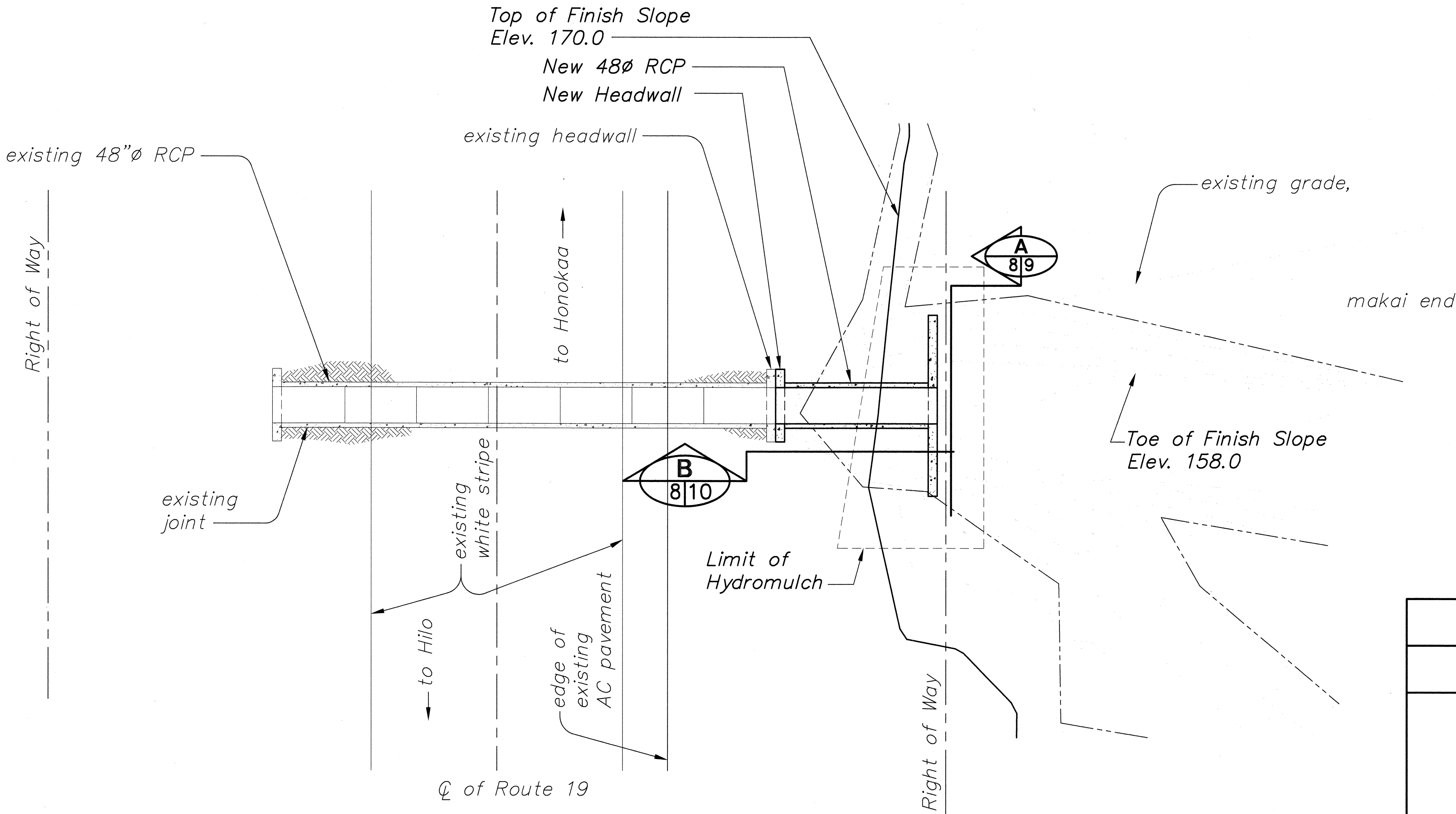
Note:

1. For Headwall Reinforcement Detail see Sheet 10.

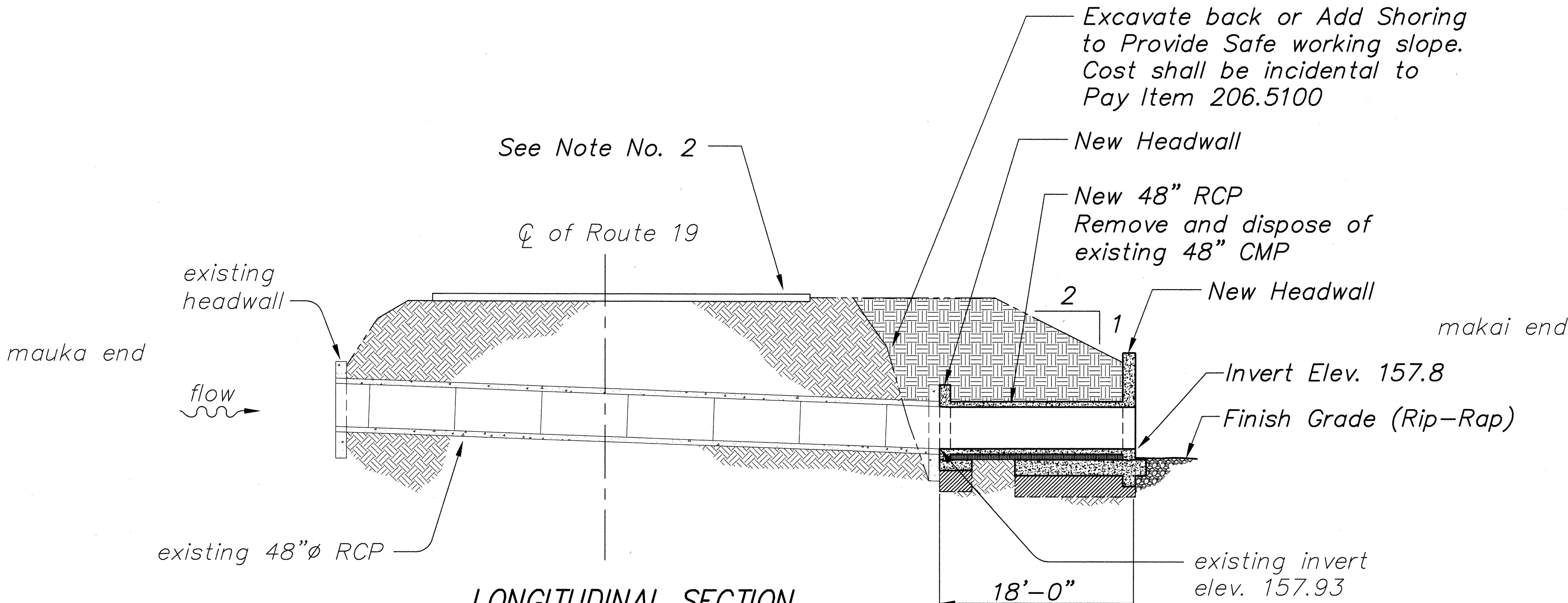
2. After Working Hours, the Work Site shall be surrounded with Concrete Barriers to prevent Vehicle Access. During Work Hours, all Potential Areas of Entrance by Vehicles that are not being utilized by the Contractor shall be blocked with Concrete Barriers.

- LEGEND
-  Indicates Finish Grade
 -  Indicates Existing Grade
 -  Indicates New Concrete

APPROXIMATE QUANTITIES		
ITEM	UNIT	QUANTITY
Excavation	Cy	155
Concrete	Cy	20
Reinforcing Steel	Lbs	2,500
48"Ø RCP	Lf	18
#3 Fine	Cy	2
Borrow Excavation	Cy	250
Hydromulch	Sy	110
Filter Fabric	Sy	45
Filter Material	Cy	7
Rip-Rap	Cy	—

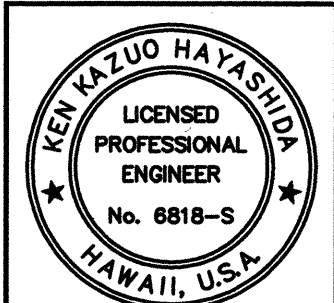


PLAN
Scale: 1/8" = 1'-0"



LONGITUDINAL SECTION
Scale: 1/8" = 1'-0"

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERT AT MP 6.73
PLAN AND DETAILS

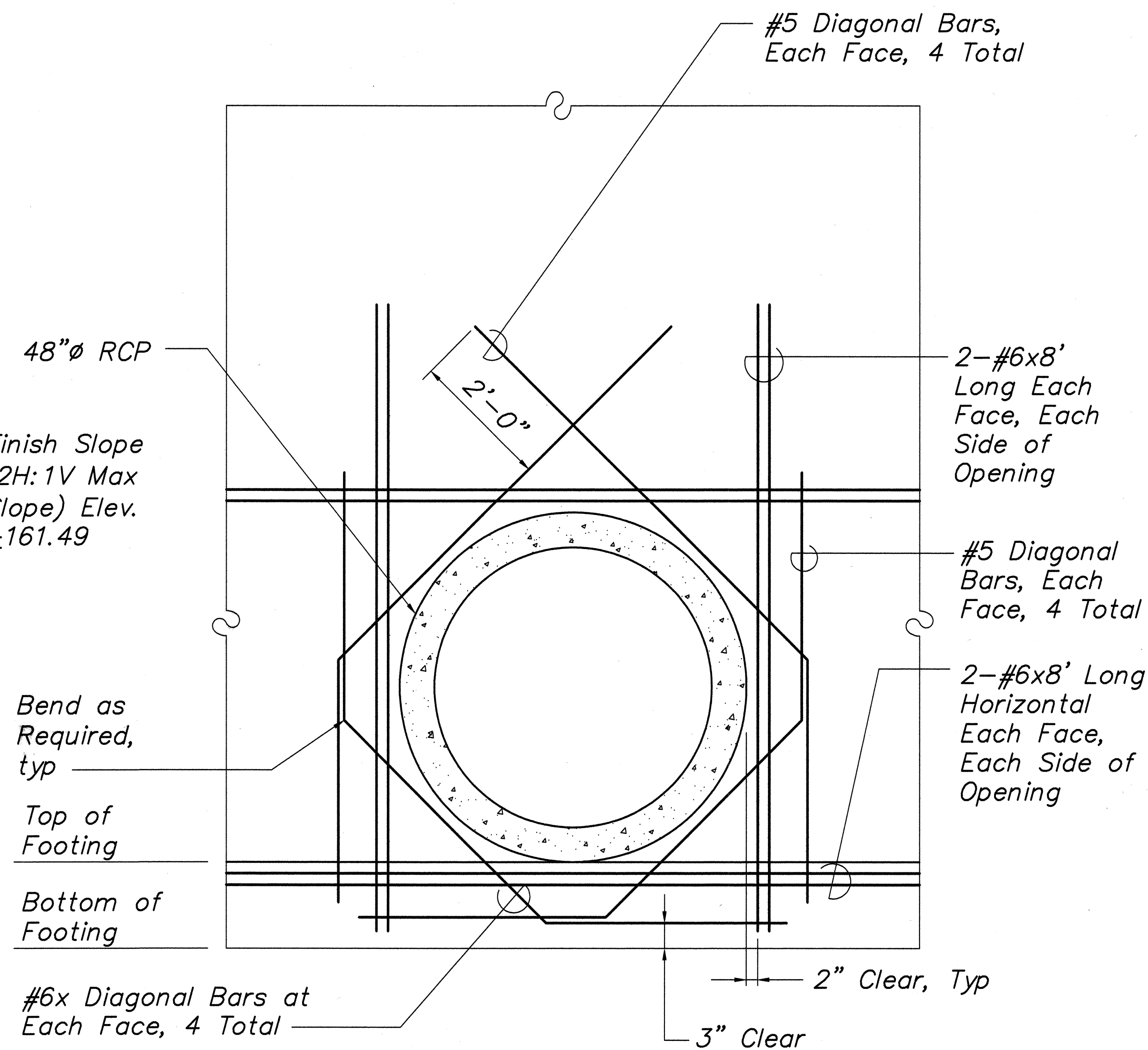
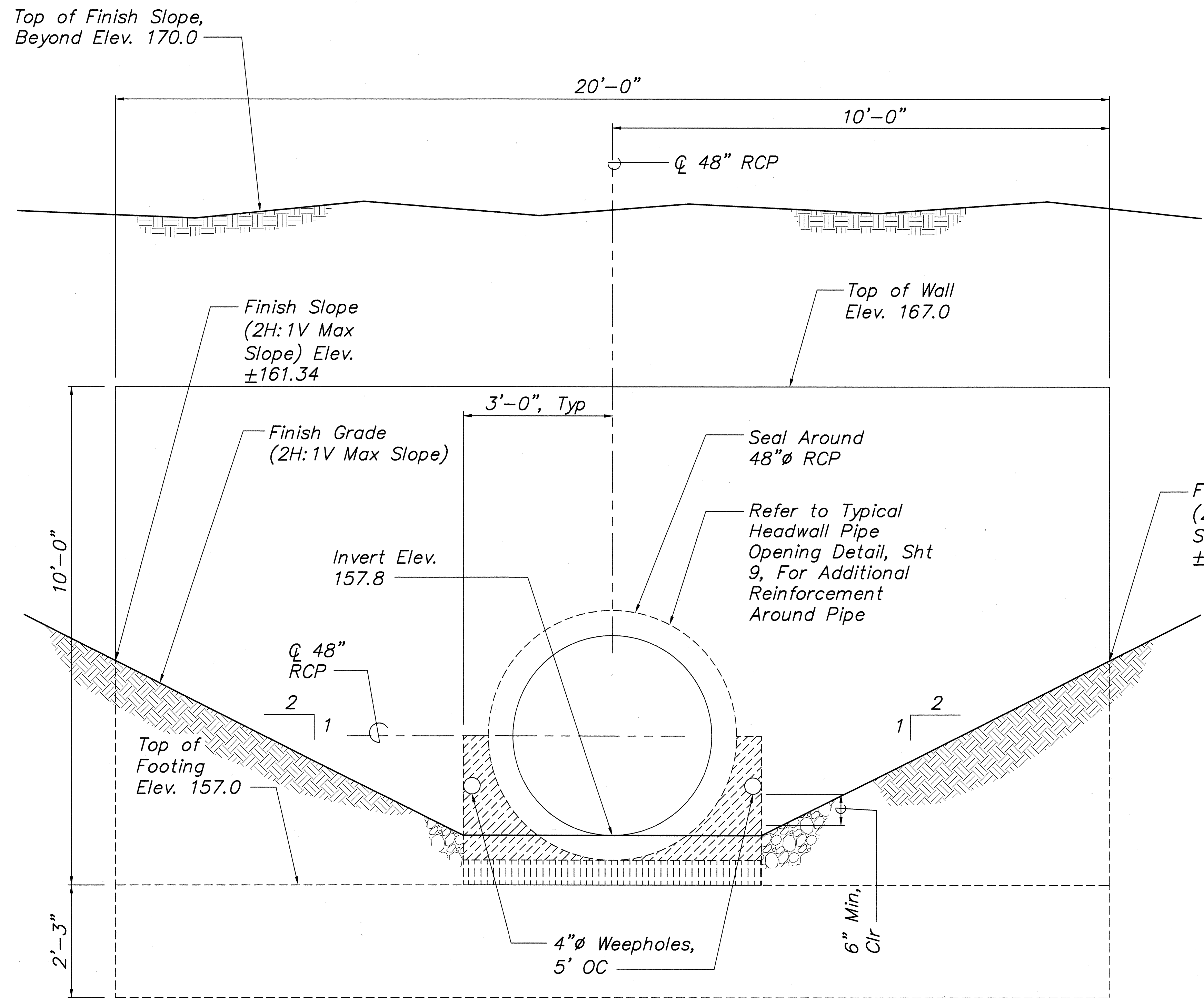
HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SCALE: AS NOTED

DATE: APRIL 27, 2001

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	9	24



TYPICAL HEADWALL PIPE OPENING DETAIL
Not to Scale

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

SECTION A
Scale: 3/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

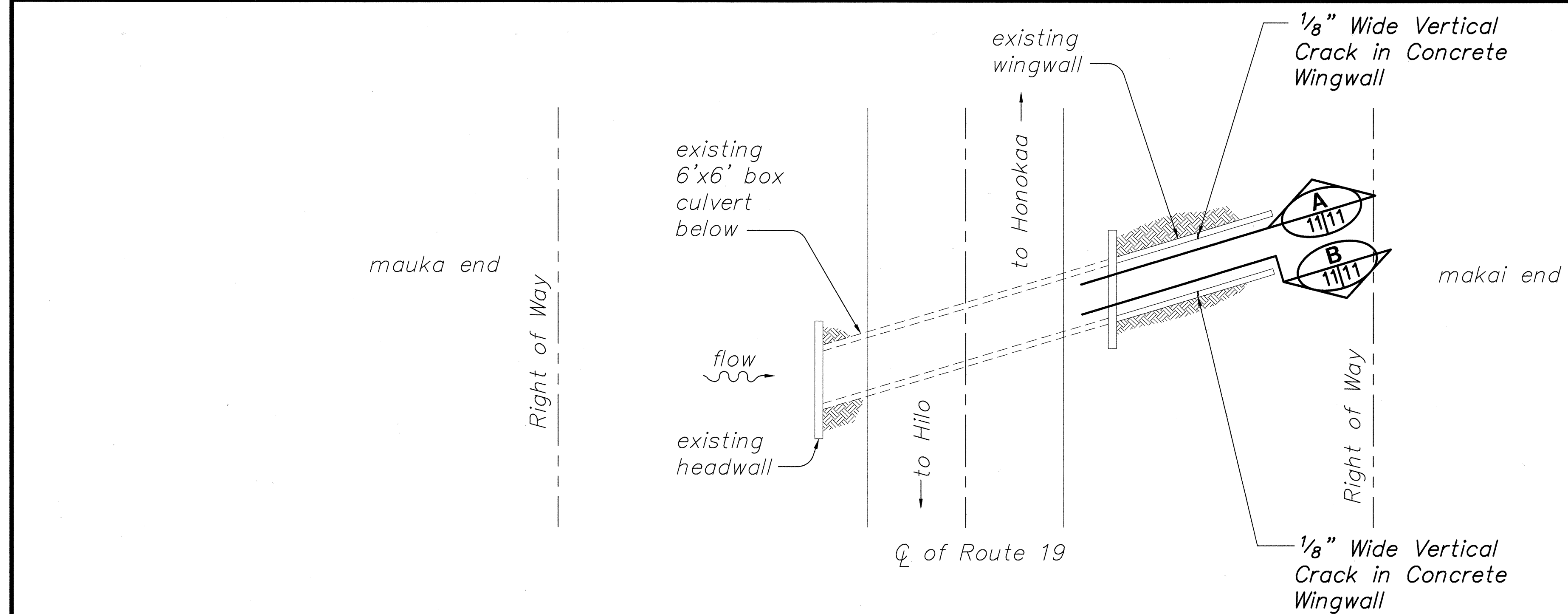
**CULVERT AT MP 6.73
SECTIONS AND DETAILS**

**HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M**

SCALE: AS NOTED DATE: APRIL 27, 2001

SHEET No. 3 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	11	24

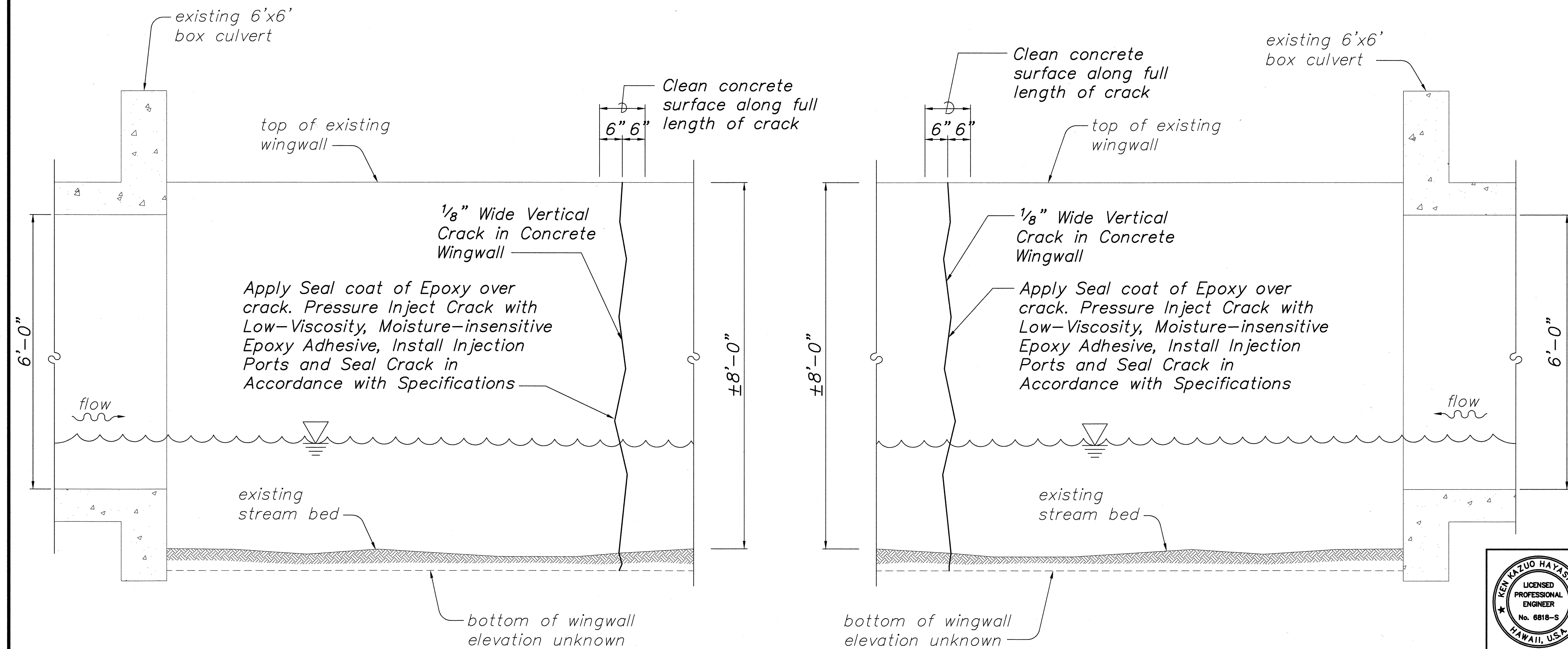


FLOOR PLAN

Scale: 1" = 10'-0"

LEGEND

- Indicates Existing Finish Grade
- Indicates Existing Concrete



Notes:

1. Water Surface Elevation Varies. Water Depth on July 27, 2000 was 3'-0".
2. Length of Crack below existing Channel bottom is unknown. The Full length of the Crack shall be Repaired Including Section of Crack that is Currently Buried.
3. The concrete along the cracks to be repaired shall be cleaned by sand blasting or water blasting down to clean, sound concrete. All dirt, algae, oil and any other material, other than firm, sound concrete, shall be removed. All concrete dust shall be removed prior to applying the sealer coat.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

SECTION A

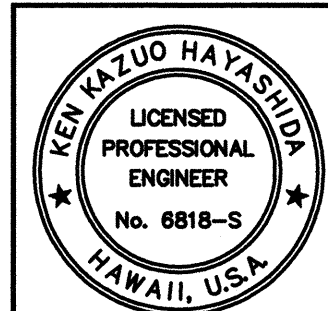
Scale: 3/4" = 1'-0"

11/11

SECTION B

Scale: 3/4" = 1'-0"

11/11



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

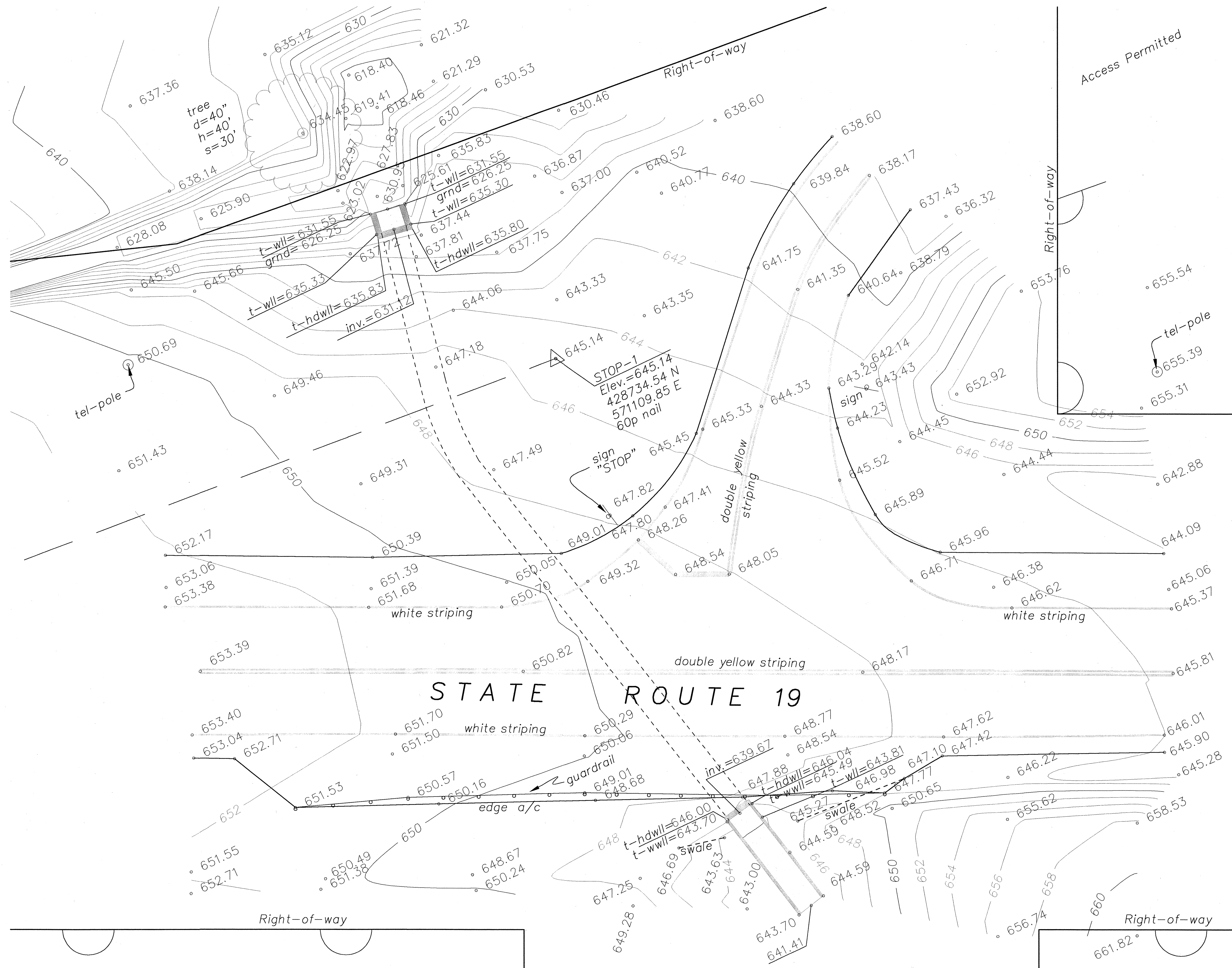
**CULVERT AT MP 14.46
PLAN AND DETAILS**

**HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M**

SCALE: AS NOTED DATE: APRIL 27, 2001

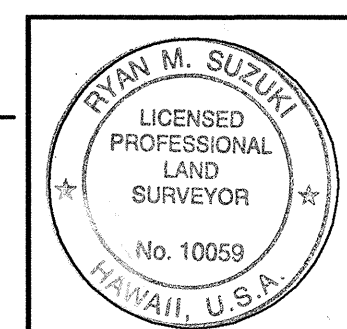
SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	12	24



Notes:
Azimuths and coordinates are referred to
"Hawaii State Plane Coordinate System - Zone 1".
Elevations are based on "Stop-1" (645.14 feet).

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
NO.	



THIS WORK WAS PREPARED
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SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERT AT MP 30.60 TOPOGRAPHIC SURVEY

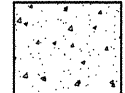
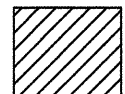
HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M

SCALE: AS NOTED DATE: 04/27/01

SHEET No. 1 OF 3 SHEETS

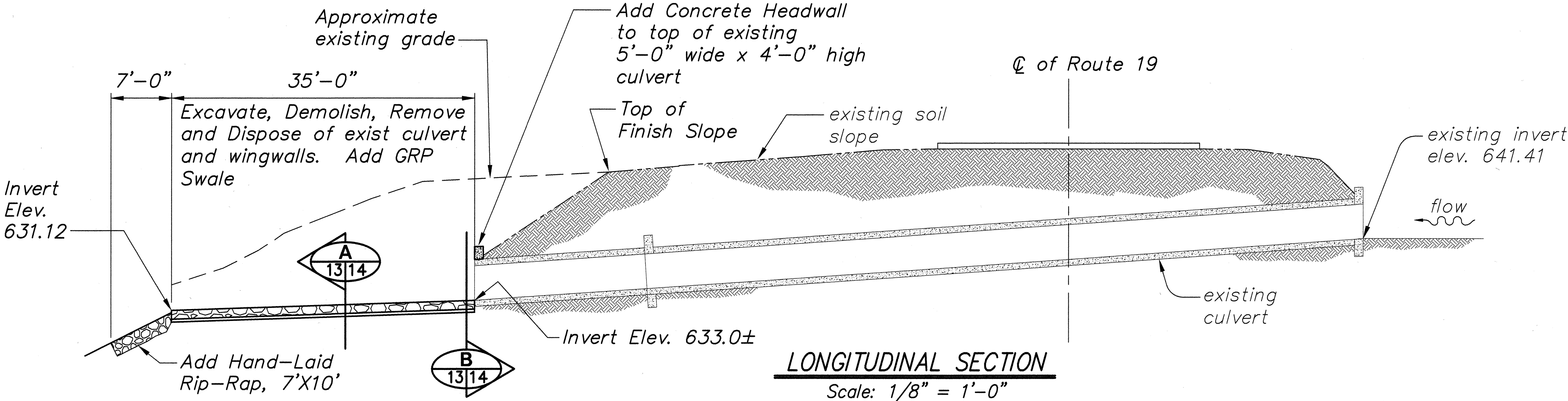
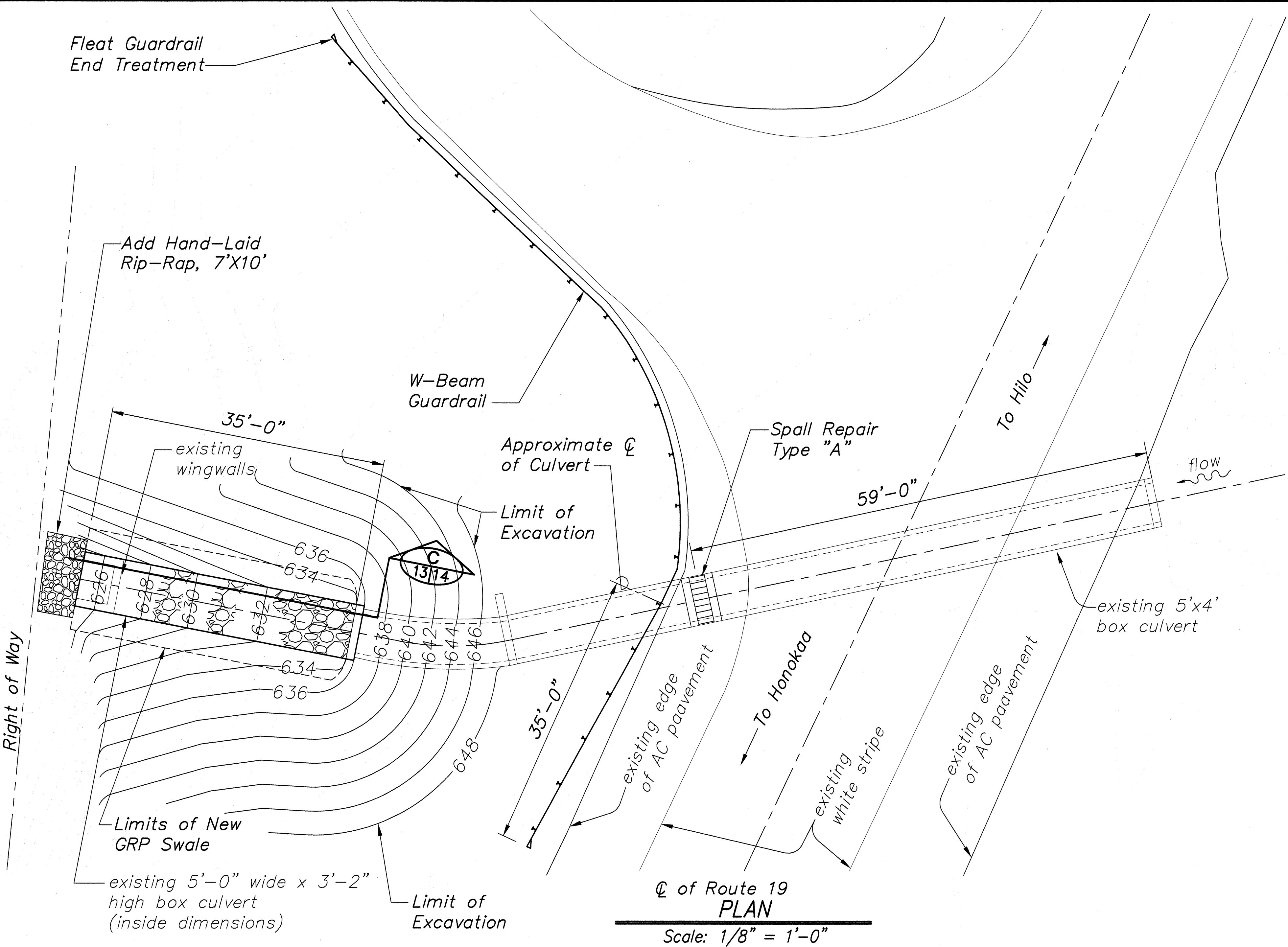
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	13	24

LEGEND

- Indicates Existing Finish Grade
-  Indicates New Concrete
-  Indicates Existing Concrete
-  Portion of existing structure to be demolished
-  Indicates Spall in concrete to be repaired

APPROXIMATE QUANTITIES

ITEM	UNIT	QUANTITY
Excavation	Cy	500
Rip Rap	Cy	5
GRP	Sy	80
Hydromulch	Sy	230
Type "A" Spall Repair	Sy	1.0
Guardrail Type 3	LF	150
Terminal Section Type Fleet 350	Ea	2



SURVEY PLOTTED BY	DATE
DESIGNED BY	
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QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



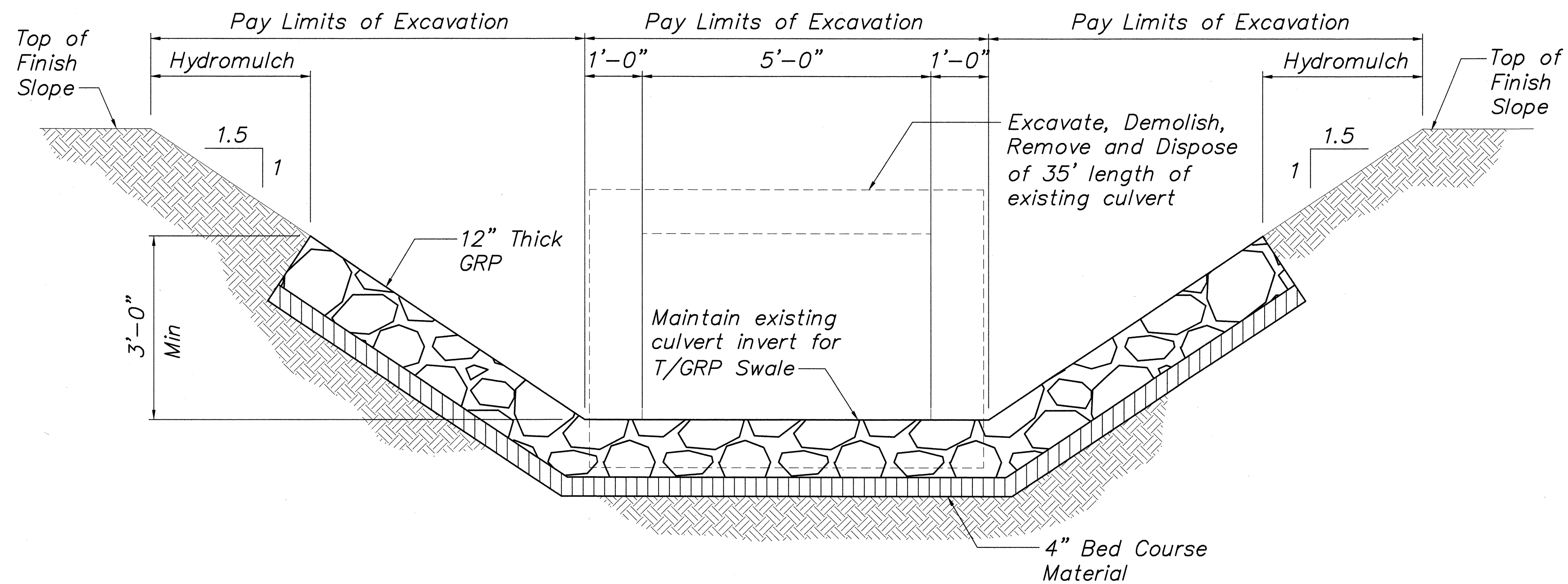
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CULVERT AT MP 30.60
PLAN AND DETAILS**

**HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M**

SCALE: AS NOTED DATE: APRIL 27, 2001
SHEET No. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	14	24



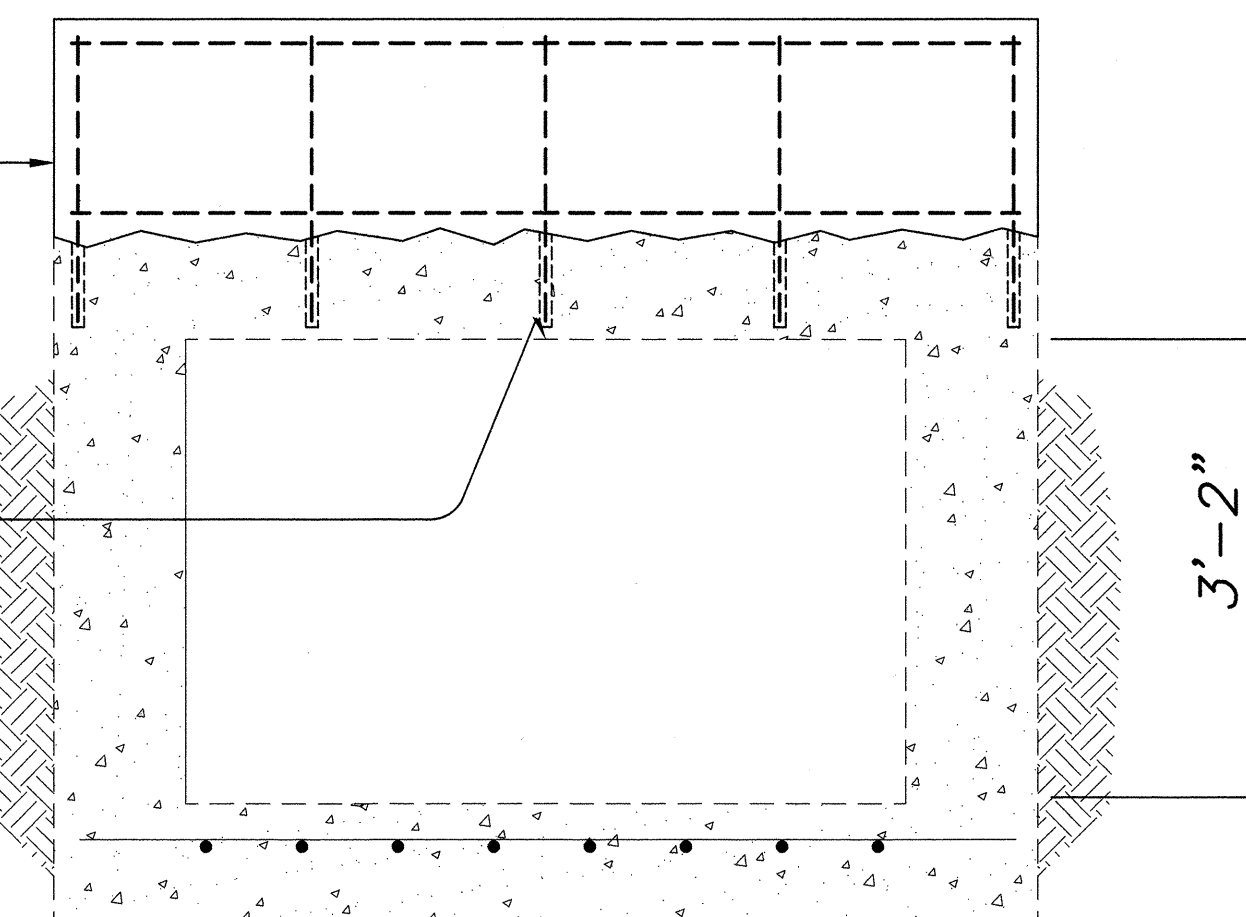
SECTION A
Scale: 3/4" = 1'-0" 13/14

New Concrete Headwall

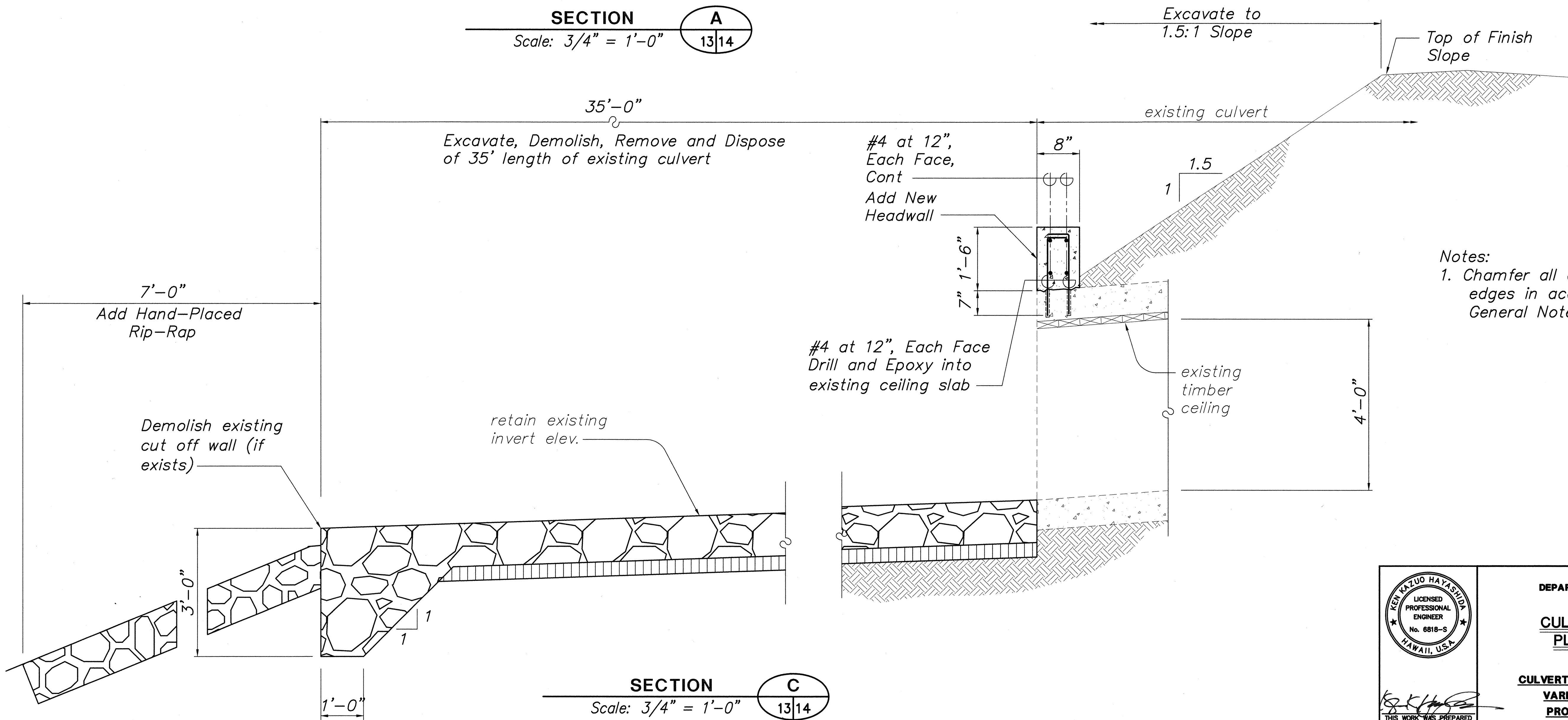
existing ceiling slab

Note:
For Balance of Information see

C
13/14



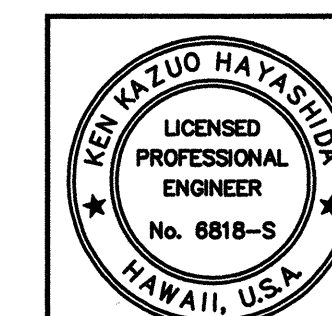
SECTION B
Scale: 3/4" = 1'-0" 13/14



SECTION C
Scale: 3/4" = 1'-0" 13/14

Notes:
1. Chamfer all exposed concrete edges in accordance with the General Notes.

SURVEY PLOTTED BY	DATE
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CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

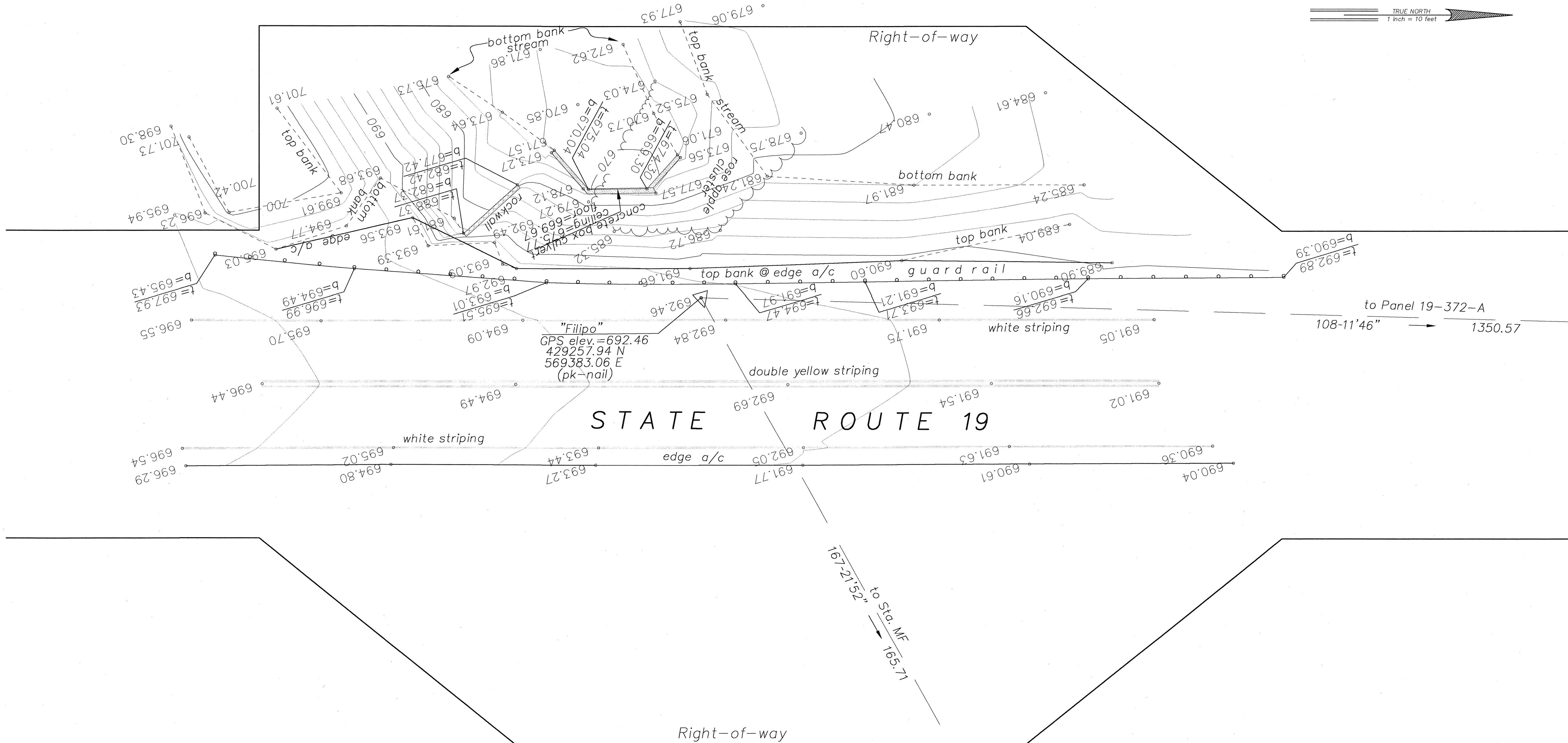
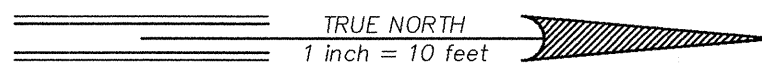
**CULVERT AT MP 30.60
PLAN AND DETAILS**

**HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M**

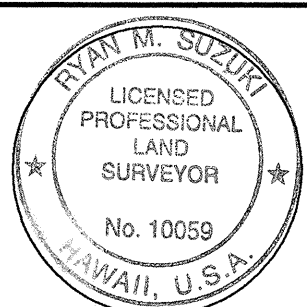
SCALE: AS NOTED DATE: APRIL 27, 2001

SHEET No. 3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	15	24



Notes:
Azimuths and Coordinates are referred to
Hawaii State Plane Coordinate System—Zone 1".
Elevations are based on "Filipo" (692.46 feet).



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CULVERT AT MP 30.94
TOPOGRAPHIC SURVEY**
HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M

SCALE: AS NOTED DATE: 04/27/01
SHEET No. 1 OF 4 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	16	24

TRUE NORTH
Scale: 1" = 10'-0"

Notes:

1. Refer to Drawing 19 for Standard Spall Repair Details.
2. See Note 1 and 2, Drawing 17 for Shoring requirements.

LEGEND

- Indicates Limits of Grading Work
- Indicates Existing Spalled Concrete
- Indicates Existing Grade
- Indicates Existing Rocks and Boulders
- Indicates Existing Concrete
- Indicates Finish Grade

APPROXIMATE QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete	Cy	55
Reinforcing Steel	Lbs	6,800
Grout Fill	Cy	45
Type "B" Spall Repair	Sy	7
Type "C" Spall Repair	Sy	2
Backfill Material	Cy	300

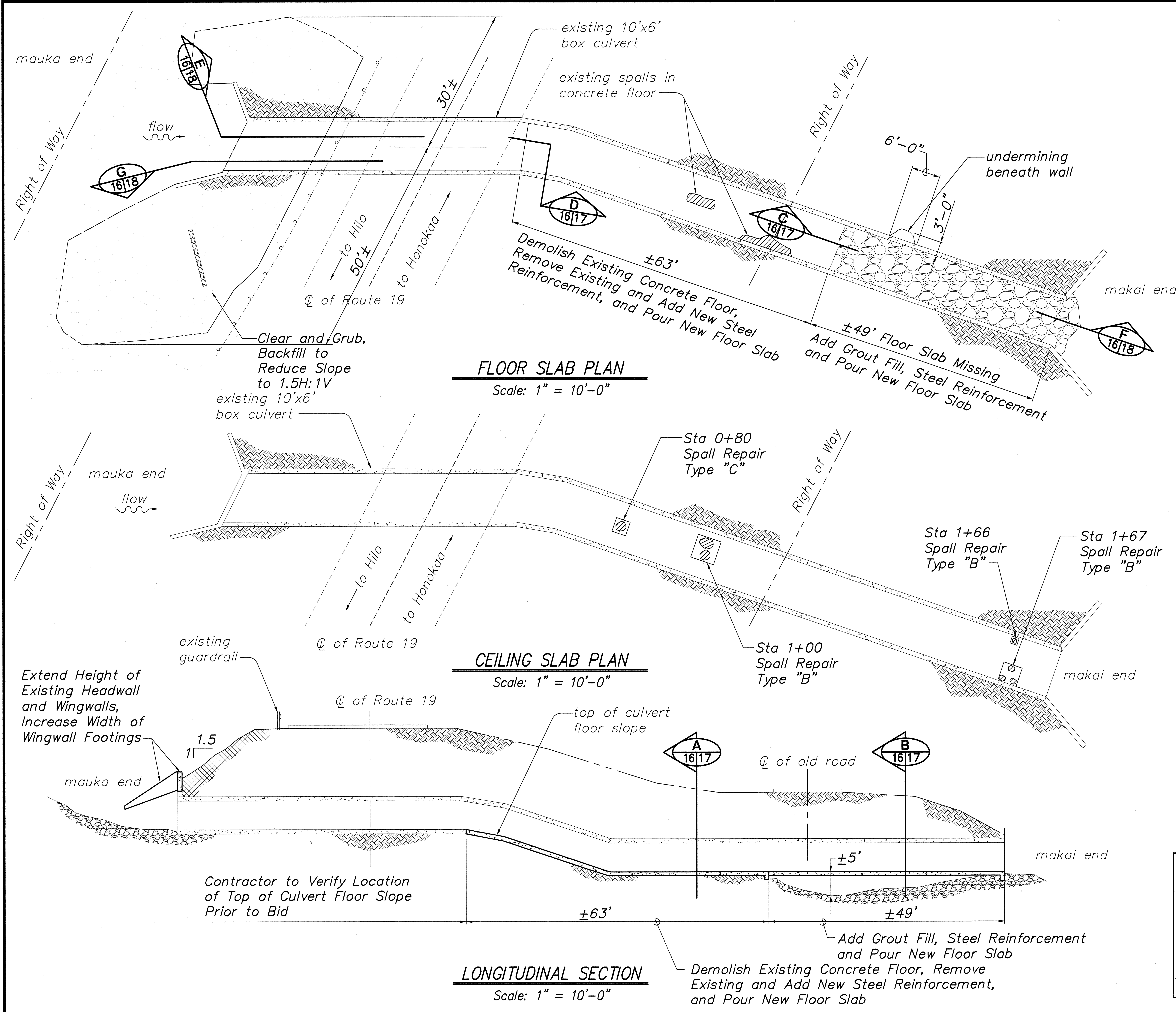
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CULVERT AT MP 30.94
PLAN AND DETAILS**

HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M

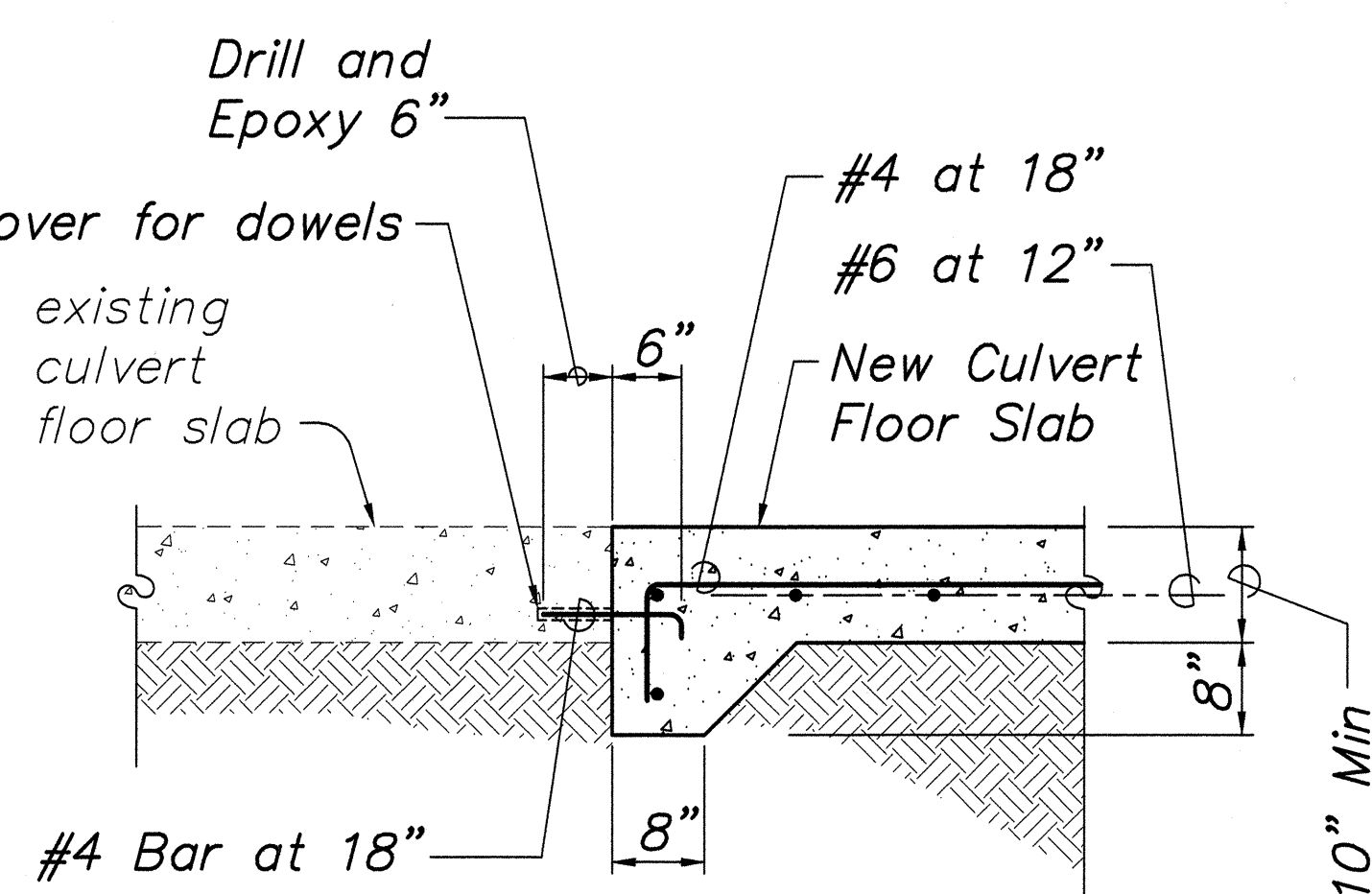
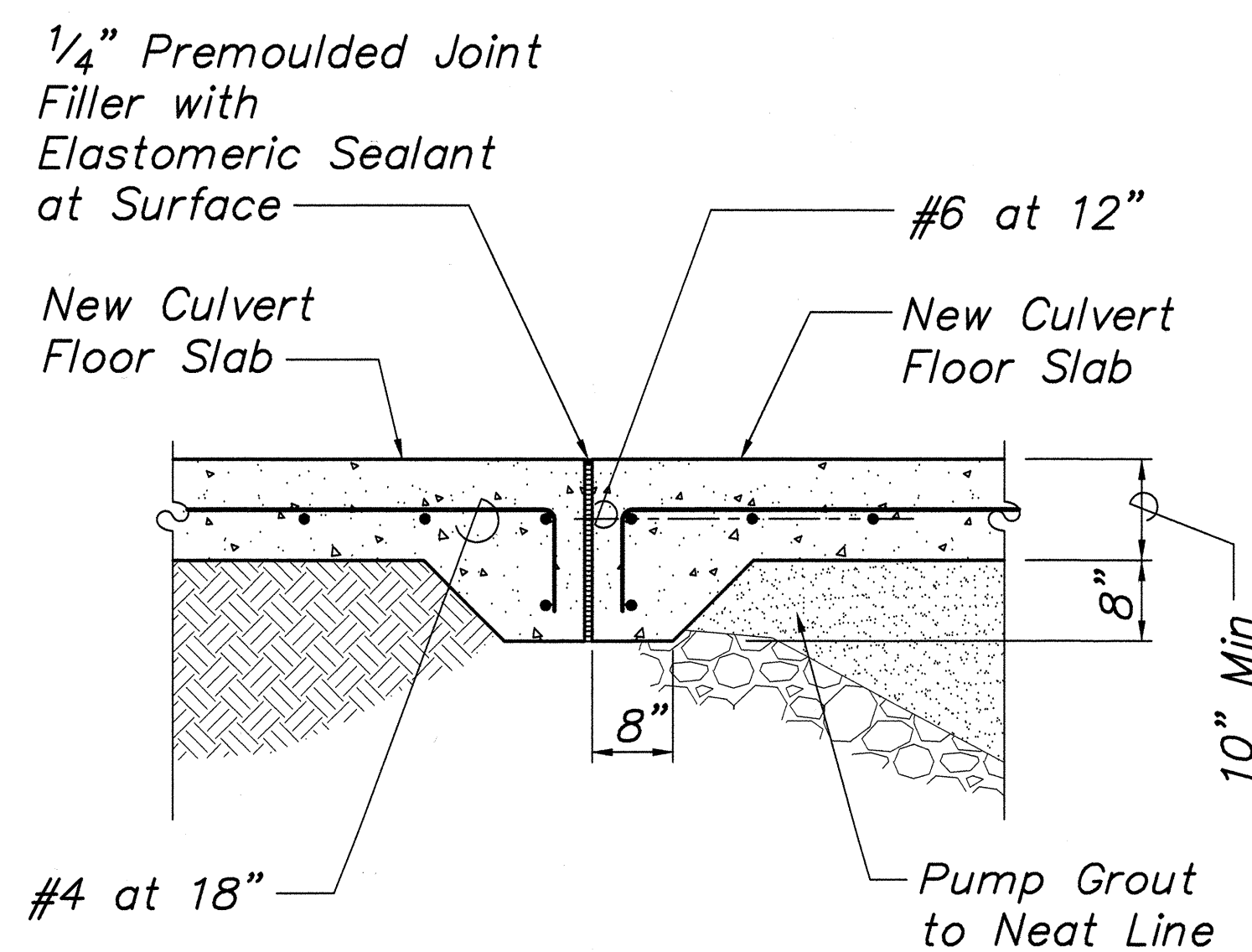
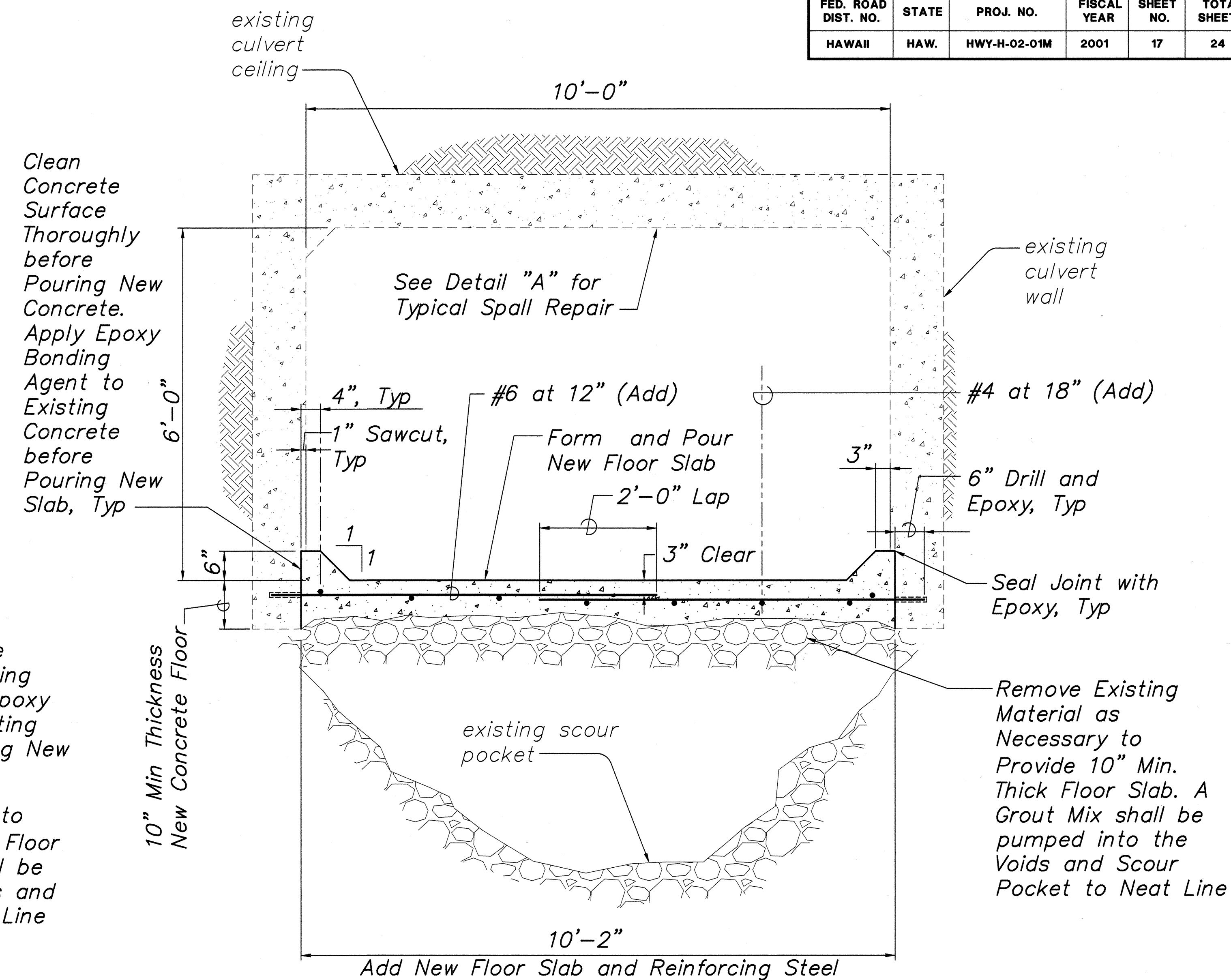
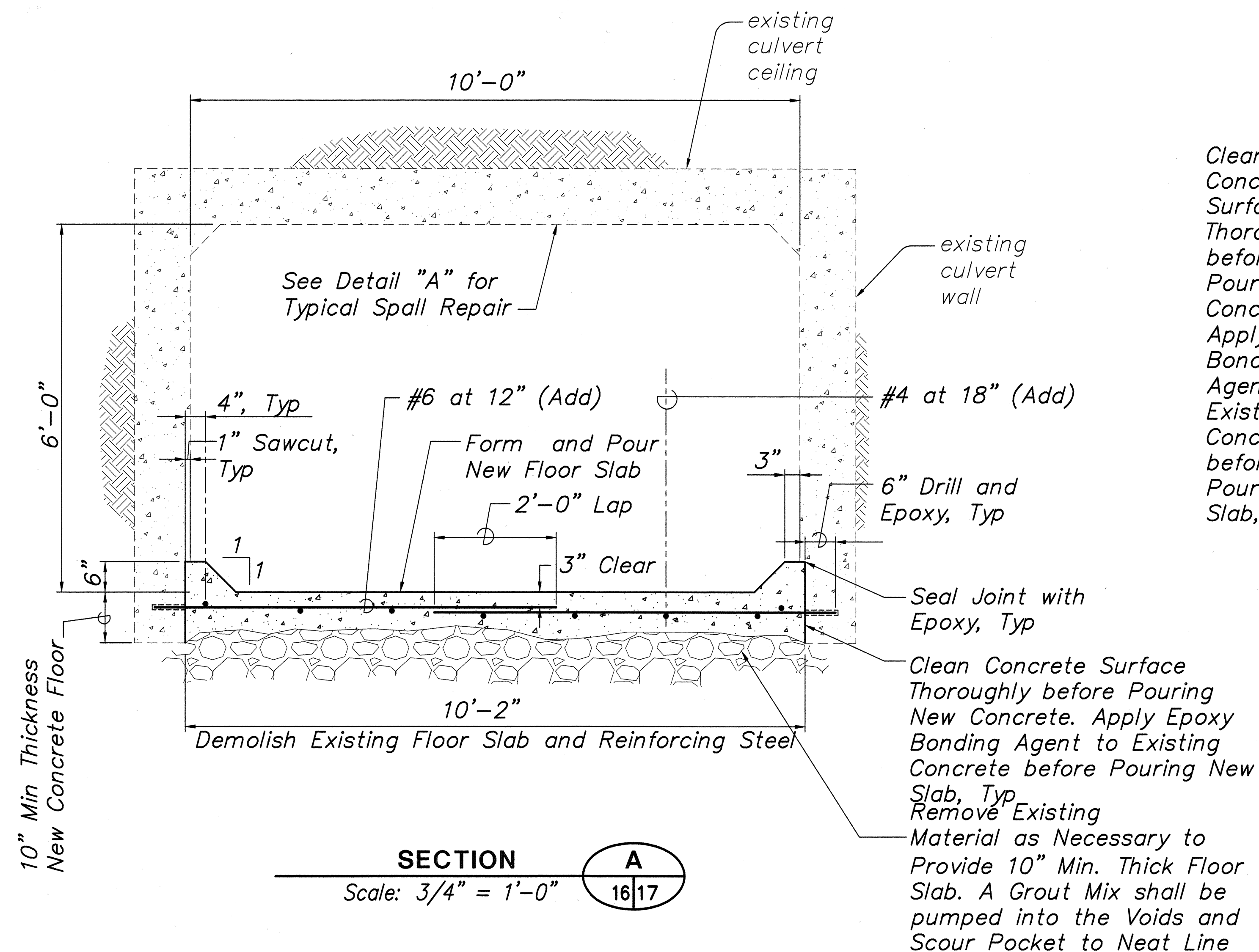
SCALE: AS NOTED DATE: APRIL 27, 2001

SHEET No. 2 OF 4 SHEETS



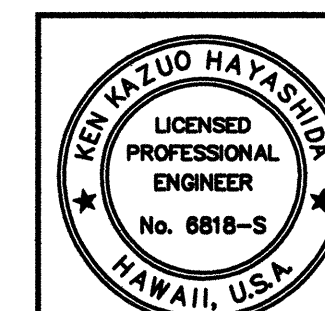
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	17	24



Notes:

1. Before Chipping away of Ceiling Concrete, Adequate Shoring shall be installed. Shoring shall be capable of supporting the Full Soil load applied to the Culvert Ceiling, including Vehicle Load.
2. Prior to performing any work in the Culvert, install adequate Shoring between Walls to prevent any possible Horizontal Displacement due to insufficient support.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERT AT MP 30.94
PLANS AND DETAILS

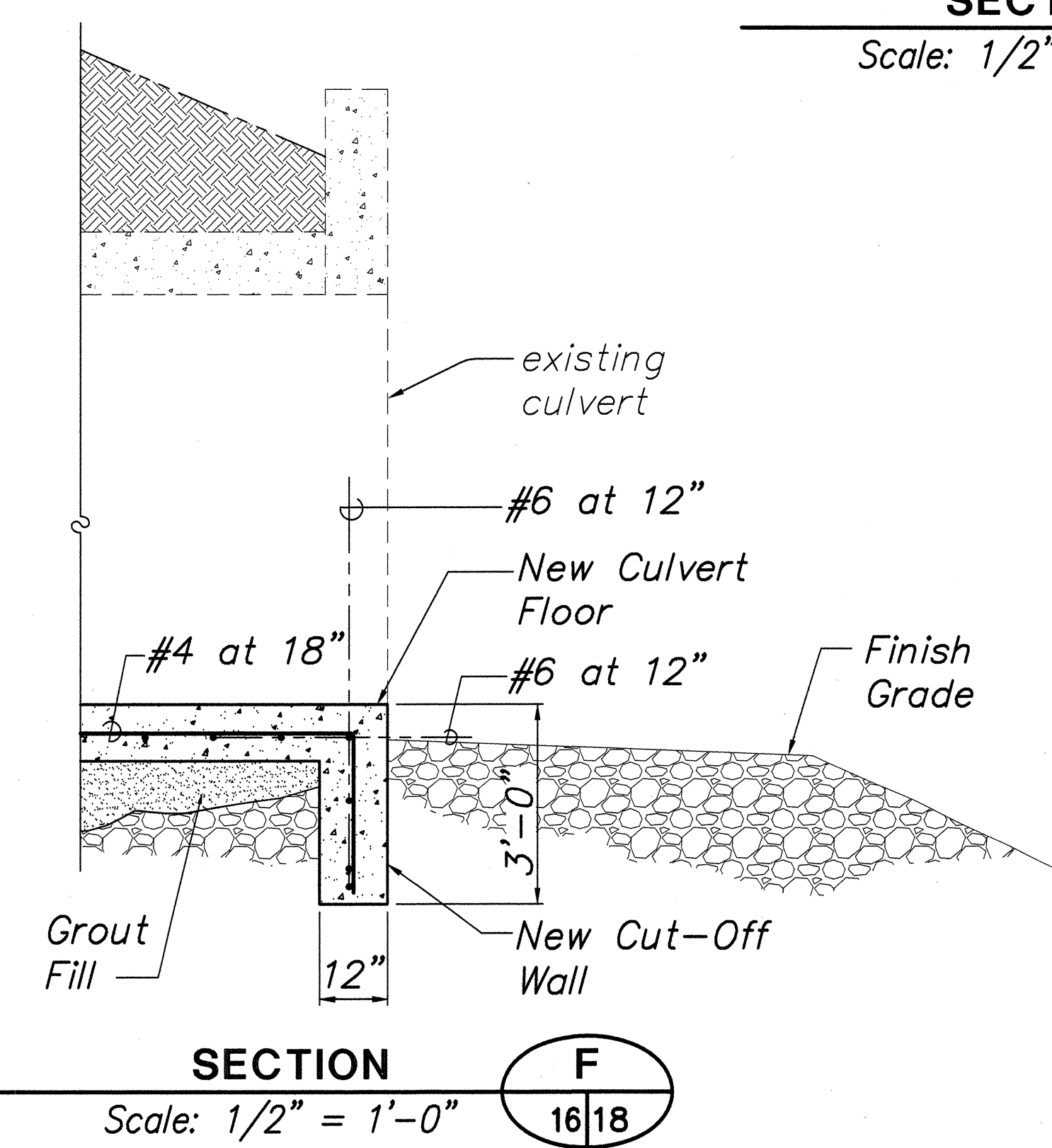
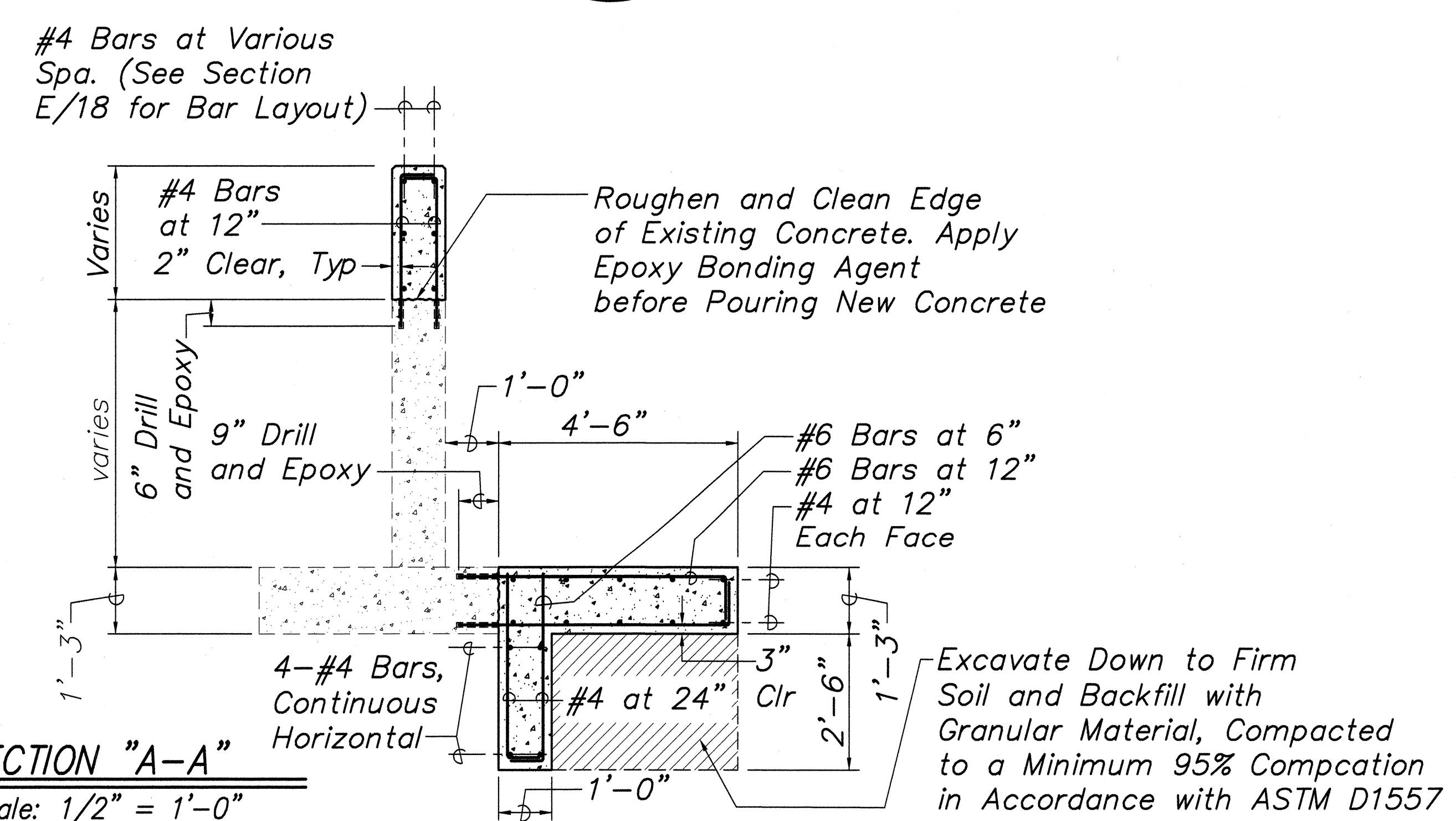
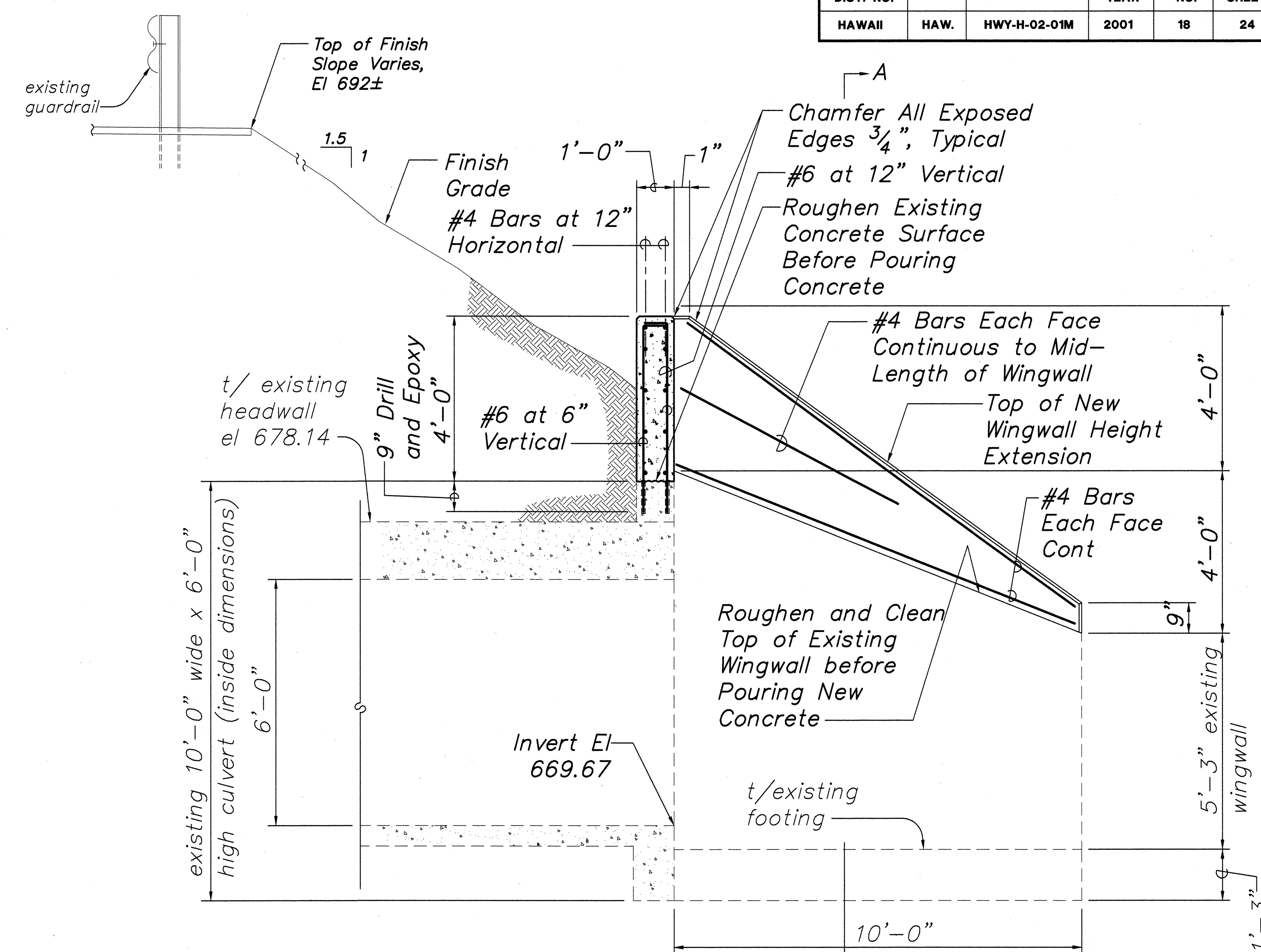
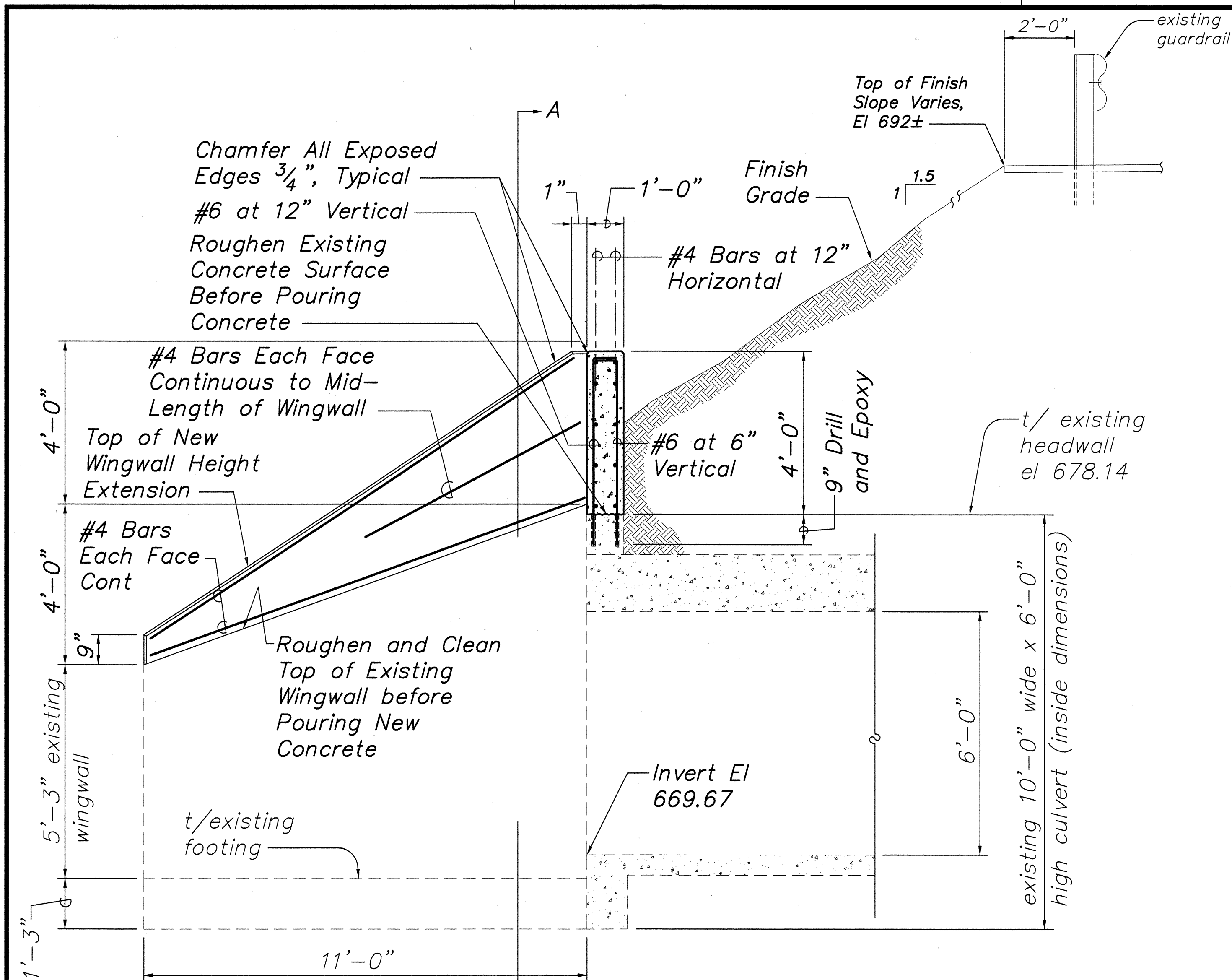
HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M

SCALE: AS NOTED DATE: APRIL 27, 2001

SHEET No. 3 OF 4 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	18	24



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CULVERT AT MP 30.94
PLANS AND DETAILS**

**HAWAII BELT ROAD
CULVERT REPAIRS AND RENOVATIONS
VARIOUS LOCATIONS, HAWAII
PROJECT NO. HWY-H-02-01M**

SCALE: AS NOTED DATE: APRIL 27, 2001

SHEET No. 4 OF 4 SHEETS

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