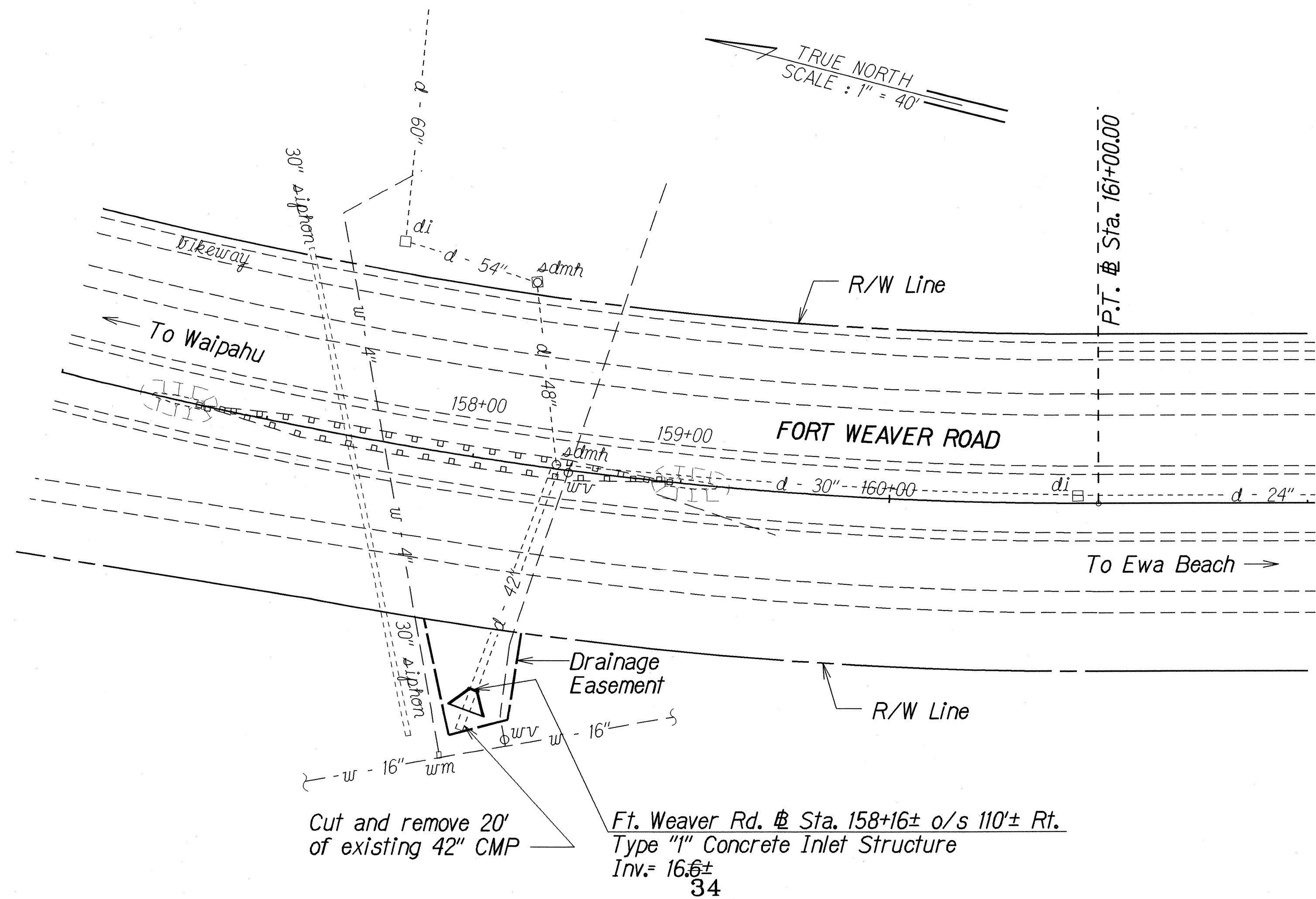


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	76A-01-98	2000	4	10



Ft. Weaver Rd. @ Sta. 158+16± o/s 110± Rt.  
Construct: Type "I" Concrete Inlet Structure  
(For Details see Sht. No. H4)

Estimated Quantities  
Type "I" Concrete Inlet Structure = 1 Ea.

### DRAINAGE NOTES

- Existing drainage systems will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow. The cost shall be incidental to the various Contract Items.
- The Contractor shall verify the locations of all existing culverts and utilities in the field. Any existing culverts and utilities damaged during construction shall be repaired or replaced by the Contractor at his own expense.
- Cutting and removing 20' of existing 42" CMP shall not be paid for separately but shall be considered incidental to Item No. 503.5000 - Type "I" Concrete Inlet Structure.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE PLAN**  
**FORT WEAVER RD. DRAINAGE IMP.**  
**At Renton Road and**  
**Vicinity of Kahua Ranch Nursery**  
**Project No. 76A-01-98**

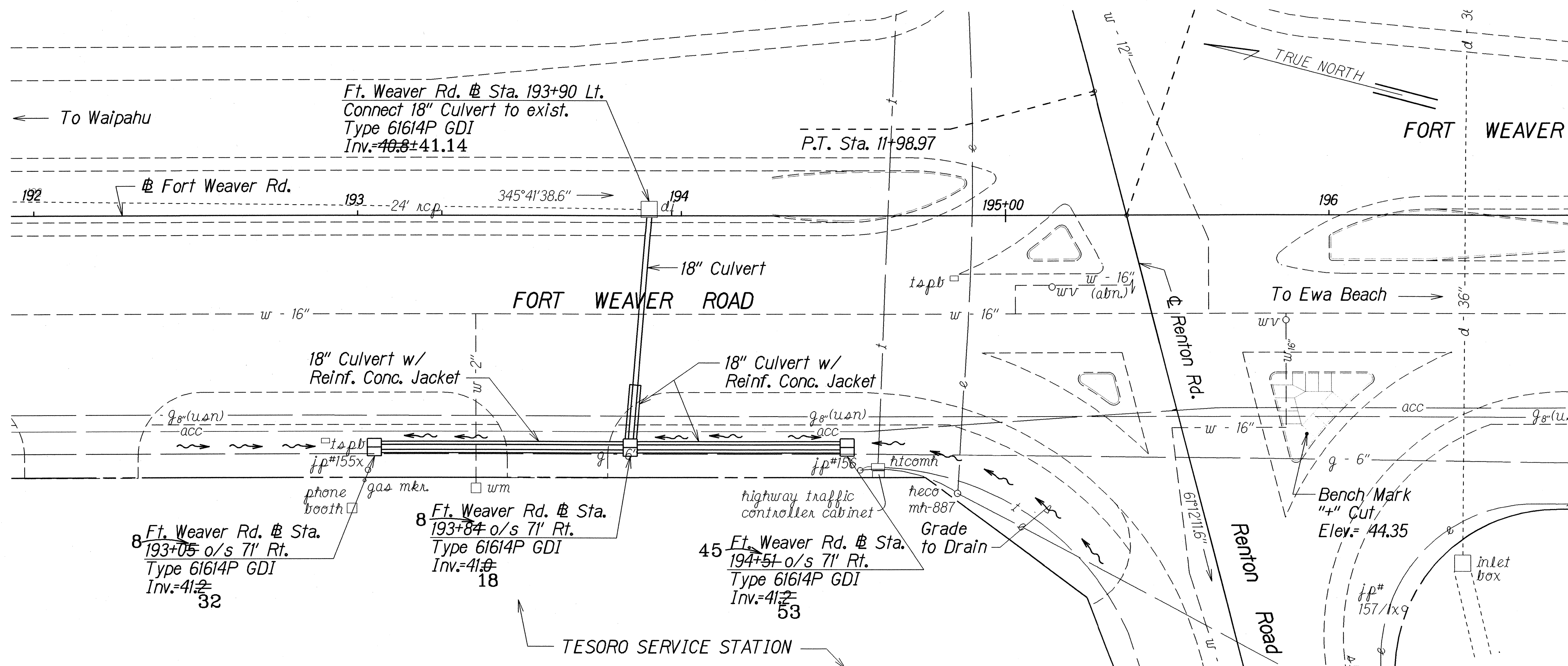
Scale: 1"=40' Date: Oct. 1999

SHEET No. *HI* OF 5 SHEETS

"AS-BUILT"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY A. Hironaka	1/27/98
CHIEF ENGINEER	CHECKED BY	
DATE		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	76A-01-98	2000	5	10



Ft. Weaver Rd. # Sta.  
193+05 o/s 71' Rt.  
Construct: Type 61614P GDI  
Reinforced Concrete Jacket  
(For Typ. Detail see Sht. No. H3)  
Install: 18" Culvert  
(For Profile see Sht. No. H3)

Estimated Quantities  
Structure Excavation = 49 C.Y.  
Bedcourse Material = 14 C.Y.  
A.C. Pavement Mix IV = 6 Tons  
Glassphalt Concrete Base Course = 5 Tons  
18" Culvert = 78 L.F.  
Reinforced Concrete Jacket = 76 L.F.  
Type 61614P GDI,  
3.00 ft. to 3.99 ft. = 1 Ea.

Ft. Weaver Rd. # Sta.  
193+84 o/s 71' Rt.  
Construct: Type 61614P GDI  
Reinforced Concrete Jacket  
Install: 18" Culvert  
(For Profile see Sht. No. H3)

Estimated Quantities  
Structure Excavation = 57 C.Y.  
Bedcourse Material = 13 C.Y.  
A.C. Pavement Mix IV = 9 Tons  
Glassphalt Concrete Base Course = 15 Tons  
18" Culvert = 70 L.F.  
Reinforced Concrete Jacket = 18 L.F.  
Type 61614P GDI,  
3.00 ft. to 3.99 ft. = 1 Ea.

Ft. Weaver Rd. # Sta.  
194+51 o/s 71' Rt.  
Construct: Type 61614P GDI  
Reinforced Concrete Jacket  
Install: 18" Culvert  
(For Profile see Sht. No. H3)

Estimated Quantities  
Structure Excavation = 41 C.Y.  
Bedcourse Material = 12 C.Y.  
A.C. Pavement Mix IV = 5 Tons  
Glassphalt Concrete Base Course = 4 Tons  
18" Culvert = 65 L.F.  
Reinforced Concrete Jacket = 63 L.F.  
Type 61614P GDI,  
3.00 ft. to 3.99 ft. = 1 Ea.

## DRAINAGE NOTES

- Grading area to drain as shown on the plans shall be considered incidental to Item No. 206.2020 - Structure Excavation for Drainage System.
- For culvert trench restoration detail, see Sheet No. H3.
- For added reinforcing around culvert openings at grated drop inlets, see Standard Plan H-04.
- For typical detail of culvert seat, see Standard Plan H-04.
- For typical details of grated drop inlet rungs, see Standard Plan H-08.
- For typical details of Type 61614P GDI, see Standard Plan H-11.
- For details of Type 61614P frame and grates, see Sht. No. H5.
- USN 8" gas line is abandoned. Approximate depth is 4'-0" below grade. Utilize appropriate spill containment and cold cutting procedures if the new construction necessitates its removal. This work shall be considered incidental to the costs for the various contract items.
- The Contractor shall restore pavement markings damaged or removed due to installation of the drainage system in accordance with Section 629 - Pavement Markings. The markings shall be considered incidental to the bid price for the various contract items.
- Connection to existing GDI at Ft. Weaver Rd. # Sta. 193+90 Lt. shall be considered incidental to Item No. 603.1006 18" RCP, Cl. III, or 18" HDPP.

APPROVED:  
  
\_\_\_\_\_  
CHIEF, PLANNING AND ENGINEERING DIVISION,  
BOARD OF WATER SUPPLY,  
CITY AND COUNTY OF HONOLULU

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### DRAINAGE PLAN

**FORT WEAVER RD. DRAINAGE IMP.**  
**At Renton Road and**  
**Vicinity of Kahua Ranch Nursery**  
**Project No. 76A-01-98**

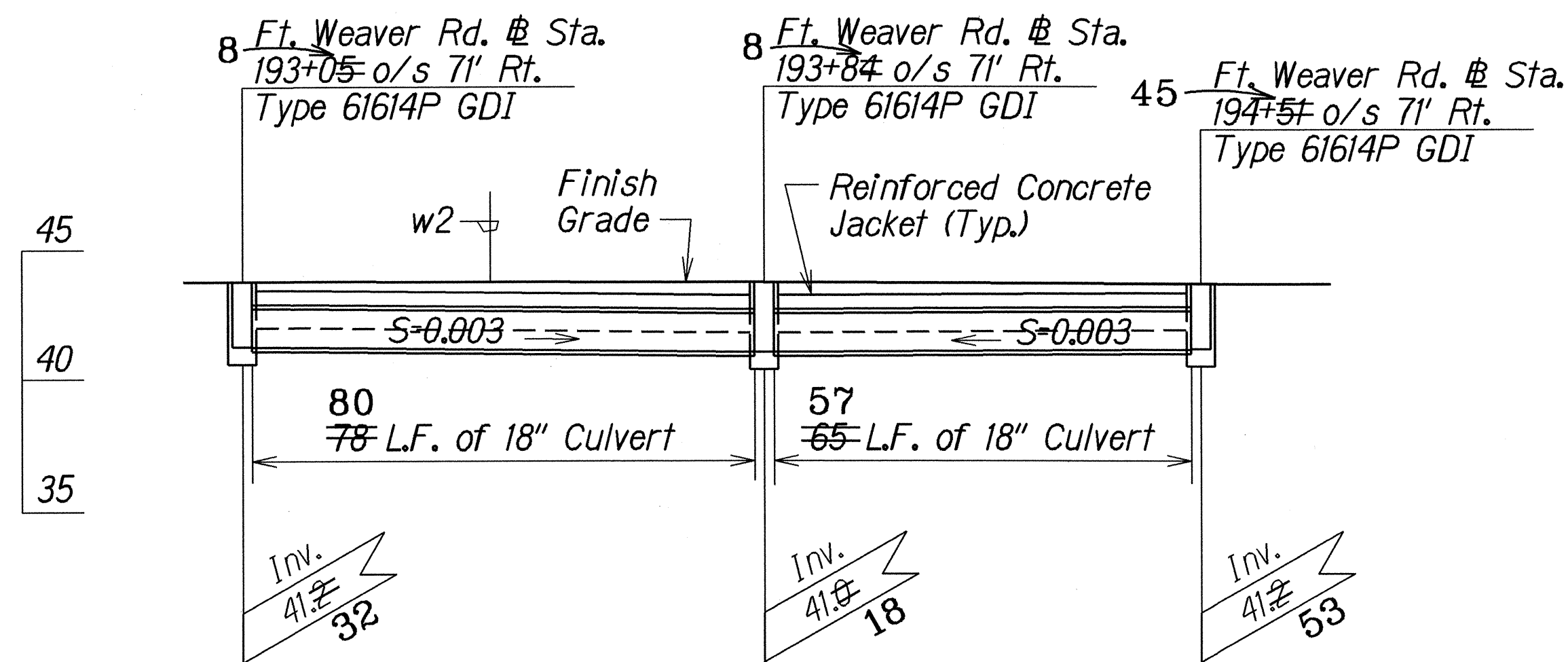
Scale: 1"=20'      Date: Oct. 1999

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY A. M. M. M.	8/17/99
CHIEF, PLANNING AND ENGINEERING DIVISION	DESIGNED BY C. M. M. M.	
CHECKED BY	CHECKED BY	

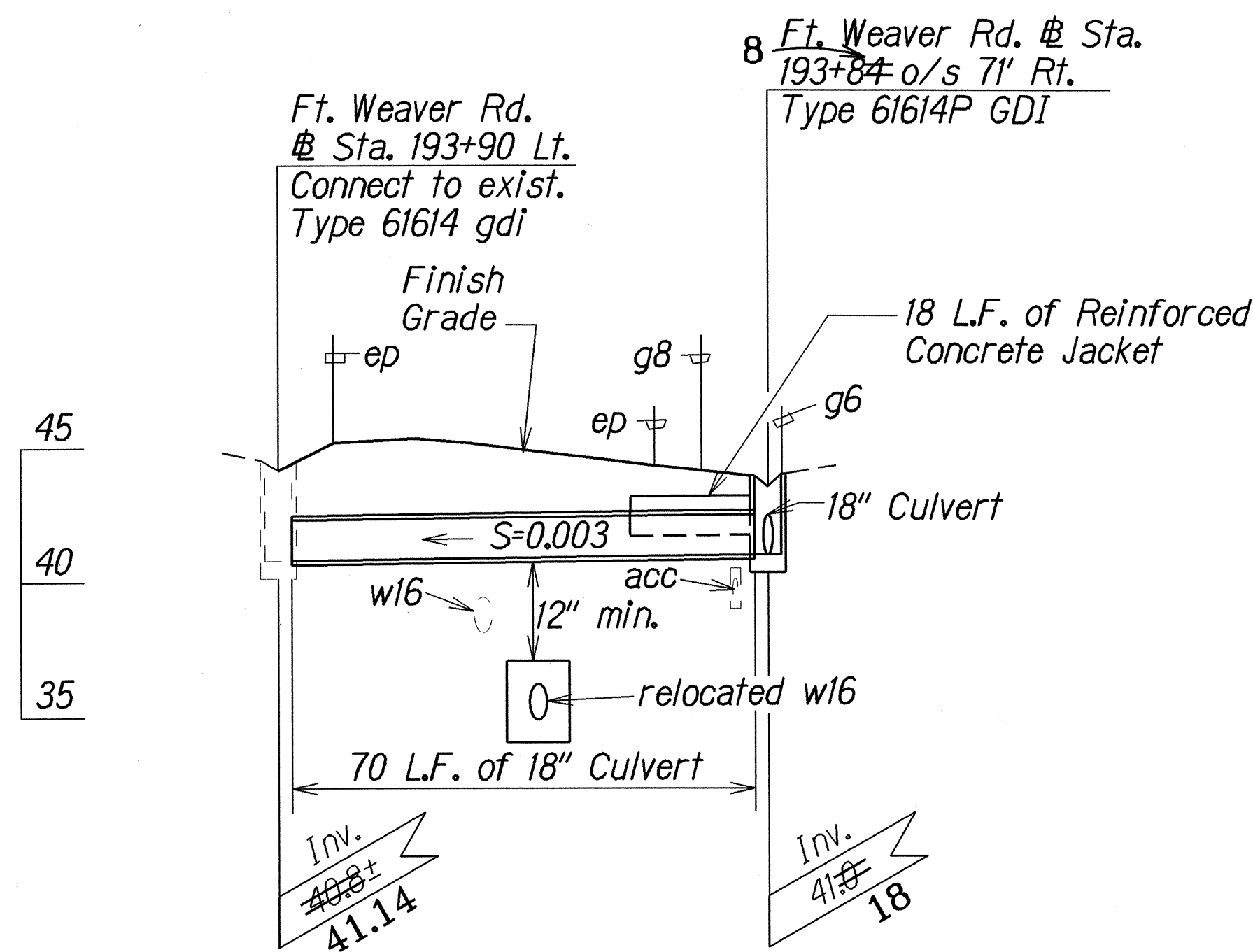
"AS-BUILT"



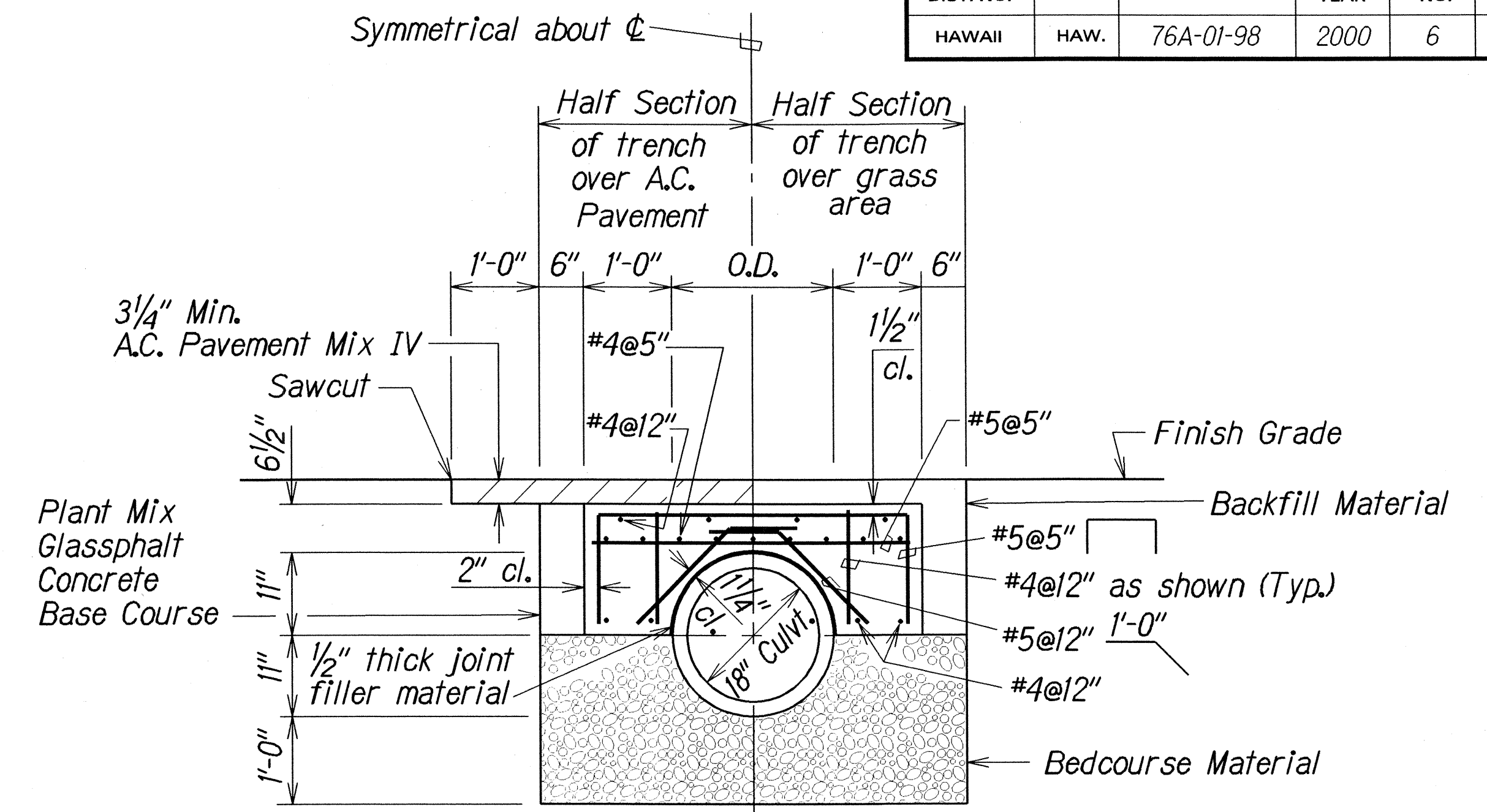
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	76A-01-98	2000	6	10



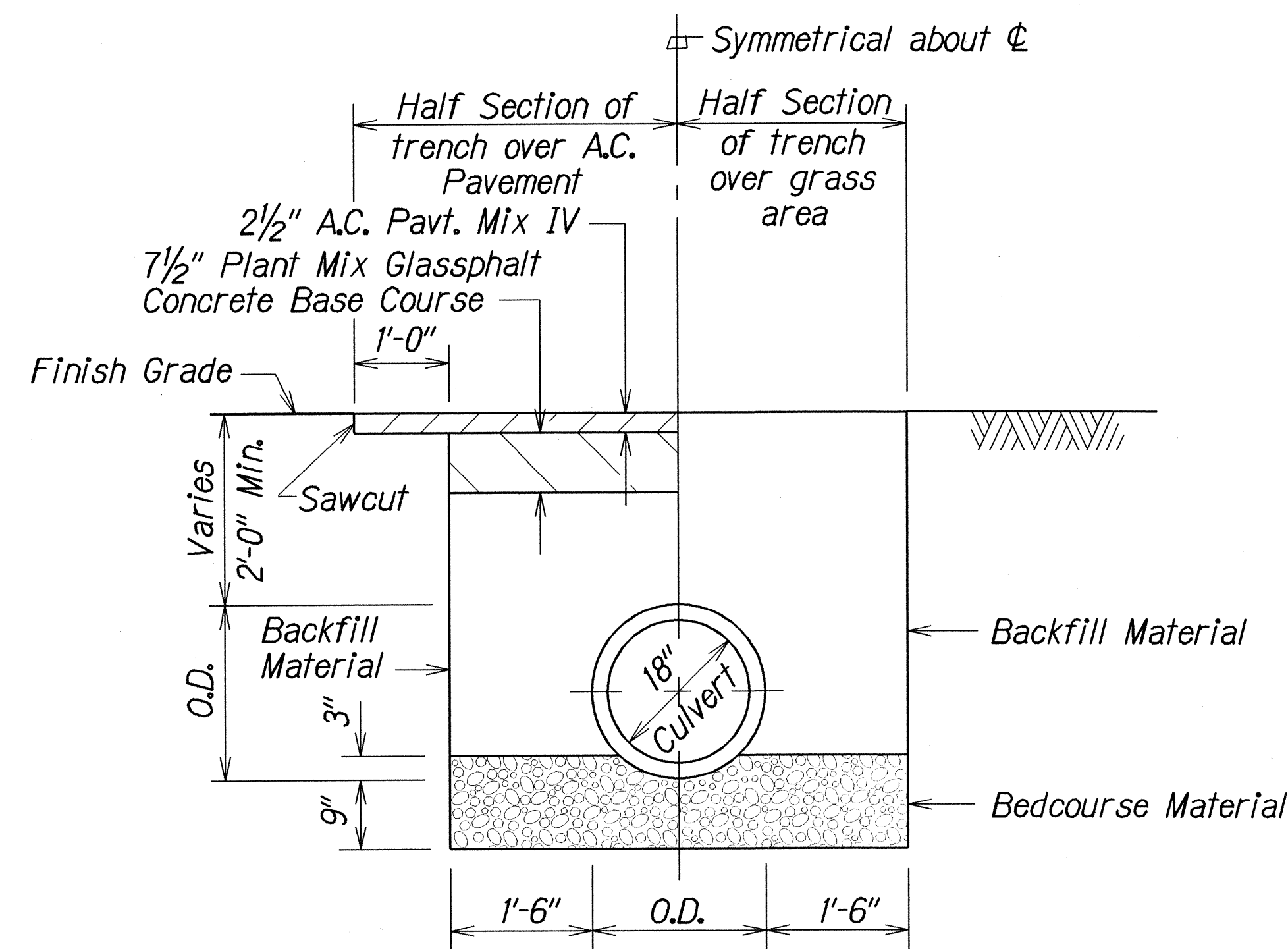
8  
PROFILE OF FT. WEAVER RD. @ STA. 193+05 o/s 71' RT.  
TO FT. WEAVER RD. @ STA. 194+51 o/s 71' RT.  
Scale: Horiz. 1"=20' 45  
Vert. 1"=5'



8  
PROFILE OF FT. WEAVER RD. @ STA. 193+90 LT.  
TO FT. WEAVER RD. @ STA. 193+84 o/s 71' RT.  
Scale: Horiz. 1"=20' 8  
Vert. 1"=5'



TYPICAL DETAIL OF CULVERT TRENCH  
AND REINFORCED CONCRETE JACKET  
Scale: 3/4"=1'-0"



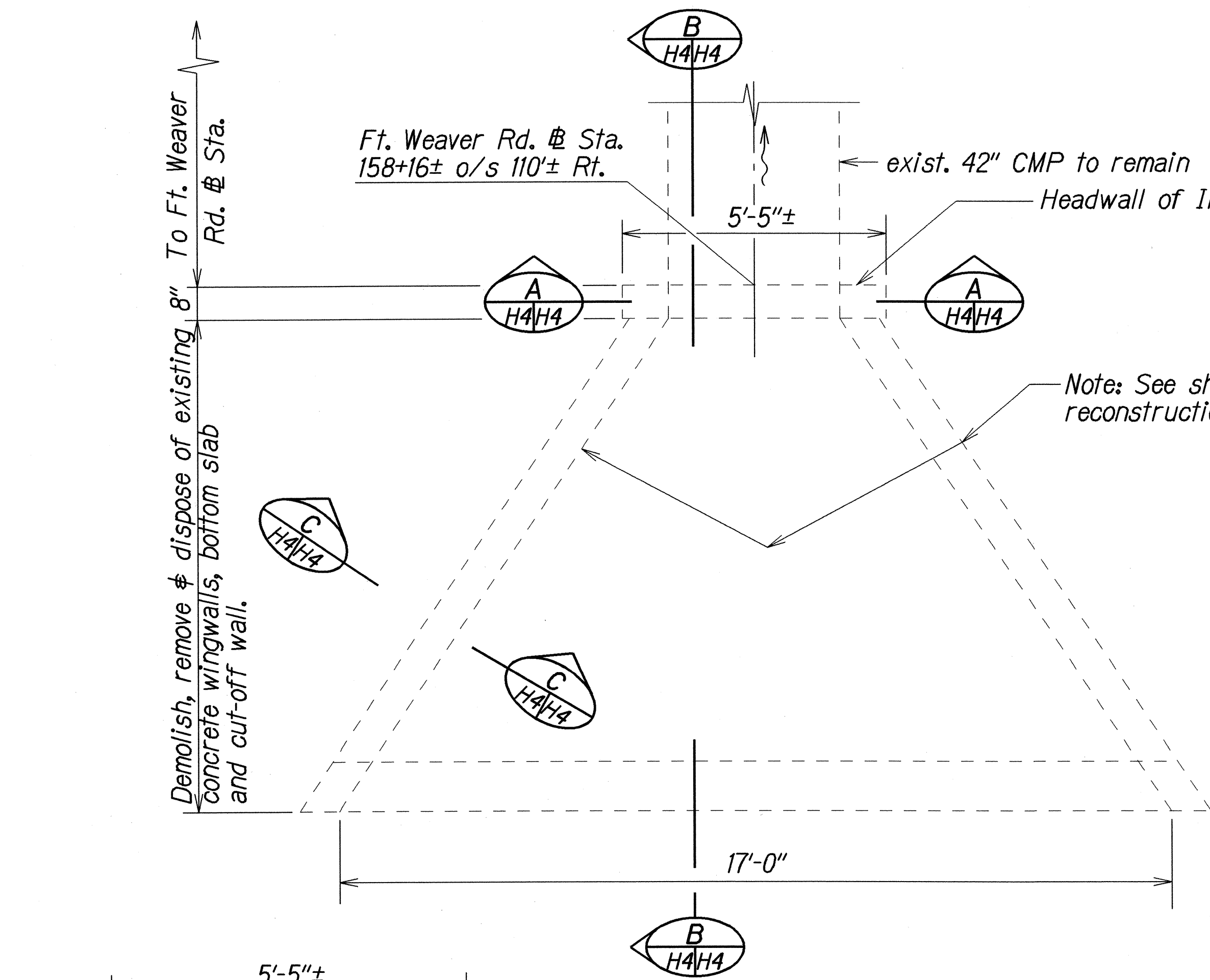
TYPICAL DETAIL OF CULVERT  
TRENCH RESTORATION  
Scale: 3/4"=1'-0"

APPROVED:  
*Michael J. H.* 10/27/99  
CHIEF, PLANNING AND ENGINEERING DIVISION, DATE  
BOARD OF WATER SUPPLY, *a*  
CITY AND COUNTY OF HONOLULU

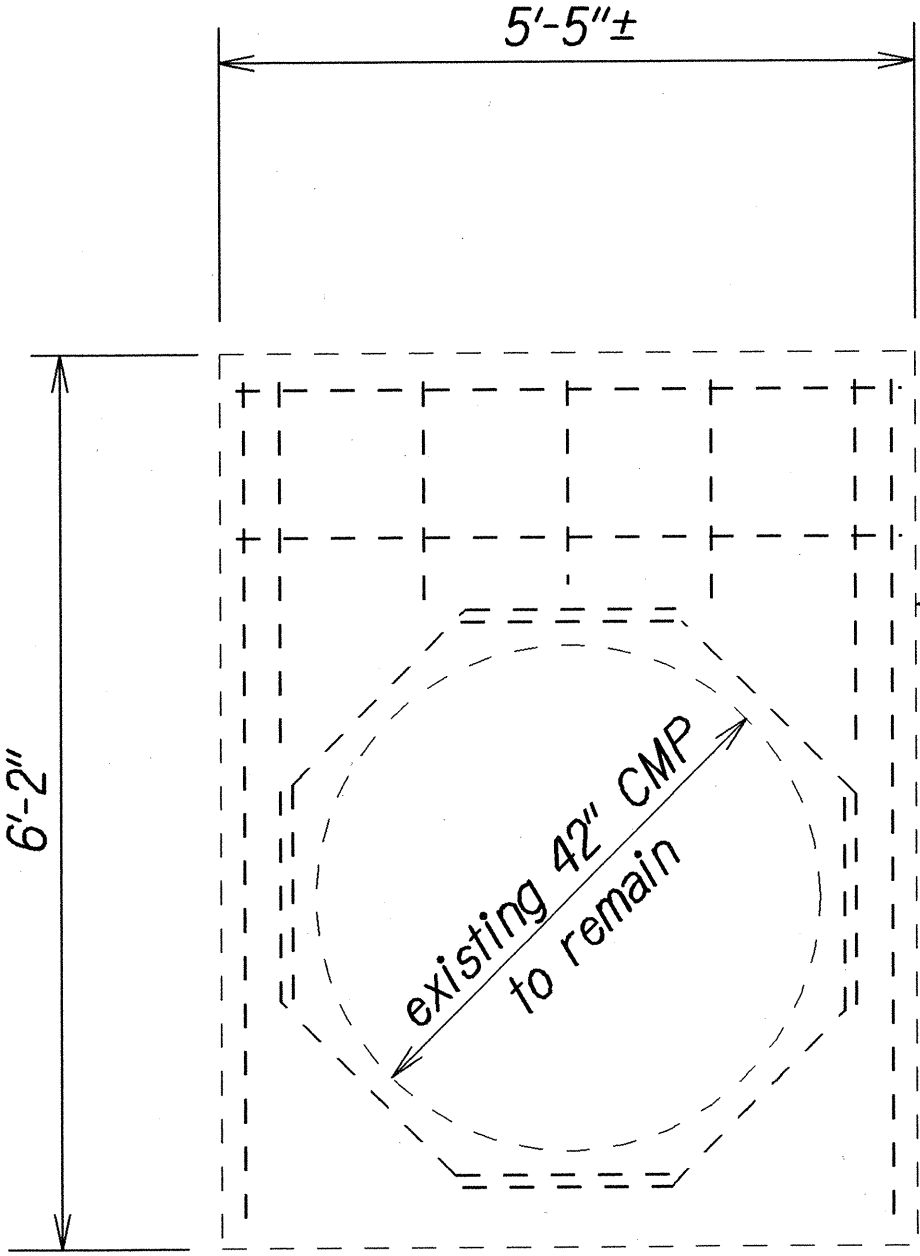
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DRAINAGE DETAILS**  
FORT WEAVER RD. DRAINAGE IMP.  
At Renton Road and  
Vicinity of Kahua Ranch Nursery  
Project No. 76A-01-98  
Scale: As Shown Date: Oct. 1999  
SHEET No. H3 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	76A-01-98	2000	C.O.7	10

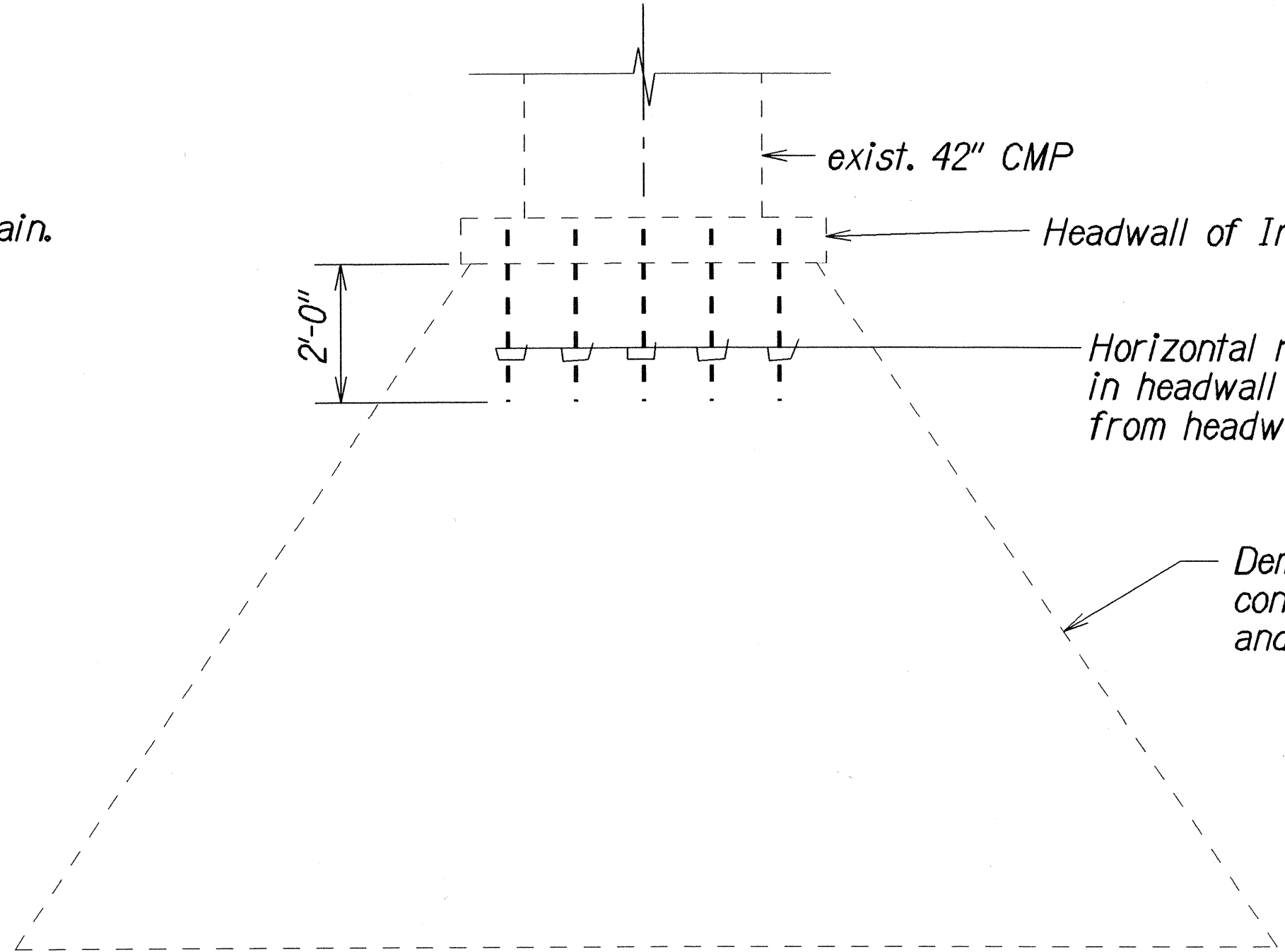


PLAN  
Scale: 1/2"=1'-0"



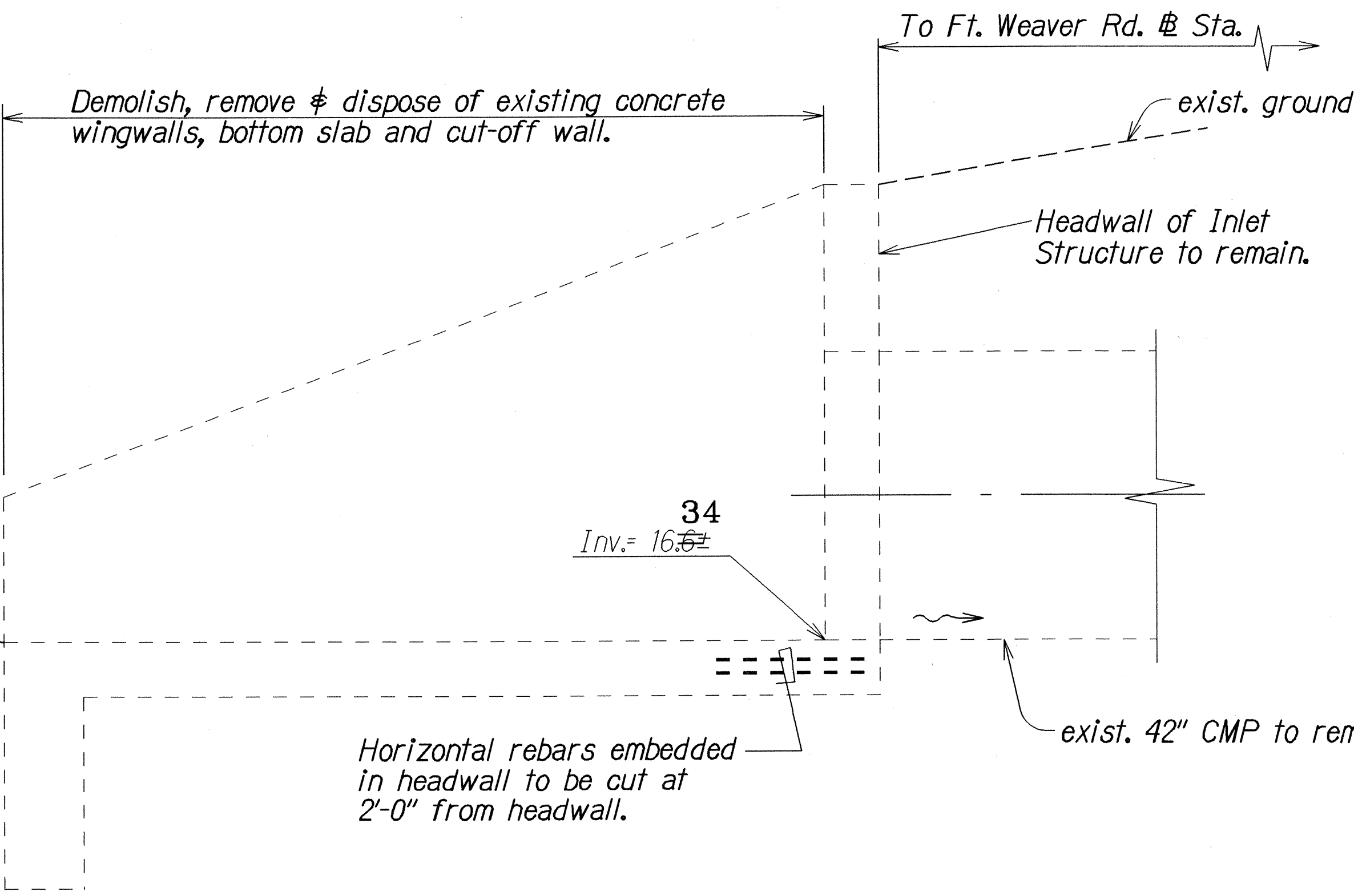
SECTION A  
Scale: 3/4"=1'-0"

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

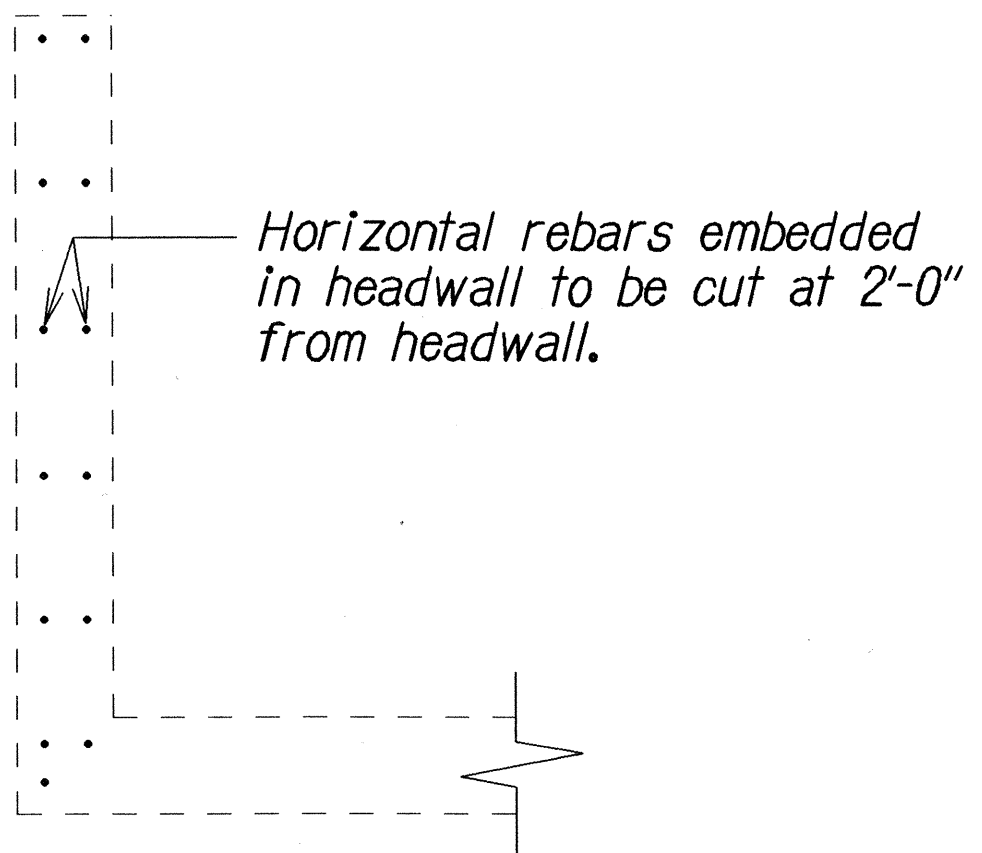


EXISTING BOTTOM SLAB REINFORCING  
Scale: 1/2"=1'-0"

Note: Demolition, removal & disposal of existing concrete wingwalls, bottom slab and cut-off wall shall be considered incidental to Item 604.5210 Reconstruct Type "I" Concrete Inlet Structure.



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



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

DEMOLITION DETAILS OF EXISTING TYPE "I" CONCRETE INLET STRUCTURE

9/1/00	Revised detail of Inlet Structure
DATE	REVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**  
FORT WEAVER RD. DRAINAGE IMP.  
At Renton Road and  
Vicinity of Kahua Ranch Nursery  
Project No. 76A-01-98  
Scale: As Shown Date: Sep. 2000

SHEET No. H4 OF 5 SHEETS

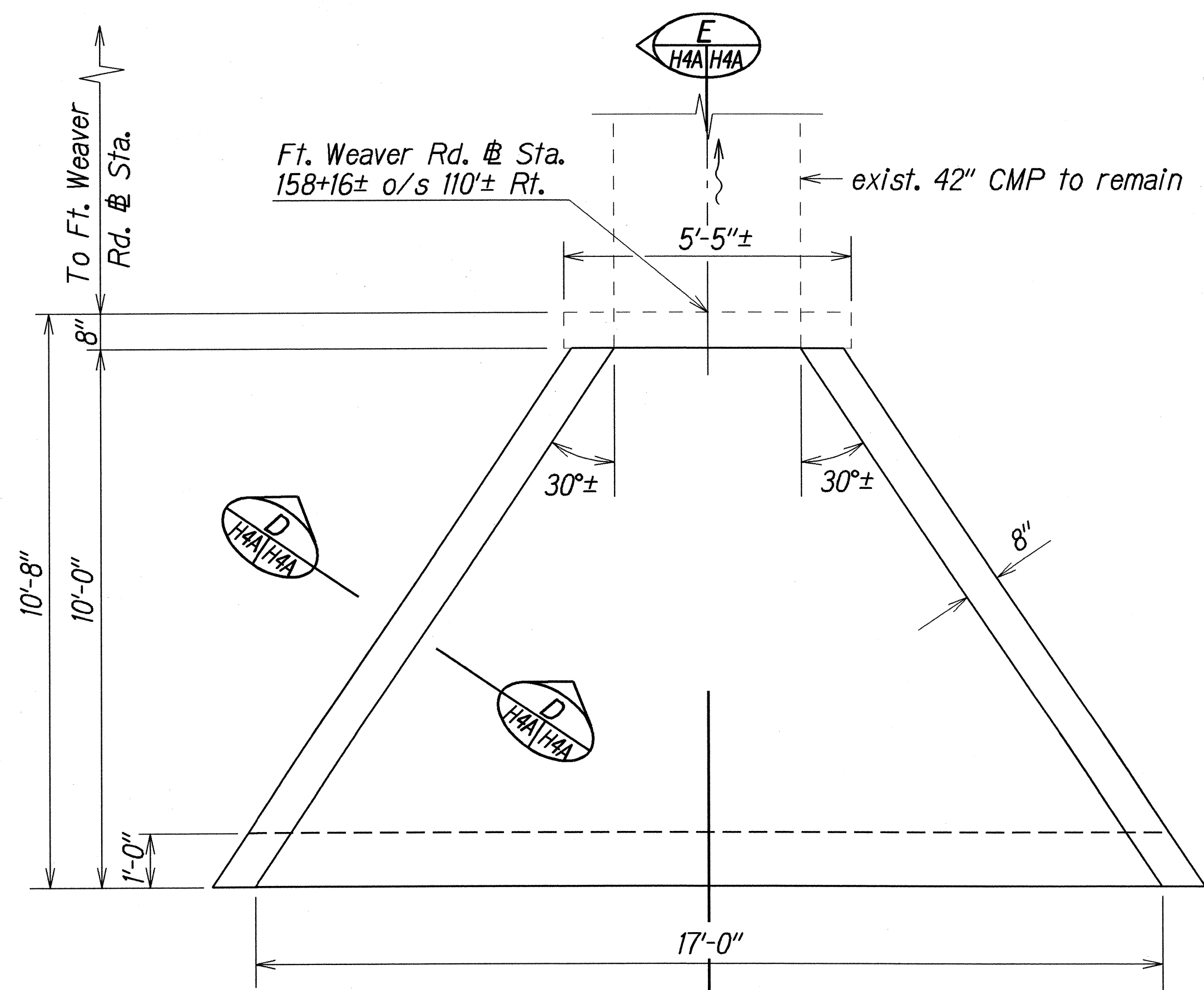
ORIGINAL PLAN	DATE: 1/16/98
SURVEY PLOTTED BY: A. Moulton	
DRAWN BY: A. Moulton	
DESIGNED BY: B. T. Lee, C. K. K. K.	
CHECKED BY: A. Moulton	

"AS-BUILT"

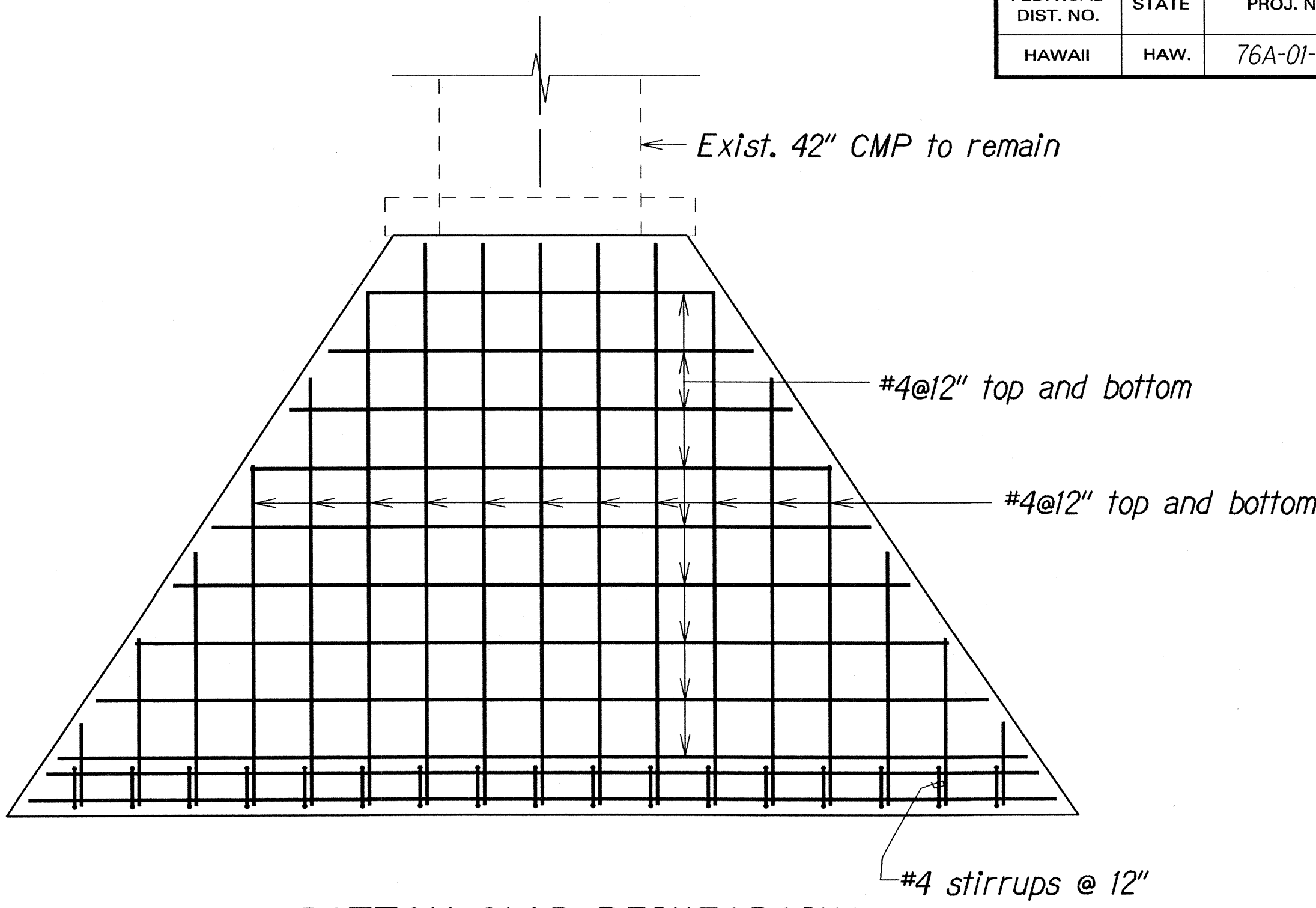
C.O. 7



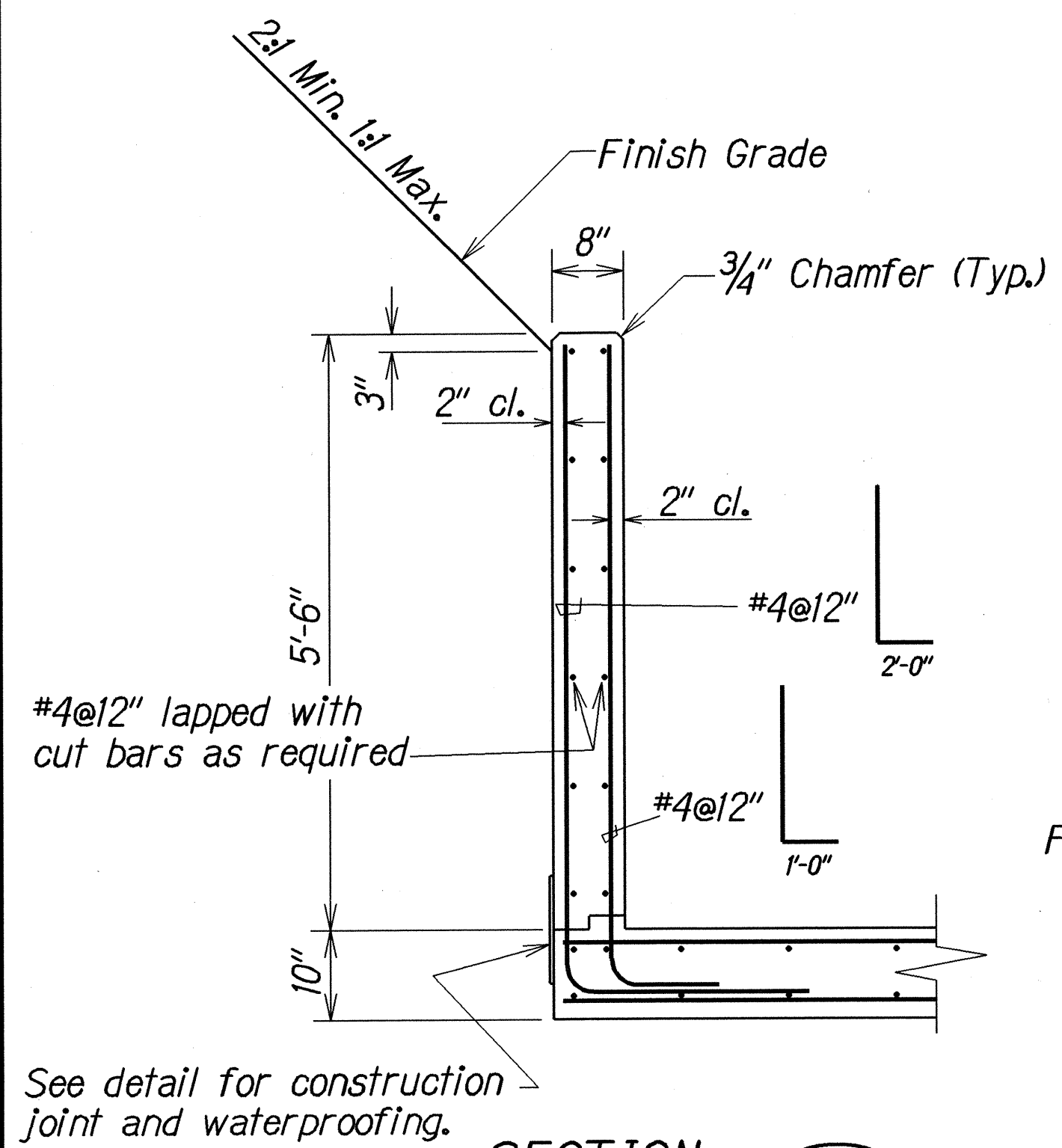
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	76A-01-98	2000	C.O.7S-1	10



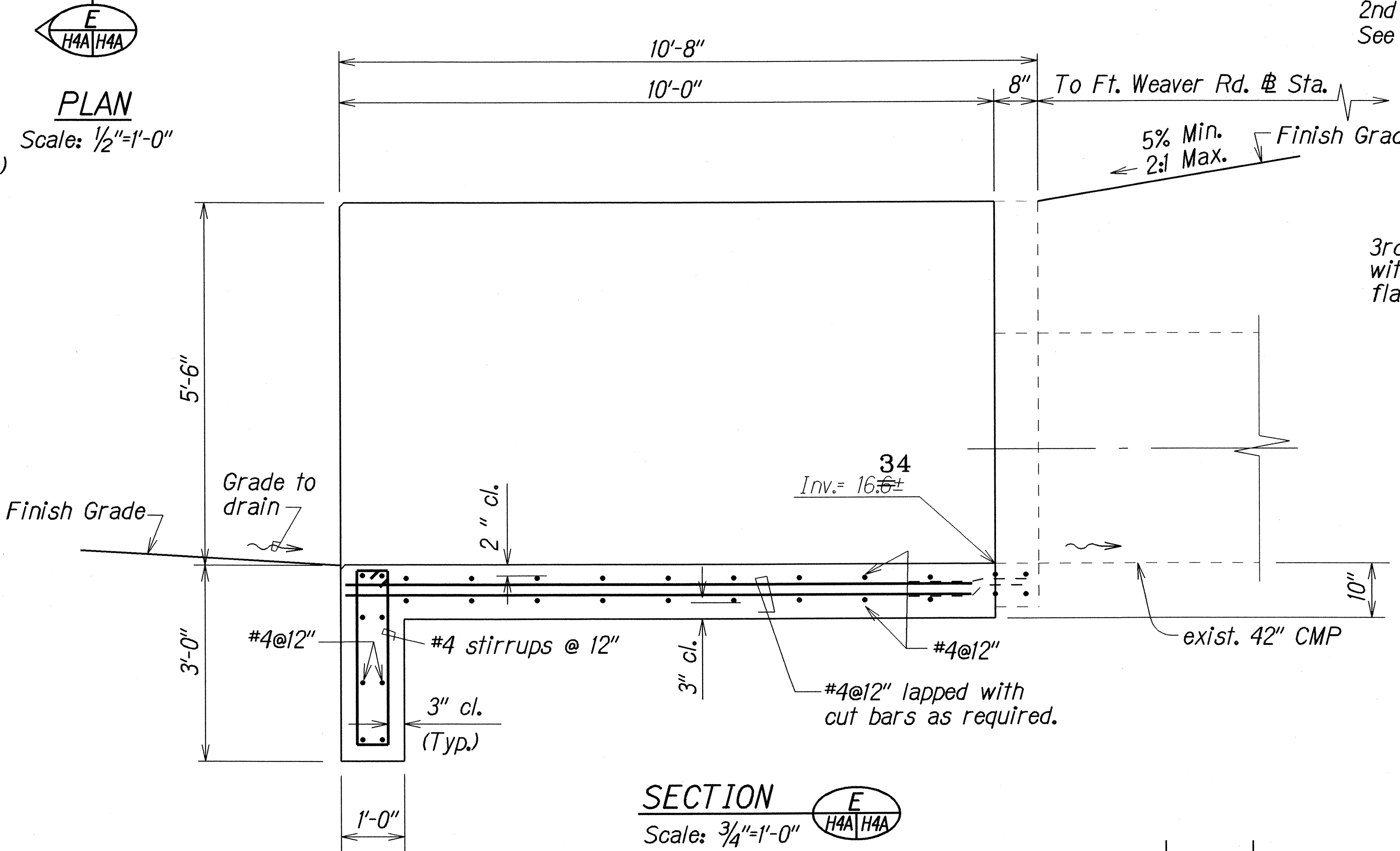
**PLAN**  
Scale: 1/2"=1'-0"



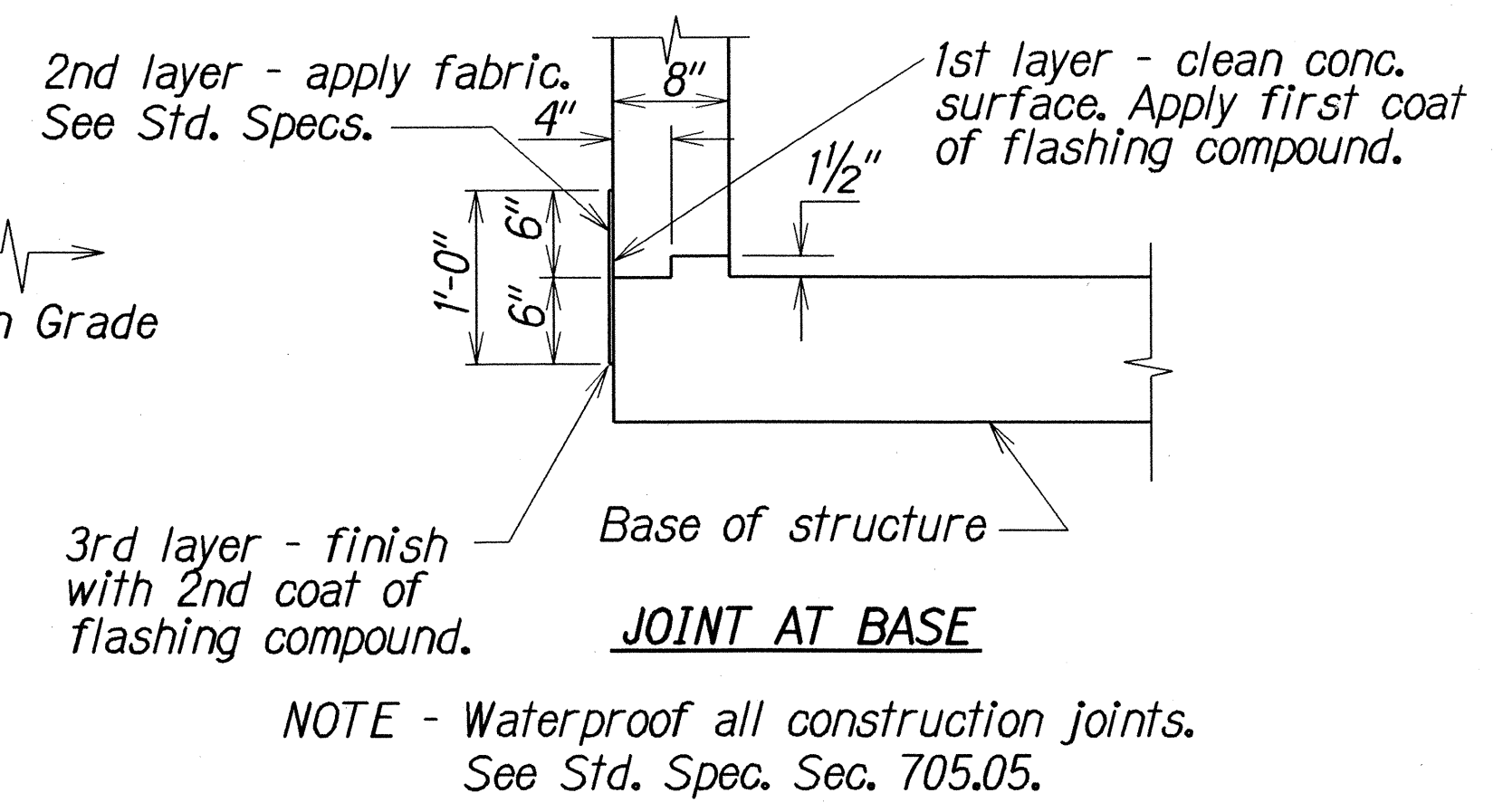
**BOTTOM SLAB REINFORCING**  
Scale: 1/2"=1'-0"



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



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



**CONSTRUCTION JOINT AND WATERPROOFING DETAIL**  
Scale: 1"=1'-0"

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**  
FORT WEAVER RD. DRAINAGE IMP.  
At Renton Road and  
Vicinity of Kahua Ranch Nursery  
Project No. 76A-01-98  
Scale: As Shown Date: Sep. 2000  
SHEET No. H4A OF 5 SHEETS

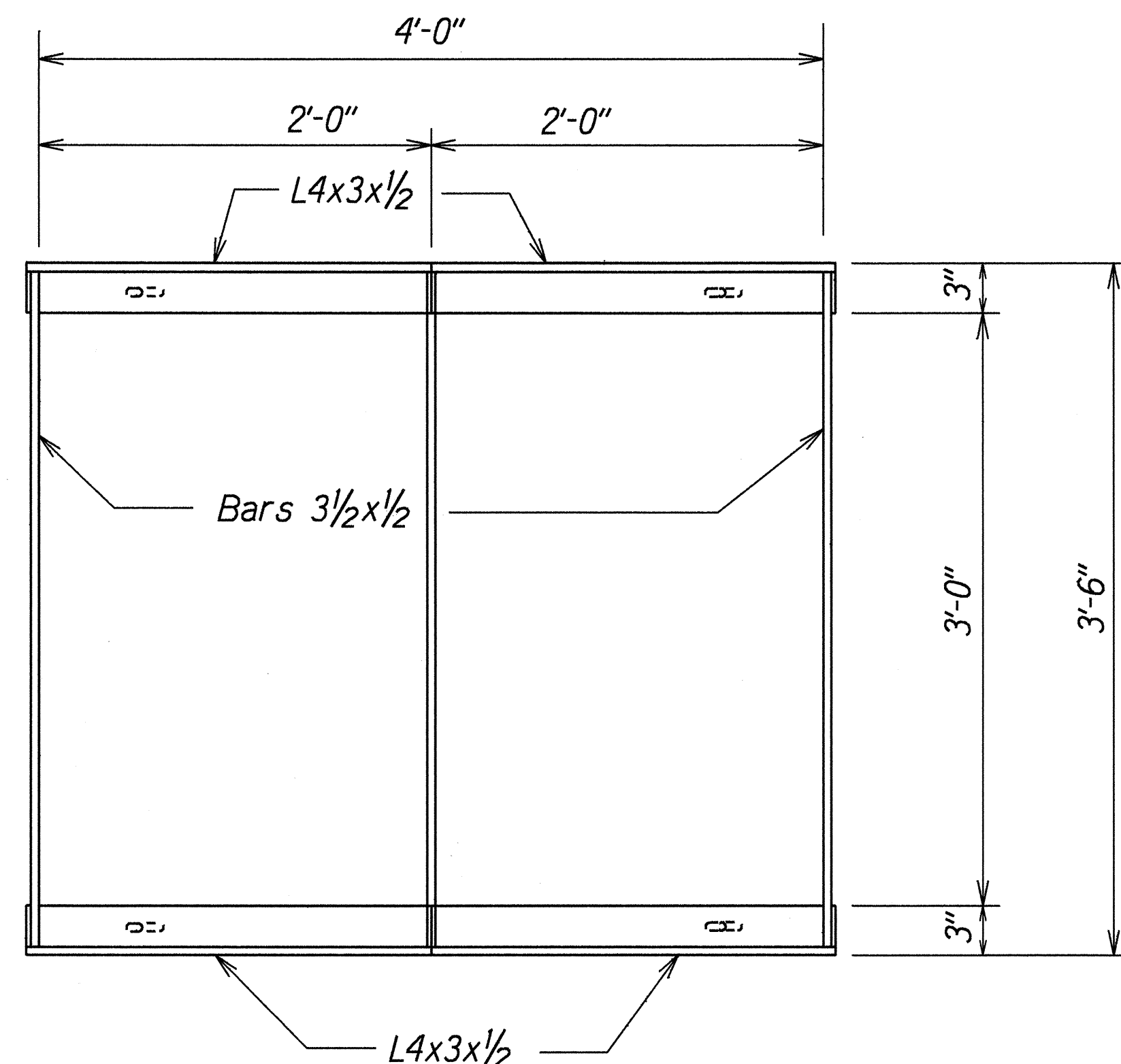
**RECONSTRUCTION DETAILS OF TYPE "I" CONCRETE INLET STRUCTURE**

DATE	REVISION
9/1/00	Revised details of Type "I" Concrete Inlet Structure.

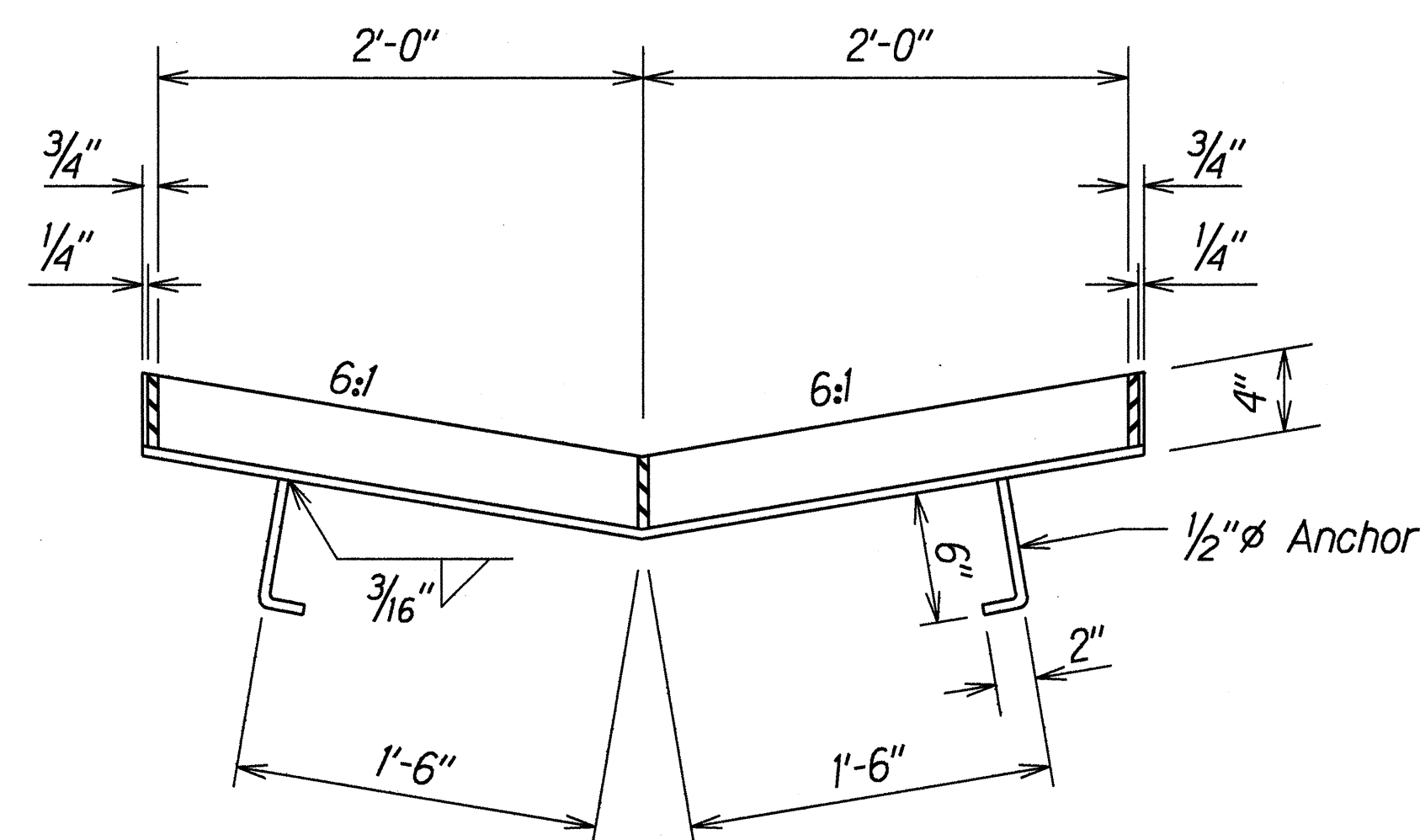
"AS-BUILT"

C.O. 7 S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	76A-01-98	2000	8	10



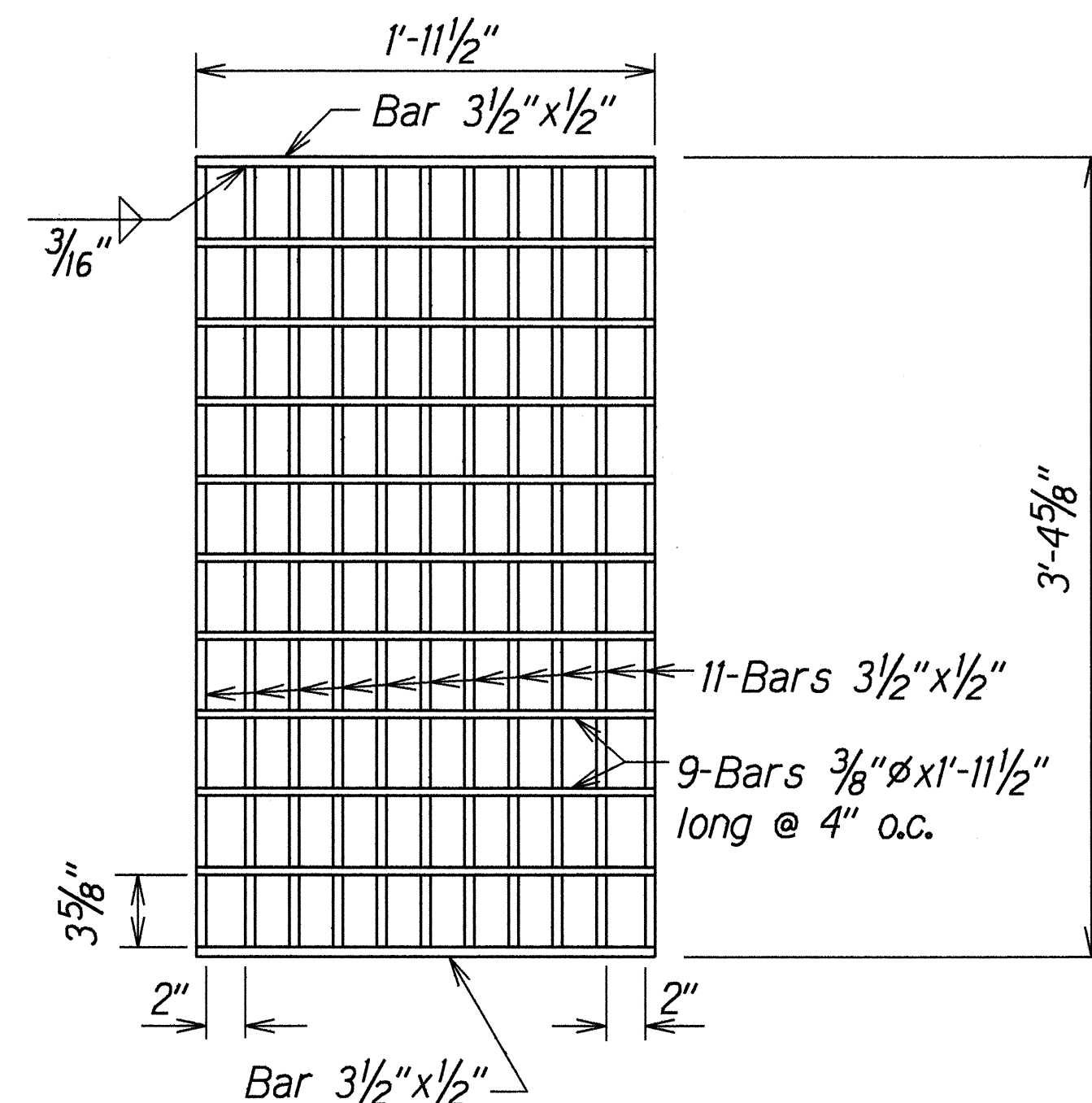
PLAN



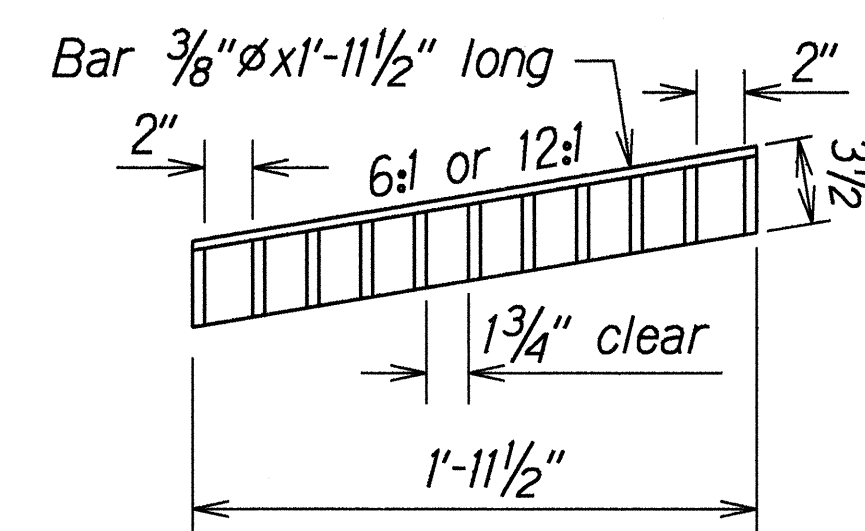
SECTION  
FRAME

Scale: 1 1/2"=1'-0"

NOTE:  
All welds 3/8" unless otherwise noted.



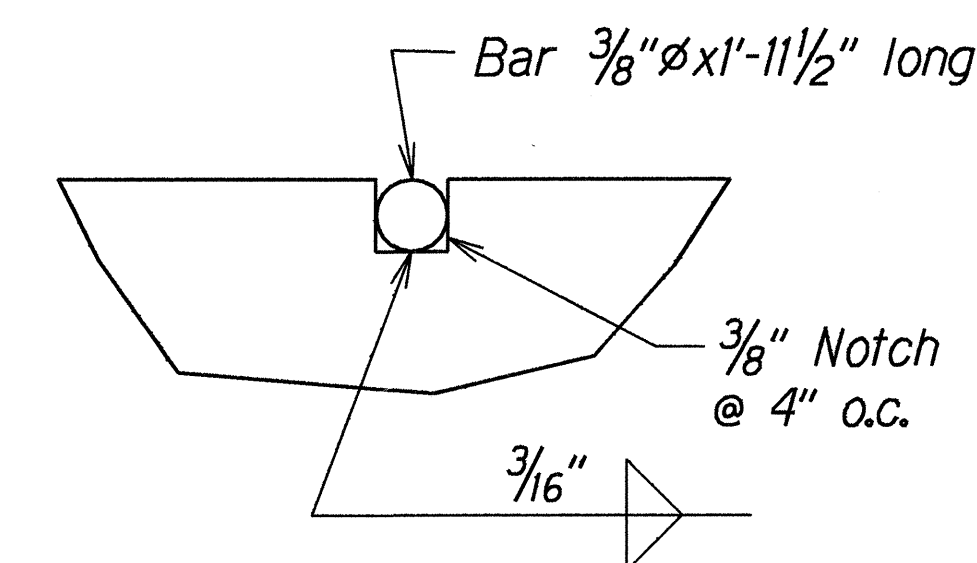
PLAN



SECTION

GRATE

Scale: 1 1/2"=1'-0"



NOTCH DETAIL

Full Size

TYPICAL DETAILS OF TYPE 61614P STEEL FRAME AND GRATES

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**  
**FORT WEAVER RD. DRAINAGE IMP.**  
**At Renton Road and**  
**Vicinity of Kahua Ranch Nursery**  
**Project No. 76A-01-98**

Scale: As Shown Date: Oct. 1999

SHEET No. H5 OF 5 SHEETS