

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(5)	1997	4	9

Sta. 15+30
Construct: Type X SDMH
(For details see Sht. No. H4)
Estimated Quantities
Type X Storm Drain Manhole
24.00 ft. to 24.99 ft. = 1 EA.
Pavement Restoration = 88 S.F.

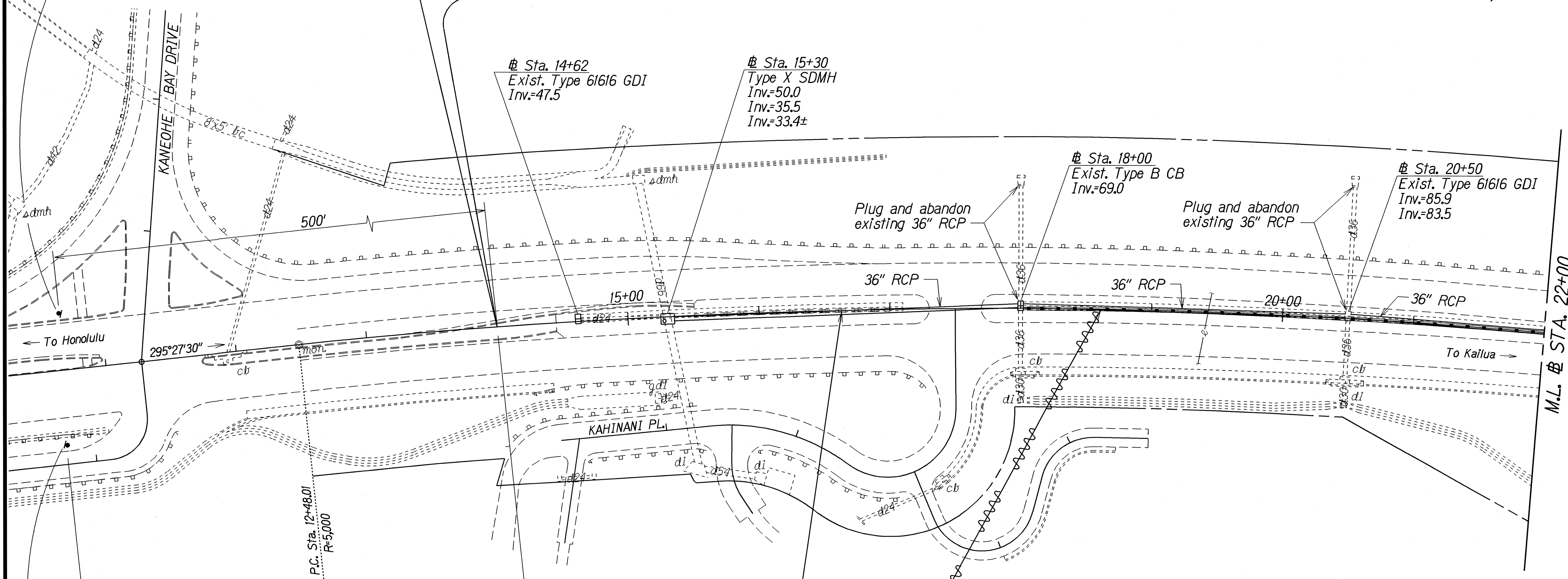
Sta. 18+00
Install: 36" RCP
Estimated Quantities
Structure Excavation for
Drainage System = 447 C.Y.
36" Reinforced Concrete Pipe,
Class III = 264 L.F.
Pavement Restoration = 2,236 S.F.

Sta. 20+50
Install: 36" RCP
Estimated Quantities
Structure Excavation for
Drainage System = 448 C.Y.
36" Reinforced Concrete Pipe,
Class III = 248 L.F.
Pavement Restoration = 2,108 S.F.

END
ROAD WORK
CG20-2A
(48"X24")
Install w/ Post

BEGIN PROJECT
F.A.P. No. STP-065-1(5)
Sta. 14+00

TRUE NORTH



Sta. 15+51± to # Sta. 17+00±, median
Remove existing guardrail ramp downs and anchors.
Remove 149 L.F. double metal guardrail w/ steel posts
and rubrail.

Sta. 18+05± to # Sta. 22+00±, median
Remove existing impact attenuators, steel plate,
guardrail ramp down and anchor.
Remove 395± L.F. double metal guardrail w/ steel posts
and rubrail.
Install New Quad-Guard Terminal End.
Install 395± L.F. New Double Metal Guardrail w/ Steel
Posts and Rubrail.

Note: The Contractor shall verify the locations of all
existing utilities in the field. Any utilities damaged
during construction shall be repaired or replaced by
the Contractor at his own expense. For repair work
to HECO facilities, see HECO Notes on Plan Sheet No. 3.

ROAD
WORK
AHEAD

CW20-1AD
(48"X48")
Install w/ Post

LEGEND FOR AS-BUILT POSTINGS

~~~~~ Squiggly line for as-built deletion  
= Double line for as-built deletion  
Roadway Text for as-built posting

|               |                   |         |
|---------------|-------------------|---------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE    |
| NOTE BOOK     | DRAWN BY          | 12/9/96 |
| QUANTITIES BY | CHECKED BY        |         |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PLAN**

**MOKAPU SADDLE RD. DRAINAGE IMP.**  
Kaneohe Bay Drive to  
Vicinity of BWS Access Road  
Fed. Aid Project No. STP-065-1(5)  
Scale: 1"=40' Date: Oct. 1996  
SHEET No. *HI* OF 6 SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-065-1(5)       | 1997        | 5         | 9            |

# Sta. 23+00  
Construct: Type 61616 GDI  
(For details see Std. Plan H-12)  
Install: 36" RCP  
Estimated Quantities  
Structure Excavation for  
Drainage System = 470 C.Y.  
36" Reinforced Concrete Pipe,  
Class III = 244 L.F.  
Type 61616 Grated Drop Inlet,  
8.00 ft. to 8.99 ft. = 1 EA.  
Pavement Restoration = 2,120 S.F.

# Sta. 25+60  
Install: 36" RCP  
Estimated Quantities  
Structure Excavation for  
Drainage System = 462 C.Y.  
36" Reinforced Concrete Pipe,  
Class III = 274 L.F.  
Pavement Restoration = 2,312 S.F.

# Sta. 25+80 o/s 45' Lt.  
Construct: Type A SDMH  
(For details see Std. Plan H-05)  
Install: 24" RCP  
Estimated Quantities  
Structure Excavation for  
Drainage System = 49 C.Y.  
24" Reinforced Concrete Pipe,  
Class III = 44 L.F.  
Type A Storm Drain Manhole,  
5.00 ft. to 5.99 ft. = 1 EA.  
Pavement Restoration = 210 S.F.

# Sta. 26+50 Lt.  
Construct: Type C2 CB  
(For details see Std. Plan H-03)  
Install: 24" RCP  
Estimated Quantities  
Structure Excavation for  
Drainage System = 76 C.Y.  
24" Reinforced Concrete Pipe,  
Class III = 66 L.F.  
Type B2 Catch Basin,  
5.00 ft. to 5.99 ft. = 1 EA.  
Pavement Restoration = 446 S.F.

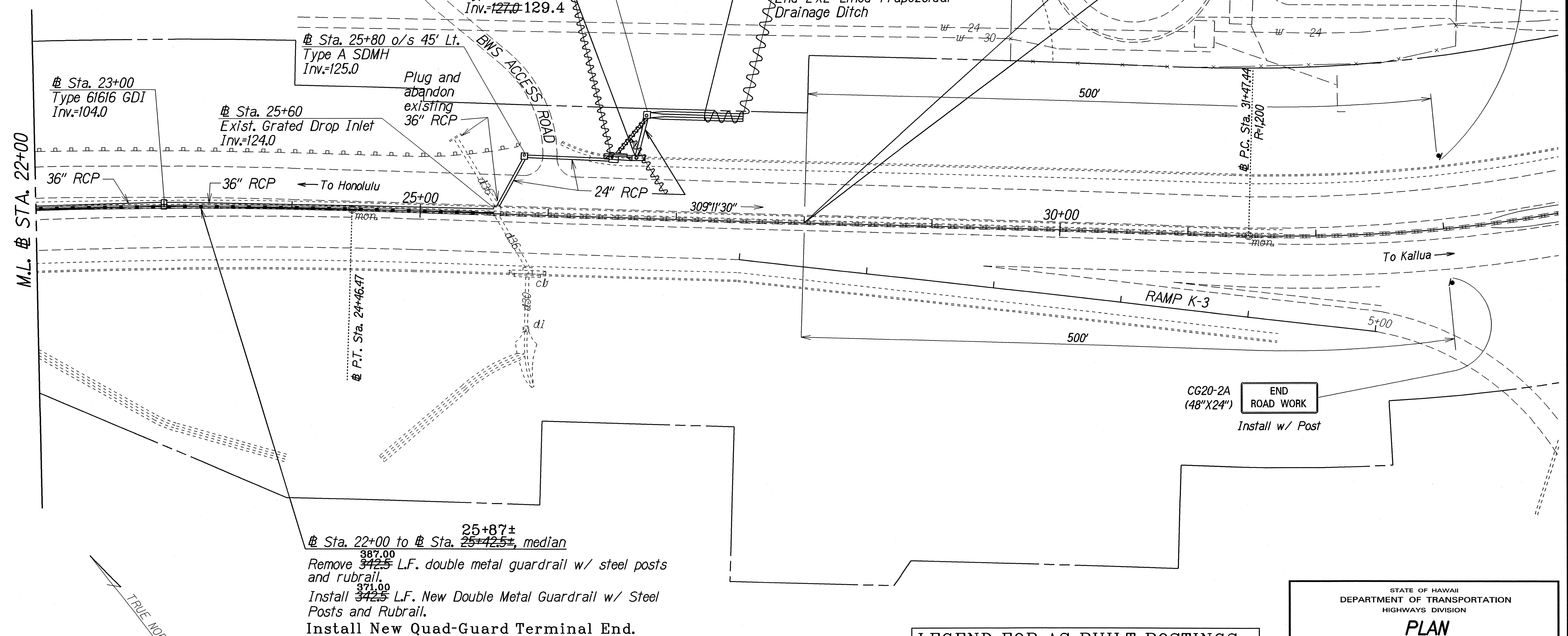
# Sta. 26+75 o/s 80' Lt.  
Construct: Type X CB  
(For details see Sht. No. H5)  
Install: 24" RCP  
Estimated Quantities  
Structure Excavation for  
Drainage System = 46 C.Y.  
24" Reinforced Concrete Pipe,  
Class III = 40 L.F.  
Type X Catch Basin,  
5.00 ft. to 5.99 ft. = 1 EA.

# Sta. 25+30± Lt.  
Remove existing Type B flare.  
Install New Type C Flare.

# Sta. 26+75 o/s 80' Lt. to # Sta. 27+50± o/s 80± Lt.  
Construct: 2'x2' Lined Trapezoidal Drainage Ditch  
(For Details see Sht. No. H5)  
Estimated Quantities  
Ditch and Channel Excavation = 19 C.Y.  
2'x2' Lined Trapezoidal Drainage Ditch = 75 L.F.

# Sta. 26+75 o/s 80' Lt.  
Type X CB  
Inv.=130.0  
Begin 2'x2' Lined  
Trapezoidal Drainage Ditch  
# Sta. 26+50 Lt.  
Type C2 CB  
Inv.=129.4

# Sta. 25+80 o/s 45' Lt.  
Type A SDMH  
Inv.=125.0



# Sta. 22+00 to # Sta. 25+87±  
Remove 342.5 L.F. double metal guardrail w/ steel posts and rubrail.  
Install 342.5 L.F. New Double Metal Guardrail w/ Steel Posts and Rubrail.  
Install New Quad-Guard Terminal End.

| 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

### PLAN

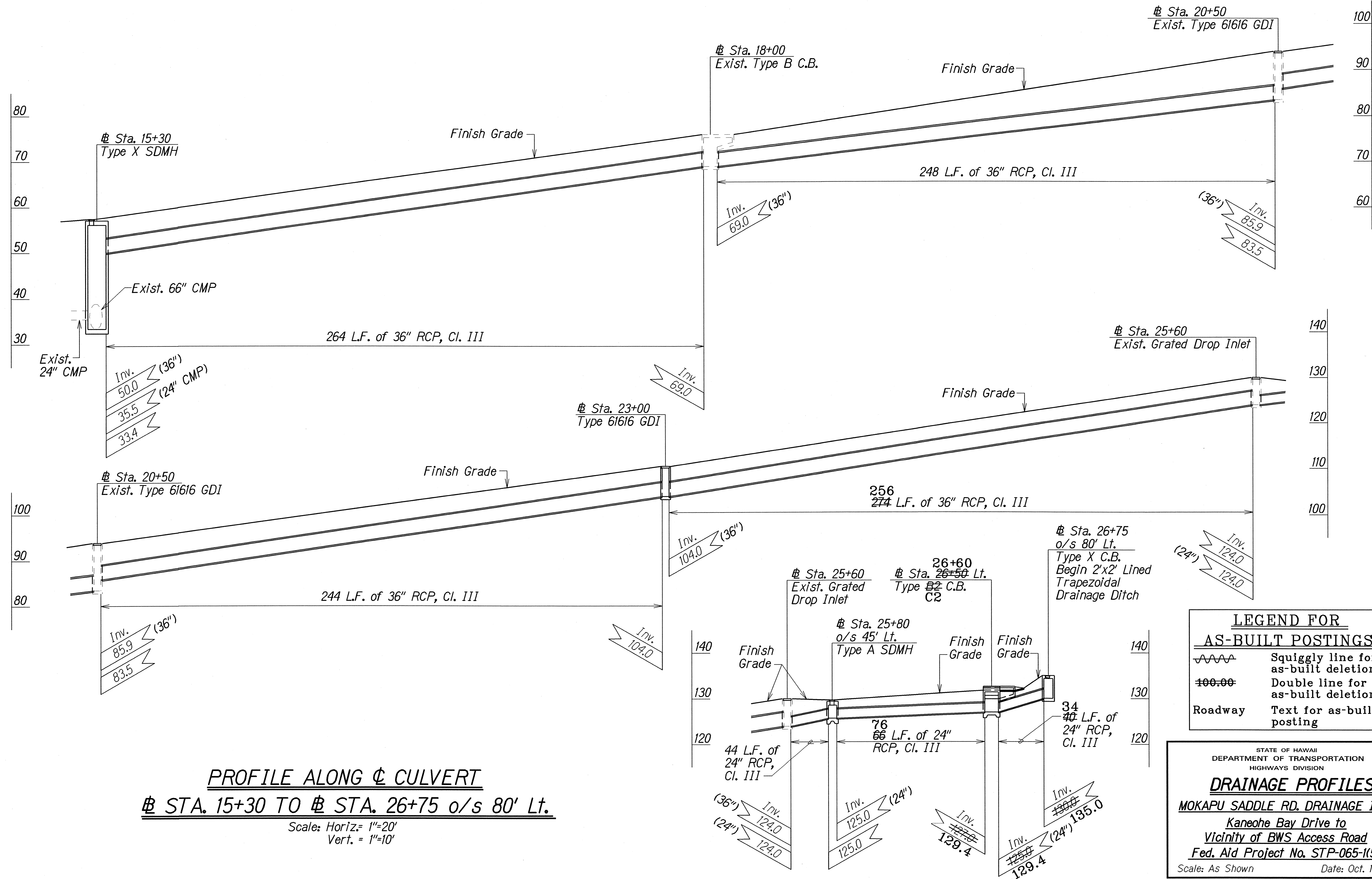
**MOKAPU SADDLE RD. DRAINAGE IMP.**  
Kaneohe Bay Drive to  
Vicinity of BWS Access Road  
Fed. Aid Project No. STP-065-1(5)  
Scale: 1"=40'      Date: Oct. 1996

SHEET No. **H2** OF **6** SHEETS

|               |                   |          |
|---------------|-------------------|----------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE     |
| NOTE BOOK     | DRAWN BY          | 12/09/96 |
| INSTRUMENT    | TRACED BY         |          |
| CHECKED BY    | NOTED BY          |          |



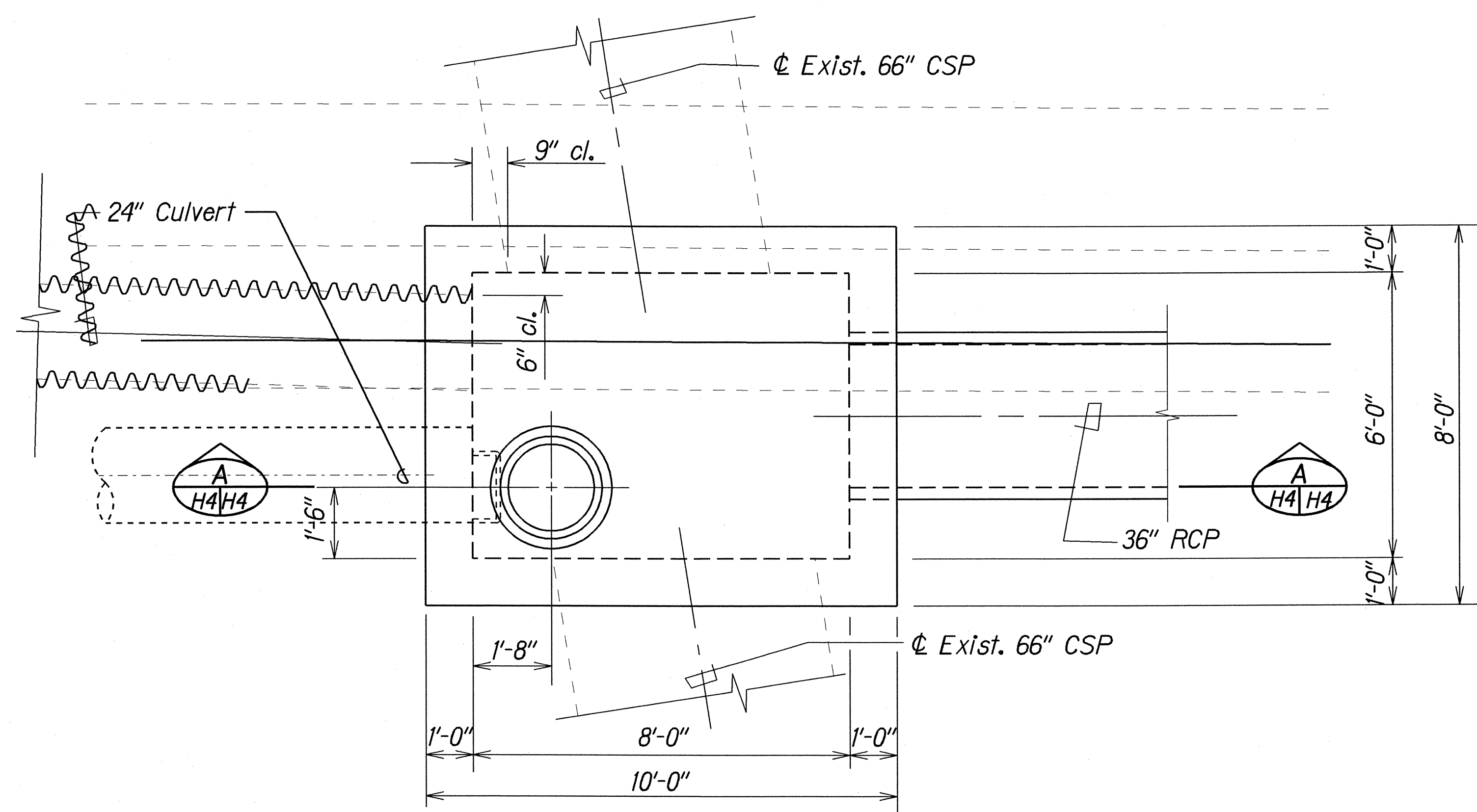
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-065-1(5)       | 1997        | 6         | 9            |



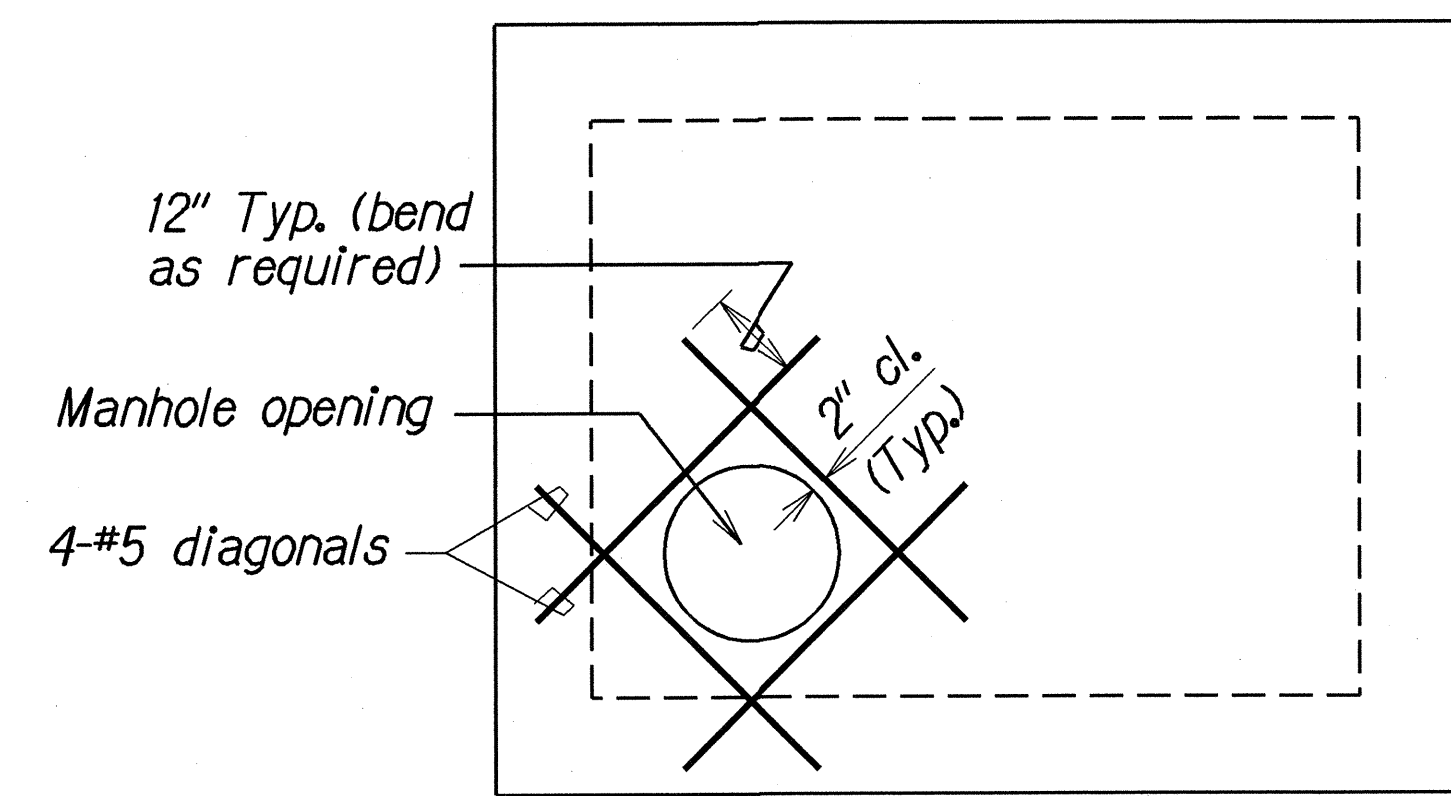
|                   |      |         |
|-------------------|------|---------|
| ORIGINAL PLAN     | DATE | 12/2/96 |
| SURVEY PLOTTED BY |      |         |
| DRAWN BY          |      |         |
| CHECKED BY        |      |         |
| NOTE BOOK         |      |         |
| QUANTITIES BY     |      |         |
| CHECKED BY        |      |         |



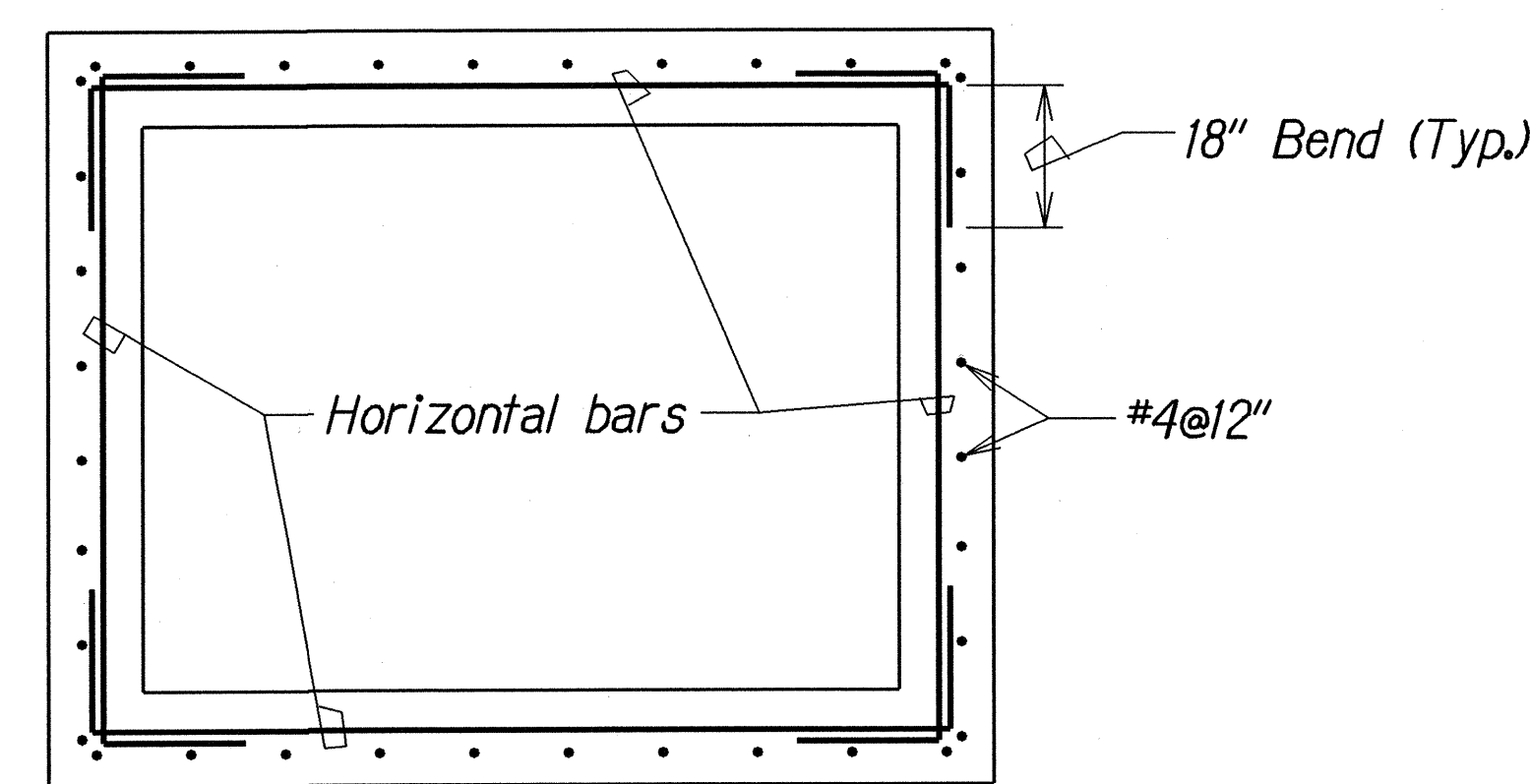
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-065-1(5)       | 1997        | 7         | 9            |



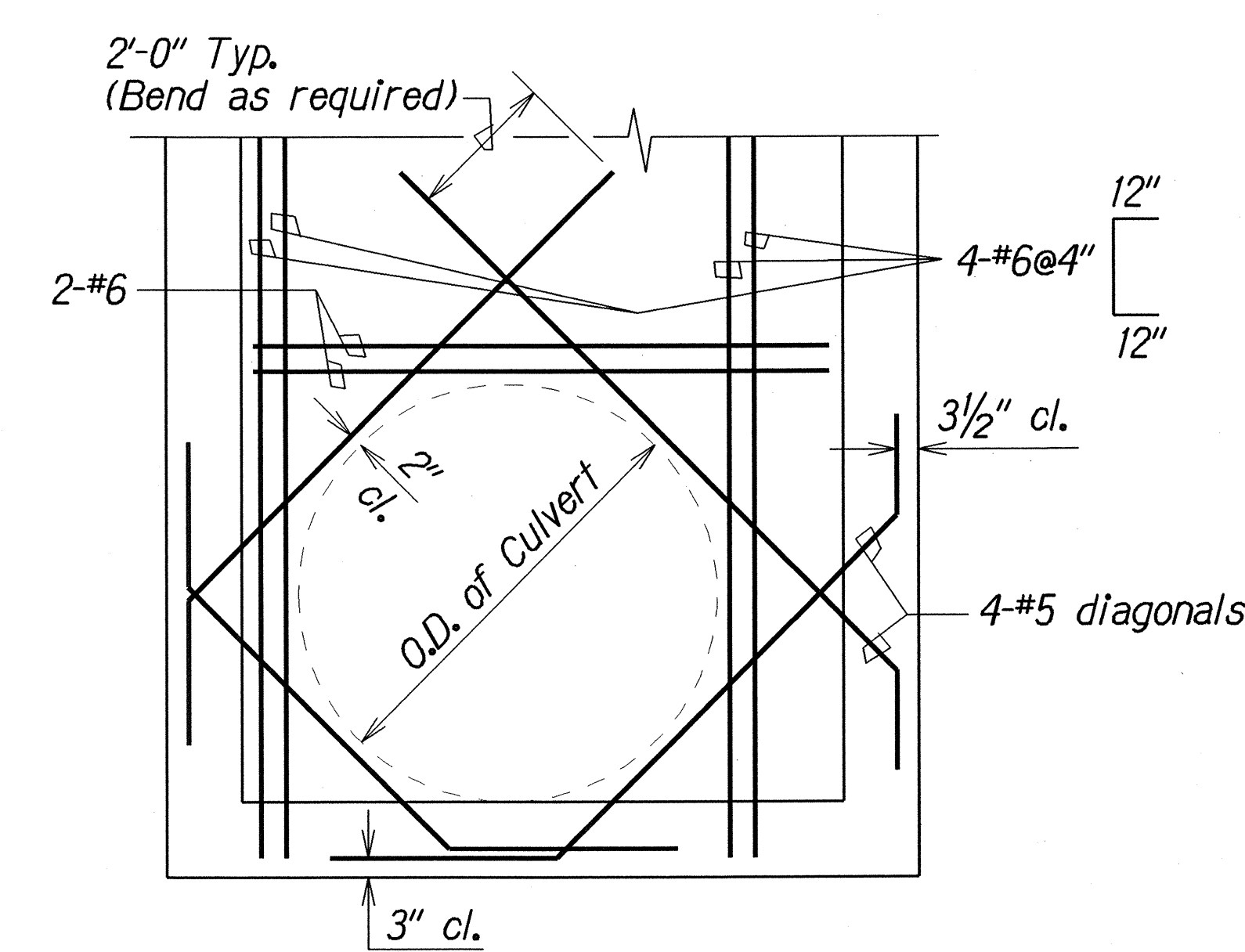
PLAN



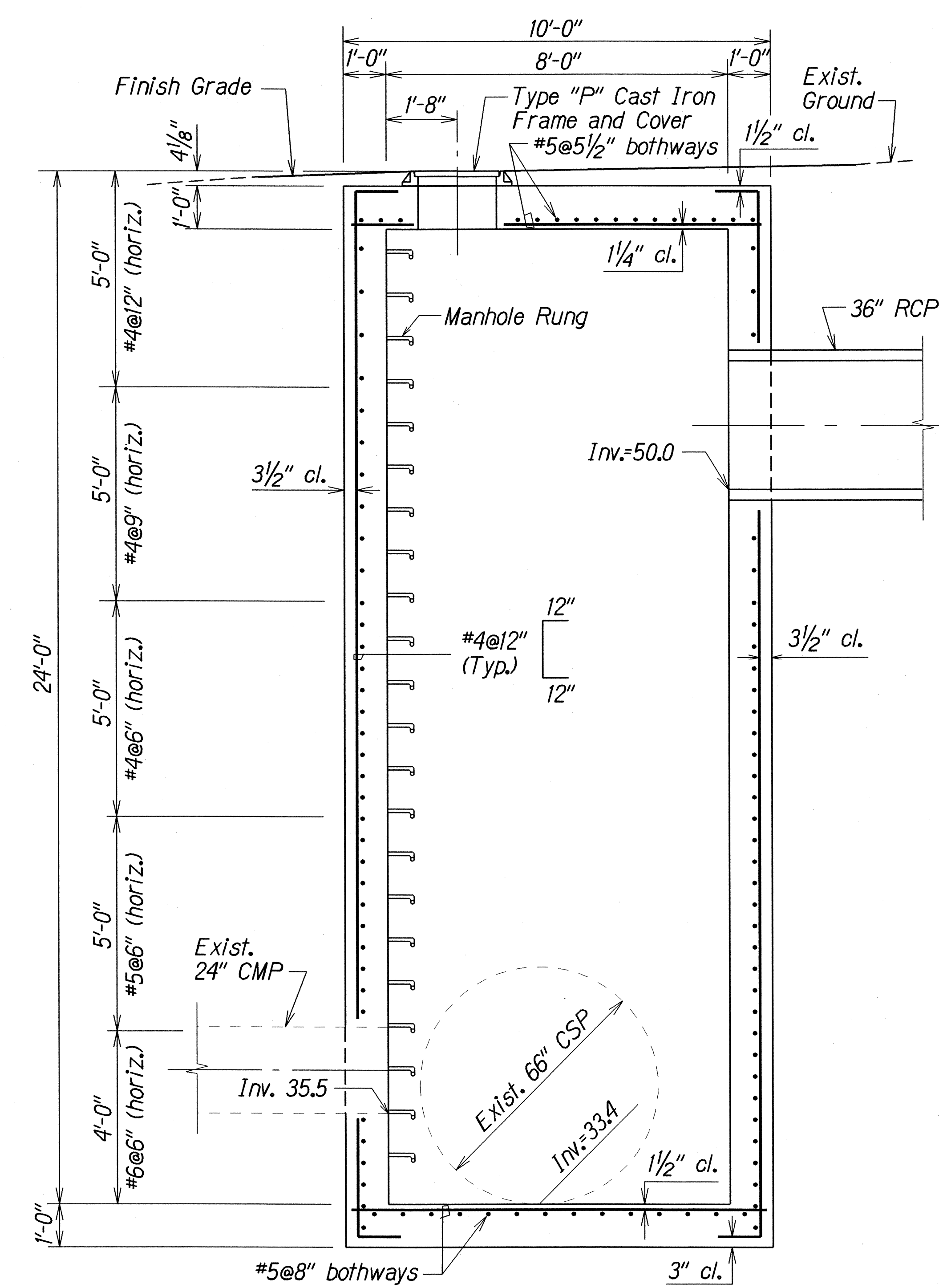
ADDED REINFORCING AROUND MANHOLE OPENING



PLAN VIEW OF WALL REINFORCING



ADDED REINFORCING FOR CULVERT OPENING



SECTION

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAIL**

**MOKAPU SADDLE RD. DRAINAGE IMP.**

*Kaneohe Bay Drive to  
Vicinity of BWS Access Road*

**Fed. Aid Project No. STP-065-1(5)**

Scale: 1/2"=1'-0" Date: Oct. 1996

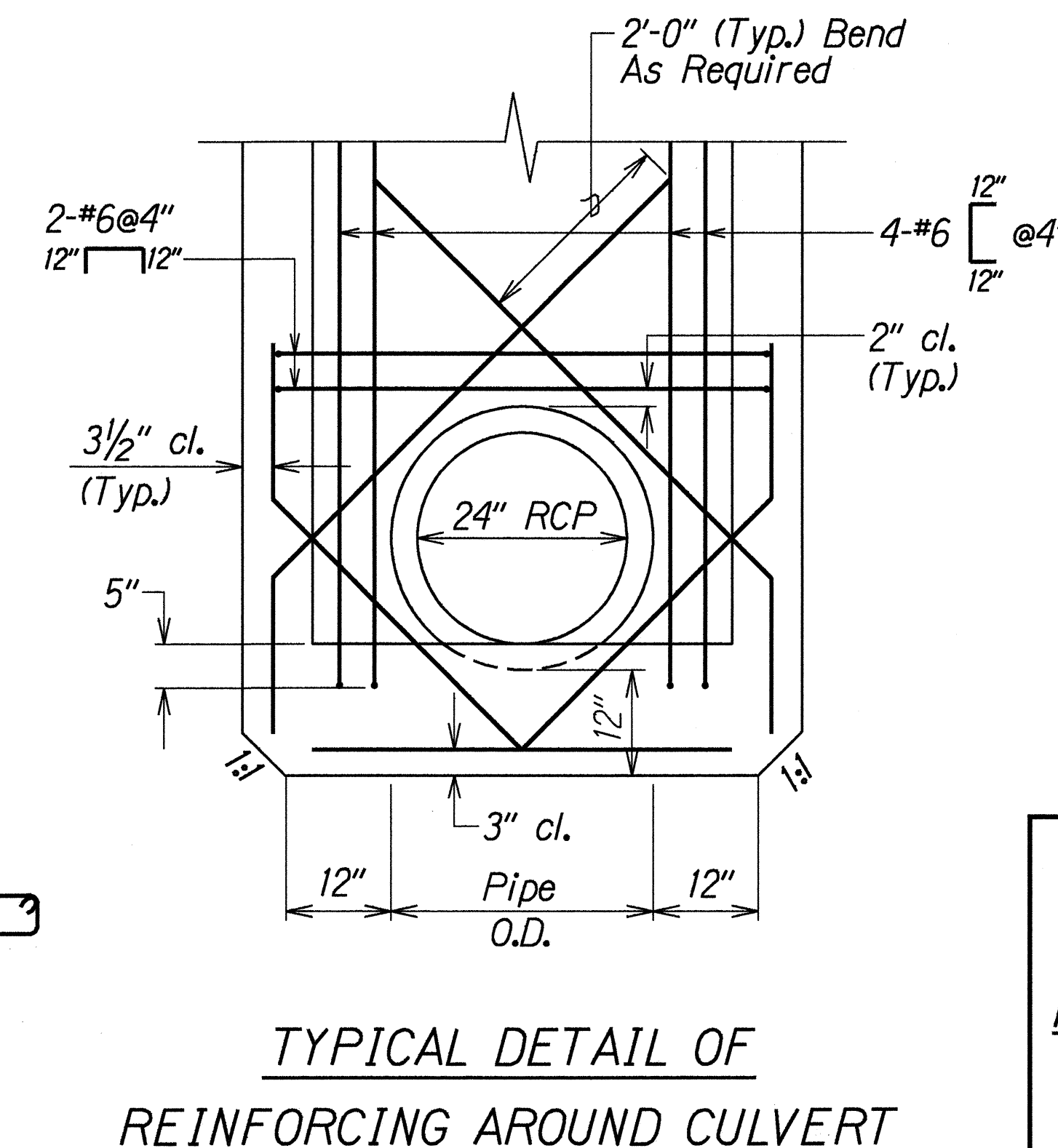
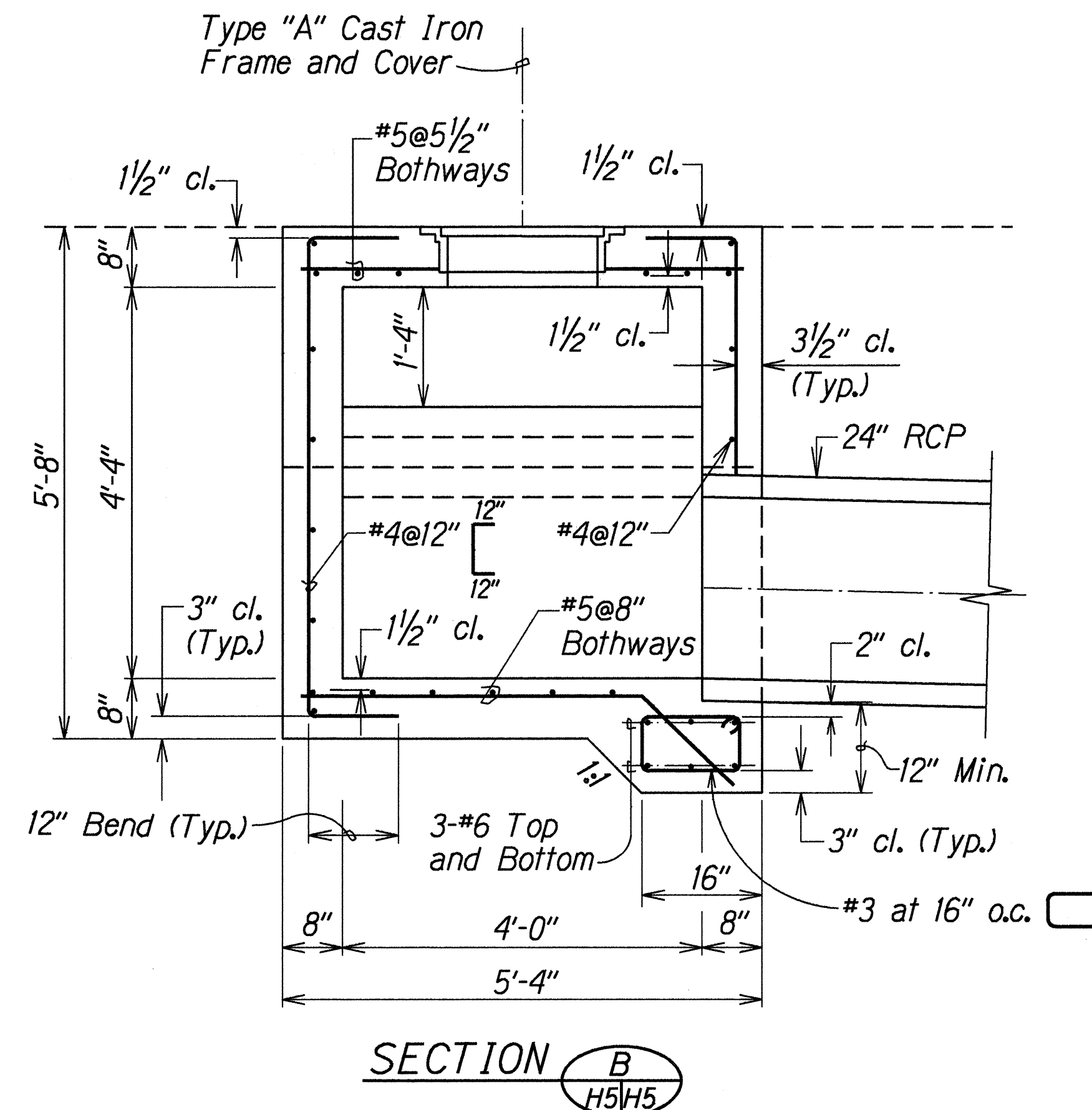
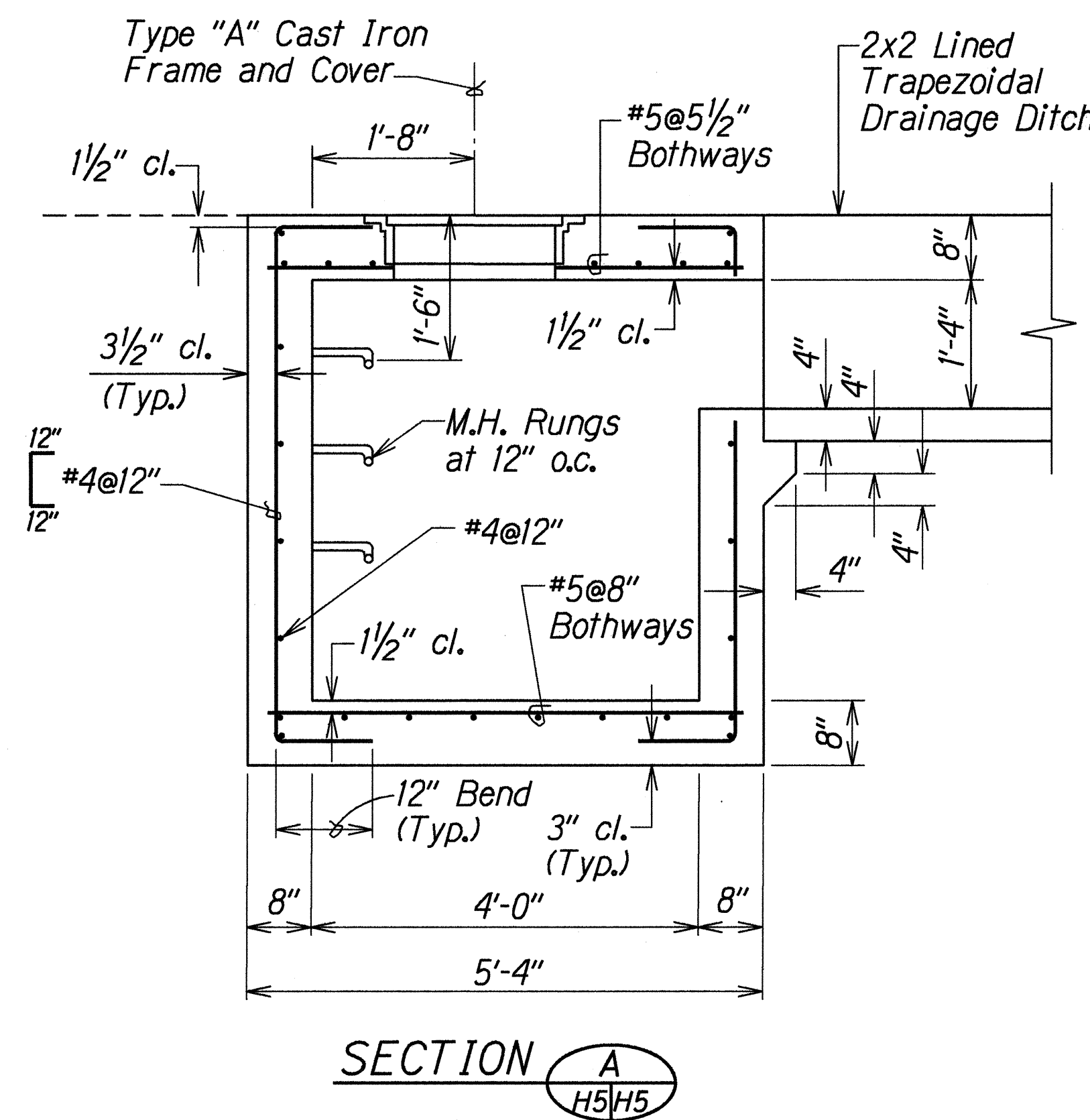
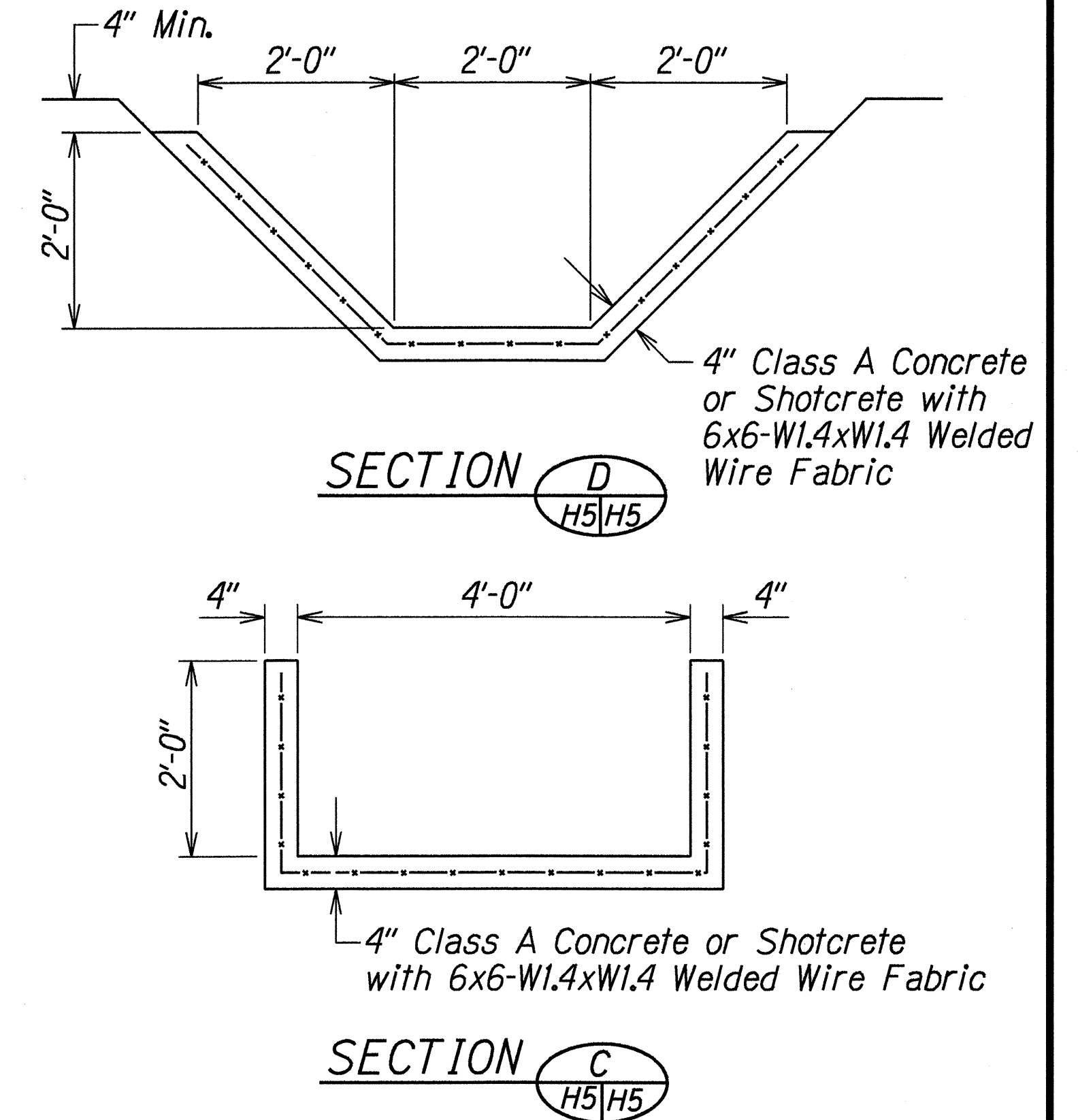
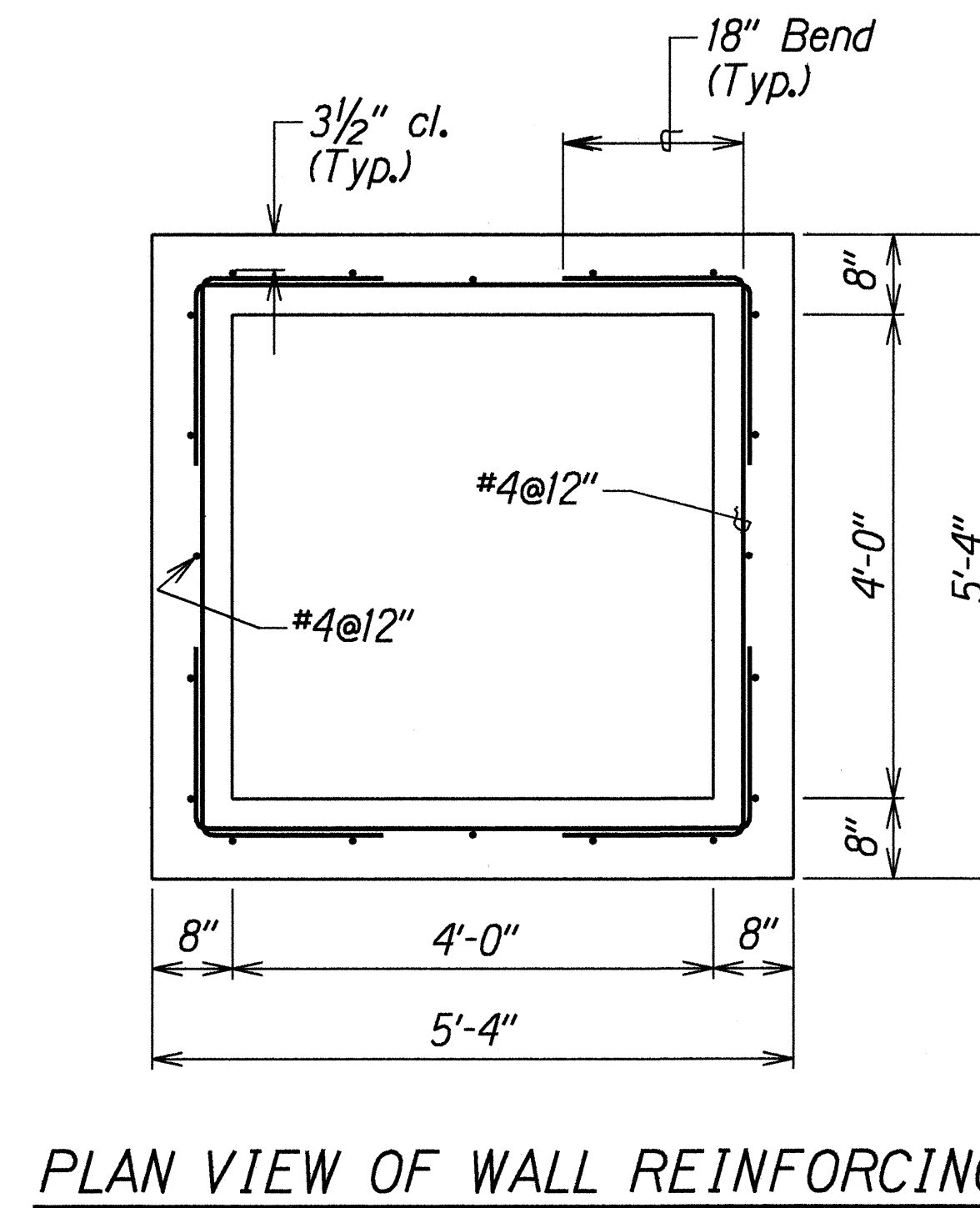
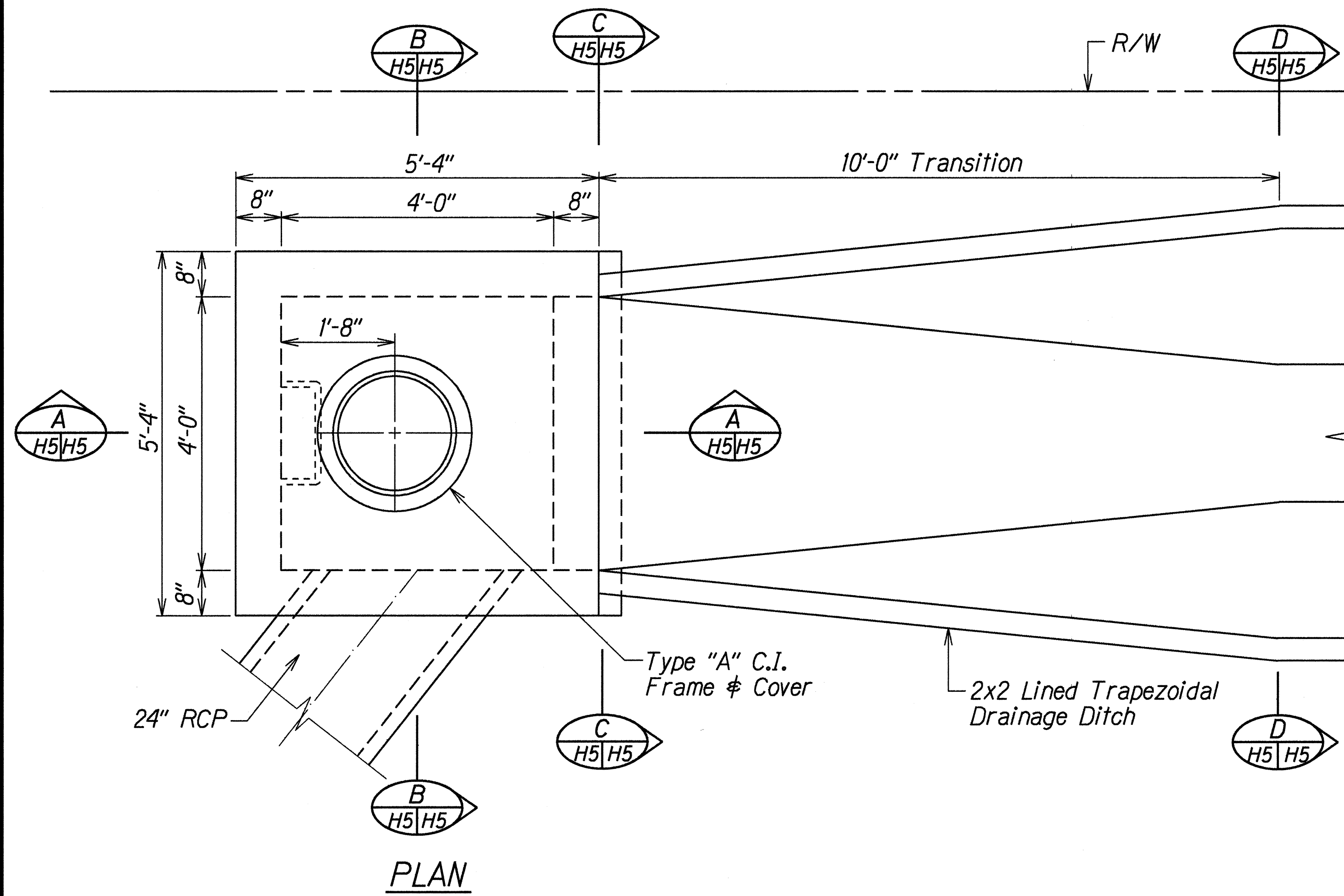
SHEET No. **H4** OF 6 SHEETS

|                   |         |
|-------------------|---------|
| SURVEY PLOTTED BY | DATE    |
| DRAWN BY          | 12/3/96 |
| NOTE BOOK         |         |
| QUANTITIES BY     |         |
| CHECKED BY        |         |

TYPE X SDMH AT STA. 15+30



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-065-1(5)       | 1997        | 8         | 9            |



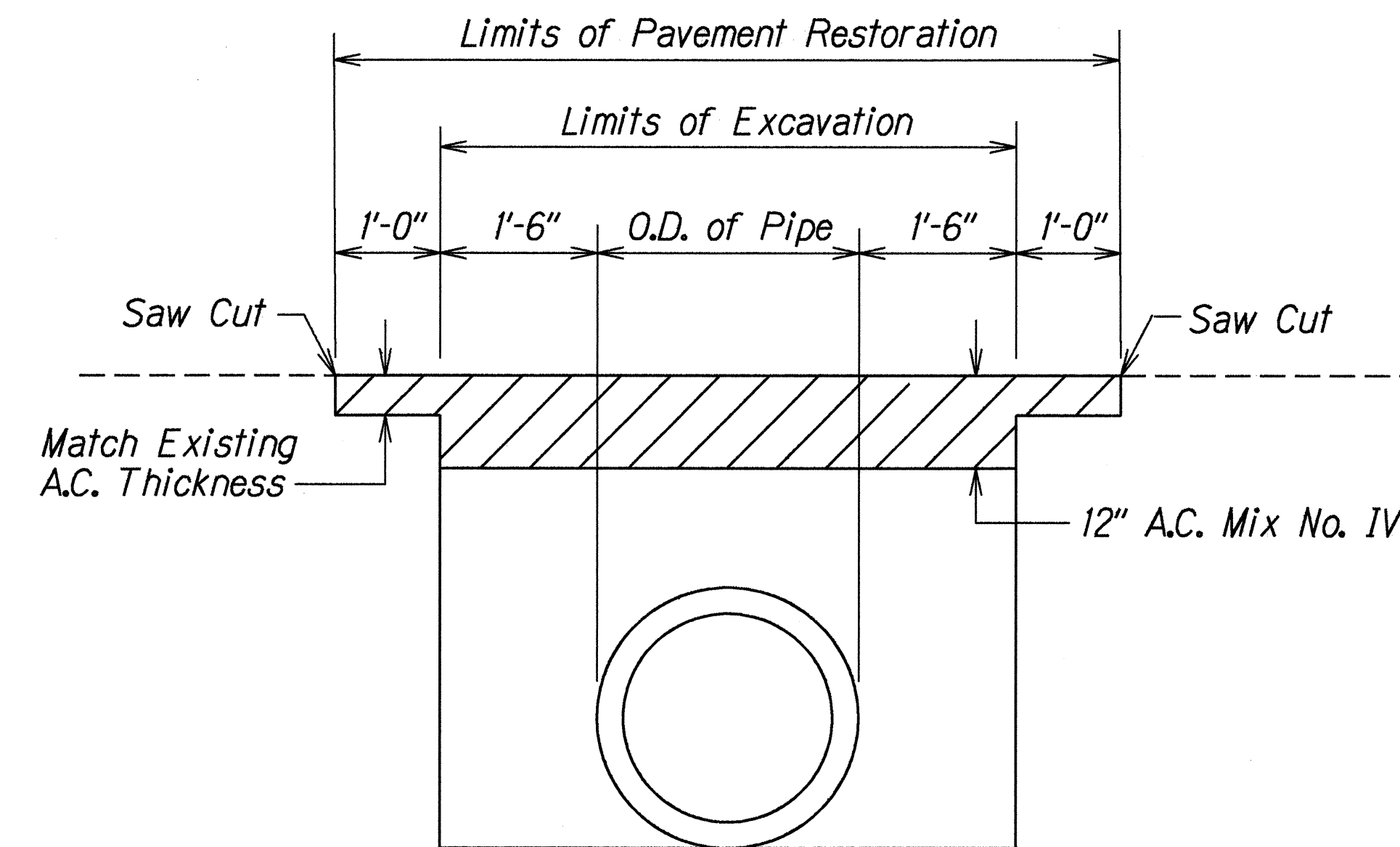
DETAIL OF TYPE "X" C.B. AT STA. 26+75 o/s 80' LT.

|                   |              |
|-------------------|--------------|
| DATE              | 12/01/96     |
| SURVEY PLOTTED BY | Russell Sato |
| DESIGNED BY       | Ray Salazar  |
| CHECKED BY        | Ray Salazar  |
| NOTED BY          | Ray Salazar  |
| ORIGINAL PLAN     | 1/2" = 1'-0" |

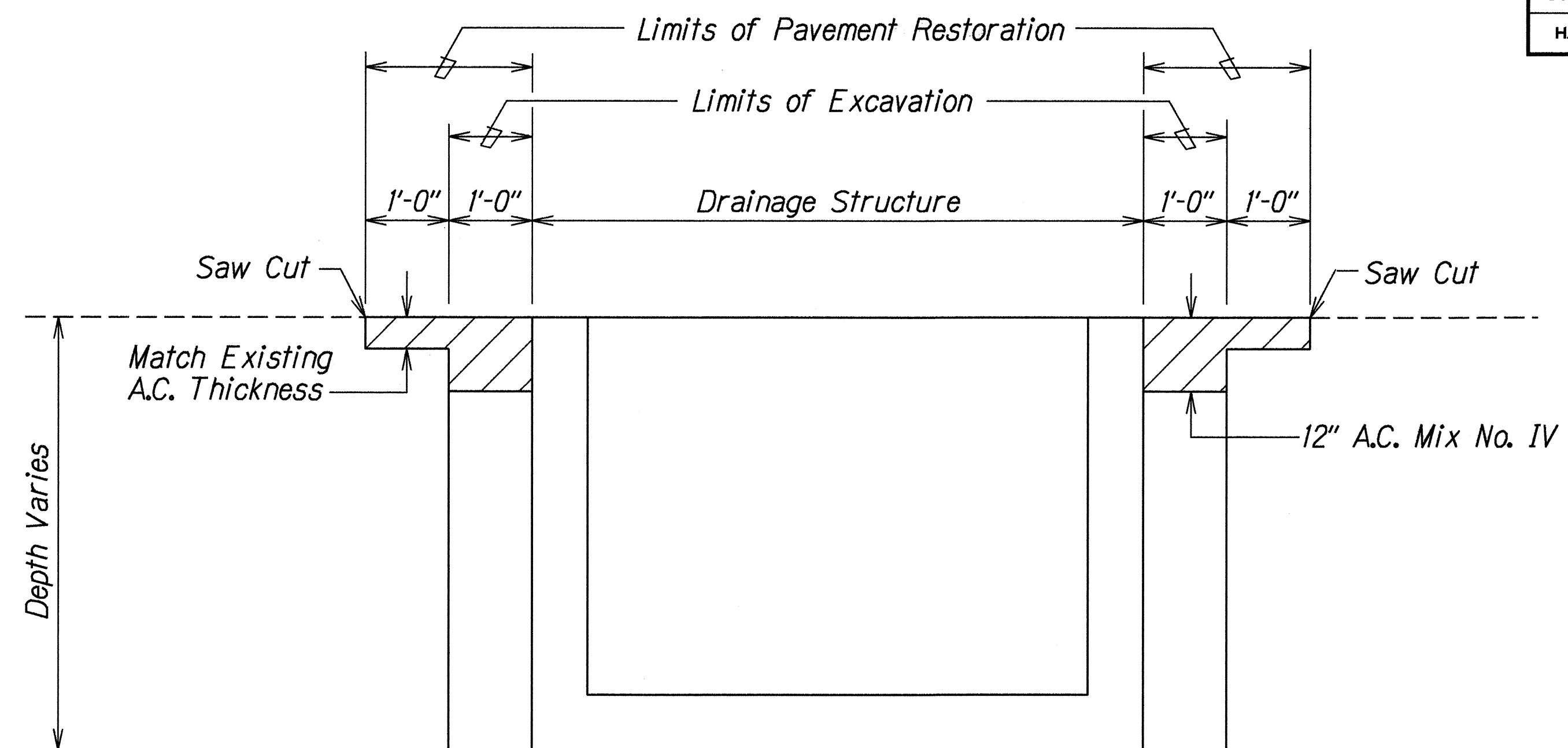
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**DRAINAGE DETAILS**  
 MOKAPU SADDLE RD. DRAINAGE IMP.  
 Kaneohe Bay Drive to  
 Vicinity of BWS Access Road  
 Fed. Aid Project No. STP-065-1(5)  
 Scale: 3/4"=1'-0" Date: Oct. 1996  
 SHEET No. H5 OF 6 SHEETS



| FED. ROAD DIST. NO. | STATE | PROJ. NO.    | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-065-1(5) | 1997        | 9         | 9            |

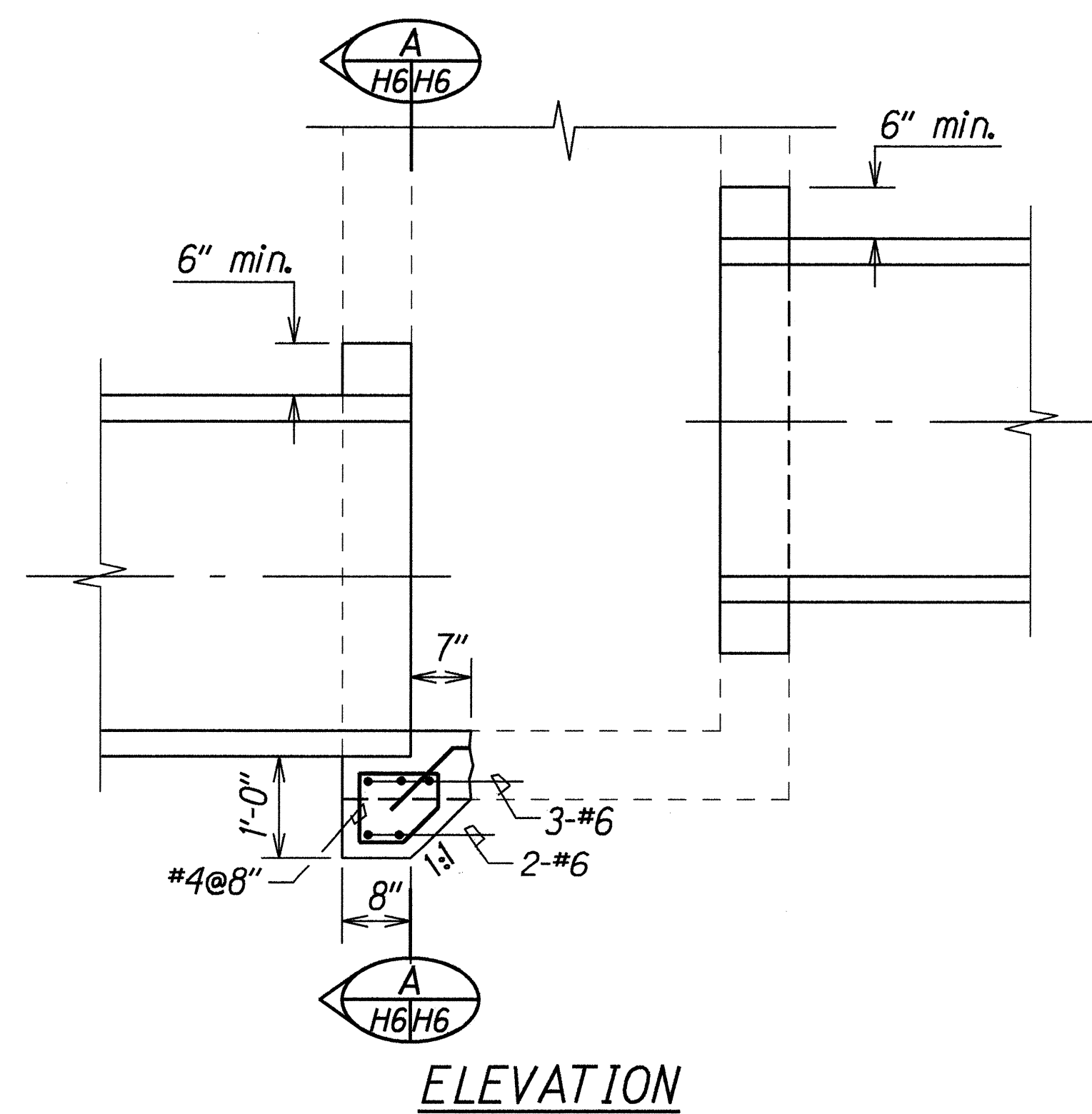


OVER PIPE TRENCH

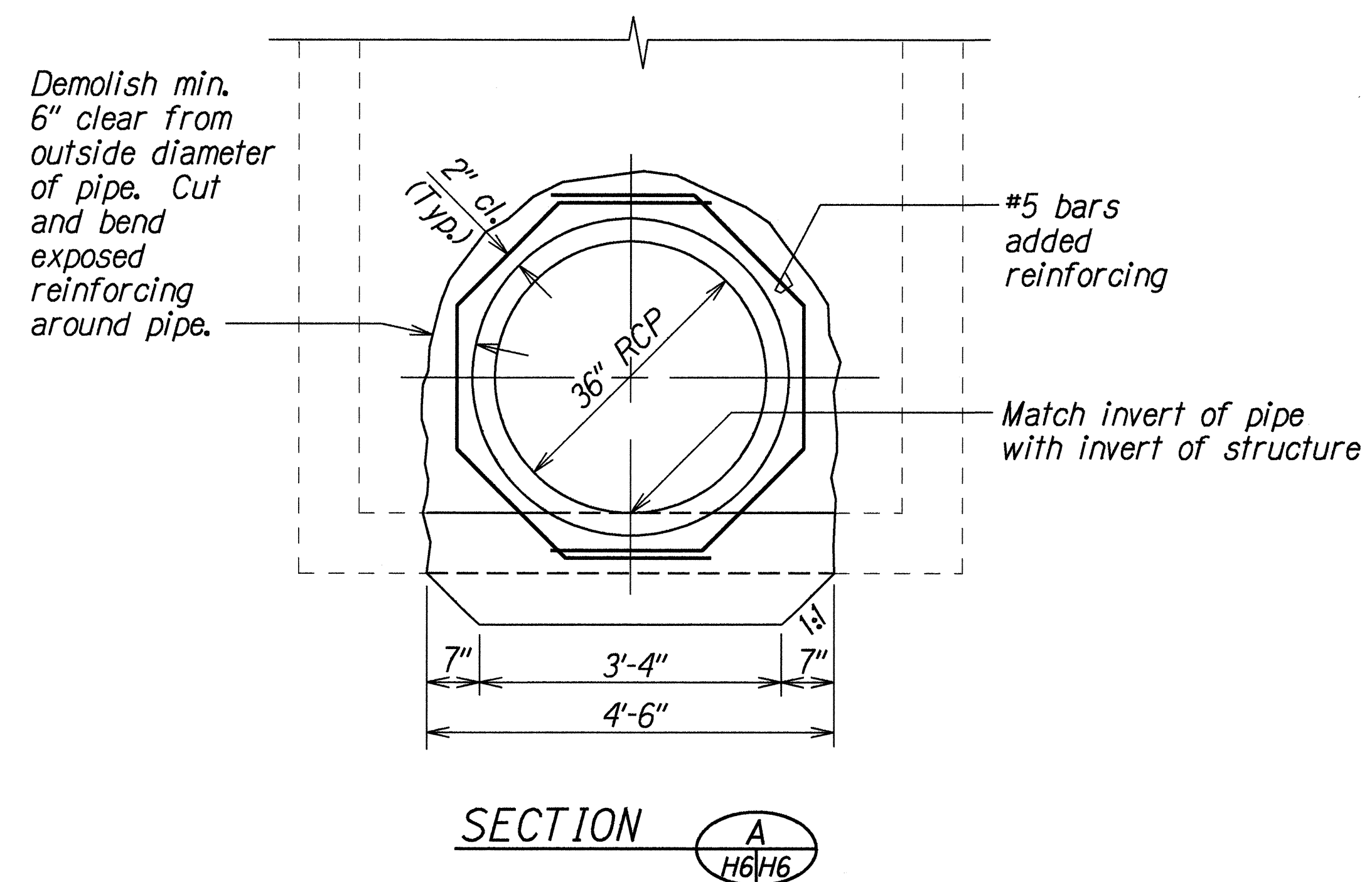


AROUND DRAINAGE STRUCTURE

DETAILS OF PAVEMENT RESTORATION



ELEVATION



SECTION

DETAILS OF PIPE CONNECTION

|                            |          |
|----------------------------|----------|
| ORIGINAL PLAN              | DATE     |
| SURVEY PLOTTED BY          | 12/29/96 |
| DRAWN BY A. Nomura         |          |
| DESIGNED BY B. S. S. S. S. |          |
| CHECKED BY                 |          |
| NOTED BY                   |          |
| DATE                       |          |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

**MOKAPU SADDLE RD. DRAINAGE IMP.**

**Kaneohe Bay Drive to**  
**Vicinity of BWS Access Road**  
**Fed. Aid Project No. STP-065-1(5)**

Scale: 3/4"=1'-0" Date: Oct. 1996

SHEET No. H6 OF 6 SHEETS