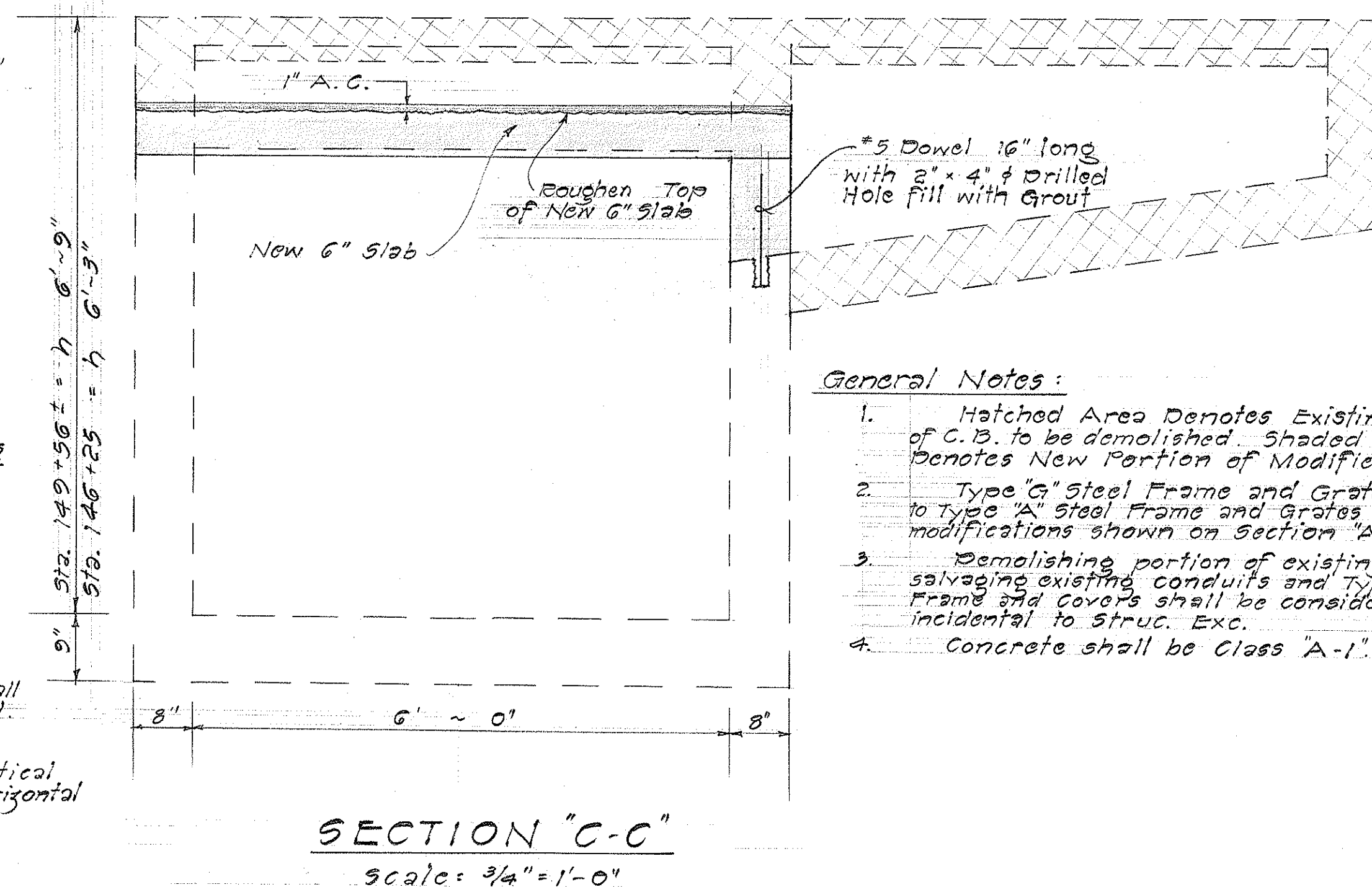
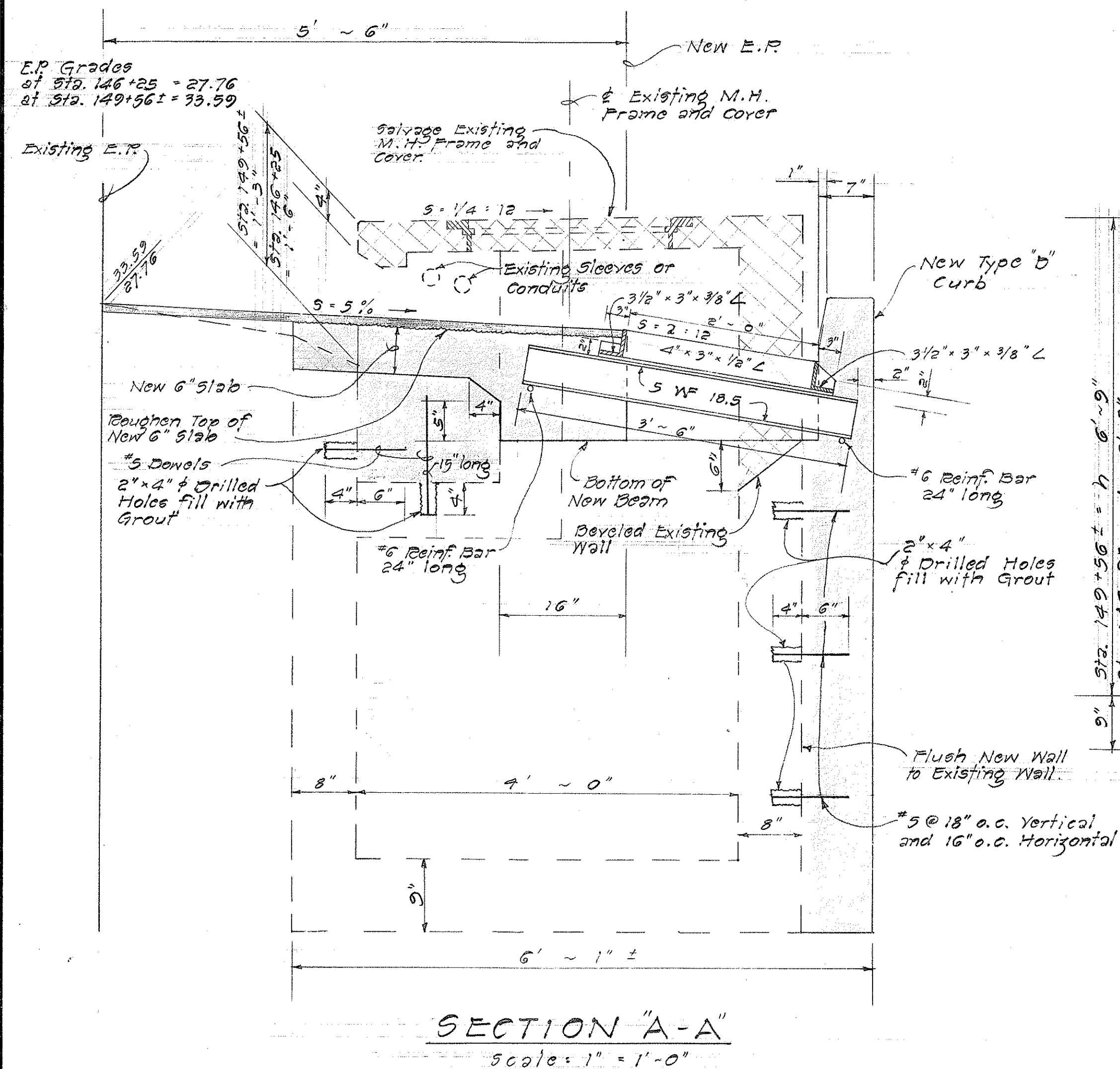
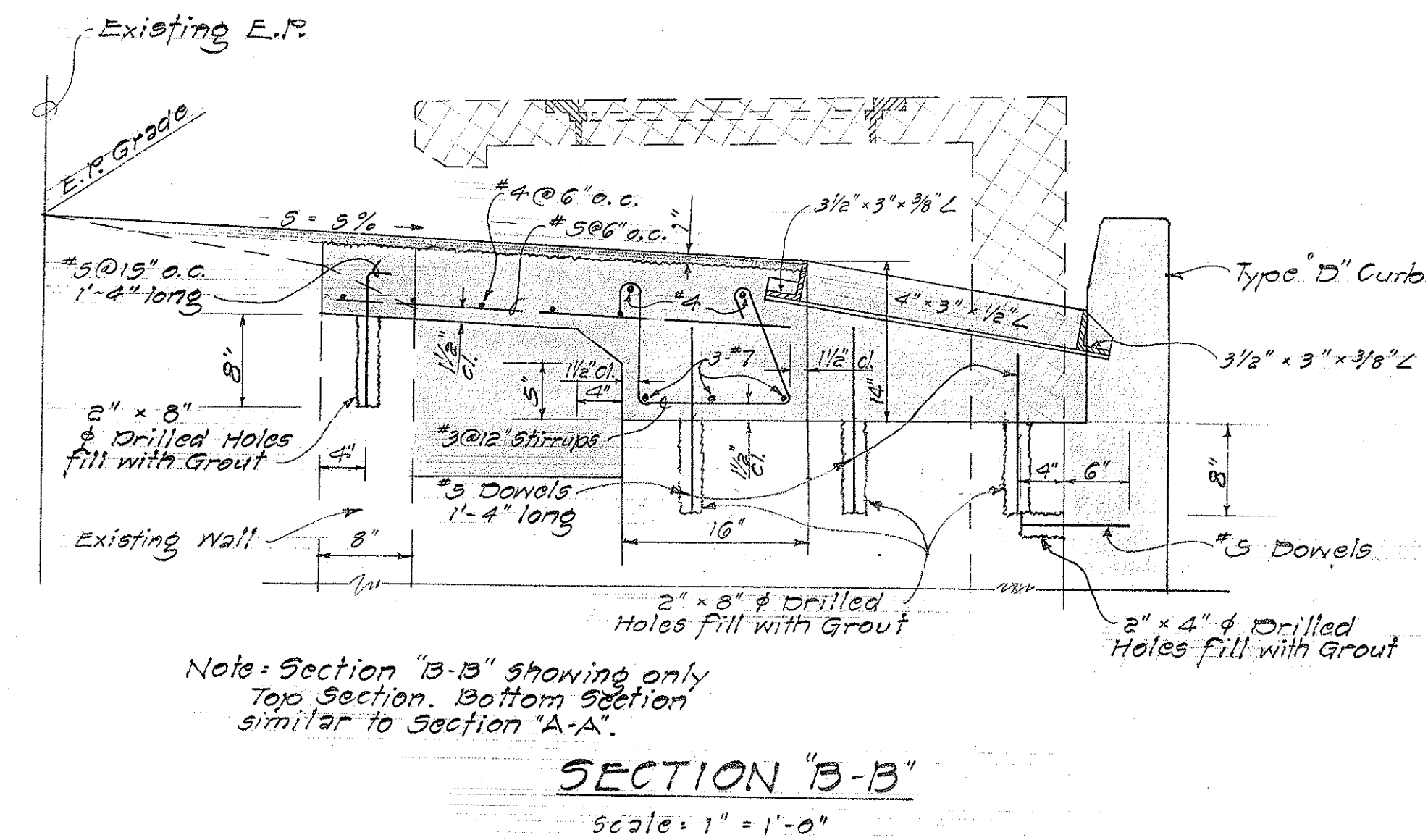
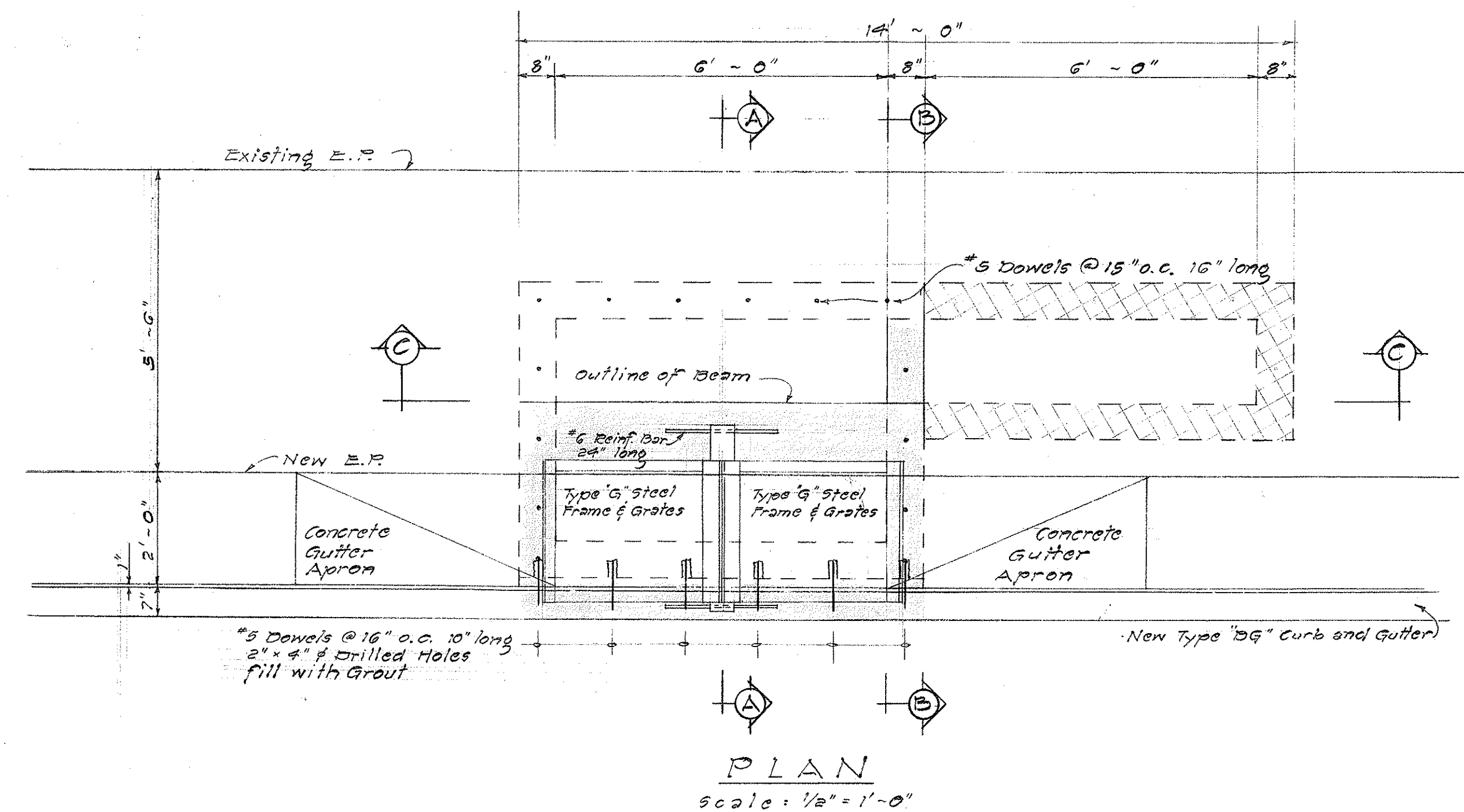


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(27)	1966	10	33



- General Notes:
1. Hatched Area Denotes Existing Portion of C.B. to be demolished. Shaded Area Denotes New Portion of Modified C.B.
 2. Type "G" Steel Frame and Grates similar to Type "A" Steel Frame and Grates except for modifications shown on Section "A-A".
 3. Demolishing portion of existing C.B. and salvaging existing conduits and Type "B" C.I. Frame and covers shall be considered incidental to Struc. Exc.
 4. Concrete shall be Class "A-1".

NOTE:
THIS SHEET SUPERSEDED BY
SHEET NO. 10A

DETAILS FOR MODIFICATION OF EXISTING CATCH BASIN
AT ± 146+25 RT. AND ± 149+56 ± RT.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

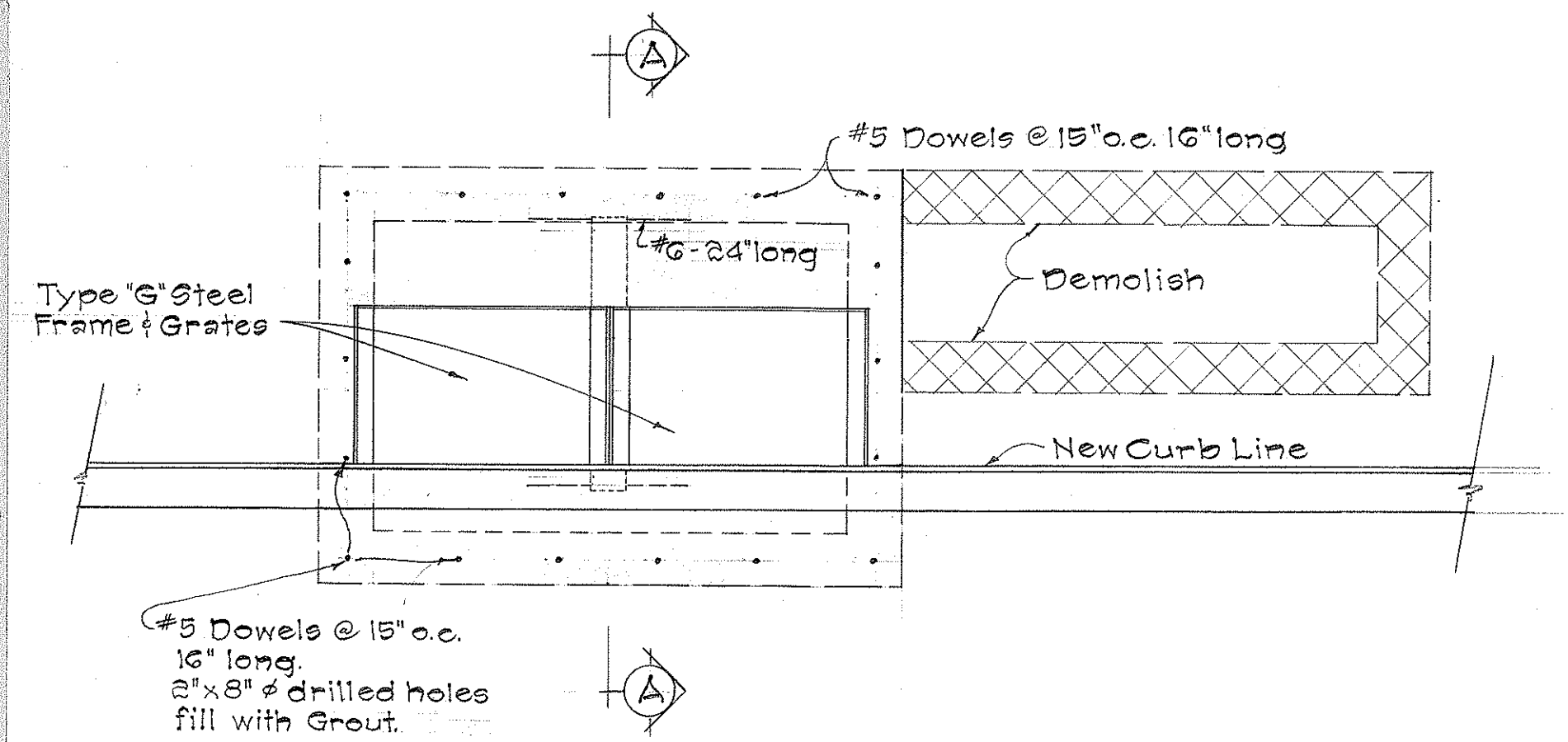
DRAINAGE STRUCTURE DETAILS

INTERSTATE HIGHWAY (LUNALILO FWY)
F.A.I. PROJ. No. I-HI-1(27)

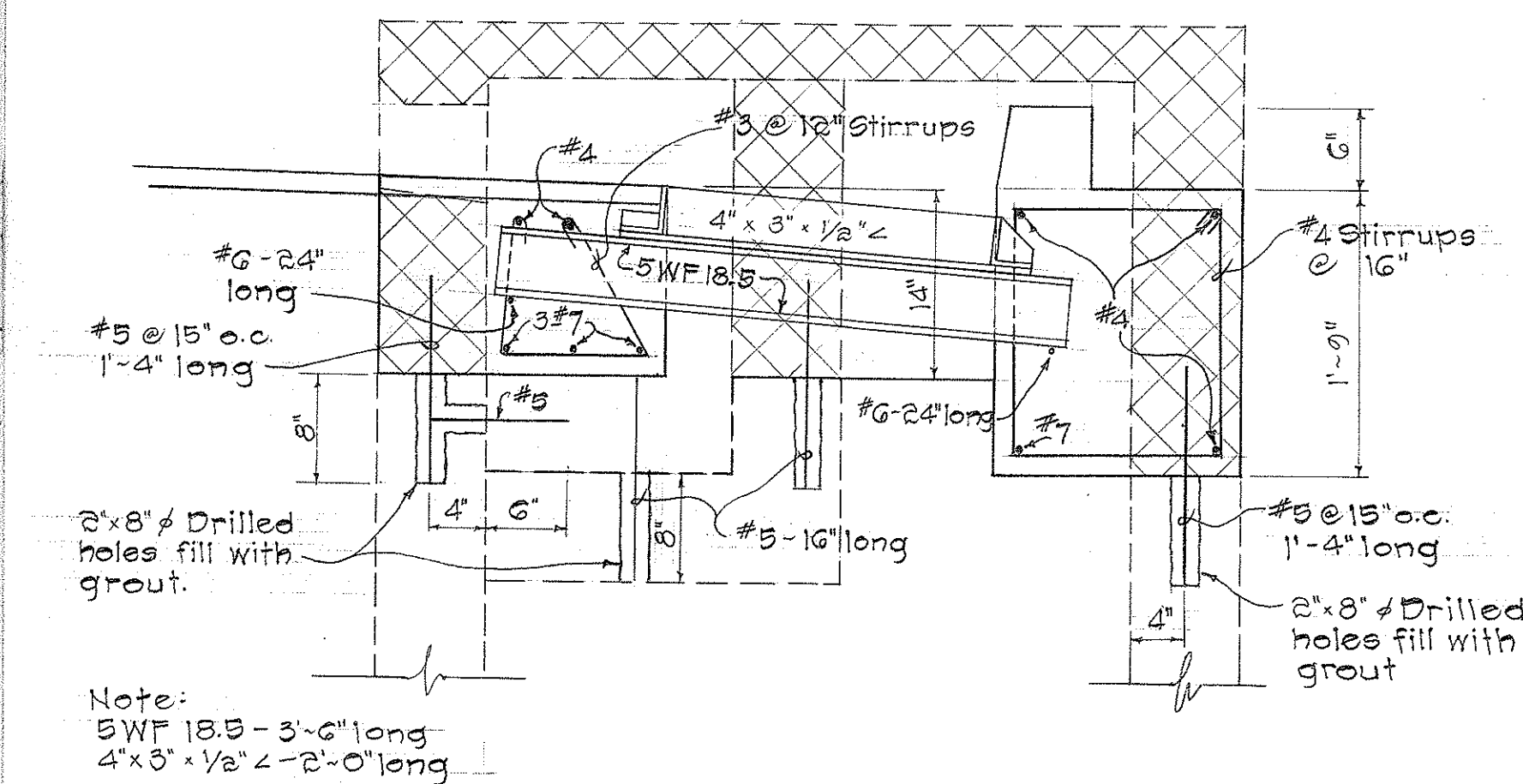
Scale: As Shown Date: April 1966
SHEET No. 1 OF 4 SHEETS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
ORIGINAL	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(27)	1966	10A	33

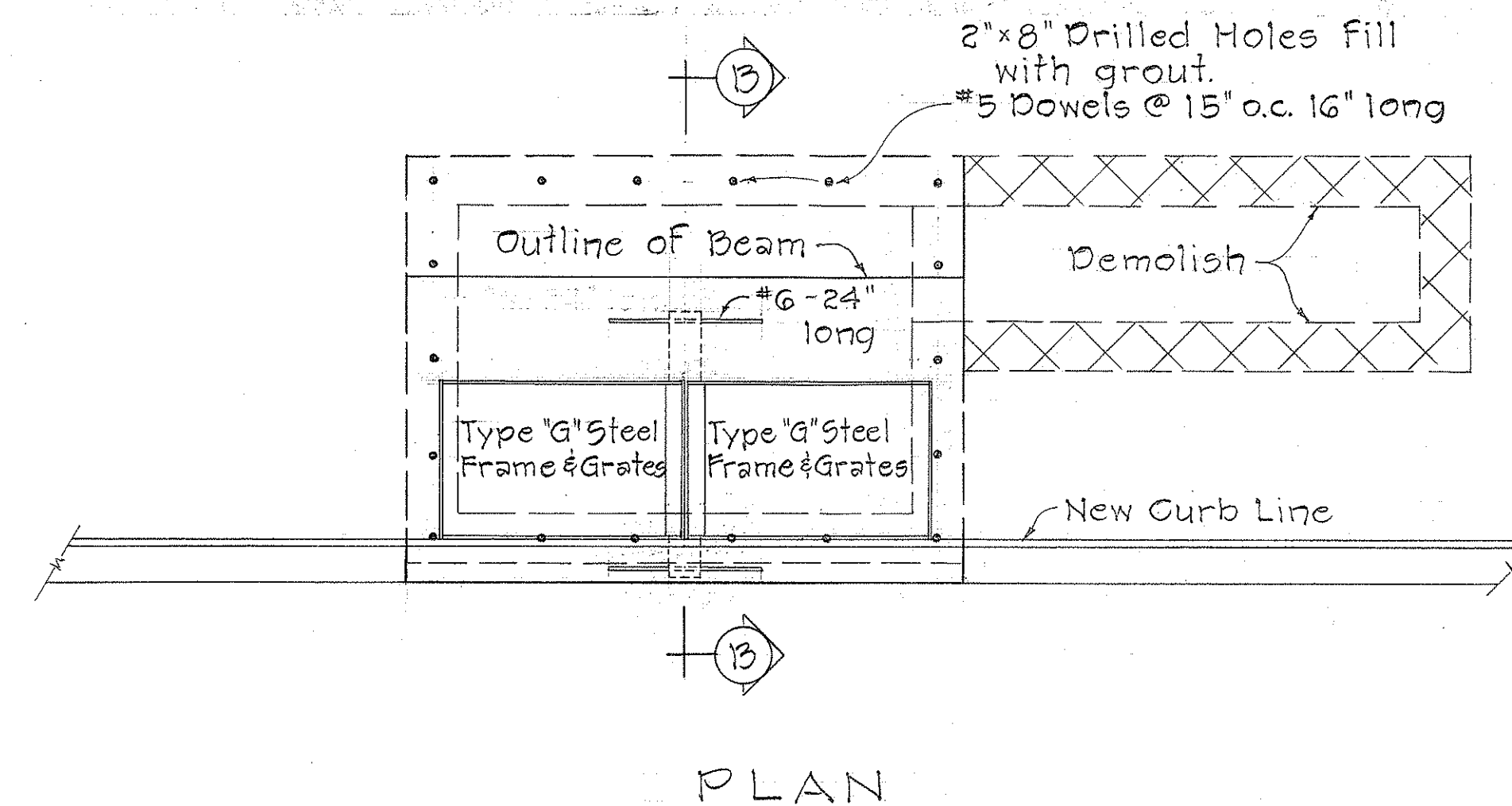


PLAN

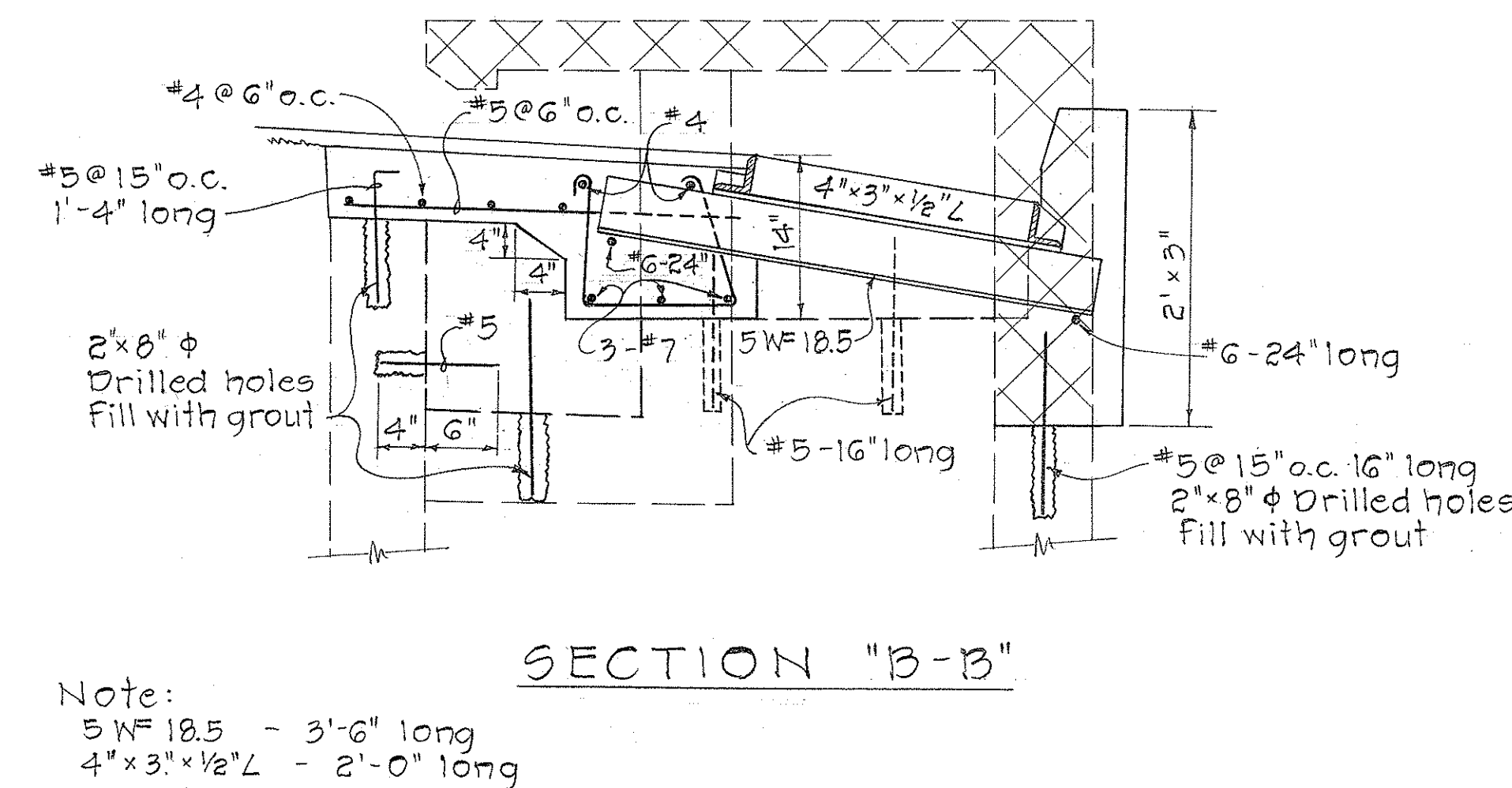


SECTION "A-A"

REVISED MODIFICATION OF C.B. @ STA. 146+25 RT.



PLAN



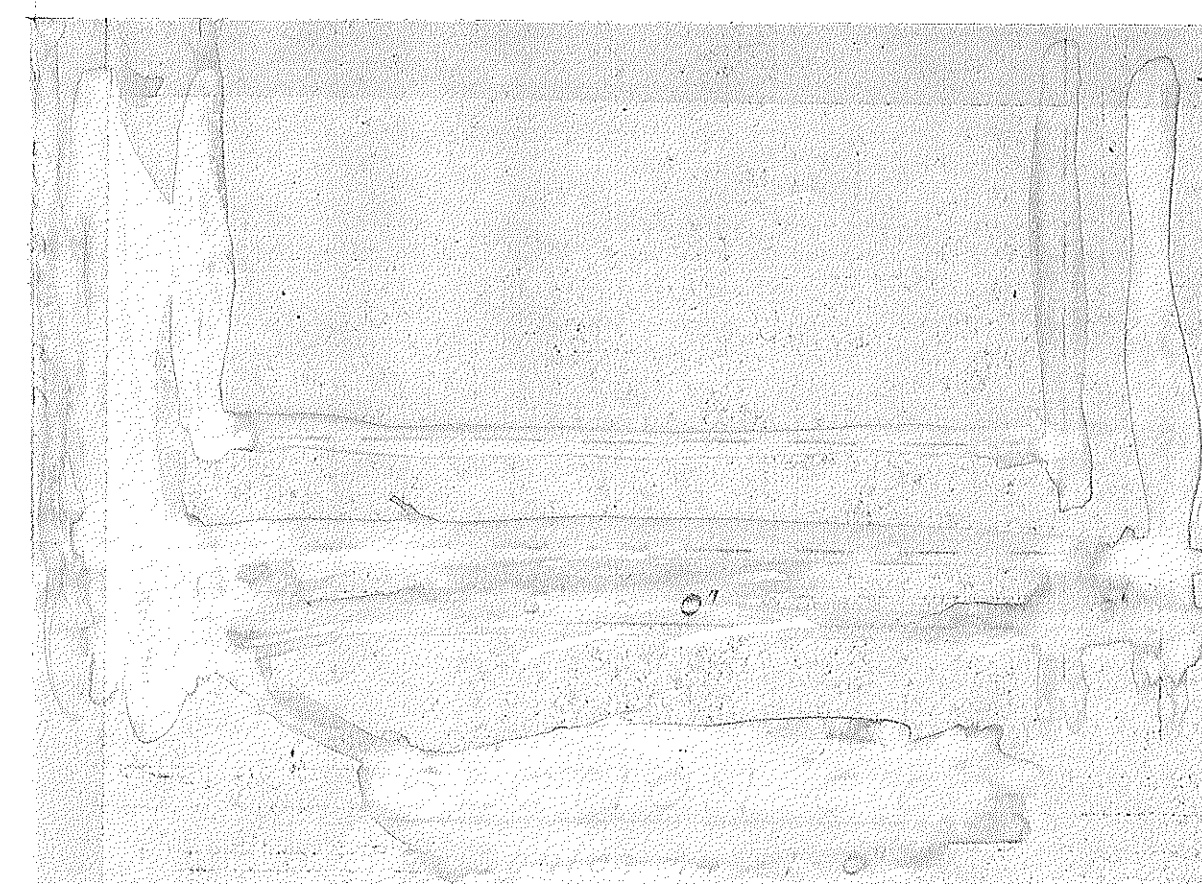
SECTION "B-B"

Note:
5WF 18.5 - 3'-6" long
4" x 3" x 1/2" L - 2'-0" long

REVISED MODIFICATION OF C.B. @ STA. 149+56 RT.

General Notes:

1. Hatched Area Denotes Existing Portion of C.B. to be demolished. Shaded Area Denotes New Portion of Modified C.B.
2. Type 'G' Steel Frame and Grates similar to Type 'A' Steel Frame and Grates except for modifications shown on Section 'A-A' & 'B-B'
3. Demolishing portion of existing C.B. and salvaging existing conduits and Type 'B' C.I. Frame and covers shall be considered incidental to Struc. Exc.
4. Concrete shall be Class 'A-1'.



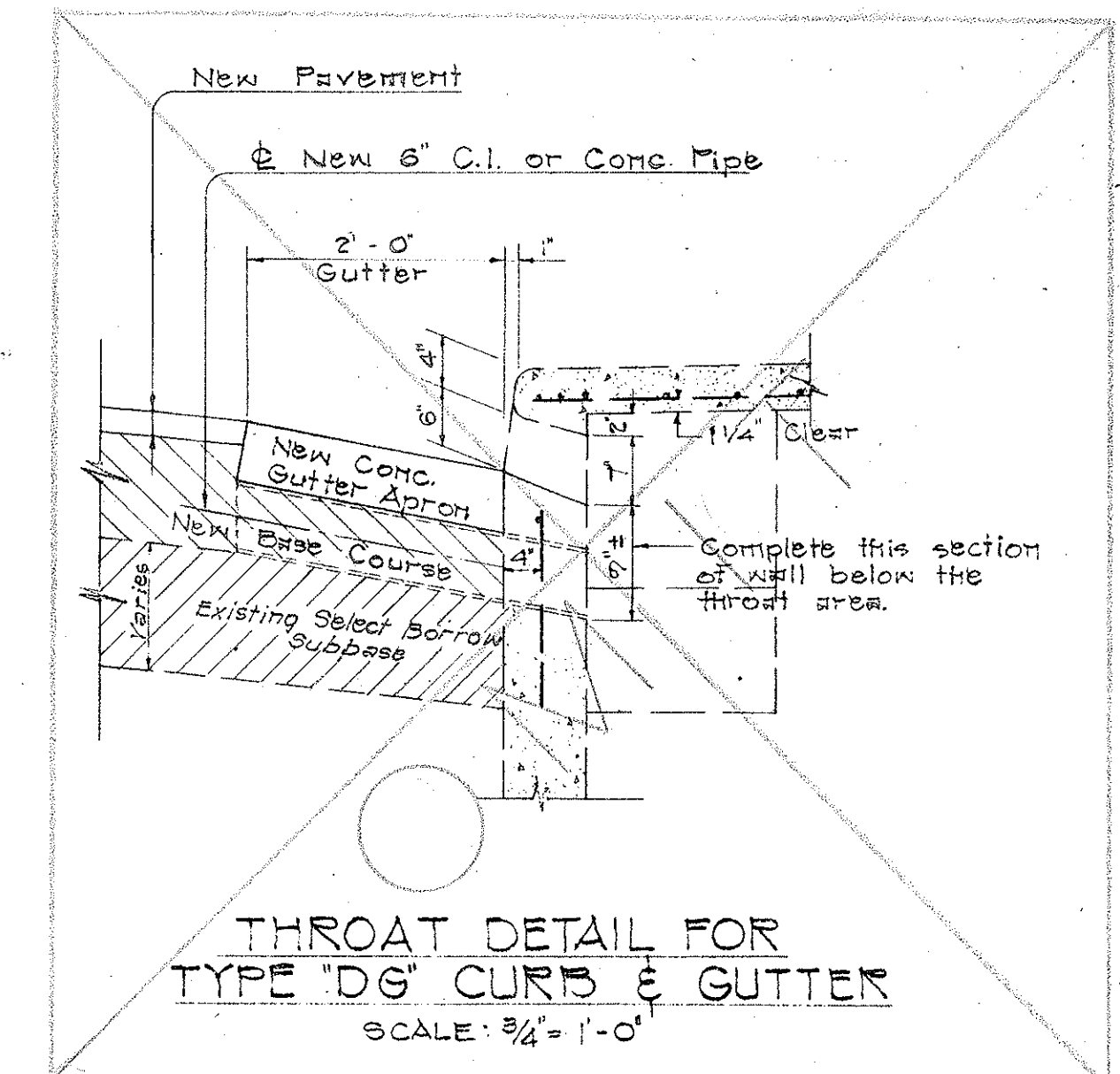
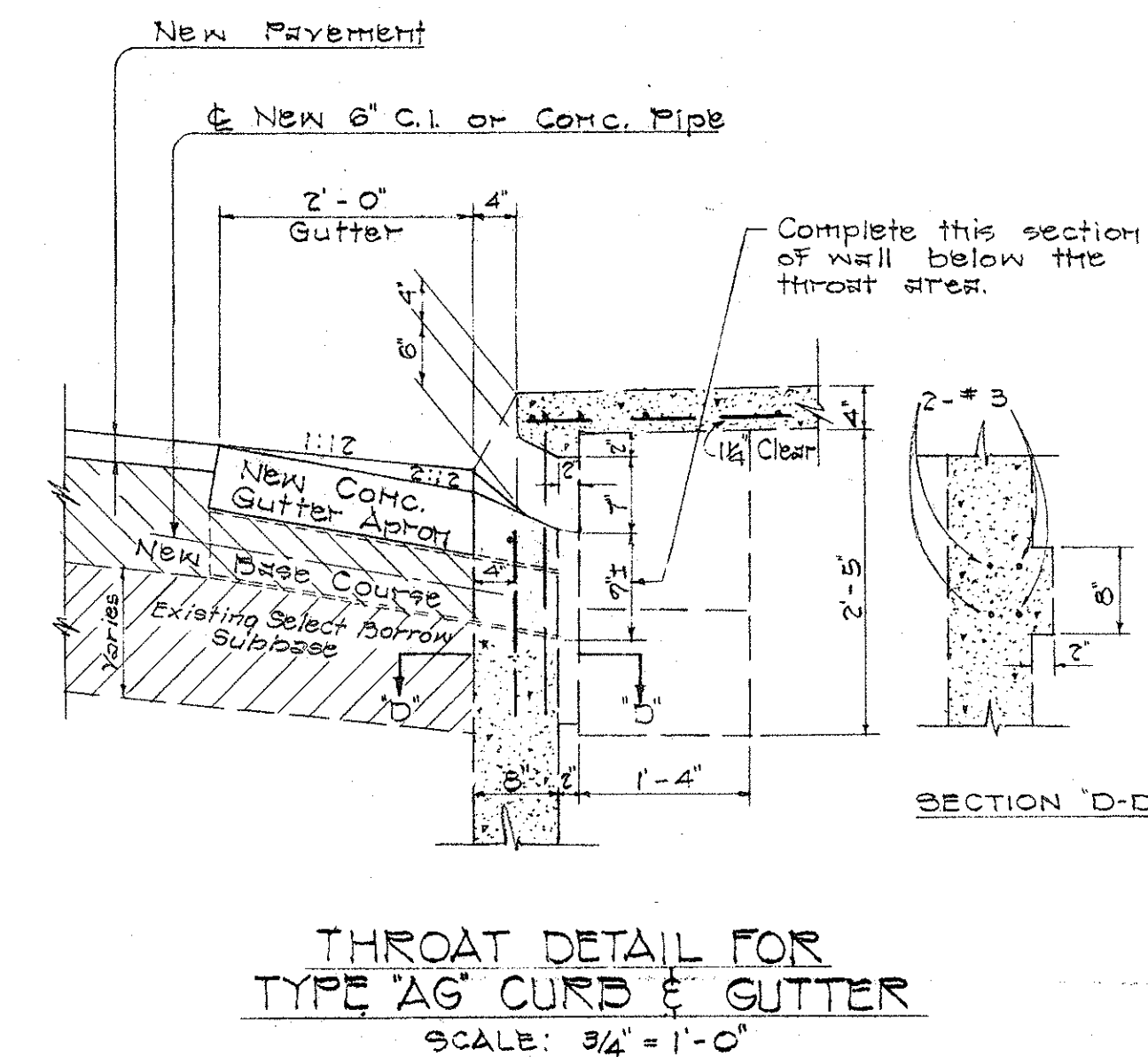
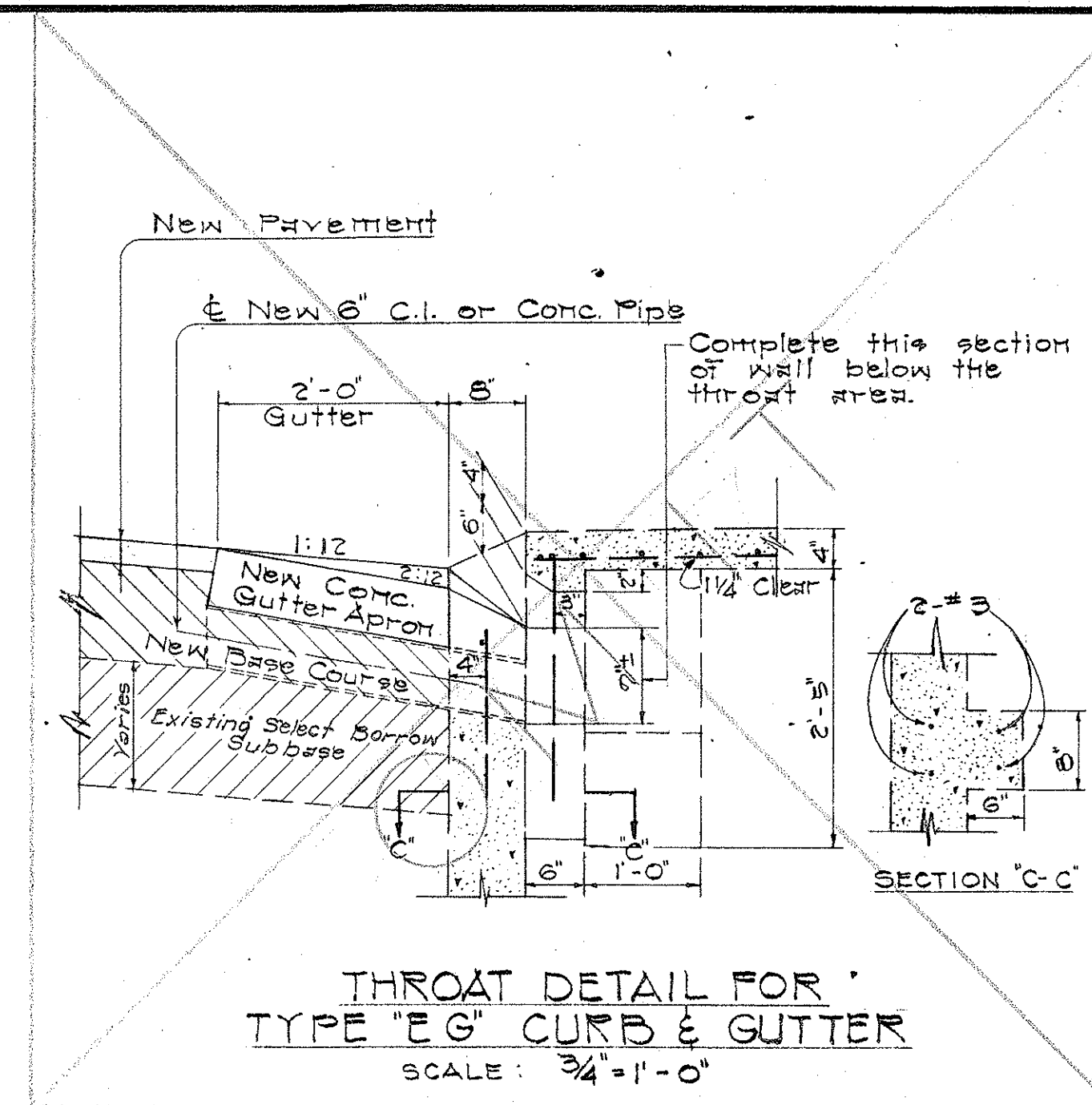
NOTE:
THIS SHEET SUPERSEDES
SHEET NO. 10

DETAILS FOR MODIFICATION OF EXISTING CATCH BASIN
AT STA. 146+25 RT AND STA. 149+56 RT.

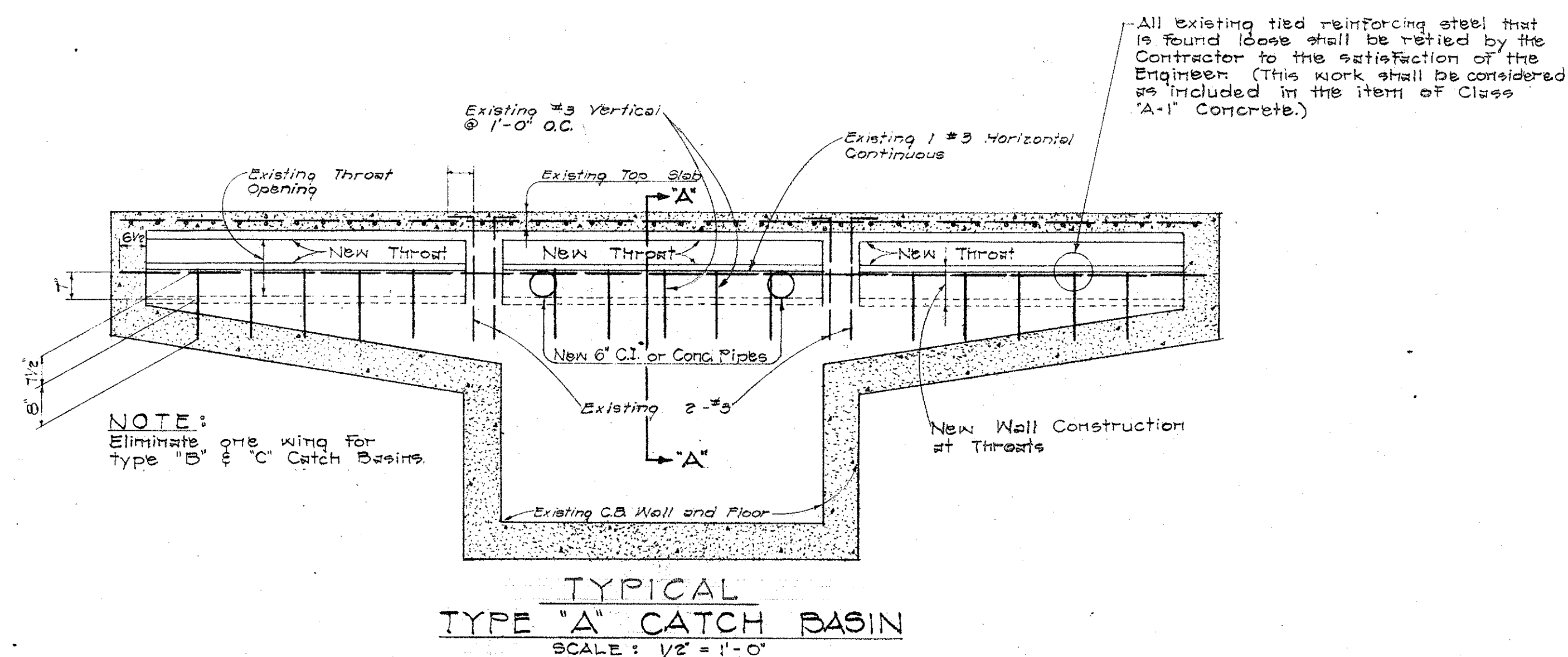
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE STRUCTURE DETAILS
INTERSTATE HIGHWAY (LUNALILO HWY.)
F.A.I. PROJ. No. I-HI-1(27)
Scale: As shown Date: April 1966
SHEET No. 1 OF 4 SHEETS

10A

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	2-11-1(27)	1966	11	33



SECTIONS "A-A"



NOTE:

- For location of catch basins and type of curb and gutter adjacent to it, see detail plan of roadway, sheet No. 4 to 7 inclusive.
- All reinforcing steel shown are existing. However any reinforcing steel found to be missing shall be replaced by the Contractor. (Any replacement of reinforcing steel if required, shall not be paid for separately, but shall be considered as included in the item of Class "Type Curb and Gutter".)
- New concrete gutter aprons shall be constructed in front of catch basins throats to be completed as shown on the standard details. Concrete gutter aprons in front of catch basins shall not be paid for separately but will be paid for at the contract unit price per linear foot for "Cast-in-Place Concrete Curb and Gutter" of the type adjacent to the catch basin.

DETAILS OF EXISTING CATCH BASIN THROATS TO BE COMPLETED

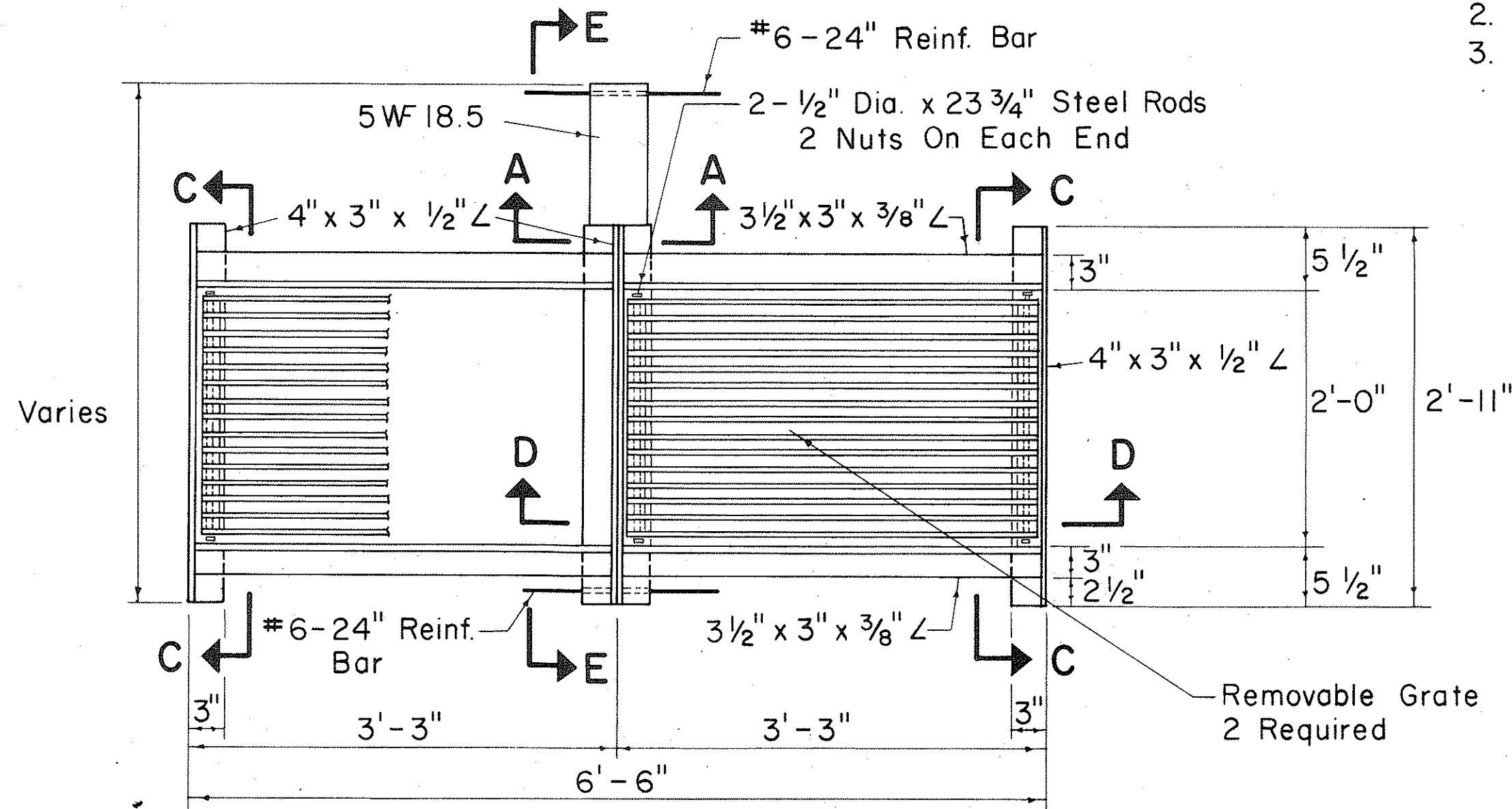
SCALE: AS NOTED

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

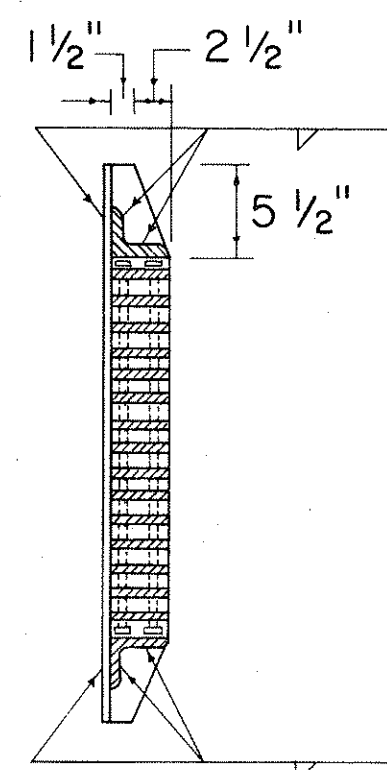
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE STRUCTURE DETAILS	
INTERSTATE HIGHWAY (LUNALILO FWY.) F.A.I. PROJ. NO. I-HI-1(27)	
Scale: As Shown	Date: April 1966
SHEET No. 2 OF 4 SHEETS	

FED. AID DIST. NO.	STATE	FED. AID. PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-HI-1(27)	1966	12	33

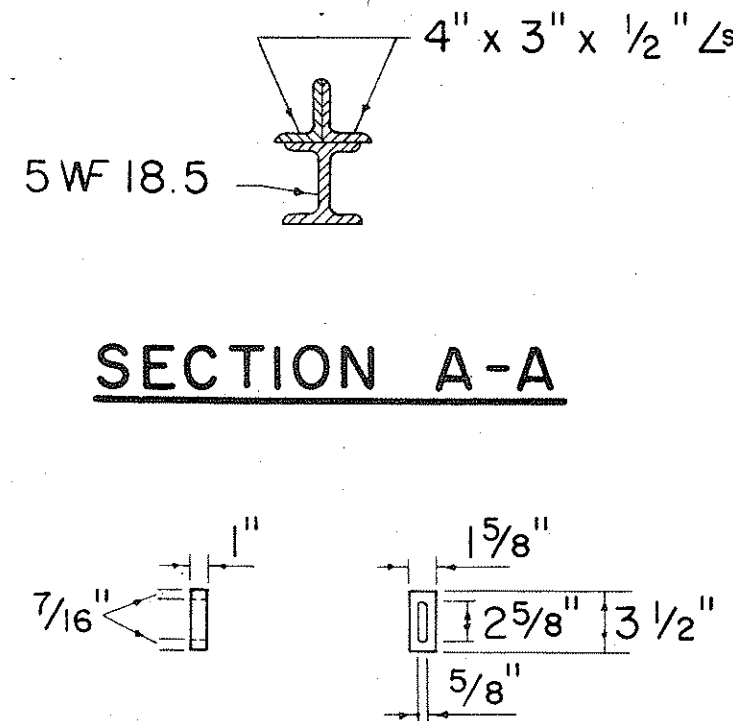
- NOTE:
1. All welds $\frac{3}{8}$ " unless otherwise noted.
 2. All steel shall be structural grade.
 3. Grates and Frame shall be hot dip galvanized after fabrication in accordance with Section 44(H) of the Standard Specifications.



PLAN

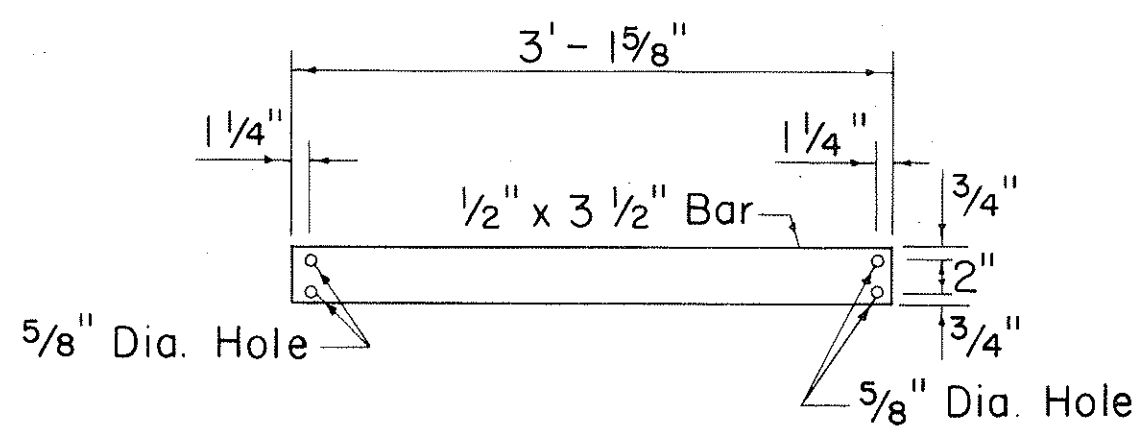


SECTION C-C



SECTION A-A

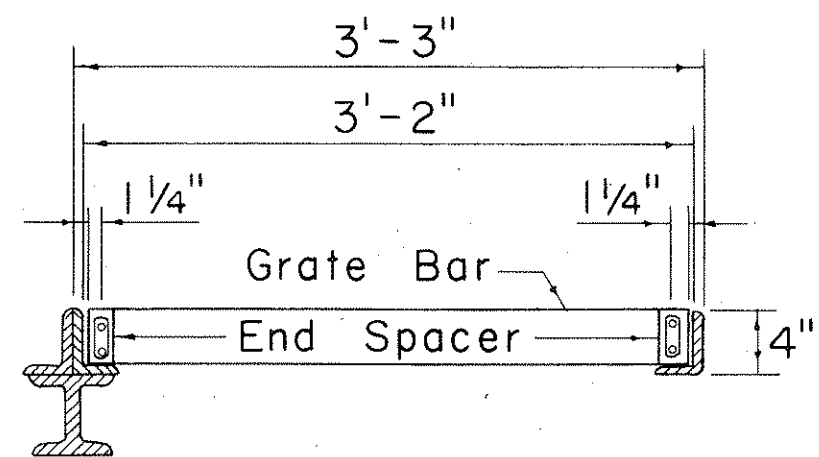
END SPACER



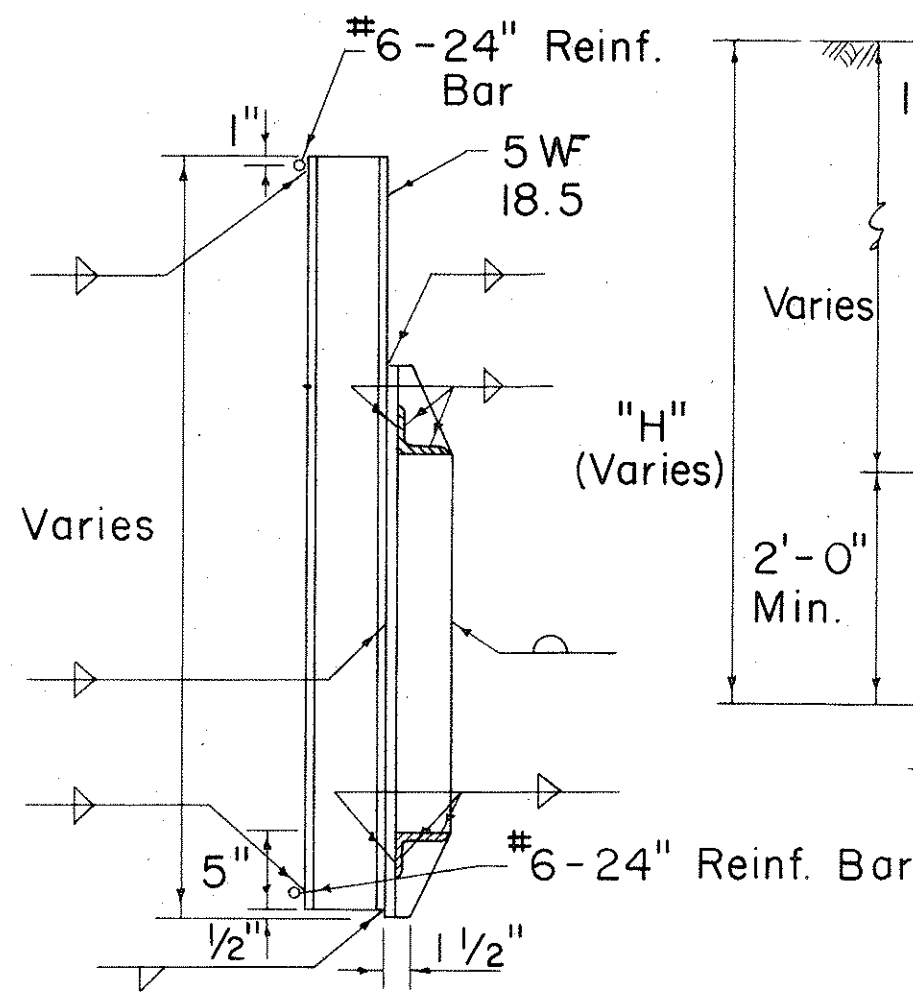
GRATE BARS

DETAIL OF TYPE "A" STEEL FRAME AND GRATES

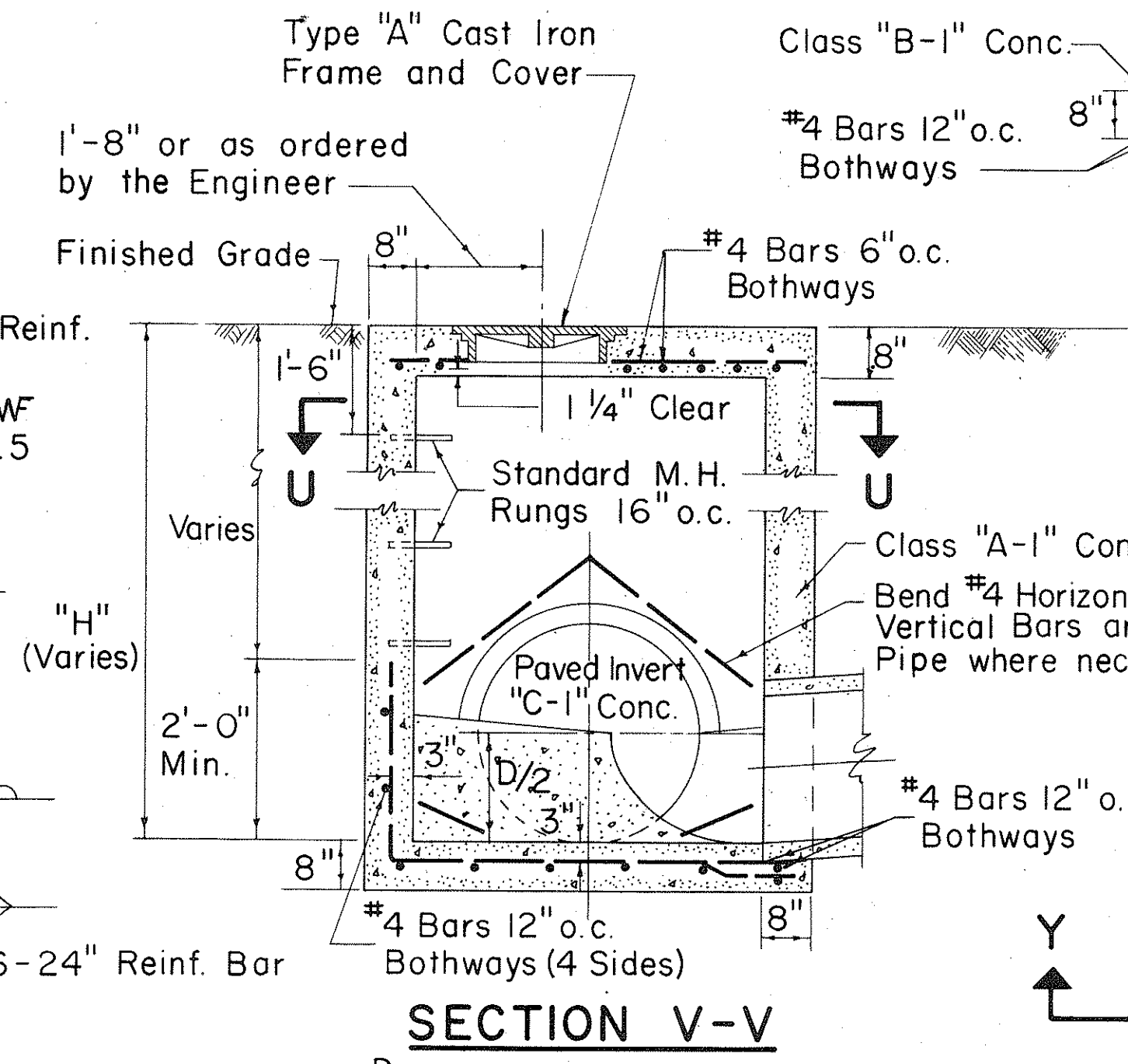
Scale: 1" = 1'-0"



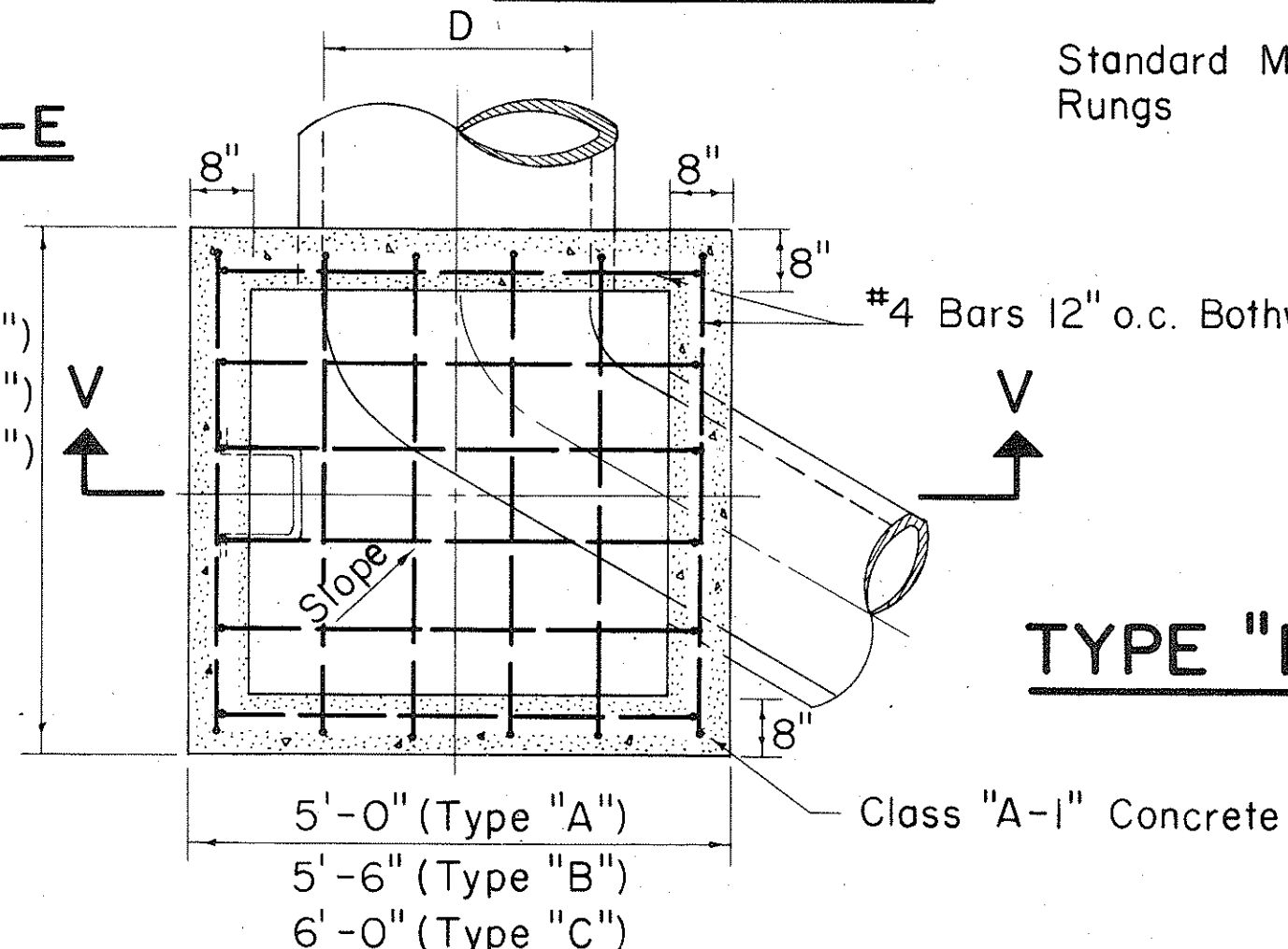
SECTION D-D



SECTION E-E



SECTION V-V

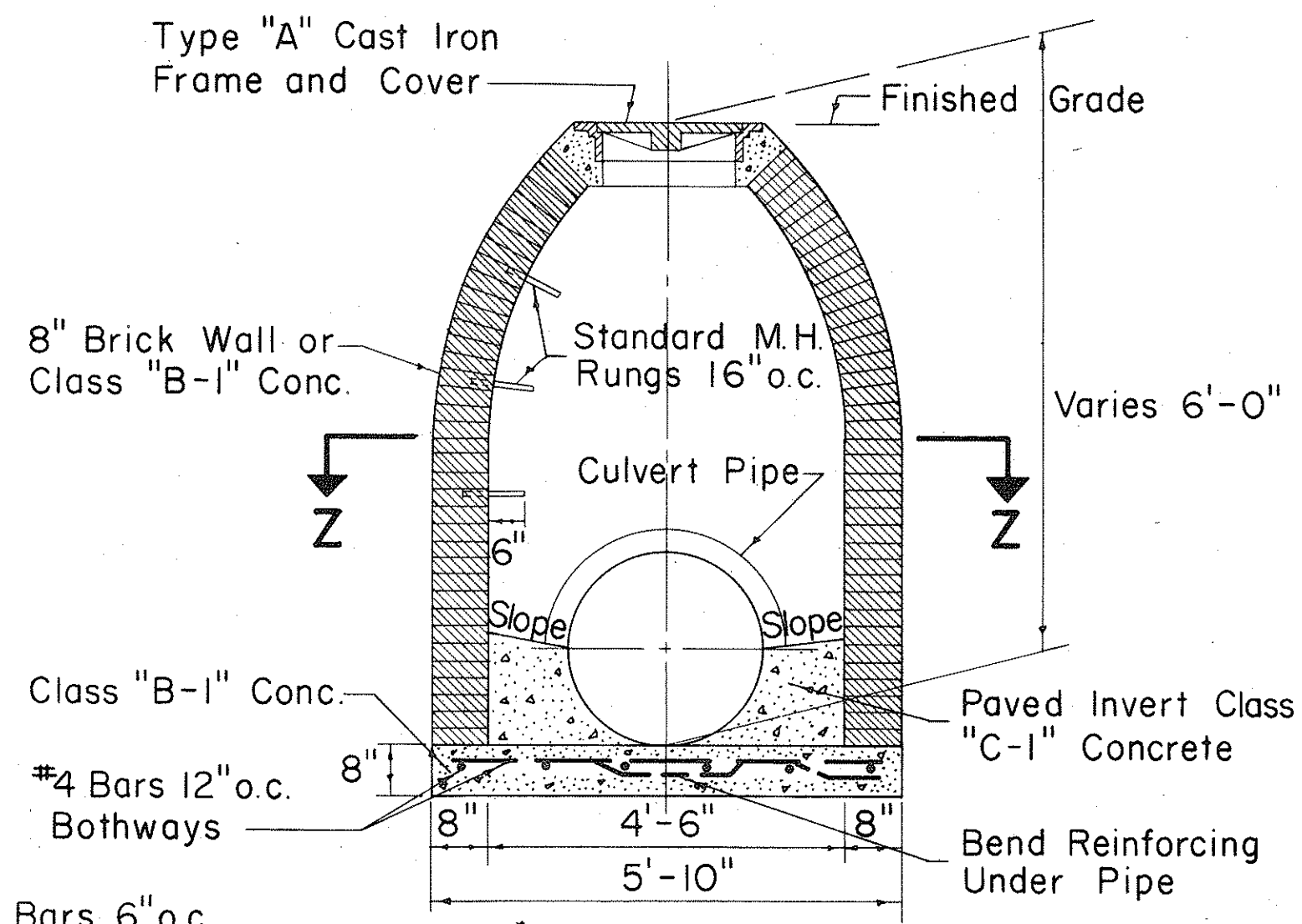


SECTION U-U

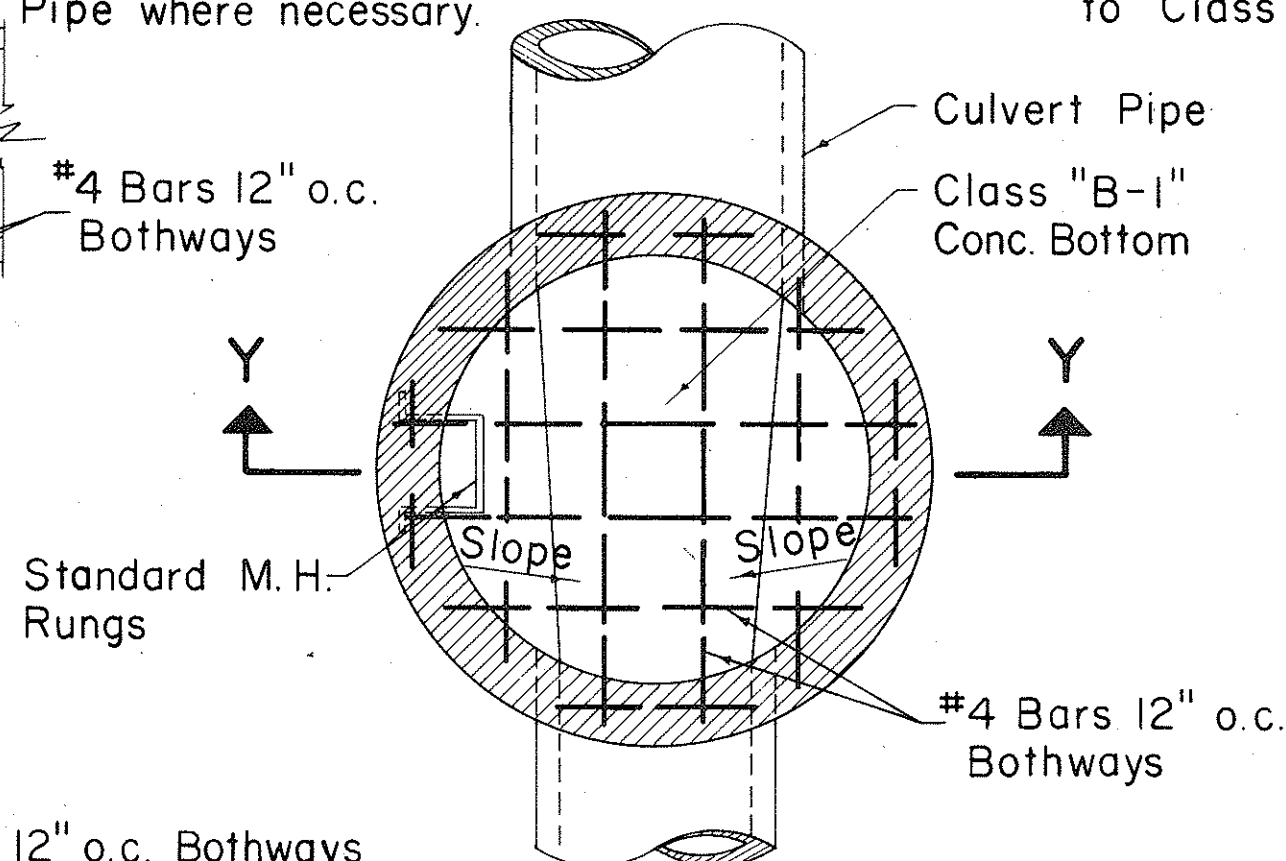
TYPE "A", "B", & "C"

S.D.M.H.

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



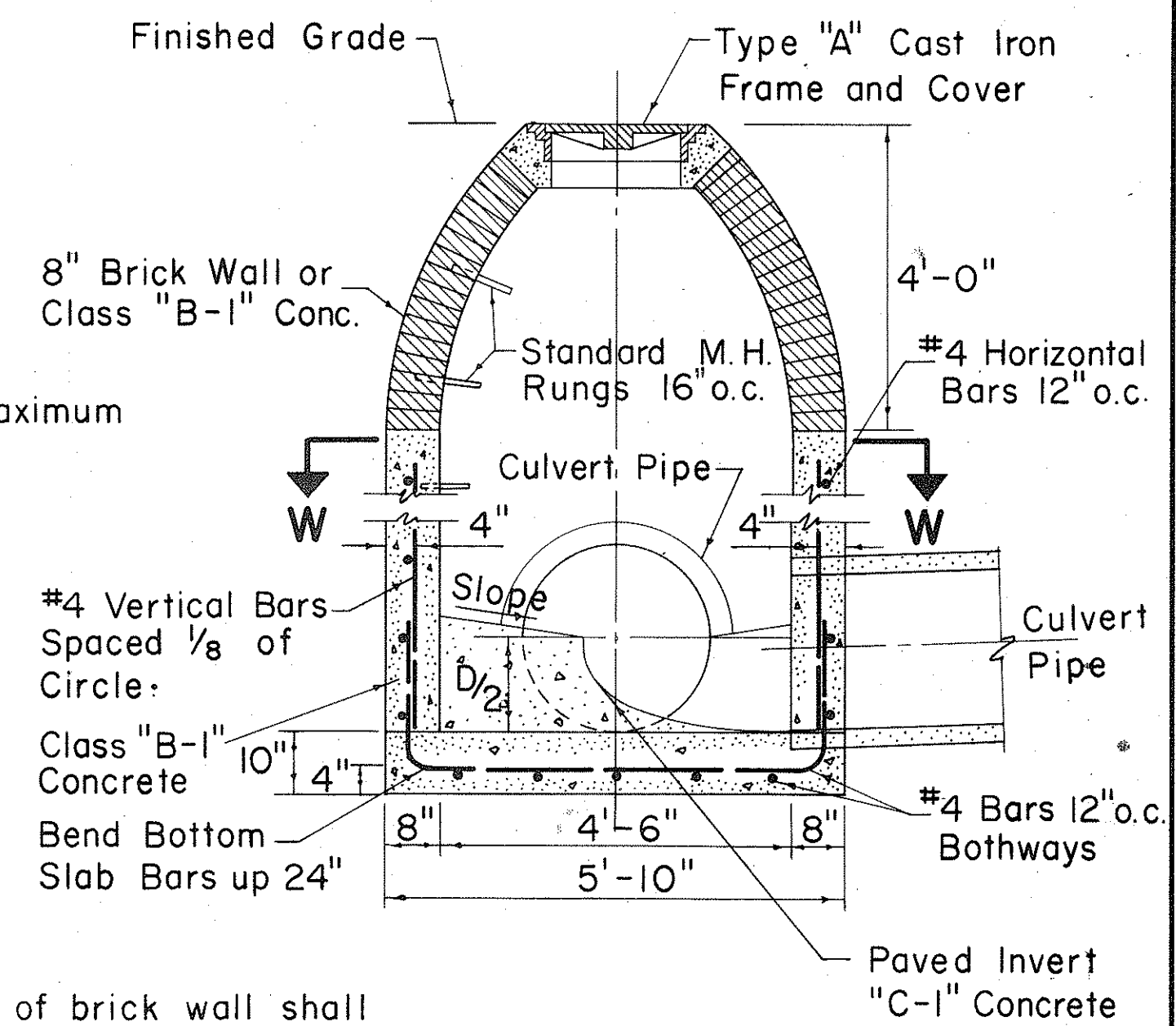
SECTION Y-Y



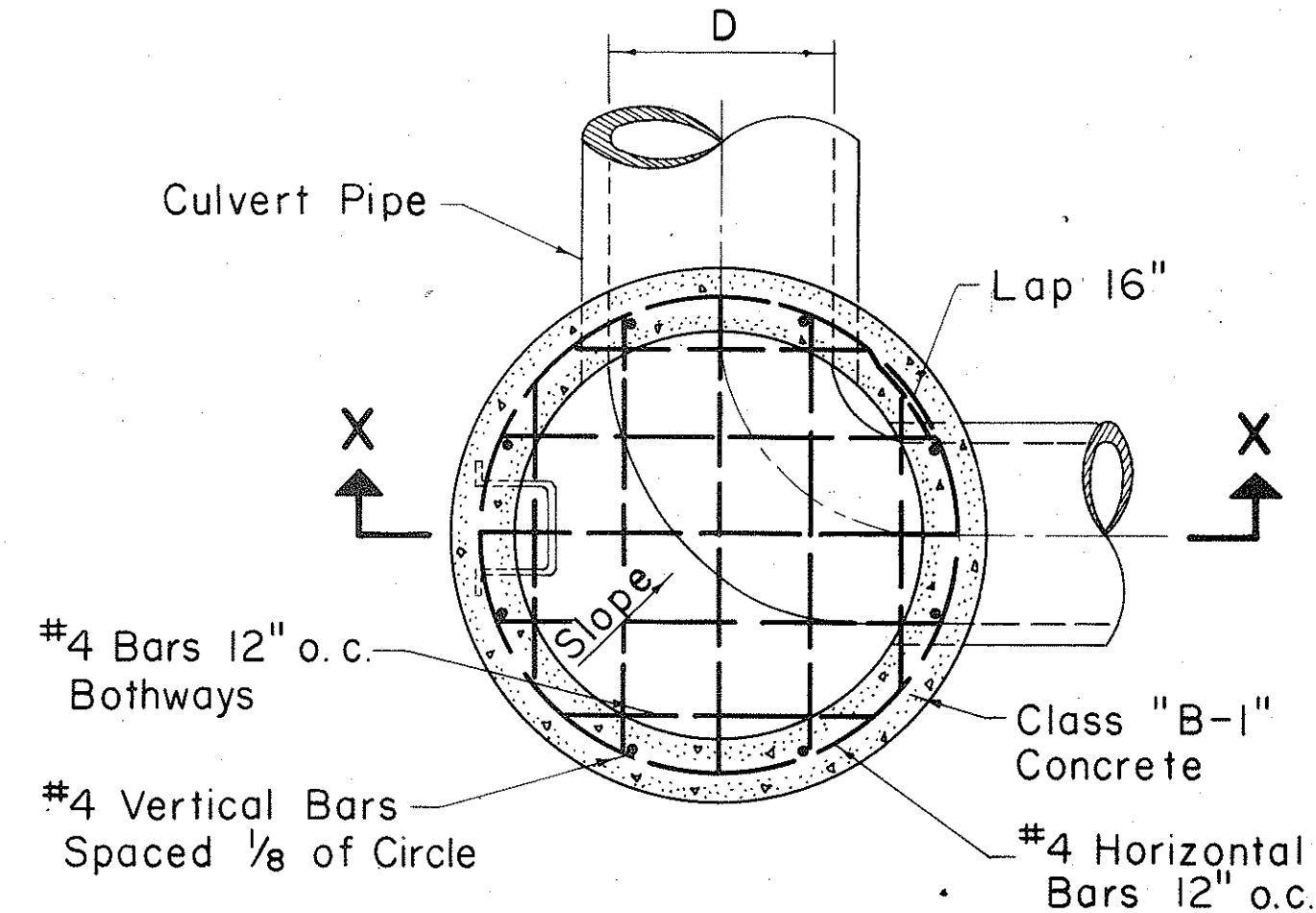
SECTION Z-Z

TYPE "D" STORM DRAIN MANHOLE

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



SECTION X-X



SECTION W-W

TYPE "E" STORM DRAIN MANHOLE

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

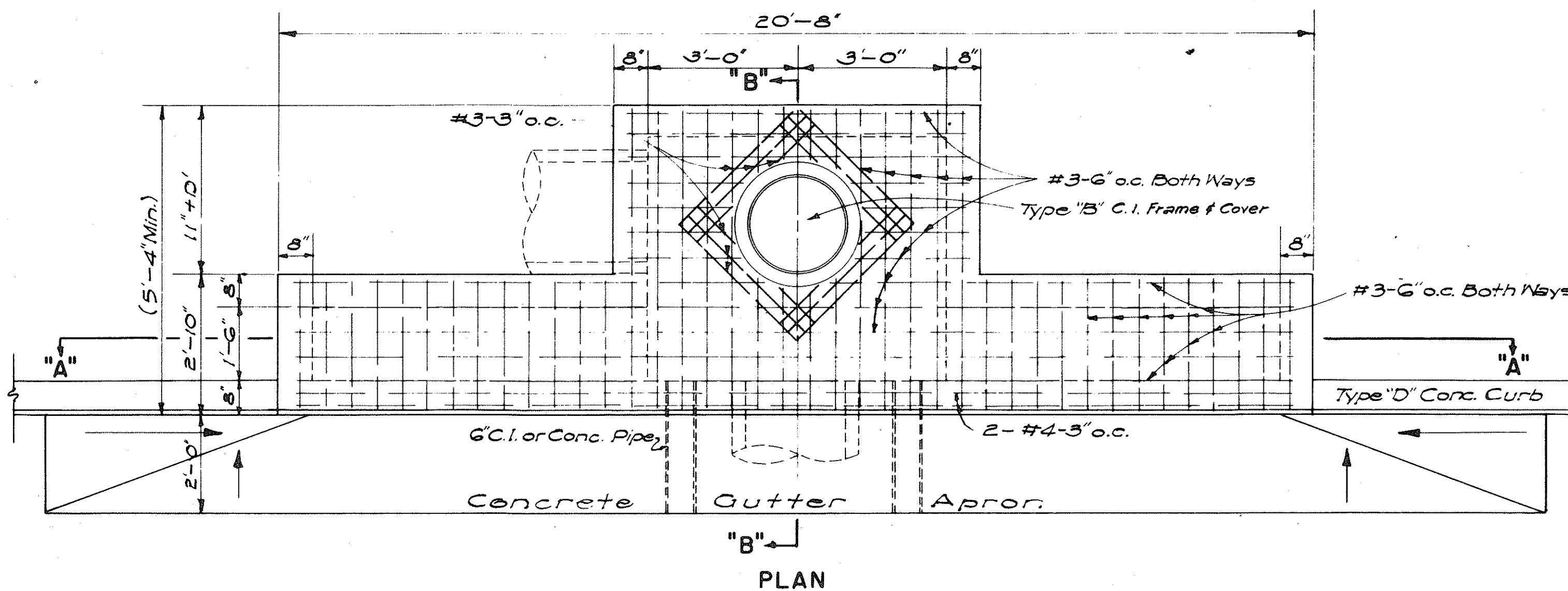
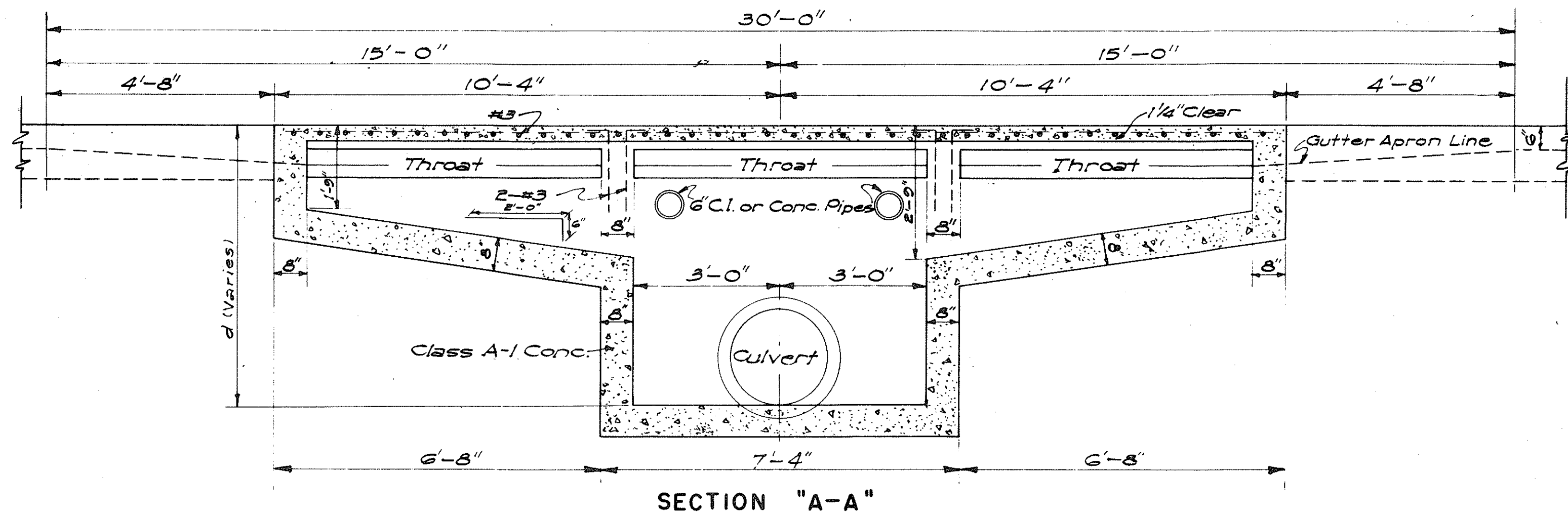
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
STEEL FRAME AND GRATES
AND STORM DRAIN MANHOLES*
INTERSTATE HIGHWAY (LUNALILO Fwy)
F.A.I. PROJ. No. I-HI-1(27)
Scale: As Noted Date

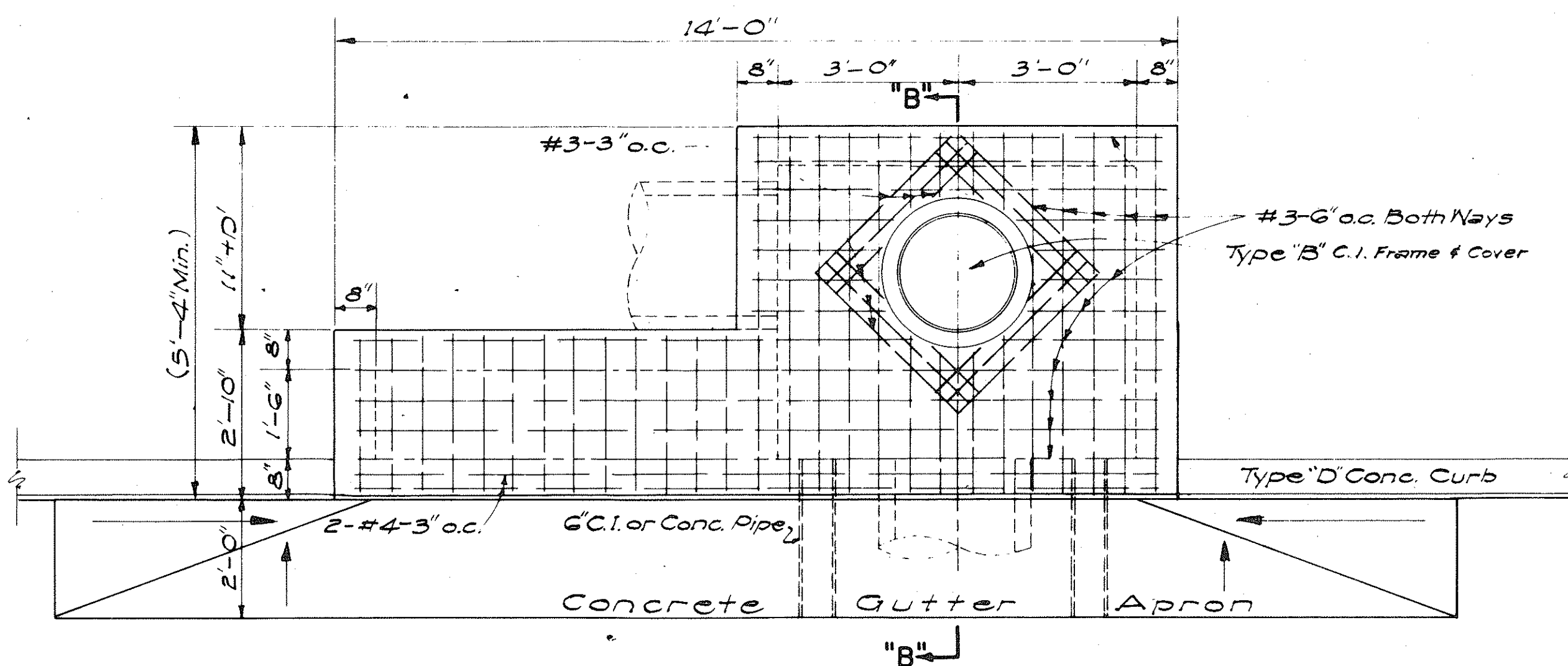
SHEET NO. 3 OF 4 SHEETS

2/17/59

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	PR-10(27)	1966	10	33

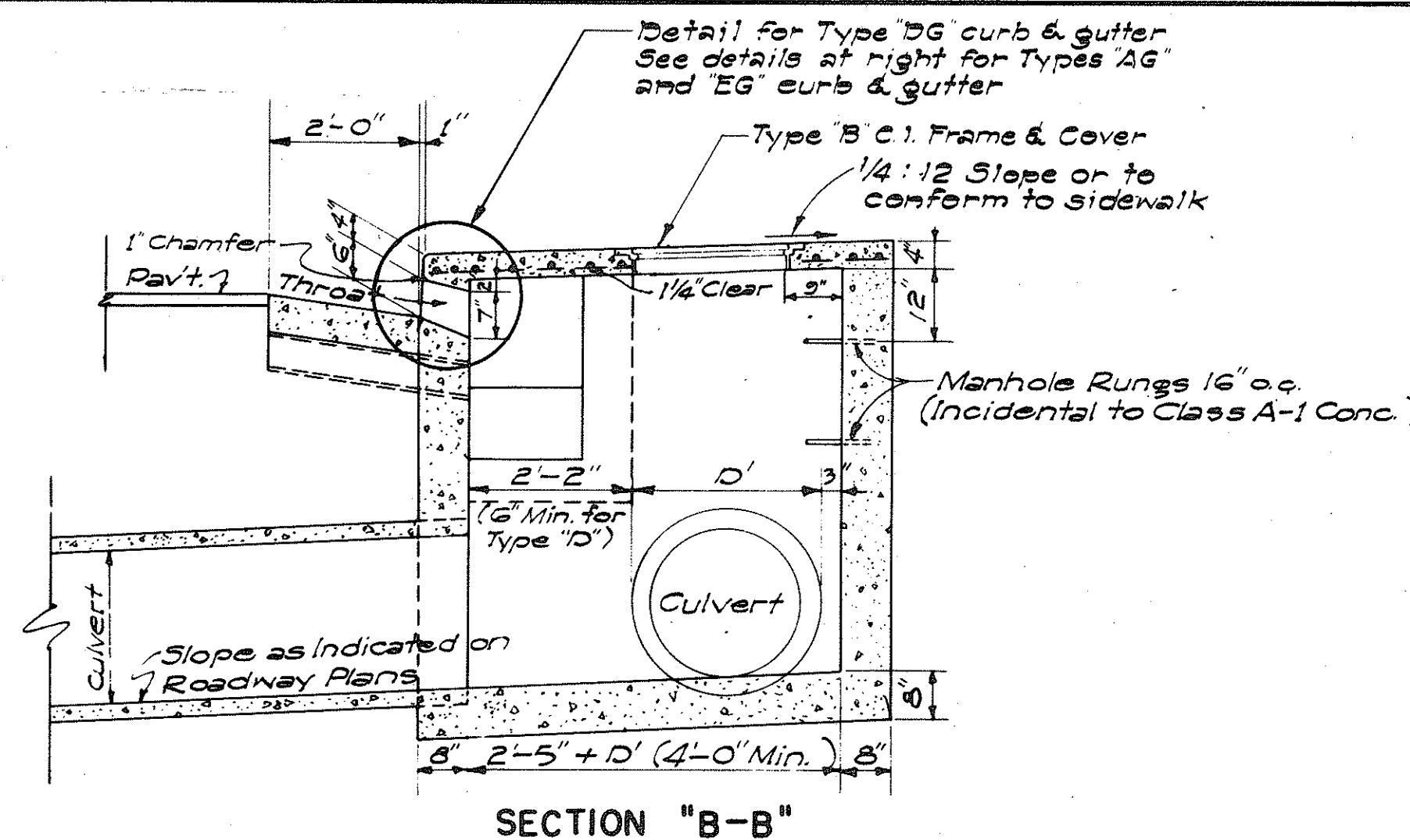


DETAIL OF TYPE "A" CATCH BASIN
SCALE: 1/2" = 1'-0"

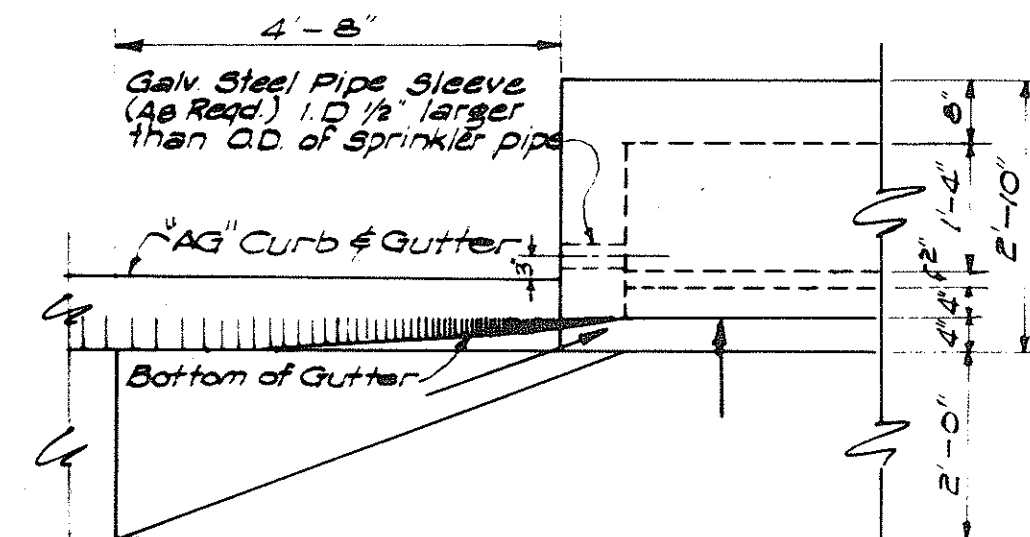


DETAIL OF TYPE "B" CATCH BASIN
SCALE: 1/2" = 1'-0"

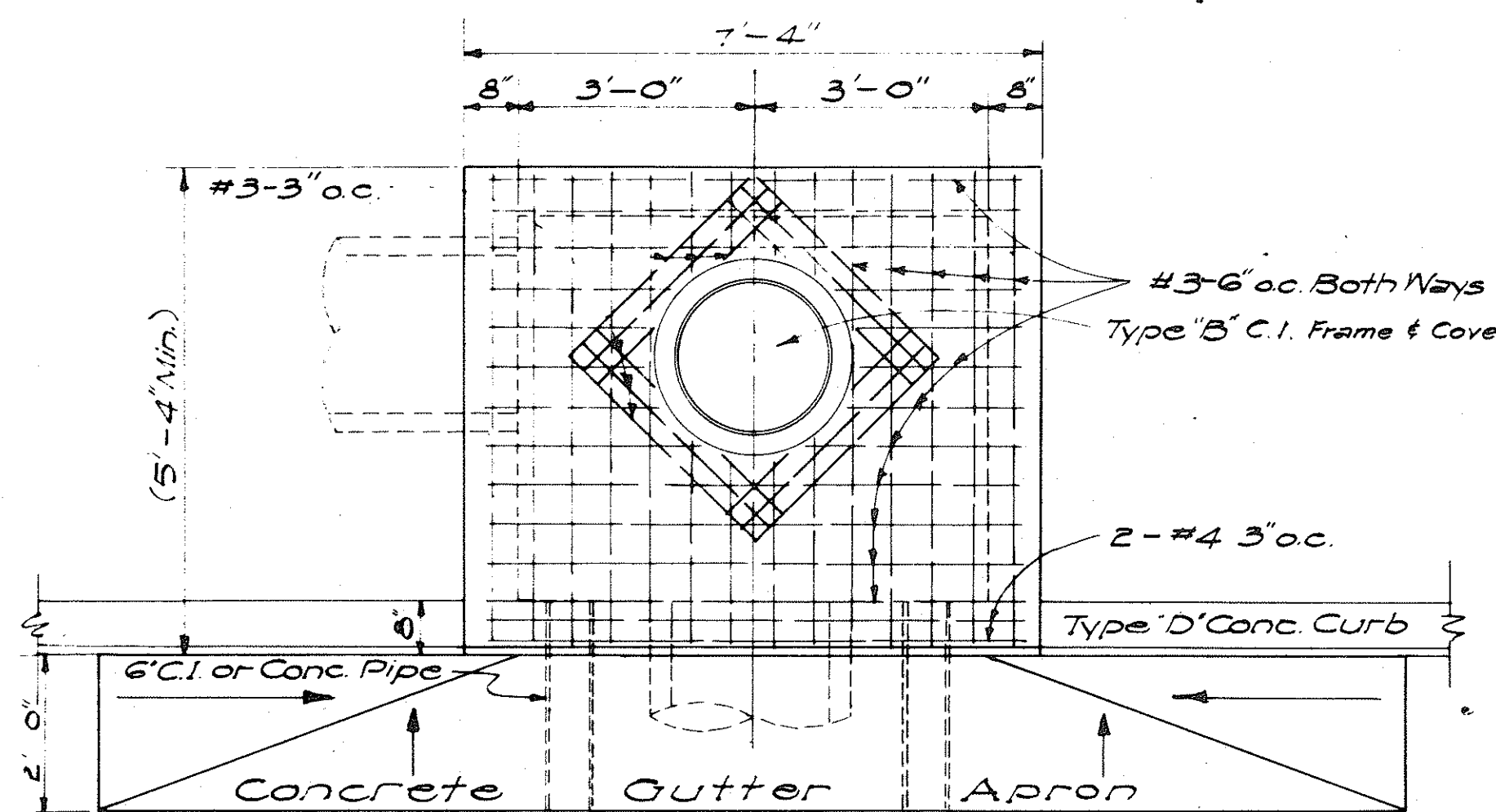
NOTE: TYPE "C" C.B. SIMILAR BUT OPPOSITE HAND



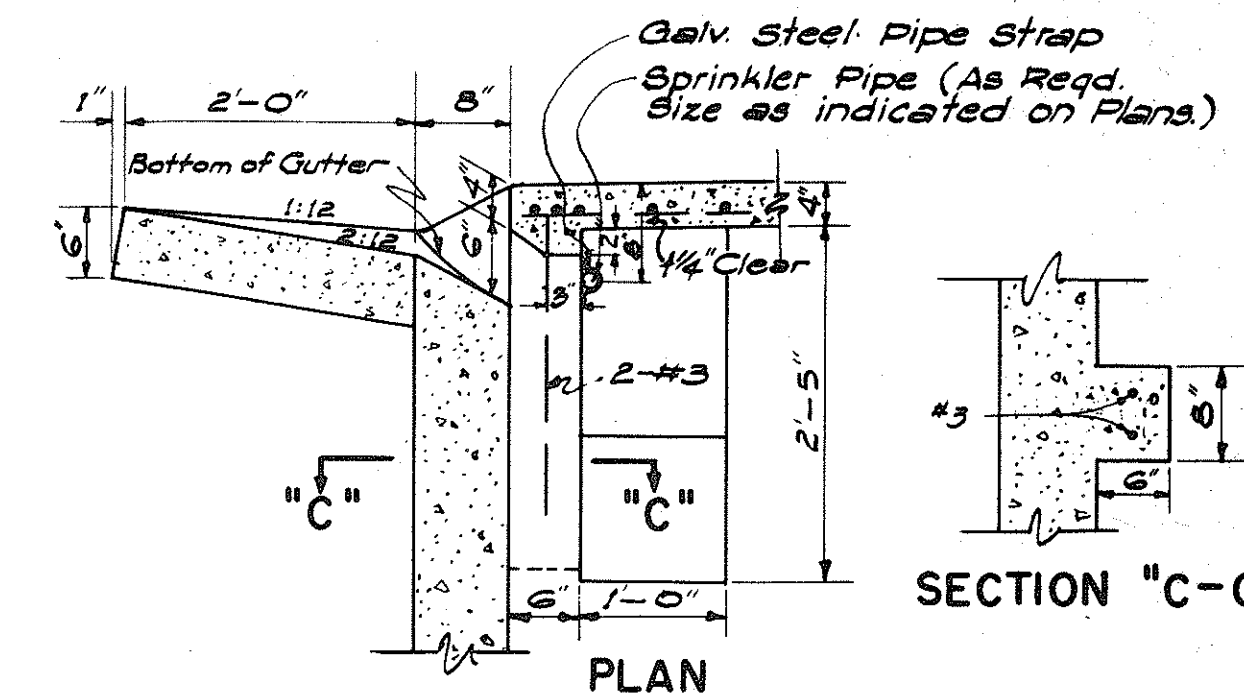
DETAIL OF CATCH BASIN
WITH TYPE "EG" CURB & GUTTER



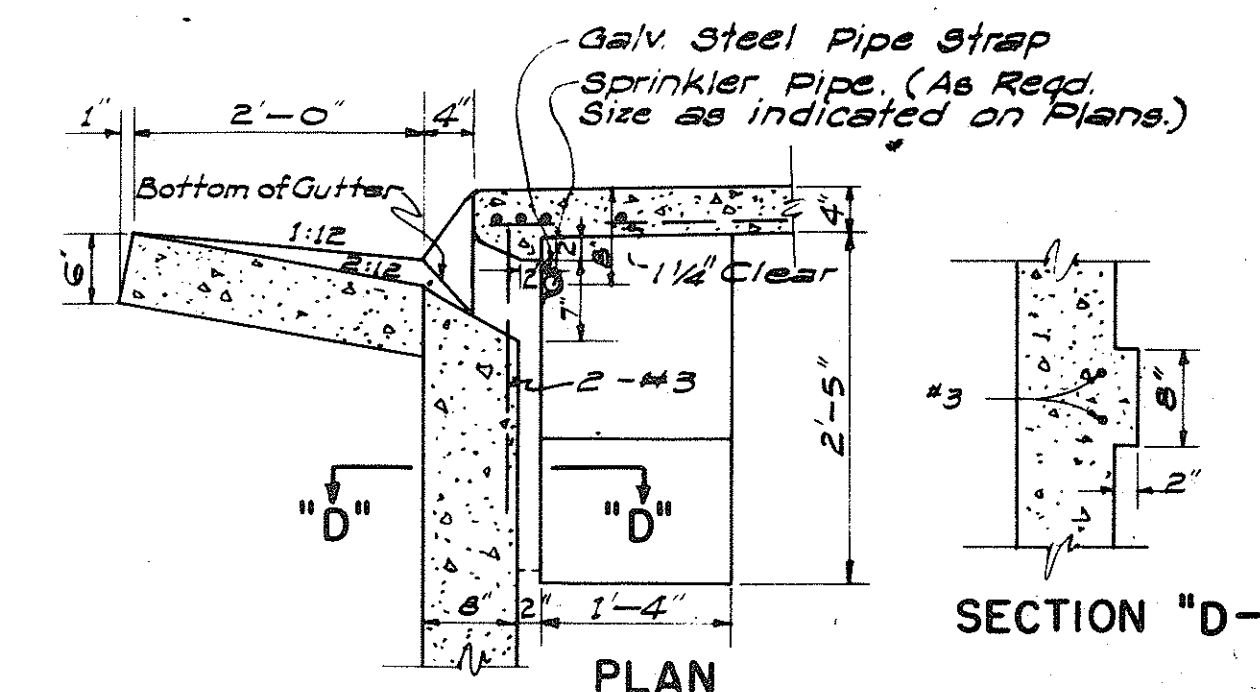
DETAIL OF CATCH BASIN
WITH TYPE "AG" CURB & GUTTER
SCALE: 1/2" = 1'-0"



DETAIL OF TYPE "D" CATCH BASIN
SCALE: 1/2" = 1'-0"



THROAT DETAIL FOR
TYPE "EG" CURB & GUTTER
SCALE: 3/4" = 1'-0"



THROAT DETAIL FOR
TYPE "AG" CURB & GUTTER
SCALE: 3/4" = 1'-0"

ESTIMATED QUANTITIES

Type	Class A-1 Conc.	Struct. Exc.	Reinf. Steel	Gutter Length
"A"	7.5 cy	24.7 cy.	145 lb.	30'-0"
"B"	6.0 cy	21.5 cy.	108 lb.	23'-4"
"C"	6.0 cy	21.5 cy.	108 lb.	23'-4"
"D"	4.9 cy.	16.5 cy.	77 lb.	16'-8"

NOTES:

- Quantities based on d = 5.75' and D = 30"
- Quantities do not include concrete for Gutter Apron.
- The Contractor shall install two 6" Cast Iron or Concrete Pipes as incidental to Class A-1 Concrete for Construction Drainage.
- Culvert shall leave C.B. from any position and any direction indicated by plans or ordered by the Engineer. Culvert may both enter and leave C.B. so that C.B. will also act as Manhole.
- The Contractor shall install Galvanized Steel Pipe Sleeves and Straps as incidental to Sprinkler System.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CATCH BASINS

INTERSTATE HIGHWAY (LUNALILO FWY)
F.A.I. PROJ. NO. I-HI-1(27)
SCALES AS NOTED

SHEET NO 4 OF 4 SHEETS