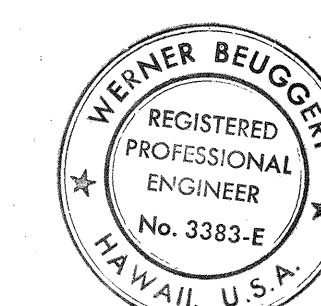


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-11(133):17	1981	16	159

NOTES

- Culvert shall leave Drop Intake from any position and any direction indicated by plans or ordered by the Engineer. Culverts may both enter and leave Drop Intake so that Drop Intake will act as Manhole.
- Manhole Rungs (12" o.c.) are required when "H" is greater than 4 feet 6 inches. Only one rung (16 inches from the bottom) is required if "H" is 4 feet 6 inches or less. Manhole Rungs may be placed at any location as ordered by the Engineer.
- Reinforced Concrete Design Data :
 $f'_c = 3000 \text{ psi (28 days)}$
 $f_s = 20,000 \text{ psi}$
 Deformed Bars
- For Splices not detailed, overlap bars 40 Bar Diameter ; Stagger all Splices as approved by the Engineer.
- Reinforcing Steel for Beams are to be $1\frac{1}{2}"$ clear from Form.
- Provide 2-#4 bent bars $\wedge$ top & bottom around pipe openings.
- All Concrete shall be Class "A" unless otherwise noted.



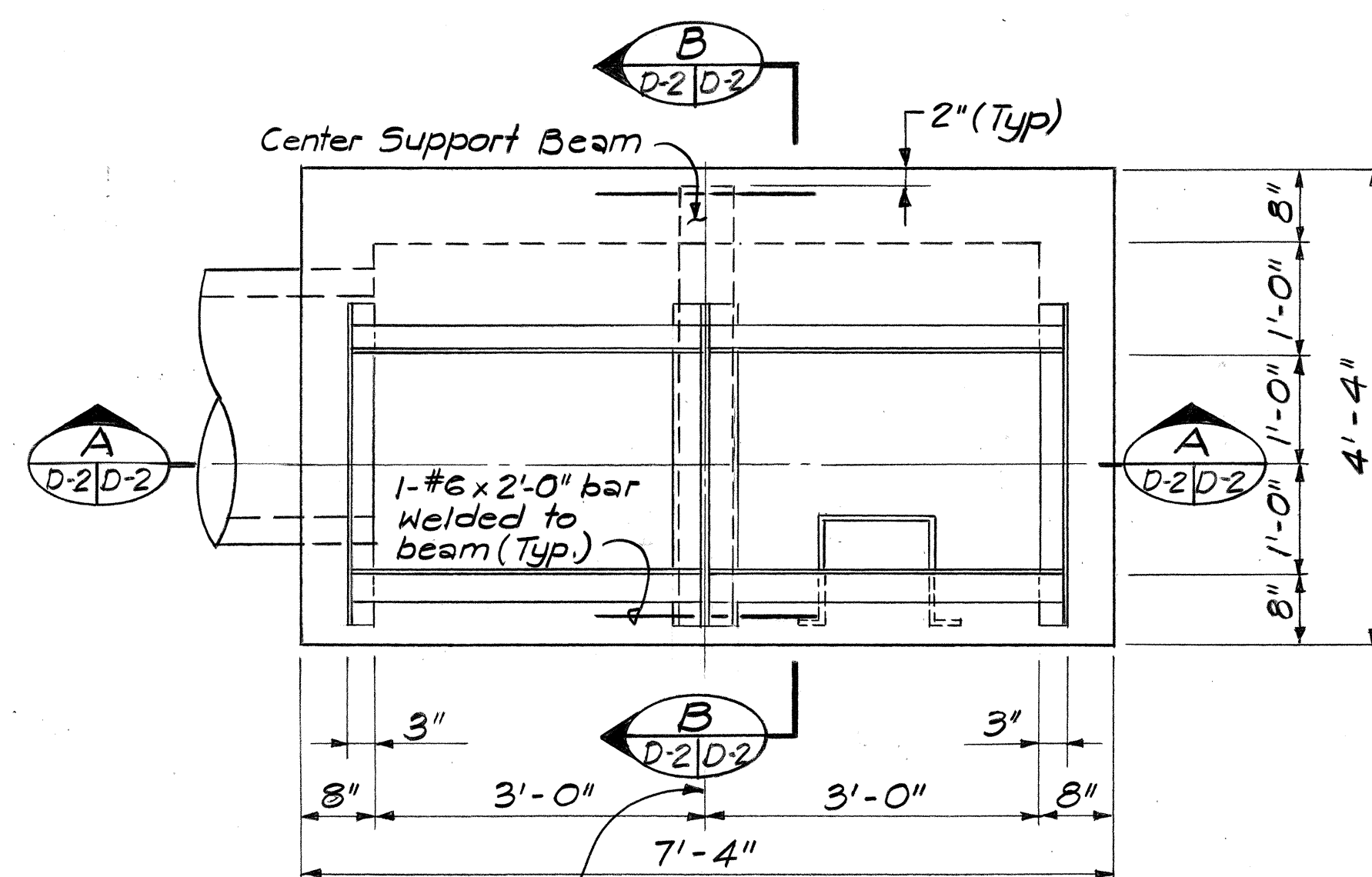
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Werner Beugert

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

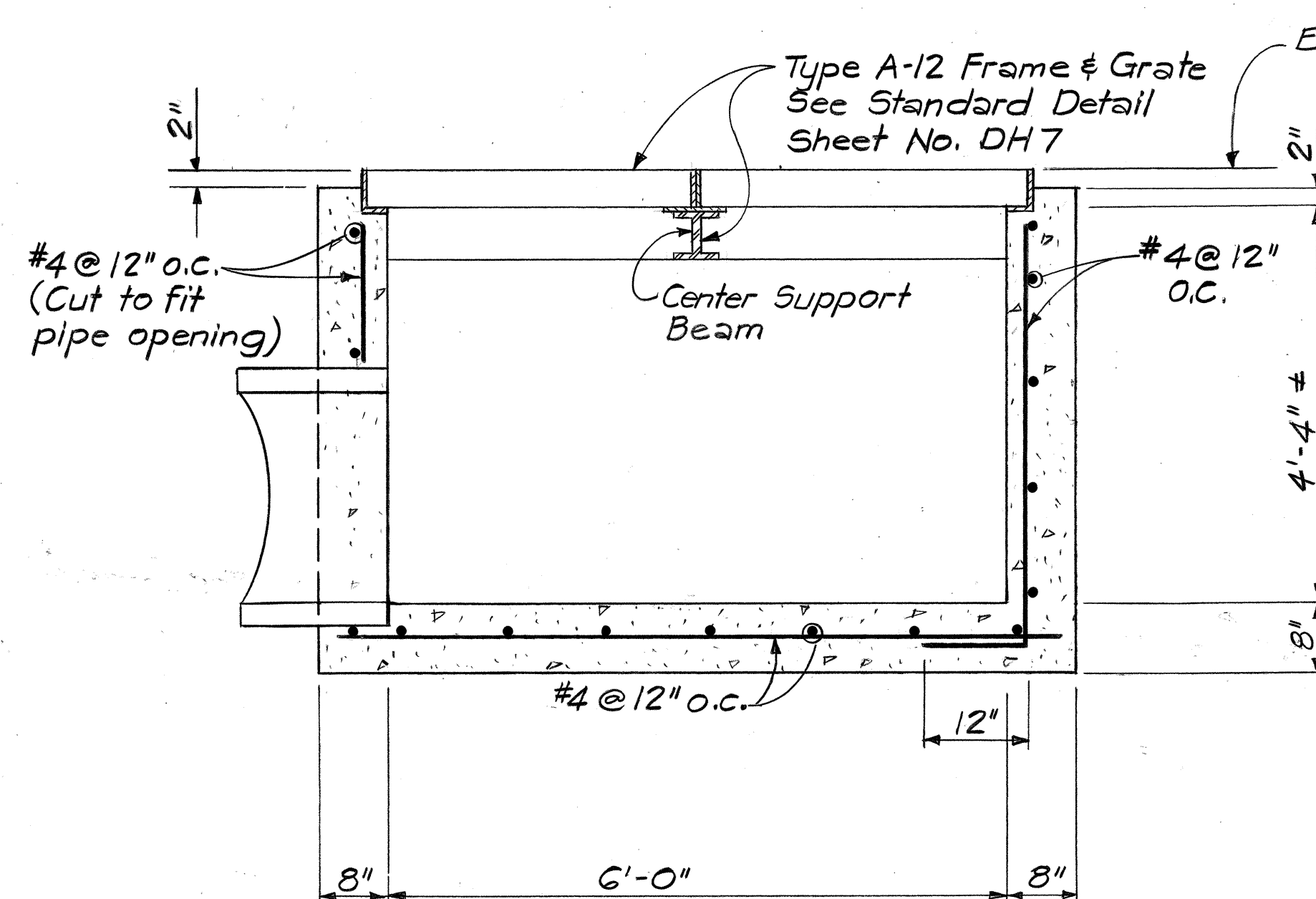
DRAINAGE DETAILS

INTERSTATE ROUTE H-1
 PROJECT NO. I-H1-1(133):17

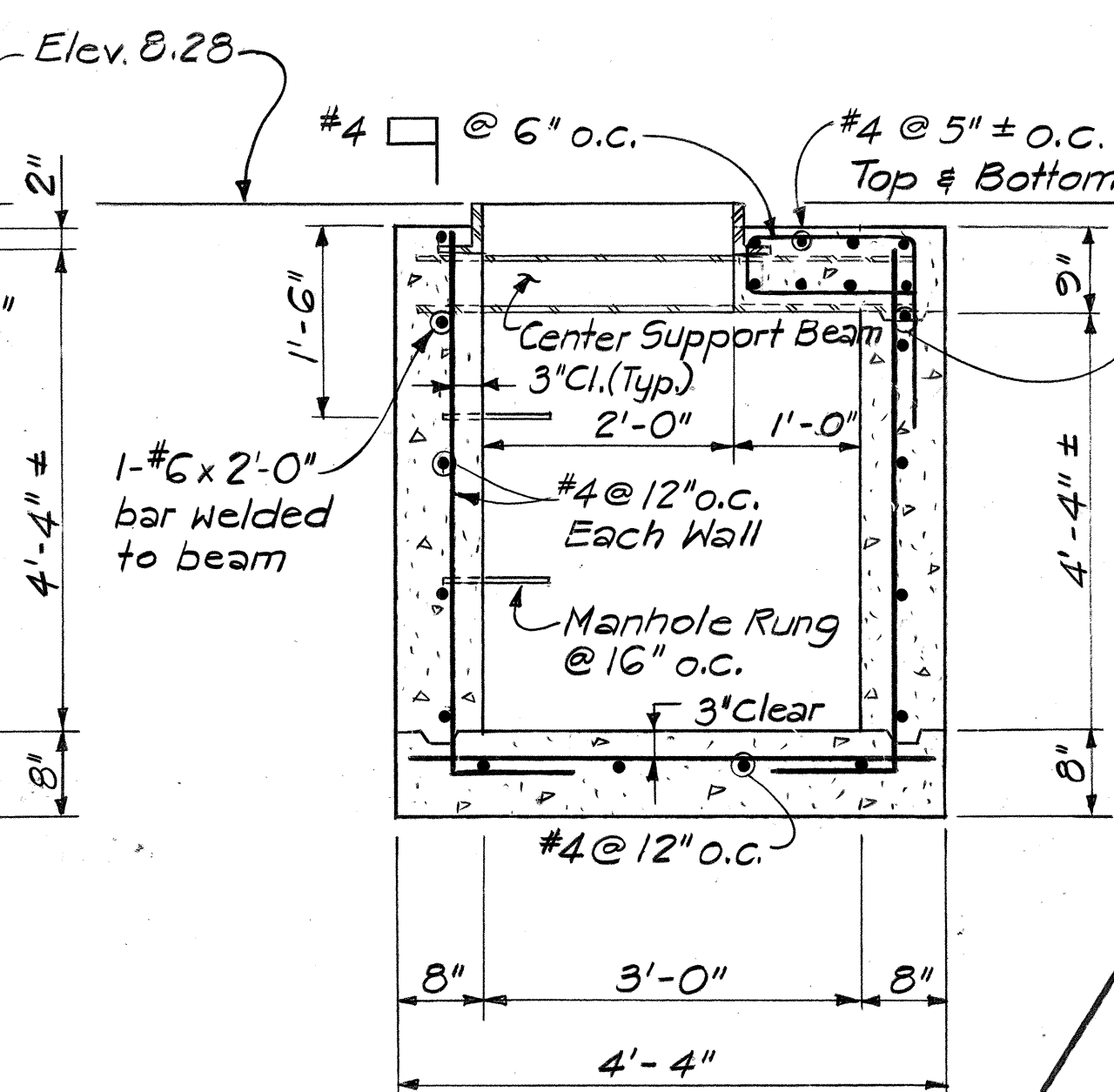
SCALE: AS SHOWN DATE: 4/30/81
 SHEET NO. D-2 OF D-5 SHEETS



Station Location to Center of Drop Intake
PLAN



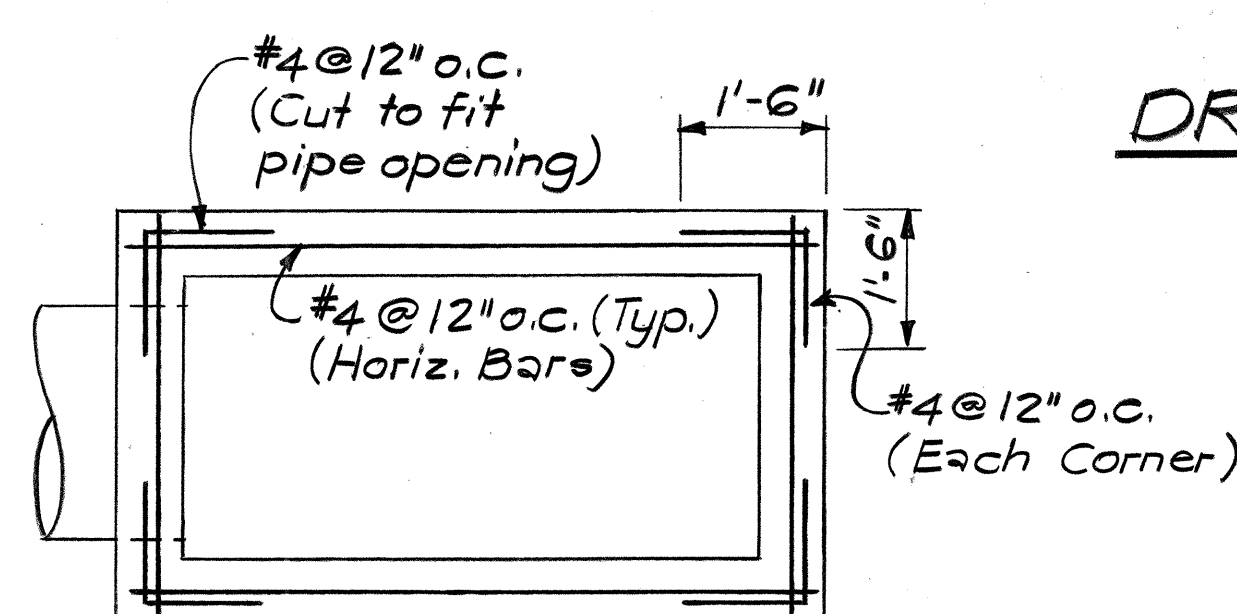
SECTION A-A
 D-2/D-2



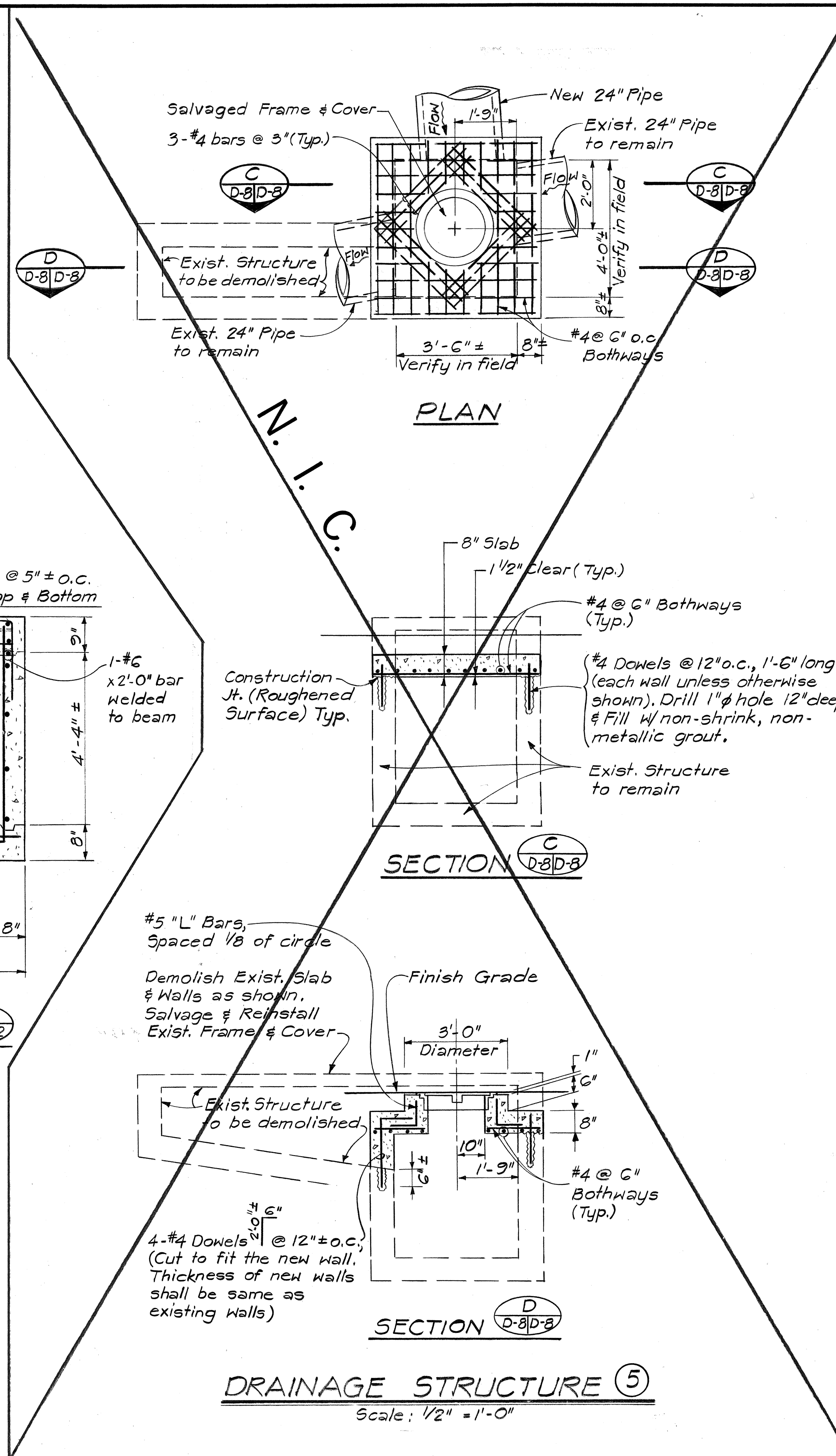
SECTION B-B
 D-2/D-2

DRAINAGE STRUCTURE (30)

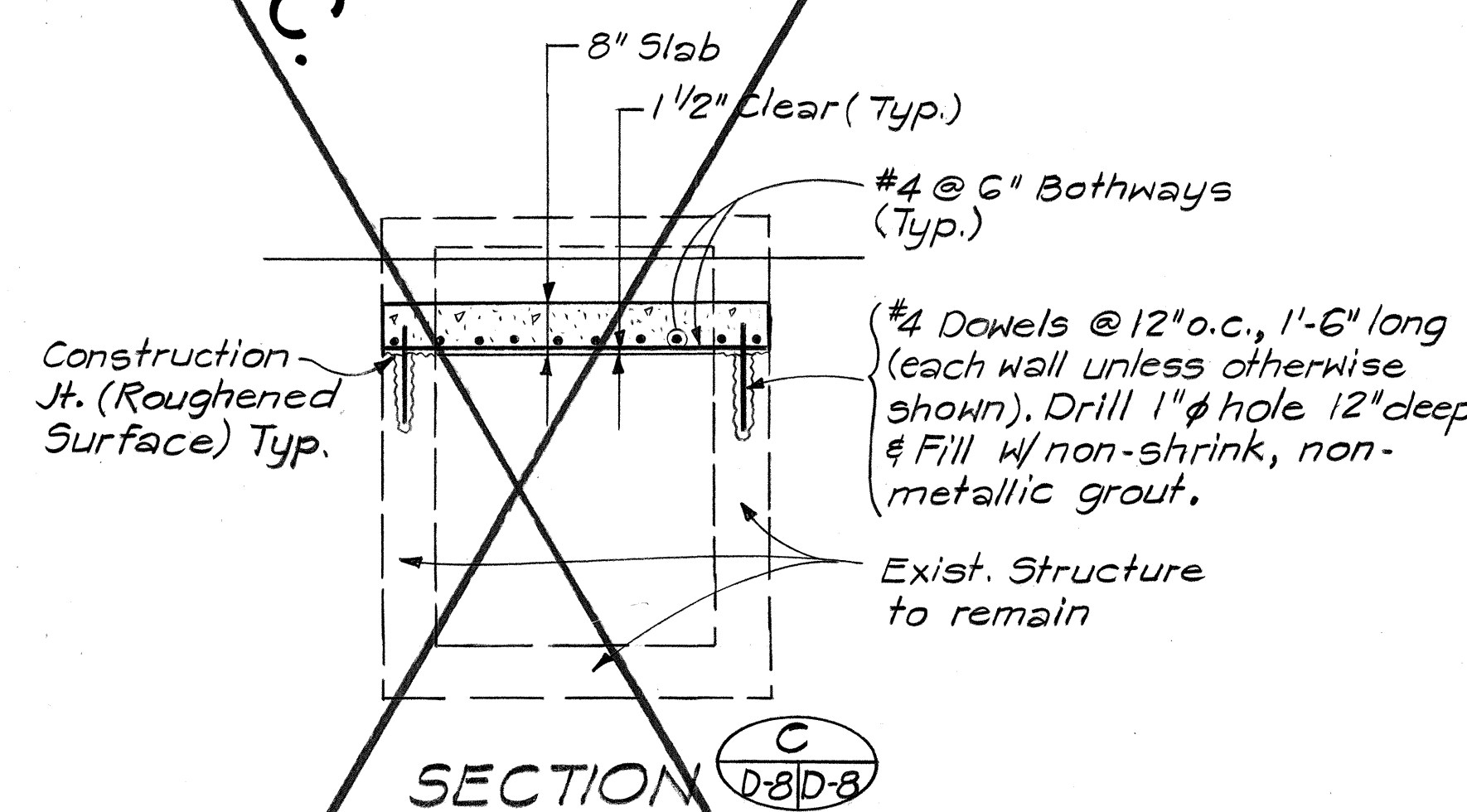
Scale: $\frac{3}{4}" = 1'-0"$
 (DROP INTAKE TYPE E)



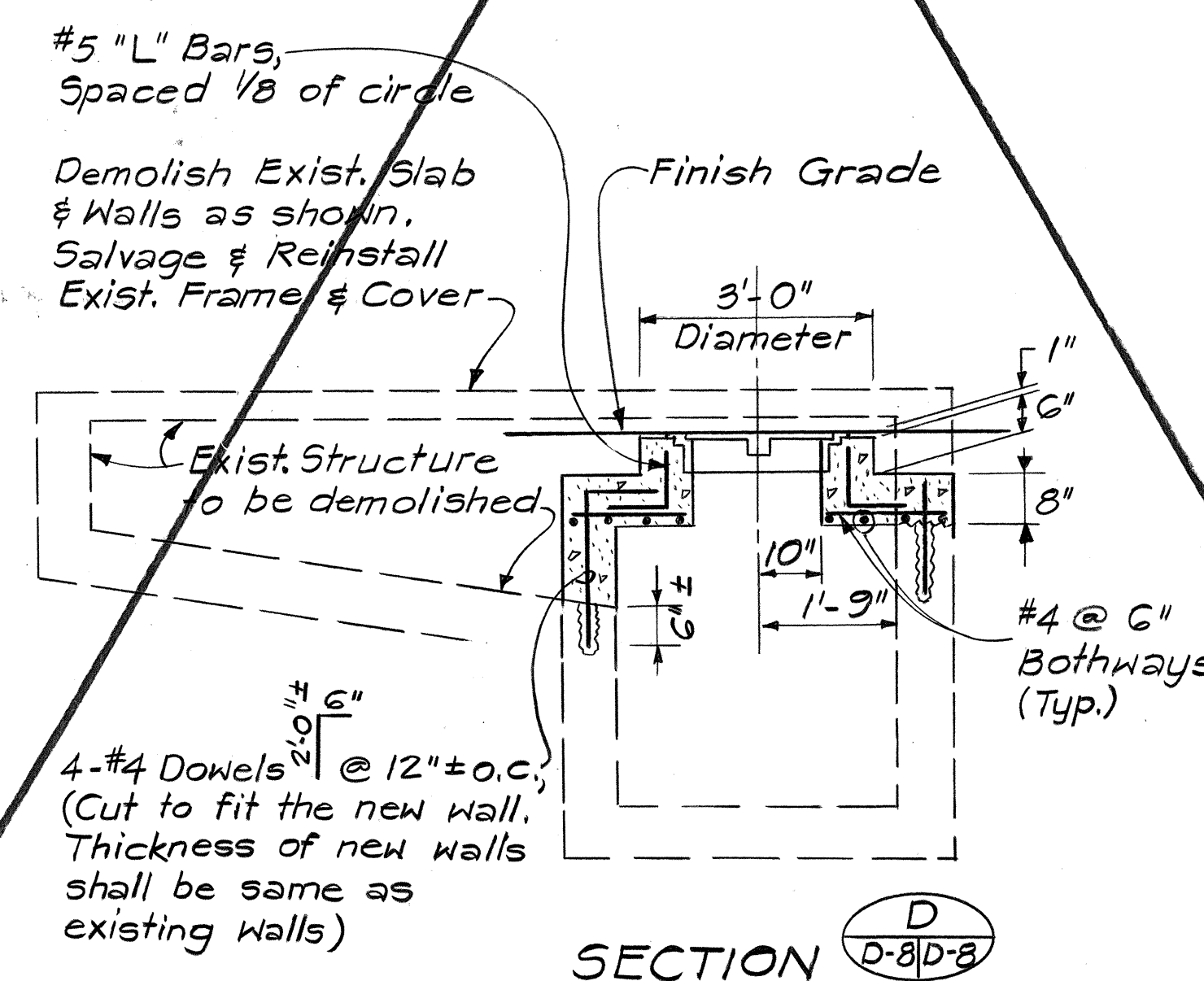
SECTIONAL PLAN
 Scale: $\frac{1}{2}" = 1'-0"$



PLAN



SECTION C-C
 D-8/D-8



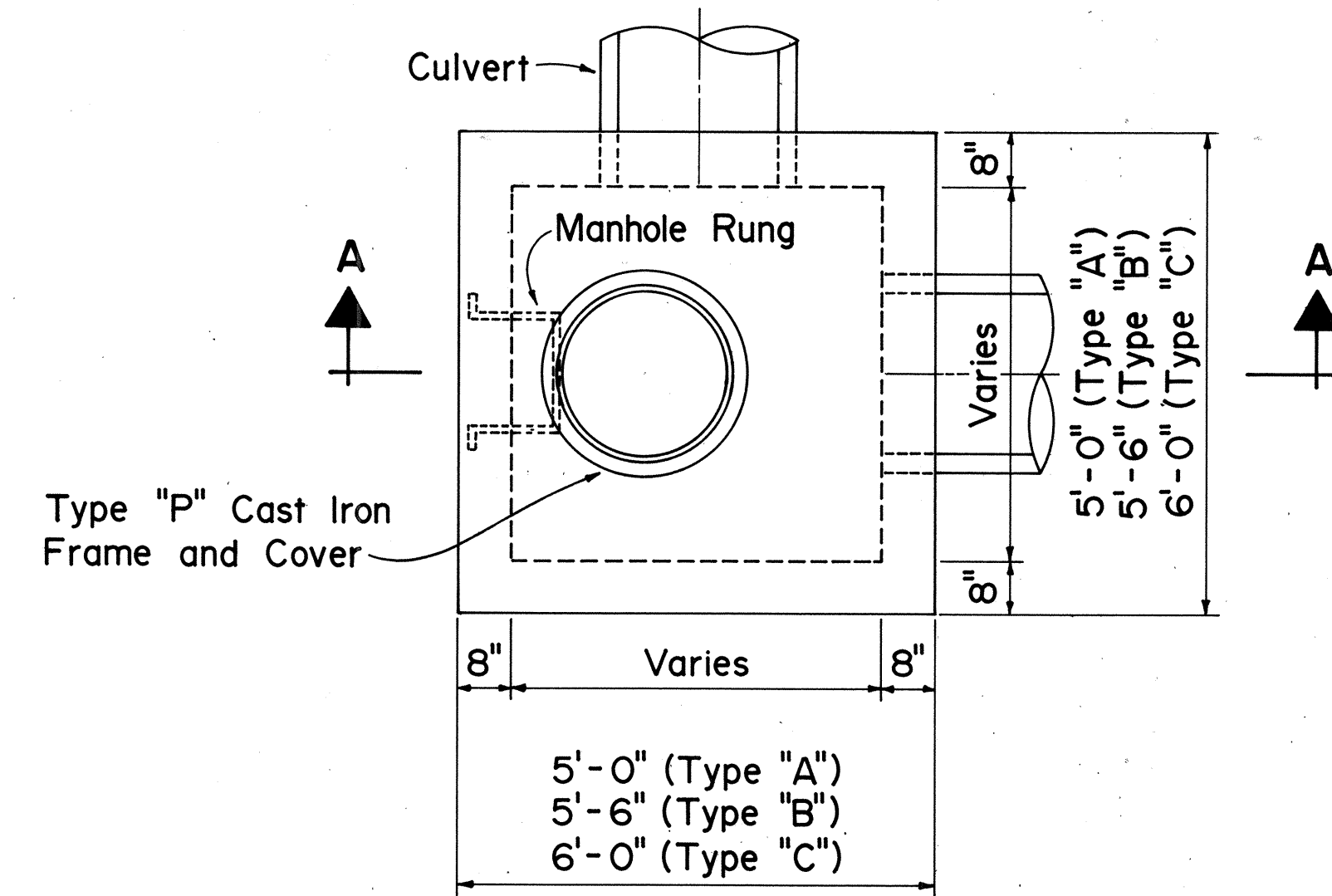
SECTION D-D
 D-8/D-8

DRAINAGE STRUCTURE (5)

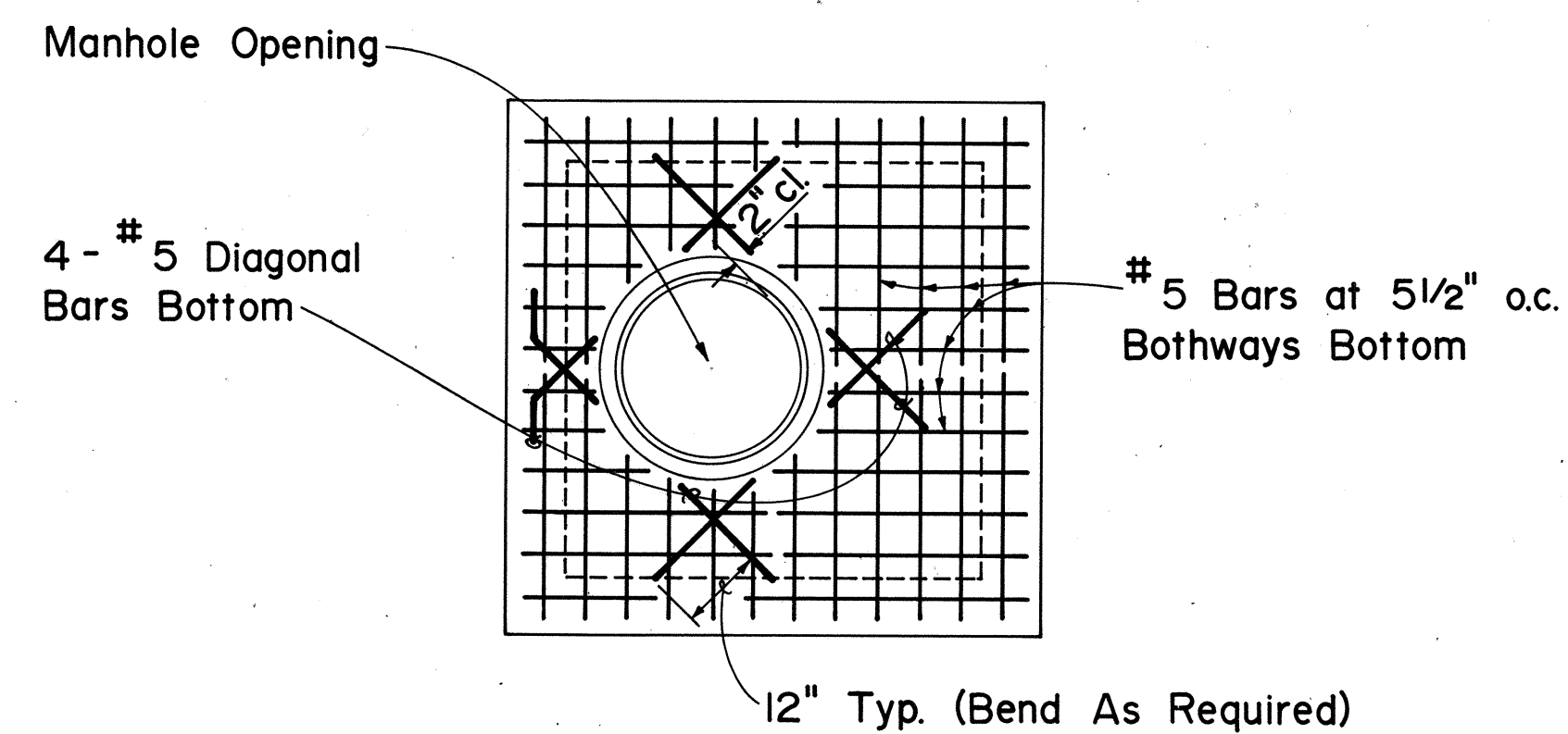
Scale: $\frac{1}{2}" = 1'-0"$

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTE BOOK	_____
NO.	_____

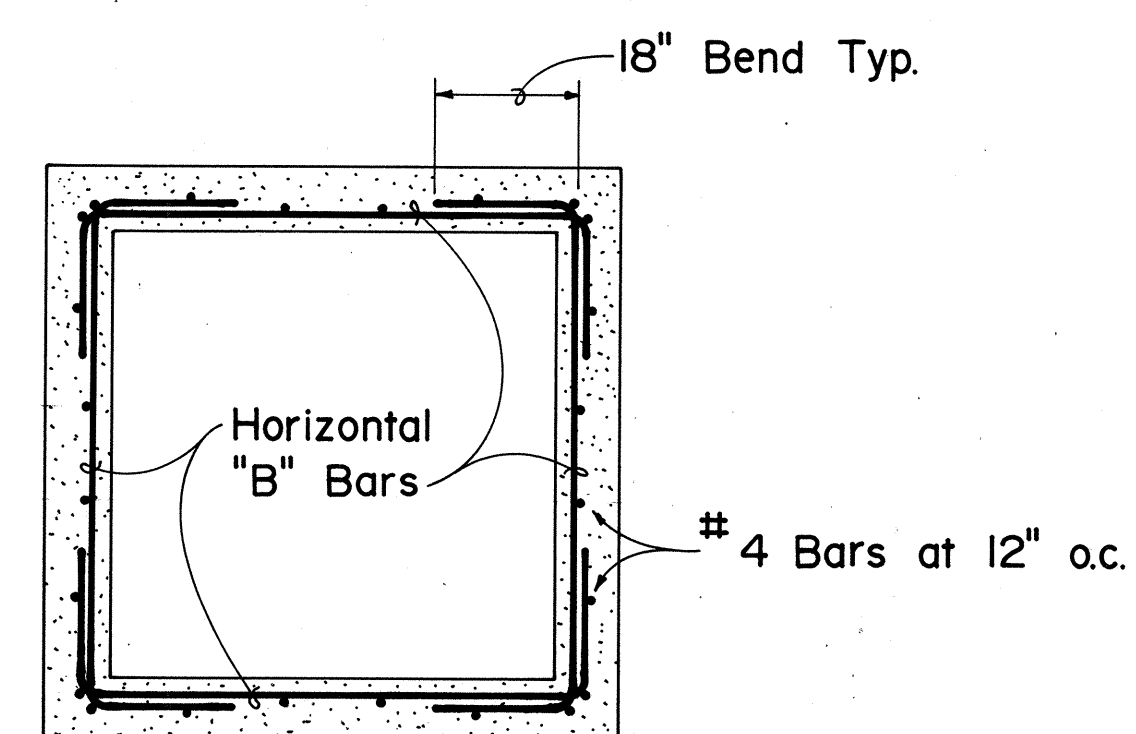
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(133)17	1981	17	159



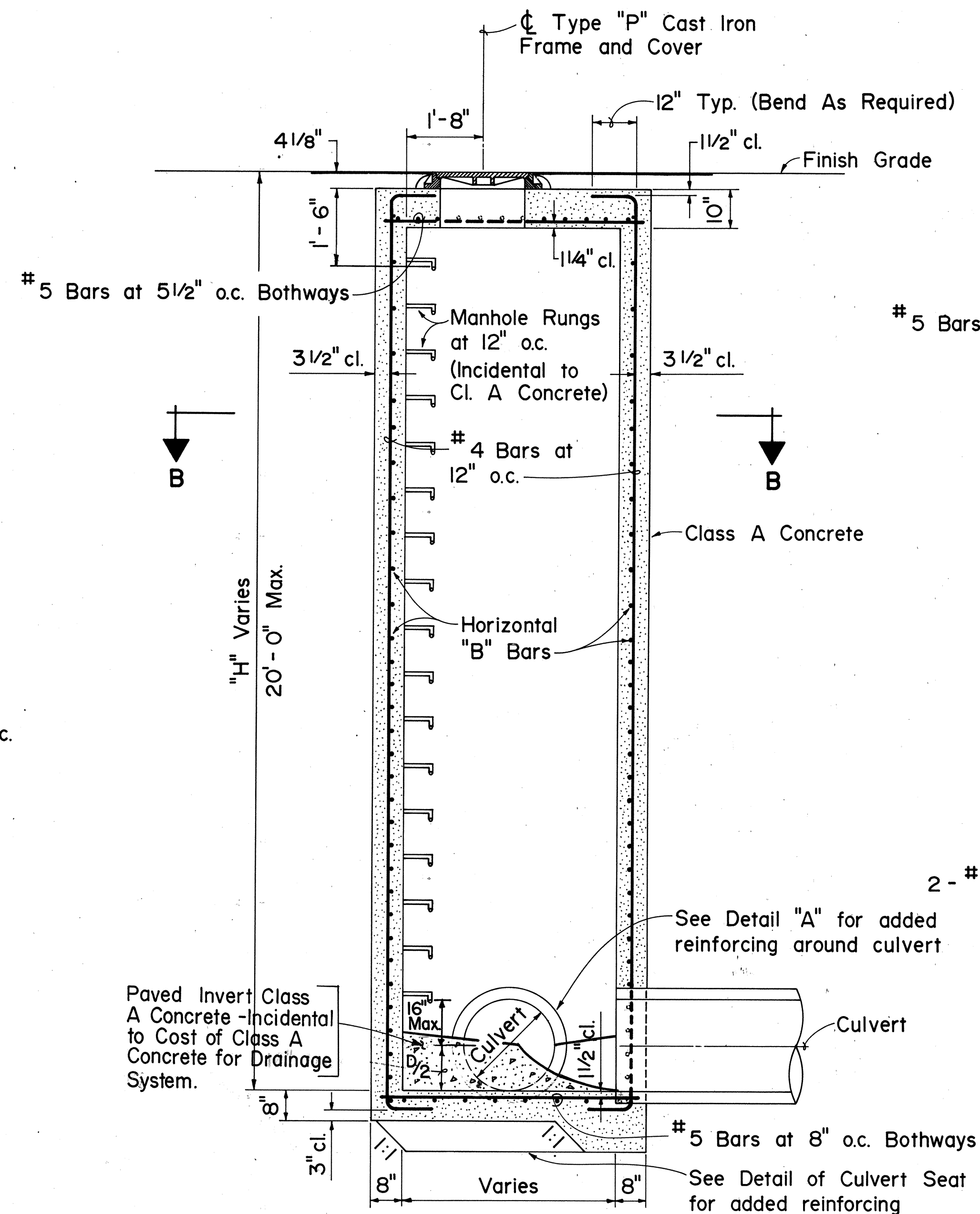
PLAN



PLAN
(Top Slab Reinforcing)

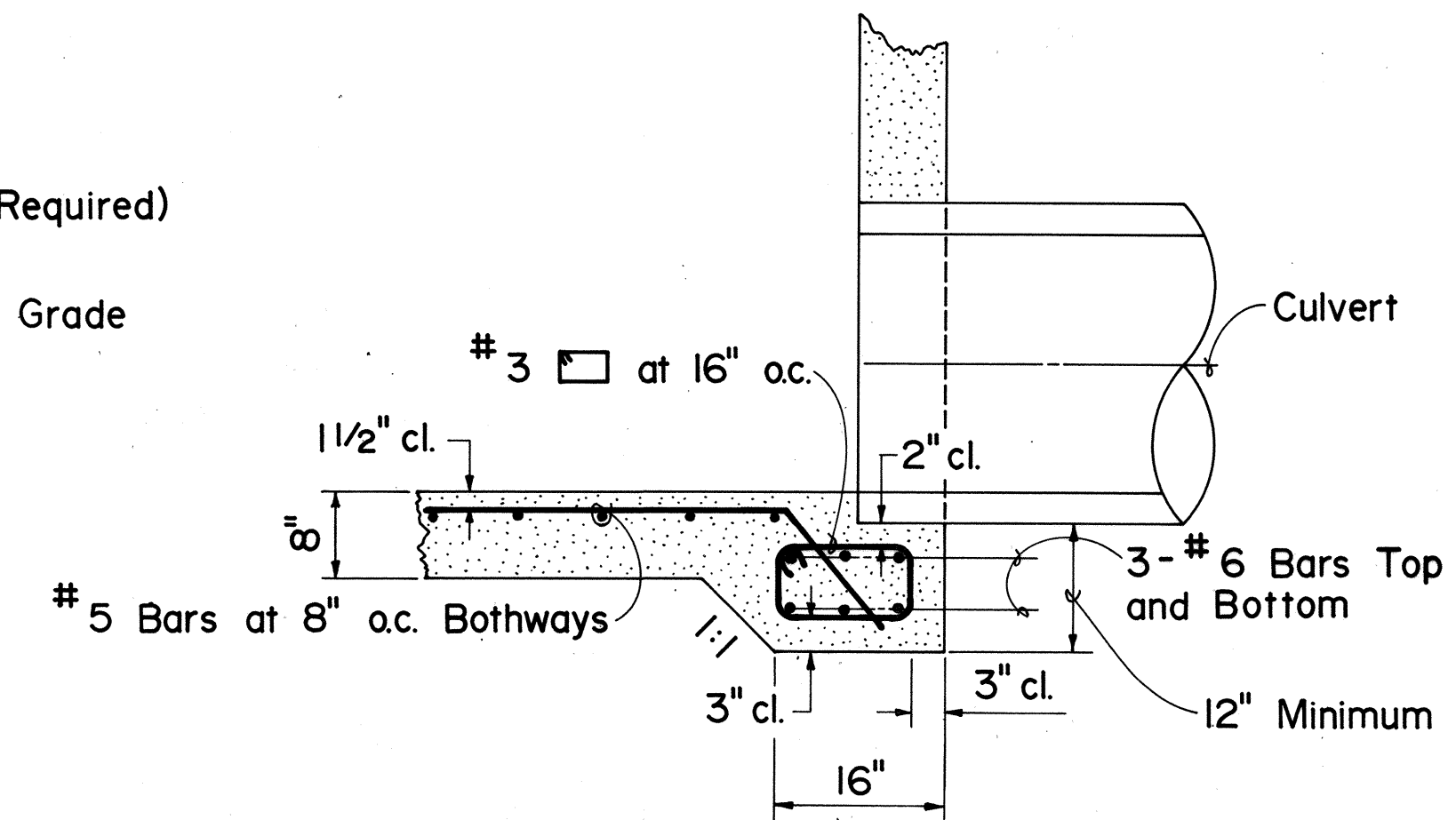


SECTION "B-B"

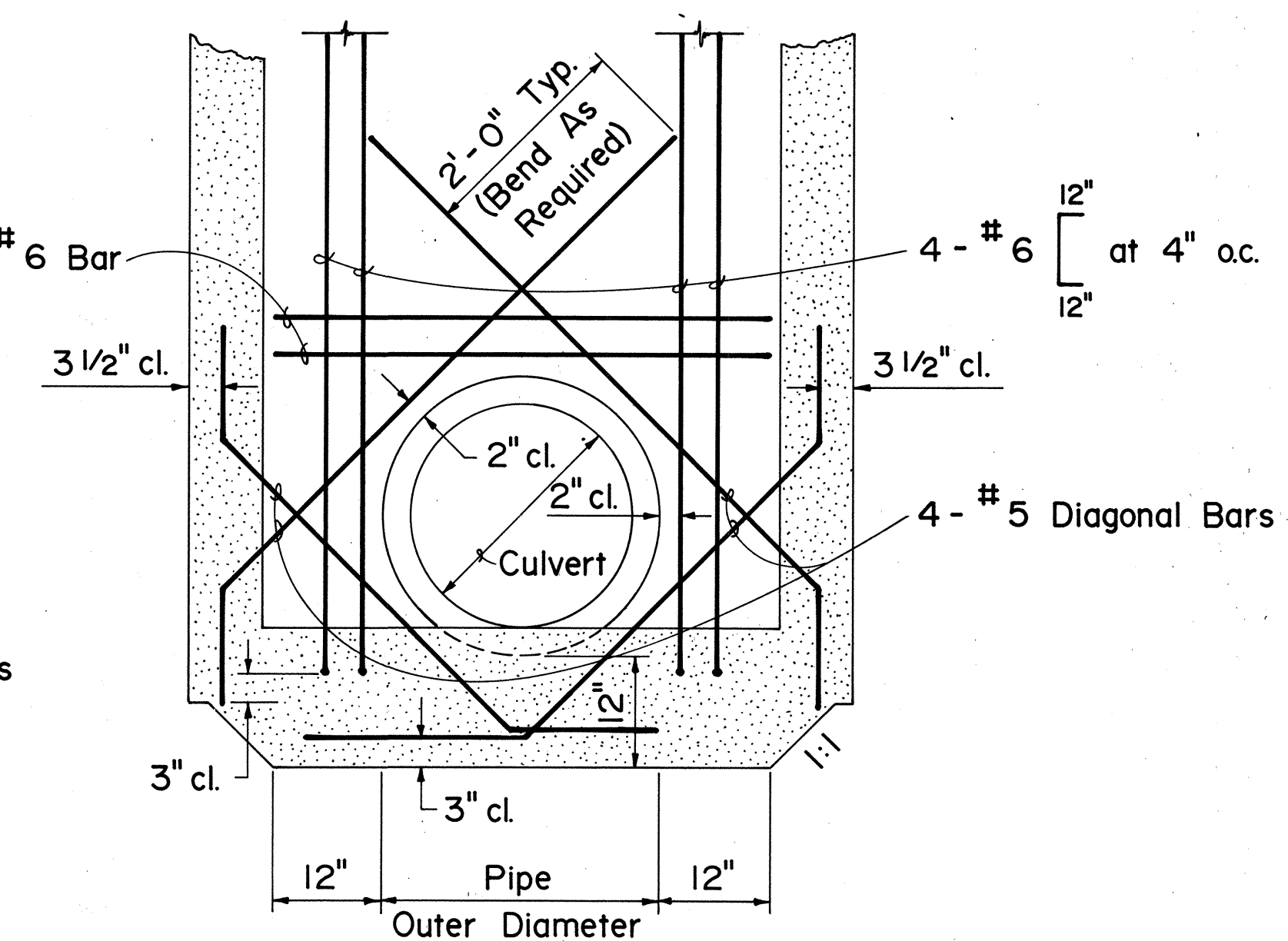


SECTION "A-A"

"H" VARIES	HORIZONTAL "B" BARS
5' - 0" Max.	# 4 at 12" o.c.
10' - 0" Max.	# 4 at 9" o.c.
15' - 0" Max.	# 4 at 6" o.c.
20' - 0" Max.	# 5 at 6" o.c.



TYPICAL DETAIL OF CULVERT SEAT



DETAIL "A"

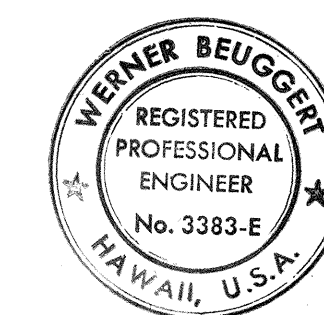
NO.	REVISION	APPROVED BY	DATE
	Sht. Dr		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE A, B, AND C STORM DRAIN MANHOLE

Not To Scale Date: 4/30/81

SHEET No.D-3 OF D-5 SHEETS



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TYPE "A", "B", & "C" STORM DRAIN MANHOLE

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



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ME OR UNDER MY SUPERVISION

SHEET No.D-5 OF D-5 SHEETS

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