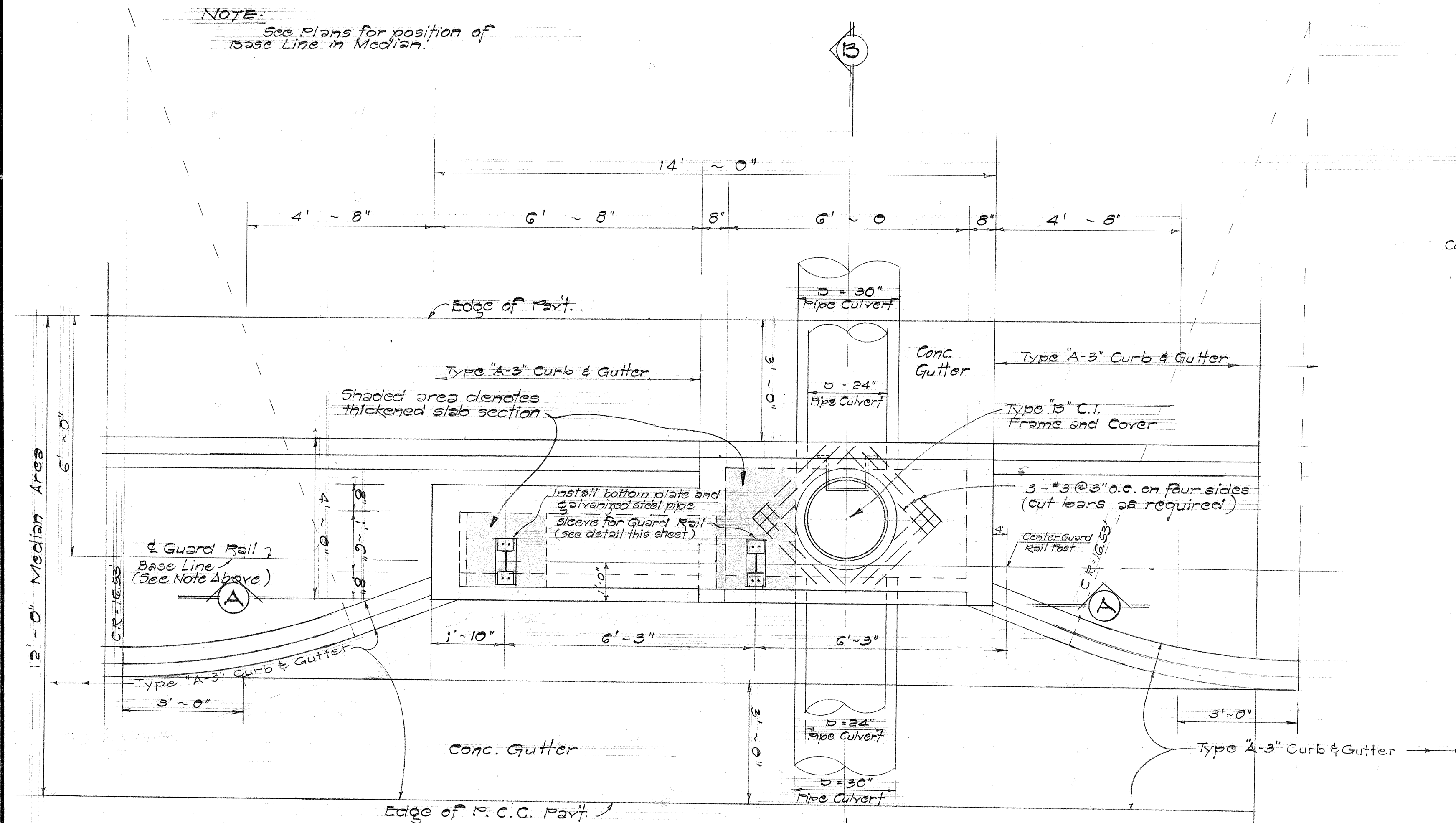
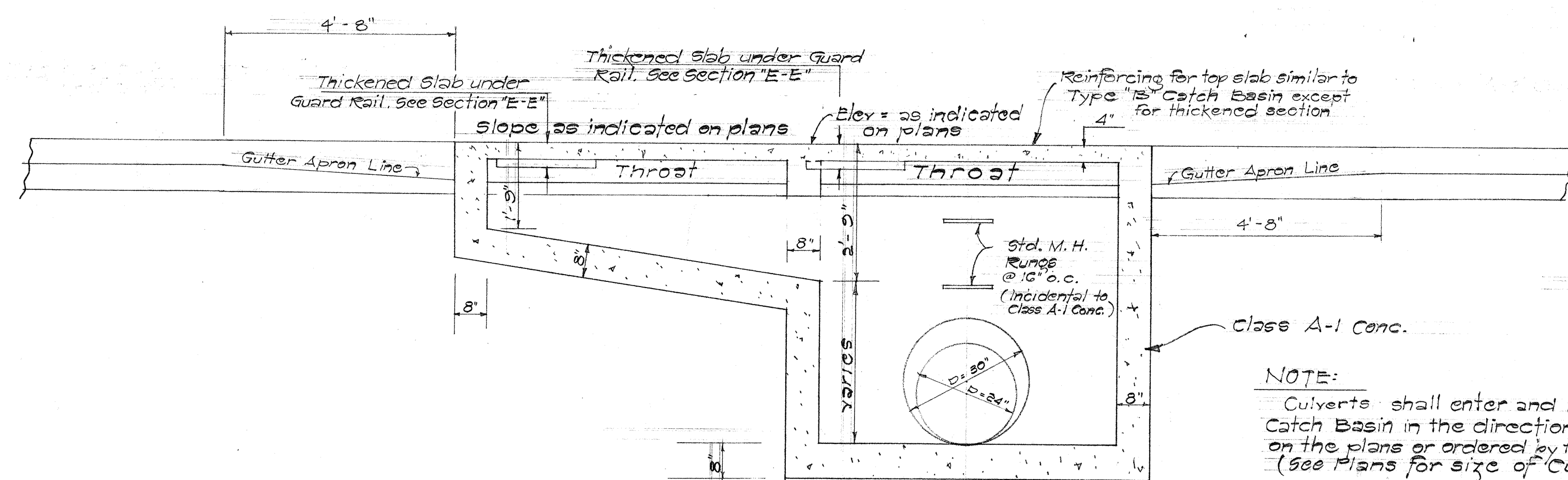


NOTE:
See Plans for position of
Base Line in Median.



PLAN

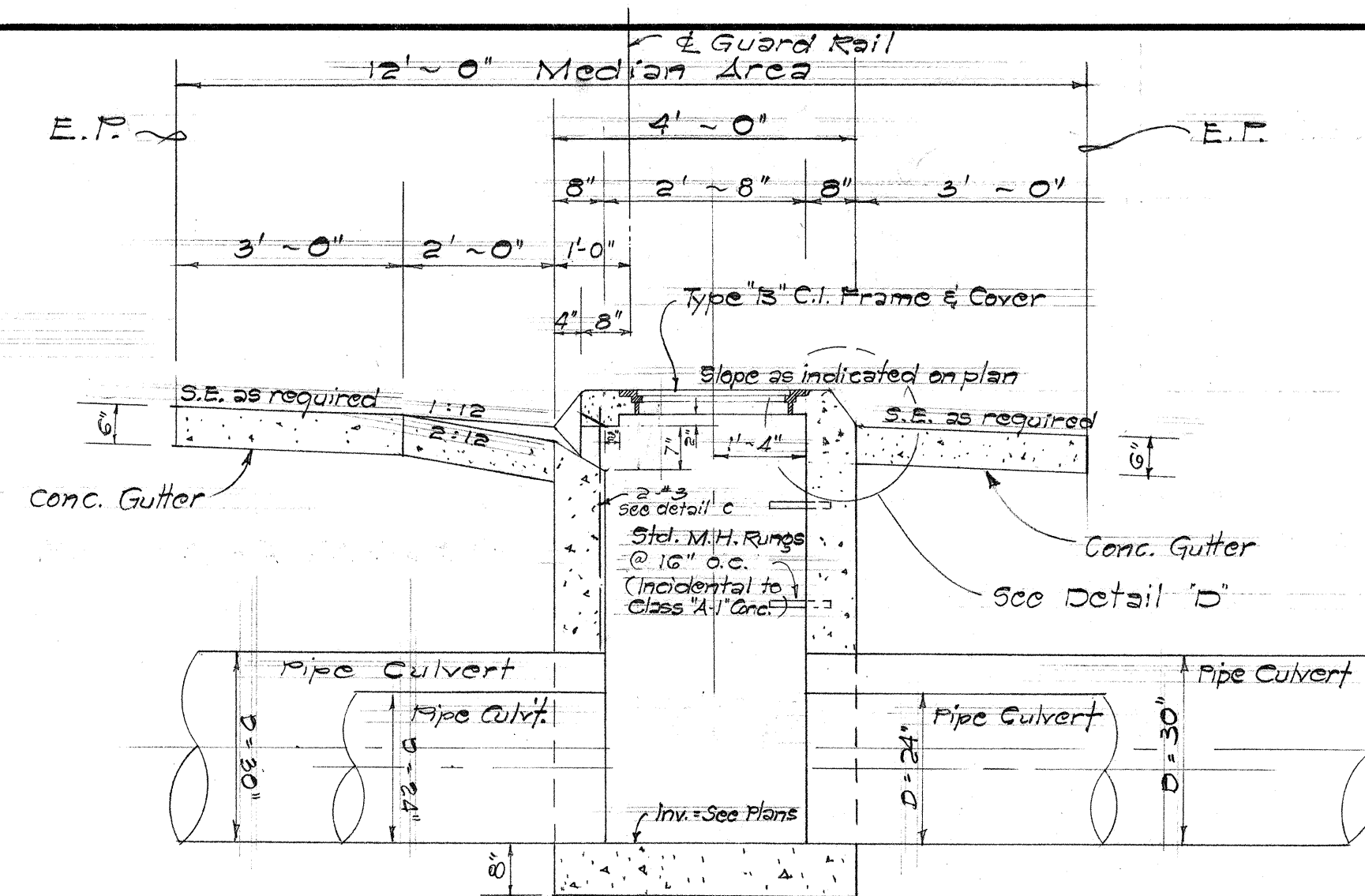
- NOTE:
1. Location of guard rail posts on each side of C.B. shall be determined by the Engineer.
 2. Reinforcing for top slab similar to reinforcing for Type 'B' C.B. except for thickened section.



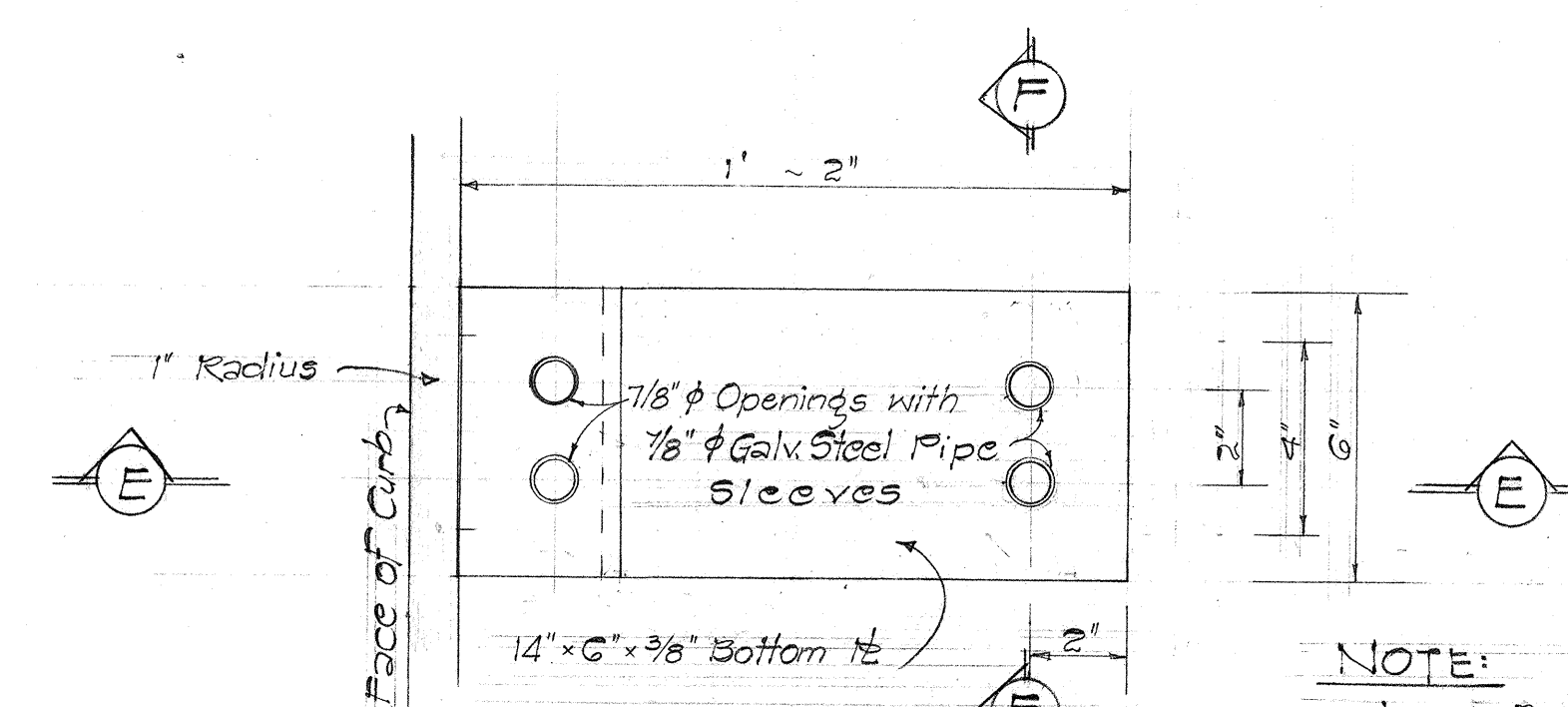
SECTION "A-A"

DETAILS OF TYPE "MB" CATCH BASIN*

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

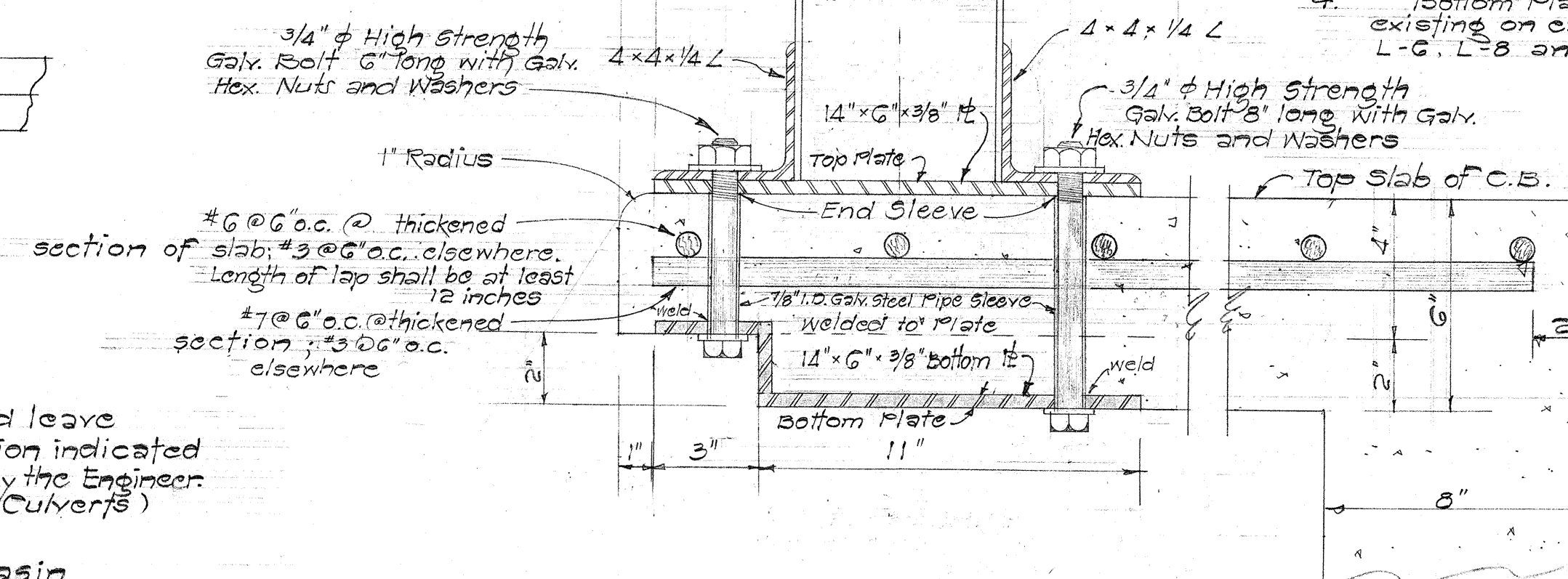


SECTION "B-B"



BOTTOM PLATE
PLAN

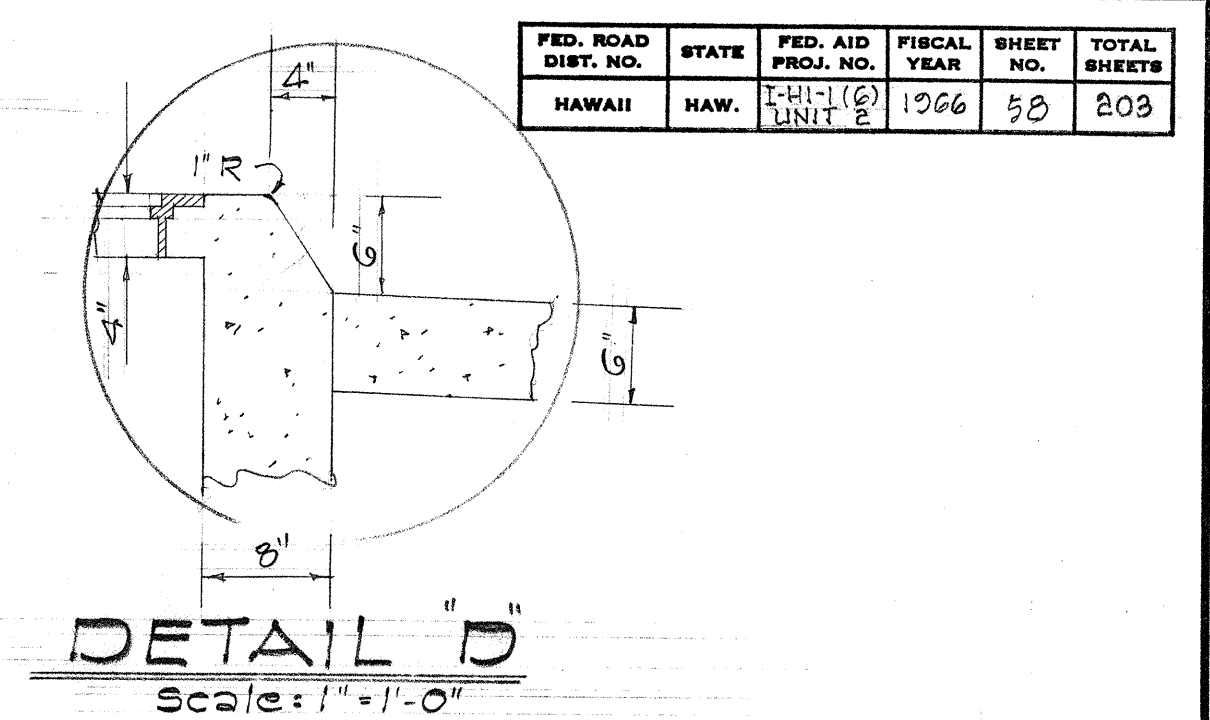
- NOTE:
1. Bottom Plate Assembly (bottom plate and sleeves) shall be incidental to reinforcing steel.
 2. Exposed surfaces of the bottom plate shall be painted with one prime coat and two field coats in accordance with Section 49 of the specifications. The choice of field coat shall be at the Contractor's option.
 3. Top Plate Assembly (top plate, high strength bolts with nuts and washers, single iron and post) shall be incidental to metal guard rail - for detail see sheet 57.
 4. Bottom Plates and Pipe Sleeves are existing on exist. Catch Basin Nos. L-4, L-6, L-8 and L-10.



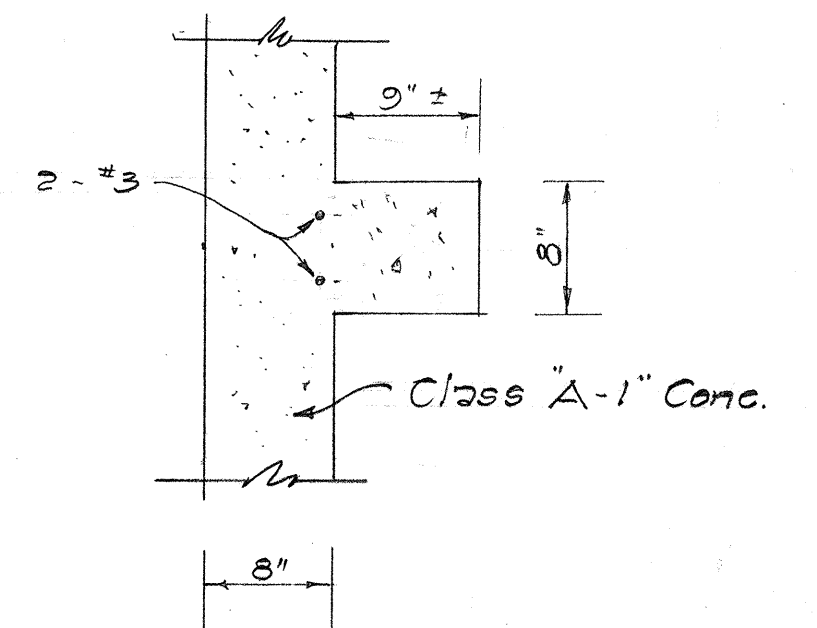
SECTION "E-E"

DETAIL OF GUARD RAIL POST CONNECTION ON TYPE "MB" AND "MC" CATCH BASINS

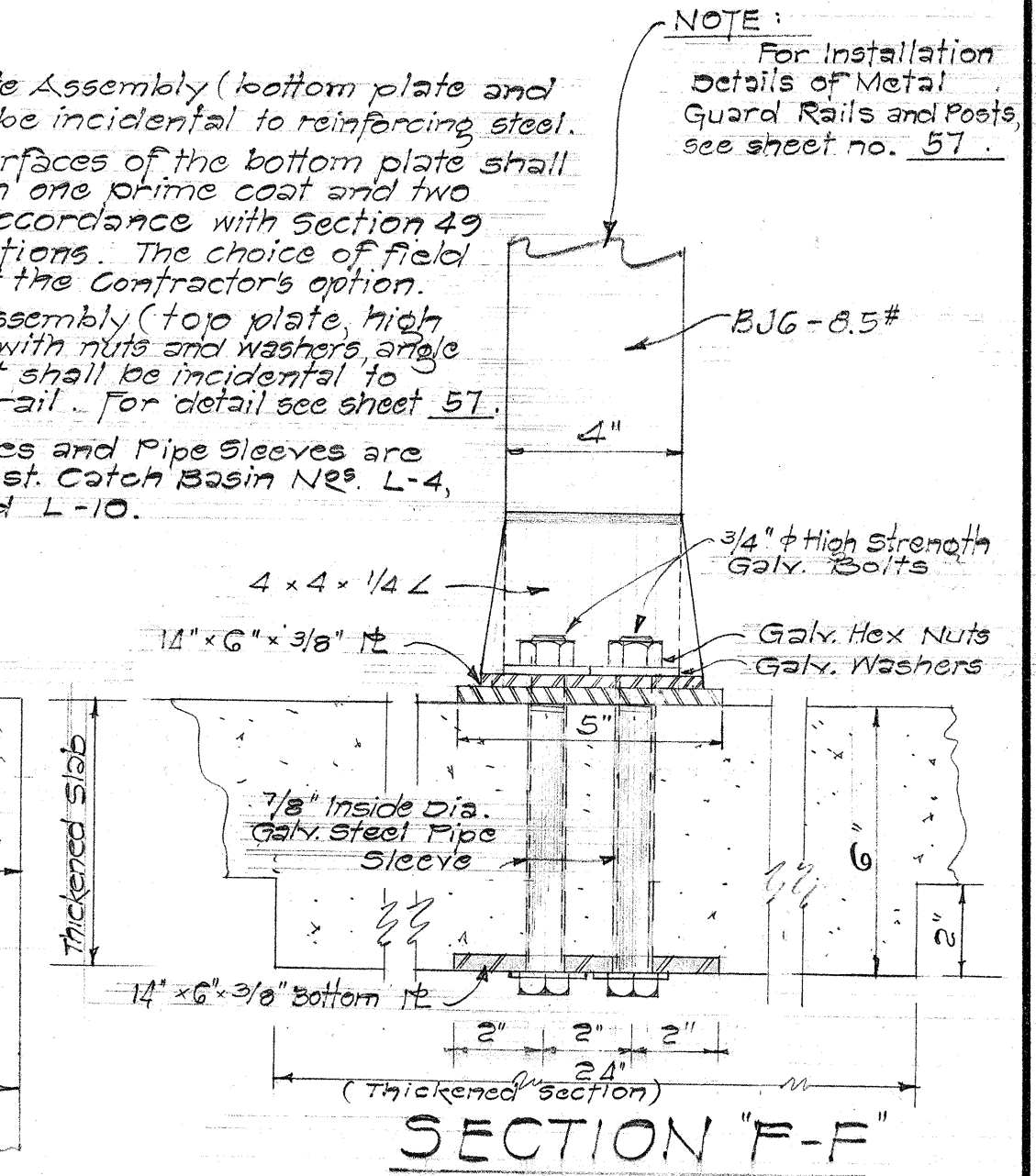
Scale: 3" = 1'-0"



DETAIL "D"
Scale: 1" = 1'-0"



DETAIL "C"
Scale: 1" = 1'-0"

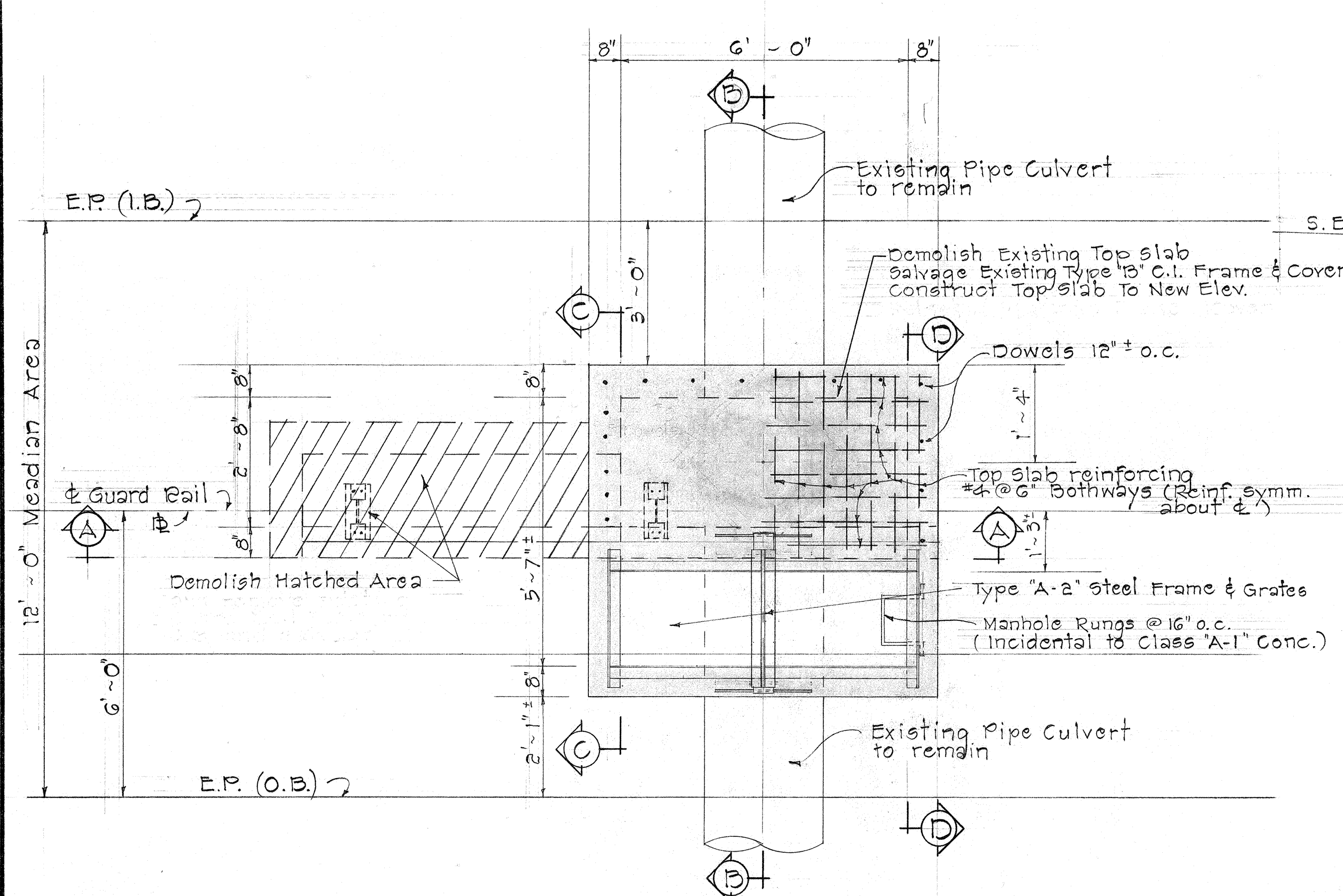


SECTION "F-F"

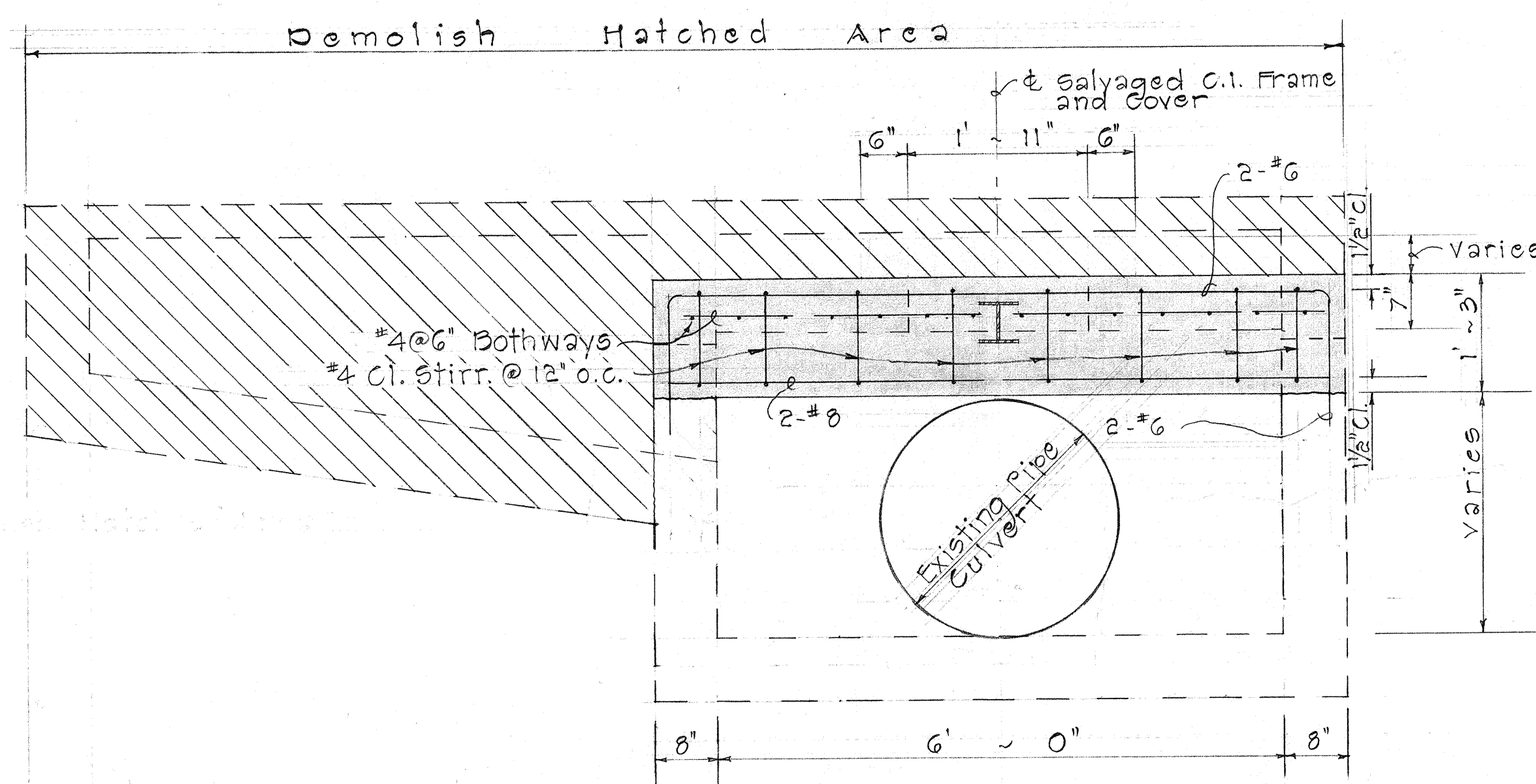
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE STRUCTURE DETAILS
OF TYPE "MB" & "MC" C.B. AND
BOTTOM PLATE ASSEMBLY
INTERSTATE HIGHWAY (LUNALILO FWY)
F.A.I. Proj. No. 1-HI-1(G) UNIT 2
Scale: As Shown Date: Oct. 1965
SHEET No. 1 OF 19 SHEETS

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

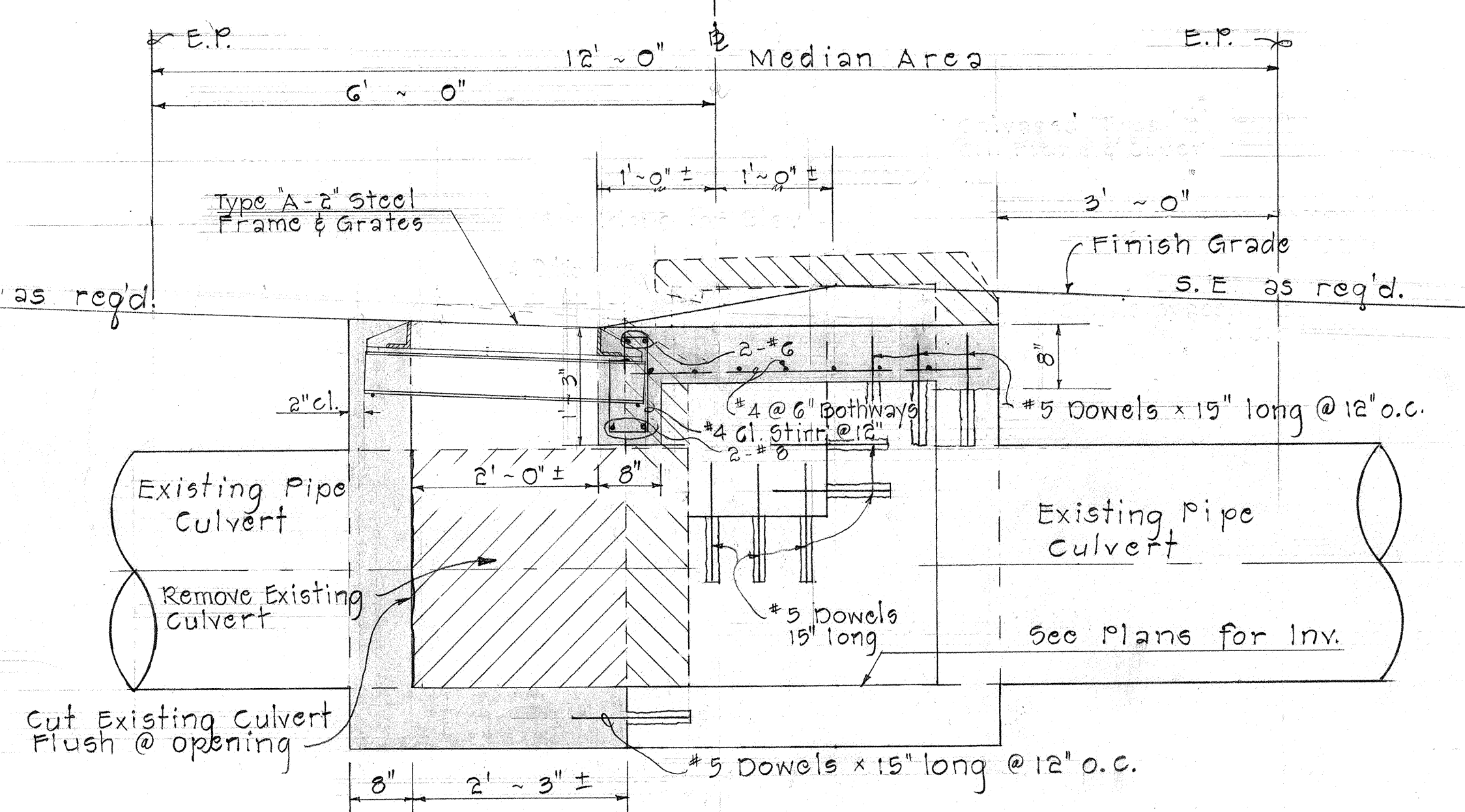
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(6) Unit 2	1966	584-S	203



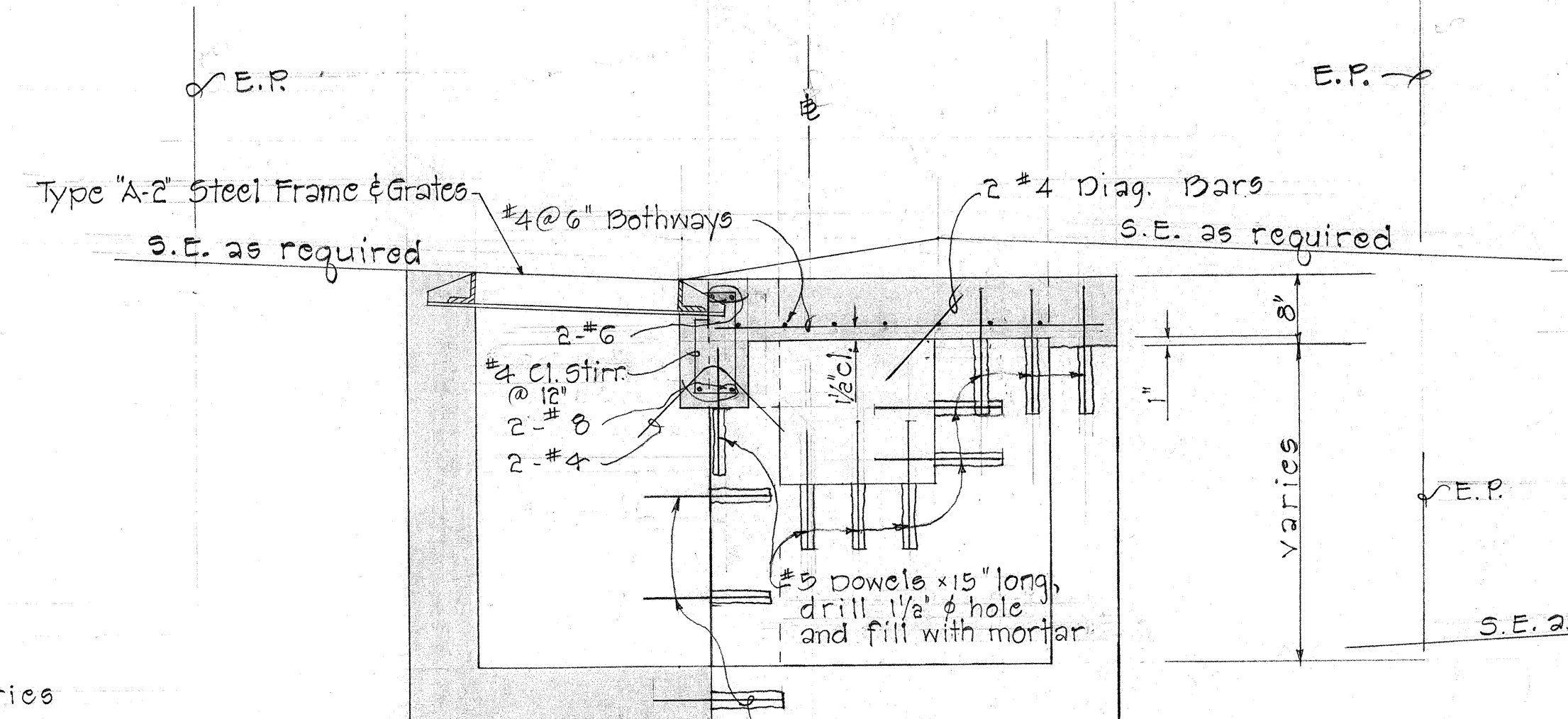
PLAN
Scale: 1/2" = 1'-0"



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



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

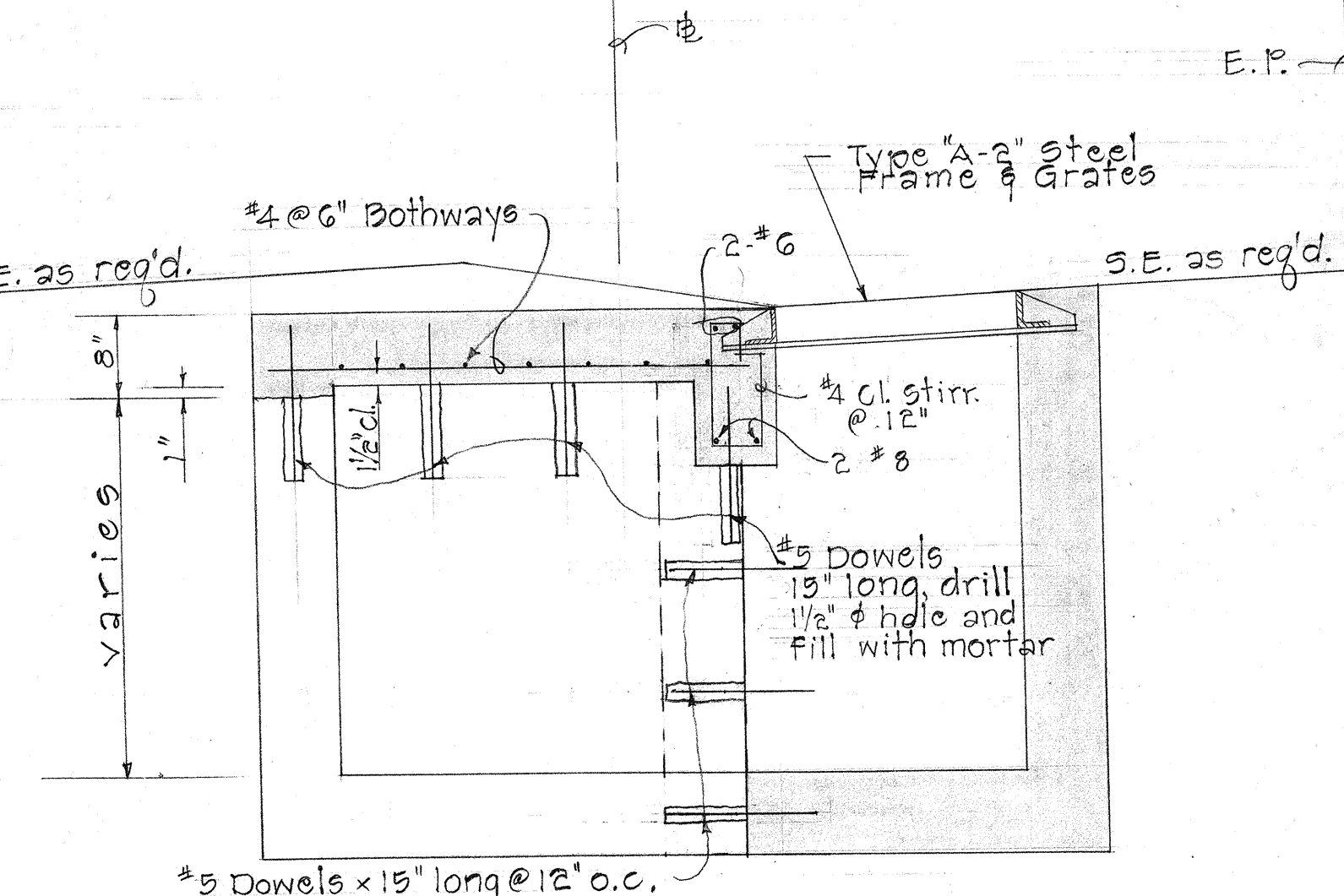


SECTION "C-C"
Scale: 3/4" = 1'-0"

TABLE OF CATCH BASINS TO BE MODIFIED

Number	Station	Type
L-4	114 + 75	MB
L-6	118 + 25	MB
L-8	121 + 63	MB
L-10	126 + 00	MB
L-12	130 + 50	MB
L-20	138 + 50	MC

Notes: 1. Concrete shall be Class "A-1"
2. Demolish hatched areas.



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

MODIFICATIONS TO TYPE "MB" AND "MC" CATCH BASINS

Scale: As Shown

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MODIFICATIONS TO TYPE
"MB" AND "MC" CATCH BASINS

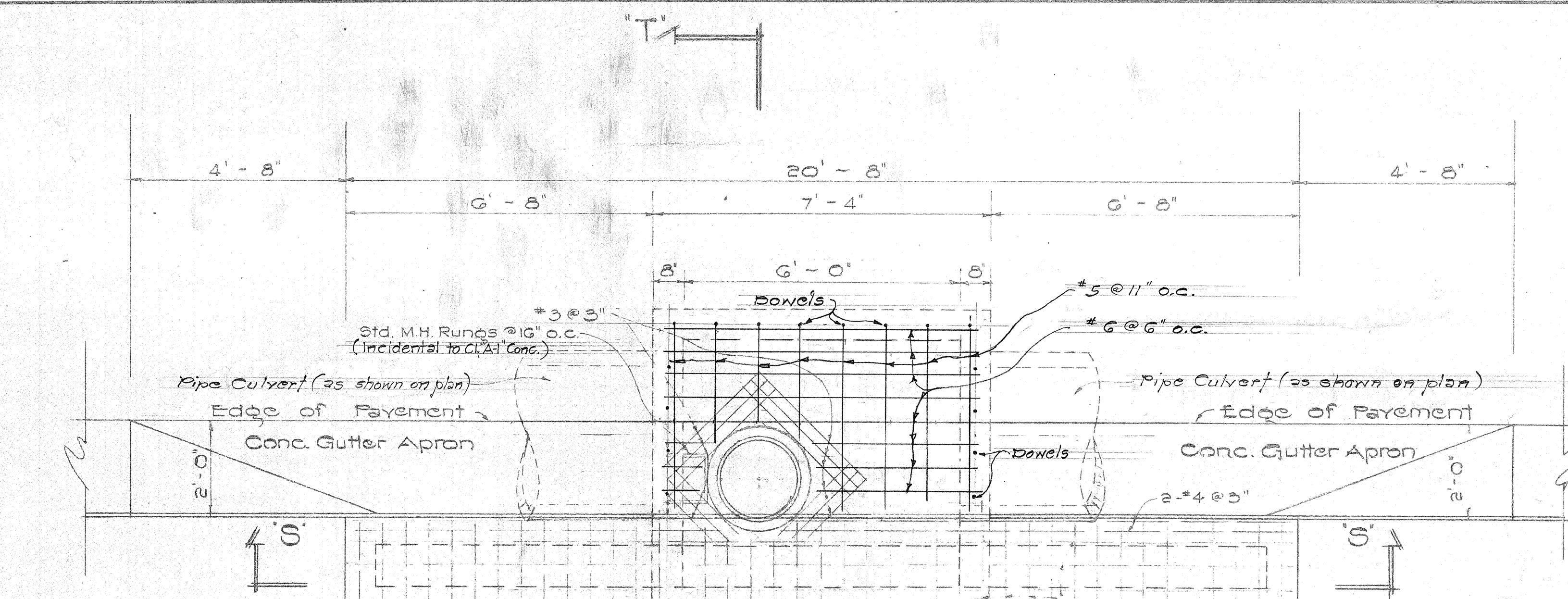
INTERSTATE HIGHWAY
(LUNALILO FREEWAY)
KOKO HEAD AVE. TO 21 ST AVE.
Proj. No. I-HI-1(6), Unit 2

Scale: As Shown Date: Aug., 1967

SHEET No. 1 OF 1 SHEETS

584-S

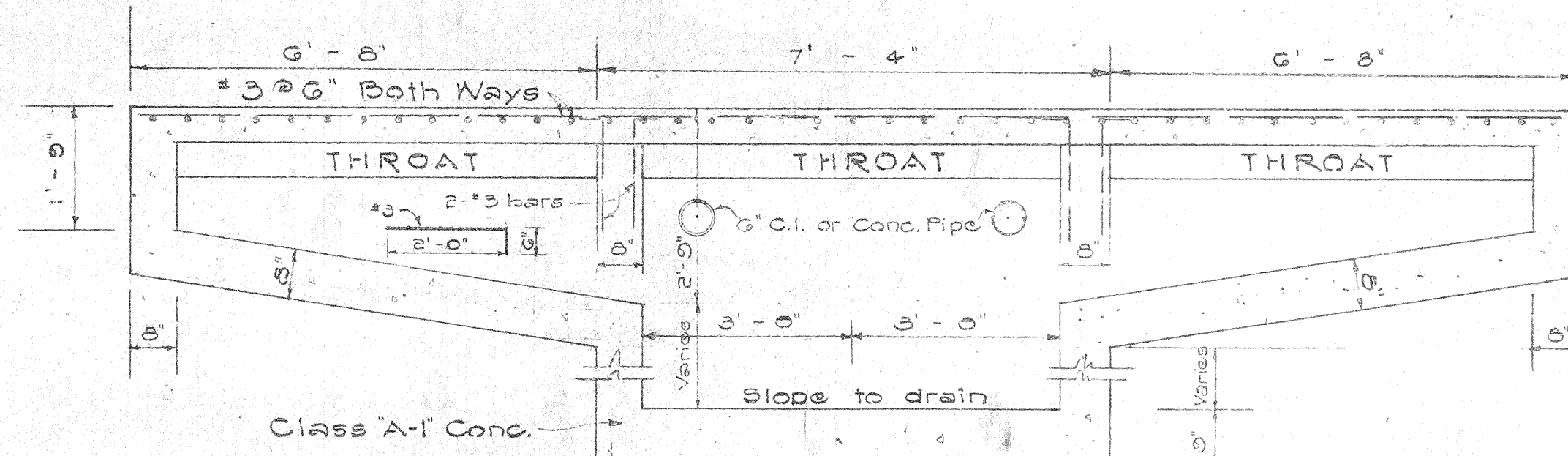
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(6) UNIT 2	1966	59	203



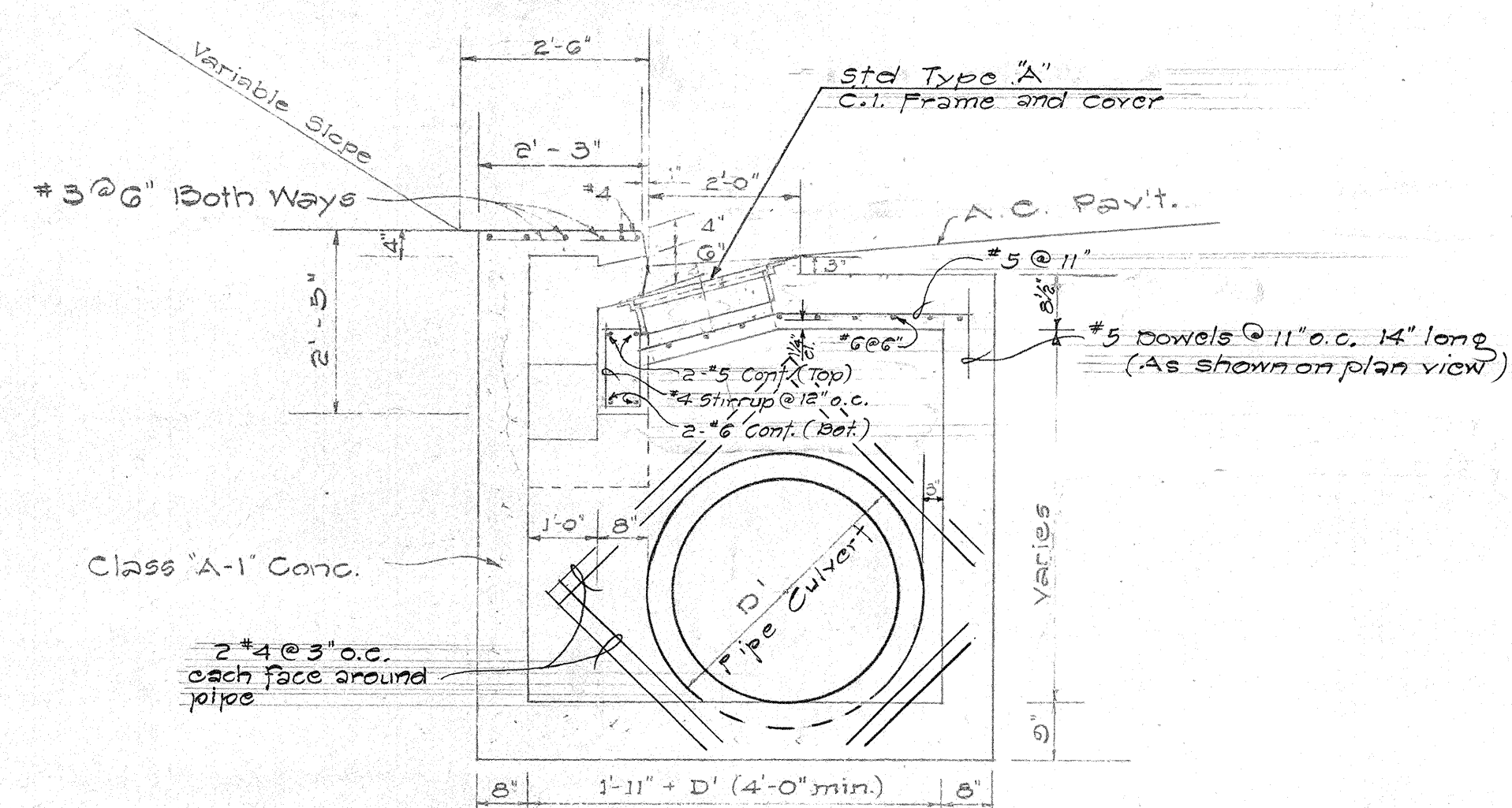
NOTE:
For inverts of pipe
culverts see plans

C.B. Type "IC"
C.B. Type "IB"
C.B. Type "IA"

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

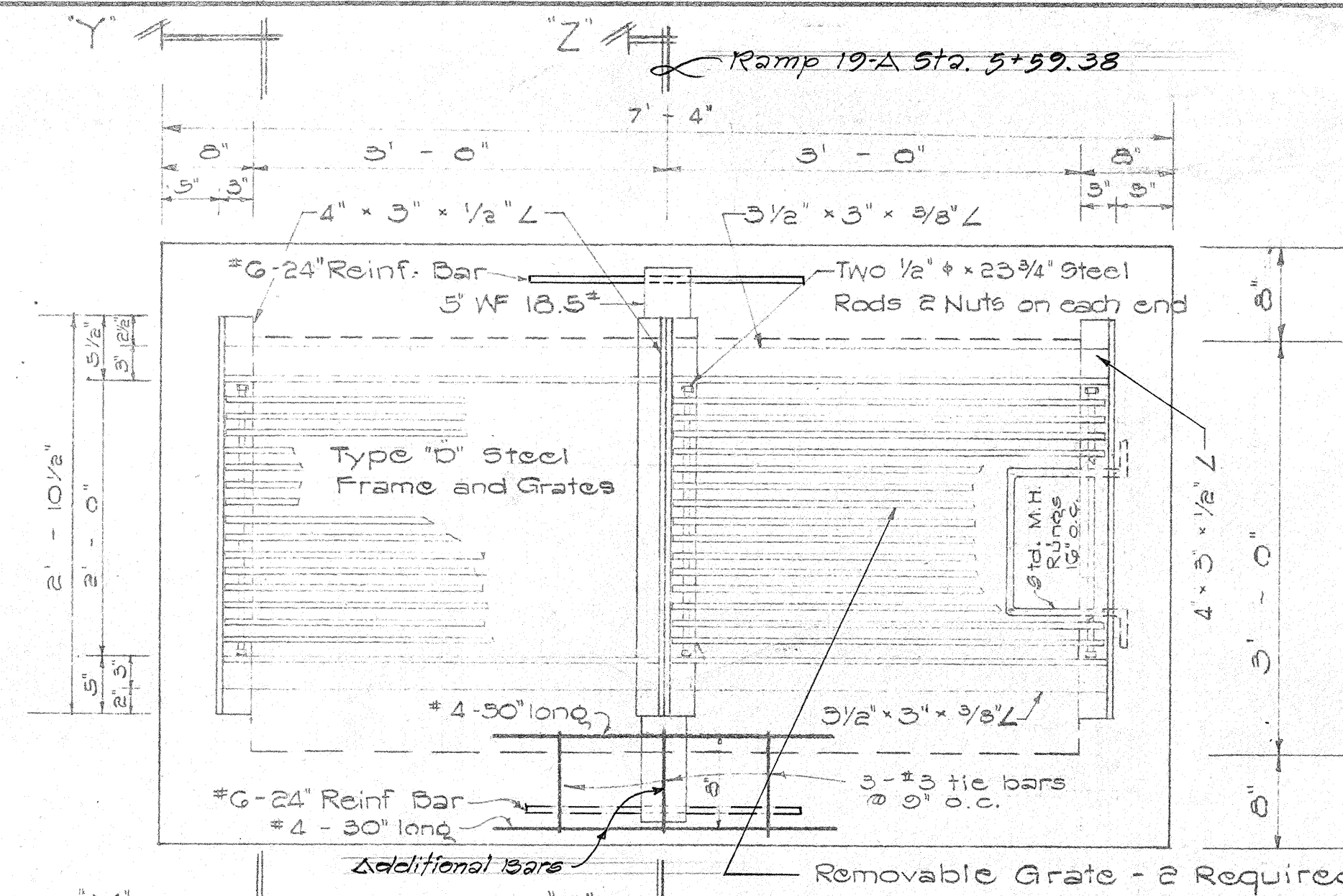


SECTION - "S-S"
Scale: 1/2" = 1'-0"

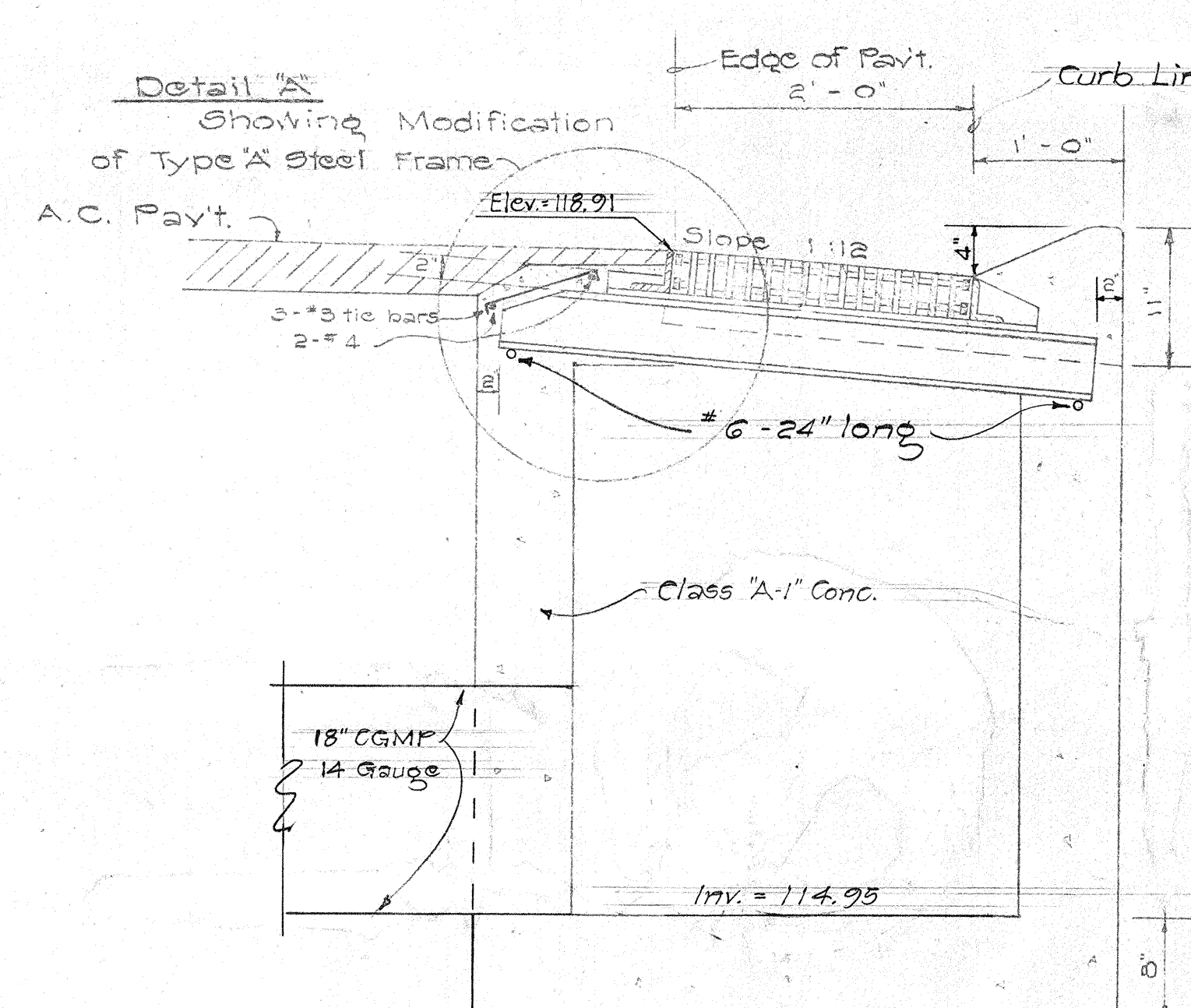


SECTION "T-T"
Scale: 1/2" = 1'-0"

CATCH BASIN TYPE "IA", "IB" & "IC"



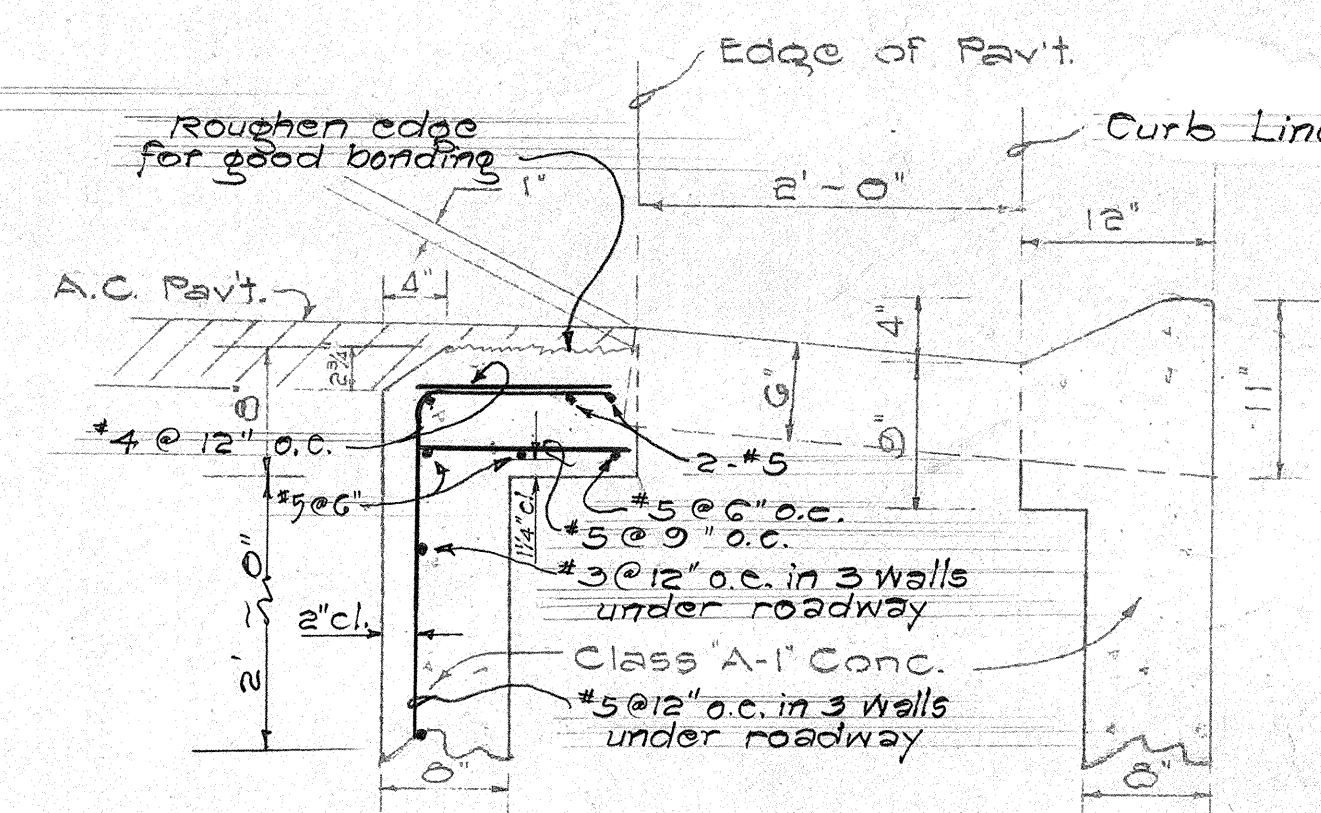
PLAN
Scale: 1" = 1'-0"



SECTION "Z-Z"
Scale: 1" = 1'-0"

CATCH BASIN TYPE "IE" AT RAMP 19-A STA. 5+59.38

Scale: As Noted



END SECTION
SECTION "Y-Y"
Scale: 1" = 1'-0"

Note: Reinforcing as
shown is typical
for entire longitudinal
wall under the
pavement, unless
otherwise specified

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

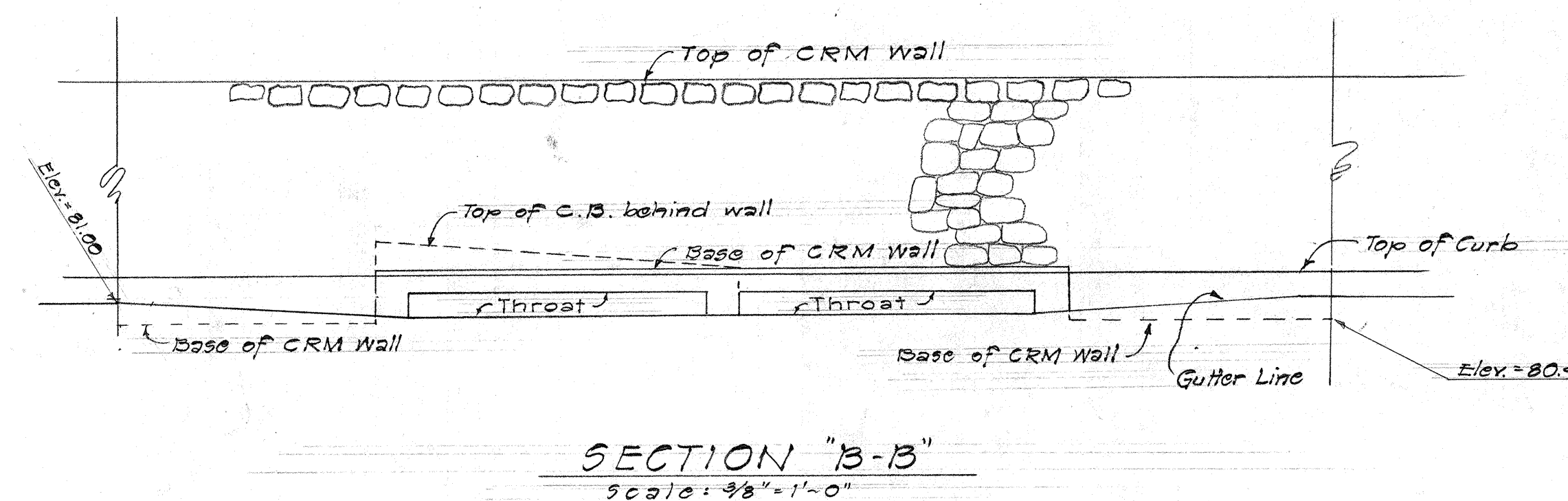
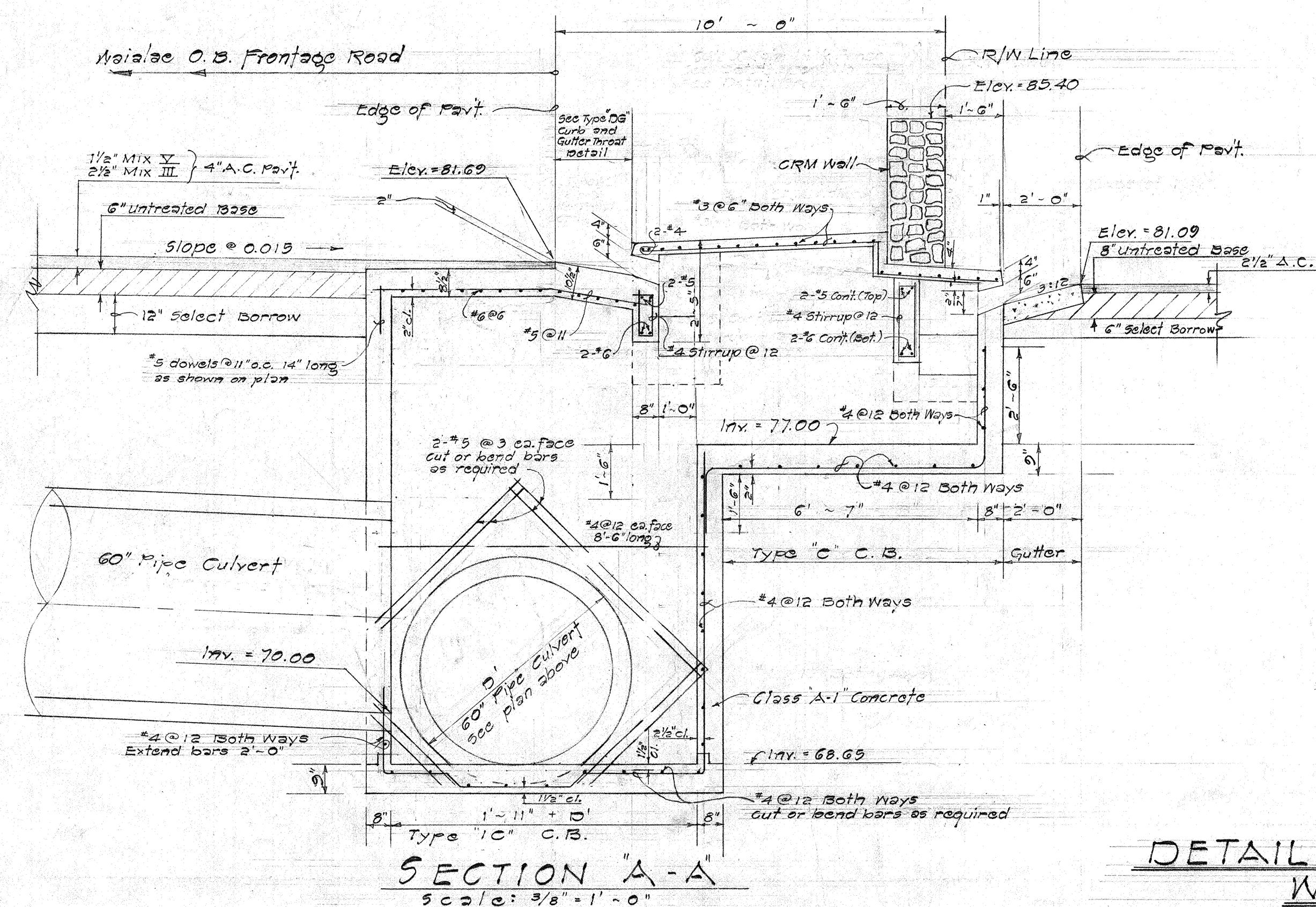
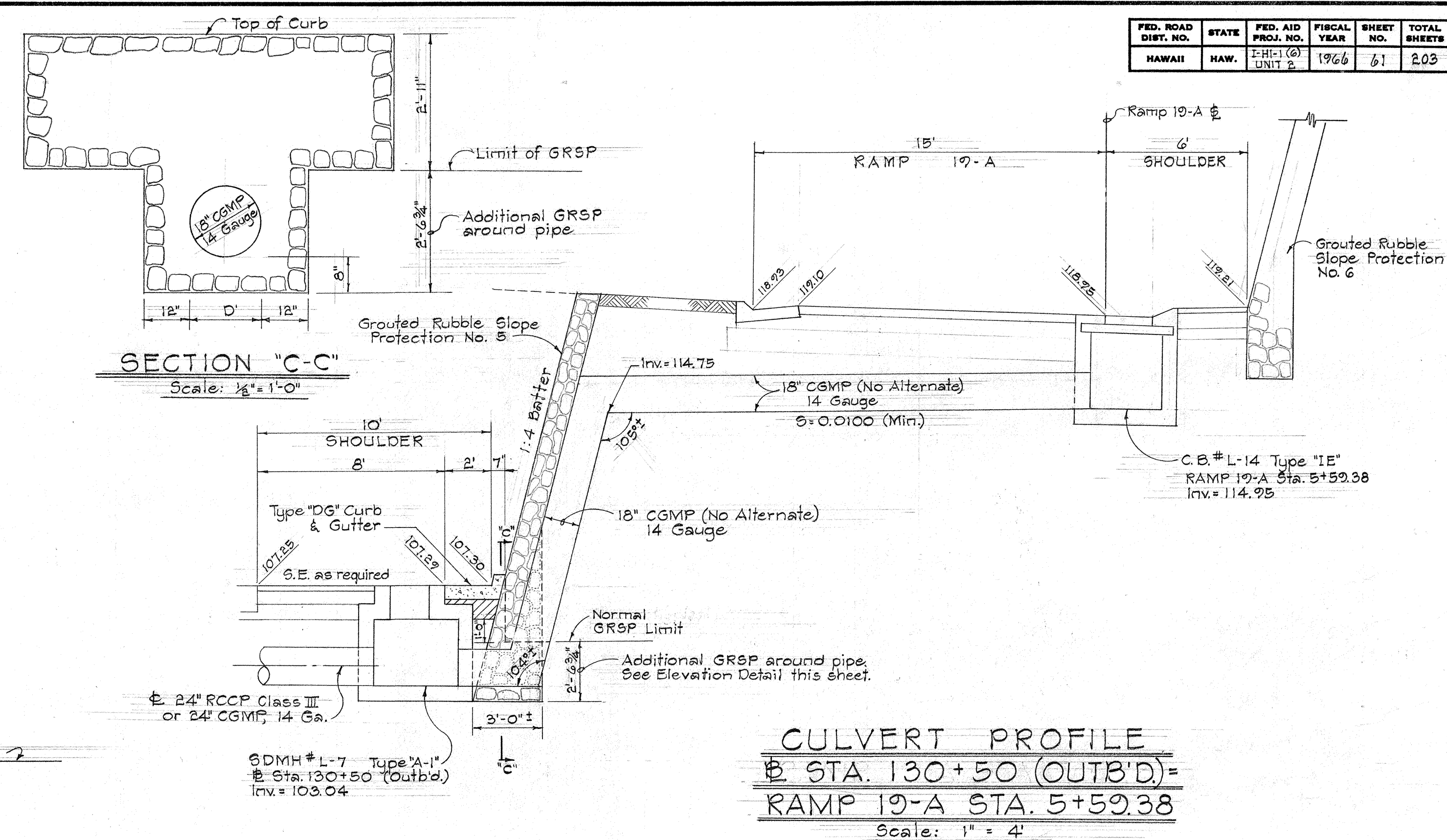
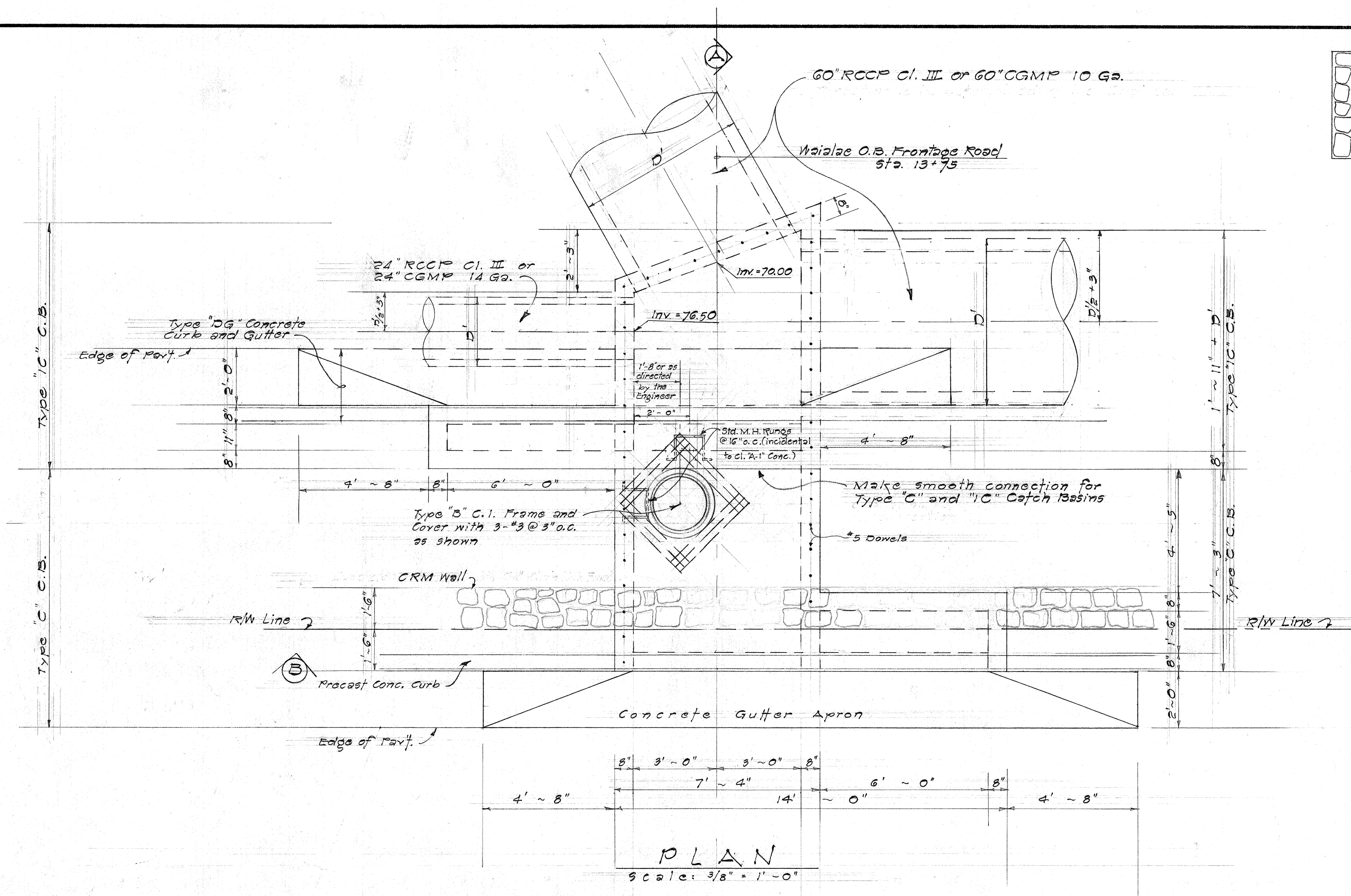
DRAINAGE STRUCTURE DETAILS
TYPE "IA", "IB", "IC" & "IE" CATCH BASINS
INTERSTATE HIGHWAY (LUNALILO FWY)
F.A.I. Proj. No. I-HI-1(6) UNIT 2

SCALE: AS SHOWN DATE: Dec., 1965

SHEET No. 2 OF 19 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	I-HI-1 (6) UNIT 2	1966	61	203



DETAIL OF CATCH BASIN #WO-3, TYPE "IC-C"
WA. O.B. FRONTAGE STA. 13+75

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE STRUCTURE DETAILS
OF CATCH BASIN #WO-3 (TYPE IIC)

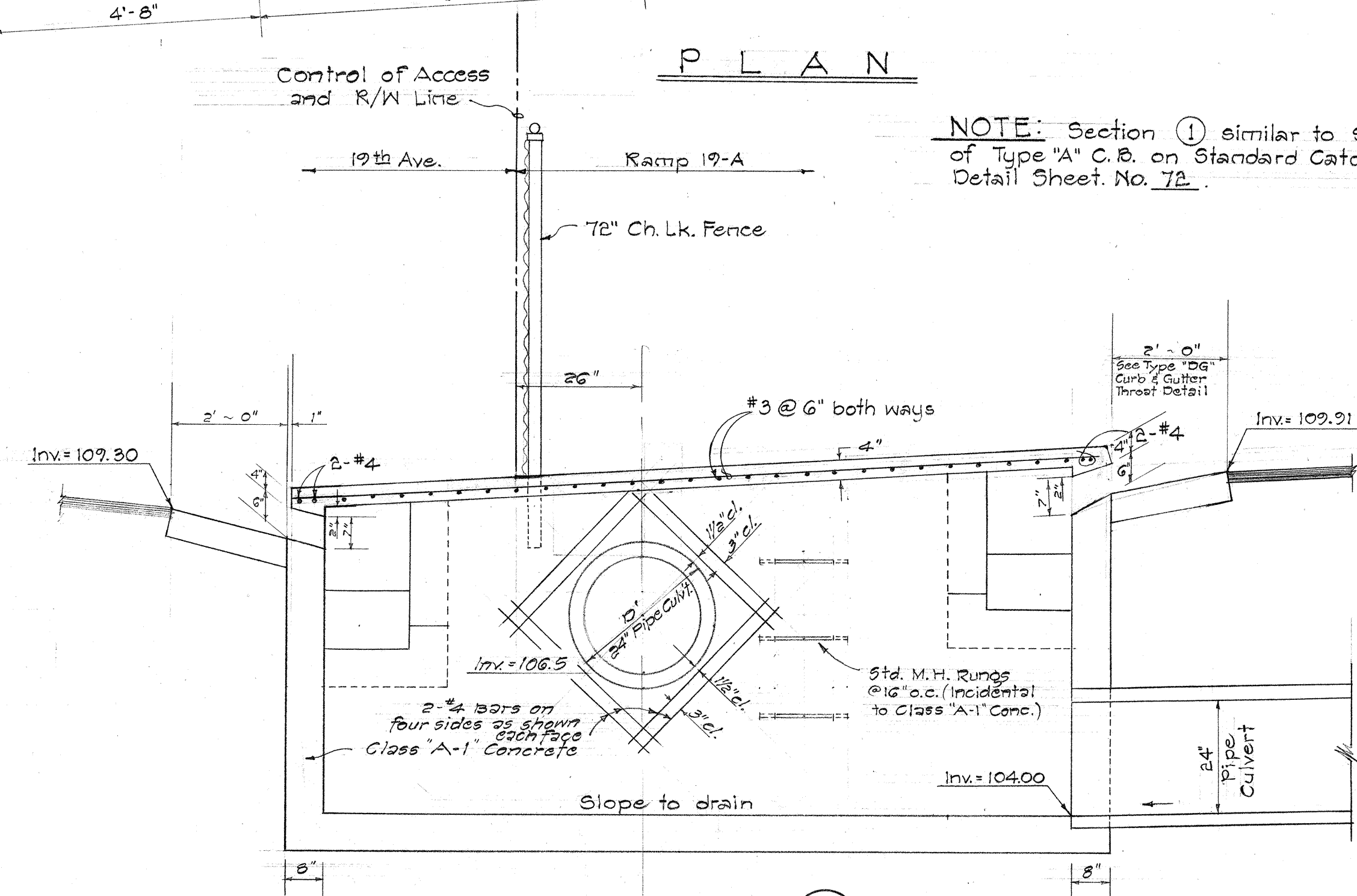
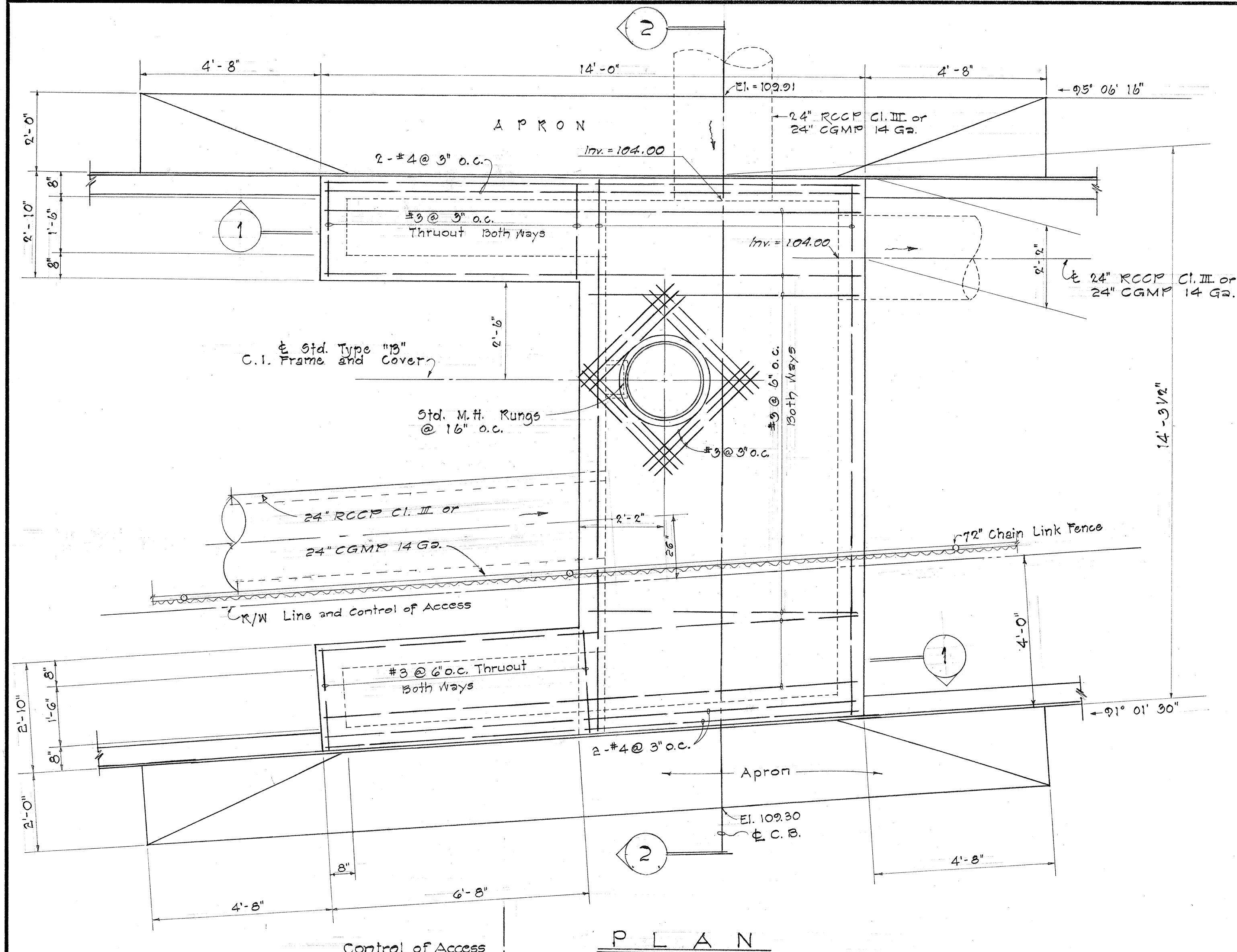
AND CULVERT PROFILE AT
RAMP 19-A STA. 5+59.38

INTERSTATE HIGHWAY (LUNALILO FWY)
F.A.I. PROJ. NO. I-H-1(6) UNIT 2

Scale: As Shown Date: Nov. 1965

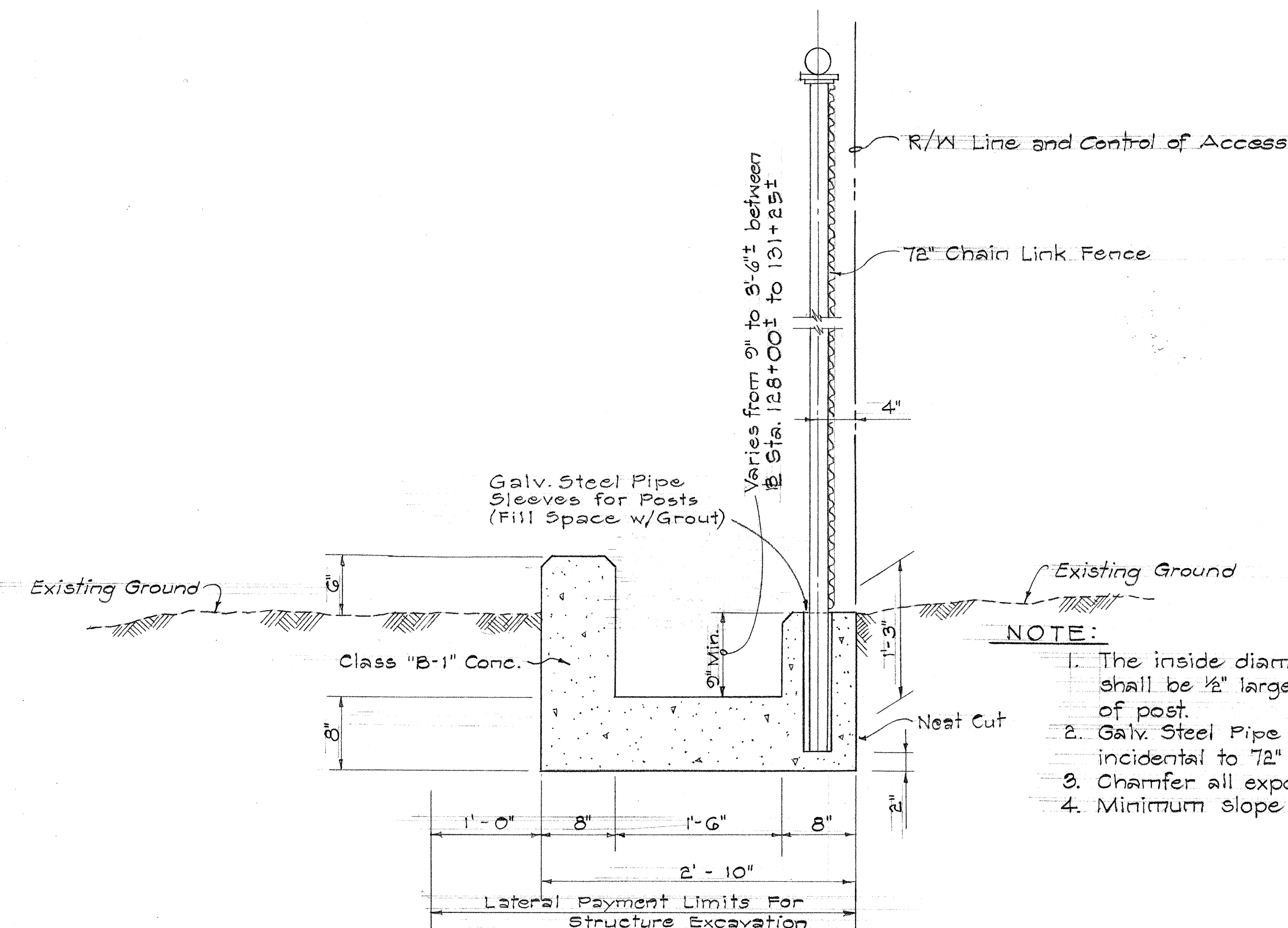
SHEET NO. 4 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-1(6) UNIT 2	1966	63	203



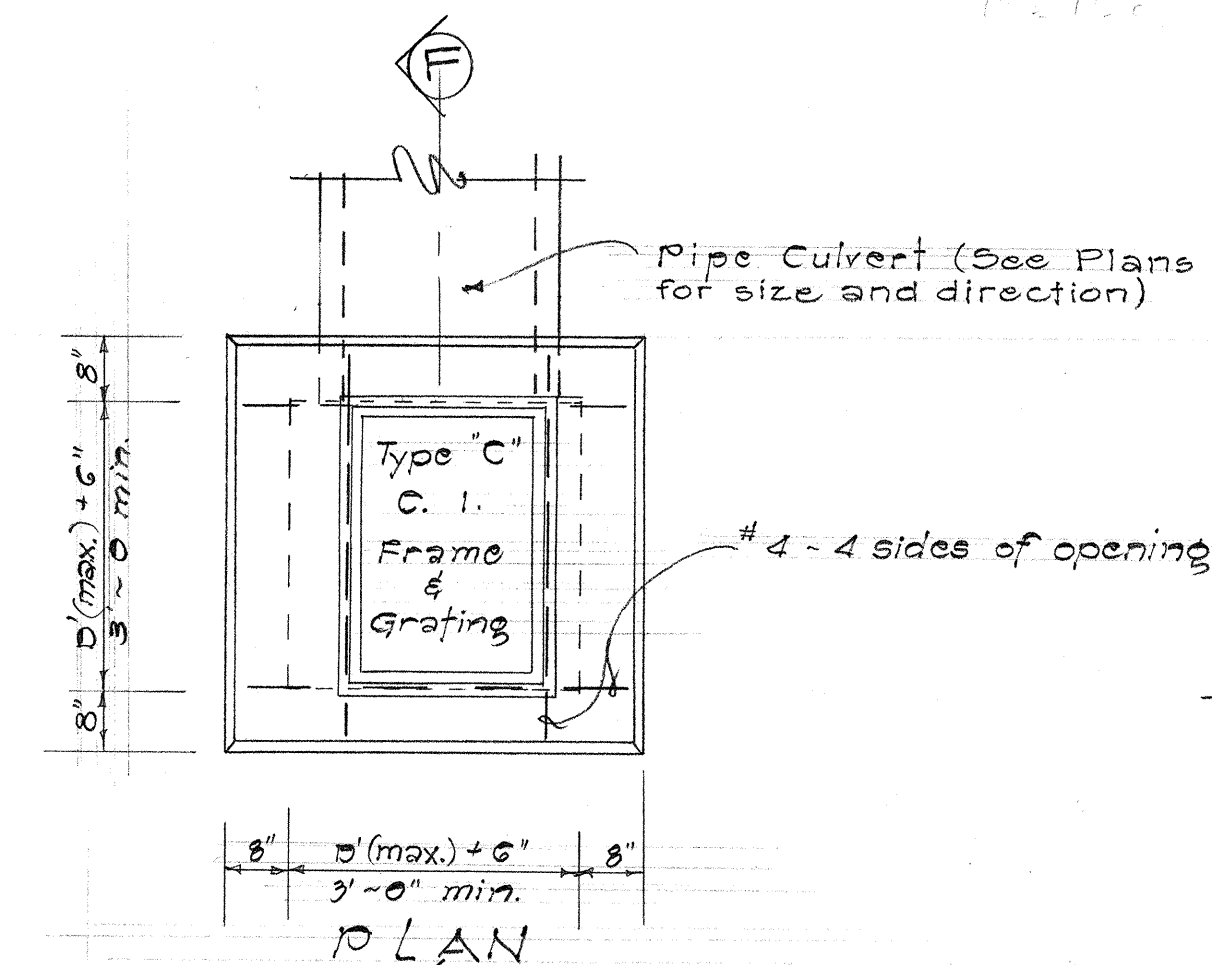
SECTION 2
DETAIL OF CATCH BASIN #L-15 (TYPE "B-C")
(RAMP 19-A STA. 10+00)
Scale: 1/2" = 1'-0"

NOTE: Section ① similar to Section 'A-A' of Type 'A' C.B. on Standard Catch Basin Detail Sheet No. 72.

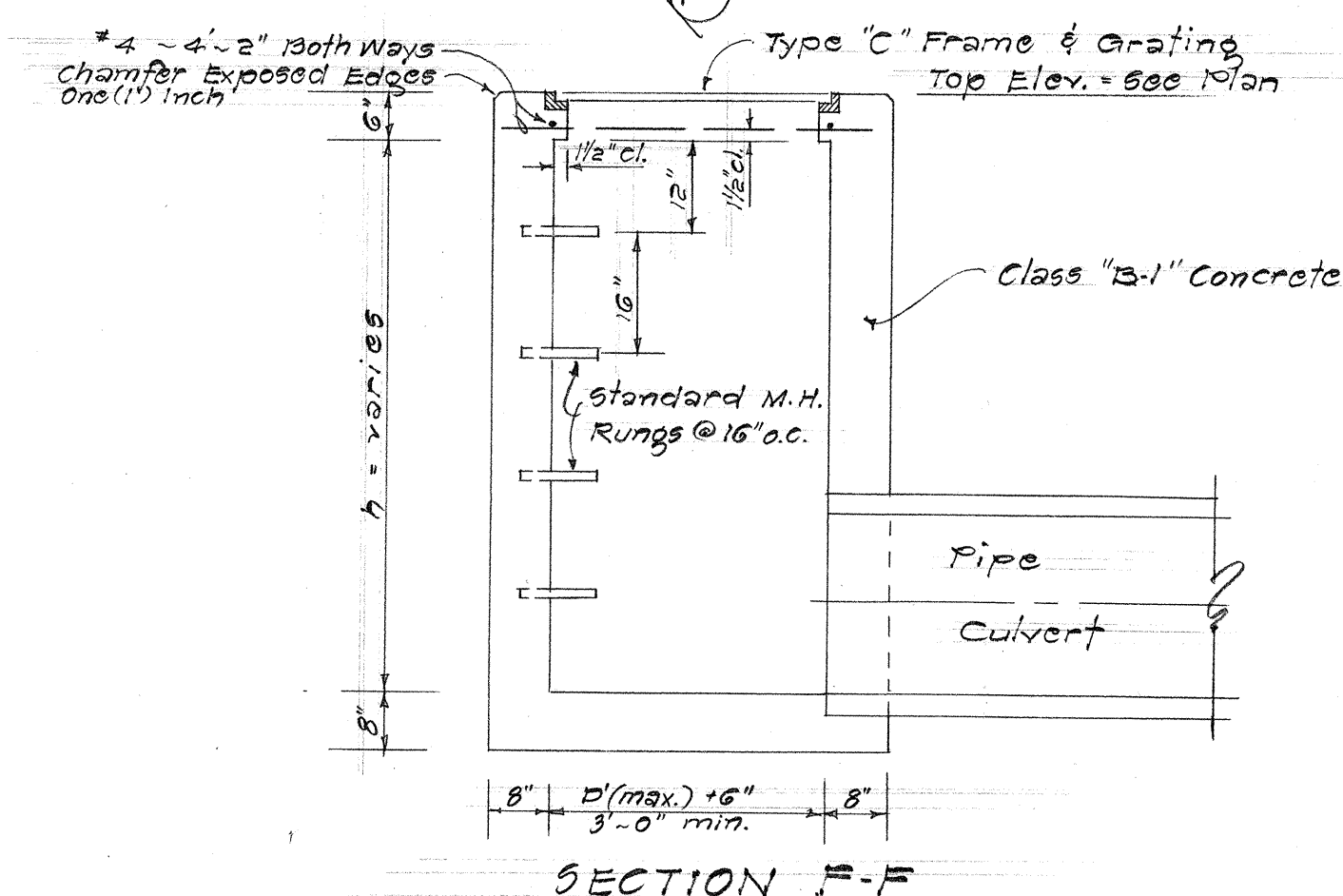


TYPICAL DETAIL OF CONCRETE CUT-OFF DITCH
Scale: 1" = 1'-0"

- NOTE:
- The inside diameter of Galv. Steel Pipe Sleeve shall be 1/2" larger than the outside diameter of post.
 - Galv. Steel Pipe Sleeve and grout shall be incidental to 72" Chain Link Fence.
 - Chamfer all exposed edges 1 inch.
 - Minimum slope = 0.005 ft./ft.



- NOTES:
- Exposed edges above the ground line of concrete drop intakes shall be chamfered one (1) inch.
 - Standard Manhole Rungs @ 16" o.c. shall be provided for structures having 'h' greater than 3'-0" and shall be incidental to class "B-1" concrete.
 - Location of Standard Manhole Rungs to be determined by the Engineer.

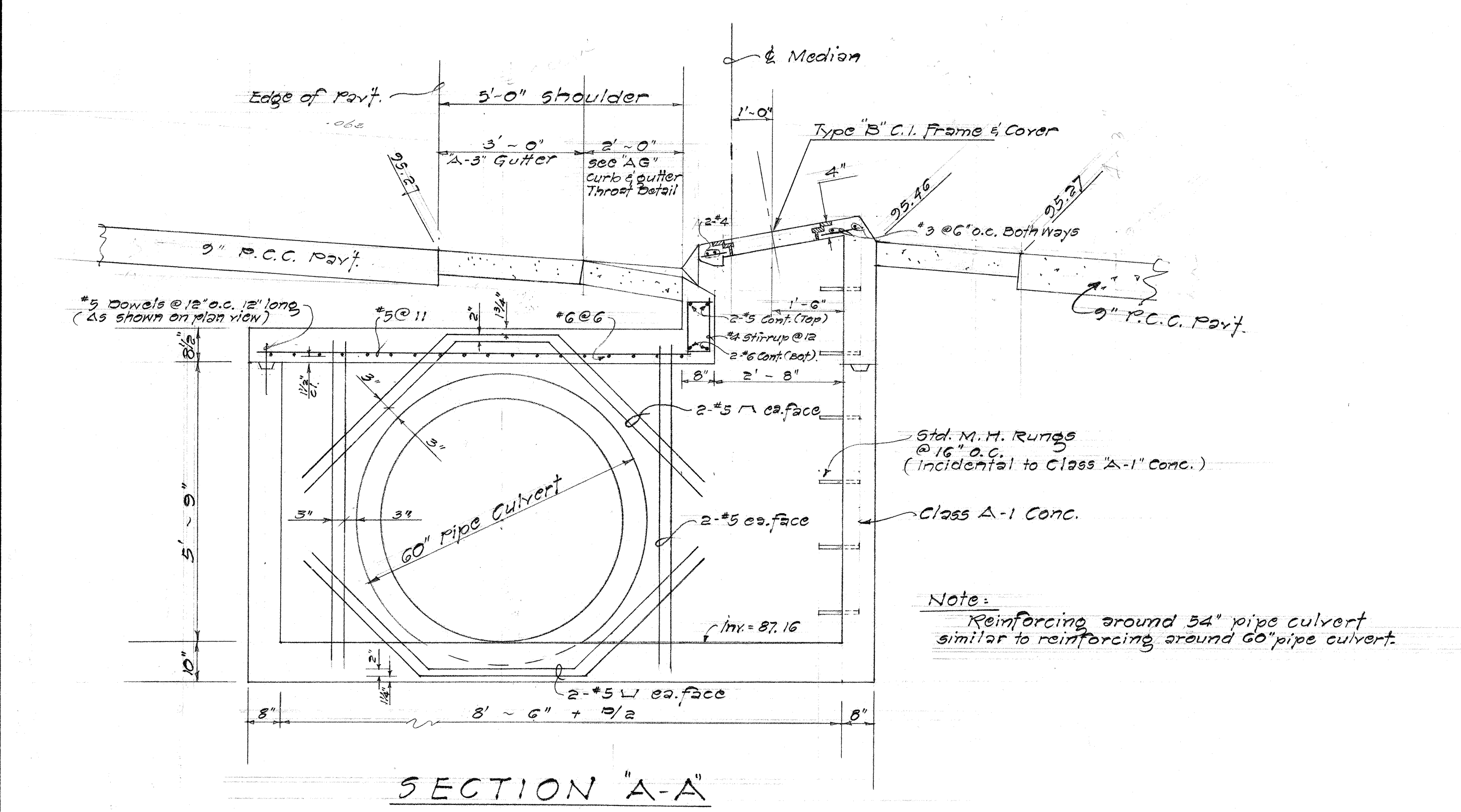
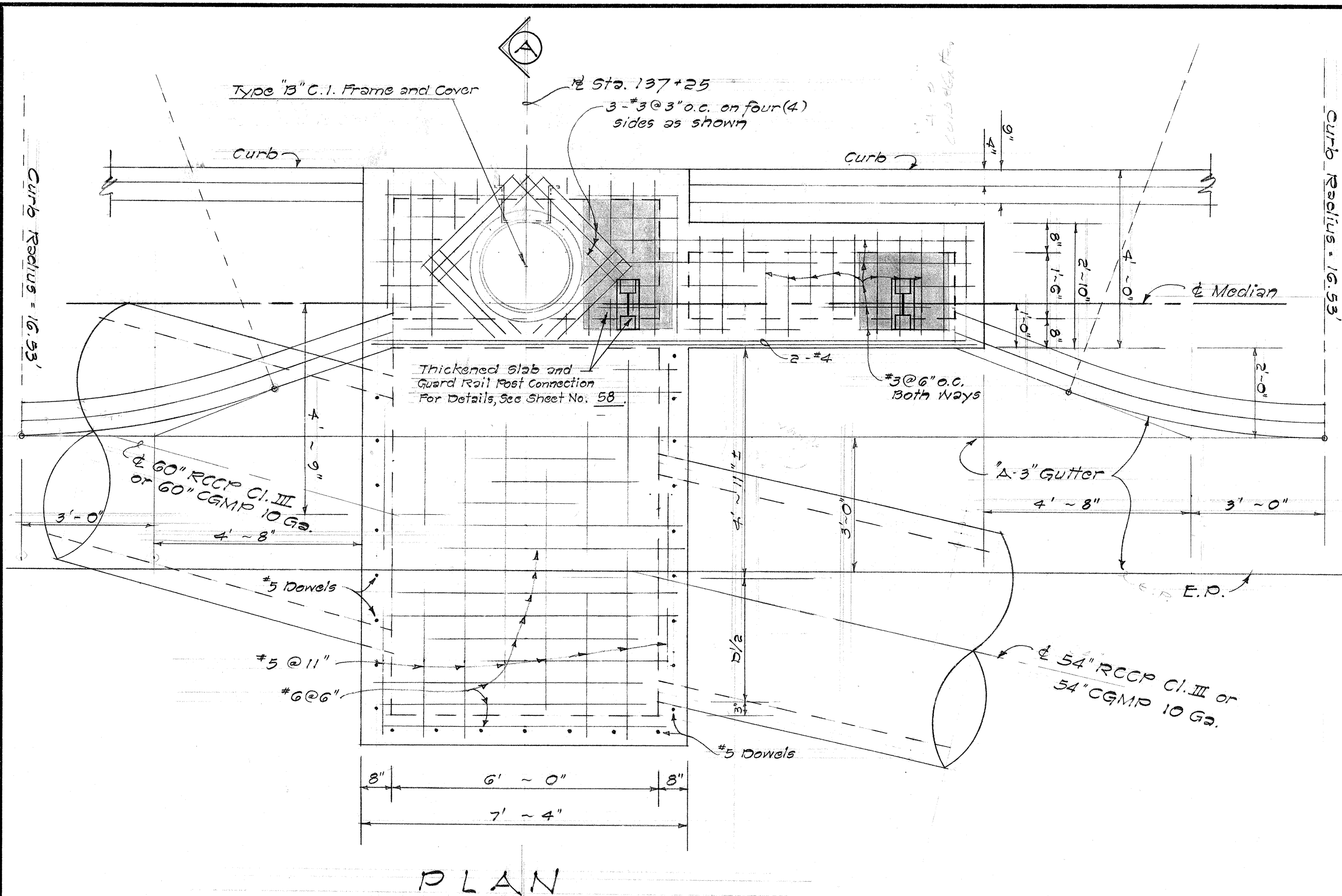


SECTION F-F
TYPE "C" GRATED CONCRETE DROP INTAKE
Scale: 1/2" = 1'-0"

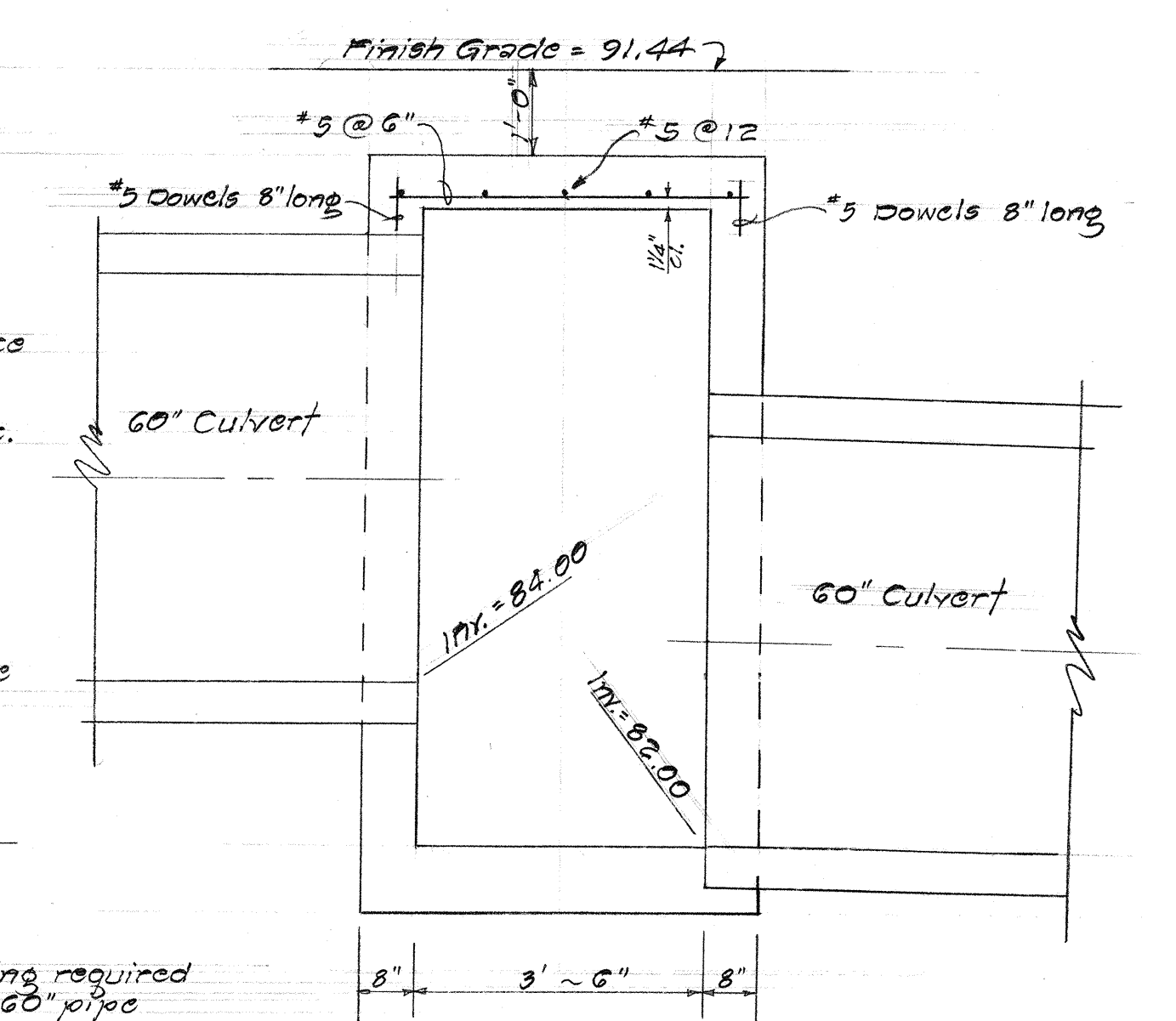
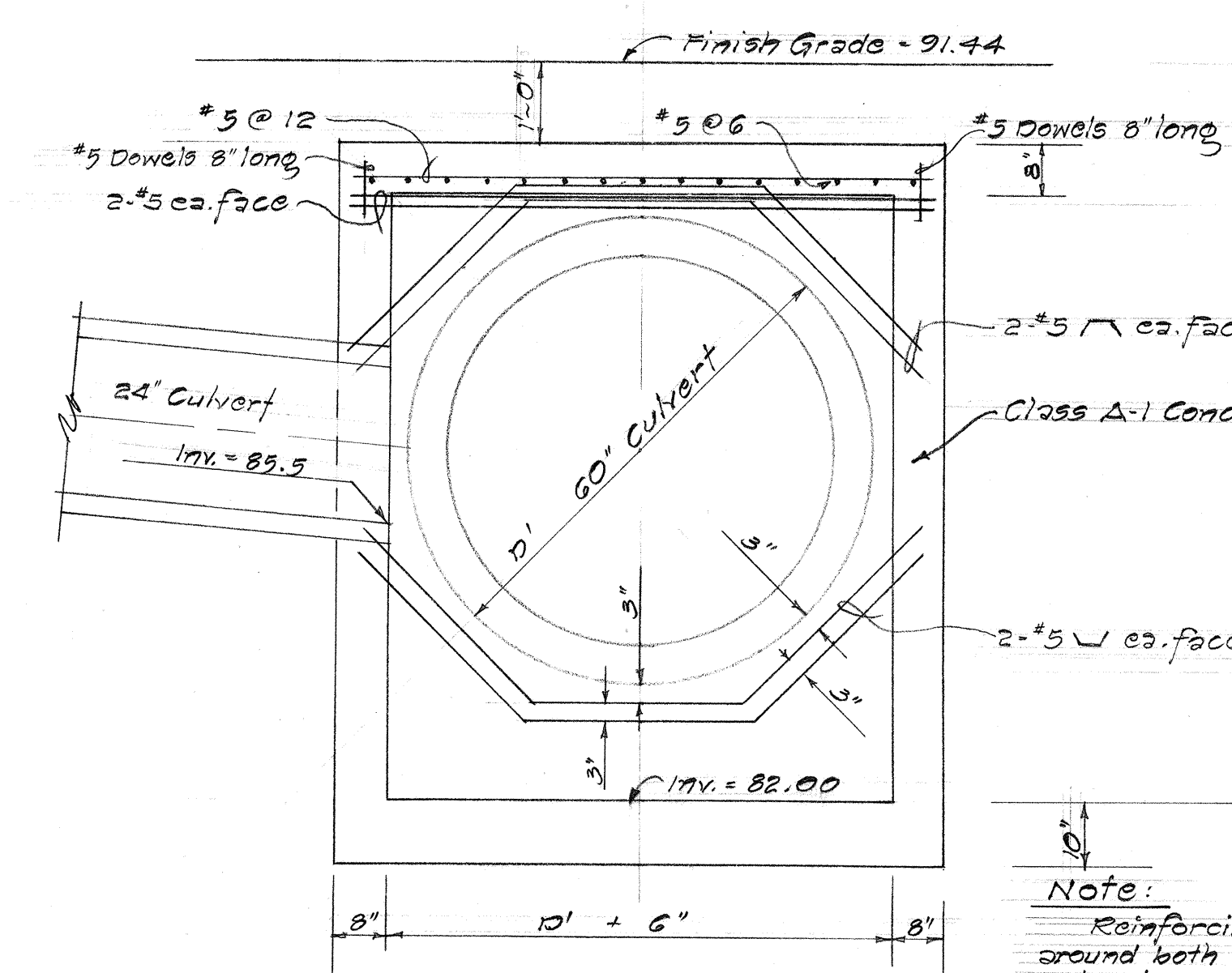
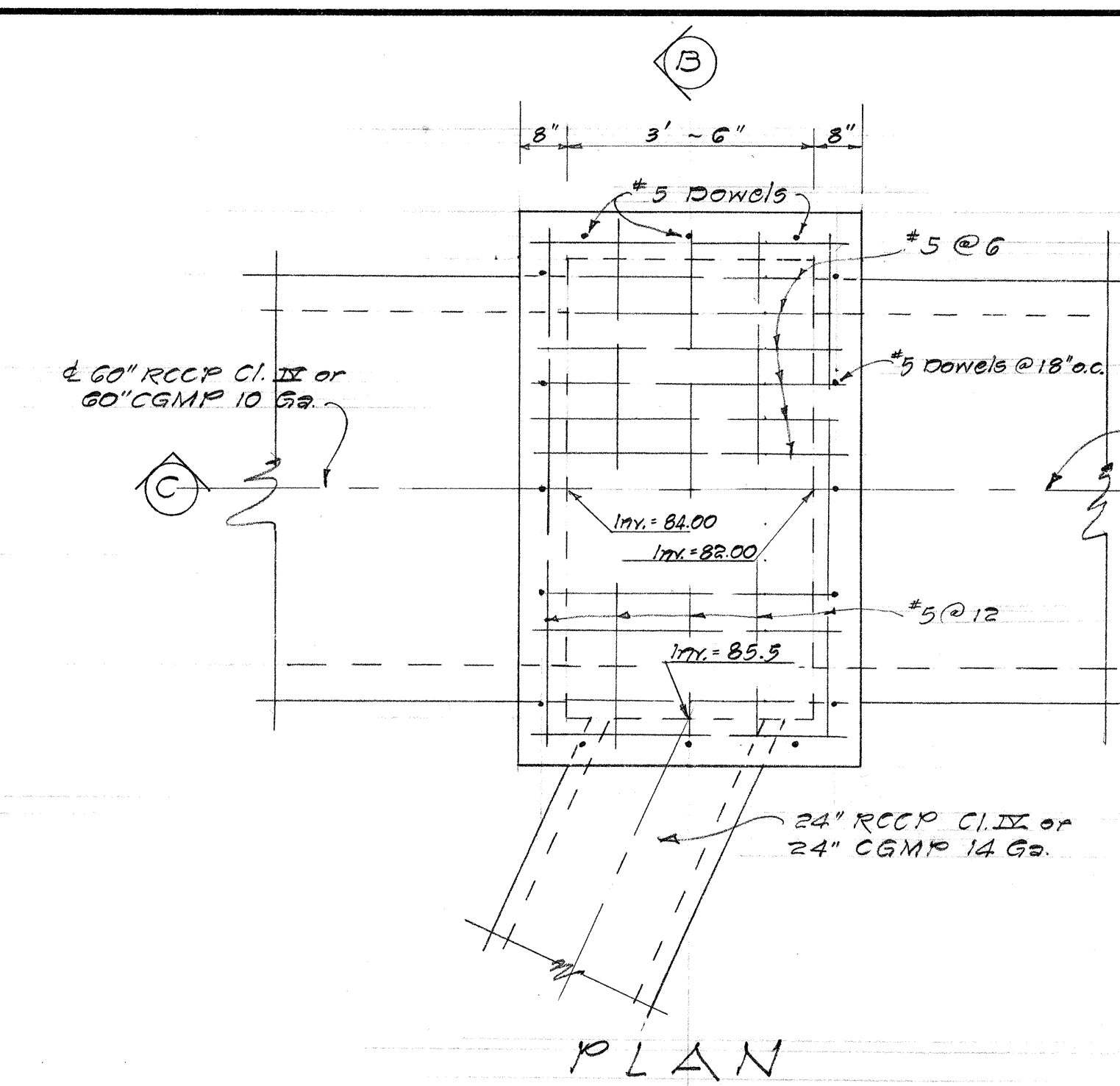
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE STRUCTURE DETAILS
OF CATCH BASIN #L-15 (TYPE "BC")
TYPE "C" GRATED CONC. DROP
INTAKE AND TYPICAL DETAIL
OF CONC. CUT-OFF DITCH
INTERSTATE HIGHWAY (LUNALILO FWY)
F.A.I. PROJ. NO. I-HI-1(6) UNIT 2
Scale: As Shown Date: Nov. 1965
SHEET No. 6 OF 19 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(6) UNIT 2	1966	65	203



DETAILS OF C.B. # L-17 (TYPE "SP") @ STA. 134+25 (I.B.)
Scale: 1/2" = 1'-0"



DETAILS OF S.D.J.B. #1 @ STA. 135+25 (O.B.)
Scale: 1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

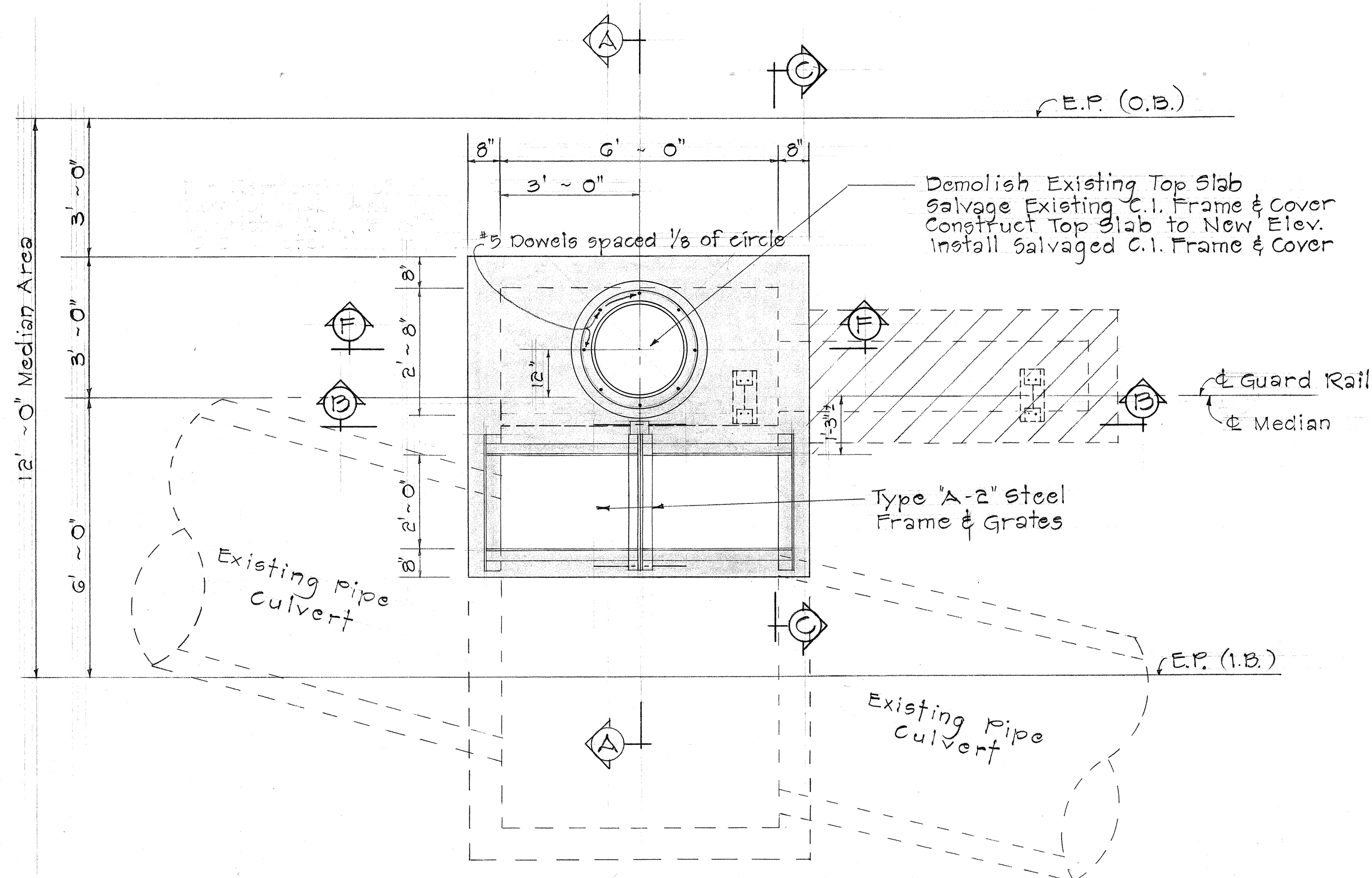
DRAINAGE STRUCTURE DETAILS
OF CATCH BASIN #L-17 (TYPE
"SP") AND S.D.J.B. #1

INTERSTATE HIGHWAY (LUNALILO FWY)
F.A.I. PROJ. NO. I-HI-1(6) UNIT 2

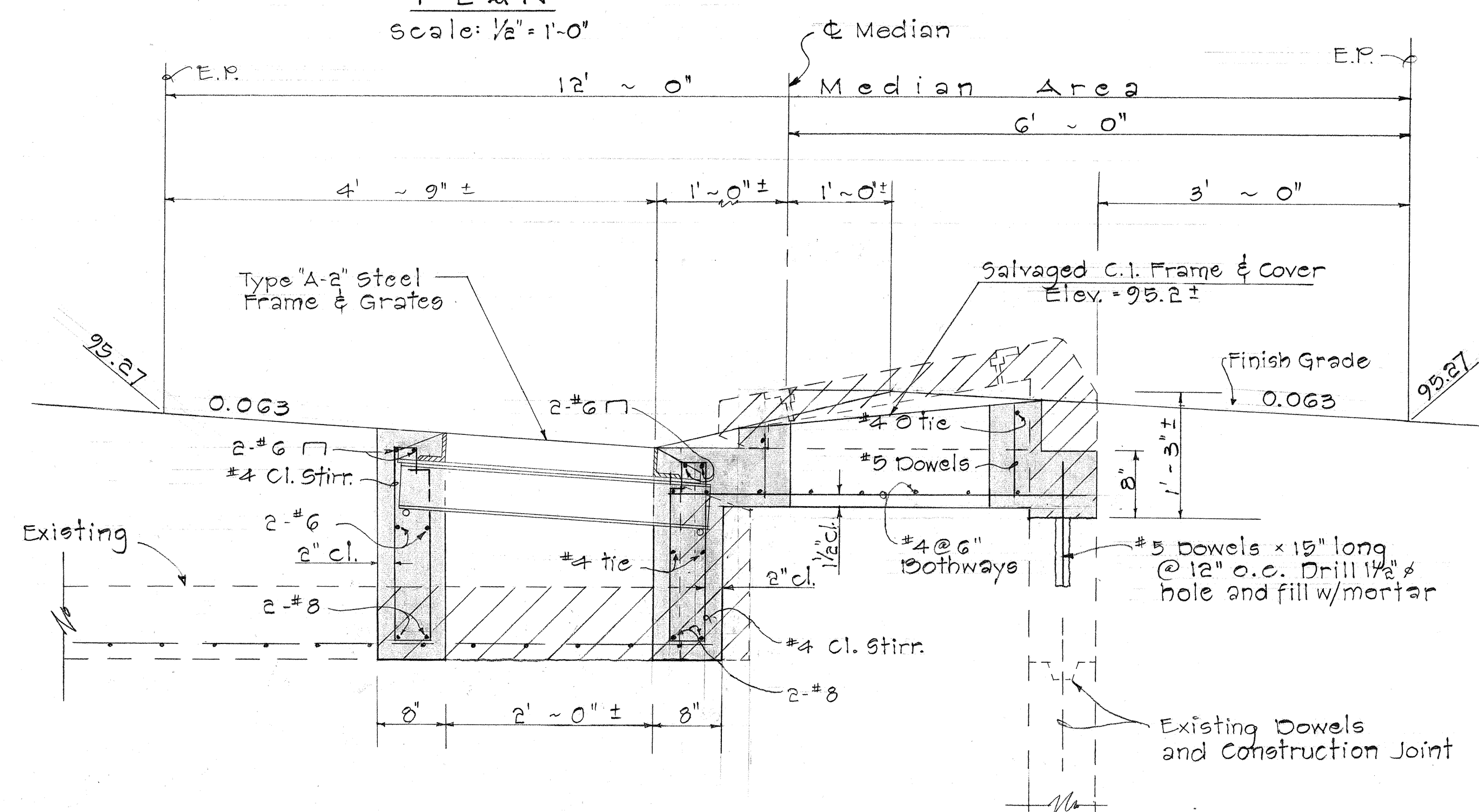
Scale: As Noted Date: Nov. 1965

SHEET No. 8 OF 19 SHEETS

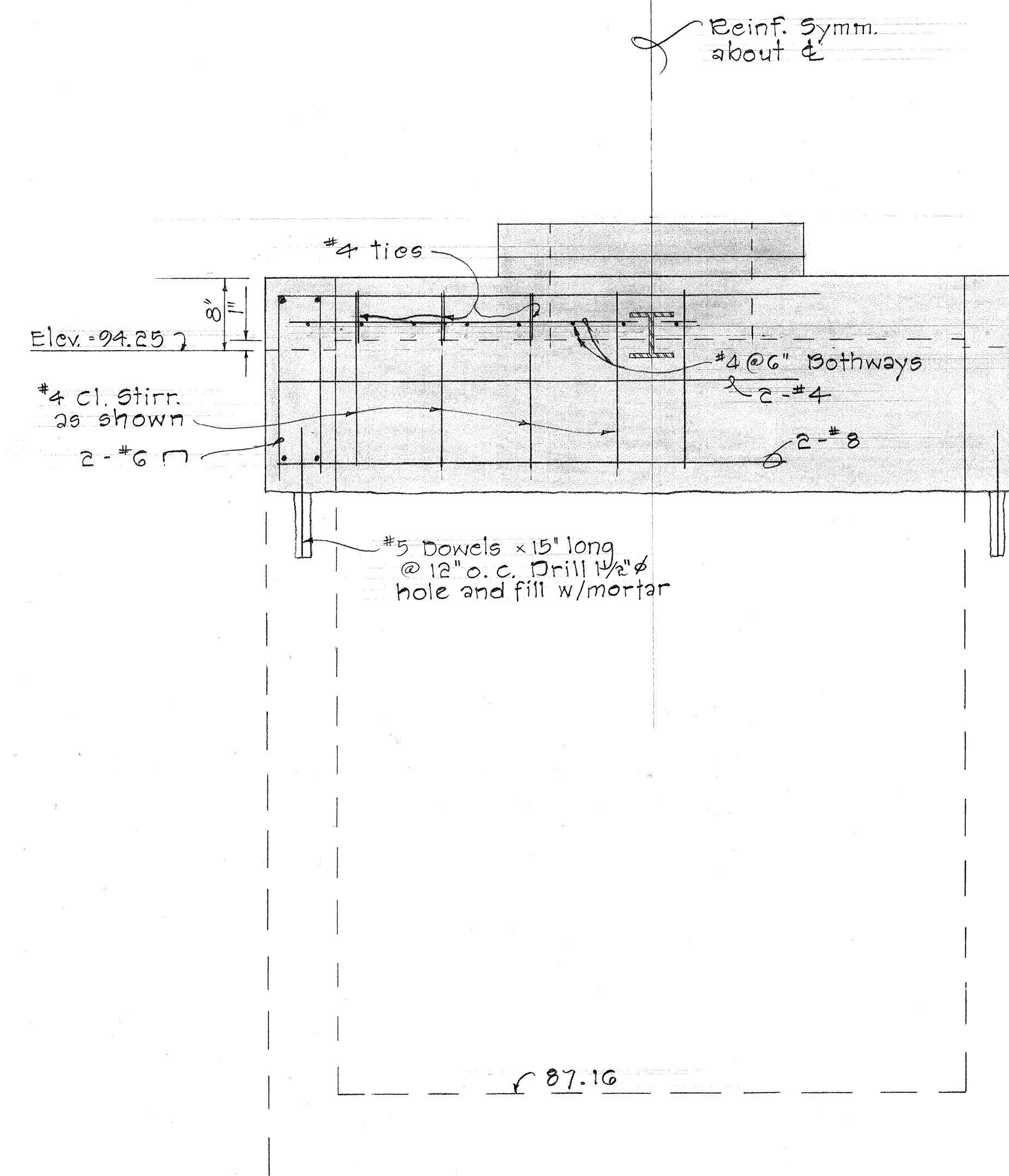
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(6) Unit 2	1966	65A-6	203



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



SECTION "A-A"
Scale: 1" = 1'-0"



SECTION "B-B"
Scale: 1" = 1'-0"

- NOTES:
1. Concrete shall be Class "A-1"
 2. Demolish hatched areas.

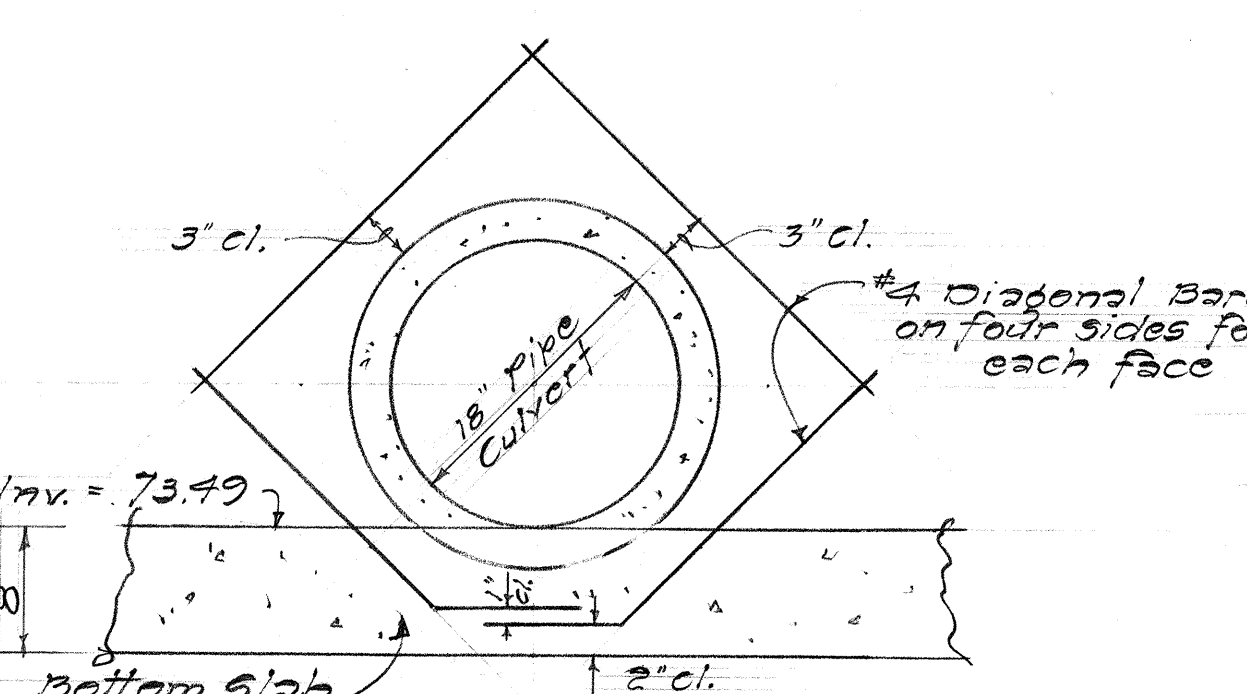
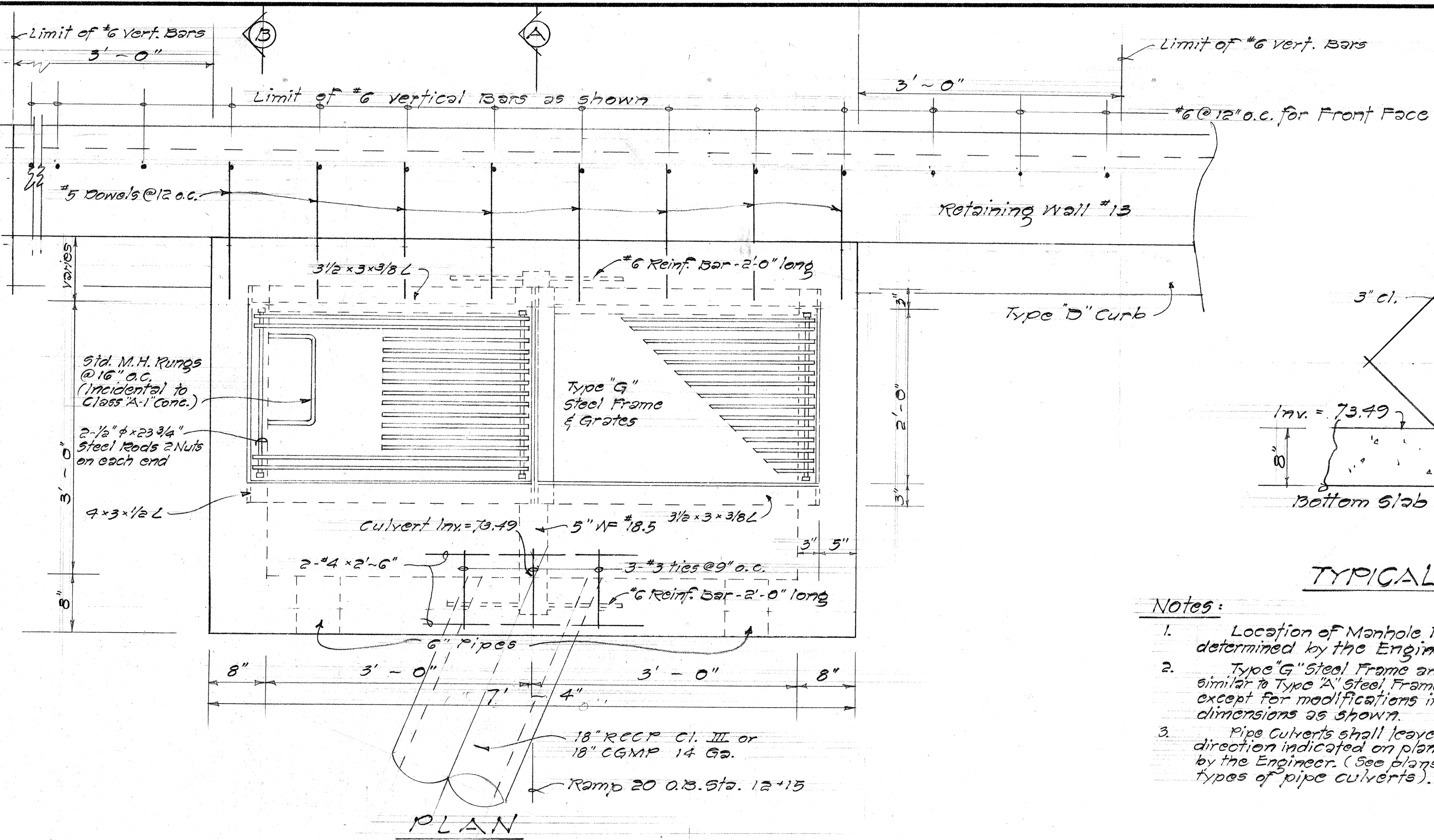
MODIFICATION TO CATCH BASIN #L-17 (TYPE "SP")
FOR I-HI-1(6), UNIT 2 AT STA. 134+25
Scale: As Shown

C.C.O. 29

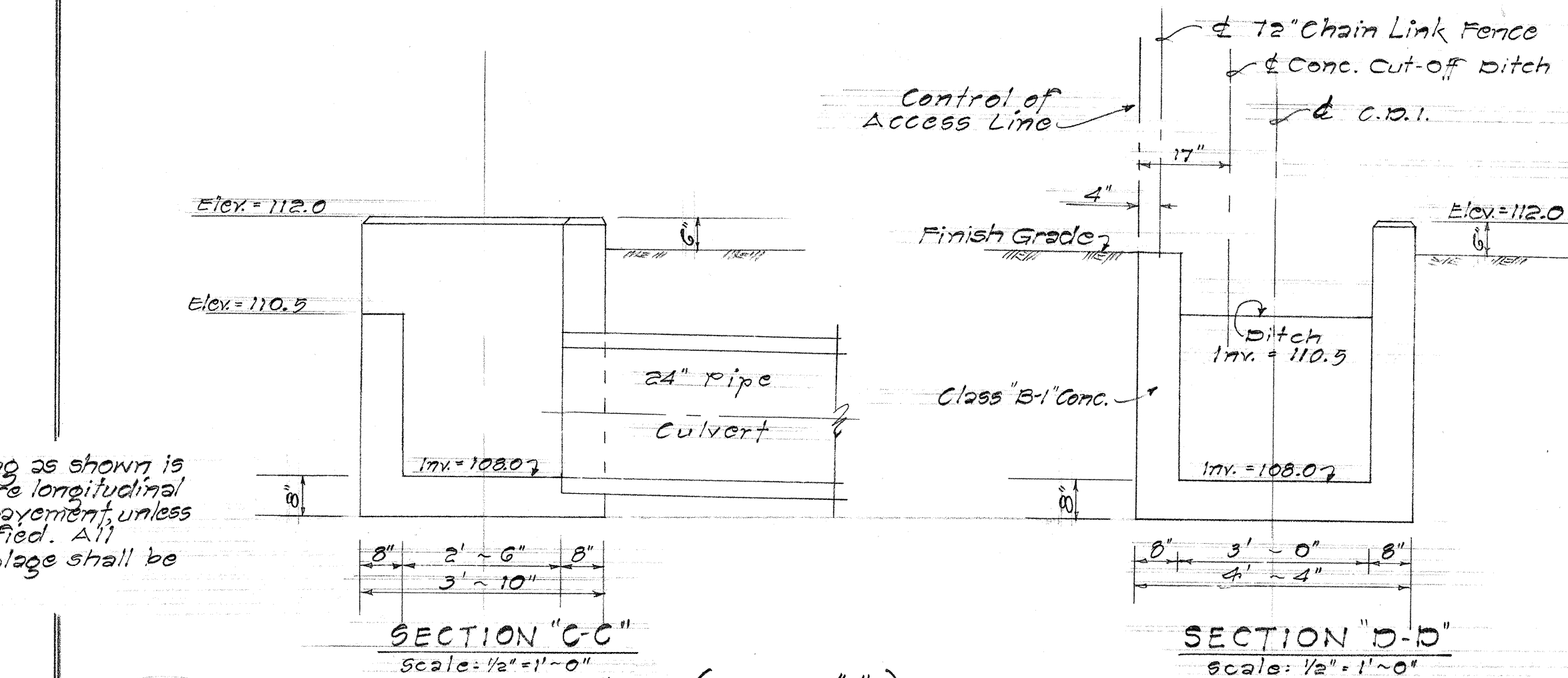
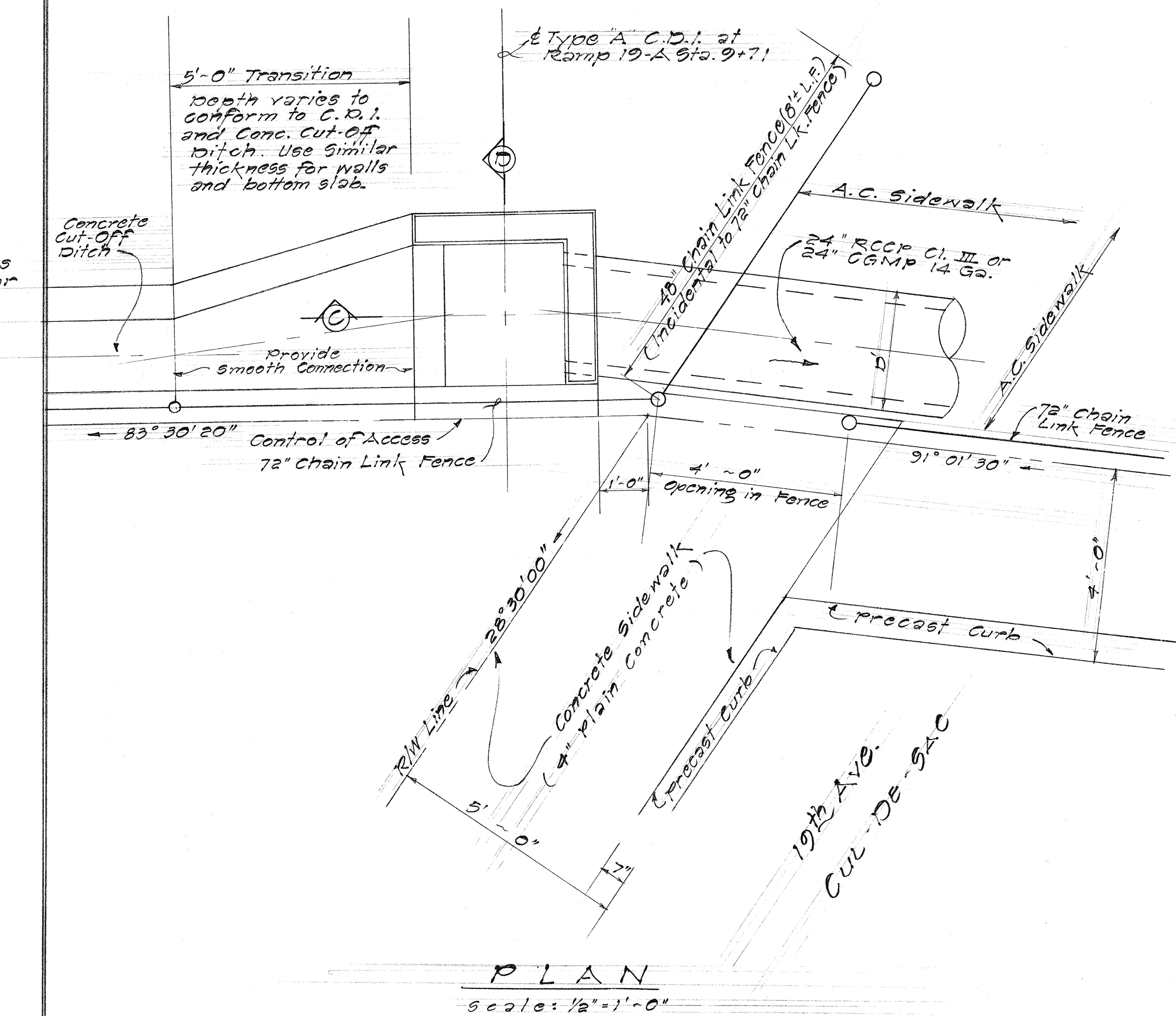
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MODIFICATION TO CATCH BASIN
#L-17 (TYPE "SP")
INTERSTATE HIGHWAY
(LUNALILO FREEWAY)
KOKO HEAD AVE. TO 21ST AVE.
Proj. No. I-HI-1(6), Unit 2
Scale: As Shown Date: Aug. 1967
SHEET No. 1 OF 2 SHEETS

65A-6

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	



- Notes:
1. Location of Manhole Rungs to be determined by the Engineer.
 2. Type "G" Steel Frame and Grates similar to Type "A" Steel Frame and Grates except for modifications in frame dimensions as shown.
 3. Pipe Culverts shall leave C.D.I. in direction indicated on plans or as directed by the Engineer. (See plans for sizes and types of pipe culverts).

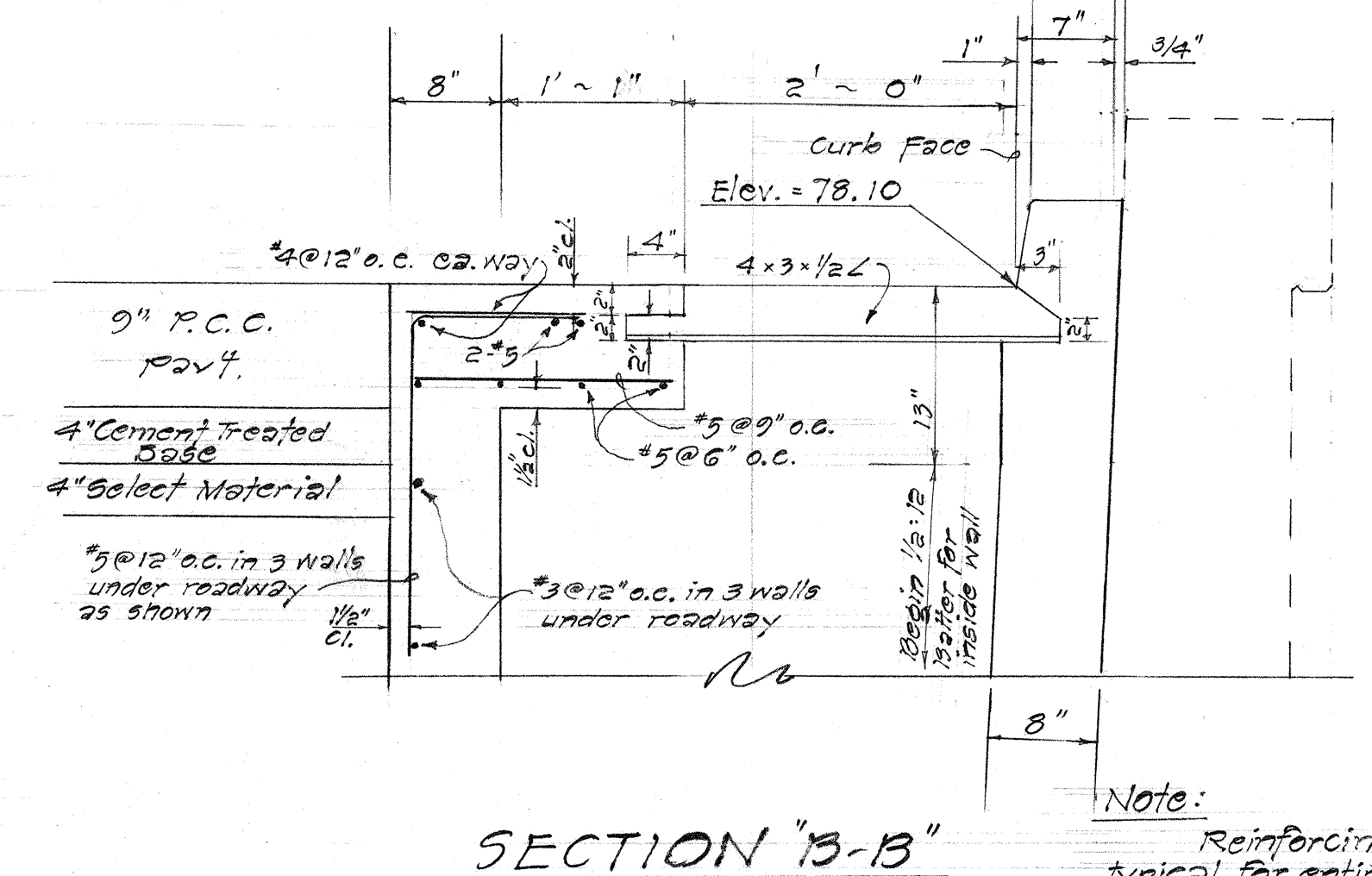
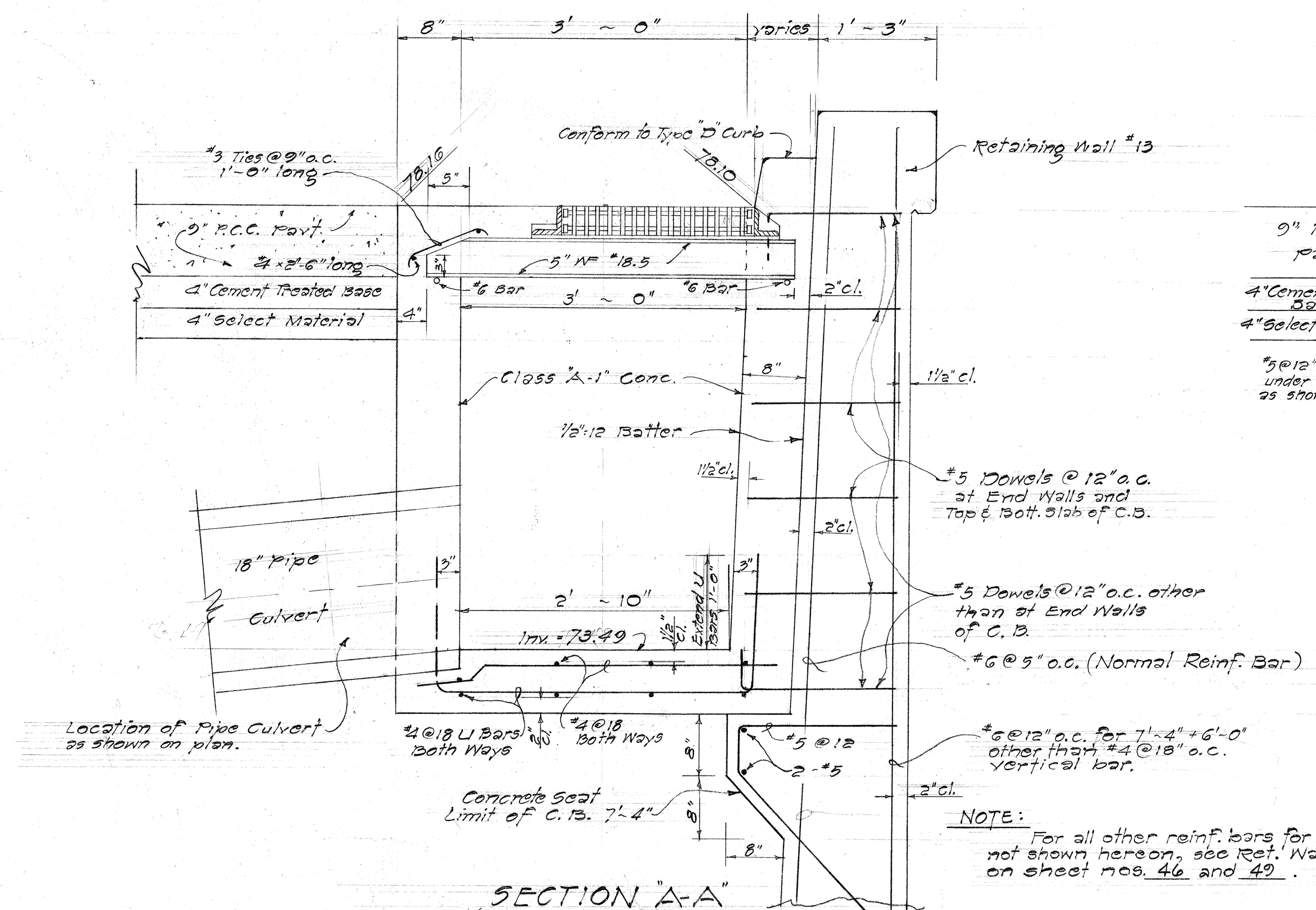


DETAILS OF C.D.I. #L-1 (TYPE "A") AT RAMP 19-A STA. 9+71

NOTE:

1. Exposed edges above the ground line of Concrete Drop Intake shall be chamfered one (1) inch.
2. Pipe Culverts shall leave C.D.I. in direction indicated on plans or as directed by the Engineer.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE STRUCTURE DETAILS
OF CATCH BASIN #L-23 (TYPE "G-1")
AND
C.D.I. #L-1 (TYPE "A")
INTERSTATE HIGHWAY (LUNALILO FWY.)
P.A.I. PROJ. No. I-H-11(1) UNIT 2
Scale: As Noted Date: Jan. 1966
SHEET No. 10 OF 19 SHEETS

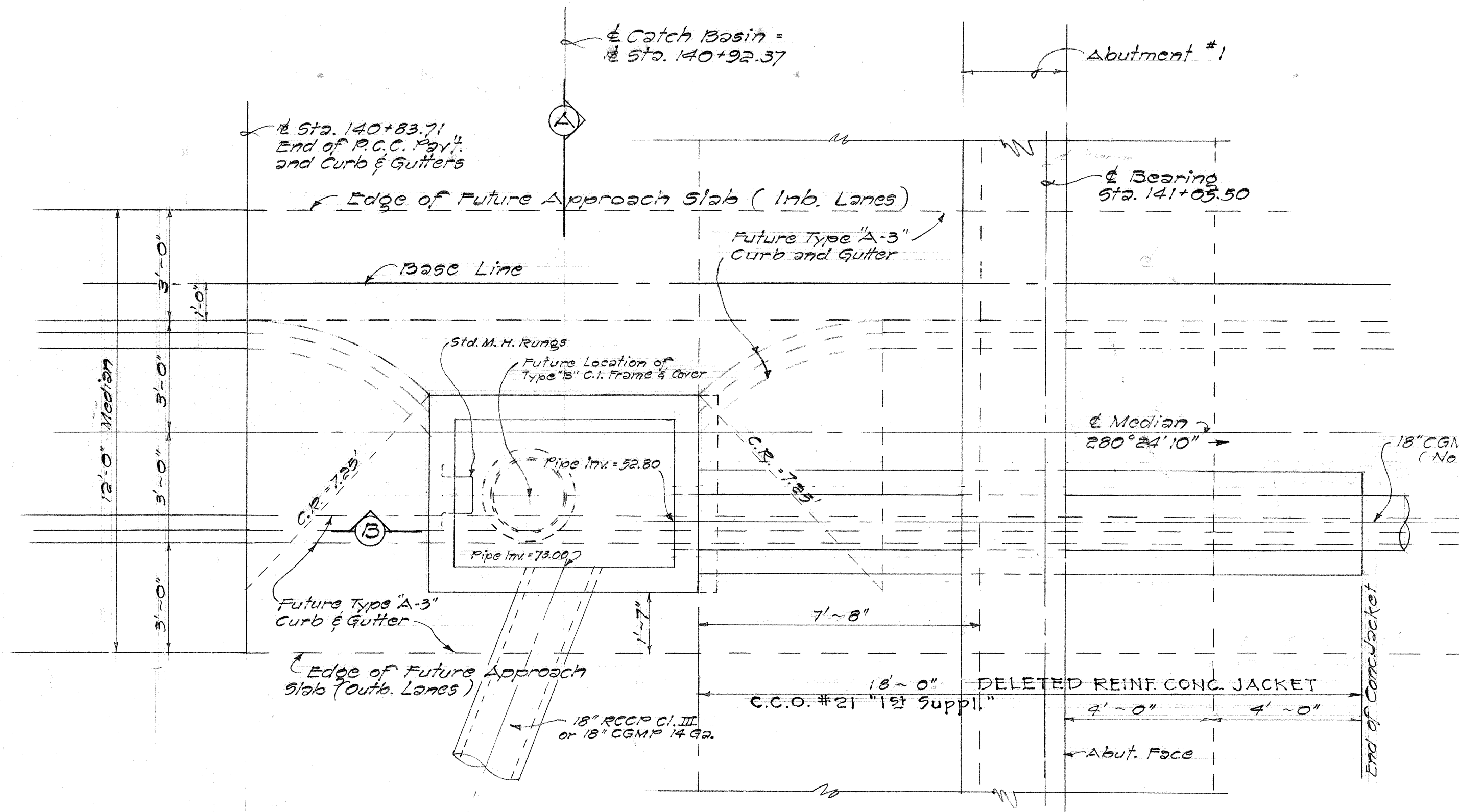


DETAILS OF C.B. #L-23 (TYPE "G-1") AT RAMP 20 O.B. STA. 12+15 (RIGHT)

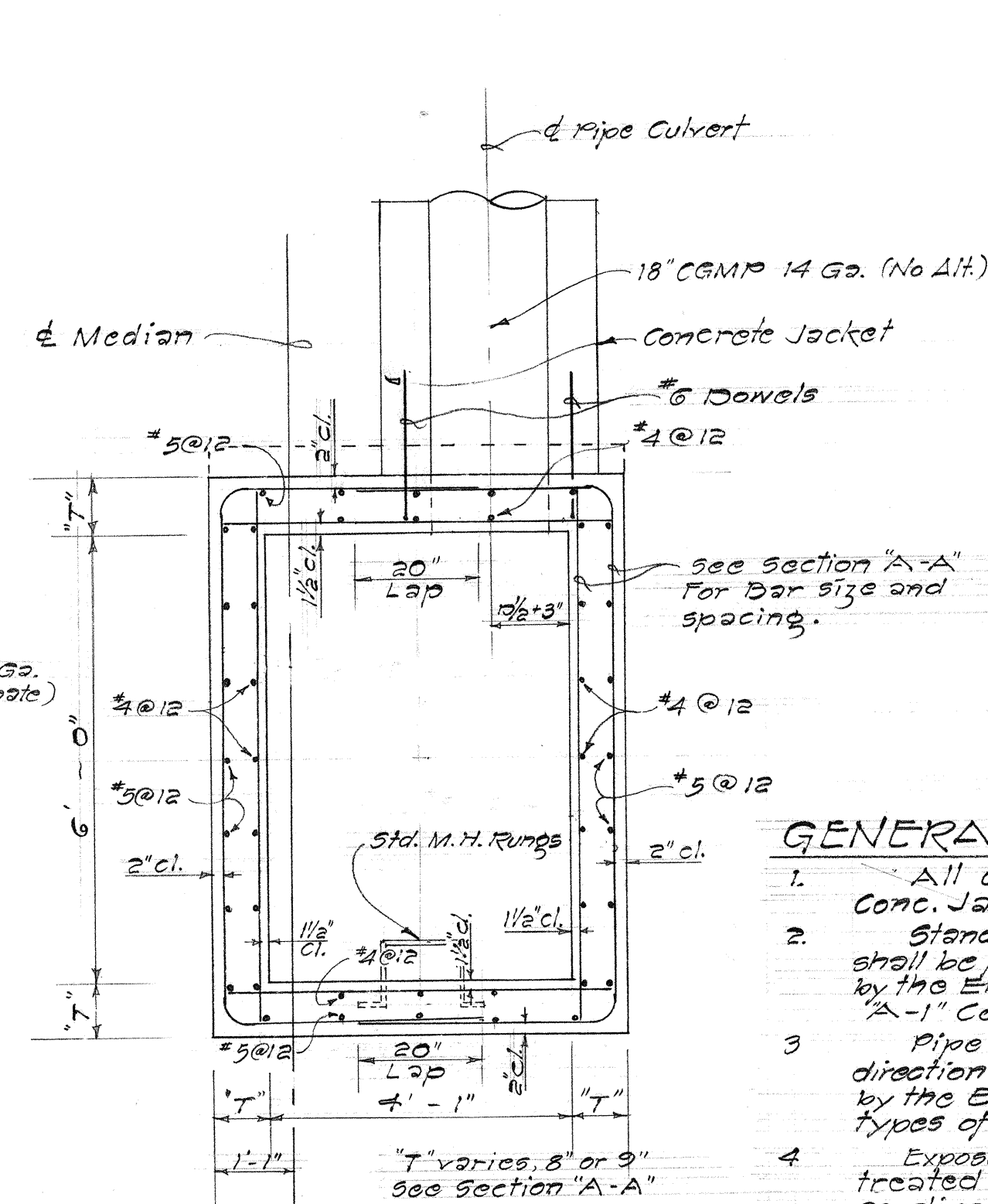
Scale: 1" = 1'-0"

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-1(6)	1966	60	203



PLAN
Scale: 3/8" = 1'-0"



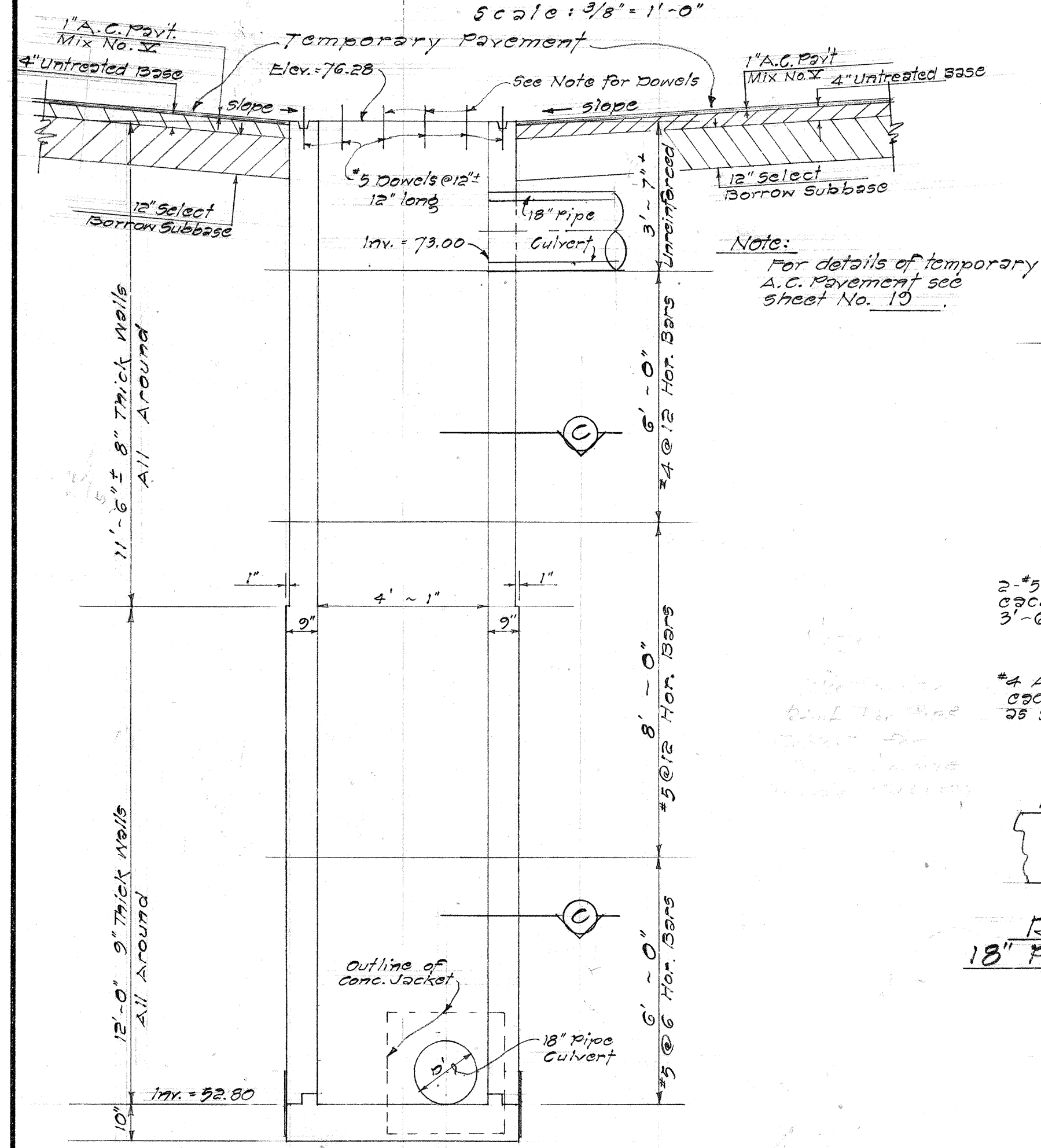
SECTION "C-C"
Scale: 1/2" = 1'-0"

GENERAL NOTES

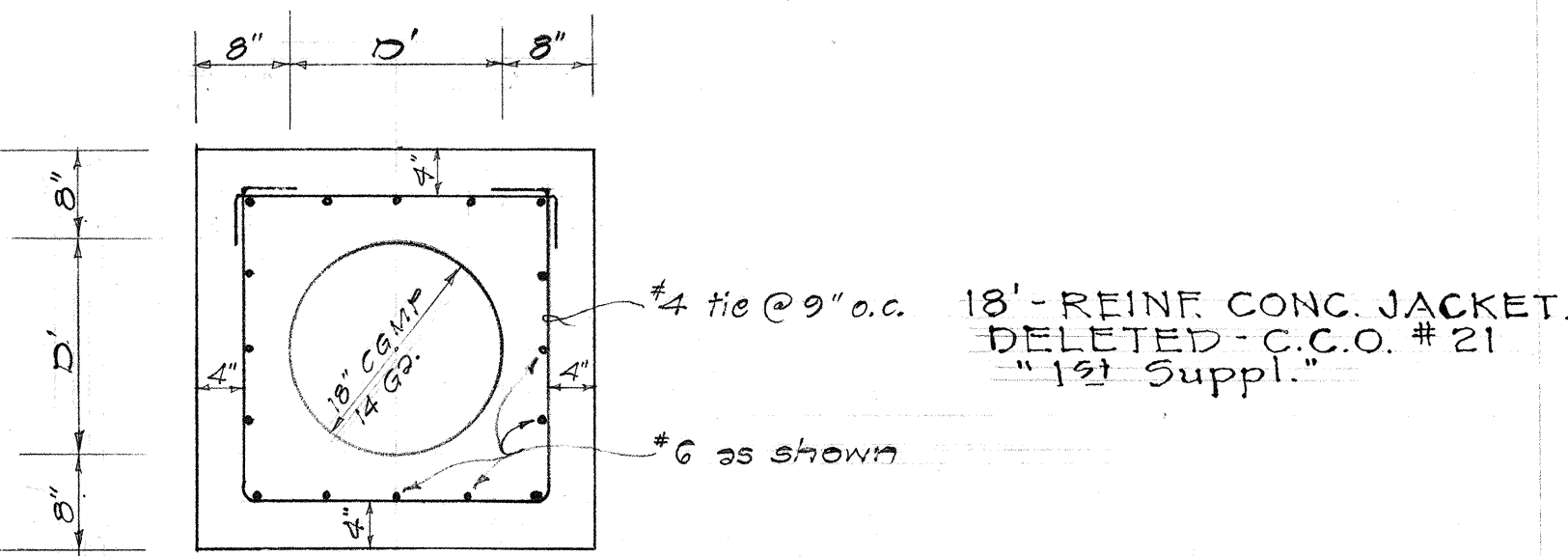
1. All concrete for Catch Basin and Conc. Jacket shall be Class "A-1".
2. Standard Manhole Rungs @ 16" o.c. shall be provided at location determined by the Engineer. (Incidental to Class "A-1" Concrete.)
3. Pipe Culverts shall leave C.B. in direction indicated on plans or as directed by the Engineer. (See plans for size and types of pipe culverts.)
4. Exposed portion of dowels shall be treated for protection against weather as directed by the Engineer. (Incidental to Reinf. Steel Other Than in Bridges).

CONNECTION DETAIL SHOWING FUTURE TOP CONSTRUCTION FOR CATCH BASIN

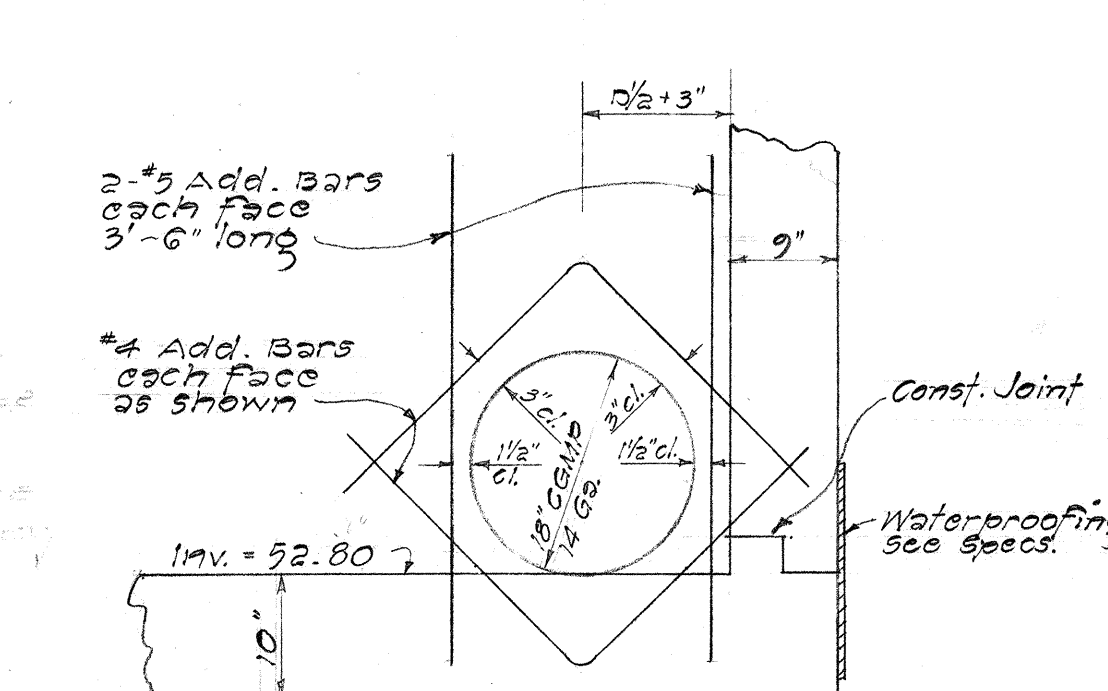
Scale: 1/2" = 1'-0"



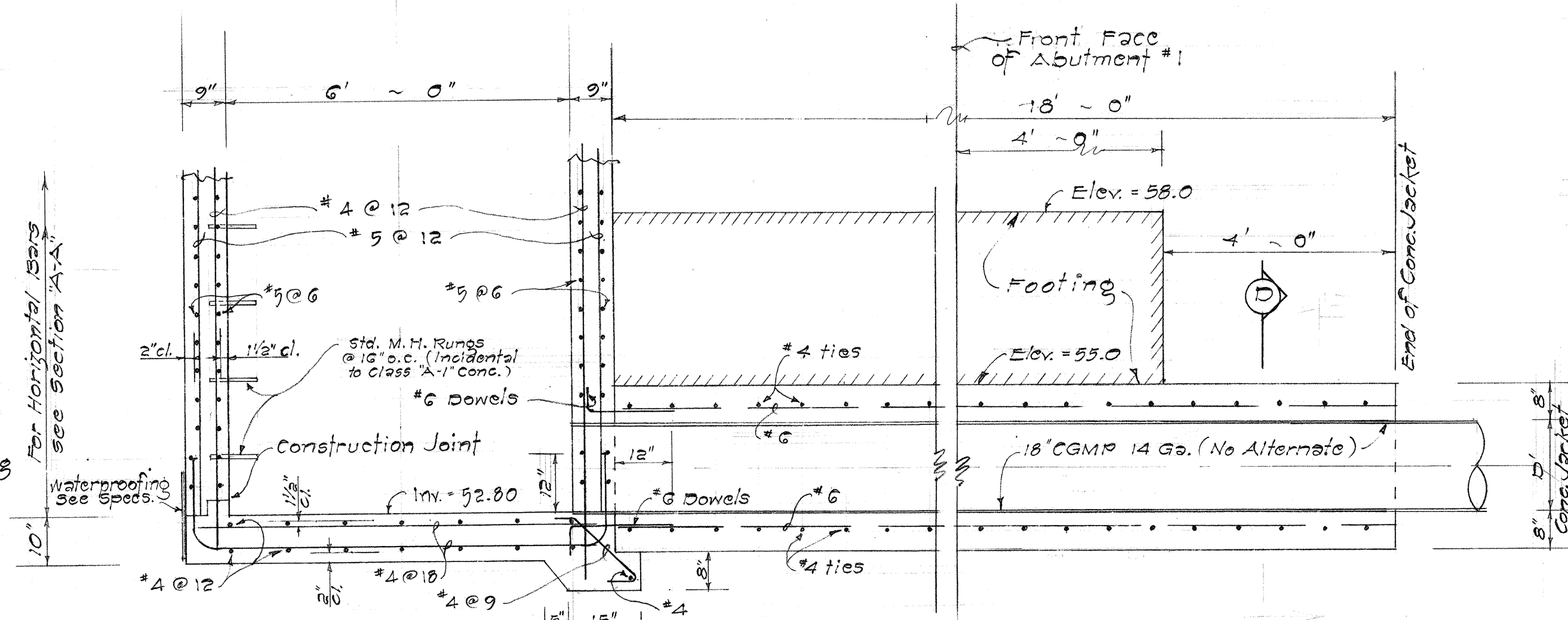
SECTION "A-A"
Scale: 3/8" = 1'-0"



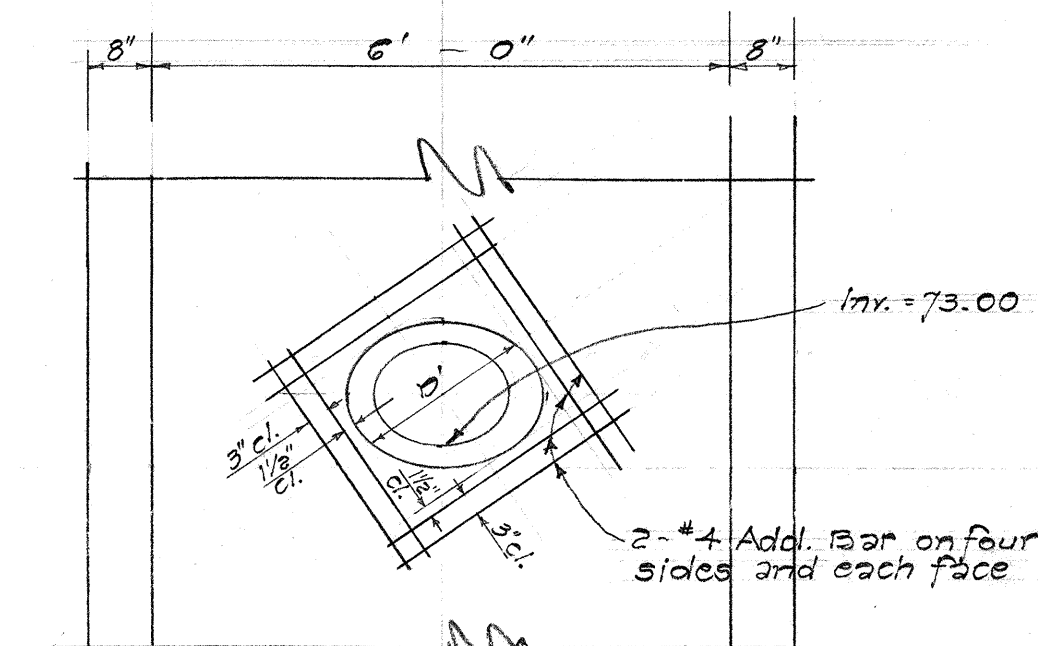
SECTION "D-D"
Scale: 3/4" = 1'-0"



REINFORCING AROUND 18" PIPE CULVERT (NO ALT.)
Scale: 3/4" = 1'-0"



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



REINFORCING FOR 18" PIPE CULVERT (ALT.)
Scale: 1/2" = 1'-0"

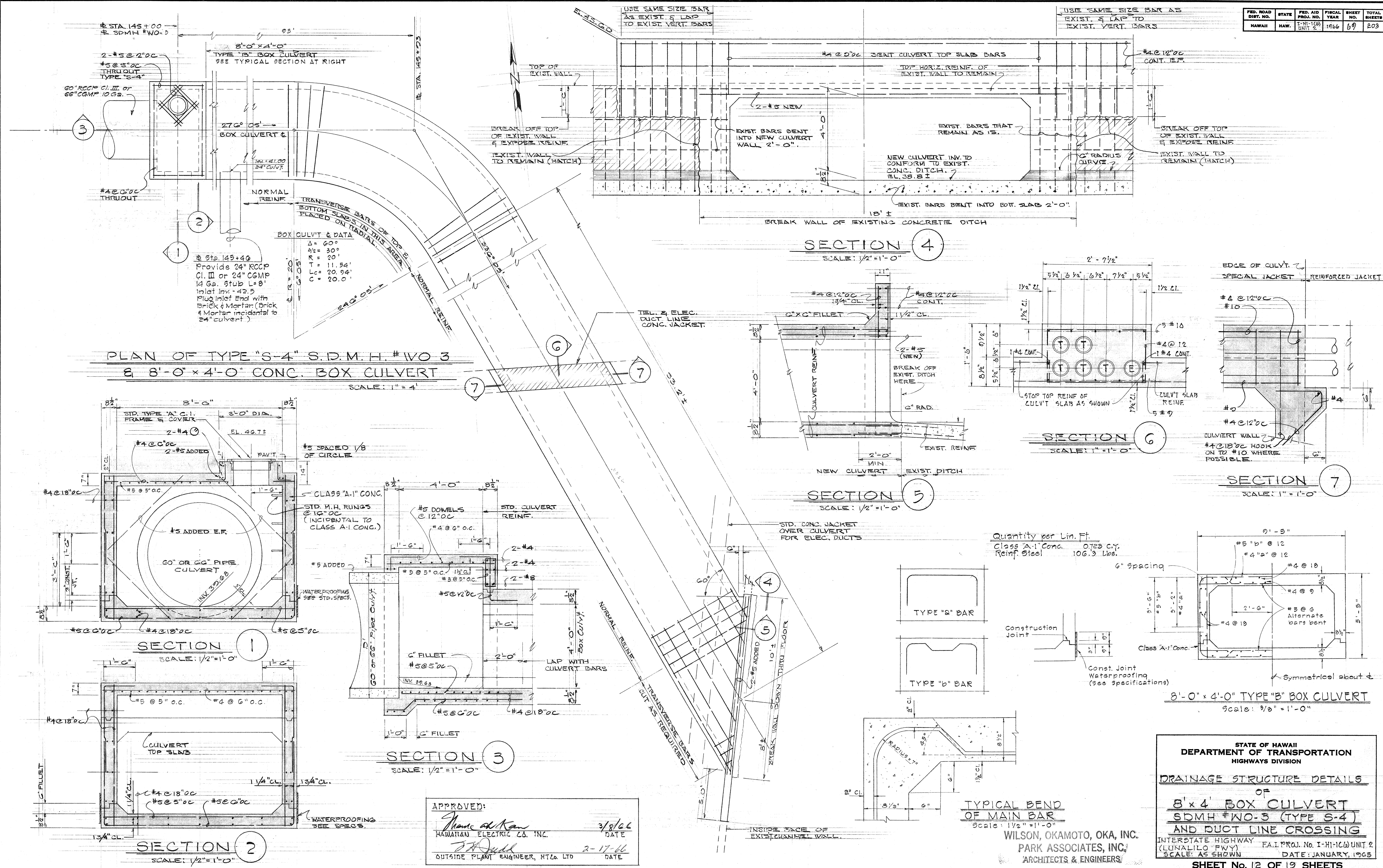
DETAILS OF CATCH BASIN *L-24 AT 1/2 STA. 140+92.37
Scale: As Shown

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE STRUCTURE DETAILS
OF
CATCH BASIN *L-24 (TYPE "MD")
AT STA. 140+92.37

INTERSTATE HIGHWAY (LUNALILO Fwy.)
F.A.I. PROJ. No. I-H-1(6) UNIT 2
Scale: As Noted Date: Jan. 1966
SHEET No. 11 OF 19 SHEETS

CS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-16(2) UNIT 2	1966	69	203



DATE	DATE
DESIGNED BY	DESIGNED BY
CHECKED BY	CHECKED BY
NO.	NO.

APPROVED:
Thane A. Kan
 HAWAIIAN ELECTRIC CO., INC.
 DATE 3/8/66
W. H. H. H.
 OUTSIDE PLANT ENGINEER, HT&L LTD
 DATE 2-17-66

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
DRAINAGE STRUCTURE DETAILS
 OF
8' x 4' BOX CULVERT
SDMH #VO-3 (TYPE S-4)
AND DUCT LINE CROSSING
 INTERSTATE HIGHWAY (LUNALILO FWY)
 SCALE: AS SHOWN
 DATE: JANUARY, 1965
SHEET No. 12 OF 19 SHEETS

(59)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(6) UNIT 2	1966	70	203

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

DRAINAGE SUMMARY

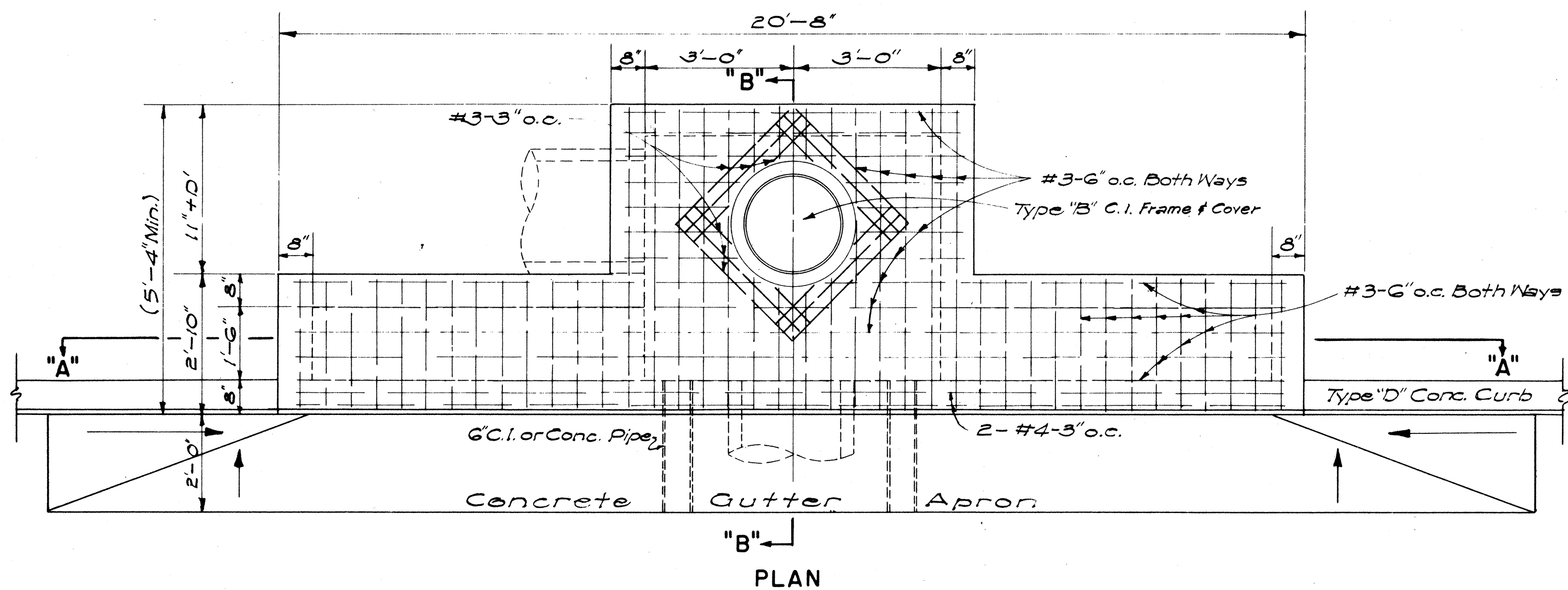
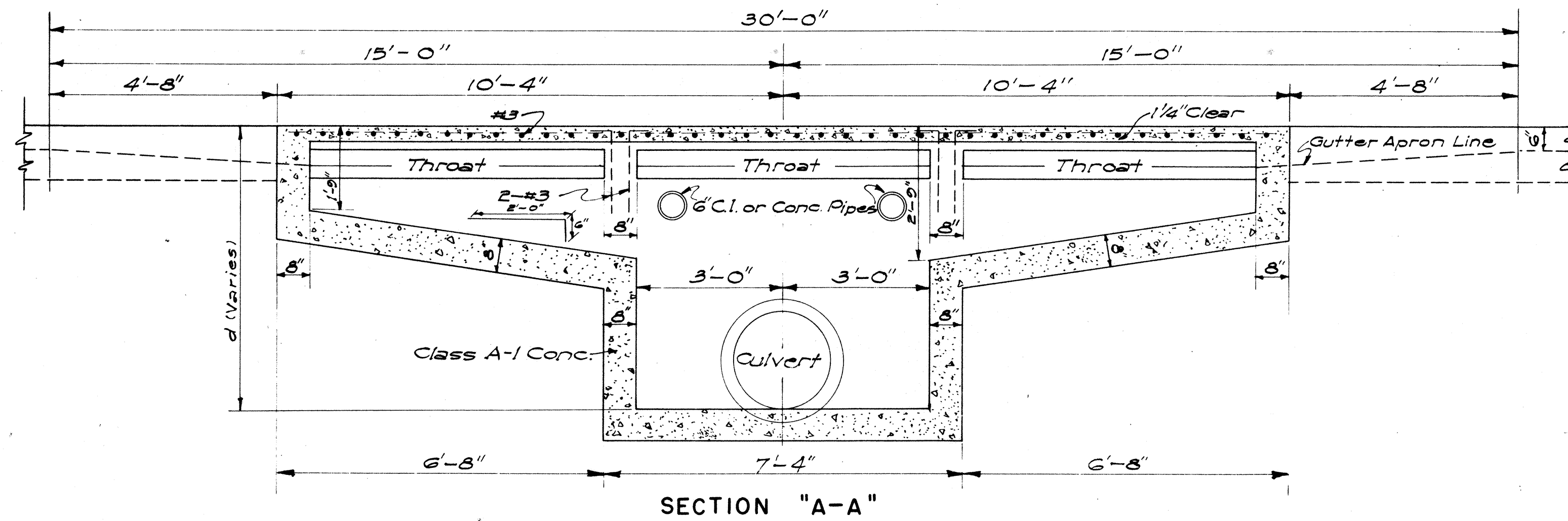
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1(6) UNIT 2	1966	71	203

STRUCTURES				PIPE CULVERTS		ESTIMATED																QUANTITIES																REMARKS	
NUMBER	TYPE	STATION	FLOOR INVERT	FROM	TO	INLET ELEV.	OUTLET ELEV.	Structure Excavation C.Y.	Class "A-1" Concrete C.Y.	Class "B-1" Concrete C.Y.	Class "A-1" Concrete for 8' x 4' Box Culvert L.S.	Reinforcing Steel Lbs.	Reinforcing Steel for 8' x 4' Box Culvert L.S.	Brick Well for S.D.M.H. L.S.	Untreated Base for Pipe Foundation C.Y.	Type "A" C.I. Frame & Cover E2	Type "B" C.I. Frame & Cover E2	Type "C" C.I. Frame and Grating E2	Modified Type "A" Steel Frame & Grate E2	Type "B" Steel Frame & Grate E2	Type "G" Steel Frame & Grate E2	ALTERNATES										NO ALTERNATE							
																						REINF. CONC. CULV'T. PIPES (Length in lineal feet)					CORR. GALV. METAL PIPES (Length in lineal feet)					RCCP or CGMP (Length in lineal ft.)							
																						24 inch Class III	24 inch Class IX	54 inch Class III	60 inch Class III	60 inch Class IX	18 inch Class III	24 inch 14 Gauge	54 inch 10 Gauge	60 inch 10 Gauge	66 inch 10 Gauge	18 inch 14 Gauge	18 inch CGMP 14 Ga.	54 inch CGMP 10 Ga.					
L-19	S-2 C.B.	# O.B. 138+75	73.67	C.B. L-19	C.B. WO-3	73.67	70.00	198	14.0			2110				1										70													
L-20	"MC" C.B.	# I.B. 138+50	78.28	C.B. L-20	C.B. L-19	78.28	76.60	38	4.2			146					1						42				42												
L-21	"C" C.B.	Ramp 20 I.B. 6+60	68.00	C.B. L-21	C.B. L-22	68.00	54.00	178	5.8			108					1						220				220												
L-22	"I C" C.B.	Ramp 20 I.B. 8+82	54.00	C.B. L-22	S.D.M.H. WI-2	54.00	53.50	34	5.3			250				1							40				40												
S.D.J.B.#1		# O.B. 135+25	82.00	S.D.J.B. #1	C.B. L-19	82.00	73.67	767	6.5			225			67											338			338										
C.D.I. #1	"C" C.D.I.	WA O.B. Front 15+75	63.50	C.D.I. #1	C.B. WO-5	63.50	63.00	8	1.6			11					1						8				8												
				Existing 34" Culvt.	C.B. L-11	107.50±	97.75	480																								344							
				# 512 127+60 Rt.	C.D.I. L-1	140.00±	110.50	220		108																									Concrete Ditch				
				# 512 145+46	8' x 4' Box Culvt.	42.50	41.00	5															8				8								Connection to Future C.D.				
L-23	"G1" C.B.	Ramp 20 O.B. 12+15	73.49	C.B. L-23	C.B. L-24	73.49	73.00	25	3.6			177																											
L-24	"MD" C.B.	# 140+92.37	52.80	C.B. L-24	S.D.M.H. WI-3	52.80	52.34	30	18.3			3188																				20							
WI-3	"E" S.D.M.H.	# 141+17.54	52.34	S.D.M.H. WI-3	S.D.M.H. WI-2	52.34	52.00	48		3.4		168				1							32				32												
L-1	"A" C.D.I.	Ramp 19-A 9+71	108.00	C.D.I. L-1	C.B. L-15	108.00	106.50	20		1.4													26				26												

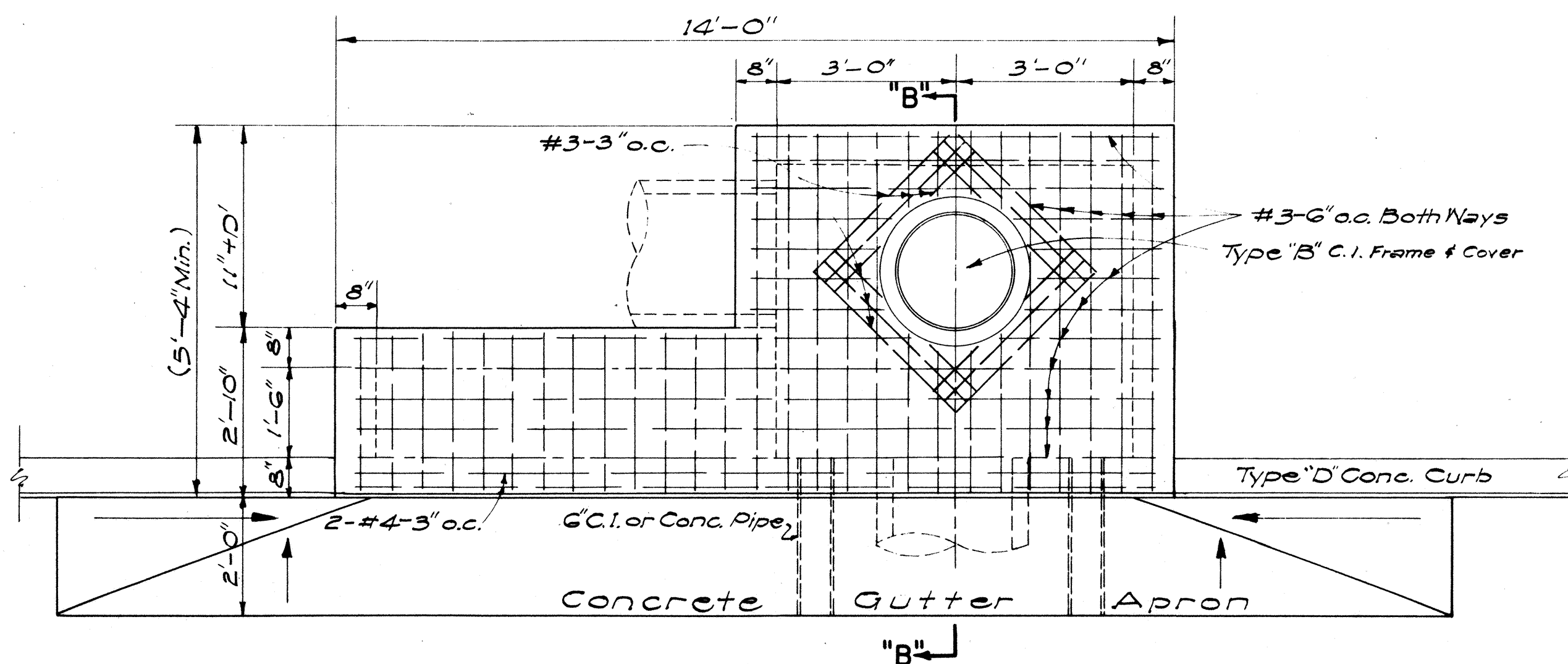
ORIGINAL PLAN	DATE
NOTED BY	
DESIGNED BY	
CHECKED BY	

2/17/59

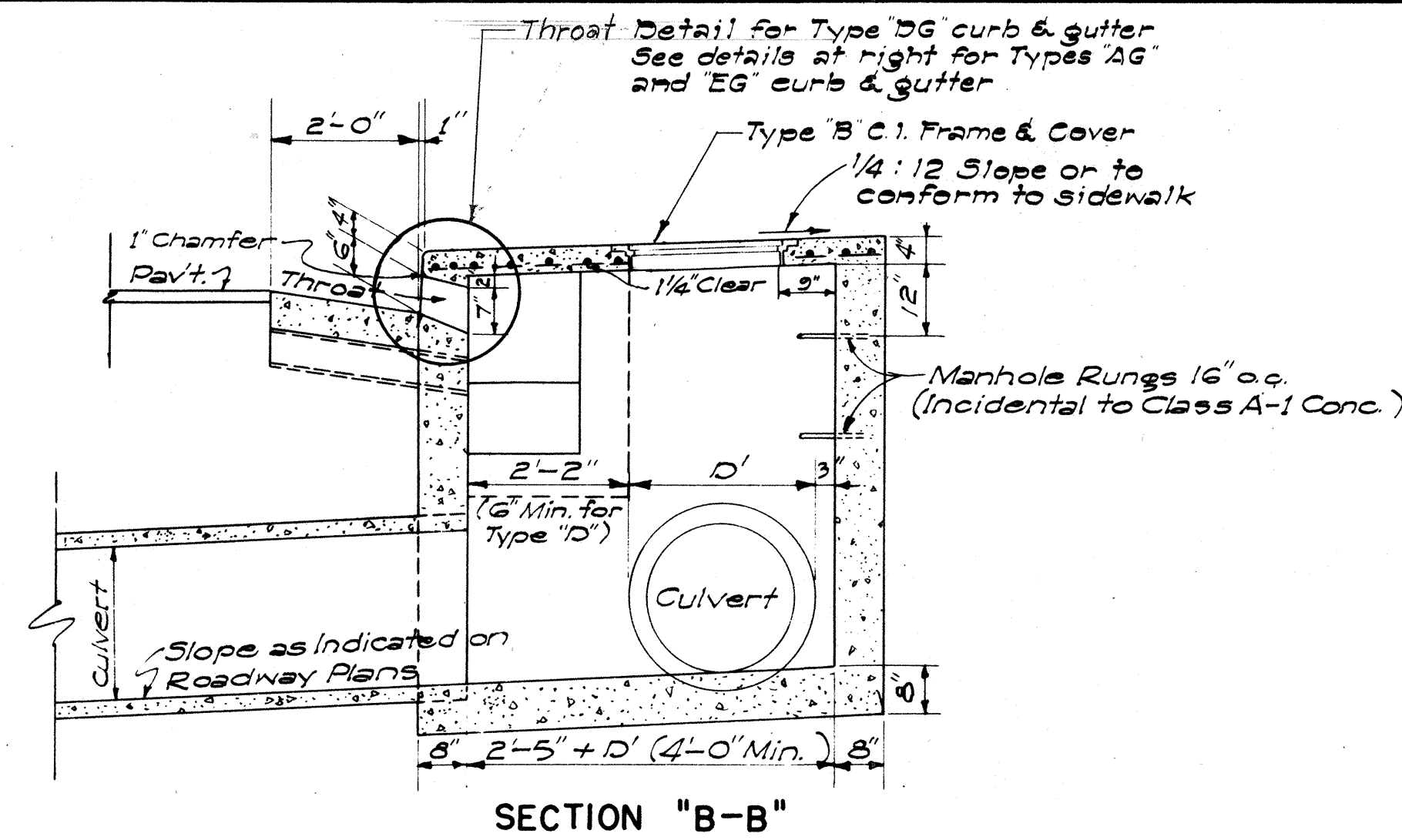
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1966	72	203	



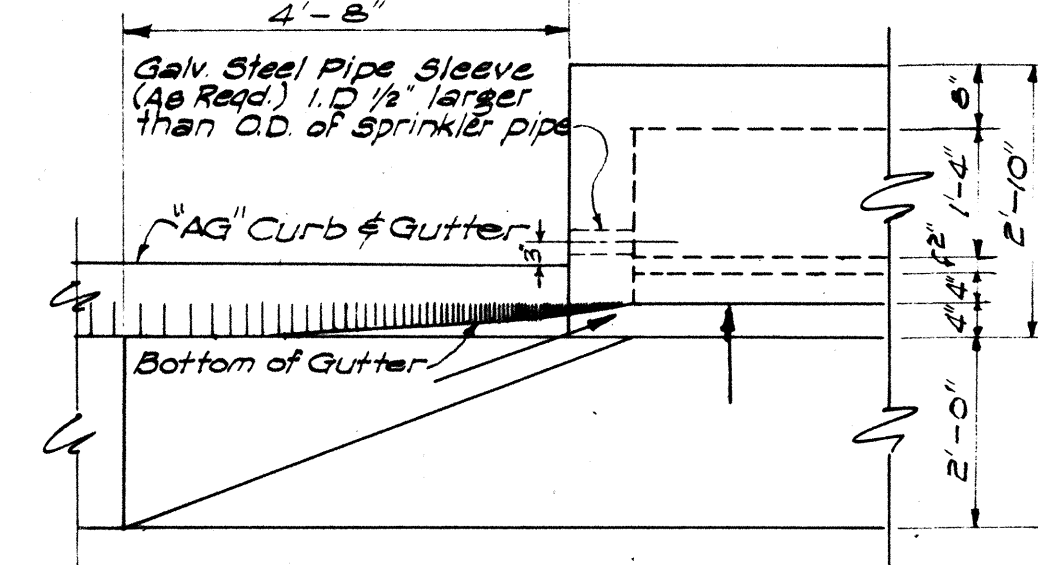
DETAIL OF TYPE "A" CATCH BASIN
SCALE: 1/2" = 1'-0"



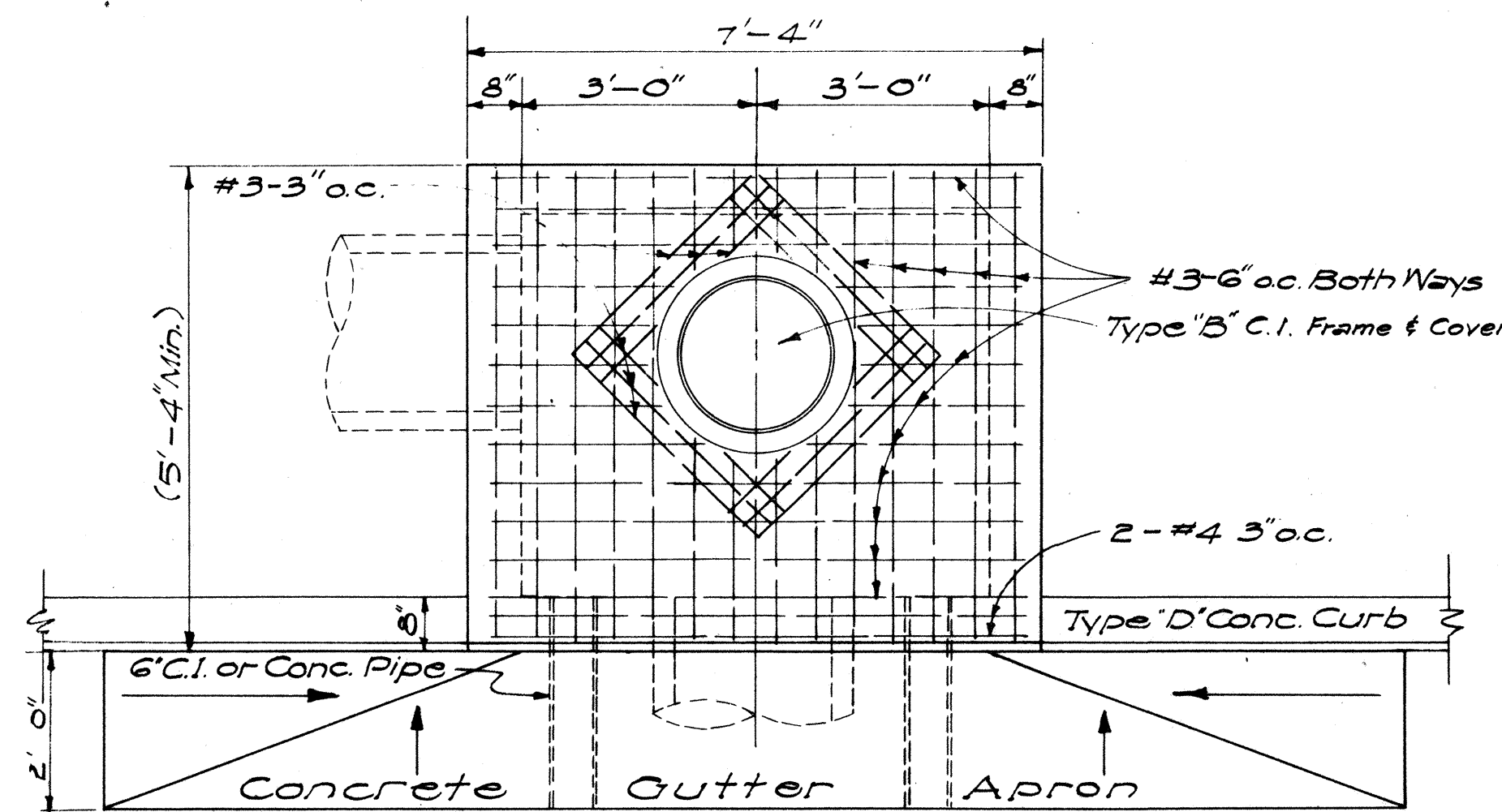
DETAIL OF TYPE "B" CATCH BASIN
SCALE: 1/2" = 1'-0"
NOTE: TYPE "C" C.B. SIMILAR BUT OPPOSITE HAND



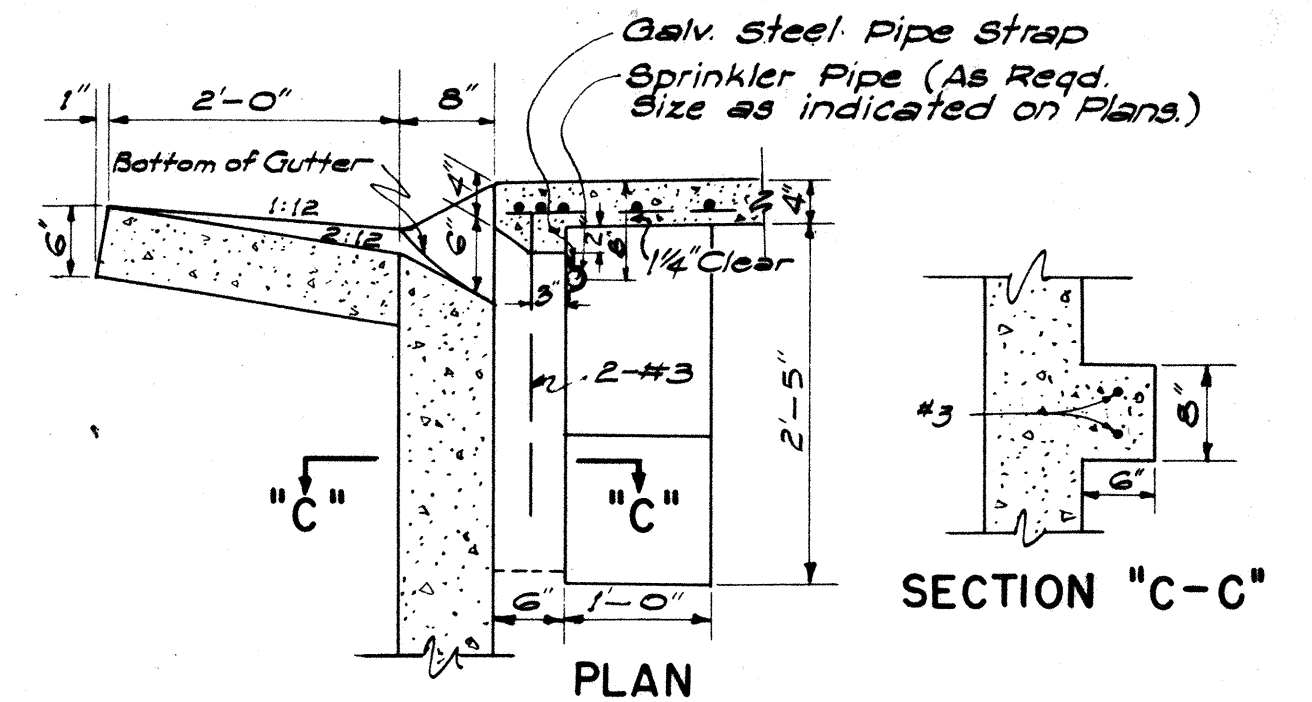
DETAIL OF CATCH BASIN WITH TYPE "EG" CURB & GUTTER



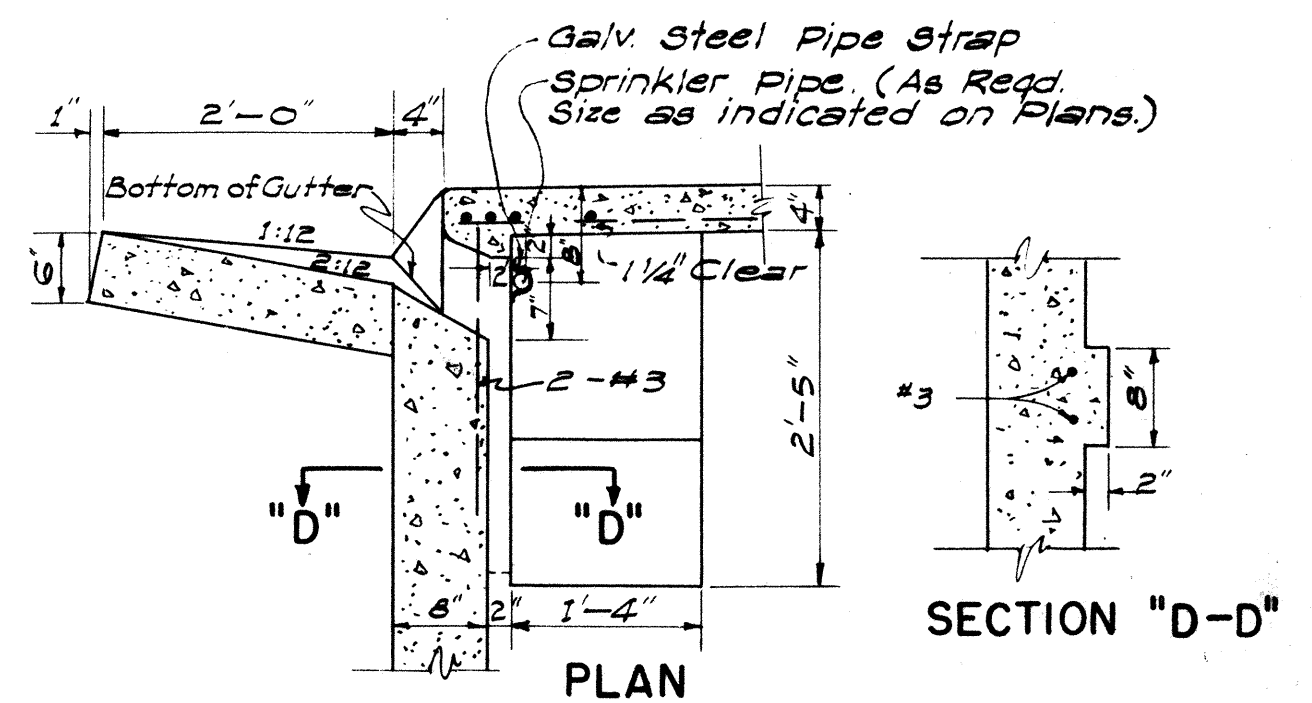
DETAIL OF CATCH BASIN WITH TYPE "AG" CURB & GUTTER
SCALE: 1/2" = 1'-0"



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:

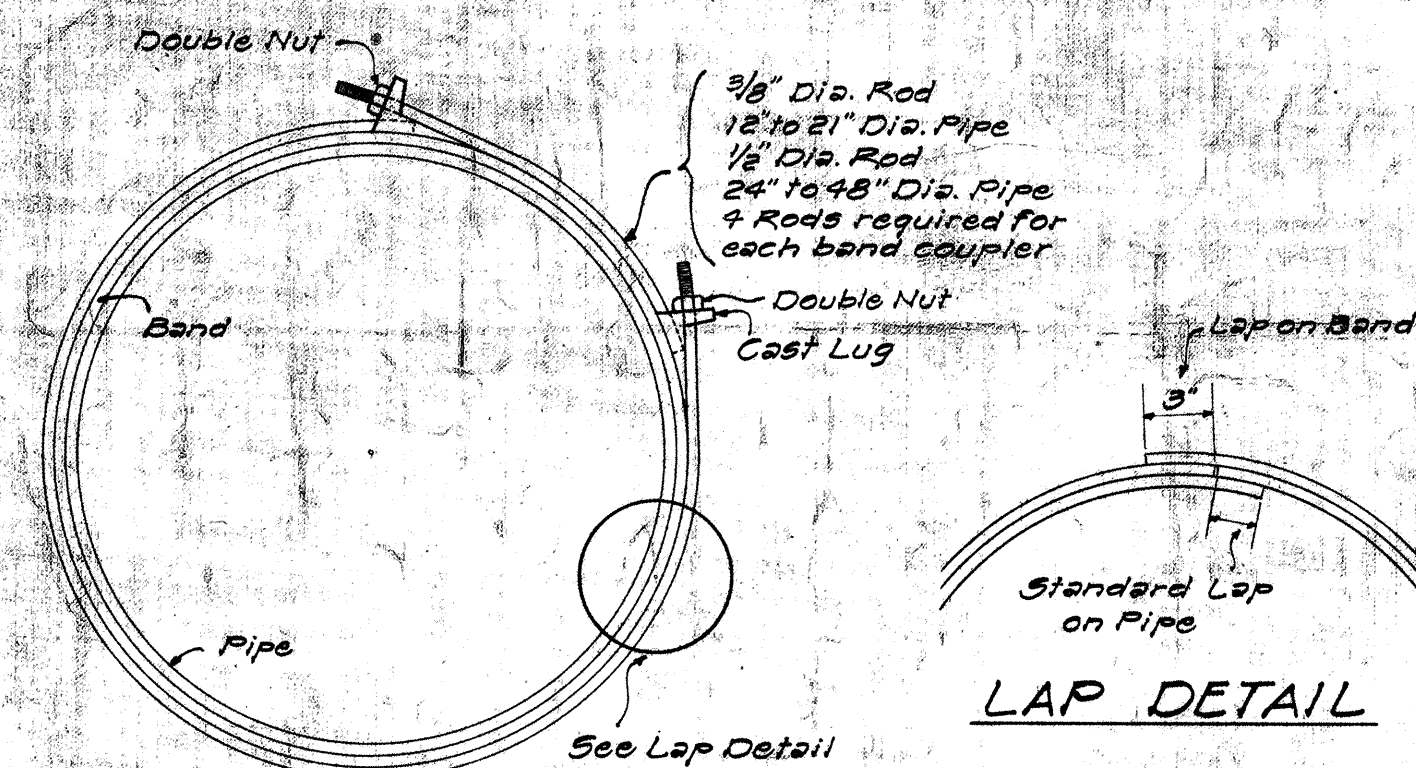
- Quantities based on d = 5.75' and D = 30"
- Quantities do not include concrete for Gutter Apron.
- The Contractor shall install two 6" Cast Iron or Concrete Pipes as incidental to Class A-1 Concrete for Construction Drainage.
- Culvert shall leave C.B. from any position and any direction indicated 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 the various contract items for Sprinkler System.

APPROVED: _____ DATE: AUG 30, 1959
STATE HIGHWAY ENGINEER

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

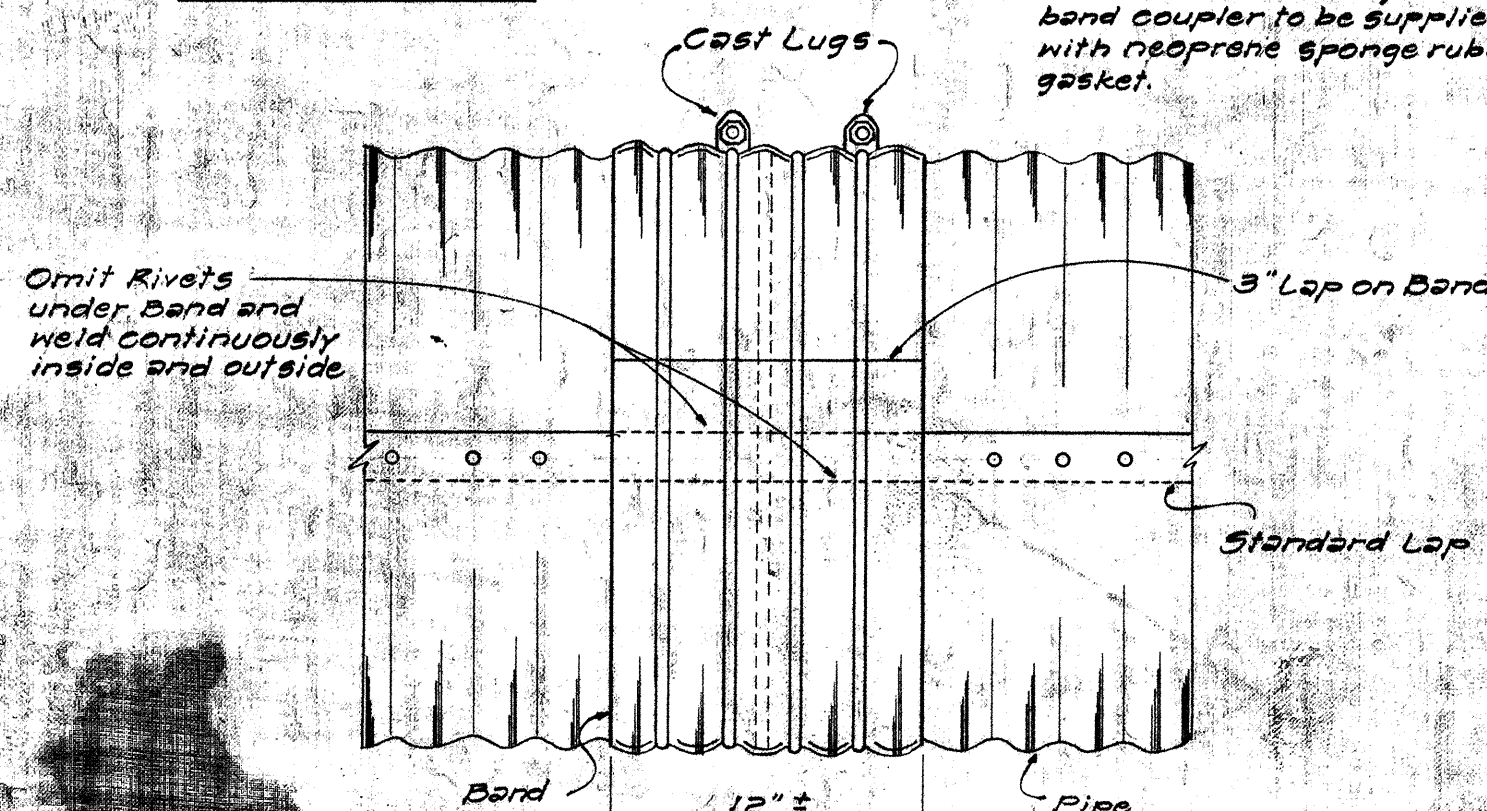
SCALES AS NOTED
SHEET NO 15 OF 19 SHEETS

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



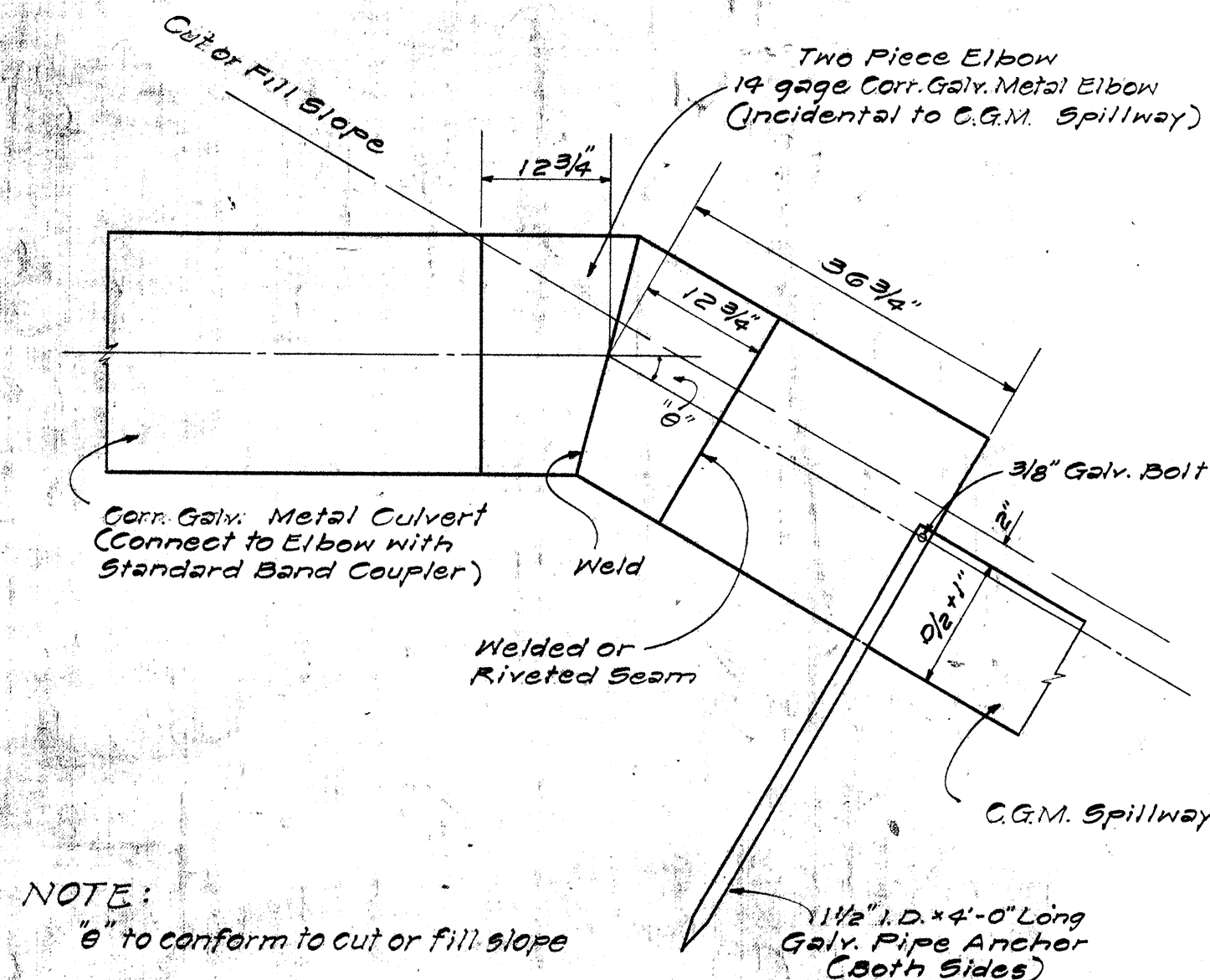
END VIEW

NOTE:
Each watertight
band coupler to be supplied
with neoprene sponge rubber
gasket.



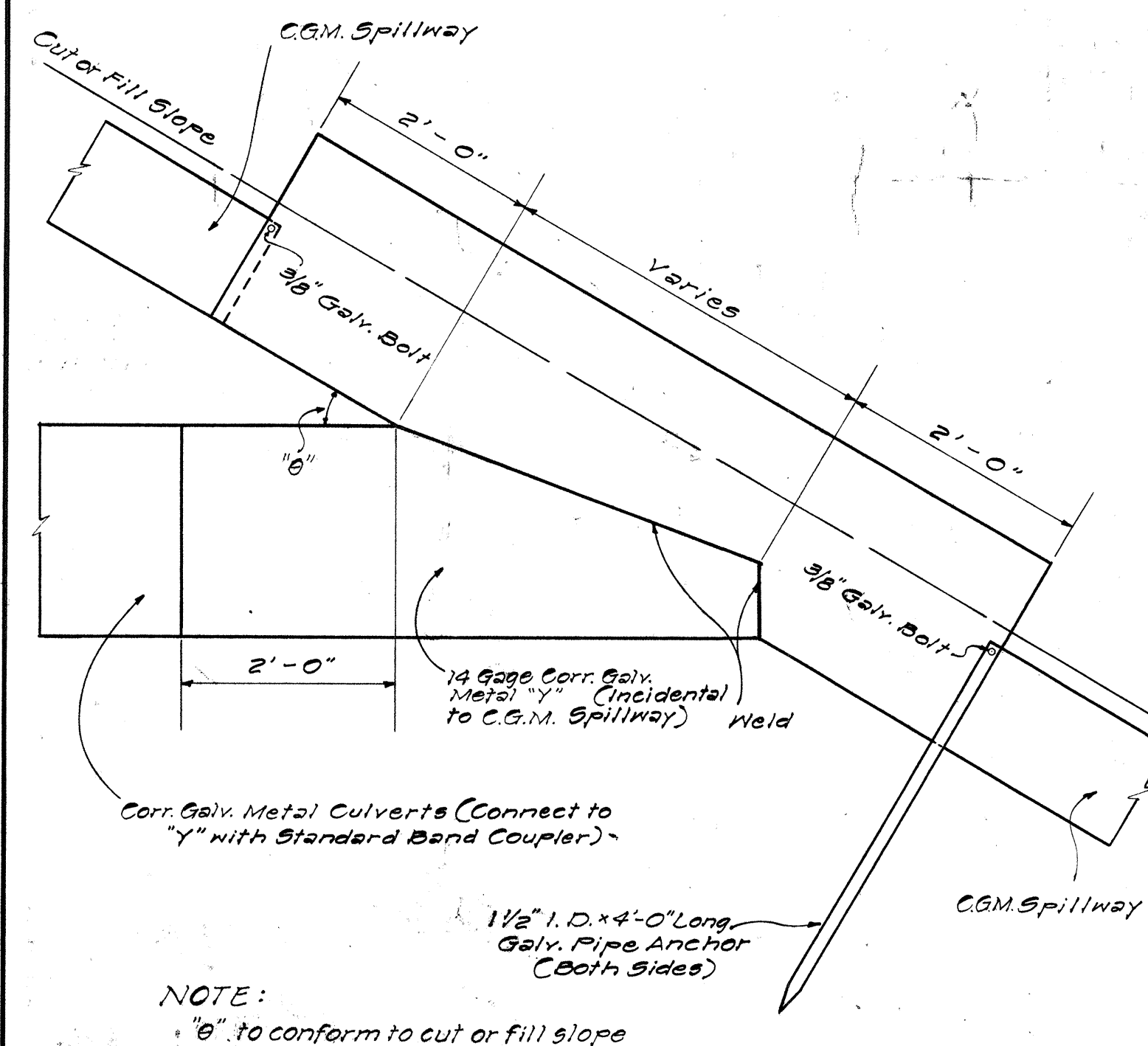
SIDE VIEW

DETAIL OF WATERTIGHT BAND COUPLER
NOT TO SCALE



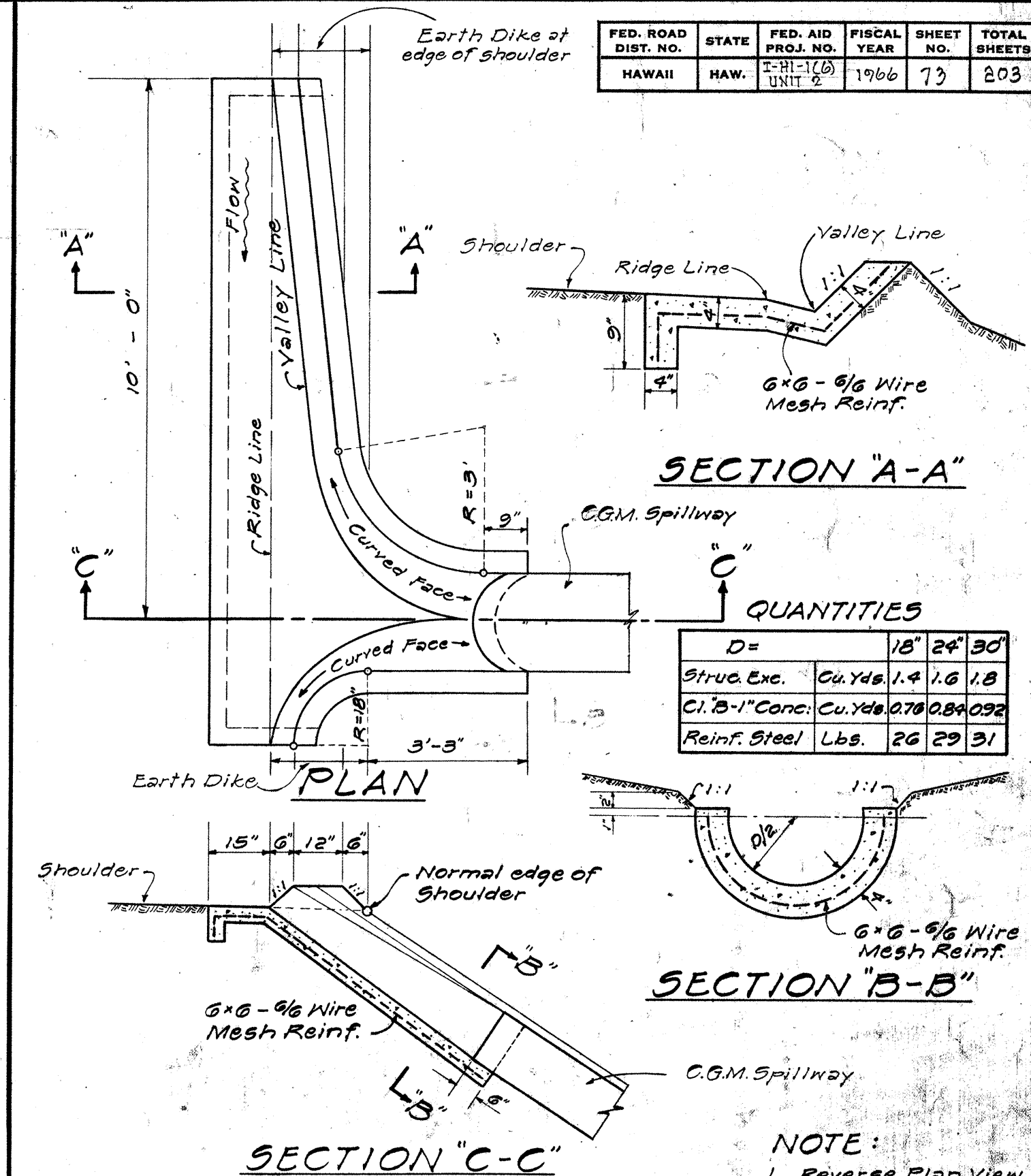
NOTE:
6\"/>

DETAIL OF CULVERT
TO SPILLWAY CONNECTION
NOT TO SCALE



NOTE:
6\"/>

DETAIL OF CULVERT
TO SPILLWAY "Y" CONNECTION
NOT TO SCALE



SECTION "A-A"

QUANTITIES

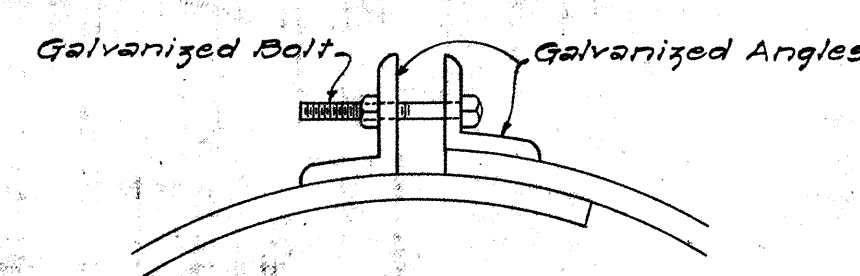
D =	18"	24"	30"
Struc. Exc.	Cu. Yds. 1.4	1.6	1.8
Cl. B-1 Conc.	Cu. Yds. 0.78	0.84	0.92
Reinf. Steel	Lbs. 26	29	31

SECTION "B-B"

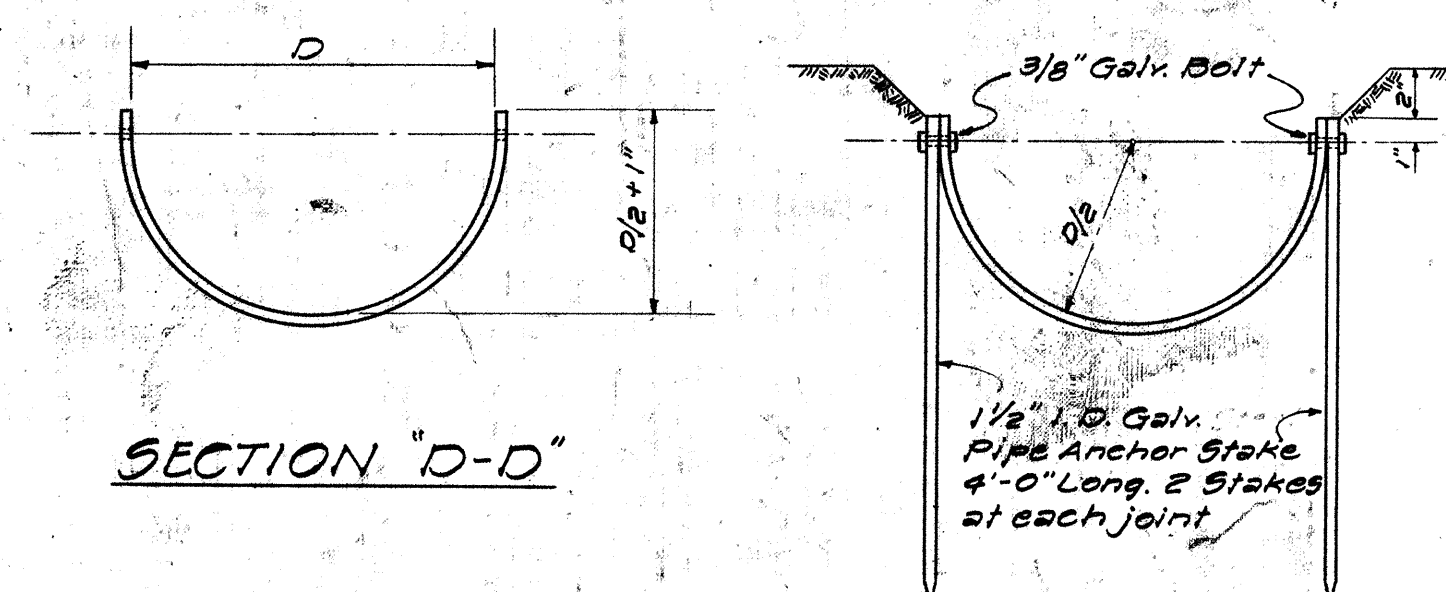
SECTION "C-C"

NOTE:
1. Reverse Plan View when flow is in direction opposite to that shown.
2. All Conc. to be cl. B-1

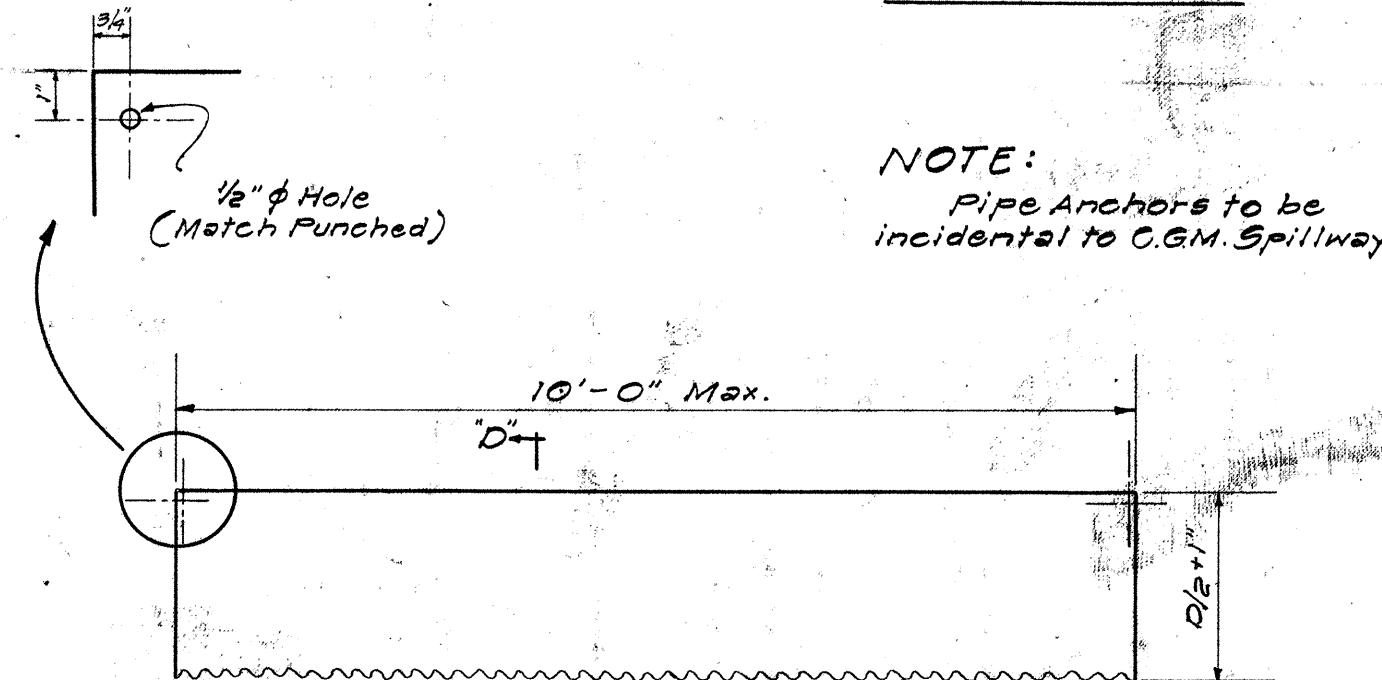
DETAIL OF SPILLWAY INLET
NOT TO SCALE



BAND DETAIL

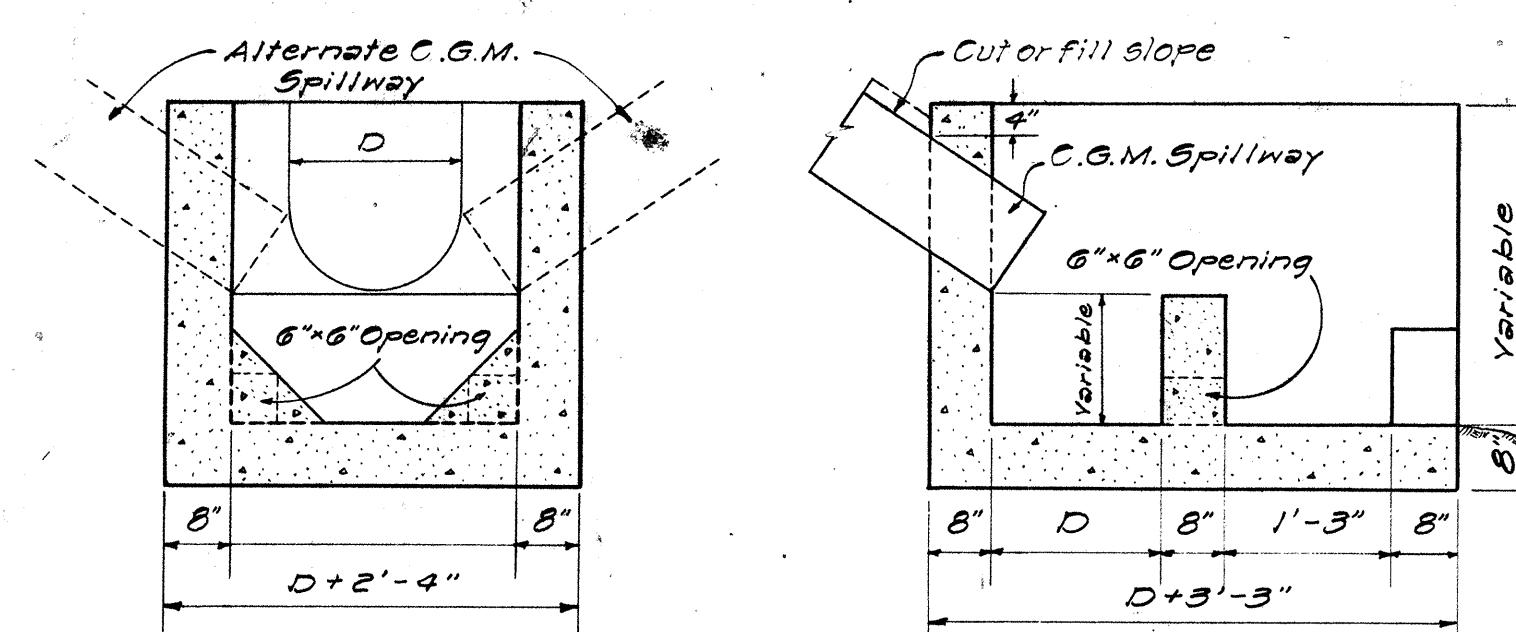


END VIEW



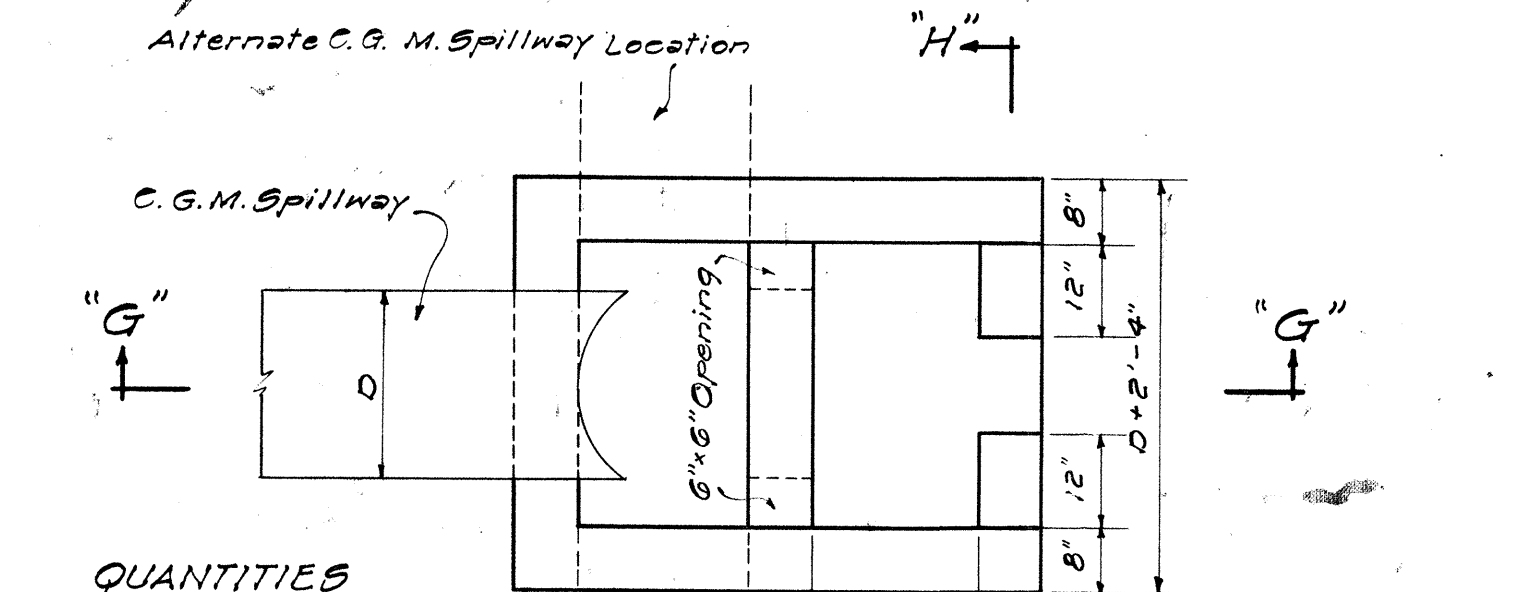
SIDE VIEW

C. G. M. SPILLWAY
NOT TO SCALE



SECTION "H-H"

SECTION "G-G"



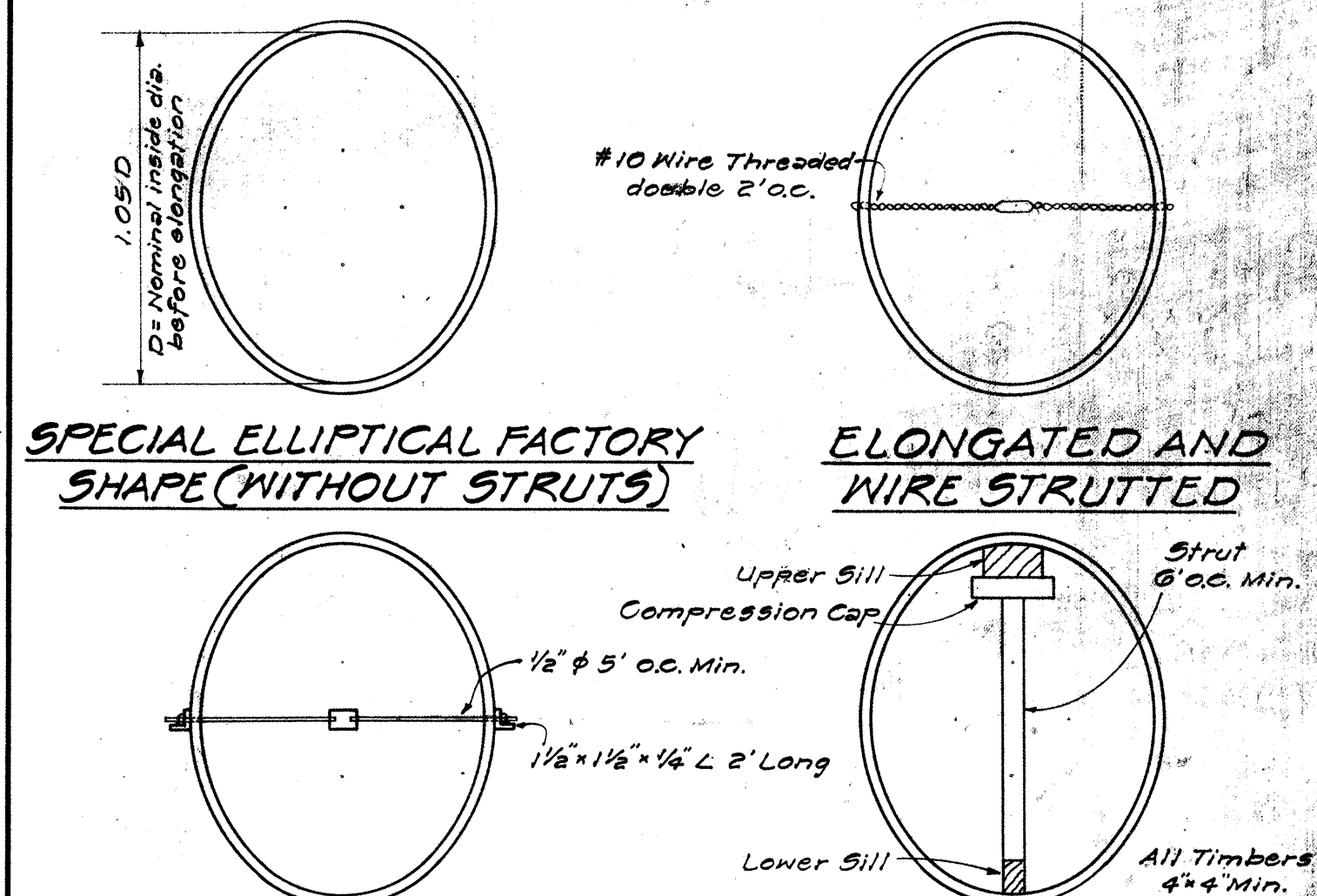
PLAN

QUANTITIES

D =	18"	24"	30"
Struc. Exc.	Cu. Yds. 3.3	4.2	5.1
Cl. B-1 Conc.	Cu. Yds. 1.5	1.8	2.2

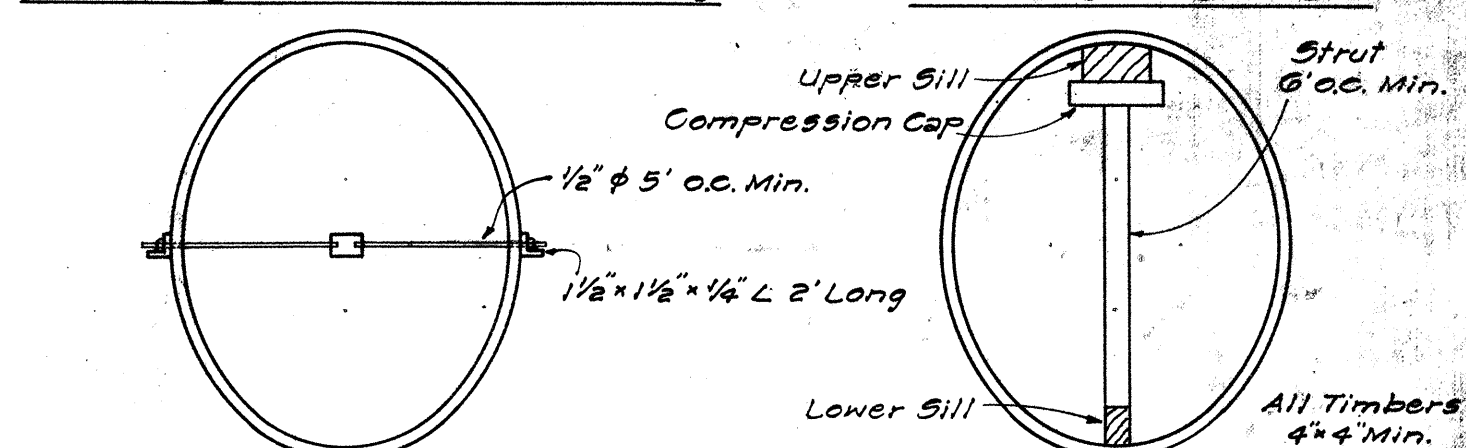
NOTE:
All Concrete to be Class "B-1"

DETAILS OF CONC. DROP BOX
AT OUTLET OF C.G.M. SPILLWAY
NOT TO SCALE



SPECIAL ELLIPTICAL FACTORY
SHAPE (WITHOUT STRUTS)

ELONGATED AND
WIRE STRUTTED



ELONGATED WITH
ROD AND TURNBUCKLE

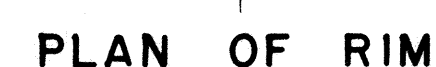
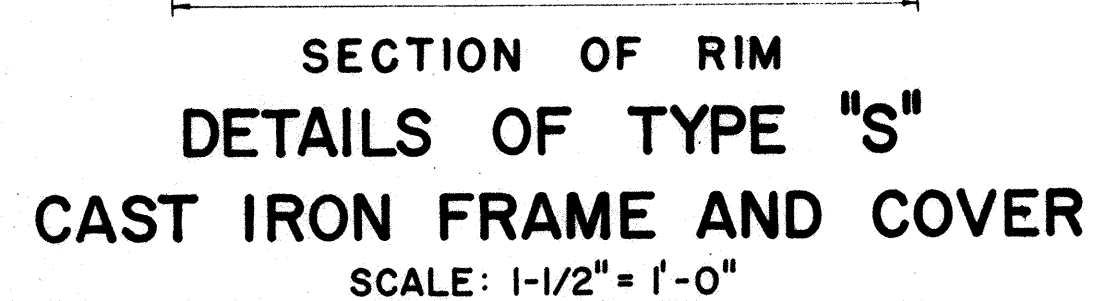
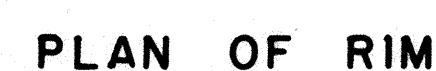
ELONGATED WITH
TIMBER STRUT

METHOD OF ELONGATING AND
STRUTTING CORRUGATED PIPE
NOT TO SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CORRUGATED GALVANIZED METAL
CULVERTS, SPILLWAYS, AND
SPECIAL DETAILS
SCALES AS NOTED
SHEET NO. 16 OF 19 SHEETS

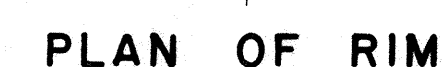
ORIGINAL PLAN
DATE: 5-22-64
DRAWN BY: G.M.
NOTE BOOK
QUANTITIES BY: G.M.
CHECKED BY: G.M.
No.

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



DETAILS OF TYPE "B"
CAST IRON FRAME AND COVER

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

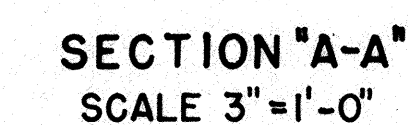


DETAILS OF TYPE "A"

CAST IRON FRAME AND COVER

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

SECTION TOP VIEW TOP VIEW
TYPE C C.I. FRAME AND GRATING
SCALE: 3/4" = 1'-0"



DETAILS OF TYPE "W" CAST IRON FRAME AND COVER

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS CATCH BASIN AND MANHOLE CASTINGS

SCALES AS NOTED

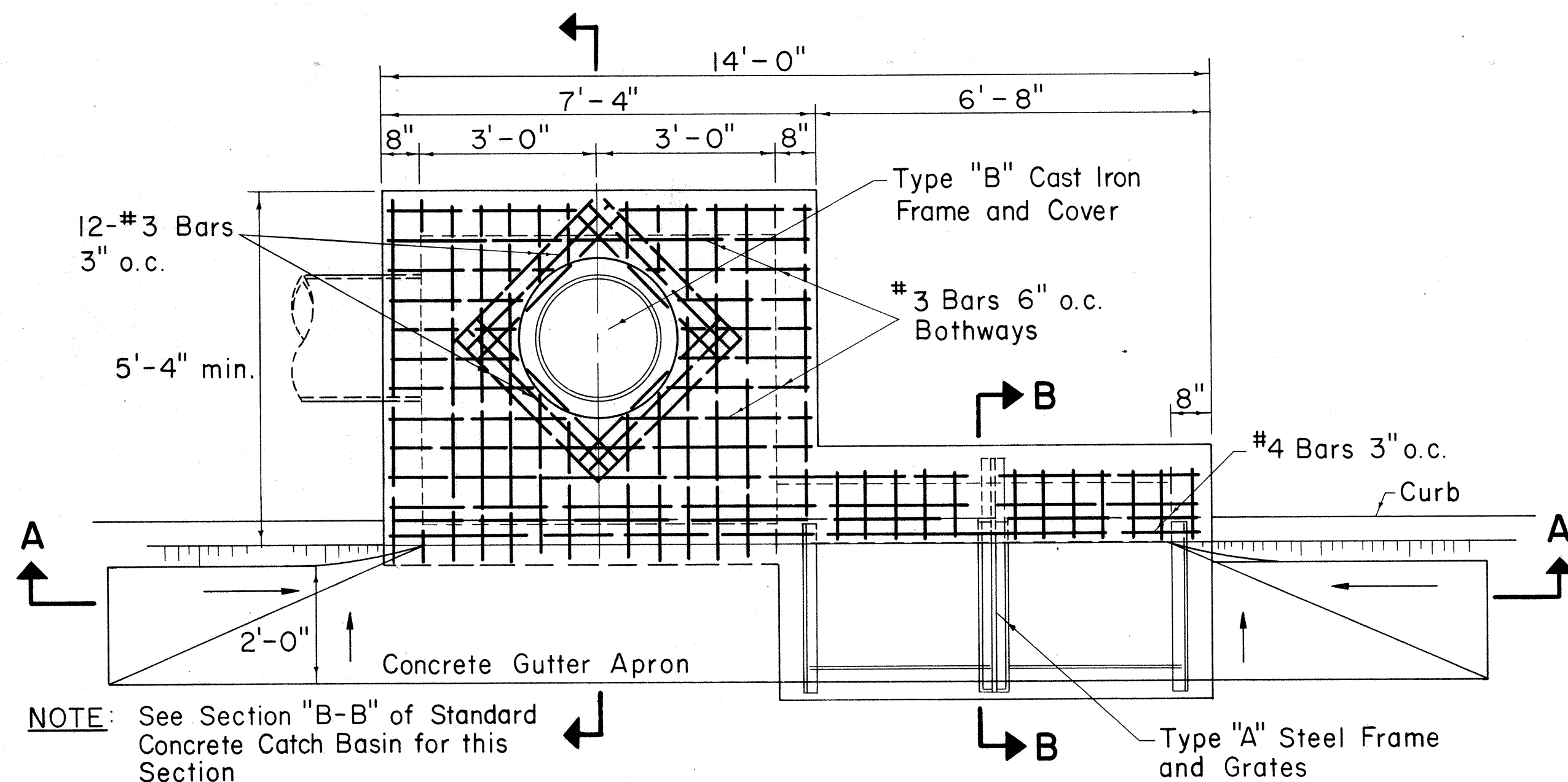
SHEET N° 17 OF 19 SHEETS

NOTE:

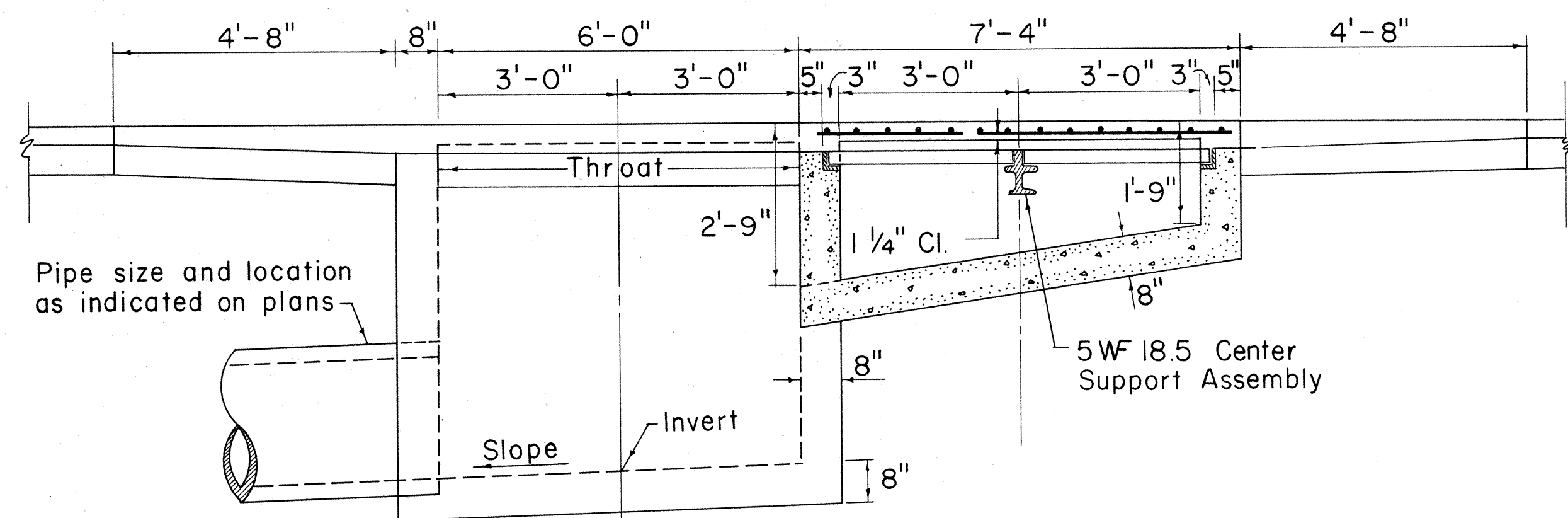
THE TYPE "S" CAST IRON FRAME AND COVER SHOWN ON THIS SHEET IS EQUIVALENT TO THE CITY AND COUNTY OF HONOLULU, DIVISION OF SEWERS' TYPE "SA" CAST IRON MANHOLE FRAME AND COVER.

THE TYPE "W" CAST IRON FRAME AND COVER
SHOWN ON THIS SHEET IS EQUIVALENT TO THE
CITY AND COUNTY OF HONOLULU, BOARD OF
WATER SUPPLY'S CAST IRON MANHOLE FRAME
AND COVER, 20" SIZE.

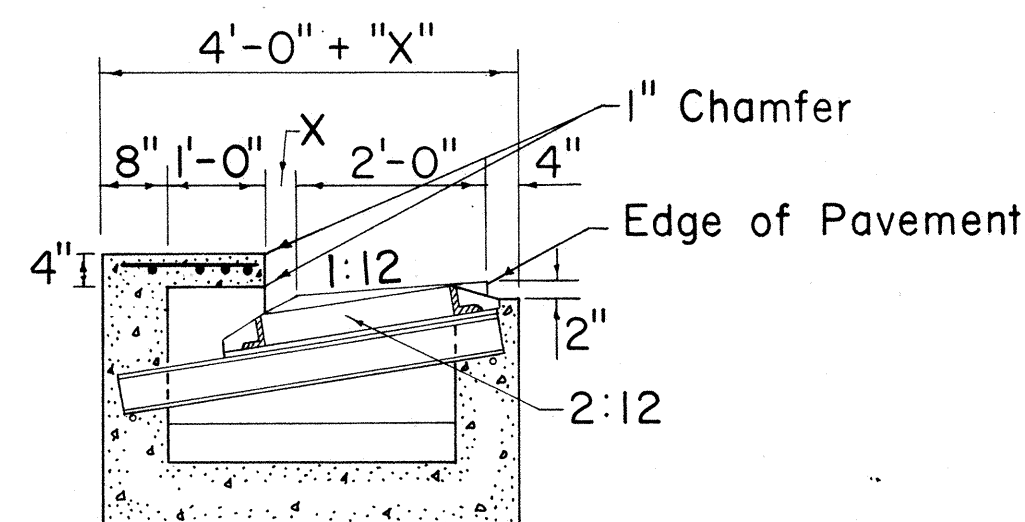
FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-HI-1(2) UNIT 2	1966	70	203



PLAN



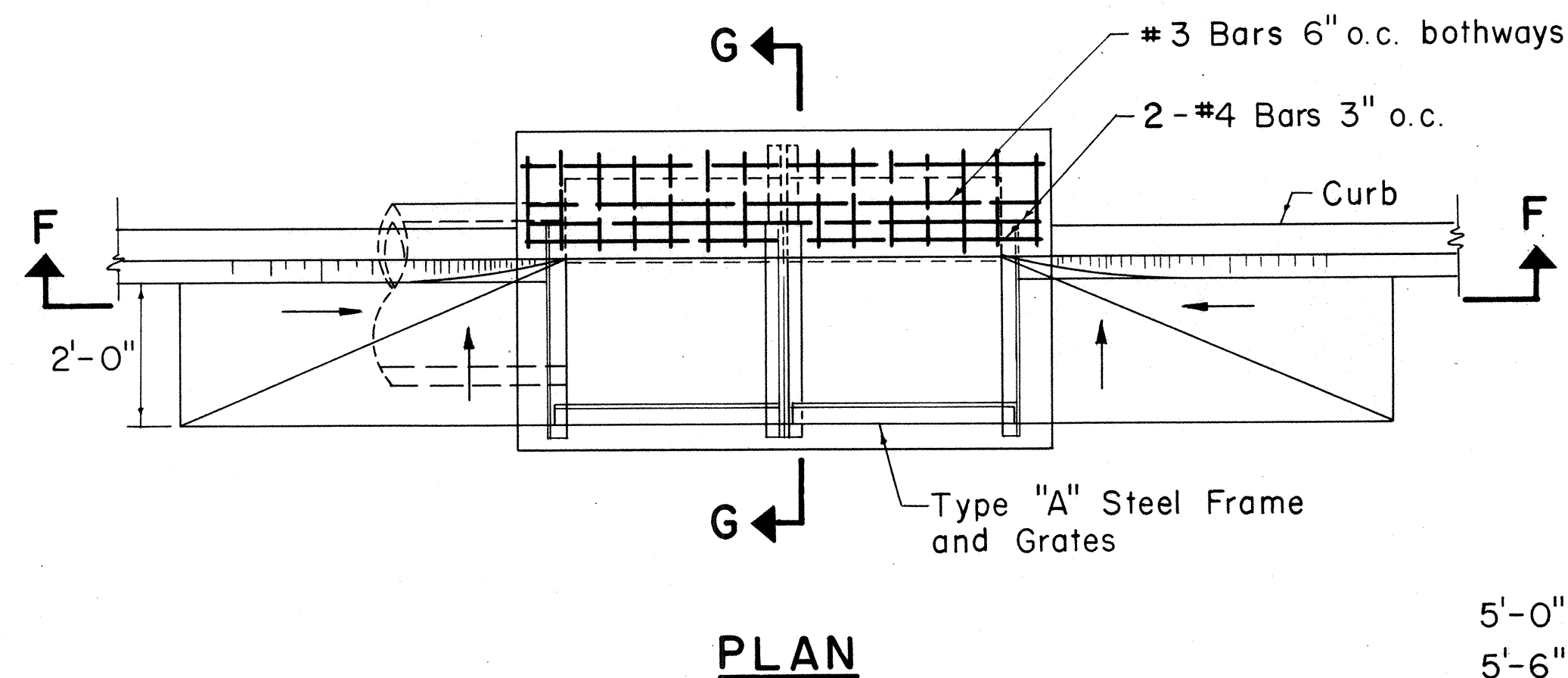
SECTION A-A



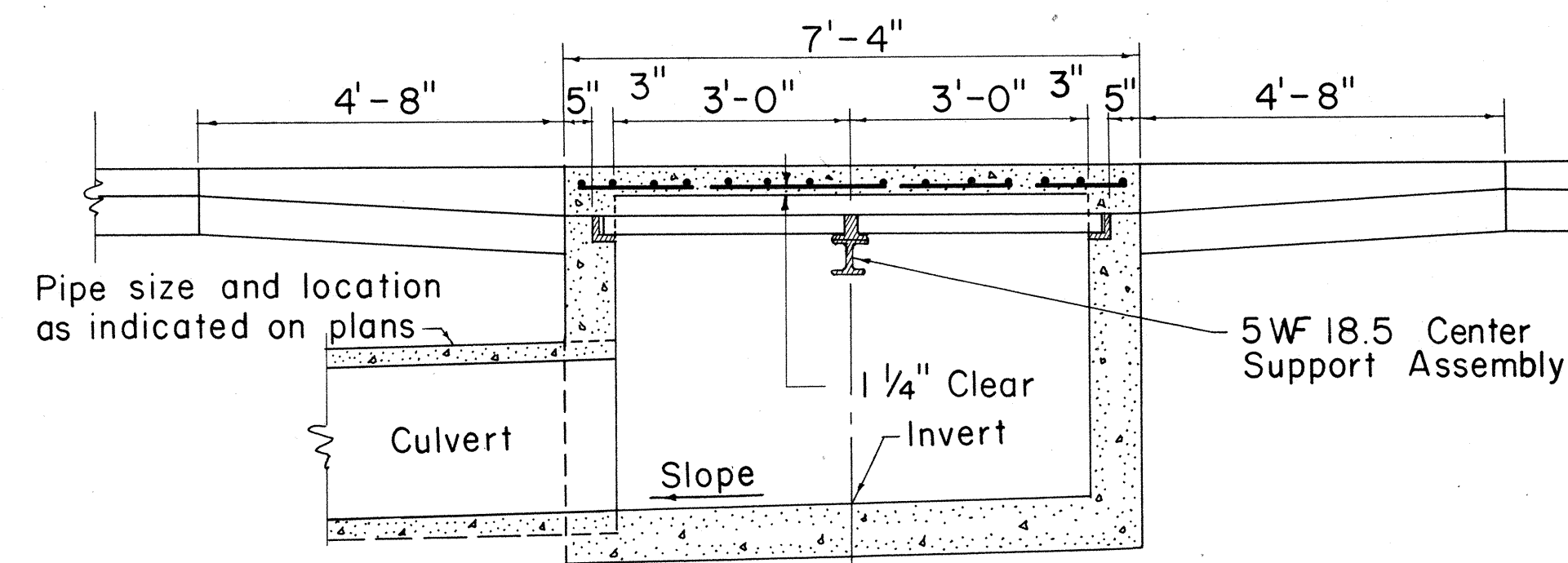
SECTION B-B

DETAIL OF TYPE "CG" CATCH BASIN

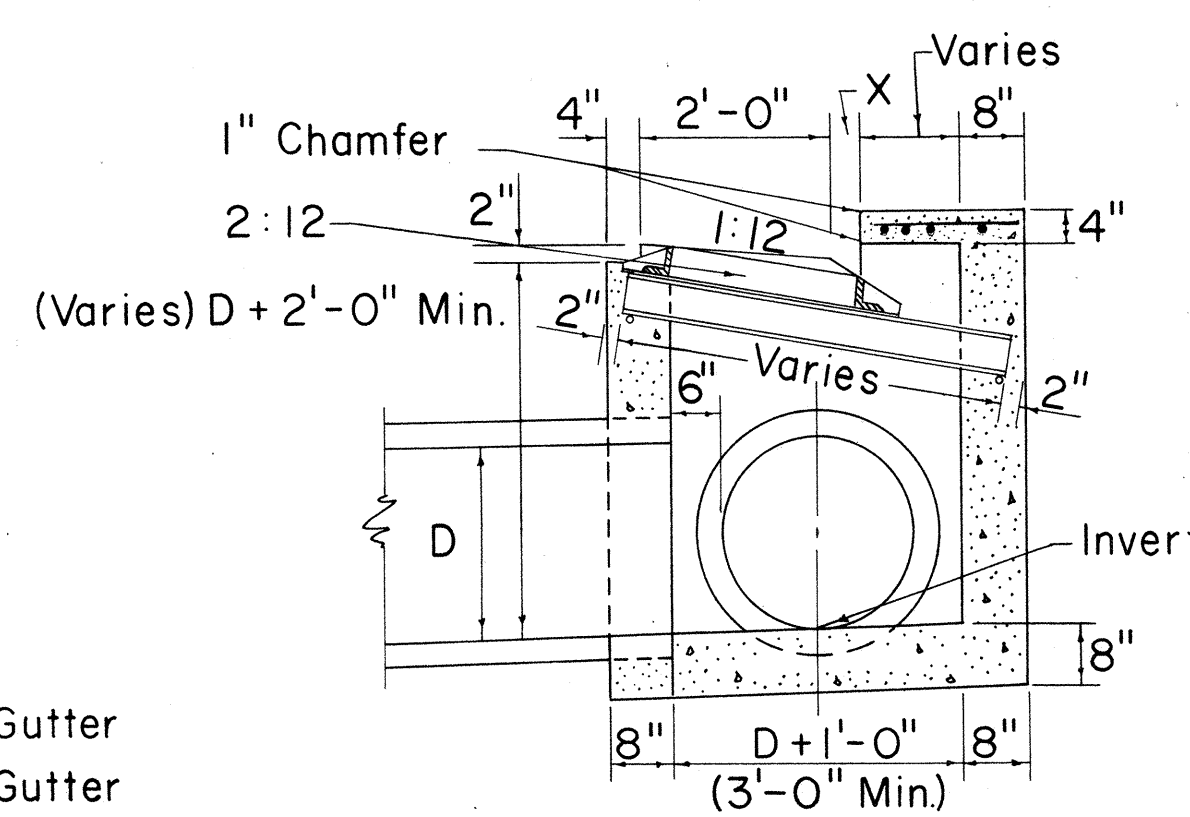
Scale: 1/2" = 1'-0"



PLAN



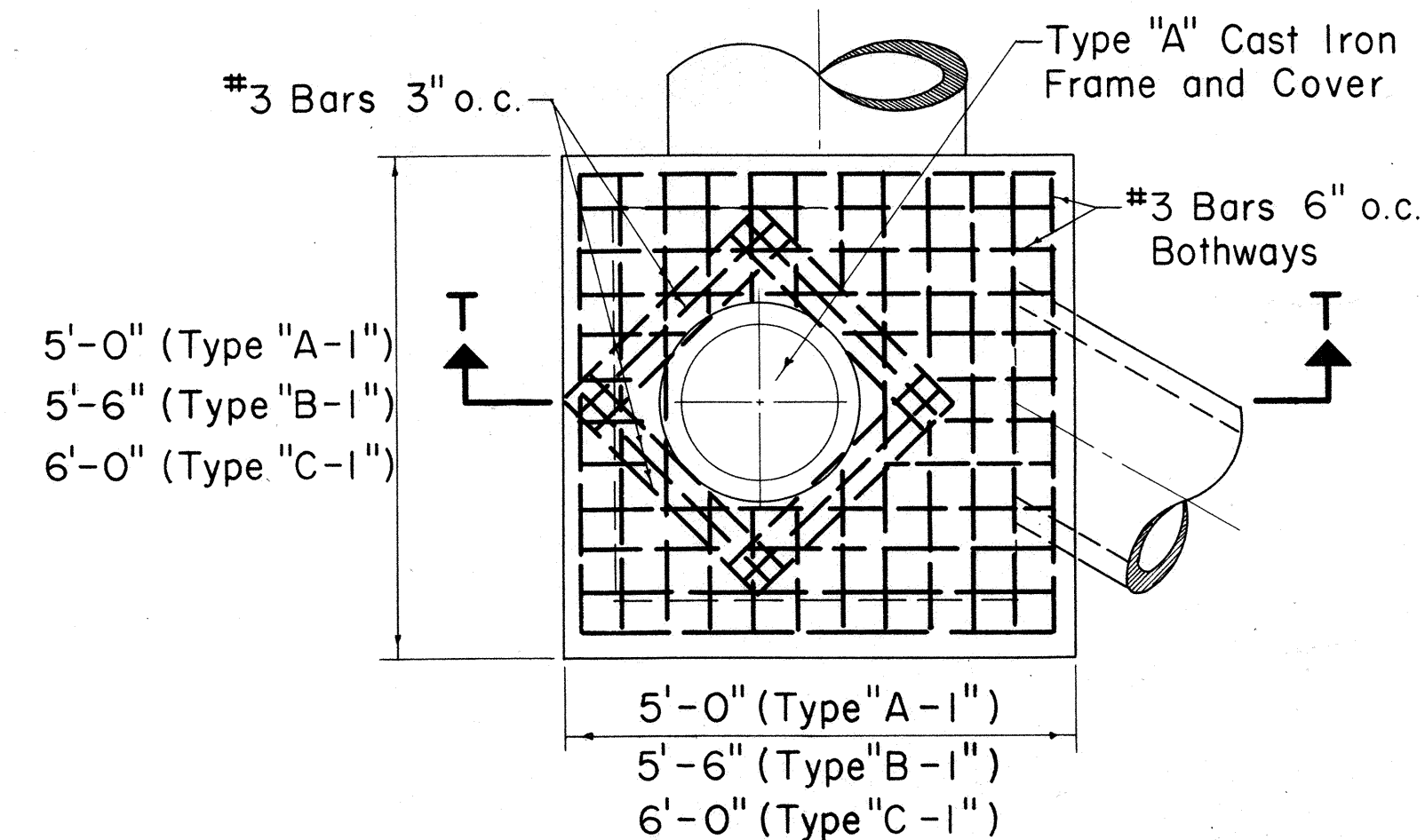
SECTION F-F



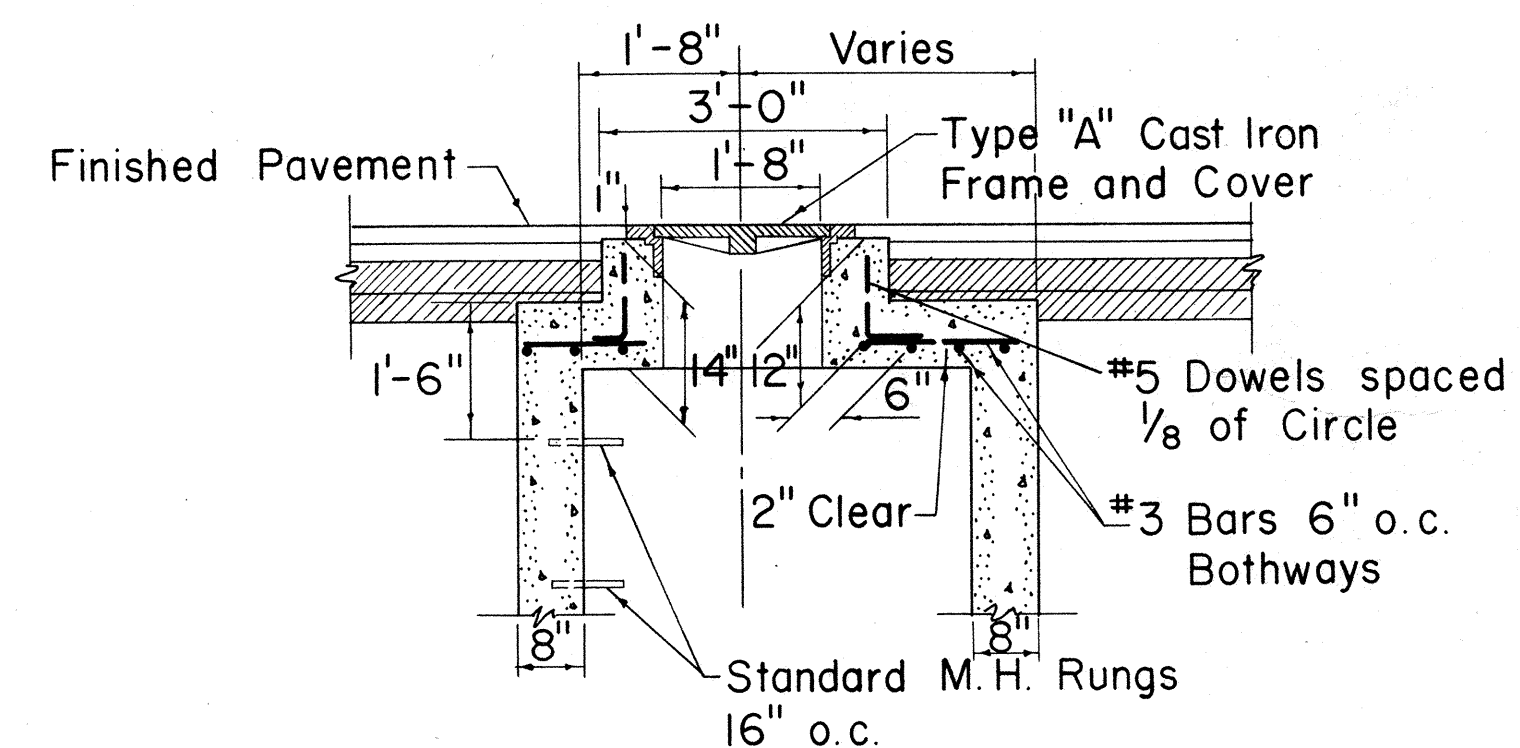
SECTION G-G

DETAIL OF TYPE "DG" CATCH BASIN

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



PLAN



SECTION T-T

**TYPE "A-1", "B-1", & "C-1"
STORM DRAIN MANHOLE
TOP DETAIL UNDER PAVEMENT
(BOTTOM DETAIL SIMILAR TO TYPE "A", "B", & "C")**

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CATCH BASINS AND
STORM DRAIN MANHOLES

Scales: As Noted Date: Dec. 1965
SHEET NO. 19 OF 19 SHEETS