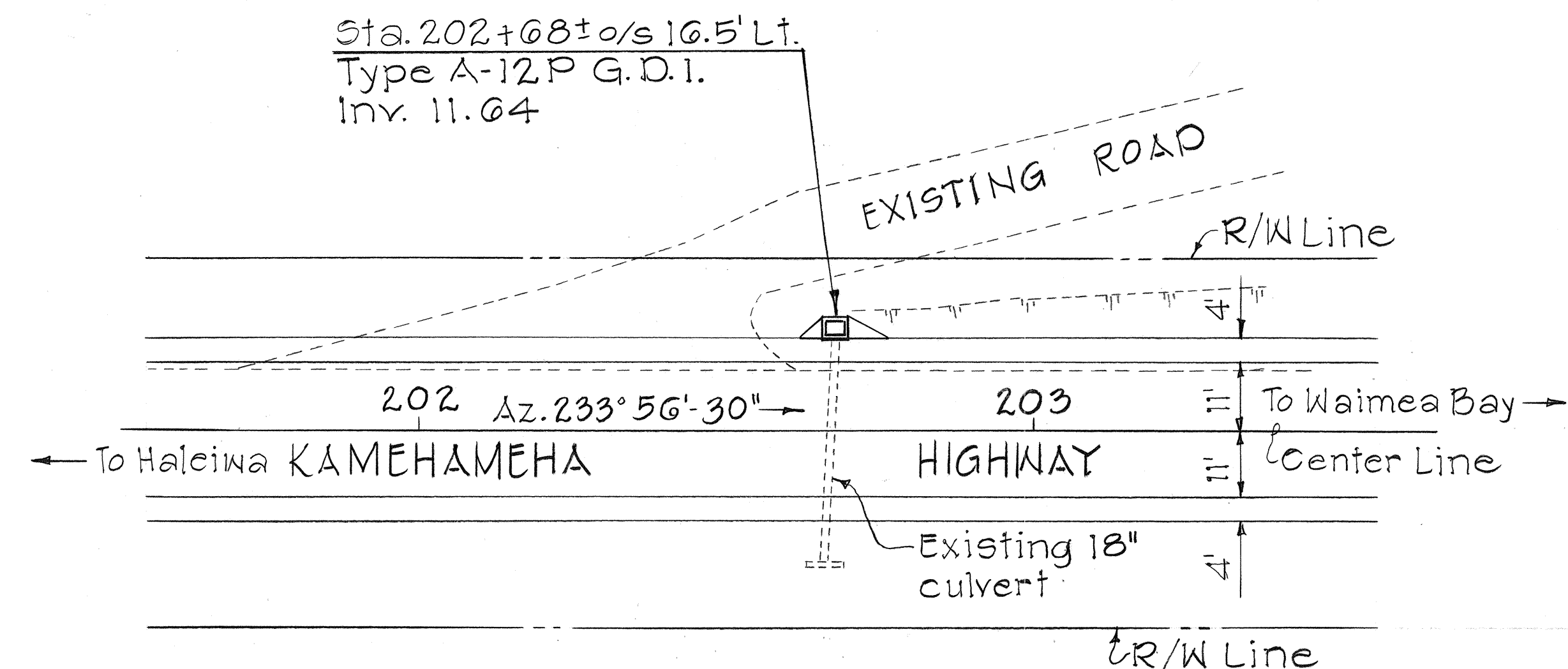
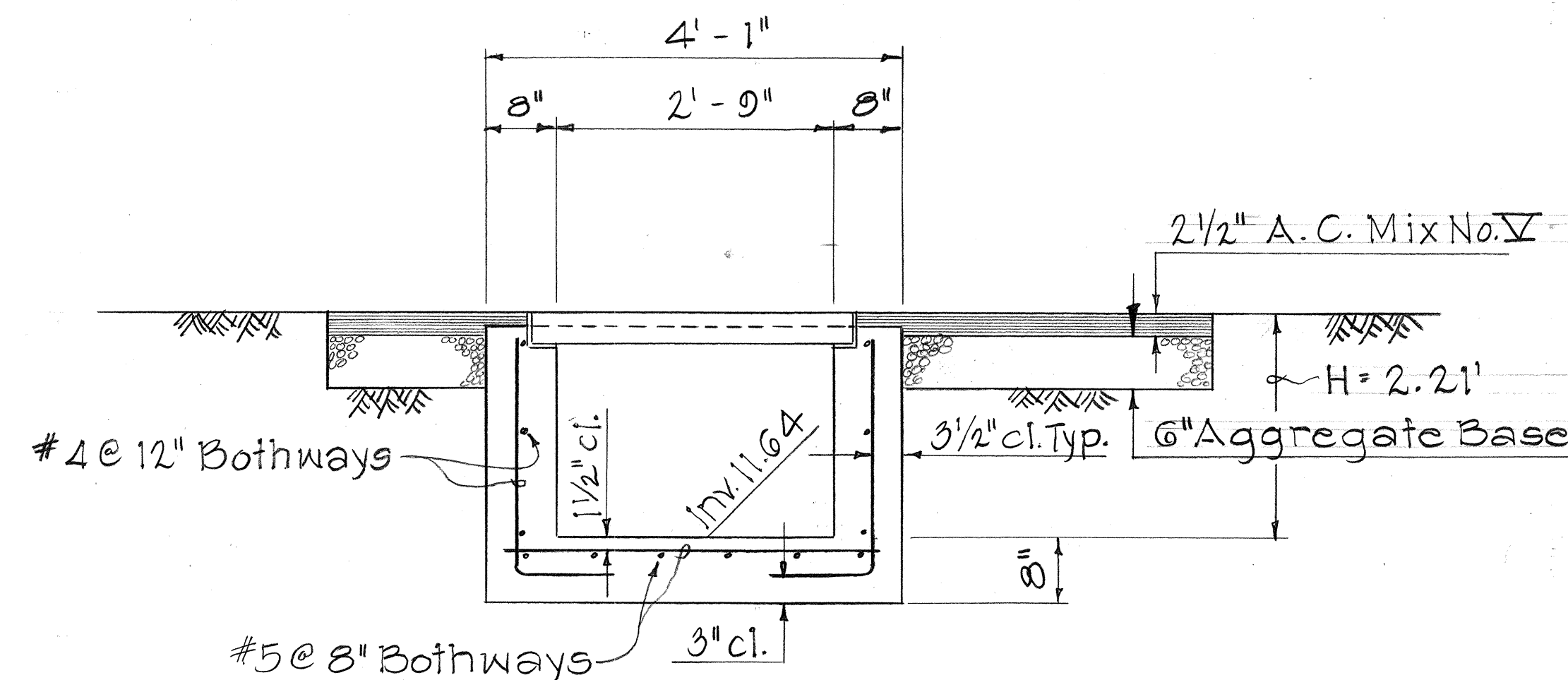


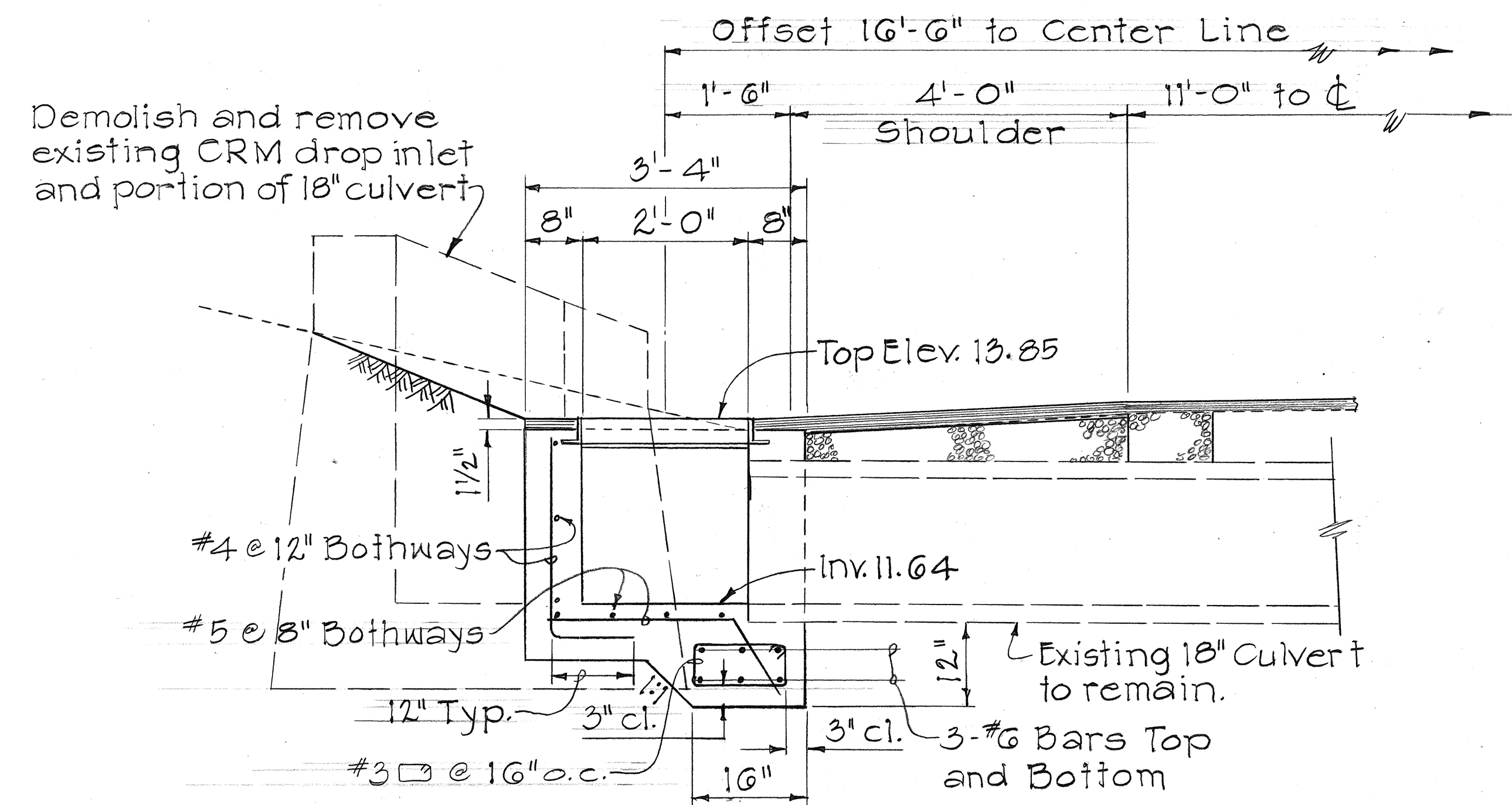
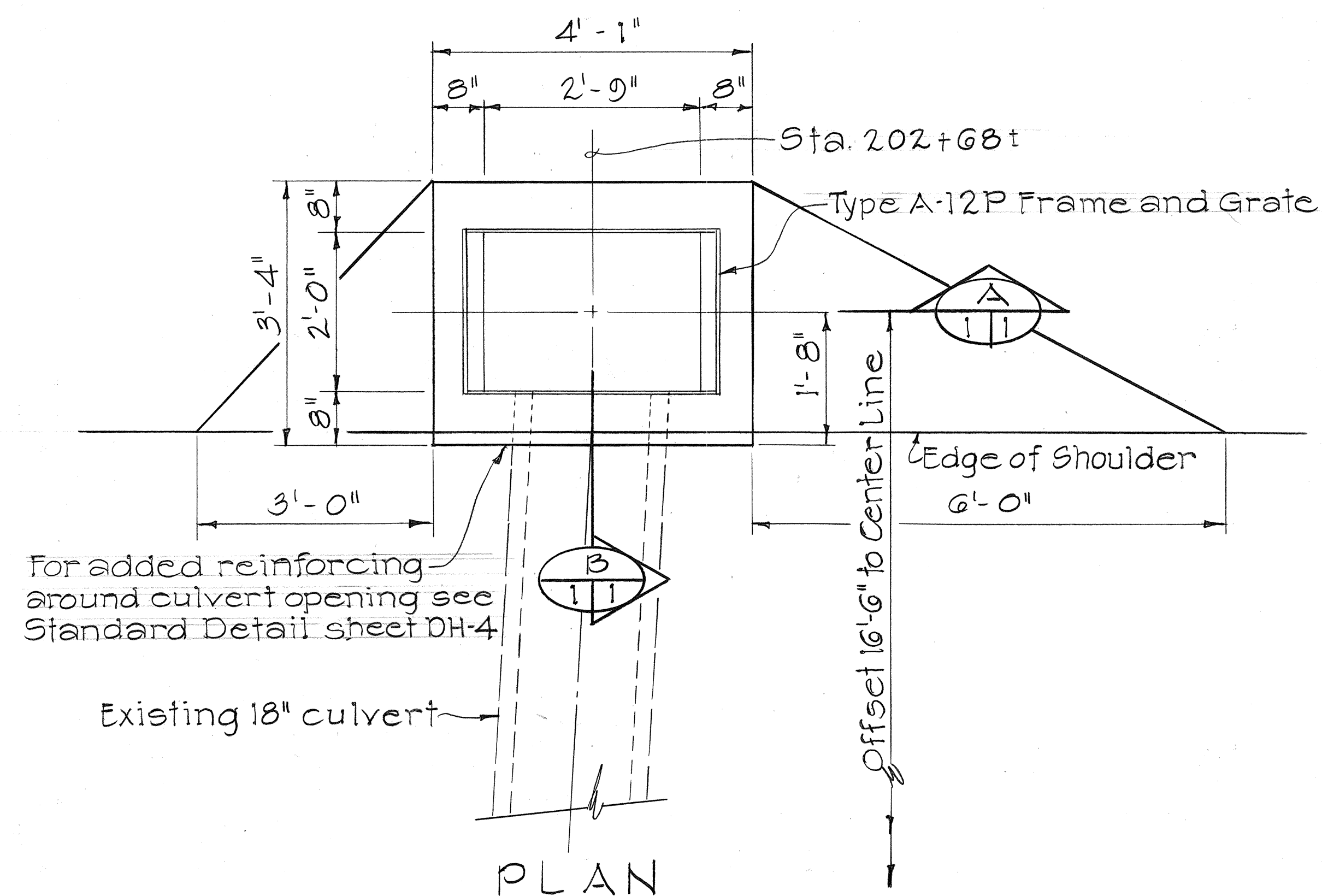
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-083-1(10) F-083-1(20)	1984	14	57



LOCATION PLAN
Scale: 1" = 20'



SECTION A



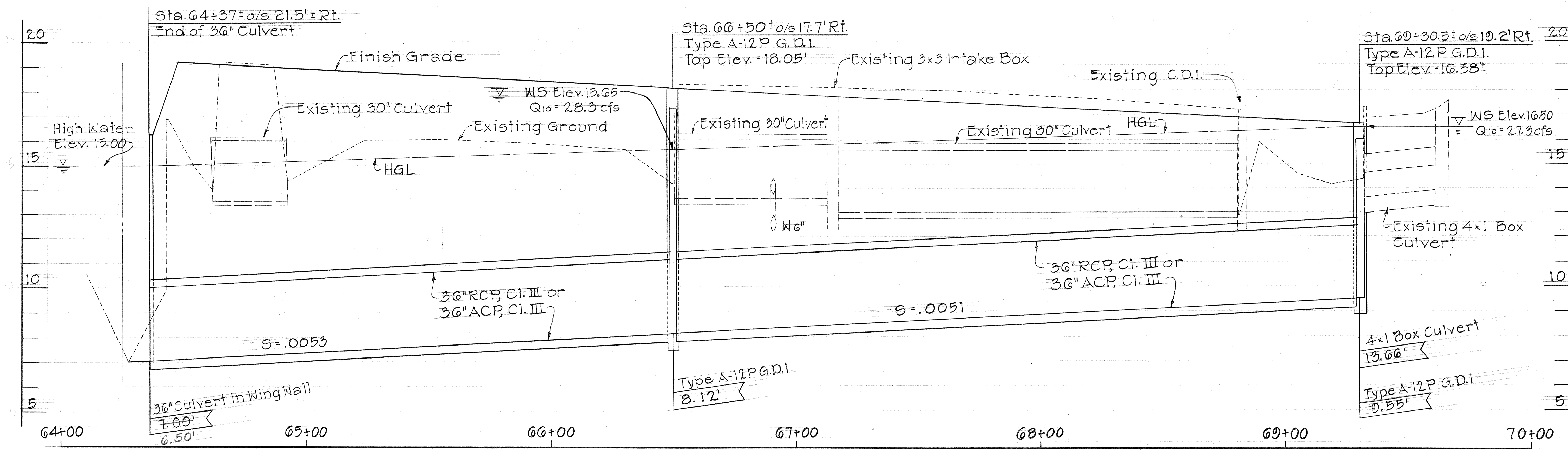
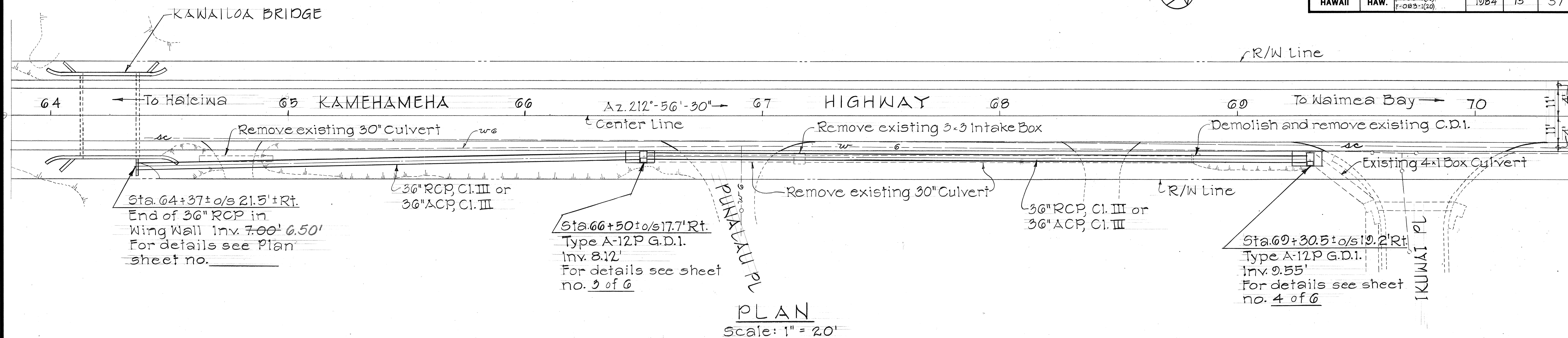
SECTION B

TYPE A-12P GRATED DROP INLET @ STA. 202+68± o/s 16.5 LT.
Scale: 3/4" = 1'-0"

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION					
DRAINAGE DETAILS					
KAMEHAMEHA HIGHWAY RESURFACING UNITS 1 & 2					
F.A. PROJ. NOS. F-083-1(10) & F-083-1(20)					
Scale: As Noted Date: Mar. 1984					
SHEET NO. 1 OF 6 SHEETS					

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES 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.	F-083-1(10) F-083-1(20)	1984	15	57



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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

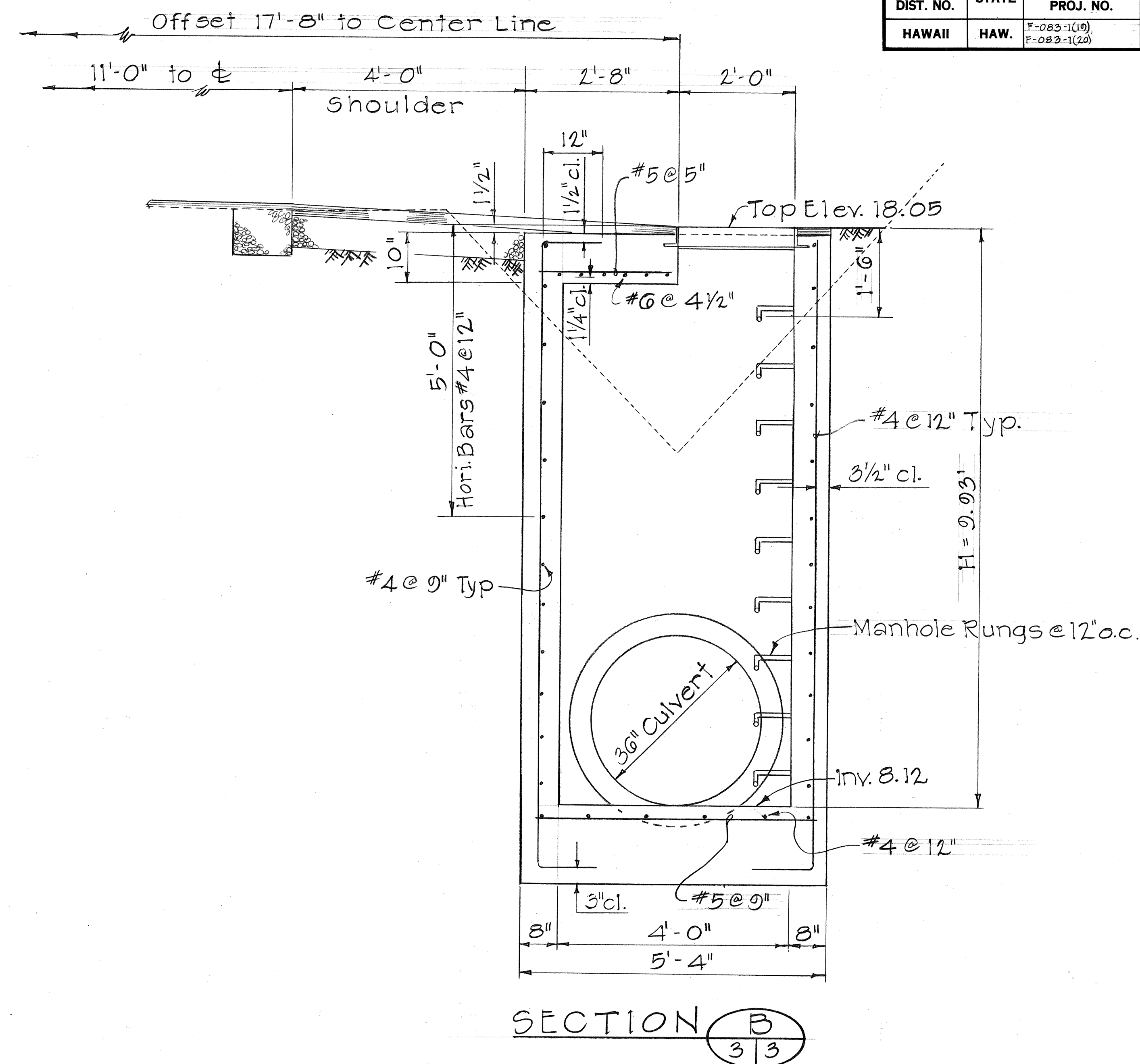
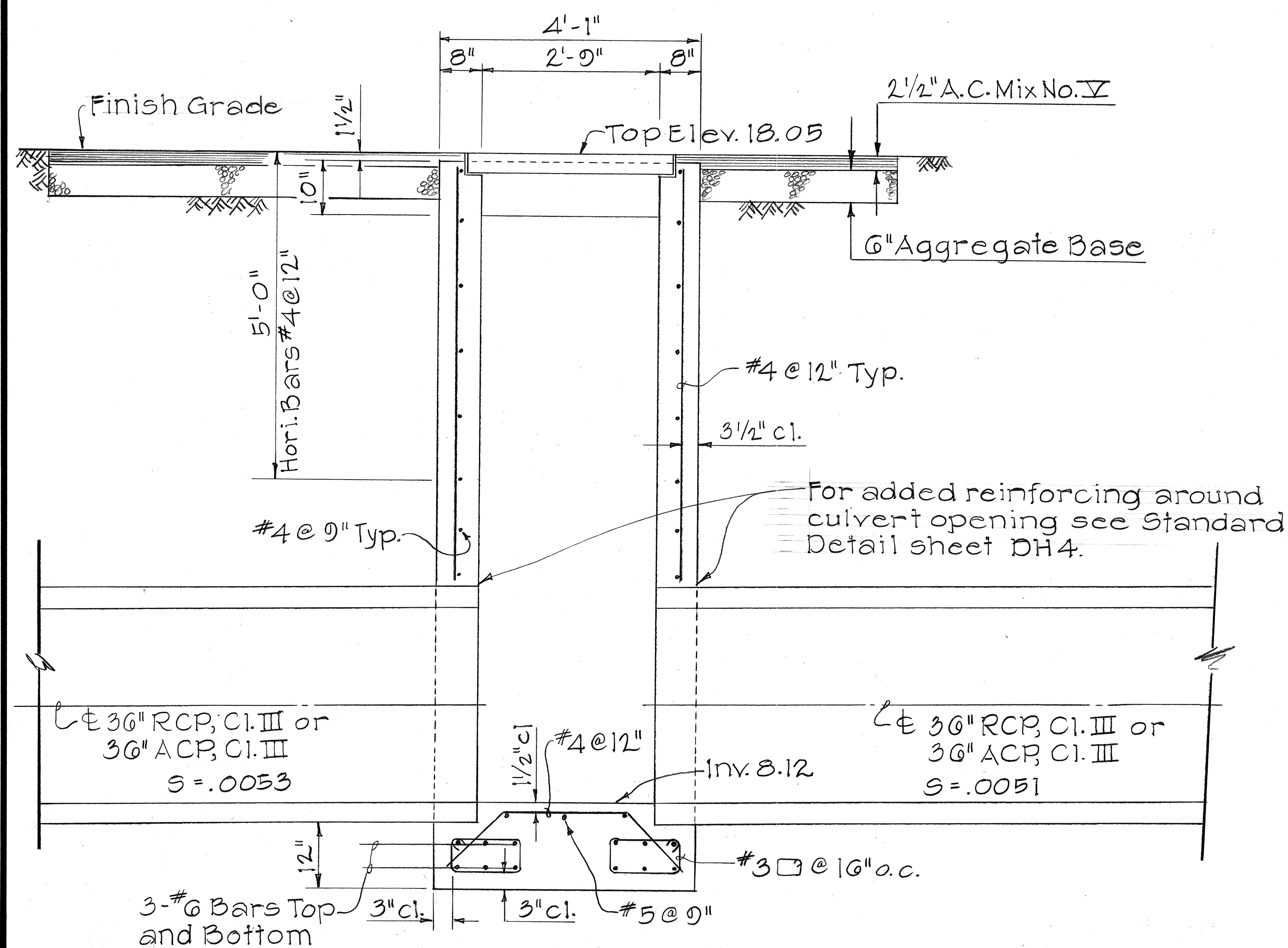
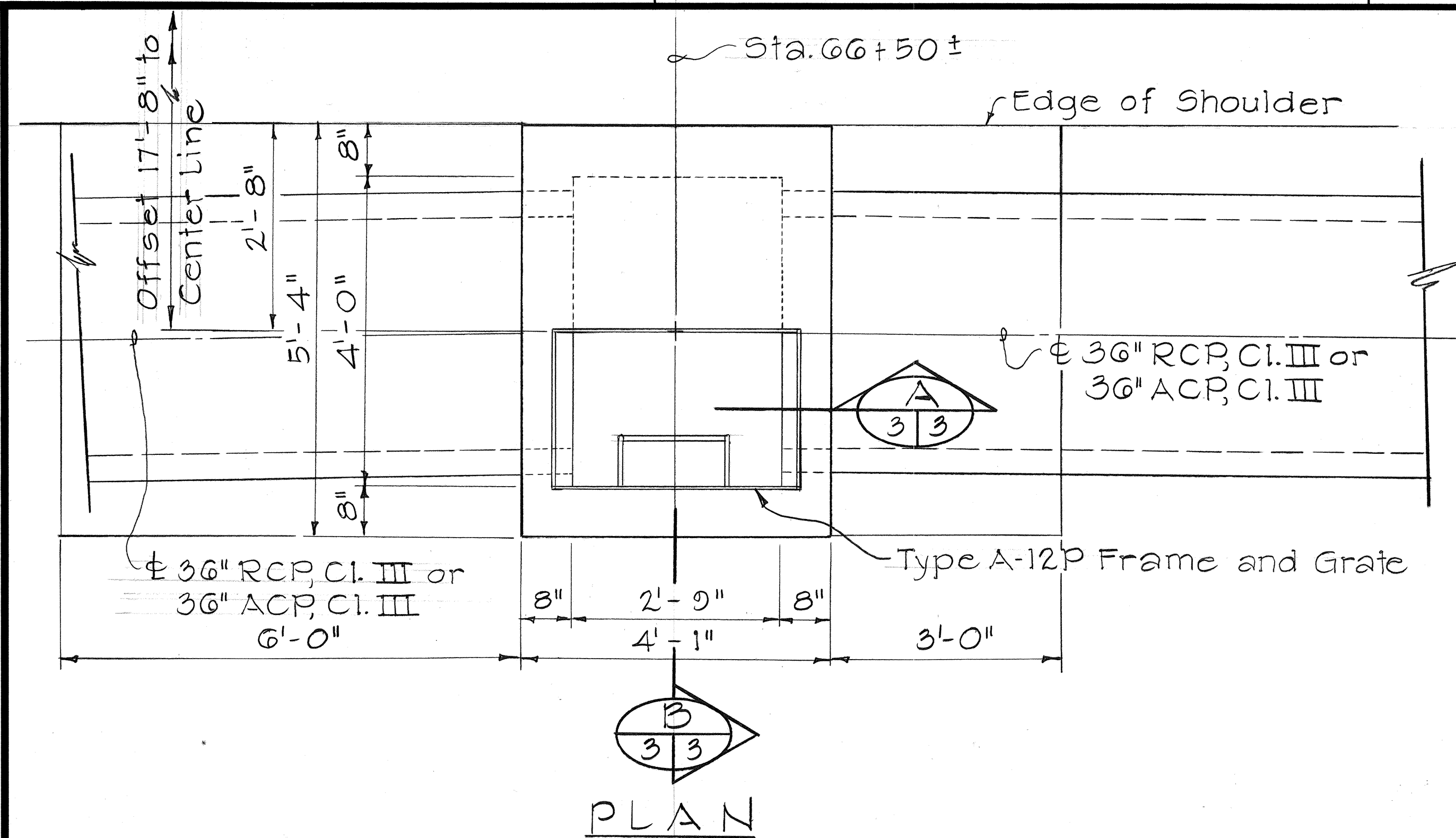
KAMEHAMEHA HIGHWAY RESURFACING
UNITS 1 & 2

F.A. PROJ. NOS. F-083-1(10) & F-083-1(20)

Scale: As Noted Date: Mar. 1984

SHEET NO. 2 OF 6 SHEETS

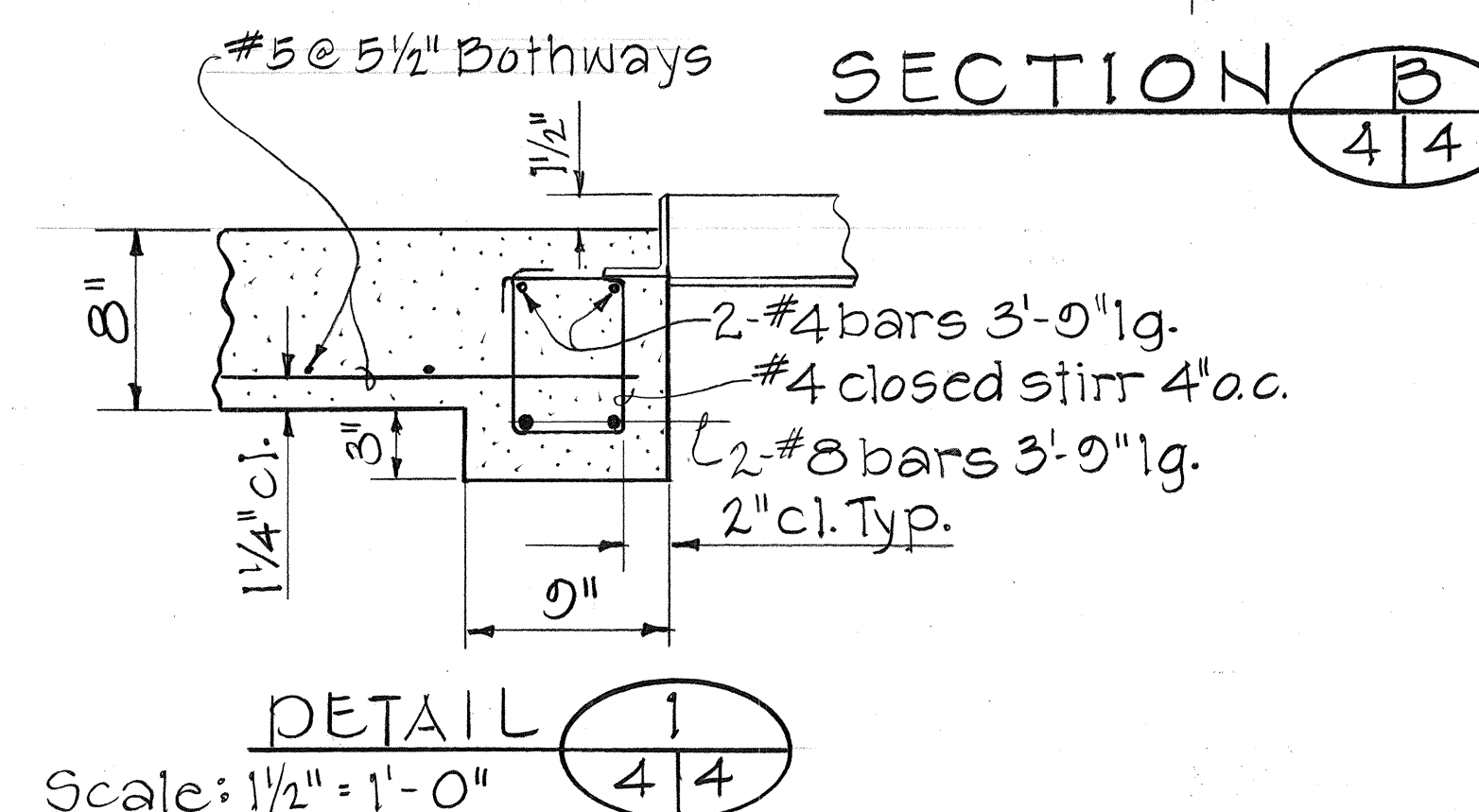
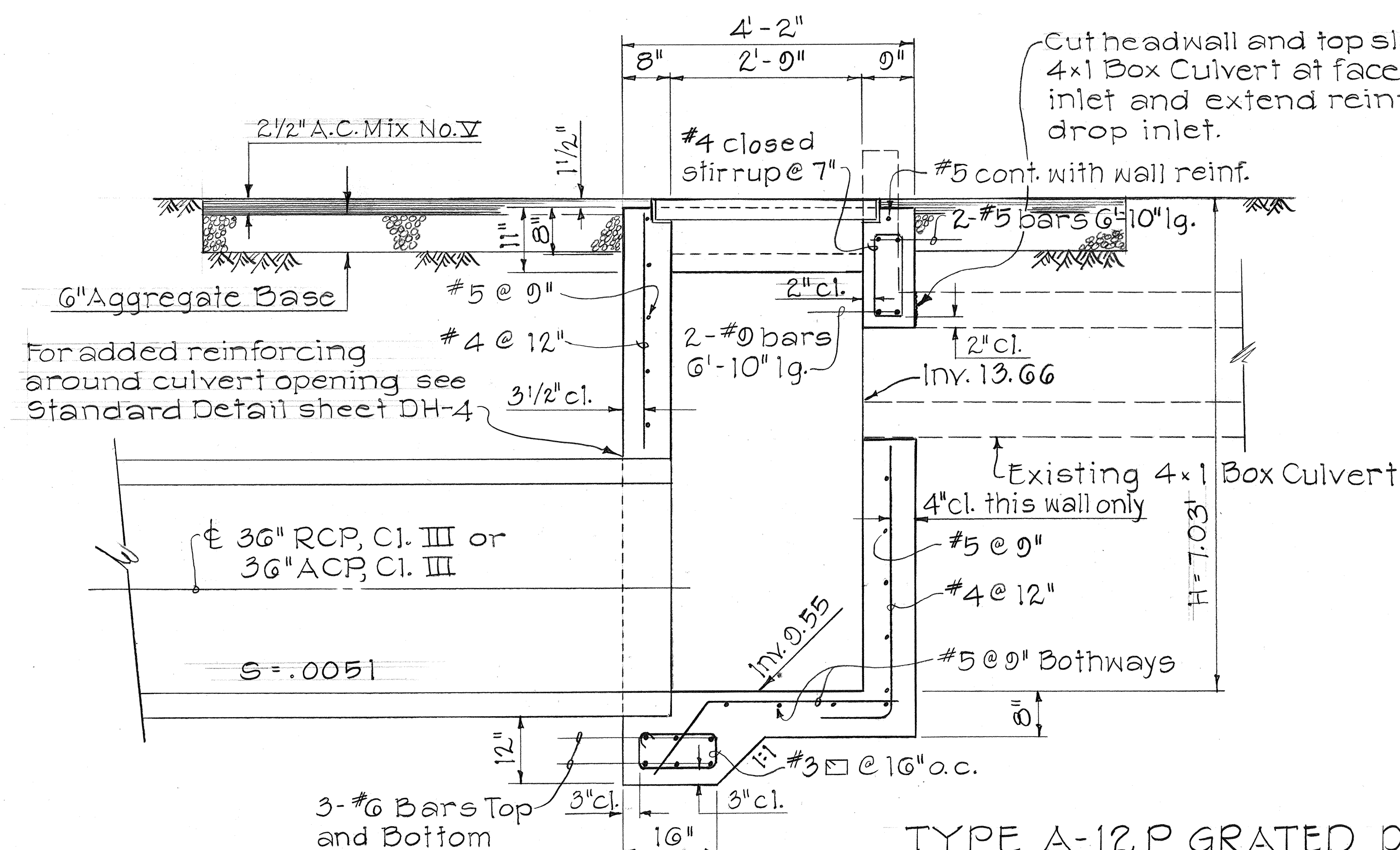
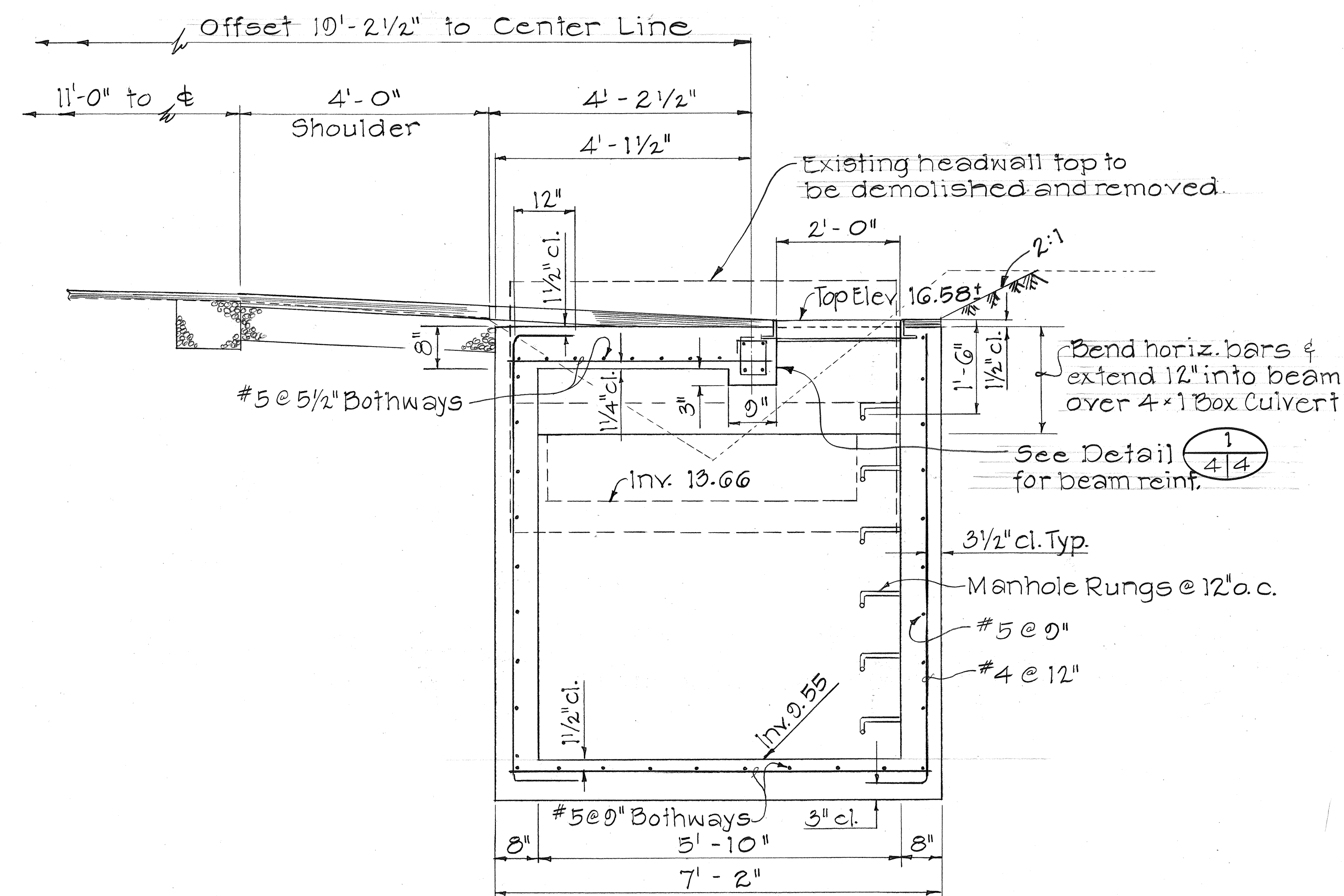
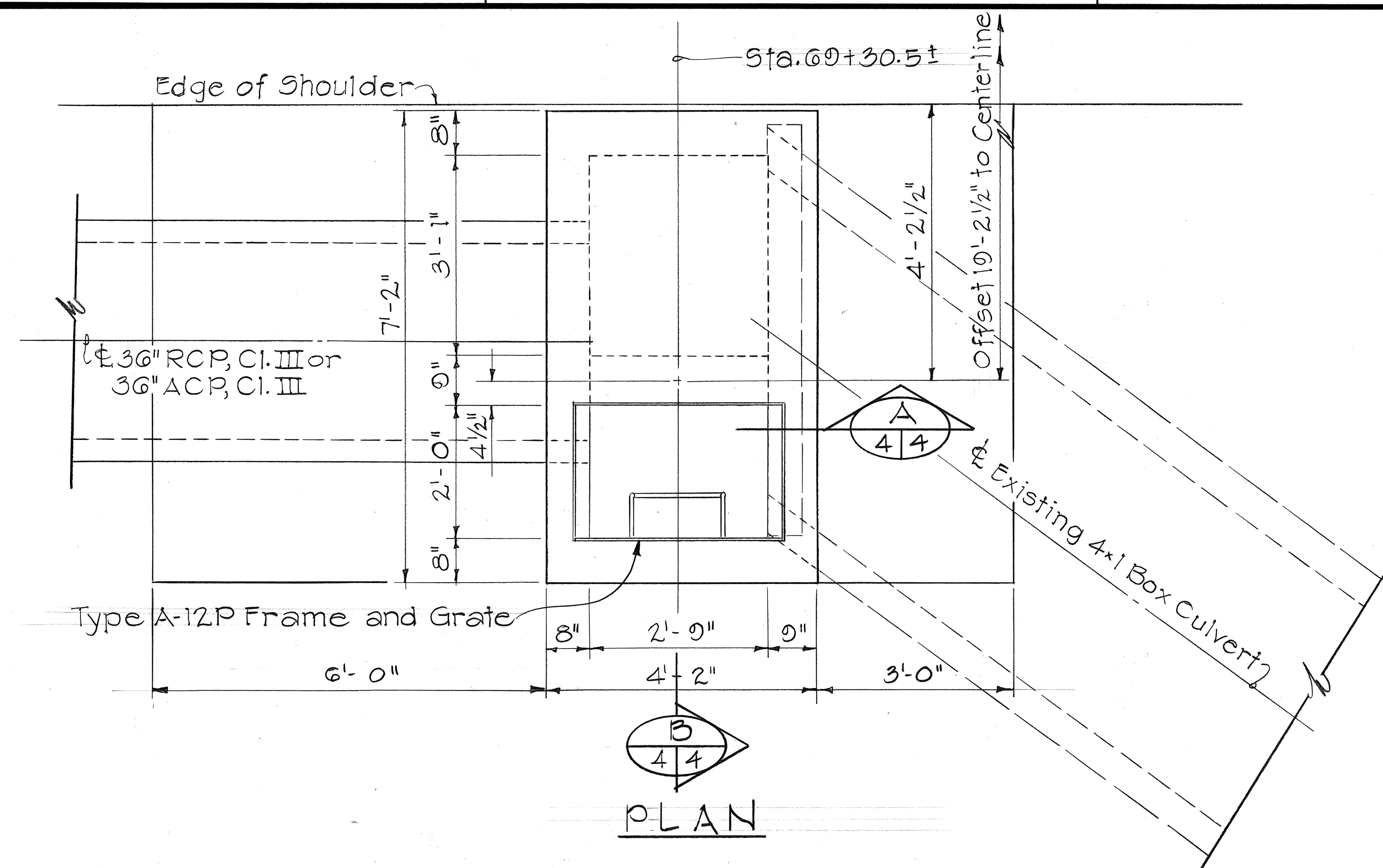
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-083-1(19) F-083-1(20)	1984	16	57



TYPE A-12P GRATED DROP INLET @ STA 66+50± @ 17.7' RT.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
KAMEHAMEHA HIGHWAY RESURFACING
UNITS 1 & 2
F.A. PROJ. NOS. F-083-1(19) & F-083-1(20)
Scale: 3/4" = 1'-0" Date: Mar. 1984
SHEET NO. 3 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-083-1(10) F-083-1(20)	1984	17	57

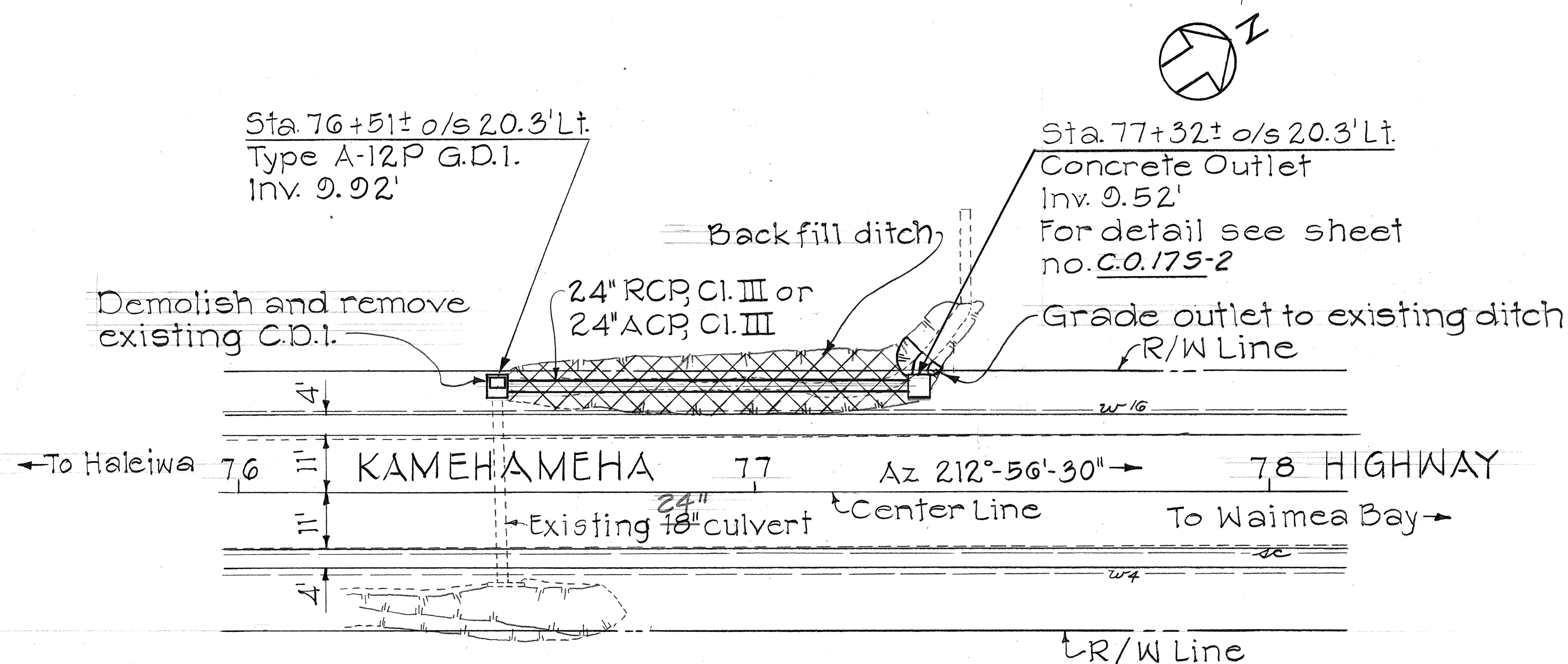


TYPE A-12 P GRATED DROP INLET @ STA 69+30.5 ± to 919.2 RT.

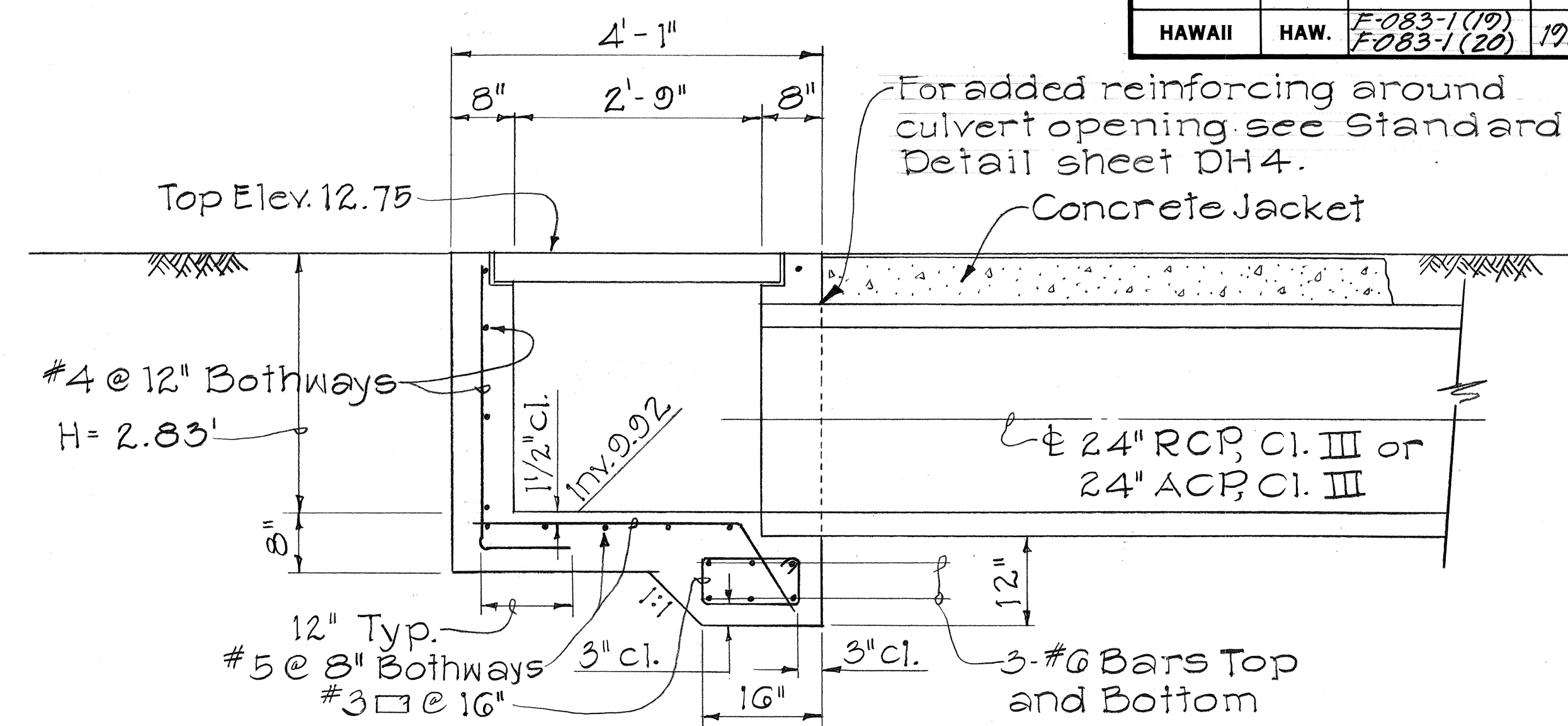
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION					
DRAINAGE DETAILS					
KAMEHAMEHA HIGHWAY RESURFACING					
UNITS 1 & 2					
F.A. PROJ. NOS. F-083-1(10) & F-083-1(20)					
Scale: 3/4" = 1'-0" Date: Mar. 1984					
SHEET NO. 4 OF 6 SHEETS					

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
No.	

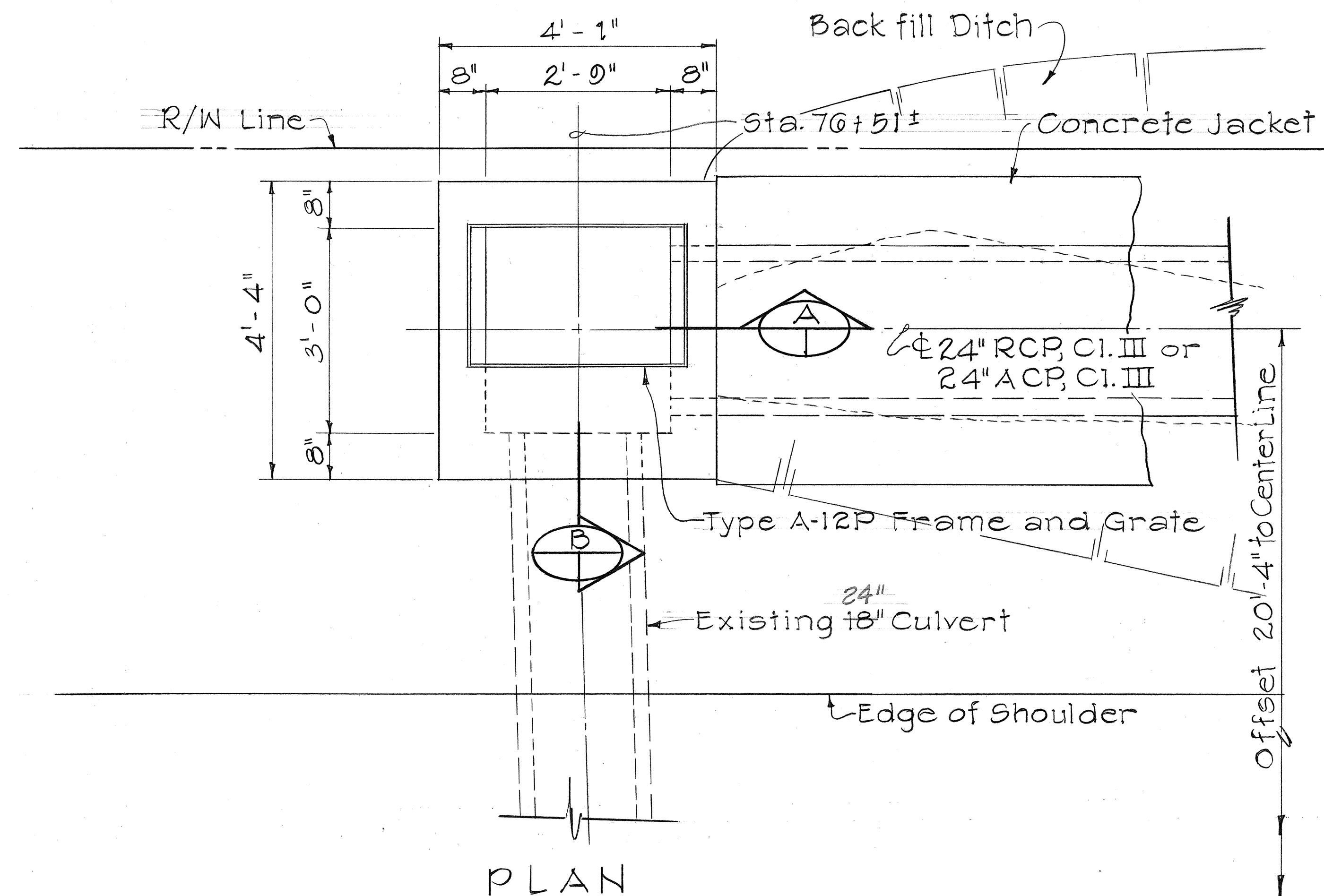
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-083-1(19) F-083-1(20)	1984	C.O.17 3-1	57



LOCATION PLAN
Scale: 1" = 20'

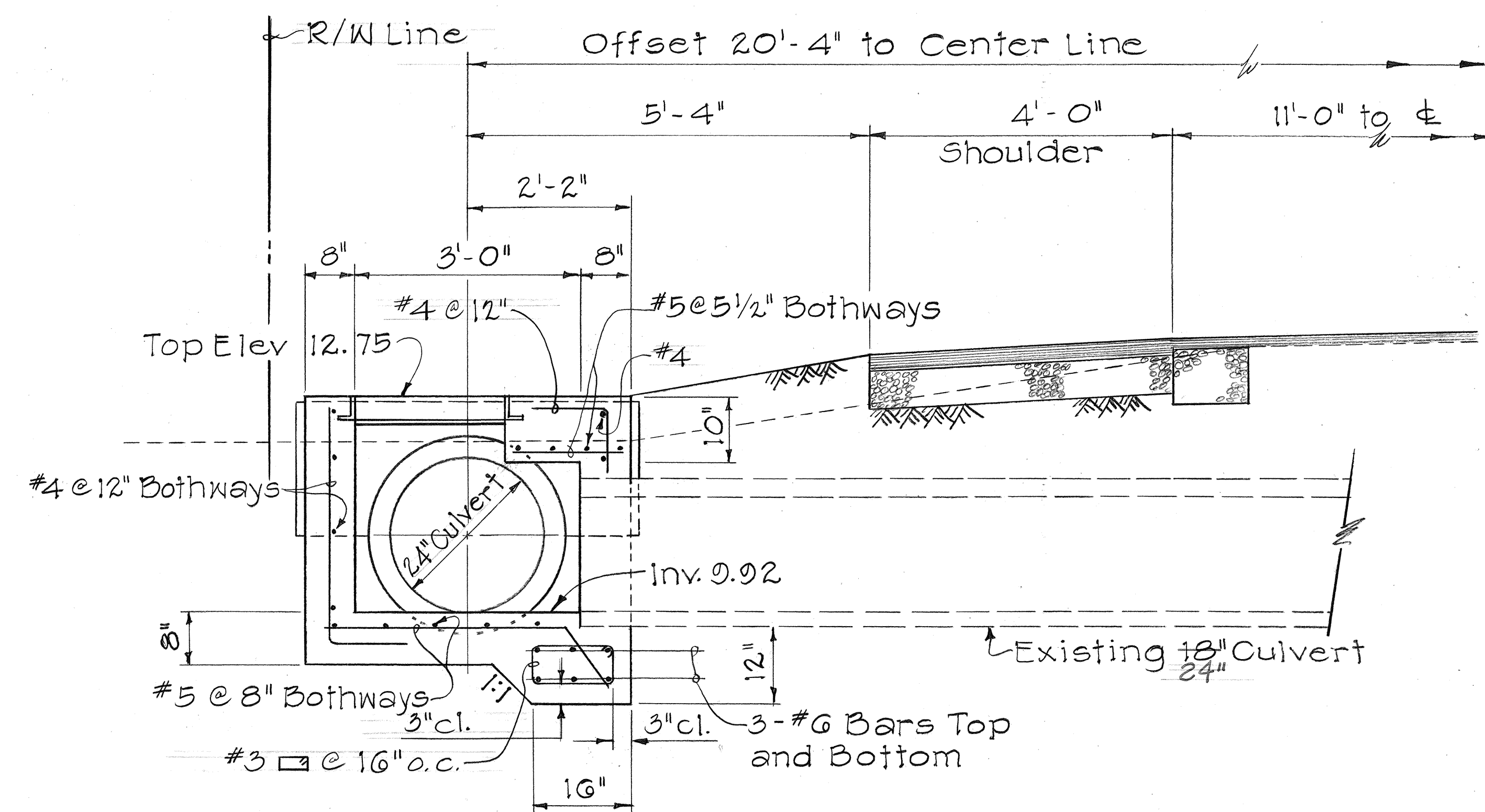


SECTION A



PLAN

TYPE A-12P GRATED DROP INLET @ STA. 76+51± o/s 20.3' LT.
Scale: 3/4" = 1' - 0"

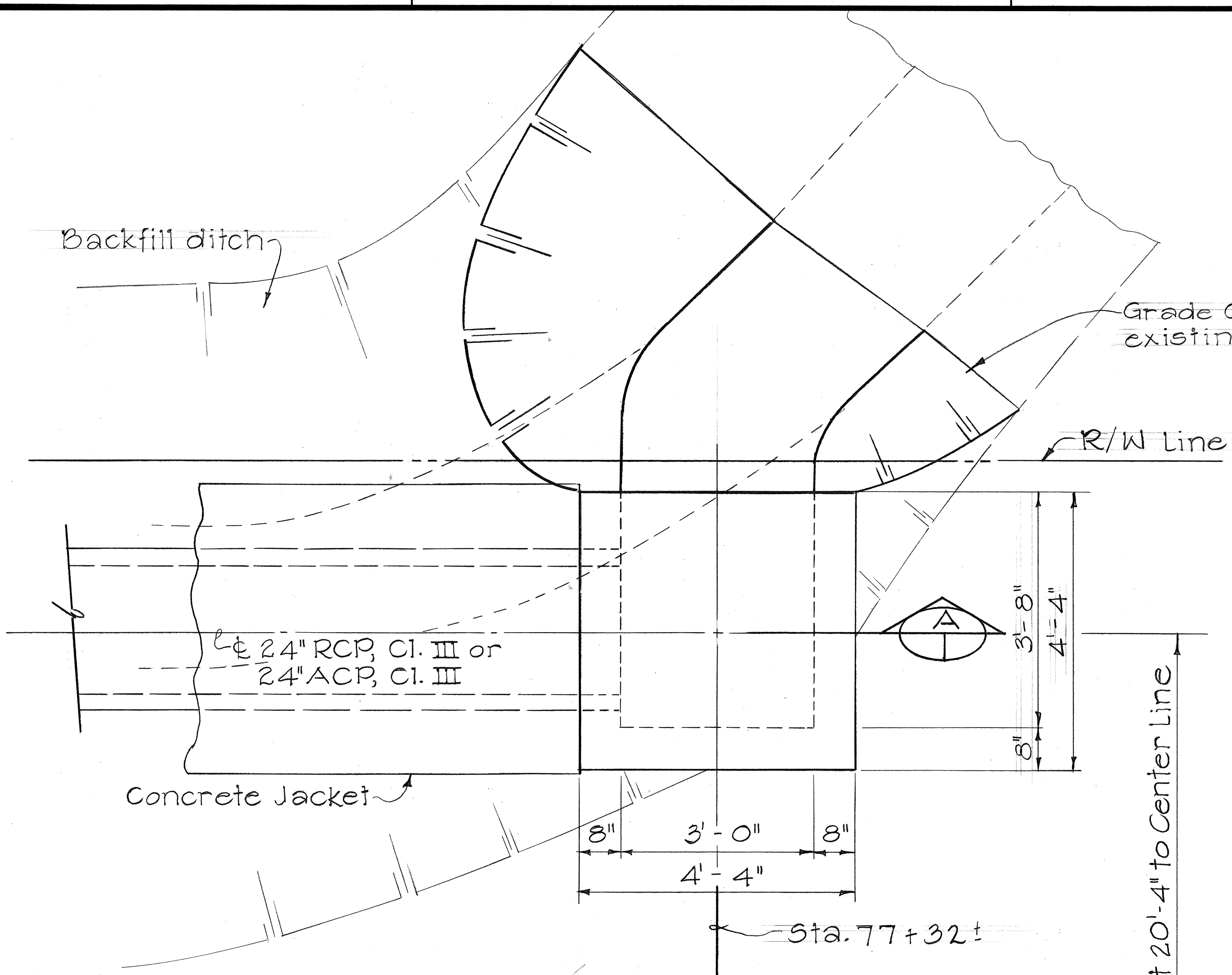


SECTION B

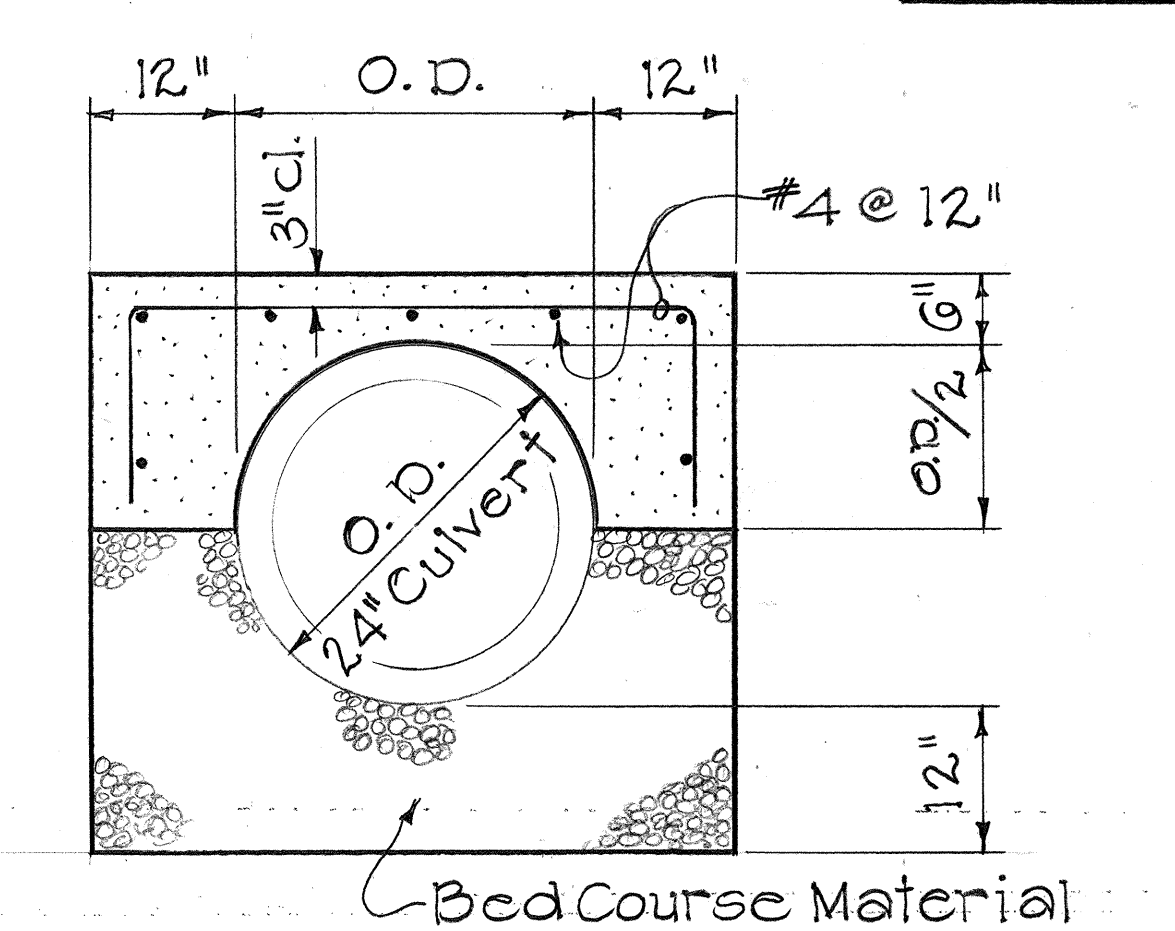
ORIGINAL PLAN	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

2-11-85	Drainage Details At Sta. 76+51 to Sta. 77+32
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
KAMEHAMEHA HIGHWAY RESURFACING
UNITS 1 & 2
F.A. PROJ. NOS. F-083-1(19) & F-083-1(20)
Scale: As Shown
SHEET NO. OF SHEETS
C.O.17S-1

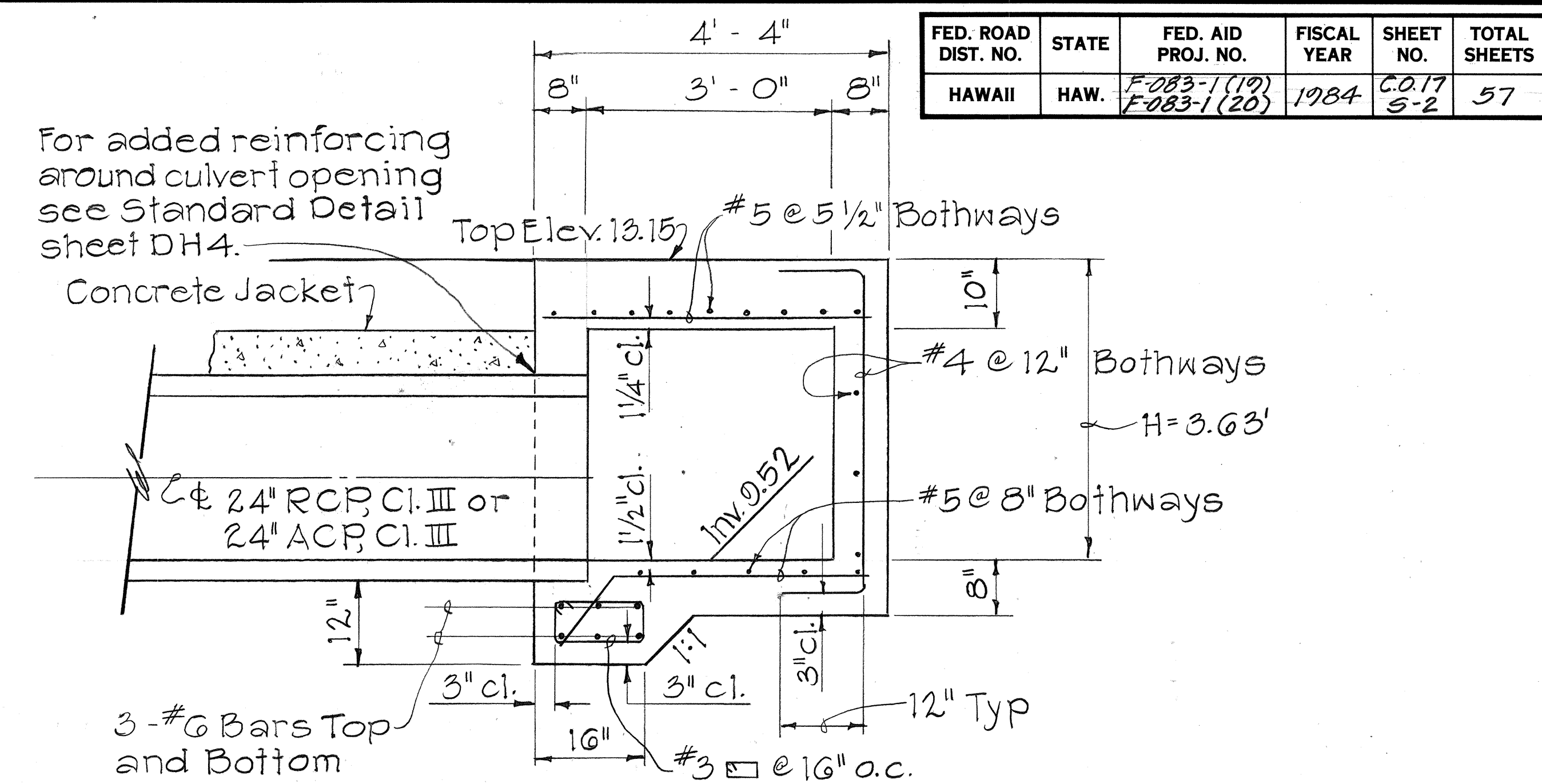


PLAN

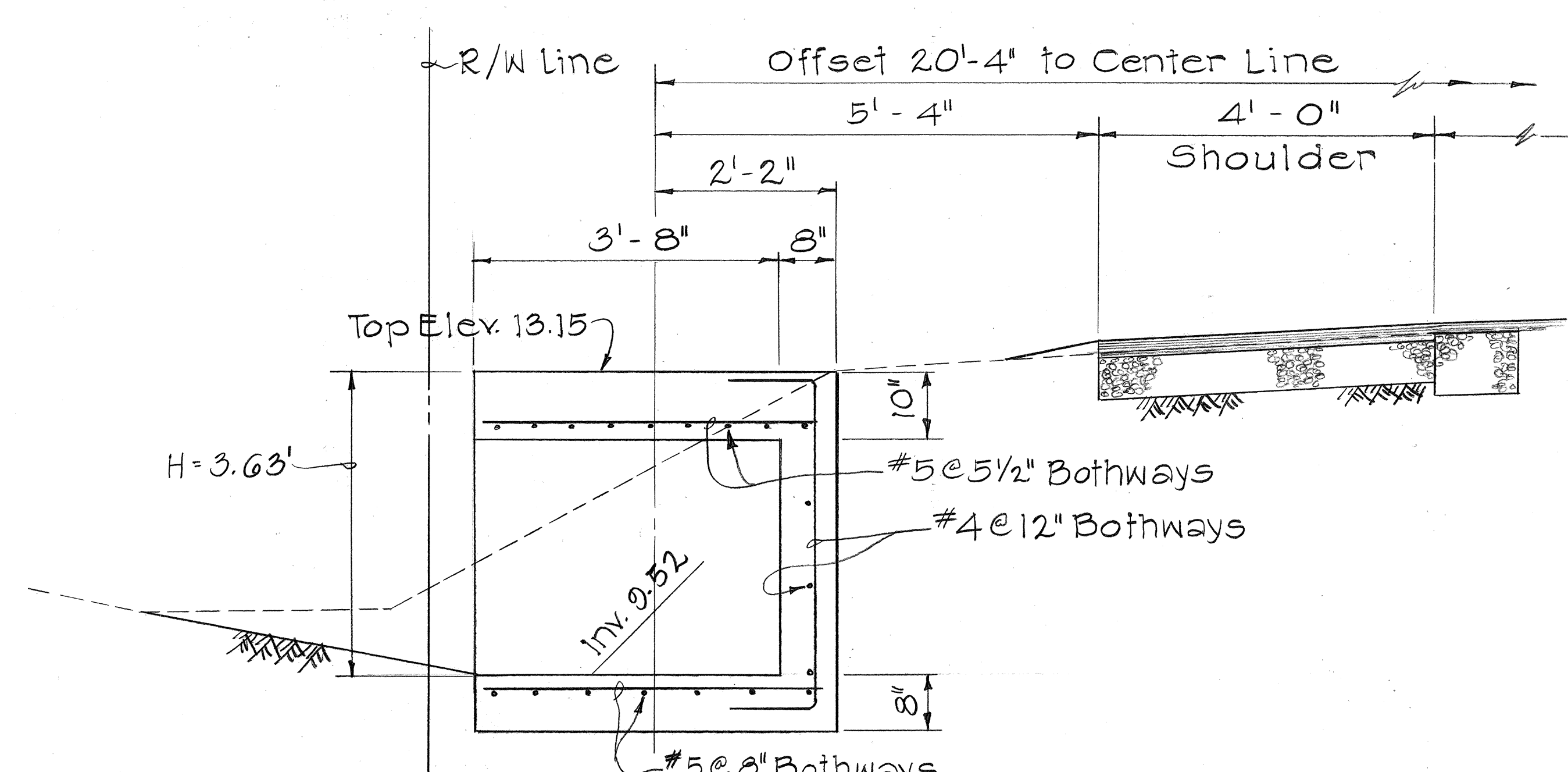


CONCRETE JACKET DETAIL

CONCRETE OUTLET @ STA. 77+32.1 o/s 20.3' LT.
Scale: 3/4" = 1'-0"



SECTION A



SECTION B

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-083-1(19) F-083-1(20)	1984	C.O.17 S-2	57

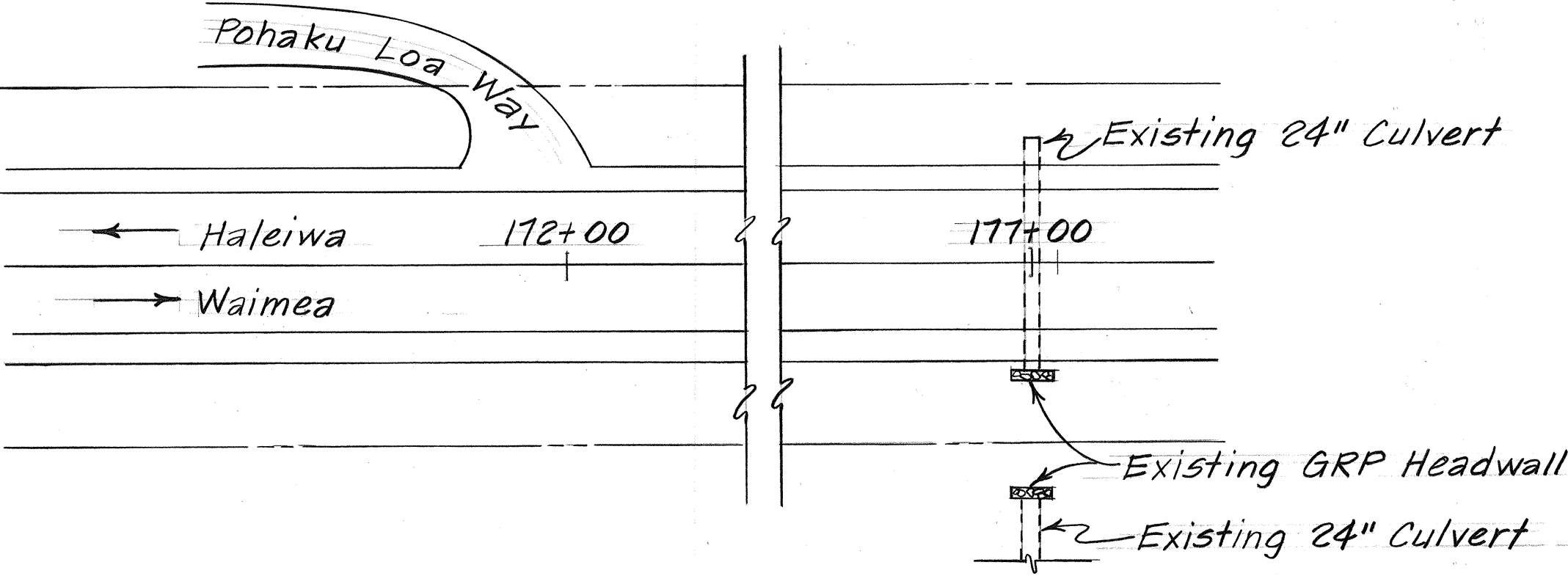
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE DETAILS KAMEHAMEHA HIGHWAY RESURFACING UNITS 1 & 2	
F.A. PROJ. NOS. F-083-1(19) & F-083-1(20)	
Scale: As Shown	
SHEET NO. OF SHEETS	

2/1/85	Drainage Details At Sta. 76+51 to Sta. 77+32
DATE	REVISION

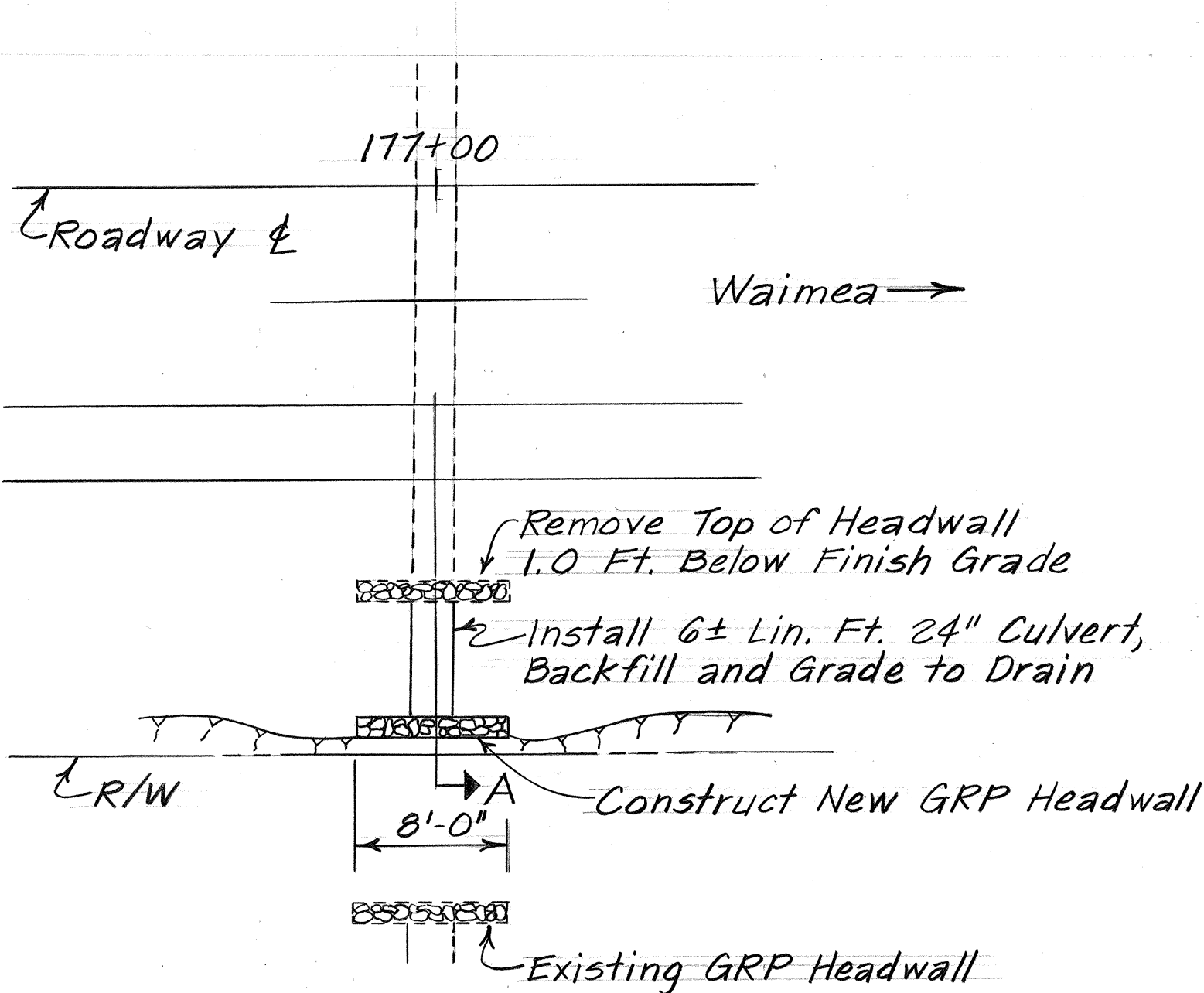
C.O.17S-2

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

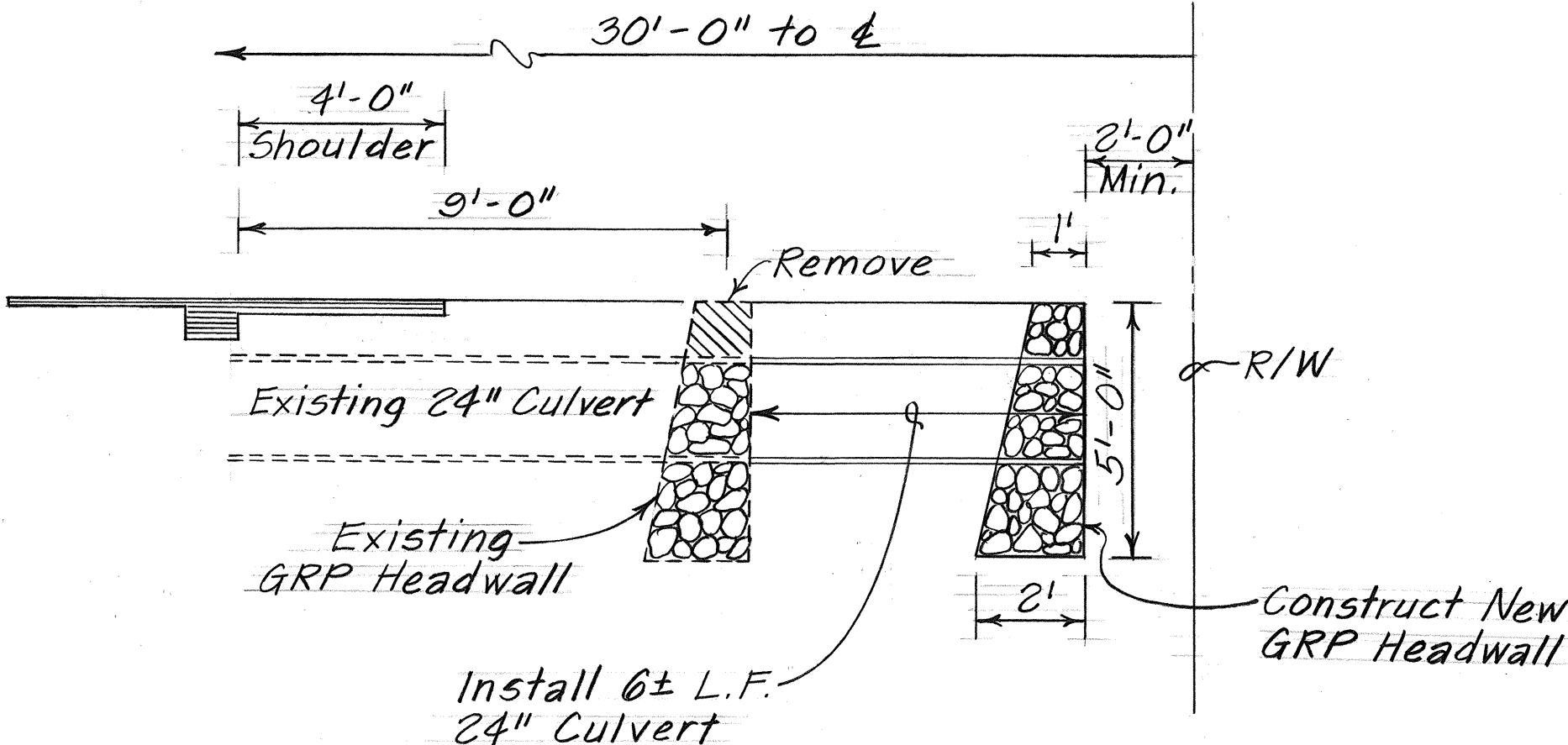
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-083-1(19) F-083-1(20)	1984	C.O.17 5-3	57



LOCATION PLAN
Scale: N.T.S.



PLAN
Scale: N.T.S.



SECTION A
Scale: N.T.S.

GRP HEADWALL AT STA. 177+00 ± 0/5 28' RT.

This tracing prepared during "As-Built" posting.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
KAMEHAMEHA HWY. RESURFACING
UNITS 1 & 2
F.A. PROJ. NOS. F-083-1(19) & F-083-1(20)
Scale: As Shown

10-16-85	Drainage Details at Sta. 177+00 Rt.
DATE	REVISION

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
NO.	

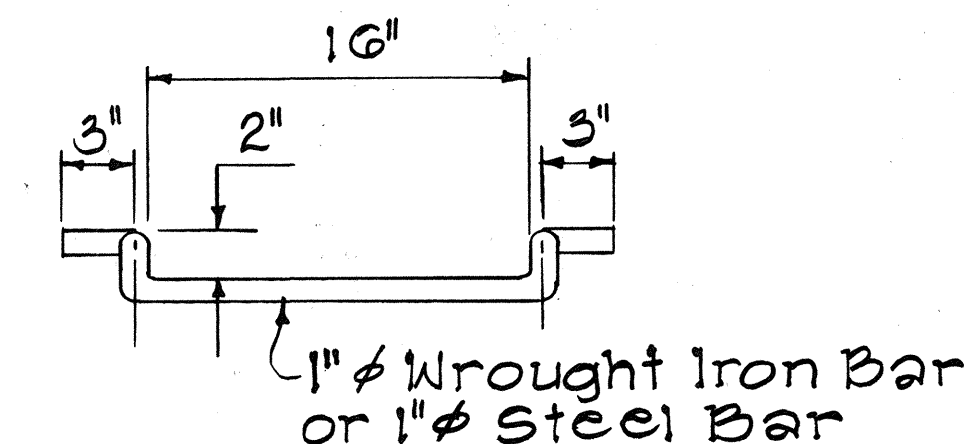
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-083-1(10) F-083-1(20)	1984	18	57

DRAINAGE NOTES:

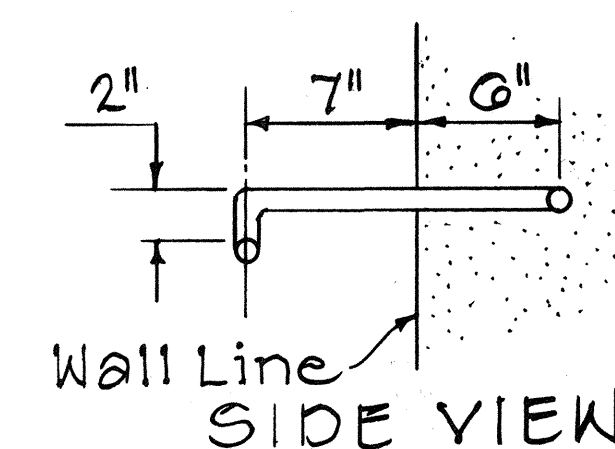
- Demolishing, removing and disposing a portion or the entire existing structure shall not be paid for seperately but shall be incidental to the various contract items in the proposal.
- In the event of plan alterations causing increase or decrease to the quantity of specified lump sum work, the following estimated quantities shall be used to determine theoretical unit price as defined in subsection 104.02 (B) lump sum items:

LUMP SUM ITEM NO.		206. 1001	503. 0011	602. 1001
STRUCTURE	STATION	Structure Exca- vation other than at Bridges	Class A Conc.	Reinforcing steel
UNIT USED		C.Y.	C.Y.	Lbs
Type A-12P G.D.I.	202+68+Lt.	4	1.2	108
Type A-12P G.D.I.	66+50+Rt.	348	4.3	570
Type A-12P G.D.I.	69+30.5+Rt.	485	4.5	715
TOTAL		837	10.0	1393

- Existing streets or driveways affected by construction shall be restored to equal or better quality than materials being replaced. This work shall not be measured for payment and shall be incidental to the various contract items in the proposal.



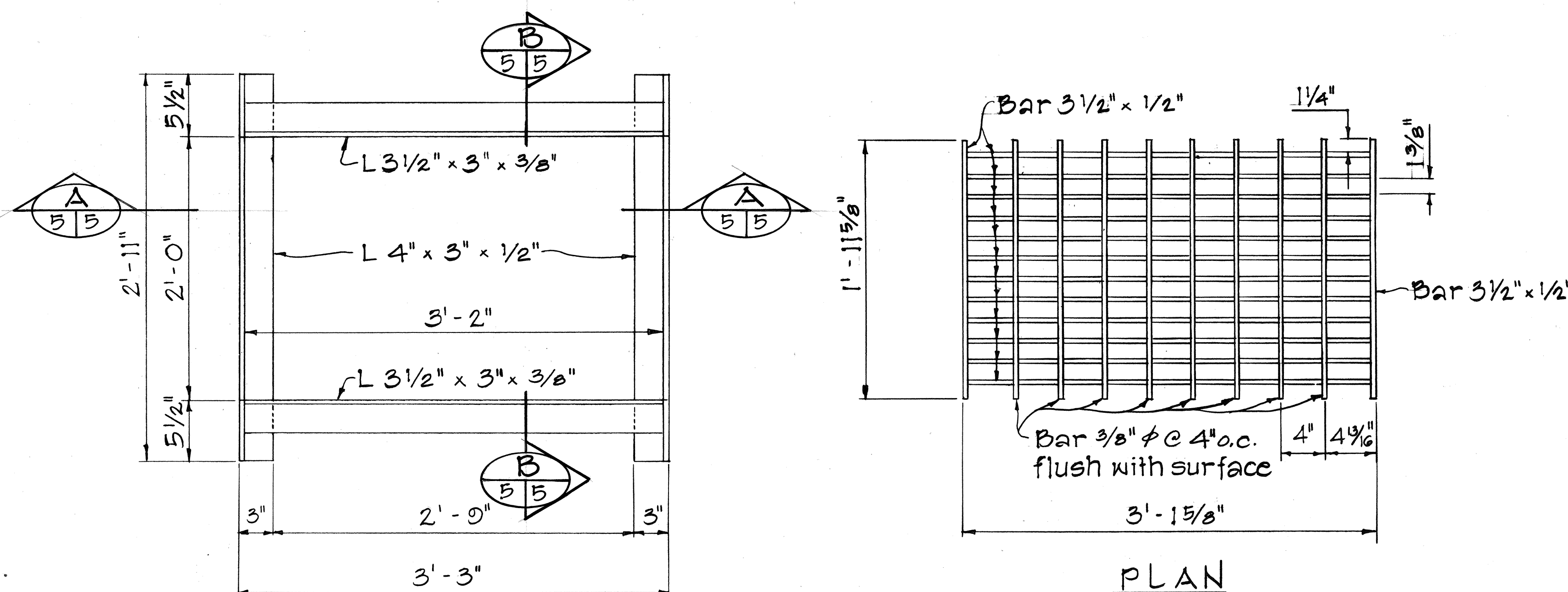
FRONT VIEW



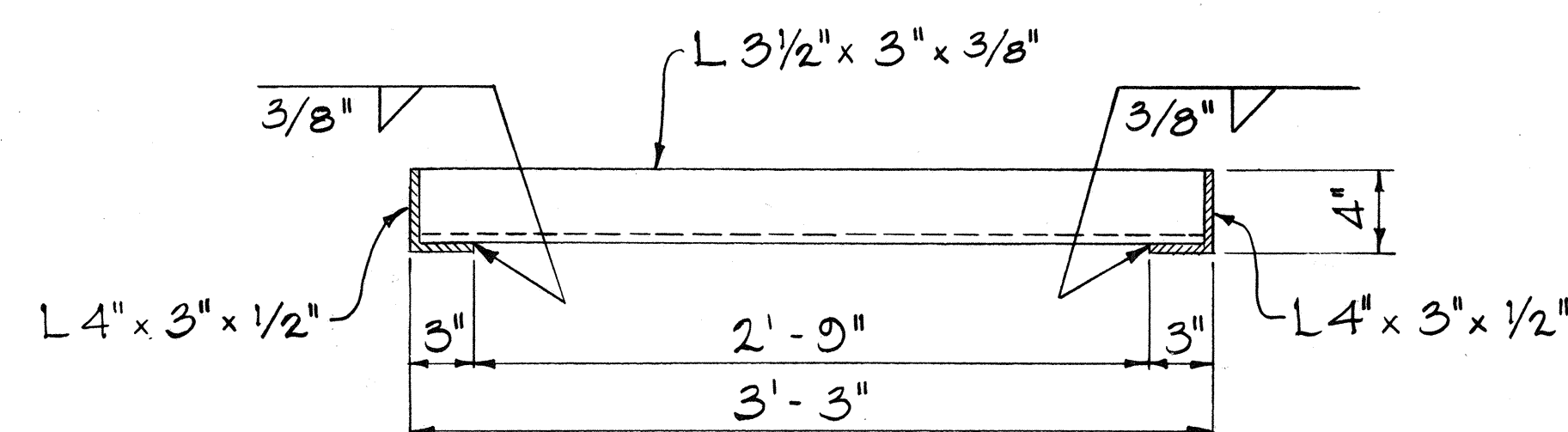
Wall Line
SIDE VIEW

MANHOLE RUNG

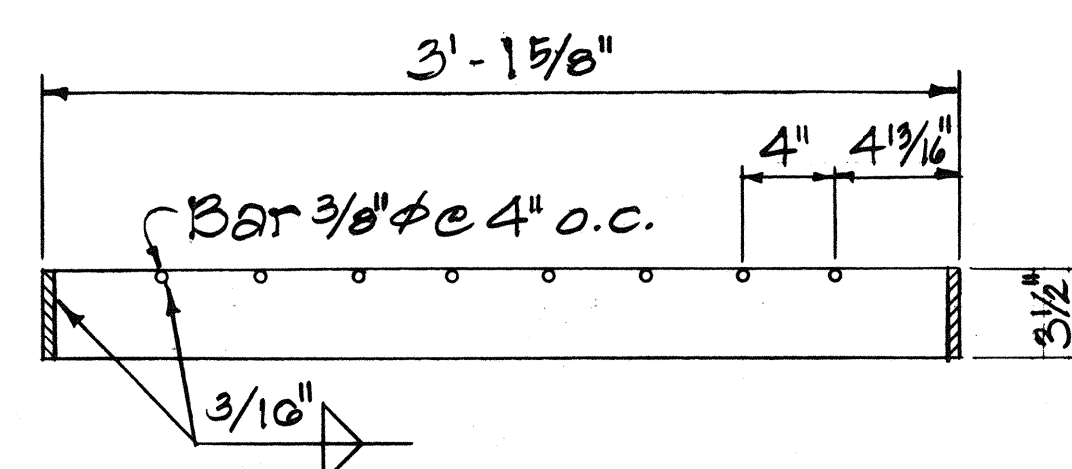
Scale: 1 1/2" = 1'-0"



PLAN

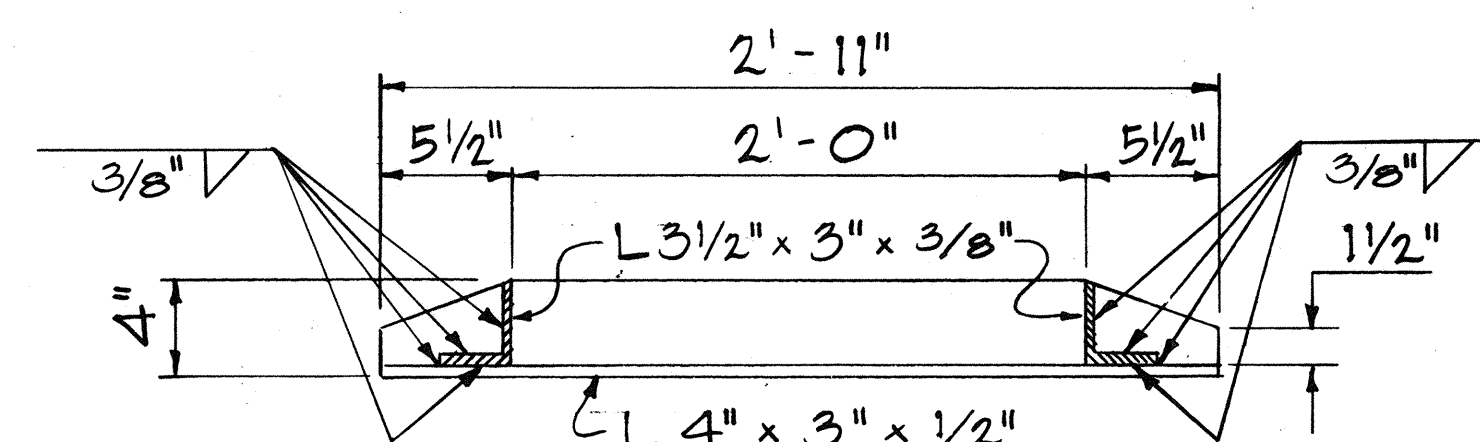


SECTION A
5 5



SECTION B

DETAILS OF GRATE



SECTION A
5 5

DETAILS OF FRAME

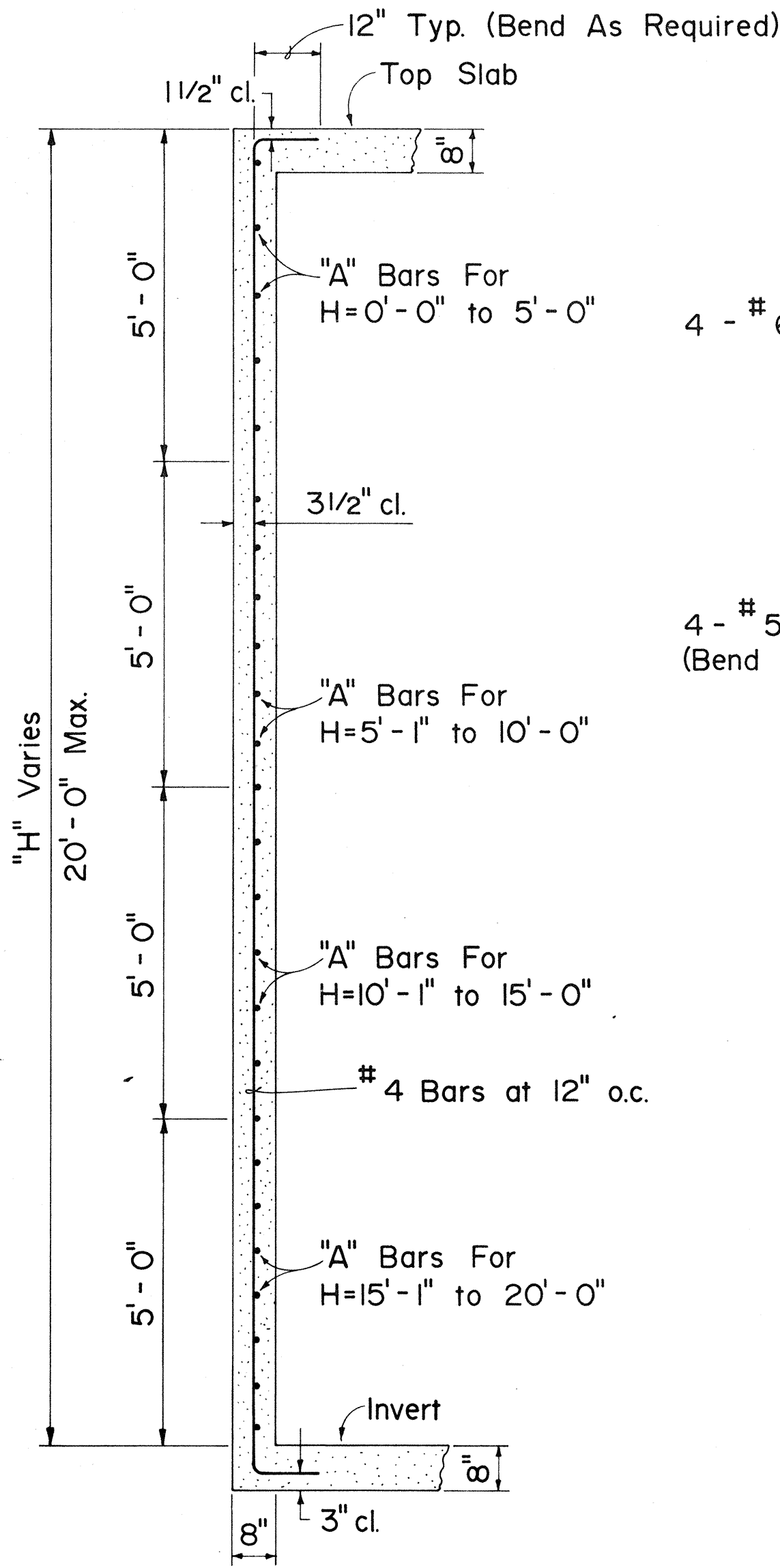
DETAIL OF TYPE A-12P STEEL FRAME AND GRATE

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

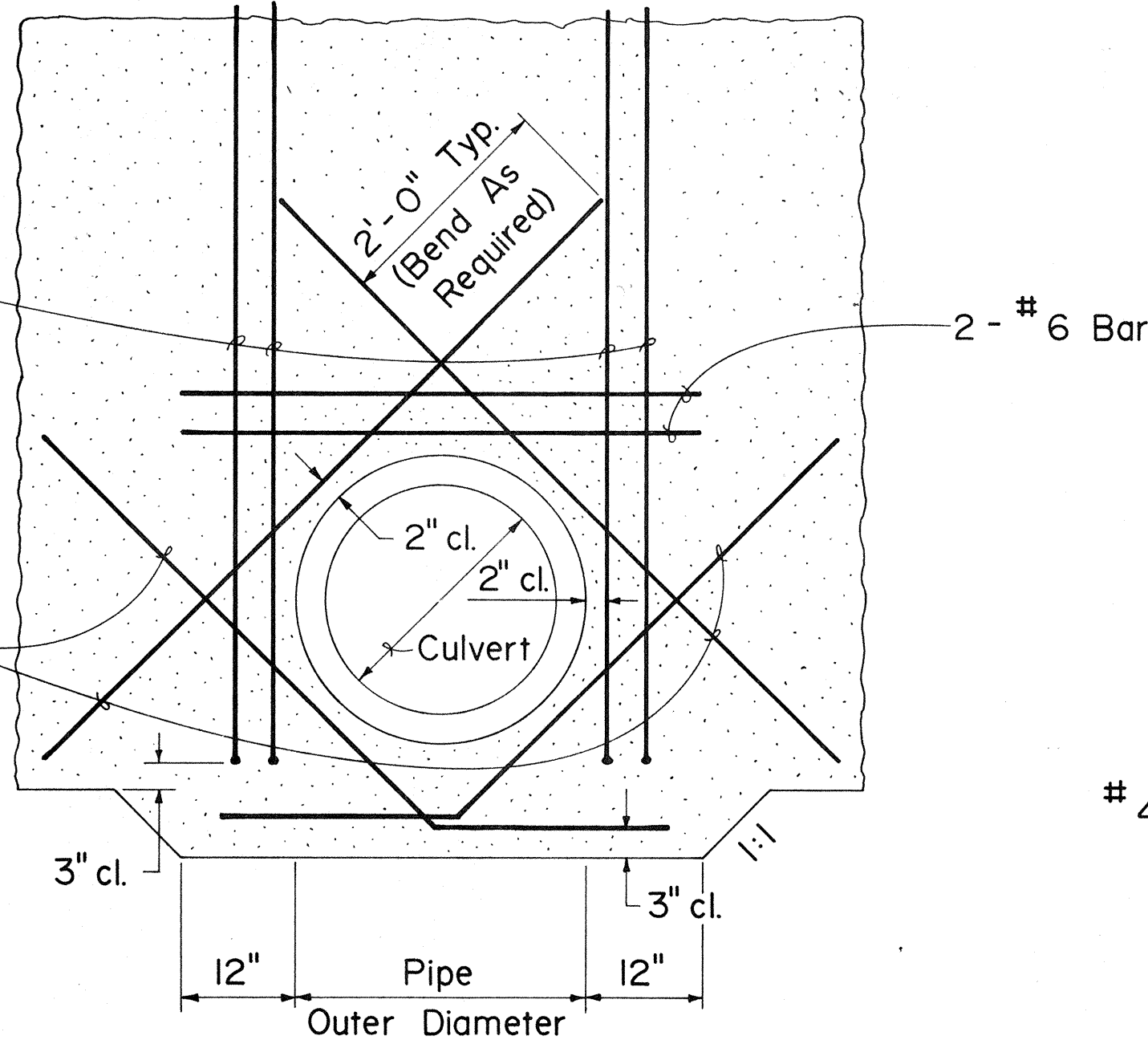
DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
DRAINAGE DETAILS
KAMEHAMEHA HIGHWAY RESURFACING
UNITS 1 & 2
F.A. PROJ. NOS. F-083-1(10) &
F-083-1(20)
Scale: As Noted Date: Mar. 1984
SHEET NO. 5 OF 6 SHEETS

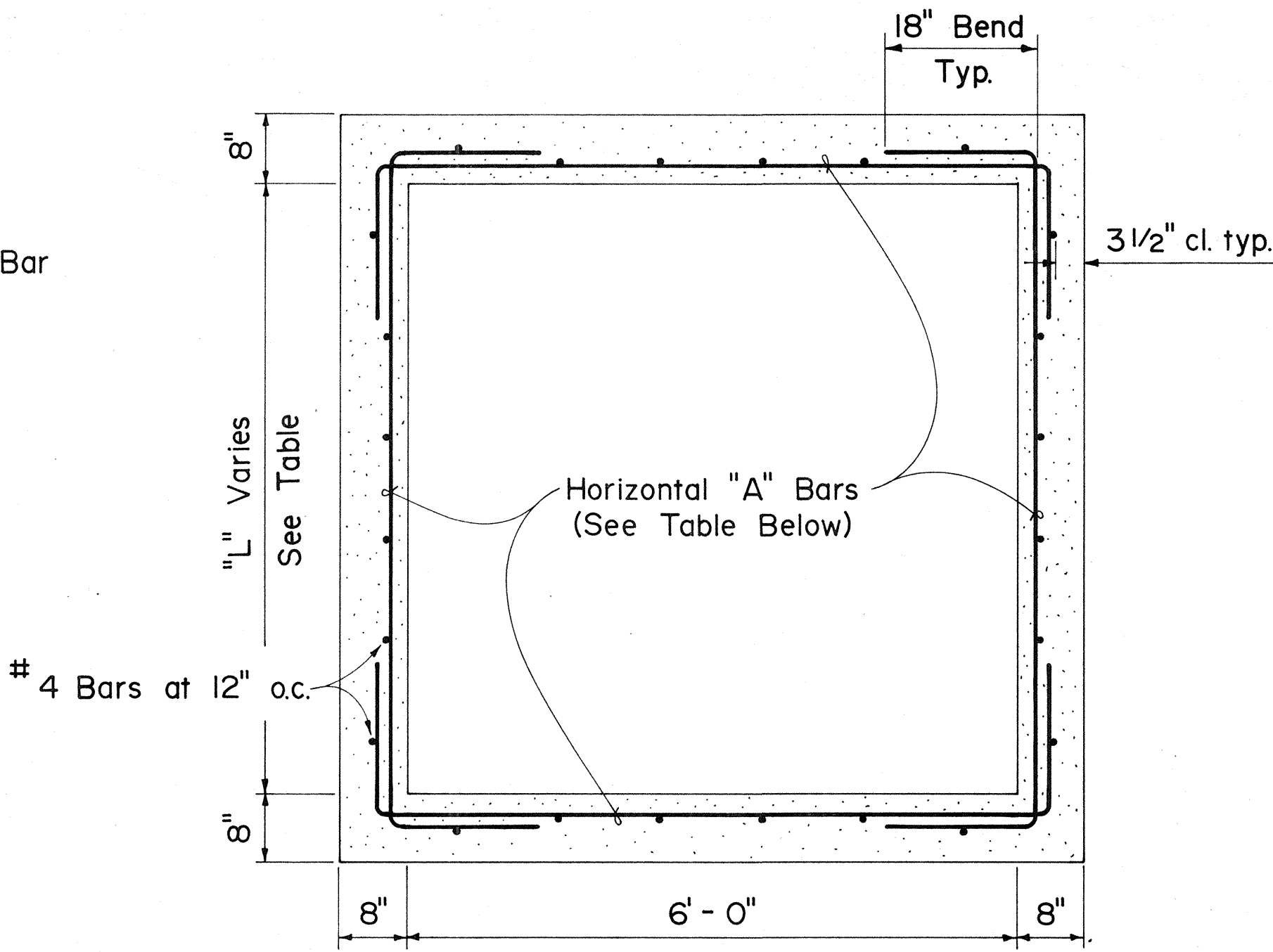
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	2-023-1(10) 7-023-1(20)	1984	19	57



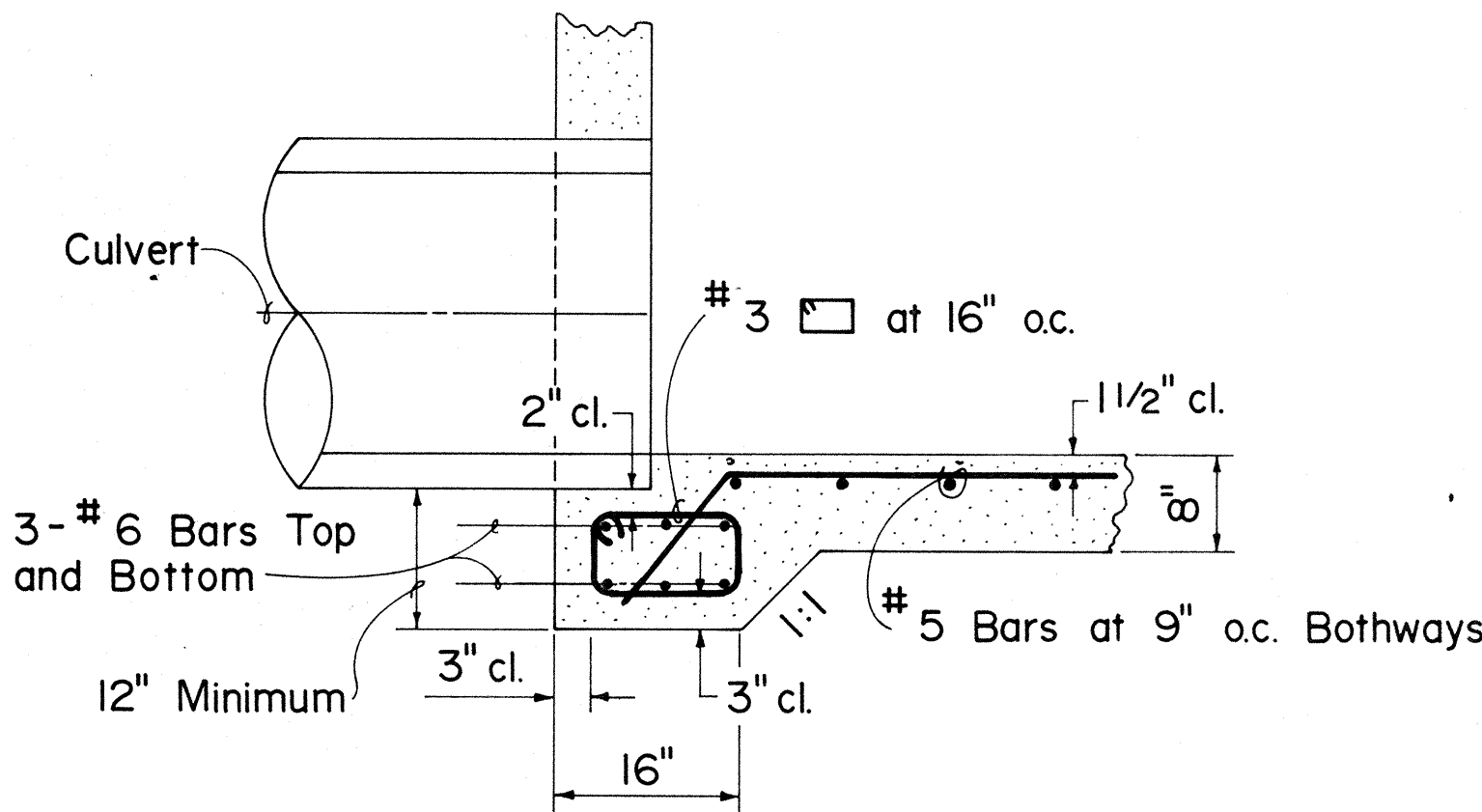
ELEVATION VIEW OF WALL SECTION



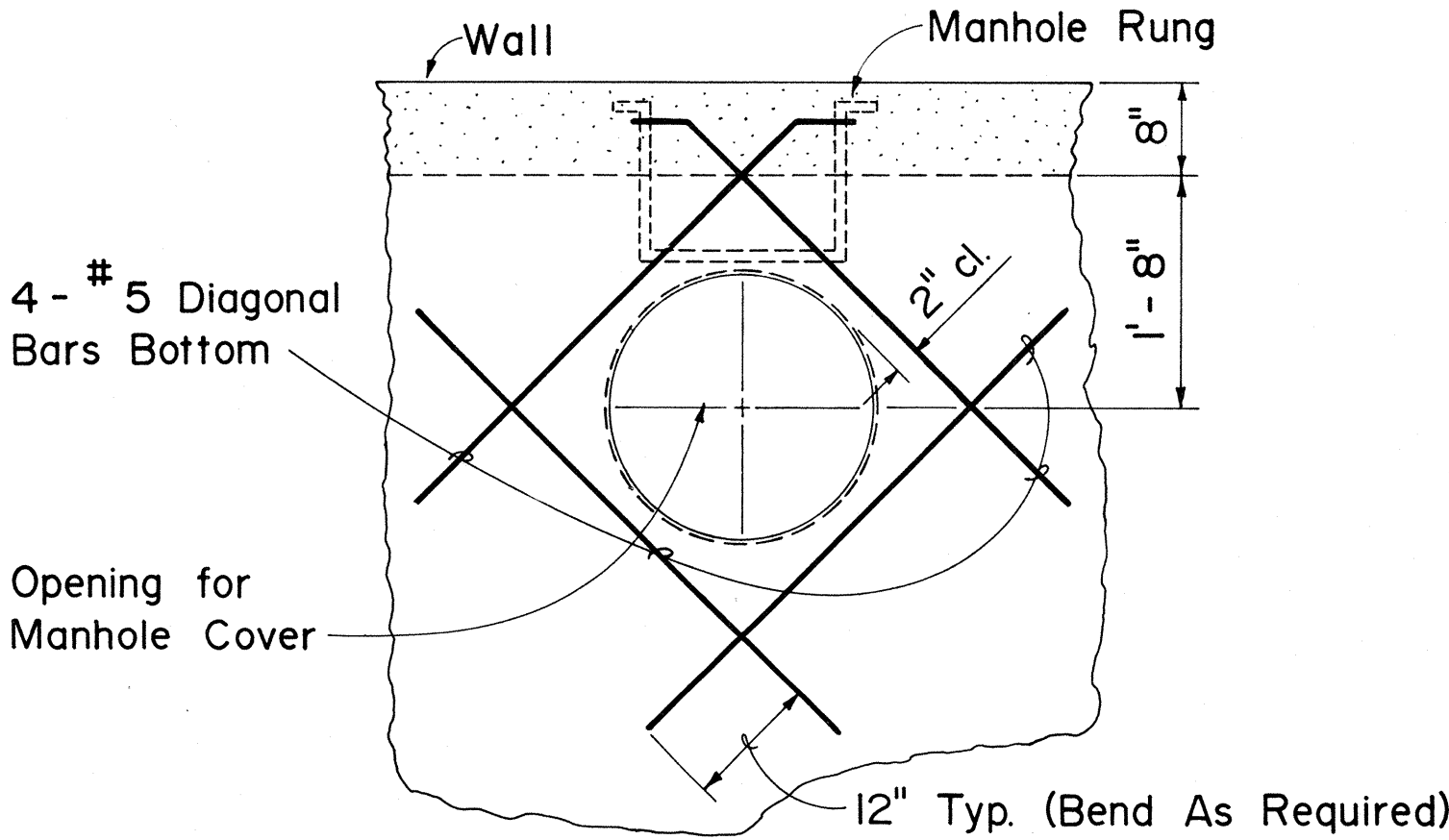
ADDED REINFORCING FOR CULVERT OPENINGS



PLAN VIEW OF WALL SECTION



DETAIL OF CULVERT SEAT



ADDED REINFORCING FOR MANHOLE OPENING

HORIZONTAL "A" BARS					
"H" MAX. (FT.)	"L" MAX. (FT.)				
	4'-0"	6'-0"	7'-4"	8'-4"	9'-4"
0'-0" to 5'-0"	#4 at 12" o.c.	#4 at 10" o.c.	#5 at 10" o.c.	#5 at 8" o.c.	#5 at 7" o.c.
5'-1" to 10'-0"	#4 at 9" o.c.	#5 at 9" o.c.	#5 at 6" o.c.	N.A.	N.A.
10'-1" to 15'-0"	#5 at 10" o.c.	#5 at 6" o.c.	N.A.	N.A.	N.A.
15'-1" to 20'-0"	#5 at 8" o.c.	N.A.	N.A.	N.A.	N.A.

APPROVAL RECOMMENDED: 12/3/80
 HYDRAULIC DESIGN ENGINEER DATE
 APPROVED: 12/4/80
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1.	Replaces Sht. DH 4 approved 12-17-69	H.T.	12/4/80

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
 TYPICAL REINFORCING DETAILS
 FOR CATCH BASINS
 Not To Scale Date: Dec. 1980