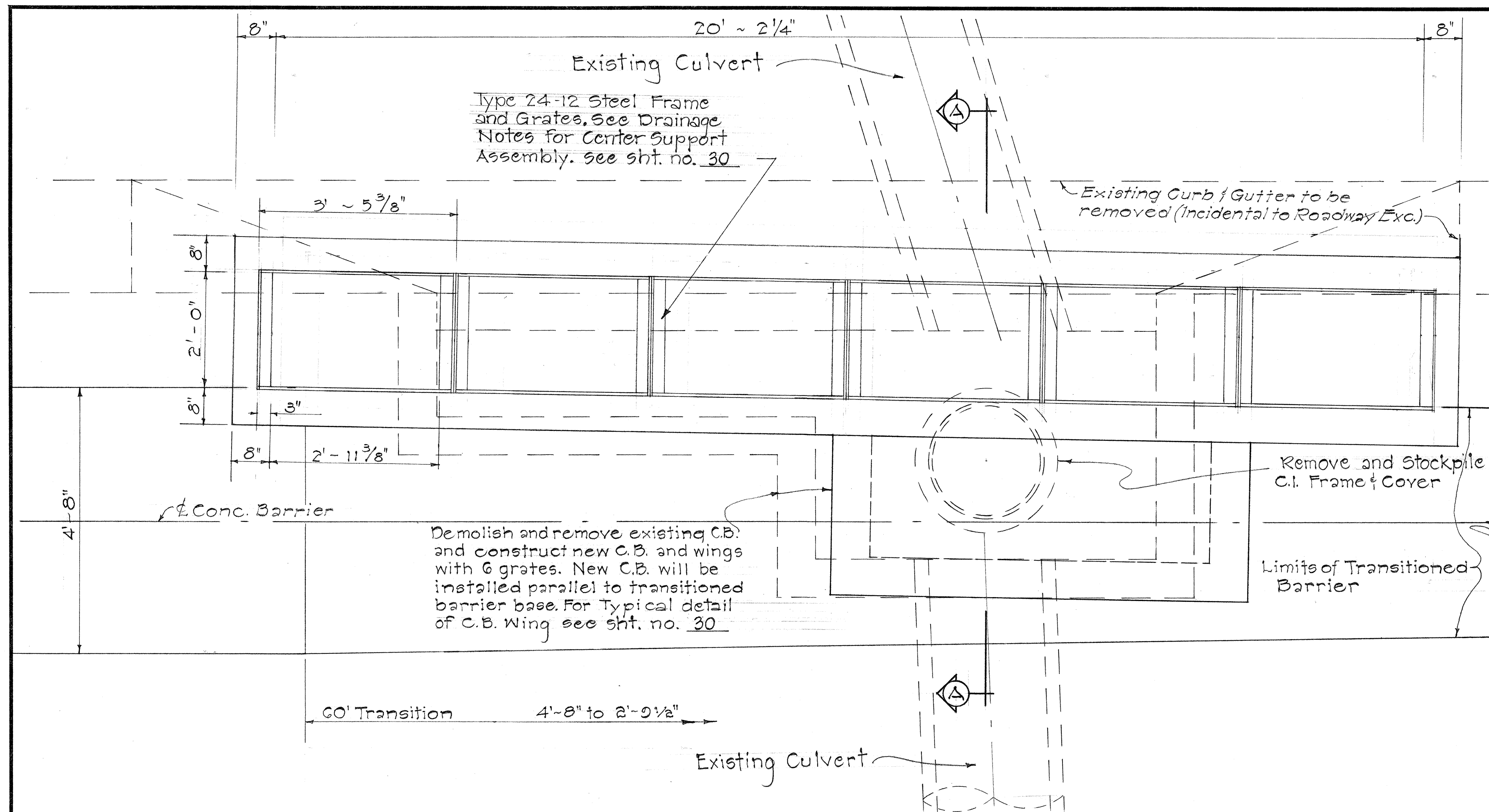


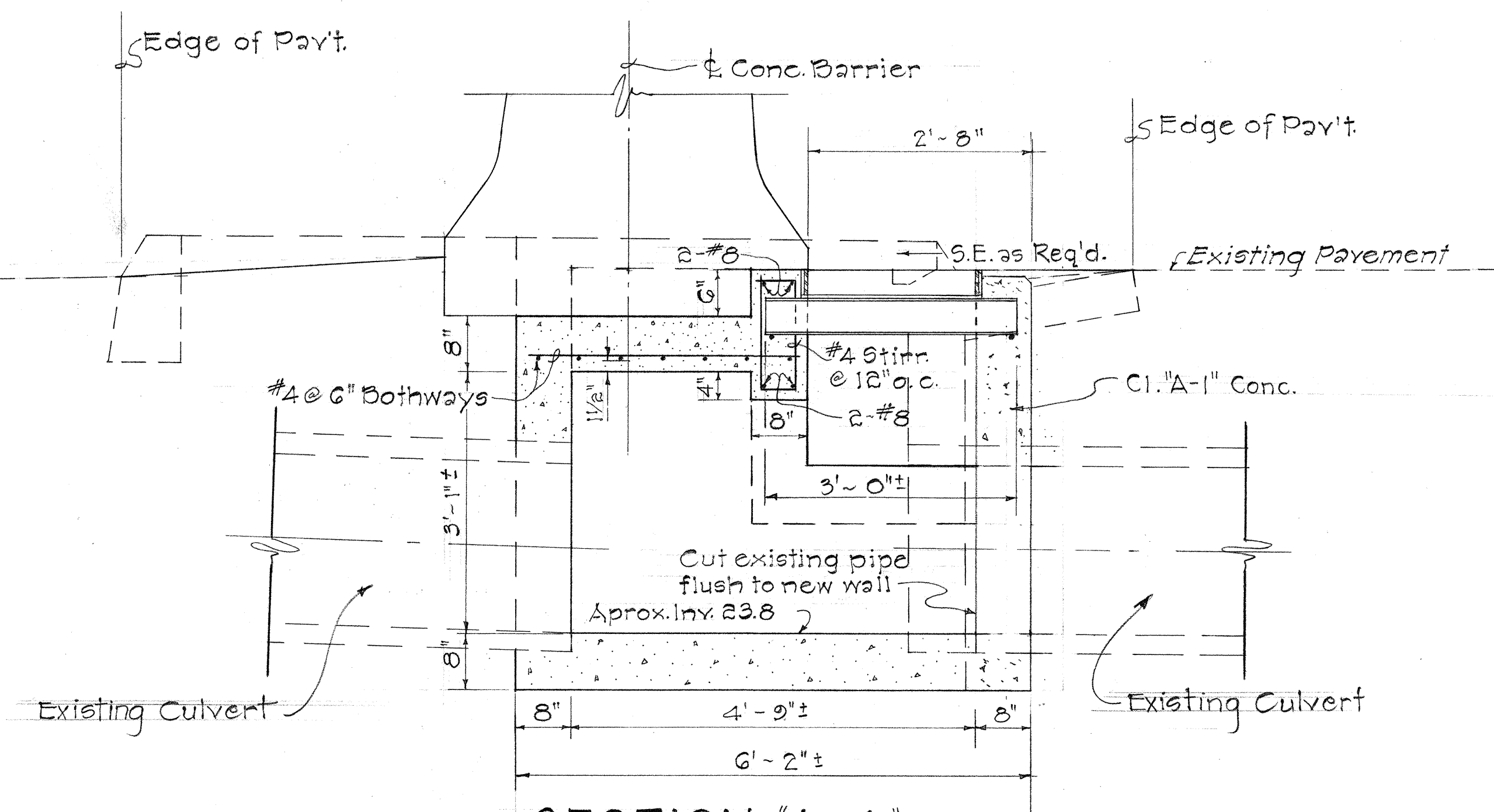
26

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(53):23	1969	27	30

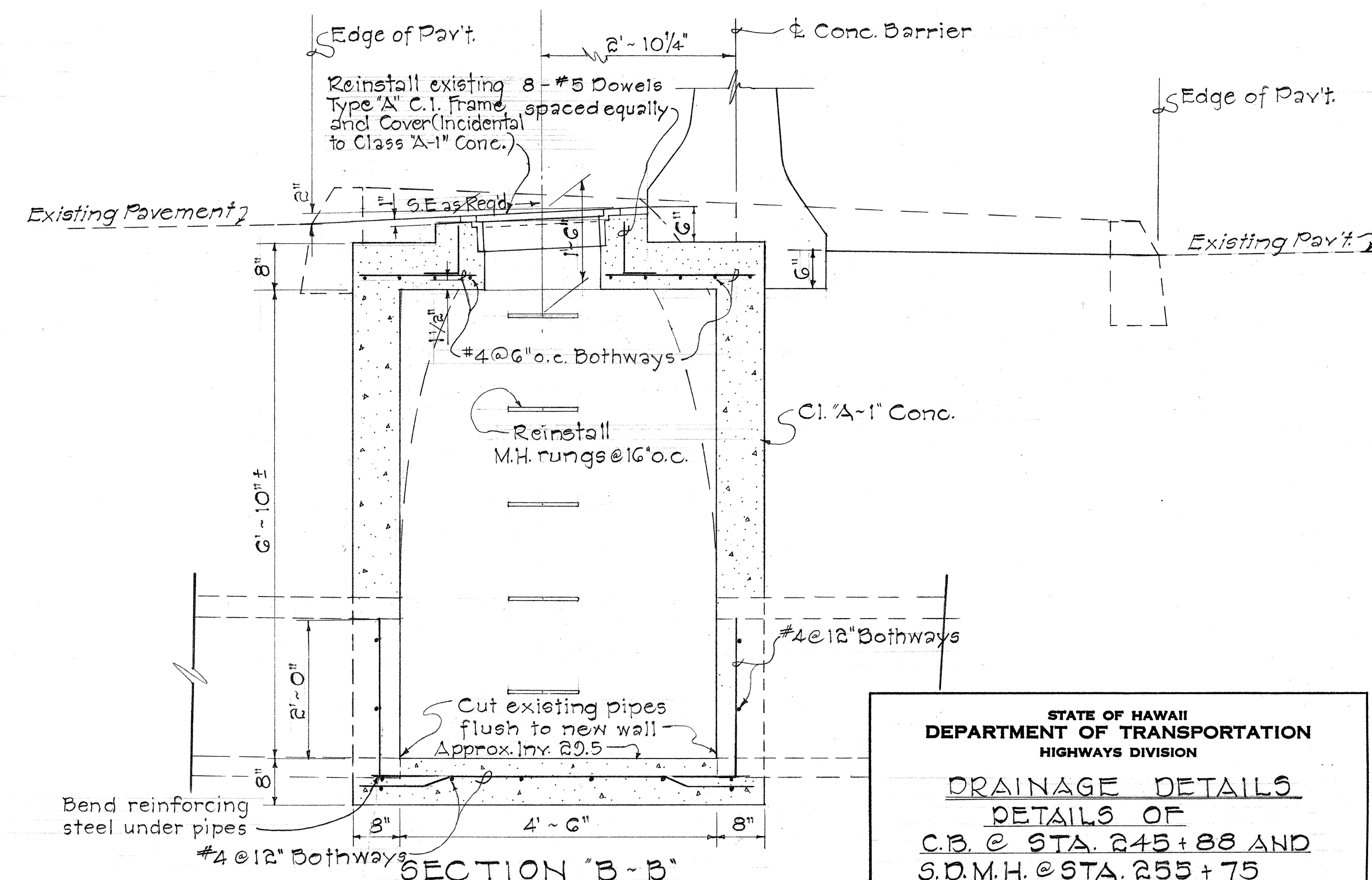


PLAN



SECTION "A-A"

DETAIL OF CATCH BASIN AT STA. 245+88



DETAIL OF S.D.M.H. AT STA. 255+75

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
DETAILS OF
C.B. @ STA. 245+88 AND
S.D.M.H. @ STA. 255+75
INTERSTATE ROUTE H-1
E.A.I. Proj. No. I-HI-1(53):23

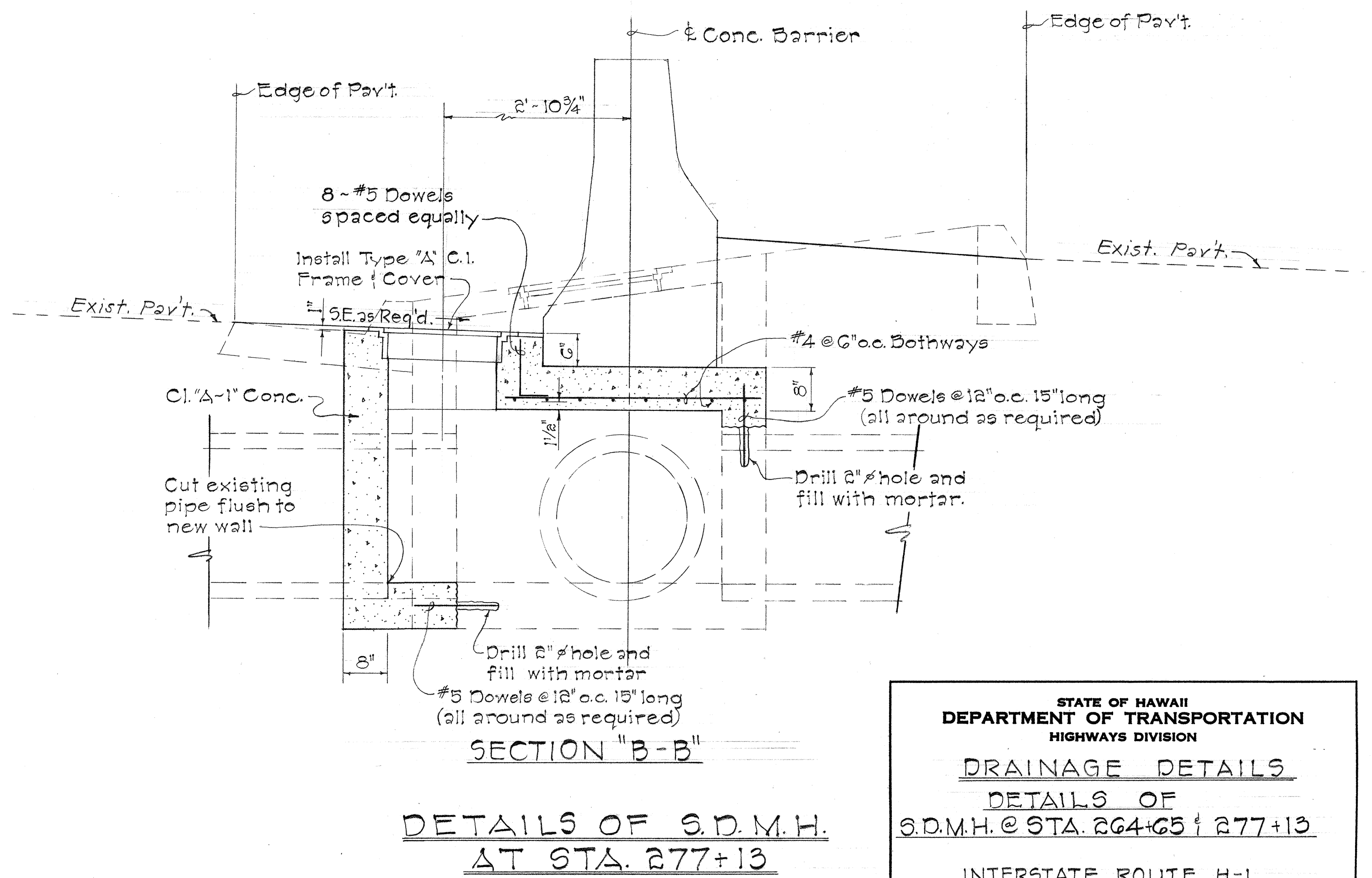
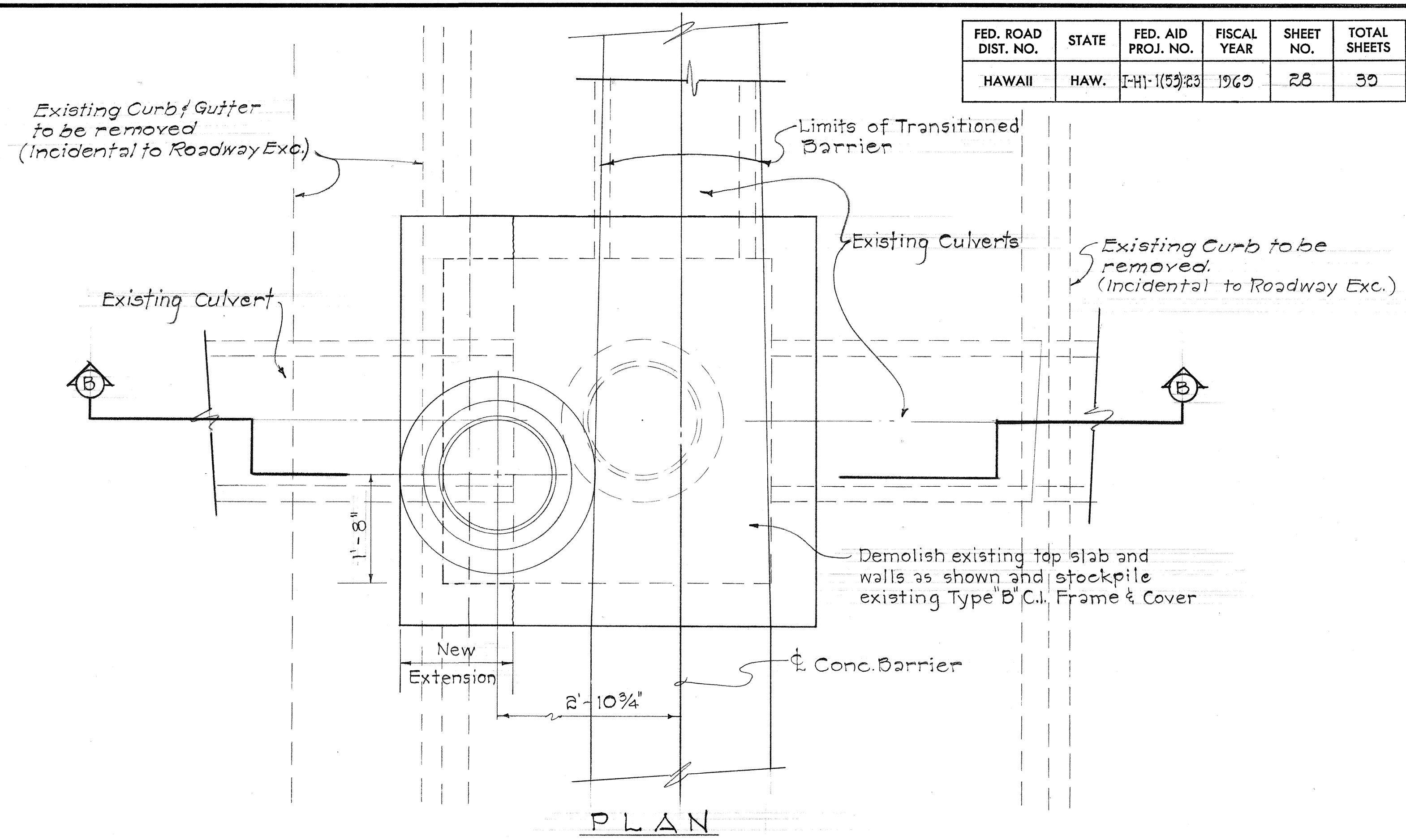
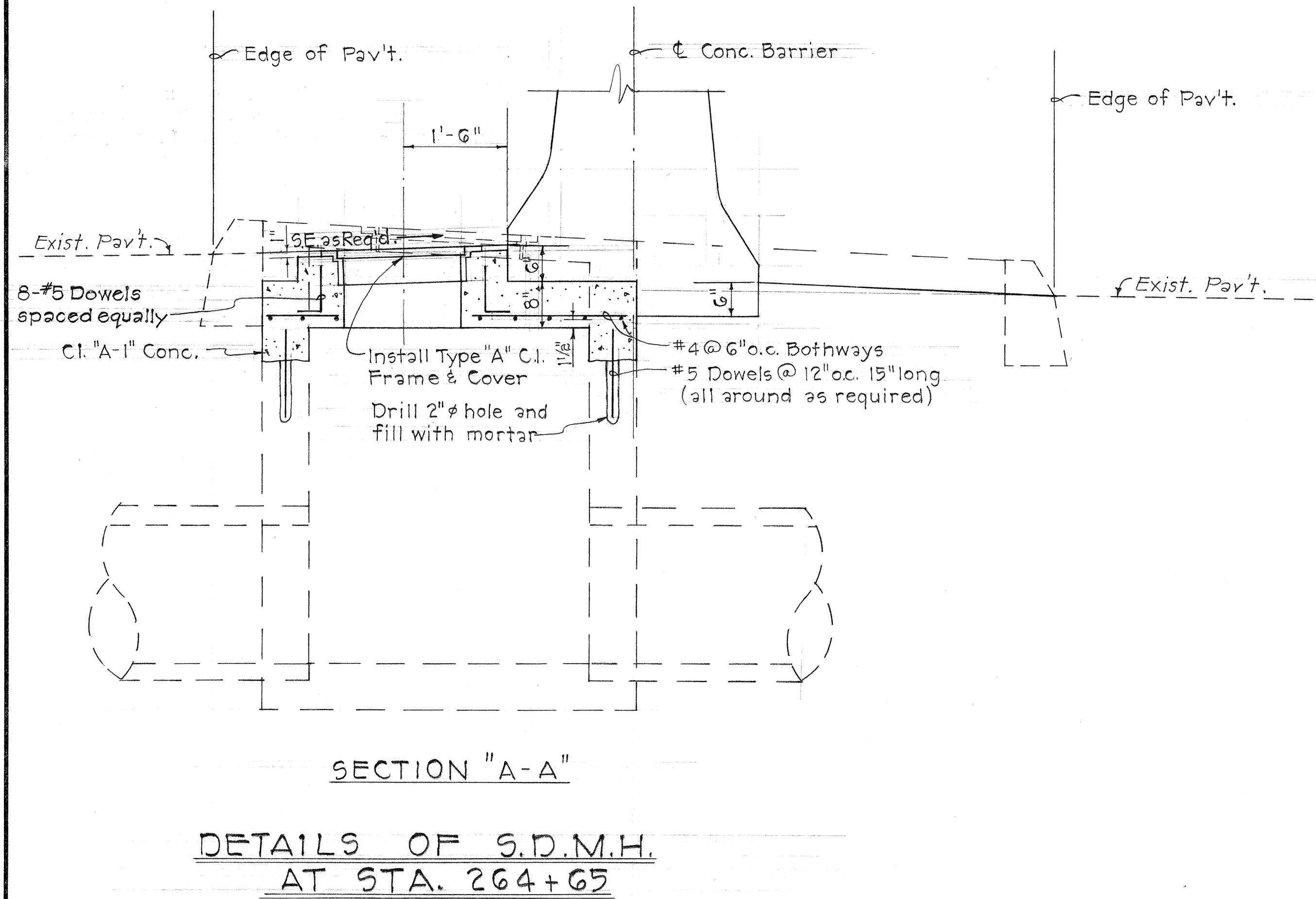
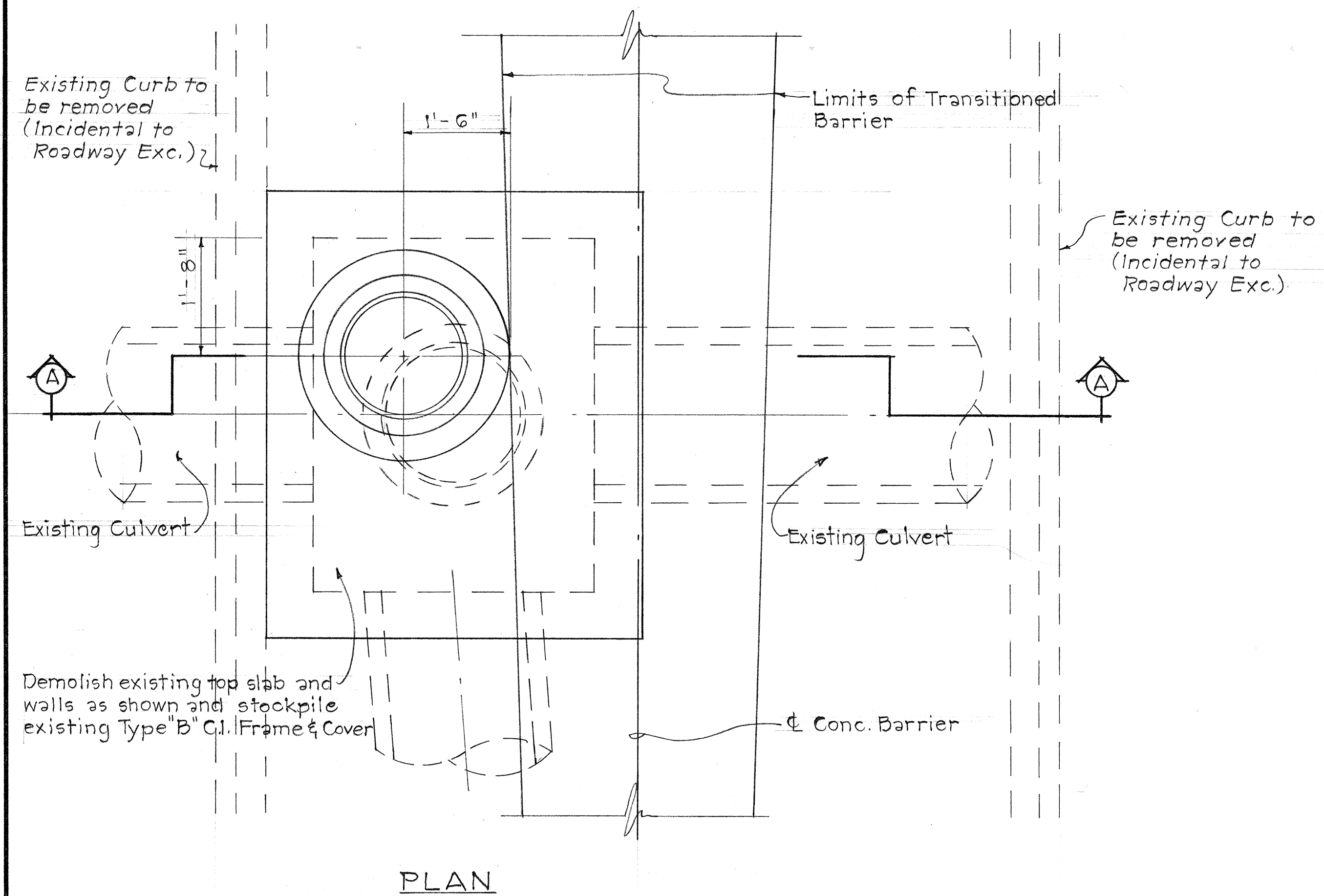
Scale: 3/4" = 1'-0" Oct. 1968

SHEET No. 2 OF 6 SHEETS

27

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(53):23	1969	28	30



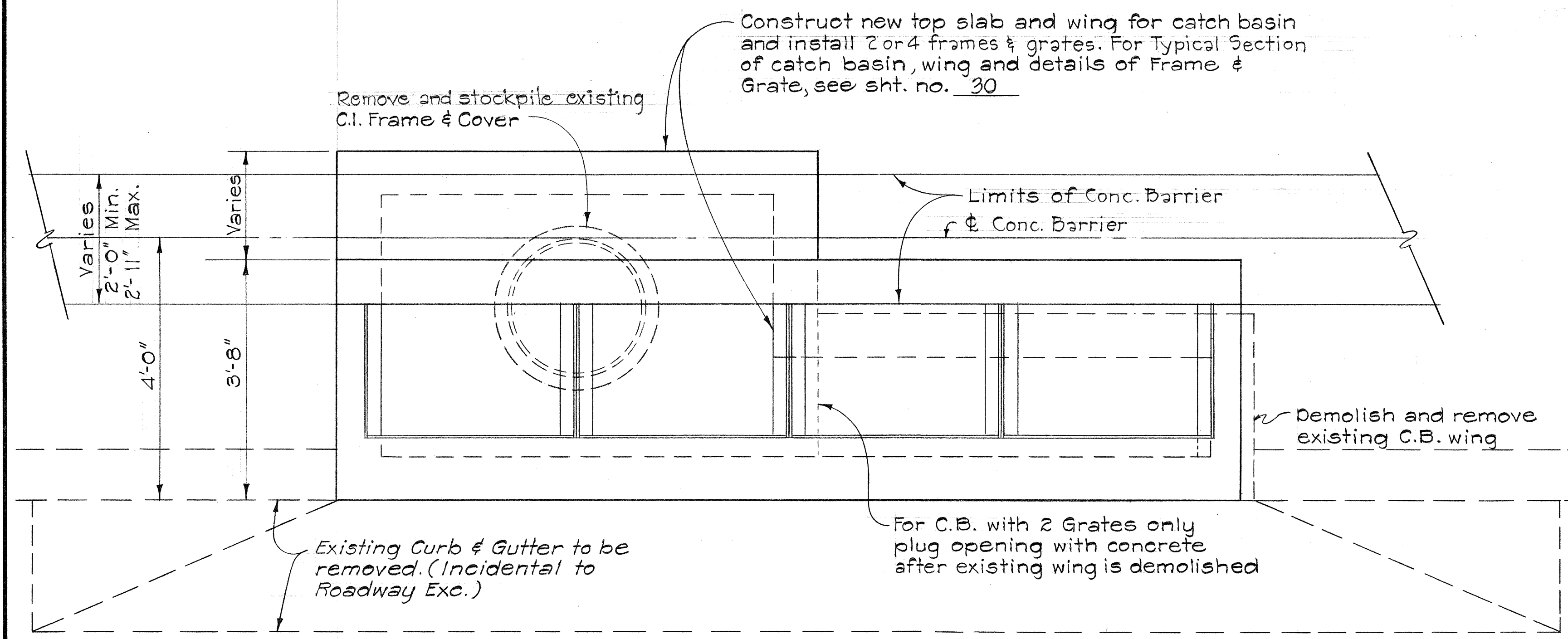
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
DETAILS OF
S.D.M.H. @ STA. 264+65 & 277+13
INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-H-1(53):23
Scale: 3/4" = 1'-0" Oct. 1968

SHEET No. 3 OF 6 SHEETS

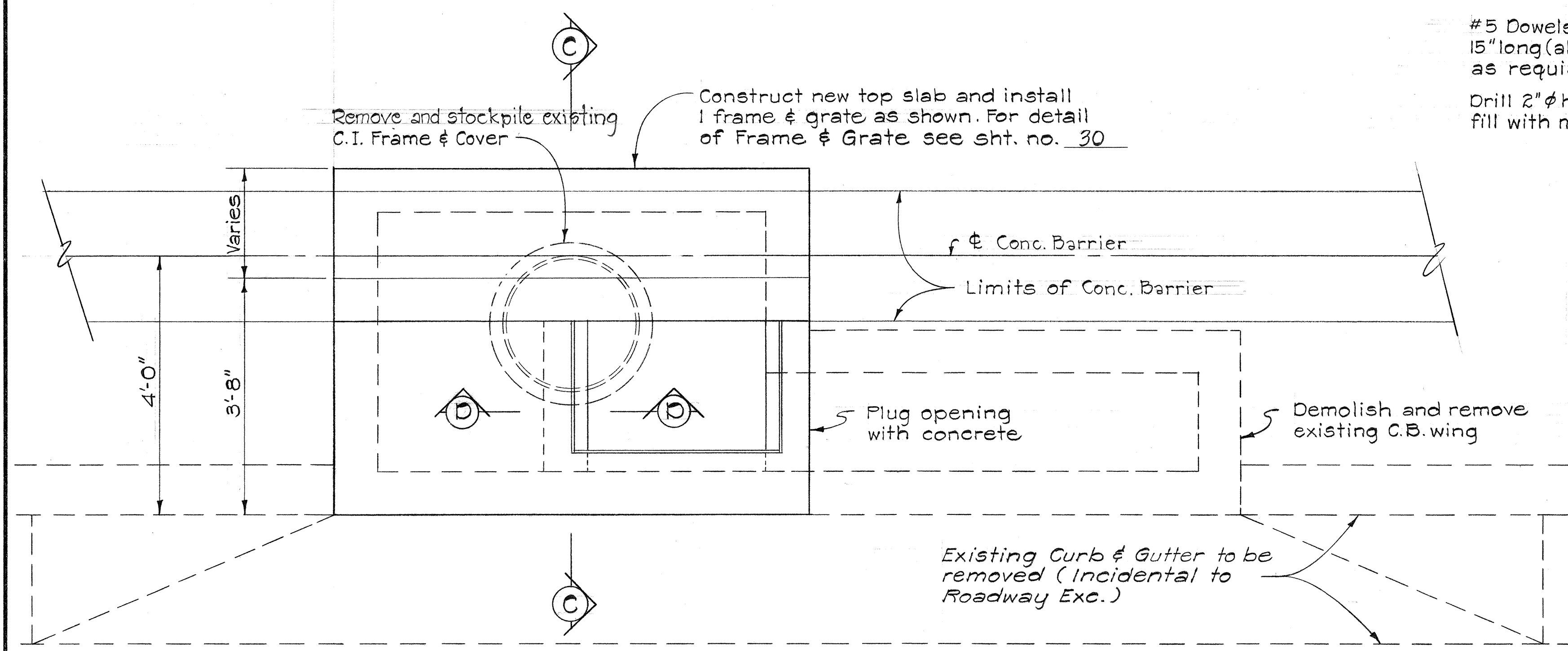
DATE	
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(53):23	1968	29	30



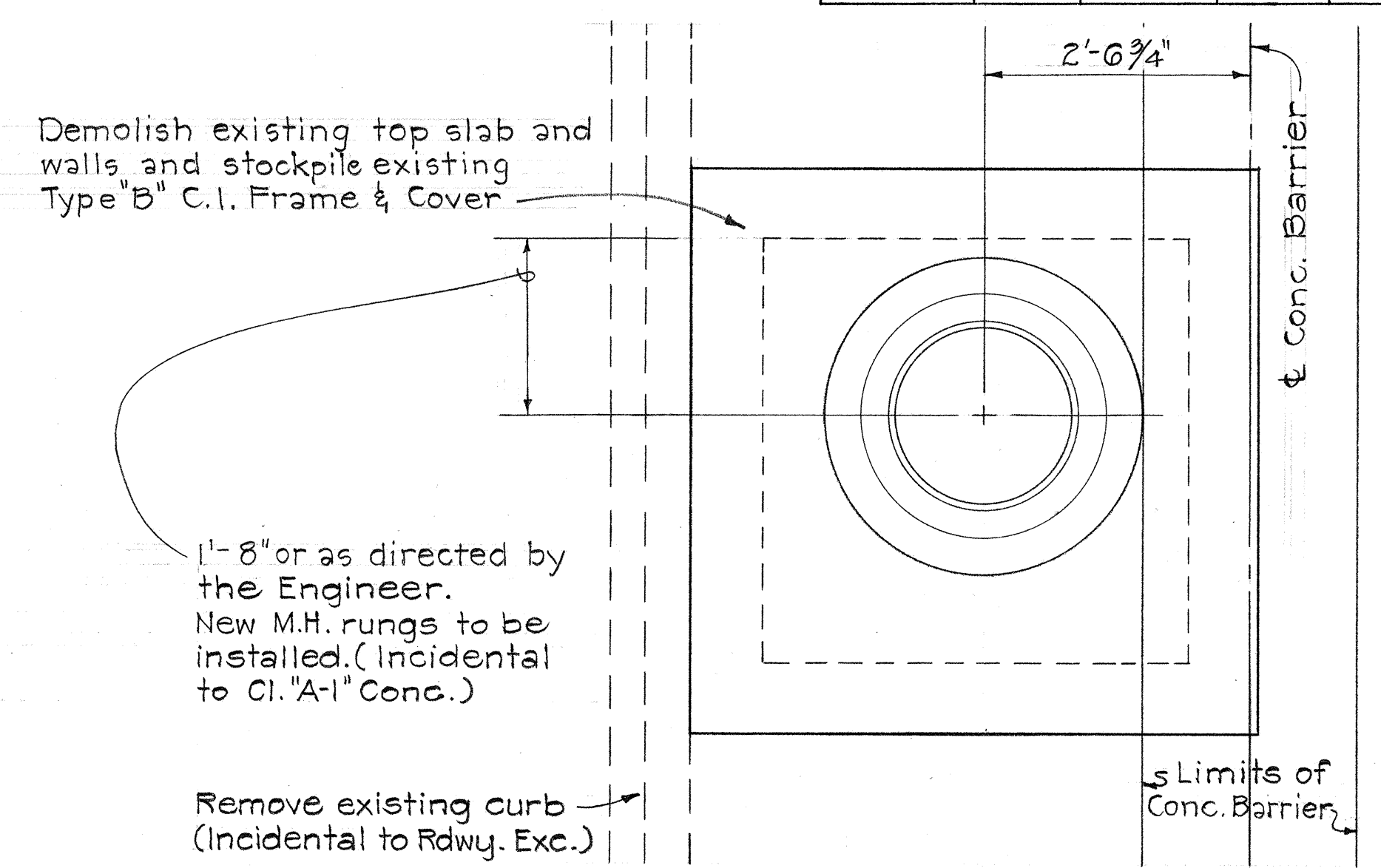
PLAN

TYPICAL DETAILS FOR CATCH BASINS WITH 2 & 4 GRATES

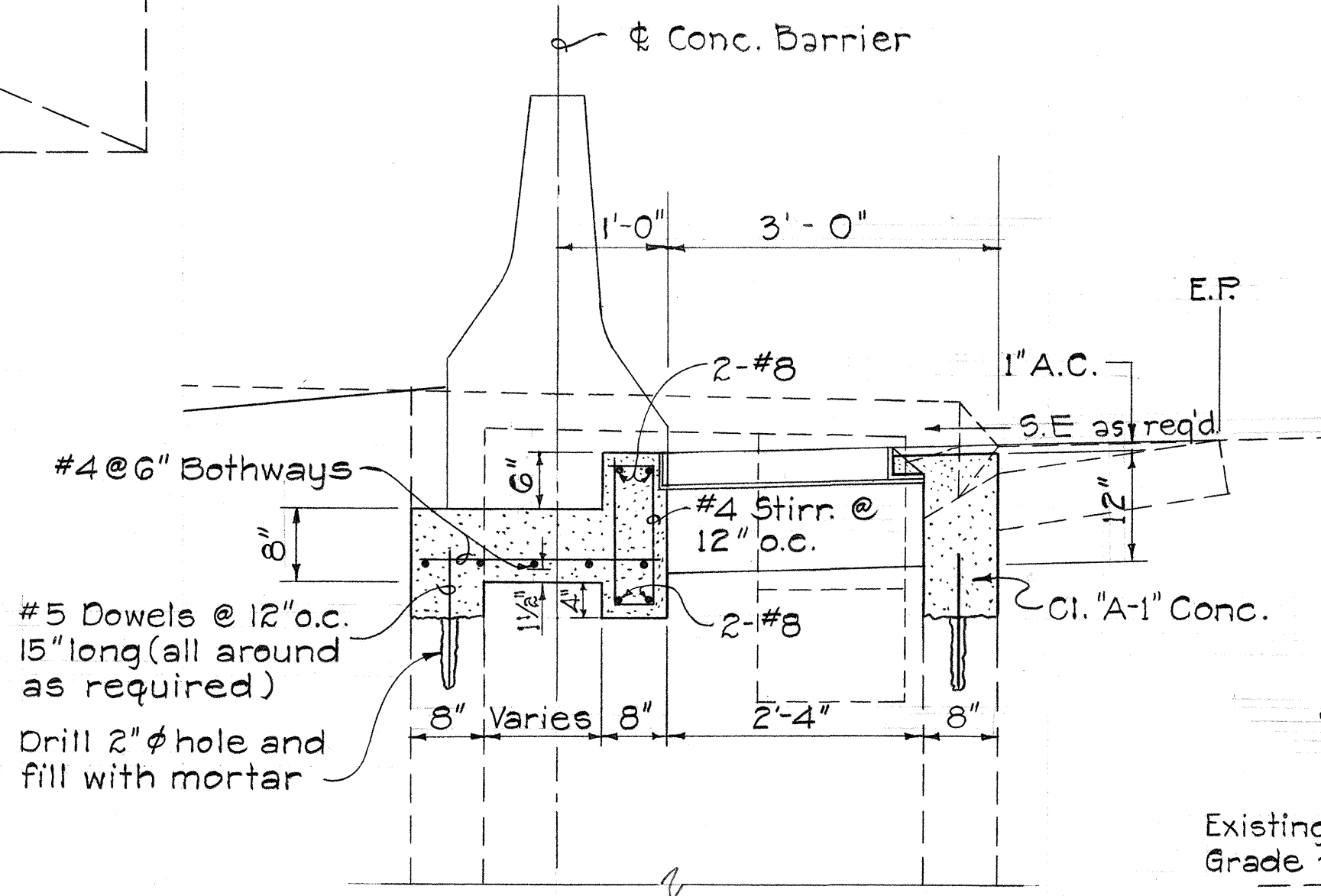


PLAN

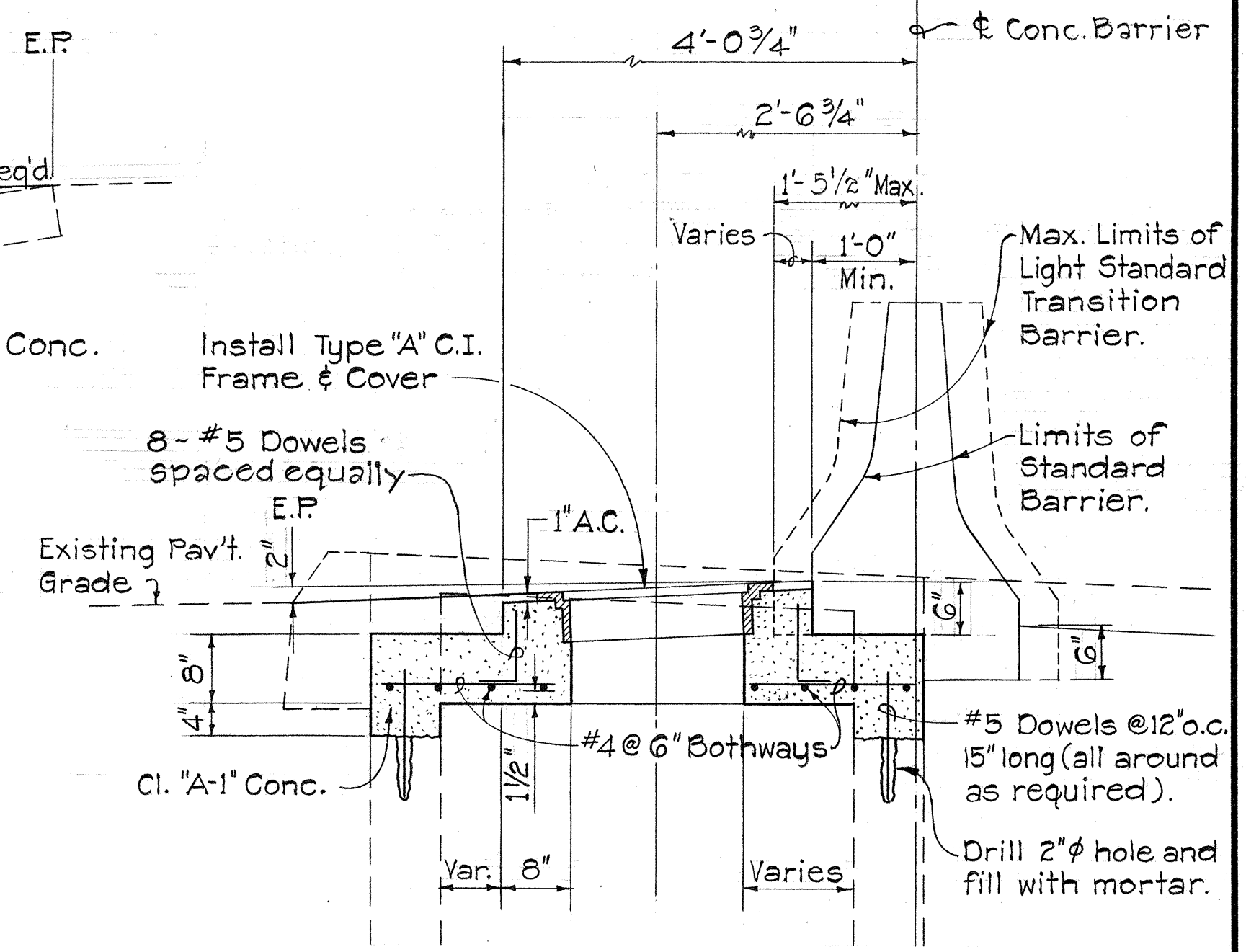
TYPICAL DETAILS FOR CATCH BASINS WITH ONE GRATE



PLAN

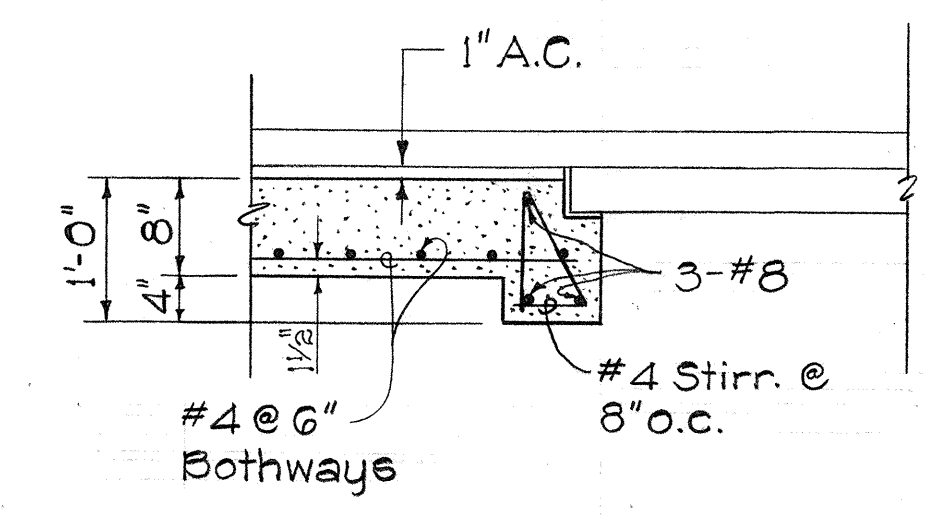


SECTION C-C



ELEVATION

TYPICAL DETAILS FOR S.D.M.H.



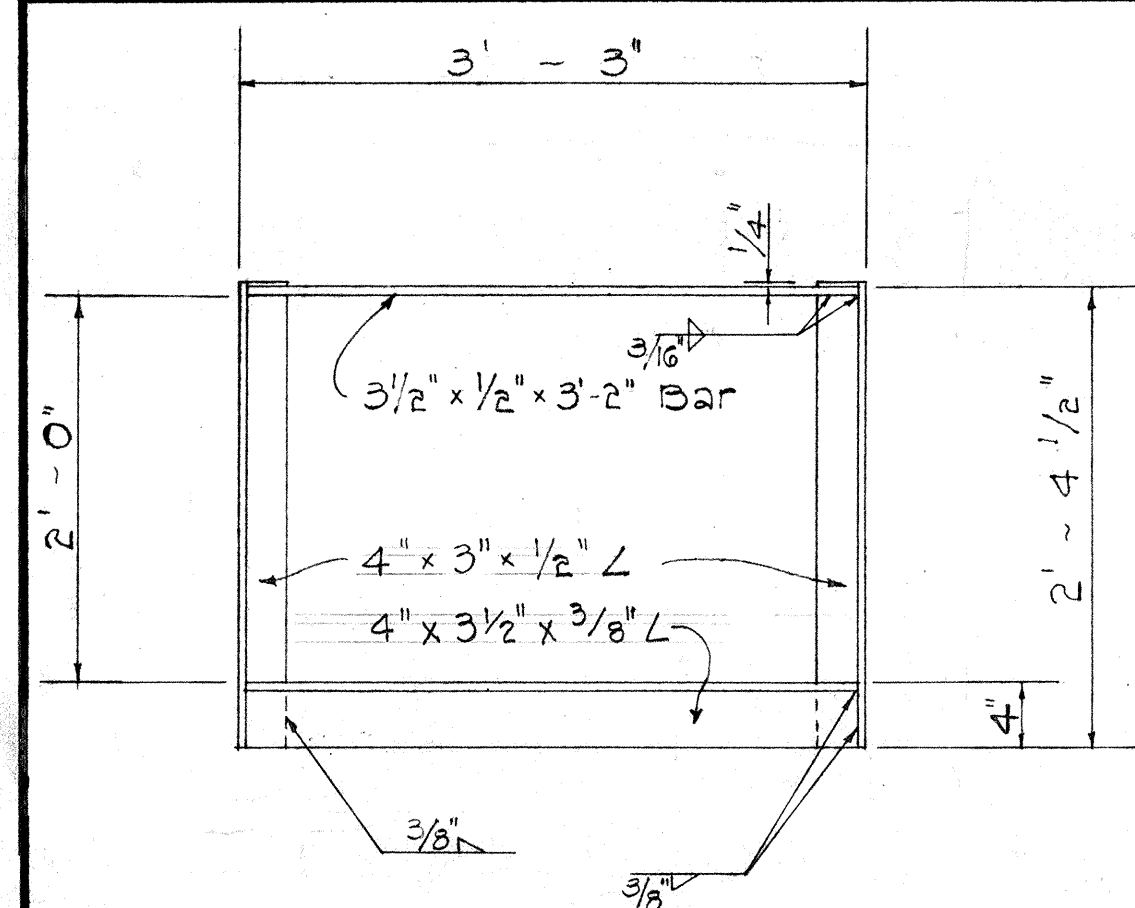
SECTION D-D

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

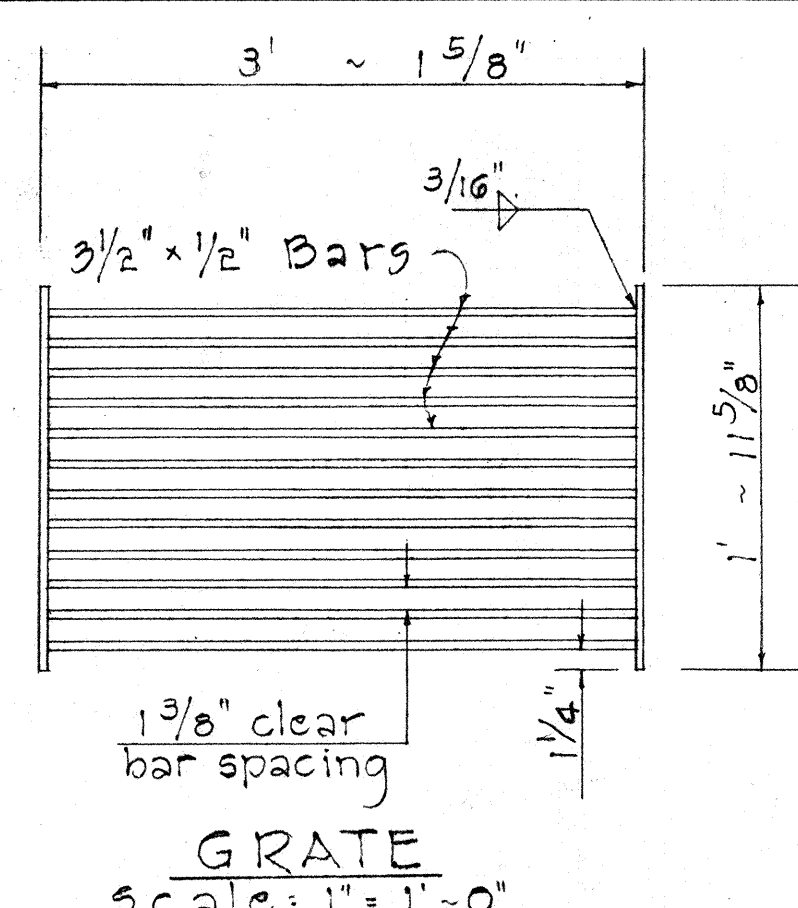
DRAINAGE DETAILS
TYPICAL DETAILS OF
S.D.M.H. C.B. WITH 2 & 4 GRATES
AND C.B. WITH ONE GRATE
INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-HI-1(53):23
Scale: 3/4" = 1'-0" Oct. 1968

SHEET No. 4 OF 6 SHEETS

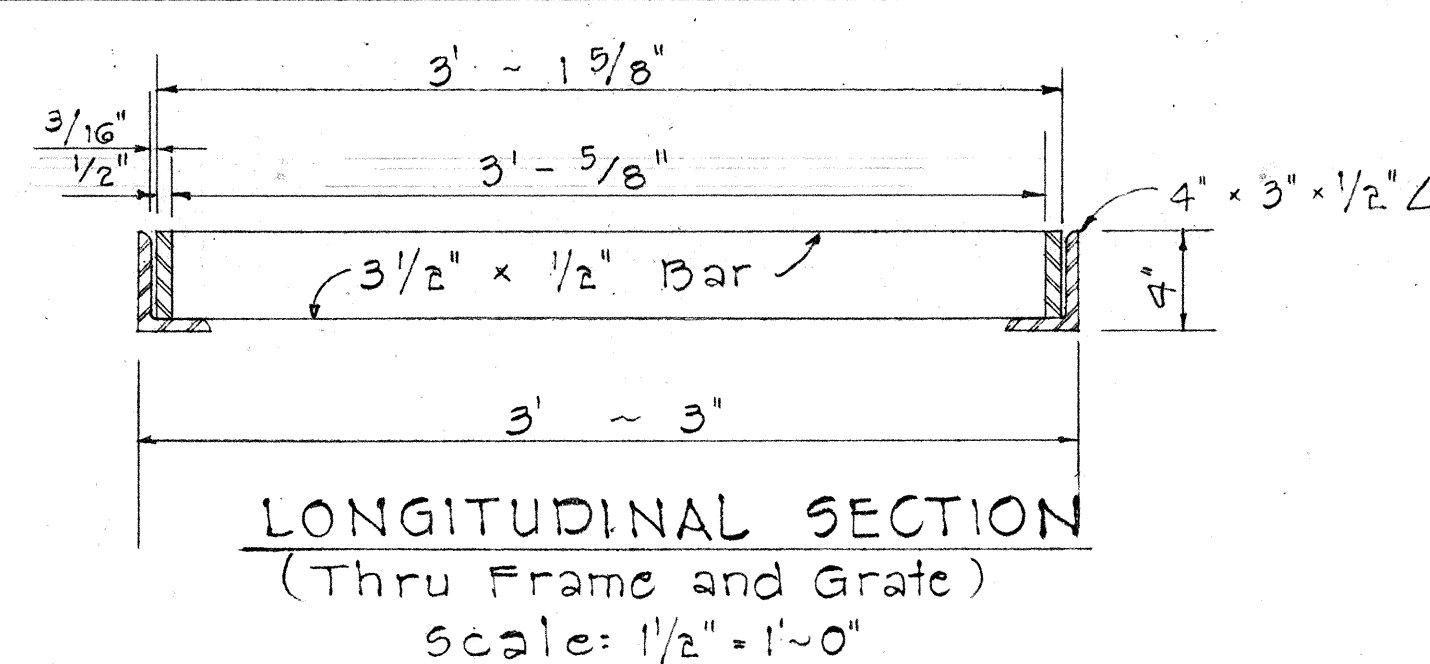
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(53):23	1968	30	30



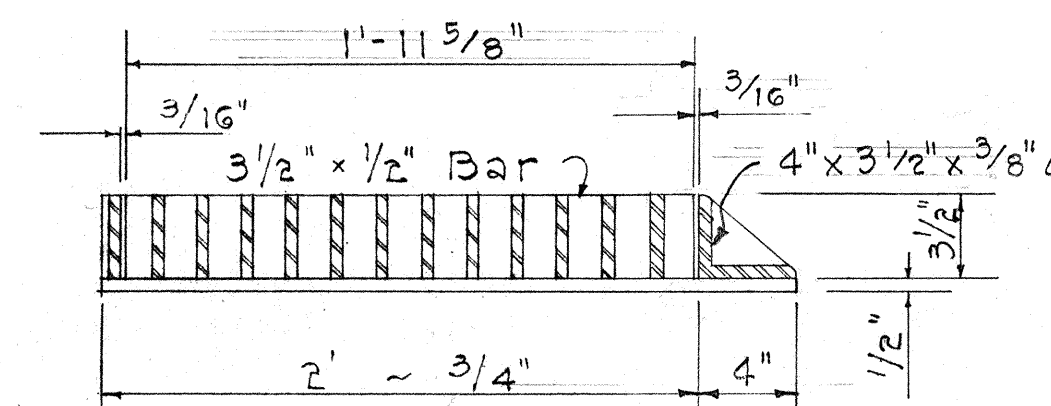
FRAME
Scale: 1" = 1'-0"



GRATE
Scale: 1" = 1'-0"



LONGITUDINAL SECTION
(Thru Frame and Grate)
Scale: 1 1/2" = 1'-0"

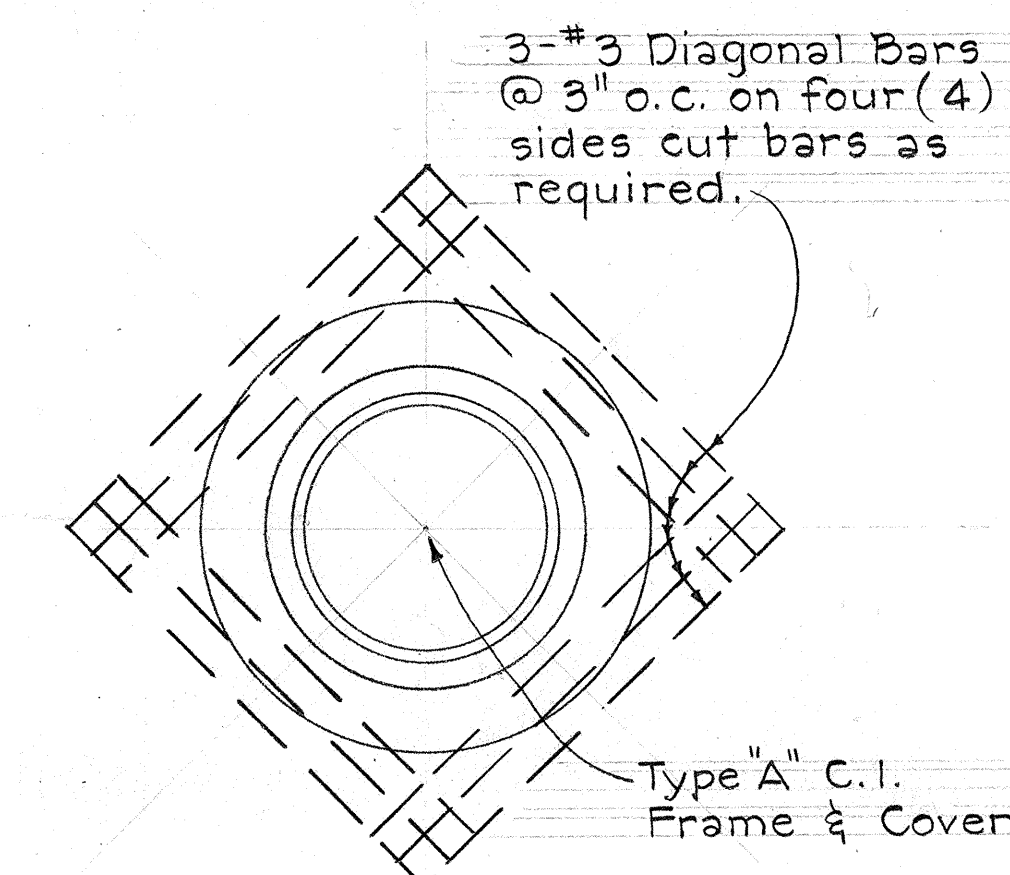
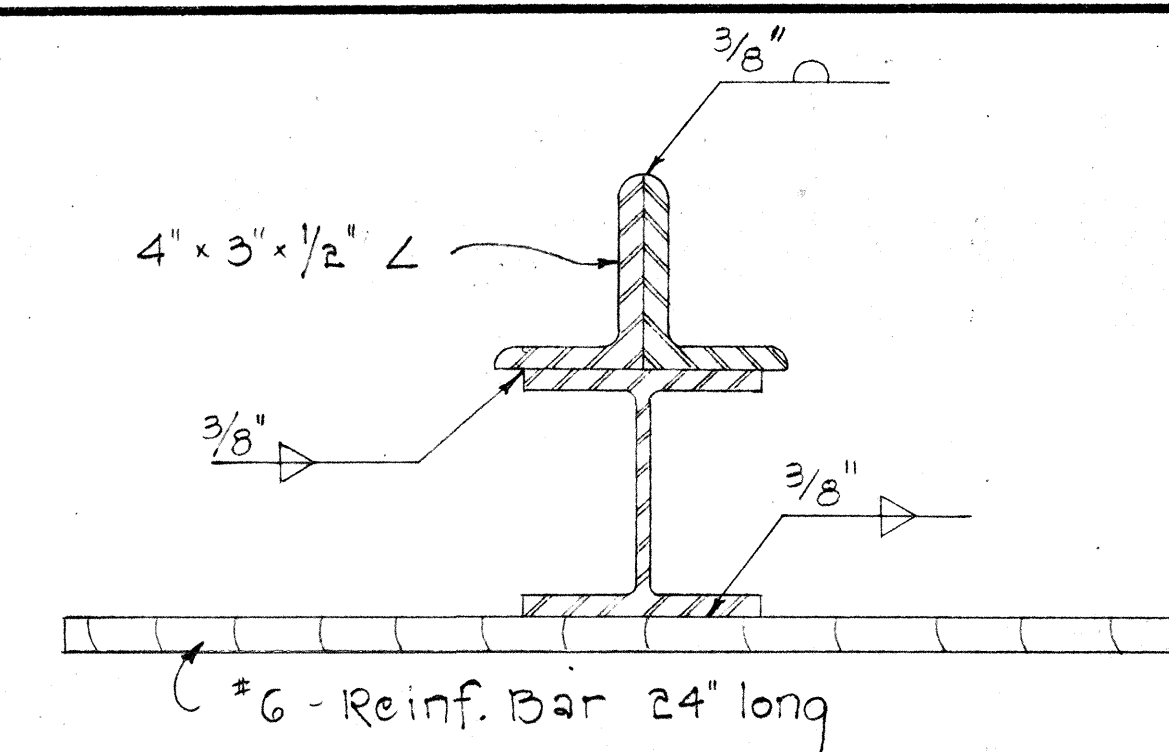


CROSS SECTION
(Thru Frame and Grate)
Scale: 1 1/2" = 1'-0"

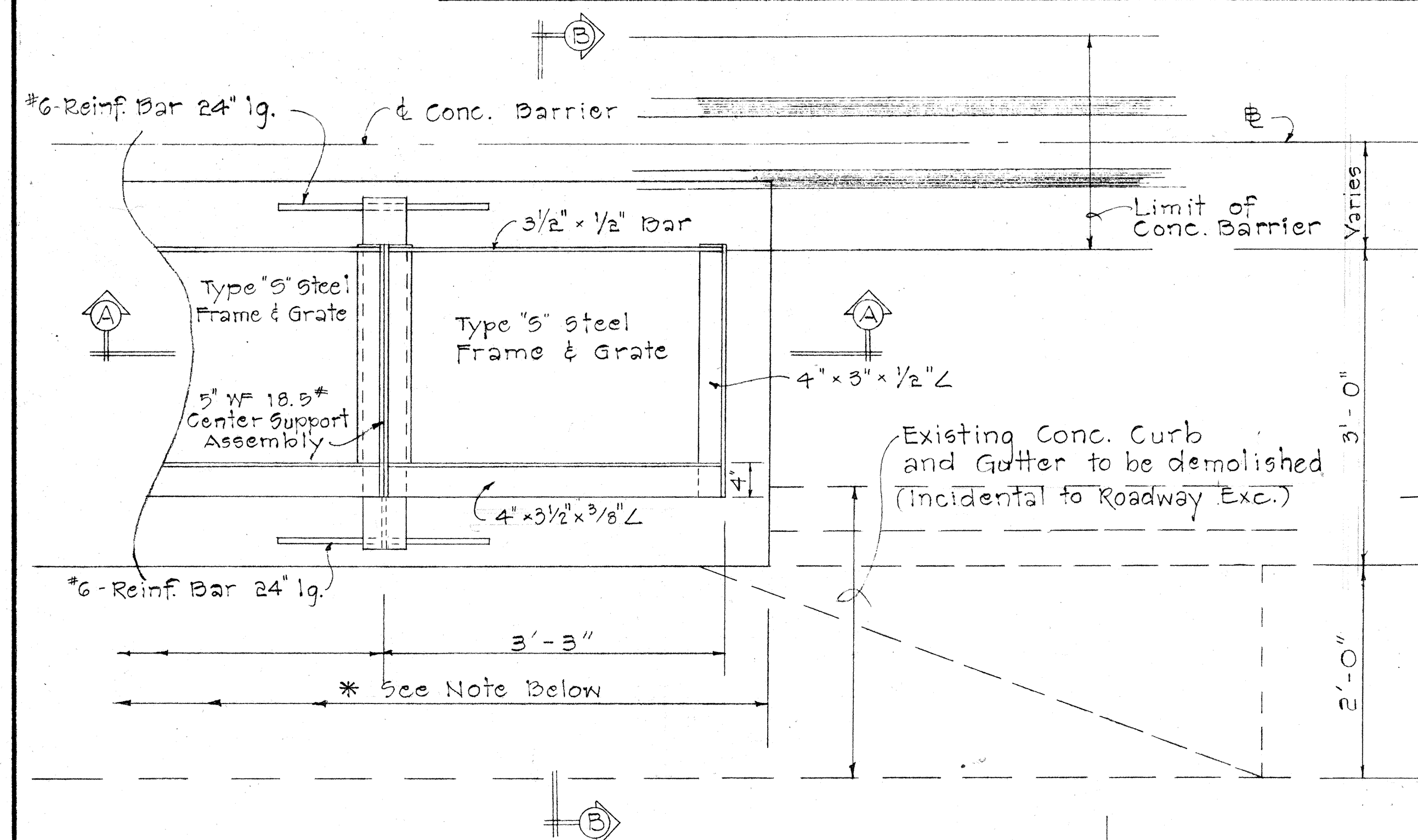
5" WF 18.5# CENTER SUPPORT ASSEMBLY
Scale: 3" = 1'-0"

NOTE:

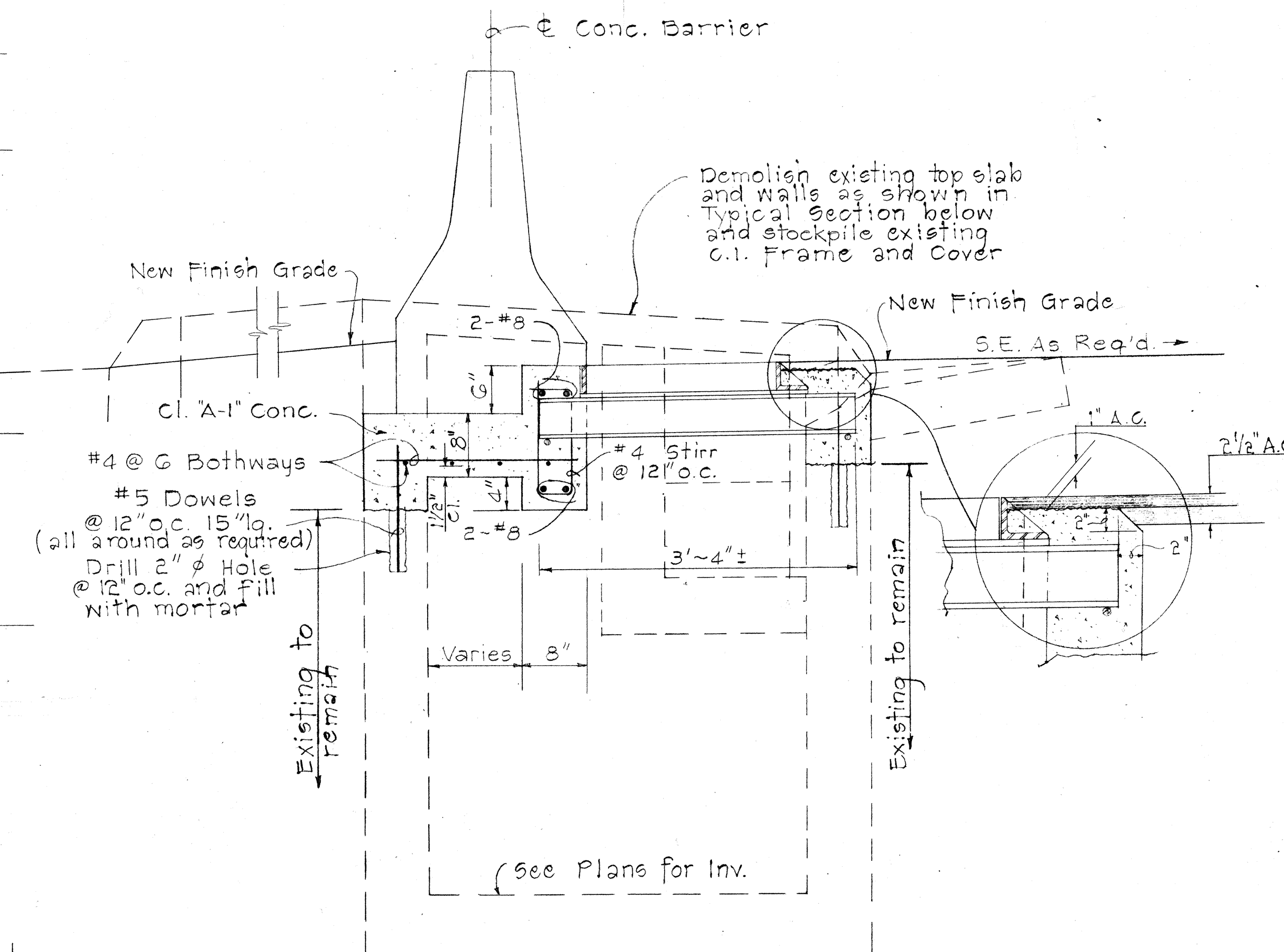
1. All welds 3/8" unless otherwise noted
2. All steel shall be structural grade, ASTM Designation A283, Grade D.
3. Grate and Frame shall be hot dip galvanized after fabrication in accordance with Section 44(H) of the Standard Specifications.



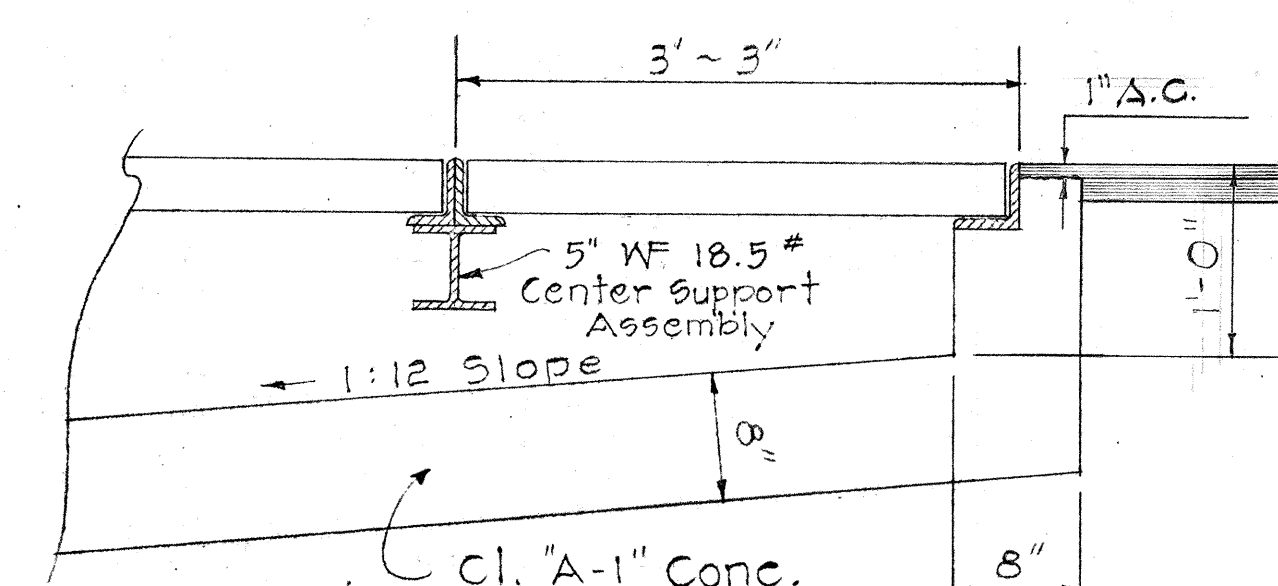
TYPICAL REINFORCING AROUND
S.D.M.H. OPENINGS
Not to Scale



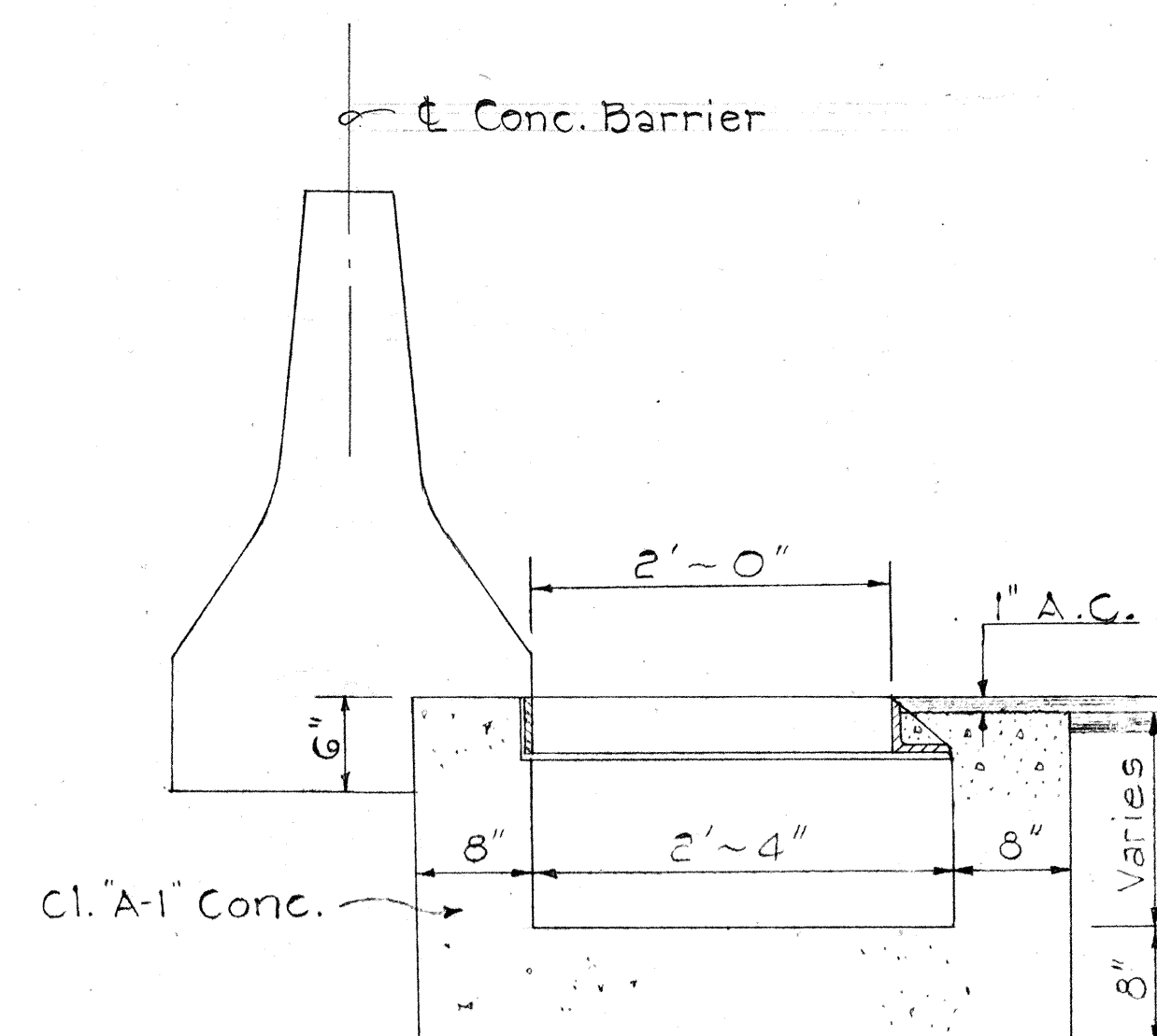
PLAN
Scale: 1" = 1'-0"



TYPICAL SECTION
THRU MODIFIED C.B.
Scale: 1" = 1'-0"



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



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

DETAIL OF NEW C.B. WING

*(Length of Wings vary according to number of grates - see detail plan)

DRAINAGE NOTES

1. Center Support Assembly shall be used when two or more Gratings are specified.
2. Center Support Assembly shall not be paid for separately, but shall be considered as incidental to Type "S" Steel Frame and Grate or Type 24-12 Steel Frame and Grates.
3. Construct Concrete Barrier at Catch Basins to permit removal of the Grates.
4. In barrier transition area, all grates installed shall follow the transition.
5. Manhole Rungs shall be installed as directed by the Engineer and shall be considered incidental to Cl. "A-1" Conc.
6. Existing C.I. Frames & Covers shall be stockpiled at the Highway Lighting Sub-Station located in the vicinity of University Avenue.
7. Type 24-12 Steel Frames & Grates shall be furnished by the State, but the Contractor shall be responsible for hauling from the State Highway Maintenance Yard at 721 Kelikoi St. to the project site.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

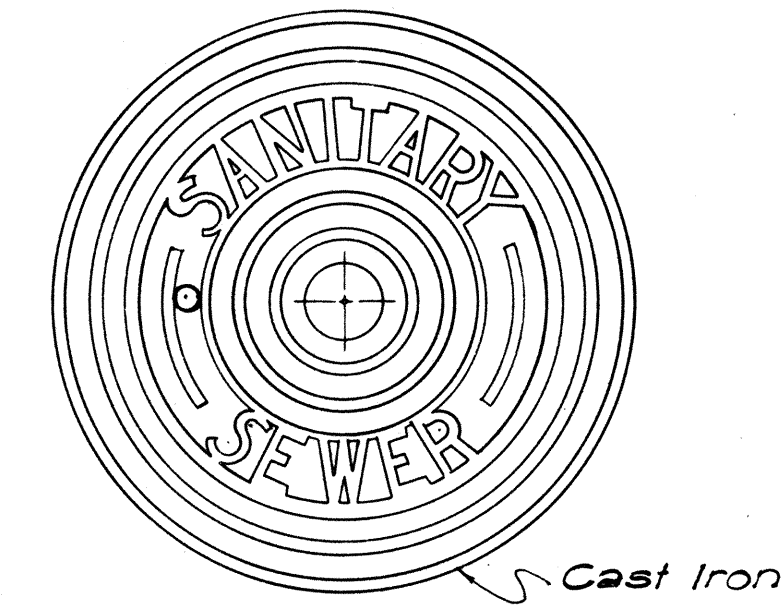
DRAINAGE DETAILS
DETAIL OF TYPE "S" FRAME & GRATE,
TYPICAL SECTION OF C.B. AND
NEW C.B. WING
INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-H-1(53):23
Scale: As Shown Oct. 1968
SHEET No. 5 OF 6 SHEETS

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

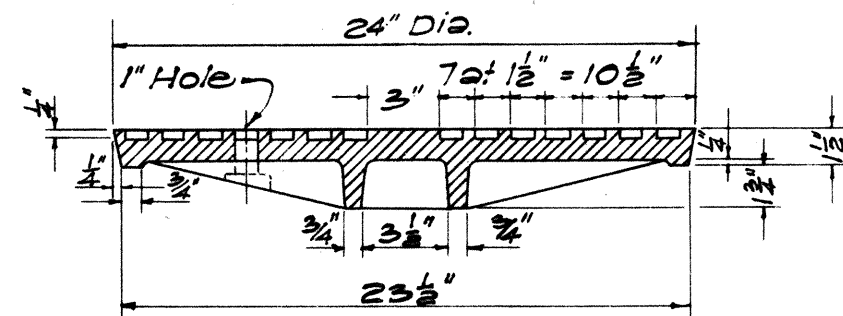
2/17/57
8/14/50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(53) 23	1960	31	30

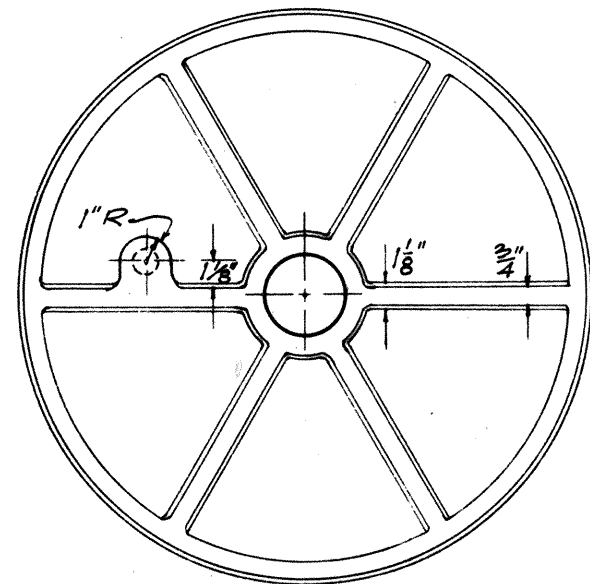
NOTE: Stock Pattern From Novelty Foundry



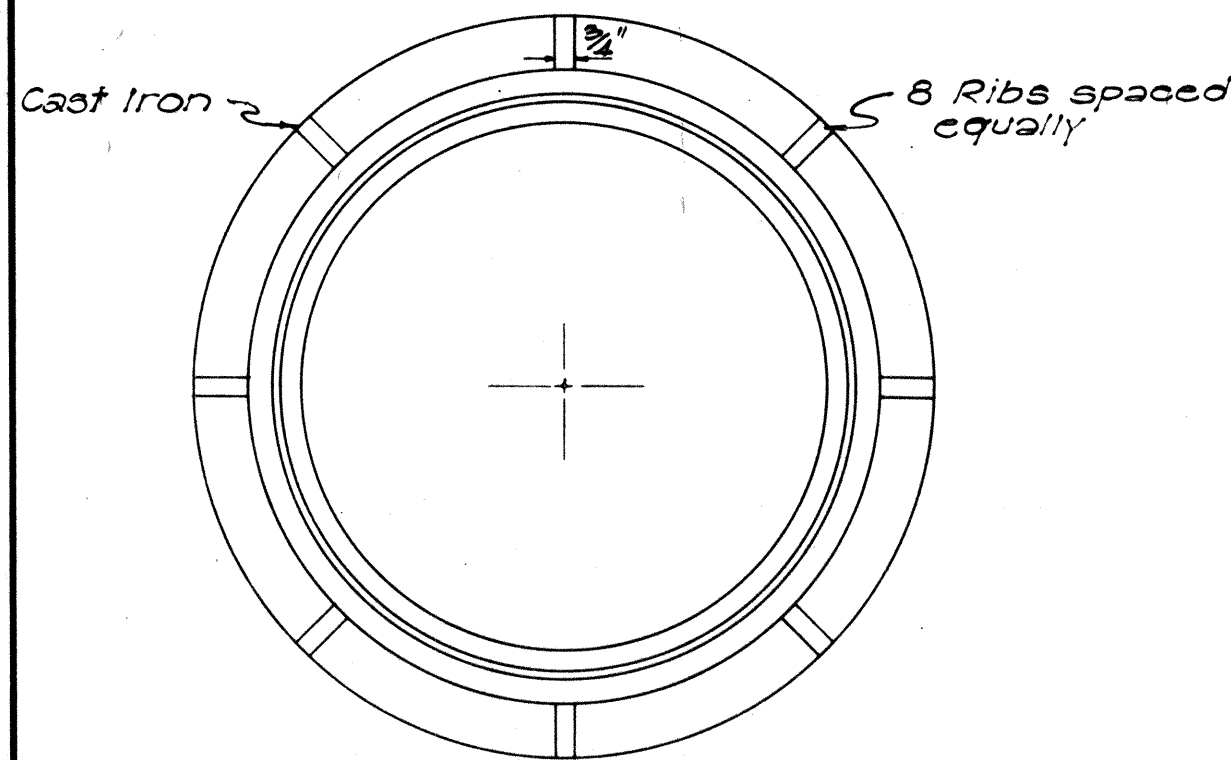
TOP VIEW OF COVER



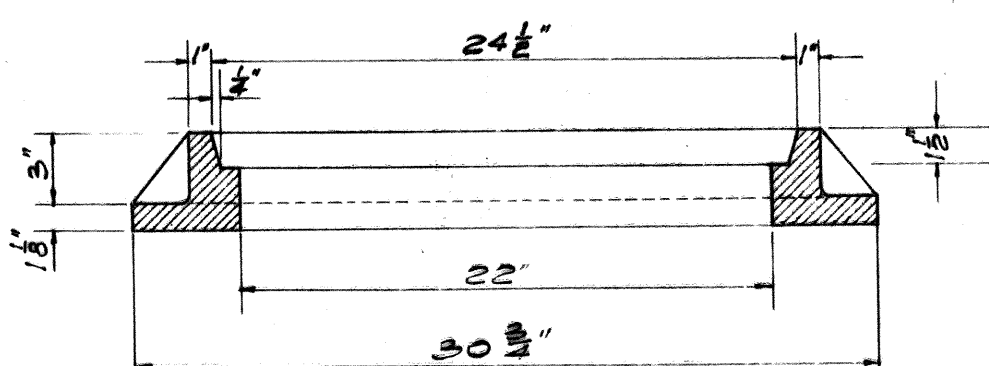
SECTION



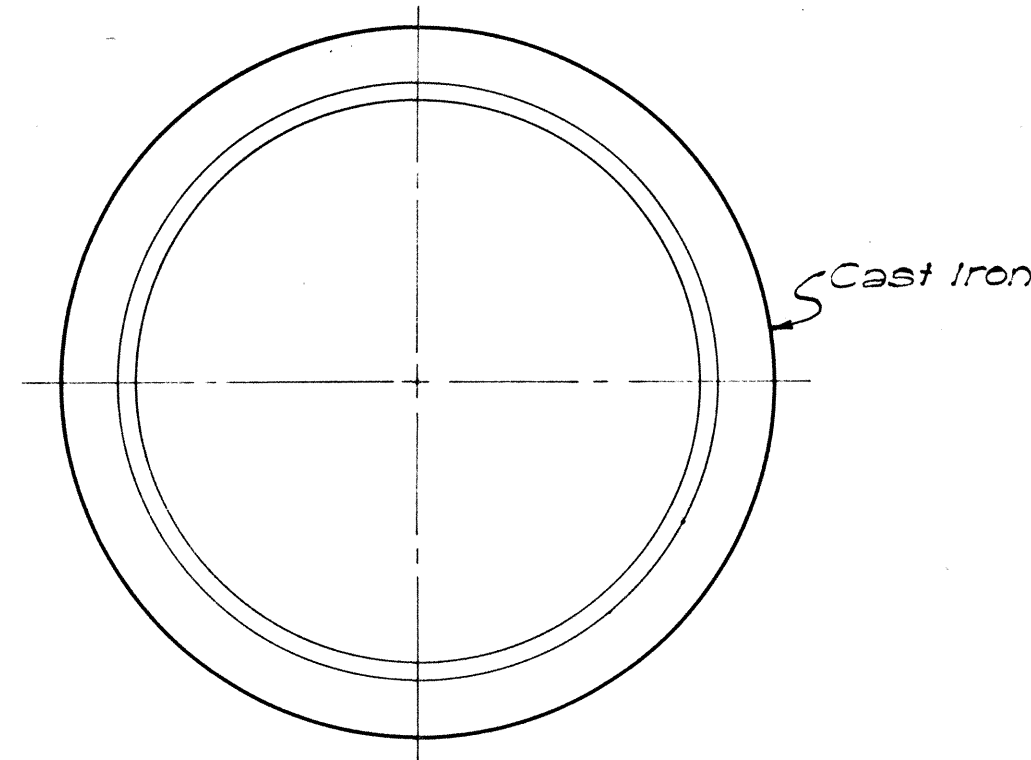
BOTTOM VIEW OF COVER



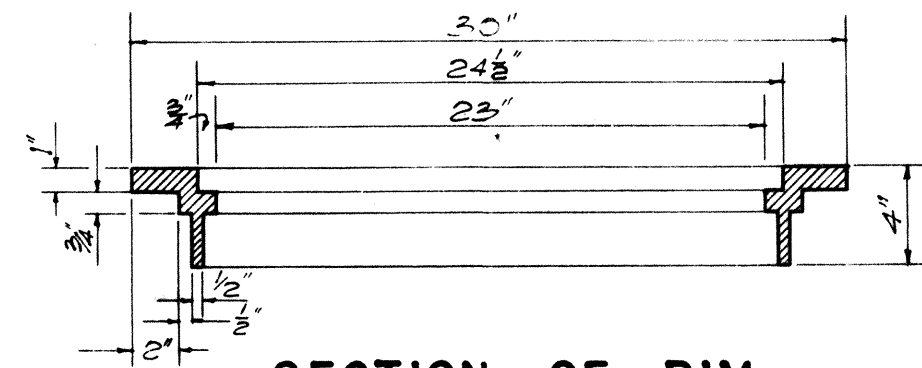
PLAN OF RIM



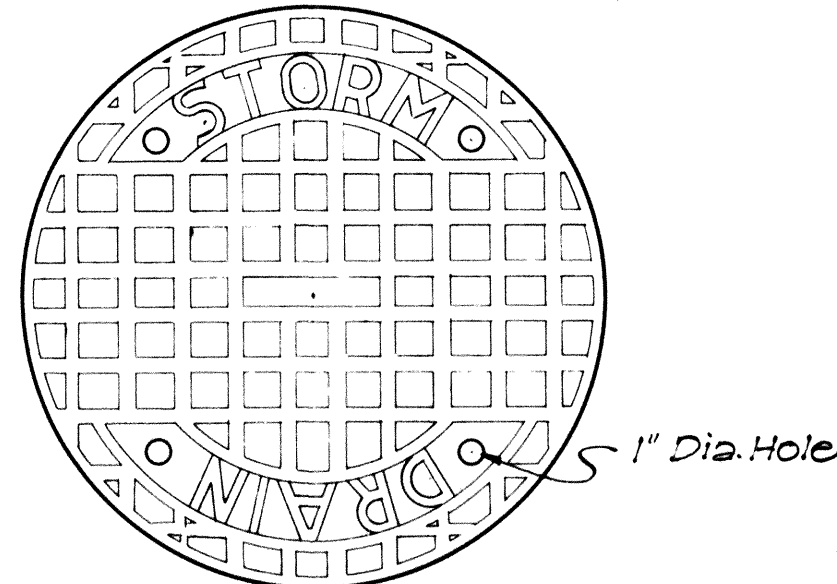
SECTION OF RIM
DETAILS OF TYPE "S"
CAST IRON FRAME AND COVER
SCALE: 1-1/2" = 1'-0"



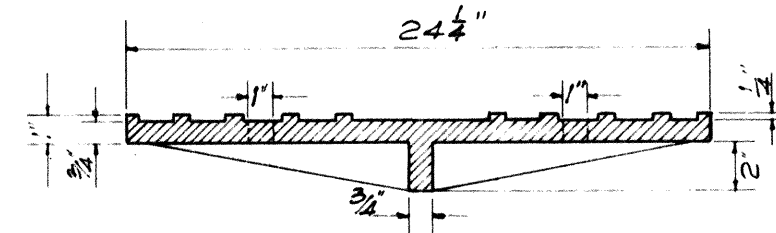
PLAN OF RIM



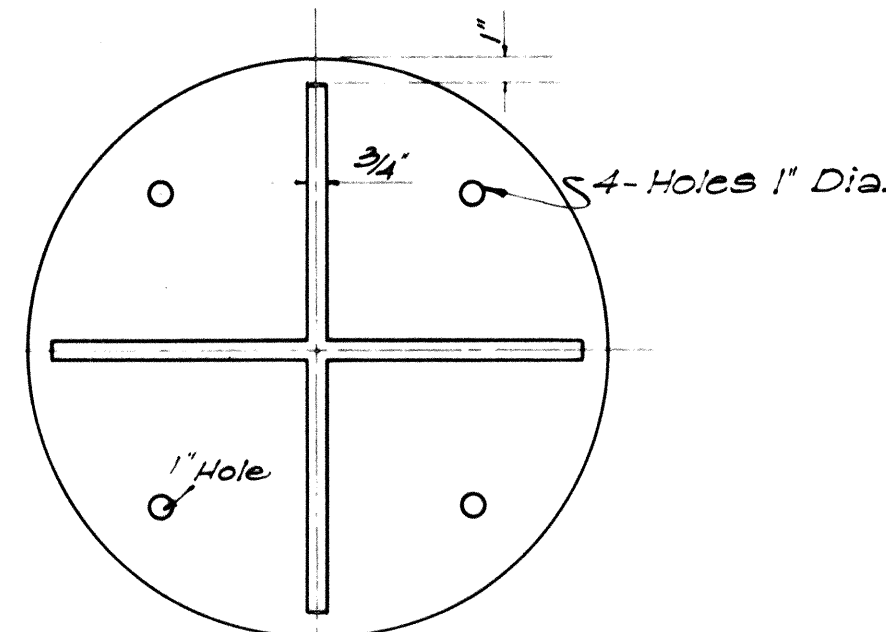
SECTION OF RIM



TOP VIEW OF COVER

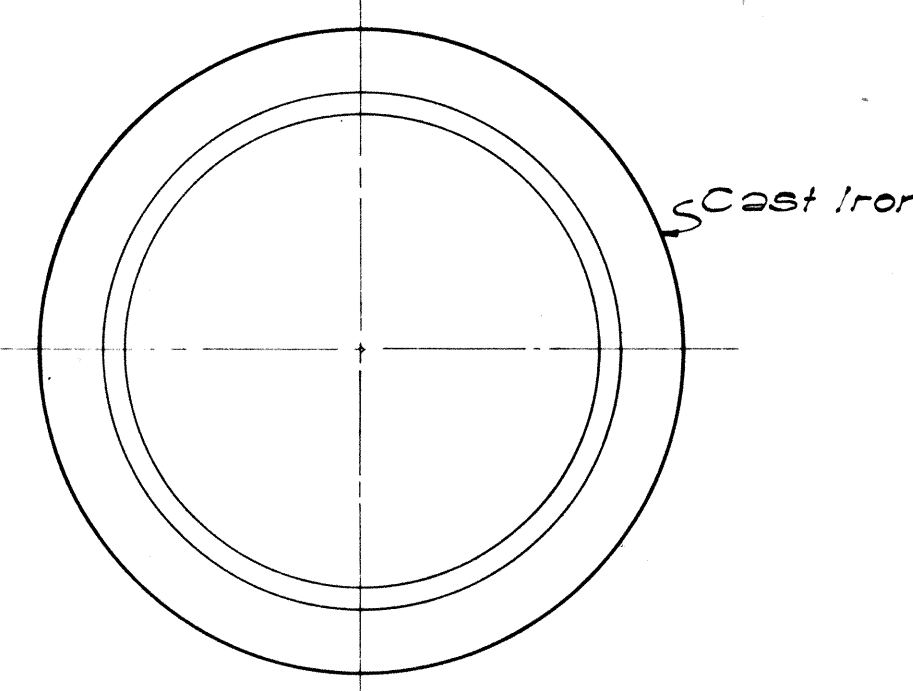


SECTION

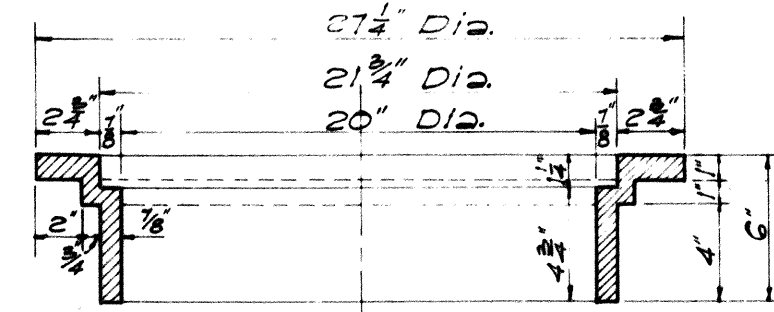


BOTTOM VIEW OF COVER

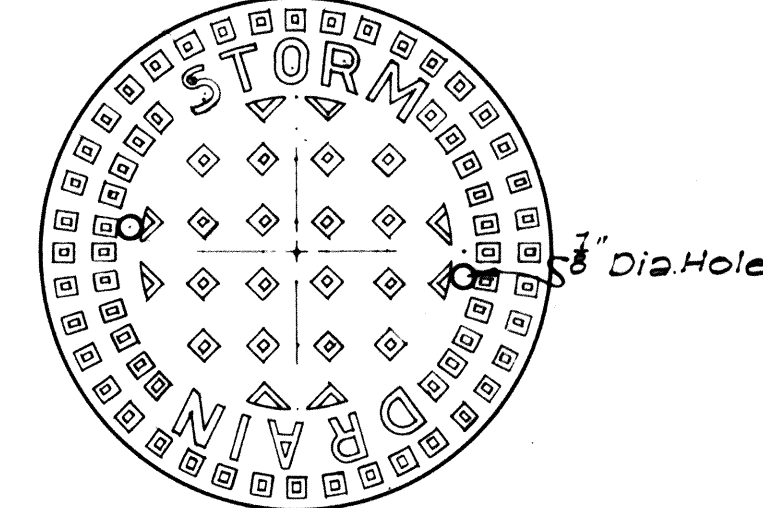
DETAILS OF TYPE "B"
CAST IRON FRAME AND COVER
SCALE: 1-1/2" = 1'-0"



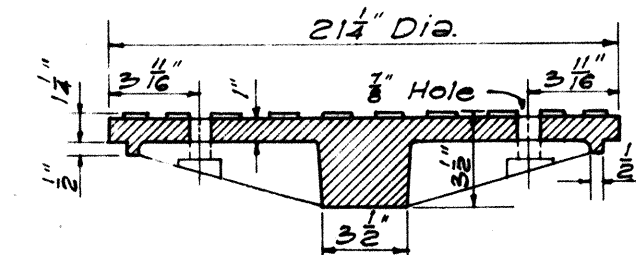
PLAN OF RIM



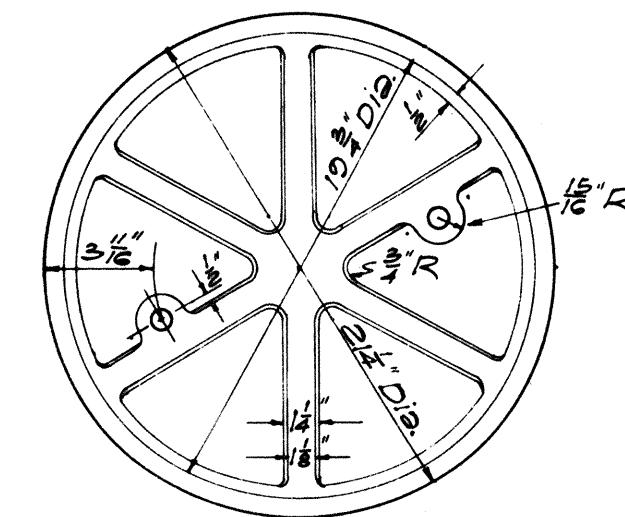
SECTION OF RIM



TOP VIEW OF COVER

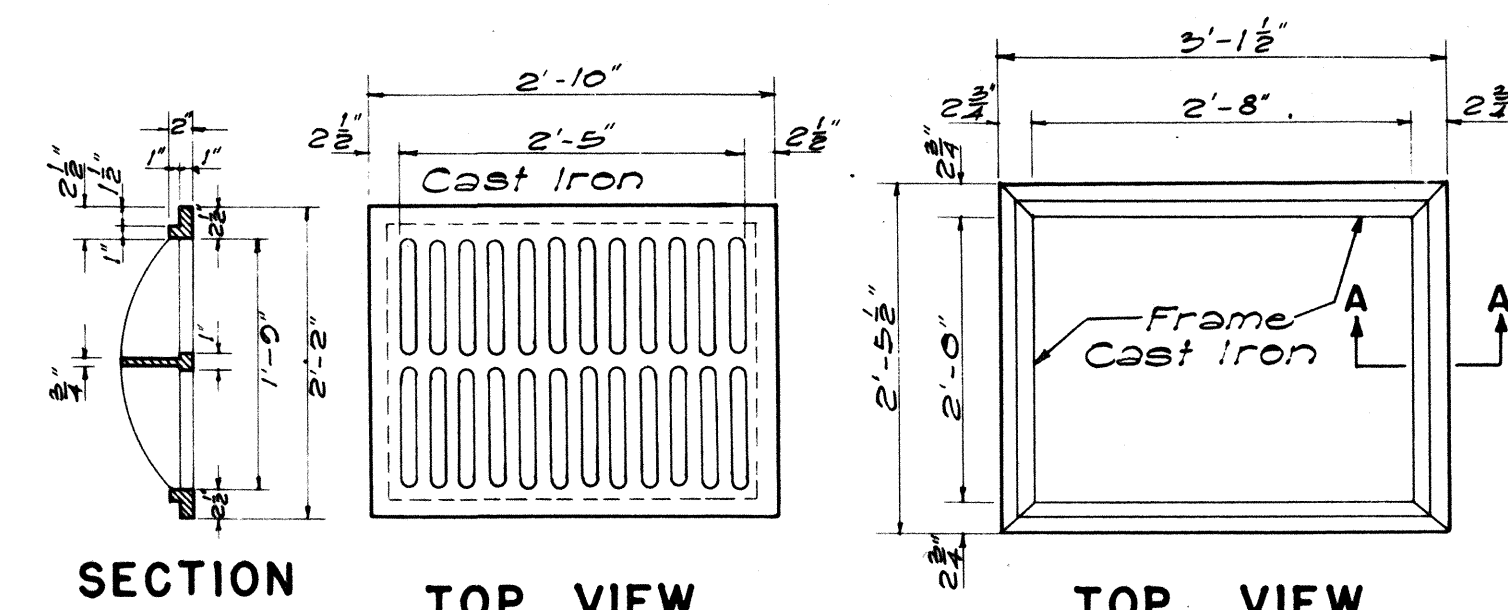


SECTION

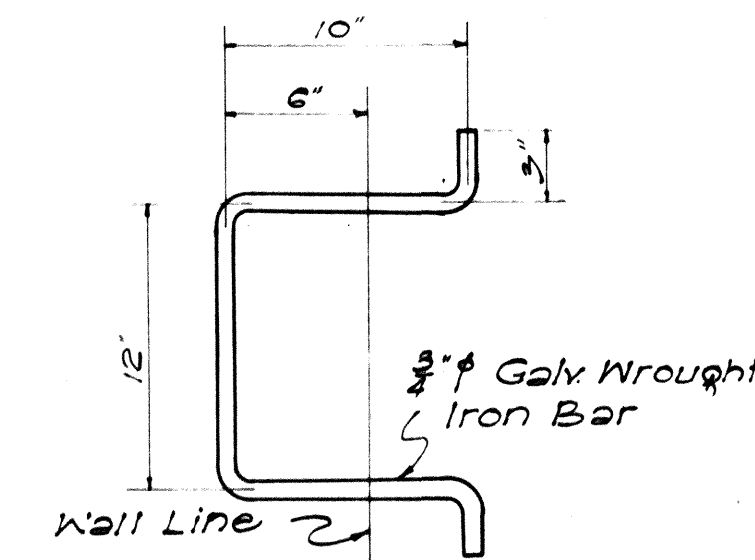


BOTTOM VIEW OF COVER

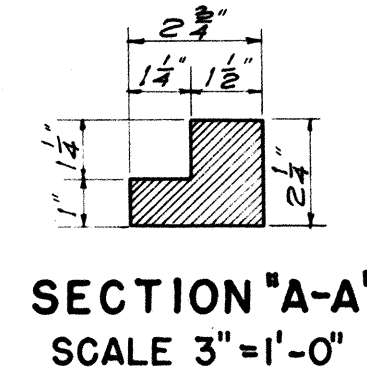
DETAILS OF TYPE "A"
CAST IRON FRAME AND COVER
SCALE: 1-1/2" = 1'-0"



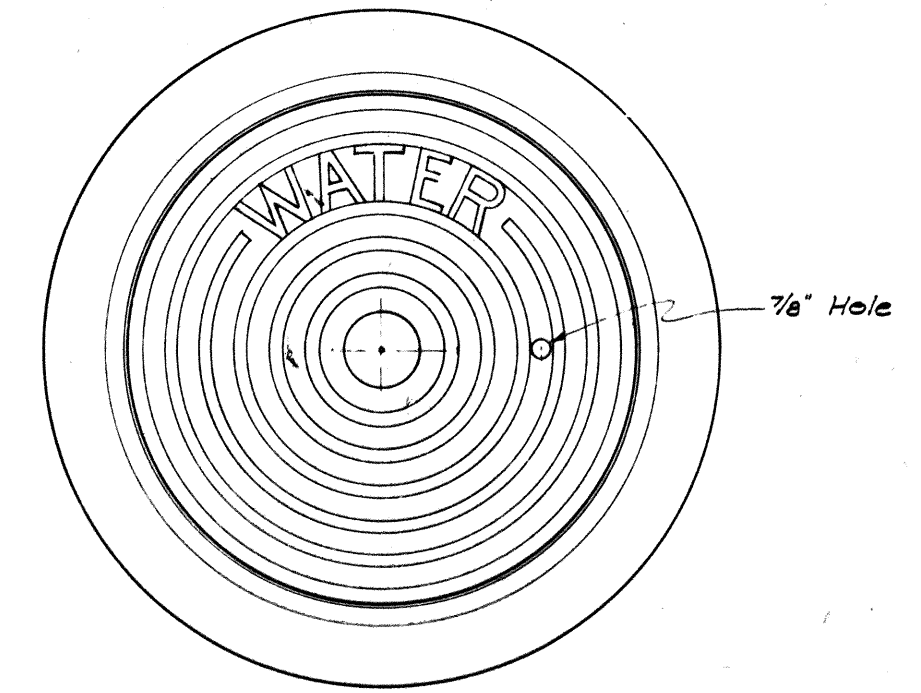
SECTION TOP VIEW TOP VIEW
TYPE C C.I. FRAME AND GRATING
SCALE: 3/4" = 1'-0"



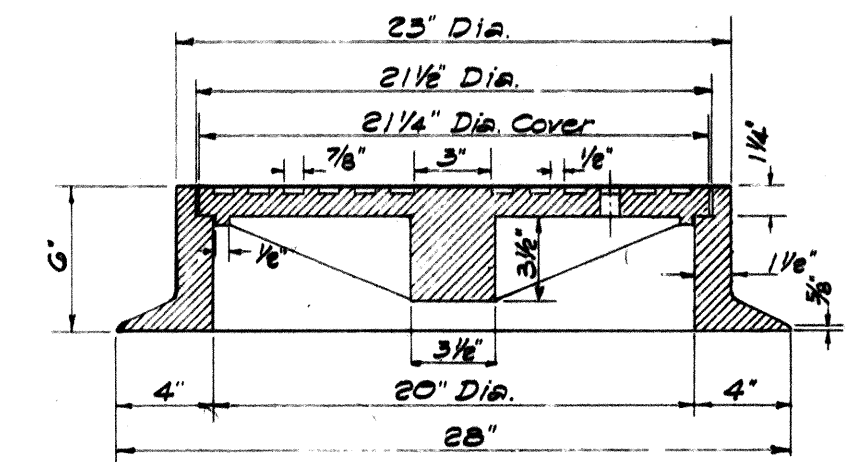
MANHOLE RUNG
SCALE: 1-1/2" = 1'-0"



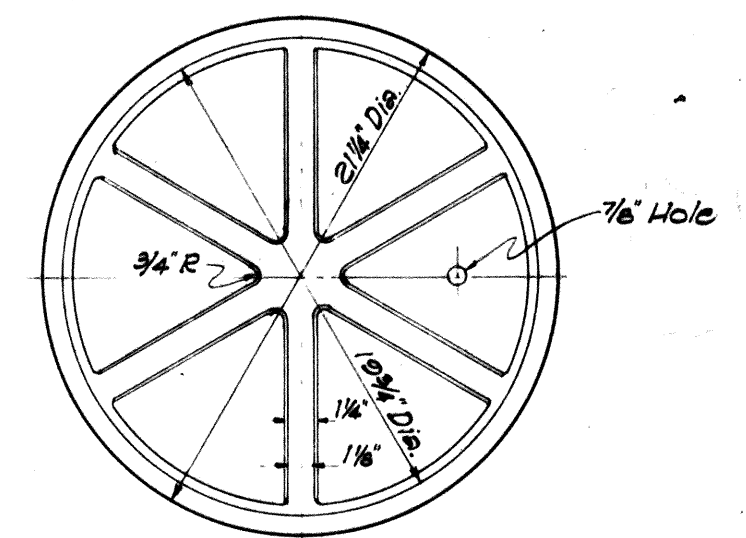
SECTION "A-A"
SCALE 3" = 1'-0"



PLAN OF FRAME AND COVER



SECTION OF FRAME AND COVER



BOTTOM VIEW OF COVER

DETAILS OF TYPE "W"
CAST IRON FRAME AND COVER
SCALE: 1-1/2" = 1'-0"

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.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CATCH BASIN AND
MANHOLE CASTINGS
SCALES AS NOTED

SHEET No 6 OF 6 SHEETS