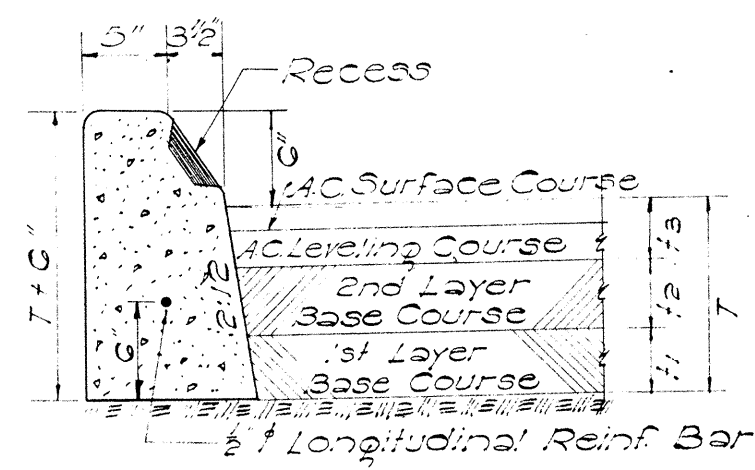
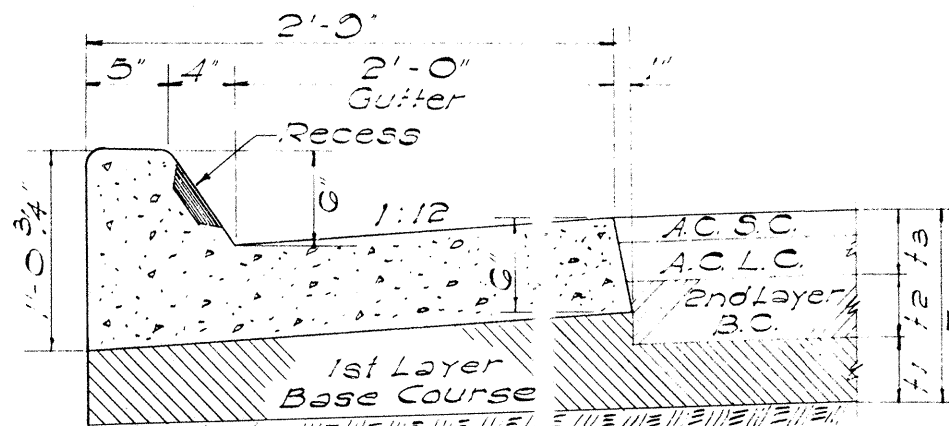


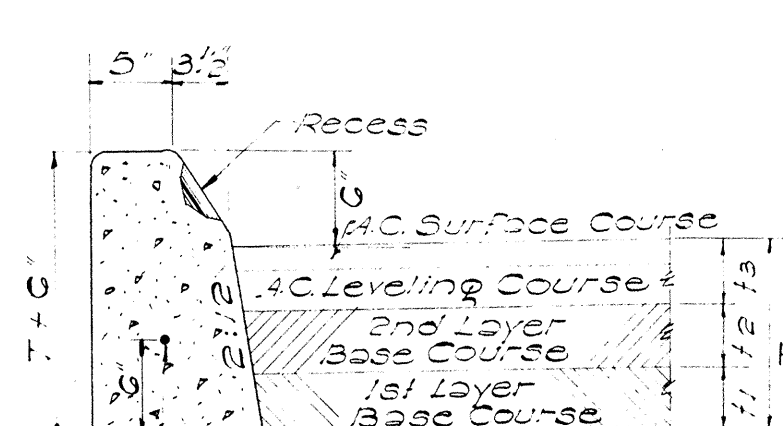
2/17/59
9/22/61



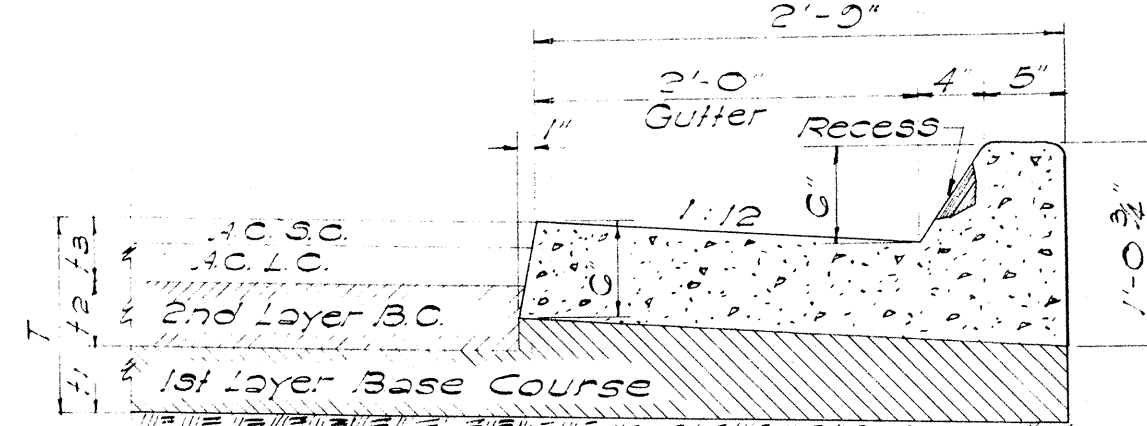
TYPE "A" & "B" CURB
SCALE: 1" = 1'-0"



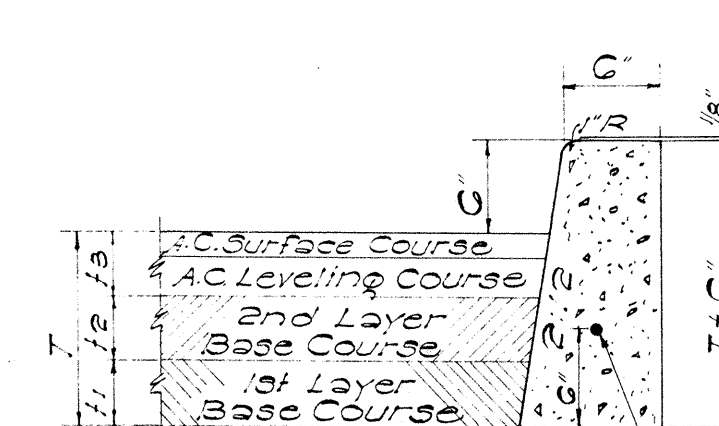
TYPE "AG" & "BG" CURB & GUTTER
SCALE: 1" = 1'-0"



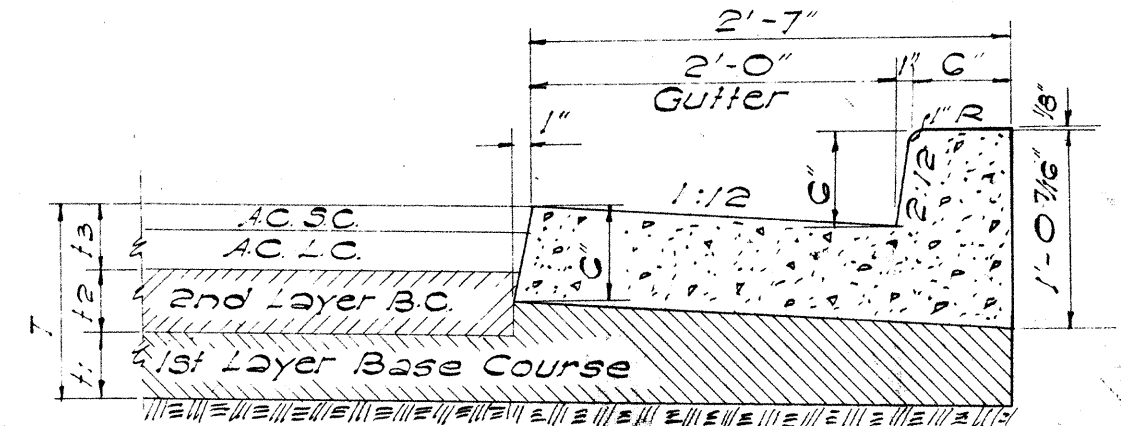
TYPE "C" CURB
SCALE: 1" = 1'-0"



TYPE "CG" CURB & GUTTER
SCALE: 1" = 1'-0"

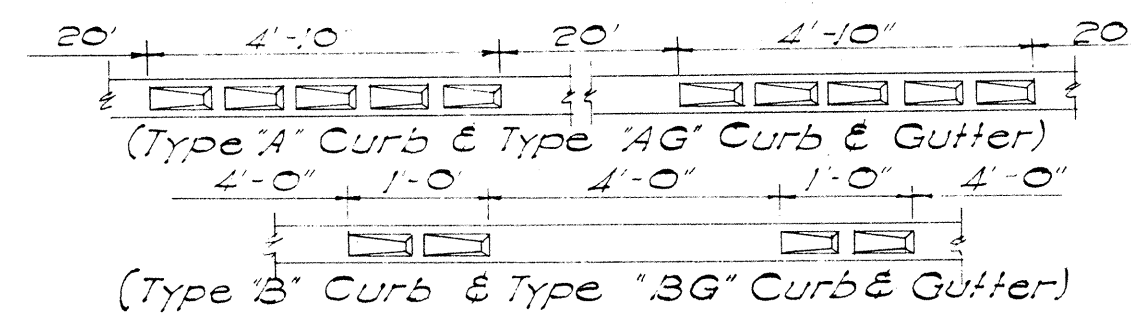


TYPE "D" CURB
SCALE: 1" = 1'-0"

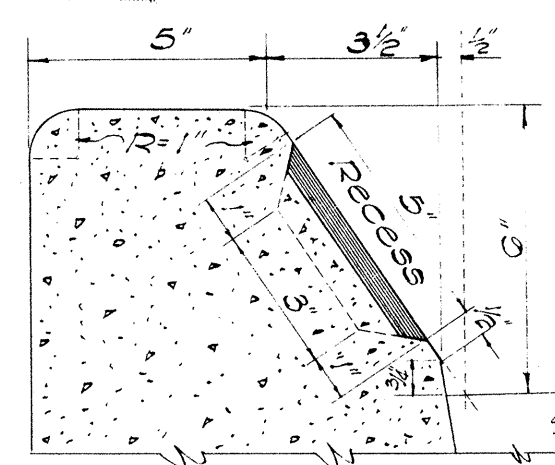


TYPE "DG" CURB & GUTTER
SCALE: 1" = 1'-0"

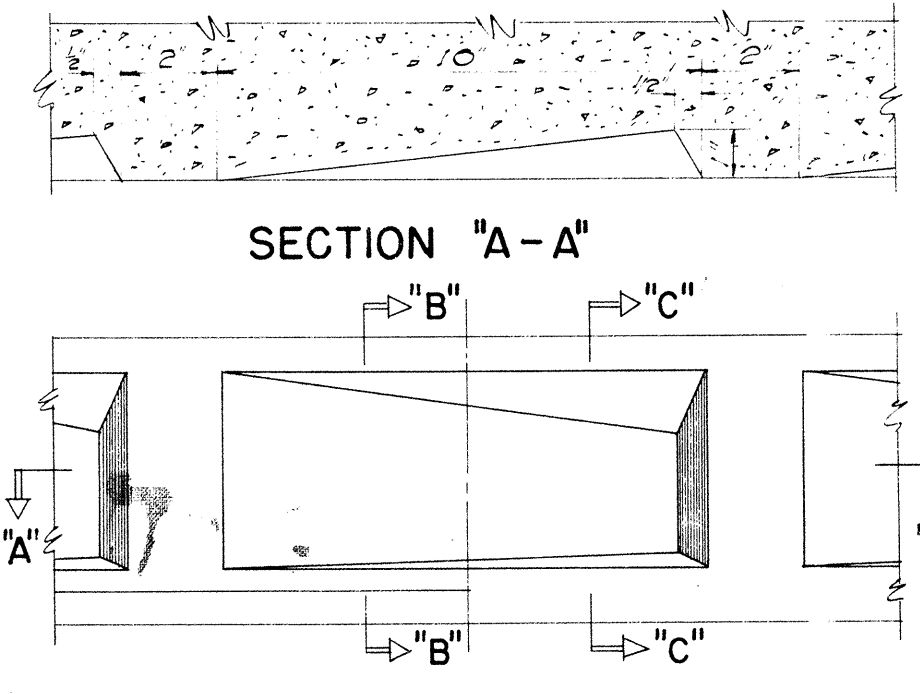
General Note Covering All Types of Curbs:
Occasionally curb rests on first layer of base course. See typical sections.



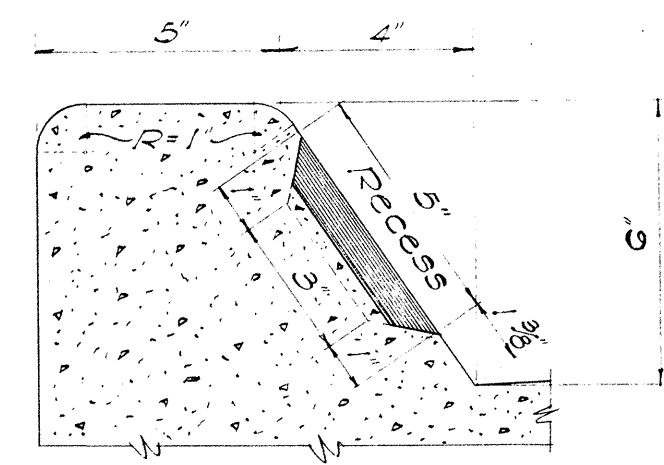
TYPE AND SPACING OF RECESSES



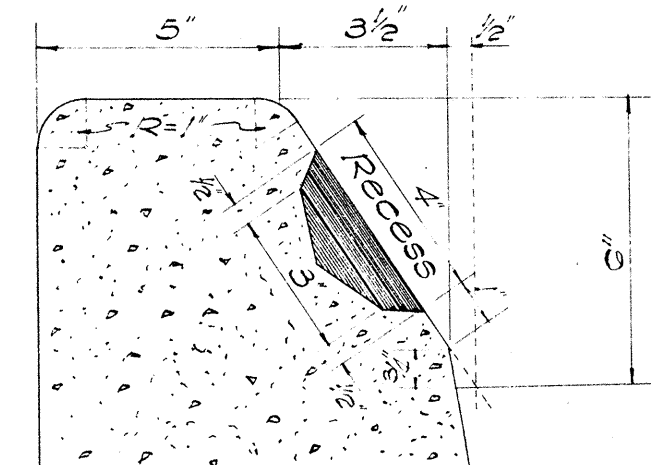
SECTION "B-B"
TYPE "A" & "B" CURB



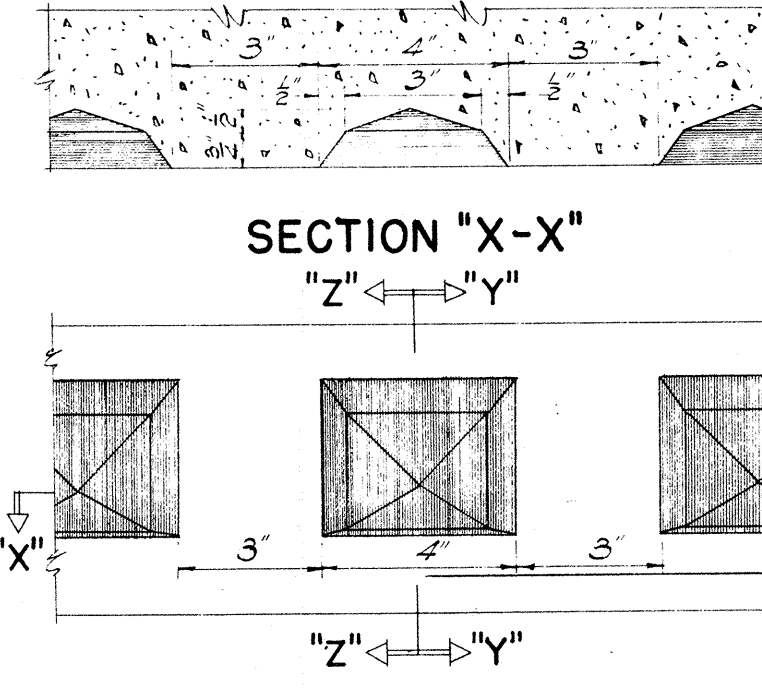
ELEVATION
SCALE: 3" = 1'-0"



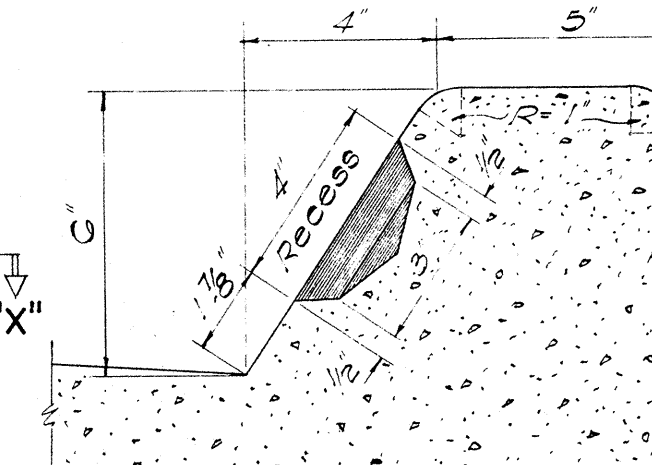
SECTION "C-C"
TYPE "AG" & "BG" CURB



SECTION "Y-Y"
TYPE "C" CURB

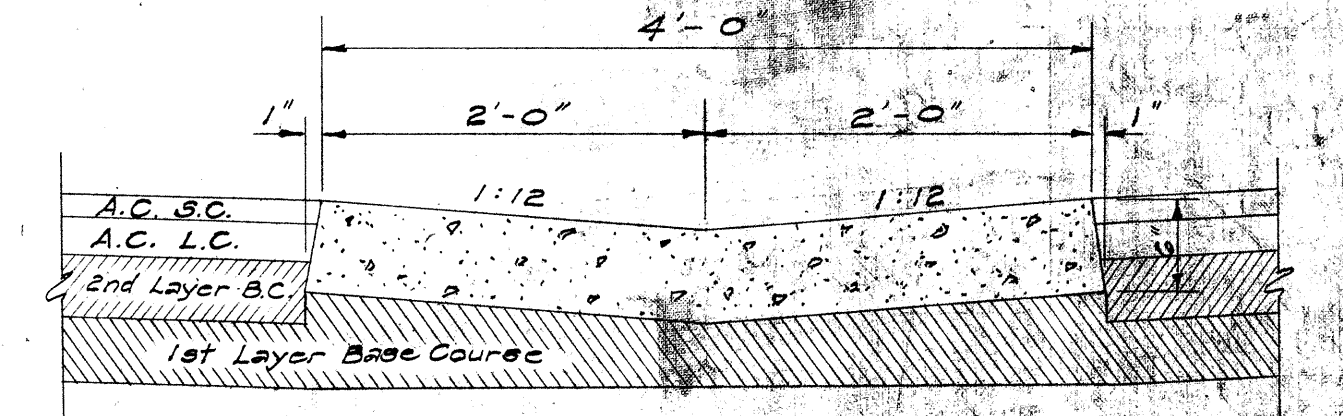


SECTION "X-X"
"Z" = "Y"
ELEVATION
SCALE: 3" = 1'-0"



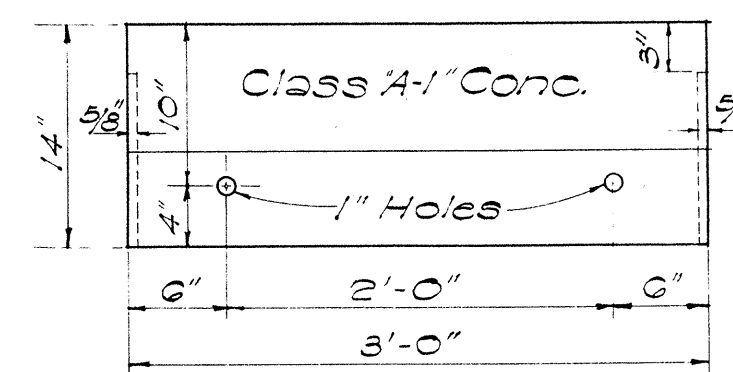
SECTION "Z-Z"
TYPE "CG" CURB

NOTES:
1) Types "AG", "BG", "CG", "DG" and "EG" Concrete Curbs and Gutters are to be poured monolithically.
2) Types "A", "B", and "C" Curbs and Types "AG", "BG", and "CG" Curbs and Gutters occur at Median Strips and Traffic Islands.
3) Shaded area in Curbs are to be painted with an approved white lacquer. (One Coat)
4) All Conc. Curbs and Gutters shown herein are to be of Class "A-1" Conc. and Cast in Place.



TYPE "G" GUTTER
SCALE: 1" = 1'-0"

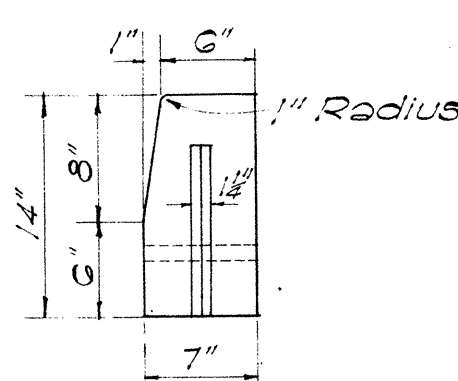
DETAILS OF CAST-IN-PLACE CONC. CURBS AND GUTTERS



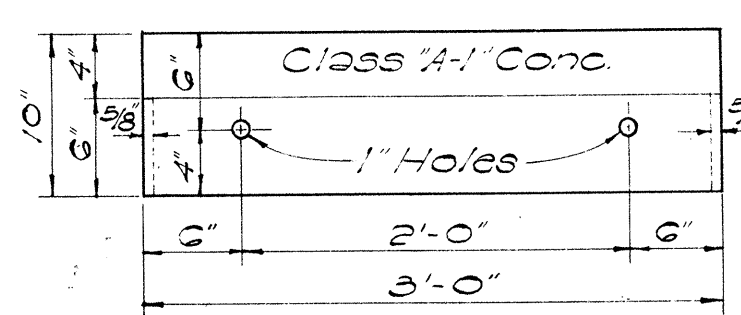
FRONT ELEV.

PRECAST CONC. CURB

SCALE: 1" = 1'-0"



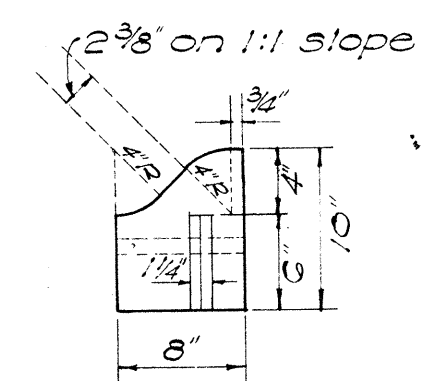
END ELEV.



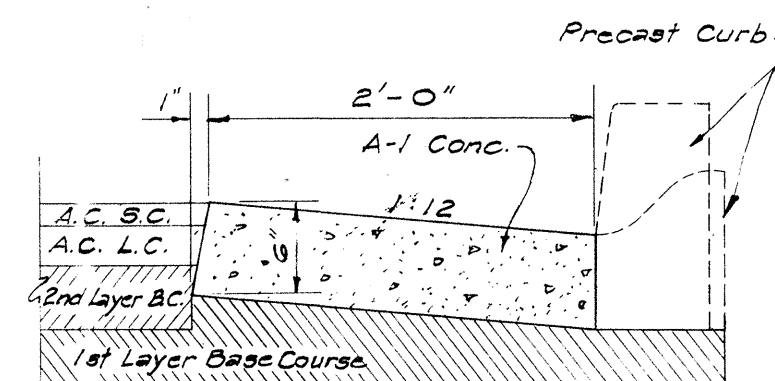
FRONT ELEV.

PRECAST CONC. ROLL CURB

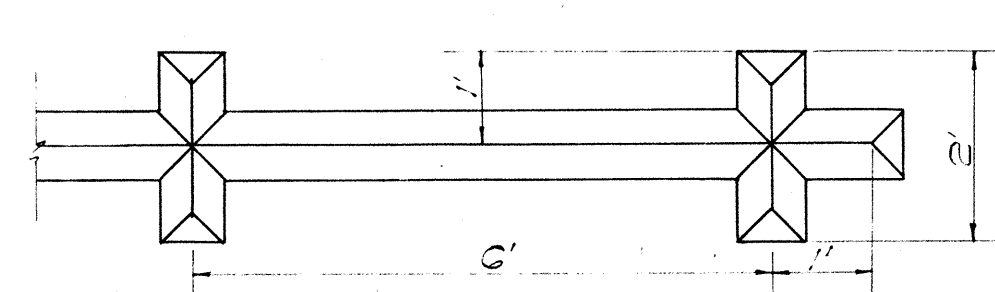
SCALE: 1" = 1'-0"



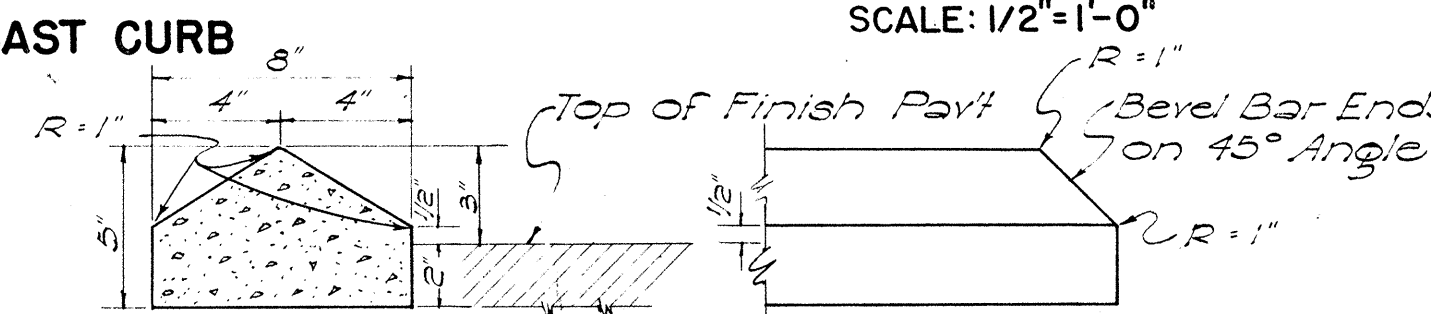
END ELEV.



TYPE "F" GUTTER
FOR PRECAST CURB



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



SECTION

ELEVATION

RAISED TRAFFIC BARS

SCALE: 2" = 1'-0"



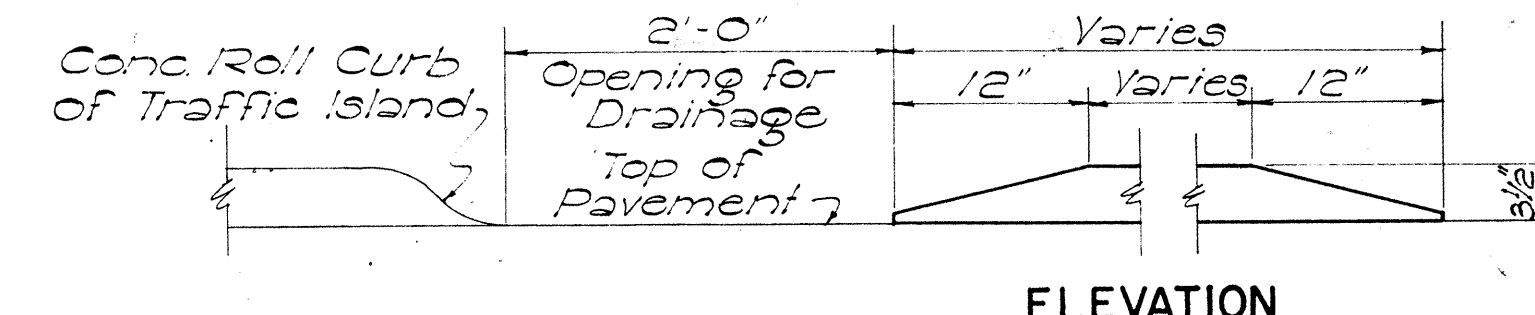
PLAN

RAISED JIGGLE BARS

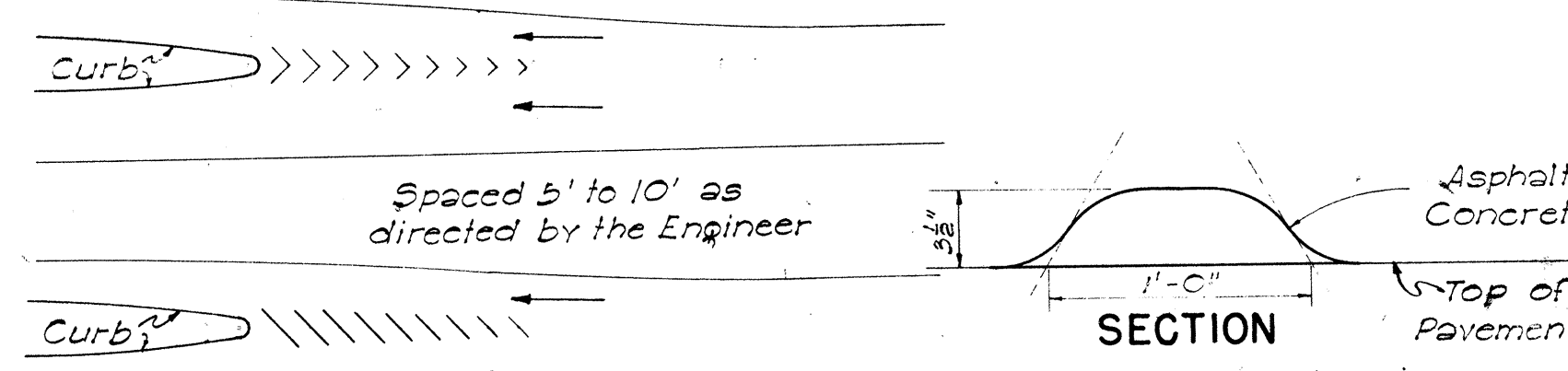
SCALE: 1/2" = 1'-0"

NOTE:
Section and Elevation for Jiggle Bars are same as the Traffic Bars.

NOTE:
Paint all exposed surfaces of bars with beaded white traffic lacquer.



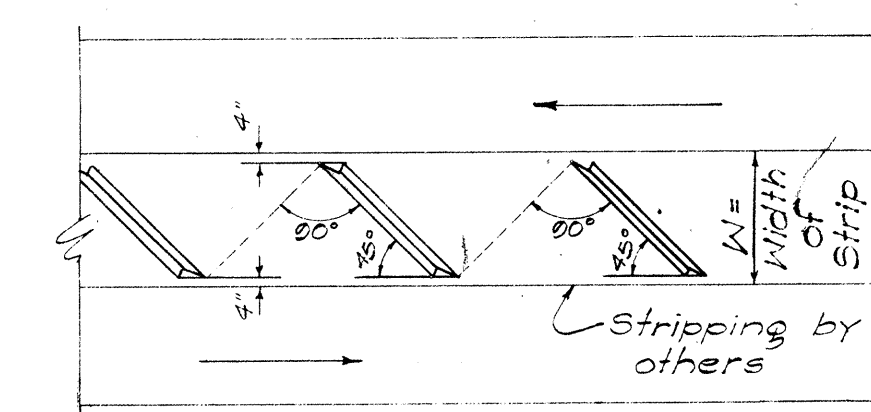
ELEVATION



SECTION

A.C. TRAFFIC ROLL

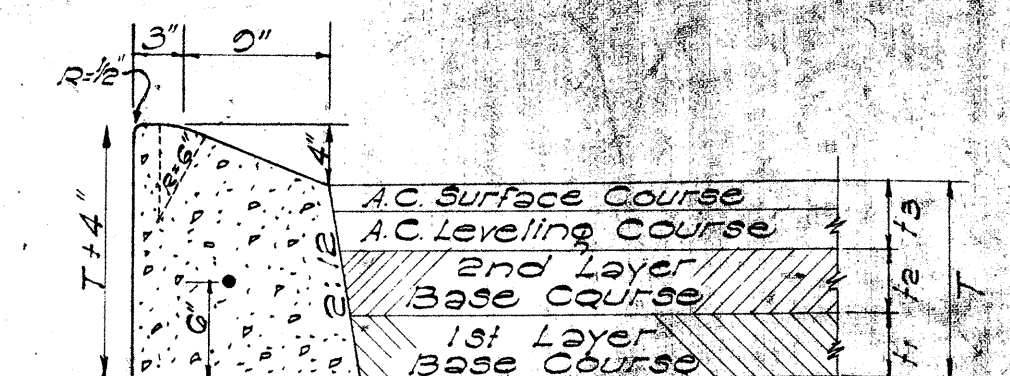
NOT TO SCALE



MECHANICAL STRIP

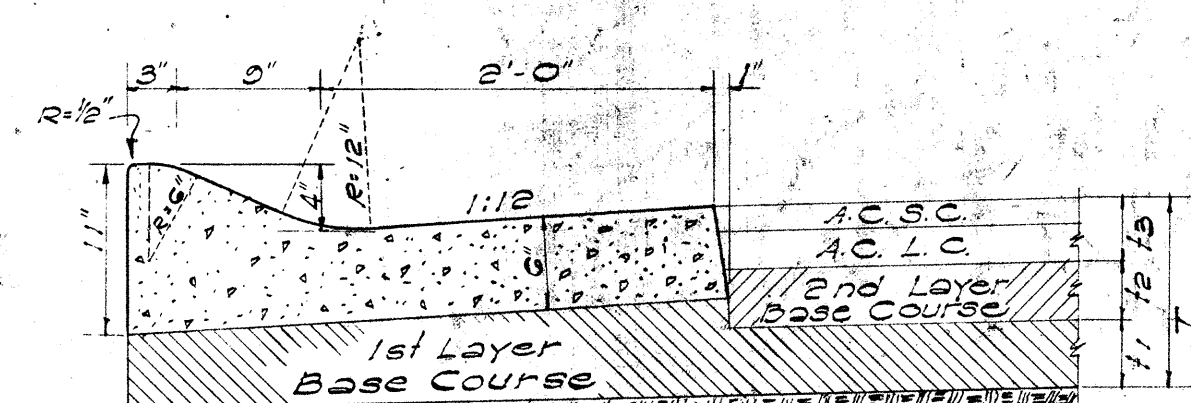
LAYOUT OF JIGGLE BARS

NOT TO SCALE



TYPE "E" CAST-IN-PLACE
CONCRETE CURB

SCALE: 1" = 1'-0"



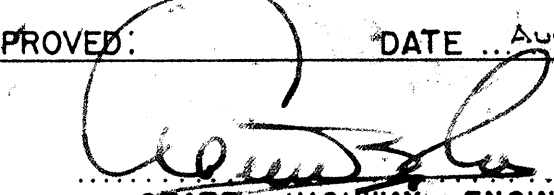
TYPE "EG" CAST-IN-PLACE
CONC. CURB & GUTTER

SCALE: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE CURBS,
CONCRETE CURBS & GUTTERS
SCALES AS NOTED

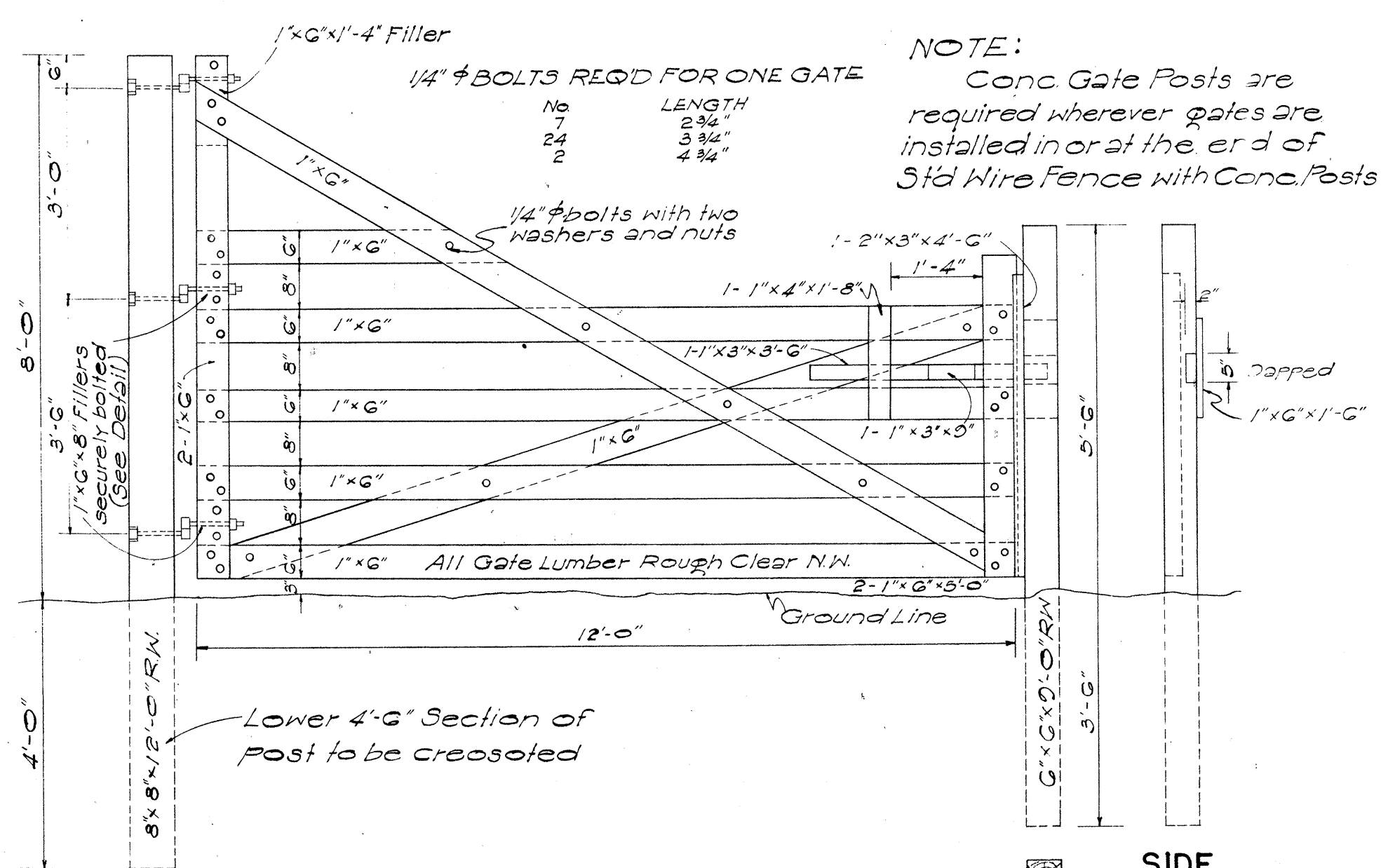
SHEET NO. 1 OF 20 SHEETS

APPROVED:  DATE: Aug. 26, 1959
STATE HIGHWAY ENGINEER

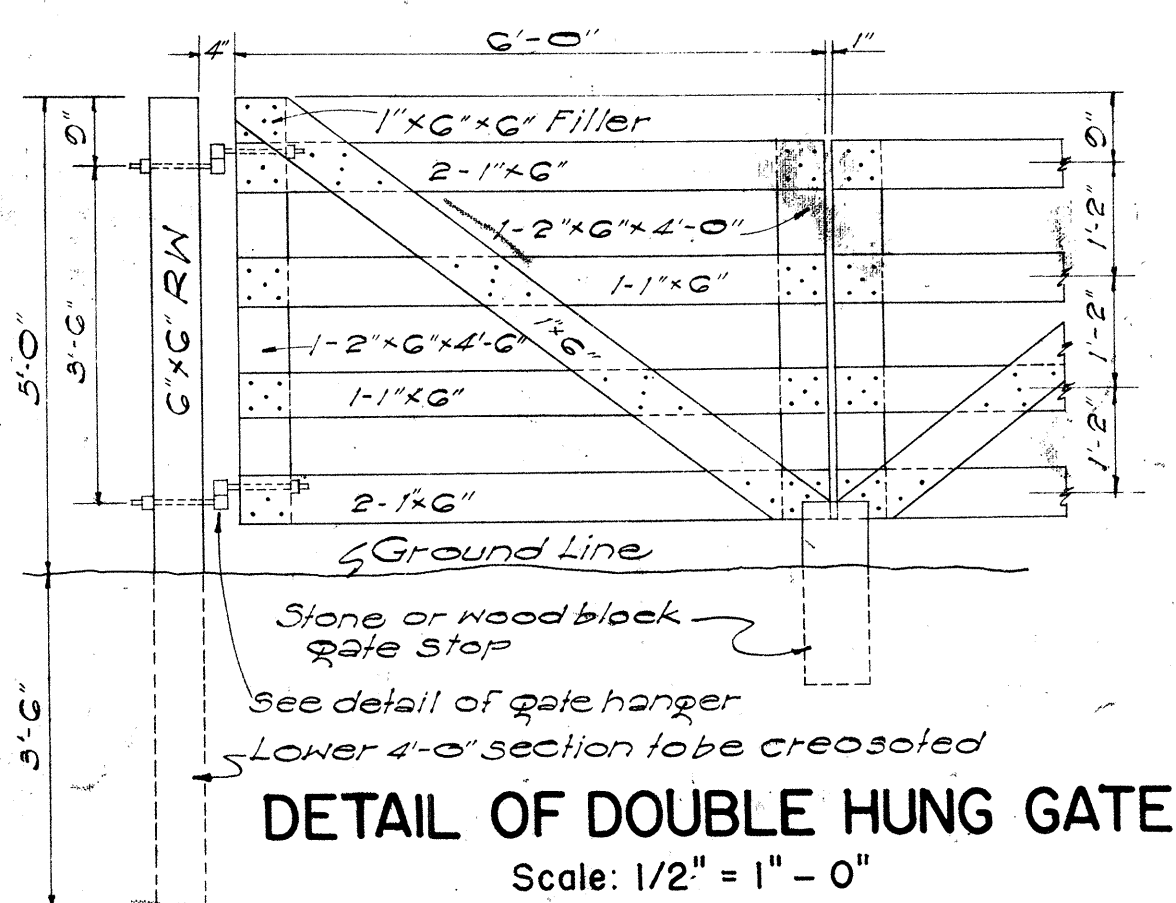
"E" and "EG" Curbs have been revised 7-26-57
"G" and "F" Gutters have been added 9-22-61

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

AUG. 1957

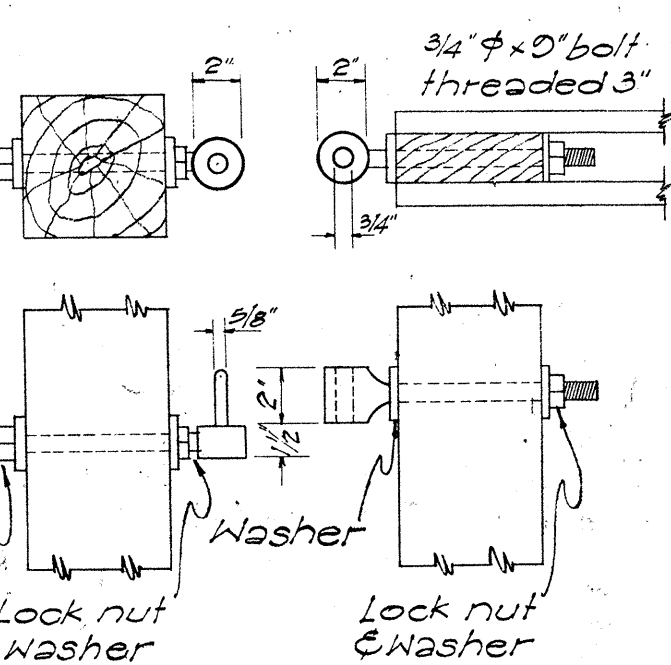


DETAIL OF CATTLE GATE
Scale: 1/2" = 1'-0"

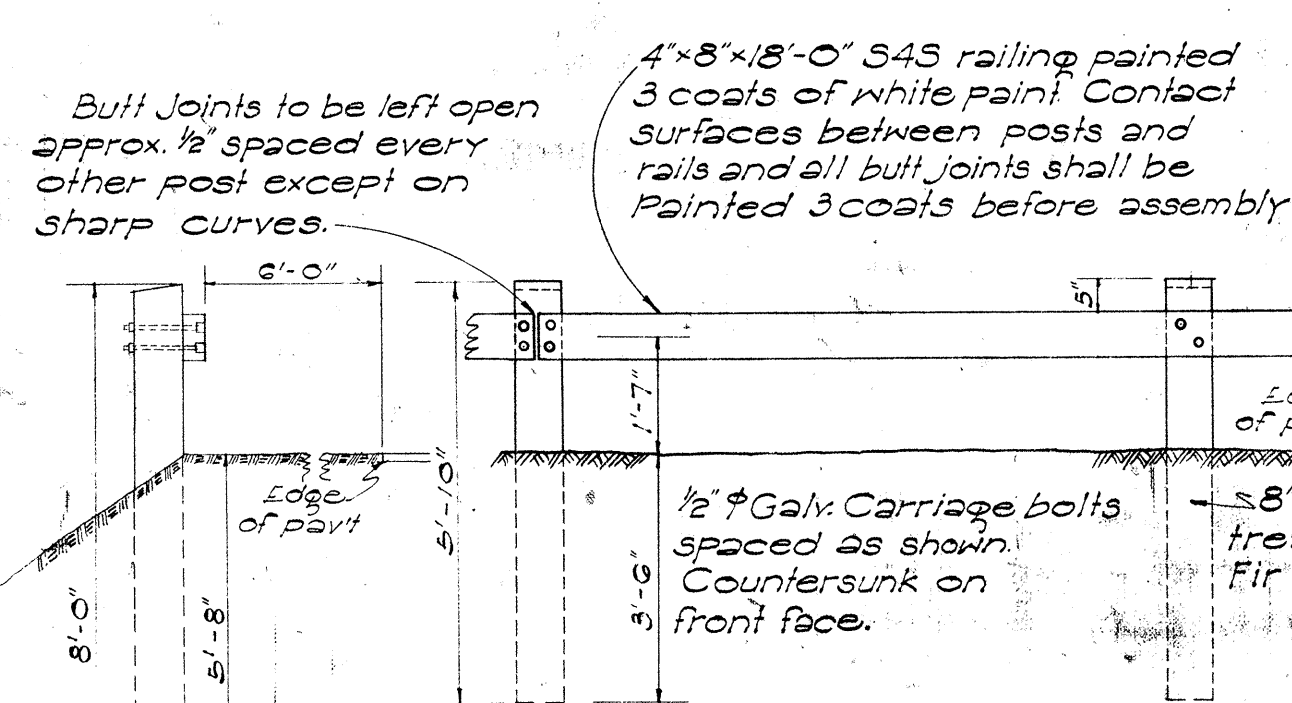


DETAIL OF DOUBLE HUNG GATE
Scale: 1/2" = 1'-0"
See note regarding use of Conc. Posts

DETAIL OF GATE HANGER
Scale: 1-1/2" = 1'-0"
Note: Use 3/4"x11" bolts for Cattle Gate

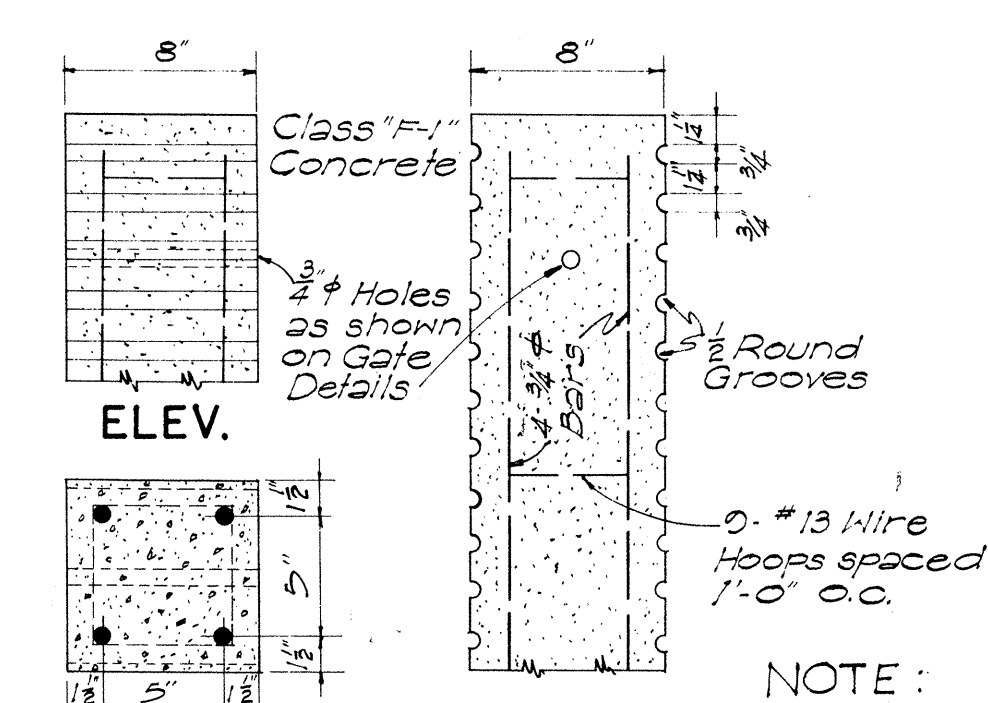


DETAIL OF GATE HANGER
Scale: 1-1/2" = 1'-0"
Note: Use 3/4"x11" bolts for Cattle Gate

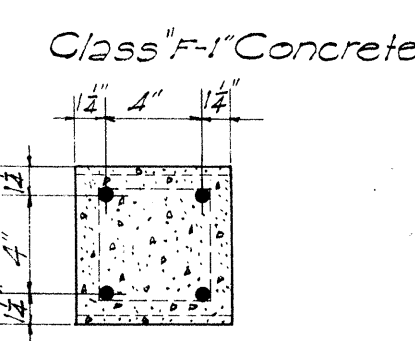


WOOD GUARD RAIL WITH WOOD POSTS
Scale: 3/8" = 1'-0"
NOTE: For Conc. Post see detail at right

GUIDE POSTS: Wood or Conc. Guide Posts are the same as those used for Wood Guard Rail spaced as shown on plans.

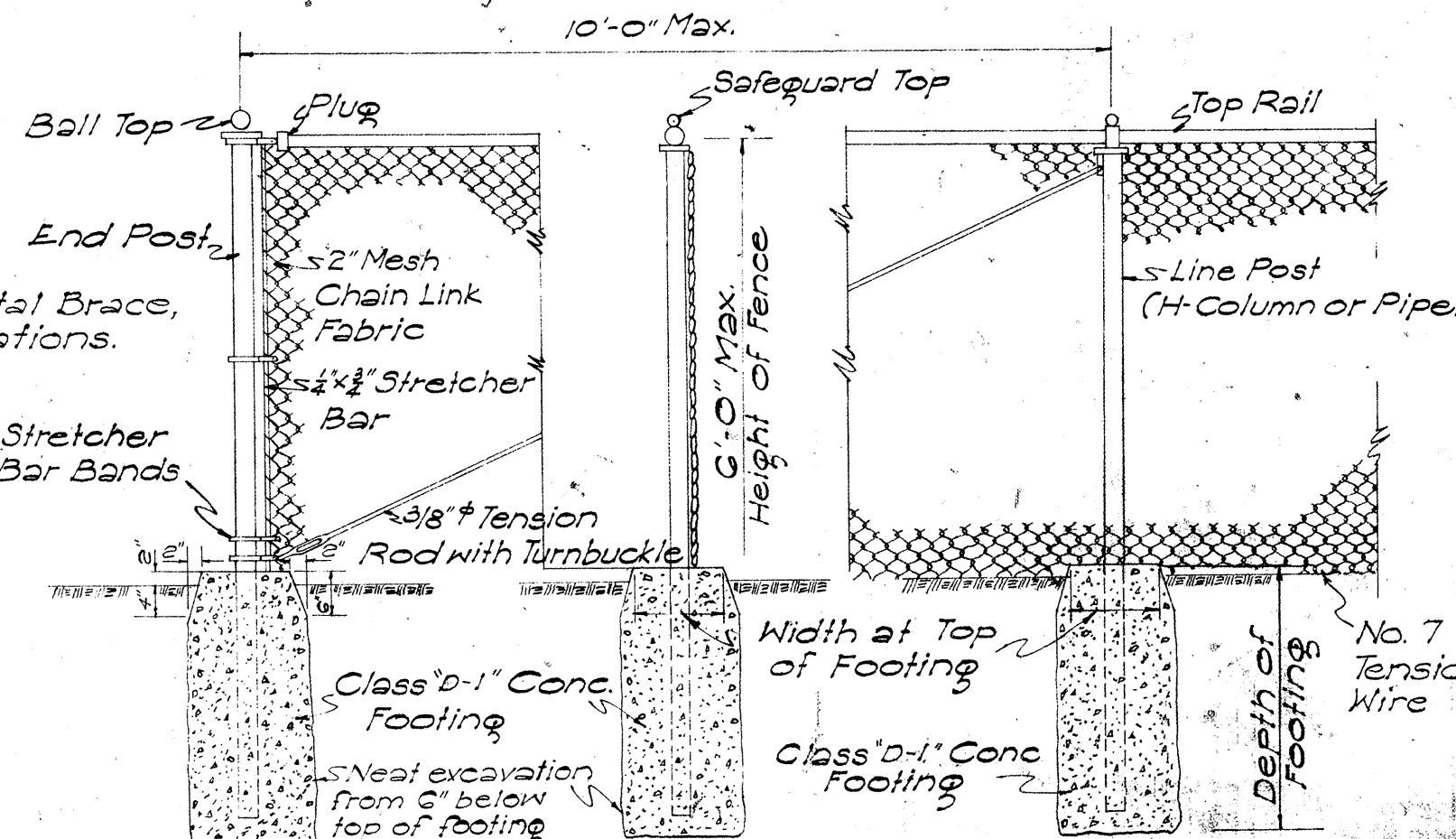


CONC. GATE POST
Scale: 1-1/2" = 1'-0"

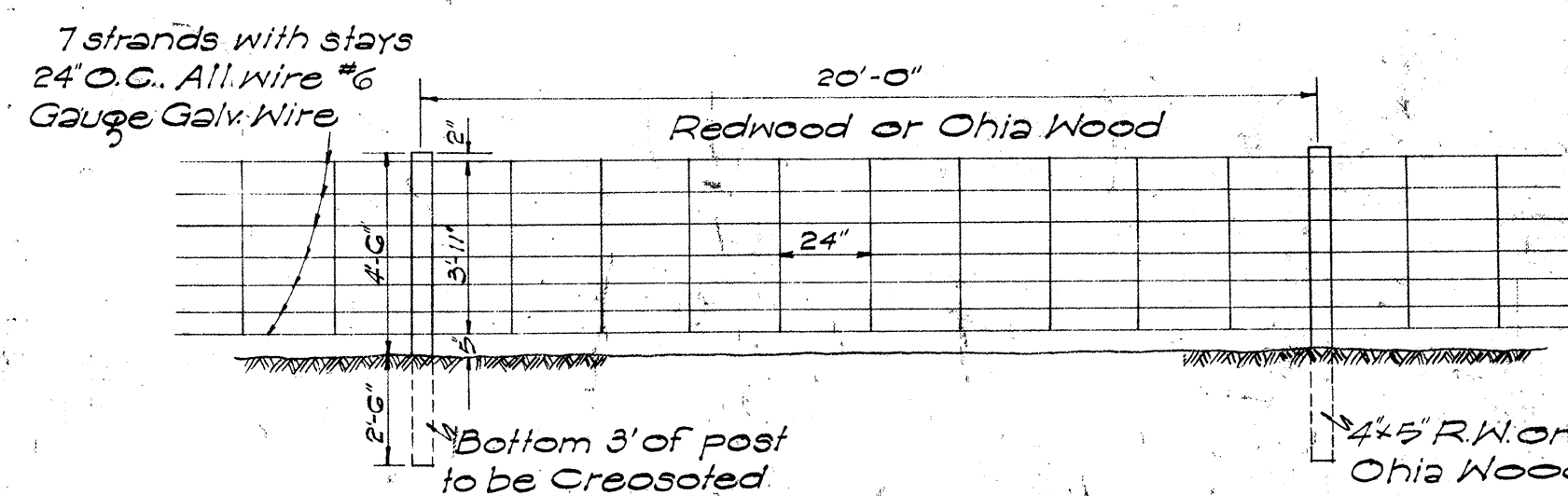


CONC. FENCE POST
Scale: 1-1/2" = 1'-0"

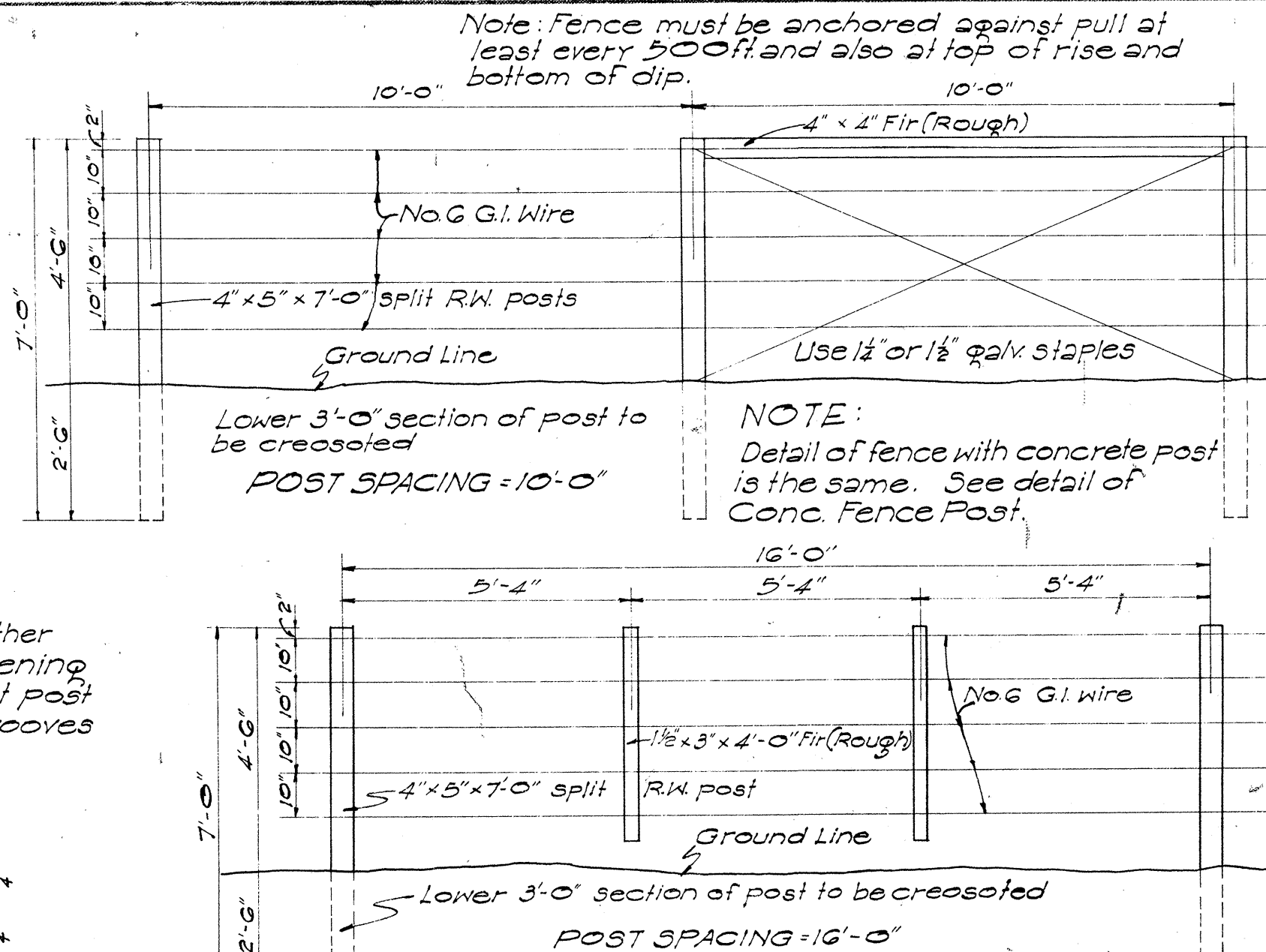
NOTE: Posts for chain link fence shall be full lengths and shall not be sections joined together to produce the required lengths.



DETAIL OF CHAIN LINK FENCE
Scale: 1/2" = 1'-0"

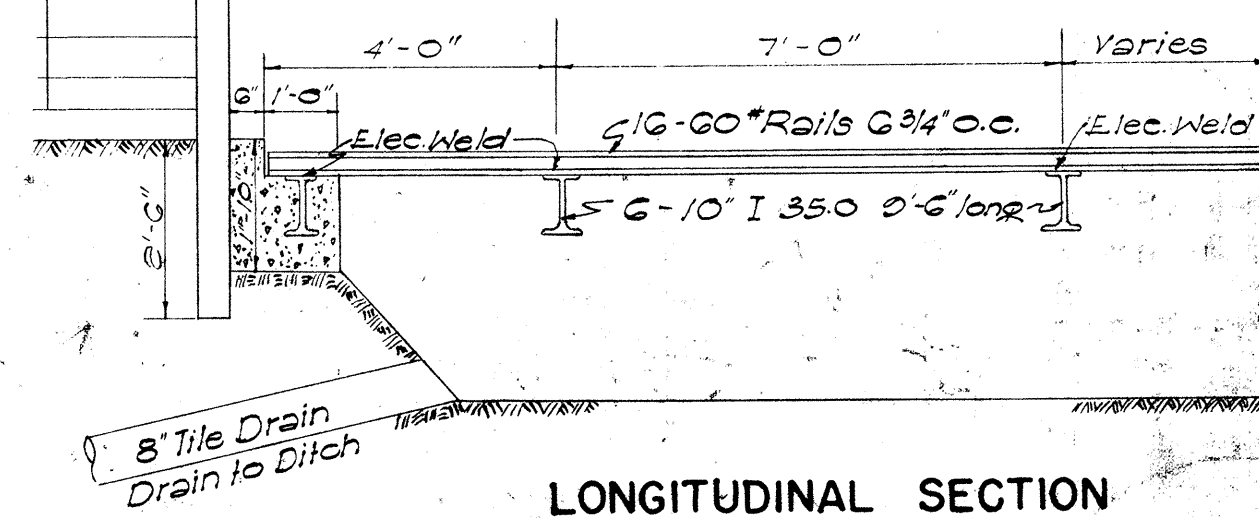


DETAIL OF WOVEN WIRE FENCE
Scale: 1/4" = 1'-0"

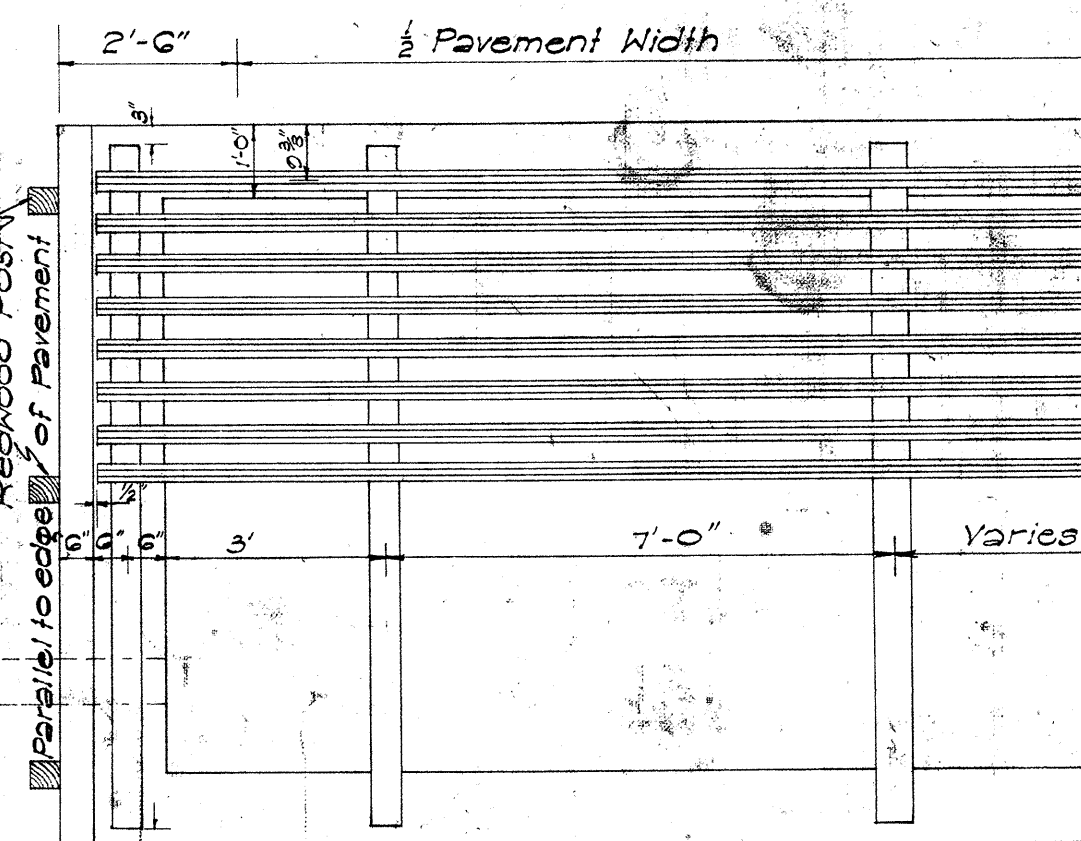


DETAILS OF STANDARD WIRE FENCE WITH WOOD POSTS
Scale: 3/8" = 1'-0"

Note to Engineer: Fence must be on Road R/W to participate in Federal Aid. Consult office if uncertain what to do.



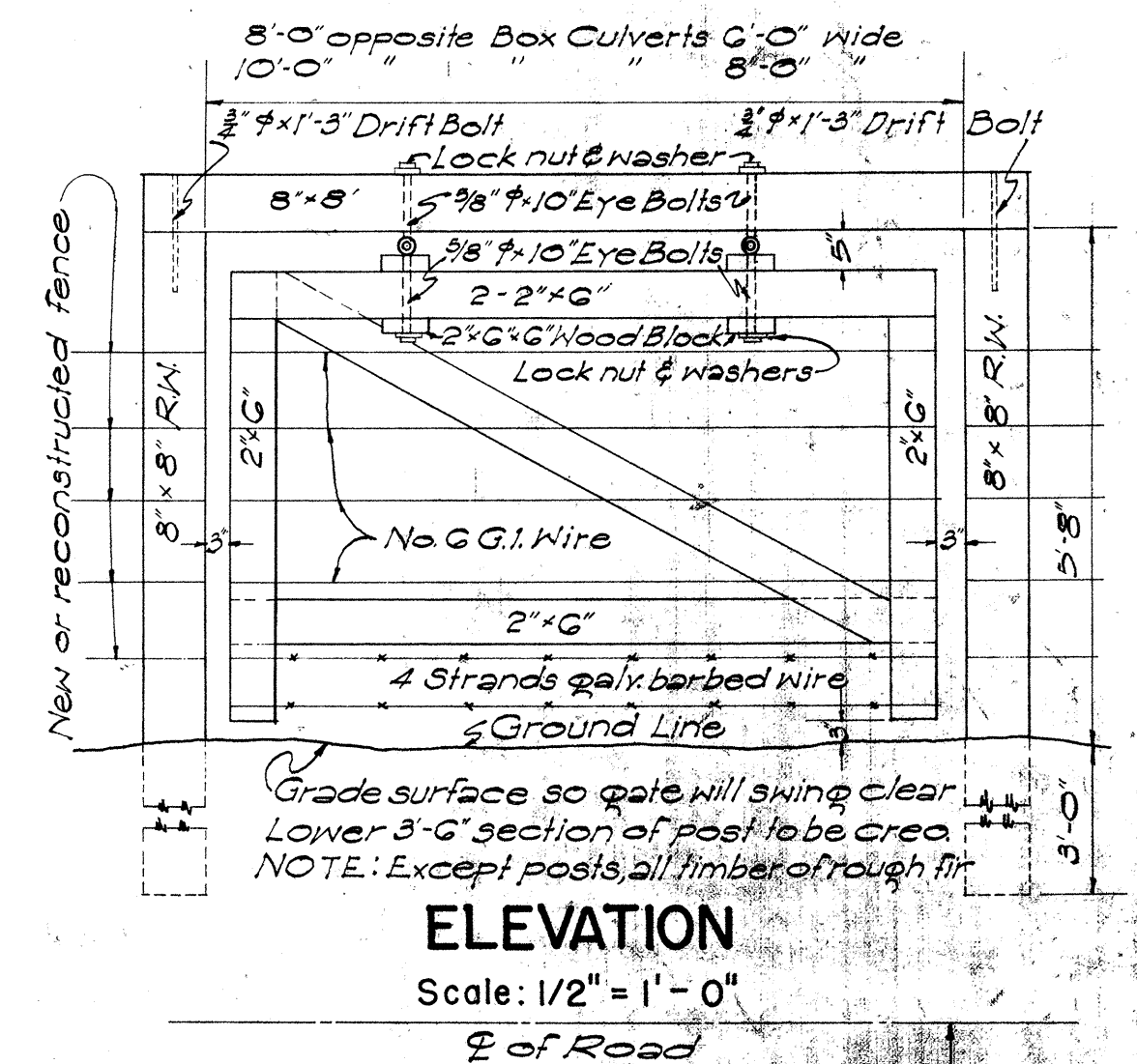
LONGITUDINAL SECTION



HALF SECTION

DETAIL OF CATTLE GUARD
Scale: 3/8" = 1'-0"

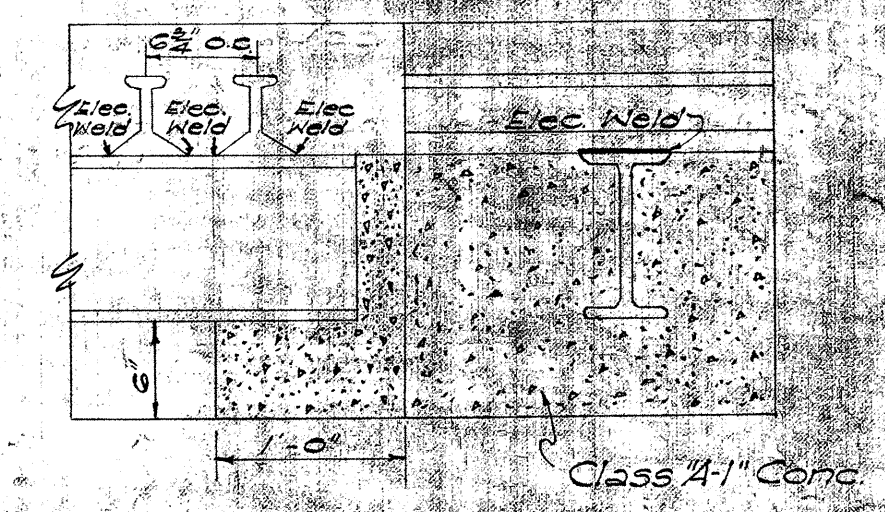
APPROVED: *[Signature]* DATE: Aug. 29, 1957
STATE HIGHWAY ENGINEER



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

LAYOUT SHOWING HURDLE PLACED BELOW CULVERT IN A POSITION WHICH WILL BE CATTLE TIGHT

DETAILS OF HURDLE



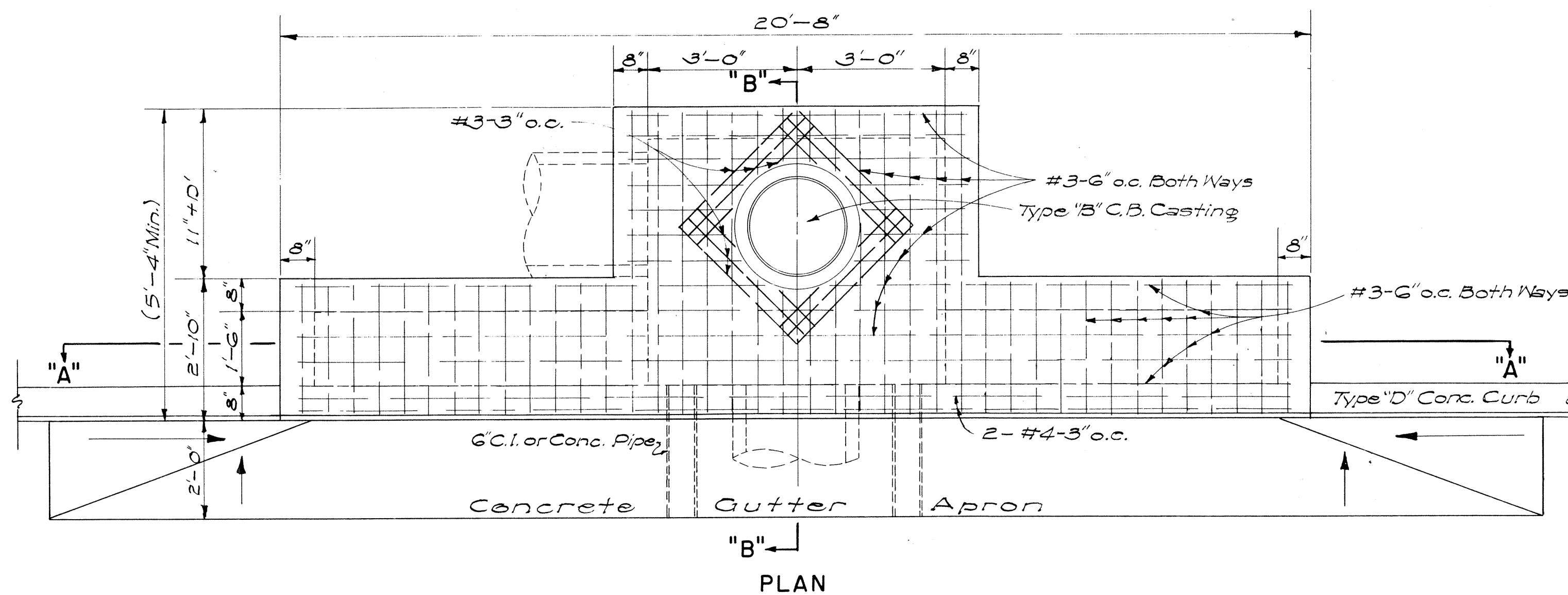
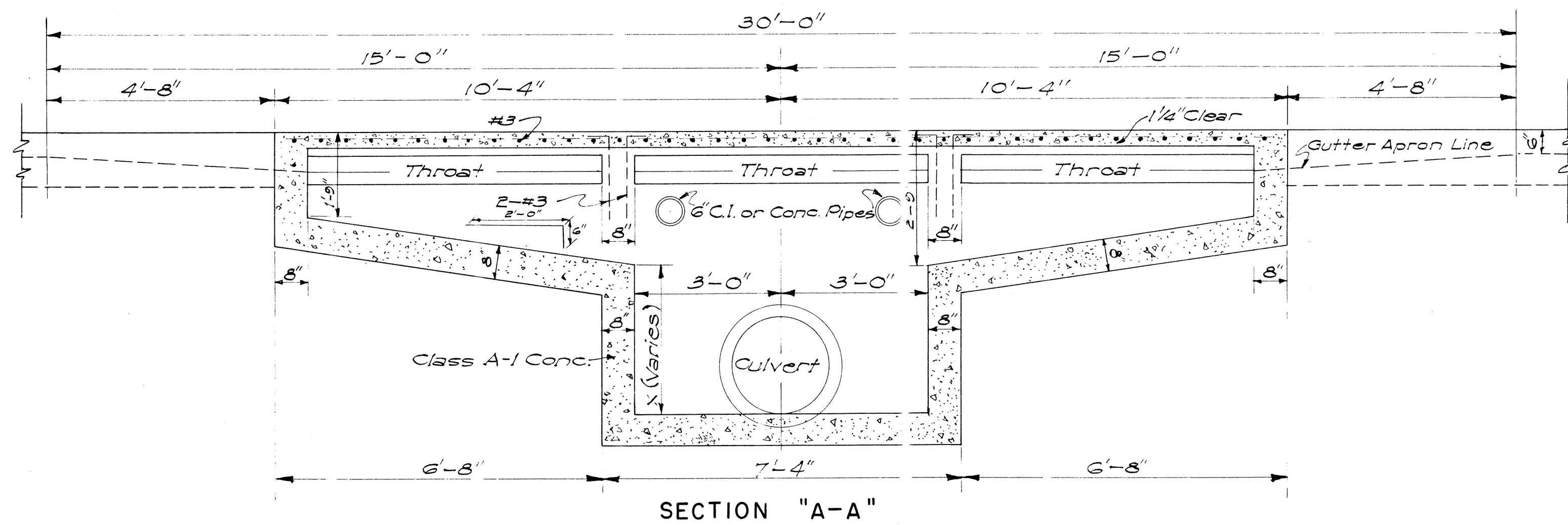
SECTION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
FENCES, GATES, GUARD RAILS,
GUIDE POSTS, CATTLE GUARD
SCALES AS NOTED

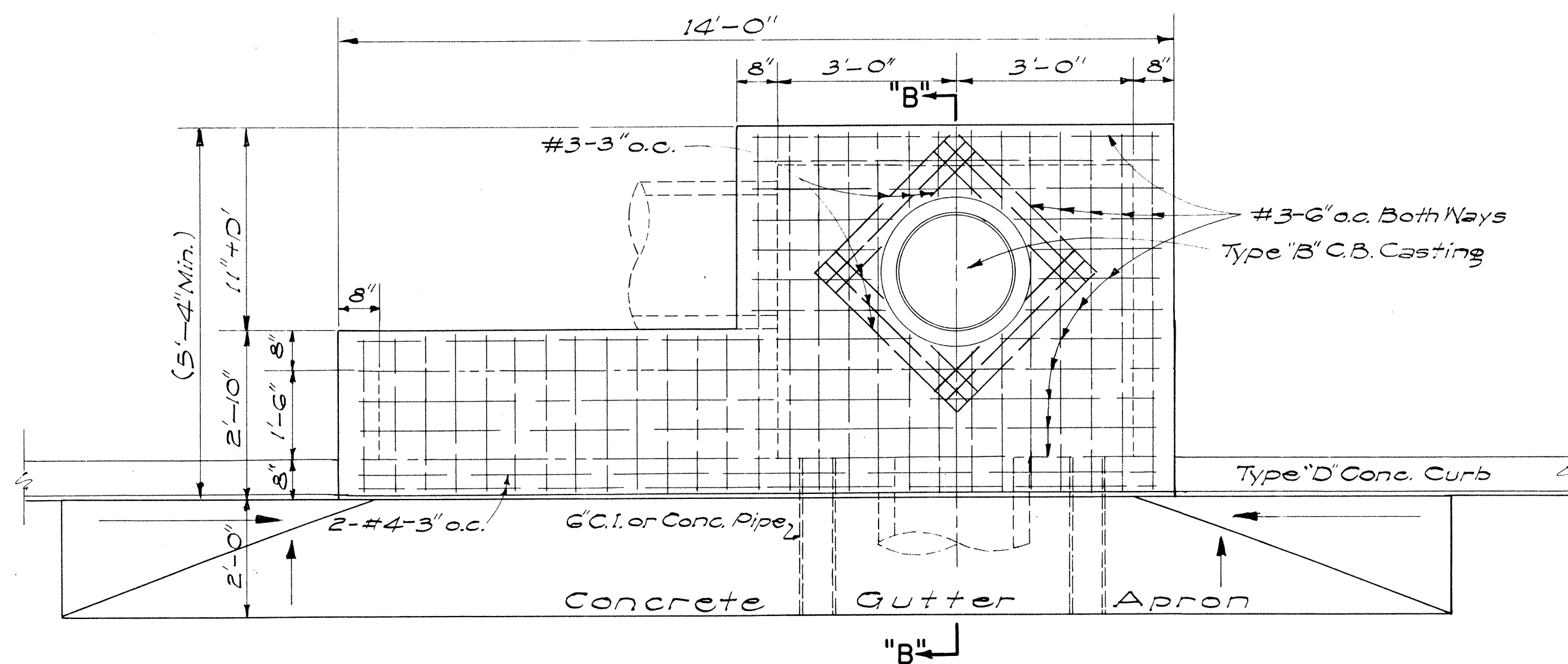
SHEET No. 2 OF 20 SHEETS

2/17/59

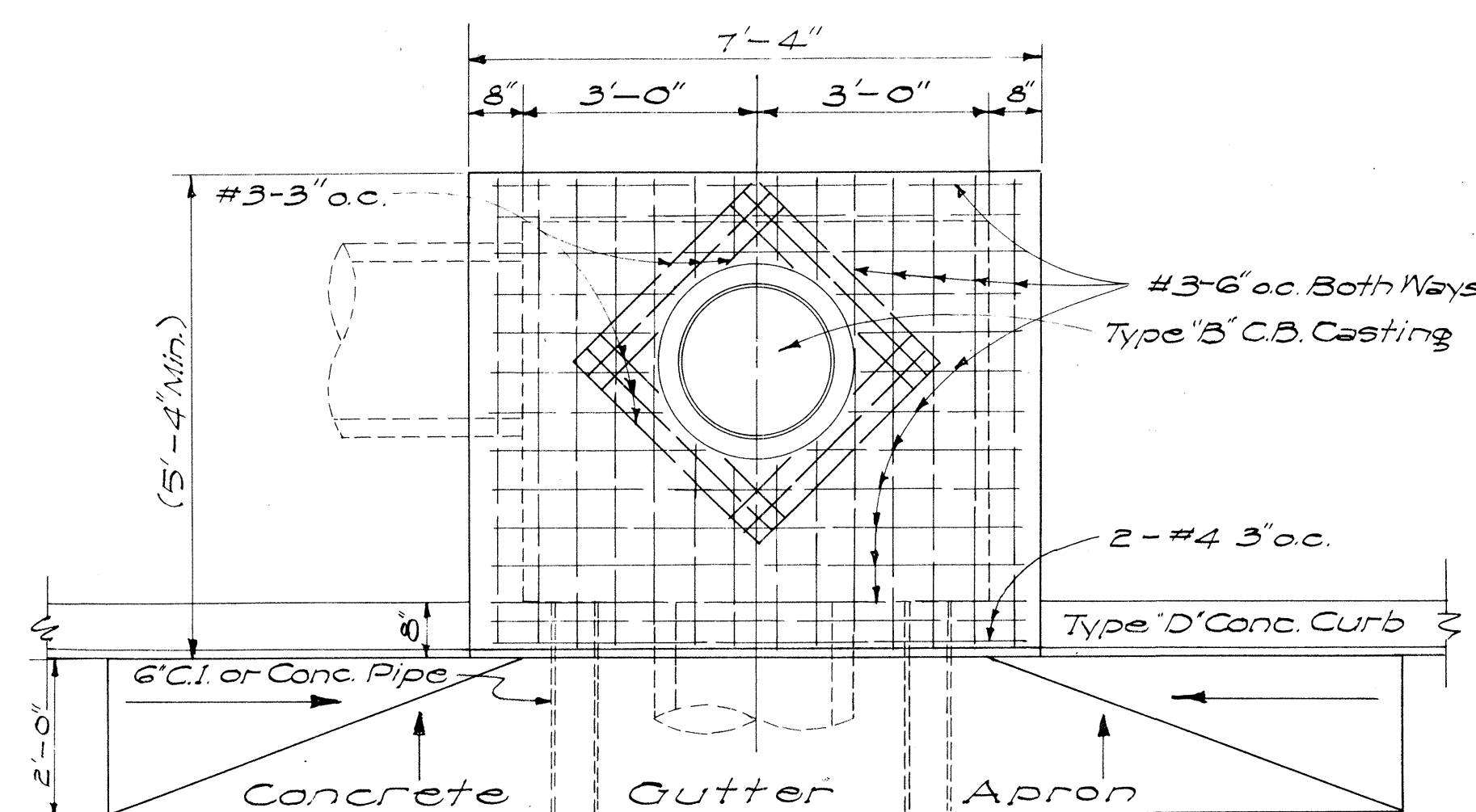
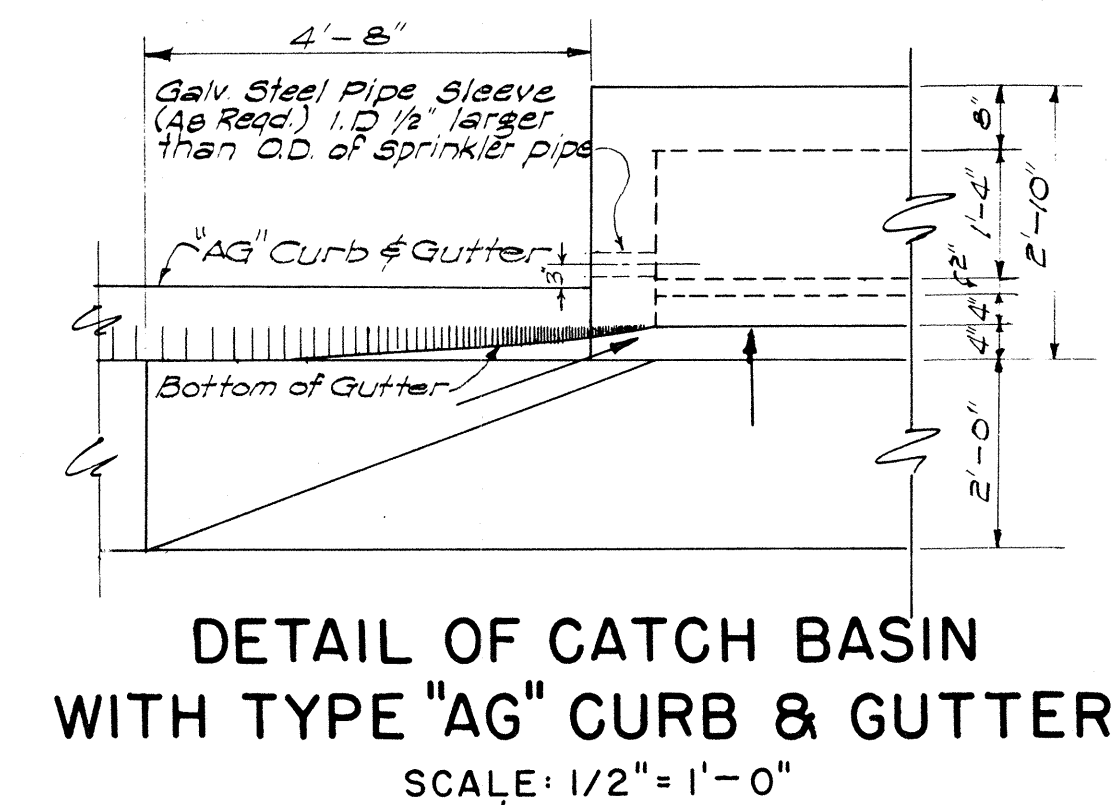
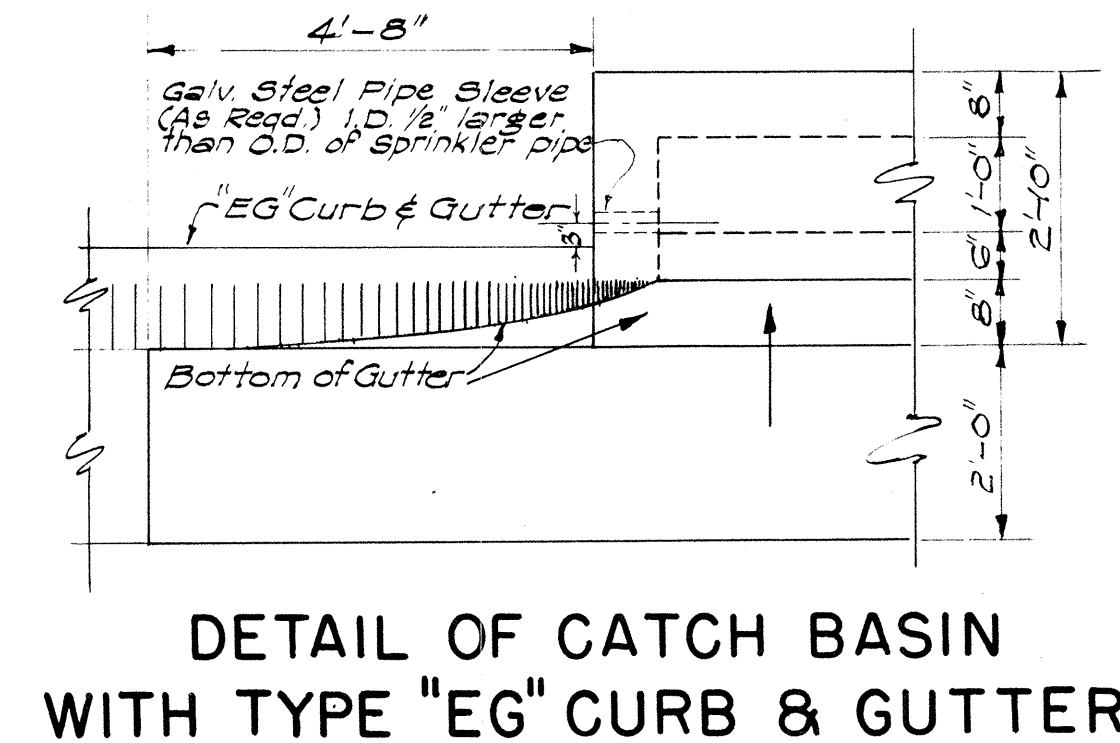
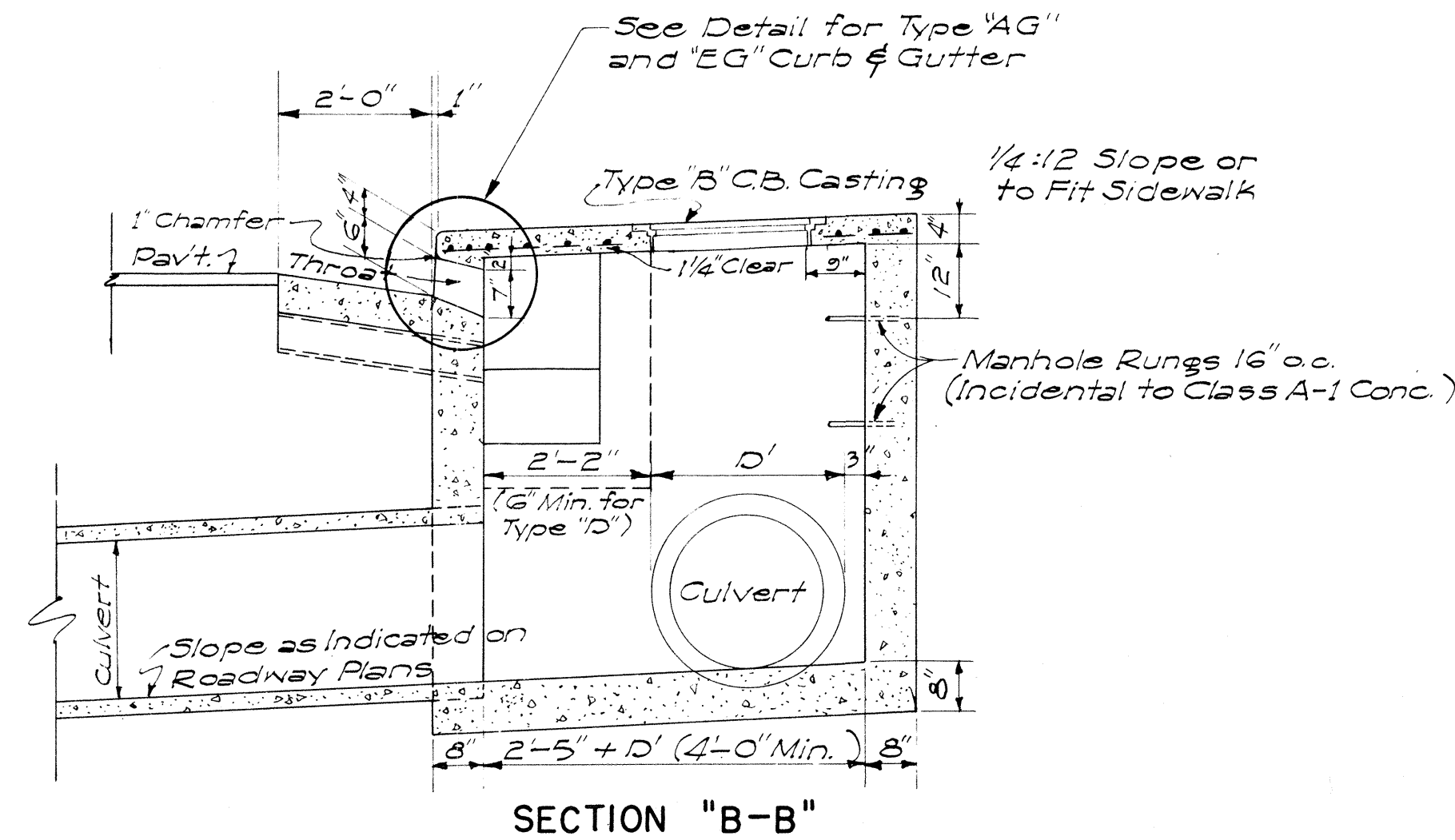
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	F02010	1962	39	127



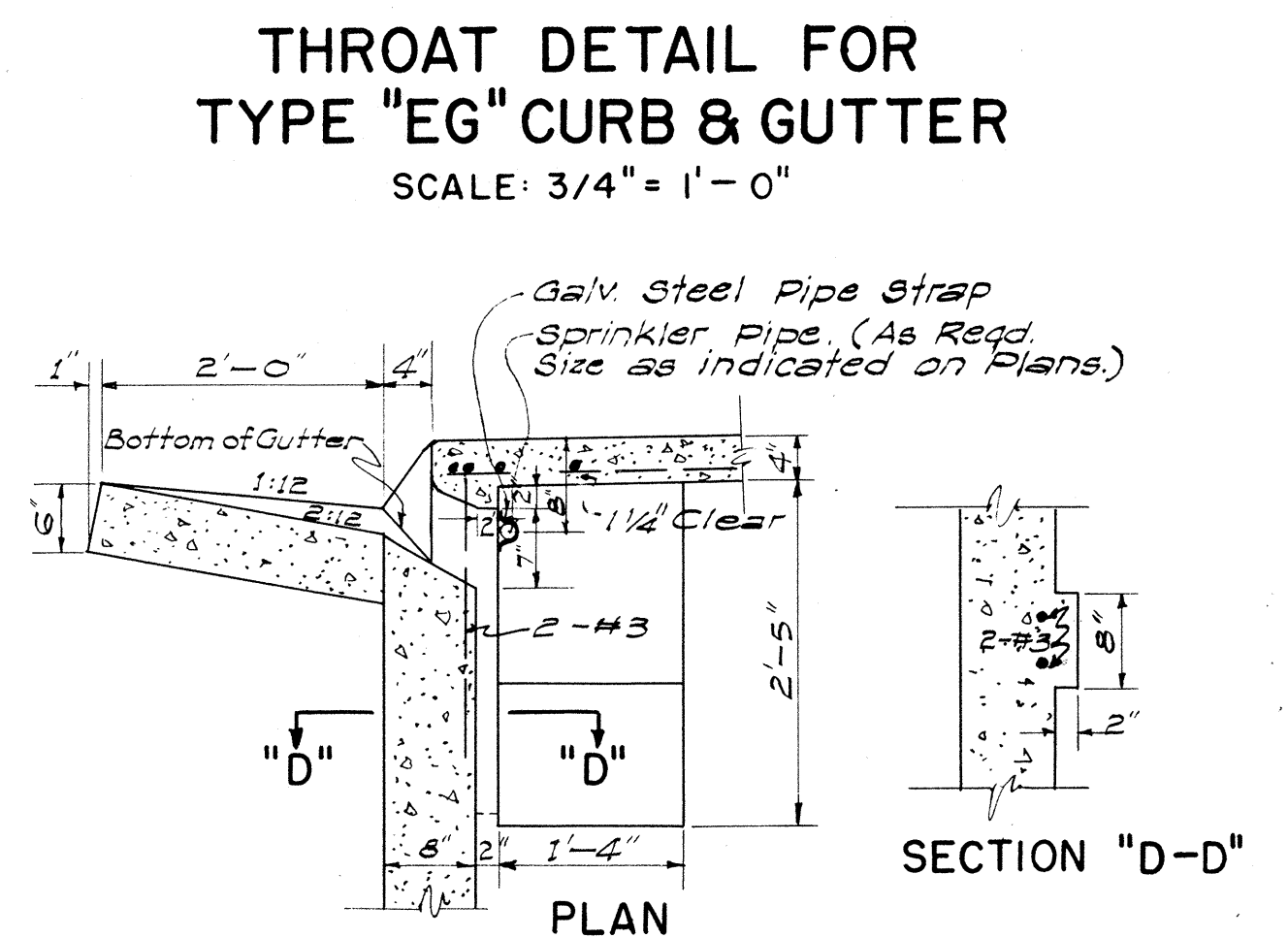
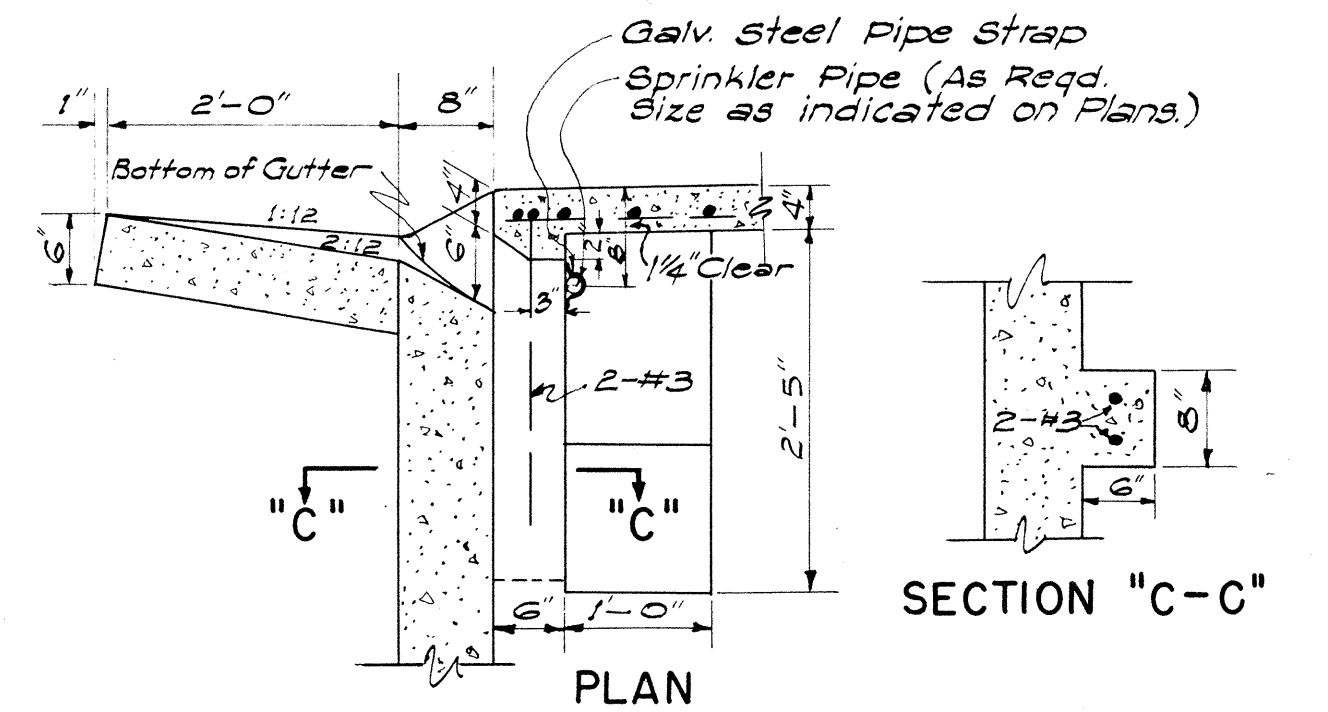
DETAIL OF TYPE "A" CATCH BASIN
SCALE: 1/2" = 1'-0"



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



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



ESTIMATED QUANTITIES

Type	Class A-1 Conc.	Struct. Exc.	Reinf. Steel	Gutter Length
"A"	7.5 c.y.	24.7 c.y.	145 lb.	30'-0"
"B"	6.0 c.y.	21.5 c.y.	108 lb.	23'-4"
"C"	6.0 c.y.	21.5 c.y.	108 lb.	23'-4"
"D"	4.0 c.y.	16.5 c.y.	77 lb.	16'-8"

NOTES:

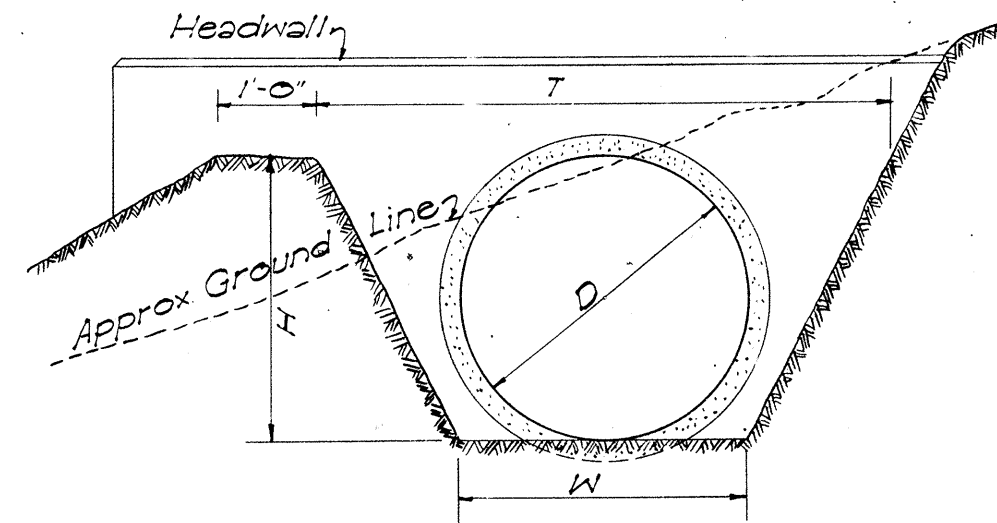
- Quantities based on X=3'-0" and D=30"
- Quantities do not include concrete for Gutter Apron.
- The Contractor shall install 2'-6" Cast Iron or Concrete Pipes as incidental to Class A-1 Concrete for Construction Drainage.
- Culvert shall leave C.B. from any position and any direction indicated by plans 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.

APPROVED: _____ DATE: Aug. 25, 1959
STATE HIGHWAY ENGINEER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CONCRETE CATCH BASINS
SCALES AS NOTED
SHEET NO. 3 OF 20 SHEETS

ORIGINAL PLAN
DESIGNED BY: C.M.
DRAWN BY: J.Y.
CHECKED BY: _____
DATE: _____

DATA FOR OUTLET DITCH				
D	W	H	T-W+T	
18"	24"	2'-0"	4'-6"	
24"	30"	2'-0"	4'-6"	
30"	30"	2'-6"	5'-0"	
36"	36"	3'-0"	6'-0"	



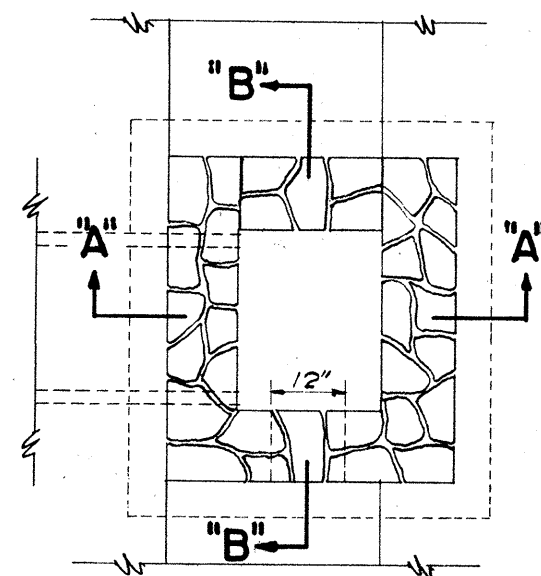
DETAIL OF OUTLET DITCH

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

D	D	L: D+G	Cu. Yds.	Where Variables Equal
23"	18"	2'-5"	3.02	4'-6"
30"	24"	3'-0"	3.61	5'-0"
37"	30"	3'-7"	4.21	5'-6"
44"	36"	4'-2"	4.85	6'-0"

NOTE:

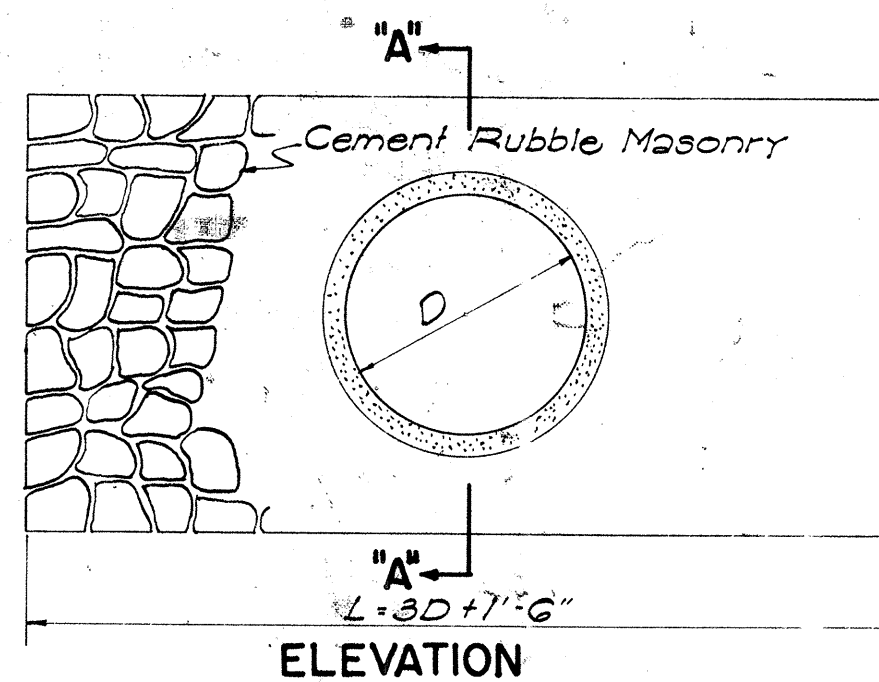
Dimension "X" is assumed as 2'-4" in figuring the above quantities.



DETAIL OF MASONRY DROP INTAKE

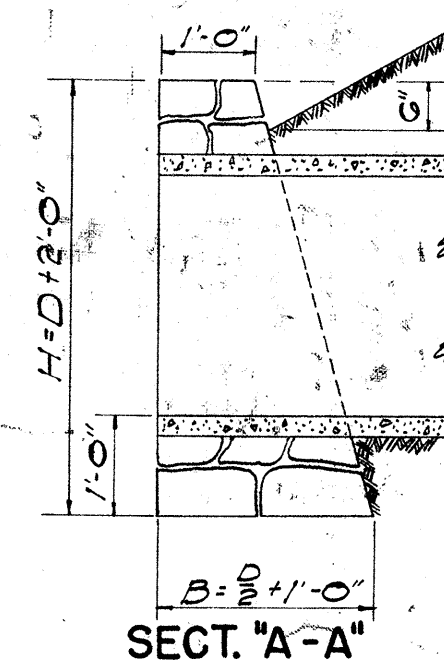
Scale: 3/8" = 1'-0"

D	H	B	L	Cast-in-Place Conc. Culvert Cu. Yds.	Conc. Pipe Culvert Cu. Yds.	Corrugated Pipe Culvert Cu. Yds.
18"	3'-6"	1'-0"	6'-0"	0.83	0.05	0.03
24"	4'-0"	2'-0"	7'-6"	1.28	1.49	1.41
30"	4'-6"	2'-3"	9'-0"	1.83	2.06	2.00
36"	5'-0"	2'-6"	10'-6"	2.40	2.84	2.72

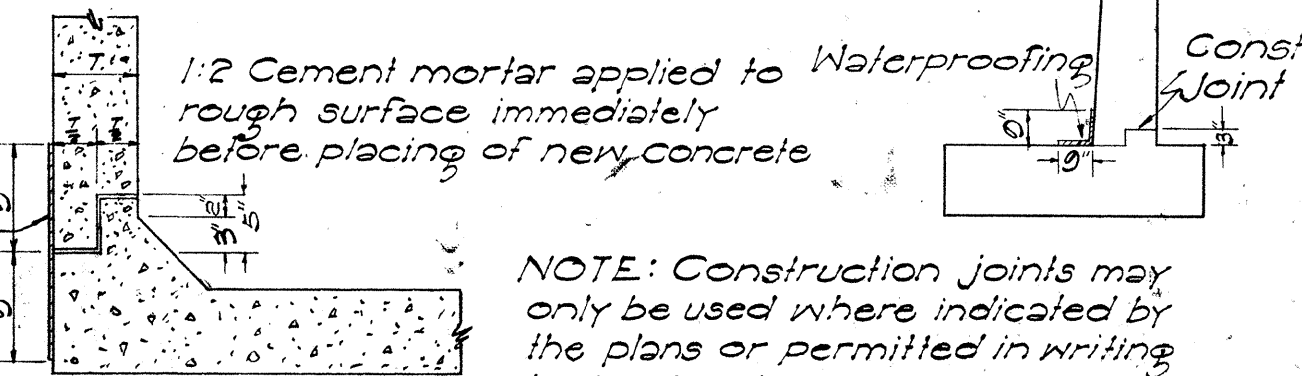


DETAIL OF MASONRY HEADWALL

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



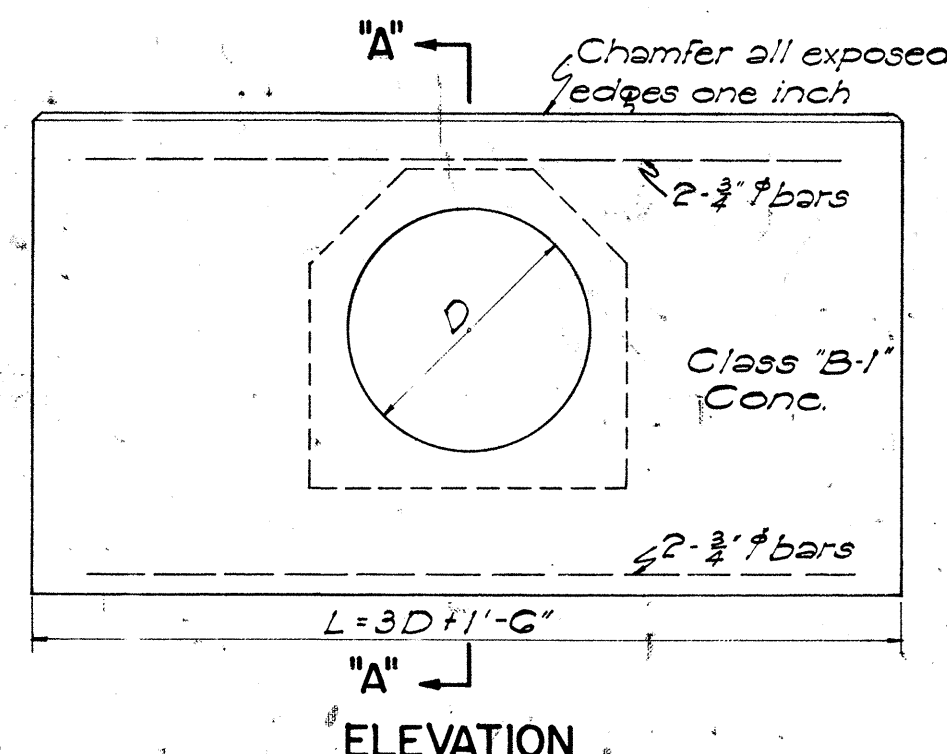
SECT. "A-A"



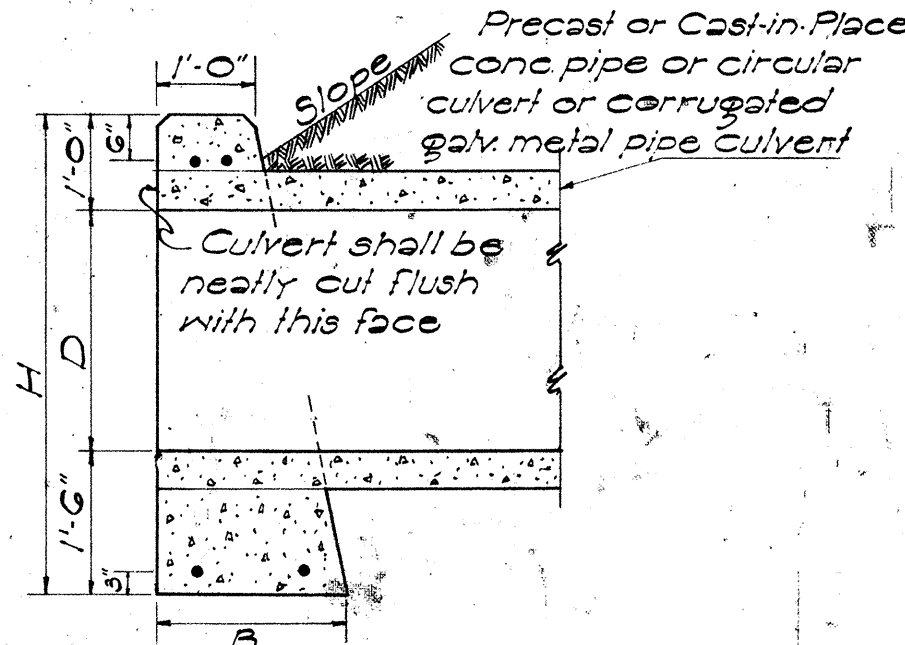
CONSTR. JOINT DETAILS

NOTE: Construction joints may only be used where indicated by the plans or permitted in writing by the Engineer.

Note: When subgrade is below top of jacket, it shall be fully compacted to this line and then re-excavated (struck) to proper subgrade. This surface shall be rolled again.



ELEVATION



SECTION "A-A"

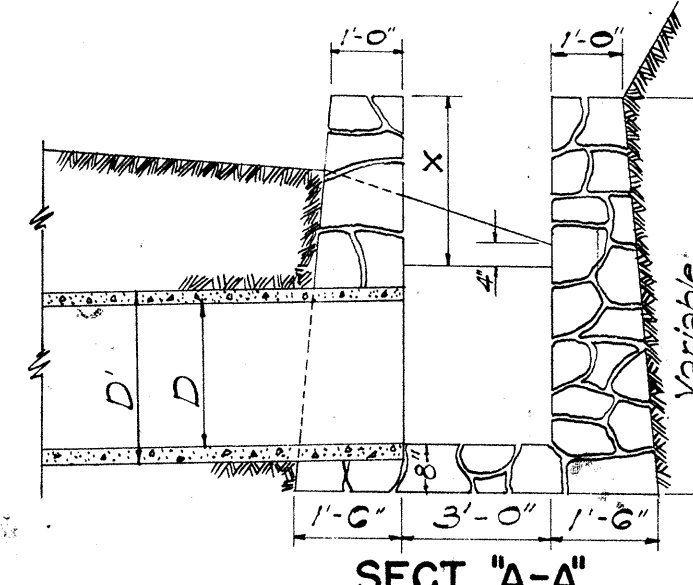
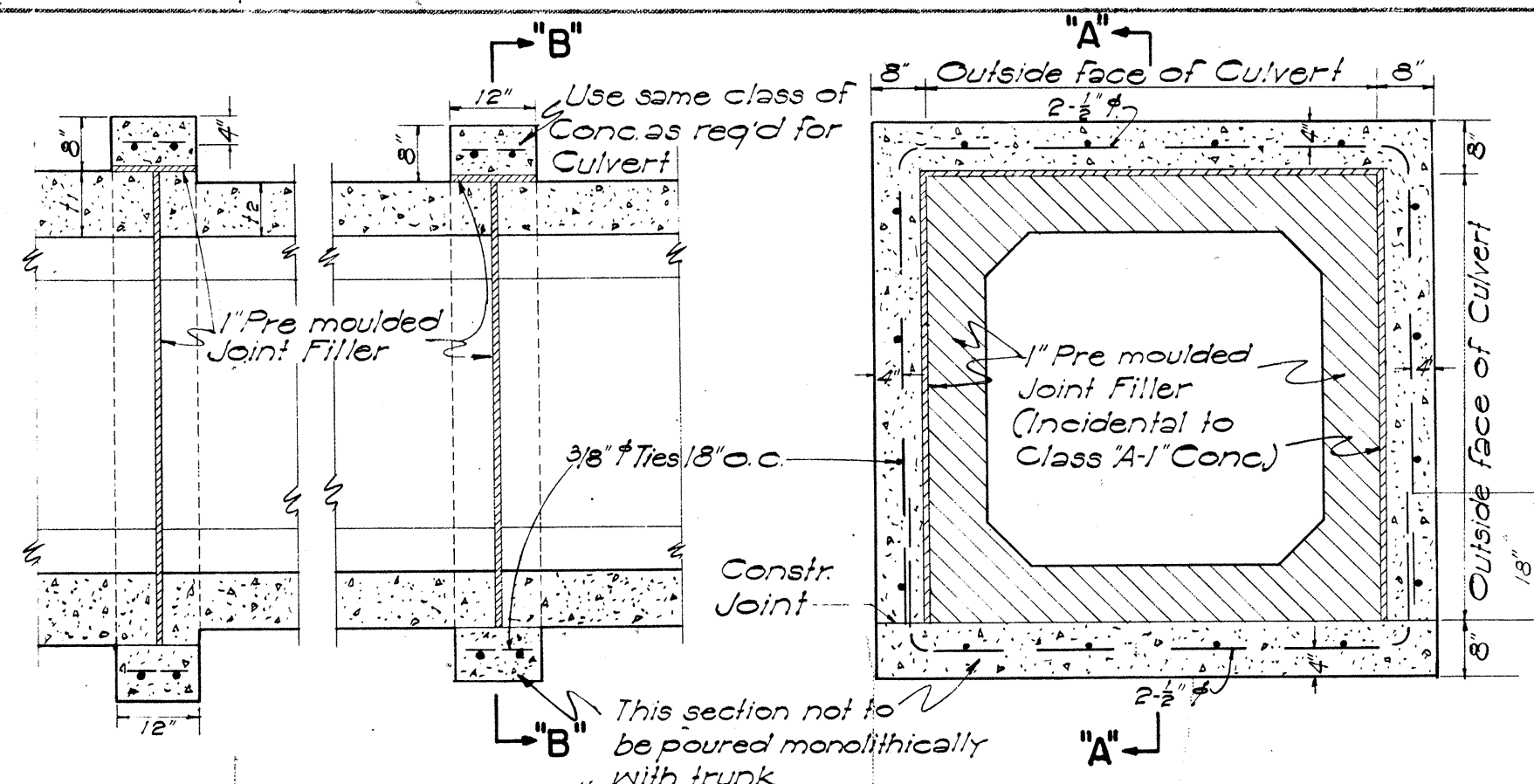
D	B	L	H	Cast-in-Place Conc. Culvert Cu. Yds.	Conc. Pipe Culvert Cu. Yds.	Steel For One Headwall
18"	1'-6"	6'-0"	4'-0"	0.02	1.00	No. of Bars Size Length Lbs.
24"	1'-6"	7'-6"	4'-0"	1.23	1.33	4 3/4" 5'-0" 33
30"	2'-0"	9'-0"	5'-0"	1.05	2.17	4 3/4" 7'-0" 42
36"	2'-0"	10'-6"	5'-6"	2.45	2.74	4 3/4" 8'-6" 51
42"	2'-6"	12'-0"	6'-0"		3.87	4 3/4" 10'-0" 60
48"	2'-6"	13'-6"	6'-6"		4.66	4 3/4" 11'-6" 60

DETAIL OF CONCRETE HEADWALL

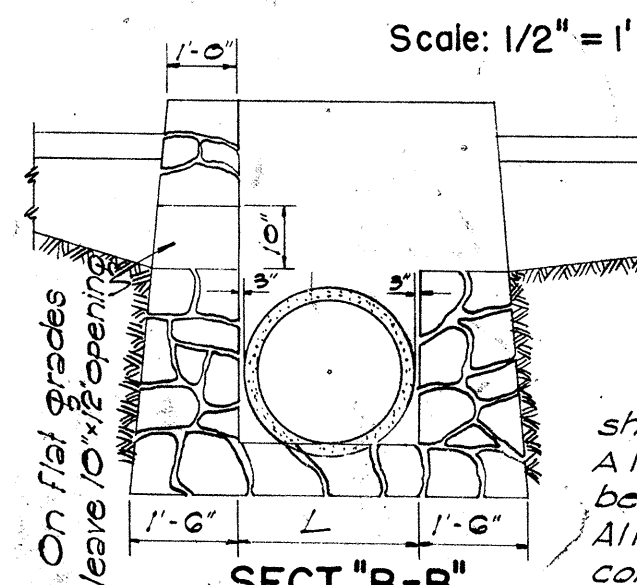
Scale: 1/2" = 1'-0"

SECTION "A-A"
CONC. COLLAR FOR CONC. BOX CULVERT

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



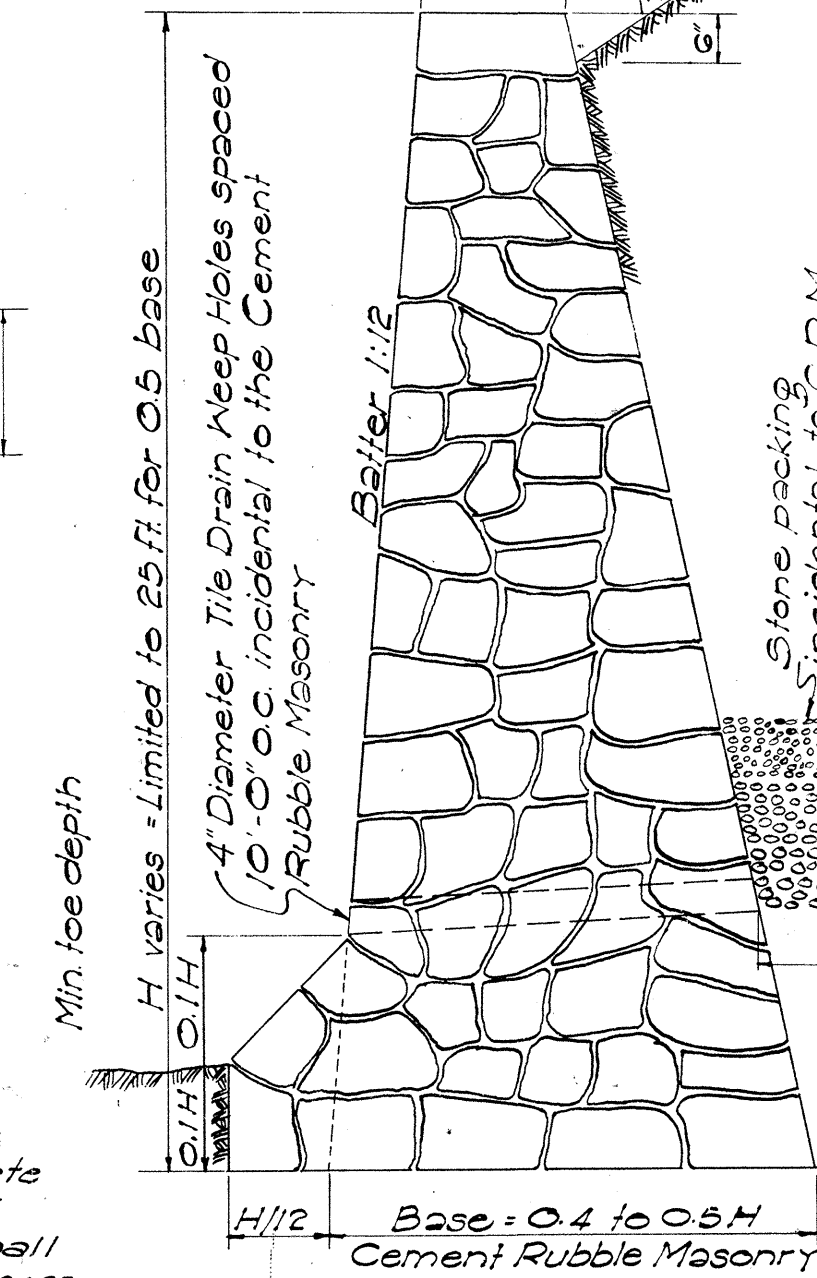
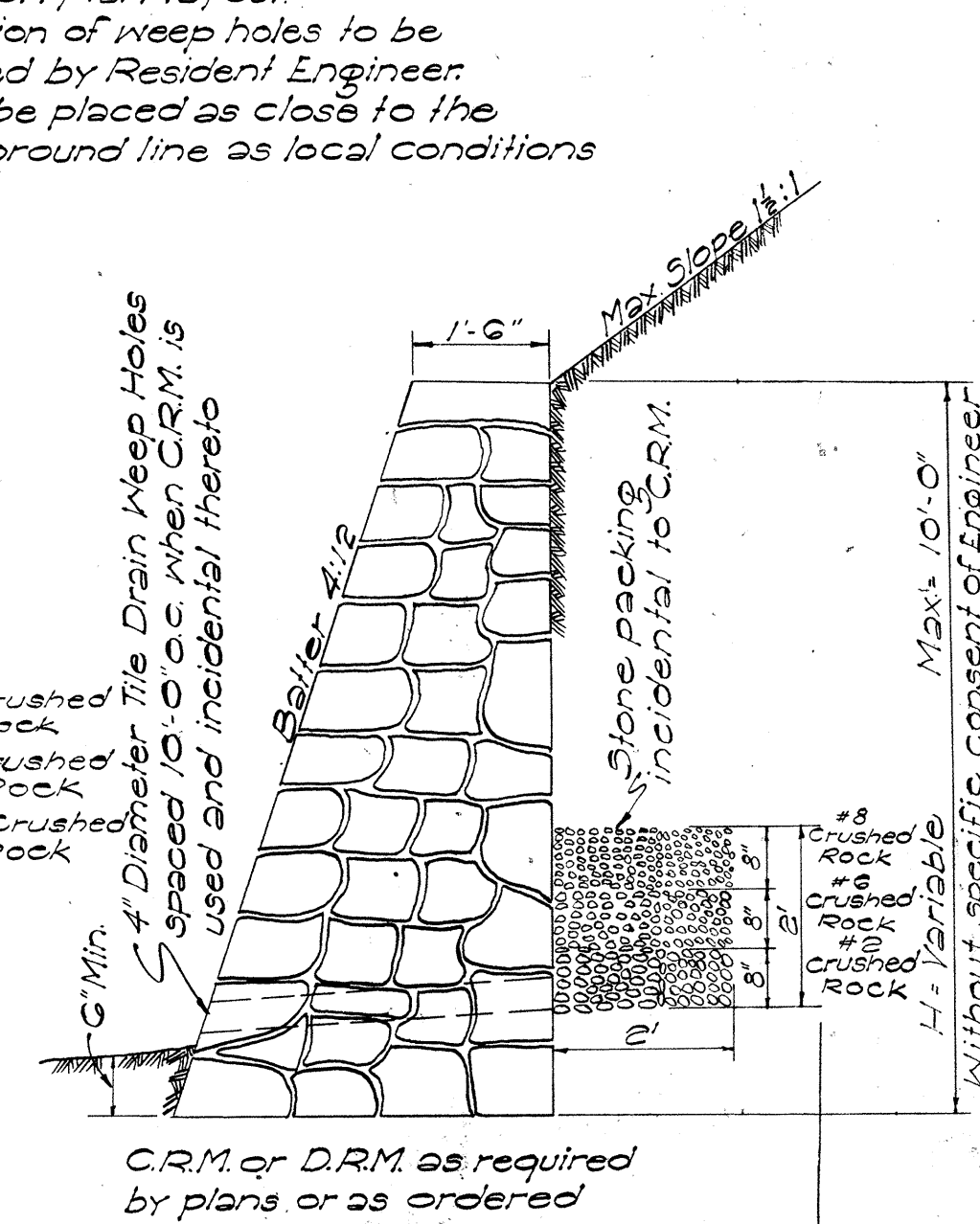
SECT. "A-A"



SECT. "B-B"

REINFORCING BARS

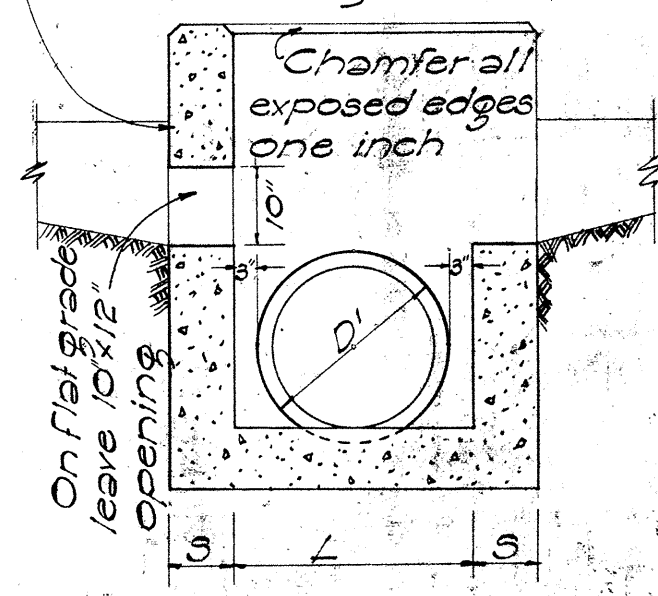
All reinforcing bars for concrete shall be Billet Steel bars, ASTM A15, intermediate grade. Steel shall be made by the open-hearth process. All bars shall be deformed type conforming to ASTM A-305.

SECTION OF HIGH CEMENT
RUBBLE MASONRY RETAINING
WALL OR SEAWALLSECTION OF LOW
MASONRY RETAINING
WALL OR SEAWALL

D	D	L: D+G	S	Cu. Yds.	Where Variables Equal
23"	18"	2'-5"	8"	1.41	4'-6"
30"	24"	3'-0"	8"	1.72	5'-0"
37"	30"	3'-7"	8"	2.32	5'-6"
44"	36"	4'-2"	8"	2.73	6'-0"
51"	42"	4'-9"	10"	3.54	6'-6"
58"	48"	5'-4"	10"	4.01	7'-0"

Note: Dimension "X" is assumed as 2'-4" in figuring the above quantities.

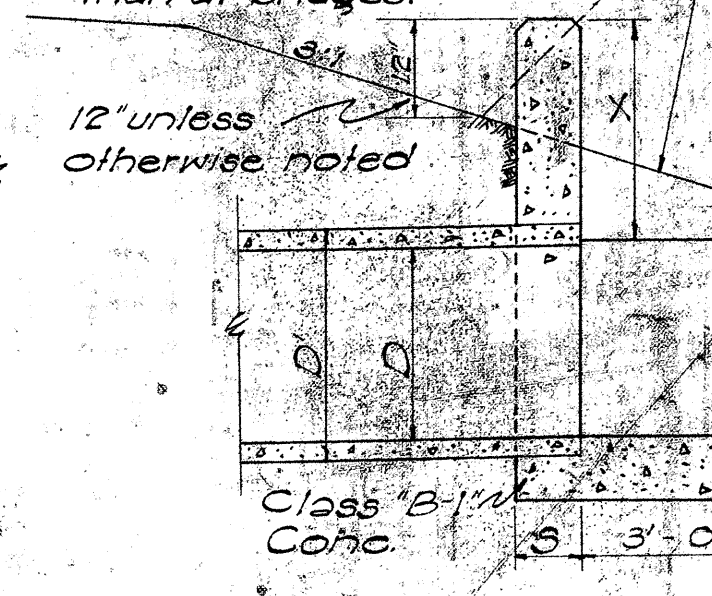
Note: This type of structure shall also be used for the Drop Intakes of Siphons connected with Irrigation Ditches or Flumes with appropriate changes to dimensions. In this case all joints must be made water tight.



SECTION "B-B"

Where drainage comes from both sides lower this wall to same elevation as shown for opposite wall.

Excavate recess in roadway excavation slope for inlet to dimensions and form designated by Engineer. This is 'Unclassified' Excavation.



SECTION "A-A"

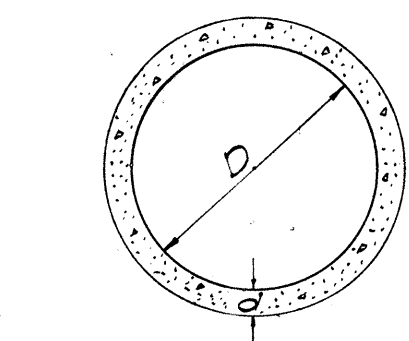
DETAIL OF CONCRETE DROP INTAKE

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

SECT. OF CULVERT WITH CONC. PROTECTION

Scale: 1" = 1'-0"

X	Y	Z
6" for 18" D		Z must be from pipe to face of trench
7" " 24" D		
8" " 30" D		
9" " 36" D		
10" " 42" D		
11" " 48" D		
12" " 54" D		

SECTION
CONC. PIPE CULVERT

SECTION

D	d	W	Cu. Yds. per Ft.
18"	4"	2'-2"	0.11
24"	4 1/2"	2'-9"	0.14
30"	5"	3'-4"	0.19
36"	5 1/2"	3'-11"	0.26

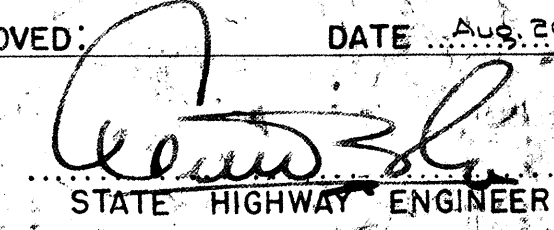
CAST-IN-PLACE
CONC. CULVERT

NOTE: Thickness "d", reinforcing, and Concrete used, are to conform with the approved design as provided by the Specifications.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
DROP INTAKES, RETAINING WALLS,
HEADWALLS, CONSTRUCTION JOINTS
SCALES AS NOTED

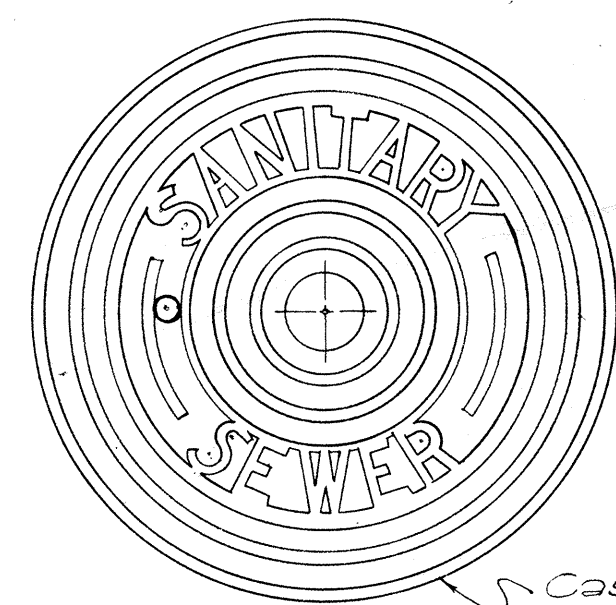
SHEET No 5 OF 20 SHEETS

APPROVED:  DATE: Aug. 25, 1959
STATE HIGHWAY ENGINEER

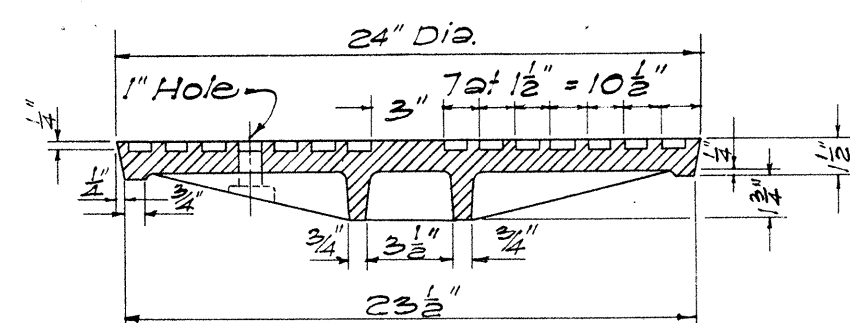
2/17/57
8/14/50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	070-1(1)	1962	42	127

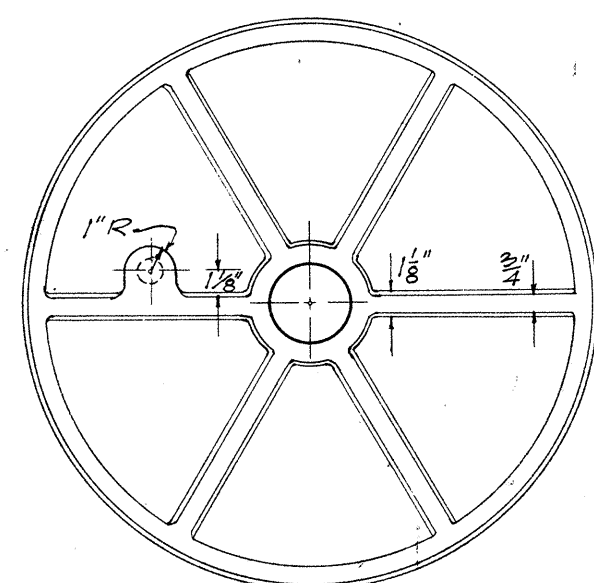
August 1957



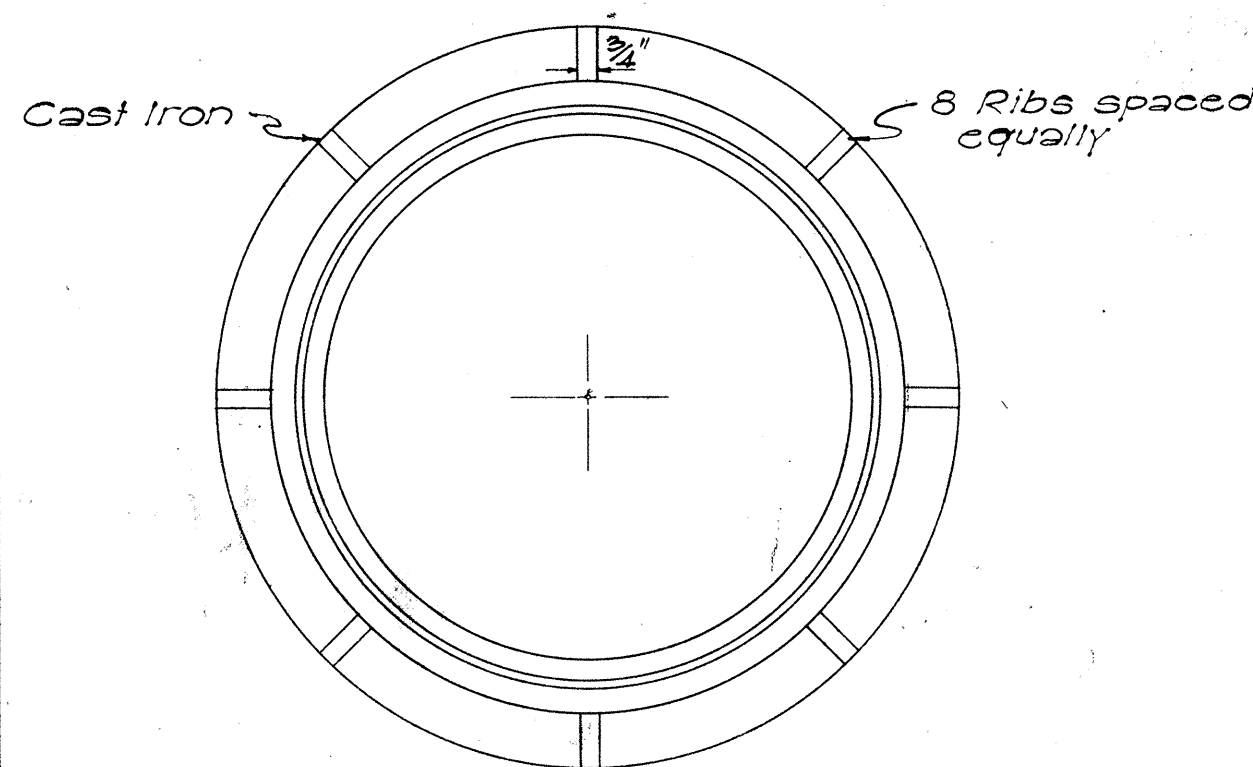
TOP VIEW OF COVER



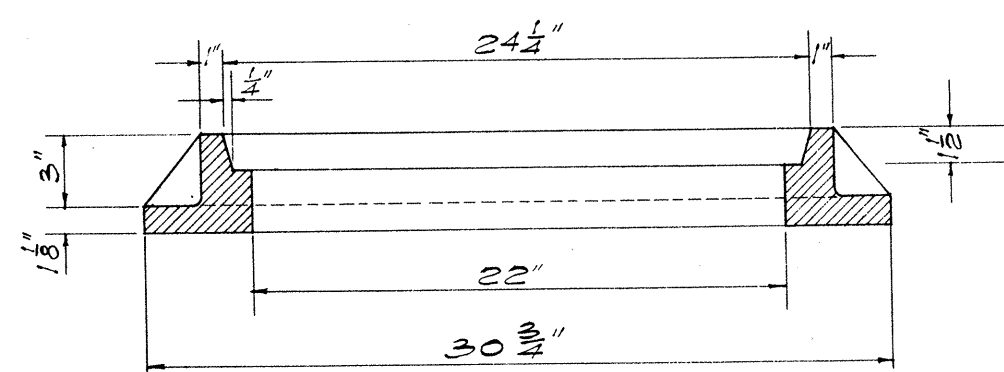
SECTION



BOTTOM VIEW OF COVER

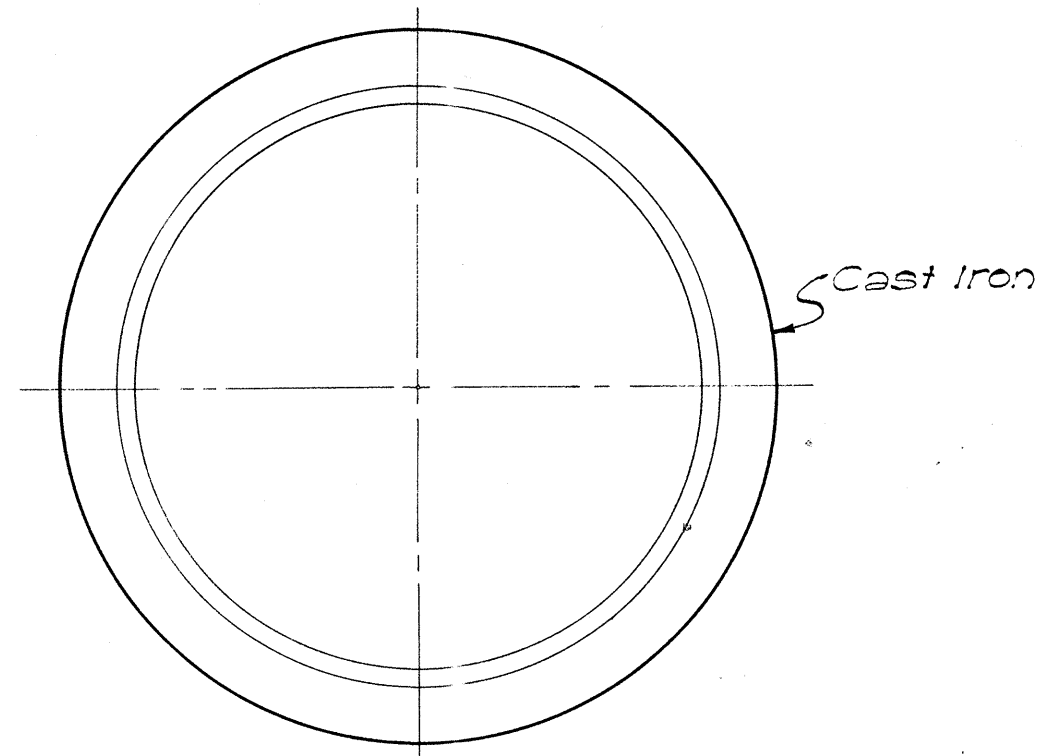


PLAN OF RIM

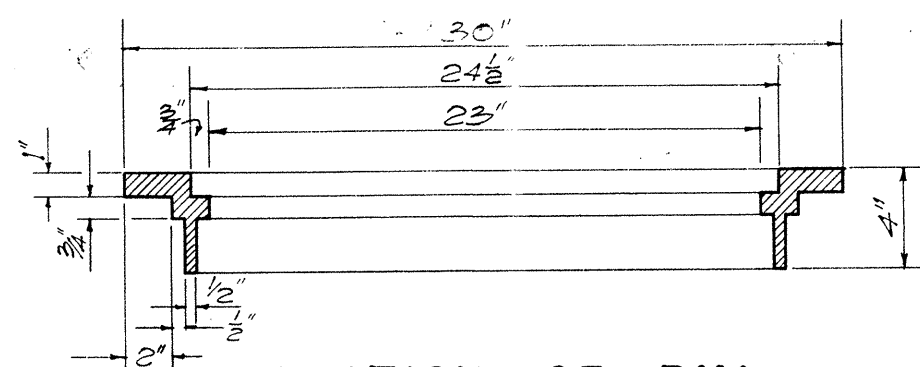


SECTION OF RIM
DETAILS OF TYPE "C"
MANHOLE CASTINGS

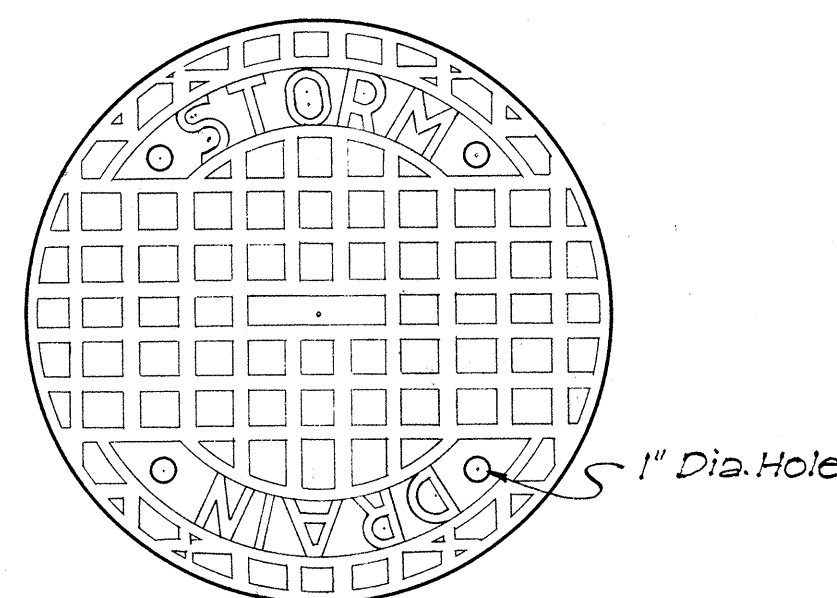
SCALE: 1-1/2" = 1'-0"



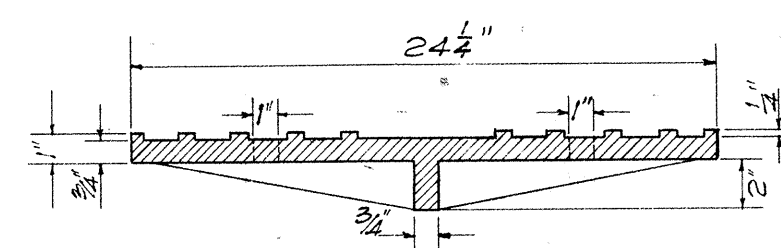
PLAN OF RIM



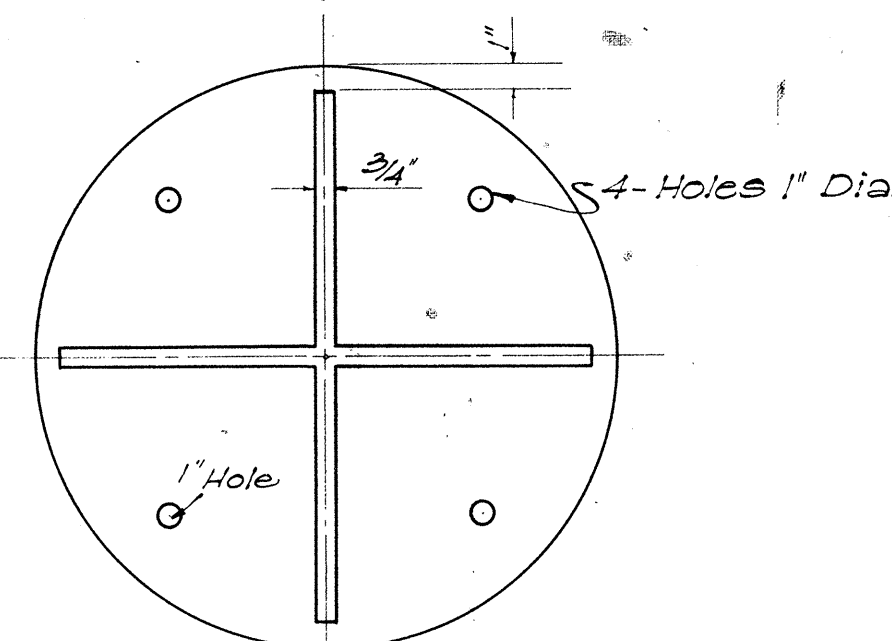
SECTION OF RIM



TOP VIEW OF COVER



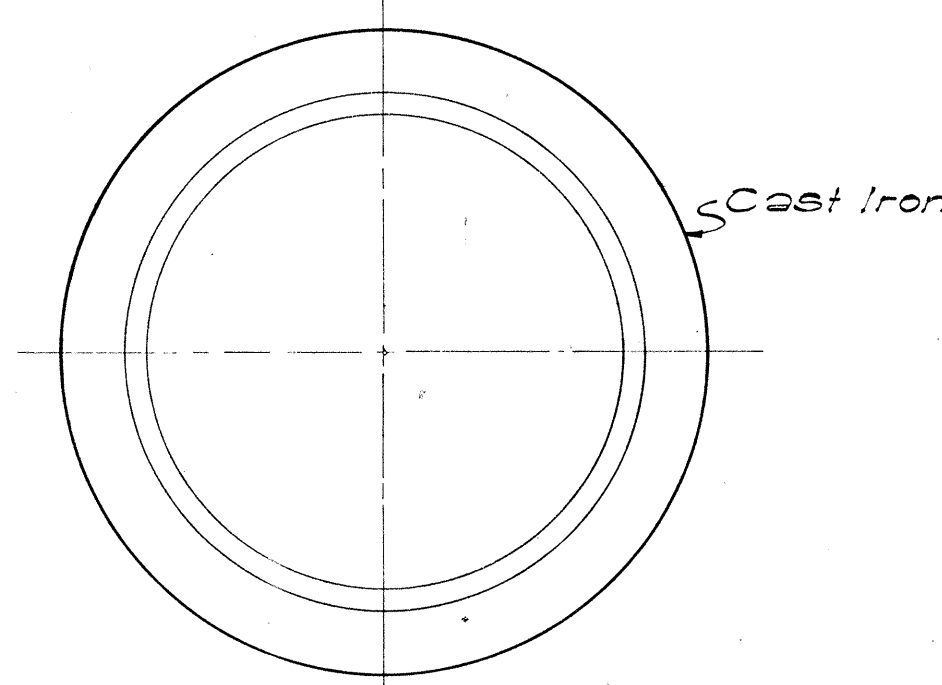
SECTION



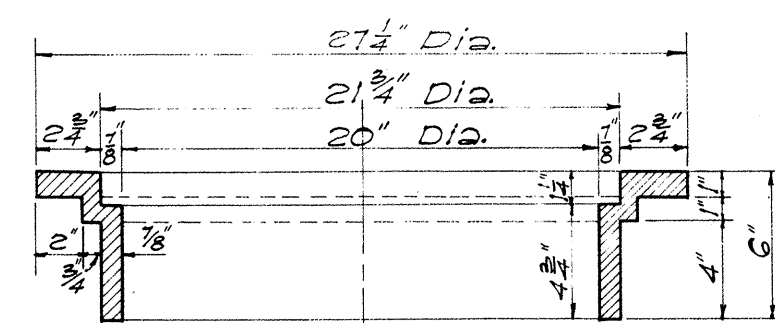
BOTTOM VIEW OF COVER

DETAILS OF TYPE "B"
CATCH BASIN CASTINGS

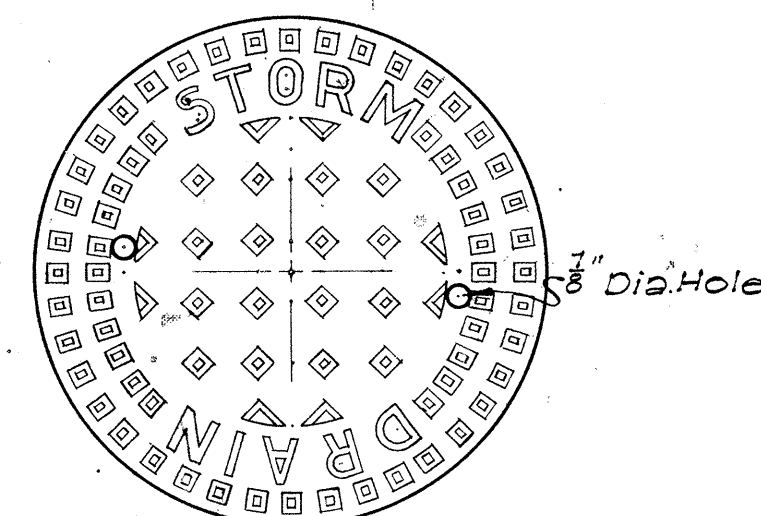
SCALE: 1-1/2" = 1'-0"



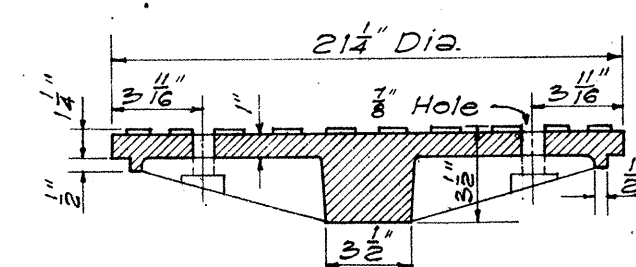
PLAN OF RIM



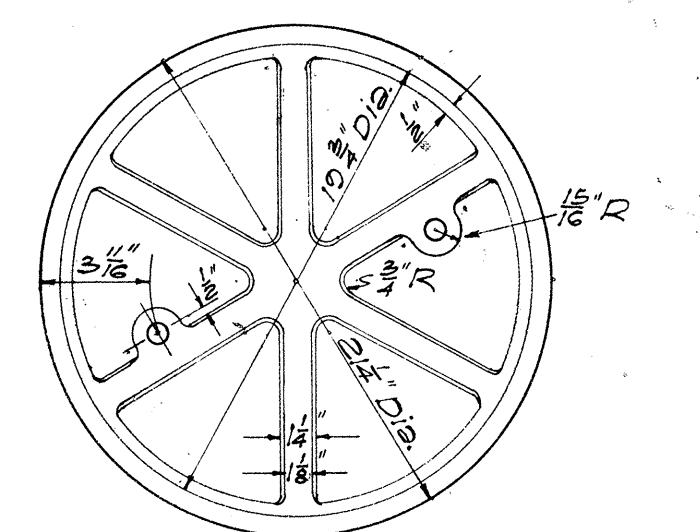
SECTION OF RIM



TOP VIEW OF COVER



SECTION

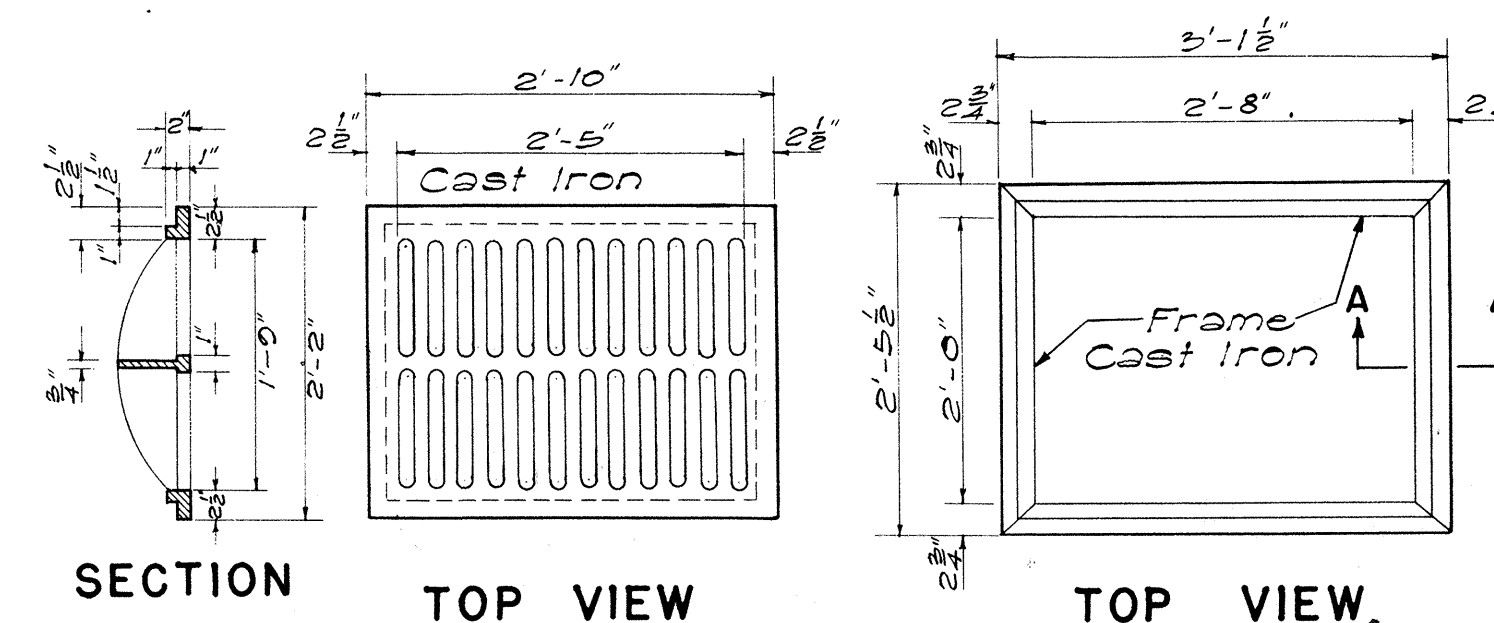


BOTTOM VIEW OF COVER

DETAILS OF TYPE "A"
MANHOLE CASTINGS

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

NOTE: Stock Pattern From Novelty Foundry ~ Honolulu



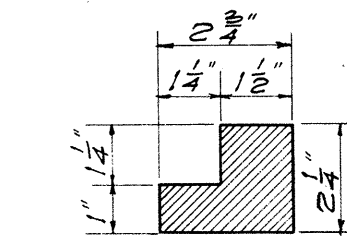
SECTION

TOP VIEW

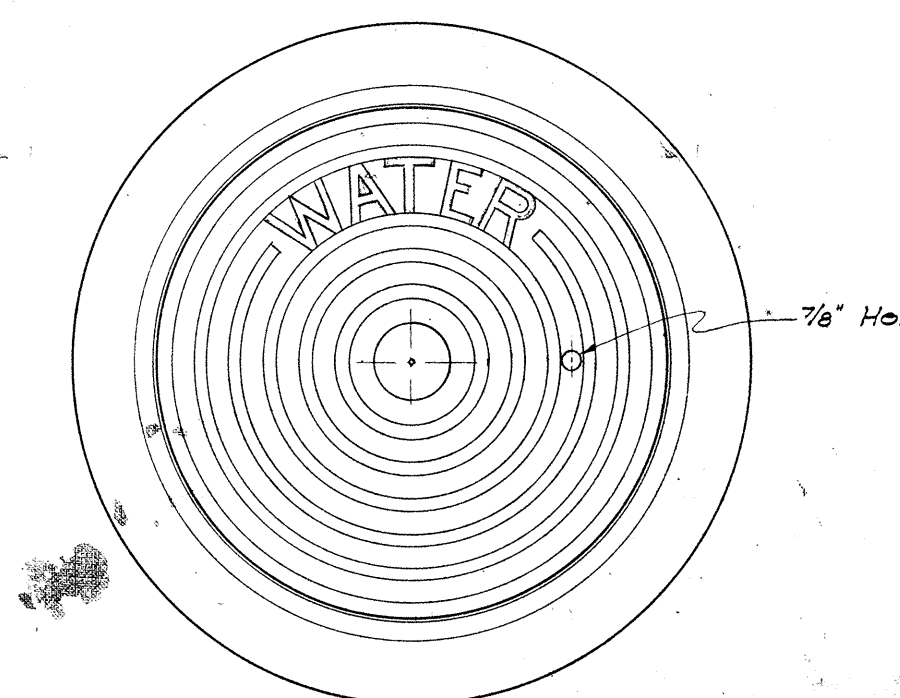
TOP VIEW

TYPE C C.I. FRAME AND GRATING

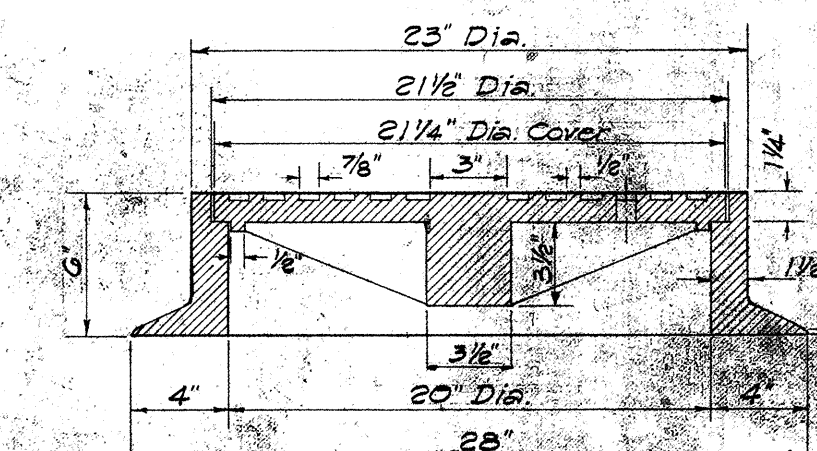
SCALE: 3/4" = 1'-0"



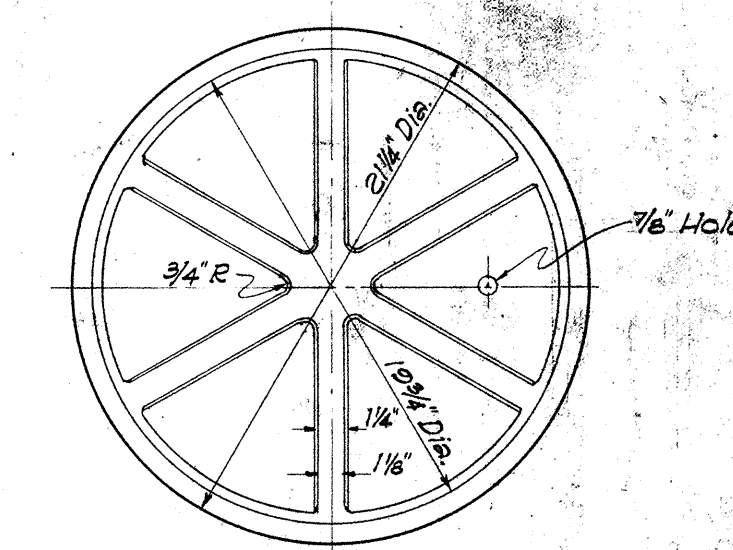
SECTION "A-A"
SCALE 3" = 1'-0"



PLAN OF FRAME AND COVER



SECTION OF FRAME AND COVER



BOTTOM VIEW OF COVER

DETAILS OF 20" CAST IRON
FRAME AND COVER FOR
WATER MANHOLE

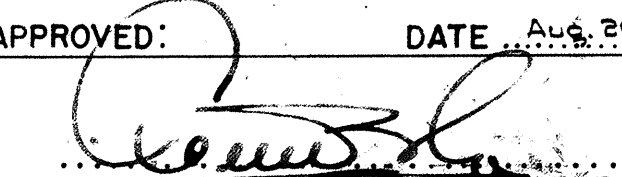
SCALE: 1 1/2" = 1'-0"

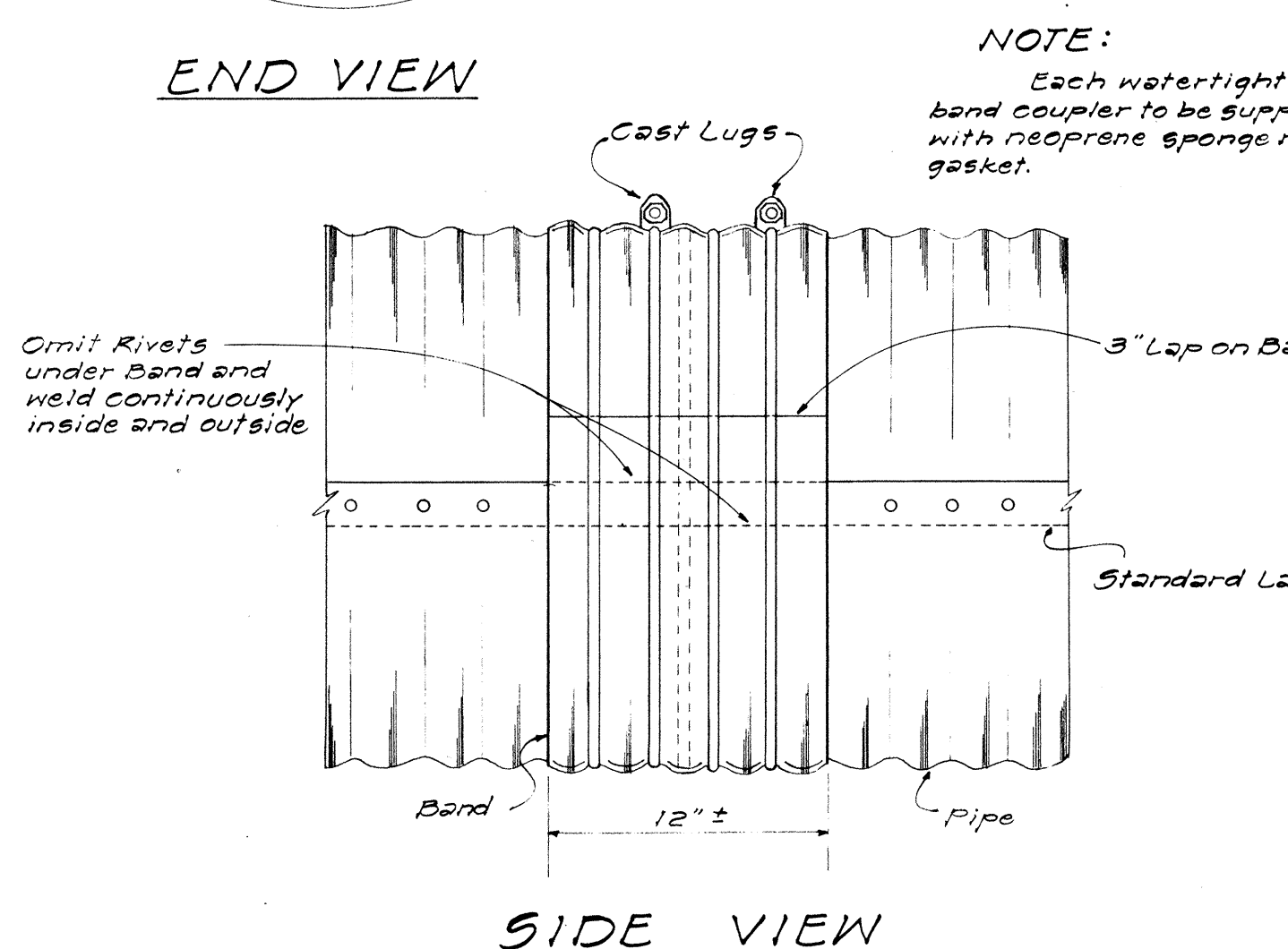
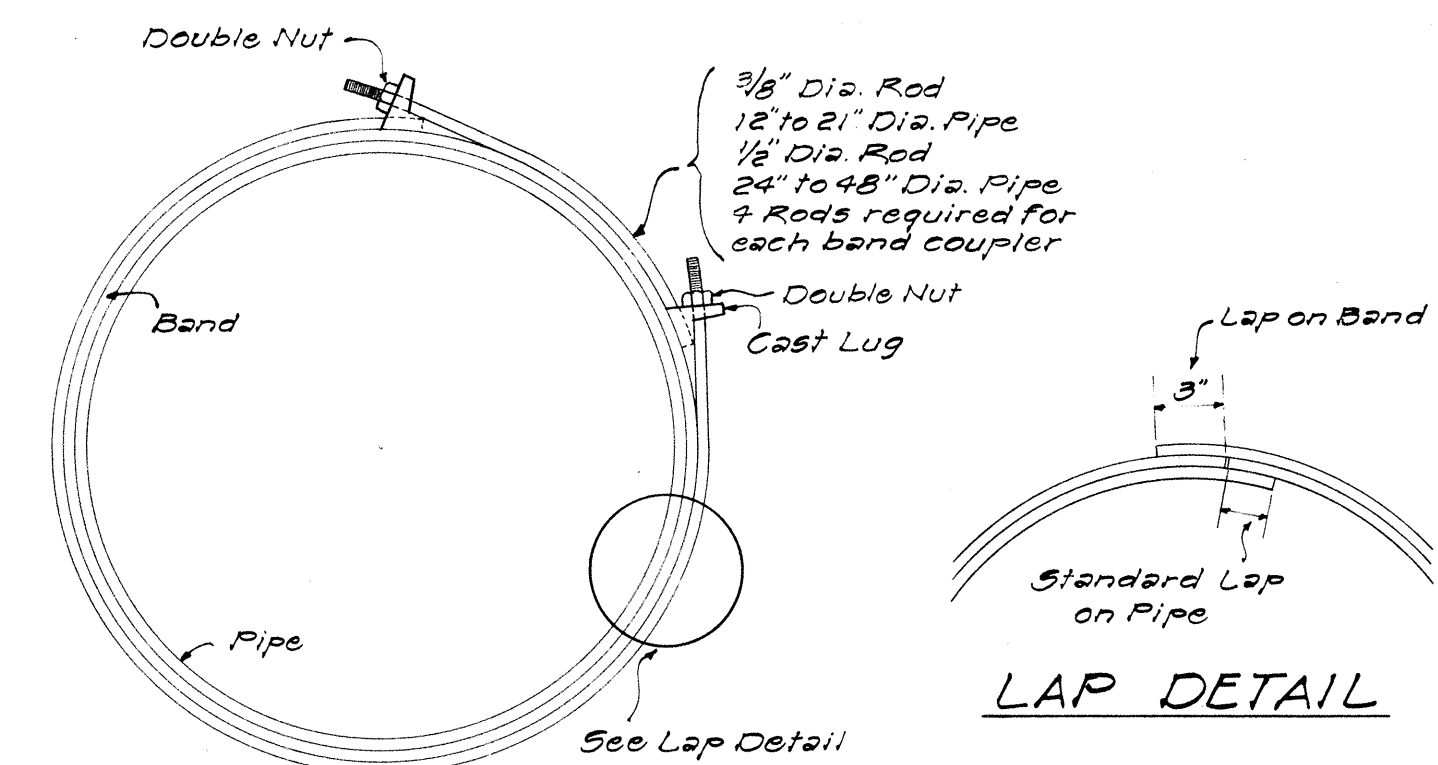
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CATCH BASIN AND
MANHOLE CASTINGS

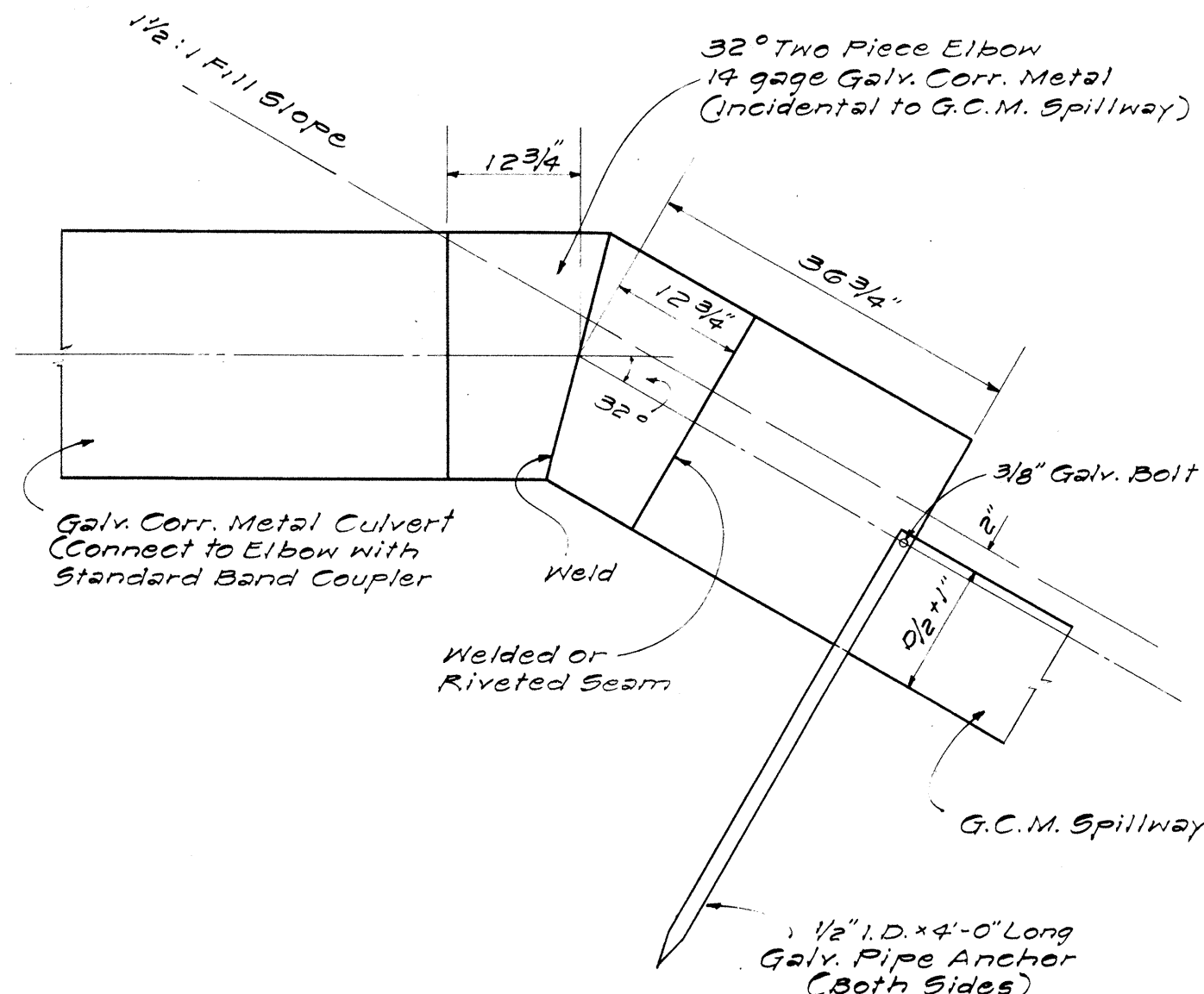
SCALES AS NOTED

SHEET No 6 OF 20 SHEETS

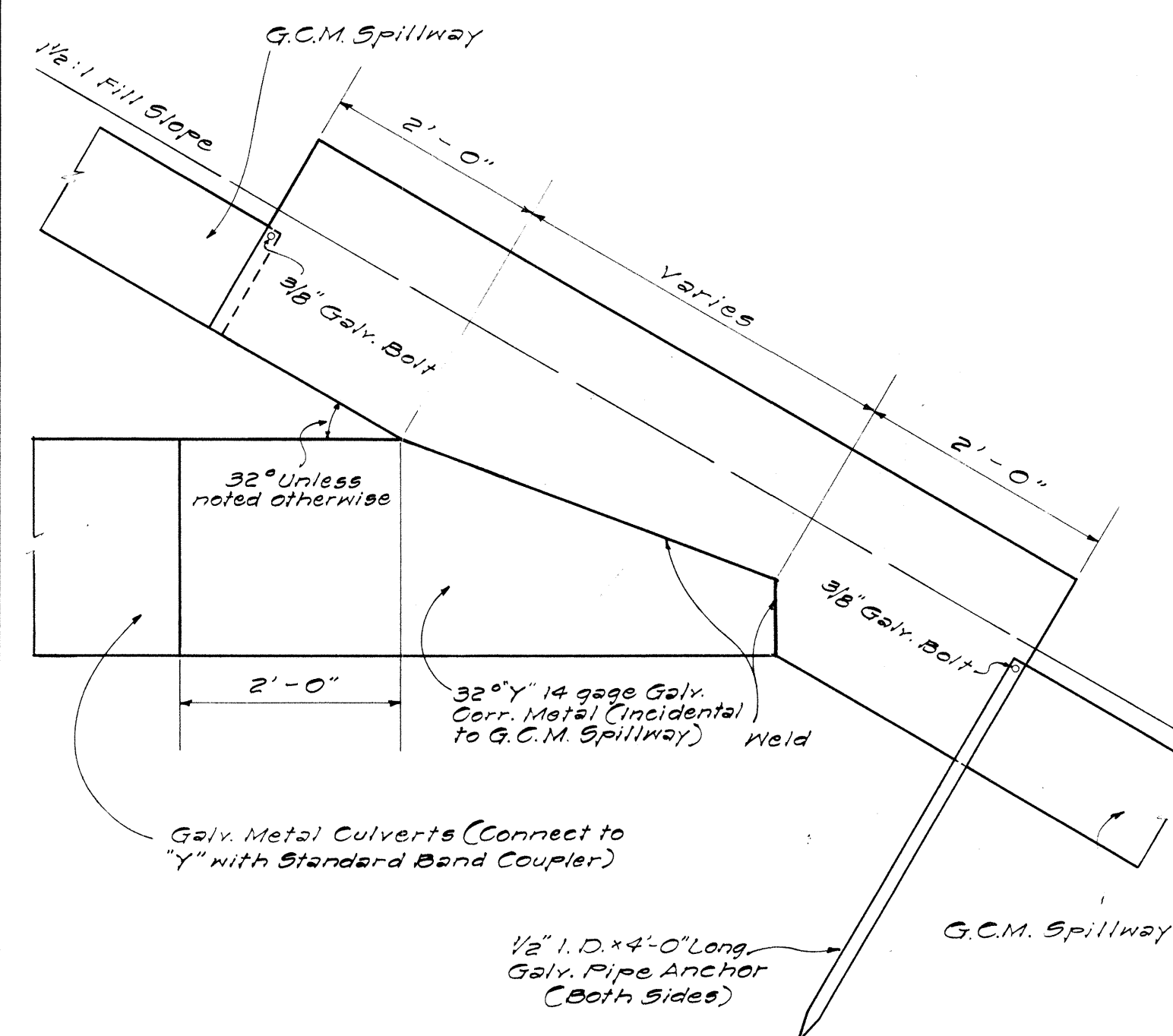
APPROVED:  DATE: Aug. 26, 1957
STATE HIGHWAY ENGINEER



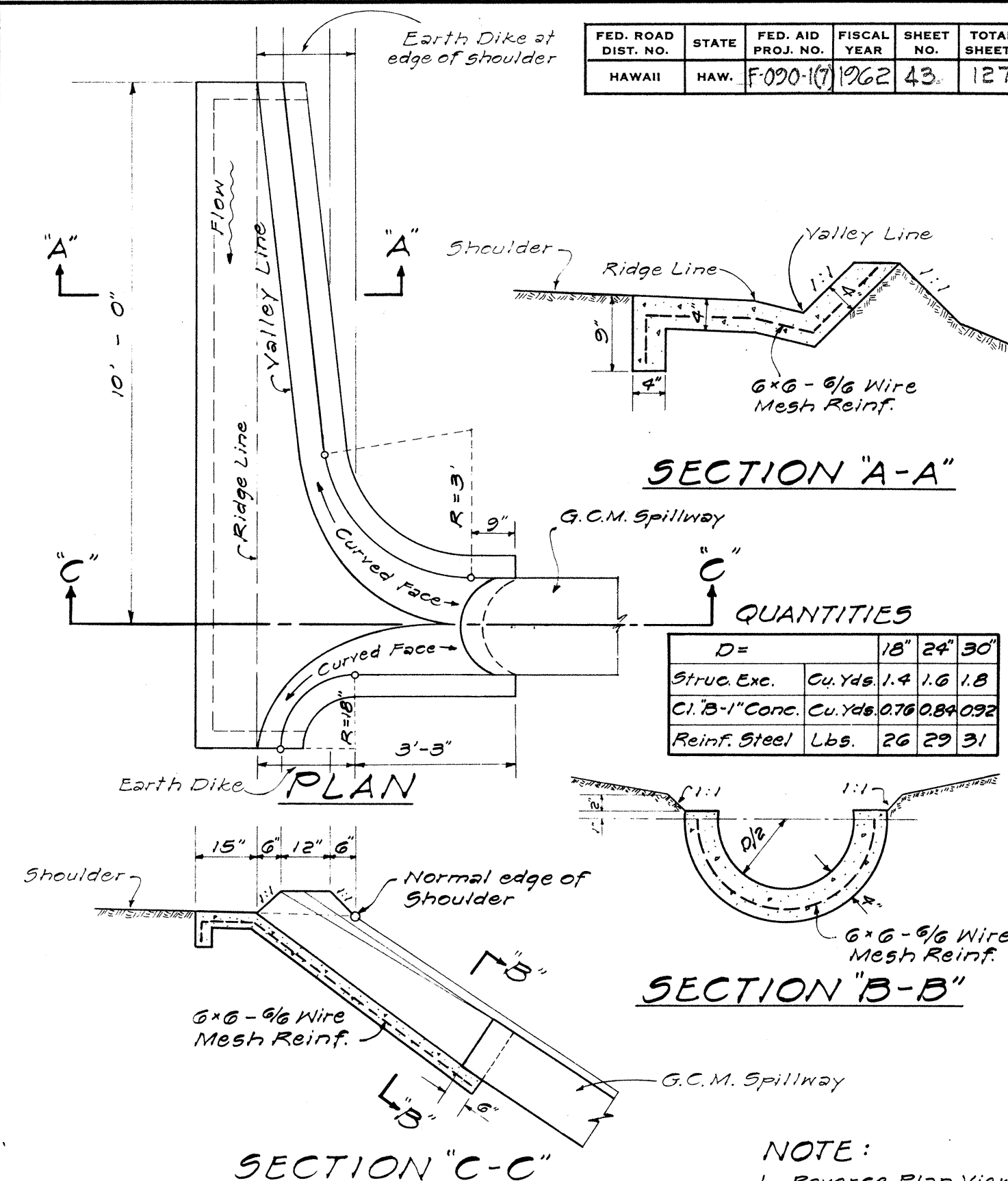
DETAIL OF WATERTIGHT BAND COUPLER
NOT TO SCALE



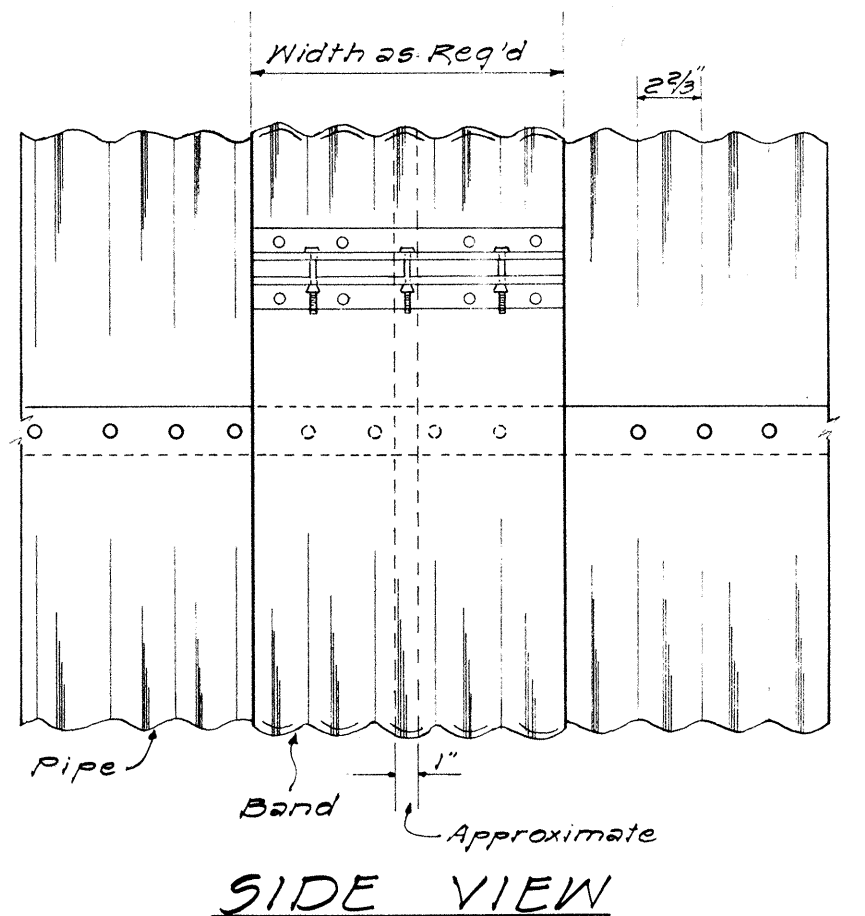
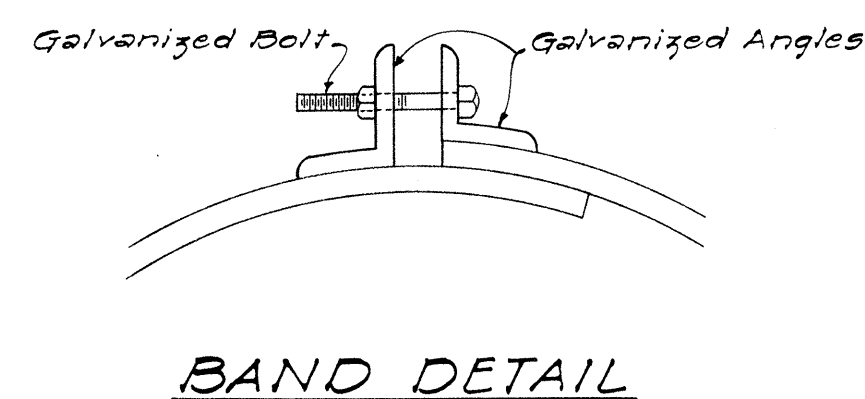
DETAIL OF CULVERT TO SPILLWAY CONNECTION
NOT TO SCALE



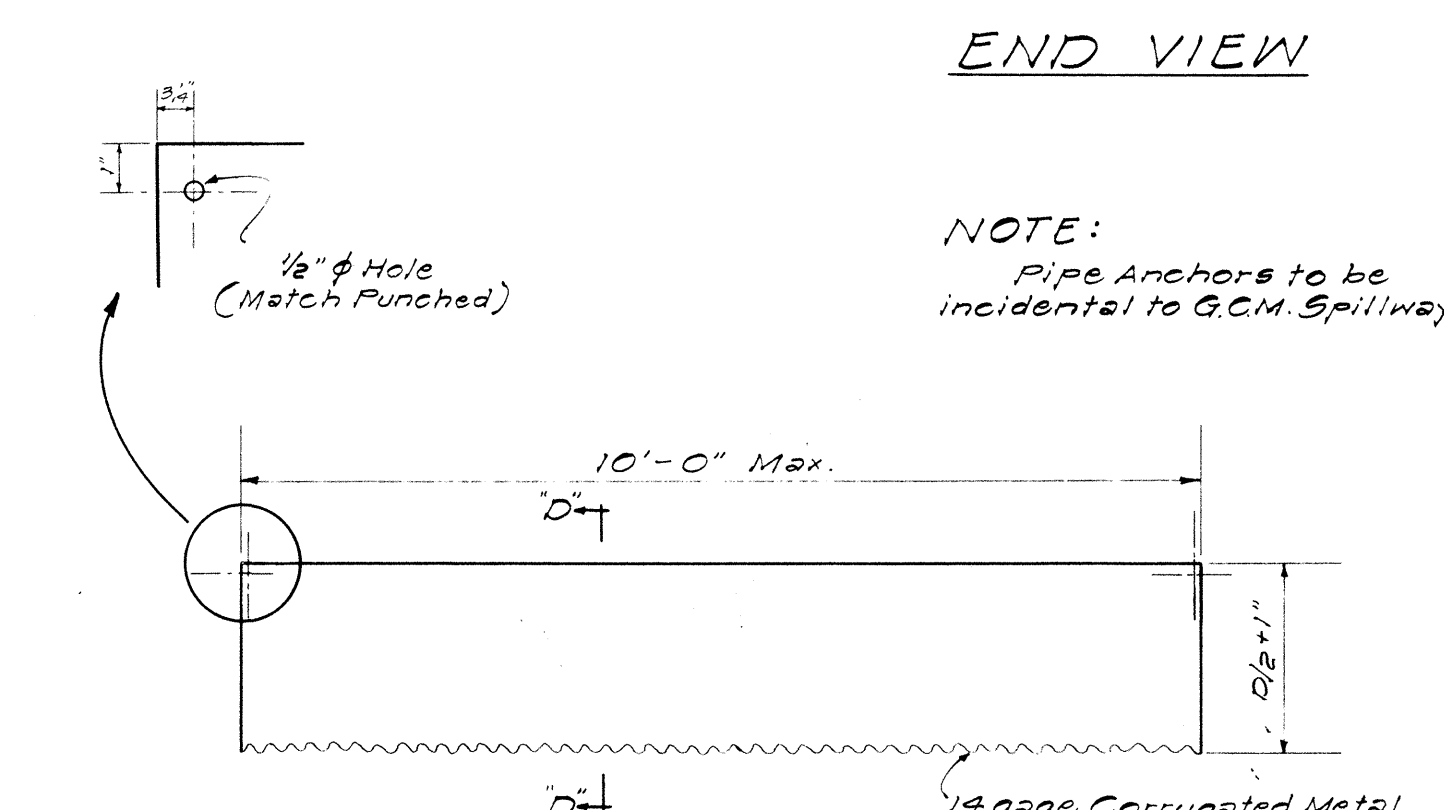
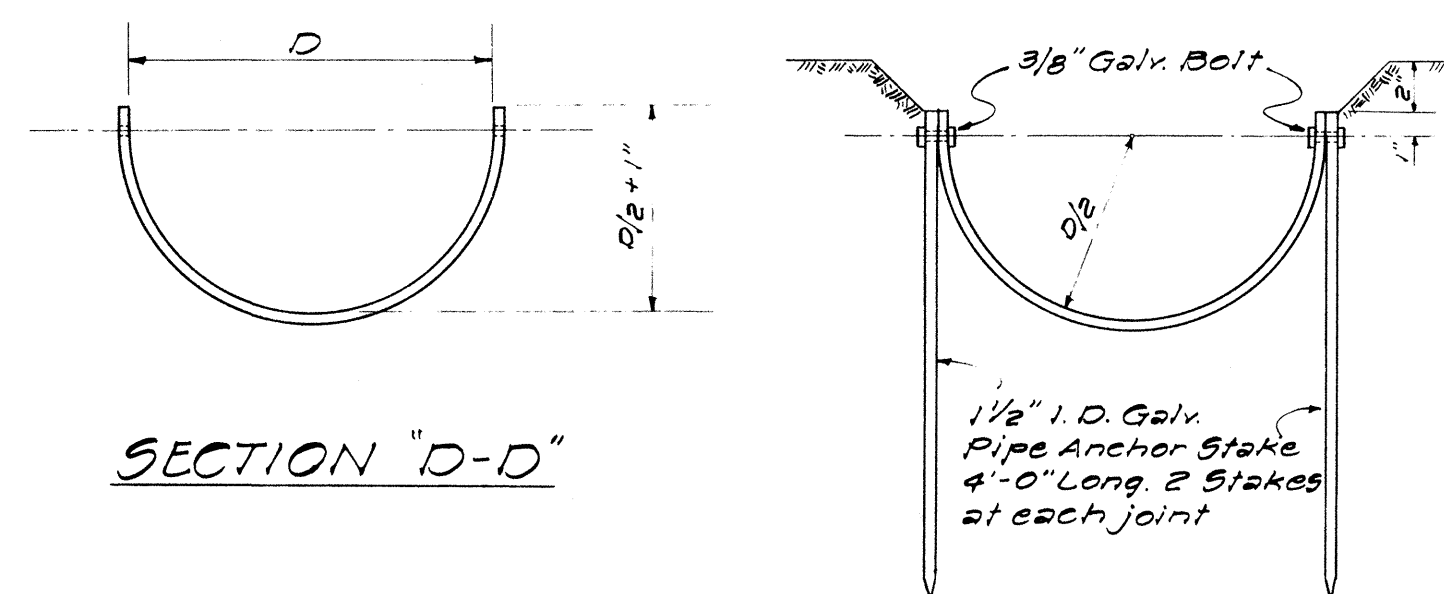
DETAIL OF CULVERT TO SPILLWAY "Y" CONNECTION
NOT TO SCALE



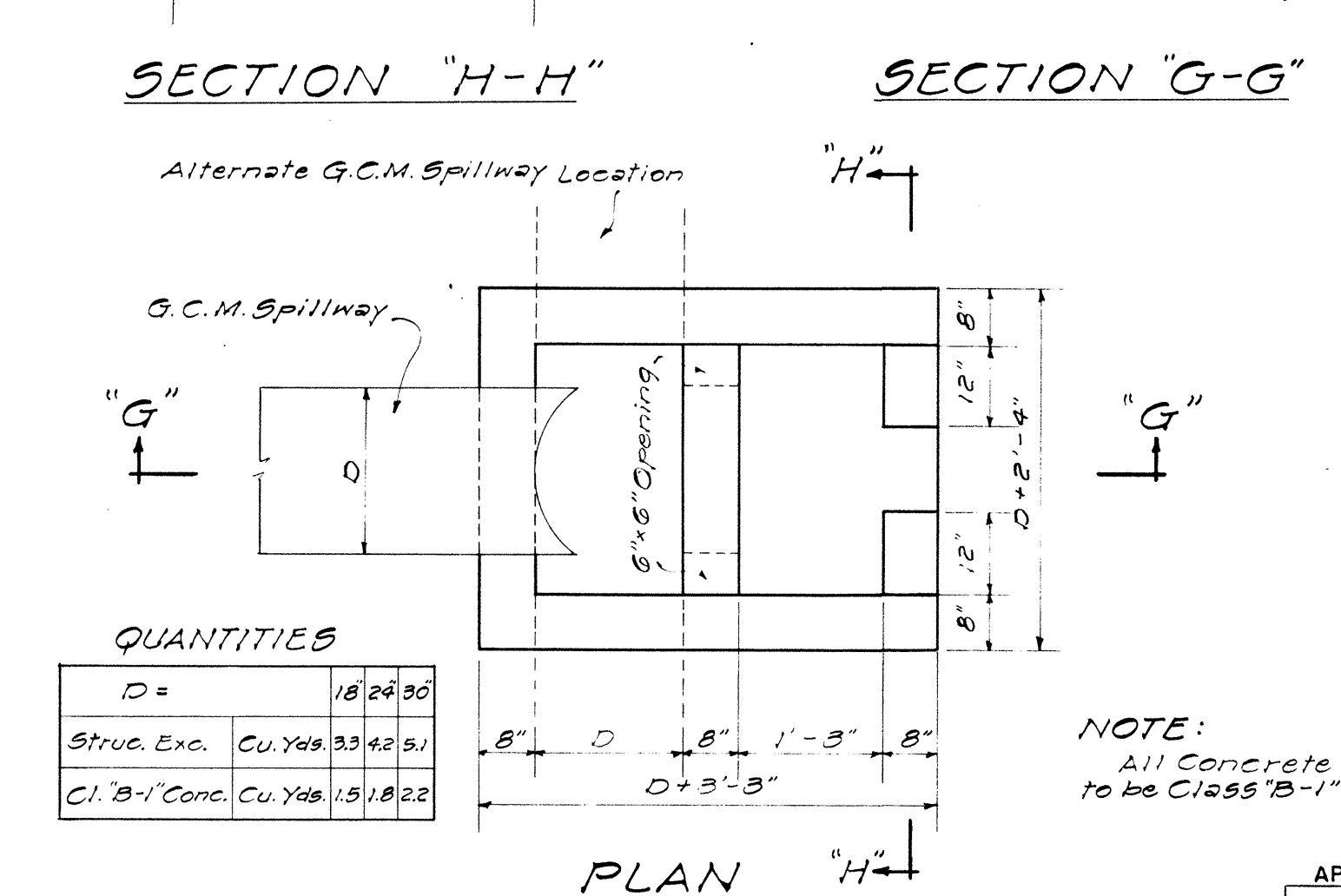
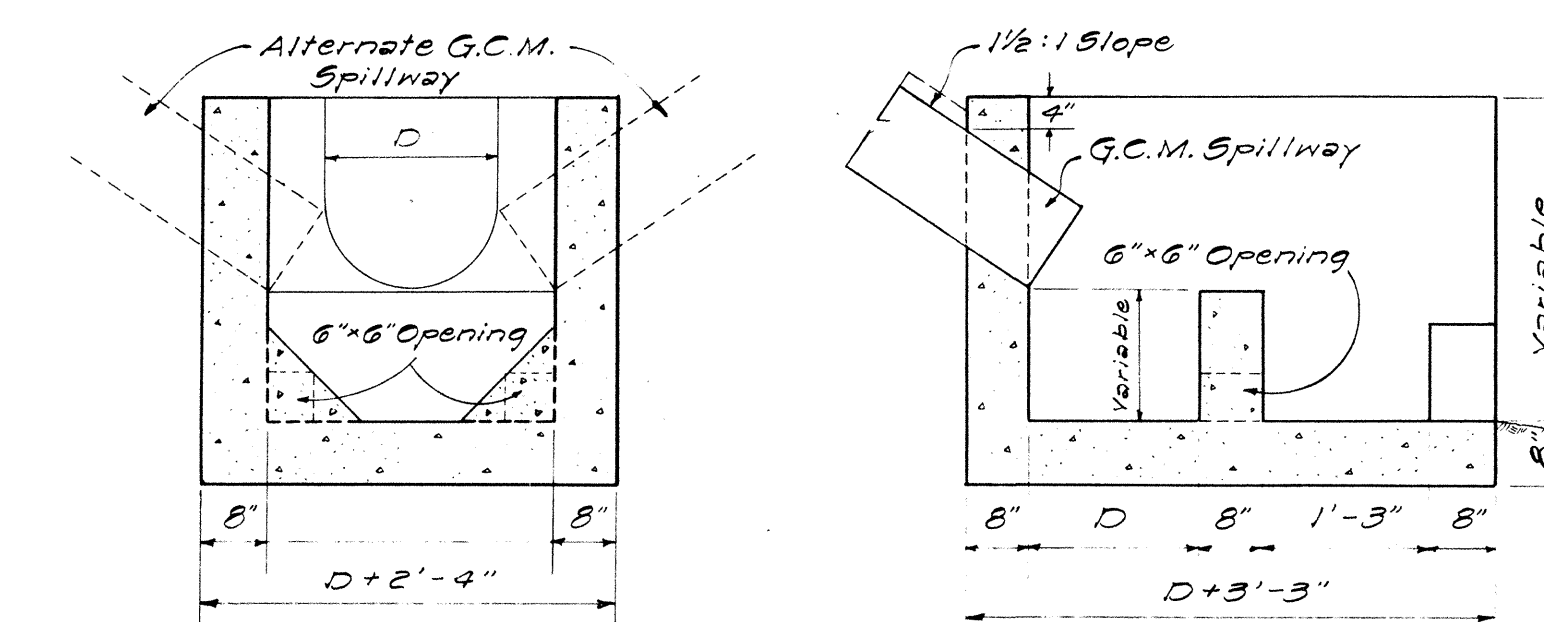
DETAIL OF SPILLWAY INLET
NOT TO SCALE



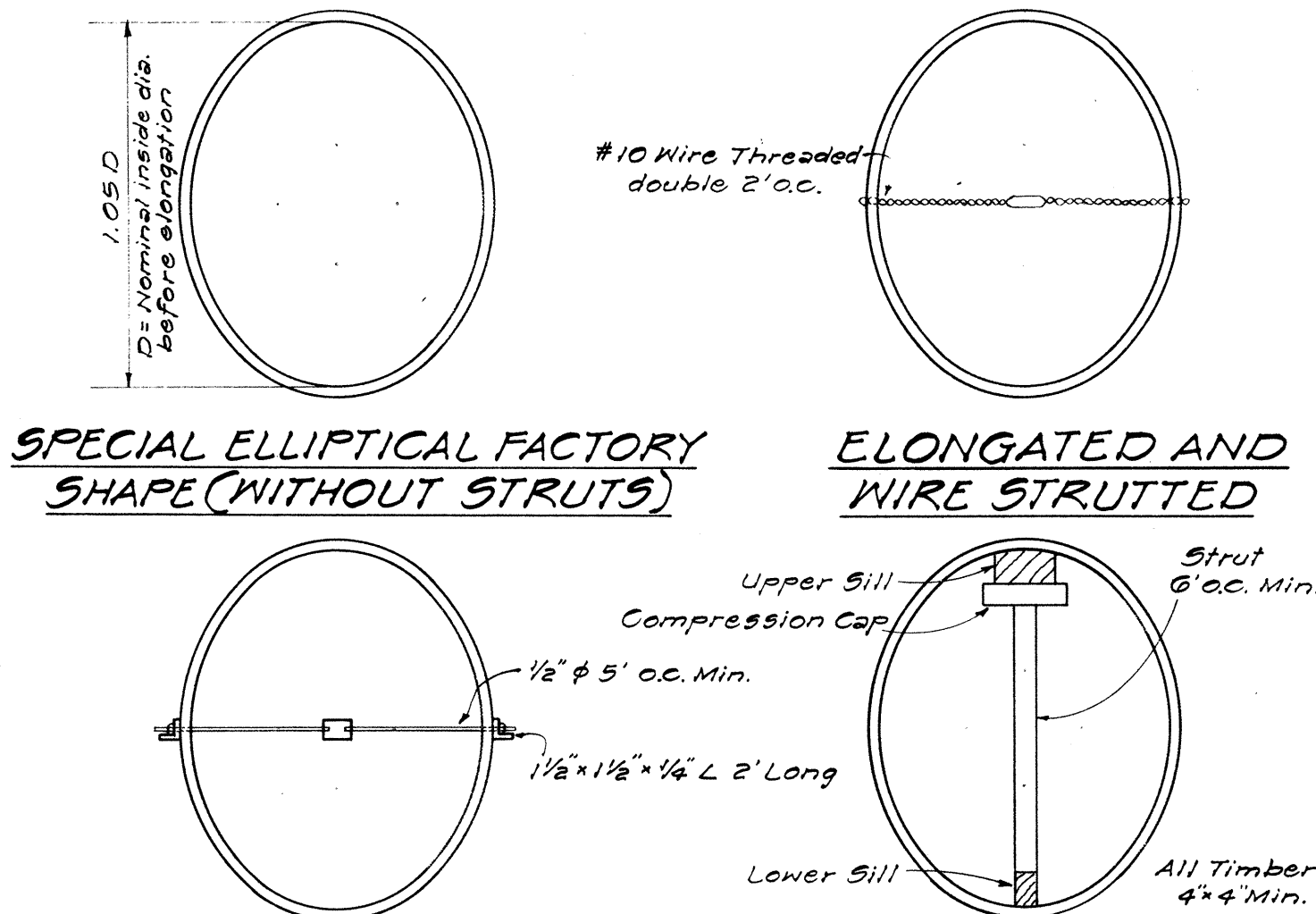
DETAIL OF STANDARD BAND COUPLER
NOT TO SCALE



G. C. M. SPILLWAY
NOT TO SCALE



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

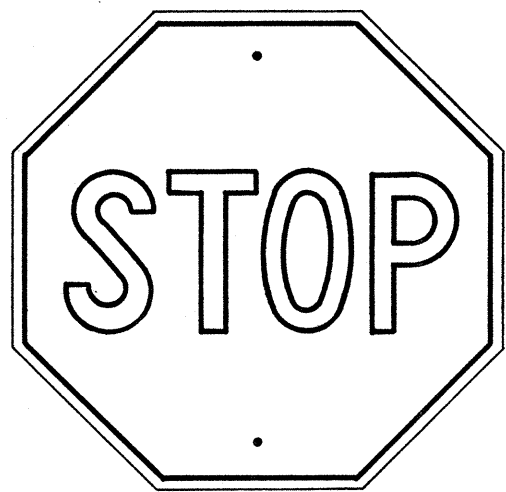


METHOD OF ELONGATING AND STRUTTING CORRUGATED PIPE
NOT TO SCALE

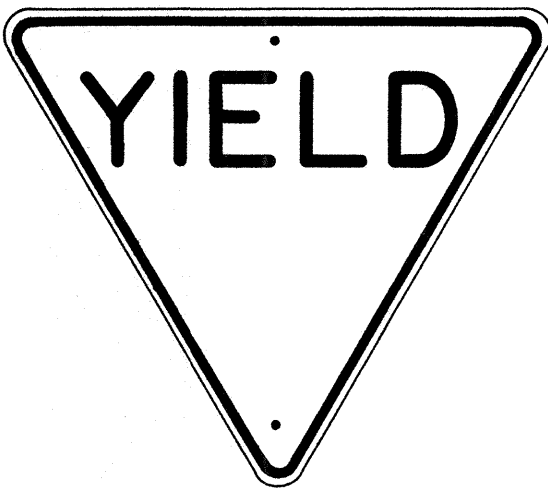
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
GALVANIZED CORRUGATED METAL
CULVERTS, SPILLWAYS, AND
SPECIAL DETAILS
SCALES AS NOTED
SHEET NO. 7 OF 20 SHEETS

DATE: 5-27-66
SURVEYED BY: R. Y.
DRAWN BY: O. M.
DESIGNED BY: O. M.
CHECKED BY: O. M.
NOTE BOOK: 5-24-66
No.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	F090-1(7)	1962	44	127



R1-1 30"x30"



R1-2 36"x36"x36"
R1-2-E 48"x48"x48"
R1-2-I 60"x60"x60"



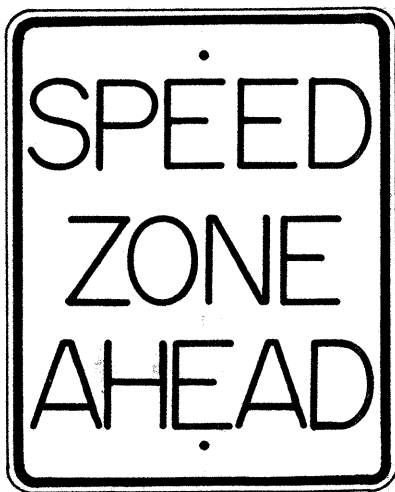
R2-1(50) 24"x30"
R2-1(50)-E 36"x48"
R2-1(50)-I 48"x60"



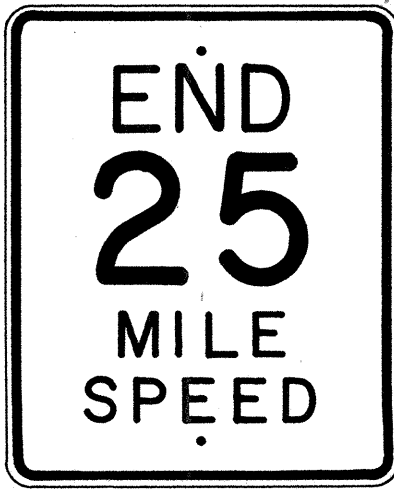
R2-2(40) 24"x24"
R2-2(40)-E 36"x36"
R2-2(40)-I 48"x48"



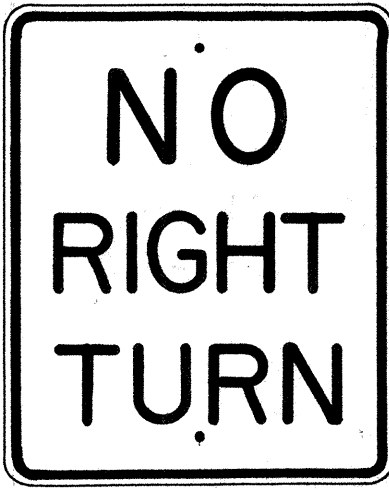
R2-4(40) 24"x30"
R2-4(40)-E 36"x48"
R2-4(40)-I 48"x60"



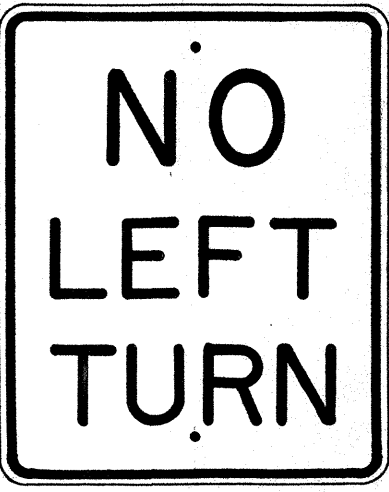
R2-5 24"x30"
R2-5-E 36"x48"
R2-5-I 48"x60"



R2-6(25) 24"x30"
R2-6(25)-E 36"x48"



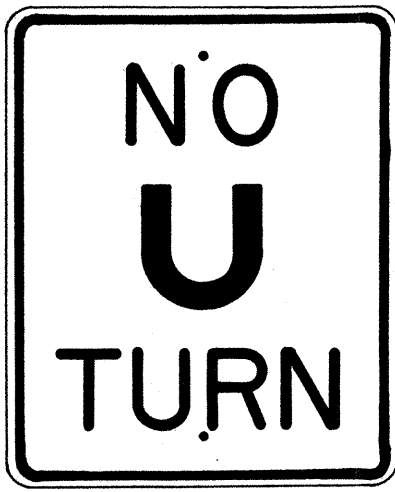
R3-1 24"x30"
R3-1-E 36"x48"



R3-2 24"x30"
R3-2-E 36"x48"



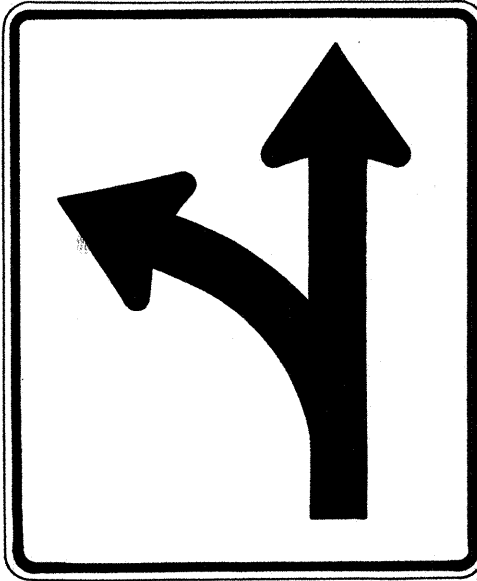
R3-3 24"x24"



R3-4 24"x30"
R3-4-E 36"x48"
R3-4-I 48"x60"



R3-5(L) 30"x36"



R3-6(L) 30"x36"

- NOTE:
1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
 2. All regulatory signs shall be reflectorized unless otherwise specified.
 3. All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
 4. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
 5. For R2 signs, number in () indicates speed and shall be as shown on the plans.

APPROVED: _____ DATE: 1/22/62

 DIRECTOR OF TRANSPORTATION

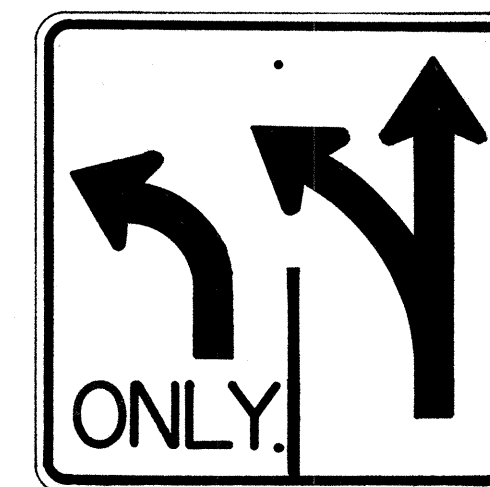
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 STANDARD DETAILS
 REGULATORY SIGNS
 Scale: 1" = 1'-0"



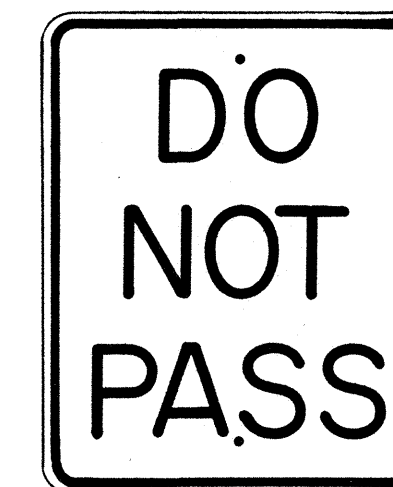
R3-7(L) 30"x30"



R3-7(R) 30"x30"



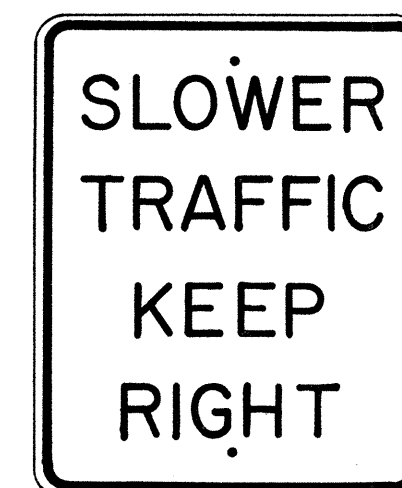
R3-8(L) 30"x30"



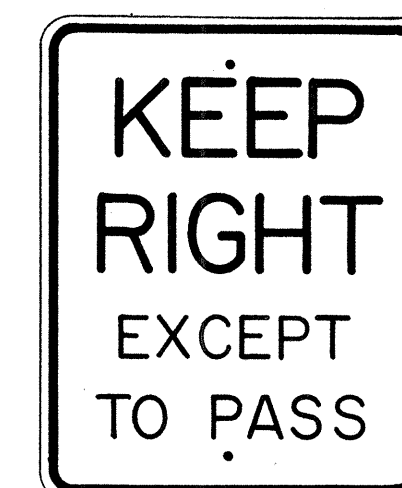
R4-1 24"x30"



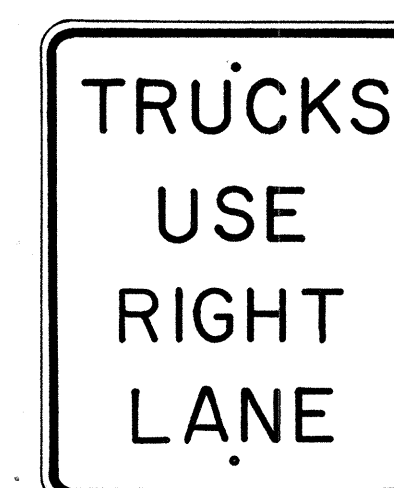
R4-2 24"x30"



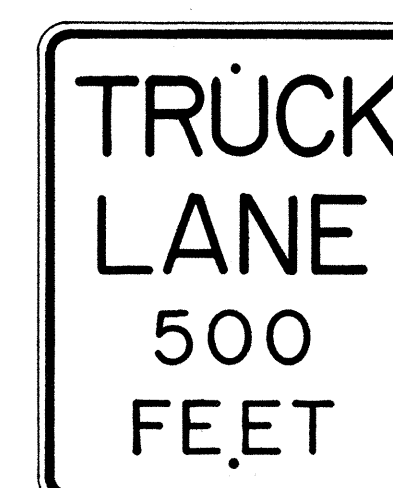
R4-3 24"x30"
R4-3-E 36"x48"
R4-3-I 48"x60"



R4-4 24"x30"
R4-4-E 36"x48"
R4-4-I 48"x60"



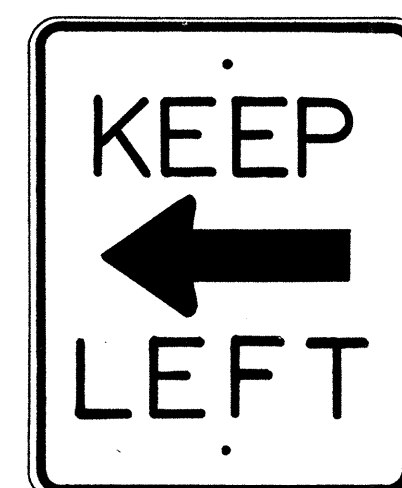
R4-5 24"x30"
R4-5-E 36"x48"



R4-6 24"x30"
R4-6-E 36"x48"



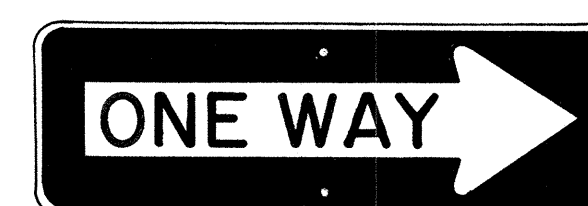
R4-7(R) 24"x30"
R4-7(R)-E 36"x48"



R4-7(L) 24"x30"
R4-7(L)-E 36"x48"



R5-1 24"x24"



R6-1(R) 36"x12"



R6-2(R) 18"x24"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All regulatory signs shall be reflectorized unless otherwise specified.
3. All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.

APPROVED:

DATE: 1/22/62

[Signature]
DIRECTOR OF TRANSPORTATION

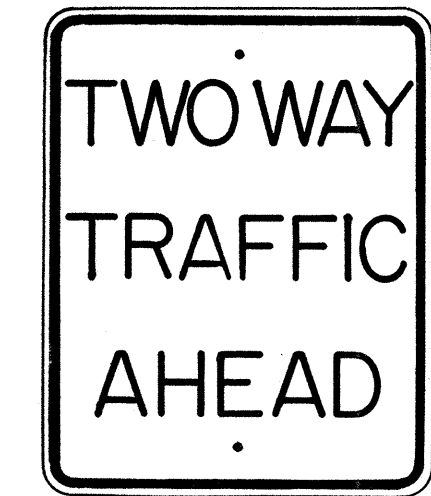
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

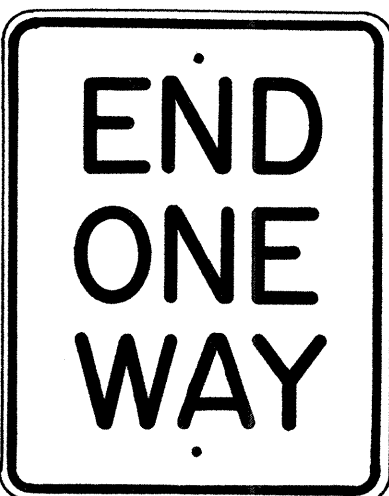
Scale: 1" = 1'-0"

SHEET No. 45 OF 20 SHEETS

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	F-090-1(7)	1962	46	127



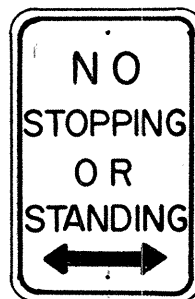
R6-3 24"x 30"



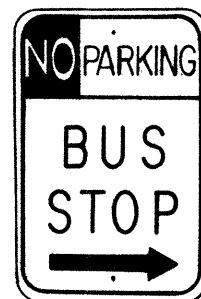
R6-4 24"x 30"



R7-1 12"x 18"



R7-4 12"x 18"



R7-107 12"x 18"



R8-1 24"x 30"
R8-1-E 36"x 48"
R8-1-I 48"x 60"



R8-2 24"x 30"
R8-2-E 36"x 48"



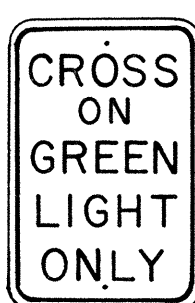
R8-3 24"x 30"
R8-3-E 36"x 48"



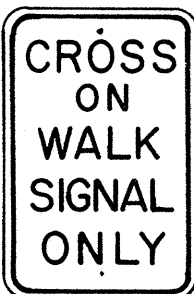
R8-4 24"x 30"
R8-4-E 36"x 48"
R8-4-I 48"x 36"



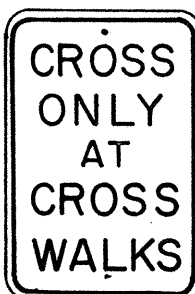
R9-1 18"x 24"



R9-2 12"x 18"



R9-3 12"x 18"



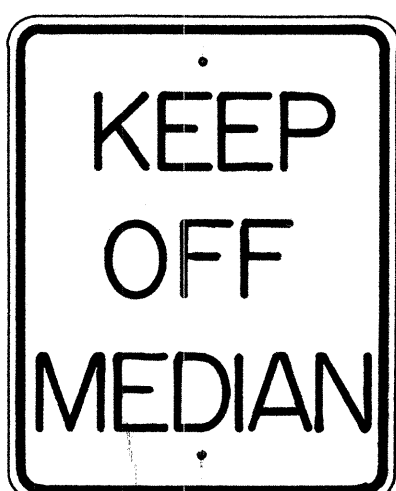
R9-4 12"x 18"



R9-5 12"x 18"



R9-7 9"x 12"



R10-1 24"x 30"
R10-1-E 36"x 48"
R10-1-I 48"x 60"

- NOTE:
1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs" dated September 1961 unless otherwise specified.
 2. All regulatory signs shall be reflectorized unless otherwise specified.
 3. All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
 4. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.

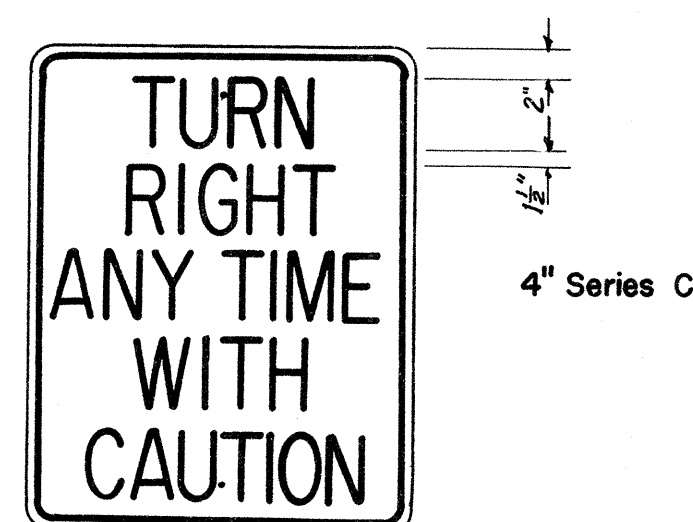
APPROVED: _____ DATE: 1/22/62
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

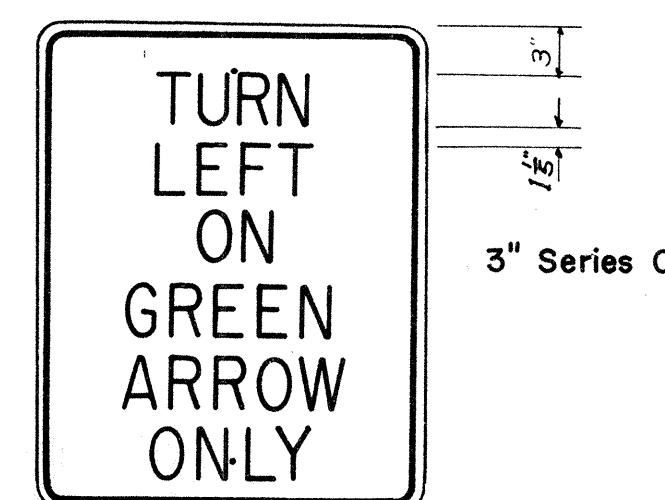
STANDARD DETAILS
REGULATORY SIGNS

Scale: 1" = 1'-0"

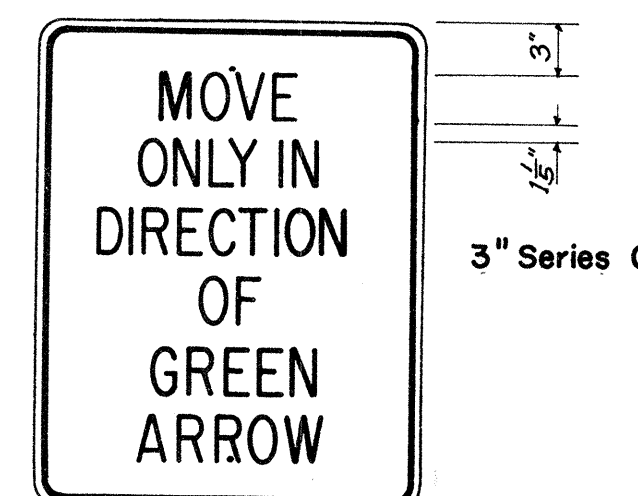
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	F-020-1(7)	1962	47	127



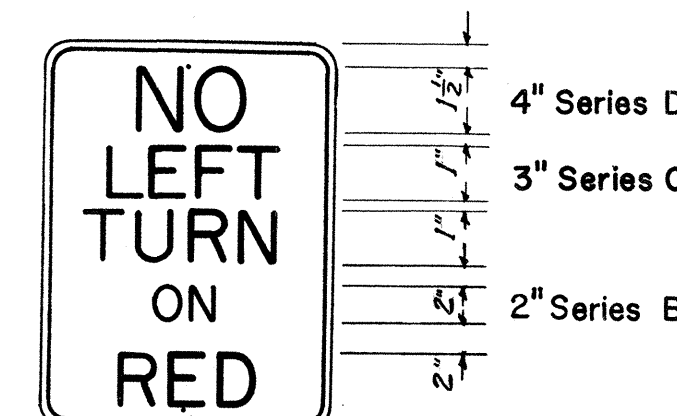
R15-1 24"x 30"



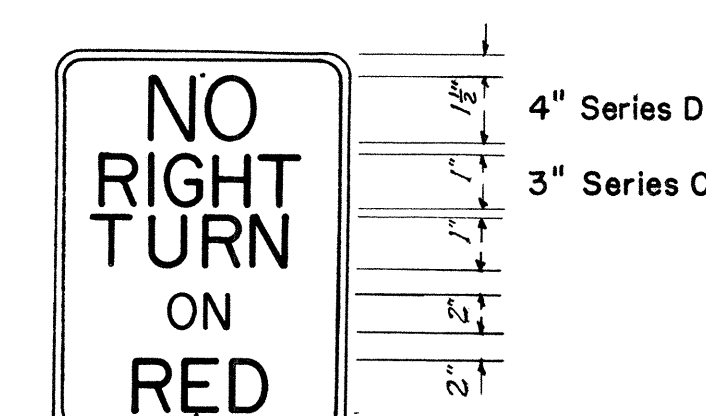
R16-1 24"x 30"



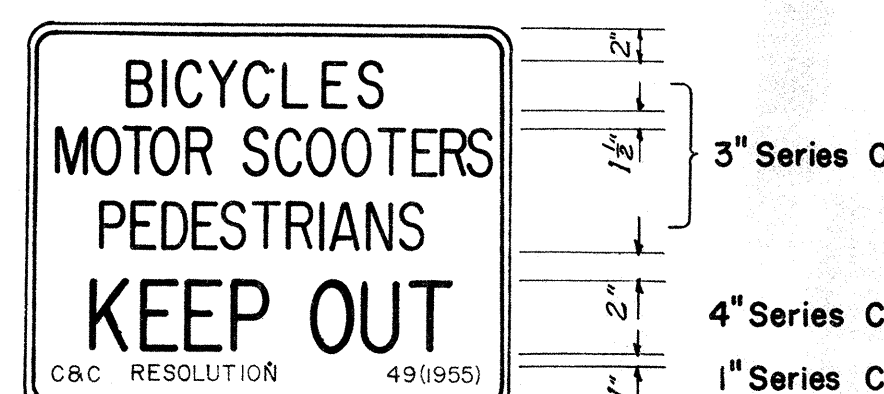
R16-2 24"x 30"



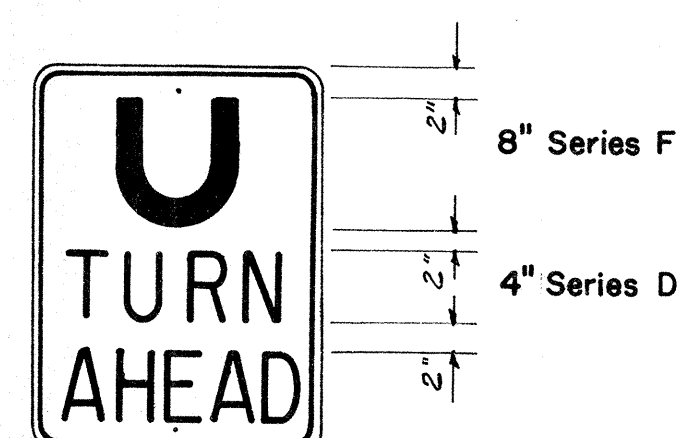
R17-1 18"x 24"



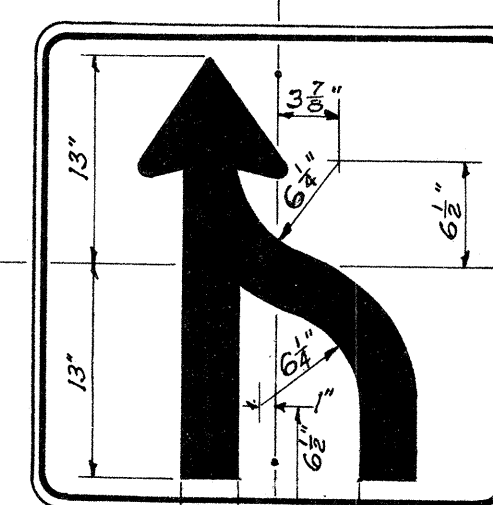
R17-2 18"x 24"



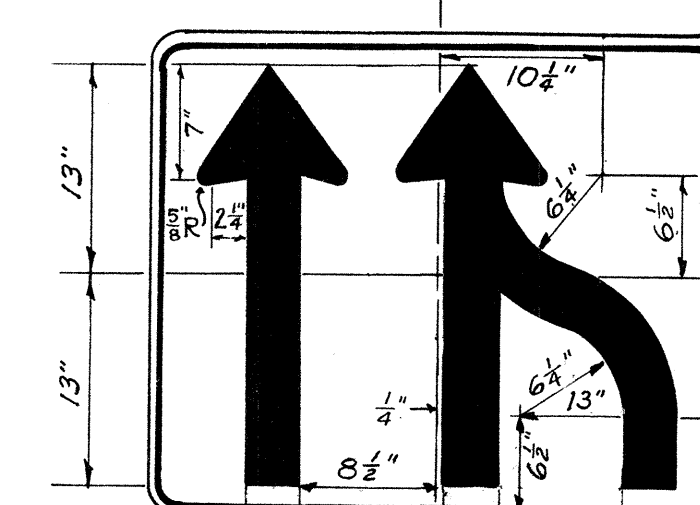
R18-1 30"x 24"



R19-1 18"x 24"



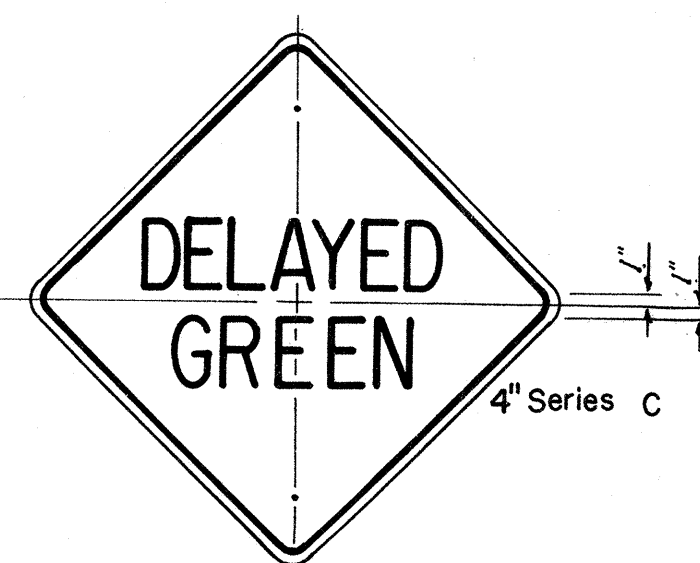
R3-9 30"x 30"



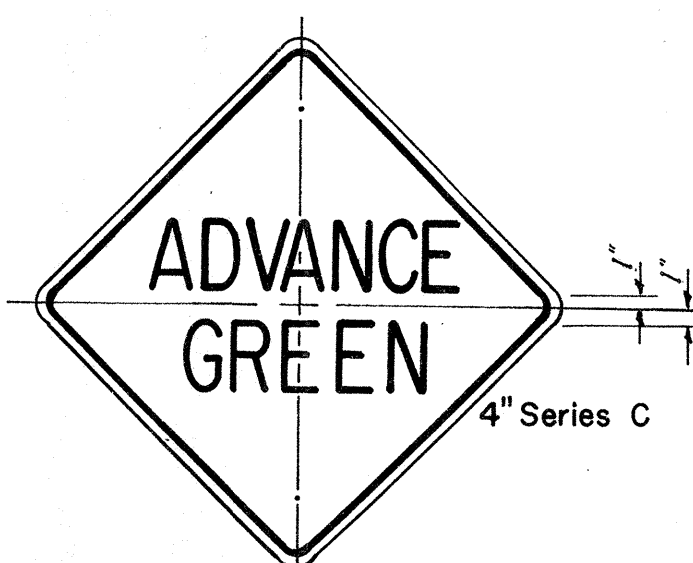
R3-10 36"x 30"

NOTE:

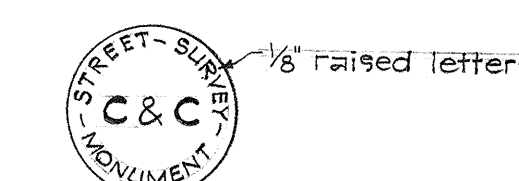
1. The shape, color, plate details, lettering and reflectorization of Regulatory signs (Prefix R) and Warning signs (Prefix W) shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All regulatory and warning signs shall be reflectorized unless otherwise specified.
3. All regulatory and warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.



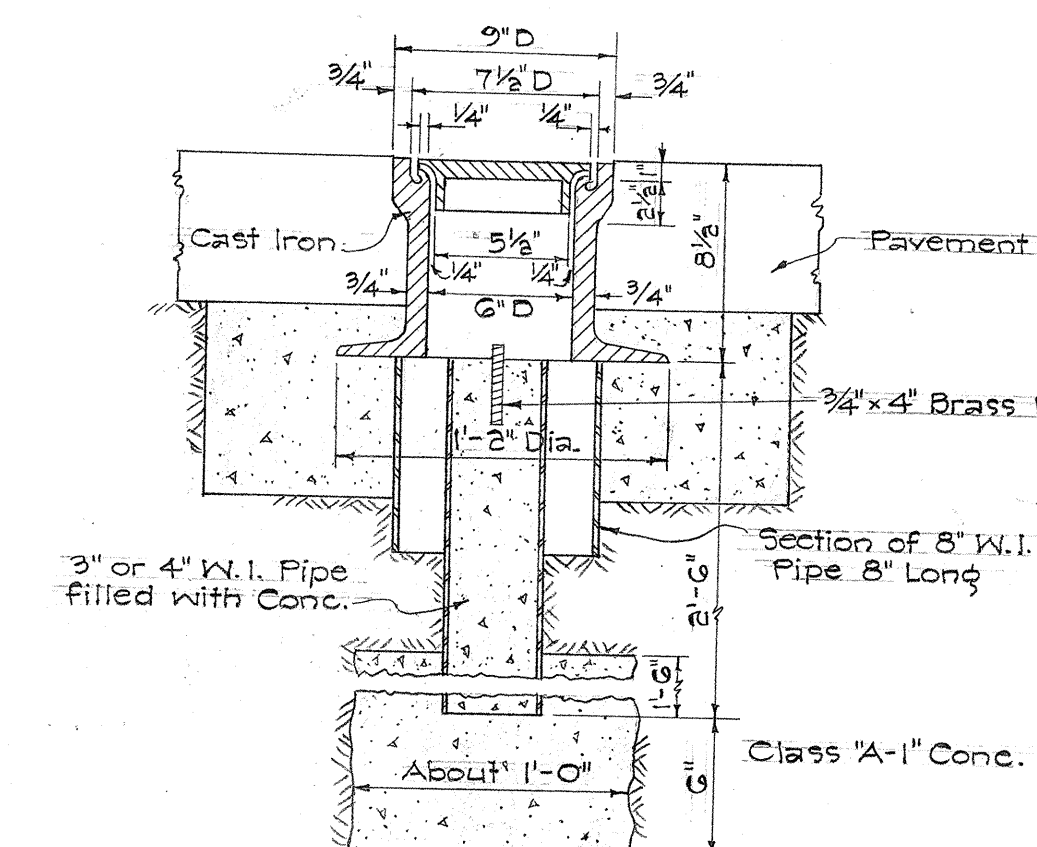
W15-1 24"x 24"



W15-2 24"x 24"

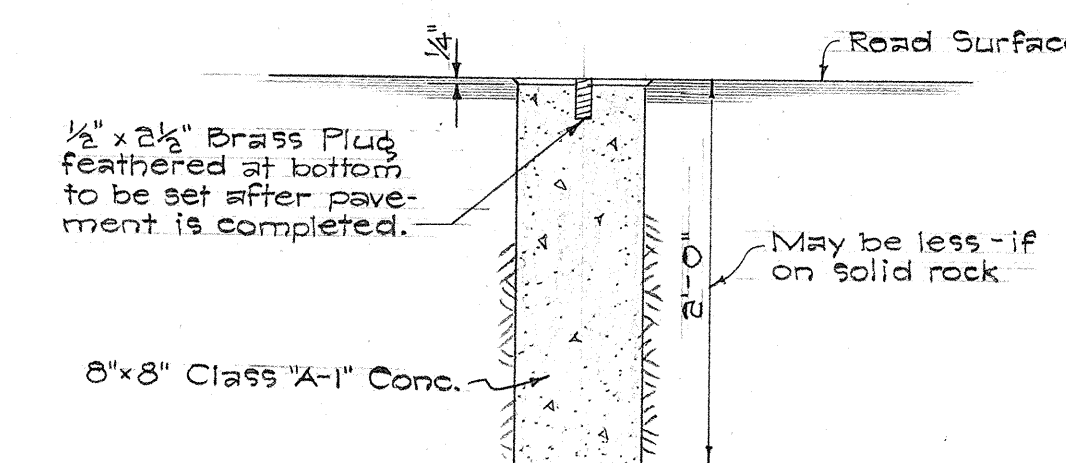


PLAN OF TOP



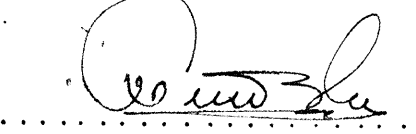
STANDARD C&C STREET SURVEY MONUMENT

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



CENTER LINE MONUMENT

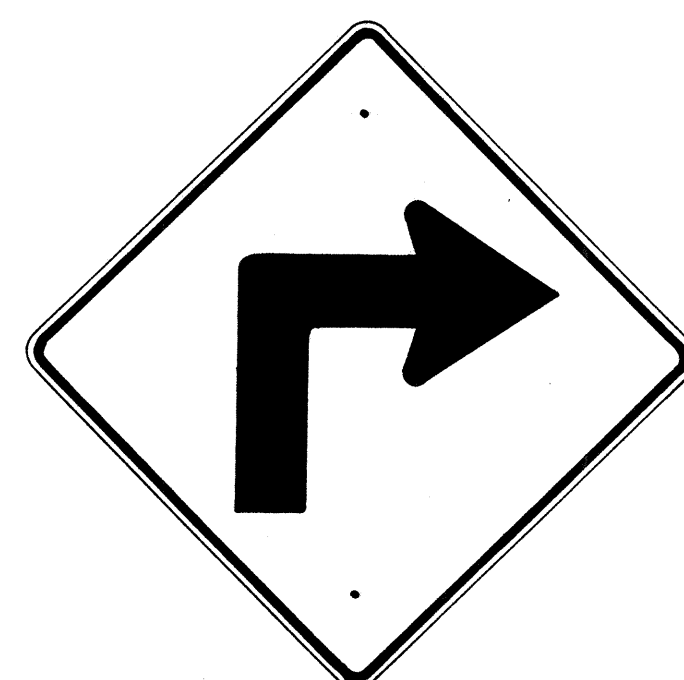
Scale: 1" = 1'-0"

APPROVED:  DATE 7/22/62
DIRECTOR OF TRANSPORTATION

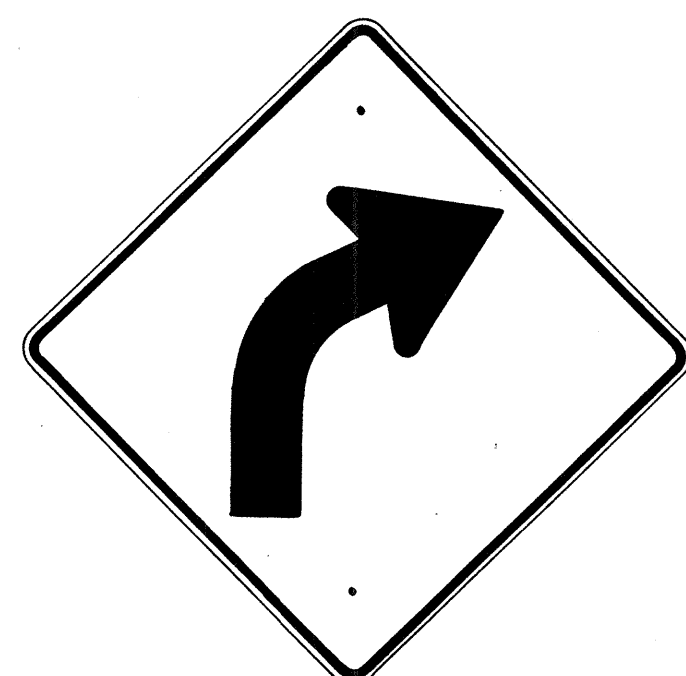
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS**
Scale: 1" = 1'-0"

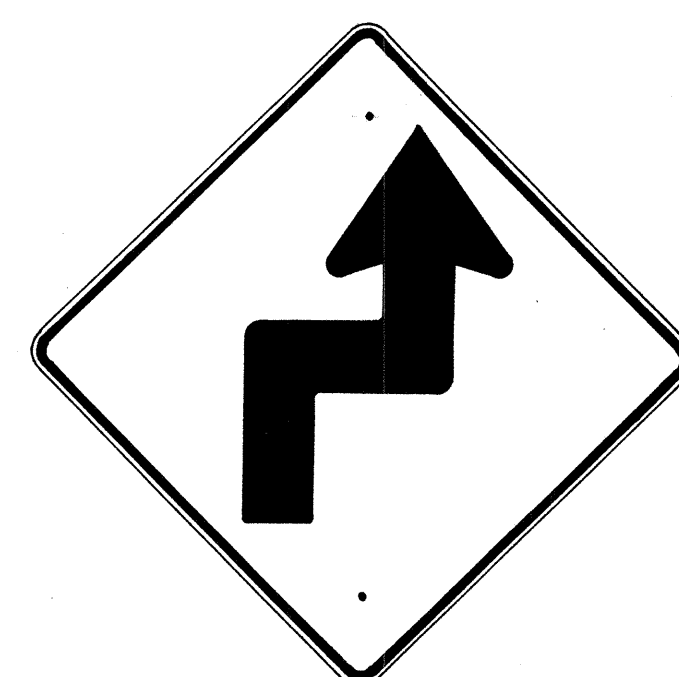
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	070-1(1)	1962	48	127



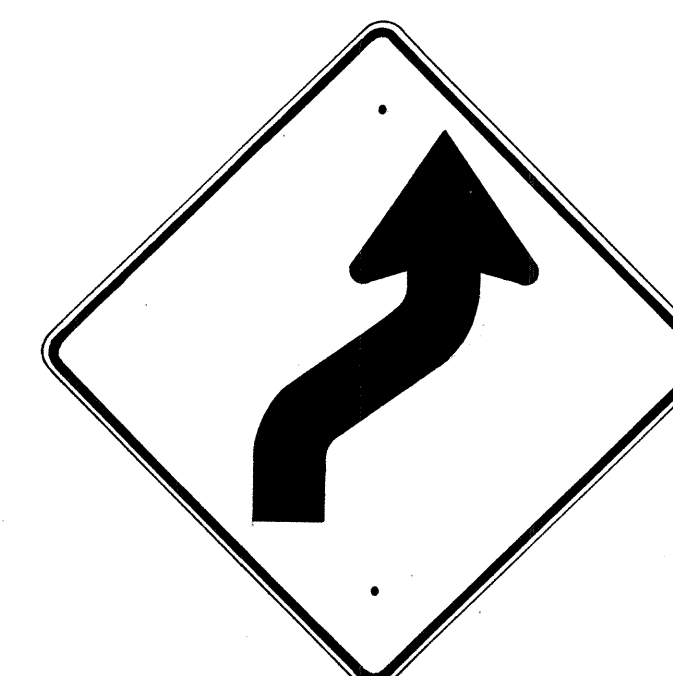
W1-1R 30" x 30"



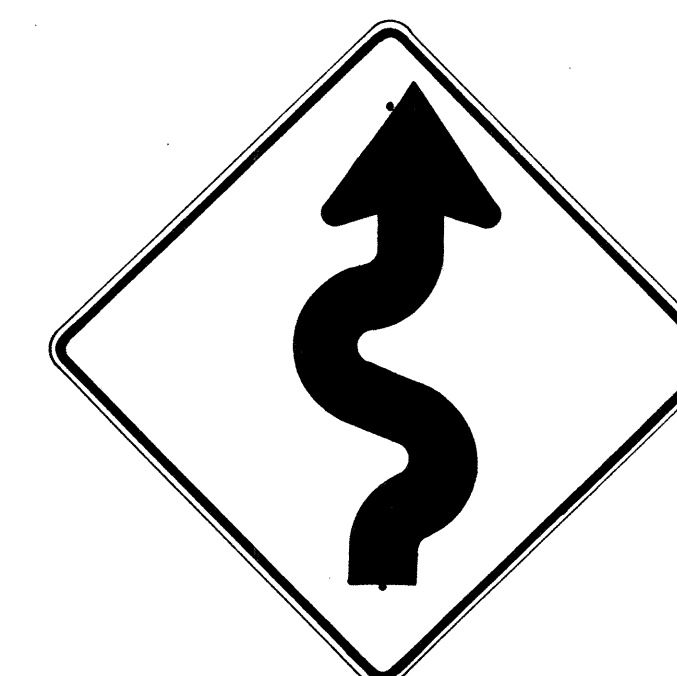
W1-2R 30" x 30"



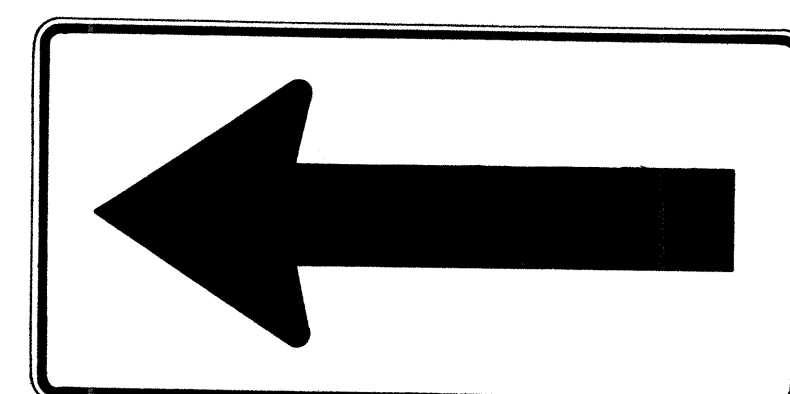
W1-3R 30" x 30"



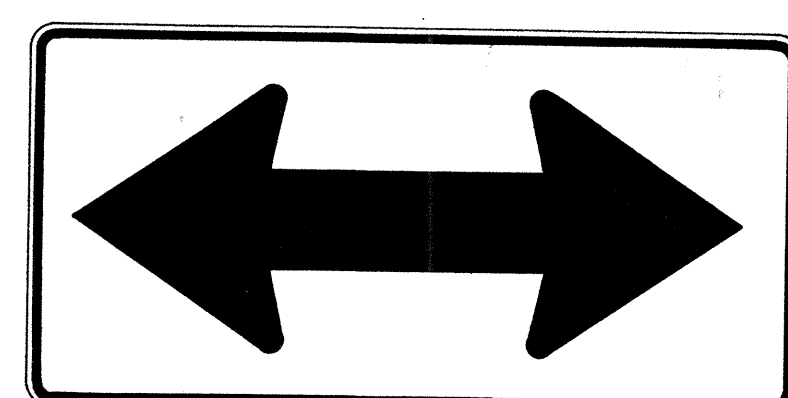
W1-4R 30" x 30"



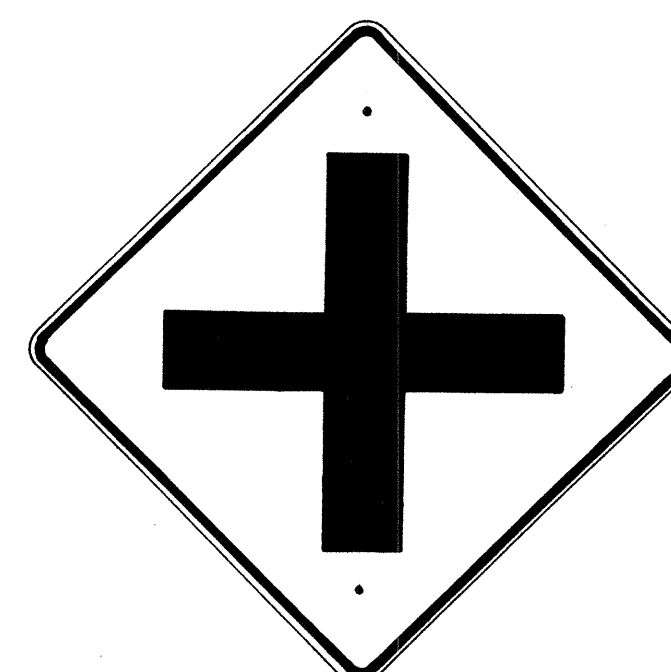
W1-5R 30" x 30"



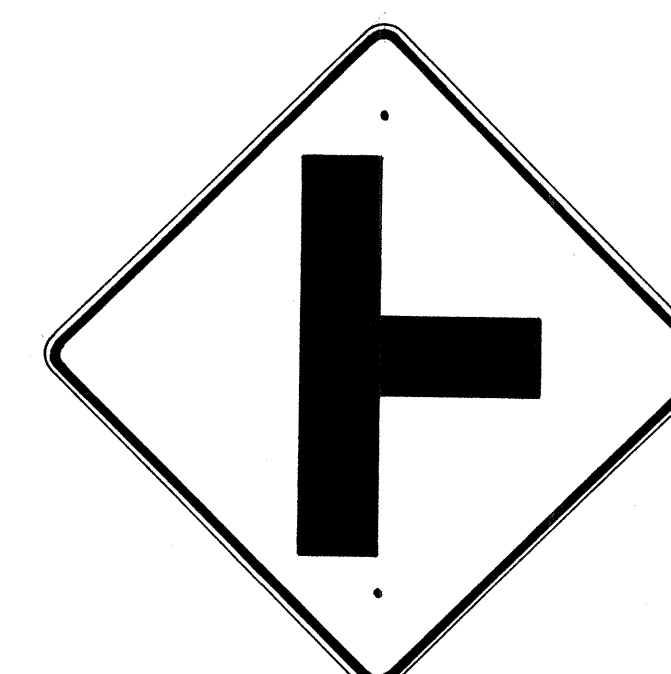
W1-6L 48" x 24"



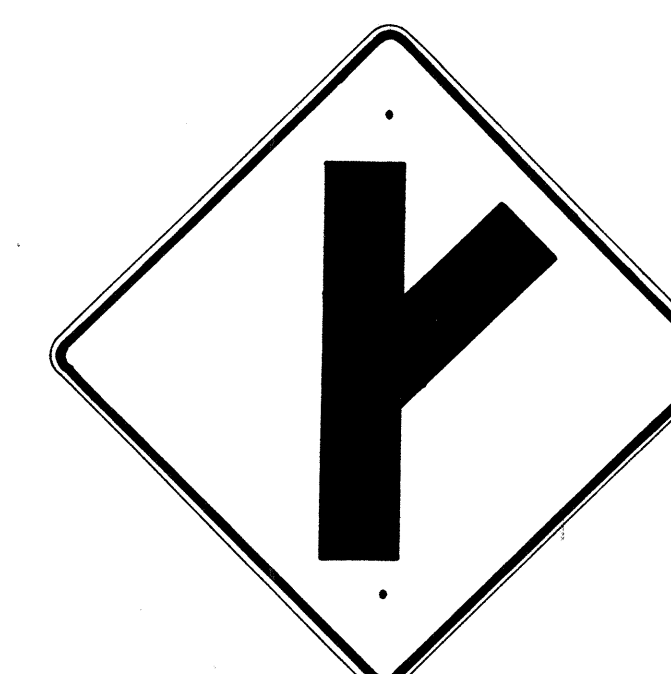
W1-7 48" x 24"



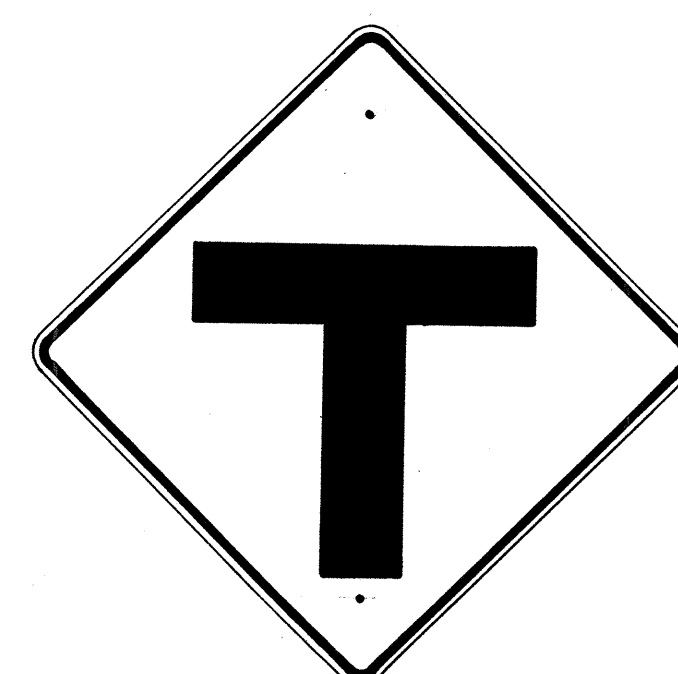
W2-1 30" x 30"



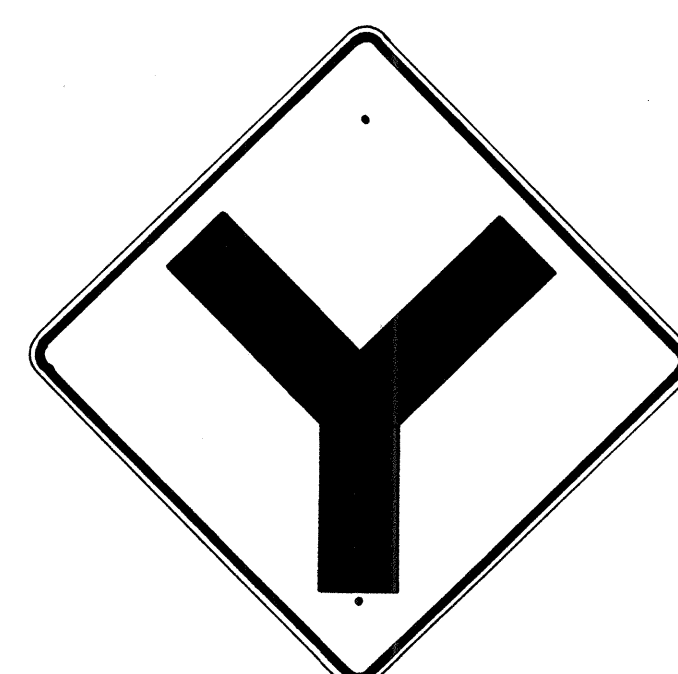
W2-2R 30" x 30"



W2-3R 30" x 30"



W2-4 30" x 30"



W2-5 30" x 30"



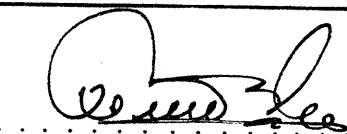
W3-1 30" x 30"



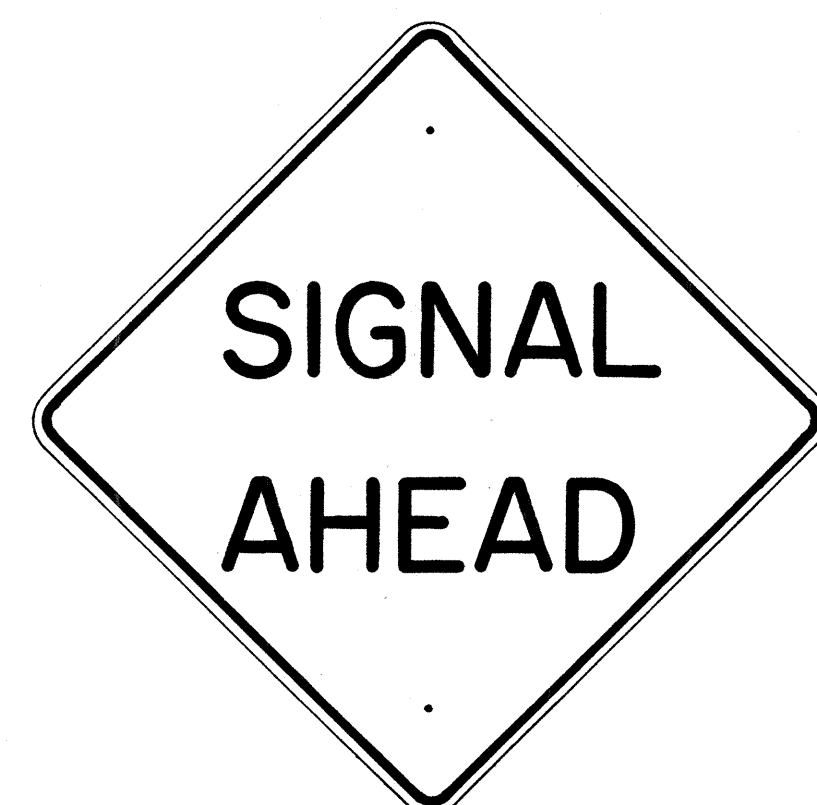
W3-2 30" x 30"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.

APPROVED:  DATE: 1/22/62
DIRECTOR OF TRANSPORTATION

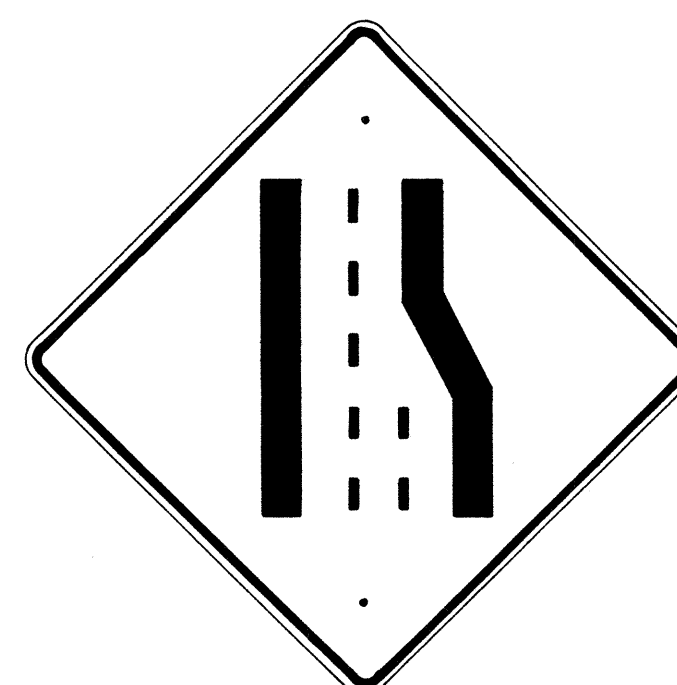
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
WARNING SIGNS
Scale: 1" = 1'-0"



W3-3 36" x 36"



W4-1 30" x 30"
W4-1-E 36" x 36"
W4-1-I 48" x 48"



W4-2 30" x 30"
W4-2-E 36" x 36"



W5-1 30" x 30"
W5-1-E 36" x 36"



W5-2 30" x 30"



W5-3 30" x 30"



W6-1 36" x 36"



W6-2 36" x 36"



W7-1 30" x 30"



W8-1 30" x 30"



W8-2 30" x 30"



W8-3 30" x 30"



W8-4 30" x 30"



W8-5 30" x 30"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate location unless otherwise noted.
4. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.

APPROVED:

DATE: 1/22/62

[Signature]
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

Scale: 1" = 1'-0"

SHEET No. 13 OF 20 SHEETS

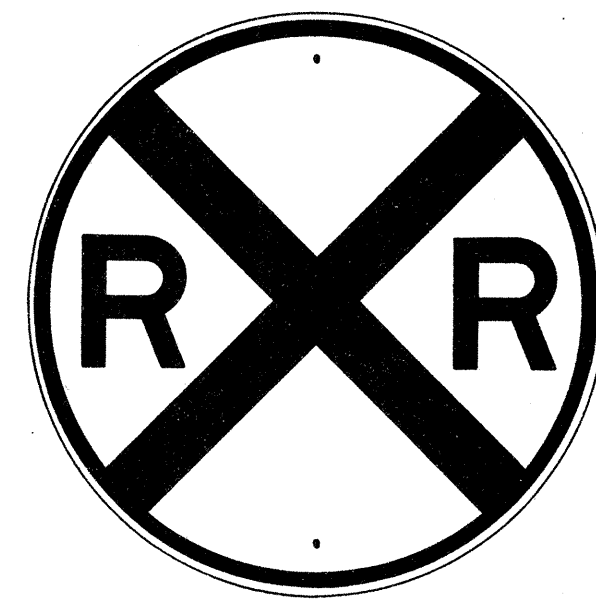
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-090-1(7)	1962	50	127



W9-1 30" x 30"



W9-2 30" x 30"



W10-1 36" DIAMETER



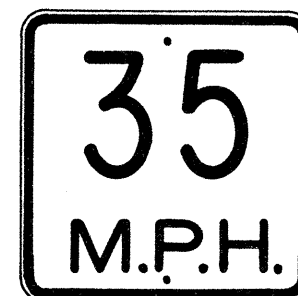
W11-1 30" x 30"



W11-5 30" x 30"



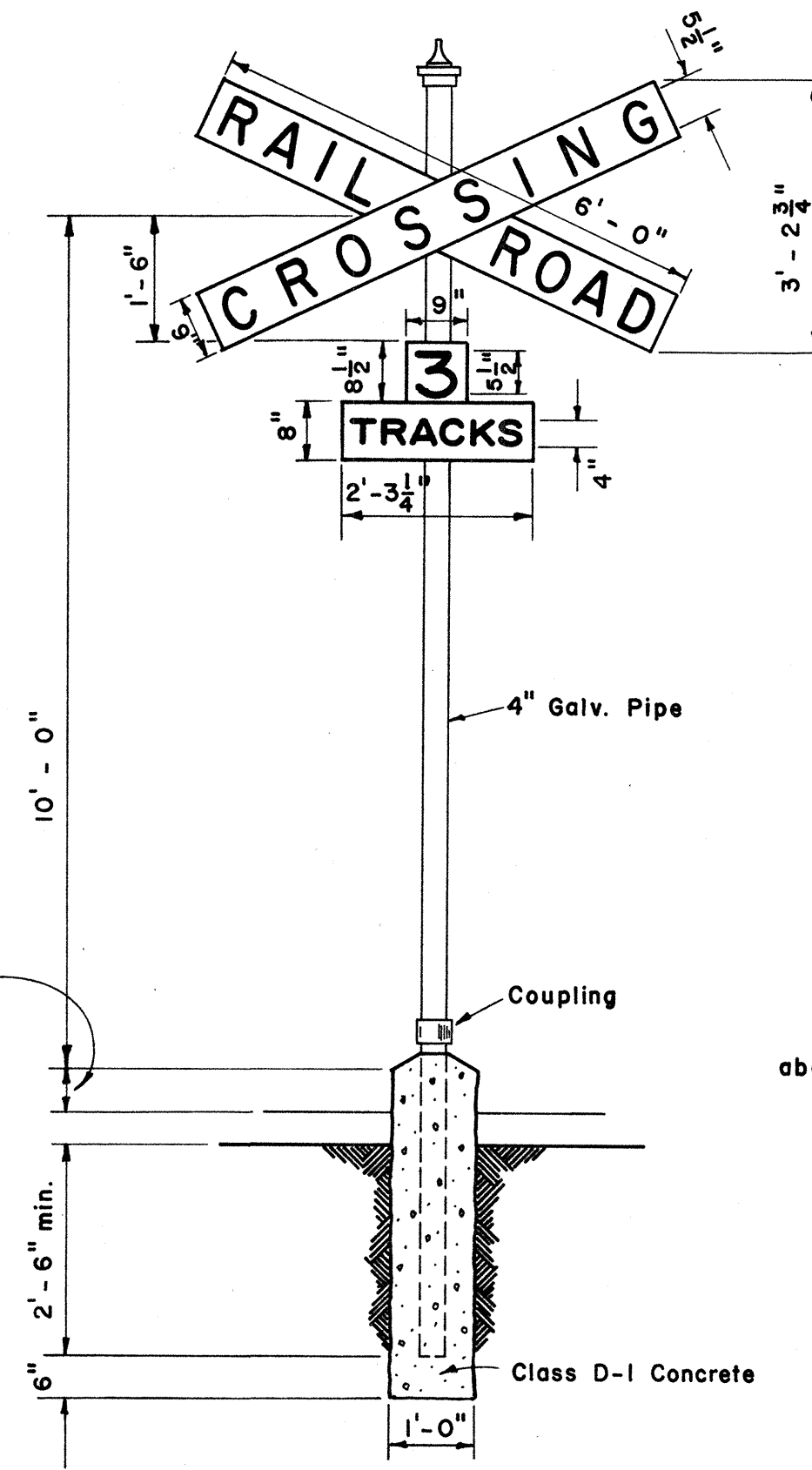
W12-2 36" x 36"



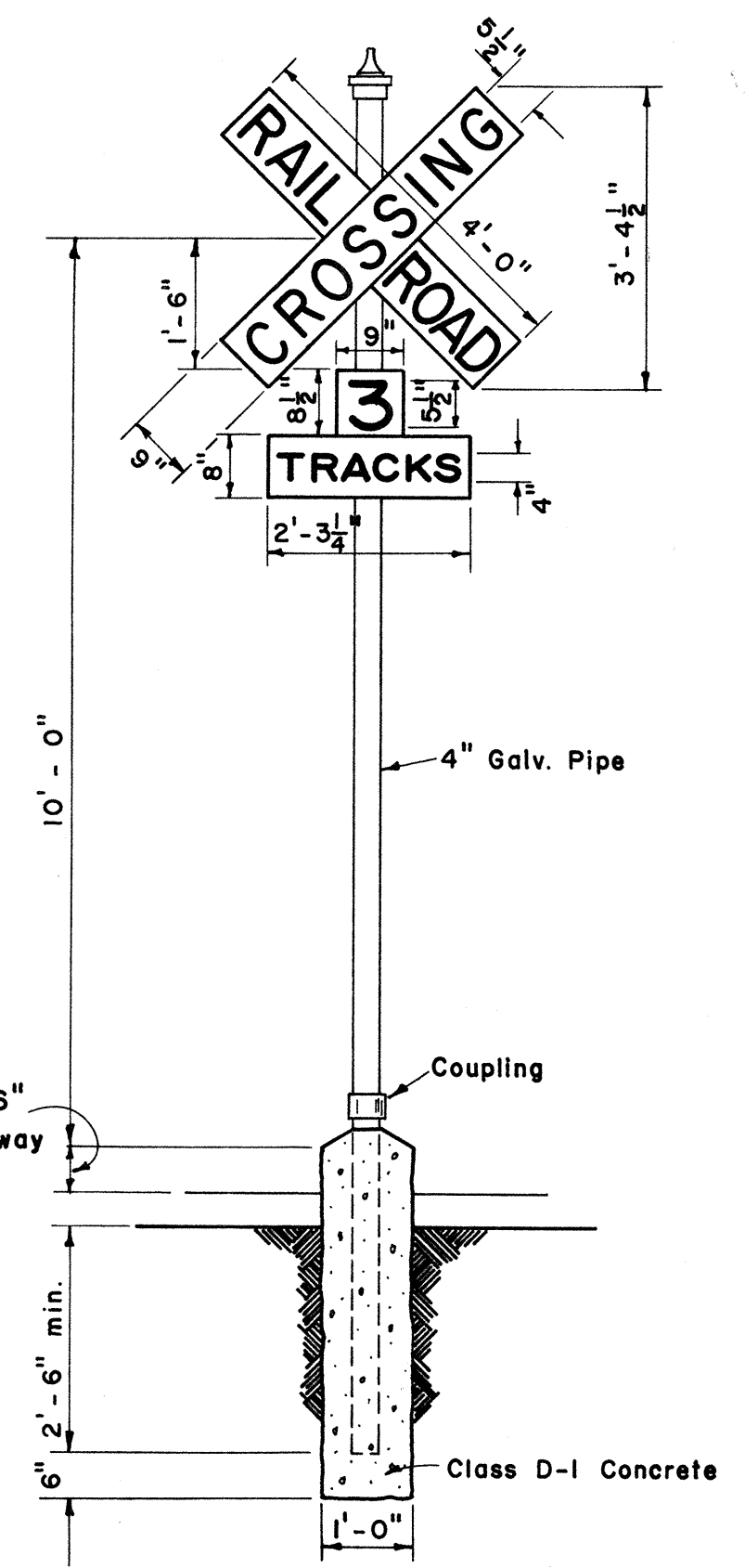
W13-1(35) 18" x 18"



W13-2(25) 12" x 18"



W10-2
Scale: $\frac{1}{2}$ " = 1' - 0"



W10-2A
Scale: $\frac{1}{2}$ " = 1' - 0"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways, dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. For W13 sign, number in () indicates speed and shall be as shown on the plans.

APPROVED :

DATE: 1/22/62

Robert L. ...
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

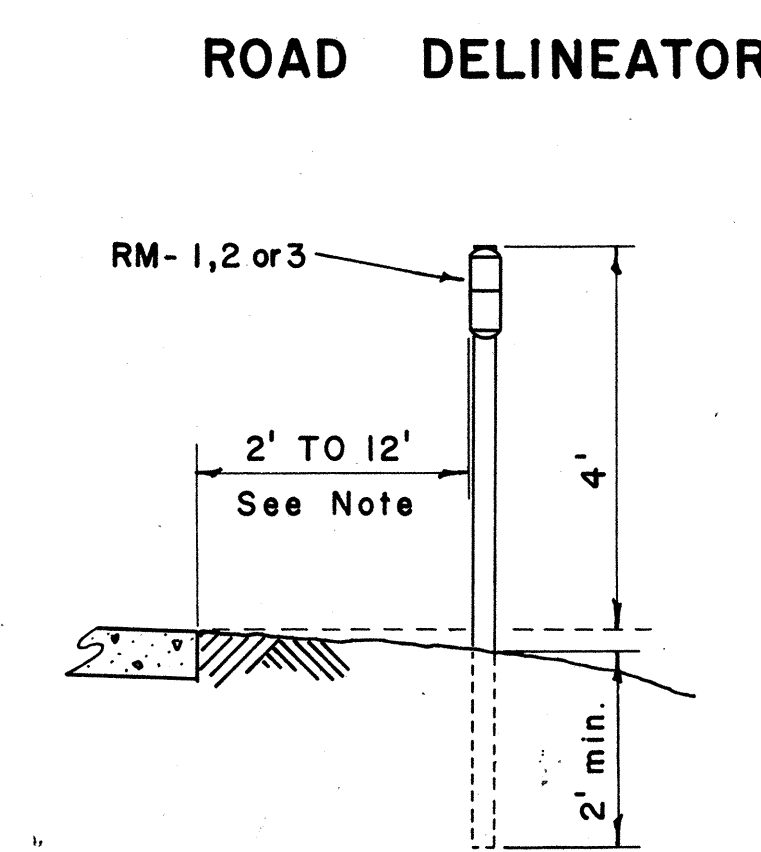
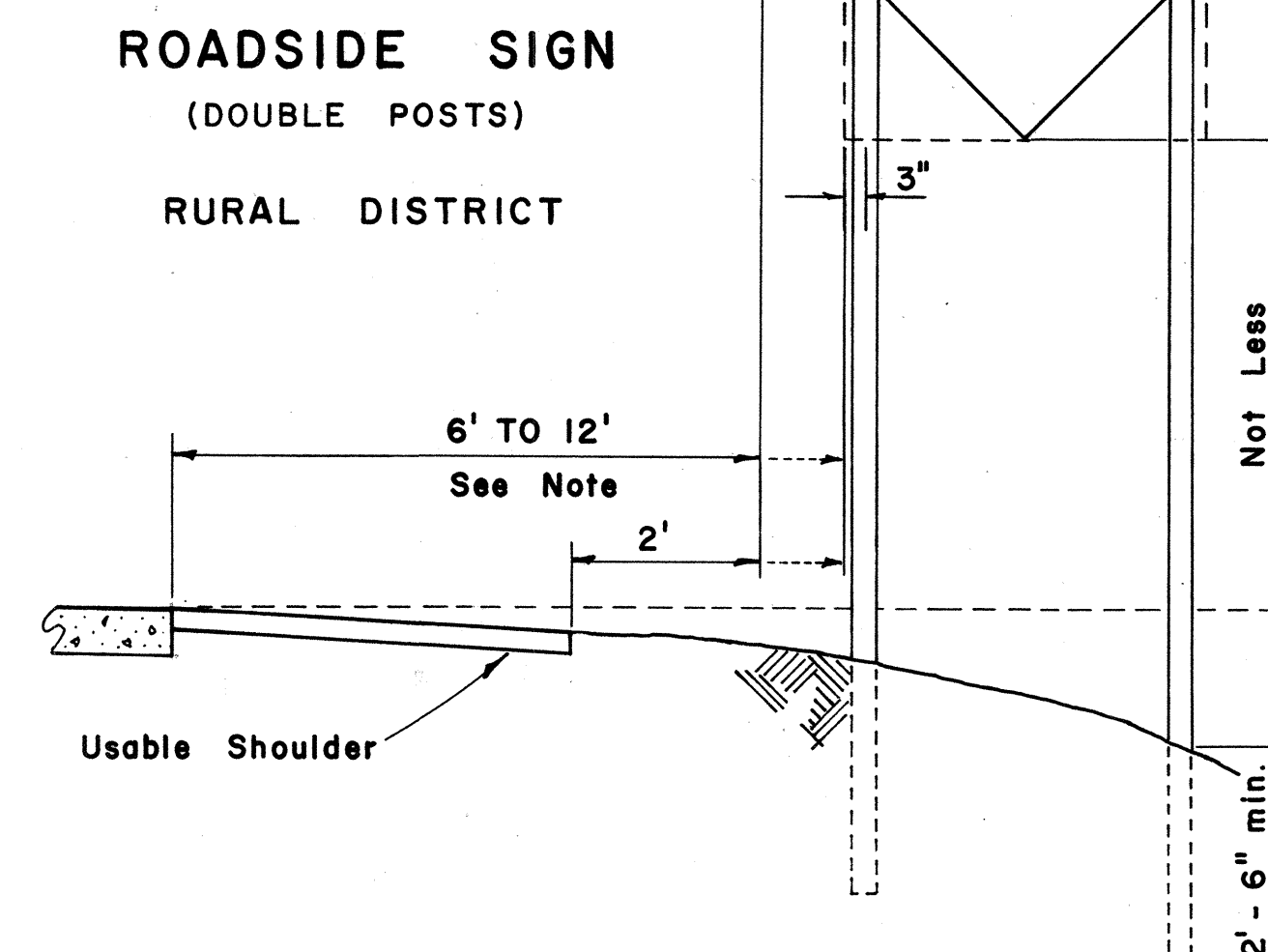
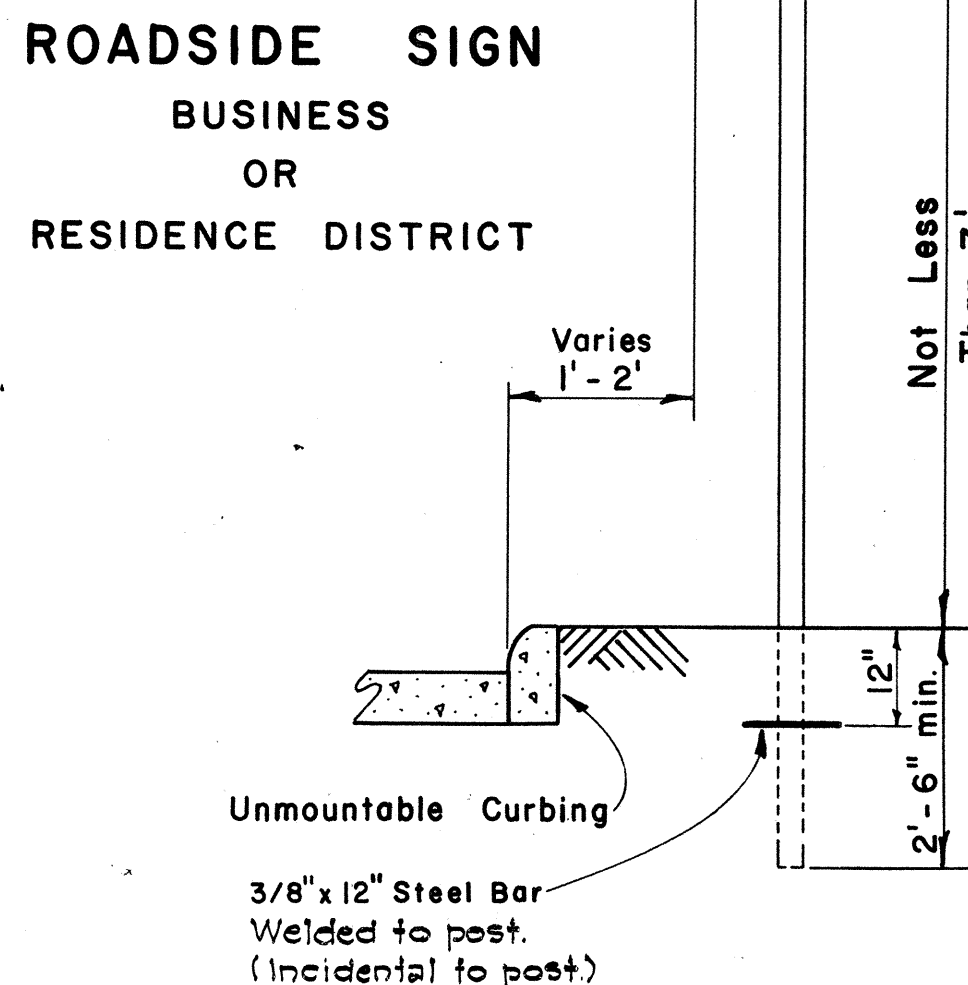
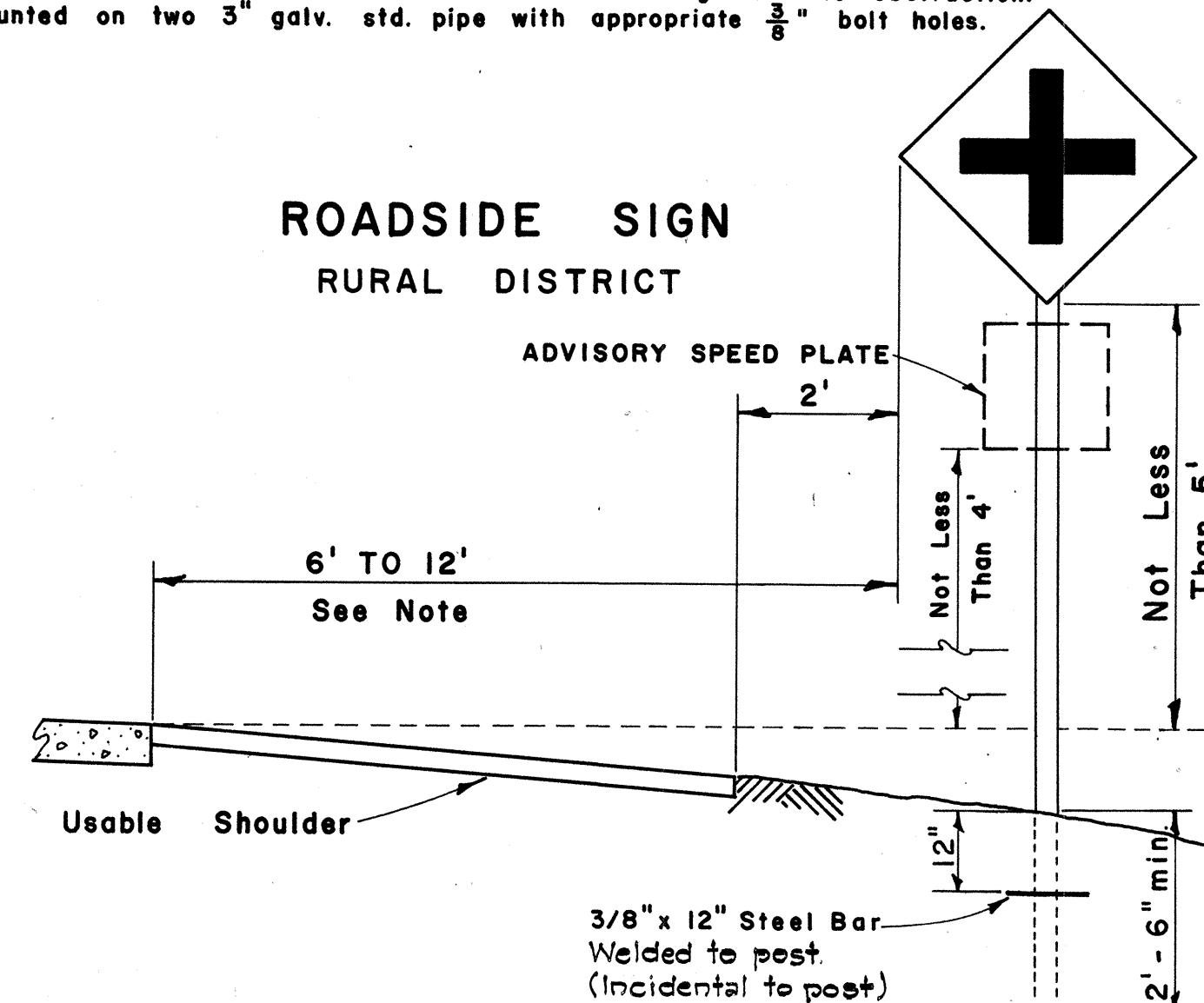
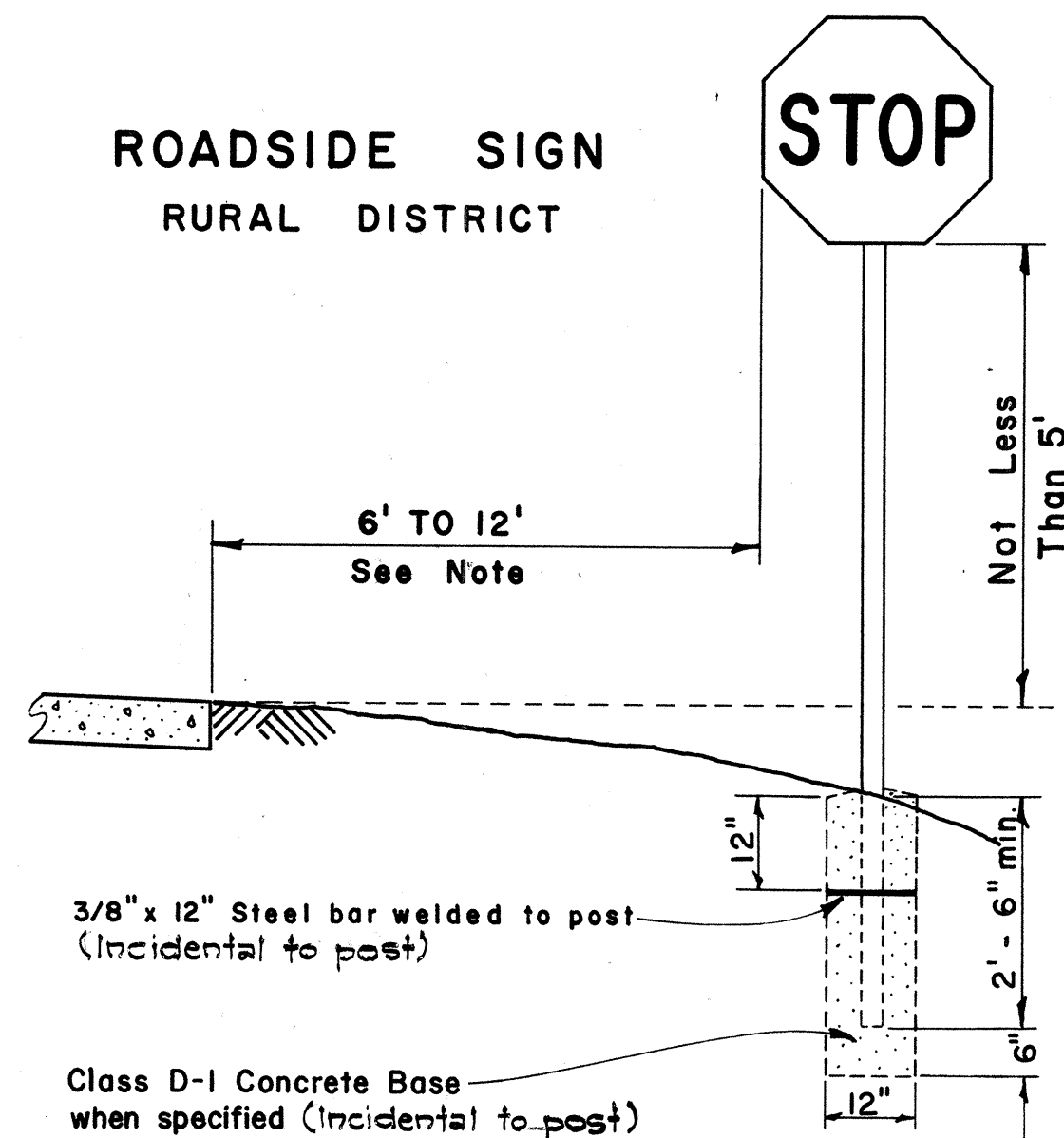
Scale: 1" = 1' - 0"

SHEET No. 14 OF 20 SHEETS

NOTE:

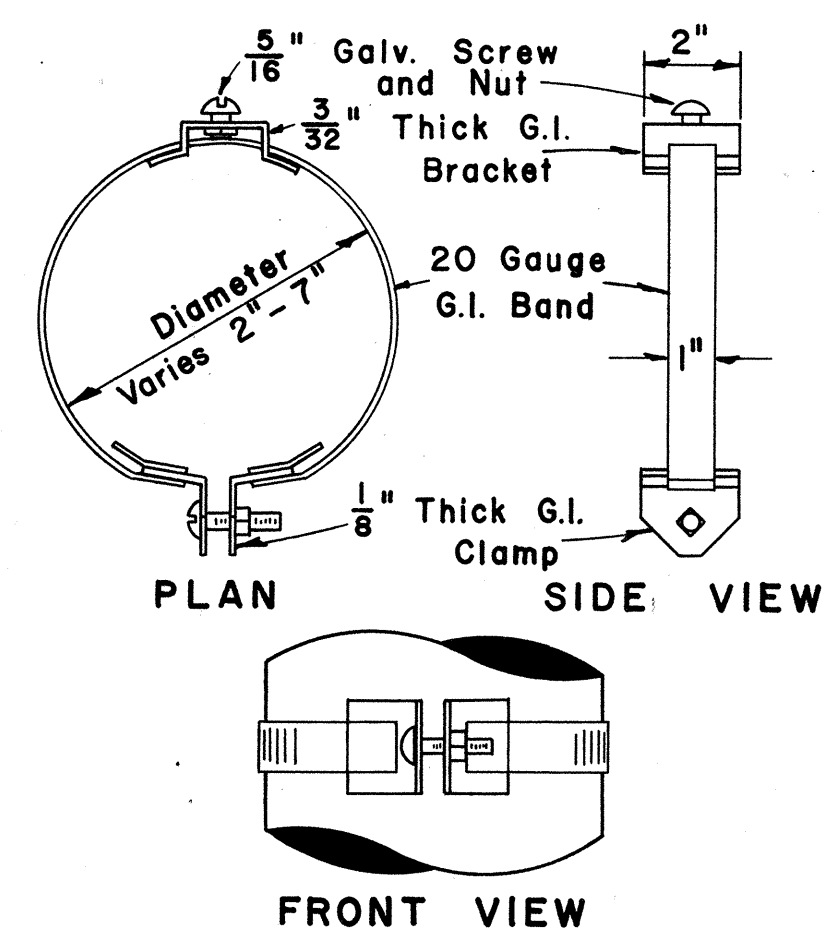
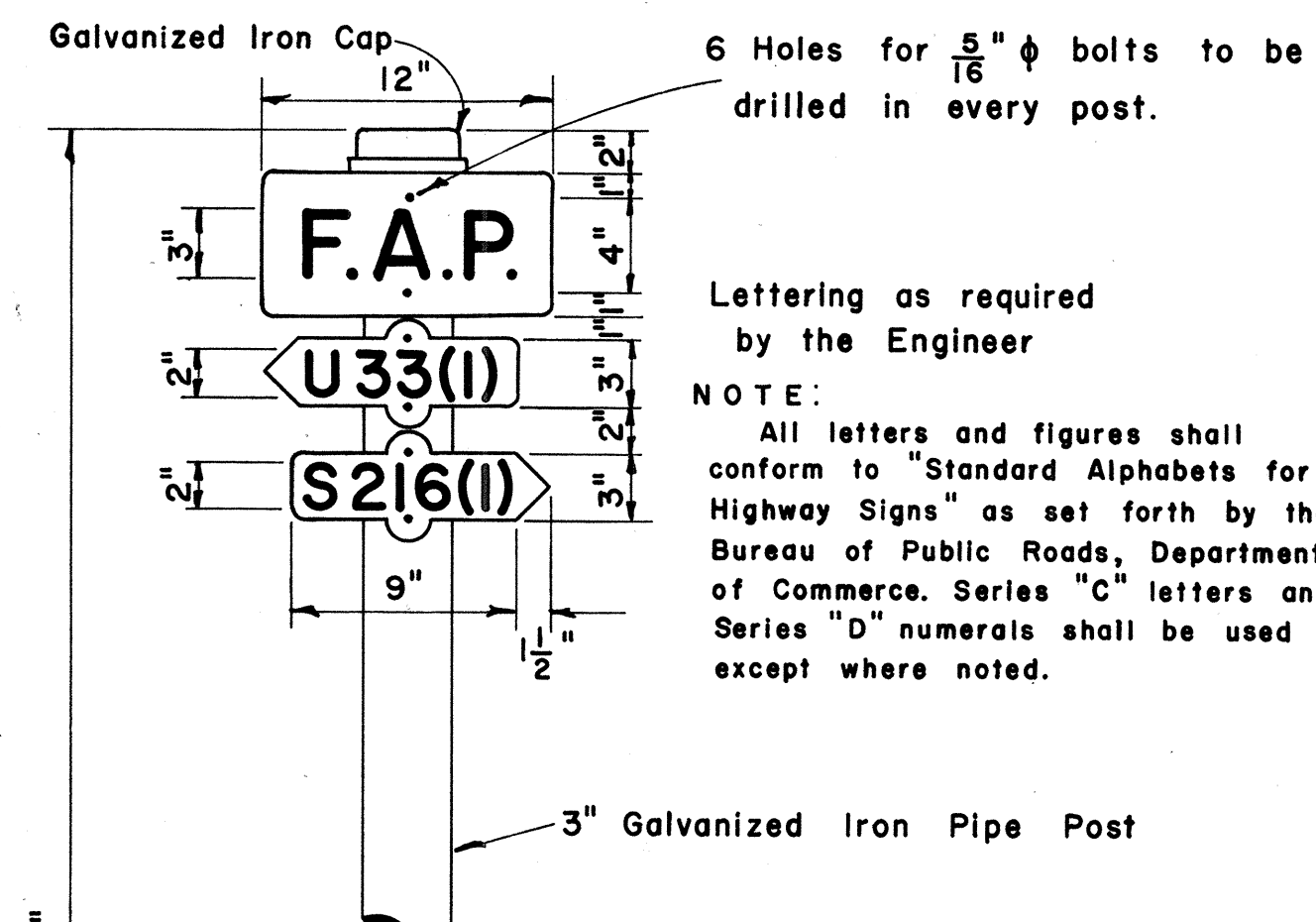
1. All signs and road delineators shall be placed 2' outside the usable roadway shoulder or 1' outside unmountable curbing present and within the limits shown below.
2. Except as noted below, sign posts shall be 3" galv. std. pipe for signs larger than 24" in any dimension and 2" galv. std. pipe for signs not over 24" in any dimension, with two 5/8" ϕ bolt holes or adjustable band brackets.
3. Sign shall be attached to post with 1/2" galvanized carriage bolts with nuts and 7/8" x 7/8" x .120 stainless-steel washers with neoprene rubber gasket.
4. Clearance Markers (RM-4, RM-3) shall be installed with the inside edge of the marker in line with the inner edge of the obstruction.
5. Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two 3" galv. std. pipe with appropriate 3/8" bolt holes.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	F000-107	1962	51	127



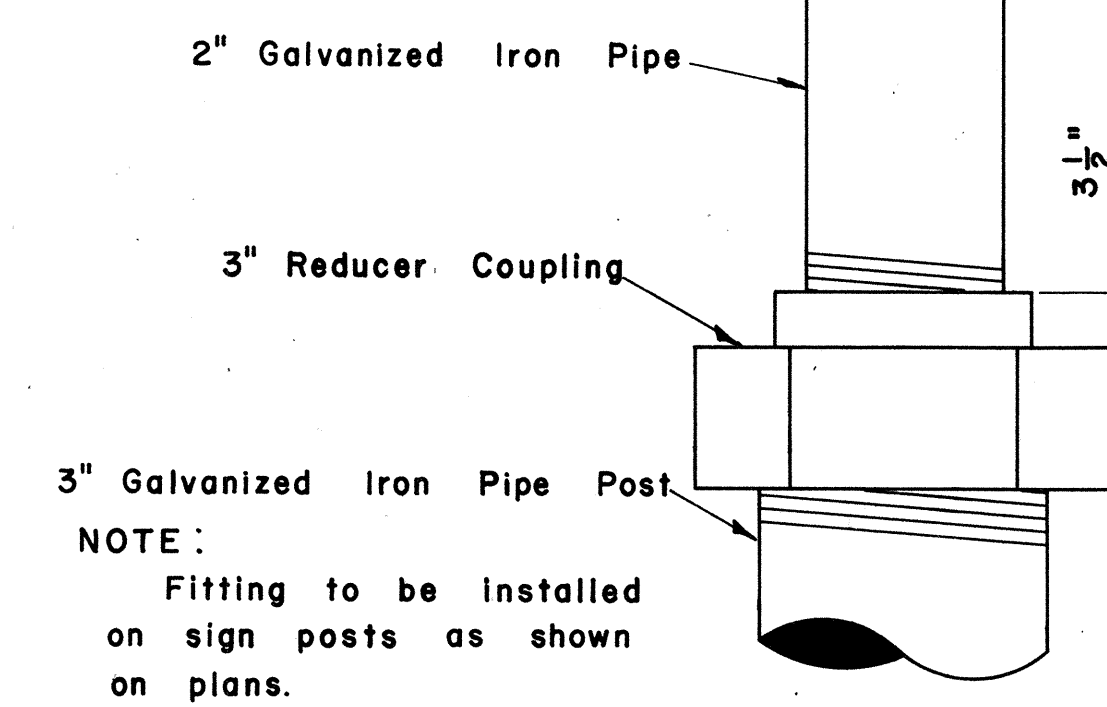
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS

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



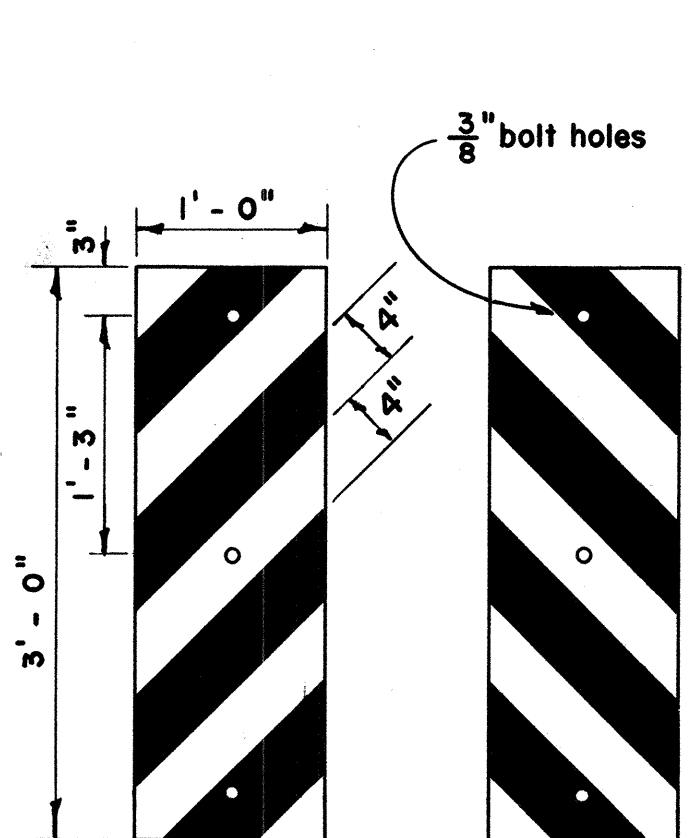
ADJUSTABLE BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

Scale: 3" = 1' - 0"

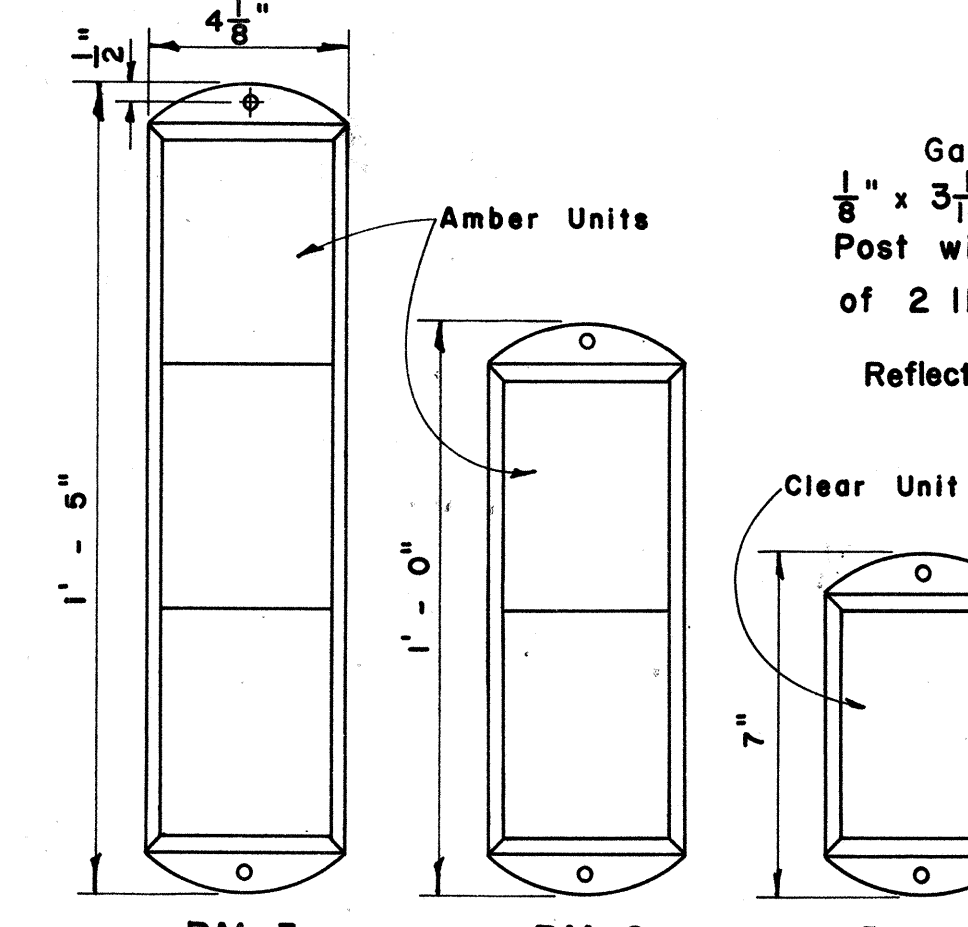


DETAIL OF SIGN POST FITTING FOR CITY & COUNTY STREET NAME SIGNS

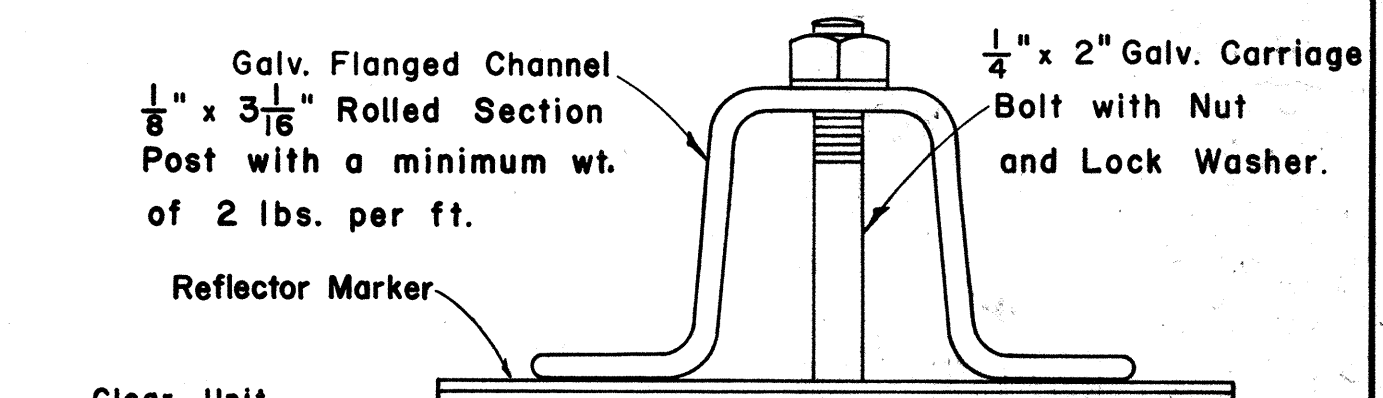
Scale: 1/2" = 1'



Scale: 1" = 1' - 0"



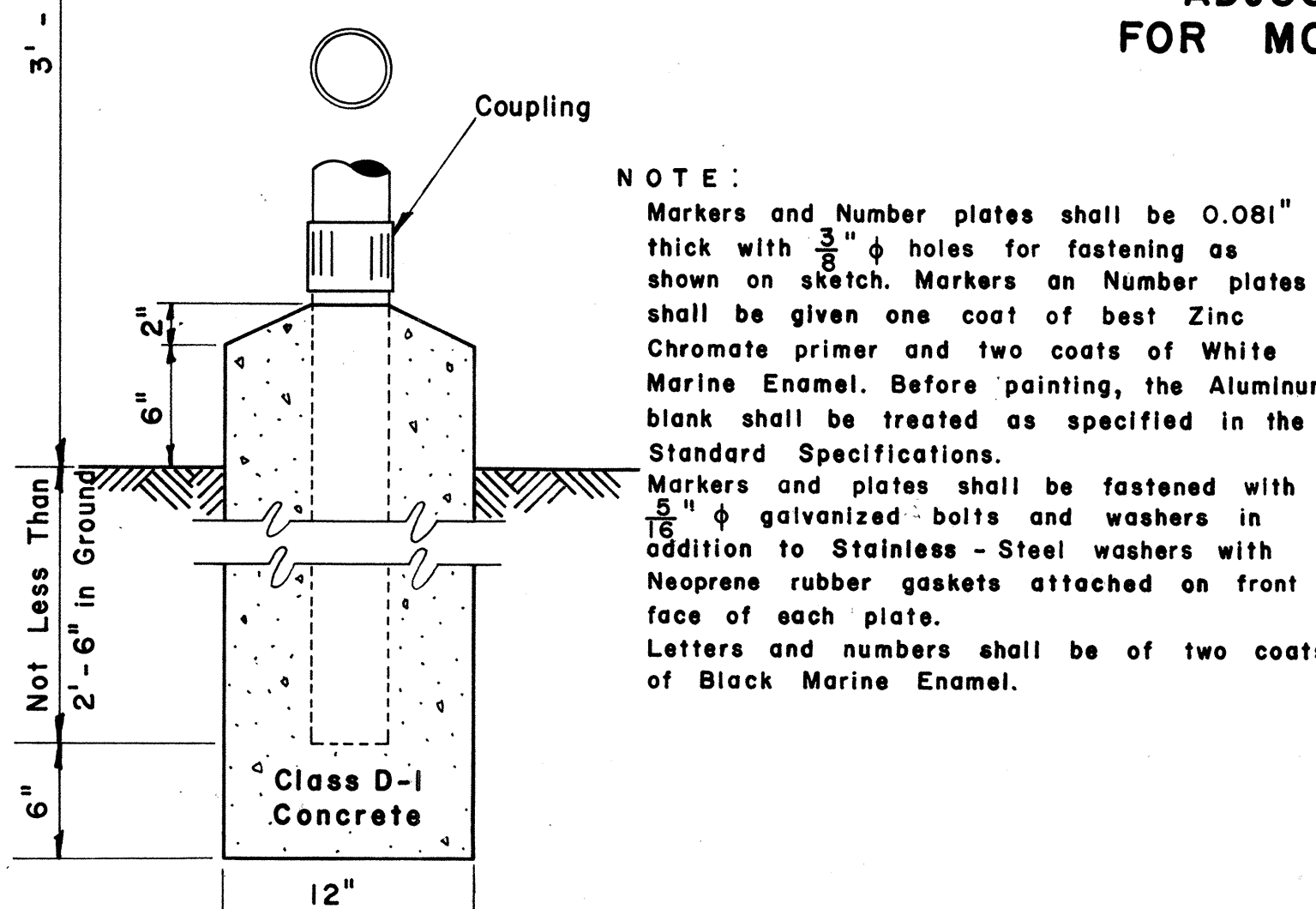
Scale: 3" = 1' - 0"



TYPICAL SECTION OF ROAD DELINEATOR

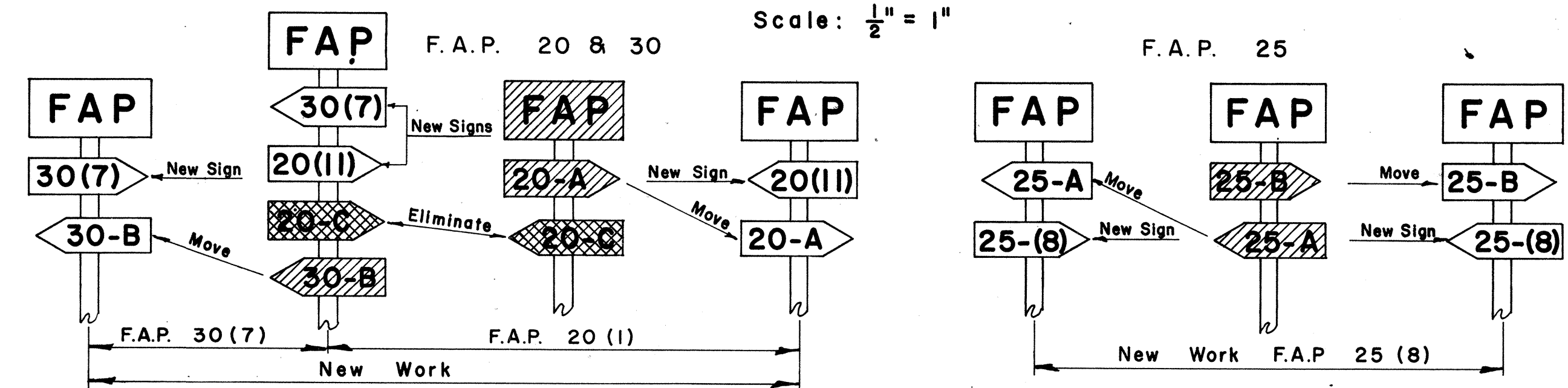
Full Size

NOTE: Reflector Units for RM-1,2,3 shall be 4" x 5" in size and shall consist of reflective sheeting encapsulated in acrylic plastic.



FEDERAL AID MARKER

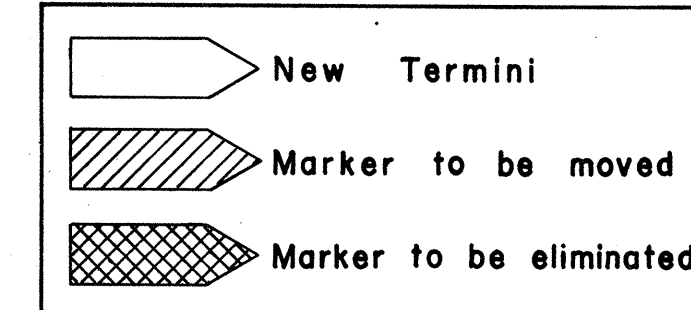
Scale: 1/2" = 1' - 0"



METHOD OF MARKING F.A. PROJECTS AT OVERLAPS (USING NUMBER SUFFIX ON NEW WORK)

REFLECTOR MARKERS

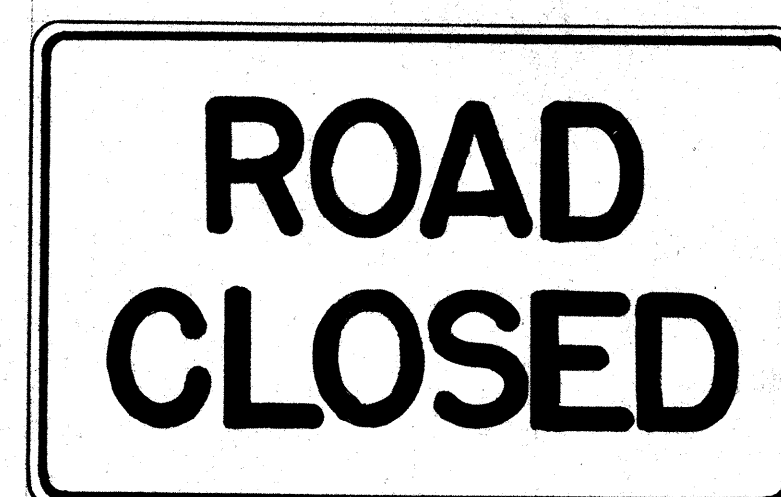
Scale: As Shown



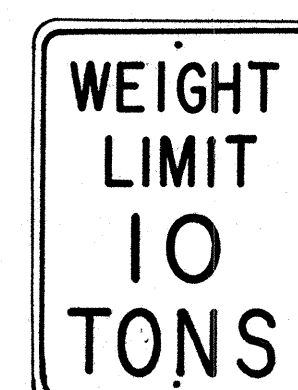
APPROVED: *[Signature]* DATE: 1/23/62
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
F. A. MARKER
AND
MISCELLANEOUS SIGN
DETAILS
Scale: As Shown

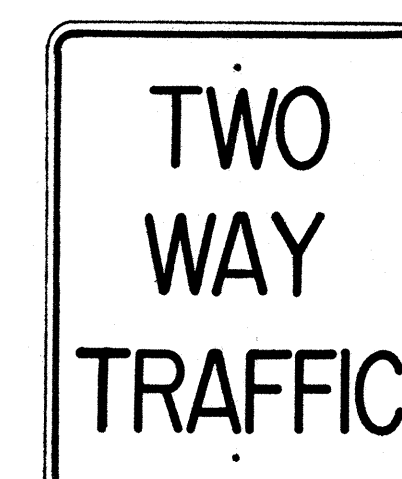
FED. ROAD DIST. No.	STATE	FED. AID FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	F020-101962	52	127



R10-2 48" x 30"



R10-4(10) 18" x 24"



R6-3 24" x 30"



W20-1a 48" x 48"



W20-2d 48" x 48"



W20-3b 48" x 48"



W20-4d 48" x 48"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All signs shall be reflectorized unless otherwise specified.
3. All signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. For R10-4 sign, number in () indicates weight and shall be as shown on the plans.
5. For W20 series signs, suffixes a,b,c and d are as follows a 1500 FT, b 1000 FT, c 500 FT and d AHEAD.

APPROVED:

DATE 1/22/62

[Signature]
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

Scale: 1" = 1'-0"

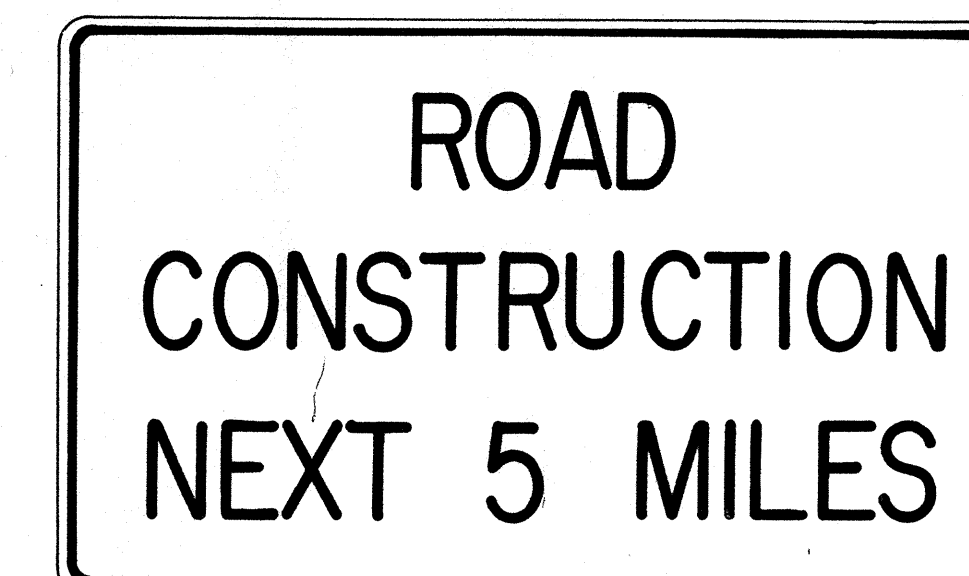
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	F-000-1(7)	1962	53	127



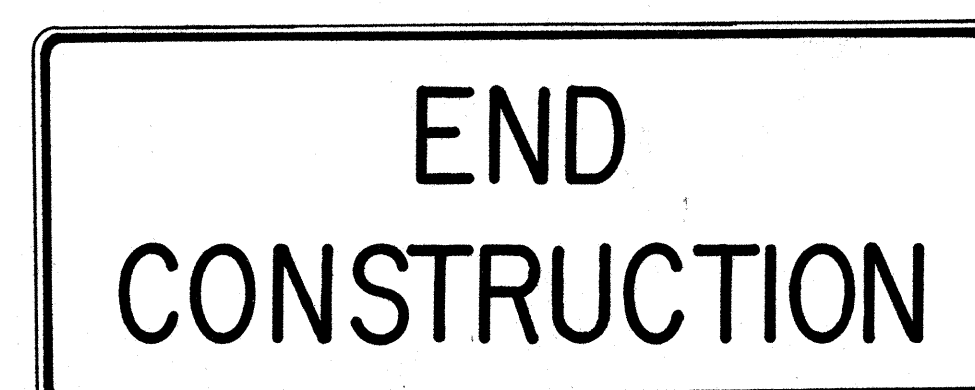
W21-5 30"x 30"



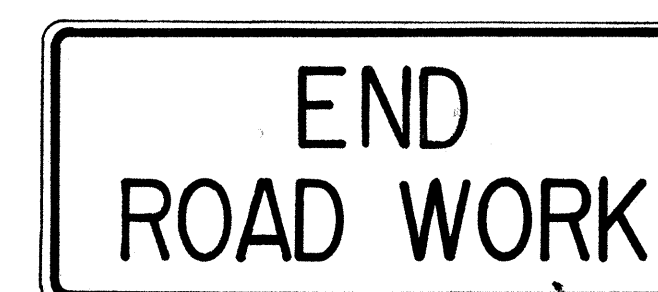
W21-6 30"x 30"



G20-1(5) 60" x 36"



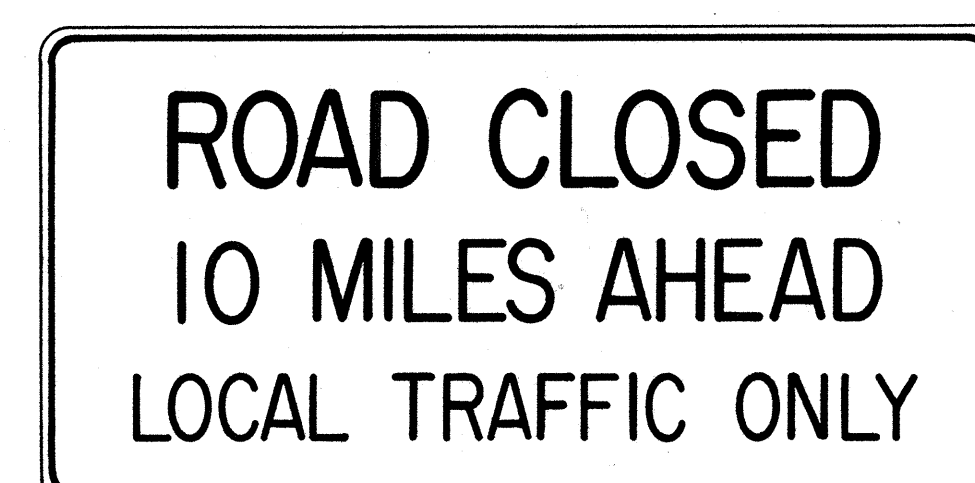
G20-2 60"x 24"



G20-3 42"x 18"



M5-7(L) 48" x 18"



R10-3(10) 60"x 30"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways", dated June 1961 and the BPR manual "Standard Highway Signs", dated September 1961 unless otherwise specified.
2. All signs shall be reflectorized unless otherwise specified.
3. All signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. Number in () indicates miles and shall be as shown on the plans.

APPROVED:

DATE 1/22/62

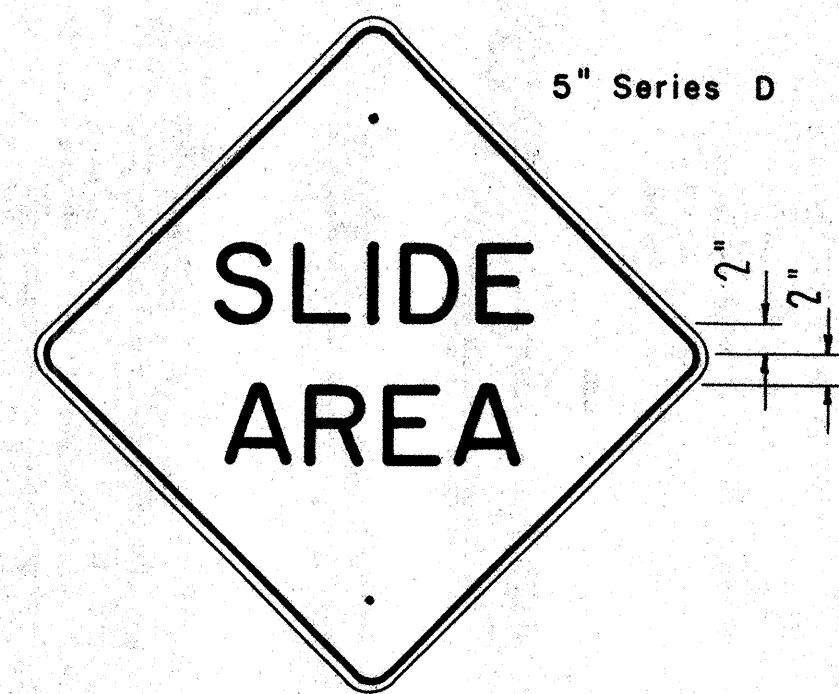
[Signature]
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

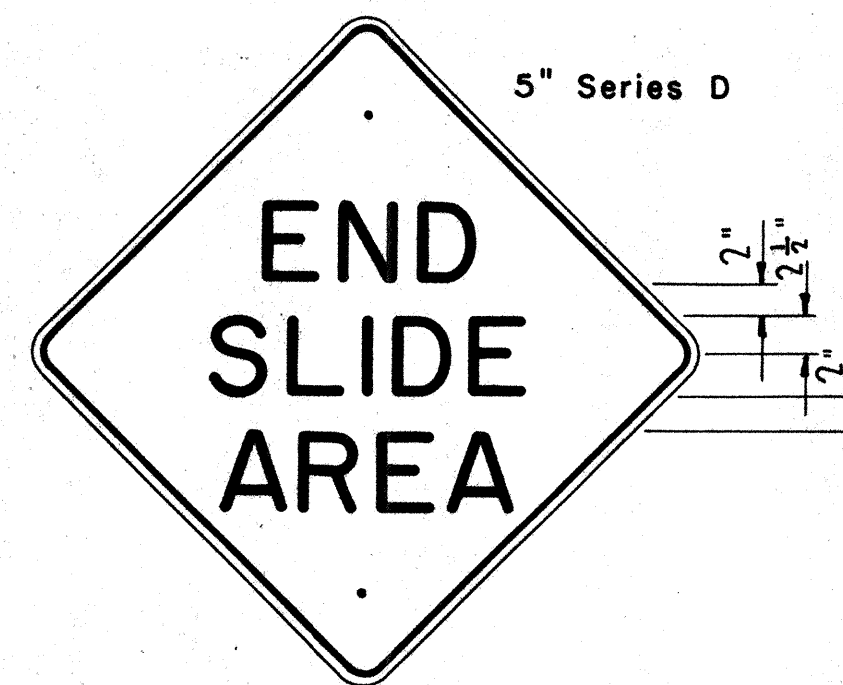
STANDARD DETAILS
CONSTRUCTION SIGNS

Scale: 1" = 1' - 0"

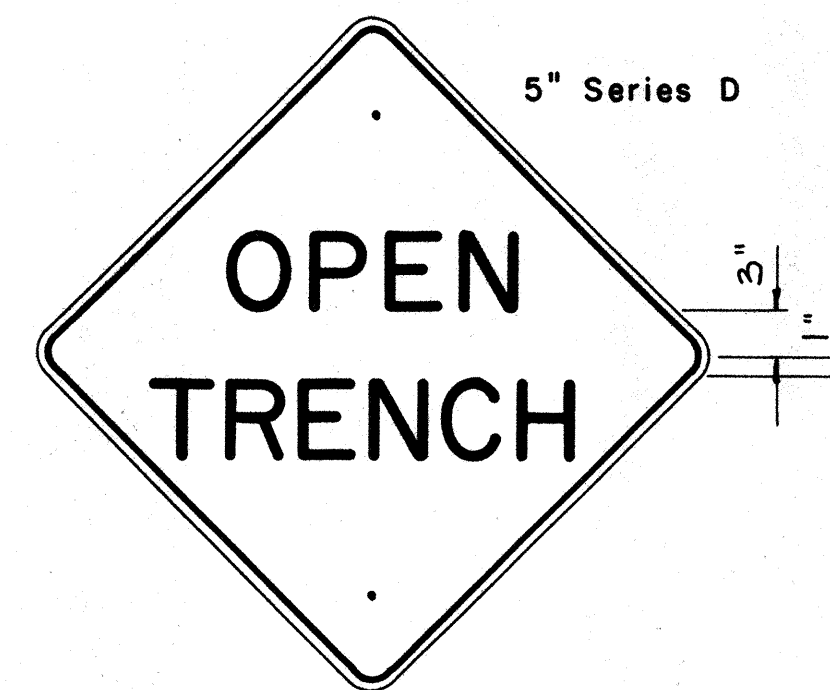
SHEET No. 17 OF 20 SHEETS



W 22 - 1 30" x 30"



W 22 - 2 30" x 30"



W 22 - 3 30" x 30"



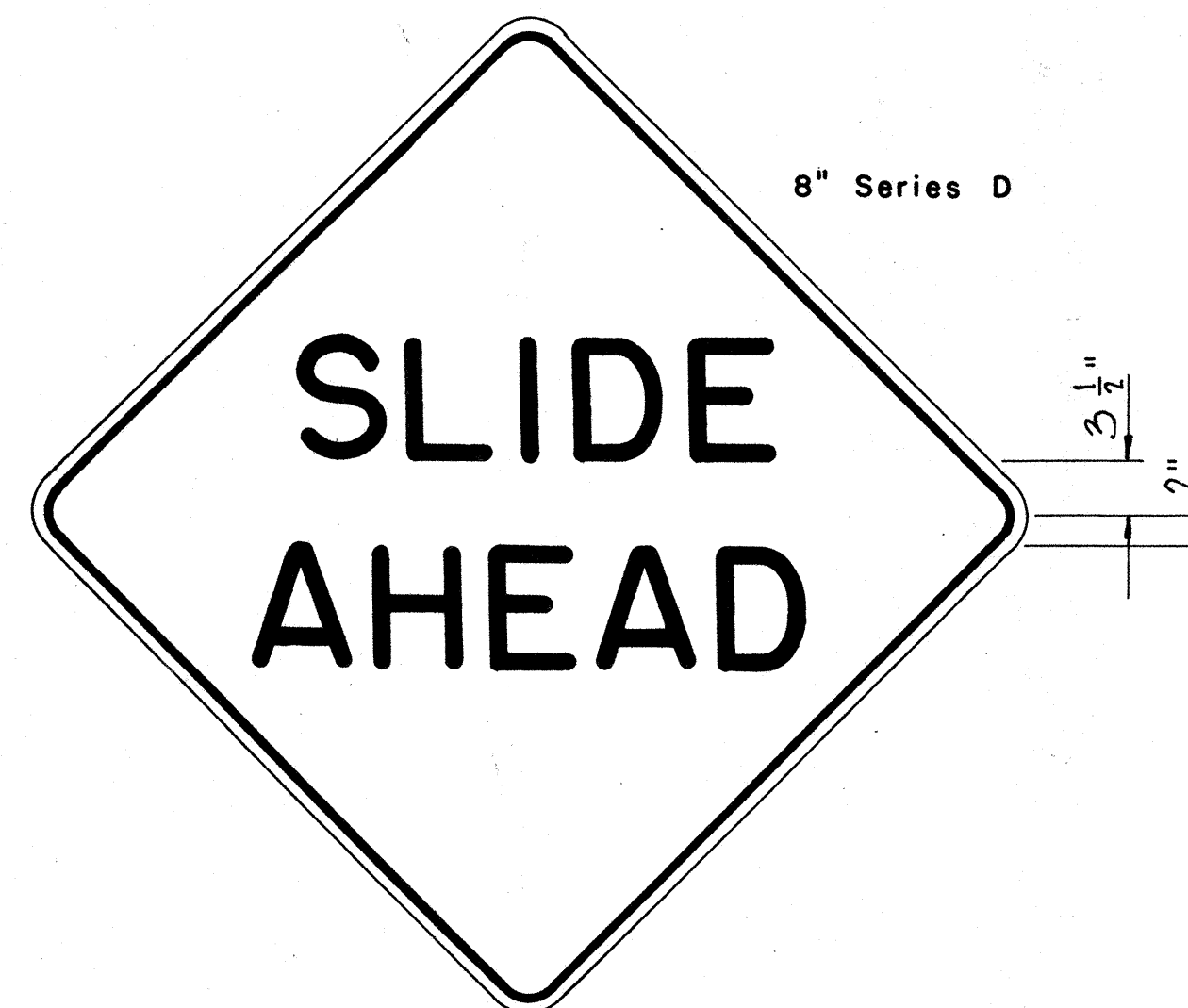
W 8 - 7 30" x 30"



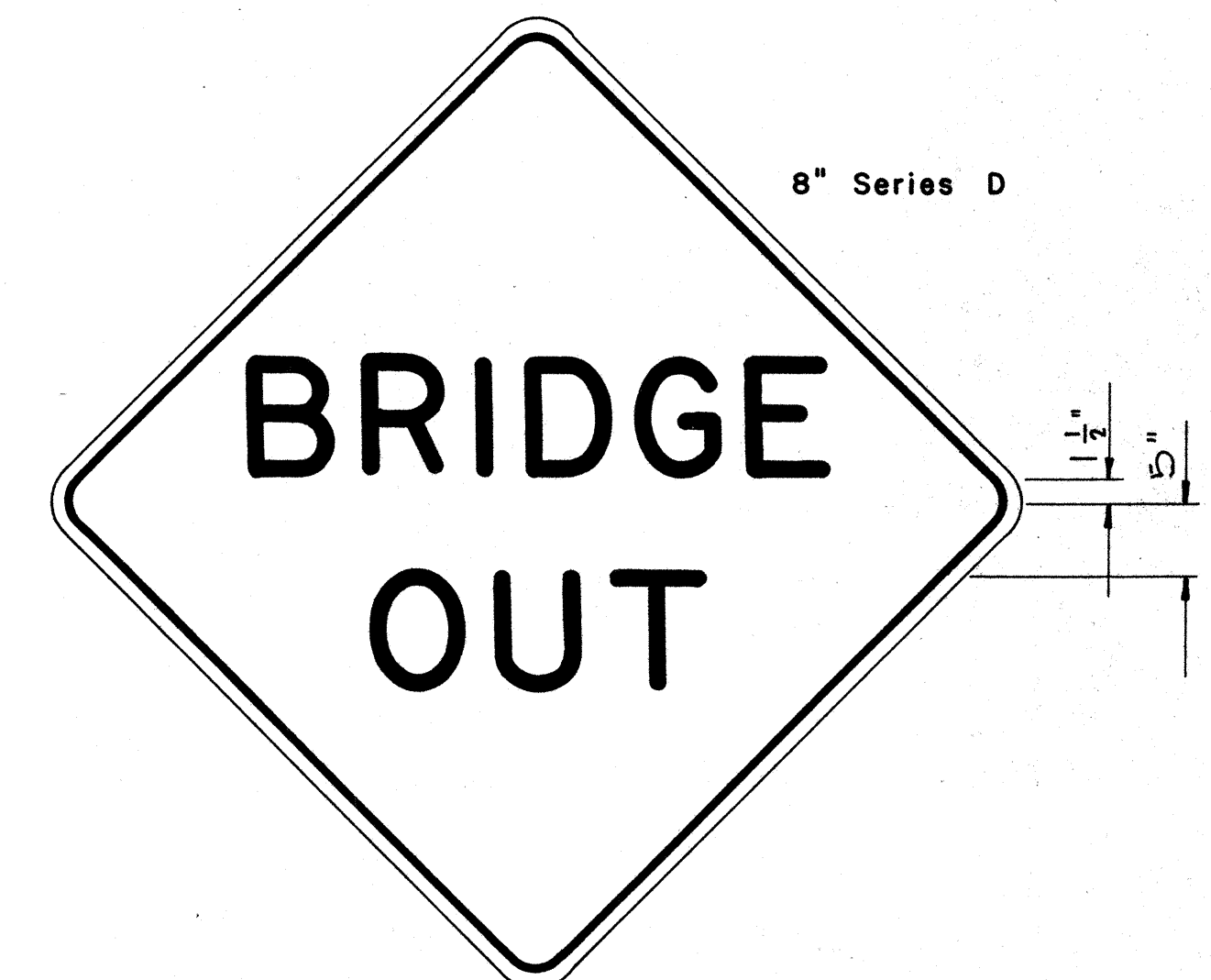
W 14 - 1 30" x 30"



W 7 - 2 48" x 48"

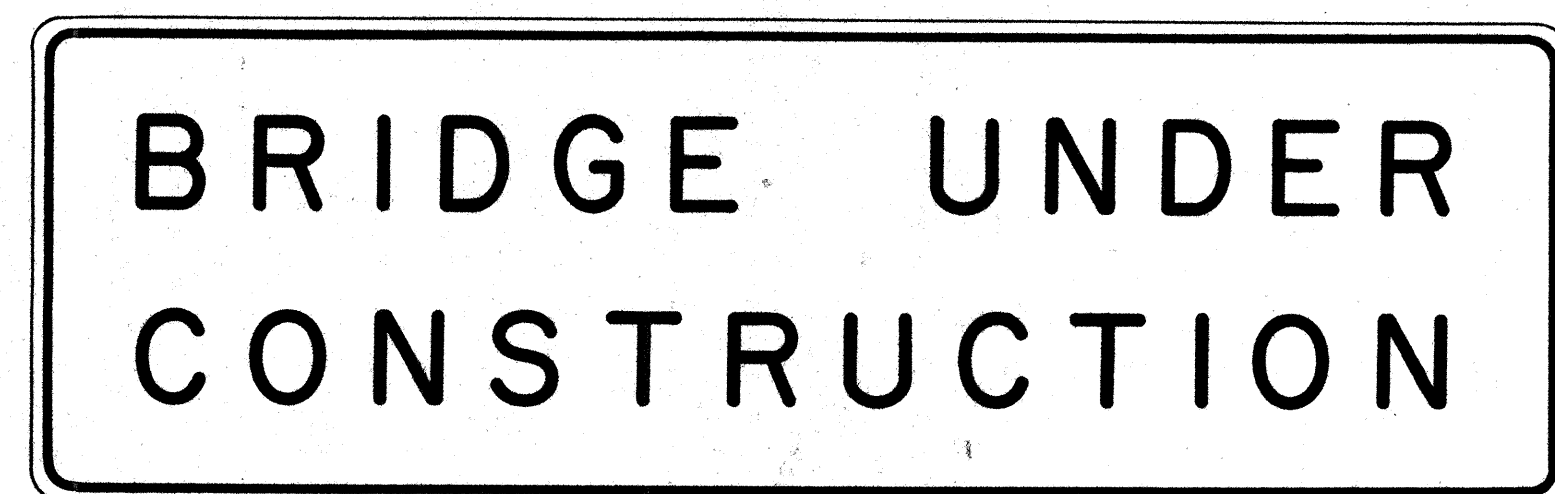


W 22 - 4 48" x 48"



W 22 - 5 48" x 48"

Reflectorized White Letters on Black Background



CW - 1 96" x 30"

NOTE:

1. The shape, color, plate details, lettering and reflectorization of Warning Signs (Prefix W) shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways", dated June 1961 and the BPR manual "Standard Highway Signs", dated September 1961 unless otherwise specified.
2. All signs shall be reflectorized unless otherwise specified.
3. All signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.

APPROVED:

DATE: 1/22/62

[Signature]
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

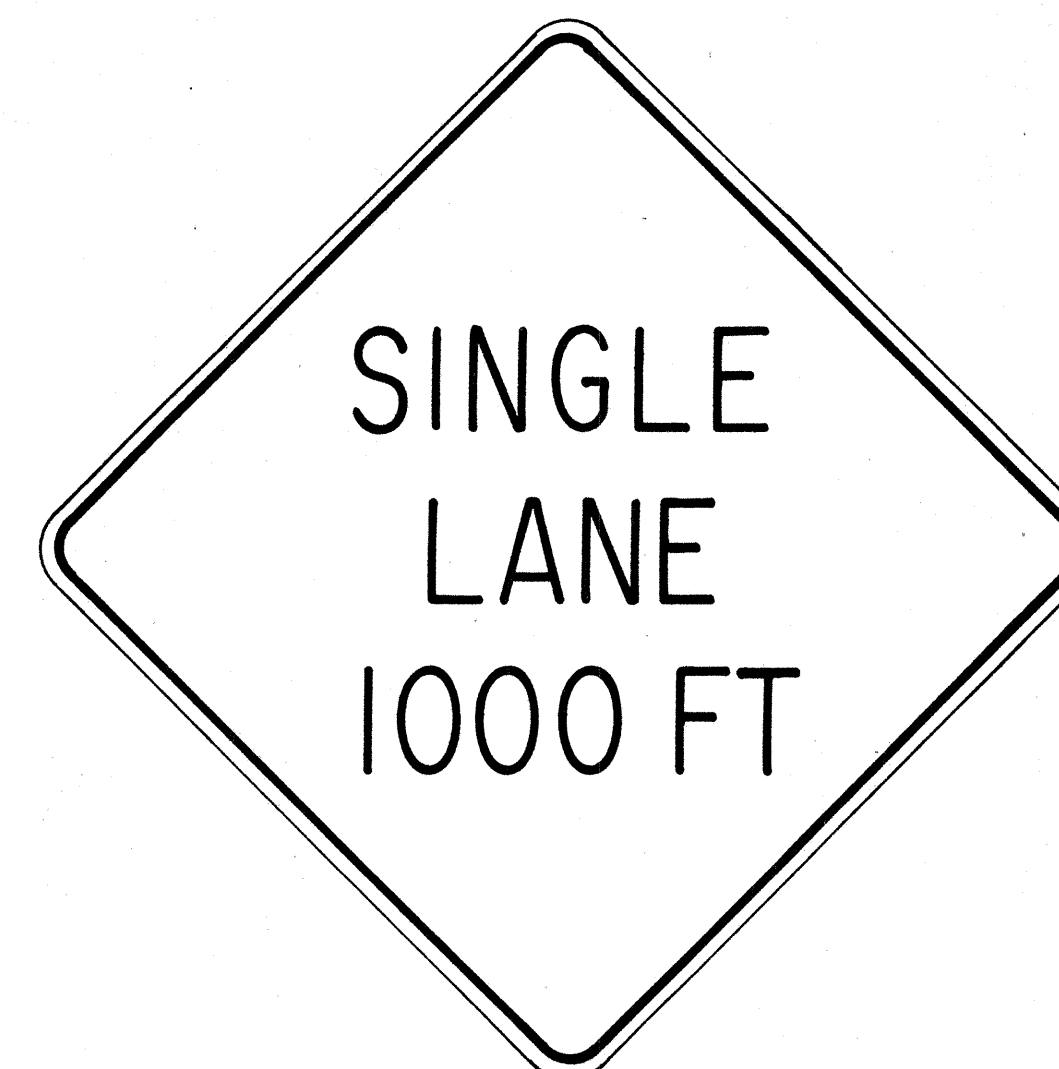
Scale: 1" = 1' - 0"

SHEET No 18 OF 20 SHEETS

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	F090-10	1962	55	127



W20-5d(L) 48" x 48"



W20-6b 48" x 48"



W20-7c 48" x 48"



W21-1 30" x 30"



W21-2 24" x 24"



W21-3 36" x 36"



W21-4 30" x 30"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All signs shall be reflectorized unless otherwise specified.
3. All signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. For W20 series signs, suffixes a, b, c and d are as follows a 1500 FT, b 1000 FT, c 500 FT and d AHEAD.

APPROVED:

DATE 1/22/62

[Signature]
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

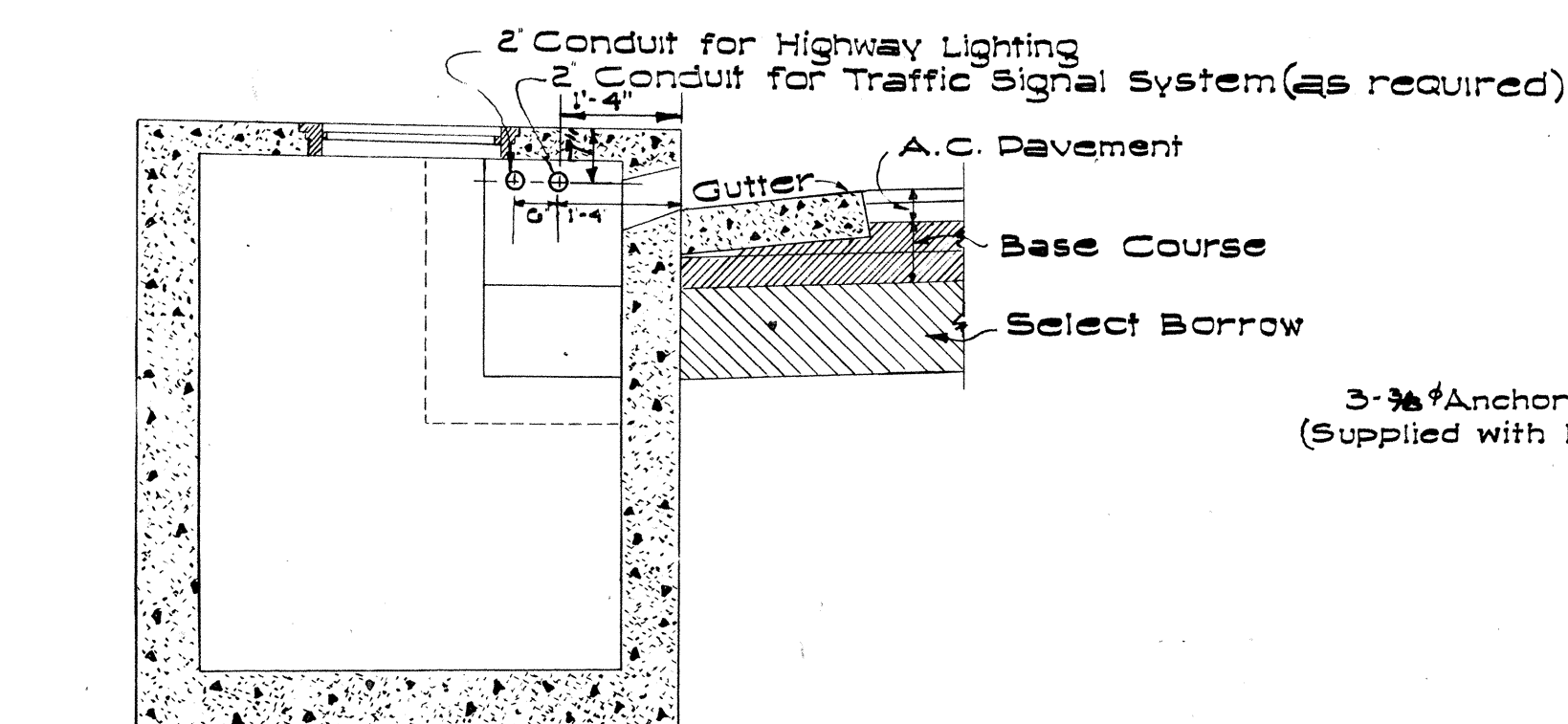
STANDARD DETAILS
CONSTRUCTION SIGNS

Scale: 1" = 1'-0"

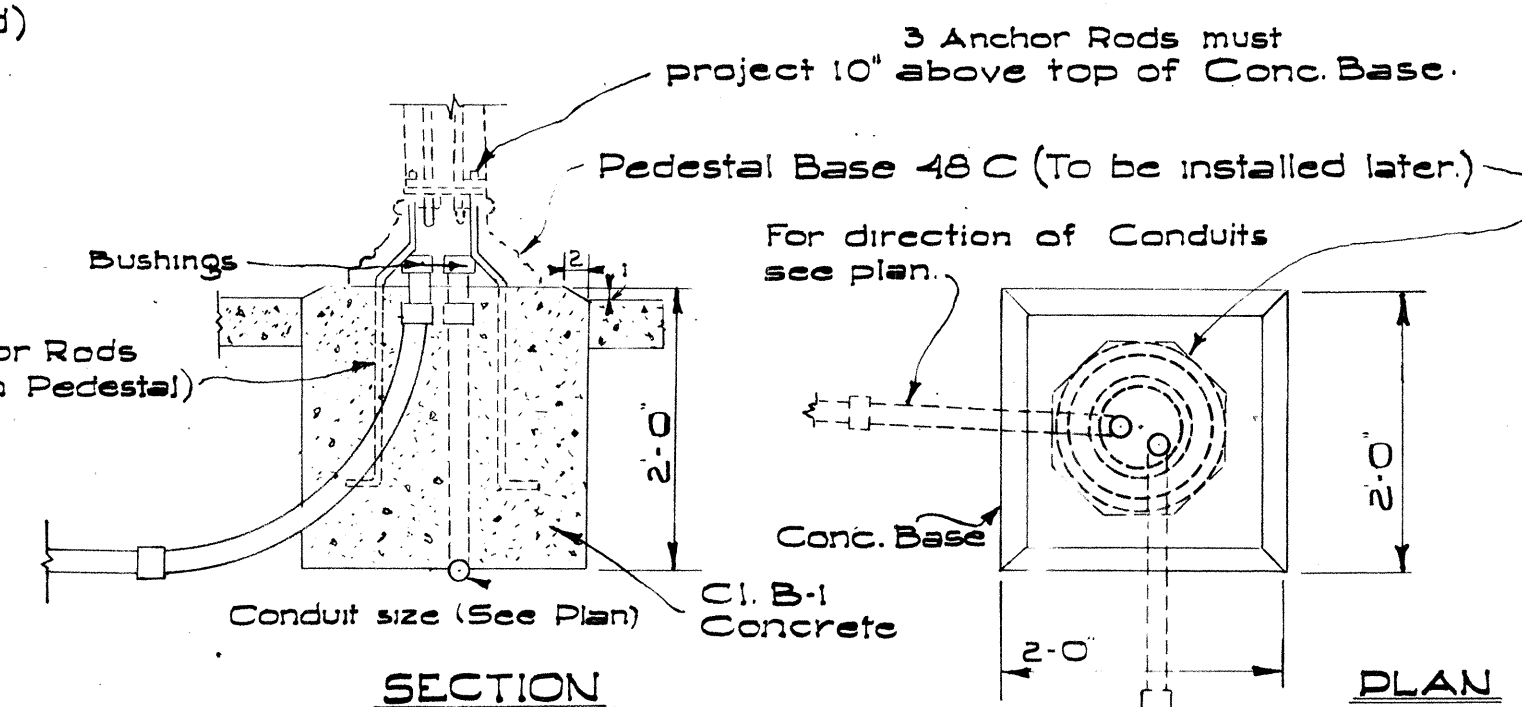
2/17/57

NOTE: Galv. 2" Conduits shall be supported by Band Hangers bolted to the top slab of Catch Basins. Pipe Hangers and bolts shall be incidental to item No. 46(1) Class A-1 Concrete other than in Bridges.

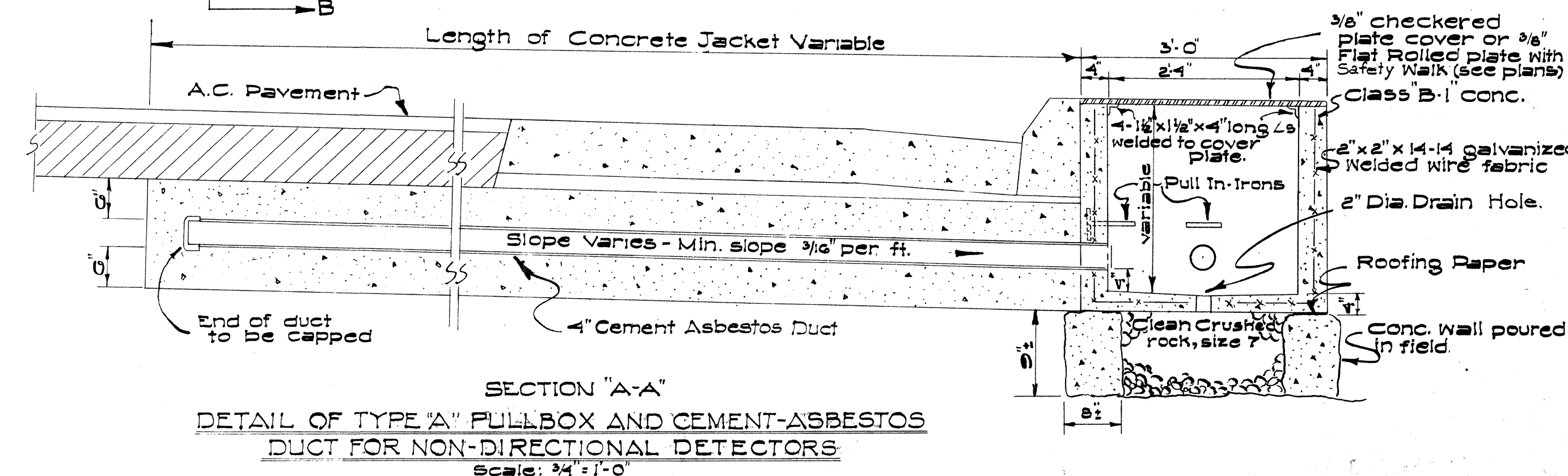
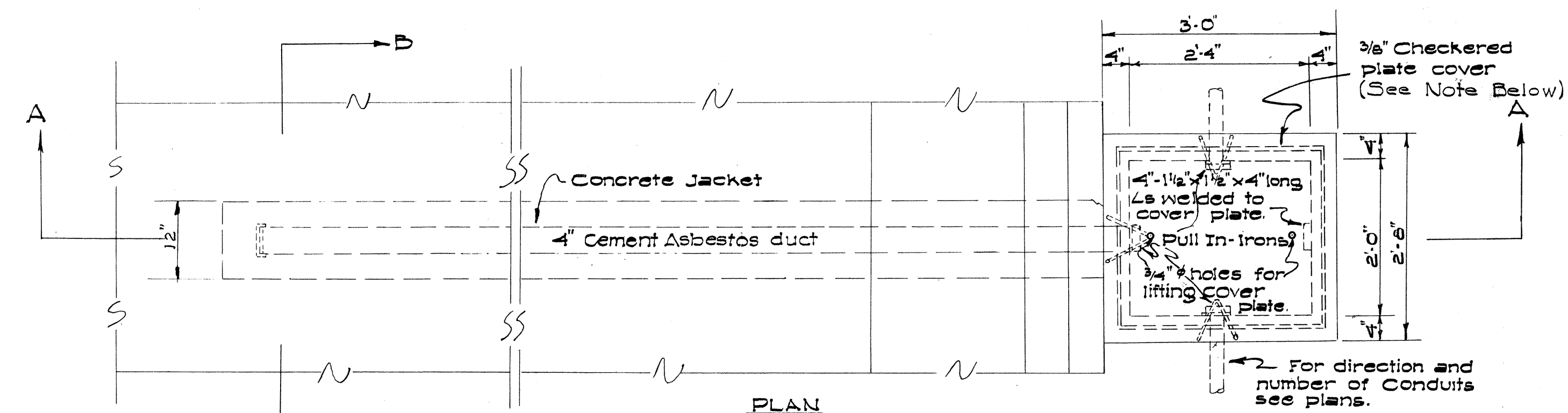
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	F090-10	1962	50	127



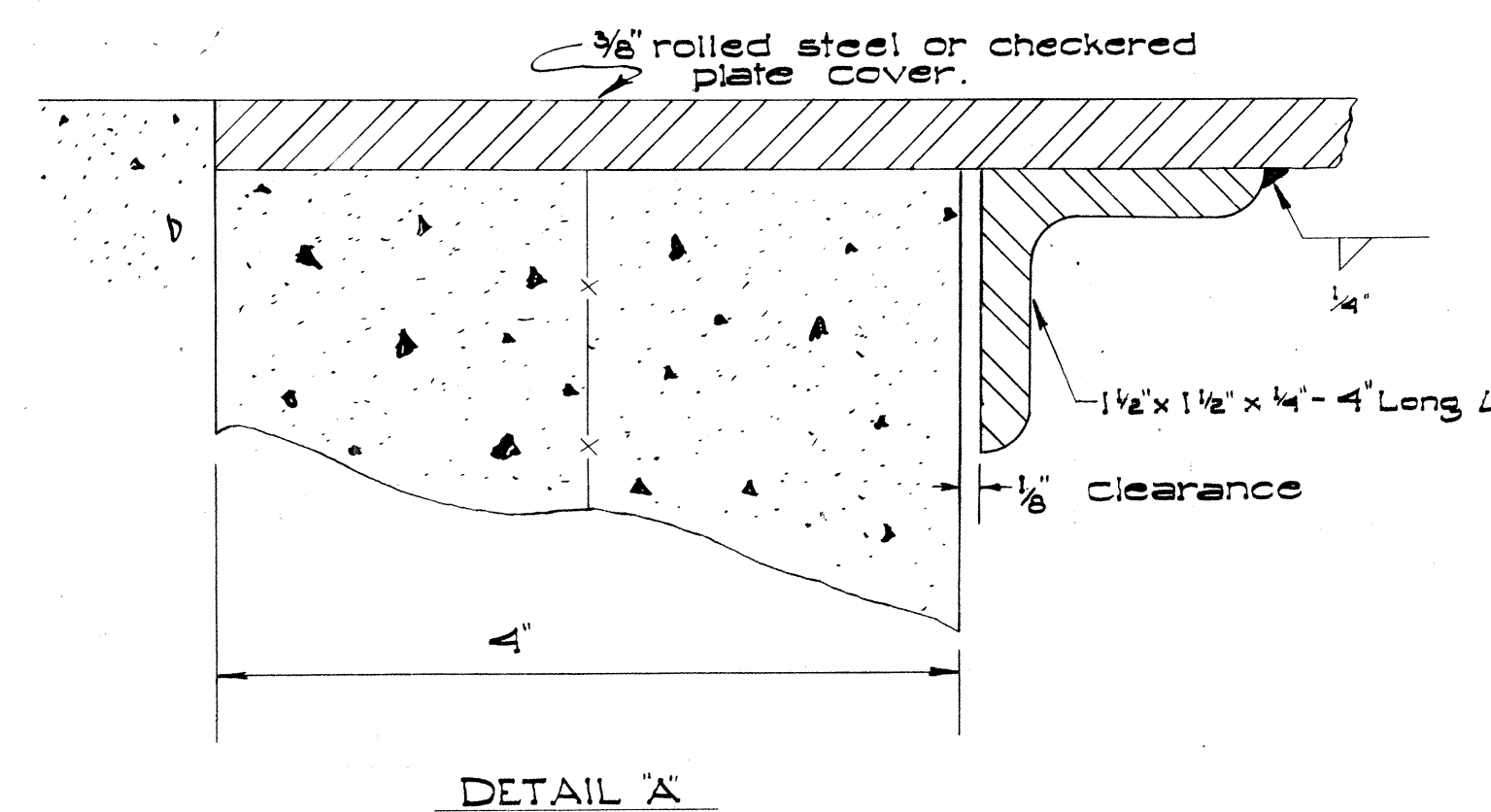
TYPICAL SECTION SHOWING CONDUITS PASSING THROUGH CATCH BASINS
Scale: 1/2" = 1'-0"



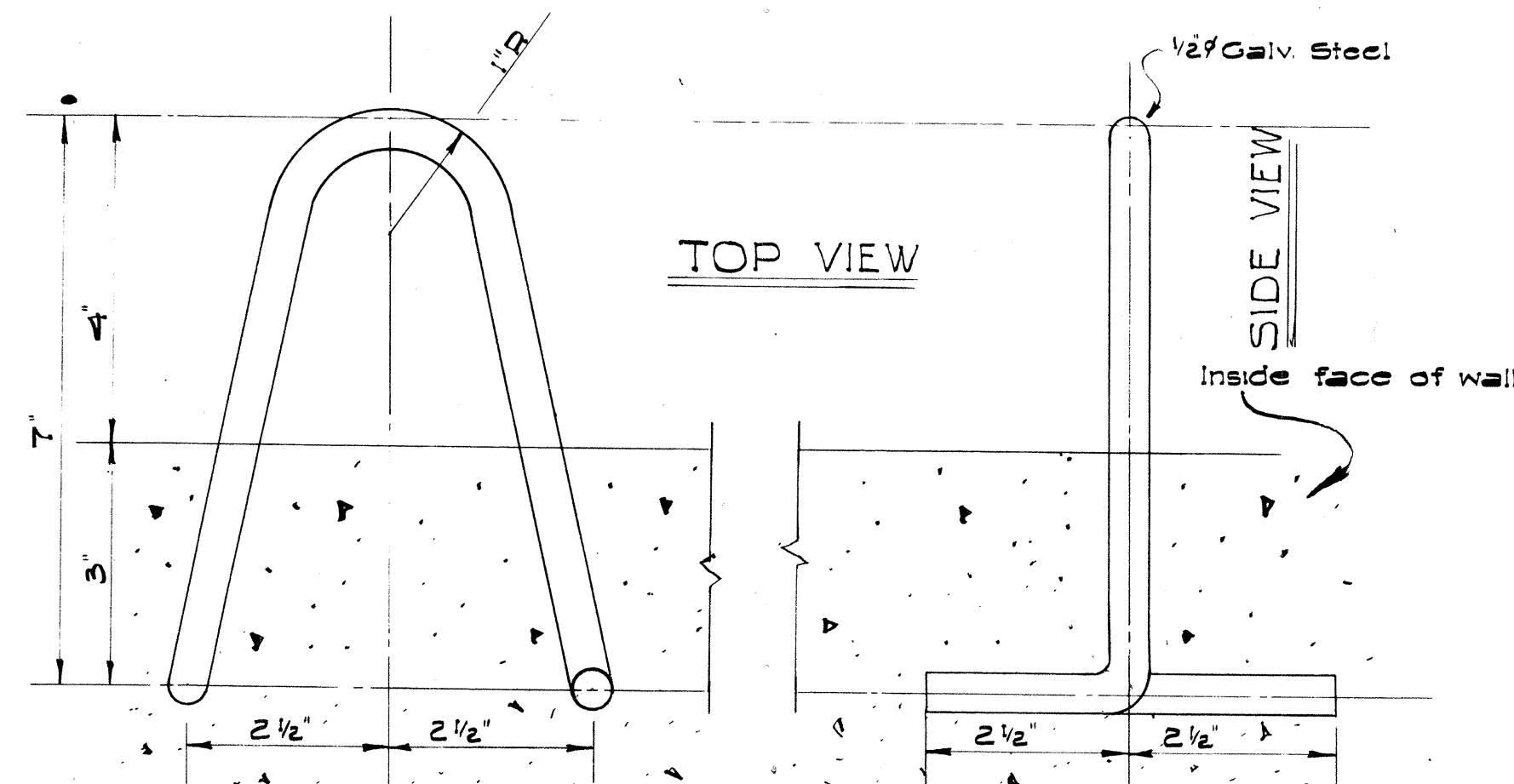
BASE FOR TRAFFIC SIGNAL POLES
Scale: 3/4" = 1'-0"



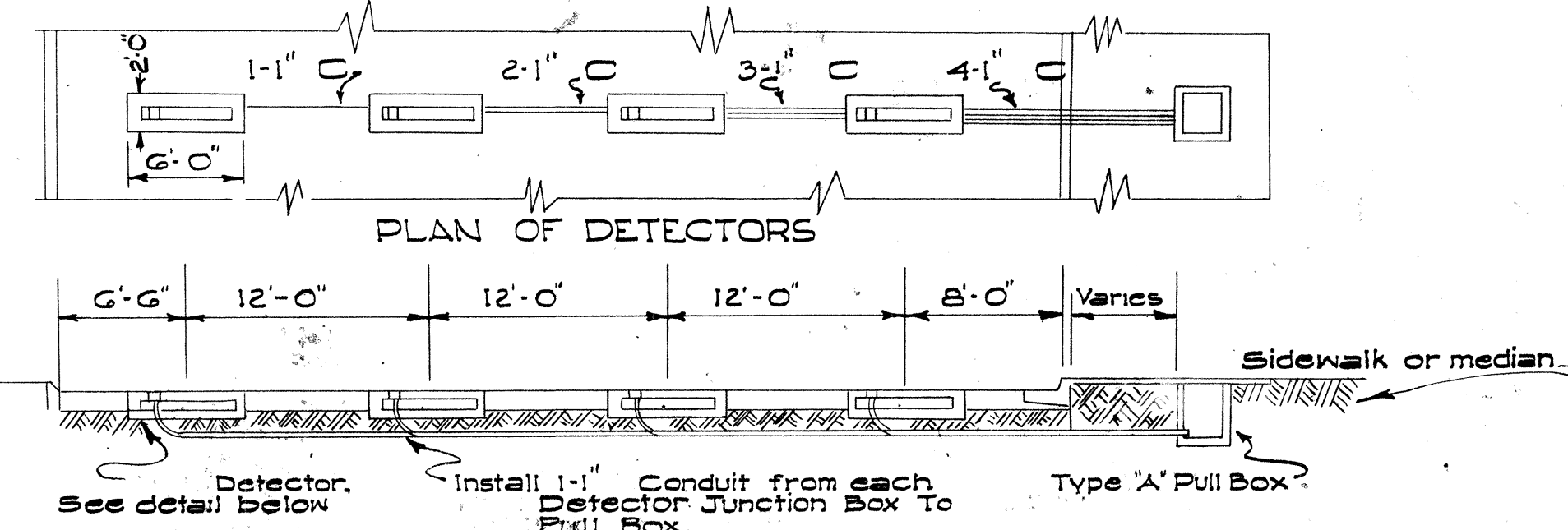
SECTION "A-A"
DETAIL OF TYPE "A" PULLBOX AND CEMENT-ASBESTOS DUCT FOR NON-DIRECTIONAL DETECTORS
Scale: 3/4" = 1'-0"



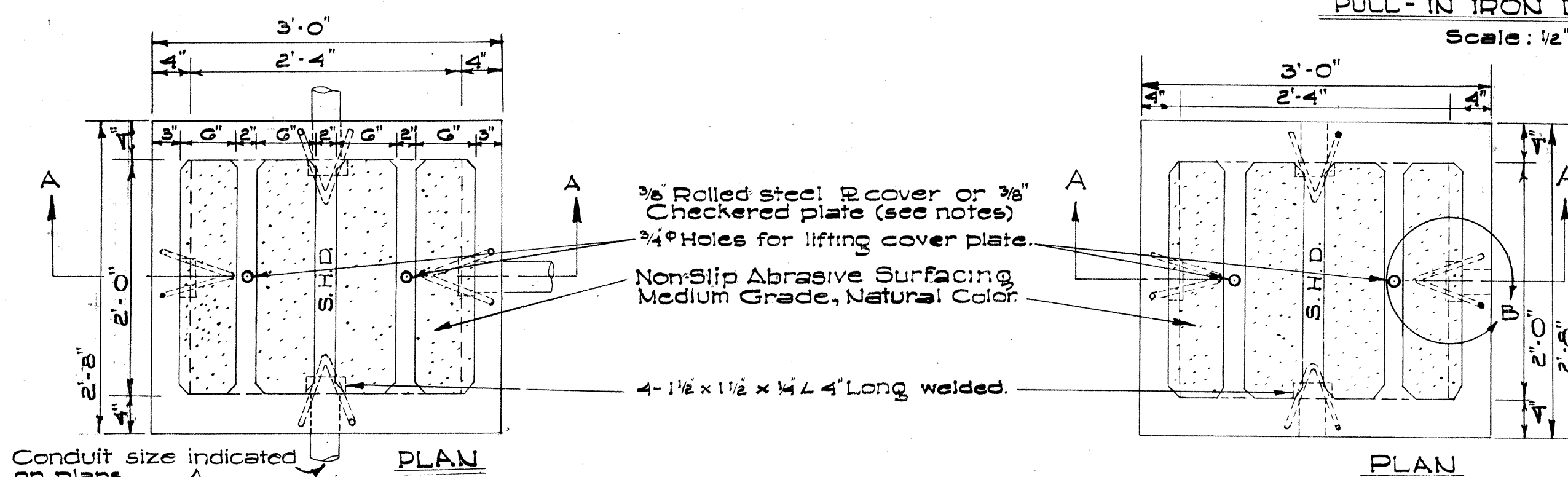
DETAIL "A"



PULL-IN IRON DETAIL "B"
Scale: 1/2" = 1'-0"



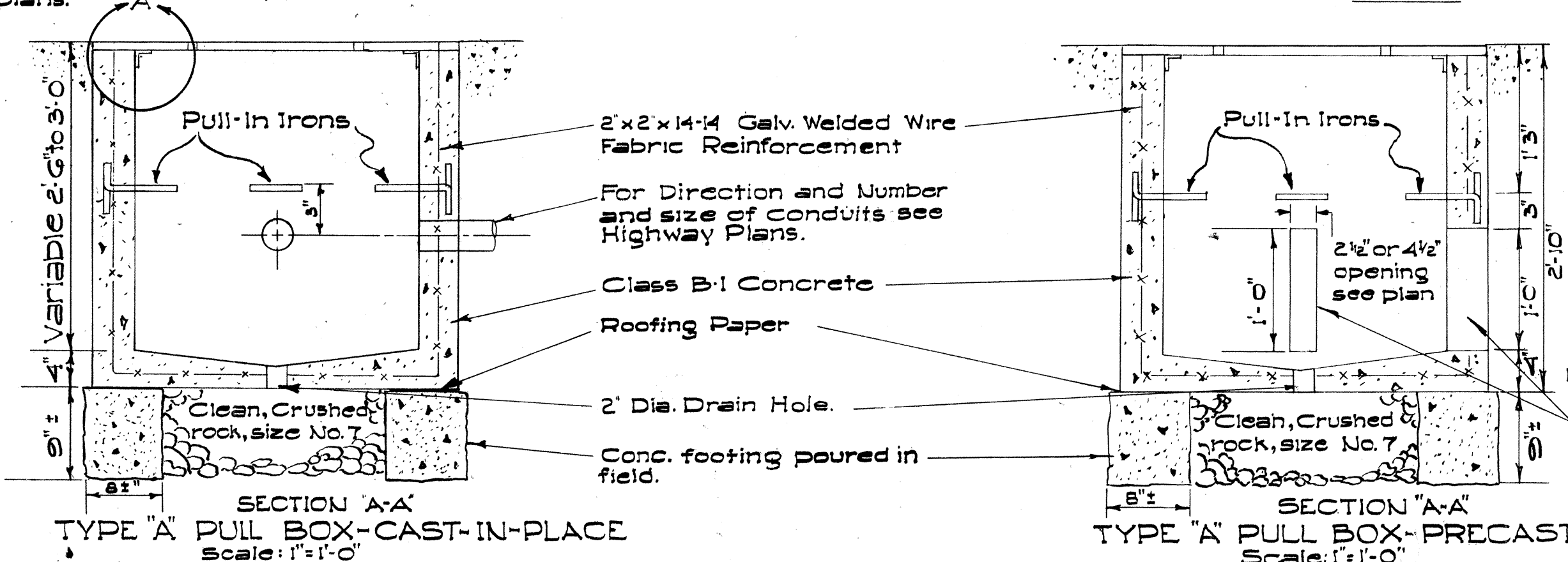
TYPICAL LAYOUT OF DIRECTIONAL DETECTORS IN CONCRETE JACKET
Scale: 1/8" = 1'-0"



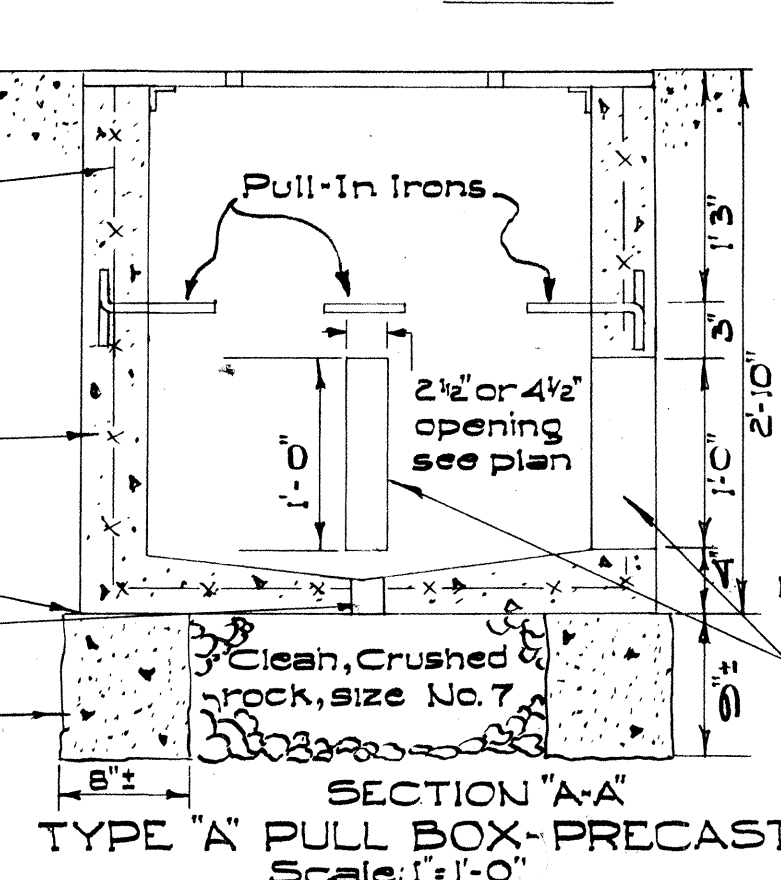
Conduit size indicated on plans.

PLAN

PLAN



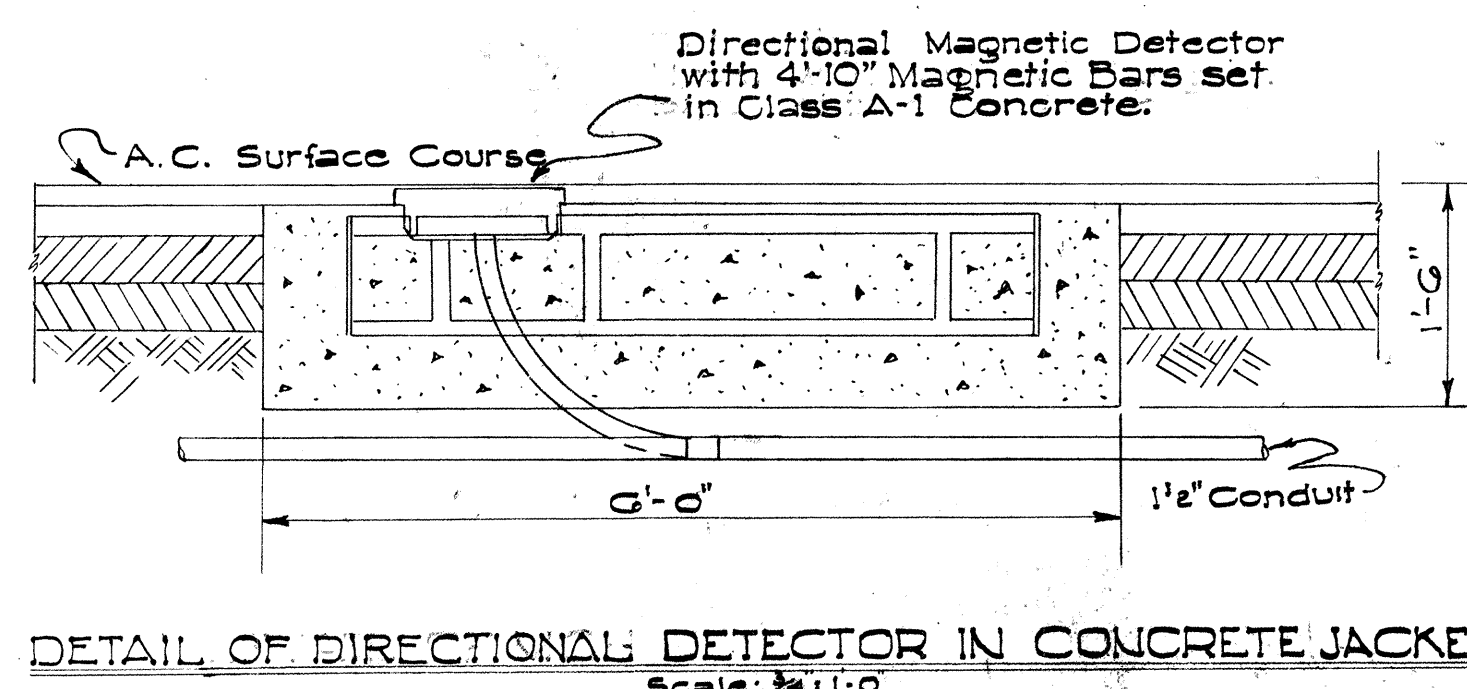
SECTION "A-A"
TYPE "A" PULL BOX-CAST-IN-PLACE
Scale: 1" = 1'-0"



SECTION "A-A"
TYPE "A" PULL BOX-PRECAST
Scale: 1" = 1'-0"

Note:
1. 3/8" Rolled steel Plate Cover with non-slip Abrasive Surfacing Medium Grade, Natural Color shall be used on all Pull Boxes located in median areas and other locations where there are no pedestrians walking.
2. 3/8" Checkered Plate Cover shall be used on all Pull Boxes located in median areas and other locations where there are no pedestrians walking.
3. Pull irons shall be placed opposite each conduit slot.
4. Covers on all Pull Boxes located in sidewalk areas shall be set flush with the concrete sidewalk.
5. Each Pull Box shall have a pair of pull irons opposite each other for lifting purposes.

For direction and number and size of slots for conduits (see plan)
Grout Conduit Slot with 1:3 Cement Mortar after Conduit is placed.



DETAIL OF DIRECTIONAL DETECTOR IN CONCRETE JACKET
Scale: 3/4" = 1'-0"

Note: Class "A-1" Concrete shall be used for Concrete Block.

APPROVED: _____ DATE: Aug. 26, 1957
STATE HIGHWAY ENGINEER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
TRAFFIC SIGNAL SYSTEM
BASE, PULLBOX,
MAGNETIC DETECTORS

SHEET No 20 OF 20 SHEETS

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