

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	10	23

LEGEND

- NEW 12" YELLOW ARROW, GREEN ARROW TRAFFIC SIGNAL HEAD
- NEW TYPE II TRAFFIC SIGNAL STANDARD (MAST ARM LENGTH AS INDICATED) W/ 12" RT↑ TRAFFIC SIGNAL HEAD.
- NEW TYPE I TRAFFIC SIGNAL STANDARD W/ NEW 12" RT← PROGRAMMED VISIBILITY HEAD.
- NEW 12" RT↯ TRAFFIC SIGNAL HEAD.
- NEW 12" RT← TRAFFIC SIGNAL HEAD
- NEW TYPE I TRAFFIC SIGNAL STANDARD W/ NEW 12" DOHT WALK-WALK PEDESTRIAN SIGNAL (PED. PUSH BUTTON AS INDICATED).
- EXISTING OR RELOCATED WOOD POLE (INSTALL ANCHOR ASSEMBLY AS REQUIRED).
- EXISTING TYPE "A" OR TYPE "B" PULLBOX.
- NEW TYPE "A" PULLBOX
- NEW TYPE "B" PULLBOX
- EXISTING TRAFFIC SIGNAL CONTROLLER
- NEW TRAFFIC SIGNAL CONTROLLER.
- NEW LOOP DETECTOR (SIZE & QUANTITY AS INDICATED)
- EXISTING TRAFFIC SIGNAL DUCTLINE (NUMBER & SIZE AS INDICATED)
- NEW TRAFFIC SIGNAL DUCTLINE (NUMBER, SIZE & TYPE OF CONDUITS & CABLES AS INDICATED)
- NEW OVERHEAD TRAFFIC SIGNAL CABLE (NUMBER & TYPE AS INDICATED)
- EXISTING UTILITY LINES AS INDICATED
 - W - WATER
 - S - SEWER
 - E - ELECTRIC
 - SCC - SIGNAL CORPS CABLE
 - G - GAS
 - Sp - SPRINKLER

6/15/76	Revise Legend
Date	REVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

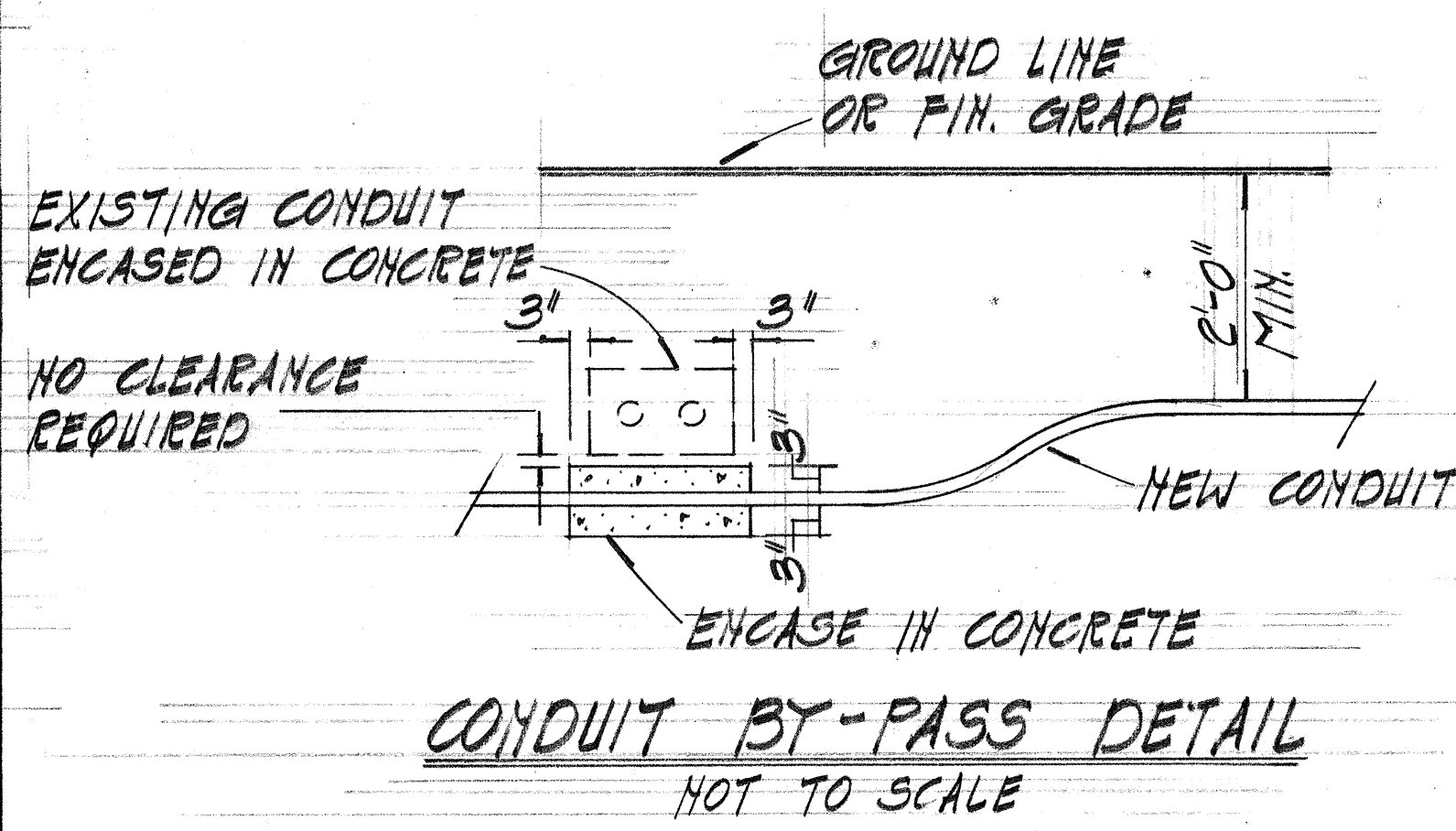
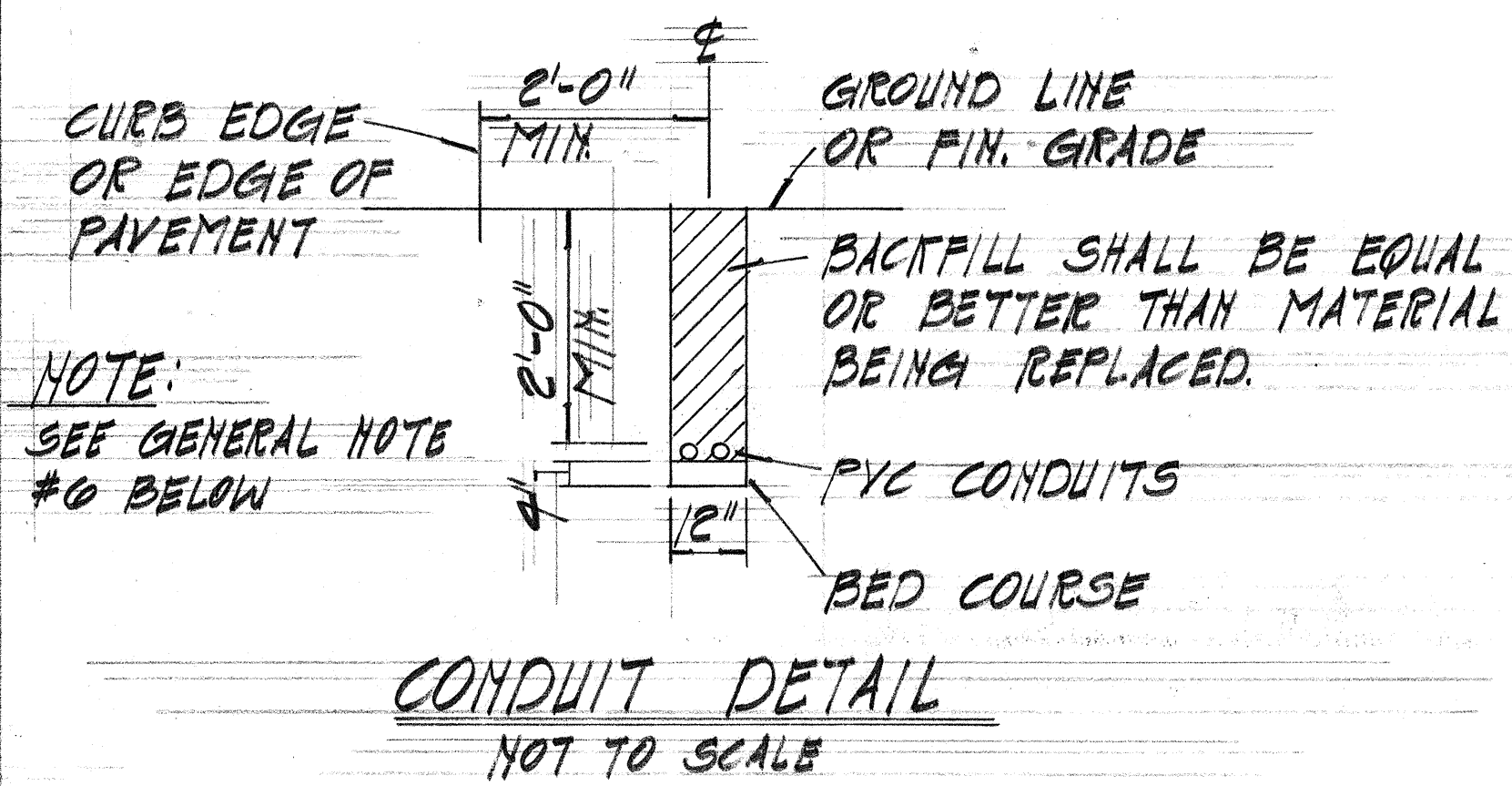
KALAHIANAOLE HWY TRAFFIC SIGNALS

PROJ. No 72C-02-74

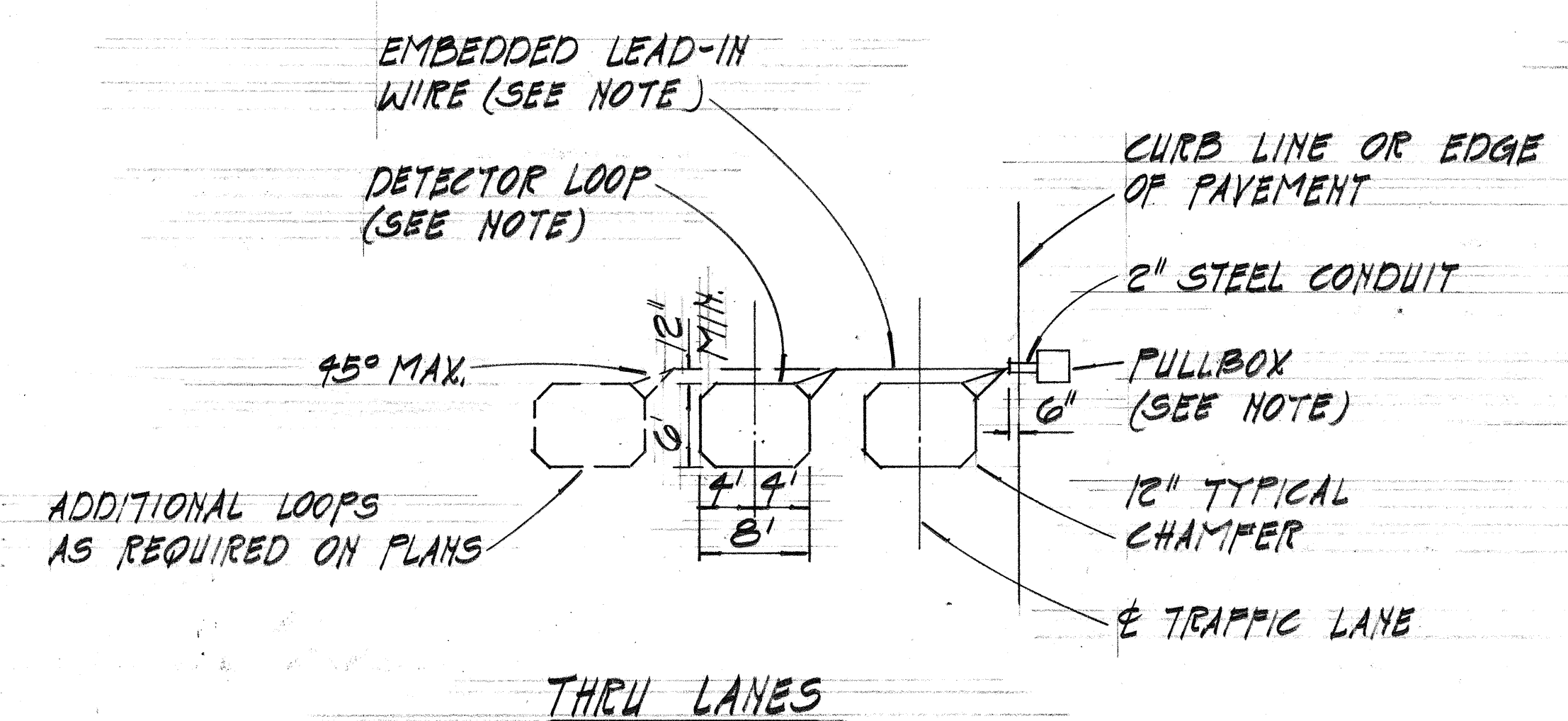
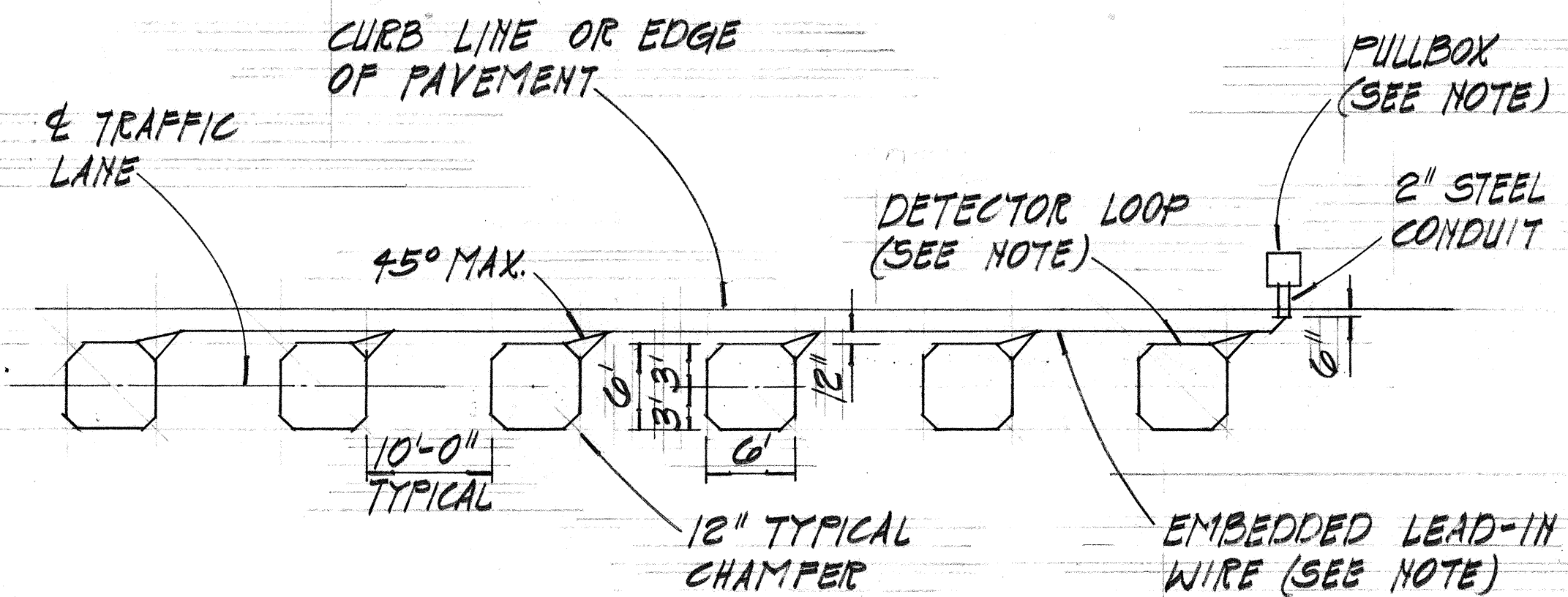
SCALE: AS SHOWN DATE: JAN. 1975

SHEET No. 1 OF 14 SHEETS

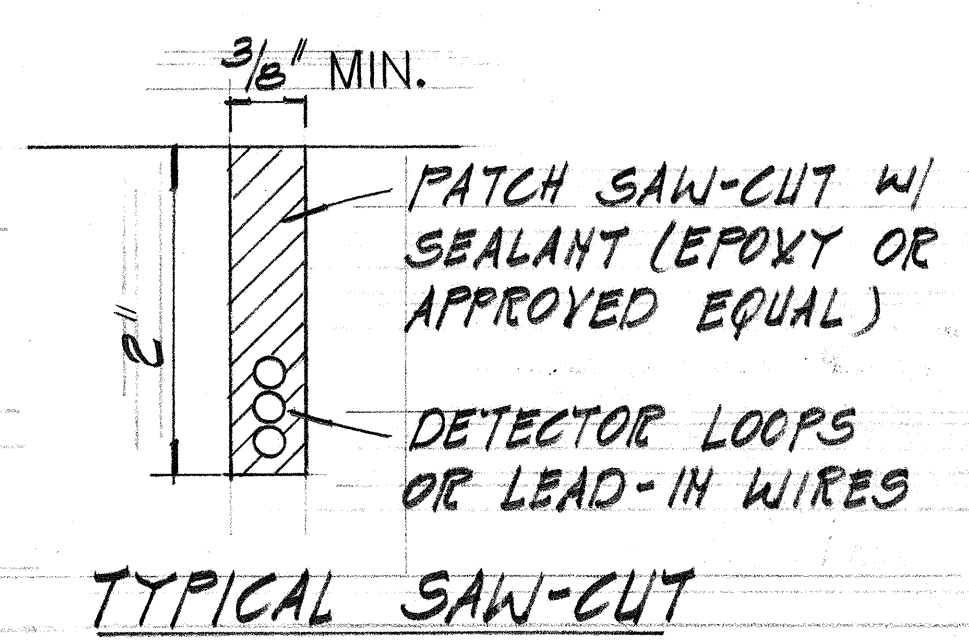
C.O. 10



- GENERAL NOTES:**
- THE EXACT LOCATION OF TRAFFIC SIGNAL STANDARDS, MAST ARMS, PULLBOXES, CONTROLLER BASES, CONDUITS & LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - ALL NEW CONDUITS UNDER ROADWAY (INCLUDING DRIVEWAYS) SHALL BE PVC SCHEDULE 80. CONTRACTOR SHALL HAVE THE OPTION OF USING PVC SCHEDULE 40 FOR NEW CONDUITS NOT UNDER ROADWAY, UNLESS OTHERWISE NOTED.
 - LOCATION OF EXISTING UNDERGROUND STRUCTURES SUCH AS CULVERTS, PIPELINES, CONDUITS, CABLES, ETC., AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. OTHER EXISTING UTILITIES MAY NOT BE SHOWN. THE CONTRACTOR SHALL CHECK & VERIFY THE LOCATION OF SAME.
 - THE CONTRACTOR SHALL VERIFY LOCATION & CONDITION OF EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE USED.
 - A SOLID #8 BARE COPPER WIRE SHALL BE PULLED WITH THE EGC #14 CONTROL CABLE FOR EQUIPMENT GROUND. COSTS TO BE INCIDENTAL TO INSTALLATION OF EGC #14 CABLE.
 - ALL DUCTLINES UNDER ROADWAY (INCLUDING ASPHALT CONCRETE DRIVEWAYS) SHALL HAVE BACKFILL SURFACED WITH ASPHALT CONCRETE TYPE I HOT MIX, THICKNESS TO MATCH EXISTING.



- NOTE:**
- INSTALL DETECTOR LOOP THREE TURNS OF 1-1/2 #4 RHW STYLE RR CABLE IN SAW-CUT.
 - EMBEDDED LEAD-IN WIRE SHALL BE TURNED 2 TURNS PER FT.
 - WIRING IN PULLBOX SHALL BE AS RECOMMENDED BY THE LOOP MANUFACTURER.

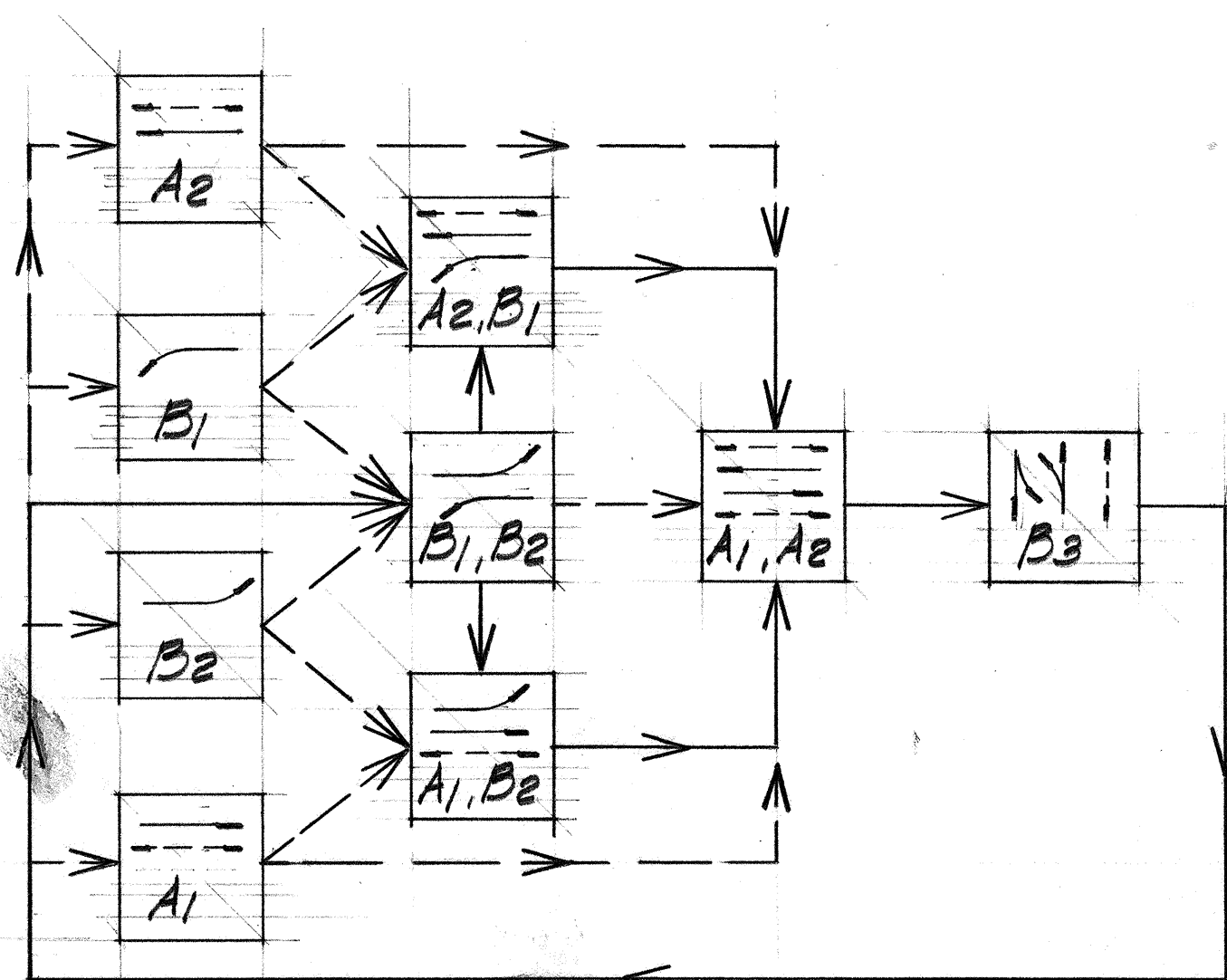


LOOP DETECTOR DETAILS NOT TO SCALE

DATE	6/15/76
DESIGNED BY	W. J. BROWN
CHECKED BY	W. J. BROWN
NOTED BY	W. J. BROWN
ORIGINAL PLAN	W. J. BROWN
NOTE BOOK	W. J. BROWN
NO.	W. J. BROWN

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	11	23

R	R	R	
Y	Y	Y	DONT
G	↑	←	WALK
A-2	A-1	C-2	B-1
B-2	E-1	*D-1	B-3
C-3		G-3	C-1
D-2		*H-2	F-2
E-2			G-1
F-1			G-4
G-2			H-1
H-3			H-4



PHASING DIAGRAM

KALANIANA'OLE HWY. - KALANI'IFI ST.

RIGHT-OF-WAY INDICATION										
SIGNALS	PHASES									K1 B3
	A1	B2	B1	A2	A2, B1	B1, B2	A1, B2	A1, A2		
A-1 H-5	↑	R	R	R	R	R	↑	↑		R
A-2 H-6	G	R	R	R	R	R	G	G		R
B-2, K-2, D-2, F-1 G-2, H-3	R	R	R	R	R	R	R	R		G
C-2, D-1	R	R	←	R	←	←	R	R		R
E-1	R	R	R	↑	↑	R	R	↑		R
E-2	R	R	R	G	G	R	R	G		R
J-2, H-2	R	←	R	R	R	←	←	R		R
B-1, J-1, H-1, H-4	DW	DW	DW	DW	DW	DW	DW	DW		W/FDW
B-3, K-1	W/FDW	DW	DW	DW	DW	DW	W/FDW	W/FDW		DW
F-2, G-4	DW	DW	DW	W/FDW	W/FDW	DW	DW	W/FDW		DW

PHASING DIAGRAM NOTES:

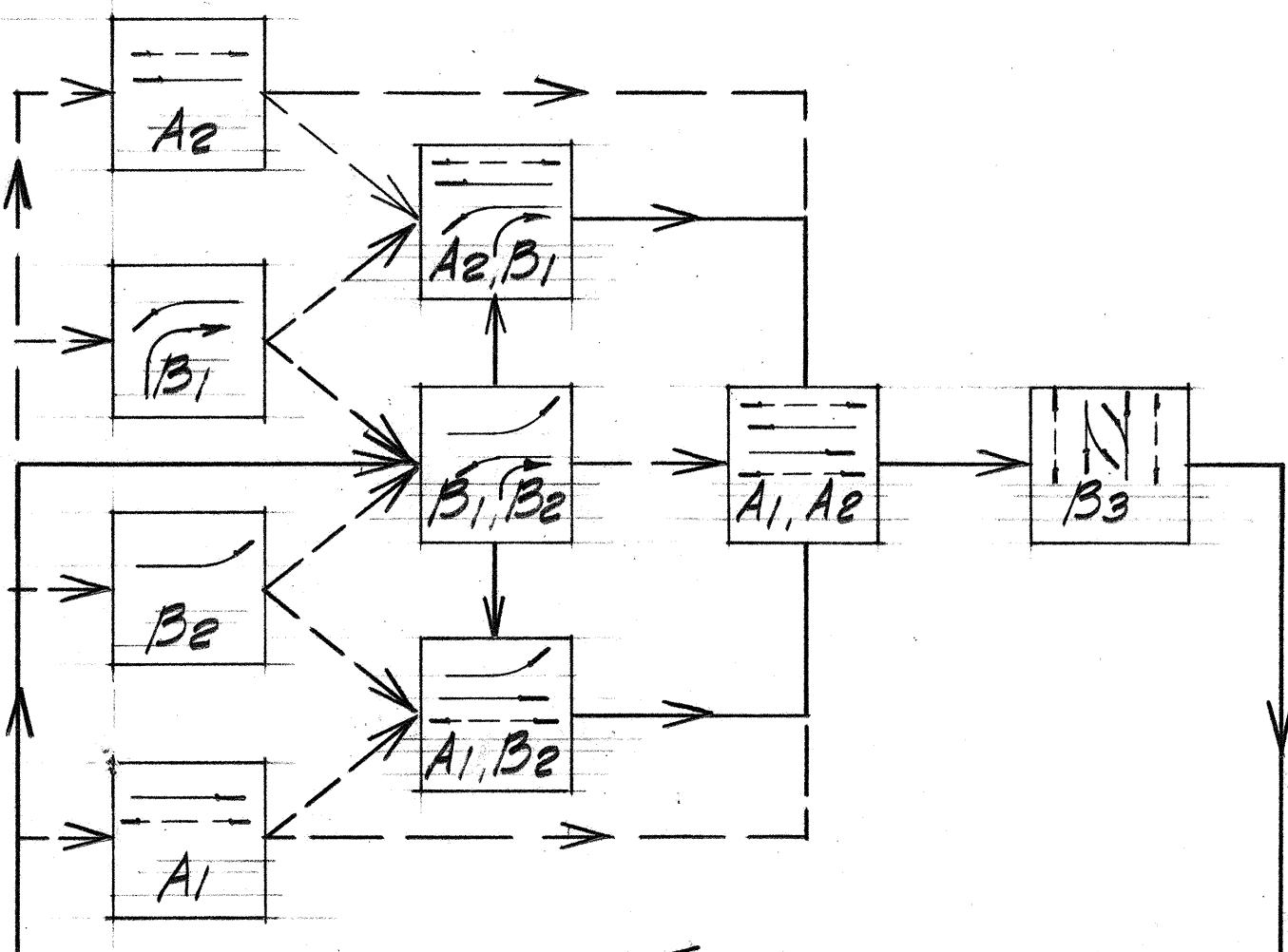
1. HEAVY SOLID LINES INDICATE PREFERENTIAL SEQUENCE SUBJECT TO DETECTED DEMAND.
2. ANY PHASE OR COMBINATION OF PHASES MAY BE SKIPPED SUBJECT TO DETECTED DEMAND.

GENERAL NOTES:

1. ALL TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CABINET & SHALL CONTROL THE TRAFFIC SIGNAL LIGHTS AS CALLED FOR IN THE PLANS.

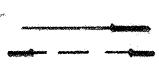
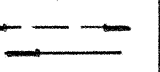
R	R	R	DON'T WALK
Y	Y	Y	
G	↑	←	

A-2	A-1	B-2	A-3
A-4	D-3	* C-2	A-5
B-3	C-6	F-3	B-1
C-3		* F-3	B-4
D-2			C-1
D-4			C-4
E-2			D-1
F-2			D-5
G-2			E-1
H-1			E-4
J-2			F-1
C-5			



PHASING DIAGRAM

KALANIANA'OLE HWY. - LAUKAHI ST.

RIGHT-OF-WAY INDICATION									
SIGNALS	PHASES								
									
A-1	↑	R	R	R	R	R	↑	↑	R
A-2	G	R	R	R	R	R	G	G	R
J-1, G-2, C-3, D-4 C-5 H-1, F-2	R	R	R	R	R	R	R	R	G
B-2, C-2	R	R	←	R	←	←	R	R	R
C-5 D-2	R	R	R	G	G	R	R	G	R
C-6 D-3	R	R	R	↑	↑	R	R	↑	R
E-3, F-3	R	←	R	R	R	←	←	R	R
A-3, B-4, C-1, C-4 D-5, E-1, F-1, F-4	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW
J-2, G-1	W/FDW	DW	DW	DW	DW	DW	W/FDW	W/FDW	DW
D-1, H-2	DW	DW	DW	W/FDW	W/FDW	DW	DW	W/FDW	DW
G-3 C-6			→		→	→			

2. SIGNAL MECHANISMS DURING CLEARANCE INTERVAL:
- a. IF A SIGNAL IS G OR $\uparrow$ & WILL REMAIN G OR $\uparrow$ DURING THE NEXT PHASE, IT SHALL BE G OR $\uparrow$ DURING THE CLEARANCE INTERVAL.
 - b. IF A SIGNAL IS G OR $\uparrow$ & WILL BECOME R DURING THE NEXT PHASE, IT SHALL BE γ DURING THE CLEARANCE INTERVAL.
 - c. IF A SIGNAL IS R & WILL REMAIN R OR BECOME G DURING THE NEXT PHASE, IT SHALL REMAIN R DURING THE CLEARANCE INTERVAL.
3. THE COORDINATION UNIT SHALL BE FURNISHED & WIRED IN THE CABINET.
4. CITY & COUNTY OF HONOLULU, DEPARTMENT OF TRANSPORTATION SERVICES SHALL FURNISH & INSTALL THE COORDINATION UNITS FOR THE EXISTING TRAFFIC SIGNAL CONTROLLERS AT AIHUA ST. & EAST HALEMAUMAU ST.

6/15/76	Add Additional Signal Indications to Laukahi Street Signals
8/6/75	Change Signal Indications
DATE	REVISION

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

MISCELLANEOUS DETAILS

ITALIAN AAOLE HWY. TRAFFIC SIGNALS
PROJ. No. 72C-02-74
SCALE: AS SHOWN DATE: JAN, 1975

SHEET No. 2 OF 14 SHEETS

C.O. 11

R
Y
G

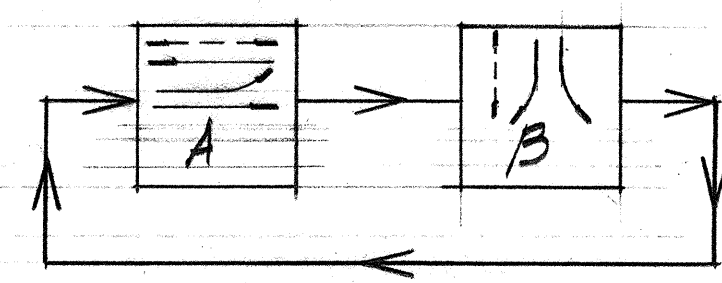
R
Y
↑

DOHT
WALT

B-1
B-3
C-1
E-2

B-2
E-1

A-1
D-1
E-3
F-4



PHASING DIAGRAM

ITALIANANAOLE HWY. - WEST HALEMAUMAU ST.

RIGHT-OF-WAY INDICATION		
SIGNALS	PHASES	
		
A-2, E-2	G	R
B-2, E-1	↑	R
B-3, C-1	R	G
A-1, E-3	W/FDW	DW
D-1, E-4	DW	W/FDW

SIGNAL INDICATIONS

* PROGRAMMED VISIBILITY

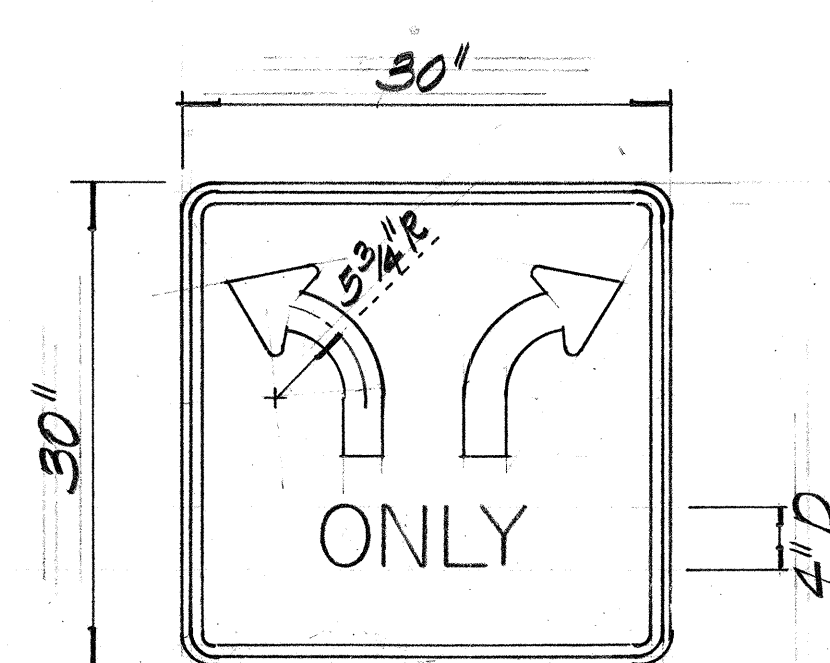
SIGNAL INDICATIONS

* PROGRAMMED VISIBILITY

SIGNAL INDICATIONS

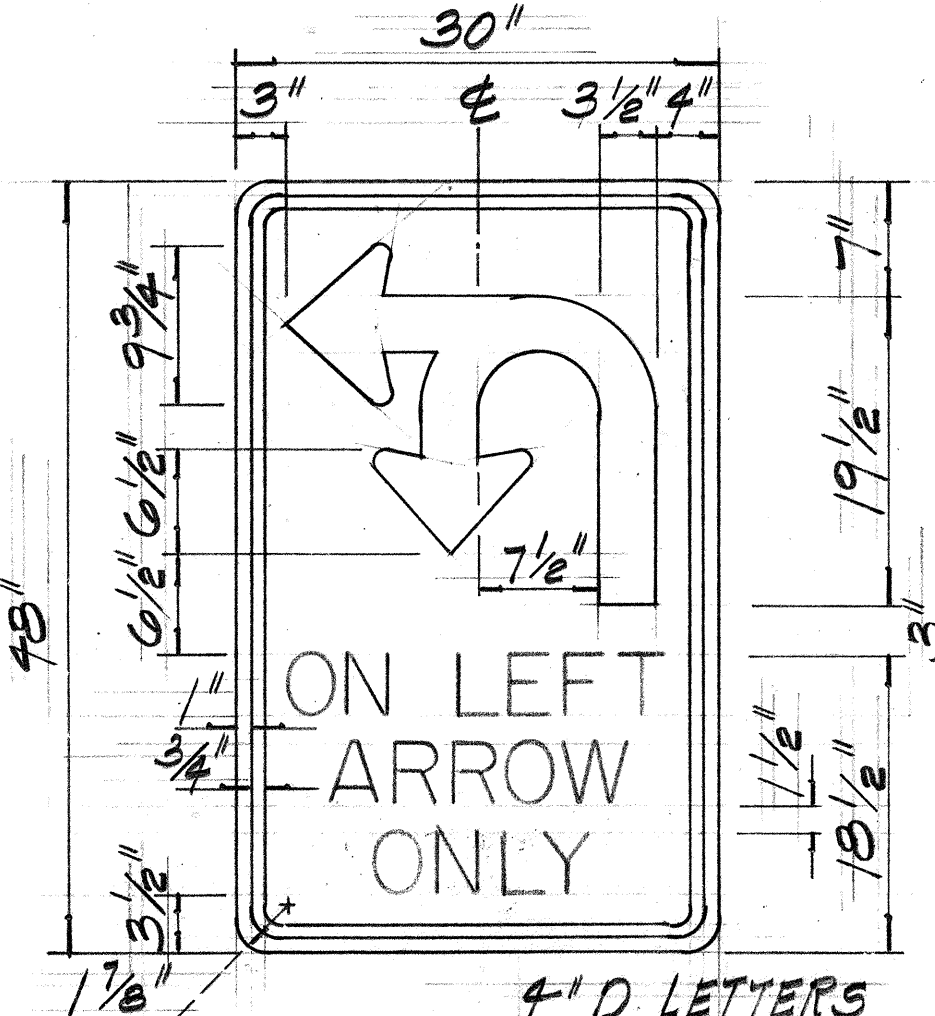
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	12	23



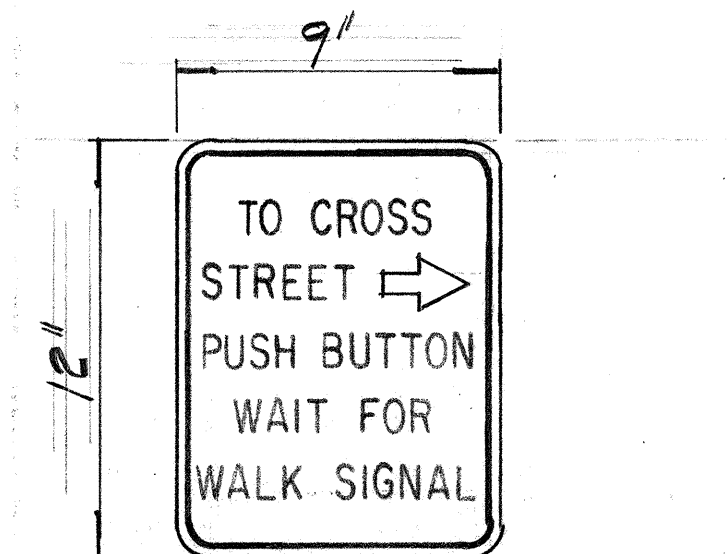
R3-28
SCALE: 1"=1'-0"

NOTE:
ARROWS & MESSAGE SHALL BE VISUALLY CENTERED ON SIGN.

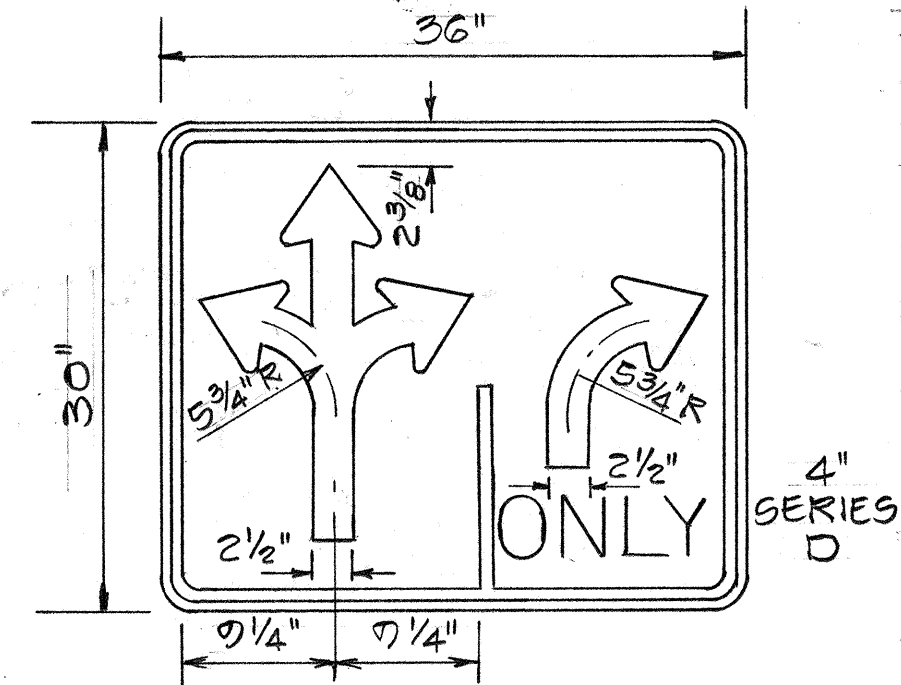


R17-1
SCALE: 1"=1'-0"

NOTE:
LEGEND & BORDER: BLACK (NON-REPL.)
BACKGROUND: WHITE (REPL.)



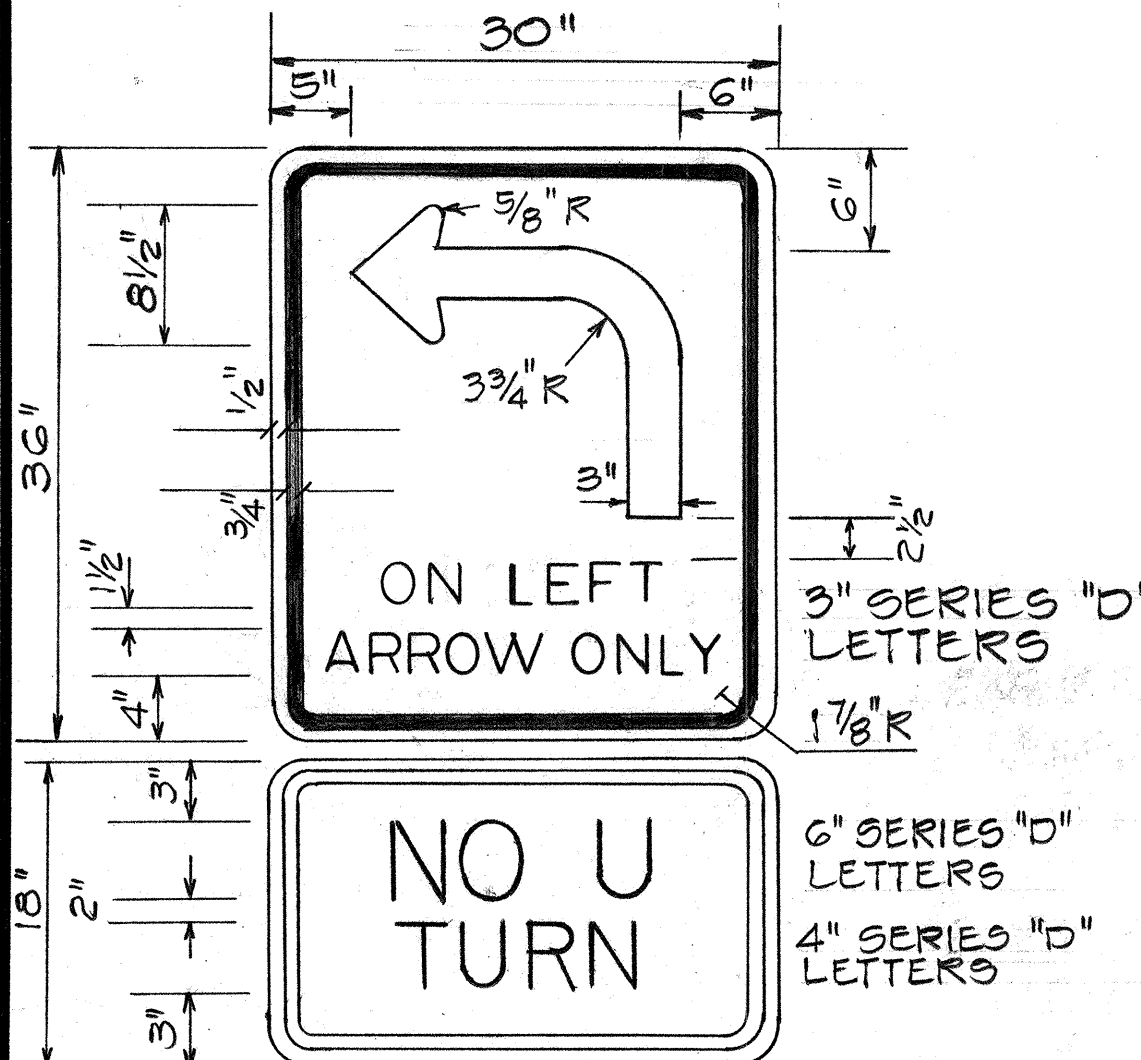
R10-47
SCALE: 3/16"=1"



R3-32
SCALE: 1"=1'-0"

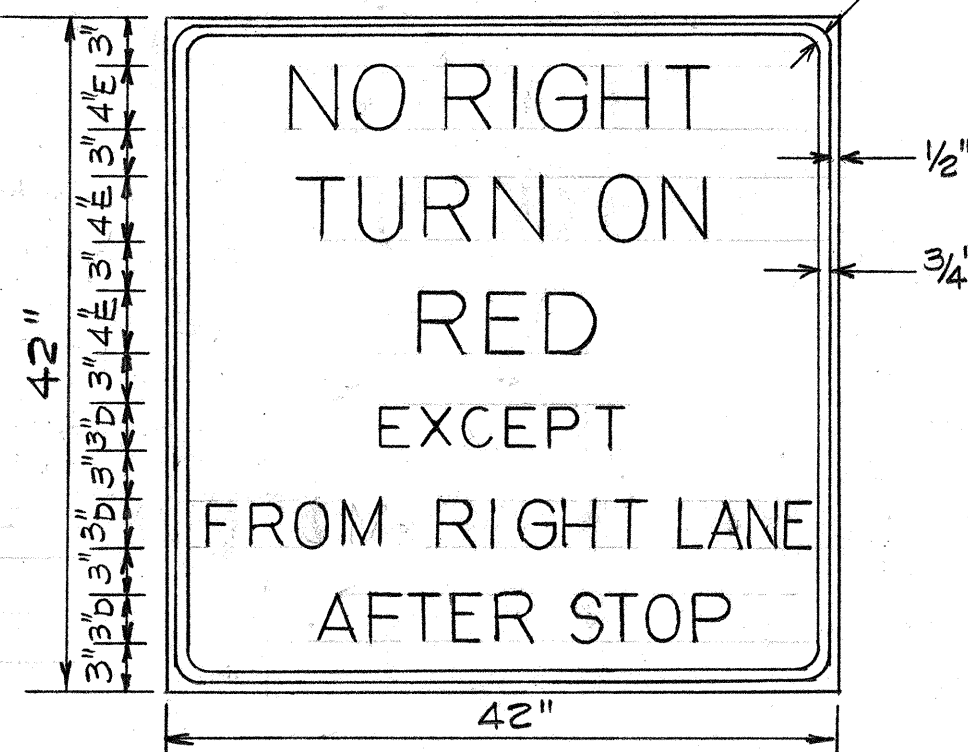
MISCELLANEOUS SIGNS

- SCALE: AS SHOWN
- GENERAL NOTES:
1. SIGNS SHALL CONFORM TO SPECIFICATIONS FOR REGULATORY SIGNS (EXCEPT AS NOTED). FOR DETAILS SEE PLAN SHTS. #14 & 15
 2. SIGNS R3-28 & R3-32 ARE VARIATIONS OF SIGN R3-8. PLATE & ARROW DETAILS SHALL CONFORM TO SIGN R3-8 (EXCEPT AS NOTED).

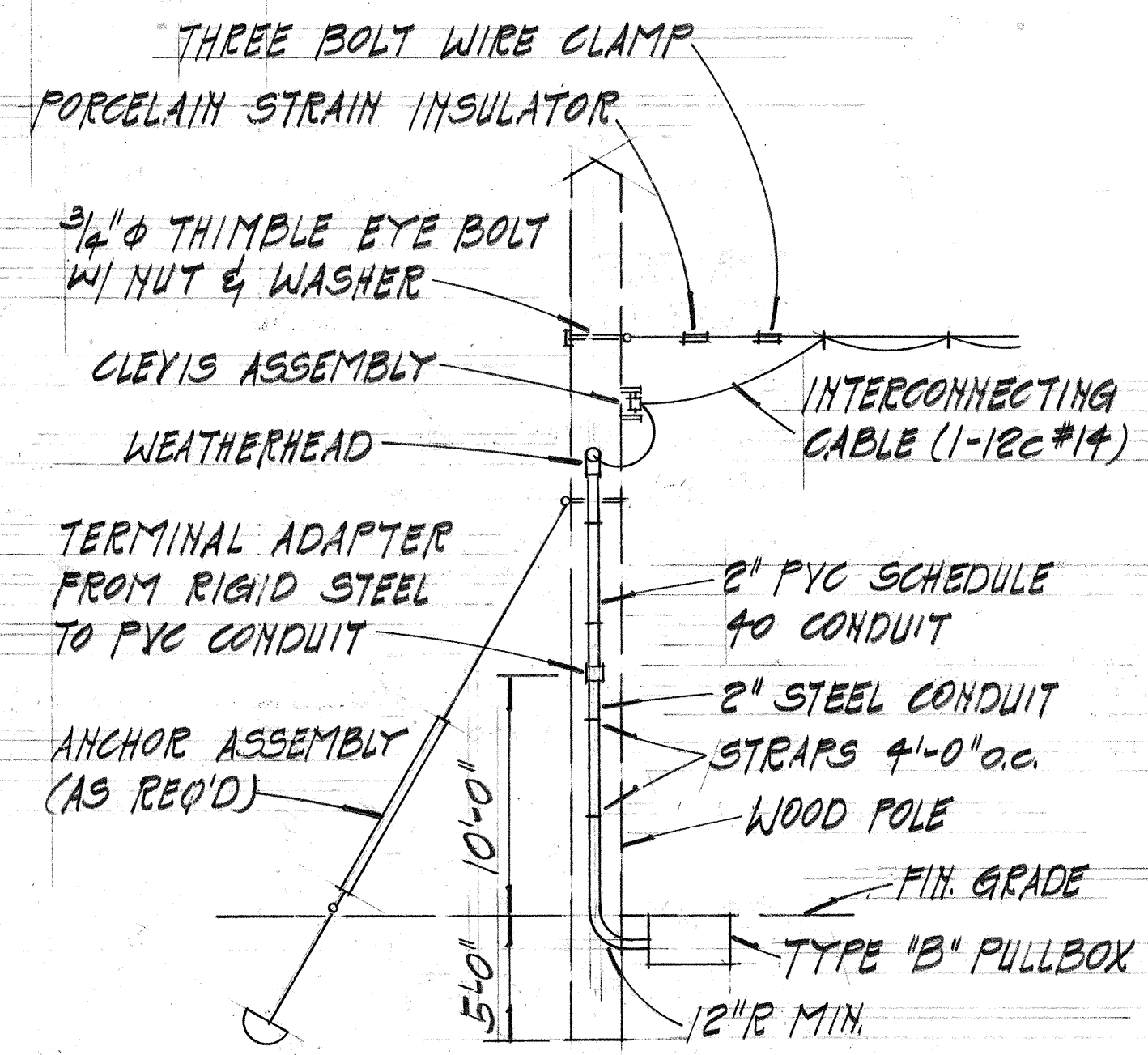


R17-3

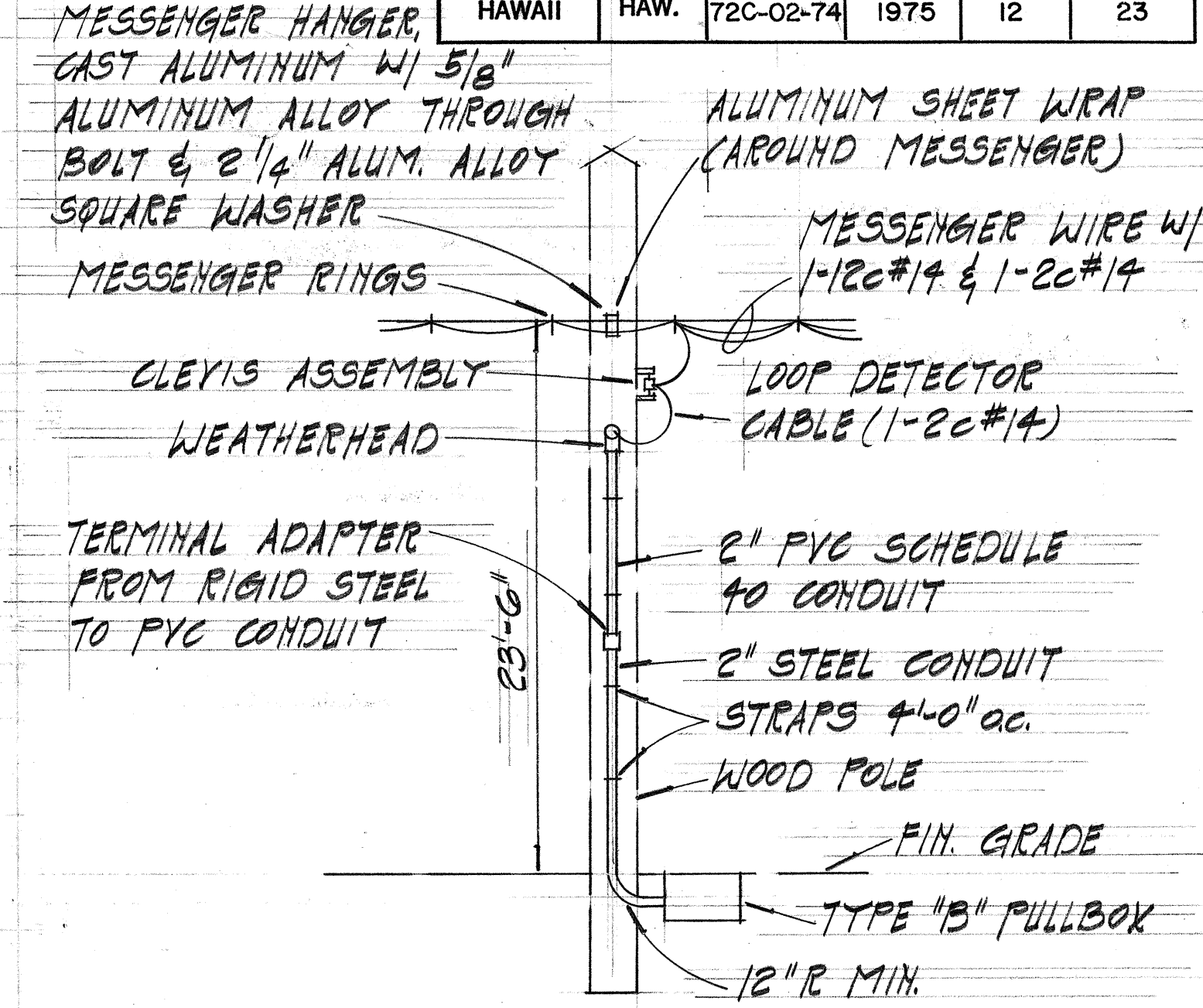
SCALE: 1"=1'-0"



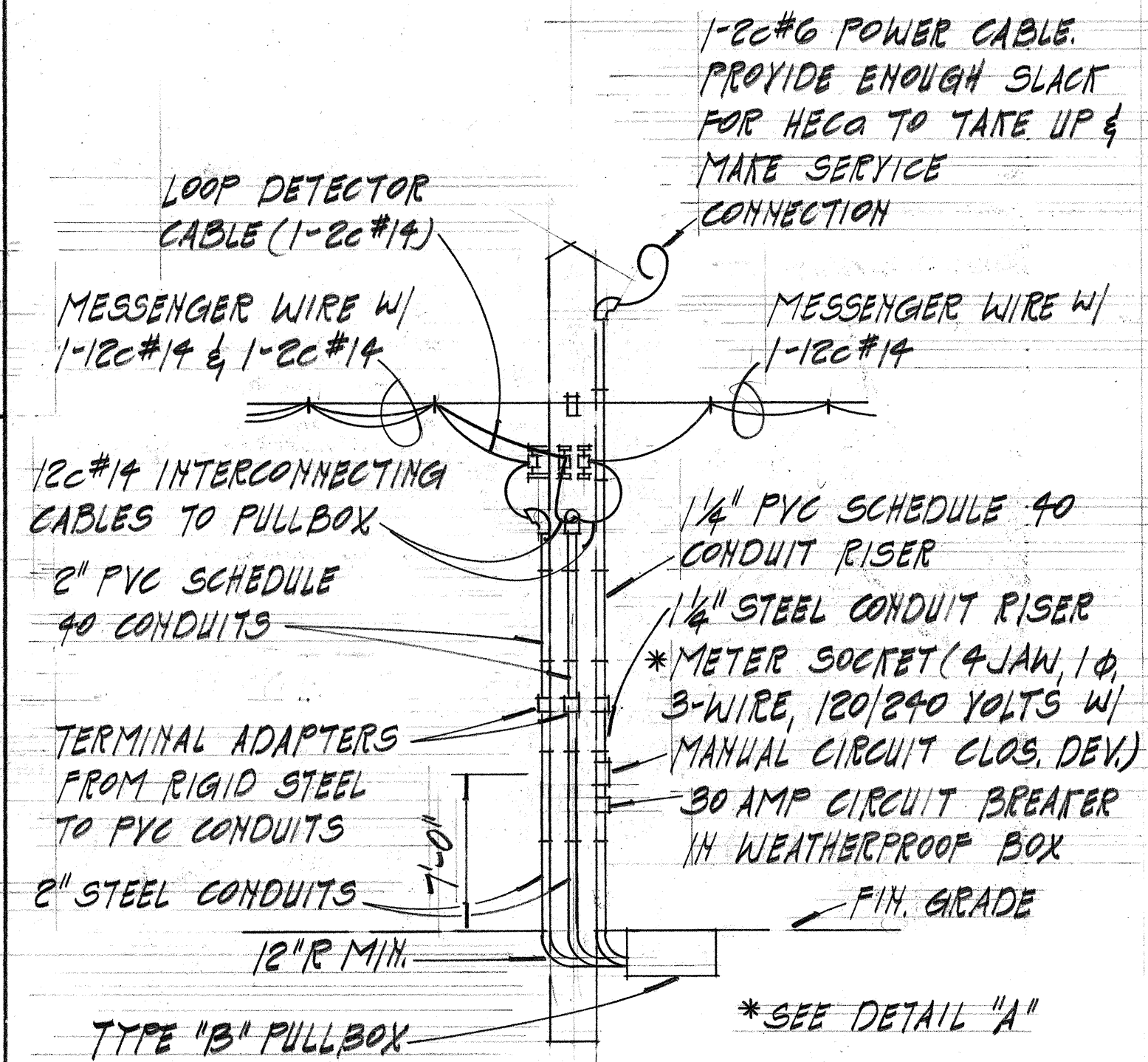
SCALE: 1"=1'-0"



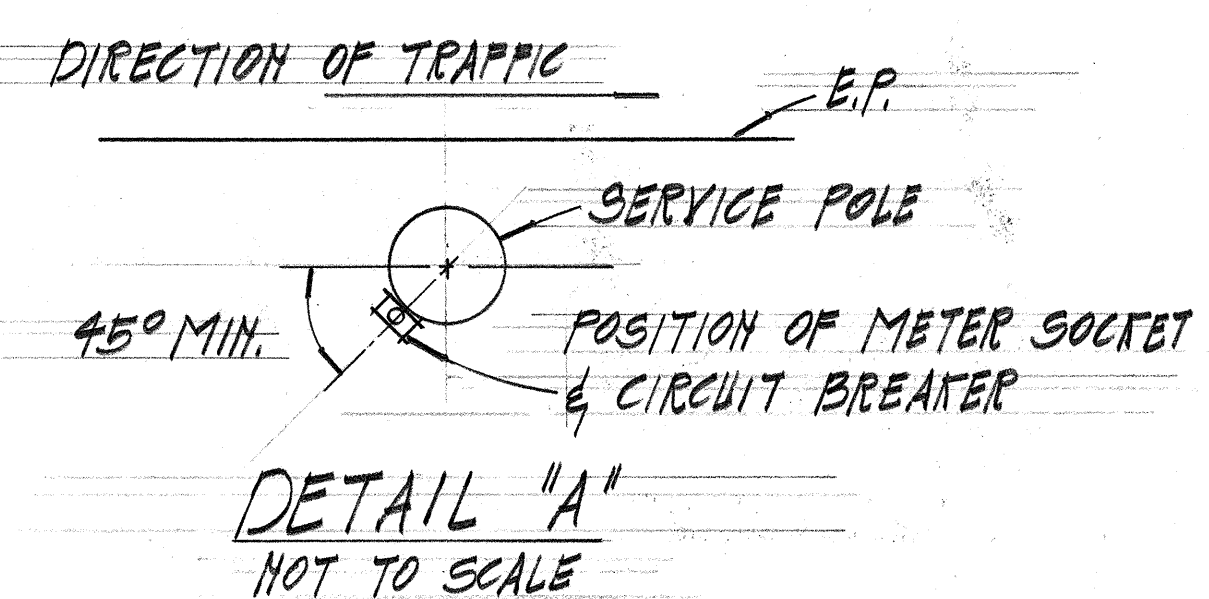
TYPICAL END POLE
FOR INTERCONNECTING CABLE
NOT TO SCALE



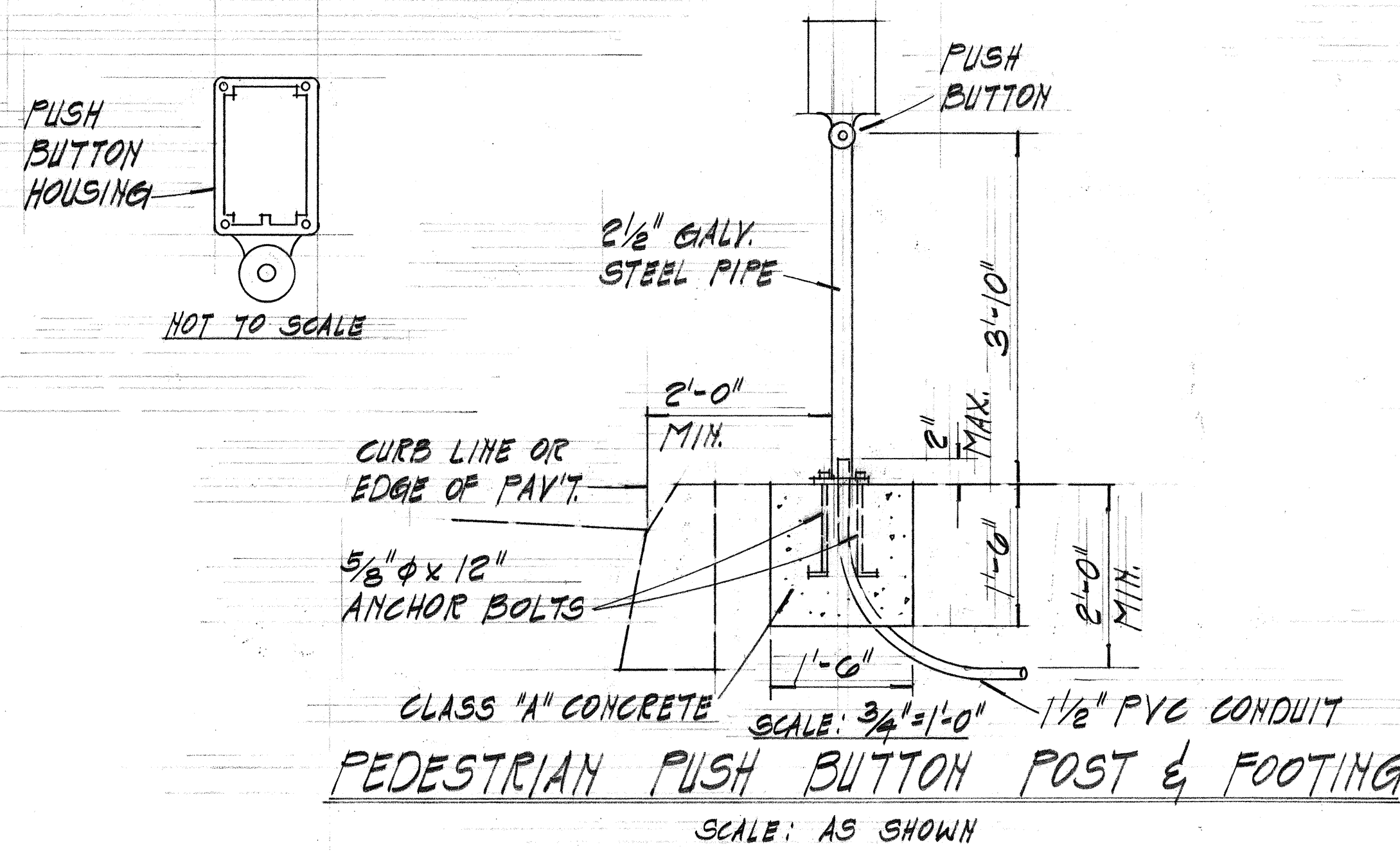
TYPICAL INTERMEDIATE POLE
FOR INTERCONNECTING CABLE
W/ CONDUIT RISER FOR
LOOP DETECTOR CABLE
NOT TO SCALE



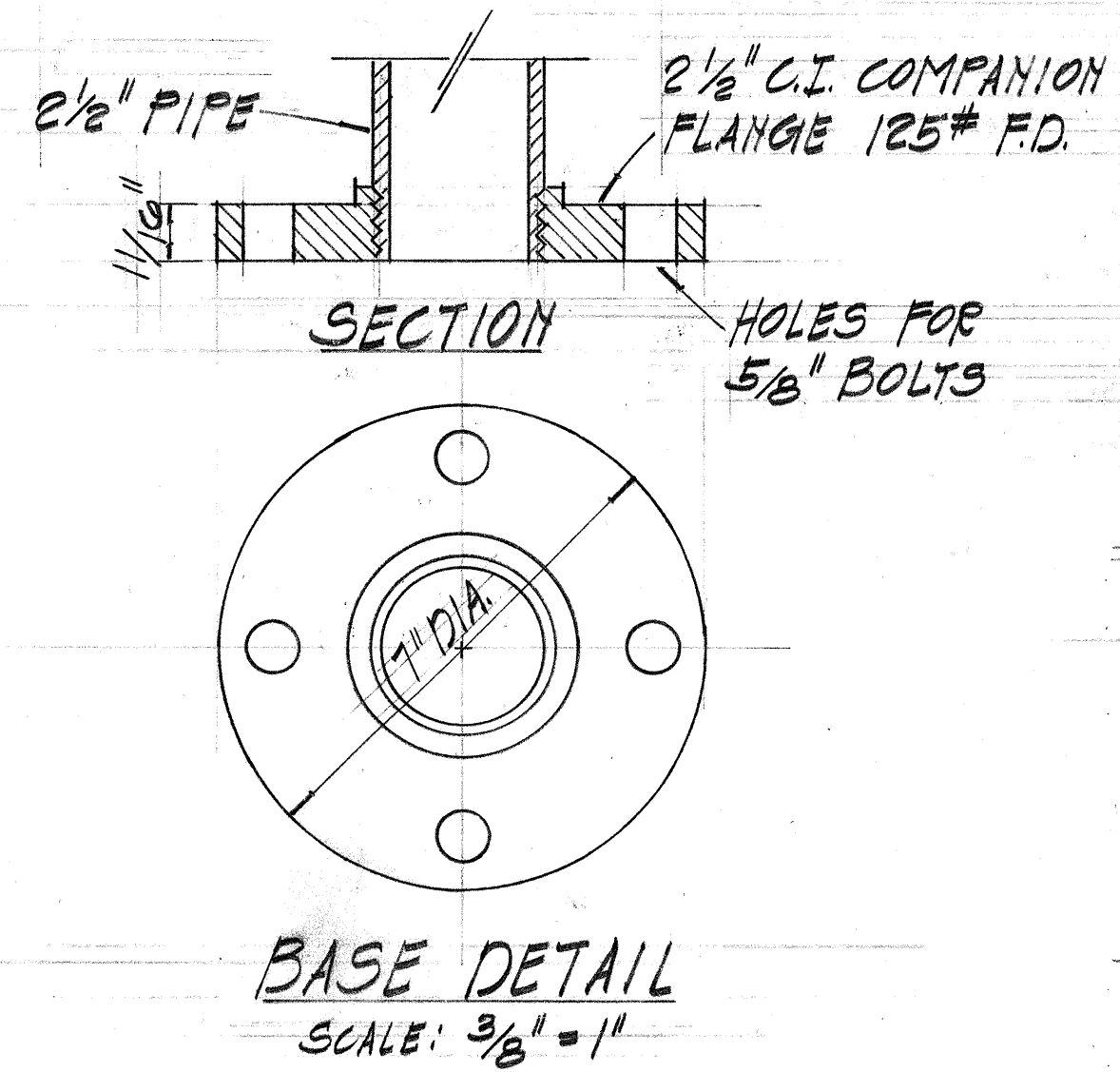
TYPICAL POLE W/ POWER SOURCE &
CABLES TO TRAFFIC SIGNAL CONTROLLER
NOT TO SCALE



DETAIL "A"
NOT TO SCALE



PEDESTRIAN PUSH BUTTON POST & FOOTING
SCALE: AS SHOWN



BASE DETAIL
SCALE: 3/8"=1"

6/15/76	ADD ADDITIONAL SIGN DETAILS
DATE	REVISION

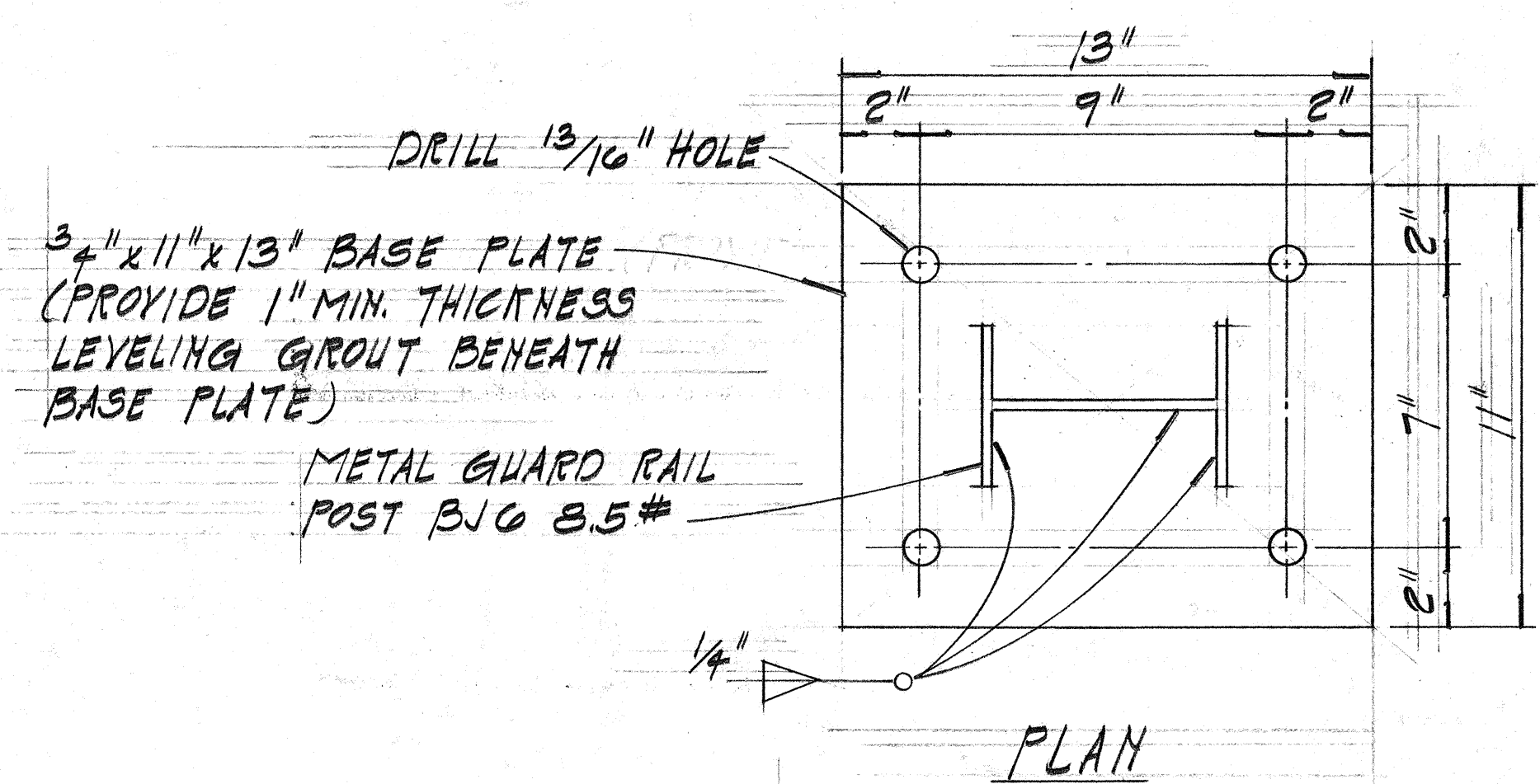
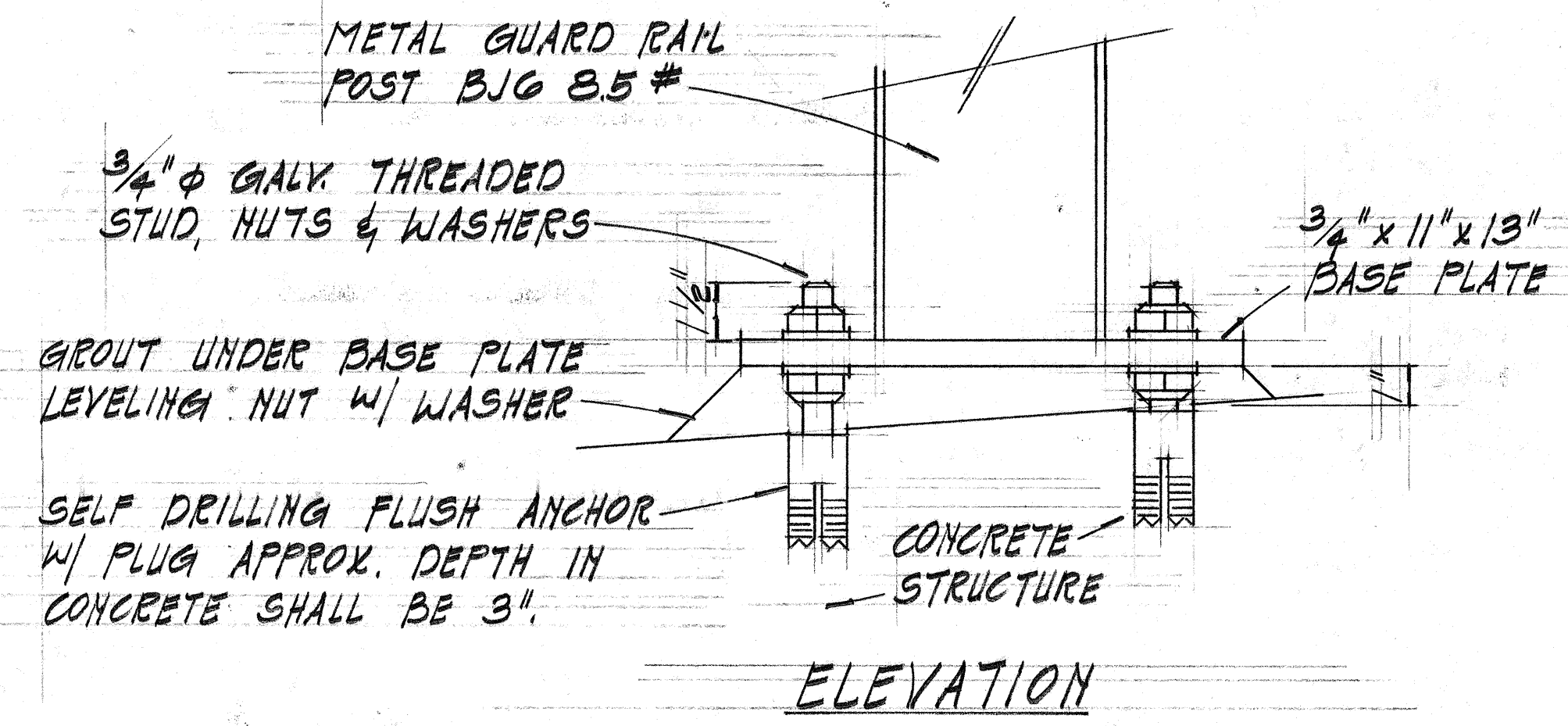
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

KALANIAHAOLE HWT. TRAFFIC SIGNALS
PROJ. No. 72C-02-74
SCALE: AS SHOWN DATE: JAN. 1975

SHEET No. 3 OF 14 SHEETS

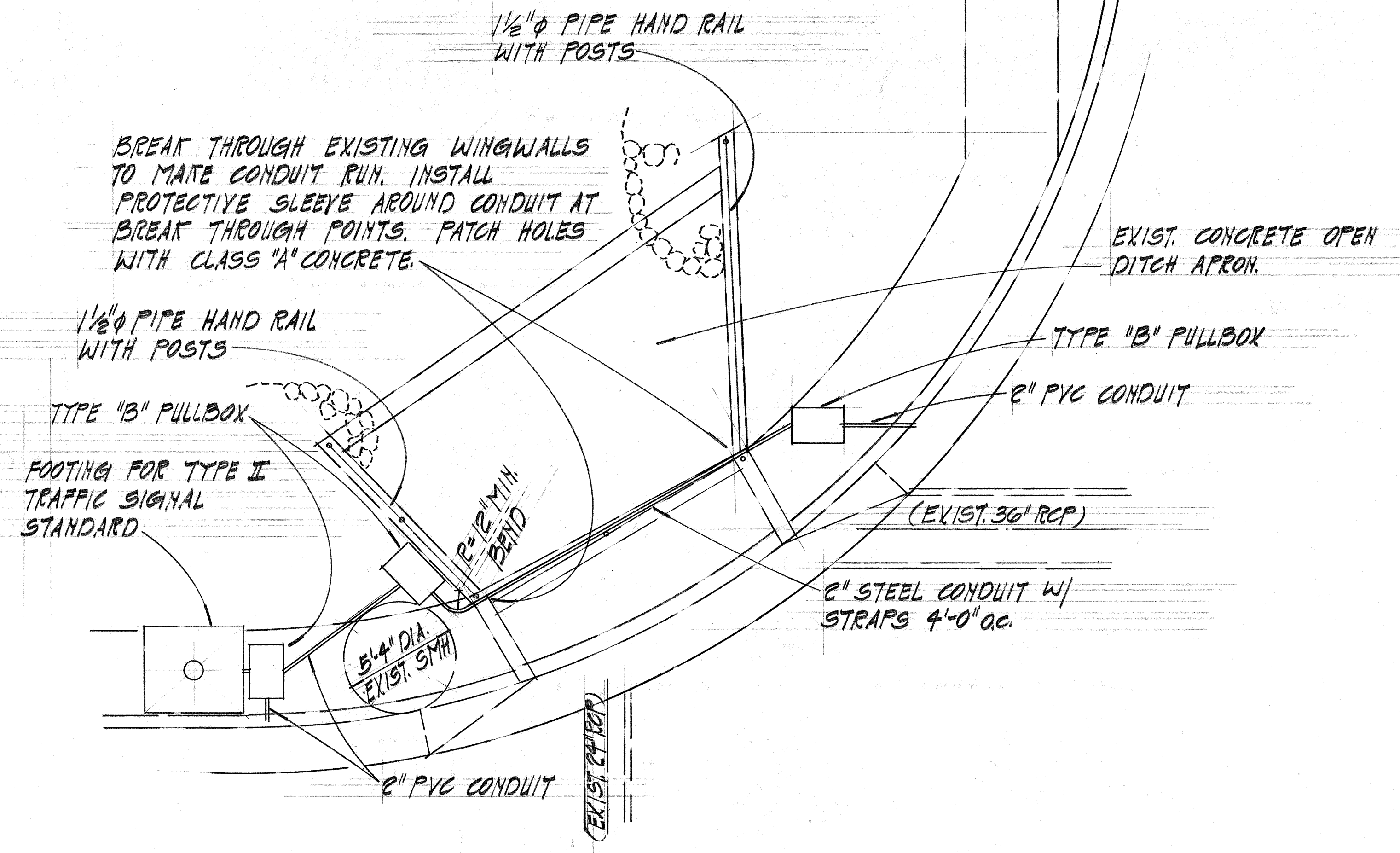
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	13	23



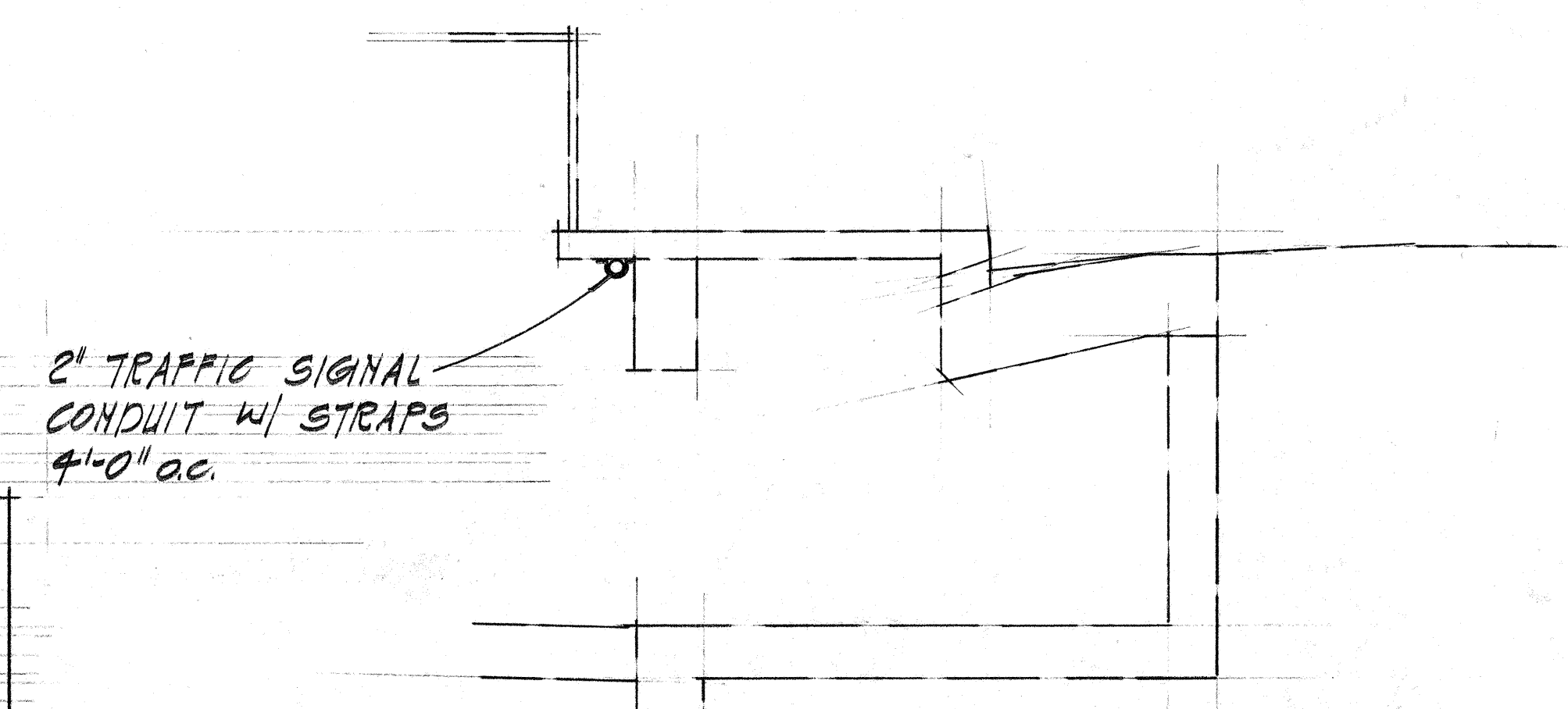
**METAL GUARD RAIL
ON CONCRETE STRUCTURE**

NOTE:
THIS DETAIL APPLIES WHENEVER A METAL GUARD RAIL POST IS LOCATED OR MUST BE LOCATED ON A CONCRETE STRUCTURE.

NOTE:
CONTRACTOR SHALL ALLOW FOR CLEARANCE OF REBARS WHEN INSTALLING CONDUITS & GUARD RAIL POSTS ON DRAINAGE STRUCTURES.



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



ELEVATION
SCALE: 1" = 1'-0"
CONDUIT MOUNTED ON DRAINAGE INLET
SCALE: AS SHOWN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

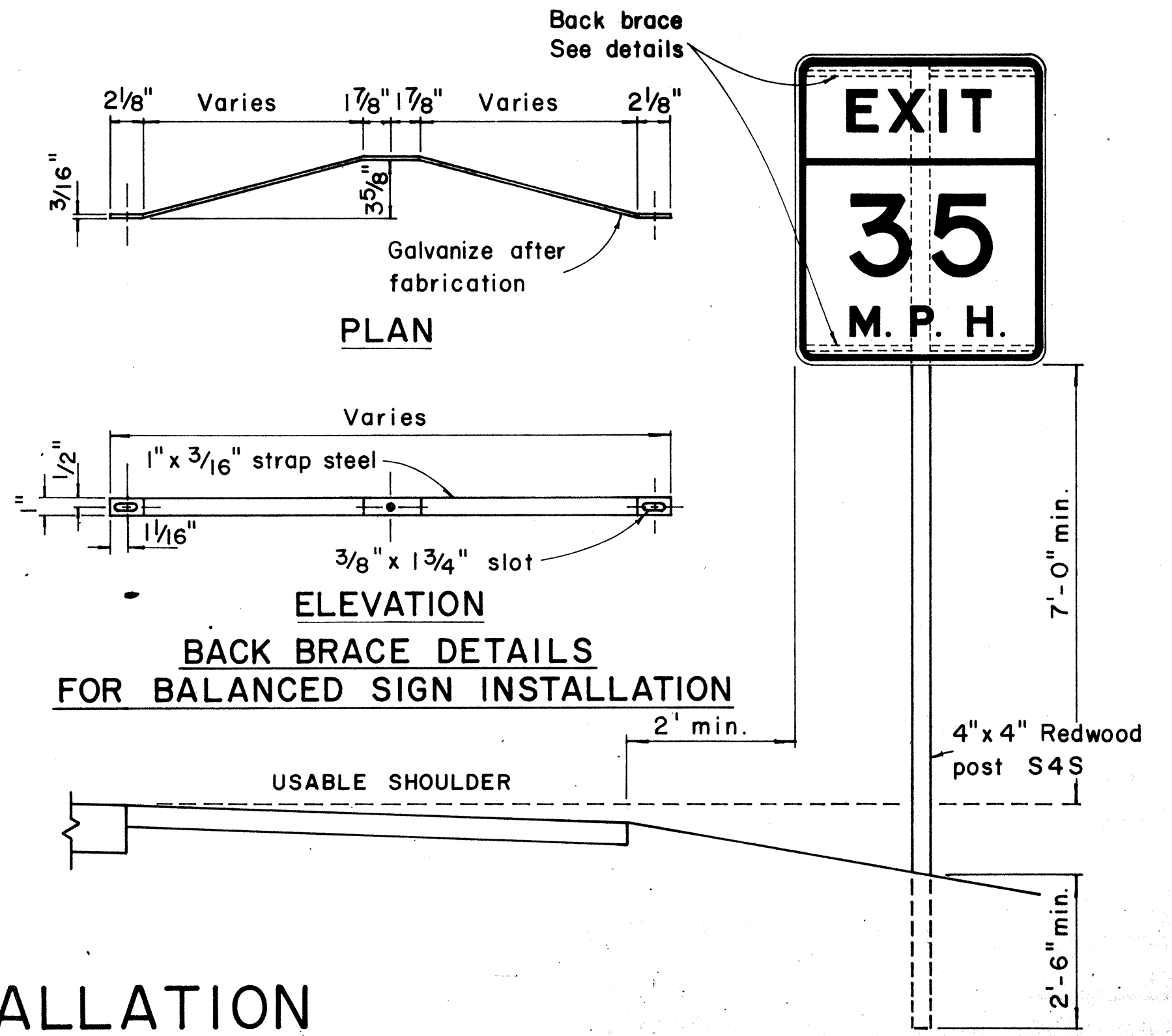
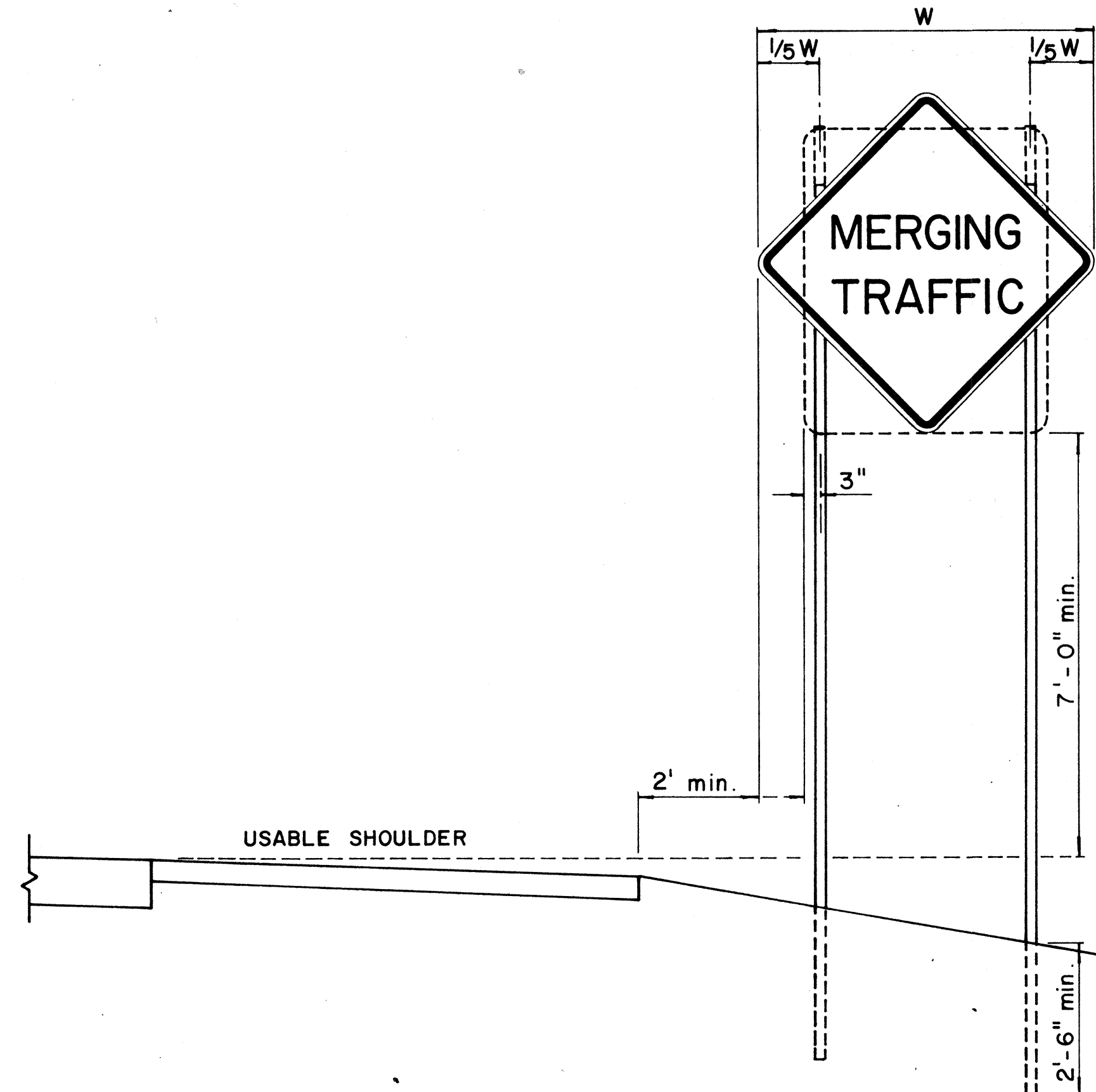
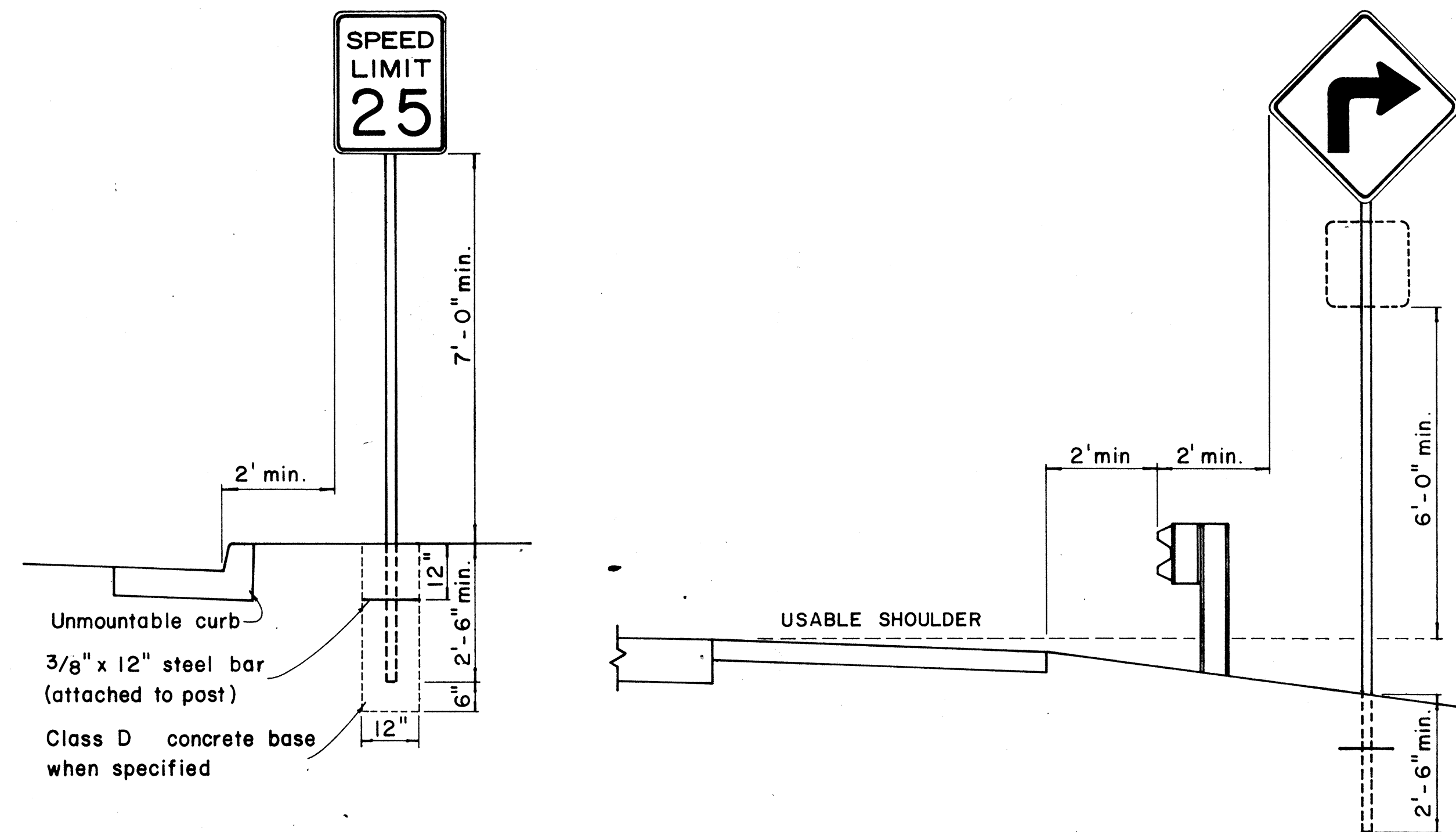
MISCELLANEOUS DETAILS

KALANIANA'OLE HWY. TRAFFIC SIGNALS
PROJ. NO. 72C-02-74
SCALE: AS SHOWN DATE: JAN. 1975

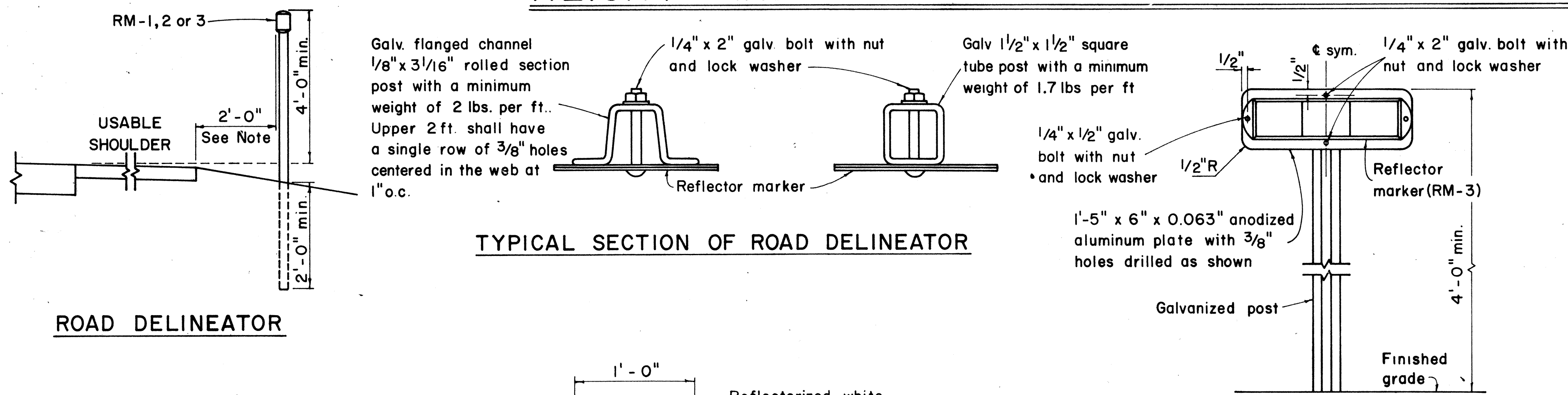
SHEET No. 4 OF 14 SHEETS

DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
IN CHARGE	_____
ORIGINAL	_____
PLAN	_____
NOTE BOOK	_____
NO.	_____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	14	23

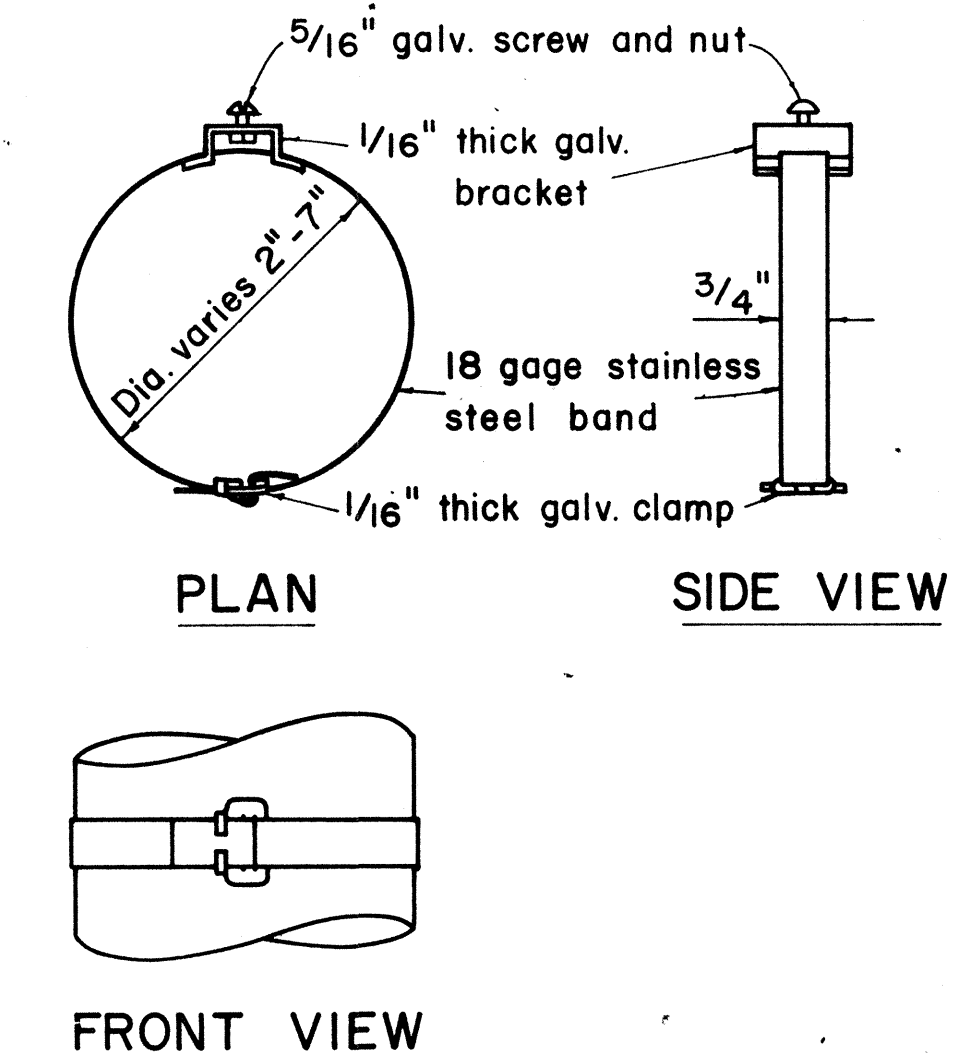


HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



TYPICAL SECTION OF ROAD DELINEATOR

TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H



PLAN

SIDE VIEW

FRONT VIEW

TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

GENERAL NOTES:

- Sign posts shall be 2" galv. standard pipe or 2" x 2" galv. sq. tube post.
- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two 2" galv. standard pipe or two 2" x 2" galv. sq. tube post or 4" x 4" redwood post S4S.
- Signs shall be attached to post with 5/16" galv. bolts with nuts and 7/8" x 0.06 stainless steel washers with neoprene rubber gasket.
- Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
- Reflector markers RM-1, 2, 3 shall be glass sphere reflector markers with 4" x 5" reflector units (as shown) or plastic prismatic reflector markers with 3" diameter reflector units.
- Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
- (R) or (L) indicates right or left and shall be as shown on the plans.

APPROVAL RECOMMENDED:
E.ichi Tanaka 12/22/69
 TRAFFIC ENGINEER DATE

APPROVED:
John J. DeLeon 12-20-69
 ASSISTANT CHIEF, ENGINEERING DATE

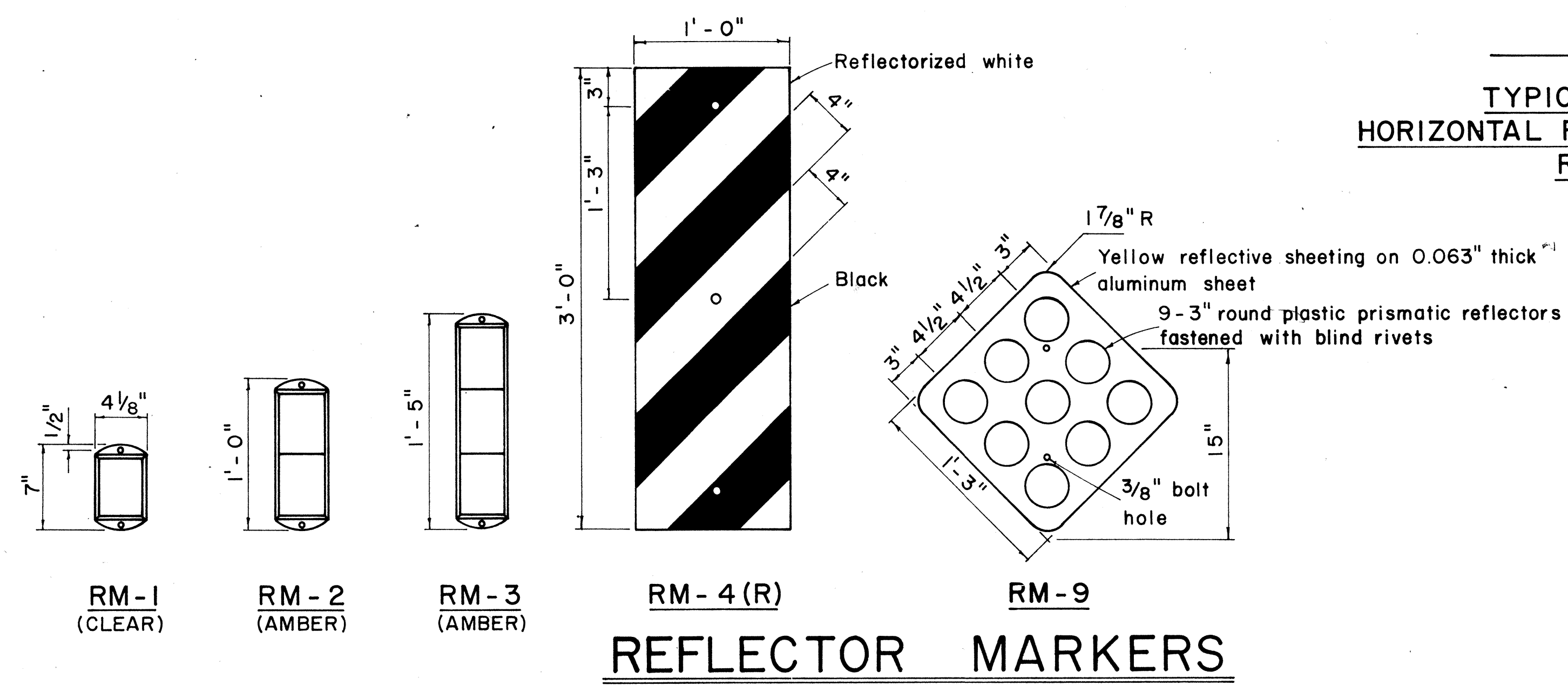
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968

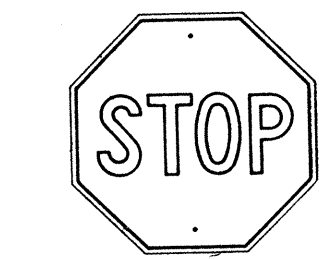
SHEET No. 5 OF 14 SHEETS DT 100



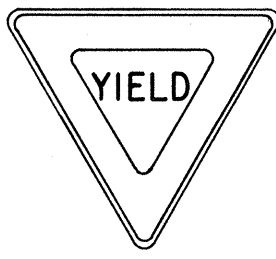
REFLECTOR MARKERS

DATE	
ORIGINAL PLAN	
TRACED BY	
DESIGNED BY	
CHECKED BY	
NO.	

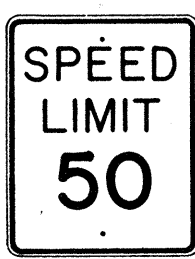
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	15	23



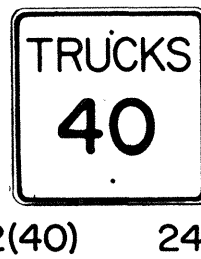
R1-1 30" x 30"
R1-1-A 36" x 36"
4-WAY
R1-3 12" x 6"
R1-3-A 18" x 9"



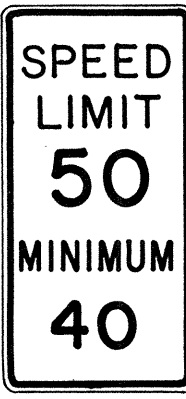
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



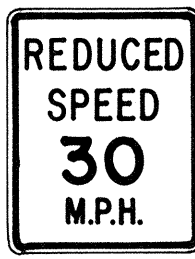
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



R2-2(40) 24" x 24"
R2-2(40)-A 48" x 48"



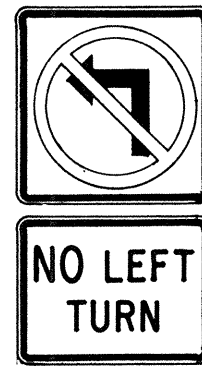
R2-4a(50/40) 24" x 48"
R2-4a(50/40)-A 48" x 96"



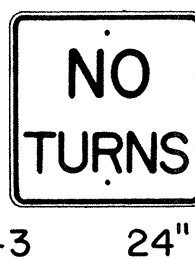
R2-5b(30) 24" x 30"
R2-5b(30)-A 48" x 60"



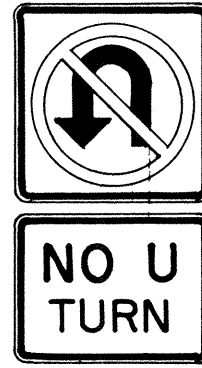
R3-1 24" x 24"
24" x 18"
R3-1-A 48" x 48"
48" x 36"



R3-2 24" x 24"
24" x 18"
R3-2-A 48" x 48"
48" x 36"



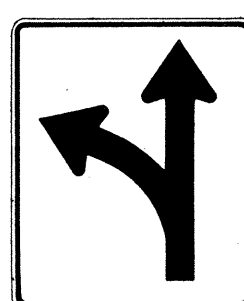
R3-3 24" x 24"
R3-3-A 48" x 48"



R3-4 24" x 24"
24" x 18"
R3-4-A 48" x 48"
48" x 36"



R3-5(L) 30" x 36"
R3-5(L)-A 48" x 60"



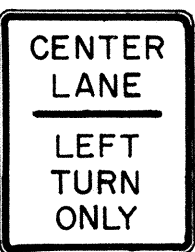
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



R3-7(R) 30" x 30"
R3-7(R)-A 48" x 48"



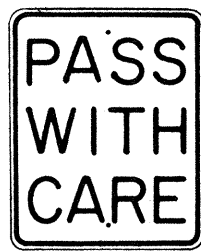
R3-8(L) 30" x 30"
R3-8(L)-A 36" x 36"
R3-8(L)-B 48" x 48"



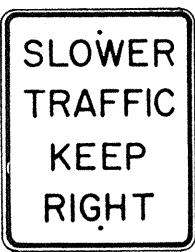
R3-9 24" x 30"



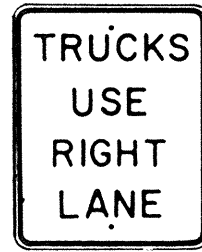
R4-1 24" x 30"



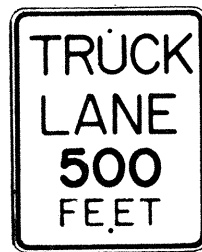
R4-2 24" x 30"



R4-3 24" x 30"
R4-3-A 48" x 60"



R4-5 24" x 30"



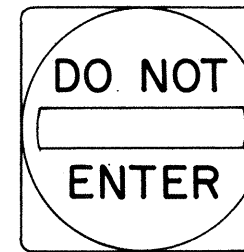
R4-6(500) 24" x 30"



R4-7 24" x 30"
24" x 18"



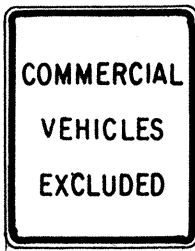
R4-8 24" x 30"
24" x 18"



R5-1 30" x 30"
R5-1-A 48" x 48"



R5-2 24" x 24"
24" x 18"



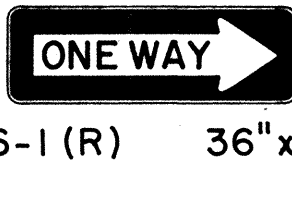
R5-4 24" x 30"



R5-6 24" x 24"
24" x 18"



R5-9 36" x 24"



R6-1(R) 36" x 12"



R6-2(R) 18" x 24"



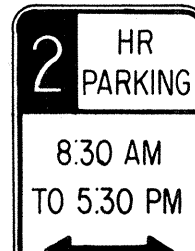
R7-1 12" x 18"
R7-1-A 24" x 30"



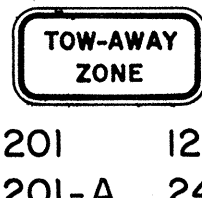
R7-4 12" x 18"
R7-4-A 24" x 30"



R7-107(R) 12" x 18"



R7-108 12" x 18"



R7-201 12" x 6"
R7-201-A 24" x 12"



R8-1 24" x 30"



R8-2 24" x 30"



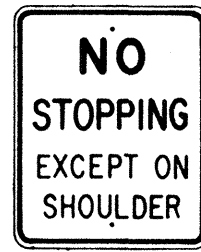
R8-3 24" x 30"



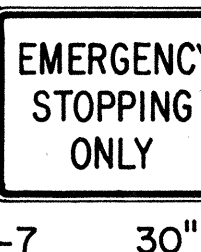
R8-4 30" x 24"
R8-4-A 48" x 36"



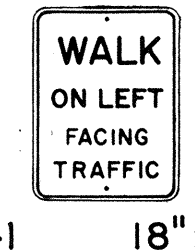
R8-5 24" x 30"



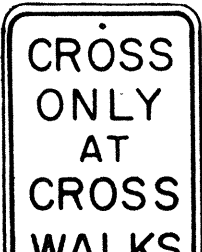
R8-6 24" x 30"



R8-7 30" x 24"
R8-7-A 48" x 36"



R9-1 18" x 24"



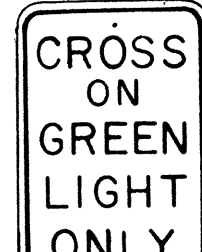
R9-2 12" x 18"



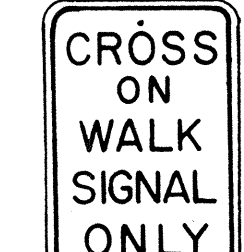
R9-3 12" x 18"



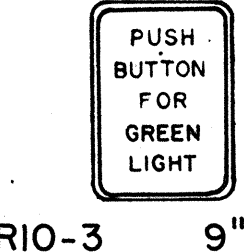
R9-4 18" x 24"



R10-1 12" x 18"



R10-2 12" x 18"



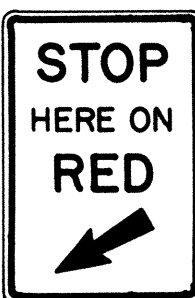
R10-3 9" x 12"



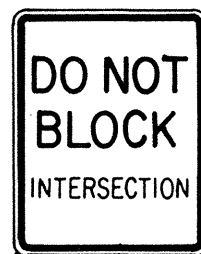
R10-4 9" x 12"



R10-5 24" x 30"



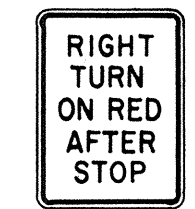
R10-6 24" x 36"



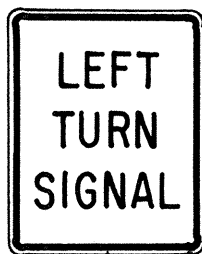
R10-7 24" x 30"



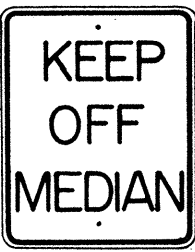
R10-8 24" x 30"



R10-9 24" x 30"



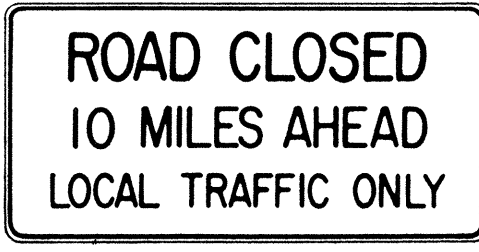
R10-10 24" x 30"



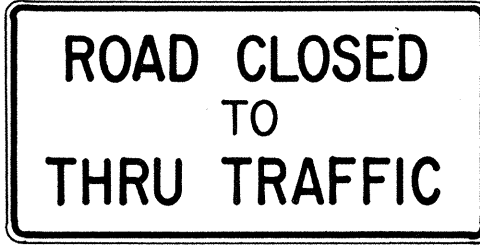
R11-1 24" x 30"



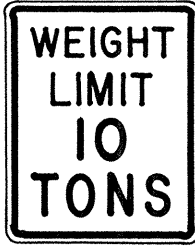
R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:
ASSISTANT CHIEF, ENGINEERING

3-20-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.T.	3/20/72
2	Revised General Note 1.	H.T.	10/16/74

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

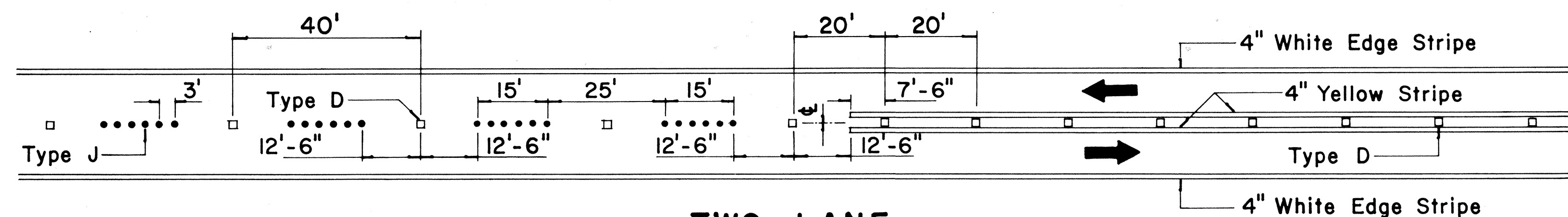
STANDARD DETAILS REGULATORY SIGNS

NOT TO SCALE

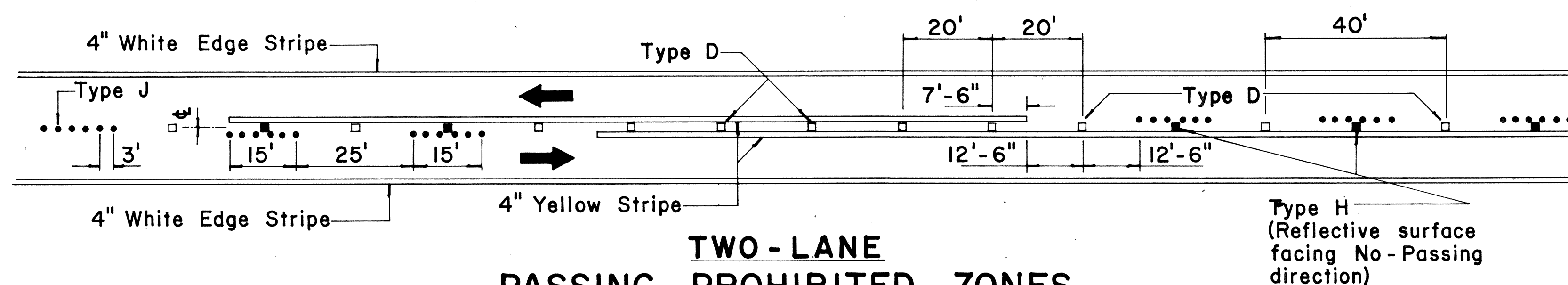
SHEET No. 6 OF 14 SHEETS DT 101

DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
NOTE BOOK	_____
QUANTITIES BY	_____
CHECKED BY	_____
No.	_____

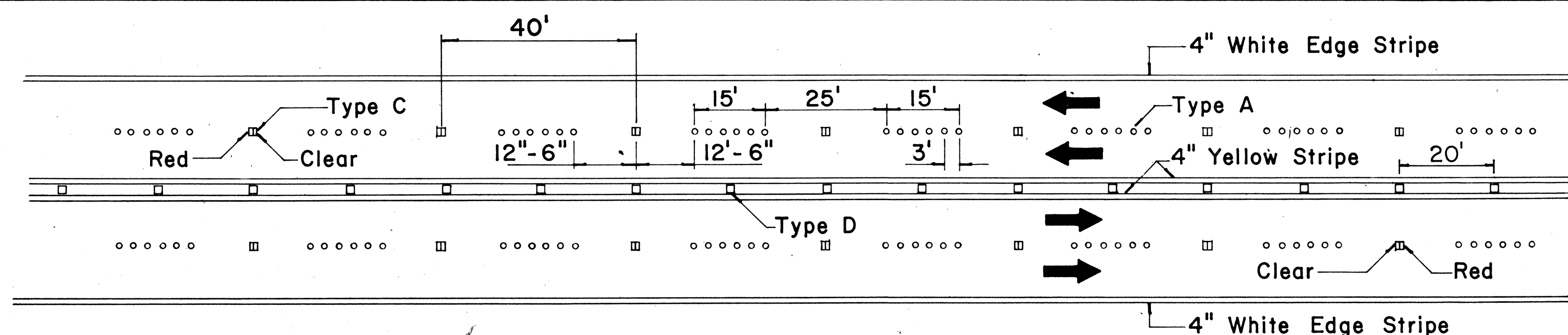
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	16	23



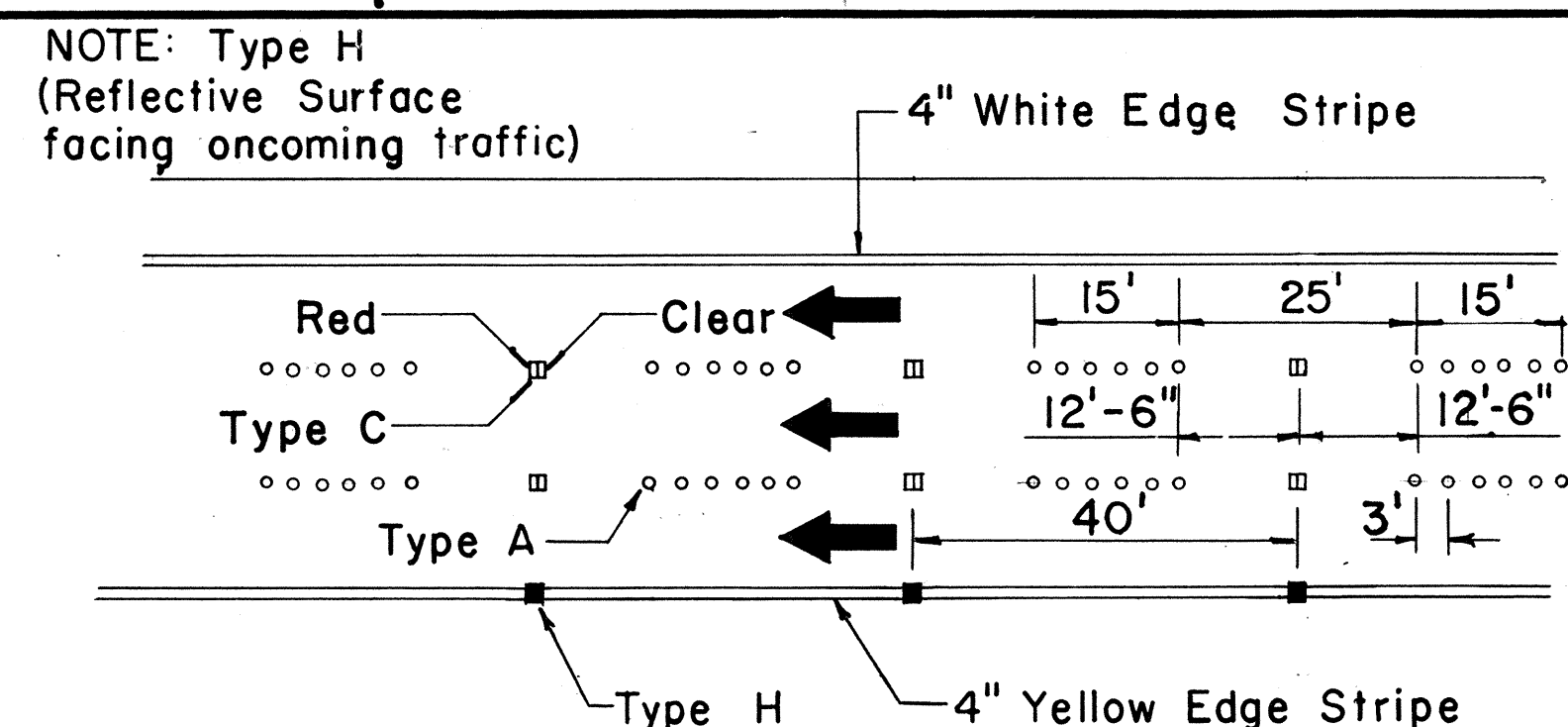
**TWO-LANE
PASSING PERMITTED AND PASSING PROHIBITED**



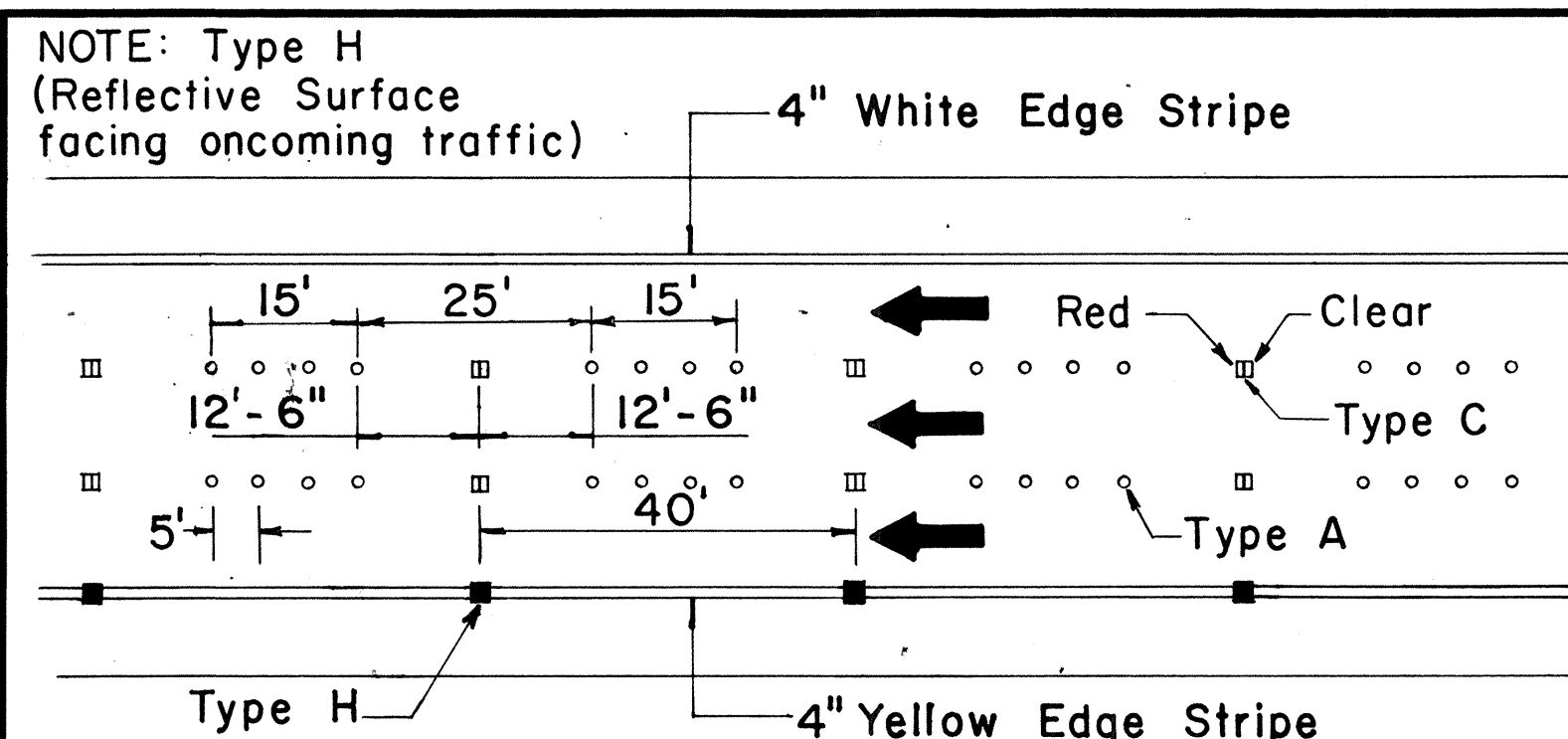
**TWO-LANE
PASSING PROHIBITED ZONES**



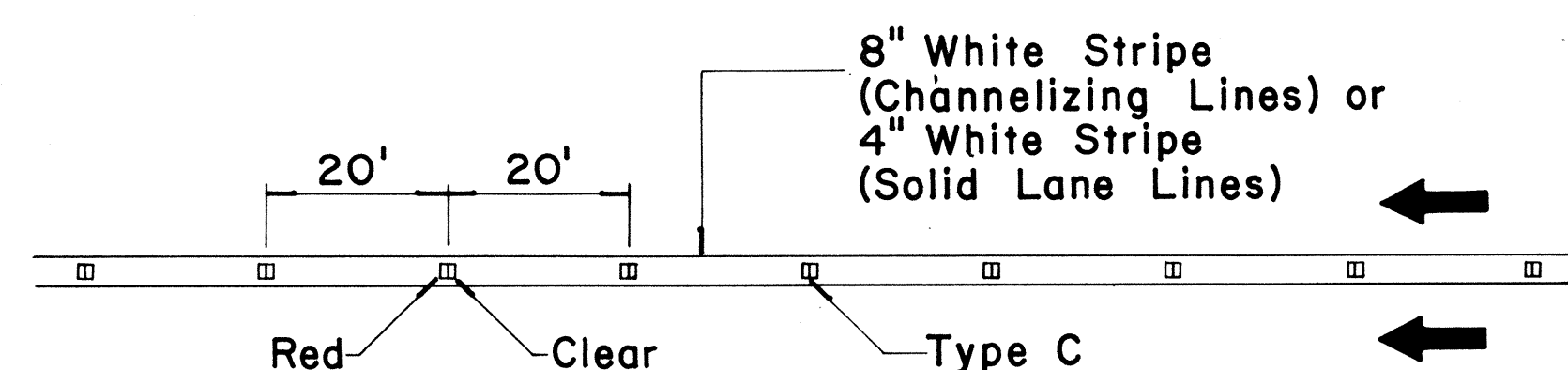
**MULTI-LANE
LANE LINES AND CENTER LINE**



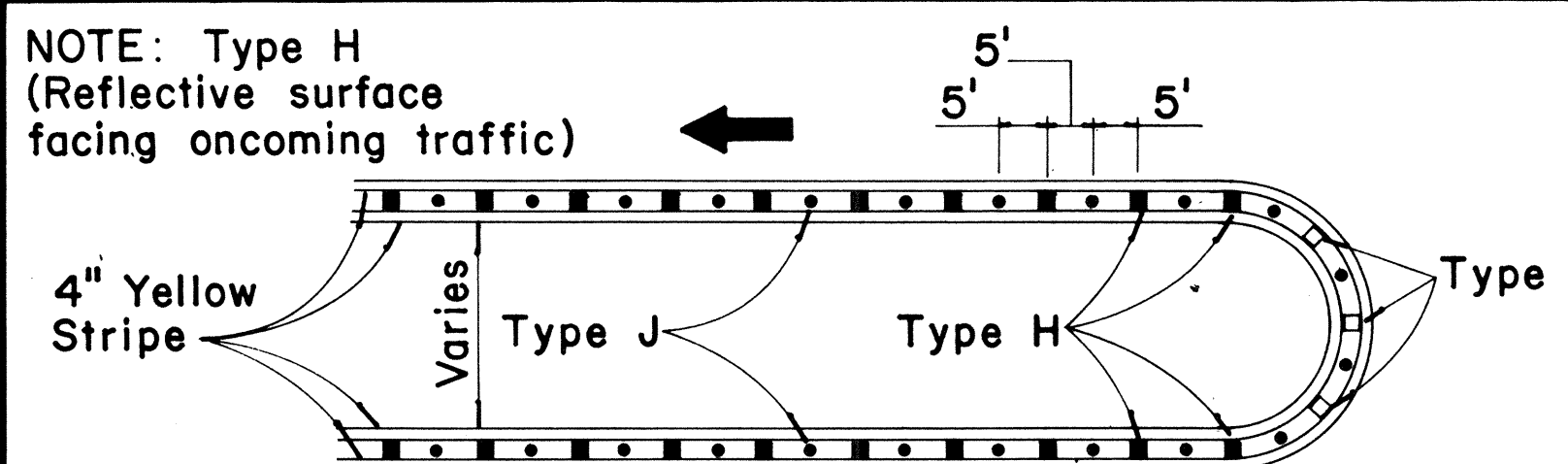
DIVIDED HIGHWAY LANE LINES



FREEWAY LANE LINES



**CHANNELIZING LINES
OR SOLID LANE LINES**



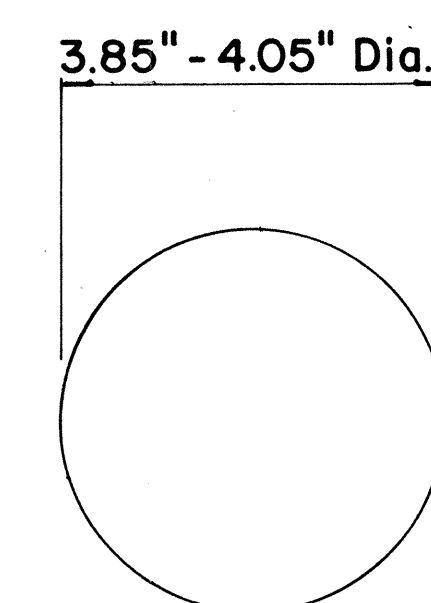
MEDIAN NOSE DELINEATION

TWO - LANE

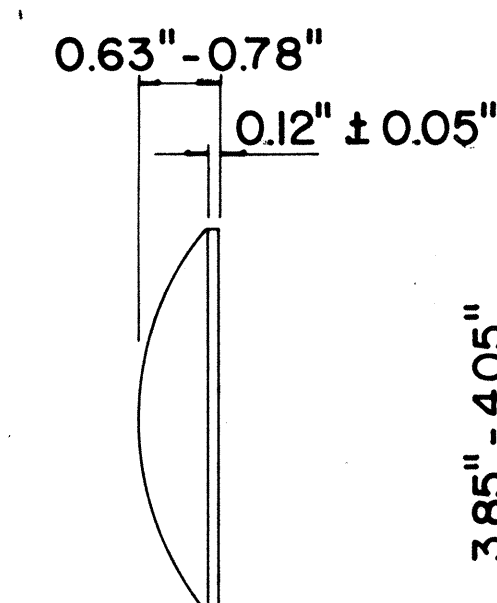
MULTI - LANE

**DIVIDED HIGHWAY
AND
FREEWAY**

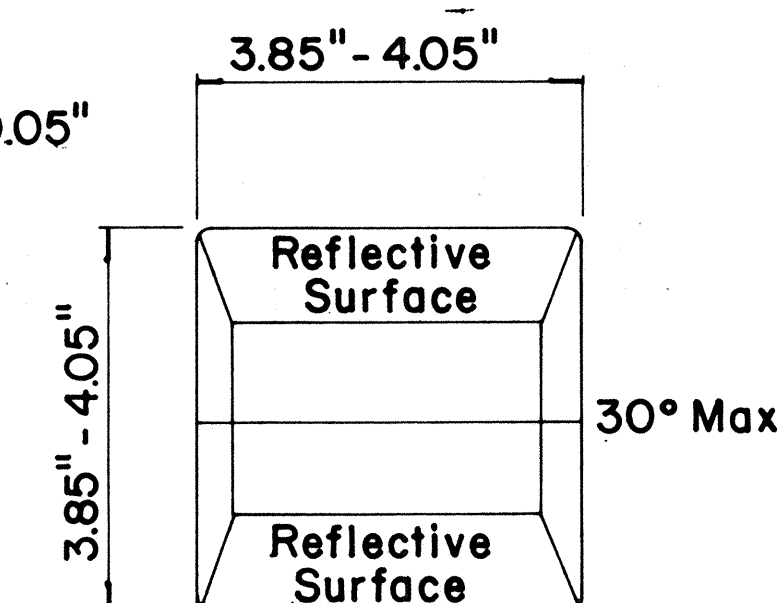
MISCELLANEOUS



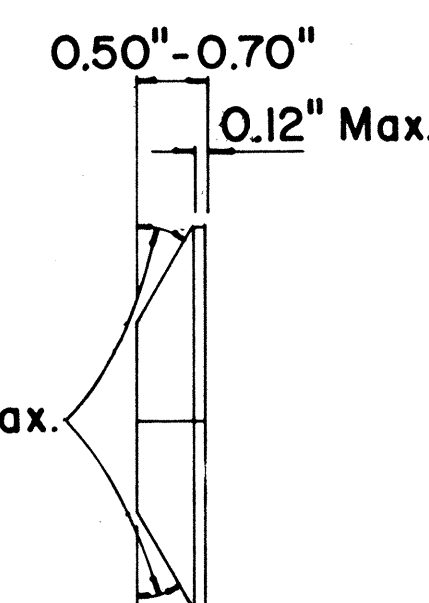
**TYPE A
NON-REFLECTIVE WHITE MARKER**



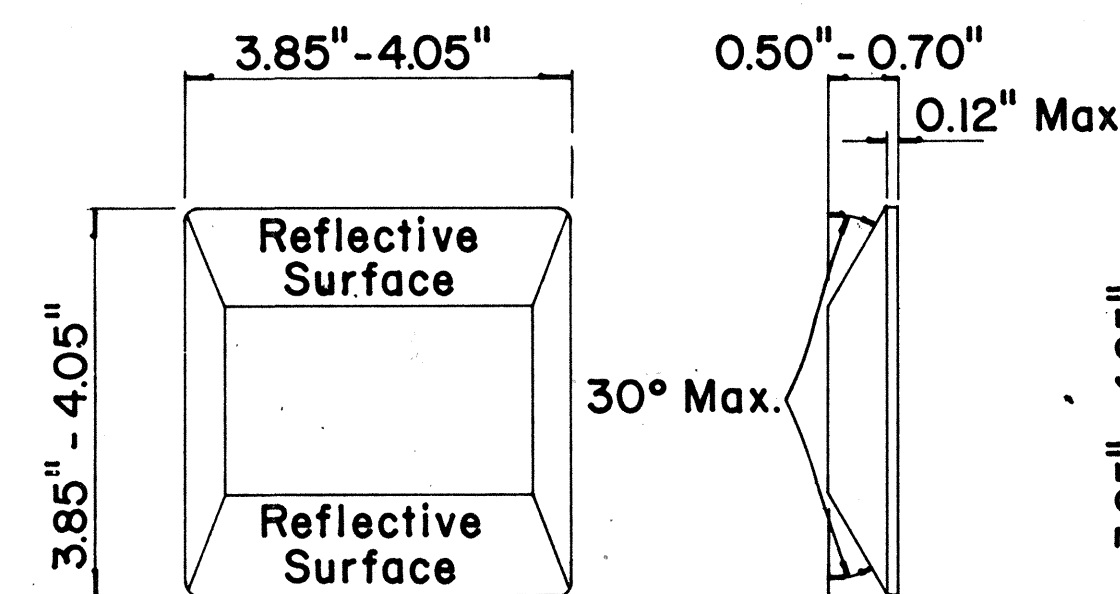
**TYPE J
NON-REFLECTIVE YELLOW MARKER**



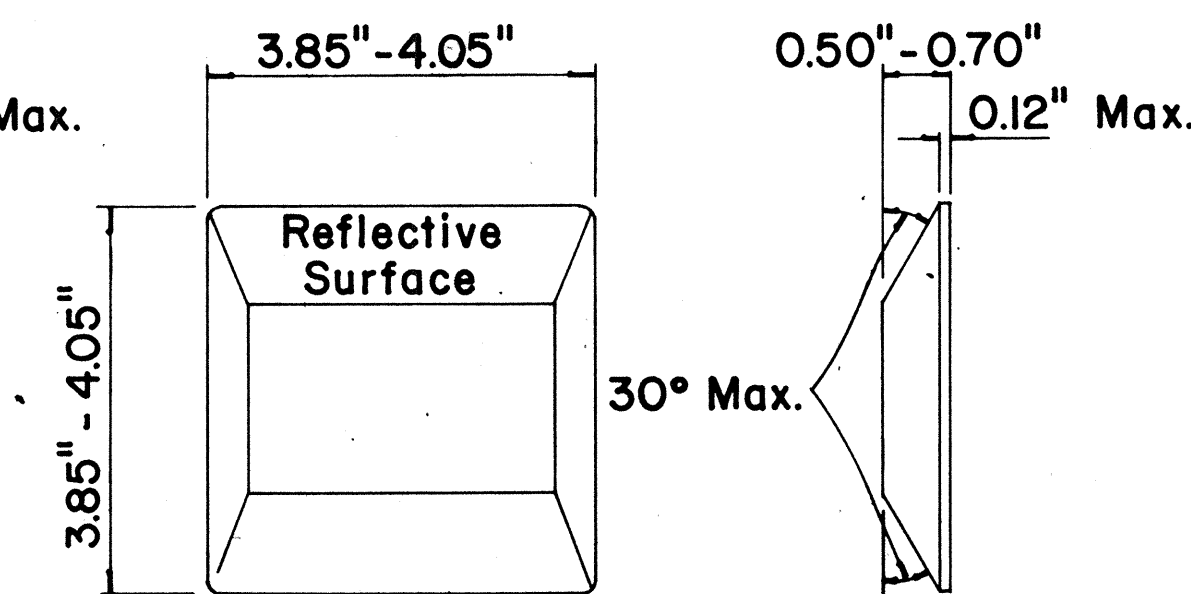
**TYPE C
RED-CLEAR REFLECTIVE MARKER**



**TYPE H
ONE-WAY YELLOW REFLECTIVE MARKER**



**TYPE D
TWO-WAY YELLOW REFLECTIVE MARKER**



GENERAL NOTES

1. Painted stripes to be done by Contractor unless otherwise specified.

LEGEND

- Type A
- Type C
- Type D
- Type H
- Type J

APPROVAL RECOMMENDED:

E. Ichi Tanaka
TRAFFIC ENGINEER

11/18/71
DATE

APPROVED:

Shelton Z. L. L.
ASSISTANT CHIEF, ENGINEERING

11/18/71
DATE

No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-21-72
2	Revised General Notes.	H.C.	10-21-72
3	Change 4" white edge stripe to 4" solid yellow edge stripe to left edge of a travel path and Add Type H Reflector Marker	H.C.	5-22-74

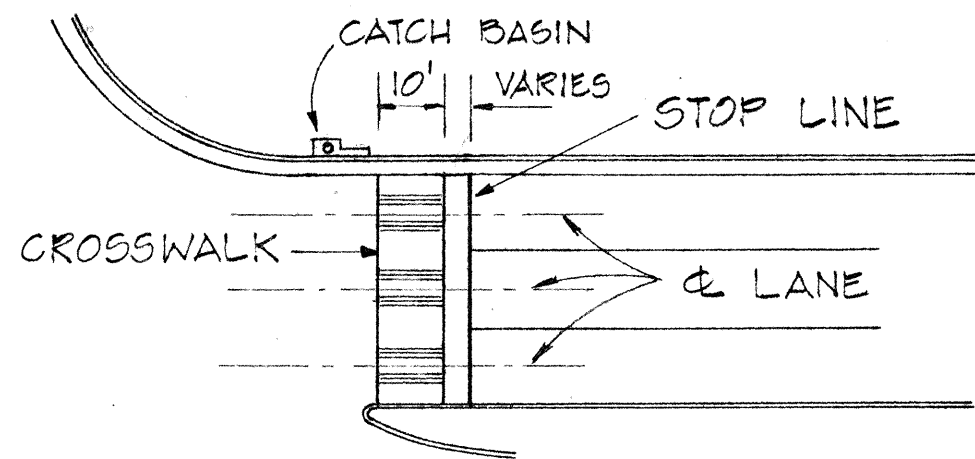
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STANDARD DETAILS
RAISED PAVEMENT MARKERS**

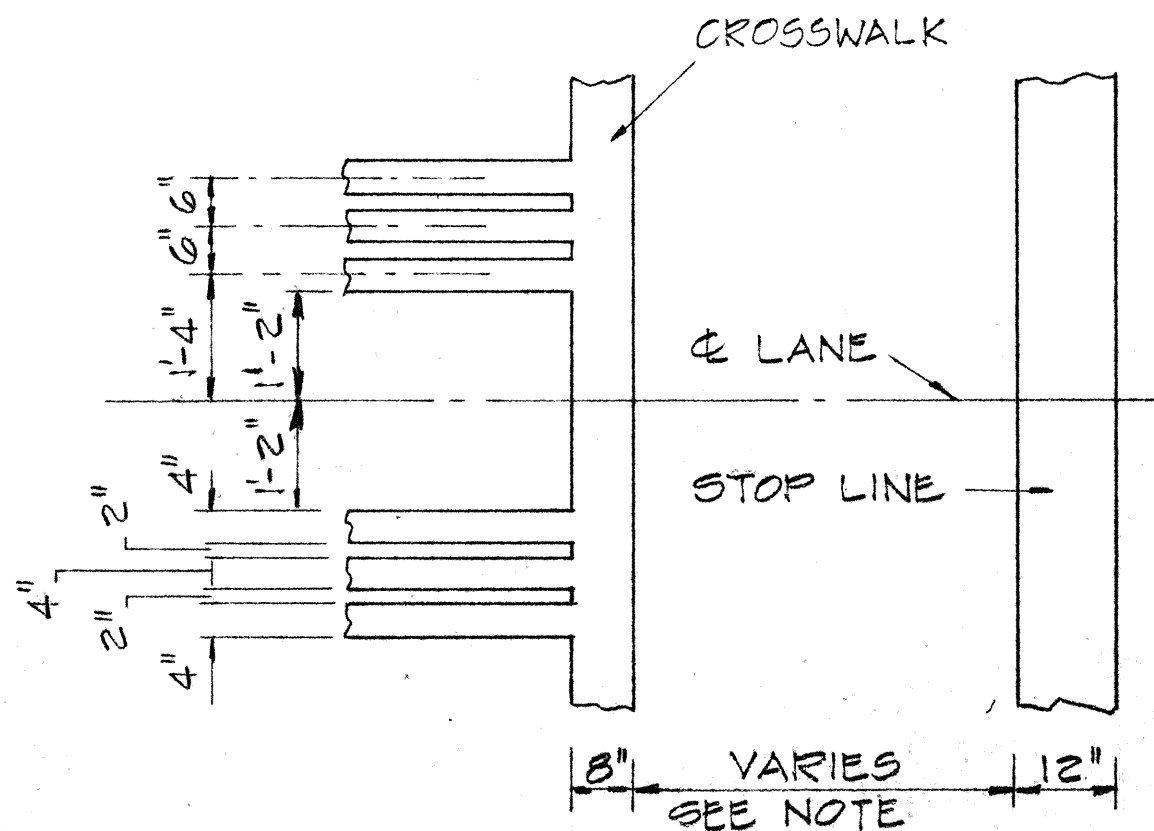
Not to Scale October 1971

SHEET No. 7 OF 14 SHEETS DT 300

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	17	23



NOTE: SET ALL CROSSWALKS AWAY FROM CATCH BASINS

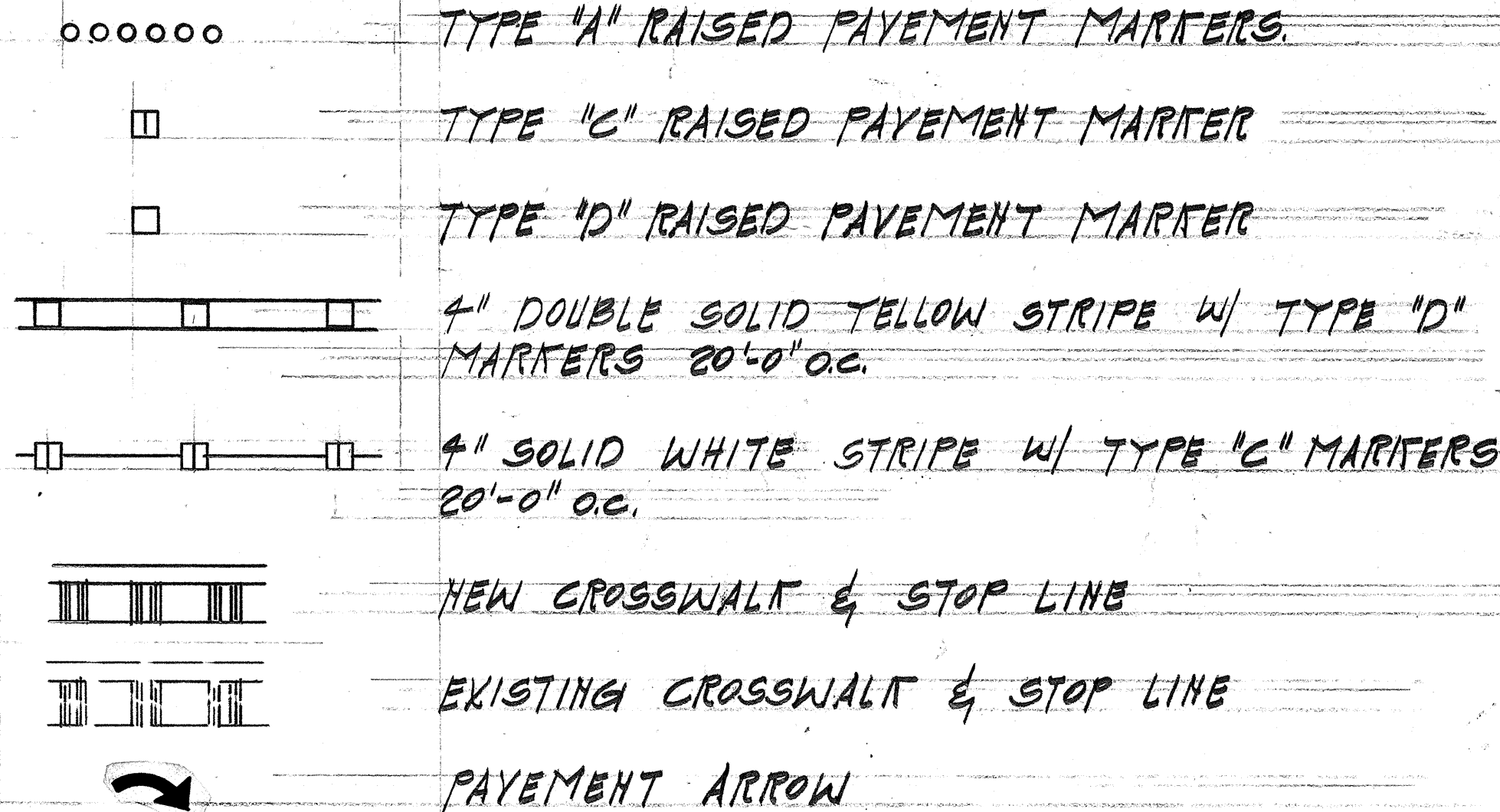


CROSSWALK & STOP LINE

NOT TO SCALE

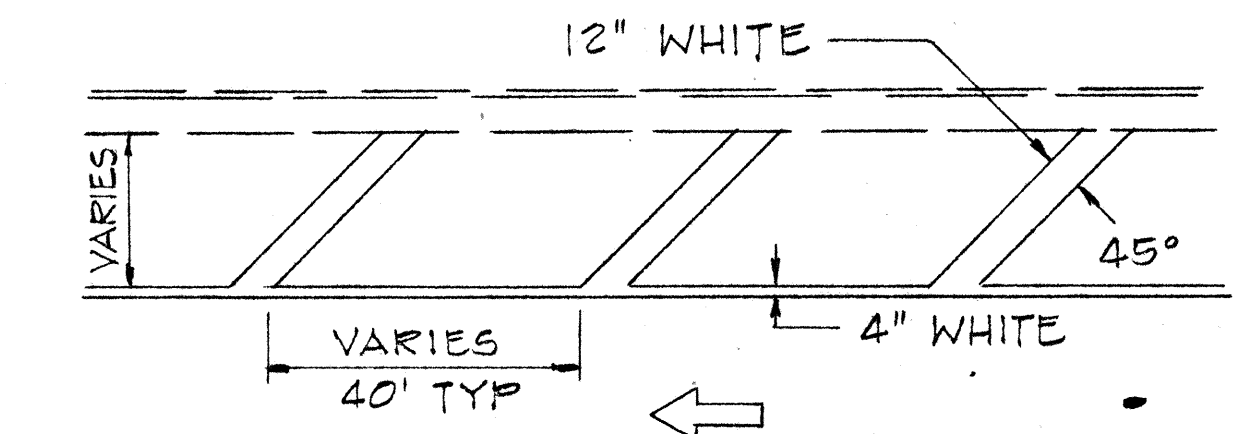
NOTE: STOP LINES AT UNSIGNALIZED INTERSECTIONS AND AT MIDBLOCK CROSSWALKS SHALL BE PLACED A MINIMUM OF 10 FEET BEFORE THE CROSSWALK, HOWEVER A DISTANCE OF 20 FEET IS PREFERABLE. STOP LINES AT SIGNALIZED INTERSECTIONS SHALL BE PLACED A MINIMUM OF FOUR FEET BEFORE THE CROSSWALK.

LEGEND: (PAVEMENT MARKINGS)



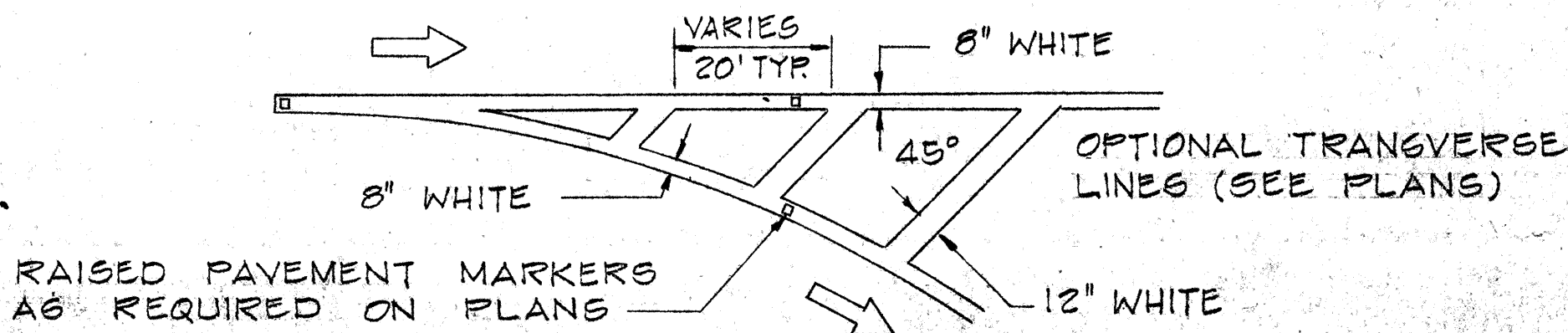
4" WHITE GUIDE LINE

NOT TO SCALE



TRANSVERSE SHOULDER MARKING

NOT TO SCALE



CHANNELIZING ISLAND

NOT TO SCALE

GENERAL NOTES - PAVEMENT MARKINGS

1. Pavement Markings shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and as shown on the plans.
2. Layout of pavement markings and striping shall be done by the Contractor. Contractor shall check layout of markers & striping with the Engineer prior to performing work.
3. For additional pavement marking details see plan sht #DT 300.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

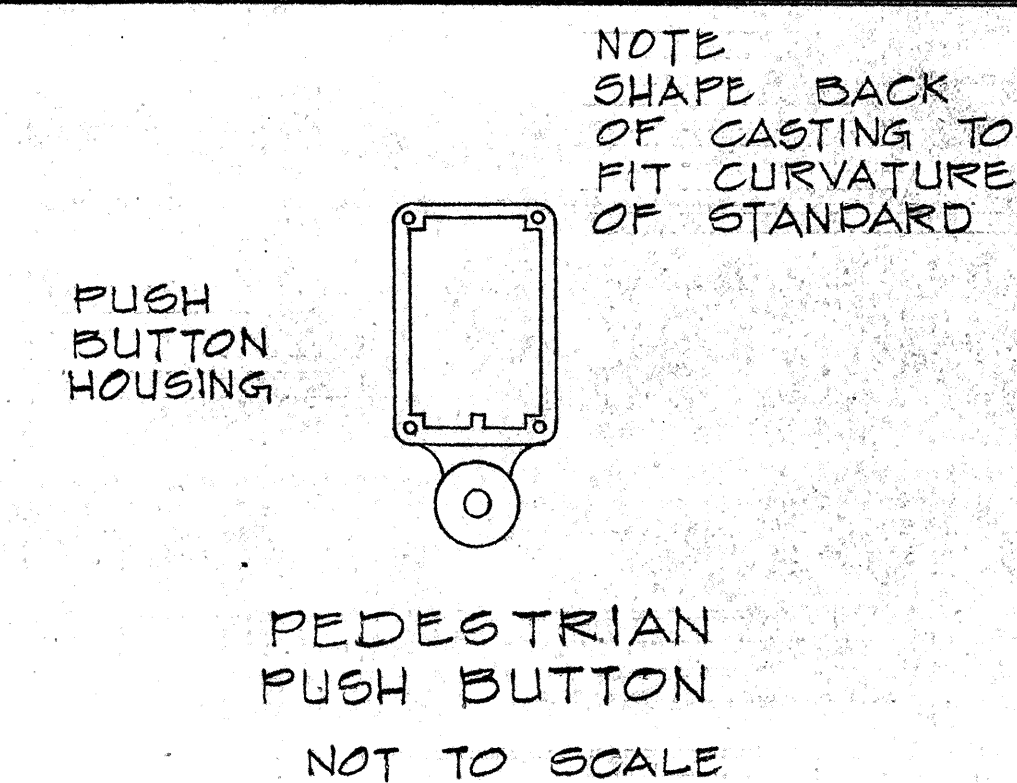
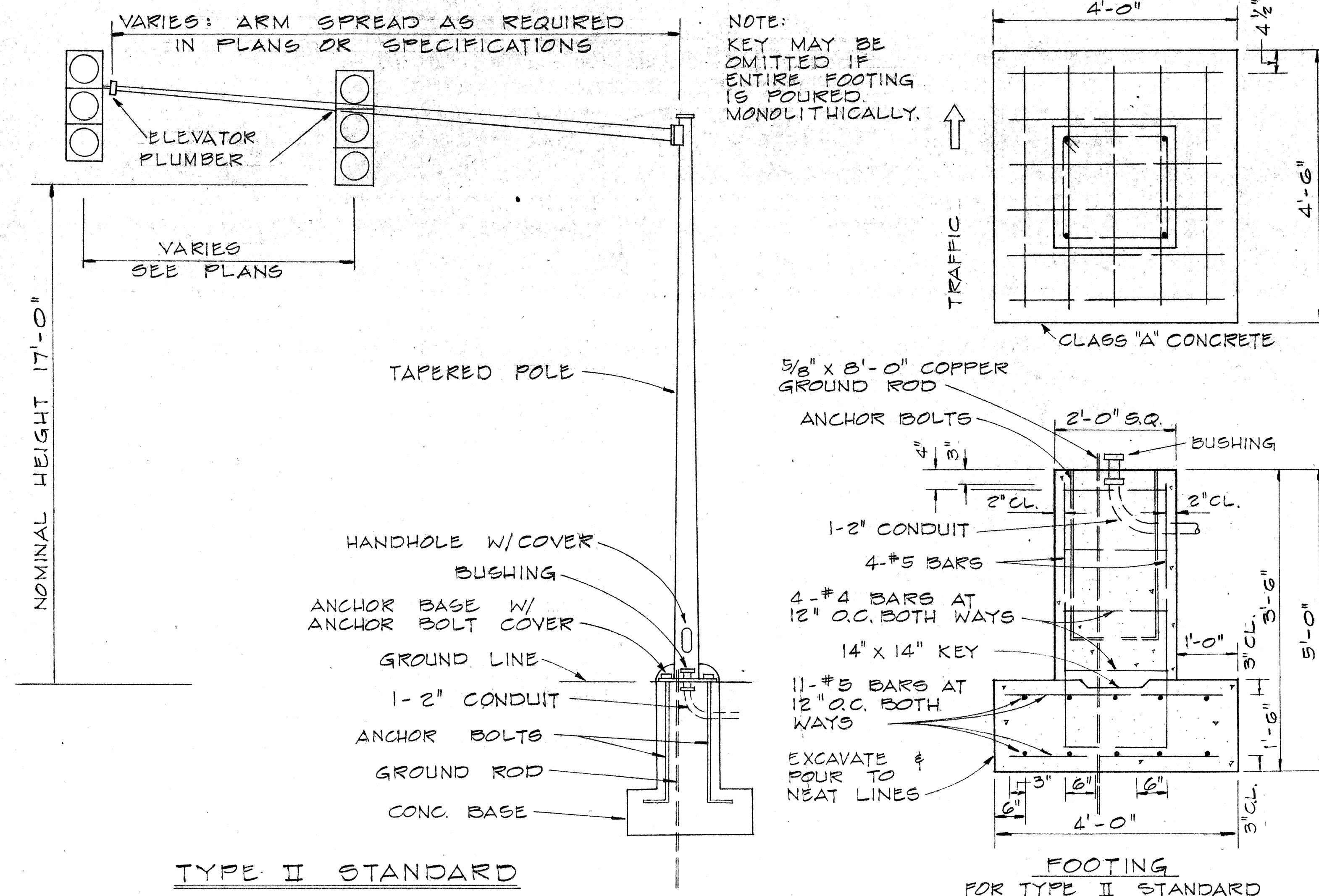
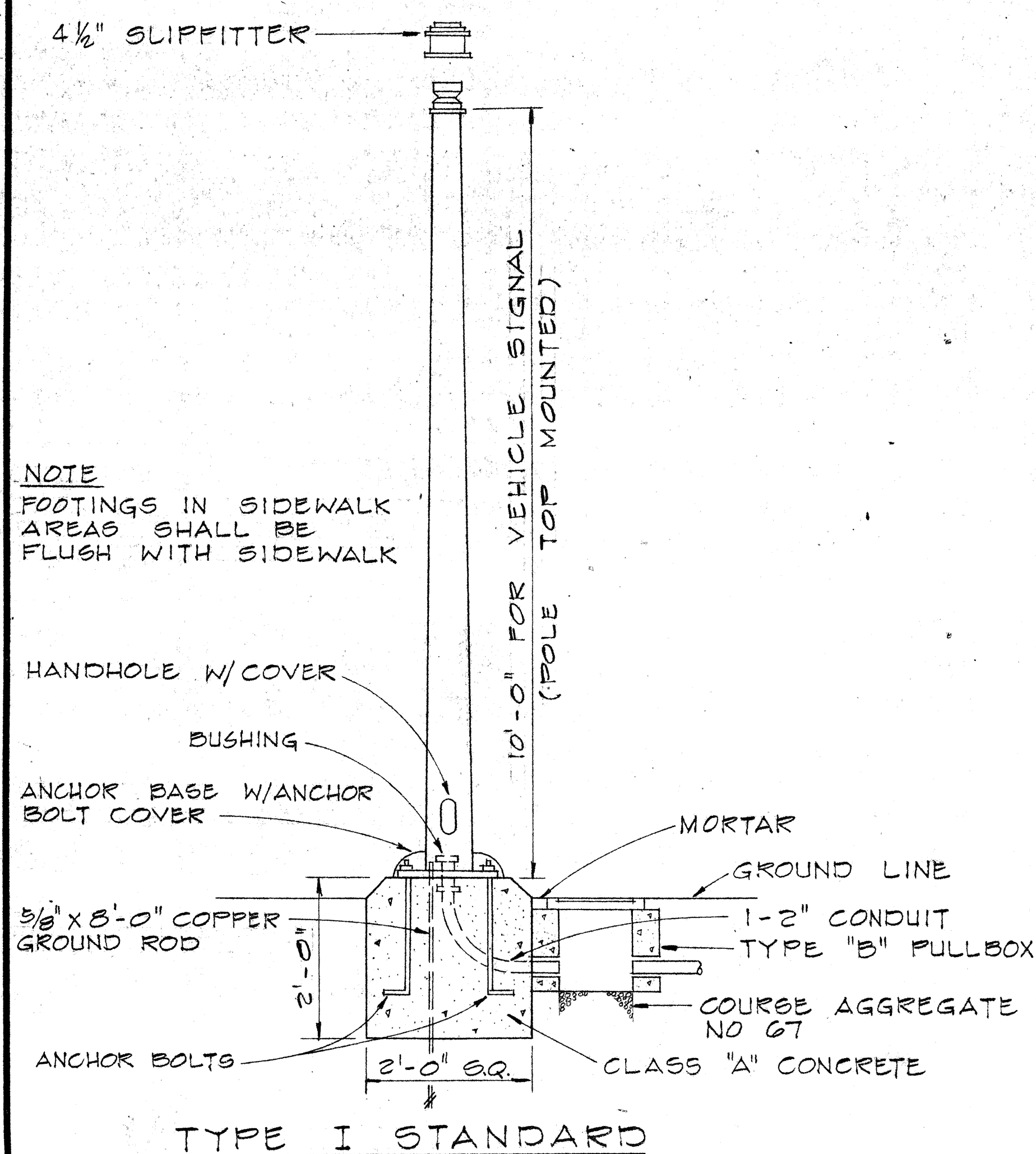
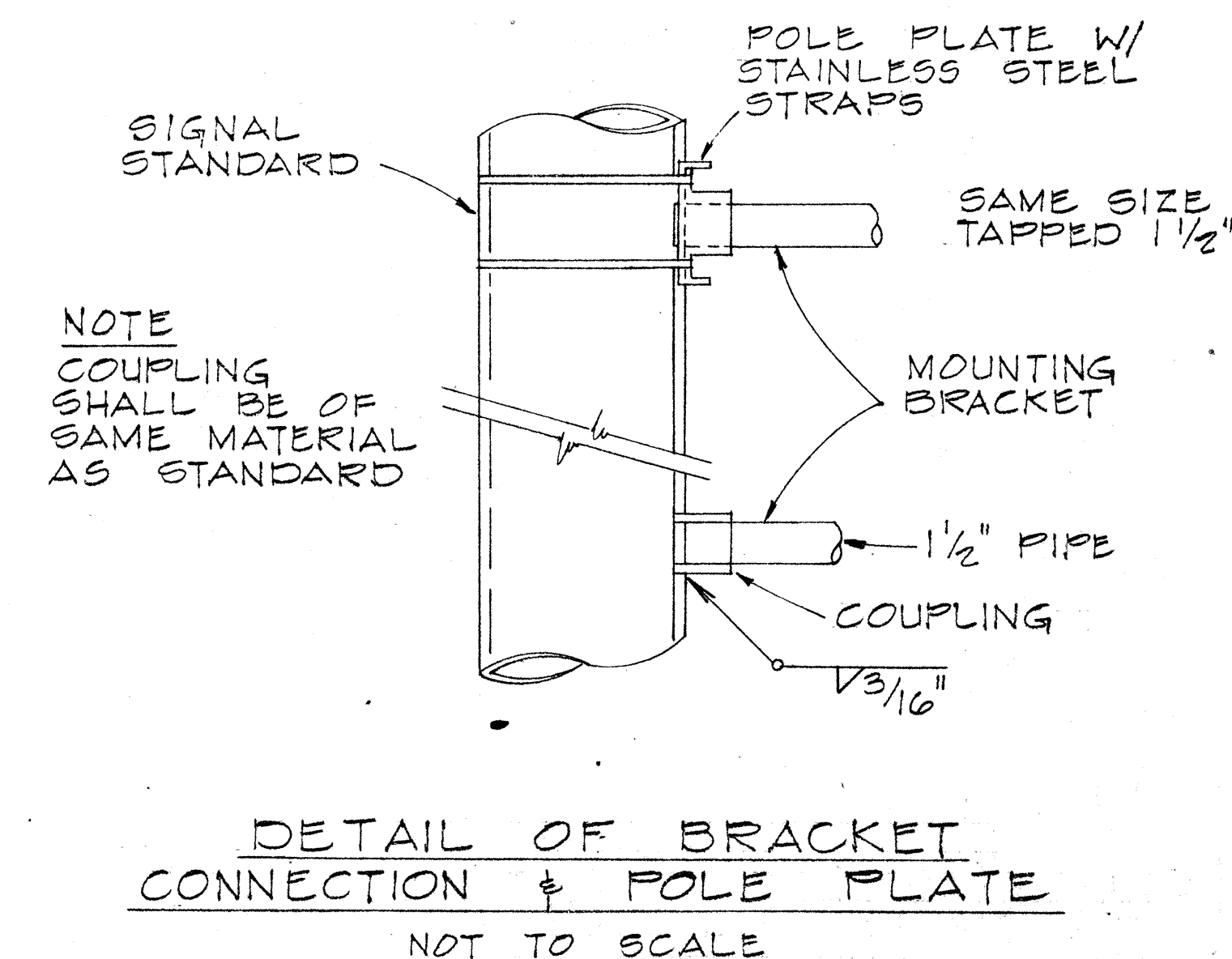
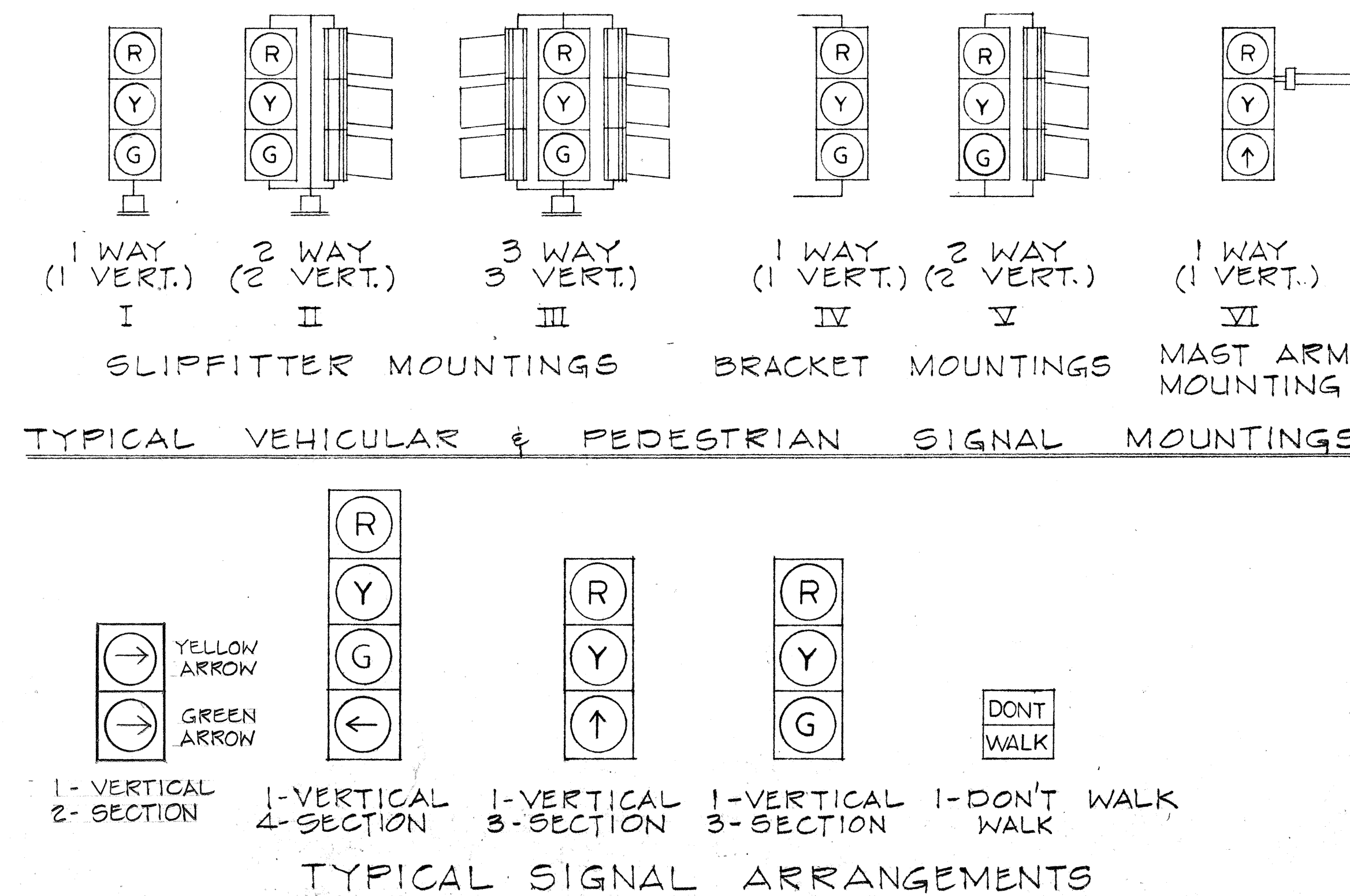
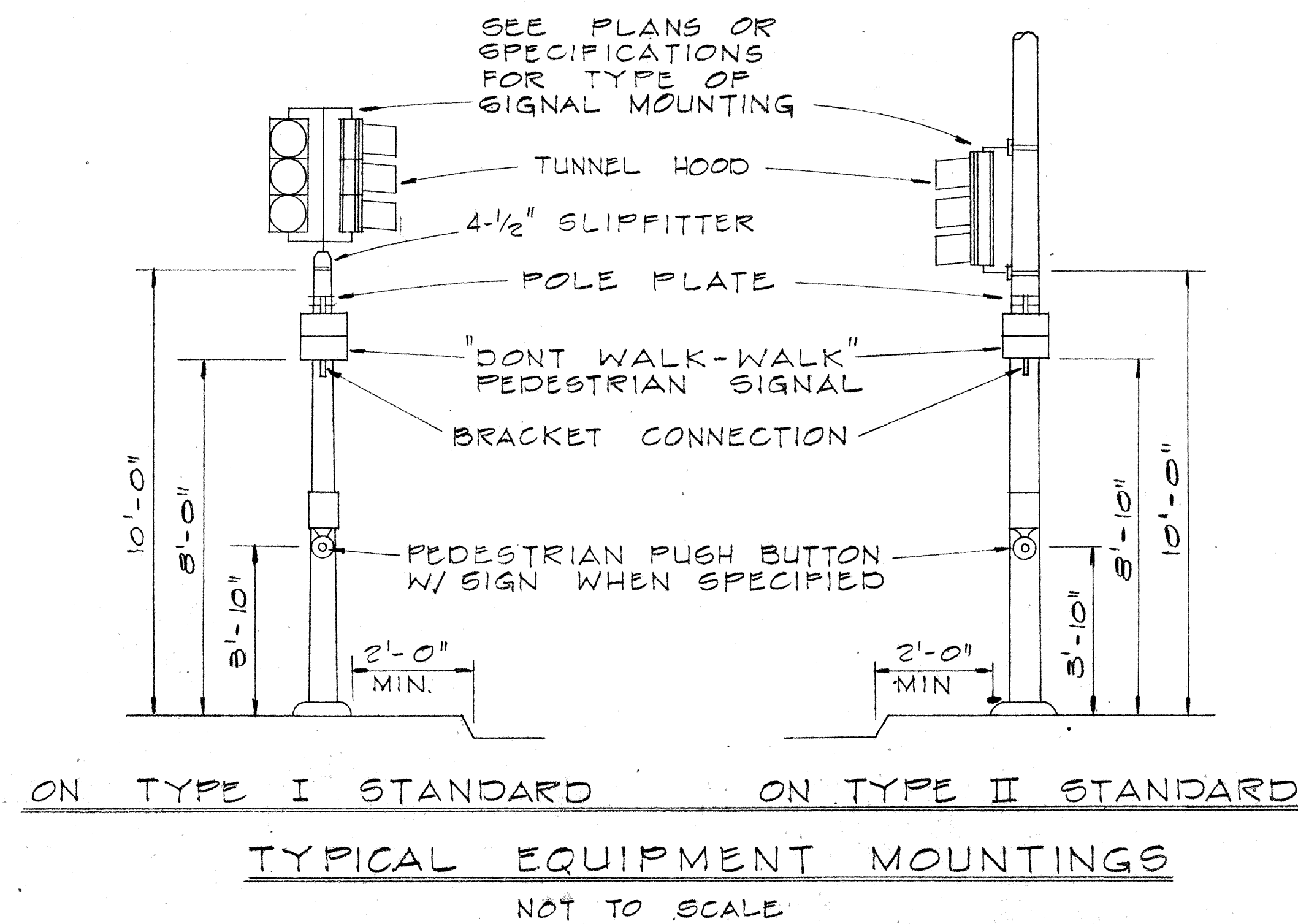
TYPICAL DETAILS OF PAVEMENT MARKINGS

PROJ. No. 72C-02-74

SCALE: AS SHOWN DATE: JAN. 1975

SHEET NO. 8 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	18	23



6/15/76	ADD 1-VERTICAL 2-SECTION TO TYPICAL SIGNAL ARRANGEMENTS
DATE	REVISION

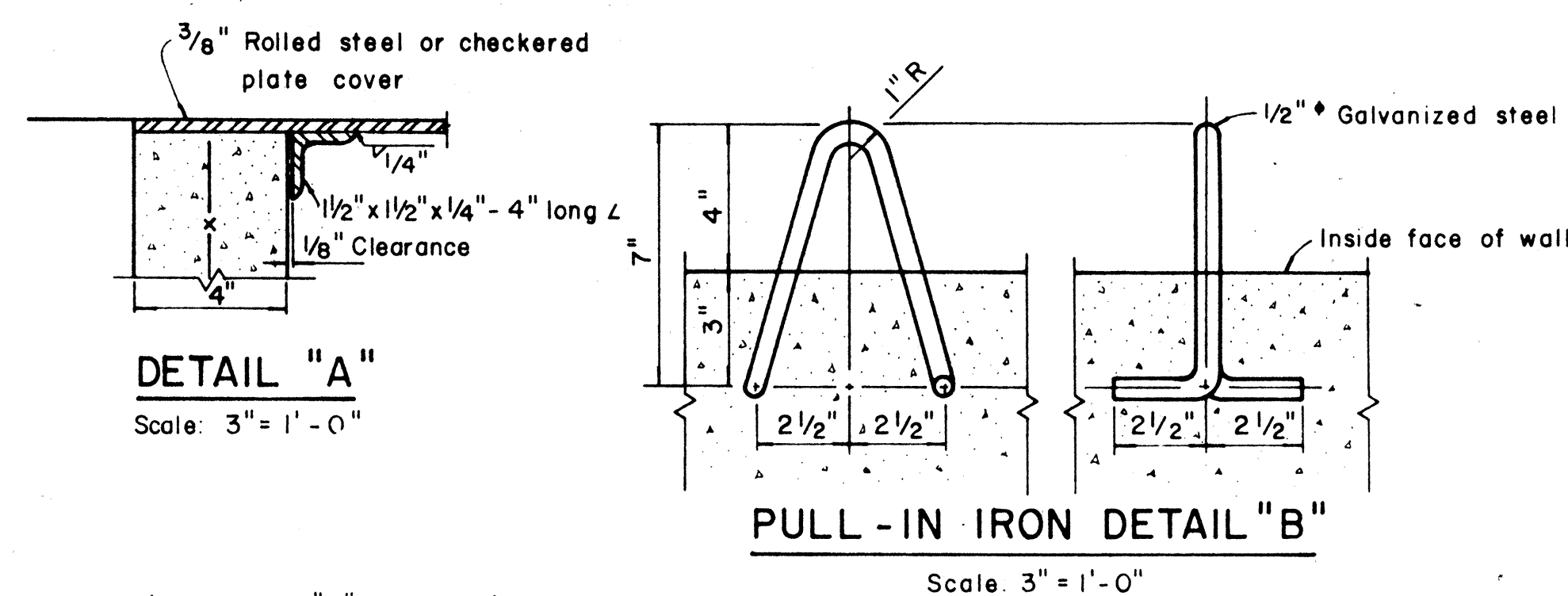
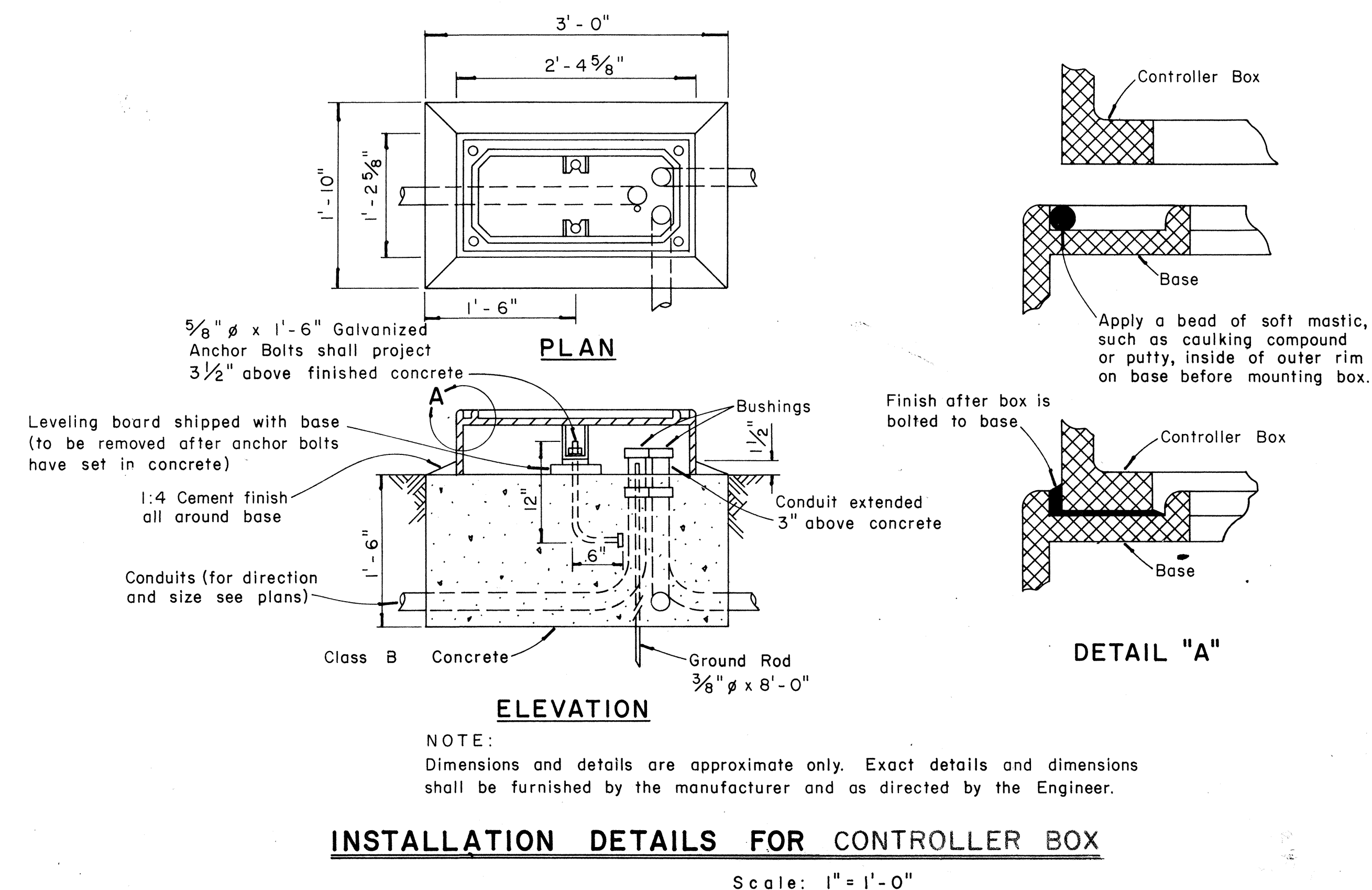
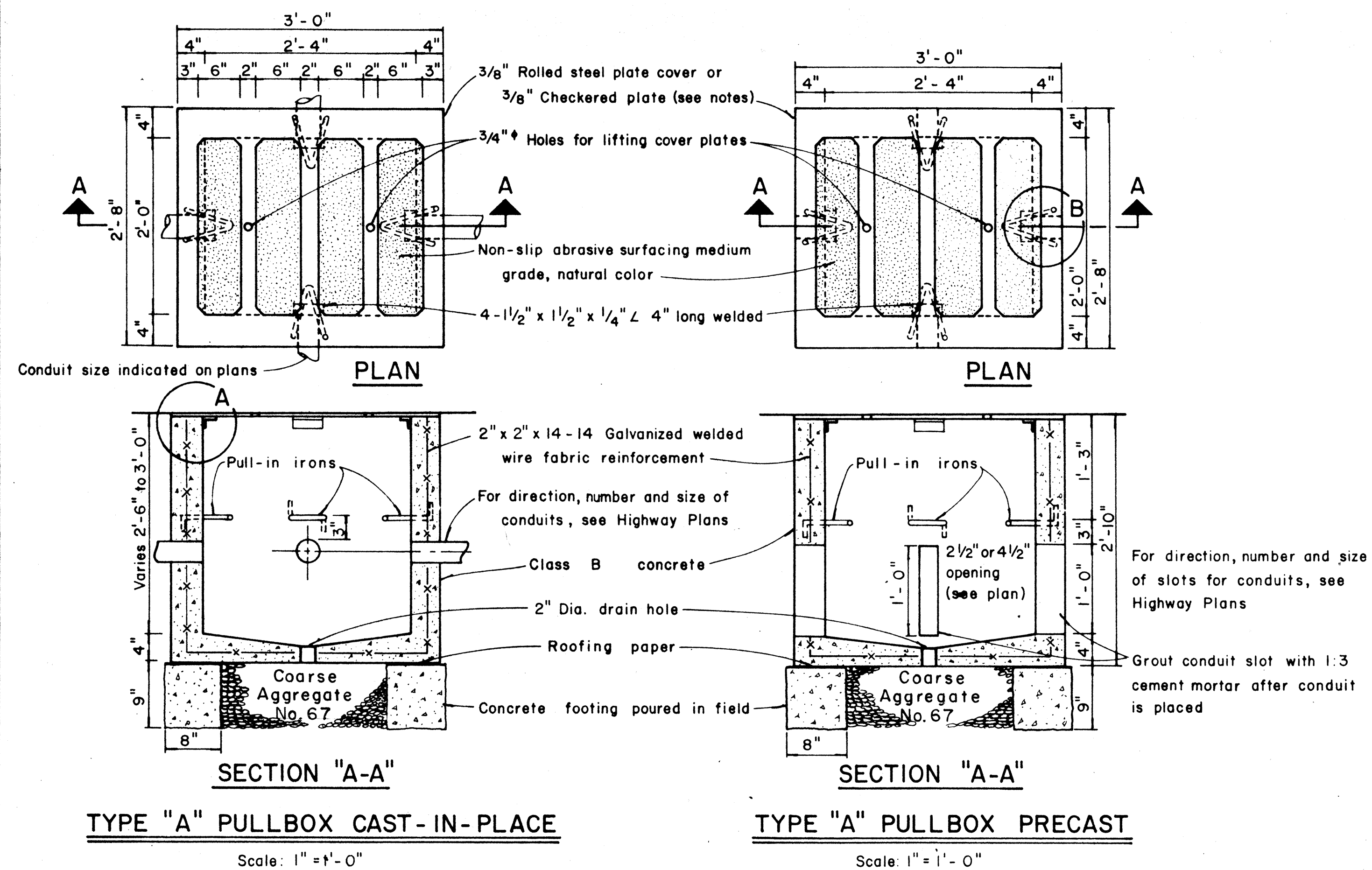
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL DETAILS & NOTES

PROJECT NO. 72C-02-74
SCALE: AS SHOWN DATE: JAN. 1975

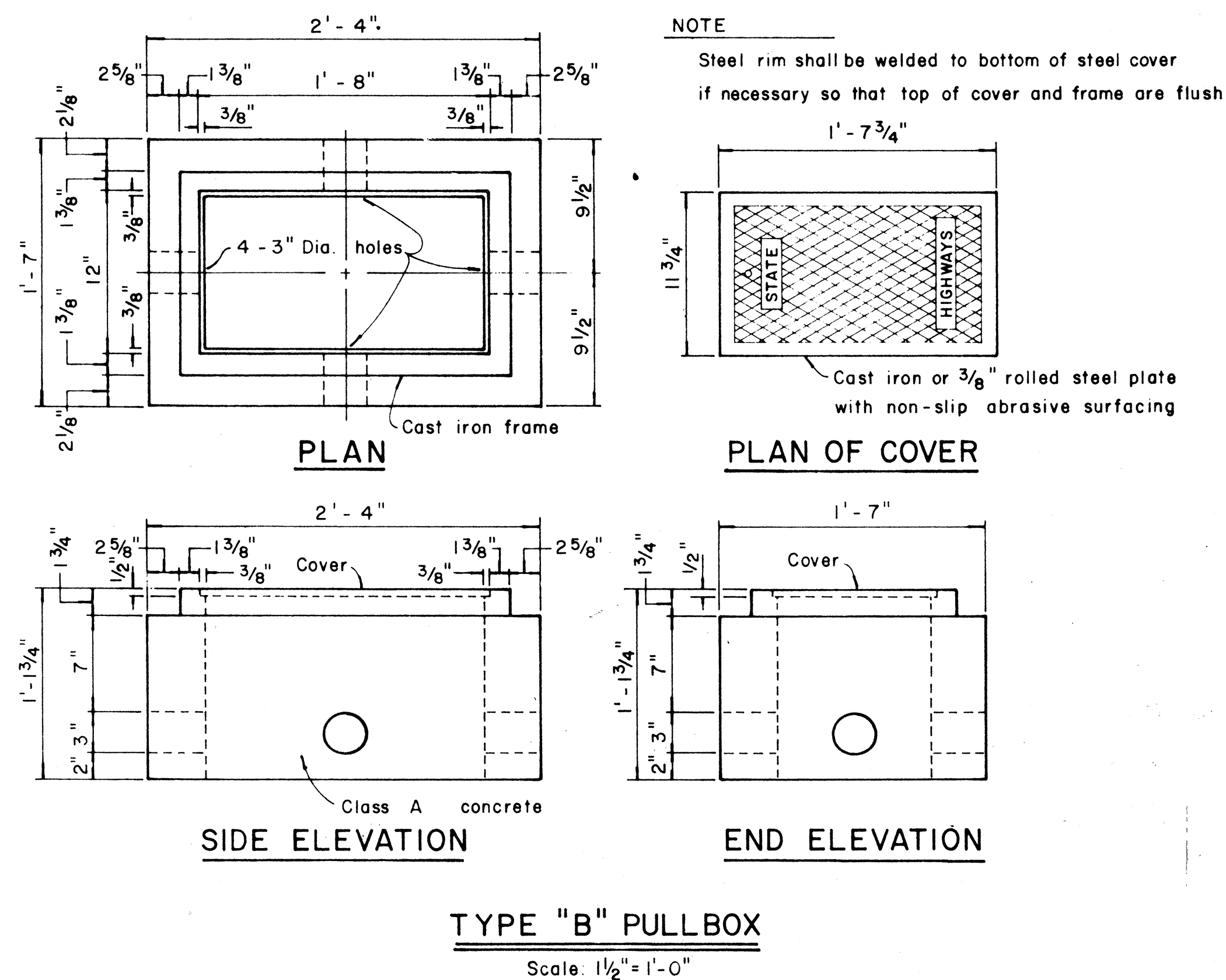
SHEET No. 9 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	19	23



- NOTES: (FOR TYPE "A" PULLBOX)

1. $\frac{3}{8}$ " Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
2. $\frac{3}{8}$ " Checkered plate cover shall be used on all pullboxes 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 pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
5. Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.



NOTE

Steel rim shall be welded to bottom of steel cover
if necessary so that top of cover and frame are flush

Cast iron or $\frac{3}{8}$ " rolled steel plate
with non-slip abrasive surfacing

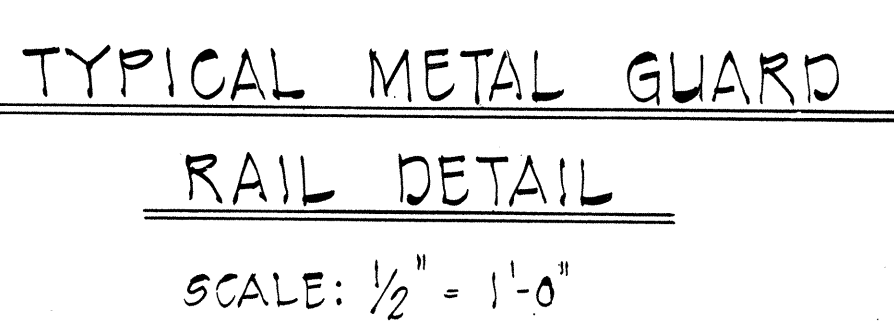
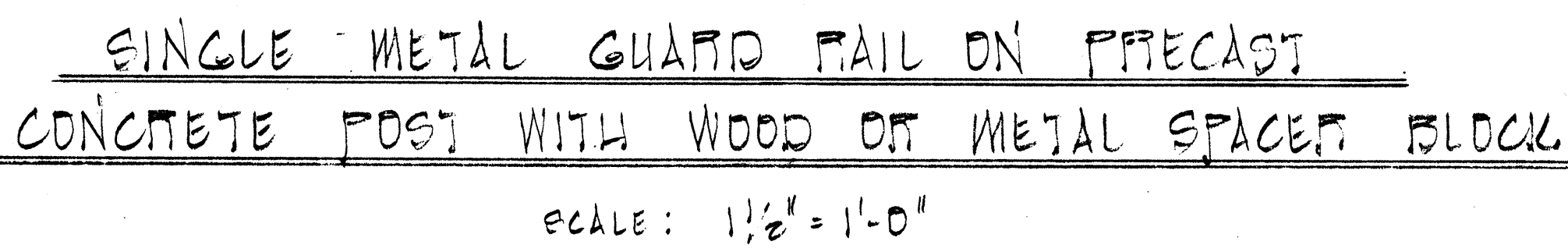
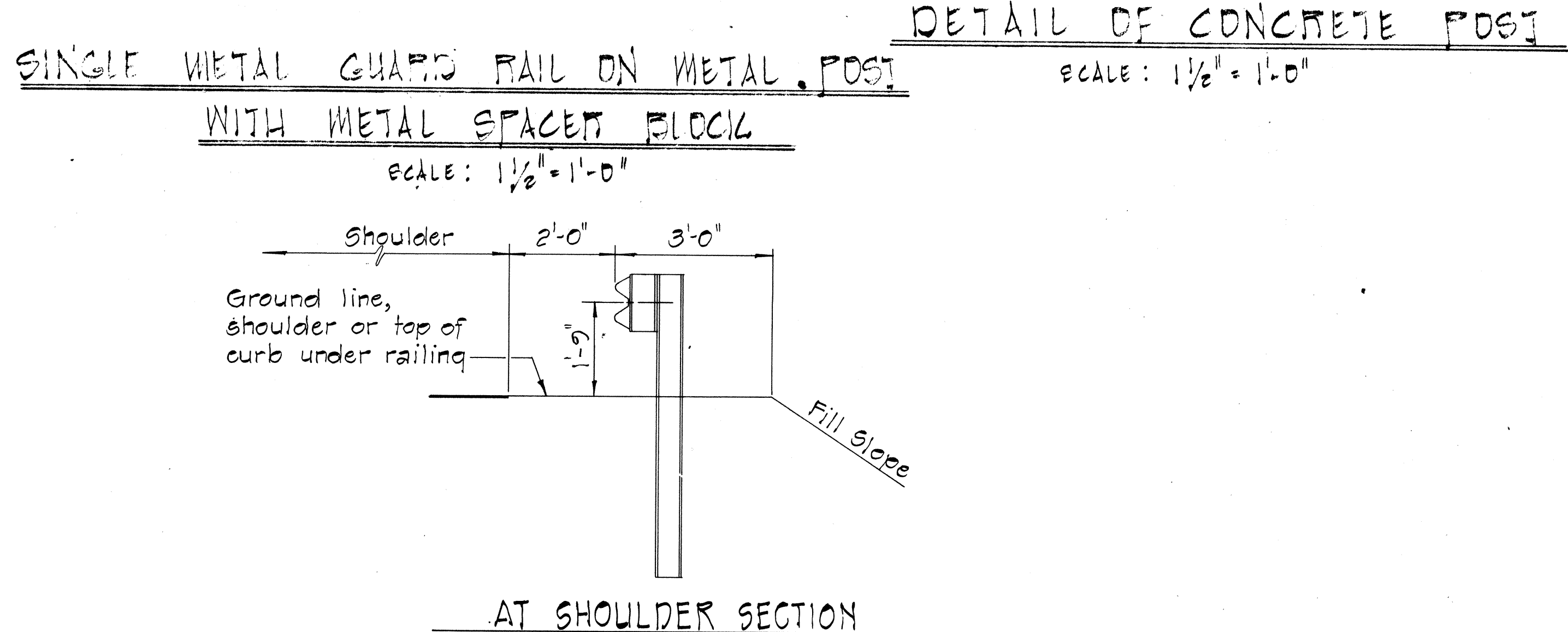
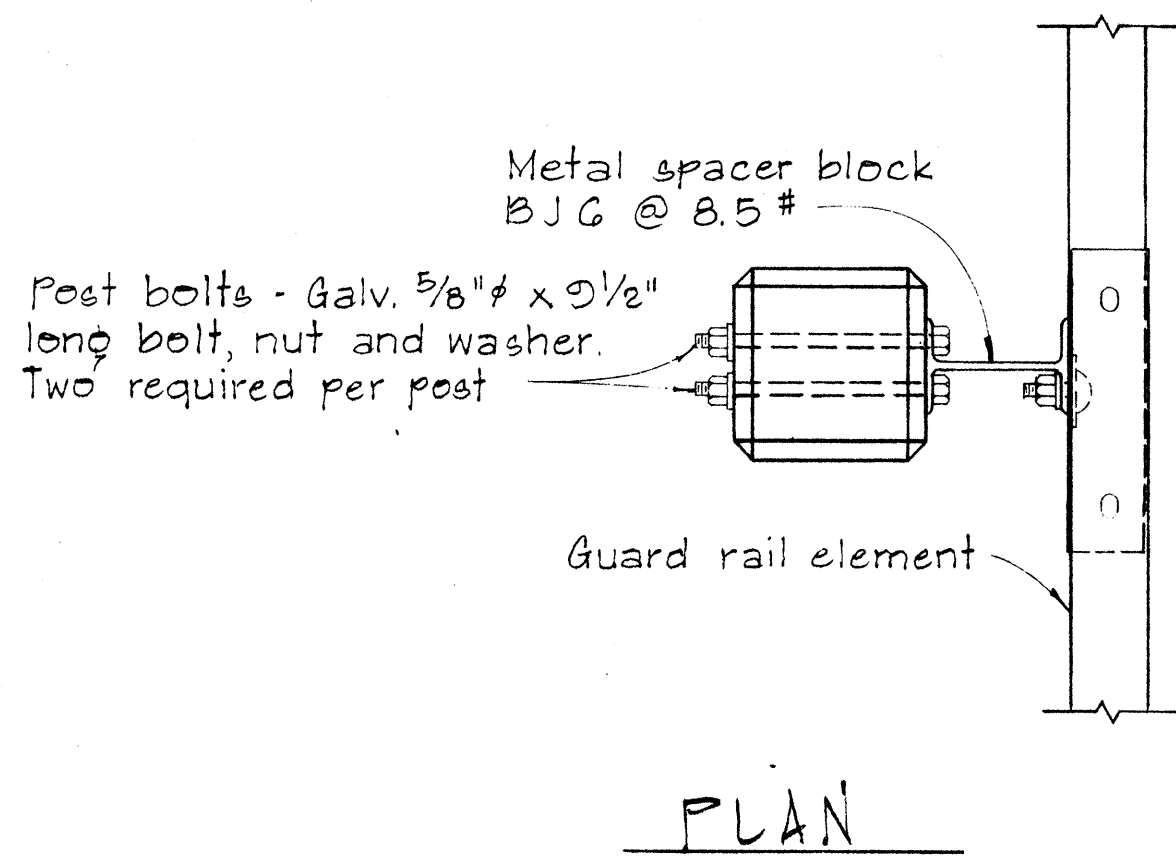
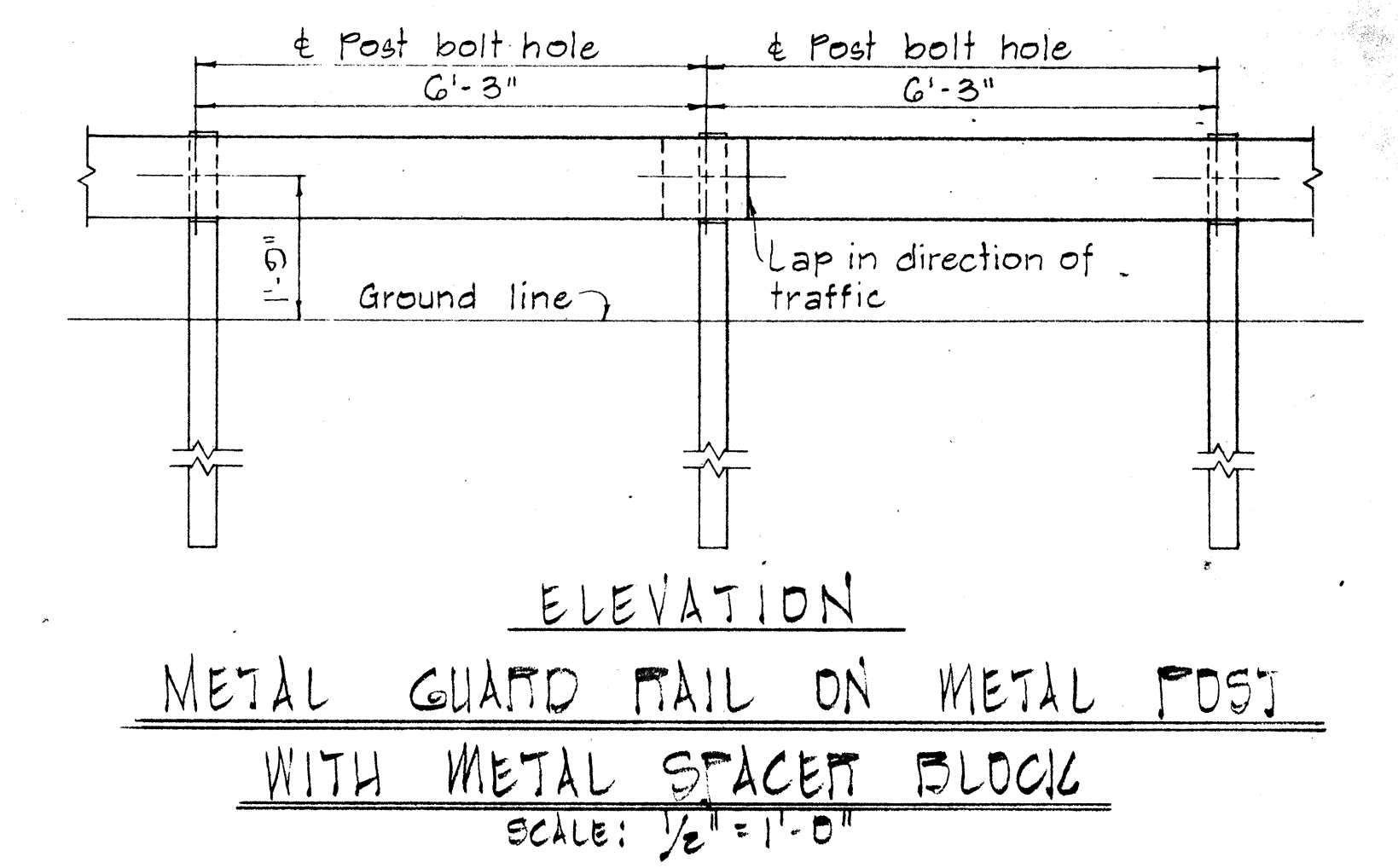
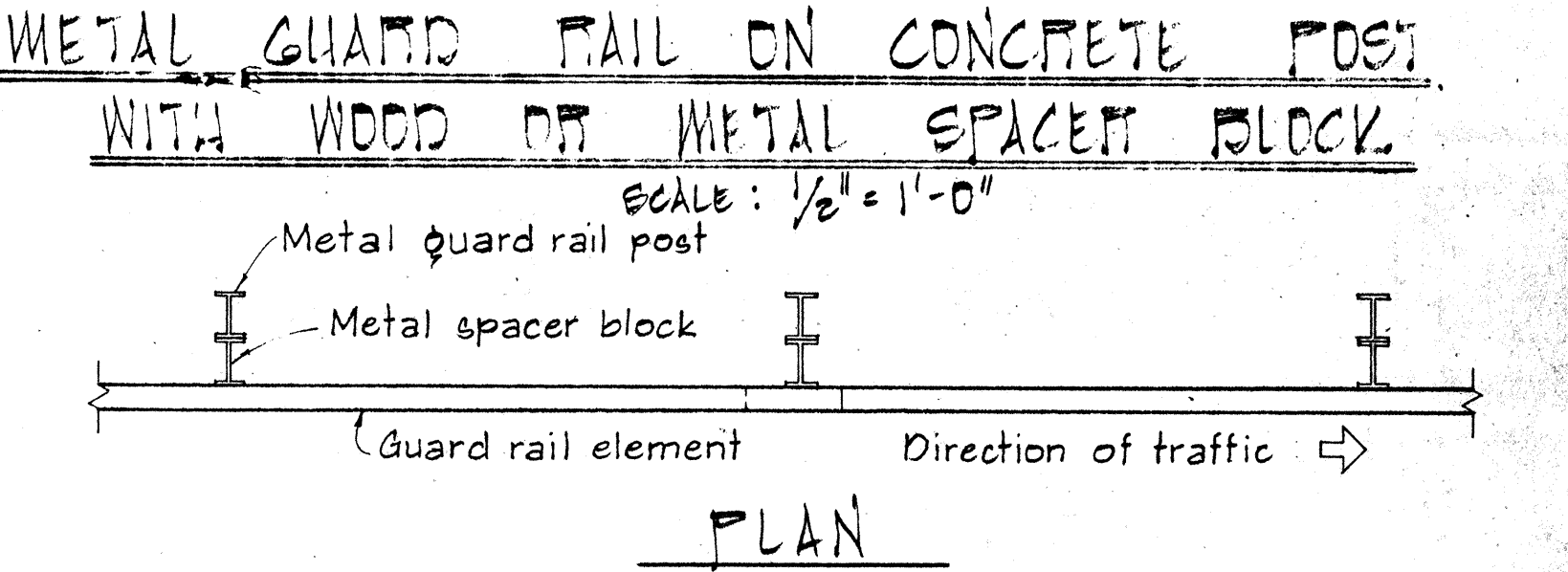
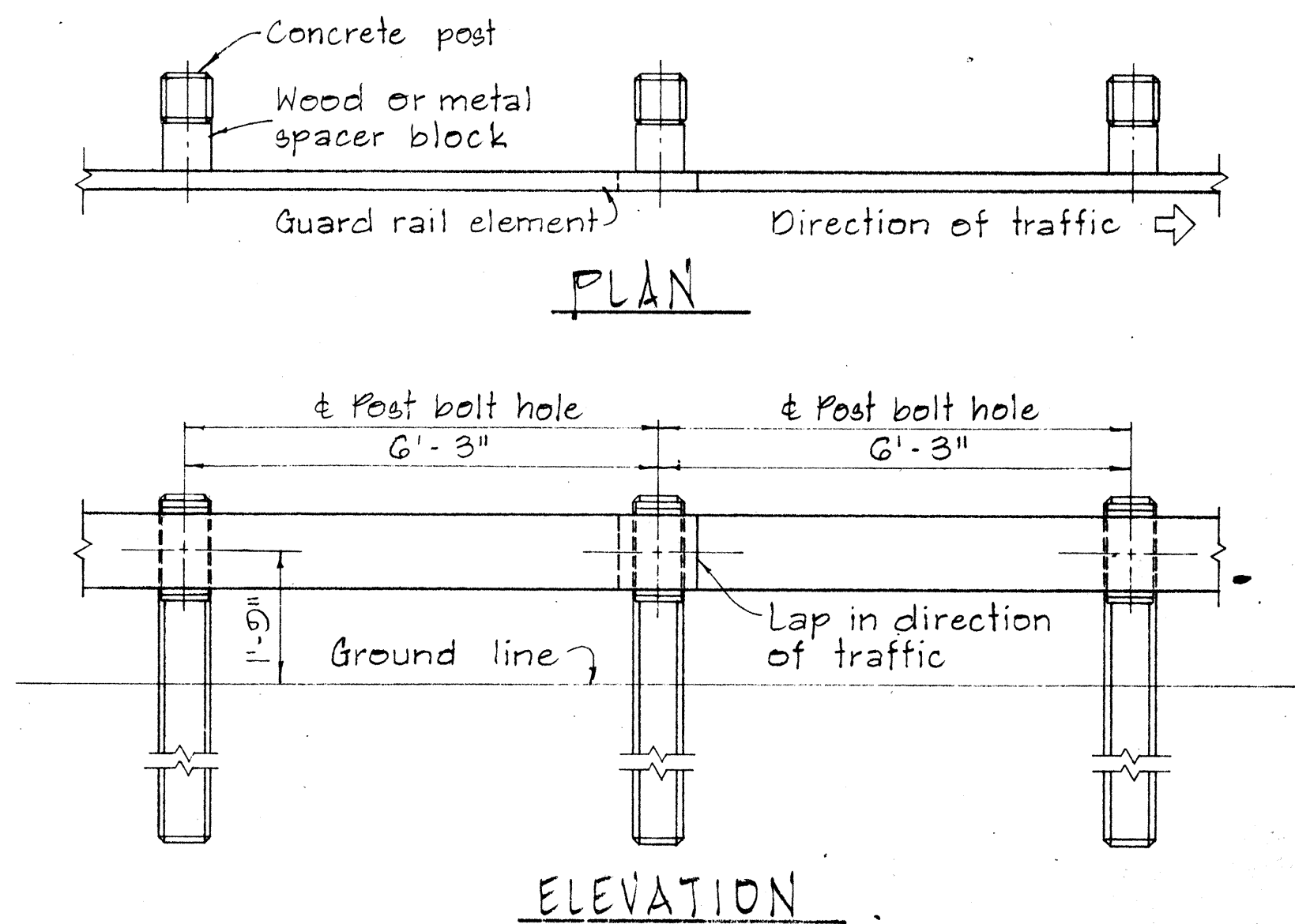
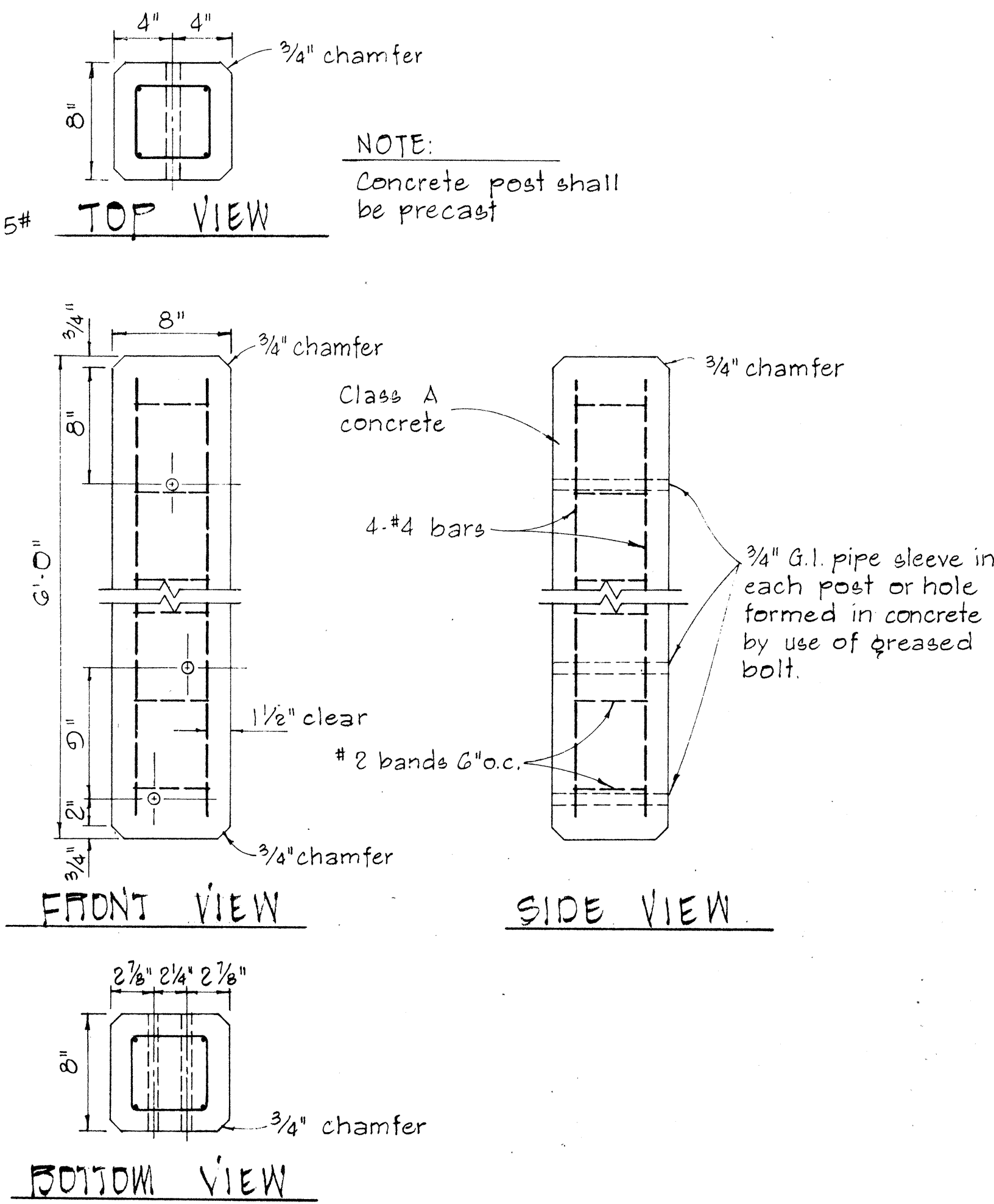
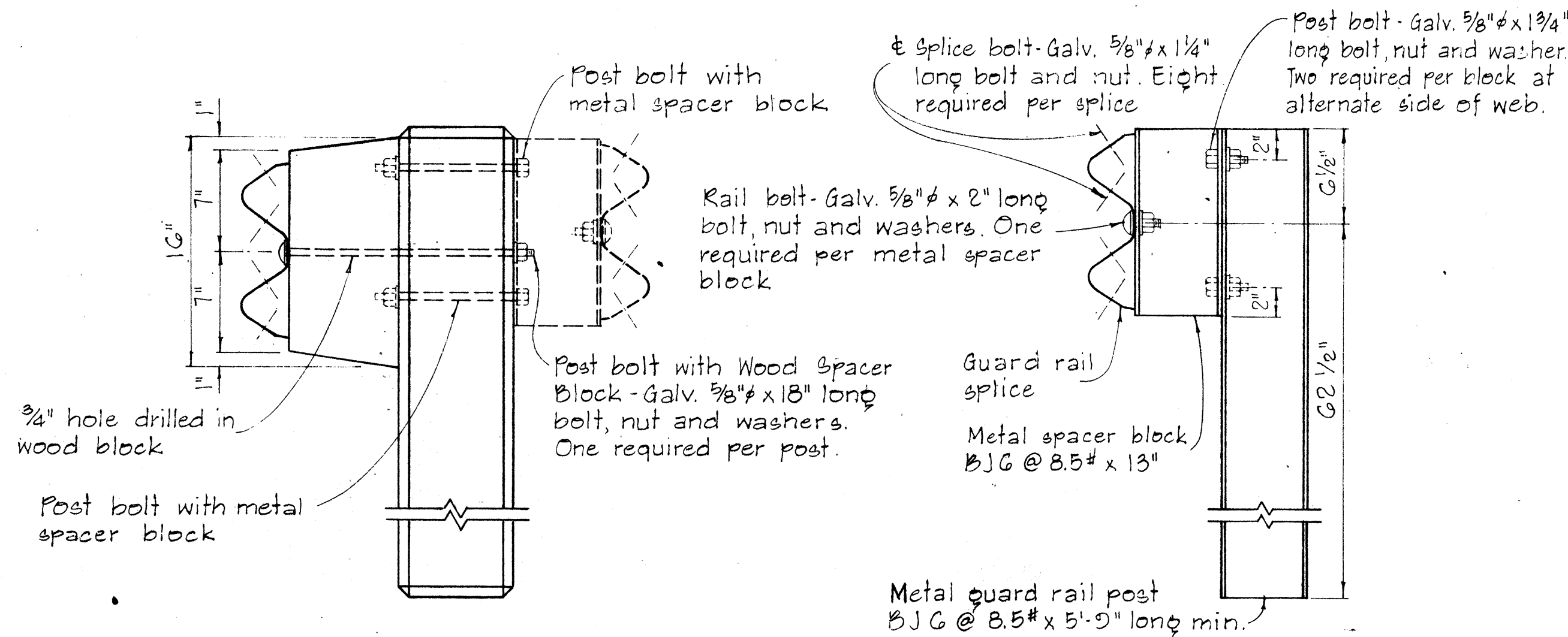
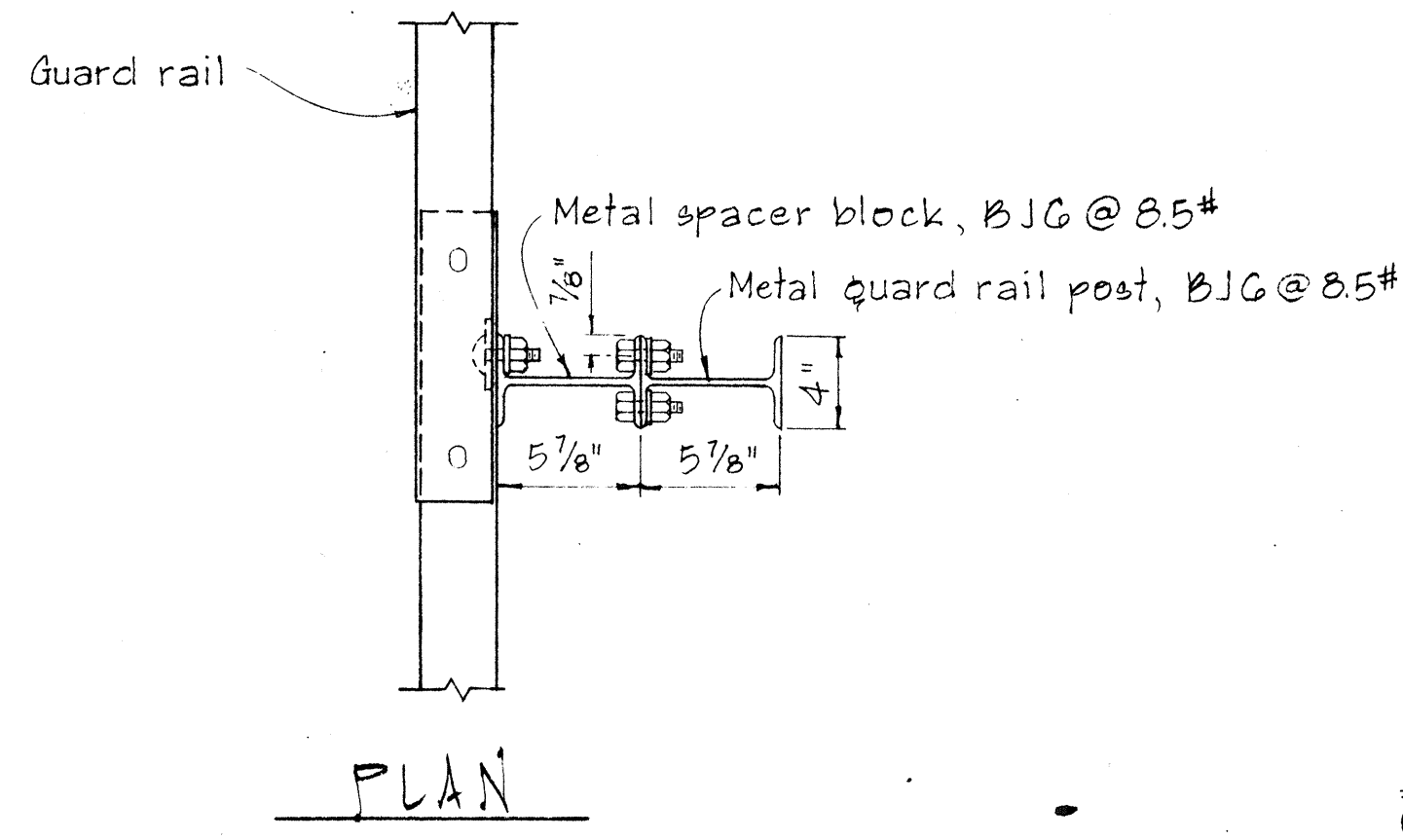
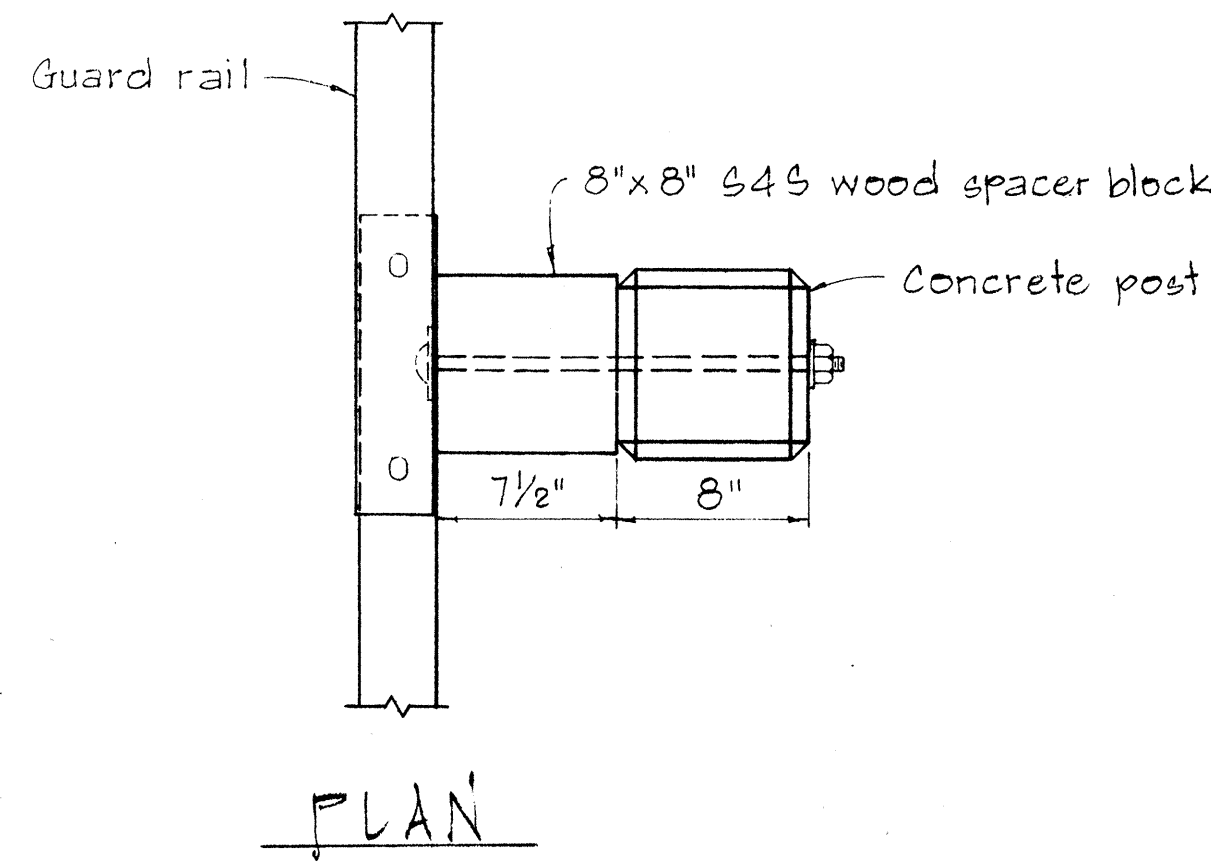
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
PULLBOXES &
CONTROLLER BOX

Scale as noted Date: JAN. 1975

SHEET No. 10 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	20	23



APPROVAL RECOMMENDED:
Erich Tanaka
 TRAFFIC ENGINEER
 DATE: 12/29/62

APPROVED:
Richard J. Schuler
 ASSISTANT CHIEF, ENGINEERING
 DATE: 12-30-69

NO.	REVISION	APPROVED BY	DATE

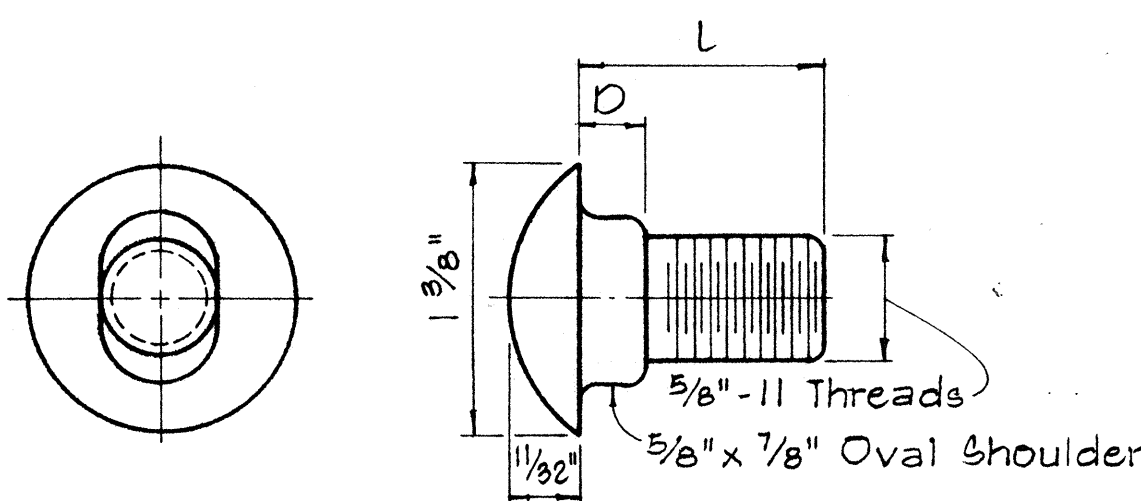
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
 METAL GUARD RAIL

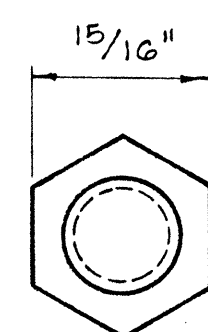
SCALE: AS SHOWN NOV. 1968

BOLT DIMENSIONS		
TYPE A BOLT		
	D	L
Splice Bolt	5/16"	1 1/4"
Post Bolt for Conc. Post w/ Double Wood Blocks	3/32"	24"
Post Bolt for Conc. Post w/ Single Wood Block	3/32"	18"
Rail Bolt for Metal Block	3/32"	2"

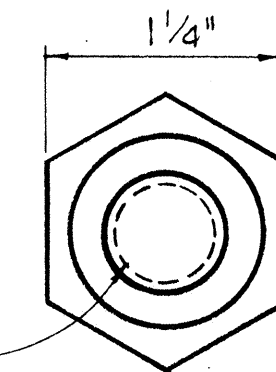
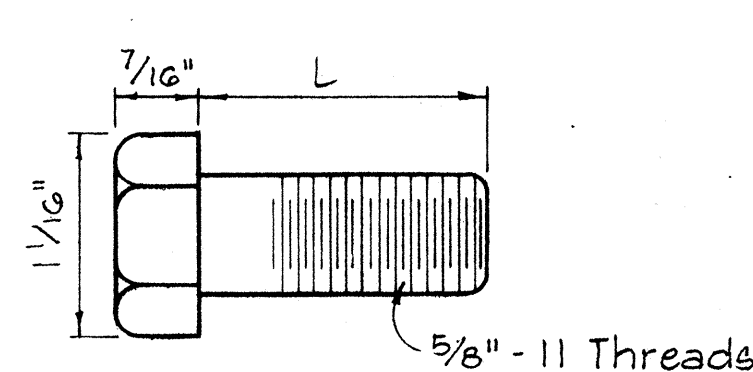
BOLT DIMENSIONS	
TYPE B BOLT	
	L
Post Bolt for Conc. Post w/ Metal Blocks	2 1/2"
Post Bolt for Metal Post w/ Metal Block	1 3/4"



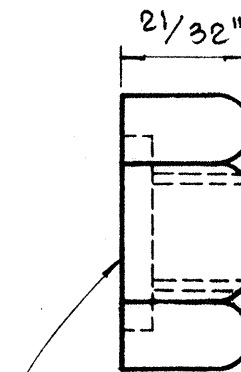
TYPE A BOLT



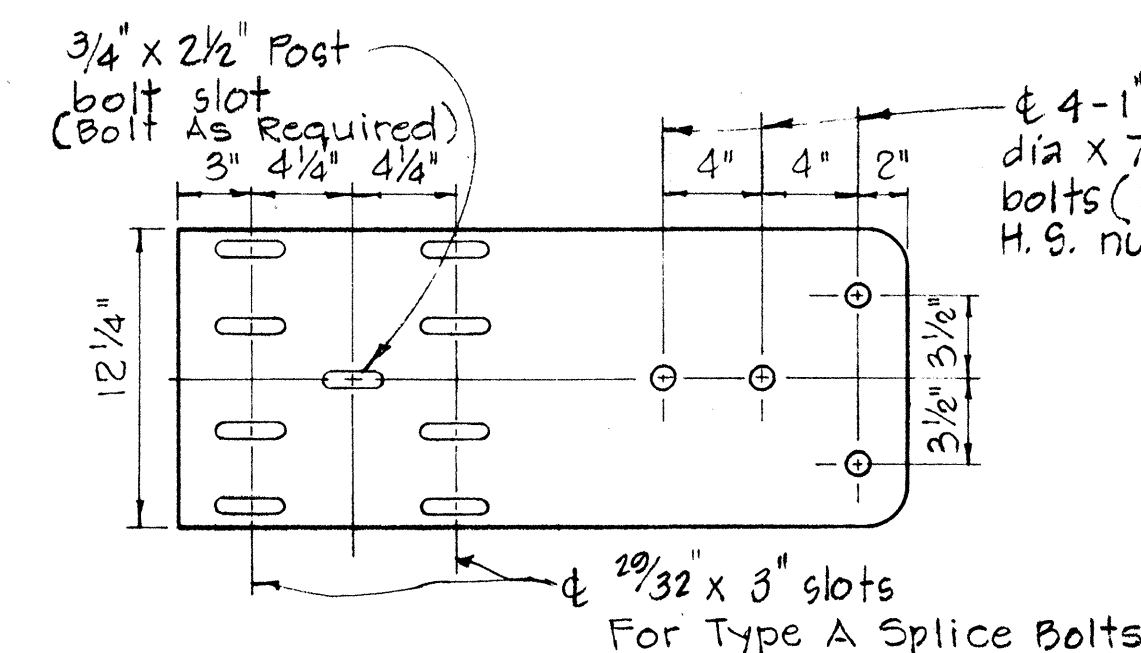
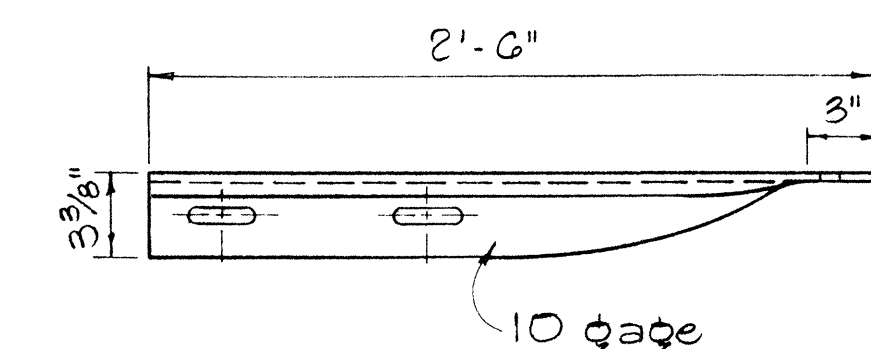
TYPE B BOLT



HEXAGON NUT

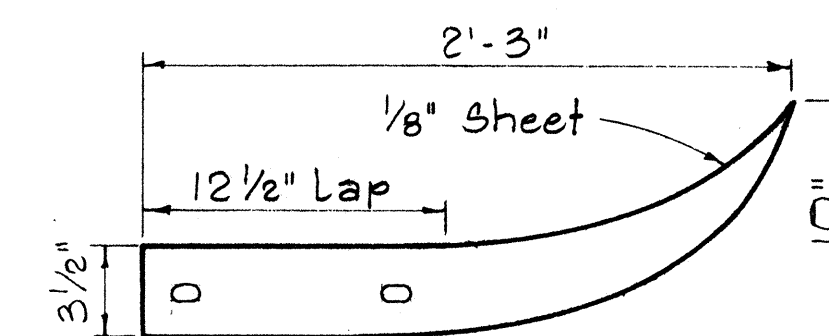


Scale: Full Size



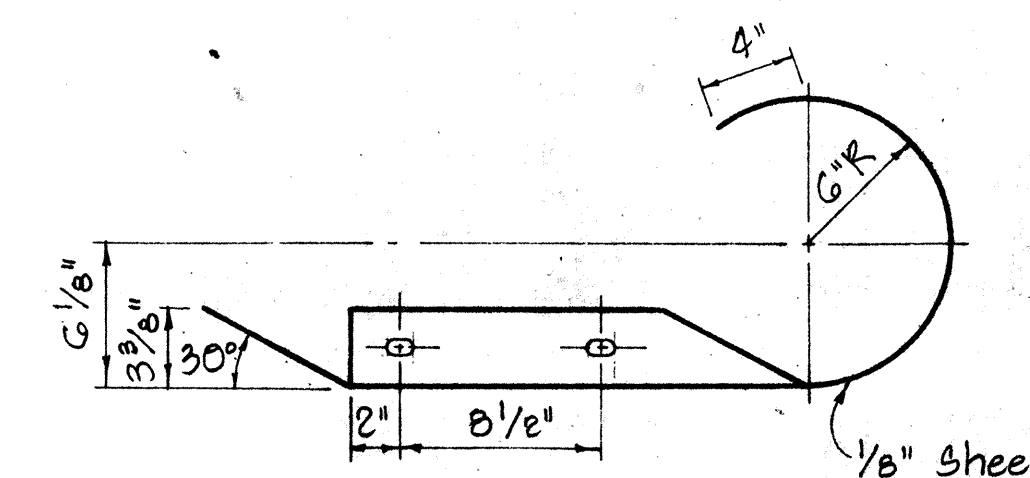
SPECIAL END SHOE

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



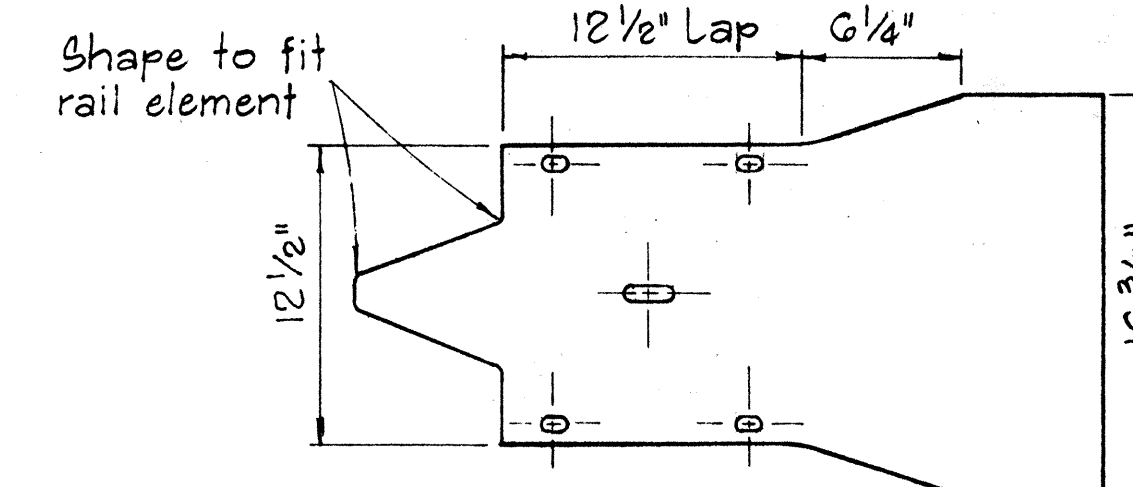
FLARED END

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



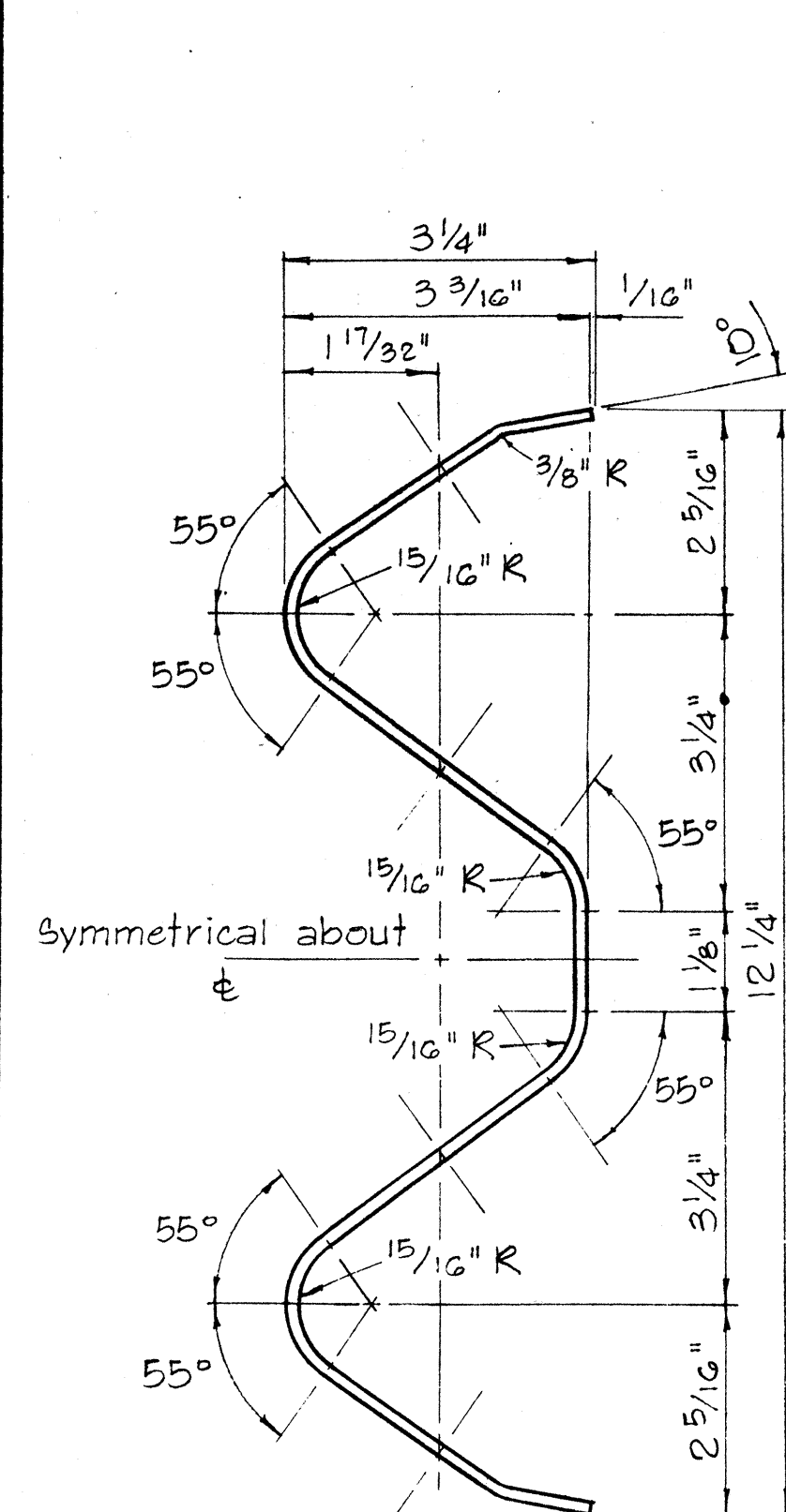
CURVED END

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



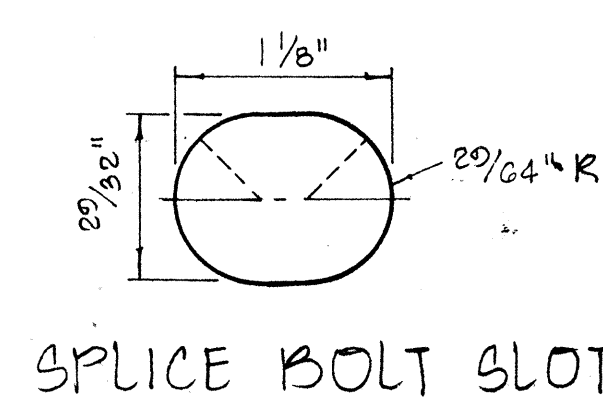
MEDIAN END

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



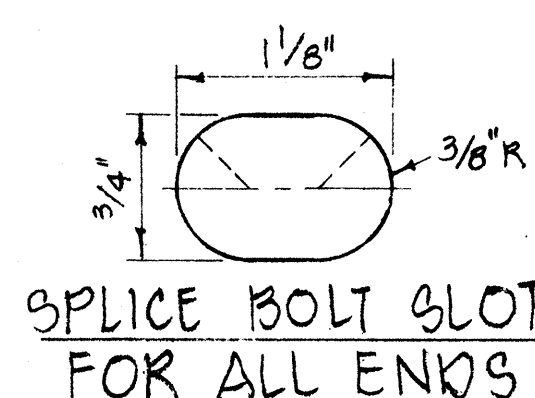
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

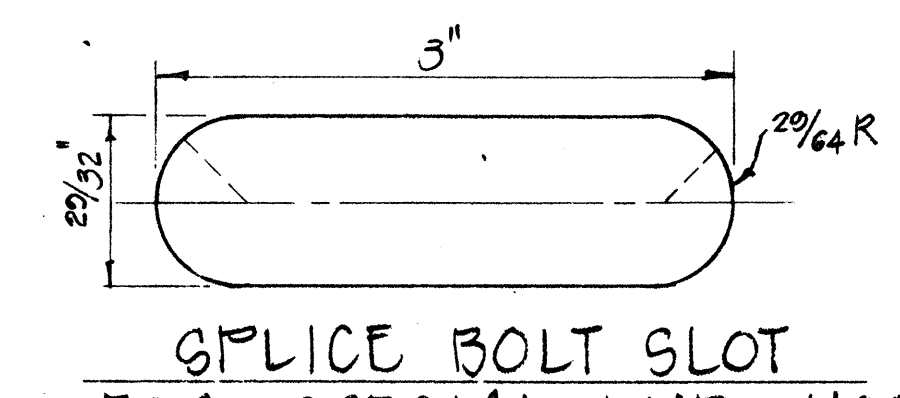


SPlice BOLT SLOT

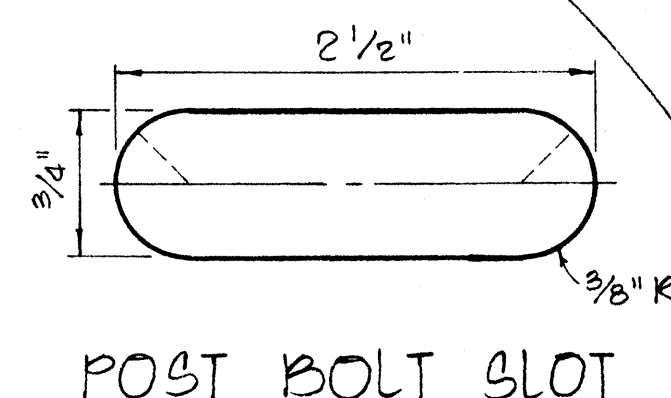
Scale: Full Size



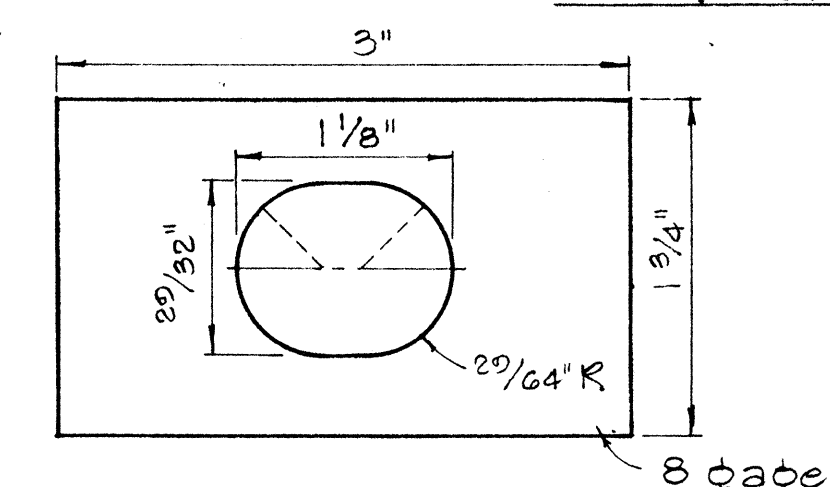
SPlice BOLT SLOT FOR ALL ENDS



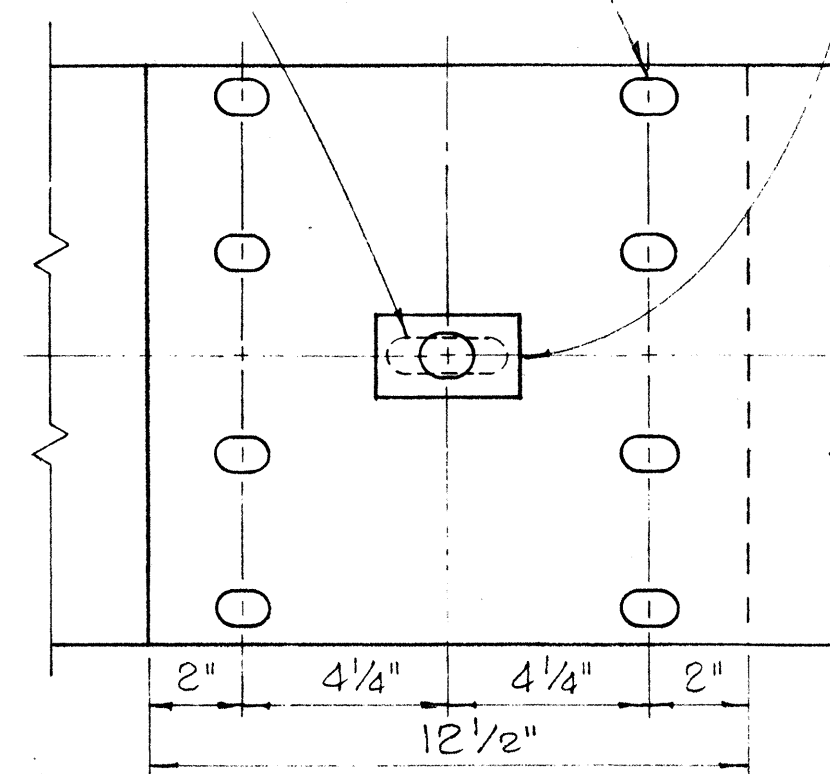
SPlice BOLT SLOT FOR SPECIAL END SHOE



POST BOLT SLOT



RAIL WASHER



RAIL SPLICE

Scale: 3" = 1'-0"

NOTES:

1. H.S. Bolts shall conform to the requirements of ASTM A 325.
2. Special End Shoe shall be fabricated from 10 Gage steel conforming to the requirements of AASHO 180.

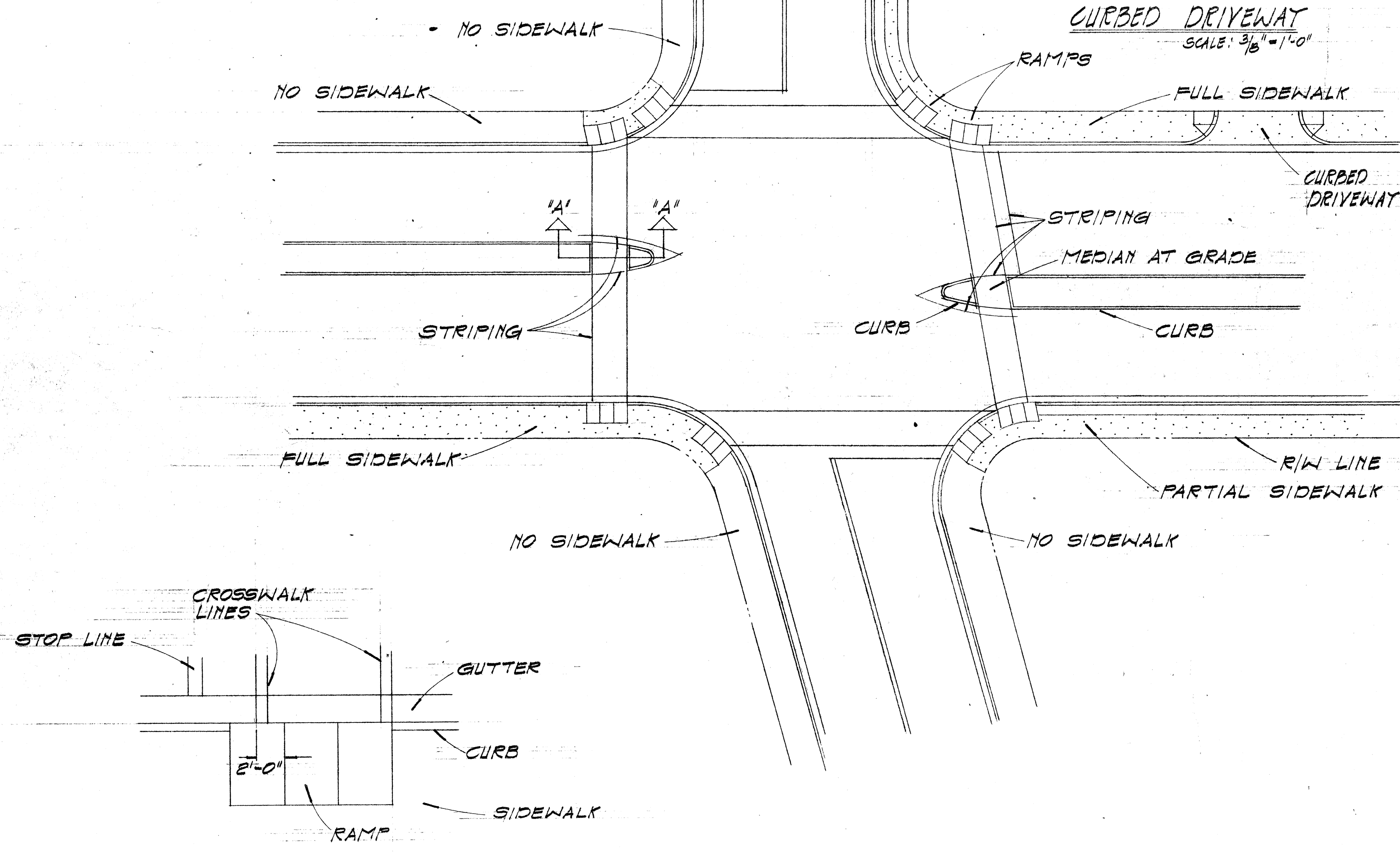
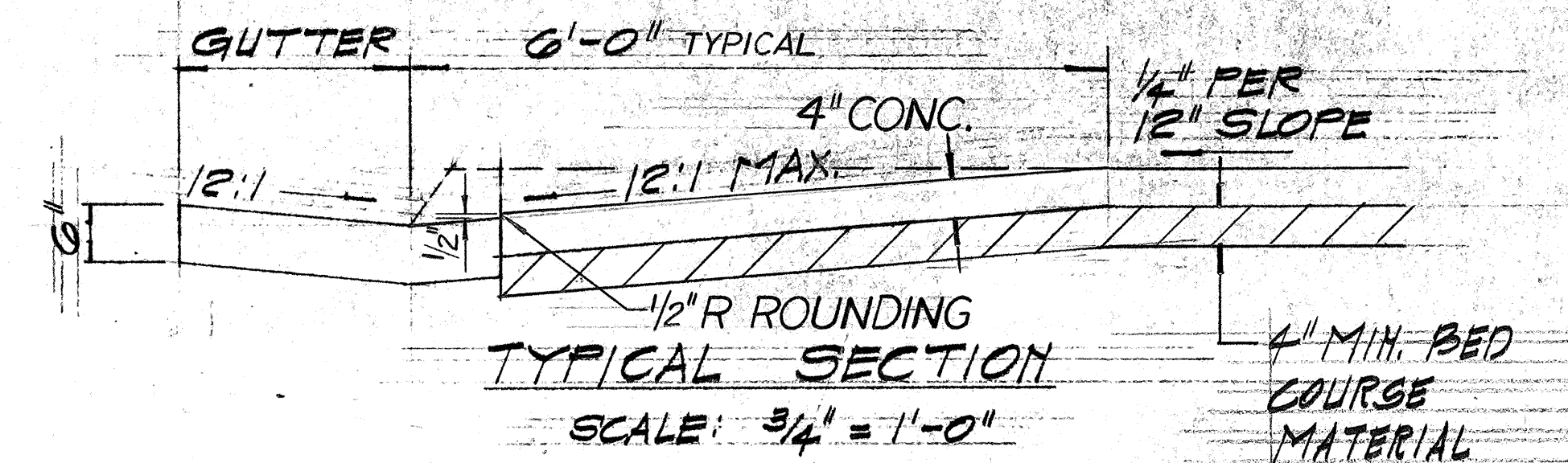
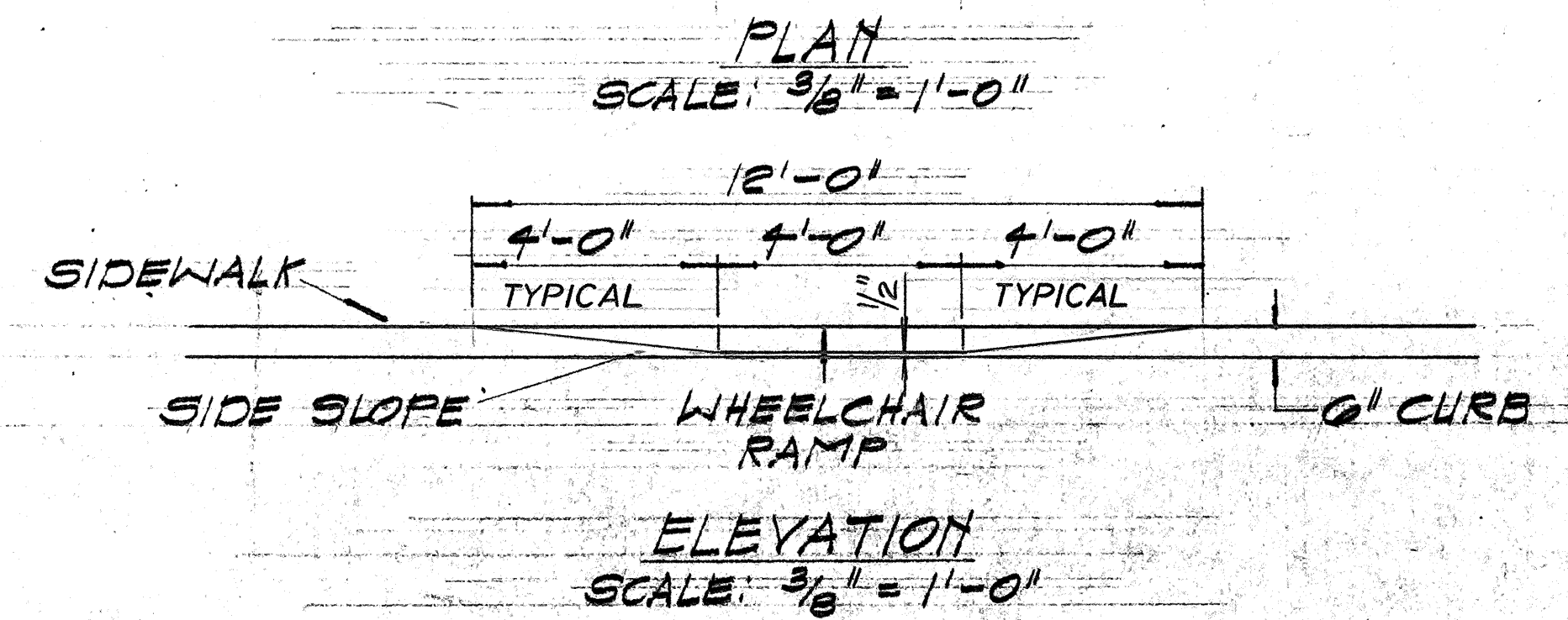
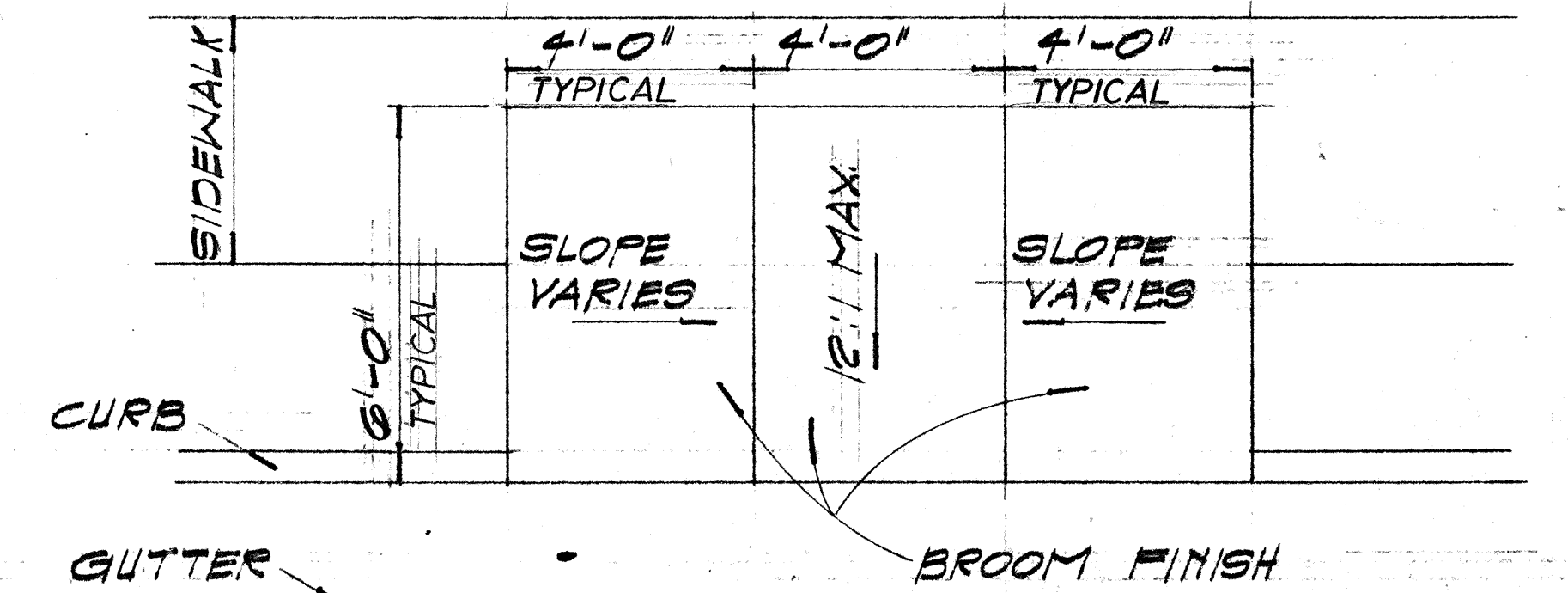
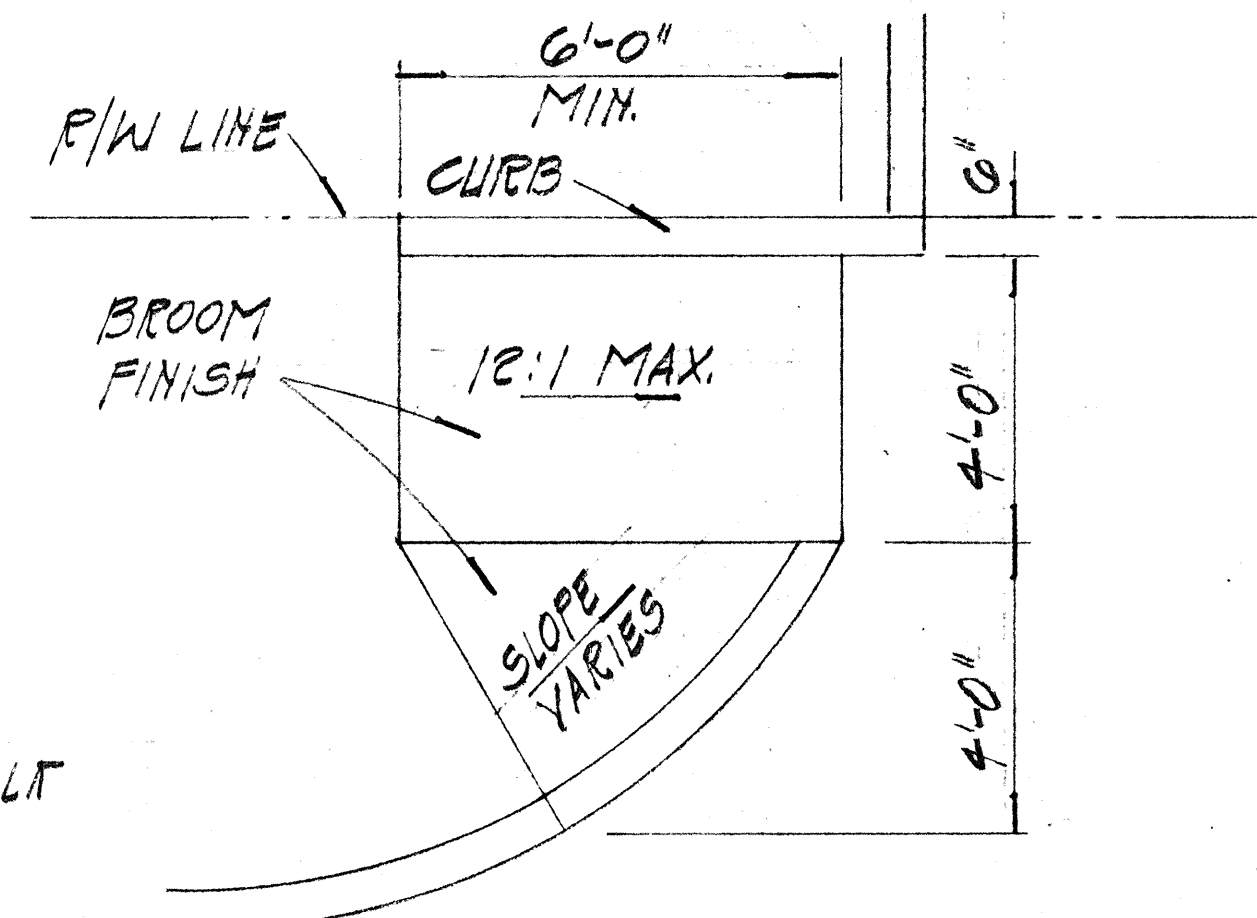
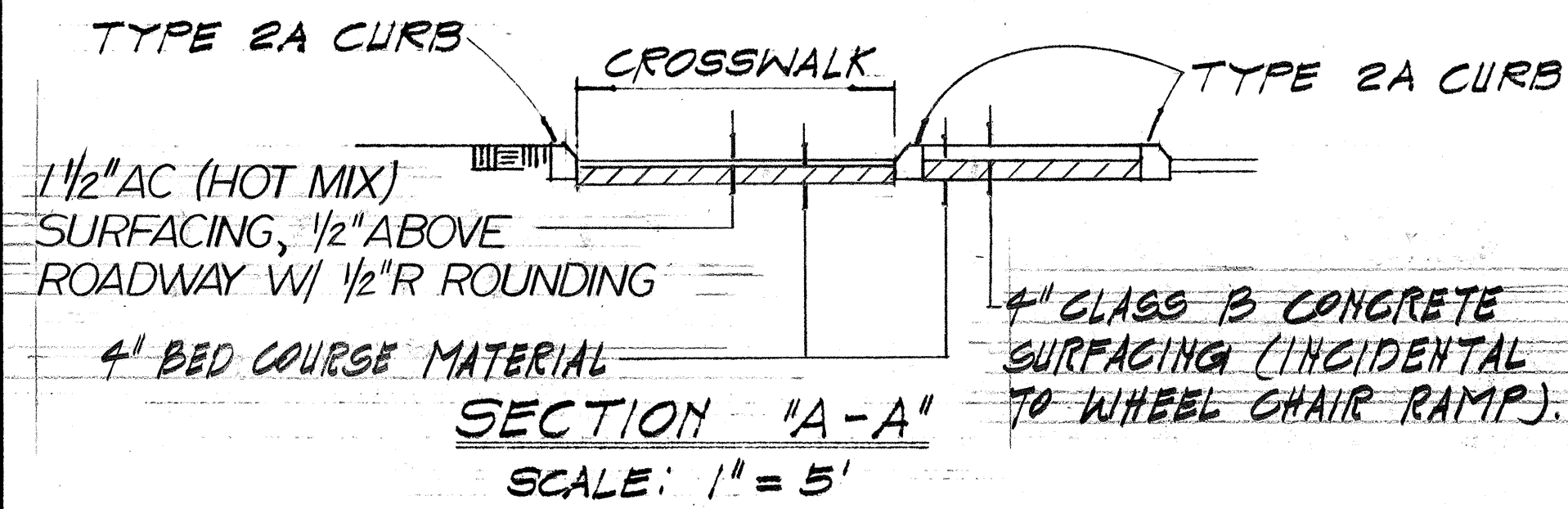
MEDIAN END DIMENSIONS		
TYPE OF POST AND BLOCK	W	R
Double Metal Guard Rail on Concrete Post with Wood Blocks	29 3/4"	14 3/8"
Double Metal Guard Rail on Concrete Post with Metal Blocks (BJG)	26 1/2"	13 1/4"
Double Metal Guard Rail on Metal Post with Metal Blocks (BJG)	24 3/8"	12 3/16"

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
APPROVED:
ASSISTANT CHIEF, ENGINEERING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
METAL GUARD RAIL
Scale: As Noted August, 1968
SHEET No. 12 OF 14 SHEETS DT 501

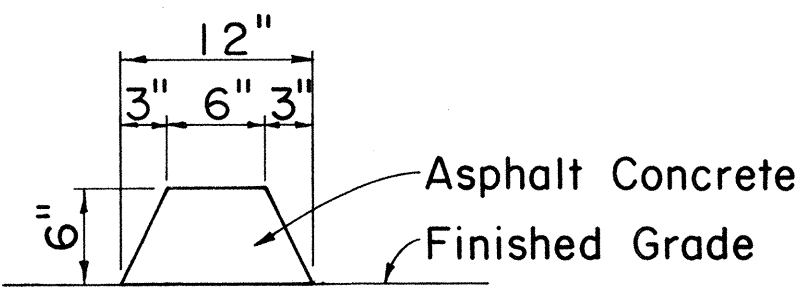
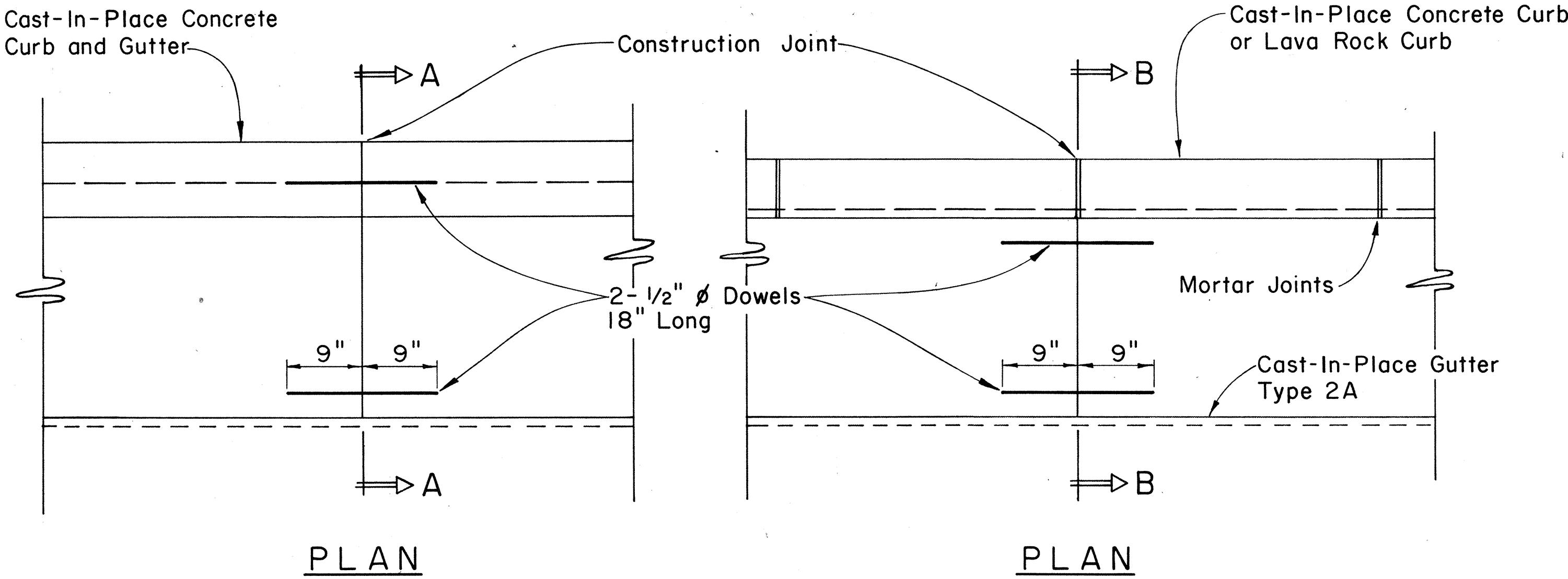
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	22	23



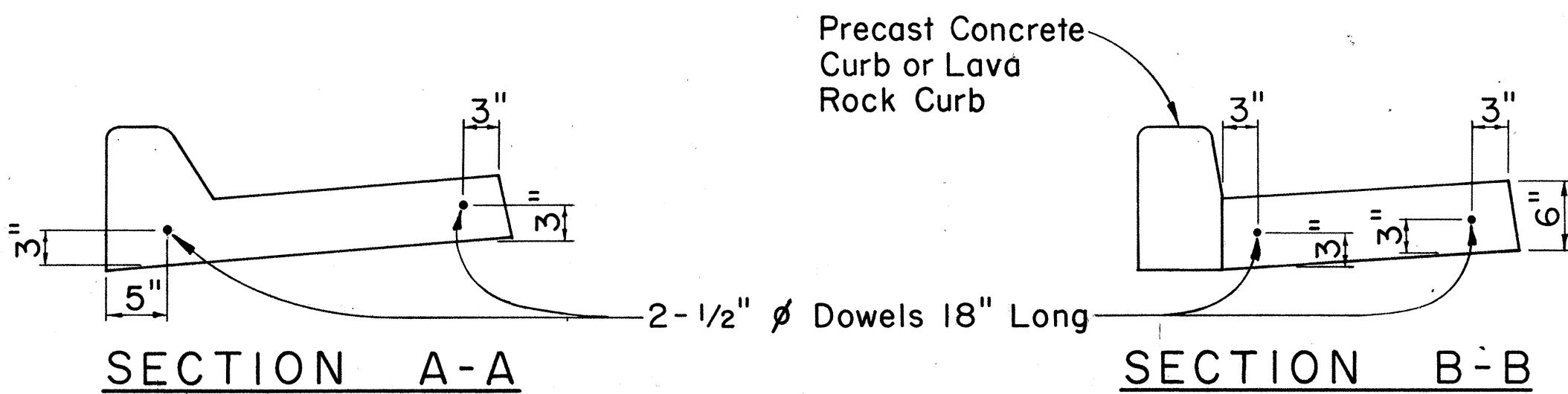
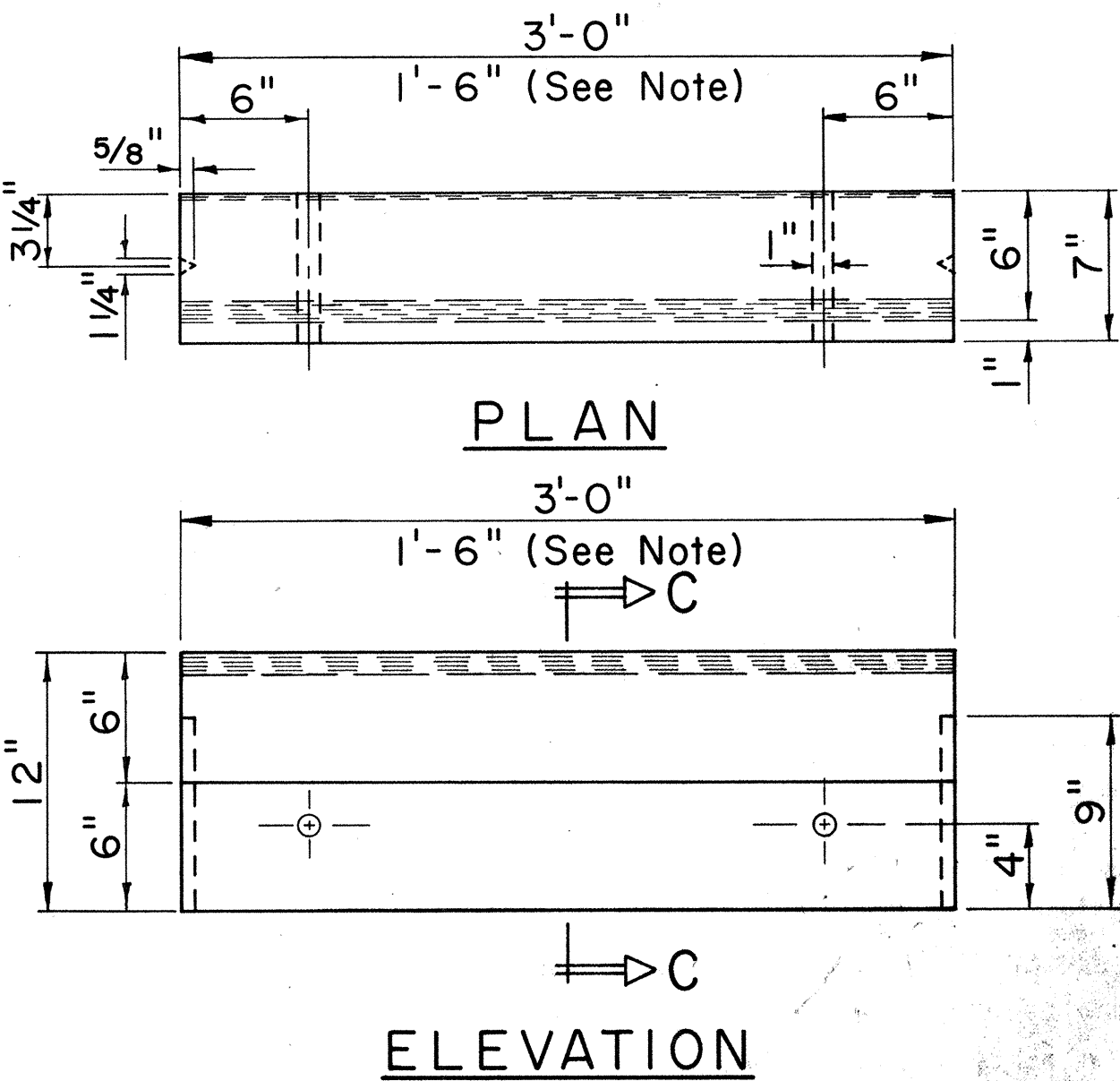
7/23/75	PROVIDE GRADE DIFFERENCE BETWEEN RAMP & EXISTING GRADE
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL INSTALLATION
OF
WHEEL CHAIR RAMPS
SCALE: AS SHOWN DATE: JAN. 1975
SHEET No. 13 OF 14 SHEETS

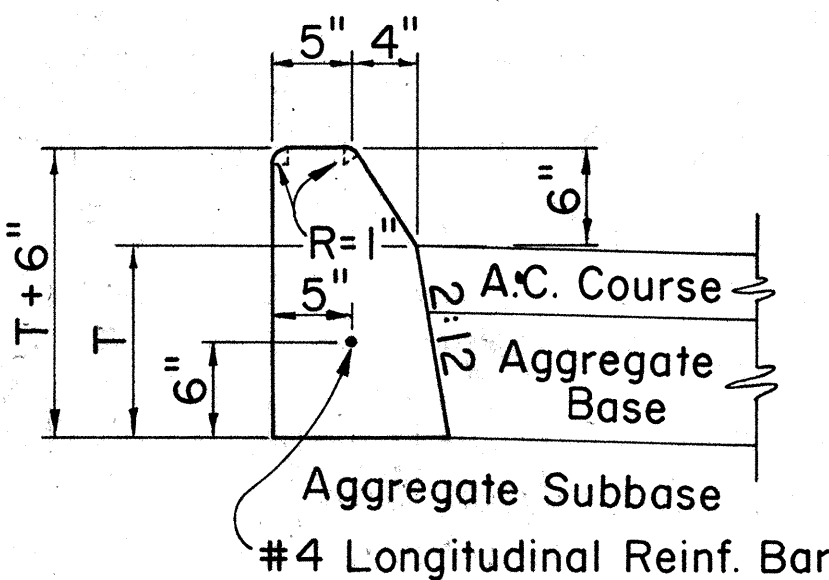
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-02-74	1975	23	23



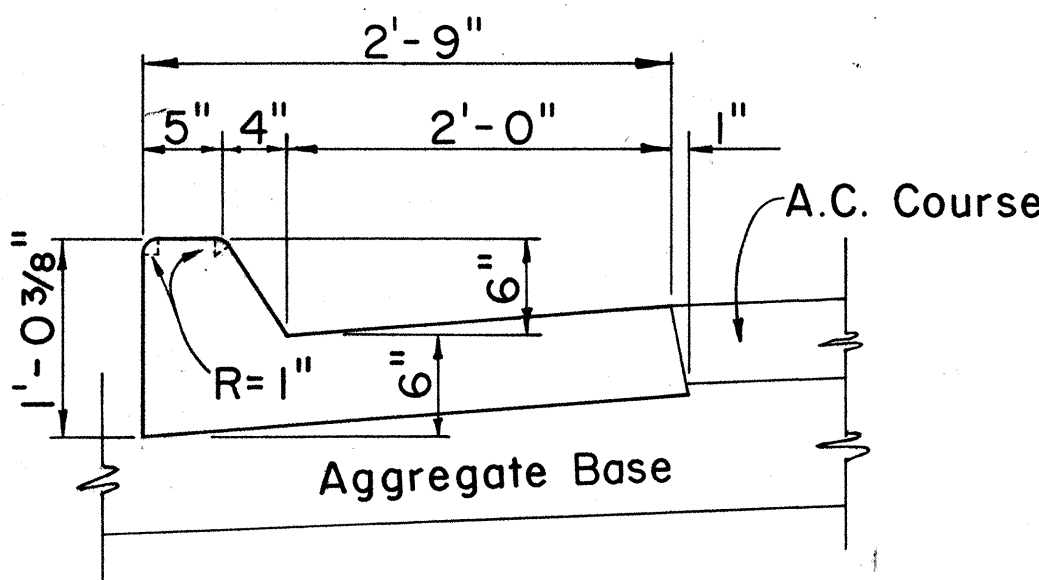
CURB, TYPE 6
BITUMINOUS CURB
 Scale: 1 1/2" = 1'-0"



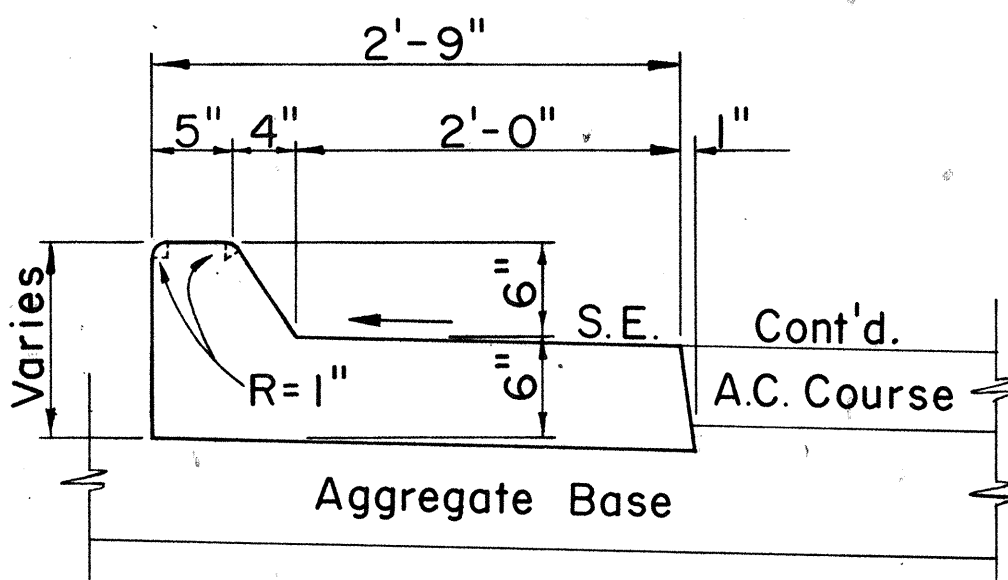
CAST-IN-PLACE CURB & GUTTER
CAST-IN-PLACE GUTTER
CONSTRUCTION JOINT DETAIL
 Scale: 1" = 1'-0"



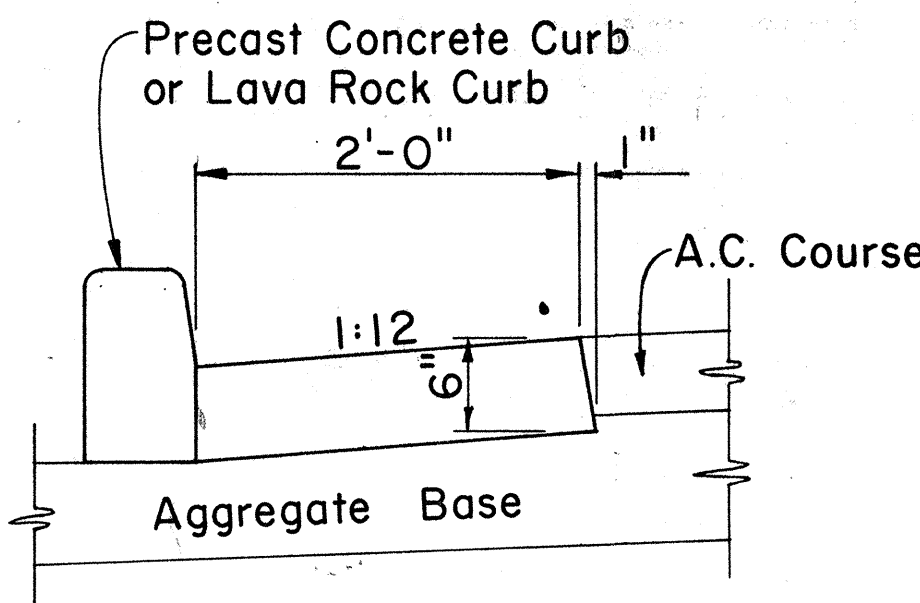
CURB, TYPE 2A



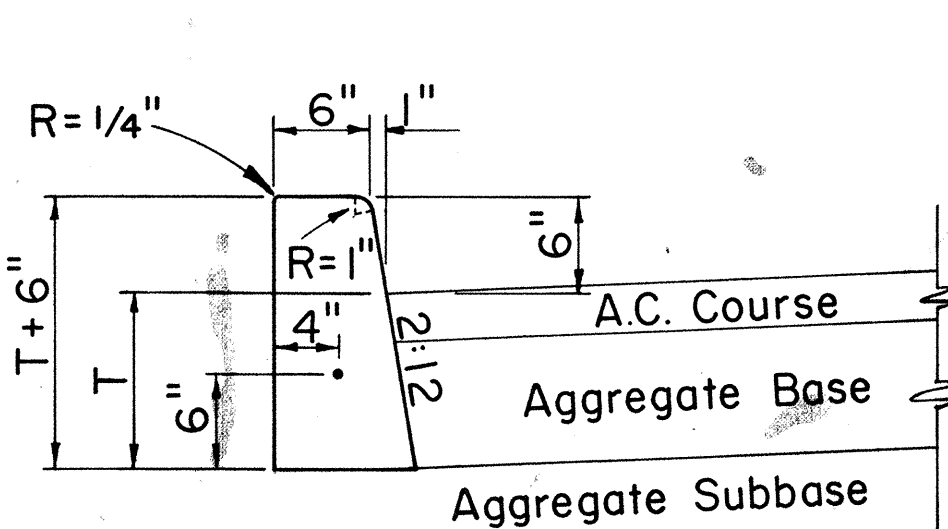
CURB & GUTTER, TYPE 2AG



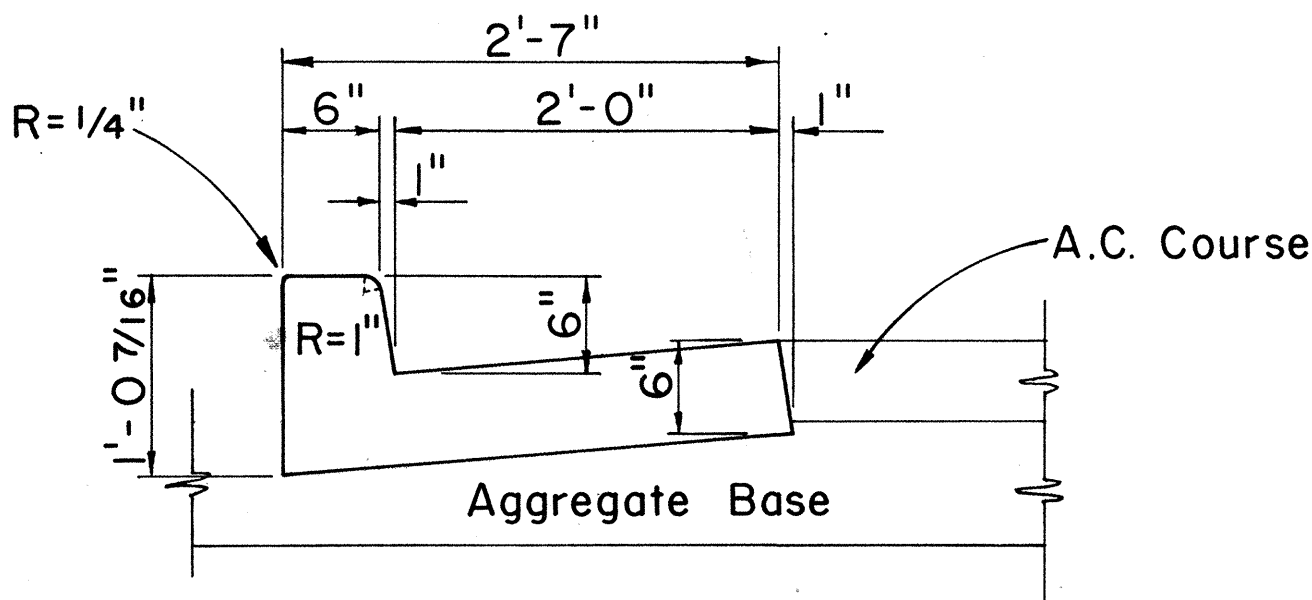
CURB & GUTTER, TYPE 2AGM



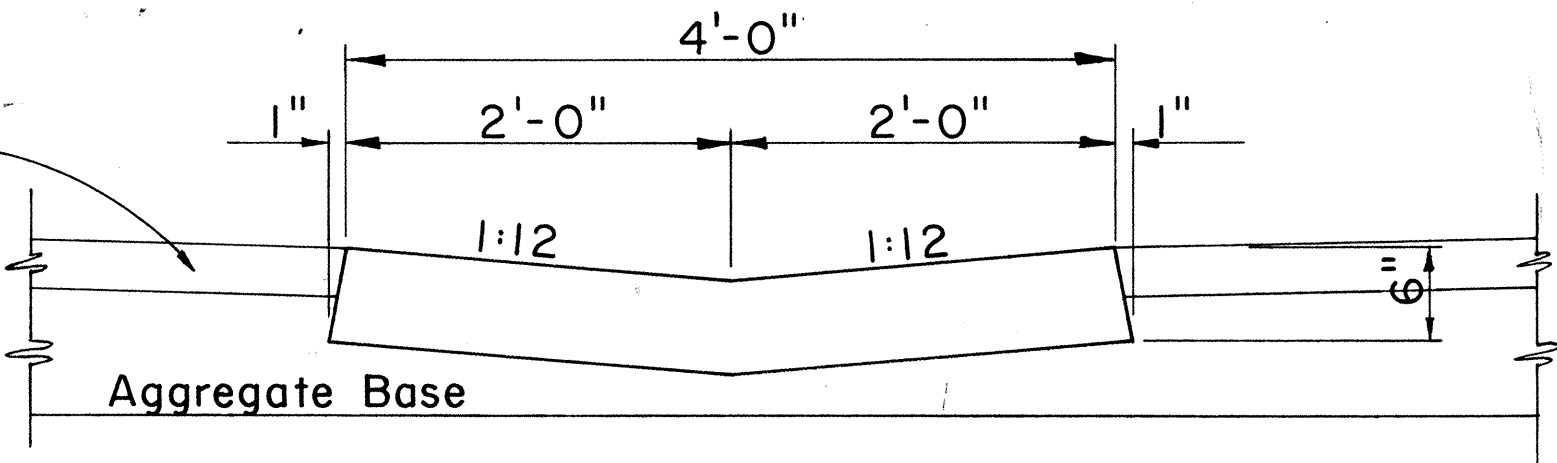
GUTTER, TYPE 2A



CURB, TYPE 2D



CURB & GUTTER, TYPE 2DG



GUTTER, TYPE 2G

CAST-IN-PLACE CONCRETE CURBS AND/OR GUTTERS
 Scale: 1" = 1'-0"

NOTE:
 For curb returns use 1'-6" pre-cast concrete curbs.

SECTION C-C
CURB, TYPE 3D
PRE-CAST CONC. CURB
 Scale: 1 1/2" = 1'-0"

APPROVAL RECOMMENDED:
 HIGHWAY DESIGN ENGINEER 12-4-69 DATE

APPROVED:
 ASSISTANT CHIEF, ENGINEERING 12-10-59 DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
STANDARD DETAILS
TYPICAL DETAILS OF CURB
AND/OR GUTTERS

Scale: As Shown
 SHEET No. 14 OF 14 SHEETS DD 609.1