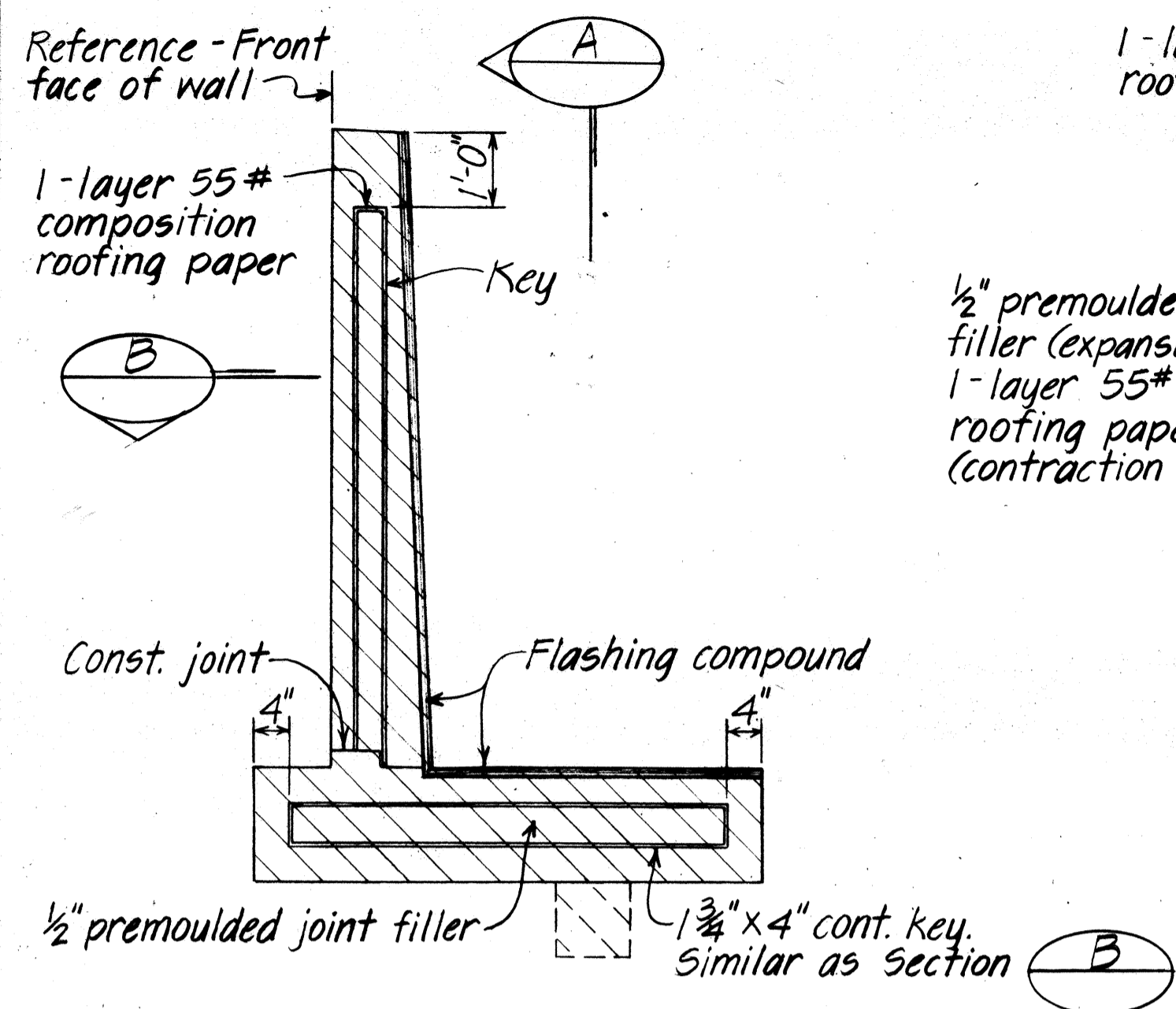
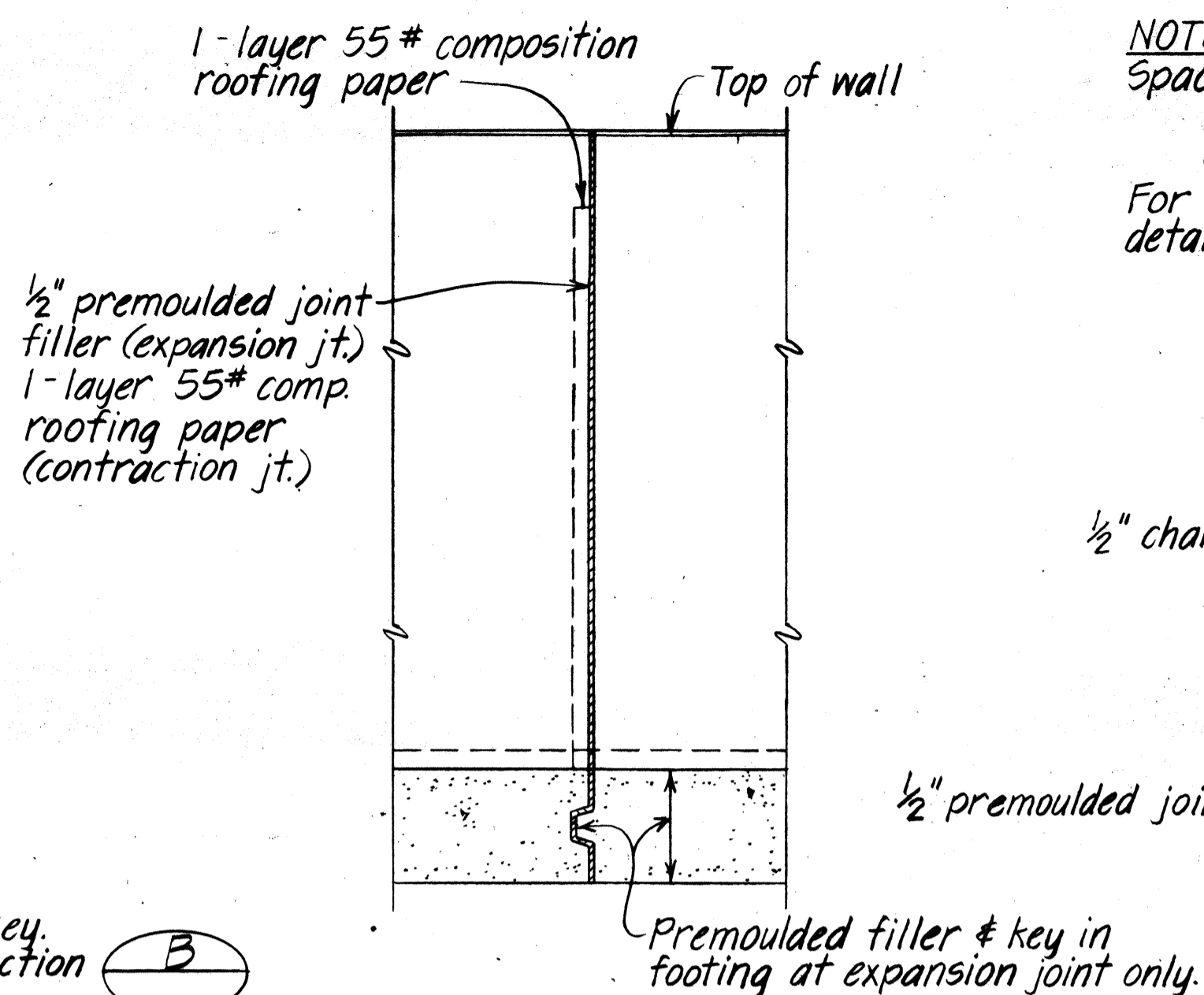


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	117	156

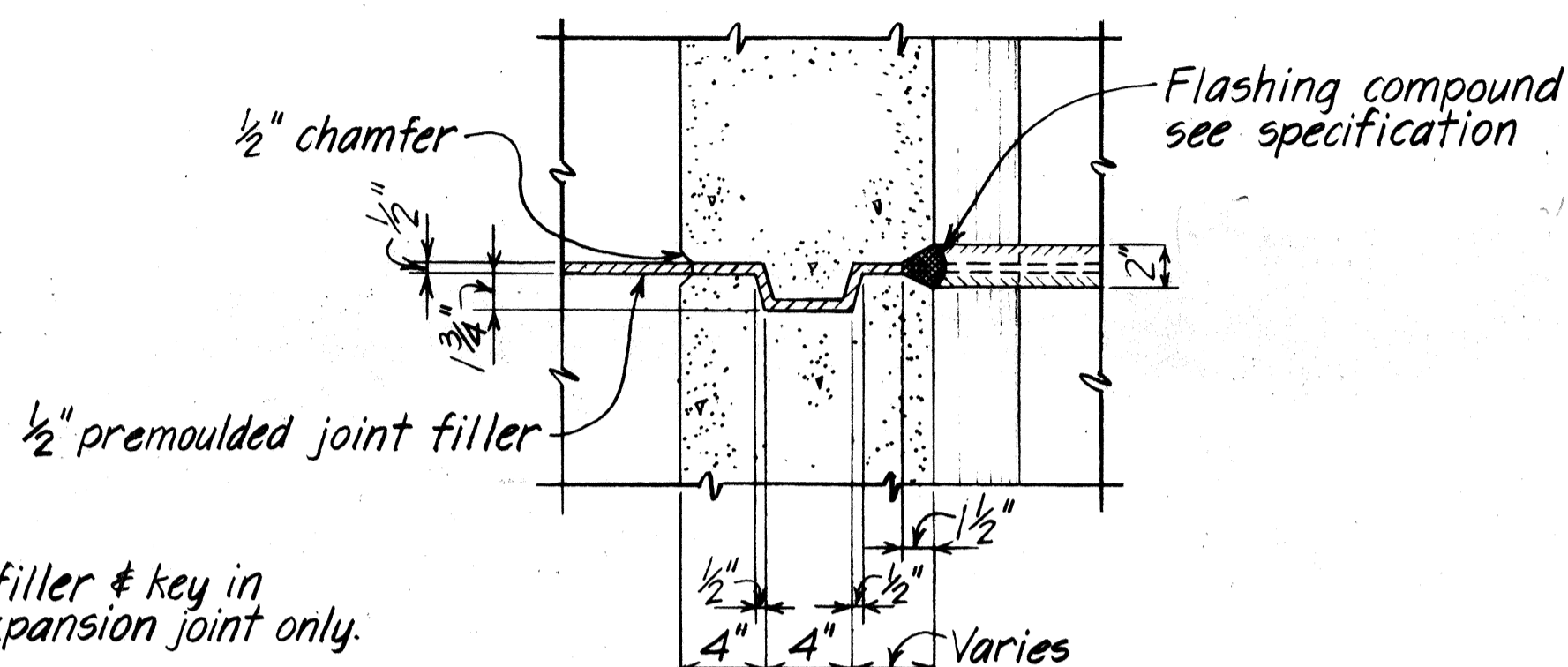


JOINT ELEVATION



SECTION A

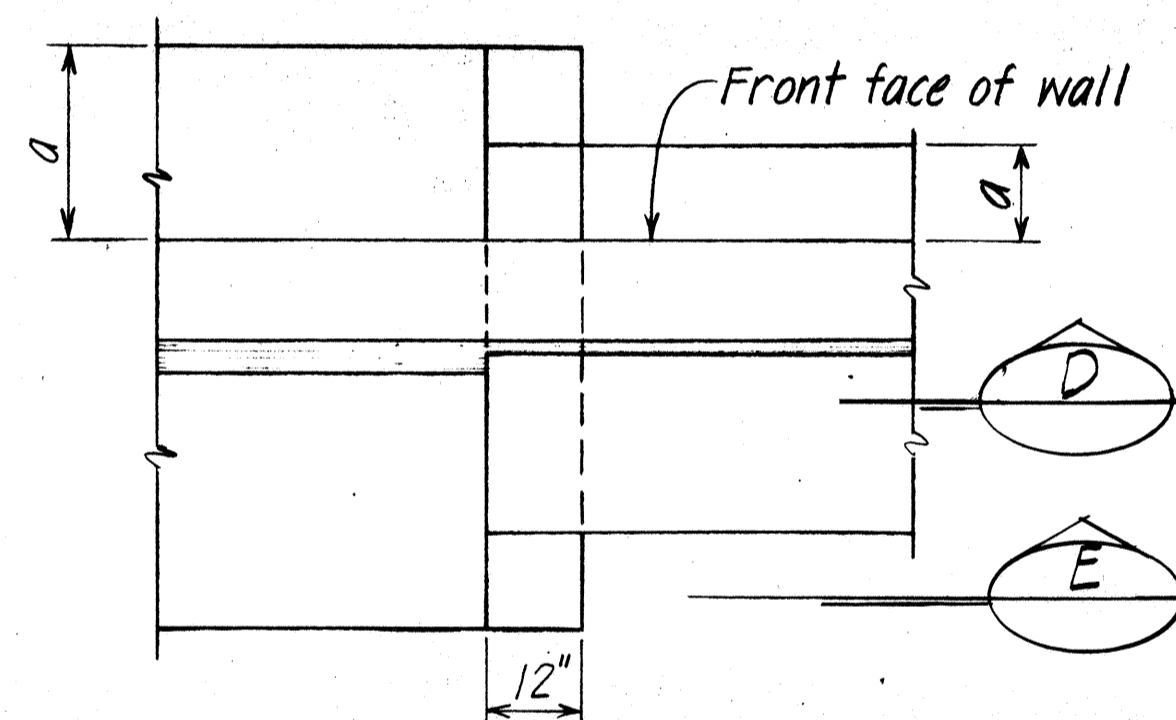
NOTE:  
Spacing of joints  
Expansion = 76'-0" max.  
Contraction = 32'-0" max.  
For alternate contraction joint and control joint details - See Standard Details. Sht. #DB-100



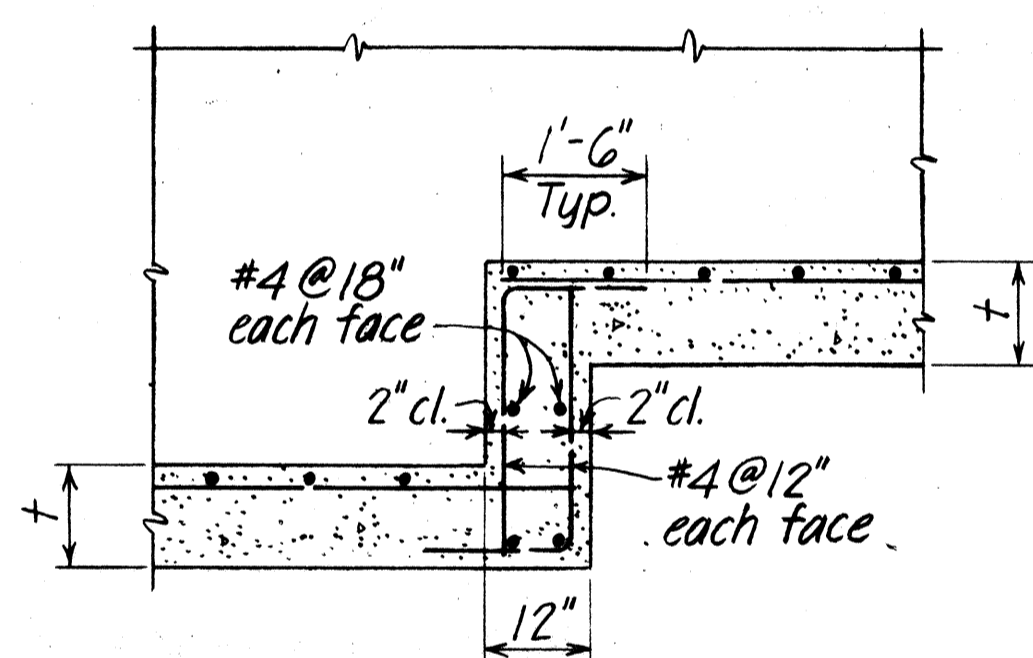
SECTION B

TYPICAL EXPANSION JOINT DETAILS

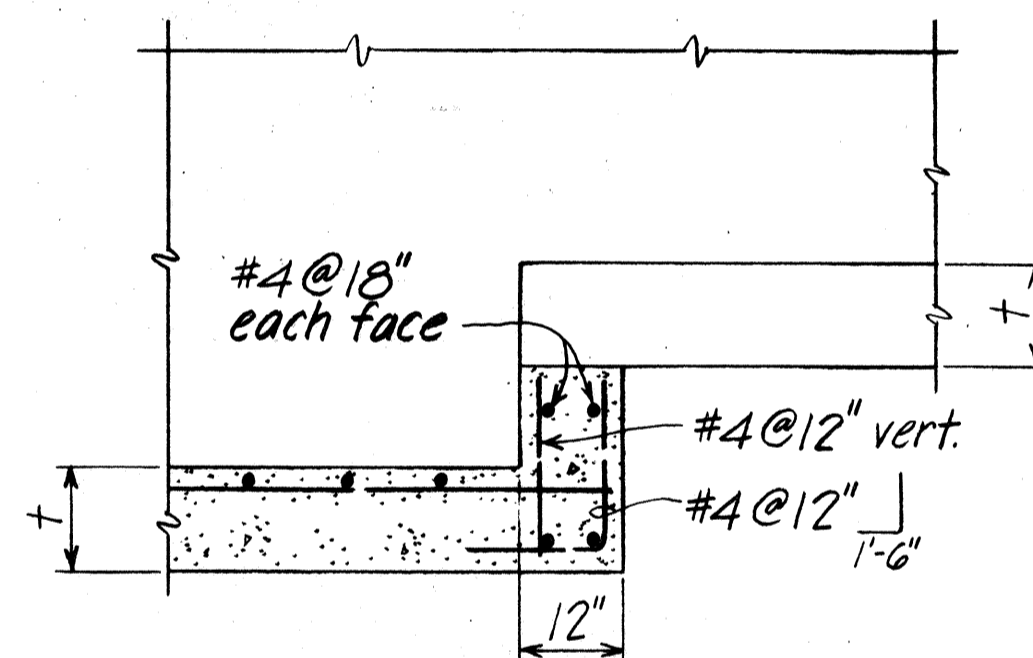
Not to Scale



PLAN

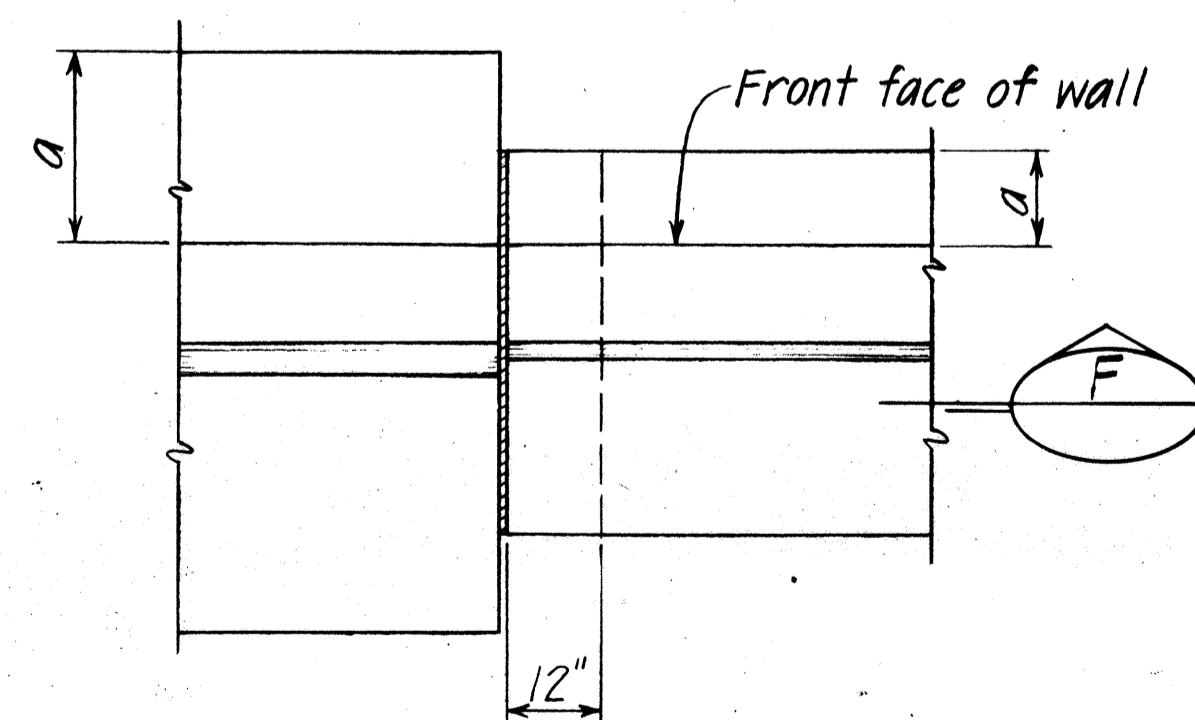


SECTION D

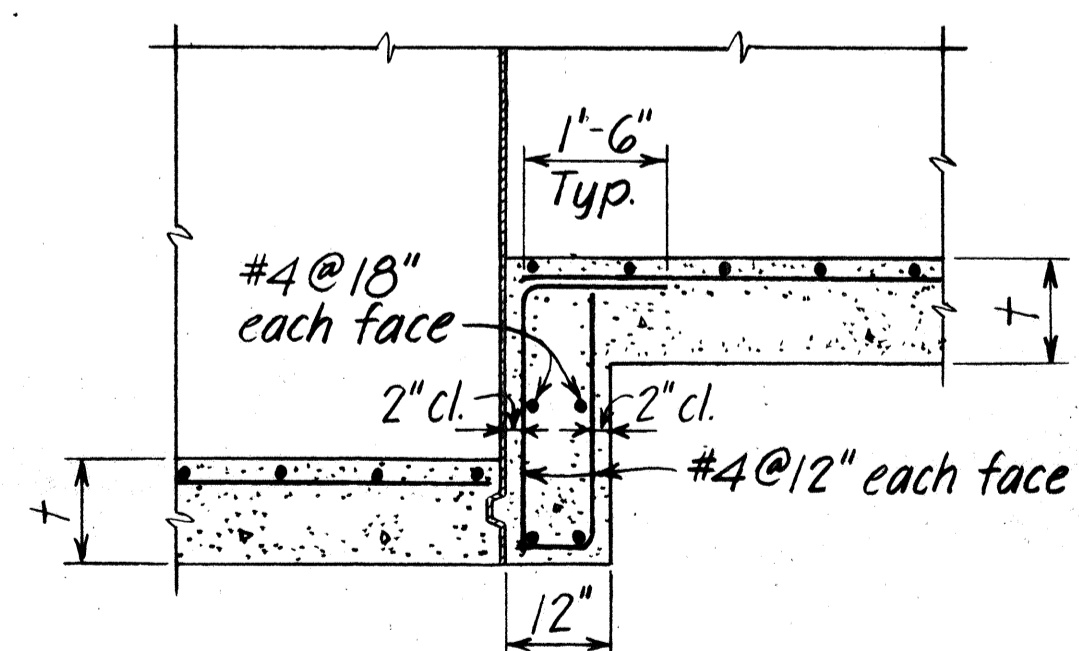


SECTION E

AT CONTINUOUS FOOTING



PLAN



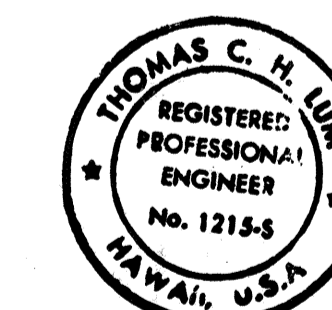
SECTION F

AT EXPANSION JOINT

TYPICAL FOOTING STEP-UP DETAILS

Not to Scale

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

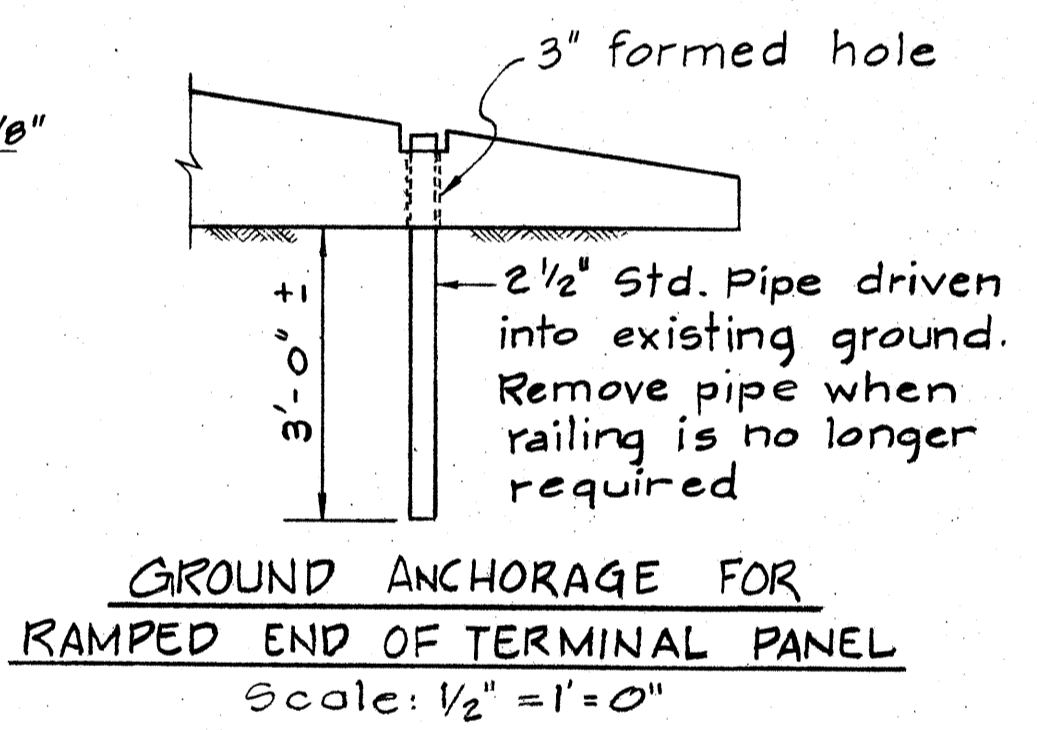
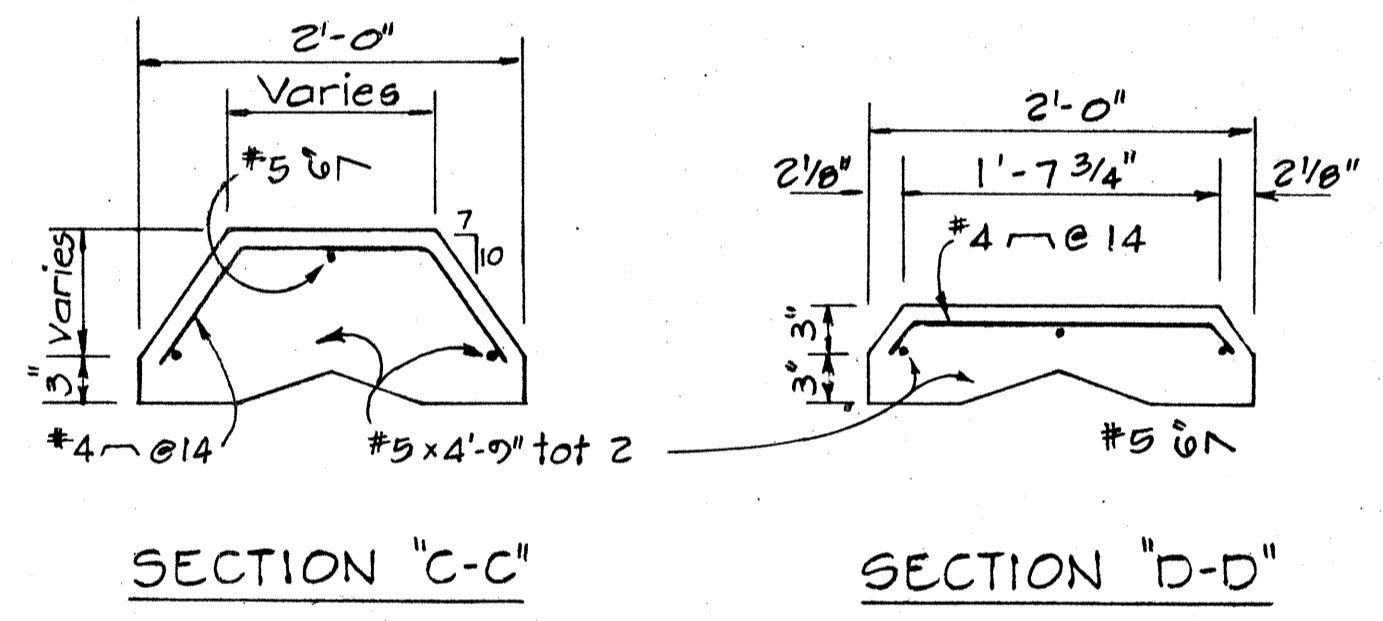
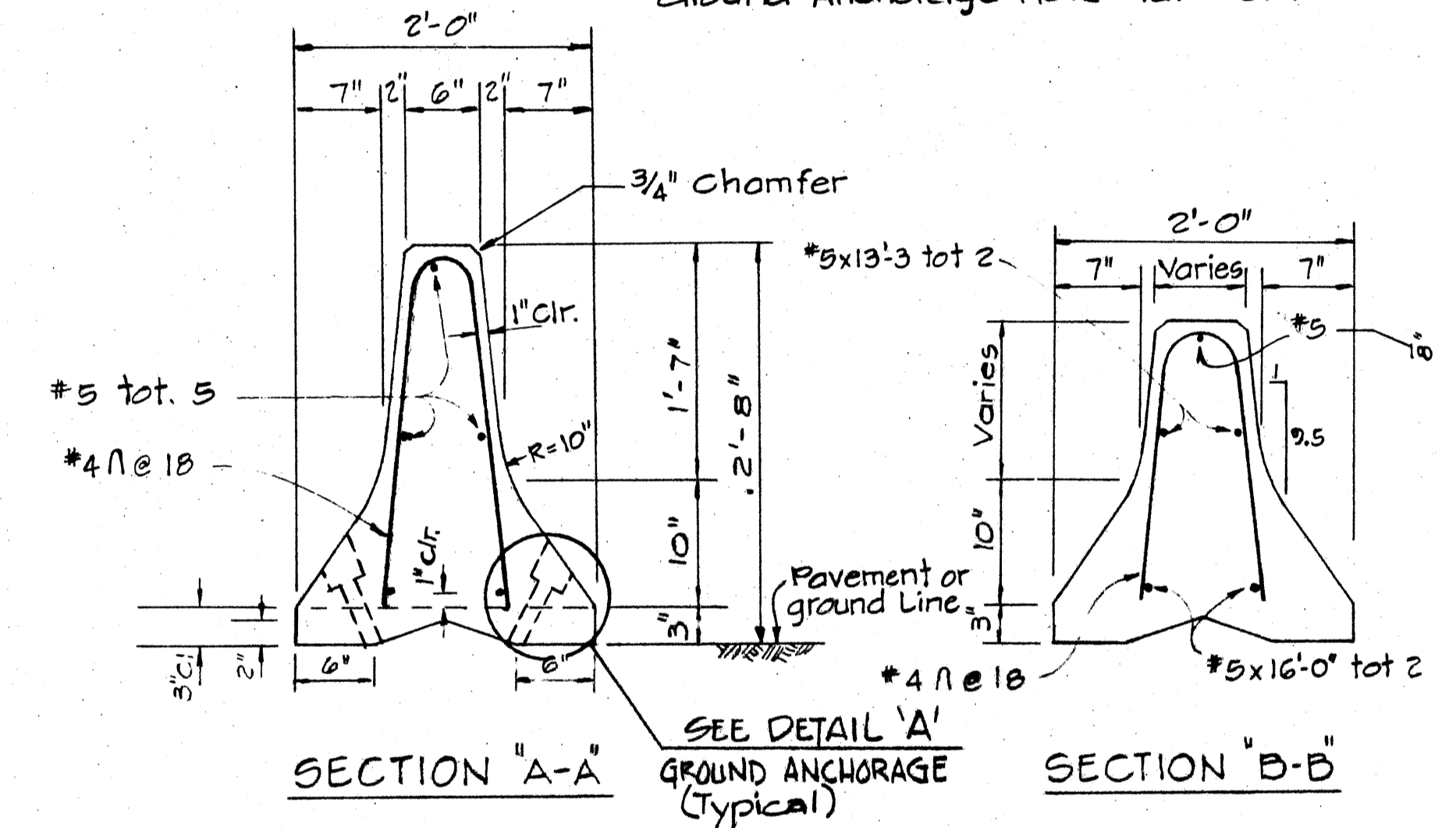
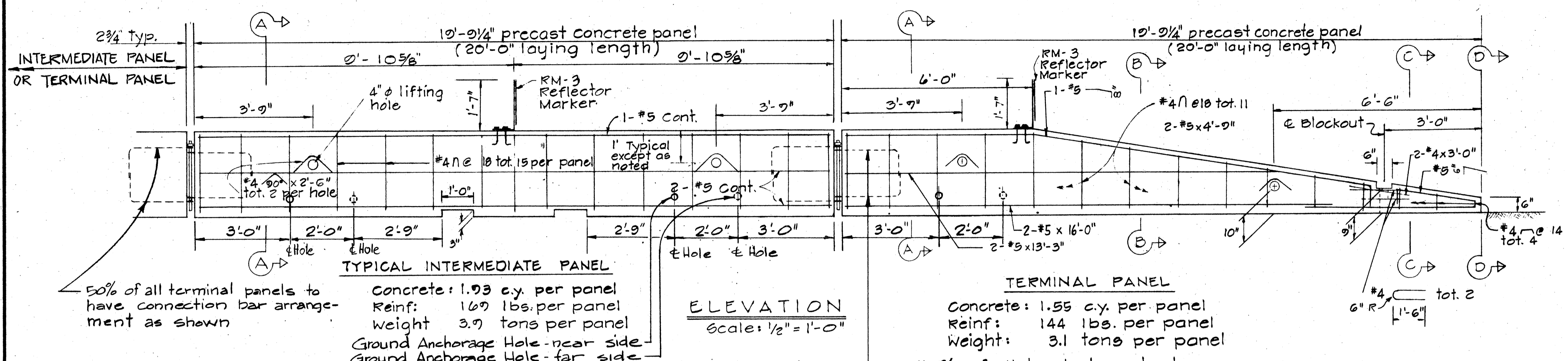
Signature

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS**  
**TYPE "T-1" WALL**

F.A. PROJ. NO. F-063-1(17)  
Scale: As Noted Date: Aug. 1984  
SHEET No. 1 OF 1 SHEETS

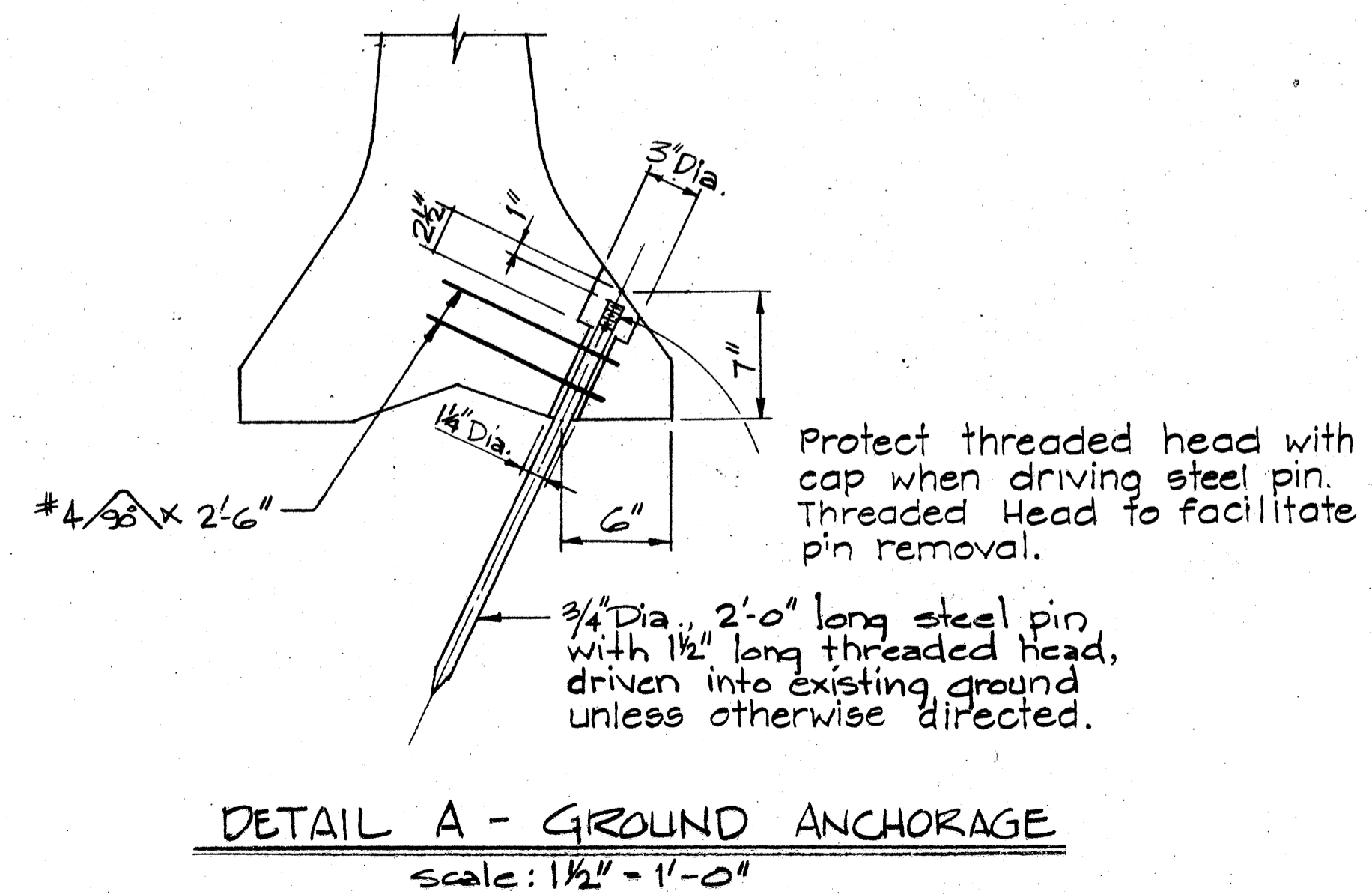
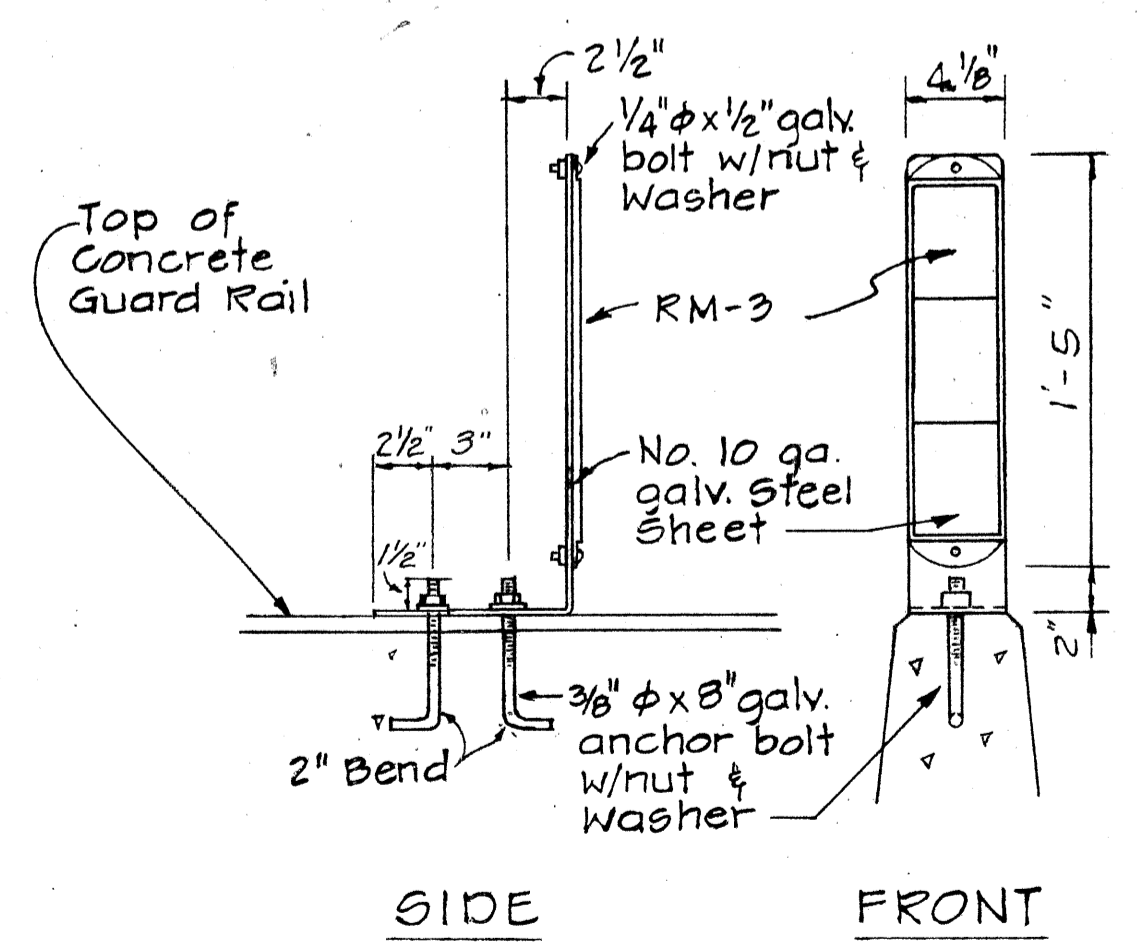
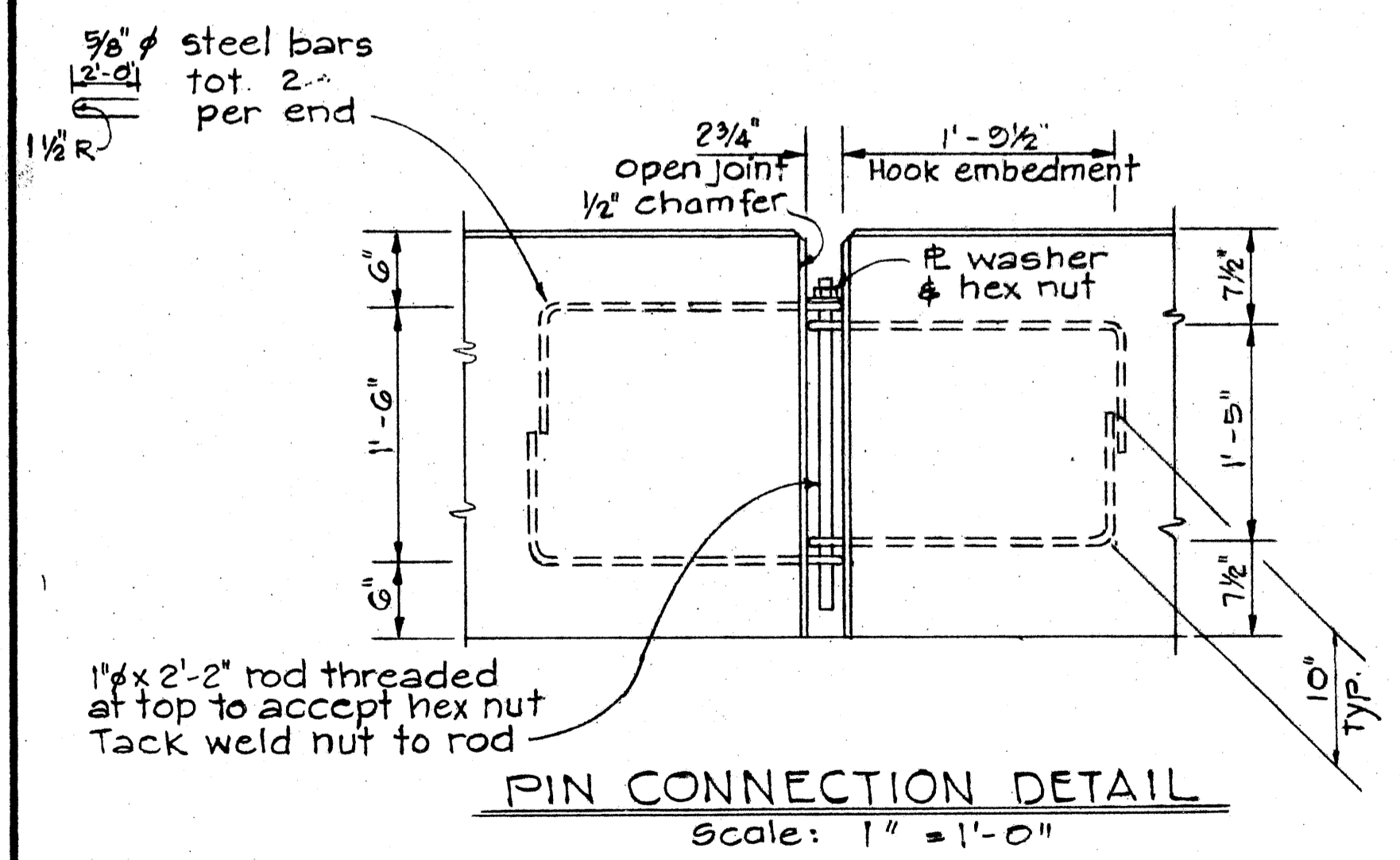
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	118	156



**NOTES**

1. For details not shown in sections BB, C-C, & D-D, see Section A-A
2. Reflector Marker shall not be paid for separately but shall be considered incidental to "Portable Concrete Guard Rail."
3. Concrete shall be Class "A".
4. All bolts to have cut washers unless otherwise noted.

**SECTIONS**  
Scale: 1" = 1'-0"



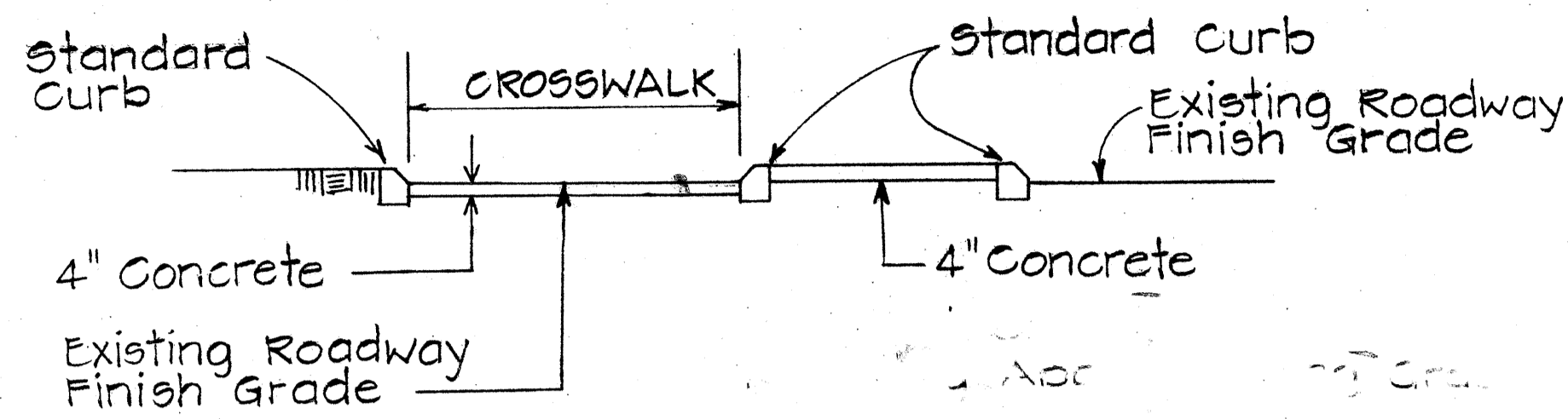
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PORTABLE CONCRETE GUARD RAIL TYPICAL DETAILS**

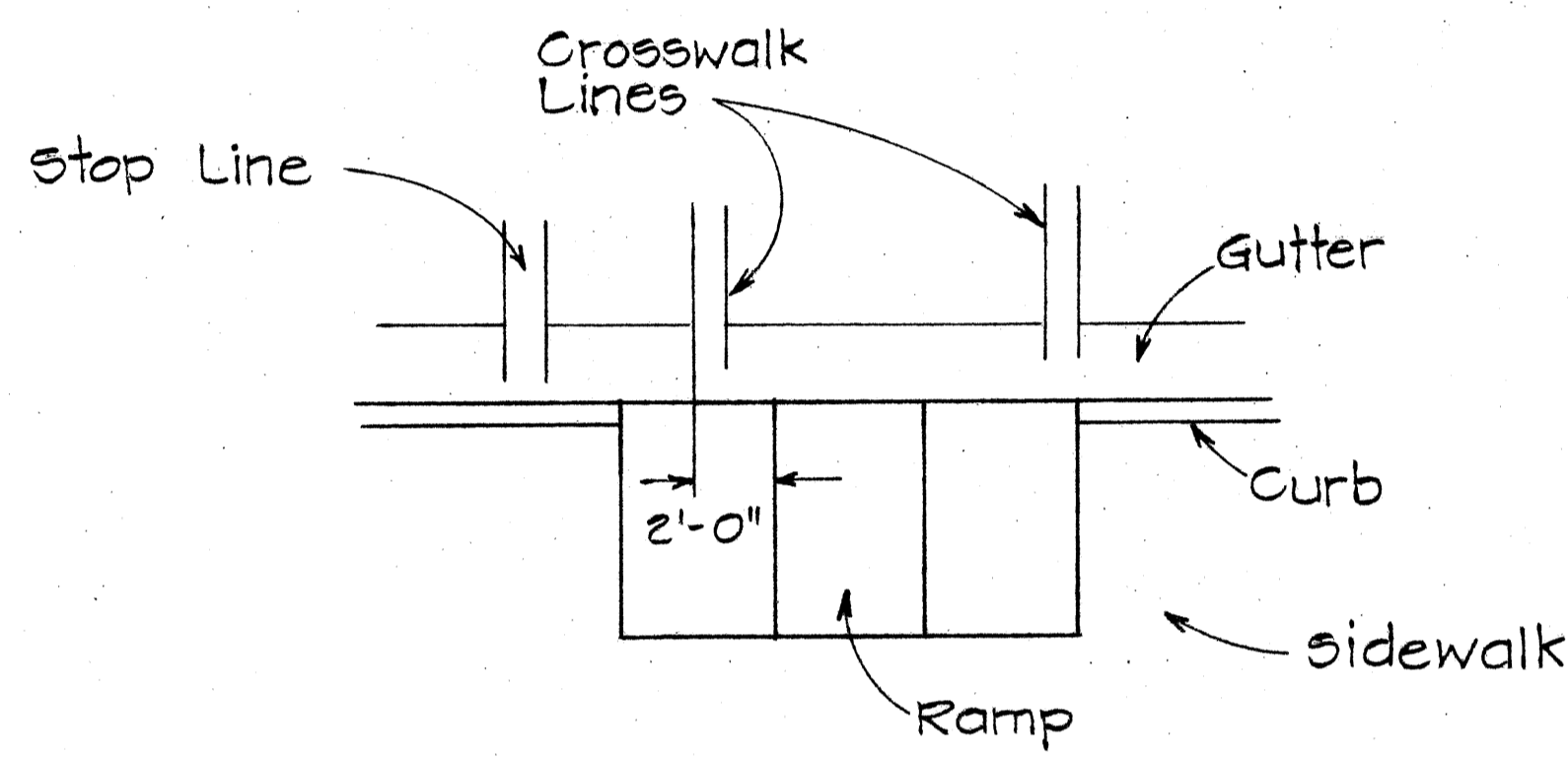
Scale: As Noted Date: \_\_\_\_\_  
SHEET No. OF SHEETS

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
QUANTITIES BY	_____
NOTE BOOK	_____
ORIGINAL PLAN	_____
TRACED BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____

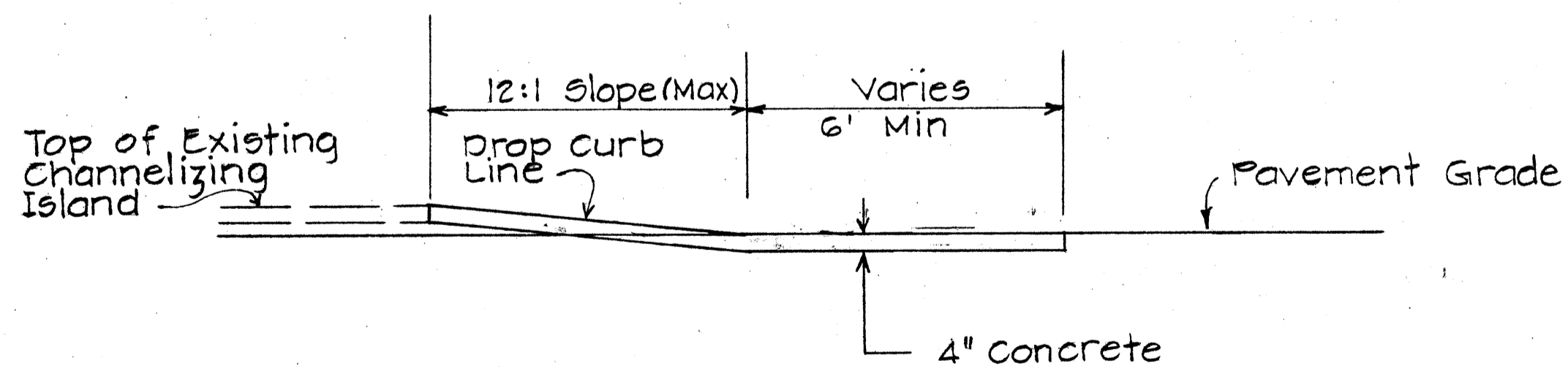
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	110	156



**SECTION "A-A"**  
Use at Median Nose Crossings  
Scale: 1" = 5'  
For Additional Details, See Type "C" Wheel Chair Ramp



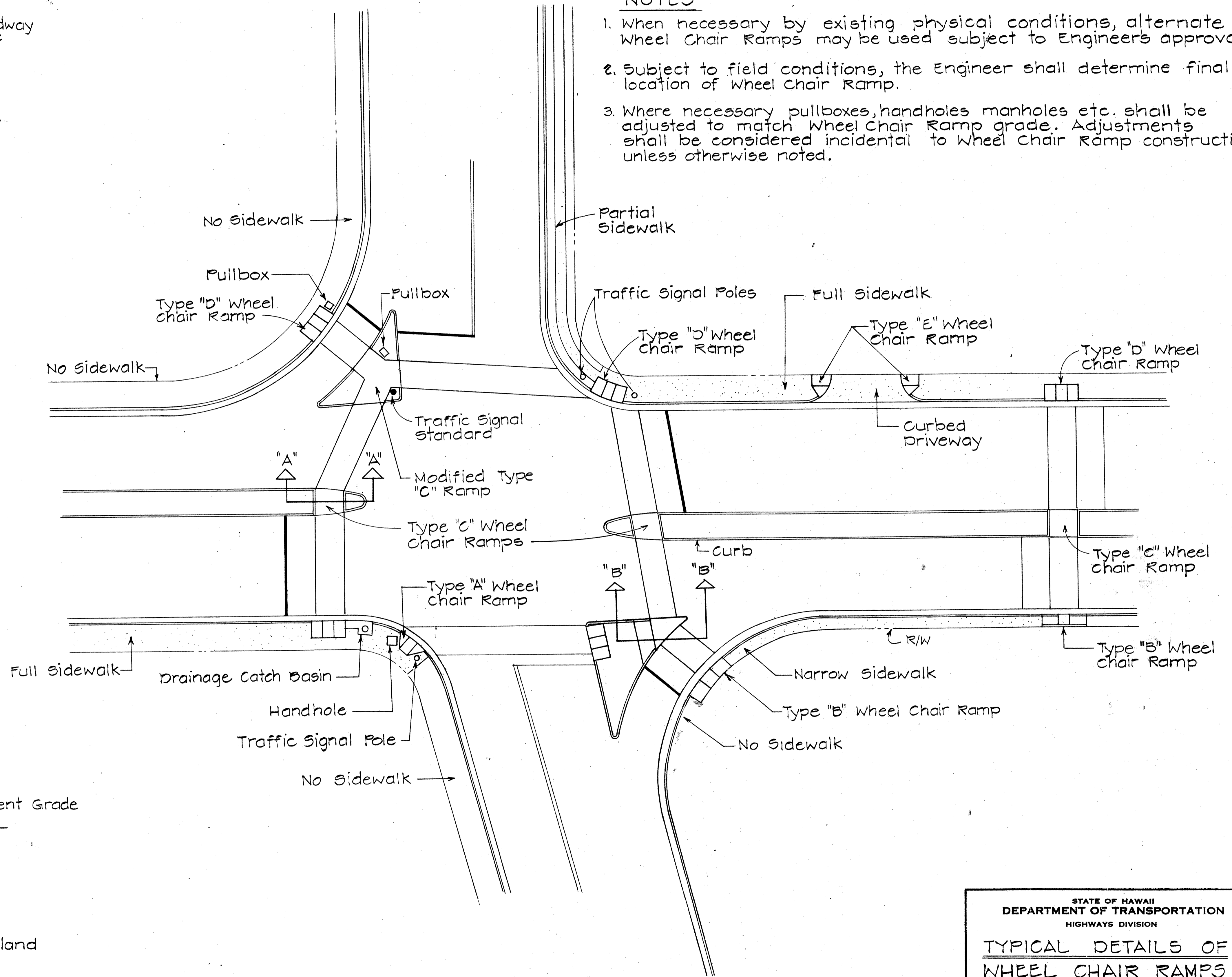
**TYPICAL INSTALLATION AT CROSSWALKS**  
Scale: 1" = 5'



**SECTION "B-B"**  
**TYPE "B" MODIFIED WHEEL CHAIR RAMP**  
Use at Intersection of 2 Crosswalks On Channelizing Island  
Scale: 3/8" = 1'  
For Additional Details See Type "B" Wheelchair Ramp

**NOTES**

1. When necessary by existing physical conditions, alternate Wheel Chair Ramps may be used subject to Engineers approval.
2. Subject to field conditions, the Engineer shall determine final location of Wheel Chair Ramp.
3. Where necessary pullboxes, handholes manholes etc. shall be adjusted to match Wheel Chair Ramp grade. Adjustments shall be considered incidental to Wheel Chair Ramp construction, unless otherwise noted.



**TYPICAL WHEEL CHAIR RAMPS**  
Scale: 1" = 20'

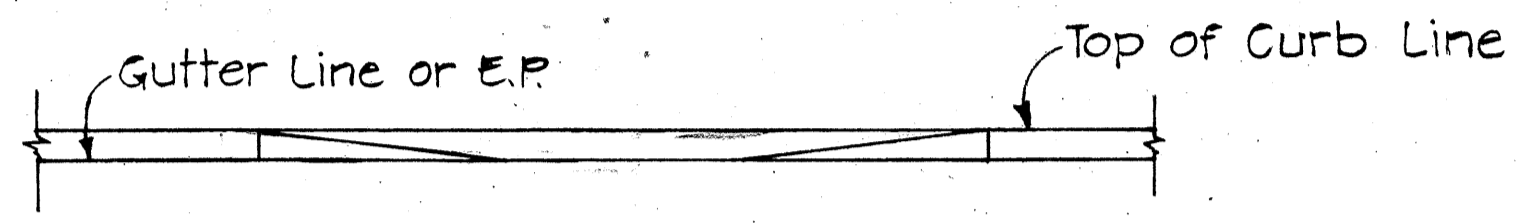
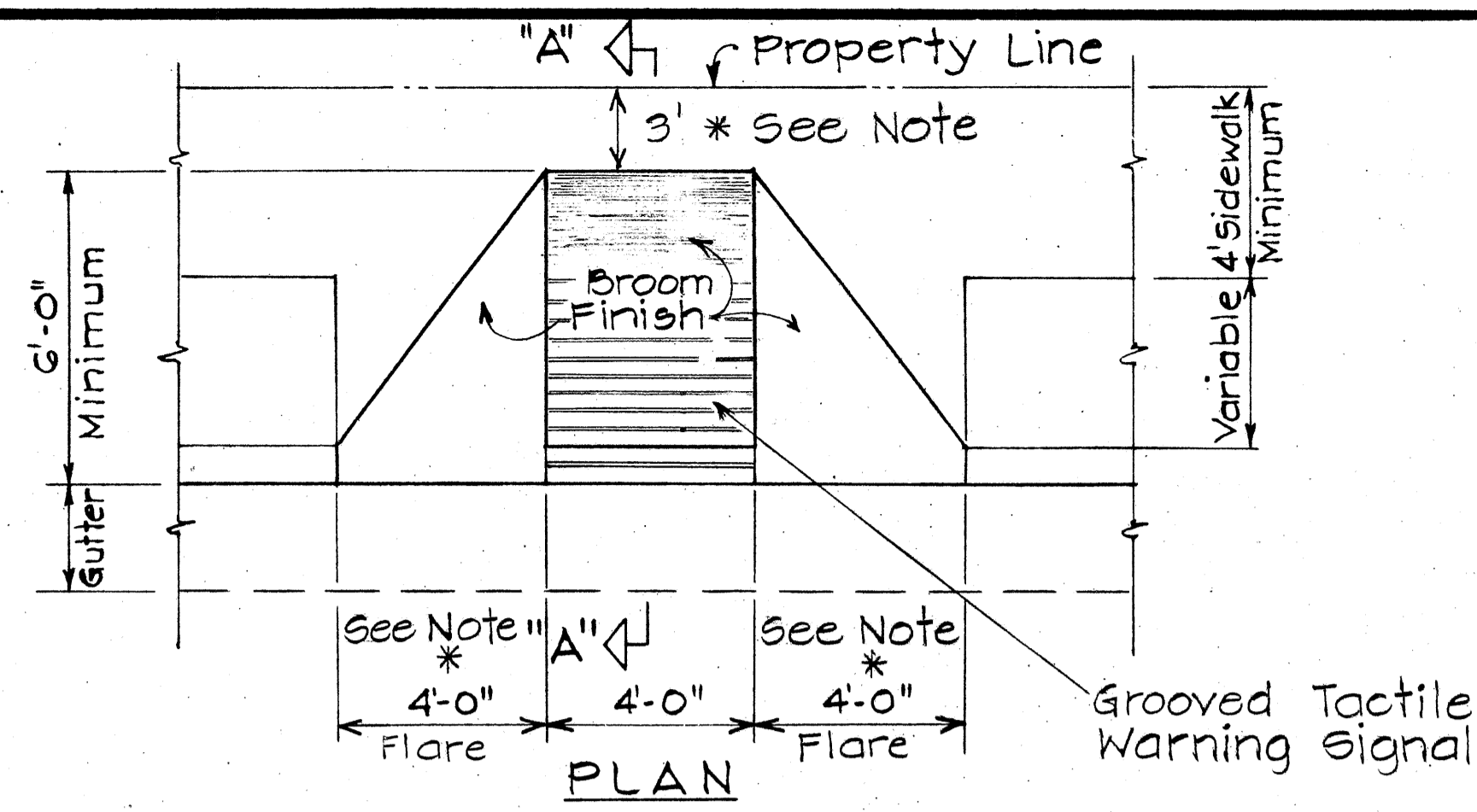
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS OF WHEEL CHAIR RAMPS**

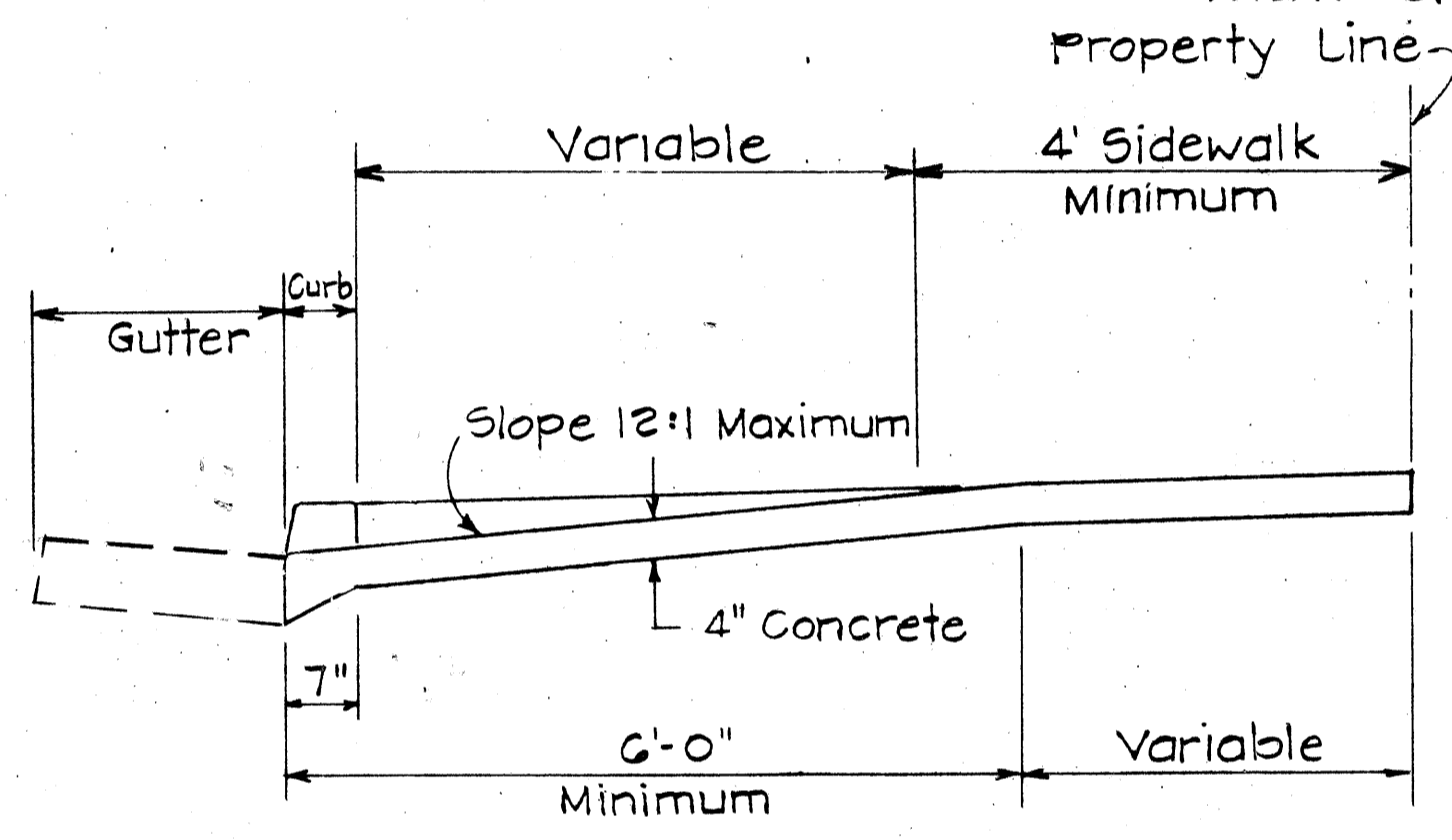
Scale: As Shown May, 1978  
SHEET NO. OF SHEETS

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_

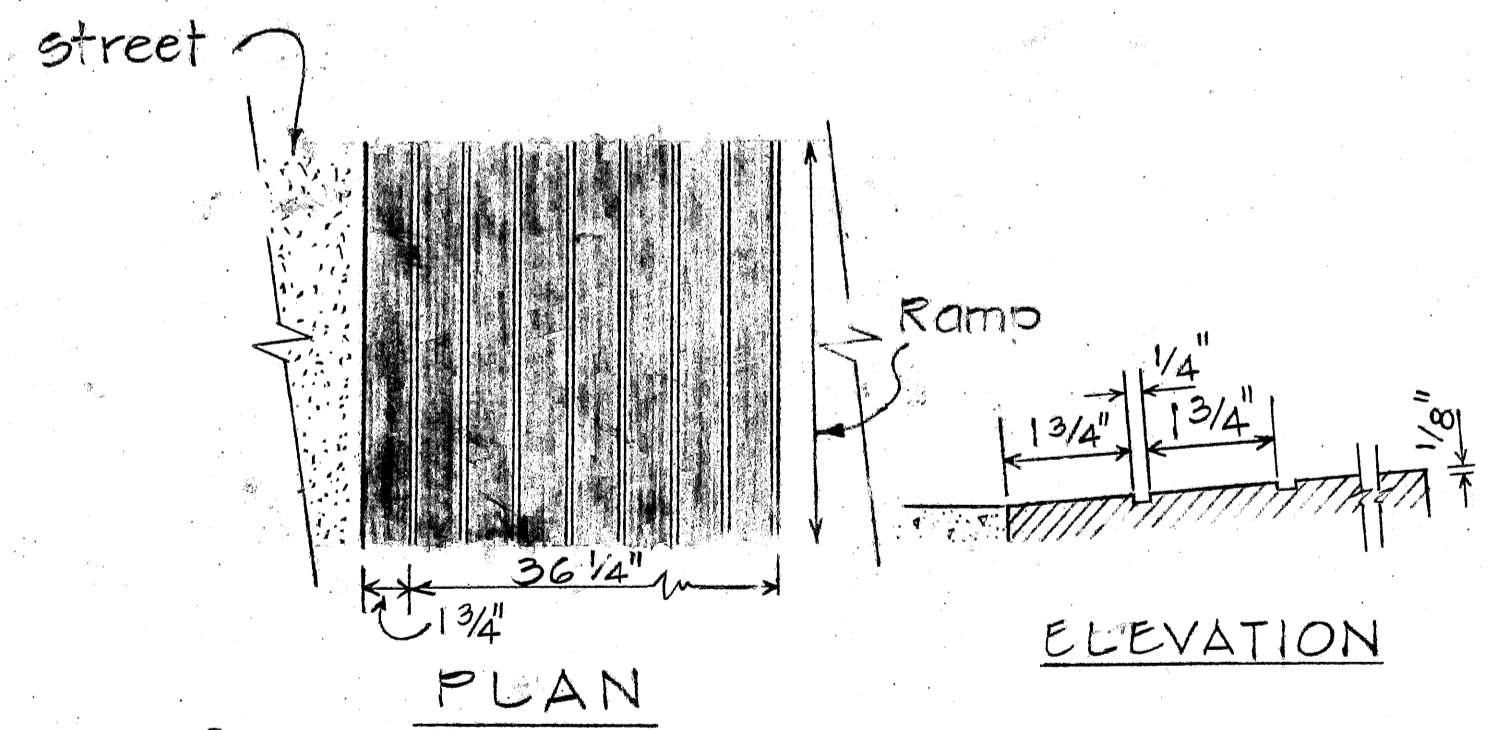
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	120	156



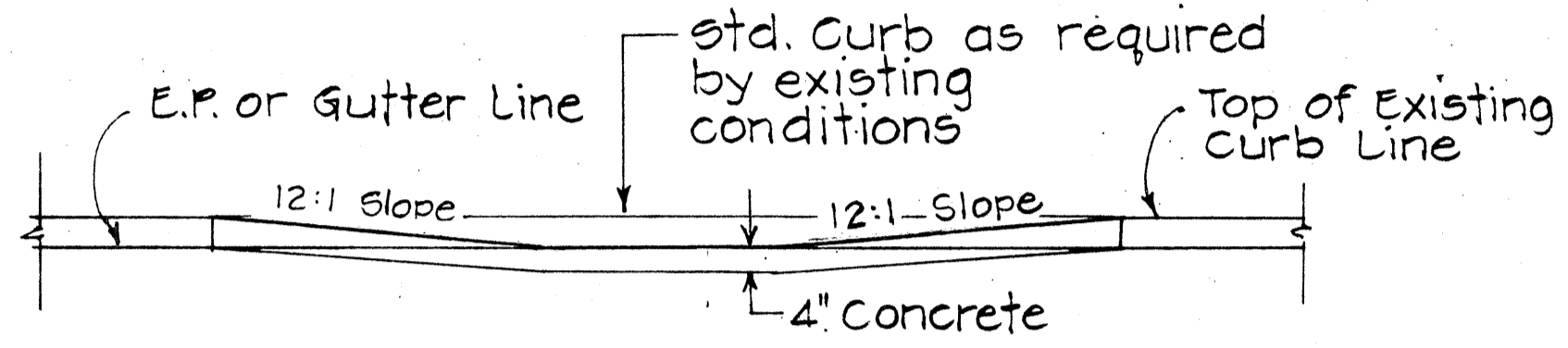
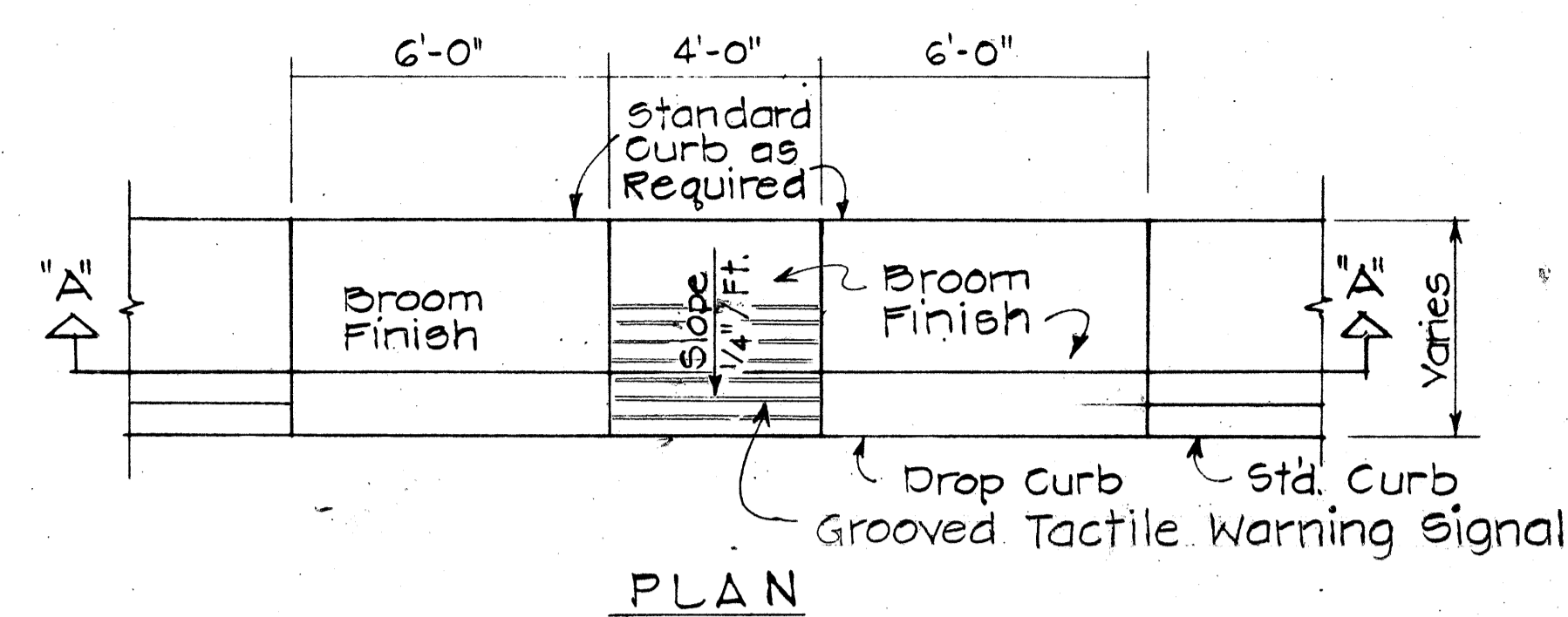
\* Where dimension is less than 3', Flare width shall be 5'



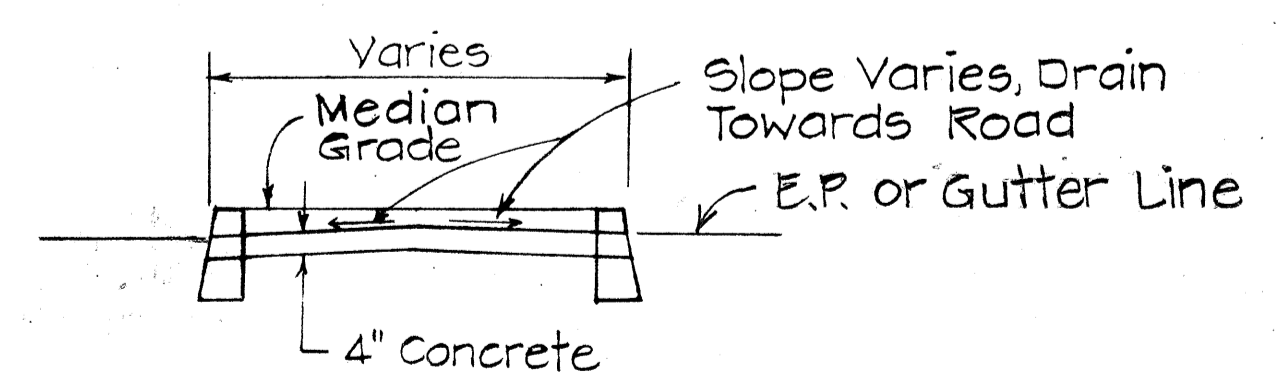
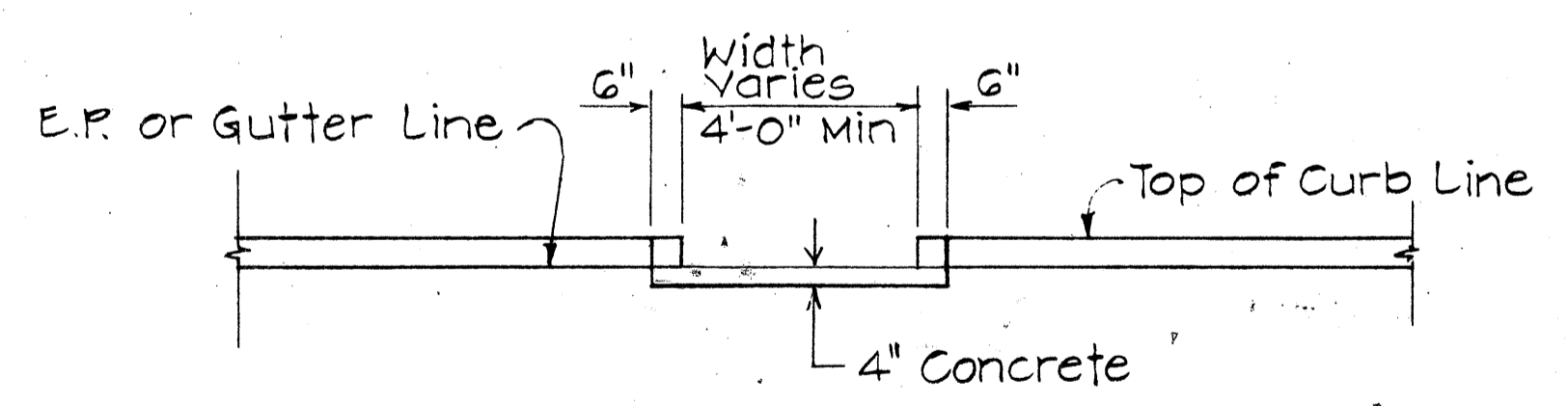
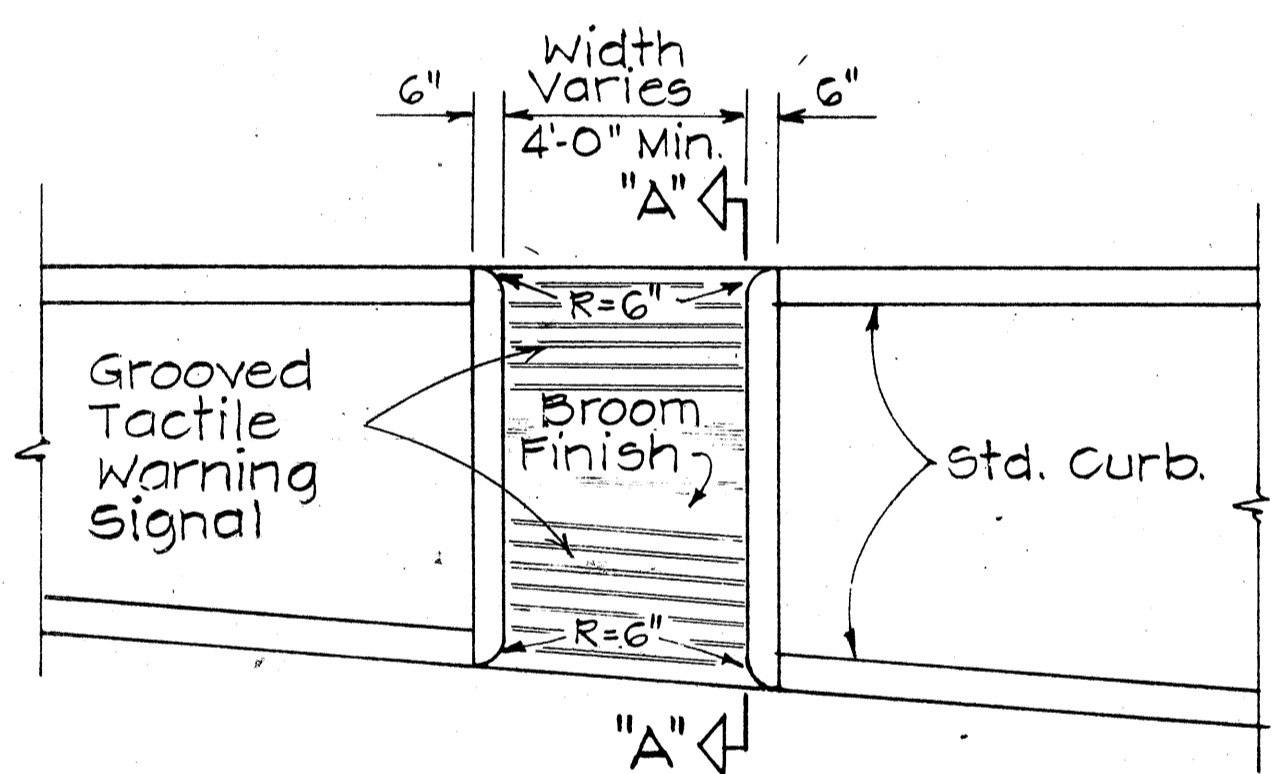
**WHEELCHAIR RAMP - TYPE "A"**  
USE WHERE OBSTRUCTIONS EXIST



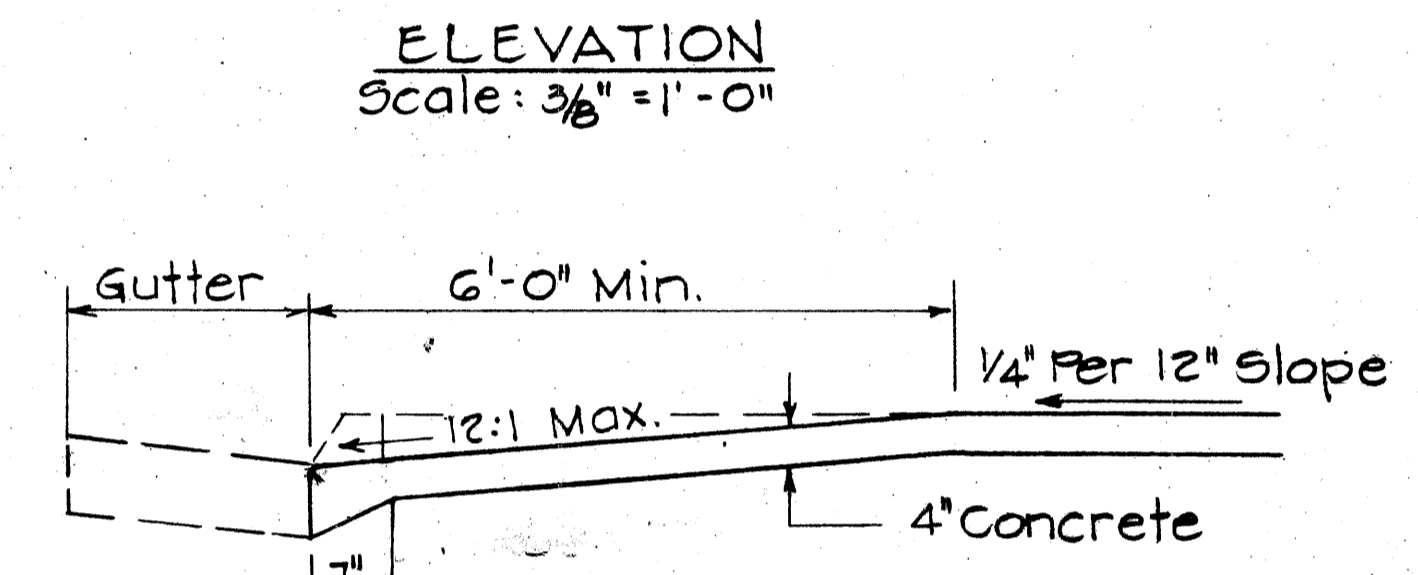
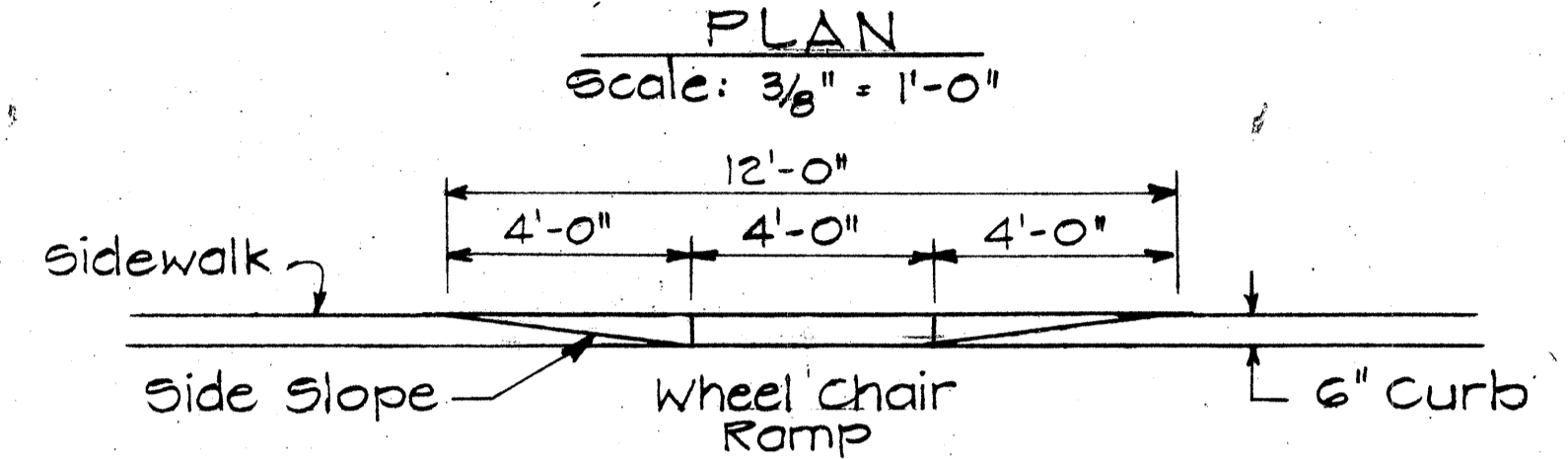
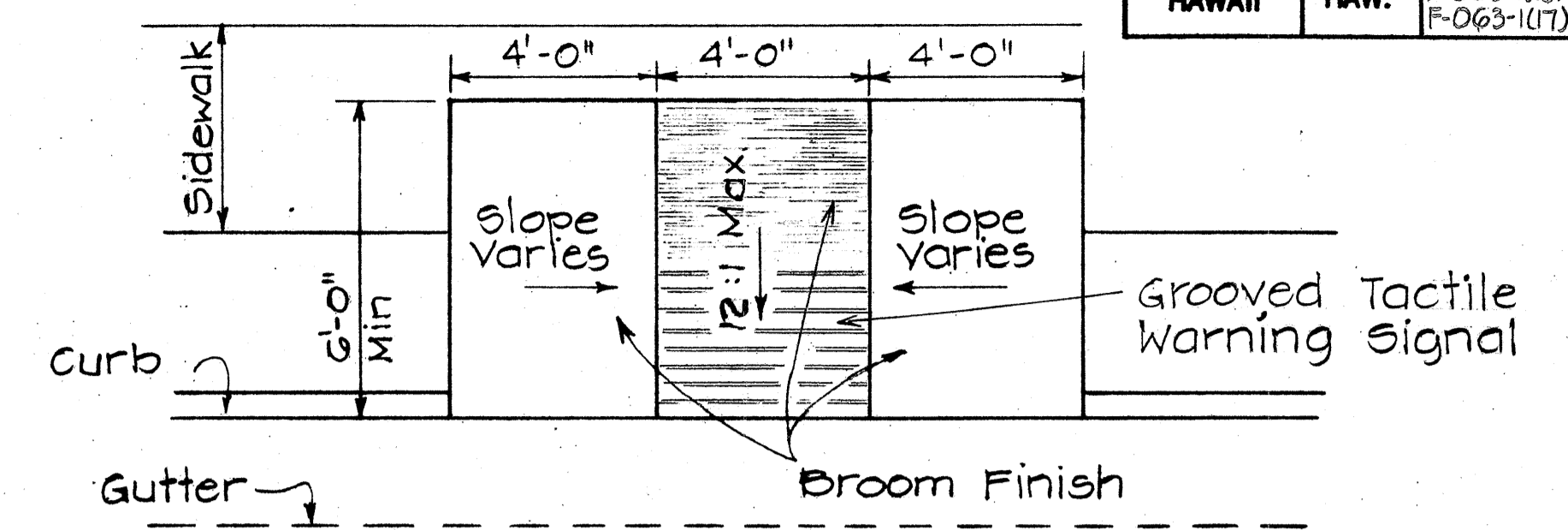
**GROOVED TACTILE WARNING SIGNAL**



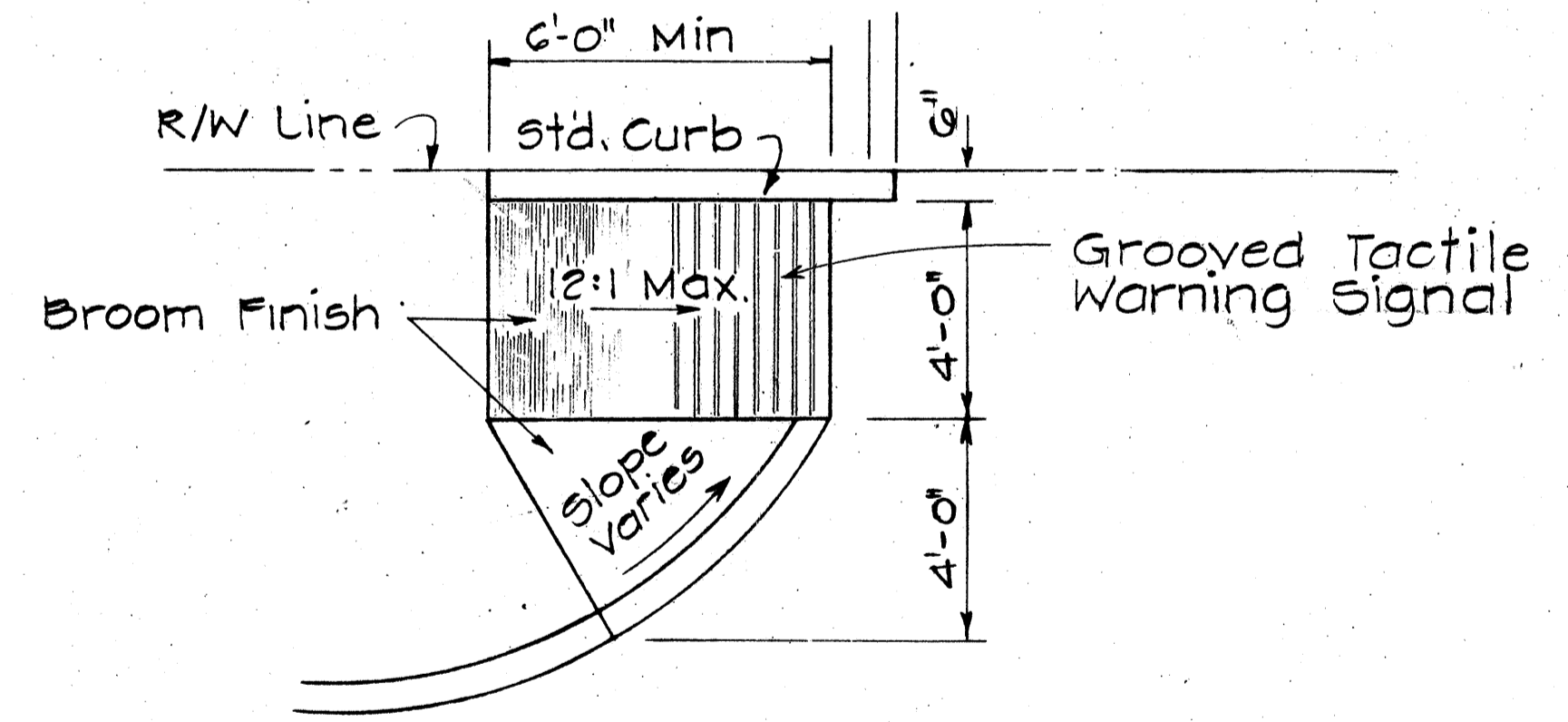
**WHEELCHAIR RAMP - TYPE "B"**  
USE AT SIDEWALKS WITH LESS THAN 6'-0" WIDTH



**WHEELCHAIR RAMP - TYPE "C"**  
USE AT MEDIAN CROSSINGS, ISLANDS



**WHEELCHAIR RAMP - TYPE "D"**  
USE WHEN IDEAL CONDITIONS EXIST



**WHEELCHAIR RAMP - TYPE "E"**  
USE AT CURBED DRIVEWAYS  
Scale: 3/8" = 1'-0"

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

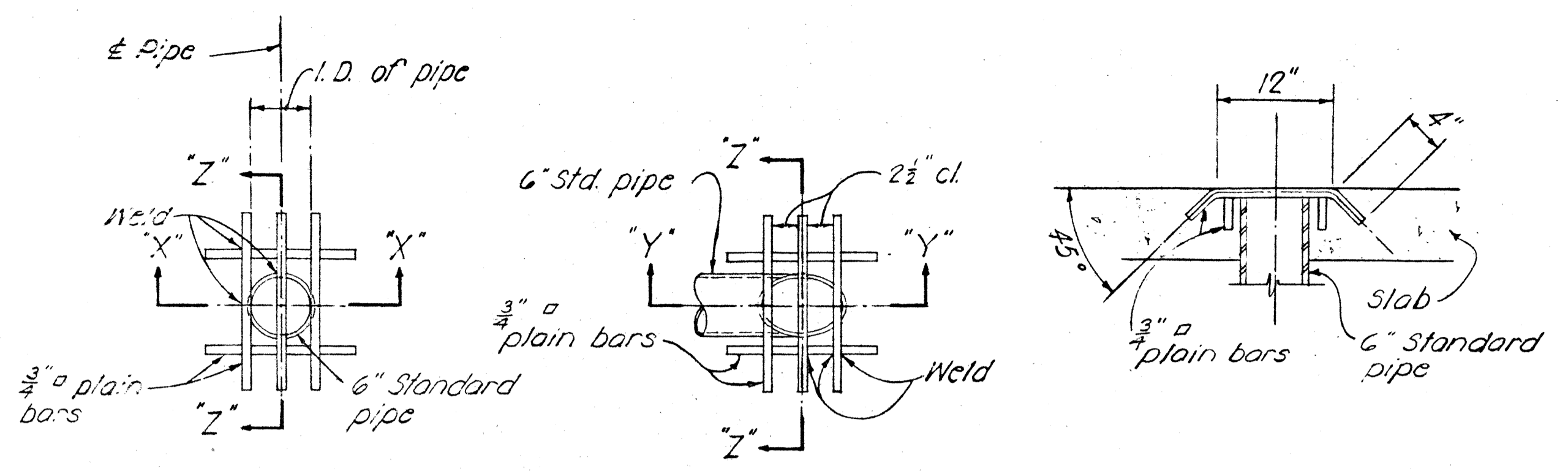
**TYPICAL DETAILS OF WHEEL CHAIR RAMPS**

Scale: As Shown May, 1978  
SHEET NO. OF SHEETS

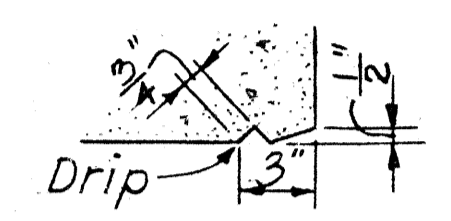
## GENERAL NOTES

- 1- All concrete shall be Class A unless otherwise noted.
- 2- Reinforcing shall be detailed in accordance with A.C.I. Manual of Standard Practice for Detailing Reinforced Concrete Highway Structures unless otherwise noted.
- 3- Clearance for reinforcing bars shall be as follows, unless otherwise noted:
  - a - 1/2" For stirrups of beams & pier caps.
  - b - 2" For ties of columns.
  - c - 2" For formed walls.
  - d - 3" For footings.
- 4- Minimum spacing between parallel bars shall be 2 1/2 times the diameter of bars, but in no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate.
- 5- All dimensions relating to reinforcing are to centers of bars unless otherwise noted.
- 6- Reinforcing bars shall be securely tied at all intersections & lap splices & shall be held in place during pouring to maintain their proper locations as shown on plans.
- 7- Vertical column bars shall be arranged in such a manner as to miss pier cap bars above as directed by the Engineer.
- 8- Except as otherwise noted on drawings, all exterior corners & re-entrant angles in concrete work shall be chamfered 3/4" x 3/4".
- 9- Concrete seats receiving steel plates lead plates or neoprene pads shall be poured monolithically with supporting structures & top of concrete seats shall be finished with a steel trowel to a smooth level surface at the elevation shown on the plans.
- 10- Elastomeric Pads: Bottom of bridge bearing pads shall be secured against displacement with adhesives approved by the Engineer. Pads shall be incidental to concrete and will not be paid for separately.
- 11- Forms for all exposed surfaces of separation structures and surfaces of retaining walls visible from a traveled way or from a populated area shall be plywood except that metal forms may be permitted provided a surface finish satisfactory to the Engineer can be obtained and the use of such forms is approved in writing by the Engineer. Forms for round columns shall be made of materials that will give a smooth finish and true dimensions as given in the plans. Forms for prestressed concrete members shall be either metal or plywood.
- 12- Gothic letters and figures approximating dimensions shown will be acceptable if approved by the Engineer.
- 13- The contractor shall verify the location of all existing utility lines and notify the respective owners before commencing work of excavation or driving of piles.
- 14- Standard Detail Drawings refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.

### TYPICAL CONCRETE GROOVE DETAIL



### DRIP DETAIL



PLAN

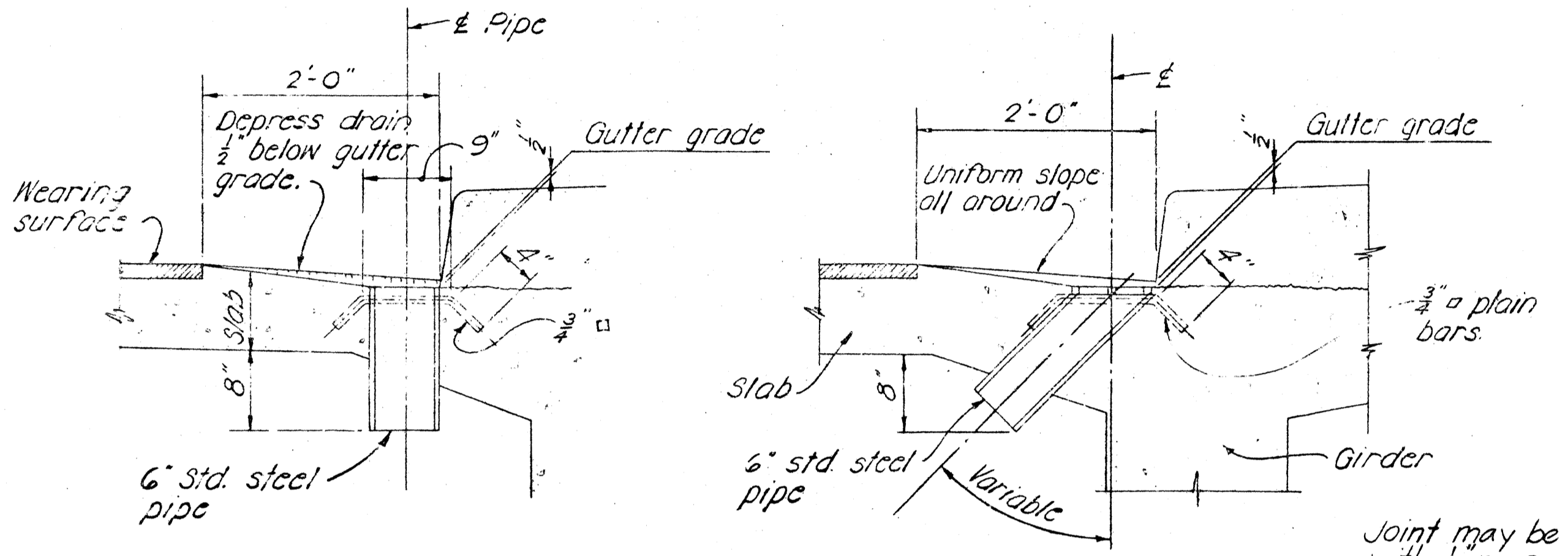
PLAN

SECTION "Z-Z"

DRIP DETAIL

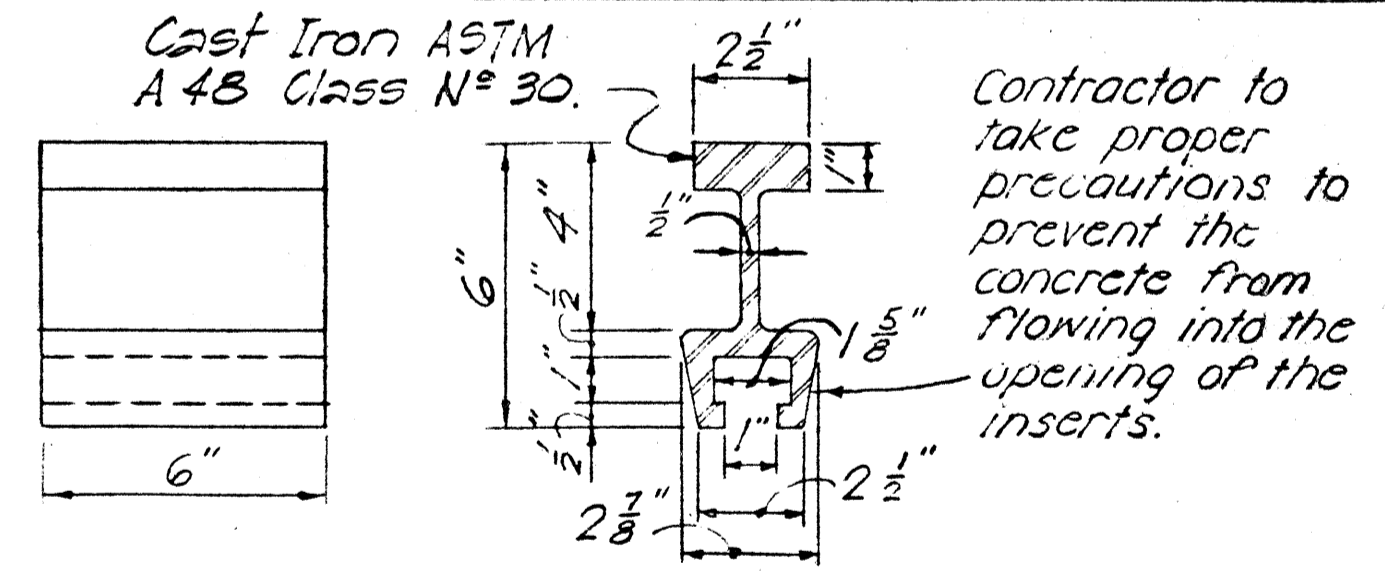
SECTION "X-X"

SECTION "Y-Y"

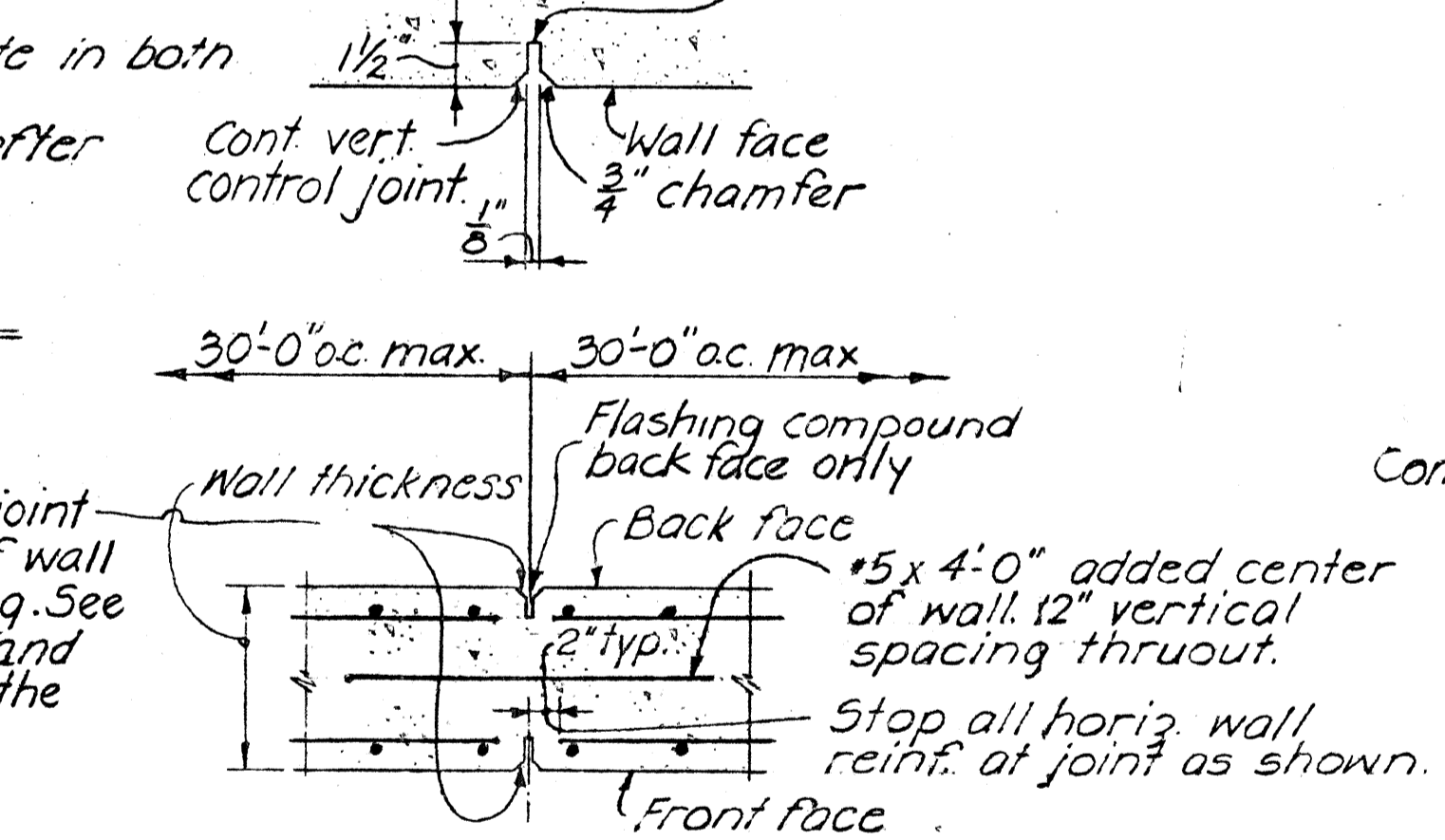


**NOTE:** Metal drains shall be considered incidental to Class A Concrete in both concrete and steel bridges and will not be paid for separately. Assembly of grillage and pipe shall be hot-dip galvanized after all welding is completed.

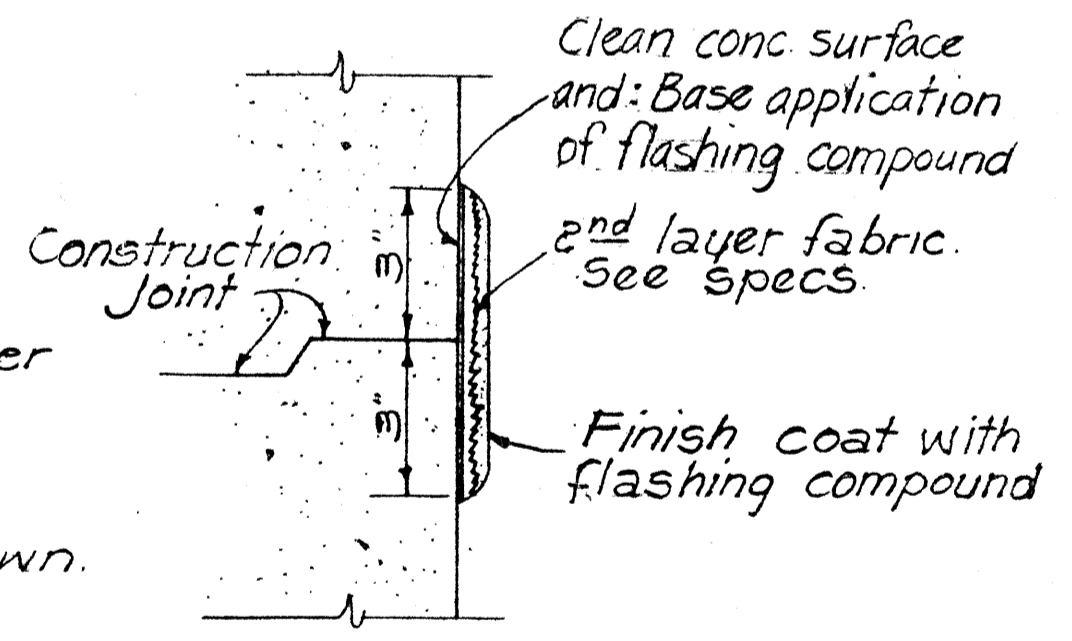
### TYPICAL DRAINAGE DETAILS



INSERT DETAIL



CONTROL JOINT DETAILS



TYP. FLASHING COMPOUND WATERPROOFING DETAIL

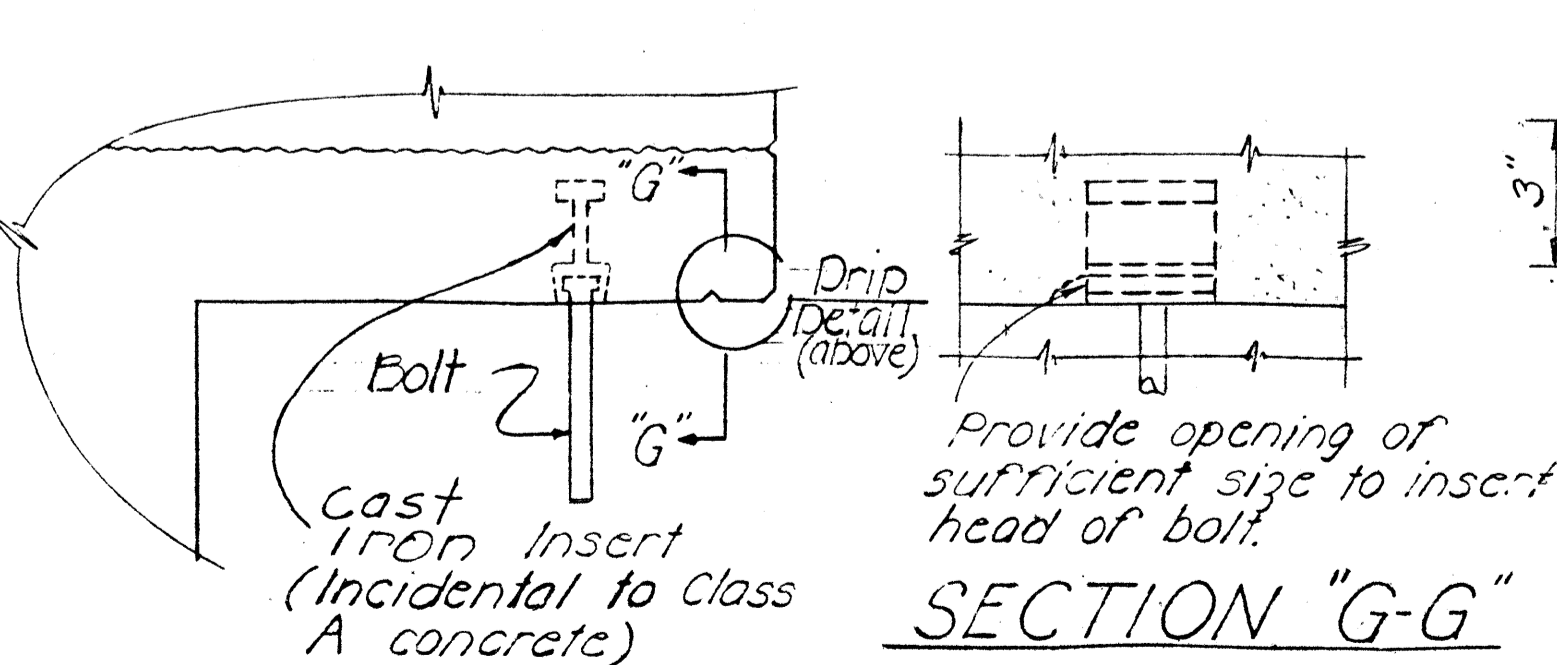
APPROVAL RECOMMENDED:  
*Paul T. Yamashita* 1-23-70  
 BRIDGE DESIGN ENGINEER DATE

APPROVED  
*Paul T. Yamashita* 1-28-70  
 For ASSISTANT CHIEF, ENGINEERING DATE

## NAME DATE

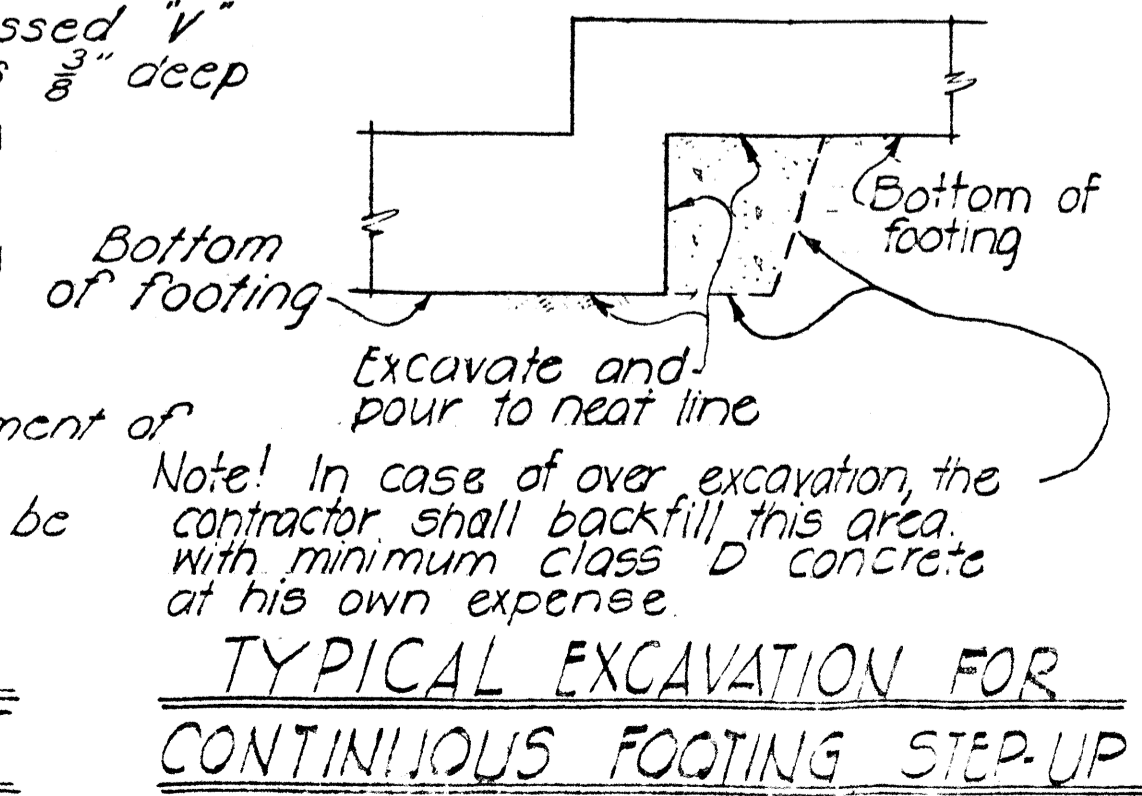
Use correct name of bridge Date of Year built  
**NOTE:** Refer to corresponding detail drawings for placement of such names & dates at end post. Exac. details & spacing of letters & figures shall be as directed by the Engineer. See Note #12

### TYPICAL DETAIL OF LETTERS & FIGURES AT CONCRETE END POST



SECTION "G-G"

DETAIL of PIPE HANGERS & INSERTS



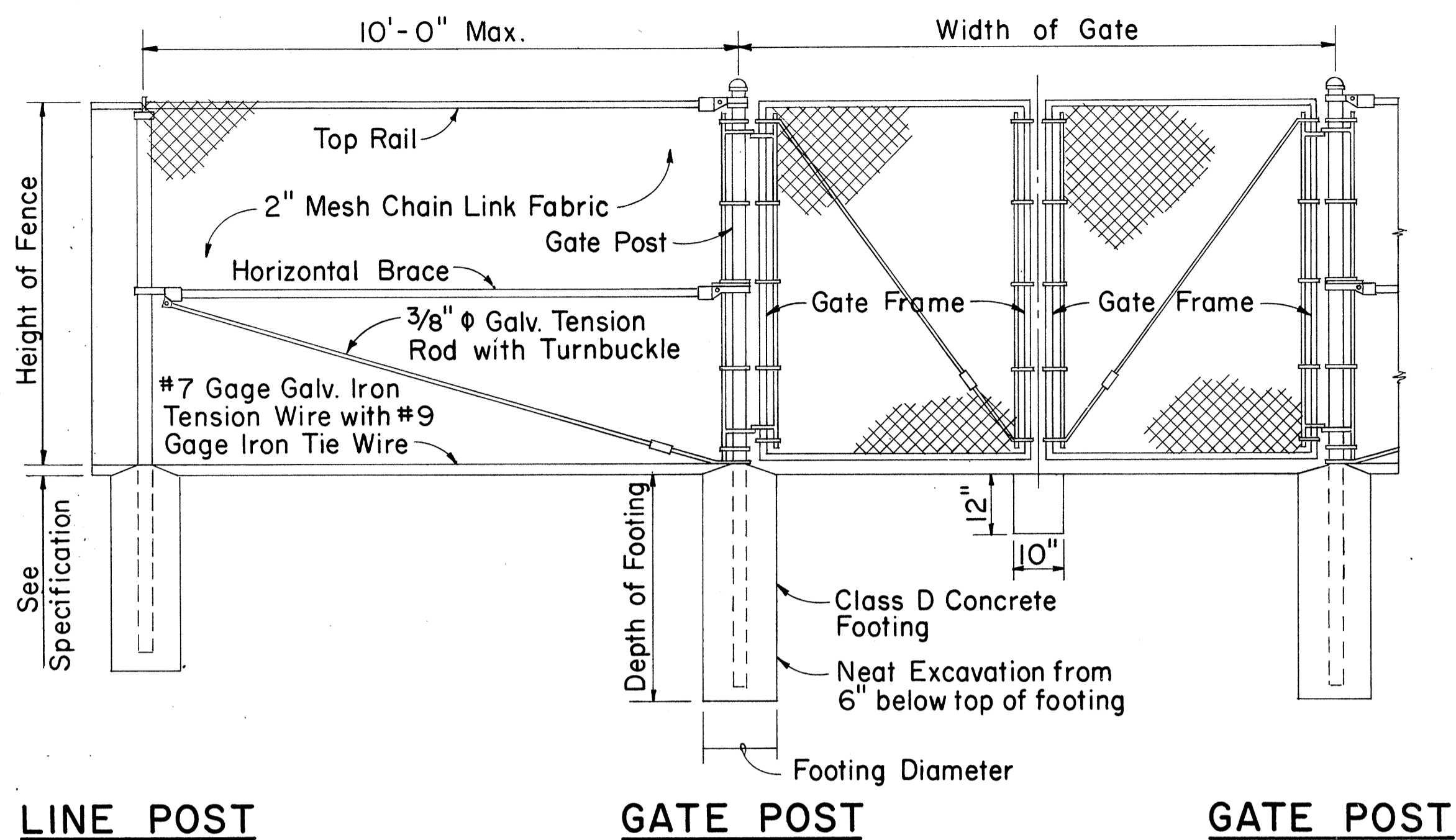
TYPICAL EXCAVATION FOR CONTINUOUS FOOTING STEP-UP

NO	REVISION	APPROVED BY	DATE

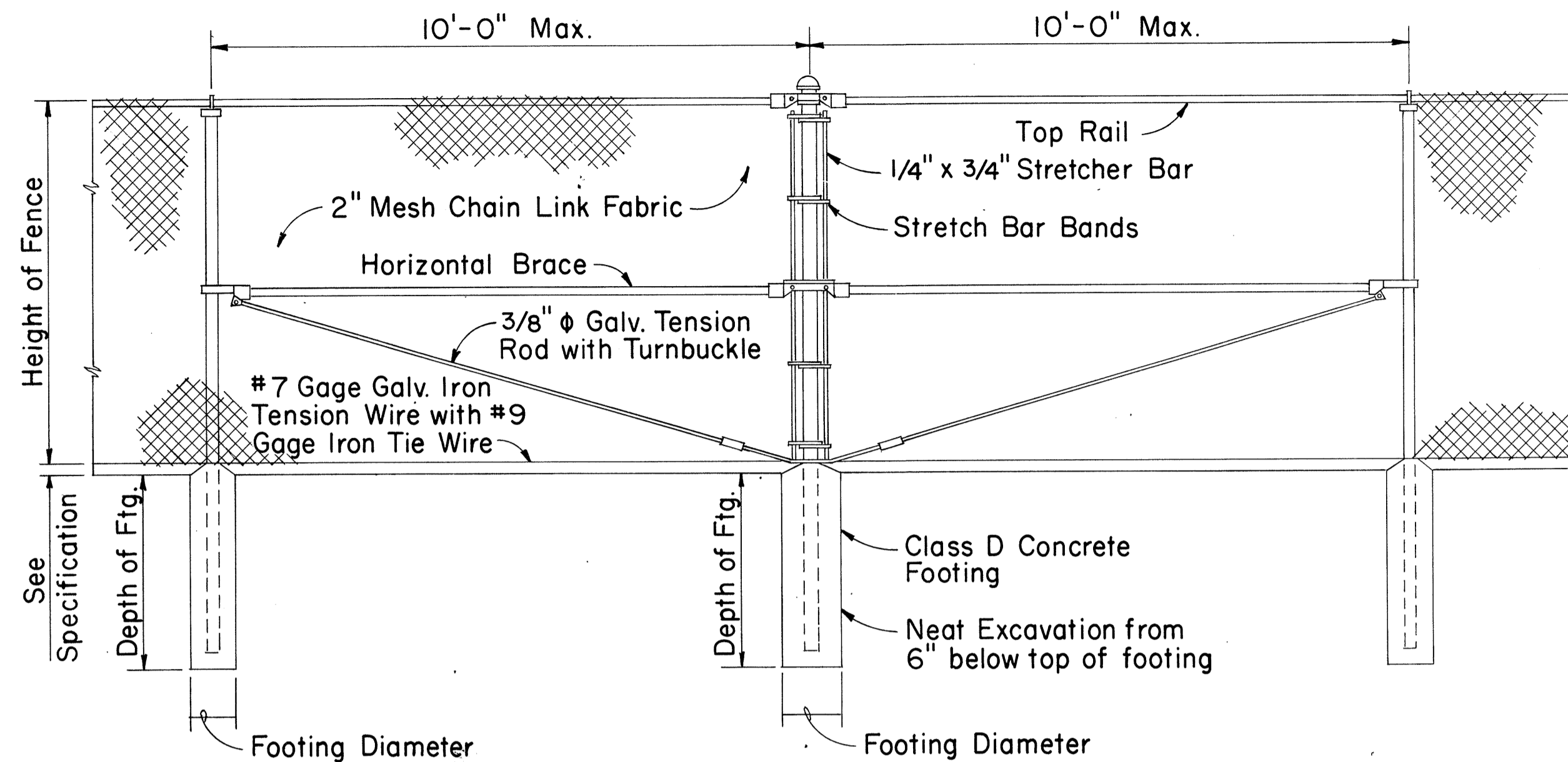
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**STANDARD DETAILS**  
 NOTES AND MISCELLANEOUS  
 DETAILS

Date: October 1969  
 SHEET No. OF SHEETS DB-100

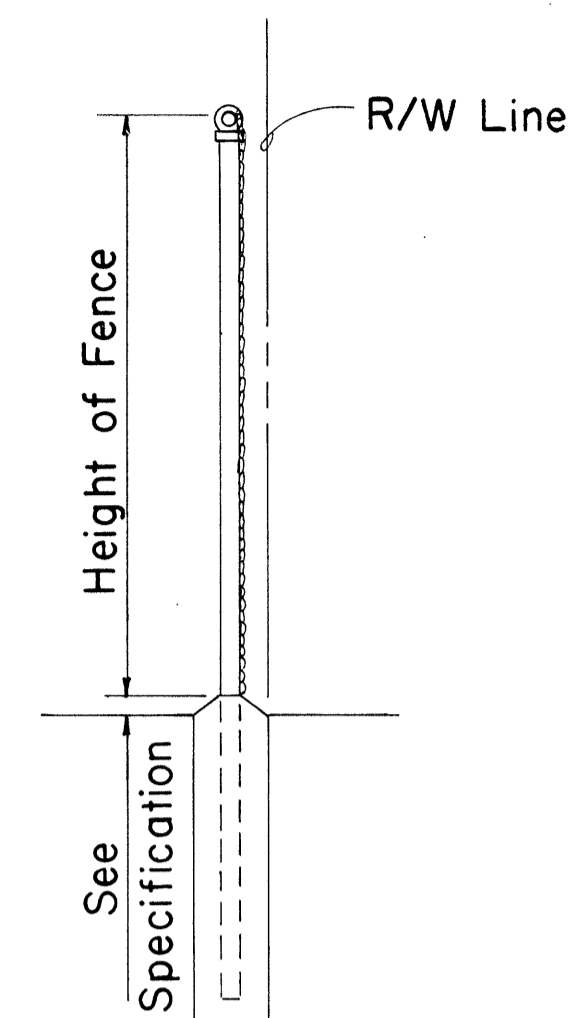
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	122	156



LINE POST      GATE POST      GATE POST



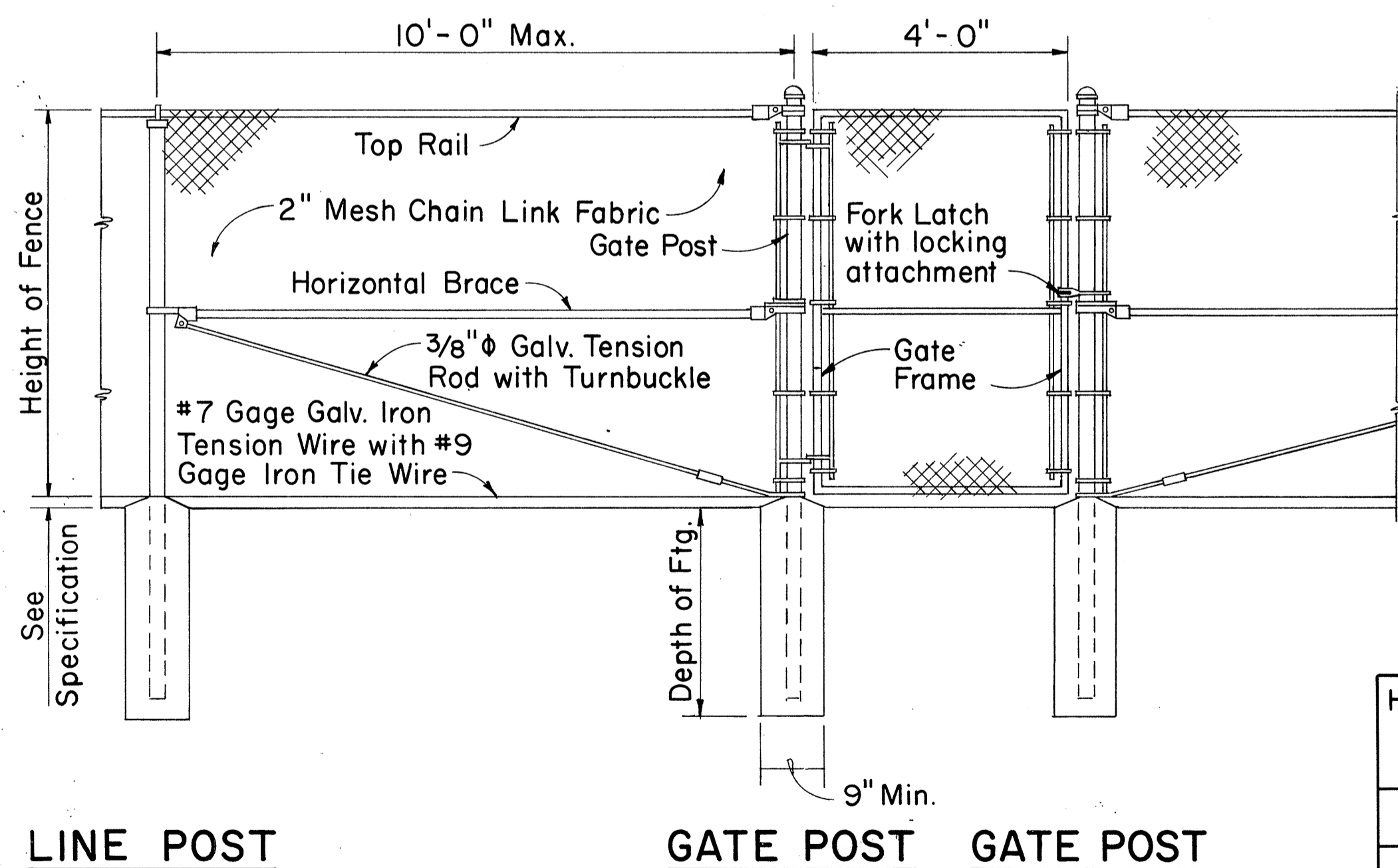
LINE POST      PULL POST      LINE POST



TYPICAL SECTION (WITH CONCRETE FOOTING)

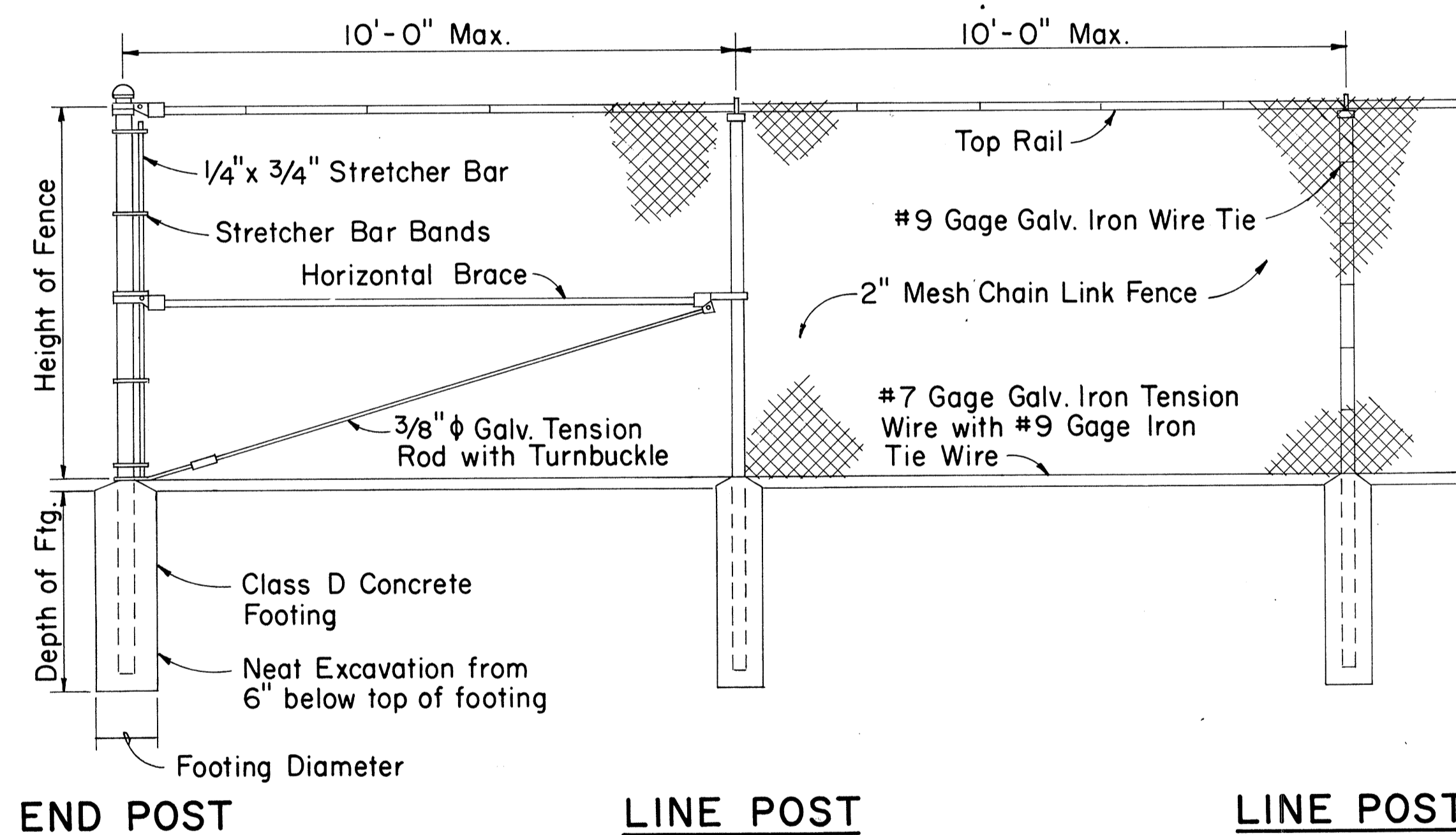
**DETAIL OF CHAIN LINK GATE**

- NOTE: 1. Gate fork latch and lock, flush plate and anchor, and plunger shall be installed with Gates, and shall be considered as incidental to Chain Link Fence Gate.  
 2. Gate frames shall be mitered and welded at corners.  
 3. Fence detail not shown shall be in accordance with the Standard Specifications.

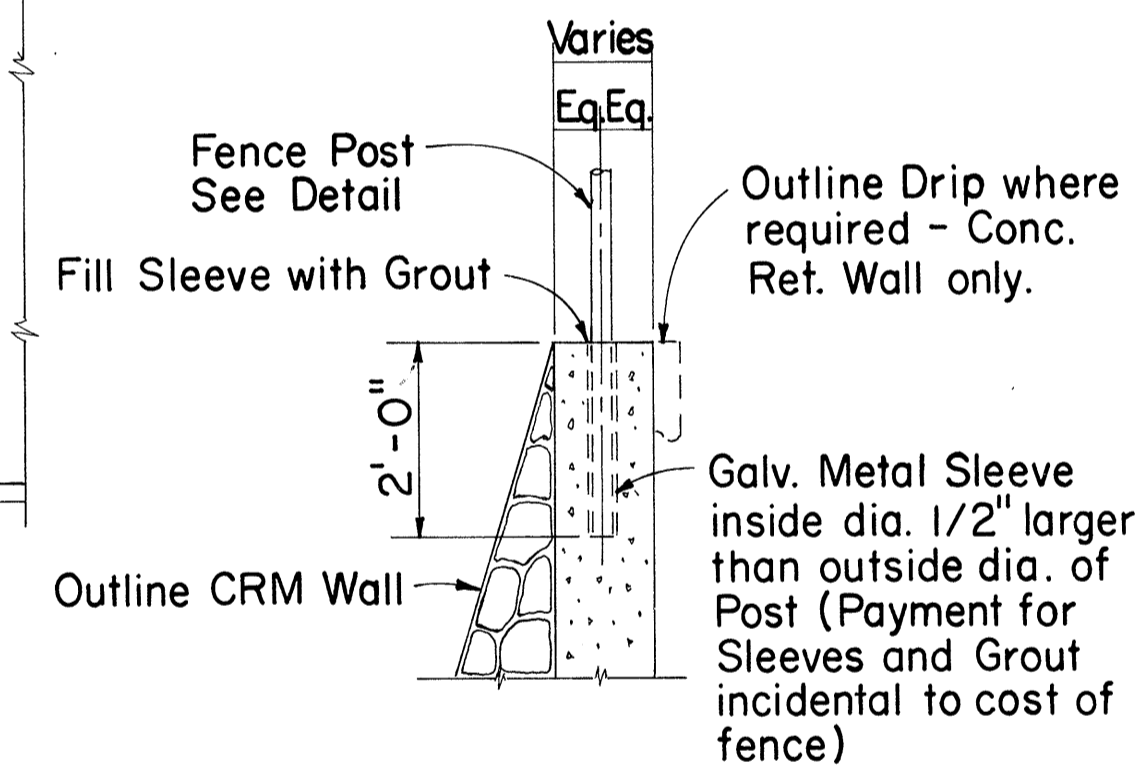


LINE POST      GATE POST      GATE POST

**DETAIL OF 4 FT. CHAIN LINK GATE**



END POST      LINE POST      LINE POST



TYPICAL SECTION (ON CRM & CONC. RET. WALL)

**CHAIN LINK FENCE DETAILS**

Height of Fence	Minimum Depth of Footing		Minimum Footing Diameter	
	Line Post	Corner, Pull, End and Gate Posts	Line Post	Corner, Pull and End Posts
3'	2'-0"	2'-6"	8"	8"
4'	2'-6"	2'-6"	8"	8"
5'	3'-0"	3'-0"	8"	8"
6'	3'-0"	3'-0"	8"	9"

NO	REVISION	APPROVED BY	DATE

APPROVAL, RECOMMENDED:  
*M. Hagan*  
 HIGHWAY DESIGN ENGINEER      12-4-69      DATE

APPROVED:  
*Charles R. ...*  
 ASSISTANT CHIEF, ENGINEERING      12-10-69      DATE

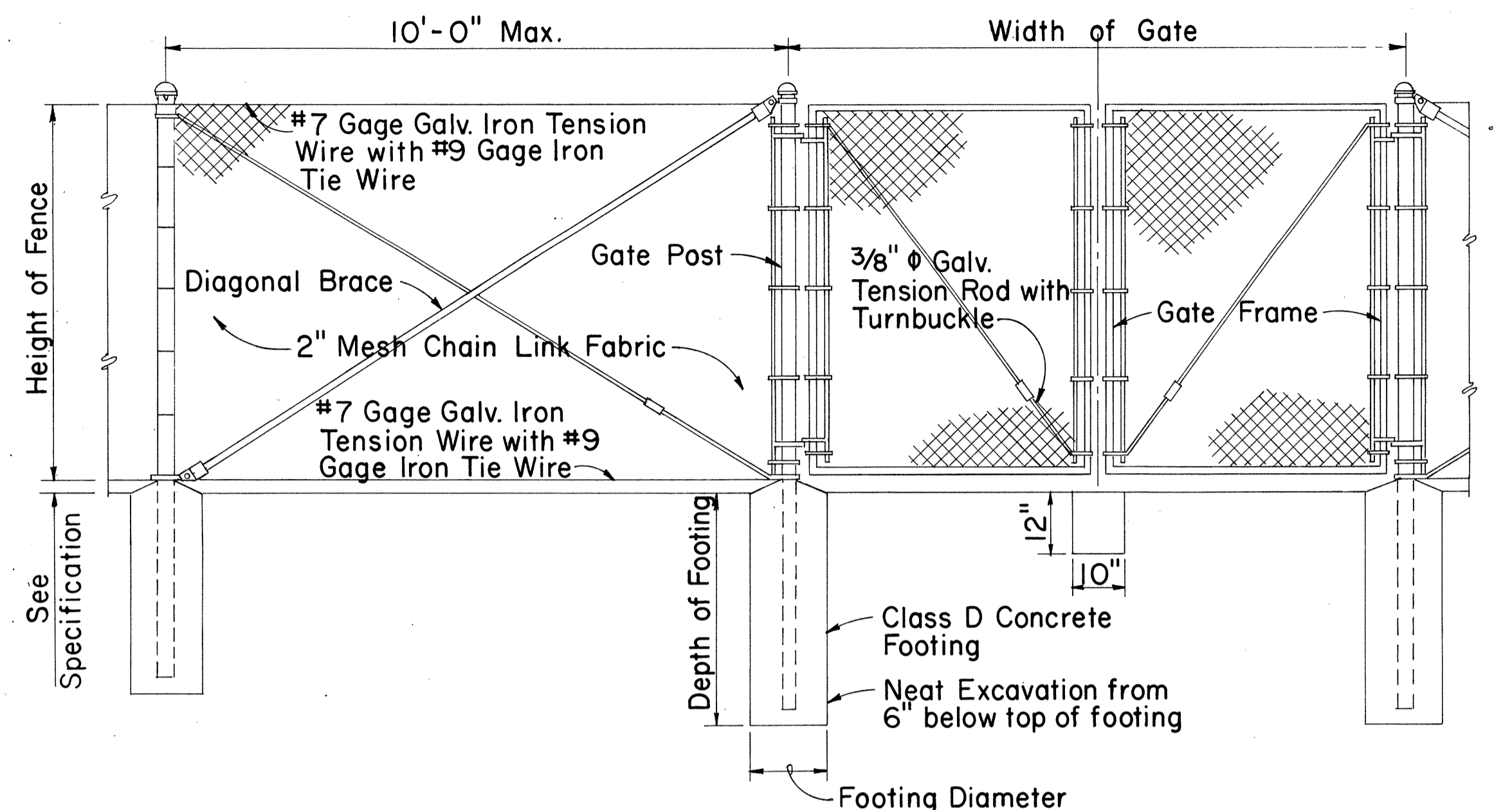
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**CHAIN LINK FENCE**  
**(WITH TOPRAIL)**

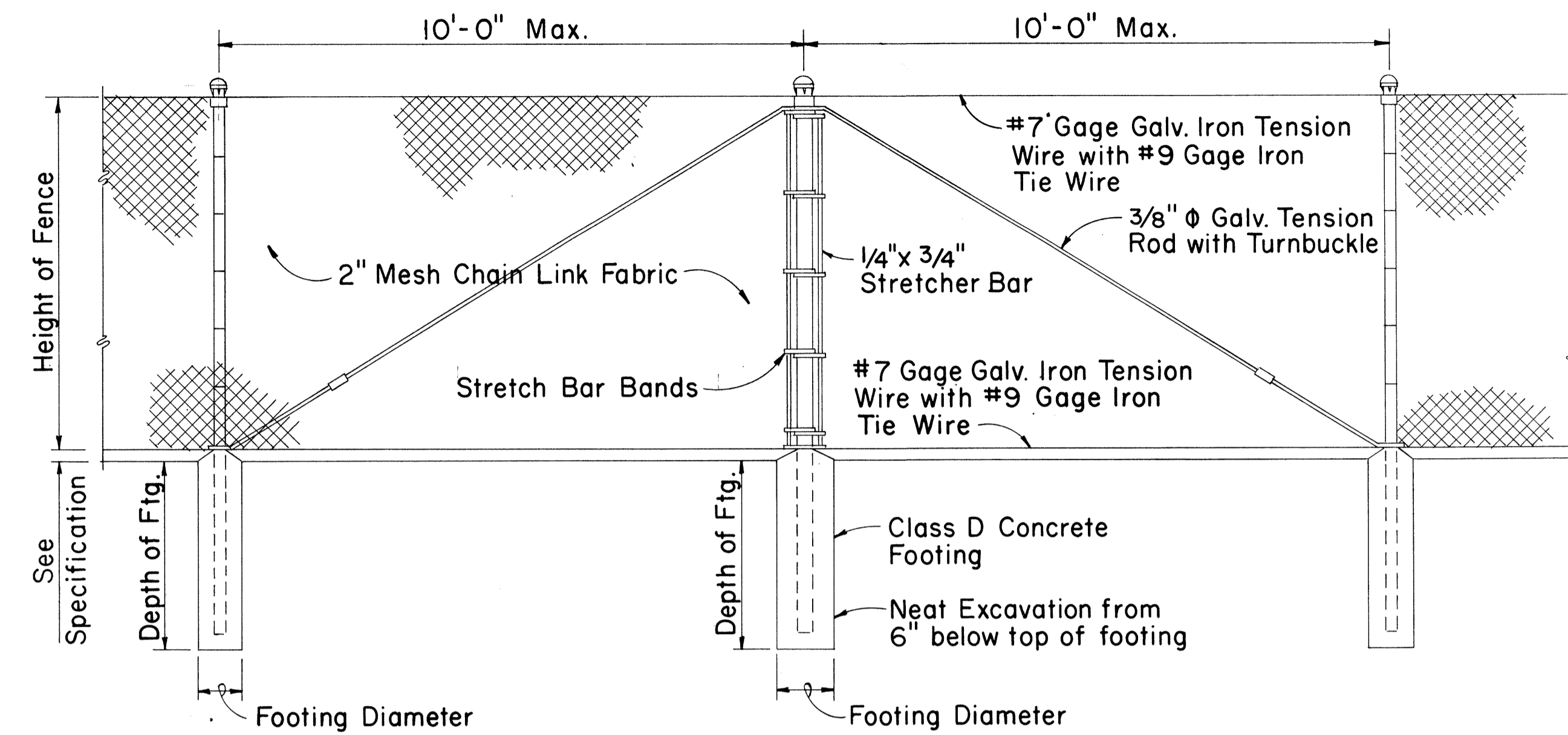
Scale: 1/2" = 1'-0"      Date:     

DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 No. \_\_\_\_\_

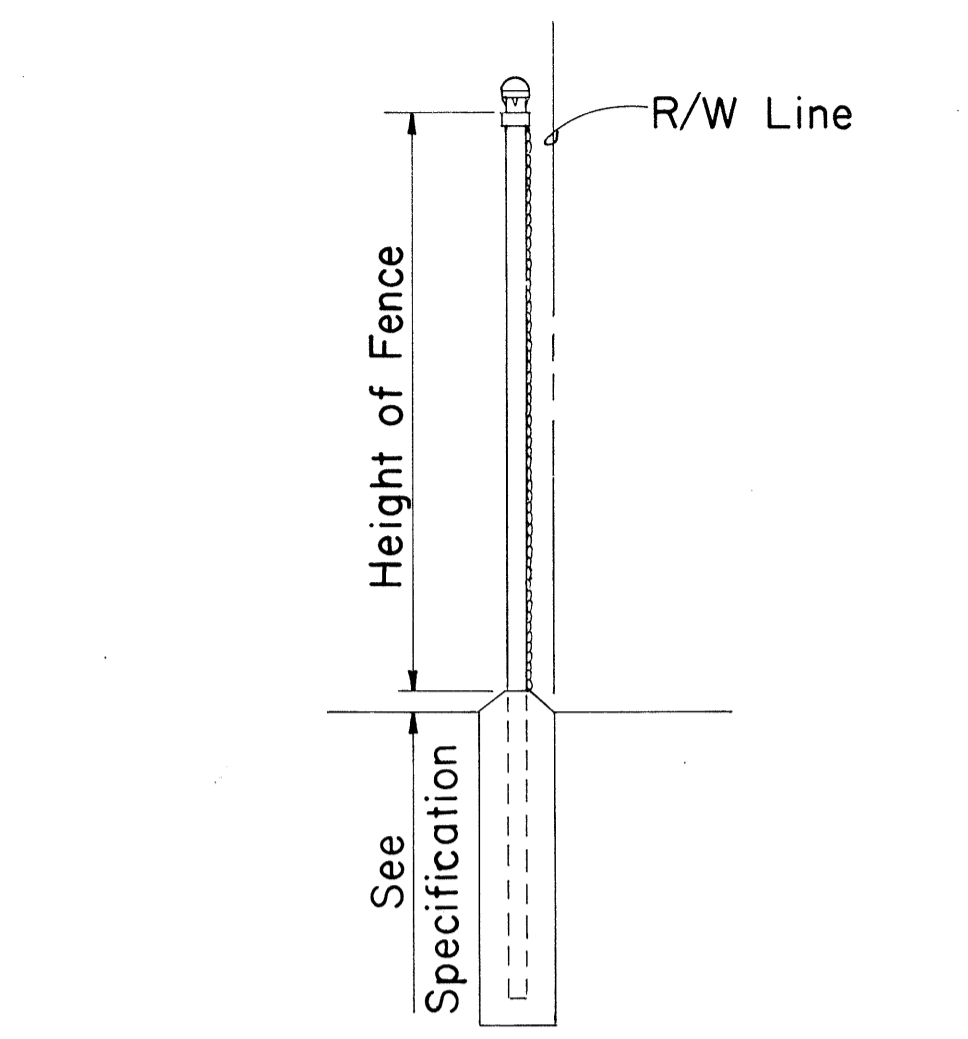
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	123	156



LINE POST      GATE POST      GATE POST



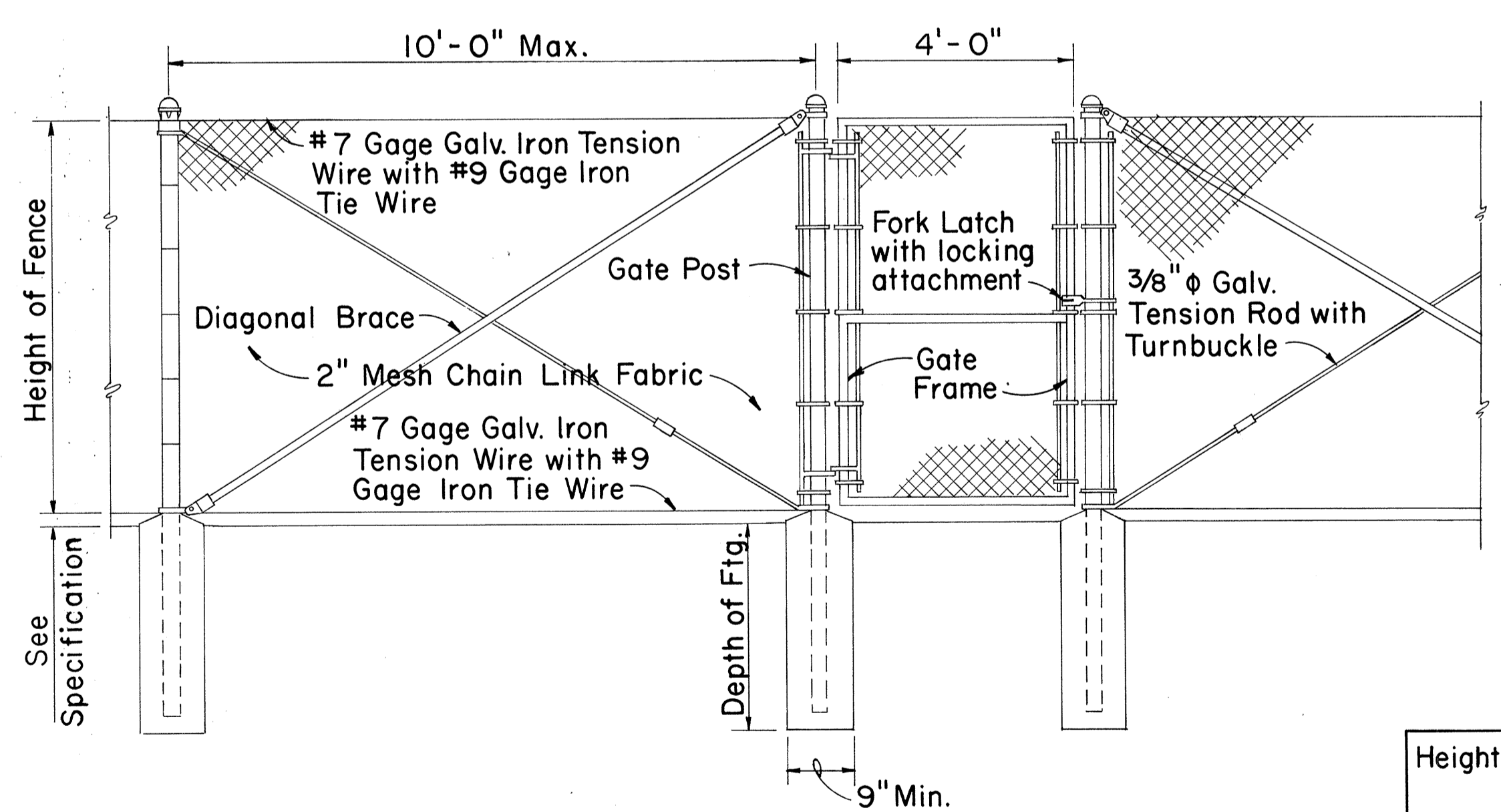
LINE POST      PULL POST      LINE POST



TYPICAL SECTION (WITH CONCRETE FOOTING)

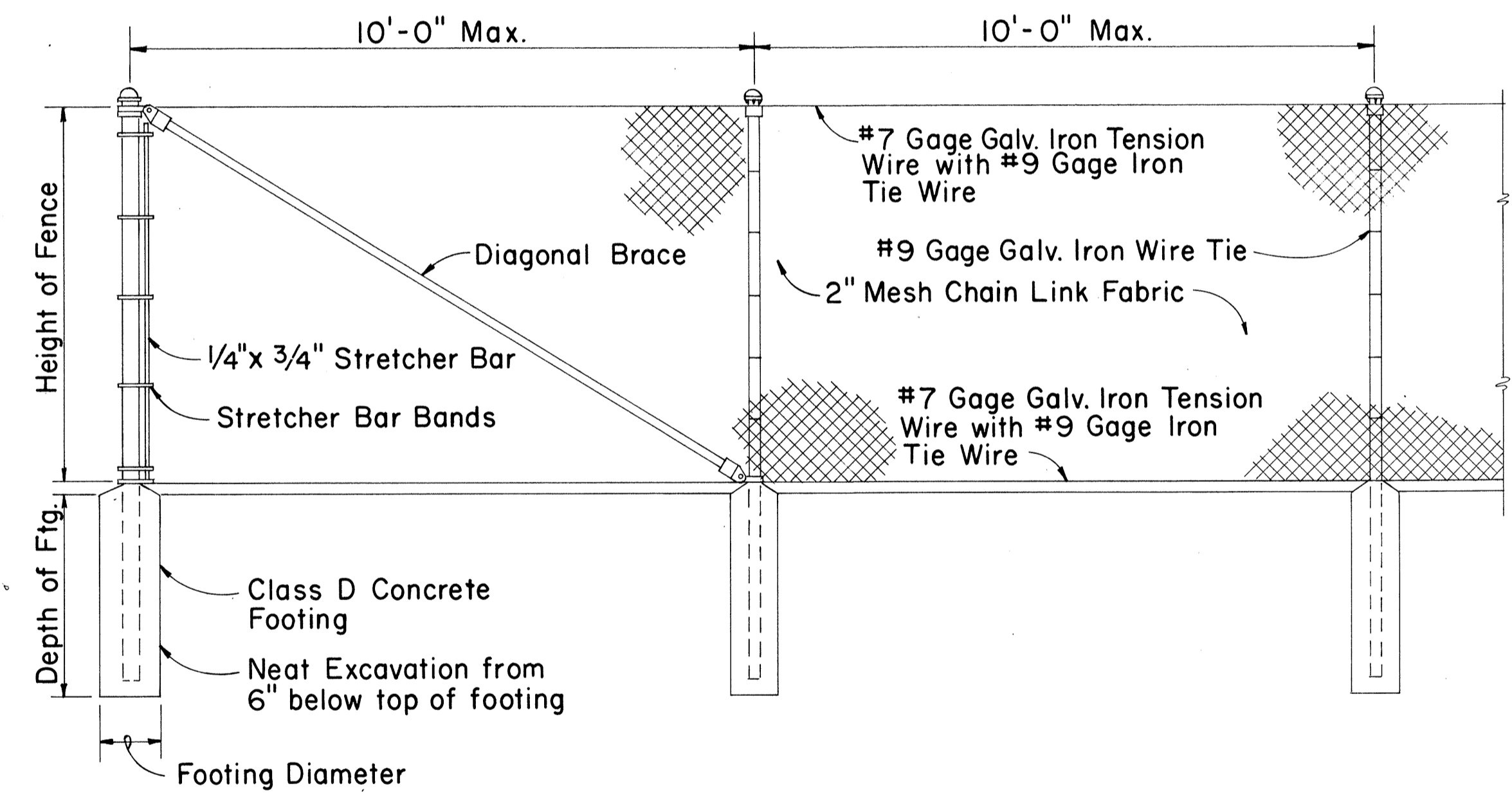
**DETAIL OF CHAIN LINK GATE**

- NOTE: 1. Gate fork latch and lock, flush plate and anchor, and plunger shall be installed with Gates, and shall be considered as incidental to Chain Link Fence Gate.  
 2. Gate frames shall be mitered and welded at corners.  
 3. Fence detail not shown shall be in accordance with the Standard Specifications.

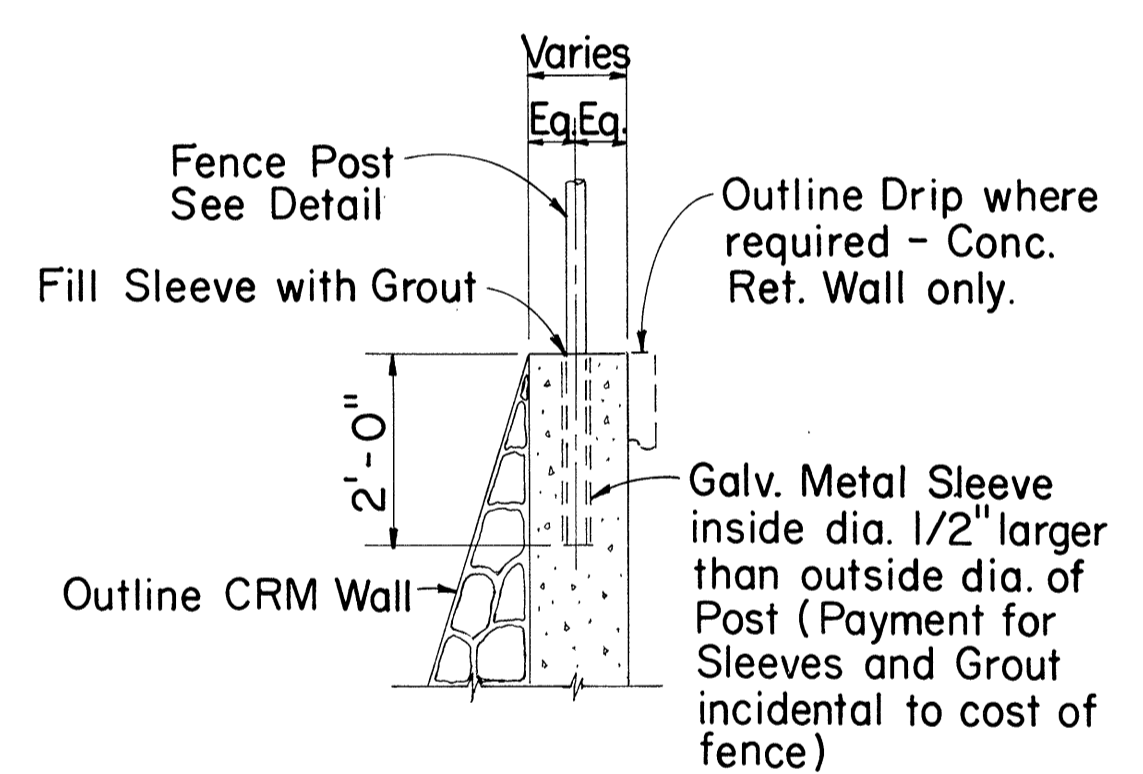


LINE POST      GATE POST      GATE POST

**DETAIL OF 4 FT. CHAIN LINK GATE**



END POST      LINE POST      LINE POST



TYPICAL SECTION (ON CRM & CONC. RET. WALL)

**CHAIN LINK FENCE DETAILS**

Height of Fence	Minimum Depth of Footing		Minimum Footing Diameter	
	Line Post	Corner, Pull, End and Gate Posts	Line Post	Corner, Pull and End Posts
3'	2'-0"	2'-6"	8"	8"
4'	2'-6"	2'-6"	8"	8"
5'	3'-0"	3'-0"	8"	8"
6'	3'-0"	3'-0"	8"	9"

APPROVAL RECOMMENDED:  
*M. Hirose*  
 HIGHWAY DESIGN ENGINEER      12-4-69      DATE

APPROVED:  
*A. S. Sabin*  
 ASSISTANT CHIEF, ENGINEERING      12-10-69      DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**

**CHAIN LINK FENCE**  
 (WITHOUT TOPRAIL)

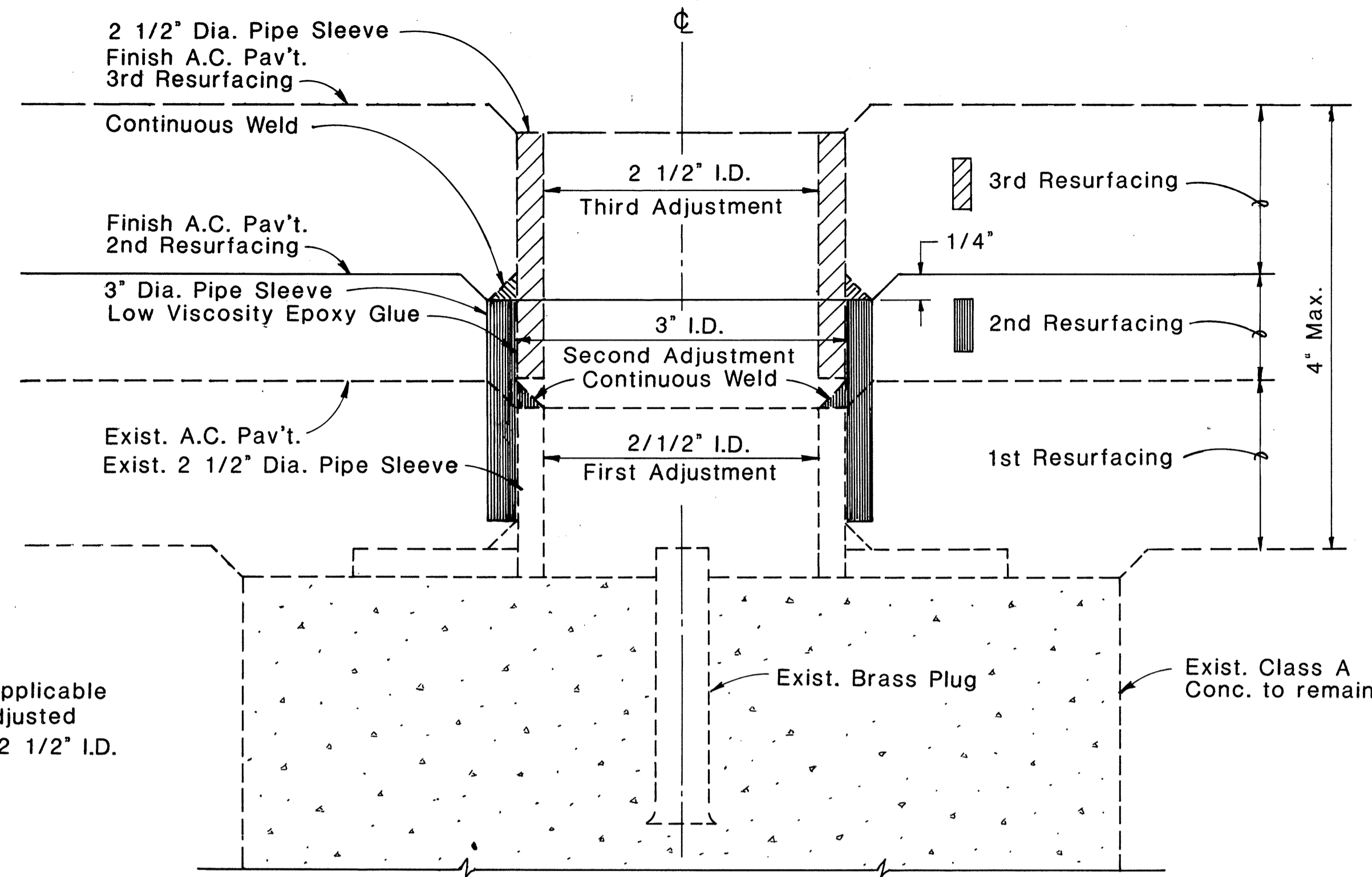
Scale: 1/2" = 1'-0"      Date:     

SURVEY PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN NO. \_\_\_\_\_  
 NOTE BOOK QUANTITIES BY: \_\_\_\_\_  
 No. \_\_\_\_\_





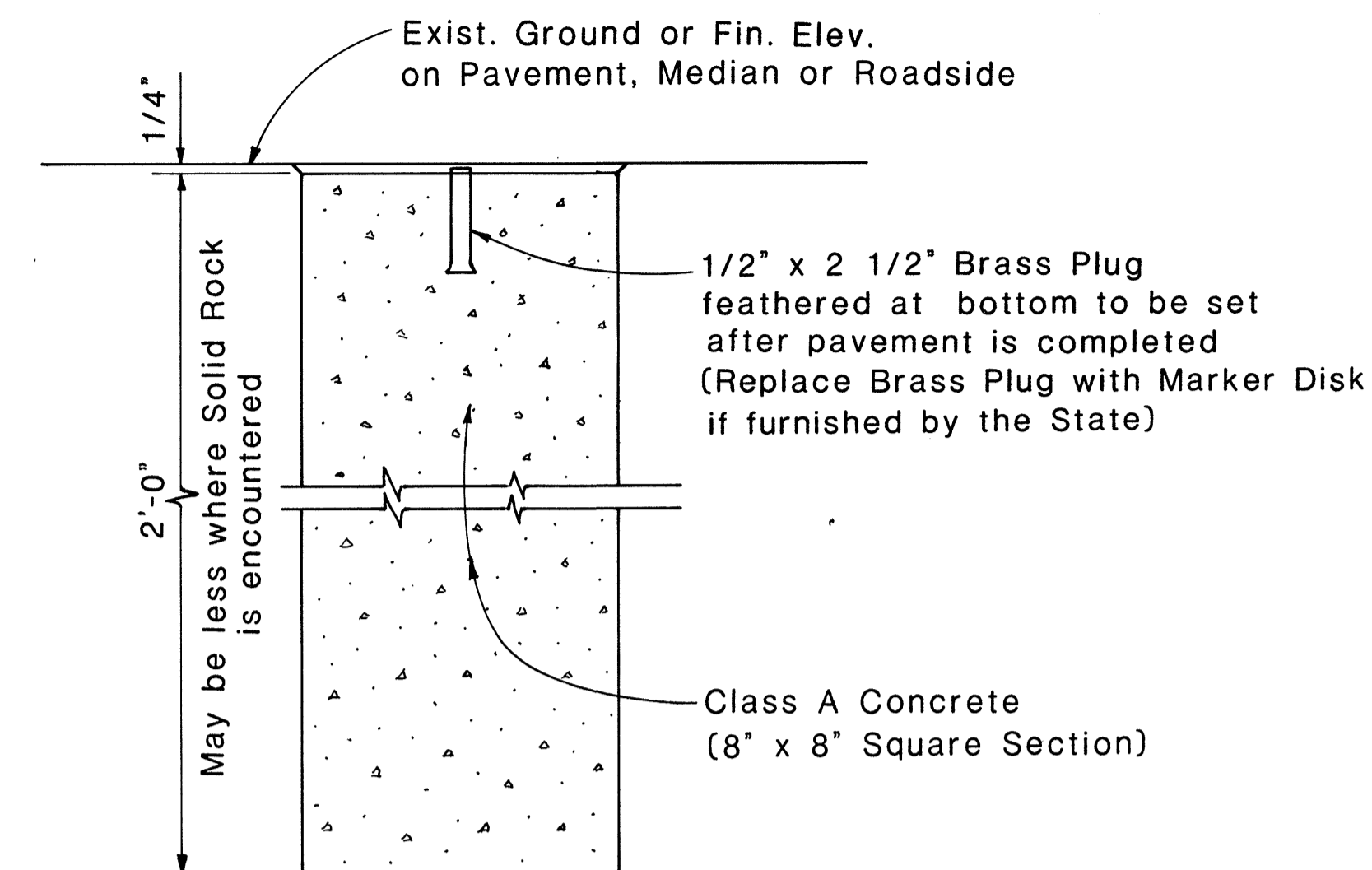
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	125	156



**NOTE:**  
This detail is applicable only if initial adjusted pipe sleeve is 2 1/2" I.D.

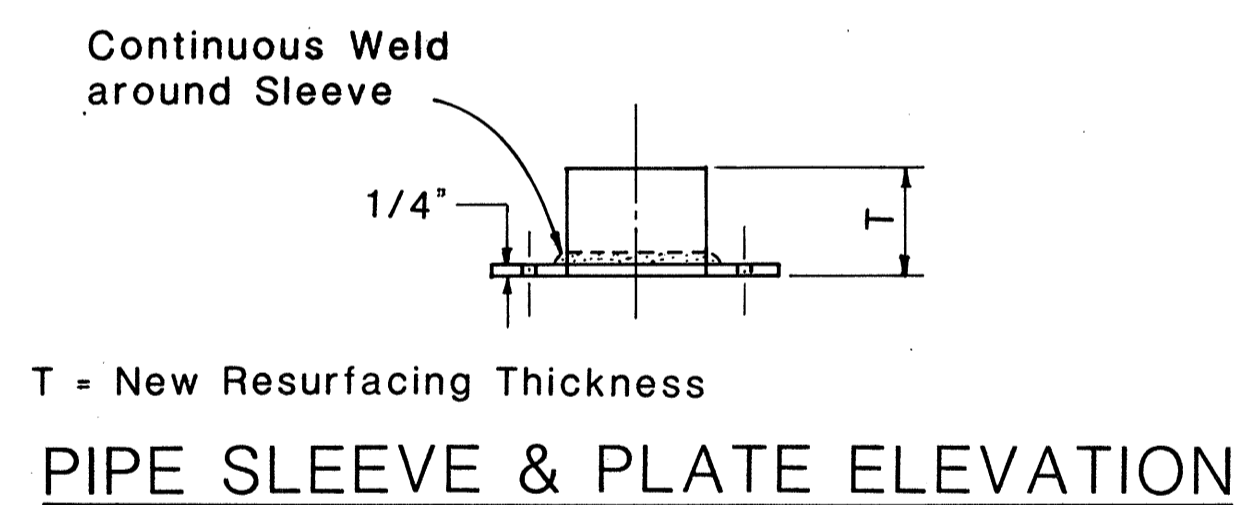
### DETAIL FOR CENTERLINE MONUMENT (2ND & 3RD) ADJUSTMENTS

FULL SIZE

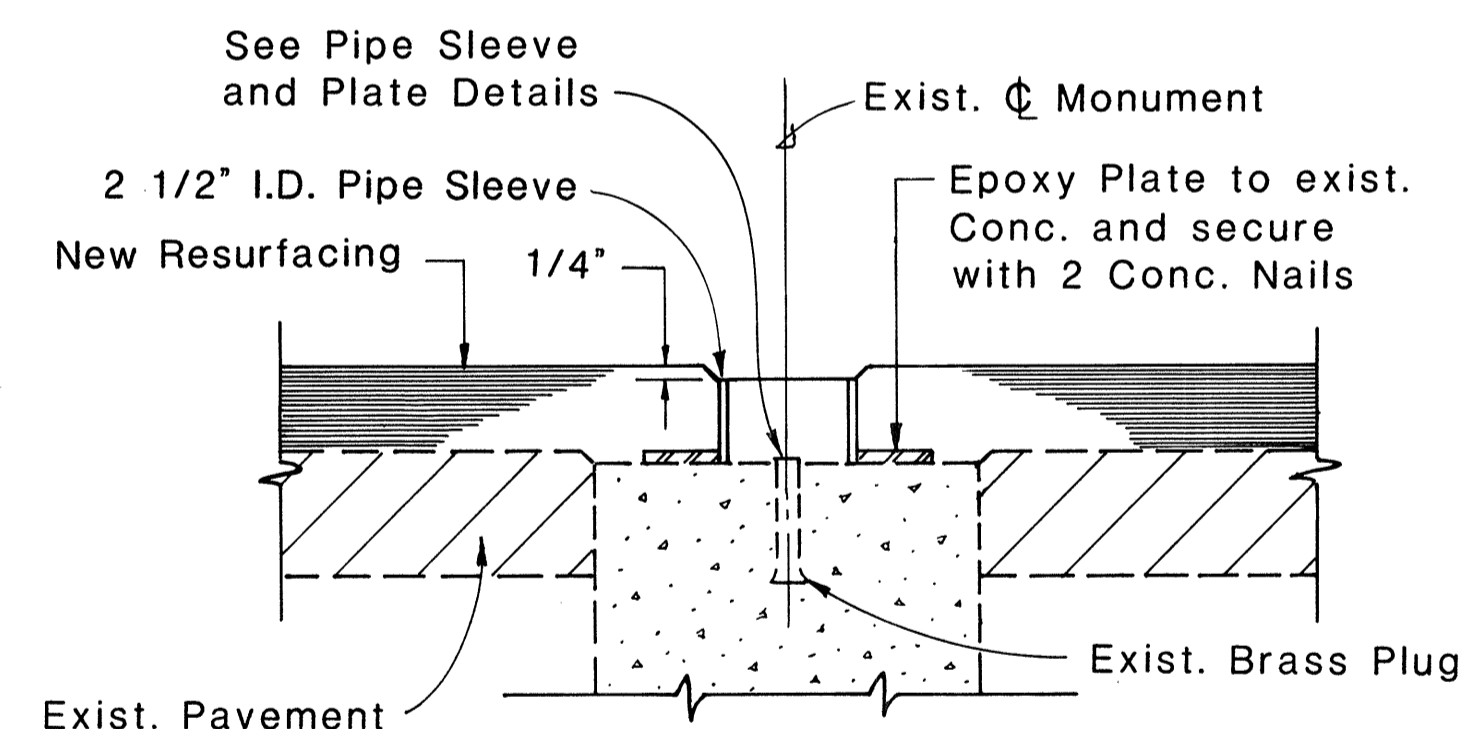


### DETAIL FOR CENTERLINE & REFERENCE SURVEY MONUMENT

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

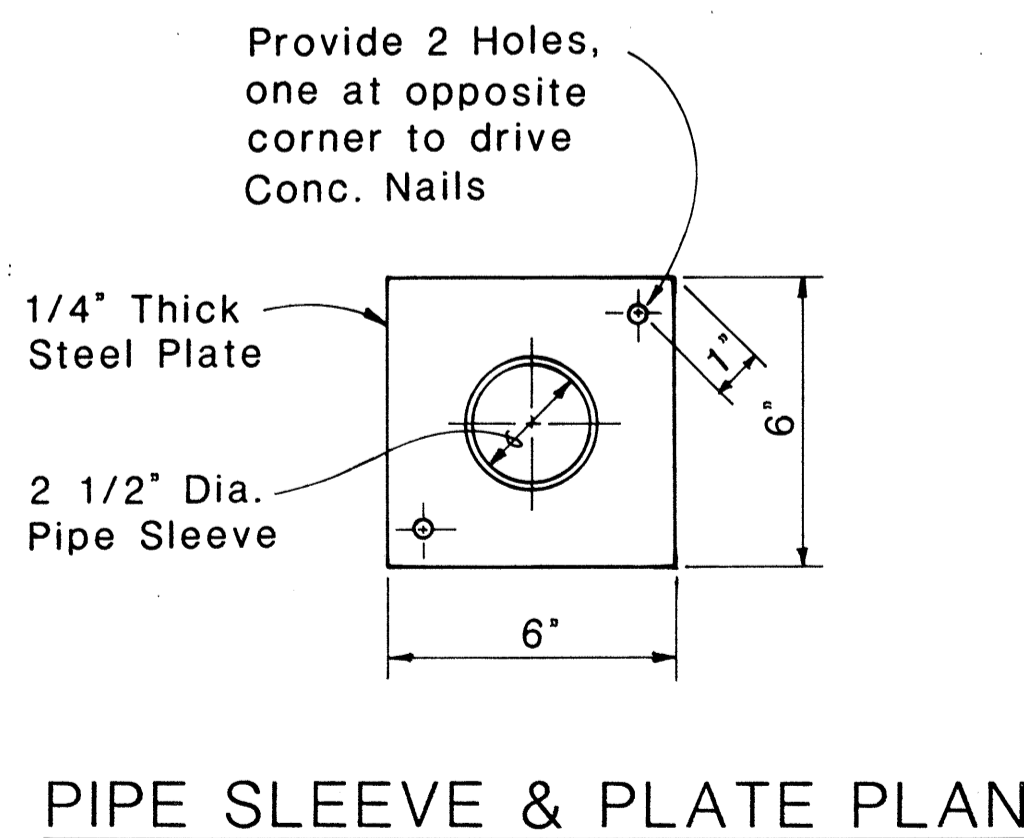


### PIPE SLEEVE & PLATE ELEVATION



### SECTION THRU MONUMENT

- NOTE:**
- Adjustment of Centerline Monuments will not be paid for separately, but shall be considered incidental to the various contract items.
  - These Adjustment Details also apply to Centerline Monuments utilized as Stationline Reference Points.



### PIPE SLEEVE & PLATE PLAN

### DETAILS FOR ADJUSTED CENTERLINE MONUMENT

Scale: 3" = 1'-0"

APPROVAL RECOMMENDED:

*Mike Miura* 6-20-83  
HIGHWAY DESIGN ENGINEER DATE

APPROVED:  
*S. Fujiyama* 6-22-83  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED	
		BY	DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**

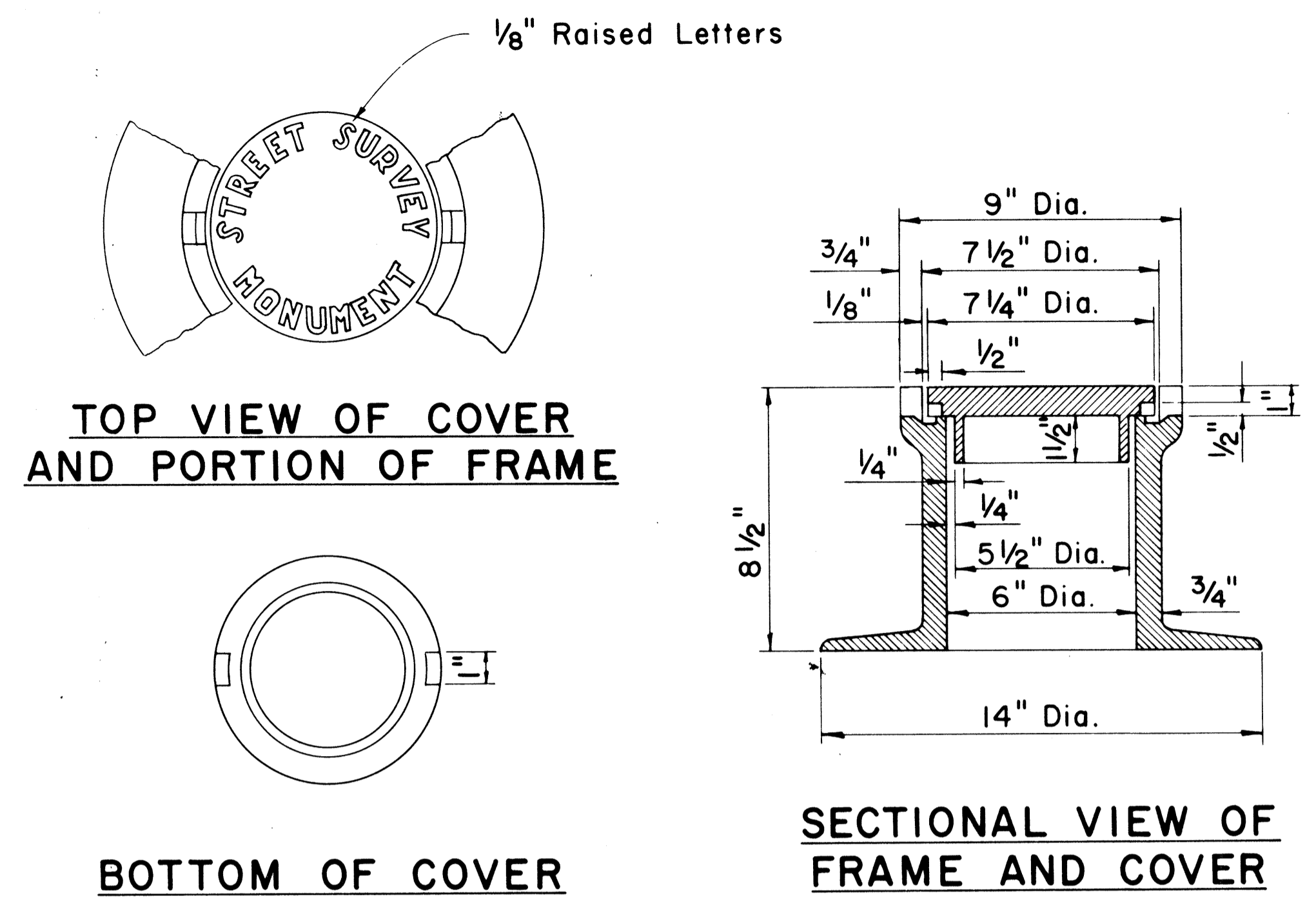
**CENTERLINE AND REFERENCE  
SURVEY MONUMENT**

Scale: As Shown Date: May, 1983

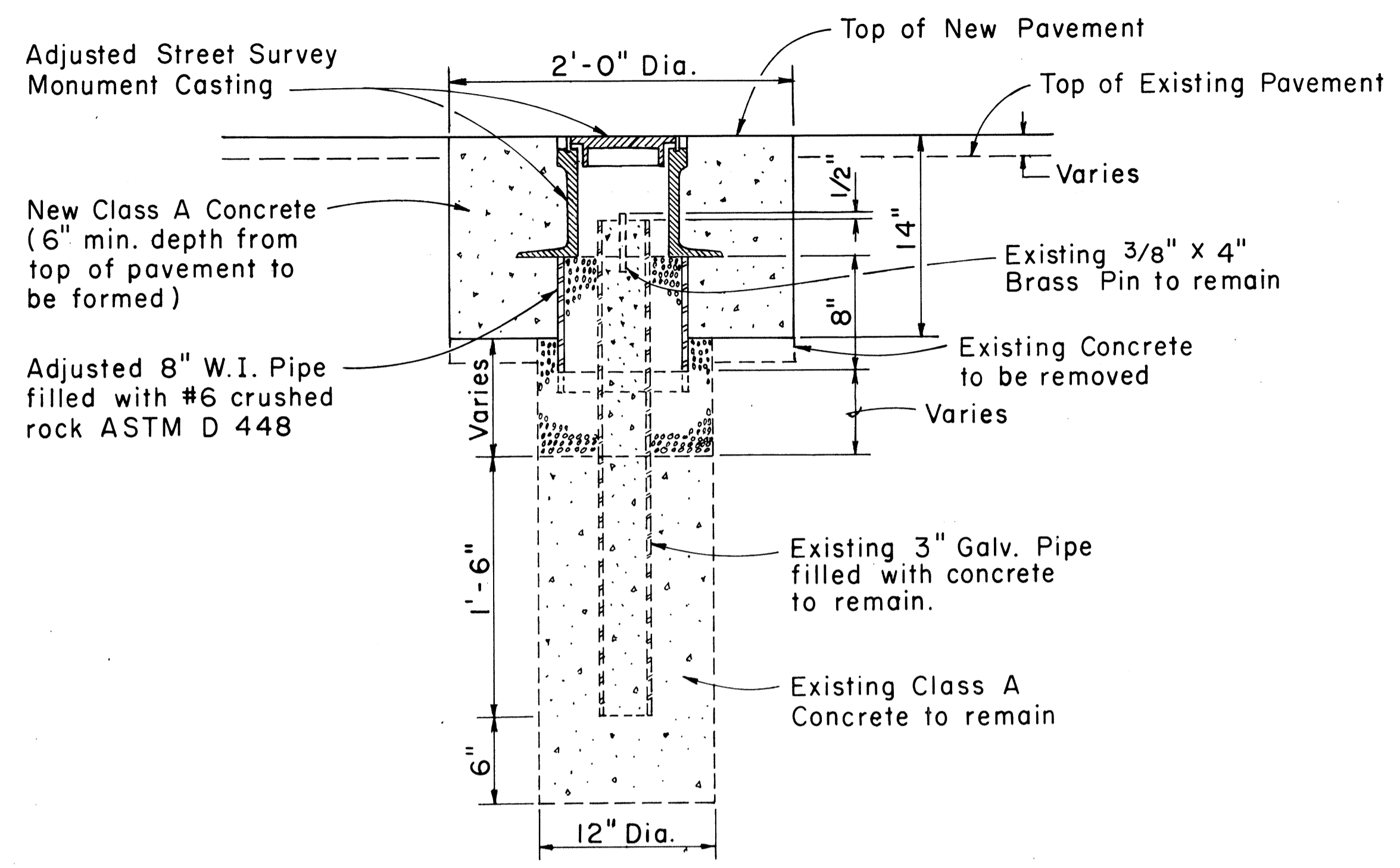
SHEET NO. OF SHEETS

DATE: \_\_\_\_\_  
SURVEY PLANNED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
TRACED BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
ORIGINAL PLAN: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
NO. \_\_\_\_\_

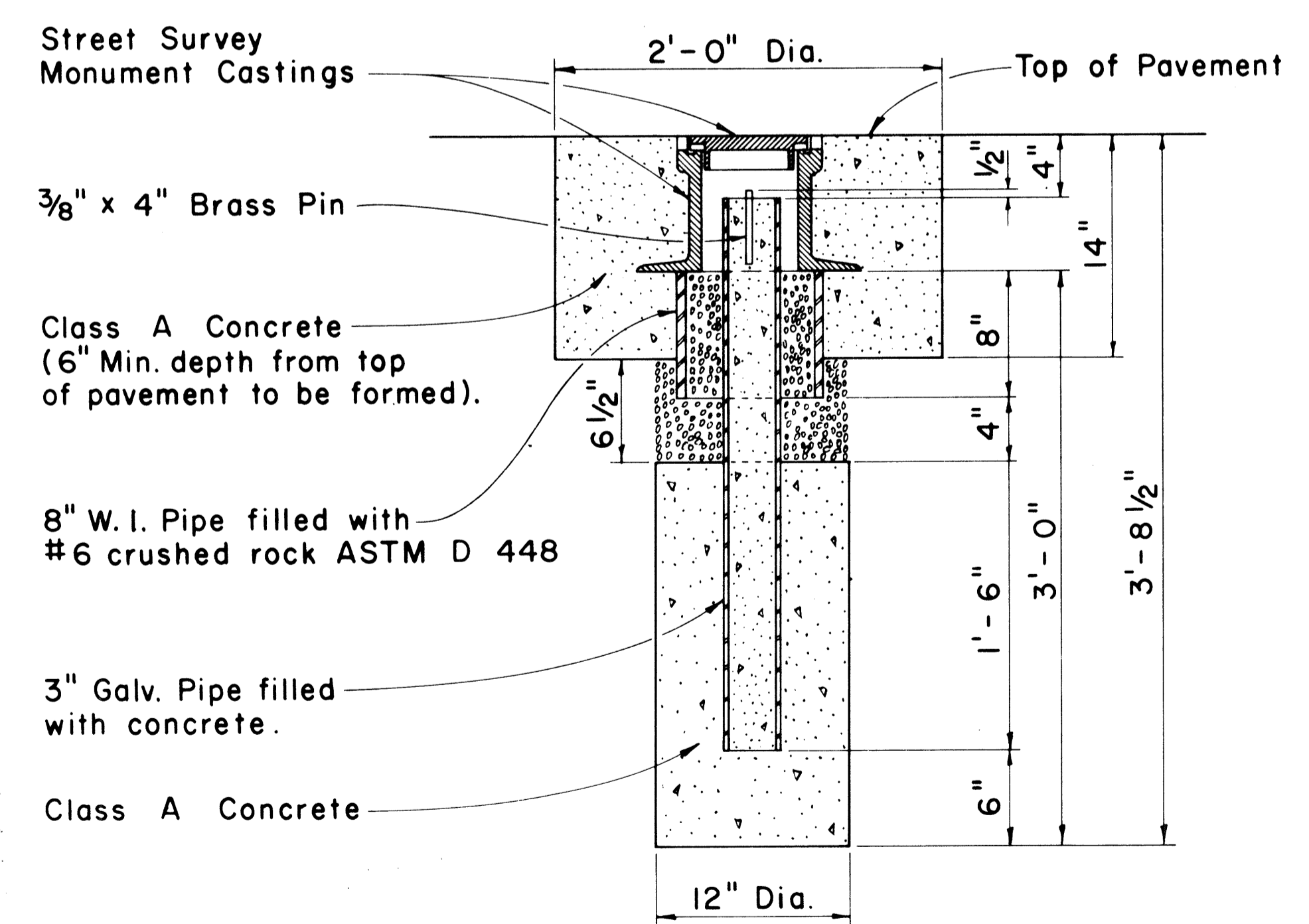
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(16) F-063-1(17)	1984	126	156



**STREET SURVEY MONUMENT CASTINGS**  
Scale: 3" = 1'-0"



**DETAILS FOR ADJUSTED STREET SURVEY MONUMENT**  
Scale: 1 1/2" = 1'-0"



**NOTE:**  
Where the excavation extends into solid rock the depth may be decreased if approved by the Engineer.

**STREET SURVEY MONUMENT**  
Scale: 1 1/2" = 1'-0"

APPROVAL RECOMMENDED:  
*M. Hirozawa* 12-4-69  
HIGHWAY DESIGN ENGINEER DATE

APPROVED:  
*John J. Salas* 12-10-69  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Deleted "Detail For Centerline & Reference Survey Monument," added "Detail For Adjusted Street Survey Monument" and deleted "C & C" Inscription on Cover.	<i>J.S.</i>	6-22-83

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**

**STREET SURVEY MONUMENT**

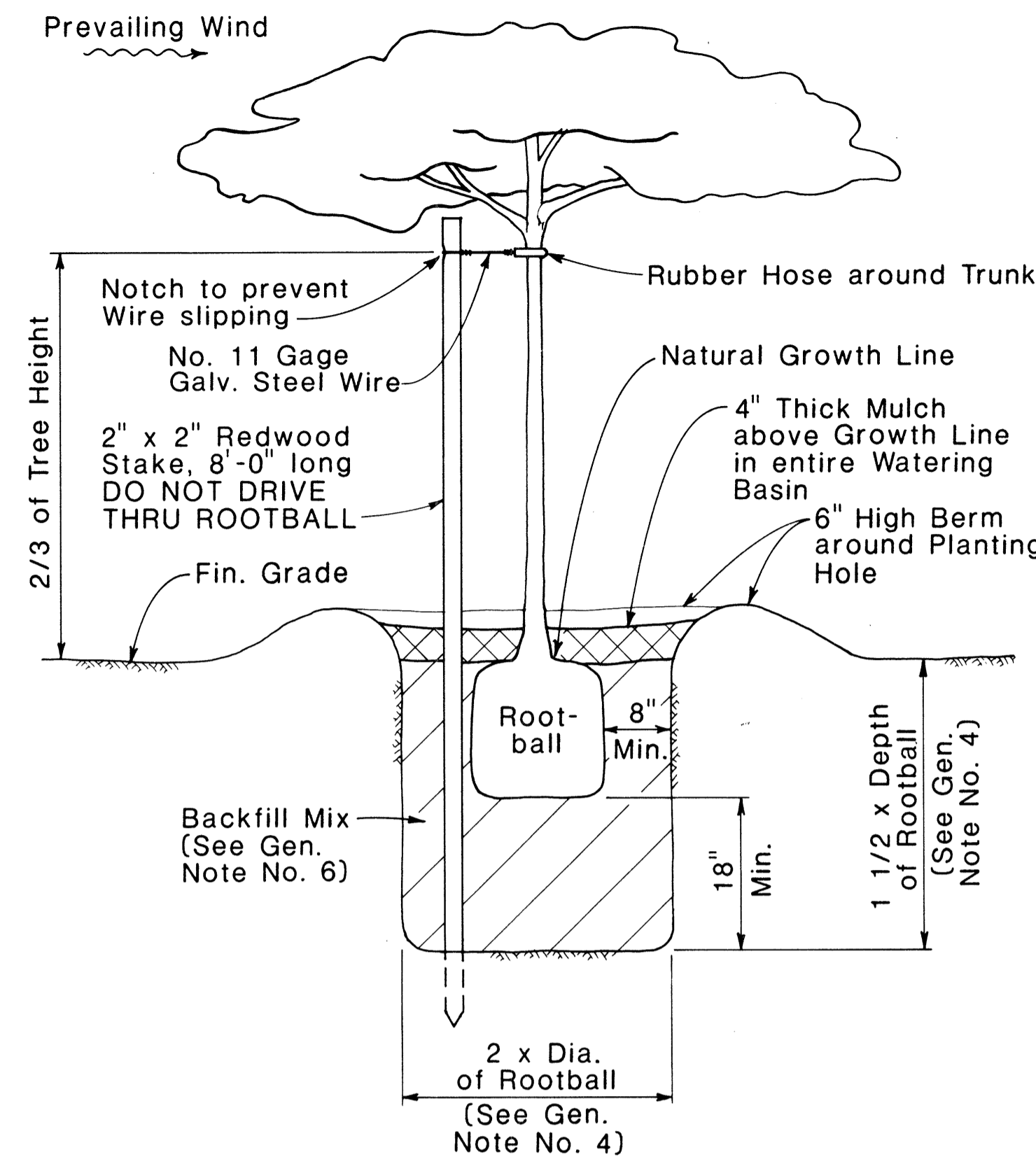
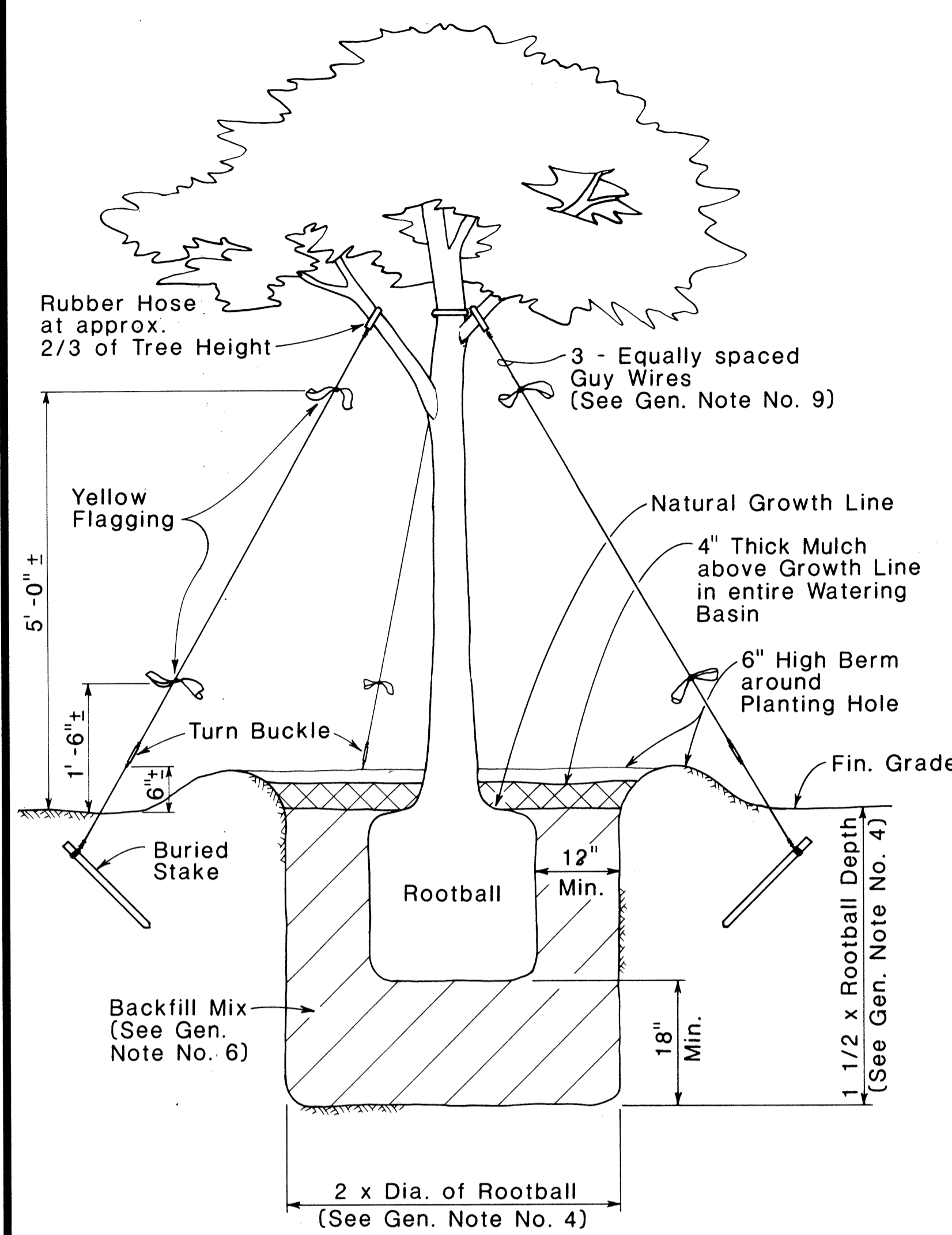
SCALE: AS SHOWN

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	127	156

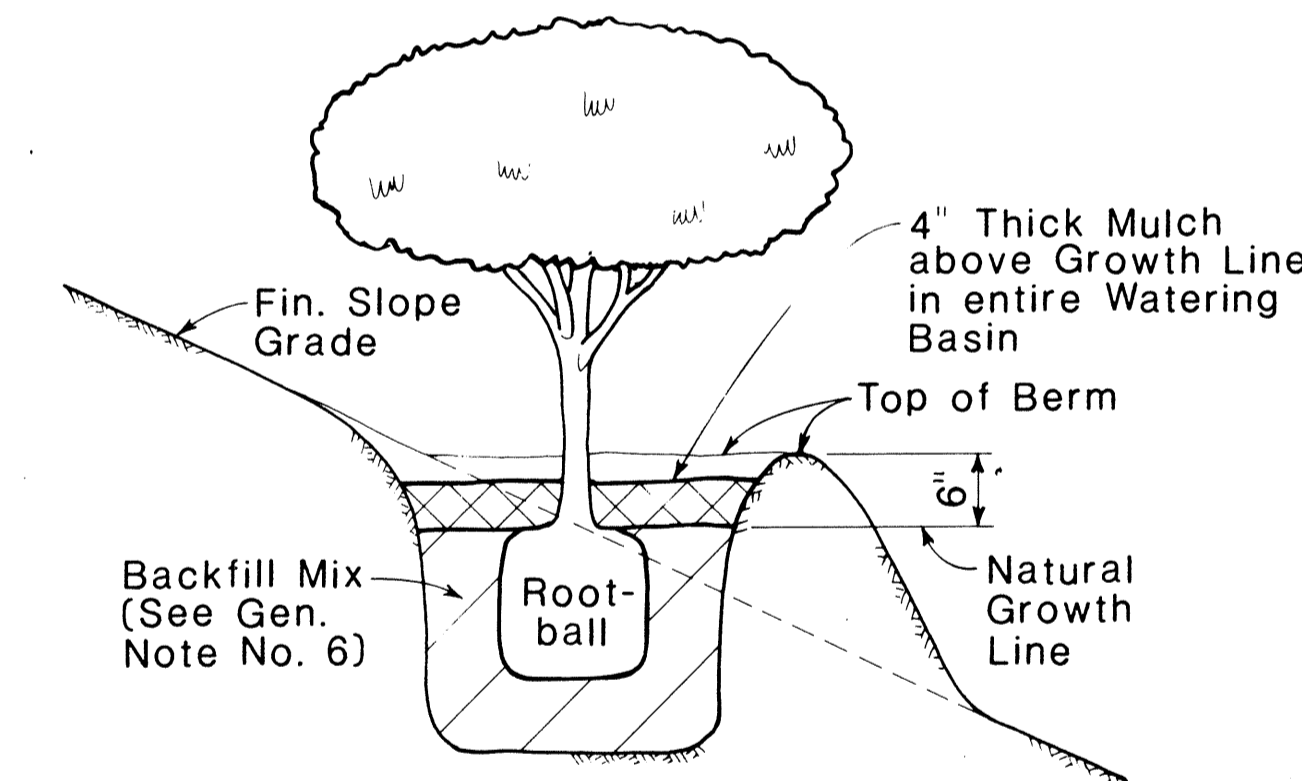
### GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES, MEASUREMENTS AND SITE CONDITION, INCLUDING LOCATION OF ALL EXISTING UTILITIES.
2. PLANTING WILL NOT COMMENCE UNTIL THE PLANTING AREA IS PREPARED TO FINISH GRADE.
3. PRIOR TO TREE HOLE EXCAVATION ALL PLANTING LOCATIONS SHALL BE STAKED OUT BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
4. SHRUB AND TREE HOLES SHALL BE AT LEAST TWO TIMES THE DIAMETER AND ONE AND ONE HALF TIMES THE DEPTH OF THE ROOTBALL OR THE ROOTBALL DIMENSIONS PLUS THE MINIMUM CLEARANCES SHOWN ON THE PLANS, WHICHEVER IS GREATER.
5. IF CORAL, ROCK, HARD PAN OR UNSUITABLE MATERIAL IS ENCOUNTERED WHILE EXCAVATING FOR THE PLANTING HOLE, THE MATERIAL SHALL BE BROKEN UP OR REMOVED AT LEAST 12 INCHES BEYOND THE NORMAL DIMENSIONS OF THE HOLE AS DIRECTED BY THE ENGINEER.
6. BACKFILL MIX SHALL CONSIST OF 3 PARTS OF SOIL, 1 PART OF MANURE AND 1 PART OF ORGANIC SOIL CONDITIONER.
7. MULCH SHALL BE PLACED OVER THE ENTIRE WATERING BASIN WITHIN 2 WEEKS AFTER PLANTING.
8. GUY WIRES, FLAGGING, STAKES, WINDBREAKS, ETC. SHALL BE MAINTAINED AND REPLACED IF NECESSARY BY THE CONTRACTOR UNTIL THE TREE OR SHRUB IS ABLE TO STAND BY ITSELF. WHEN IT BECOMES UNNECESSARY THE CONTRACTOR SHALL REMOVE AND DISPOSE.
9. GUY WIRE SHALL BE NO. 11 GAGE GALVANIZED STEEL WIRE FOR TREES 3 INCHES IN DIAMETER OR LESS AND NO. 9 GAGE FOR TREES OVER 3 INCHES IN DIAMETER.
10. ORGANIC SOIL CONDITIONERS, MULCH, GUY WIRES & TURN BUCKLES, YELLOW FLAGGING TAPES, STAKES, RUBBER HOSE, BACKFILL MIX AND WINDBREAKS SHALL BE CONSIDERED INCIDENTAL TO PLANTING AND TRANSPLANTING OF TREES AND SHRUBS AND WILL NOT BE MEASURED FOR PAYMENT.
11. SECTION 619--PLANTING AND TRANSPLANTING OF THE LATEST DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AS AMENDED IS APPLICABLE TO THESE DETAILS.



### TREE PLANTING DETAIL (6-FT. MAX. HEIGHT)

Not to Scale



NOTE: For plant hole dimensions and staking or guying requirements use the appropriate Tree or Shrub Planting Detail

### SLOPE PLANTING DETAIL (TREE AND SHRUB)

Not to Scale

APPROVAL RECOMMENDED:

*Mike Miura* 8-23-83 DATE

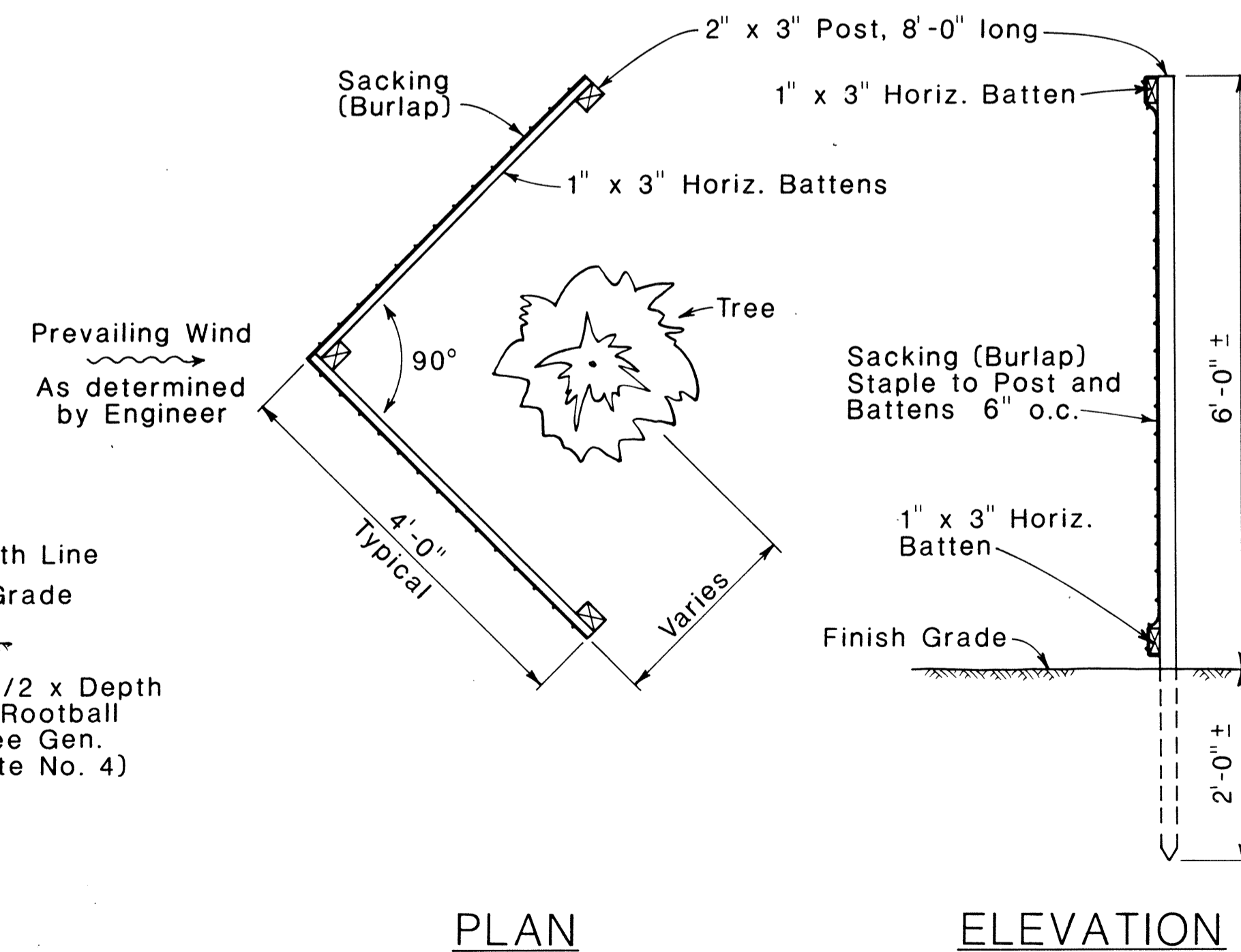
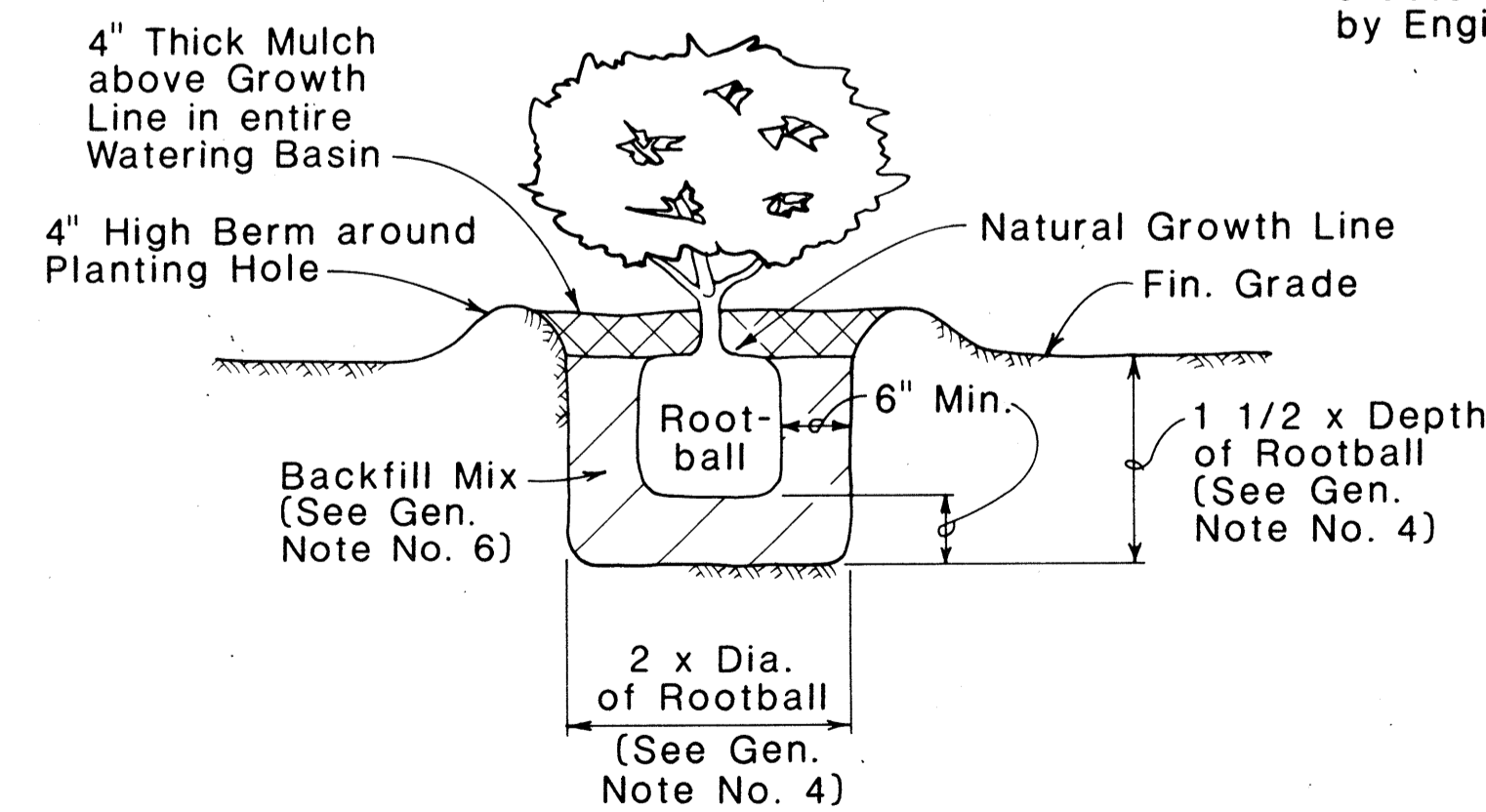
HIGHWAY DESIGN ENGINEER

APPROVED:

*S. Fujiyama* 8-23-83 DATE

ASSISTANT CHIEF, ENGINEERING

DATE	
DESIGNED BY	
CHECKED BY	
NO.	



PLAN

ELEVATION

### WINDBREAK DETAILS

(FOR TREES LESS THAN 8-FT. HIGH)

Not to Scale

NO.	REVISION	APPROVED	
		BY	DATE
1	Added Slope Planting Detail	<i>[Signature]</i>	12-13-83

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

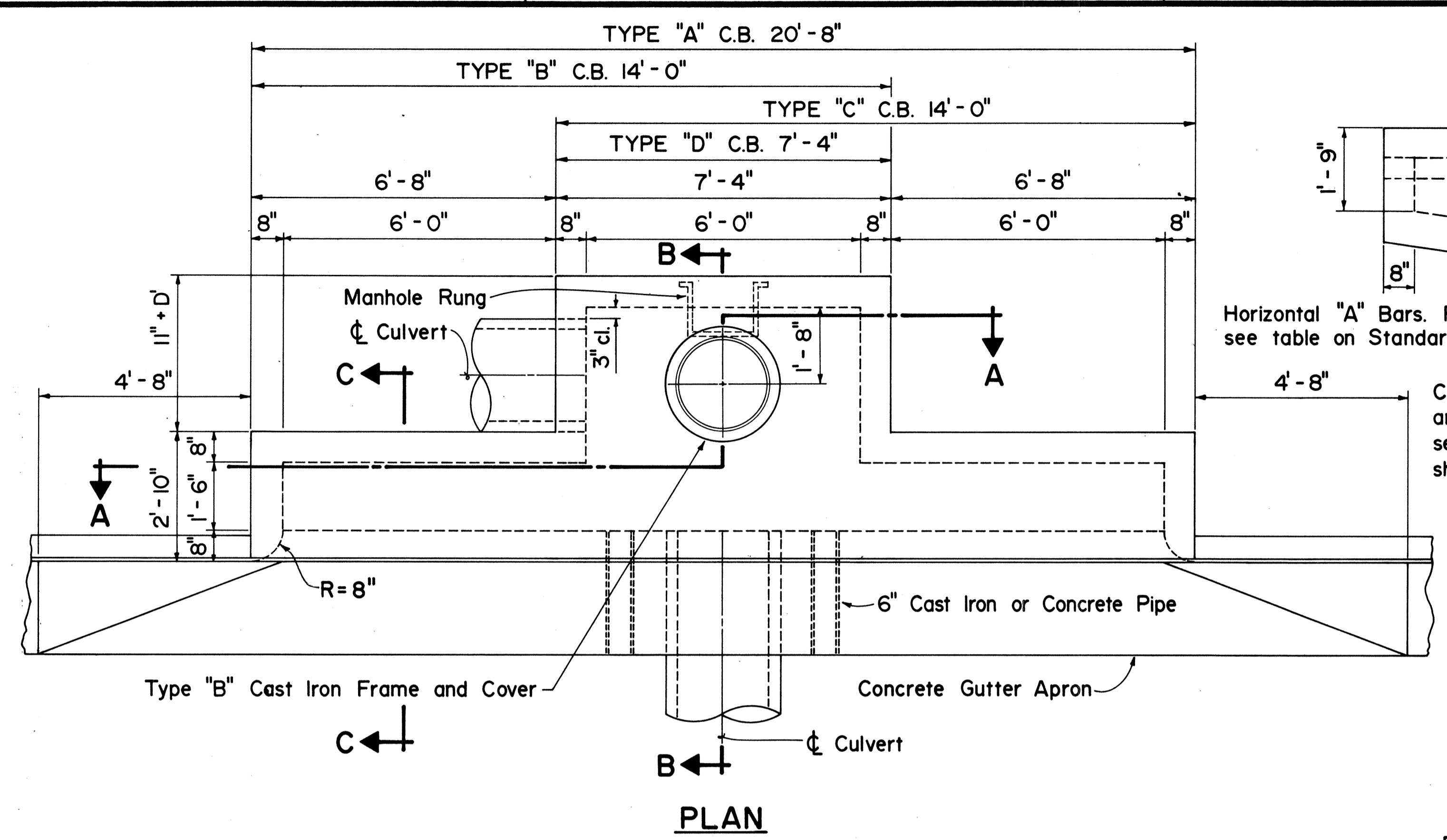
**STANDARD DETAILS**

LANDSCAPING  
SHRUB AND TREE PLANTING

Scale: As Shown Date: June, 1983

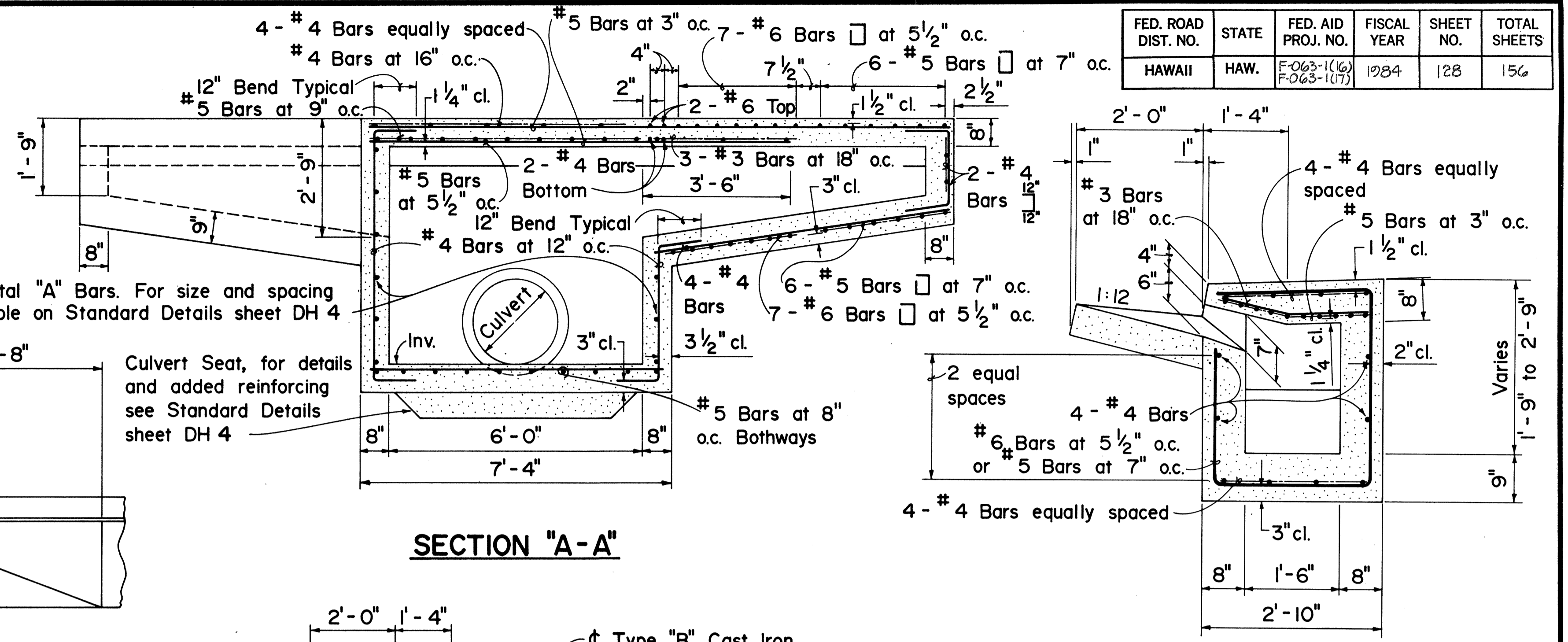
SHEET NO. OF SHEETS DD619.1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	128	156

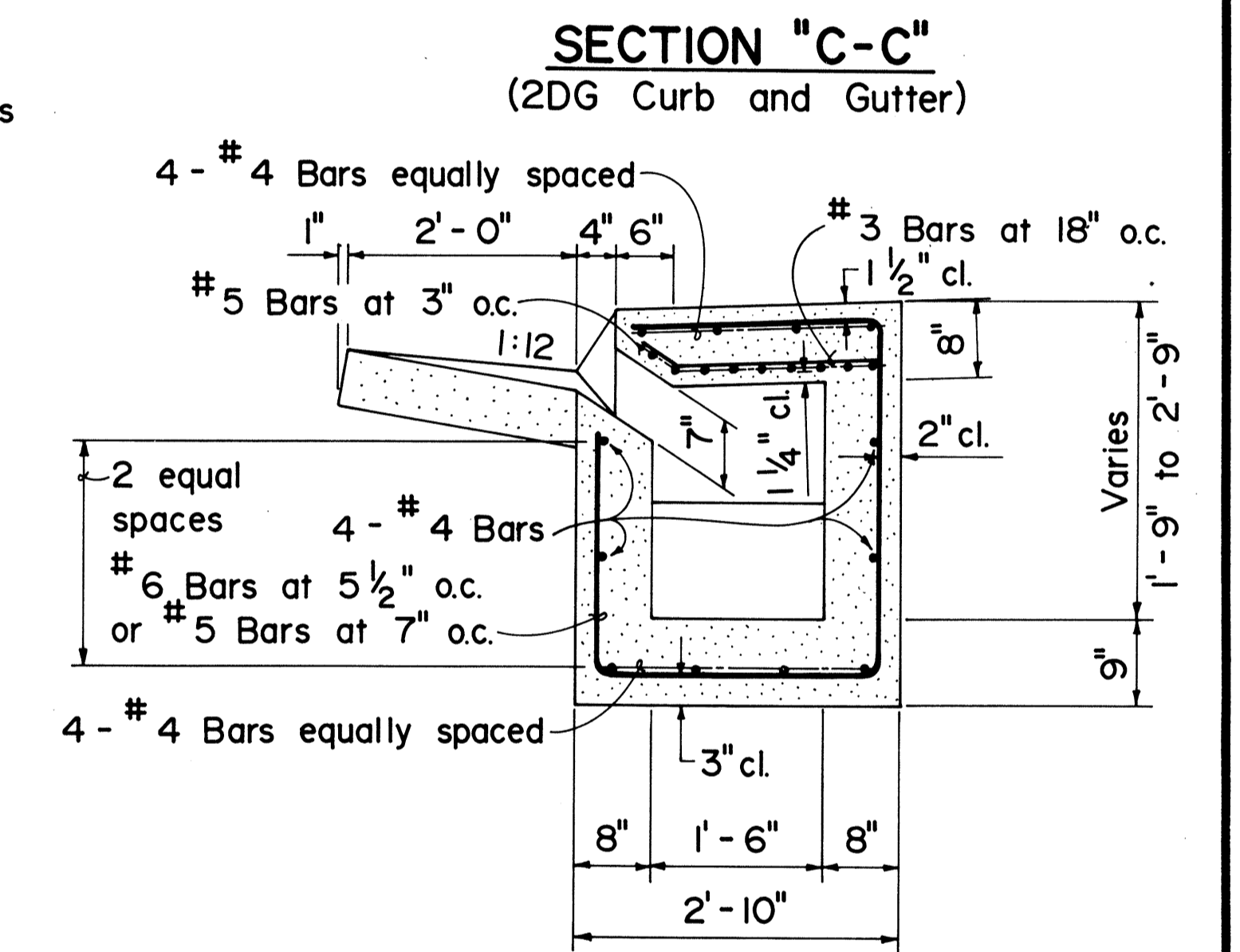


Horizontal "A" Bars. For size and spacing see table on Standard Details sheet DH 4

Culvert Seat, for details and added reinforcing see Standard Details sheet DH 4



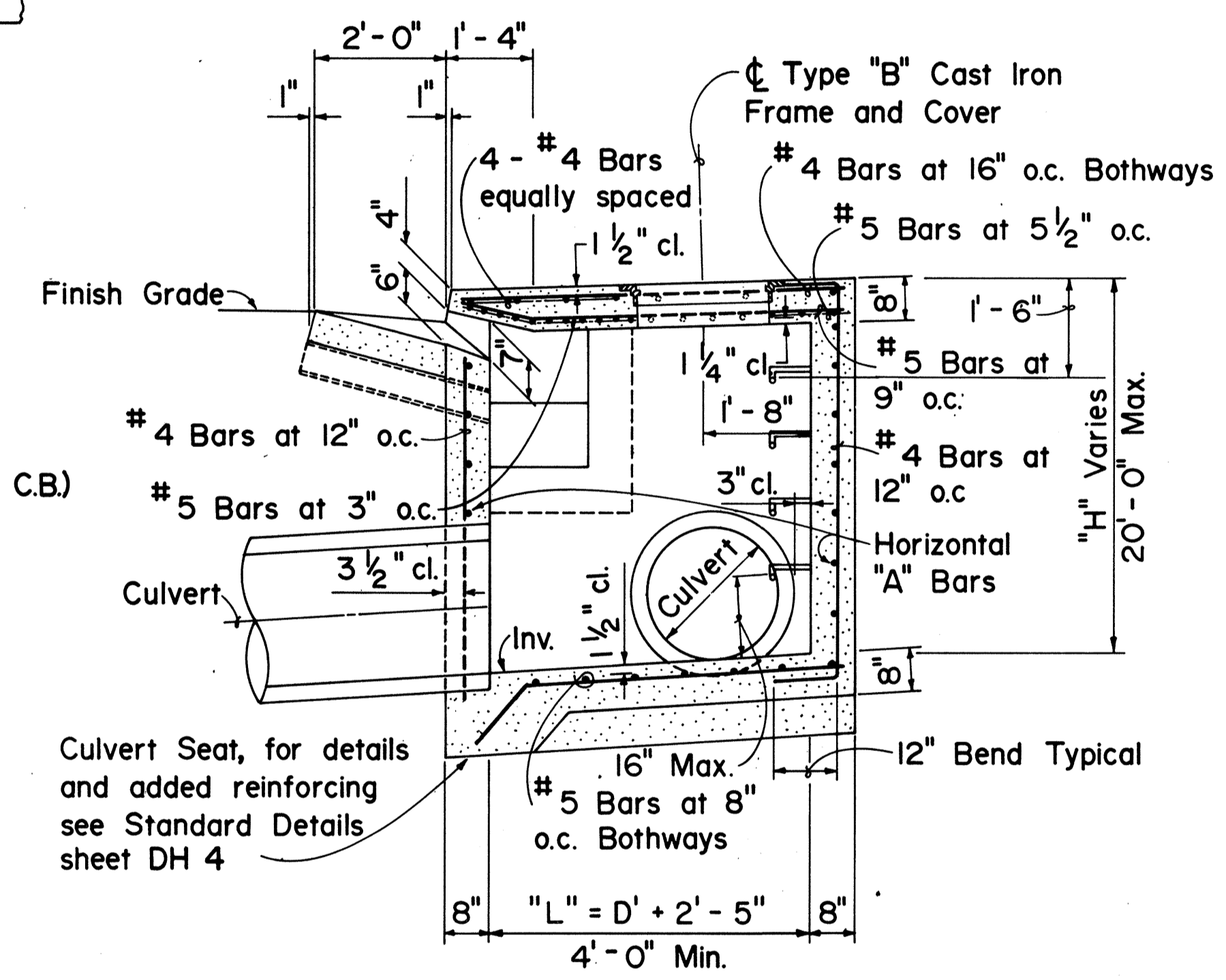
SECTION "A-A"



SECTION "C-C"  
(2DG Curb and Gutter)

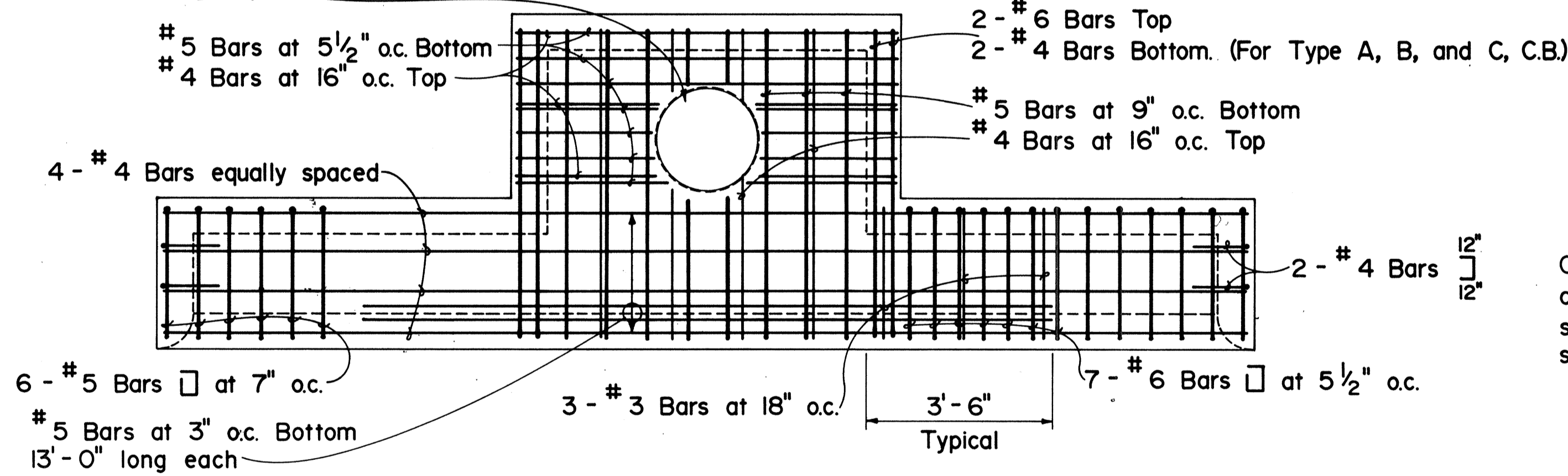


SECTION "C-C"  
(2AG Curb and Gutter)



SECTION "B-B"

Opening for Type "B" Cast Iron Frame and Cover. For added reinforcing around hole see Standard Details sheet DH 4



PLAN VIEW OF REINFORCING STEEL

**TYPE "A", "B", "C" & "D" CATCH BASIN**

APPROVAL RECOMMENDED:  
*[Signature]* 12/13/80  
 HYDRAULIC DESIGN ENGINEER DATE

APPROVED:  
*[Signature]* 12/14/80  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1.	Supersedes Sht. DH 1 approved 12/17/69	H.T.	12/14/80
2.	Define "L" - Section "B-B", change bottom slab spacing 9" to 8" in Section "B-B"	H.T.	3-10-84

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

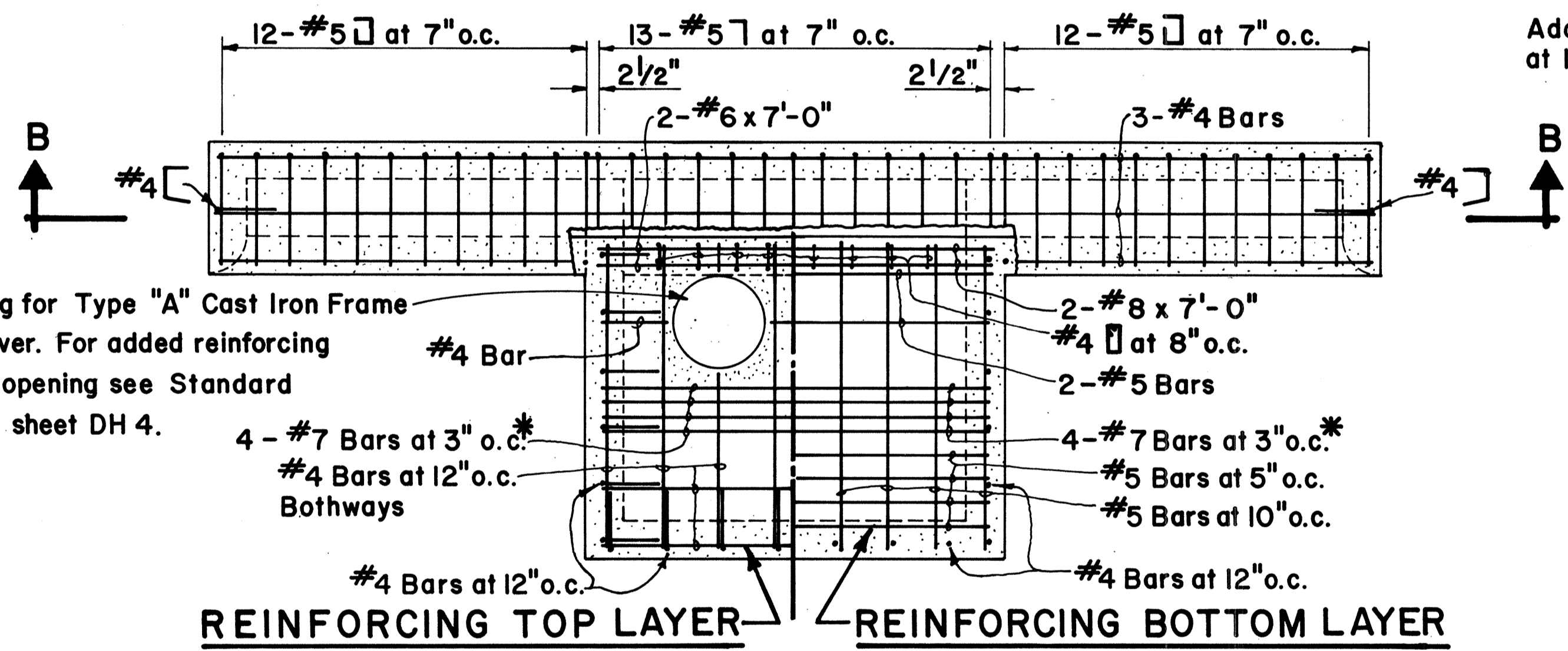
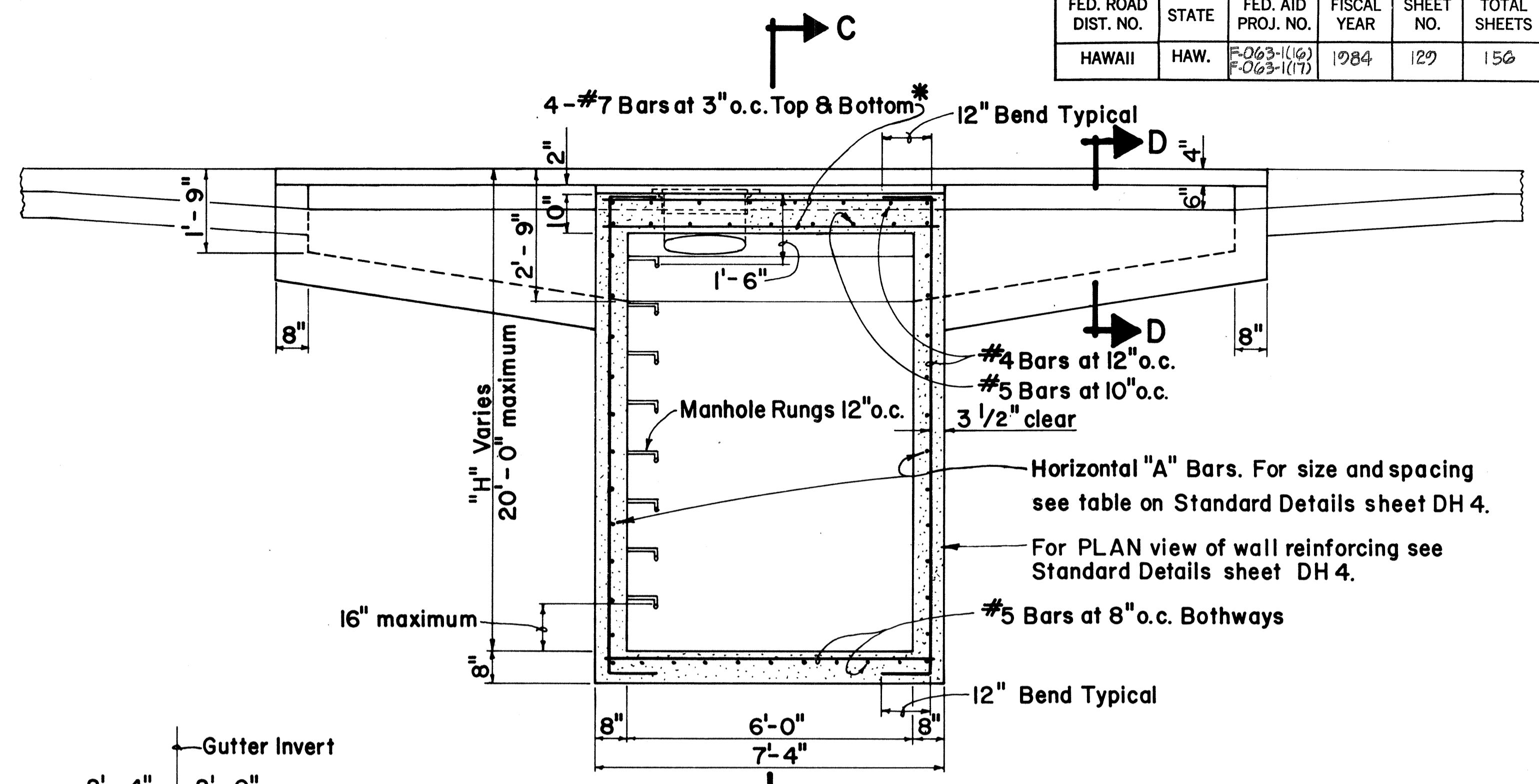
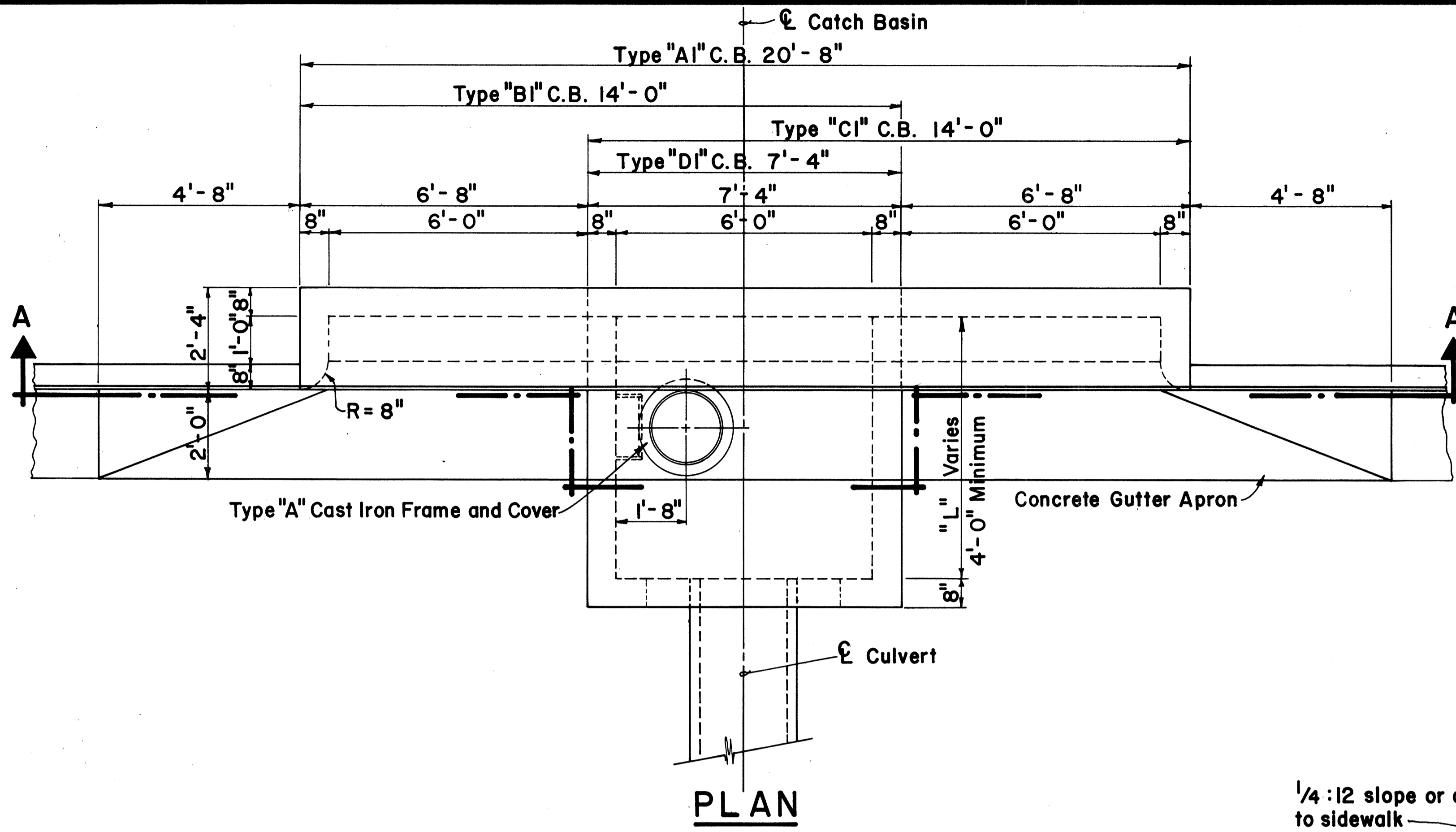
STANDARD DETAILS  
 TYPE A, B, C, & D  
 CATCH BASIN

Not To Scale Date: Dec. 1980

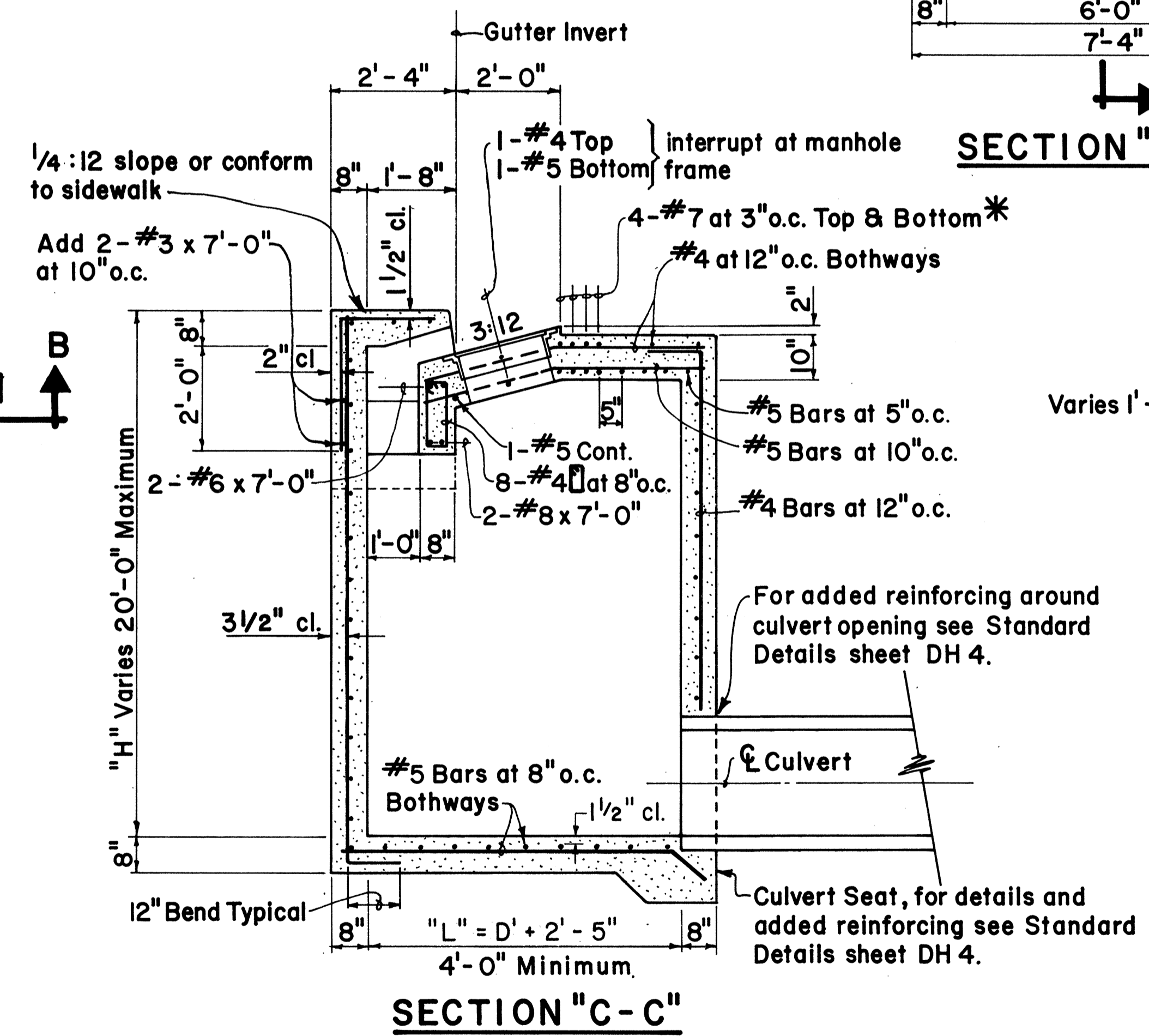
SHEET NO. OF SHEETS DH 1

ORIGINAL PLAN  
 SURVEY PLOTTED BY  
 DRAWN BY  
 TRACED BY  
 NOTE BOOK  
 QUANTITIES BY  
 CHECKED BY

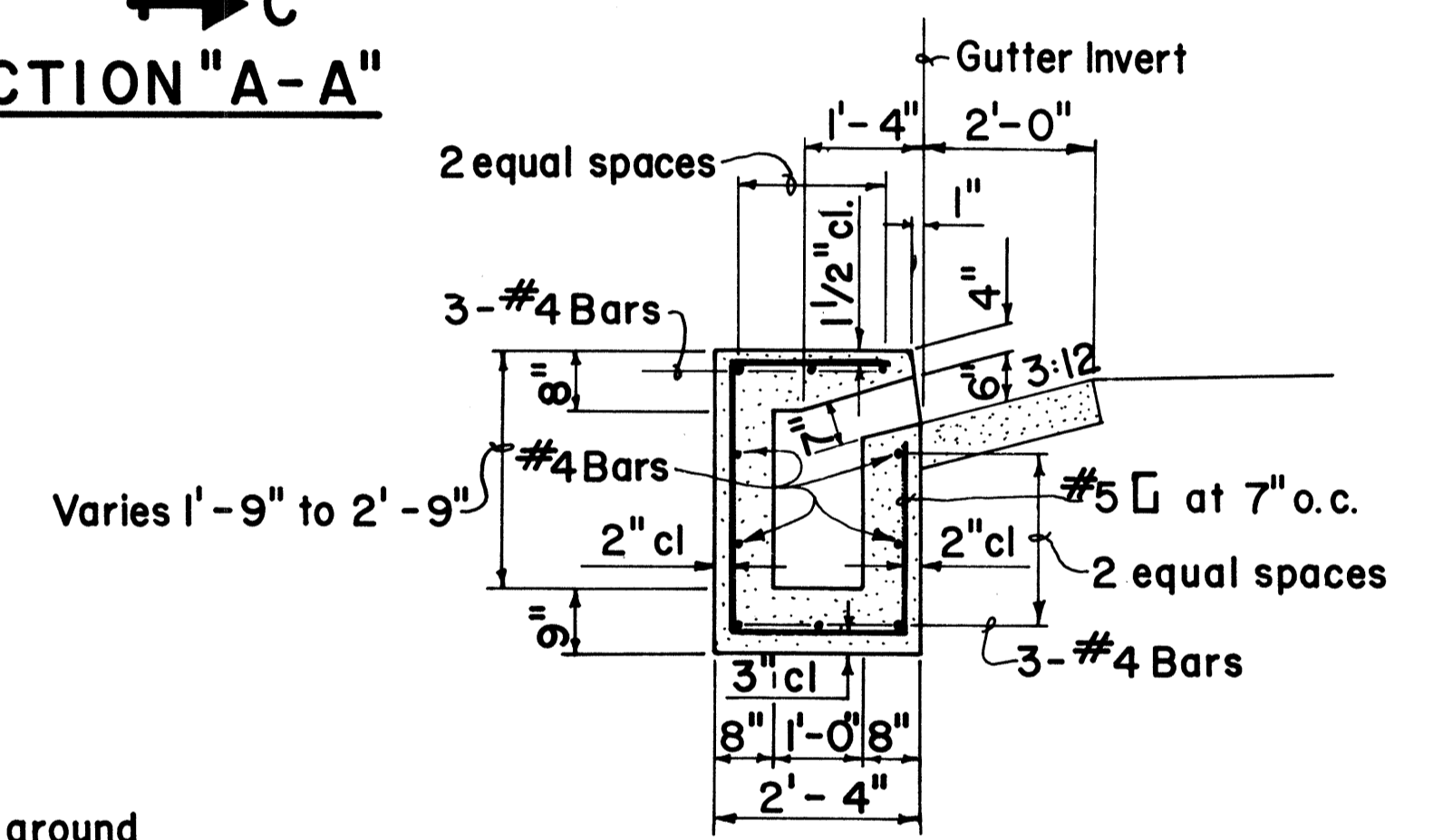
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	129	156



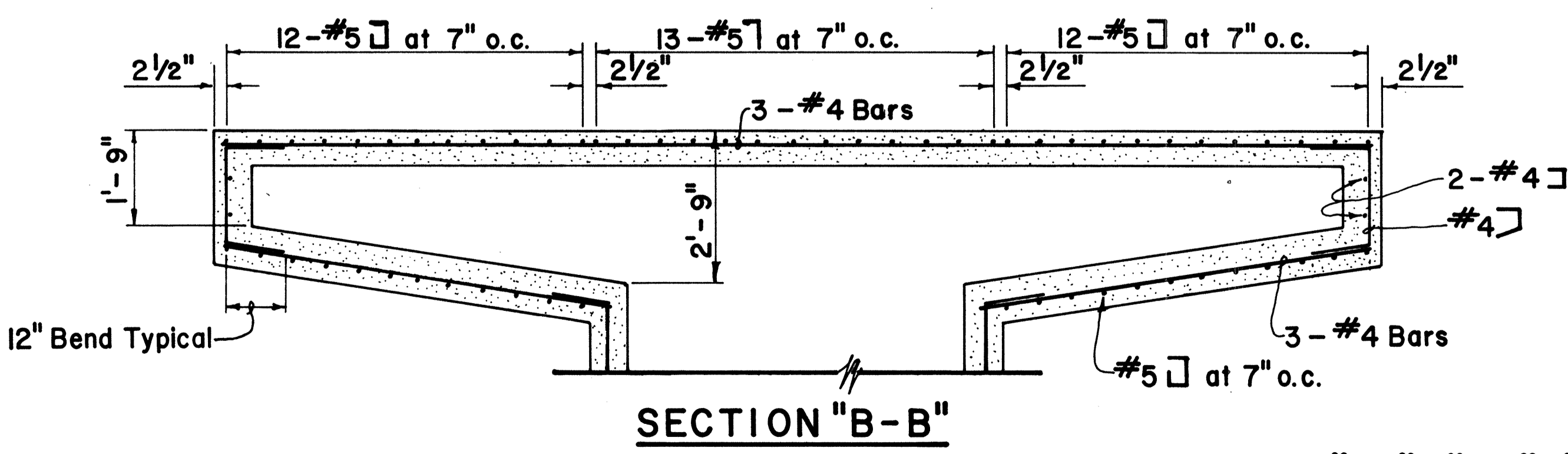
**PLAN VIEW OF REINFORCING STEEL**



**SECTION "C-C"**



**SECTION "D-D"**



**SECTION "B-B"**

**TYPE "A1", "B1", "C1" & "D1" CATCH BASIN**

\*Replace these bars with #4 Bars at 12" o.c. Top and #5 Bars at 5" o.c. Bottom for "L" less than 5'-0".

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

NO.	REVISION	APPROVED BY	DATE
1.	Supersedes Sht. DH 3 approved 12-17-69 and replaces Sht. DH 2 approved 12-17-69.	H.K.	12/4/80
2.	Define "L" - and bar clearance for bottom slab in Section "C-C"	BJO	3-10-84

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

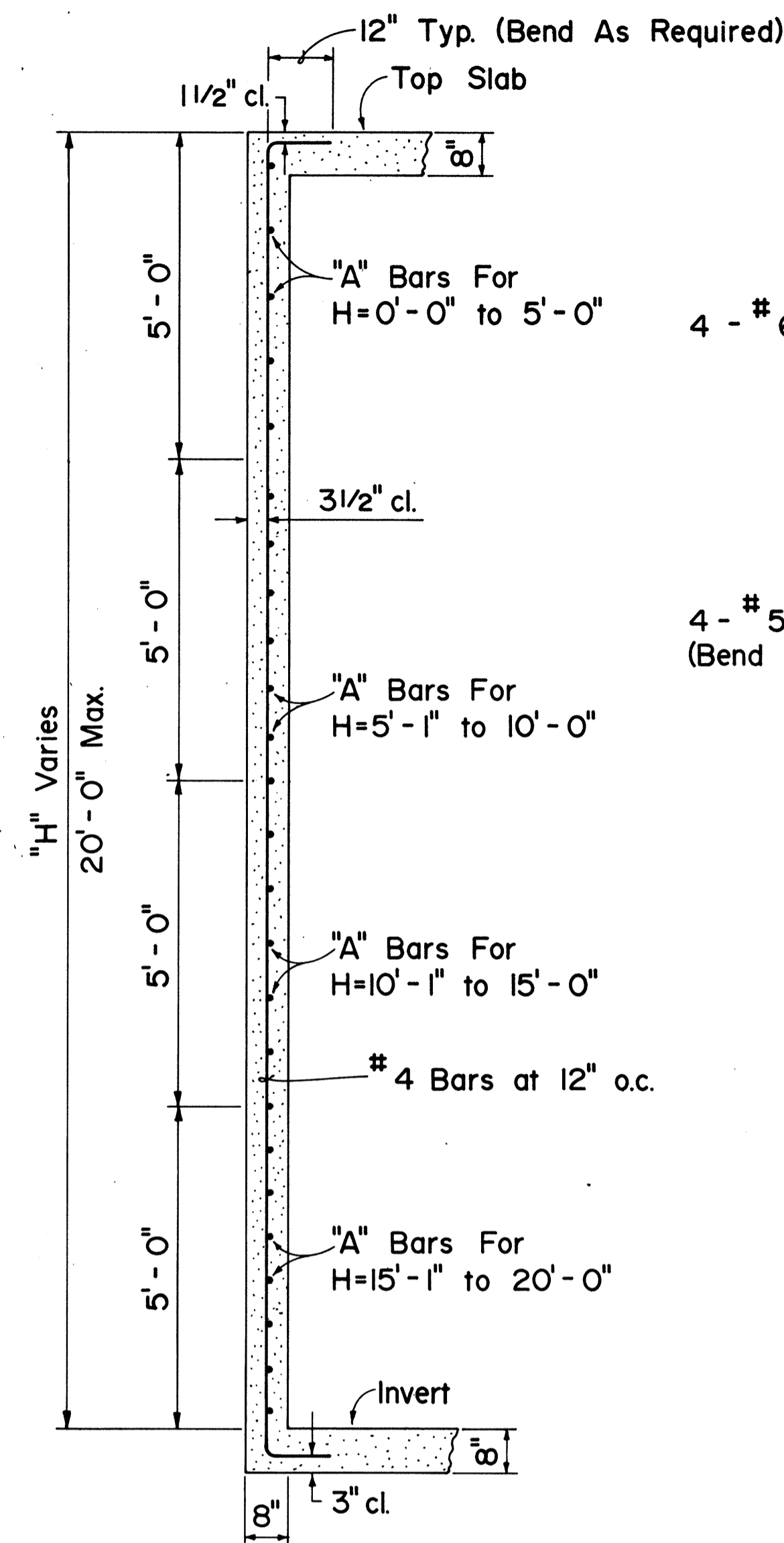
STANDARD DETAILS  
 TYPE A1, B1, C1 AND D1  
 CATCH BASIN

Not To Scale Date: Dec. 1980

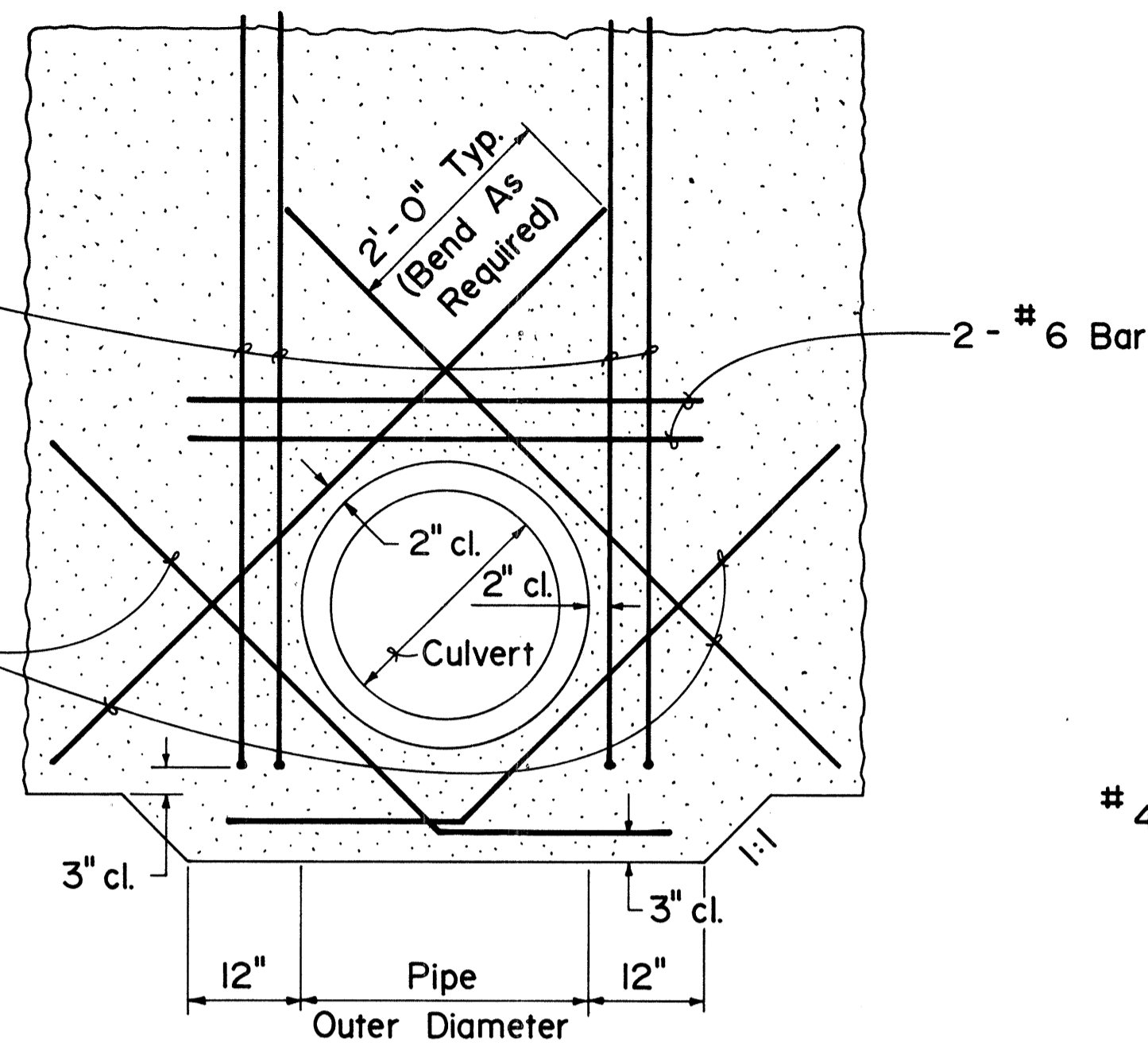
SHEET NO. OF SHEETS DH 2

ORIGINAL PLAN  
 SURVEY PLOTTED BY  
 DRAWN BY  
 DESIGNED BY  
 QUANTITIES BY  
 CHECKED BY

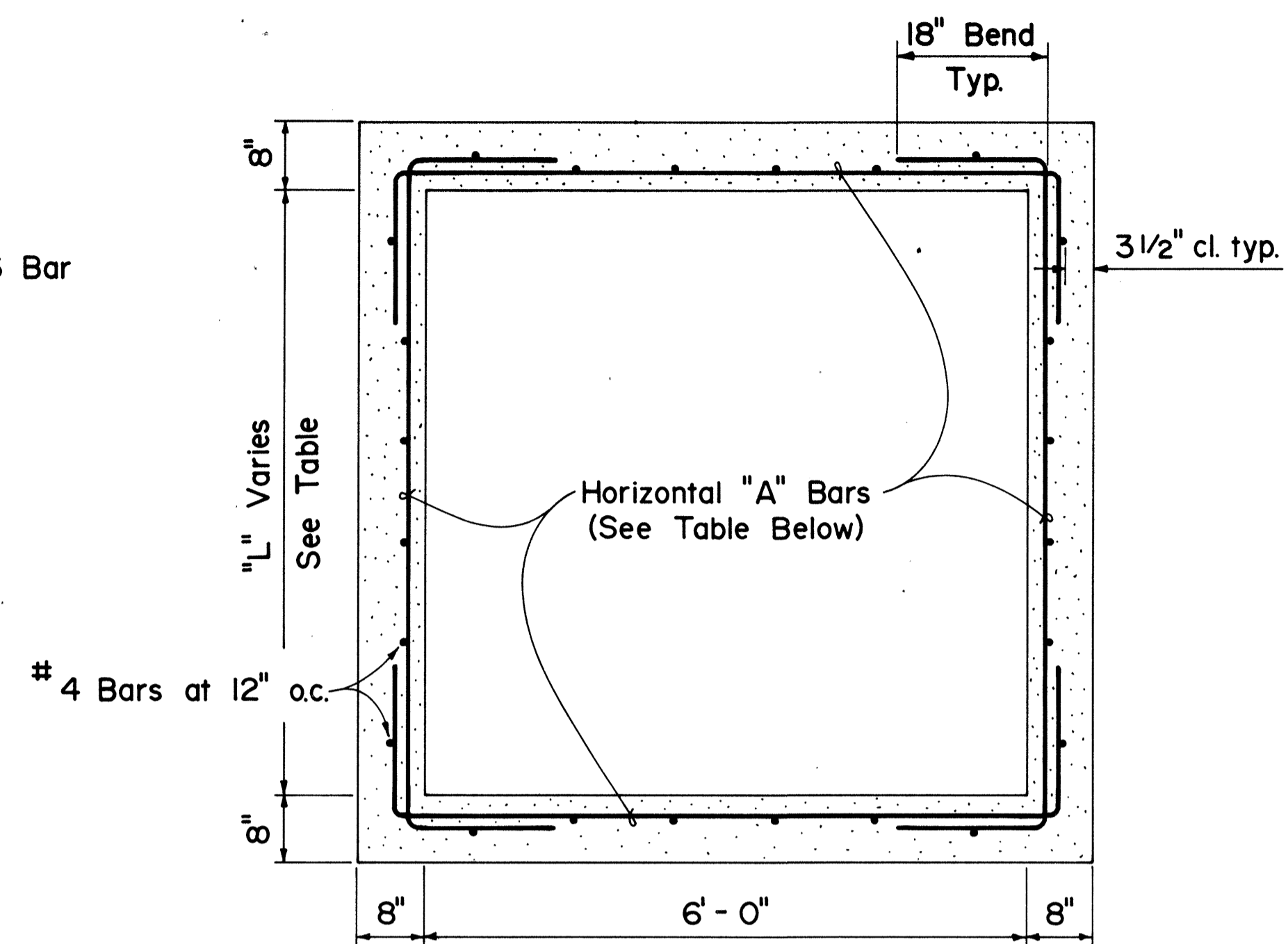
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	130	156



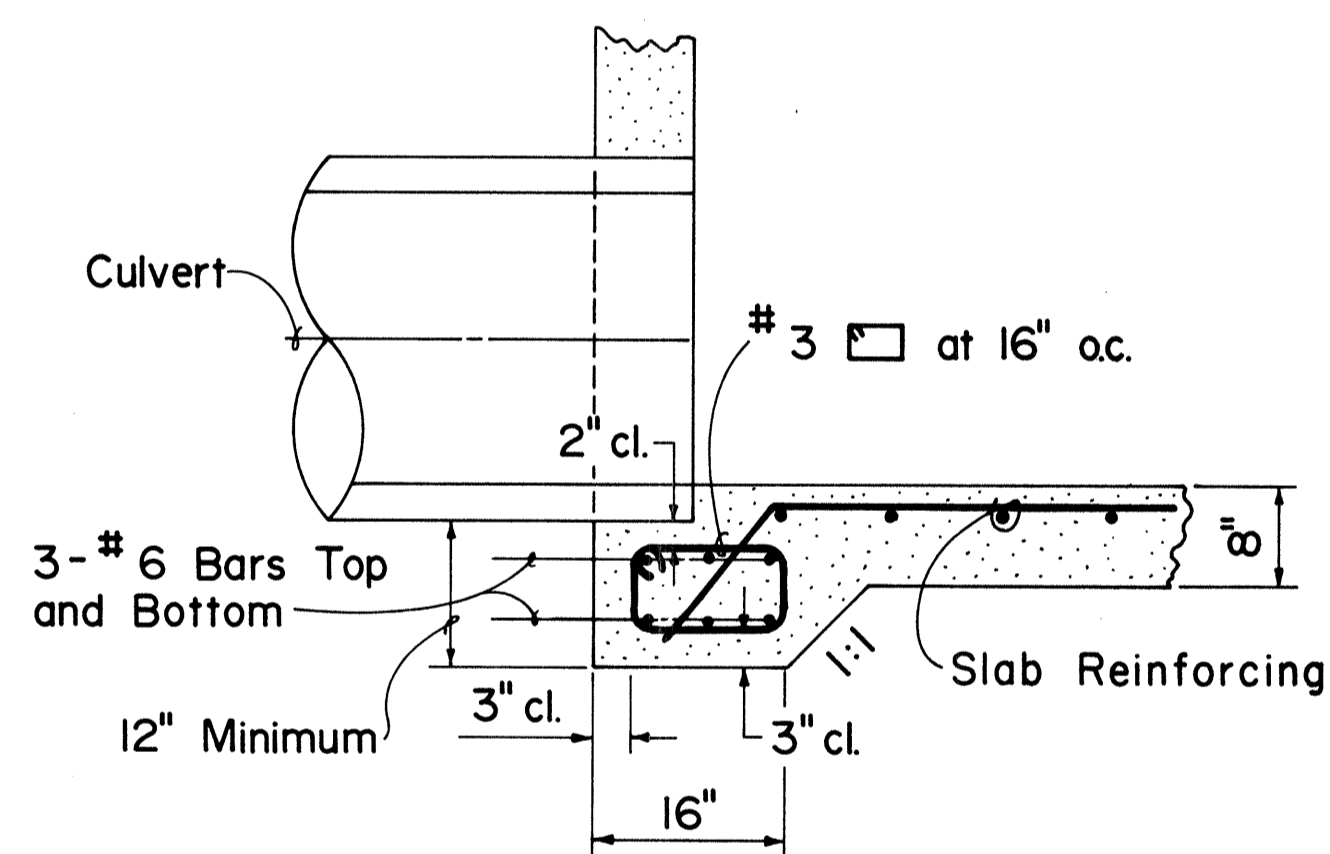
**ELEVATION VIEW OF WALL SECTION**



**ADDED REINFORCING FOR CULVERT OPENINGS**

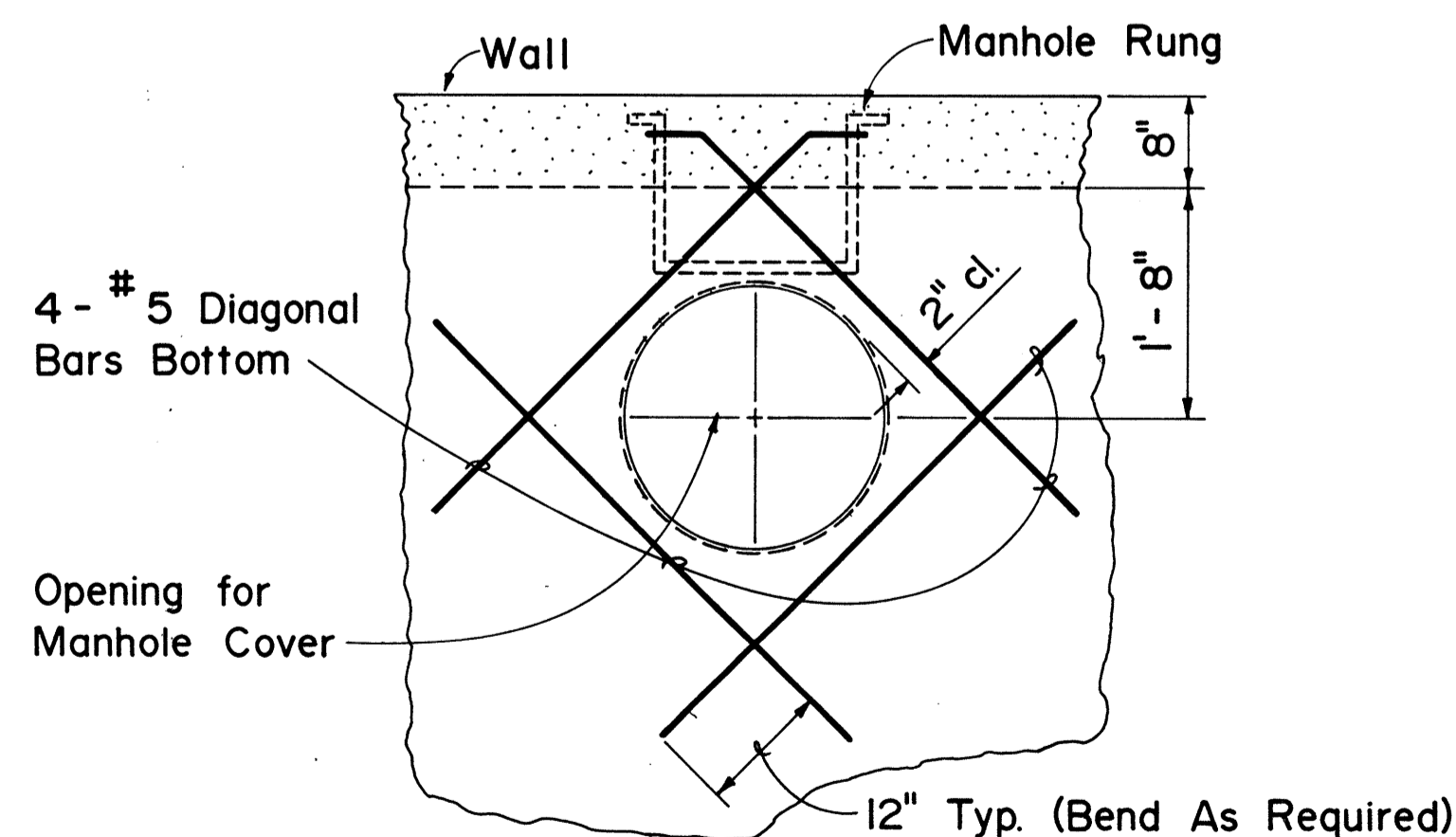


**PLAN VIEW OF WALL SECTION**



**DETAIL OF CULVERT SEAT**

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



**ADDED REINFORCING FOR MANHOLE OPENING**

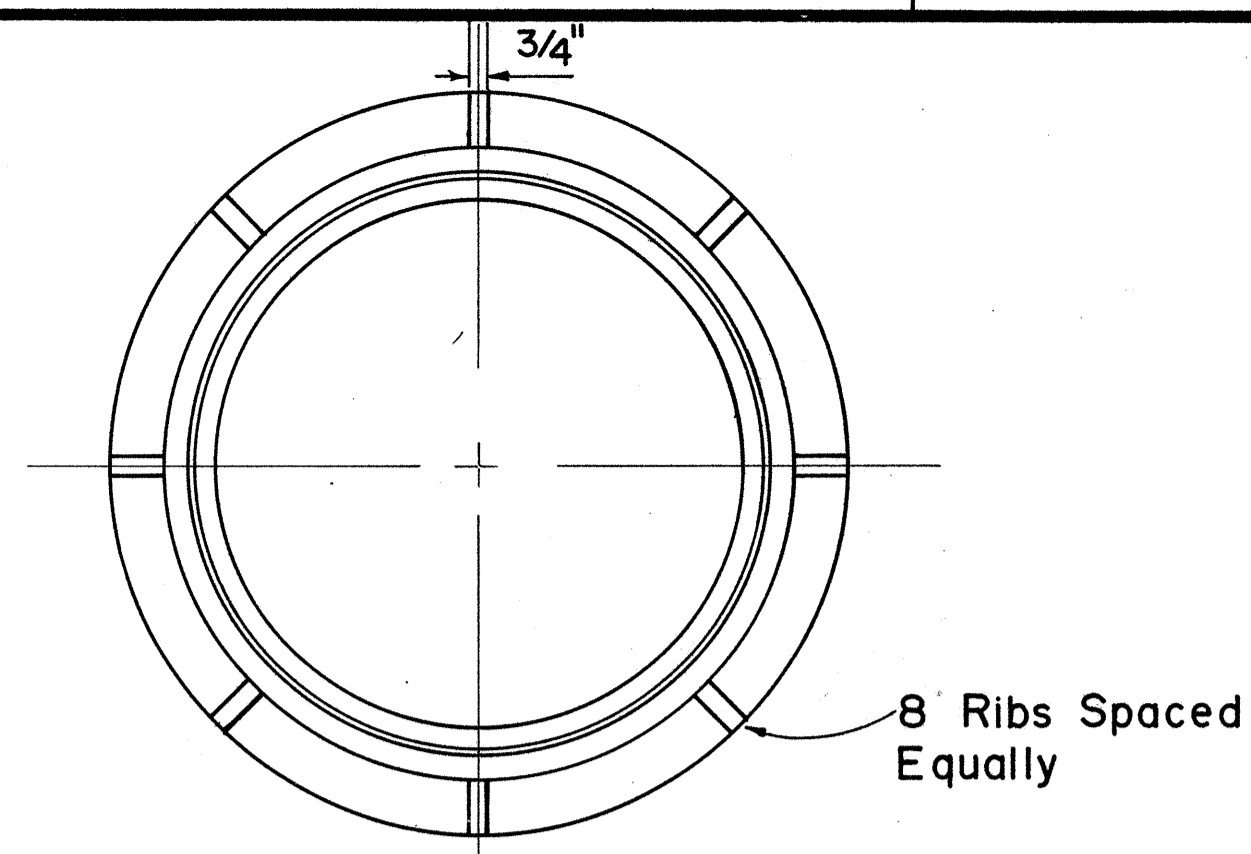
APPROVAL RECOMMENDED:  
*[Signature]* 12/3/80  
HYDRAULIC DESIGN ENGINEER DATE  
APPROVED:  
*[Signature]* 12/4/80  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1.	Replaces Sht. DH 4 approved 12-17-69	H.T.	12/4/80
2.	Delete bar clearance in Culvert Seat Detail, "slab reinforcing" in lieu of bar size and clearance in Culvert Seat Detail	[Signature]	3-10-84

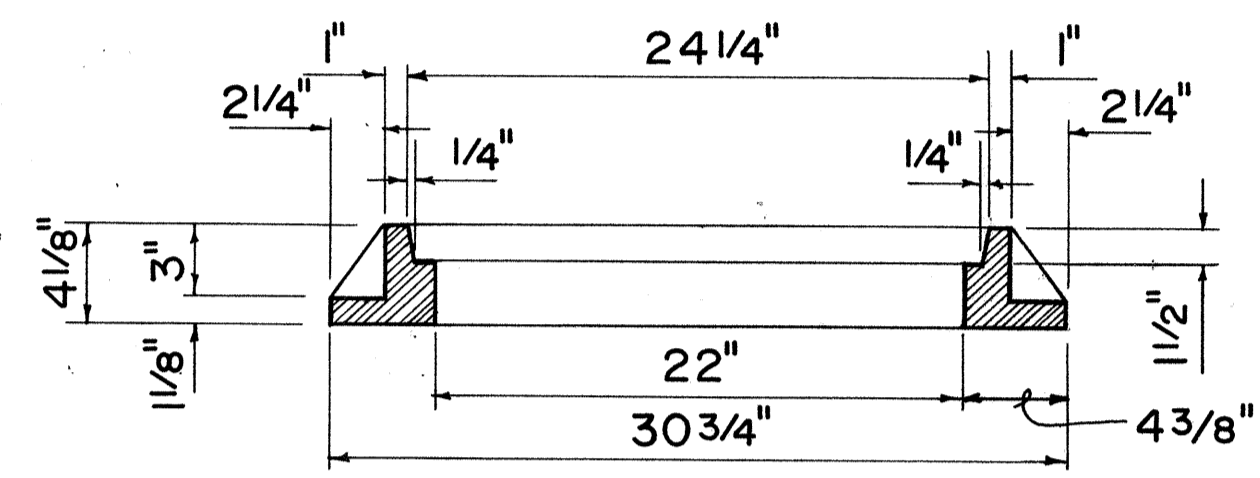
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
STANDARD DETAILS  
TYPICAL REINFORCING DETAILS  
FOR CATCH BASINS  
Not To Scale Date: Dec. 1980  
SHEET NO. OF SHEETS DH 4

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

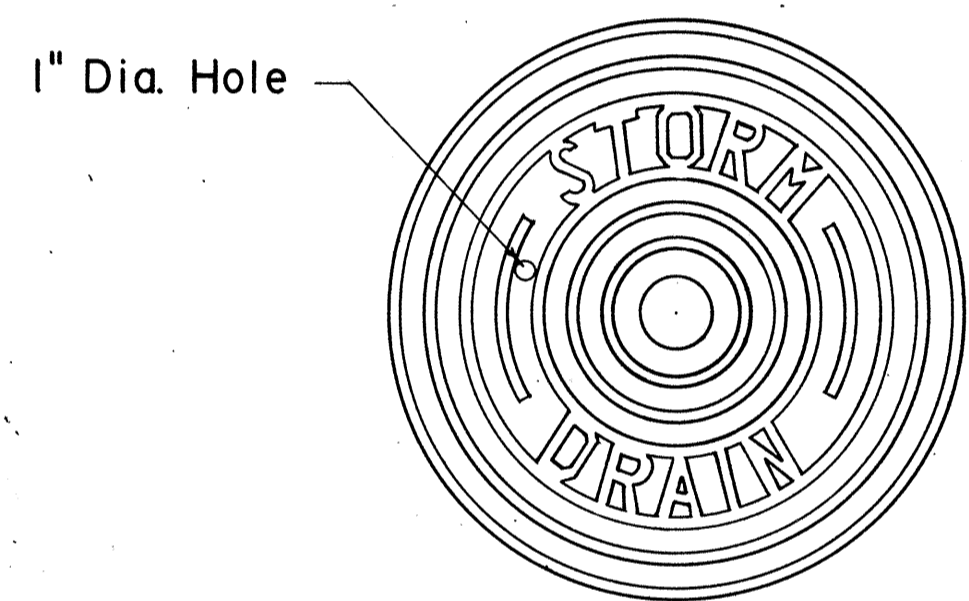
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(16) F-063-1(17)	1984	131	156



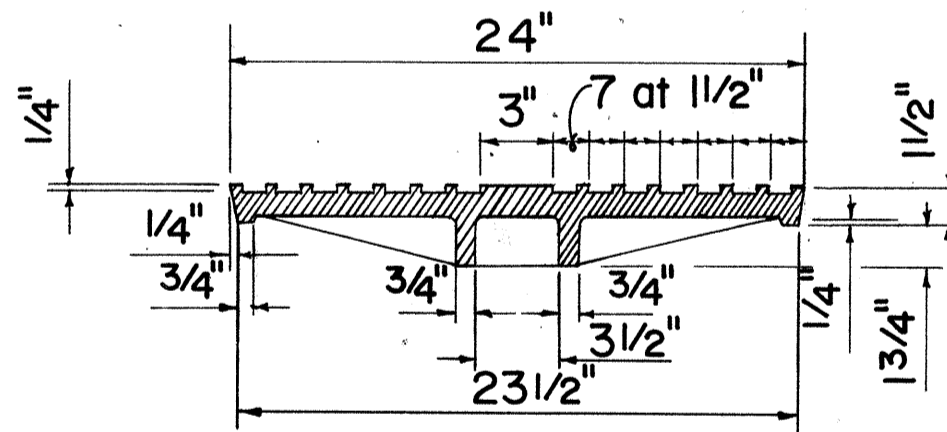
PLAN OF FRAME



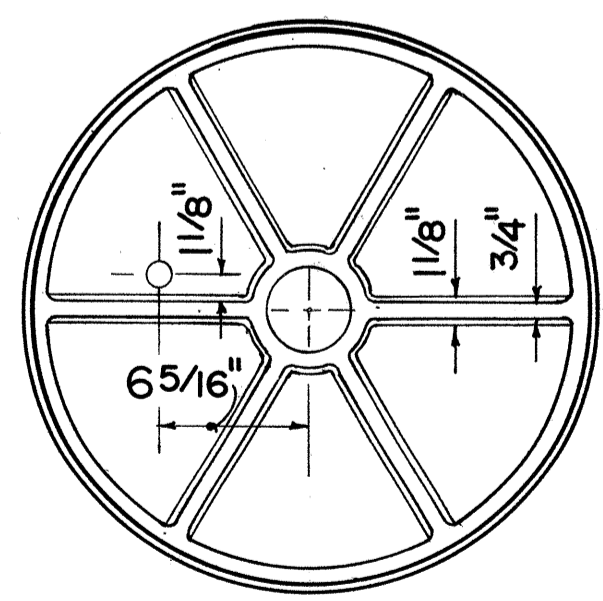
SECTION OF FRAME



TOP VIEW OF COVER

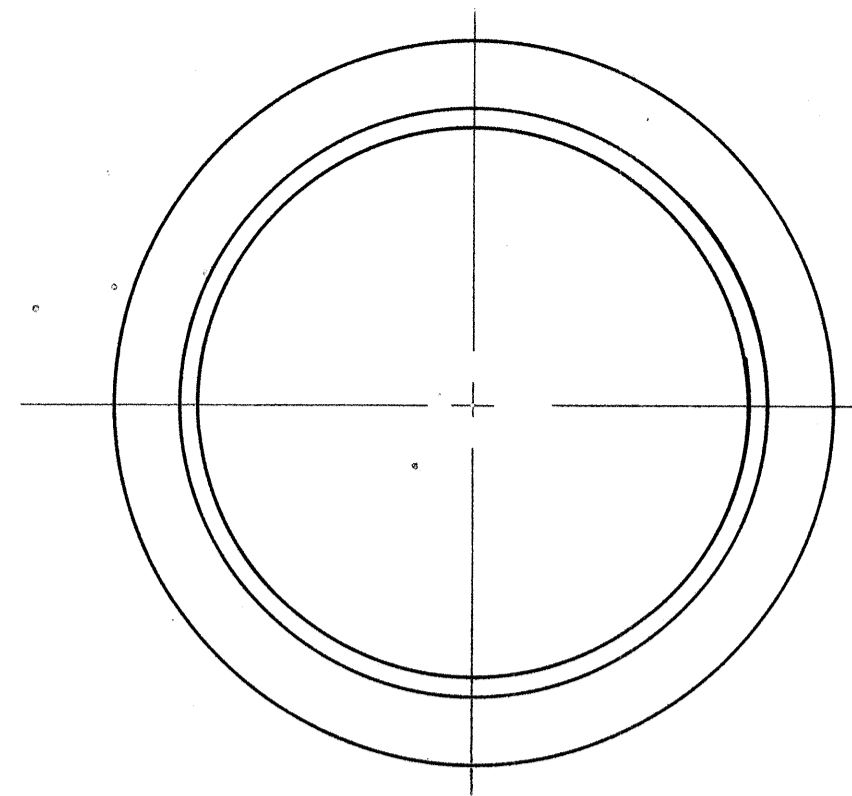


SECTION

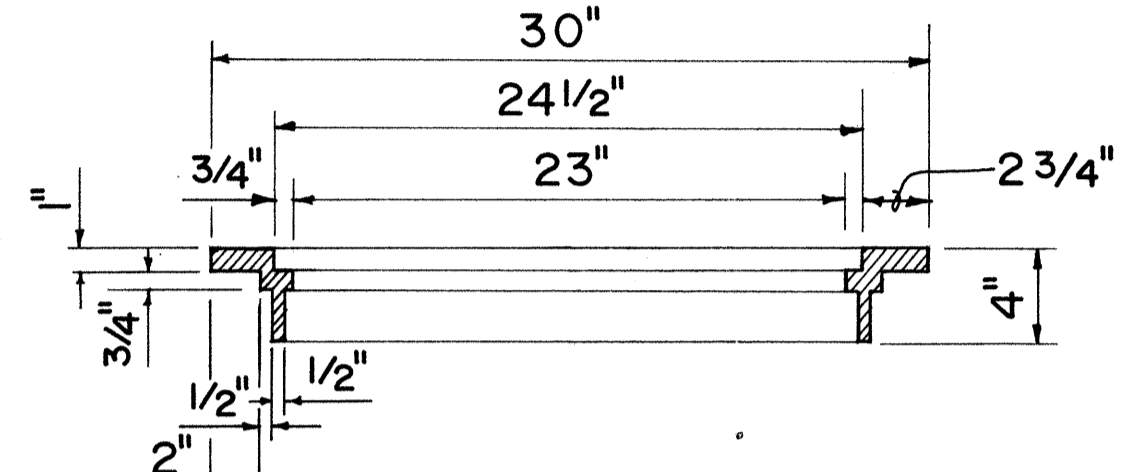


BOTTOM VIEW OF COVER

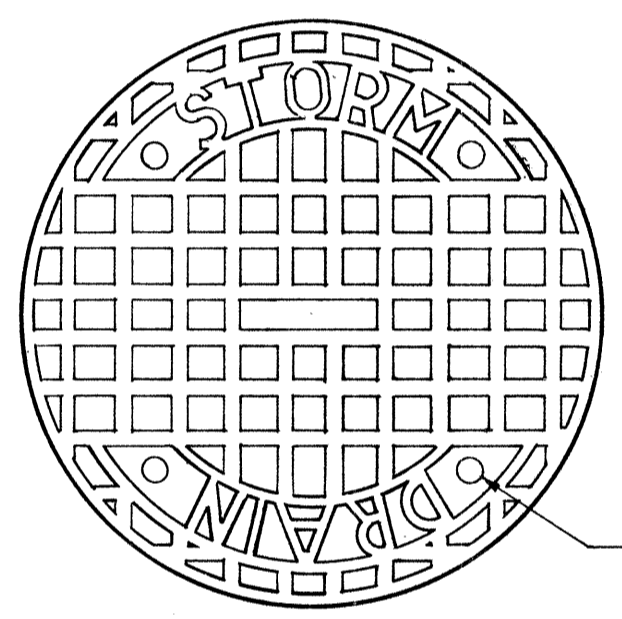
TYPE "P" CAST IRON FRAME AND COVER



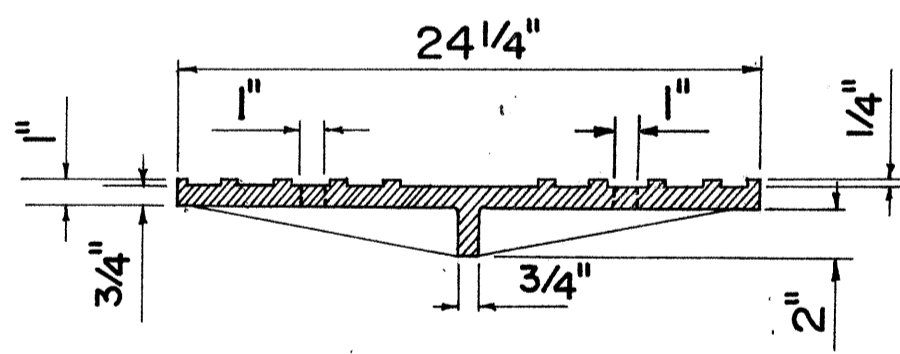
PLAN OF FRAME



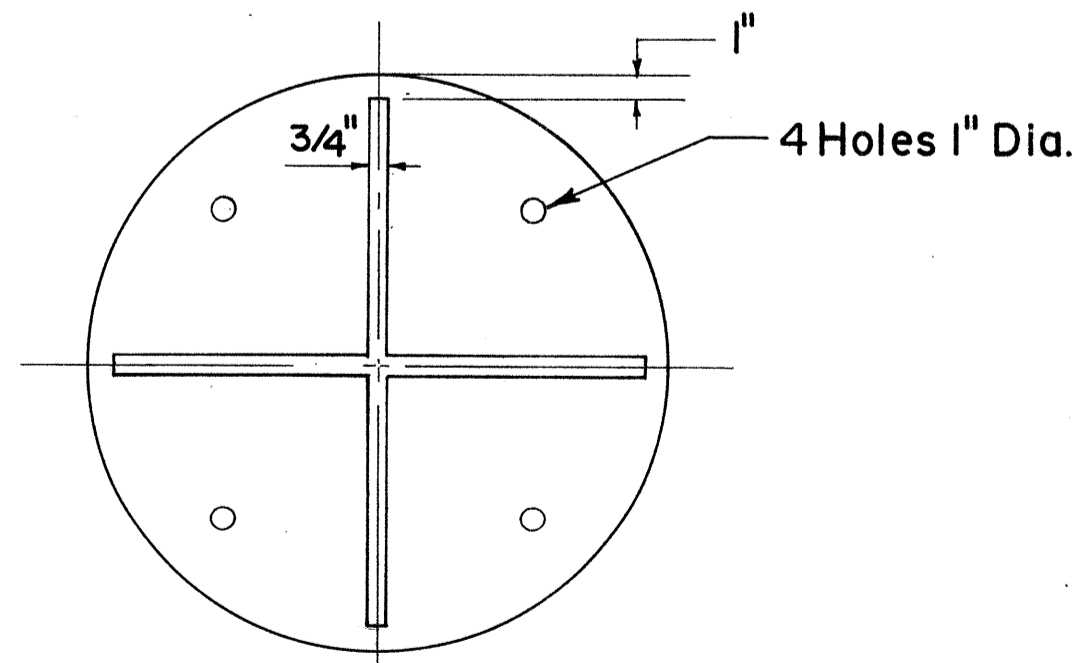
SECTION OF FRAME



TOP VIEW OF COVER

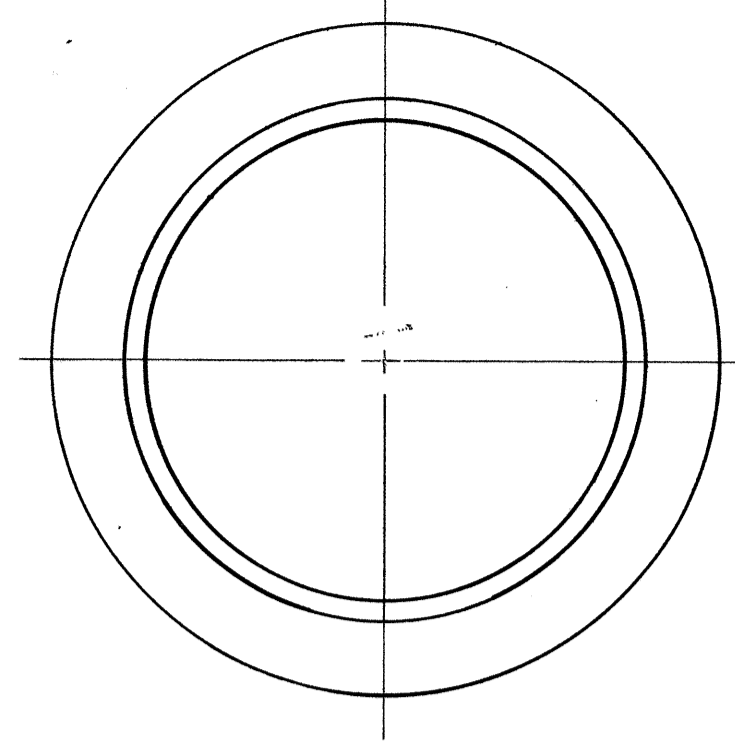


SECTION

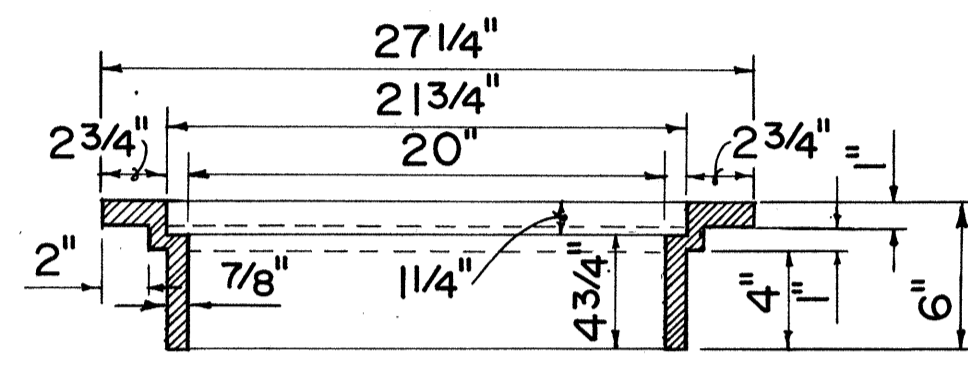


BOTTOM VIEW OF COVER

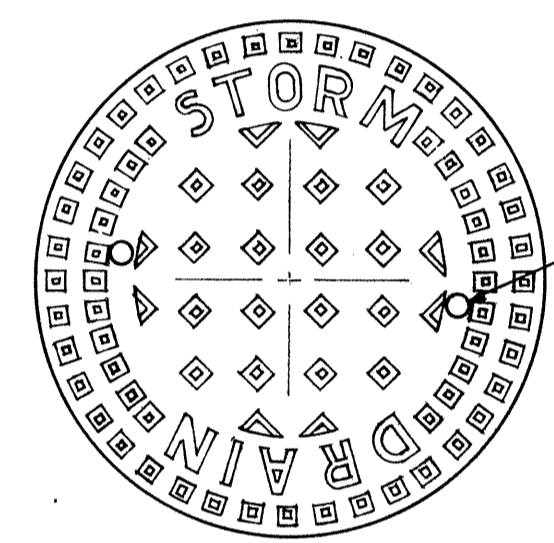
TYPE "B" CAST IRON FRAME AND COVER



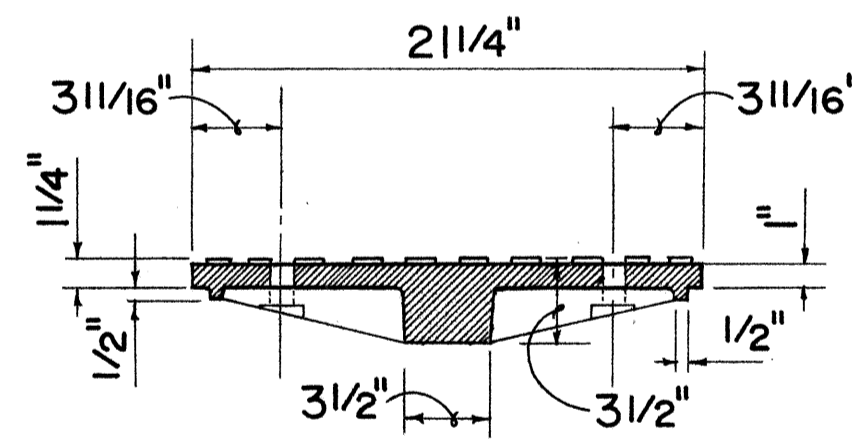
PLAN OF FRAME



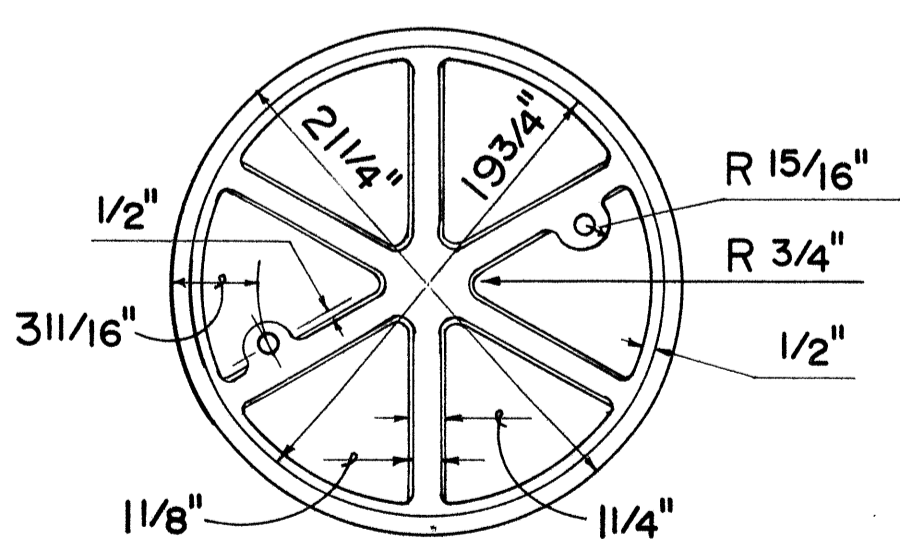
SECTION OF FRAME



TOP VIEW OF COVER

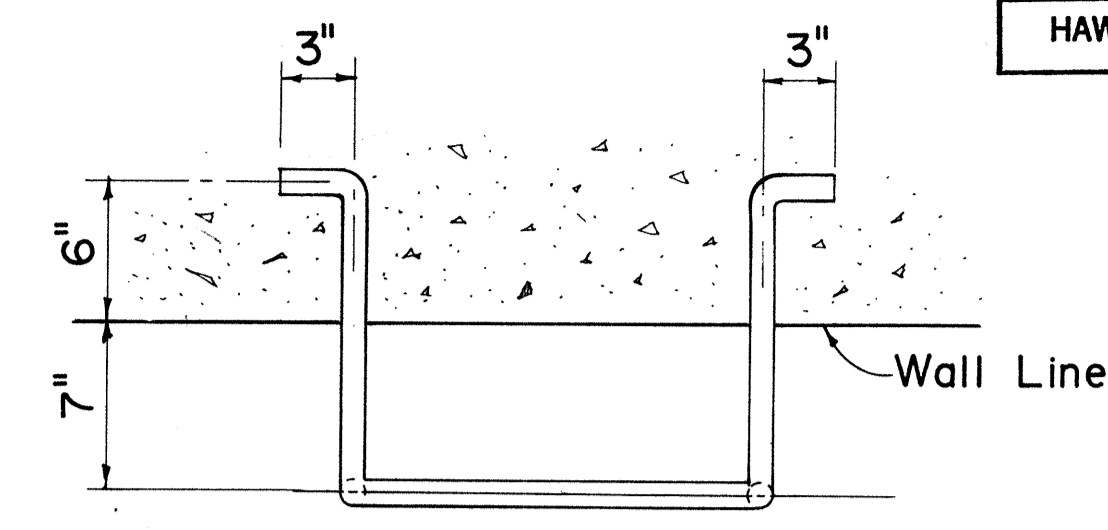


SECTION

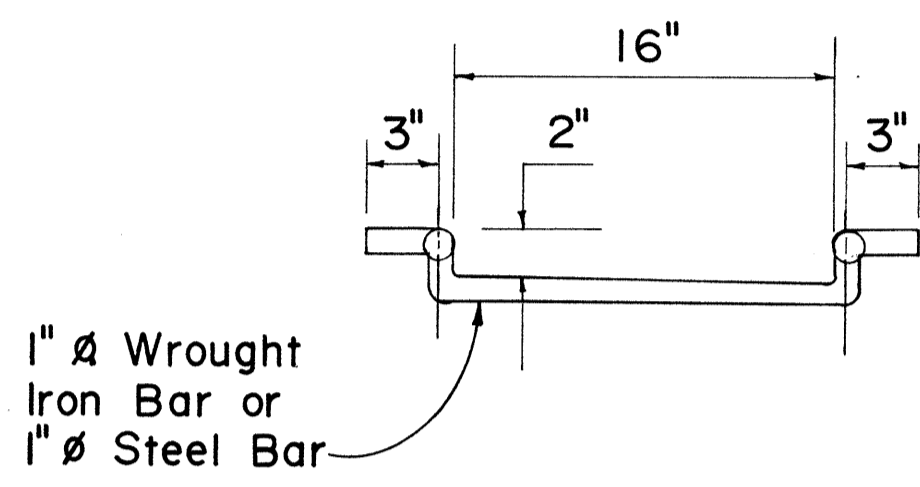


BOTTOM VIEW OF COVER

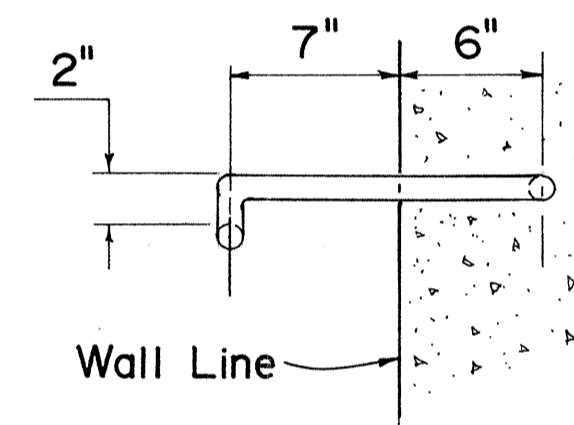
TYPE "A" CAST IRON FRAME AND COVER



PLAN



FRONT VIEW



SIDE VIEW

MANHOLE RUNG

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

APPROVAL RECOMMENDED:  
*G. Takano* 6-19-79  
 HYDRAULIC DESIGN ENGINEER DATE

APPROVED:  
*Herbert Zakeishi* 6-22-79  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1.	Supersedes Sht. DH 6 approved 12-17-69	H.F.	6/22/79

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

STANDARD DETAILS  
 CATCH BASIN AND  
 MANHOLE CASTINGS

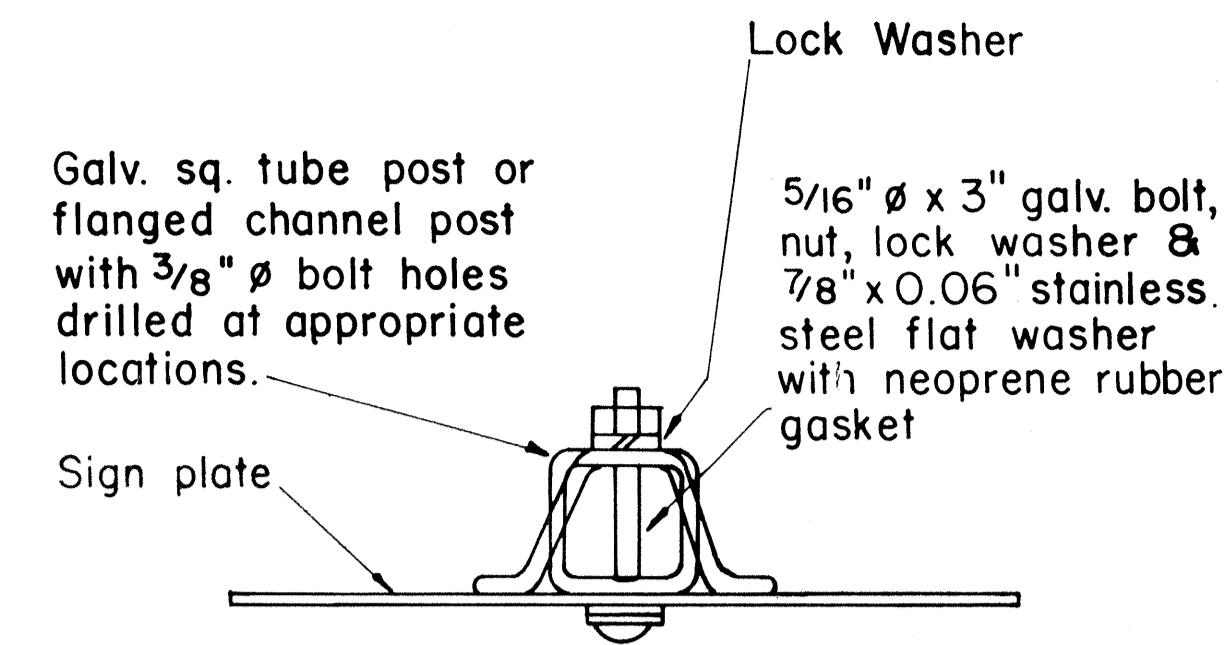
Not To Scale Date: Dec. 1977

SHEET NO. OF SHEETS DH 6

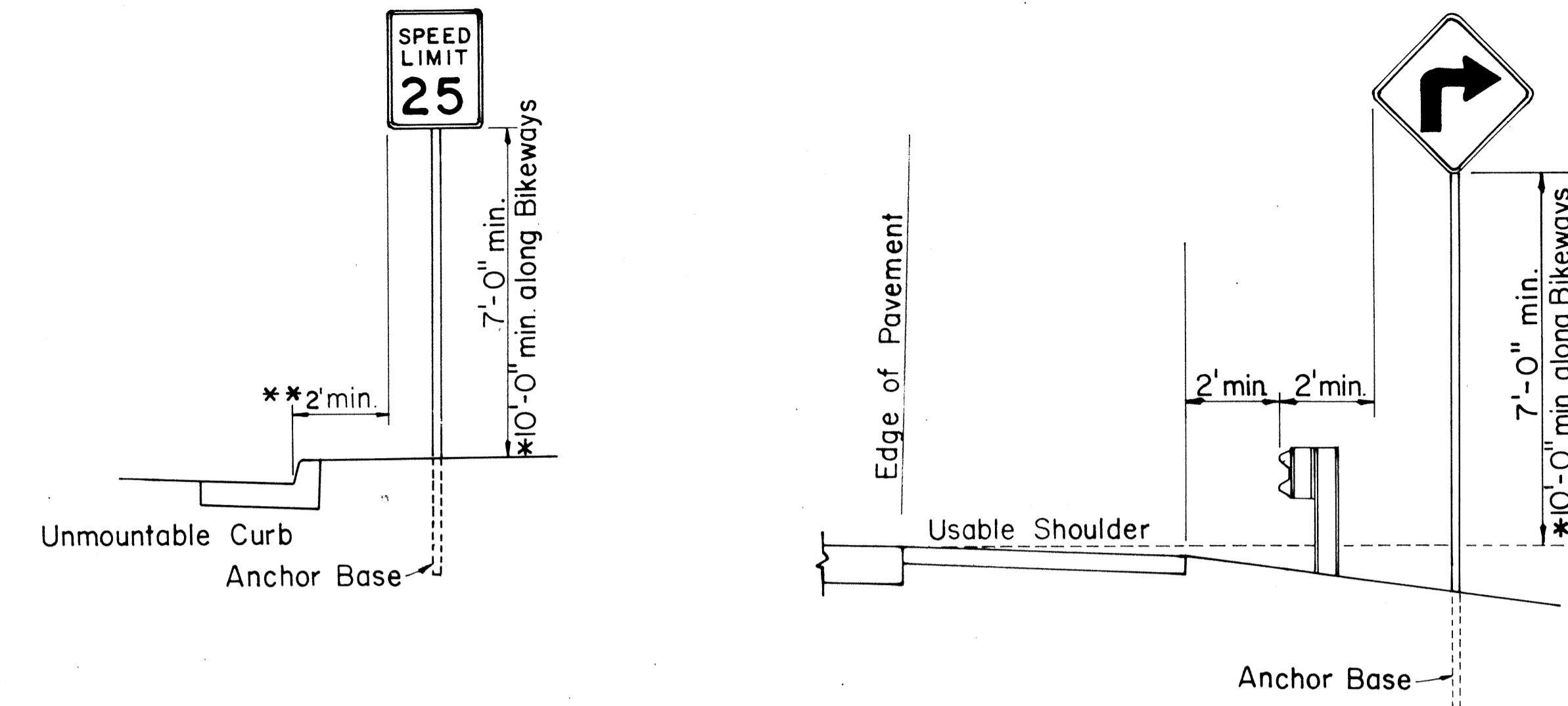
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	132	156

**GENERAL NOTES**

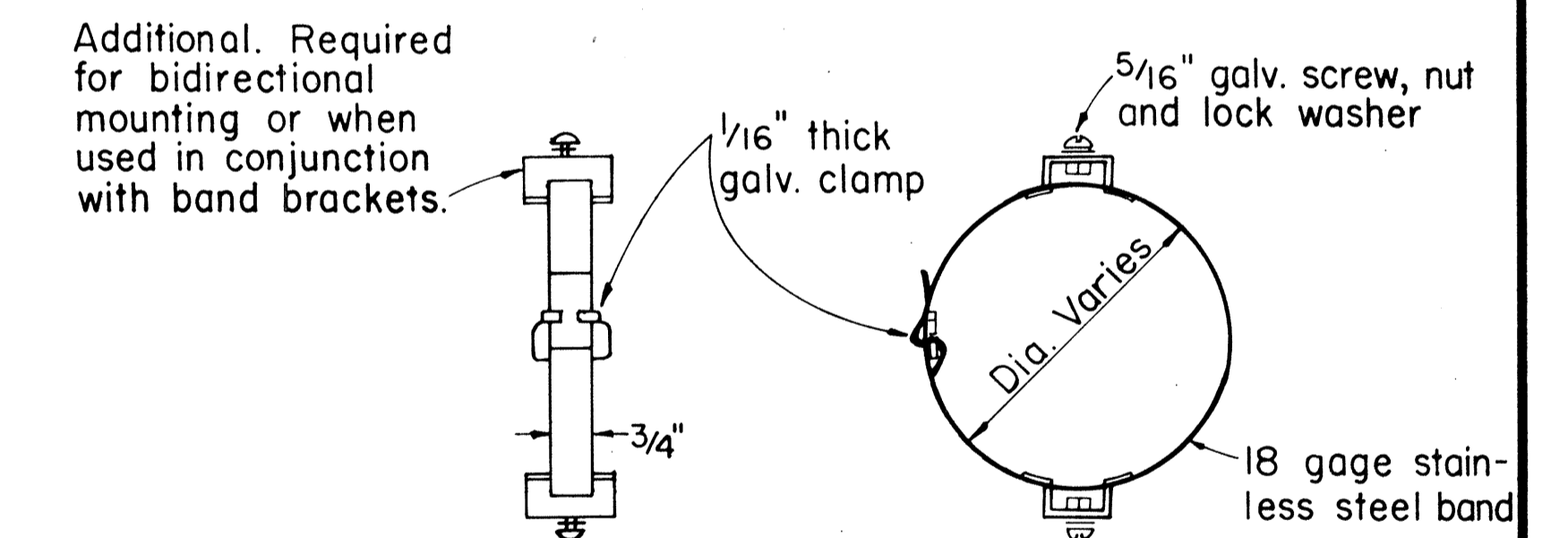
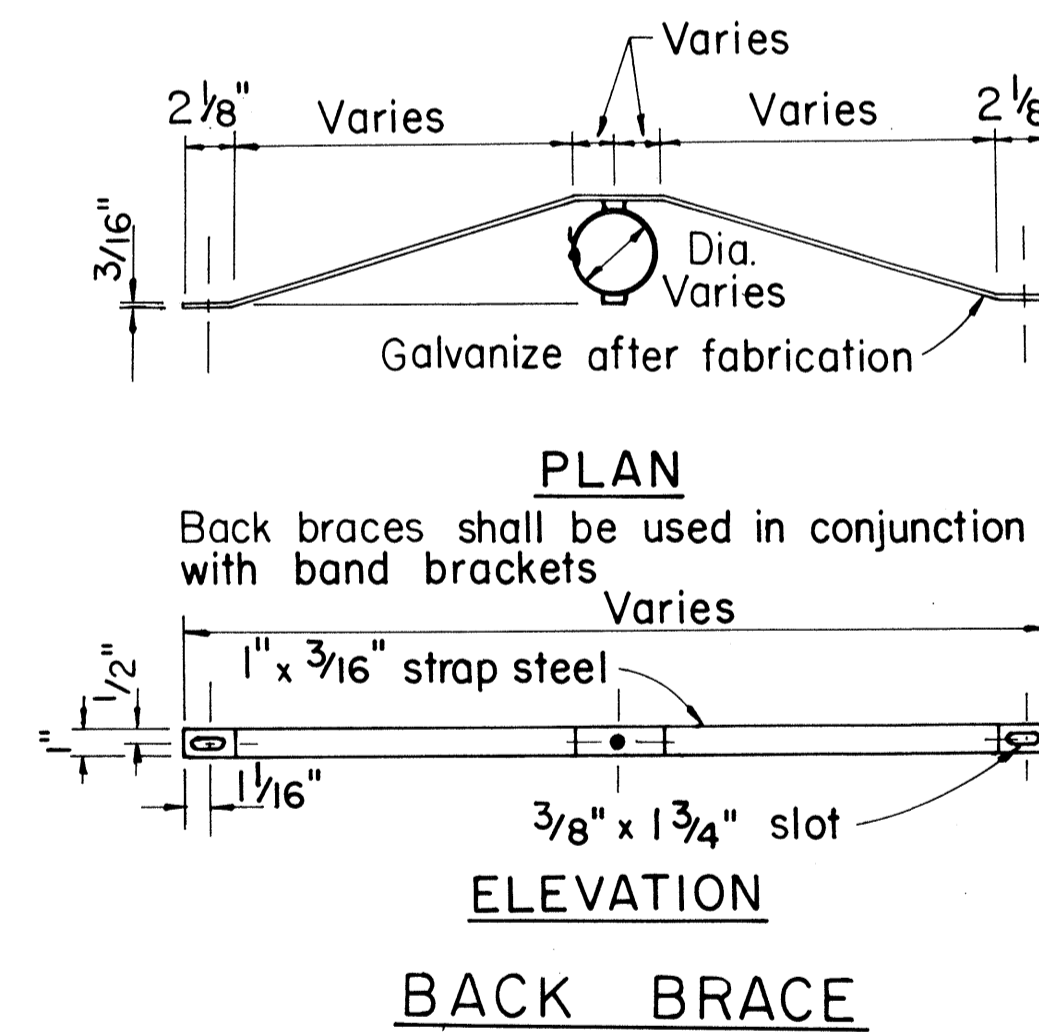
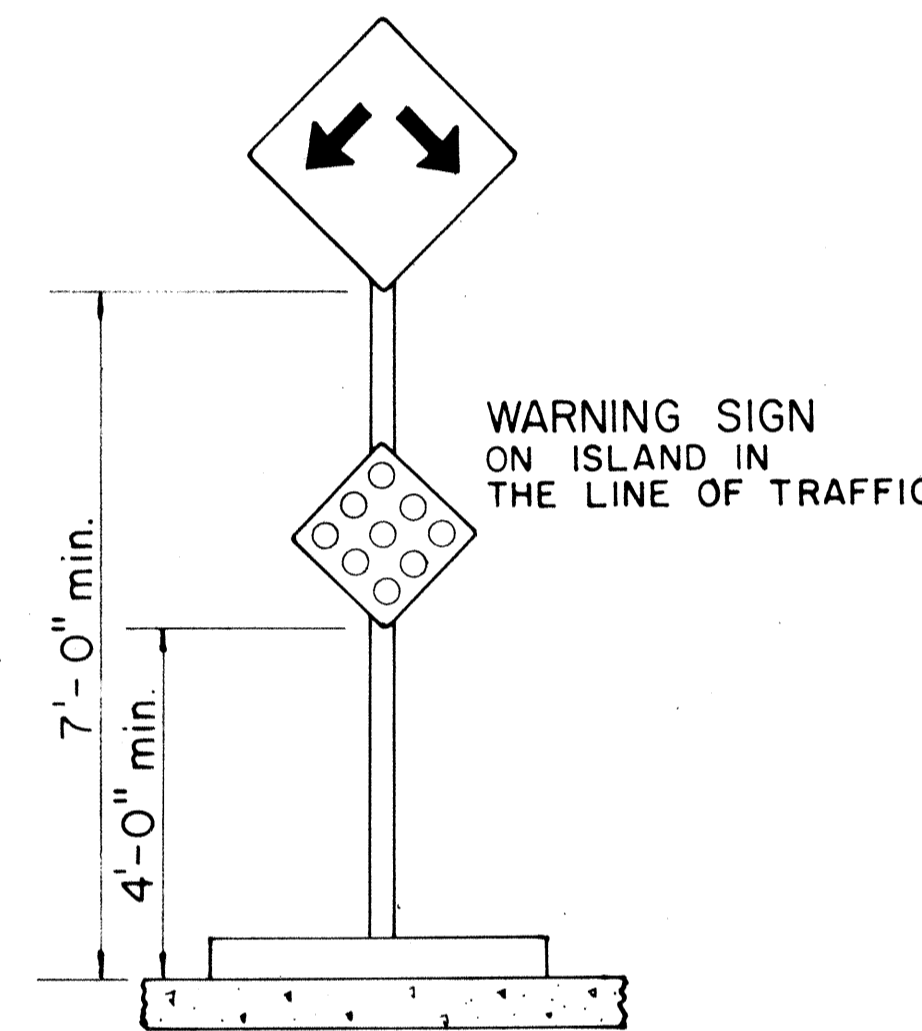
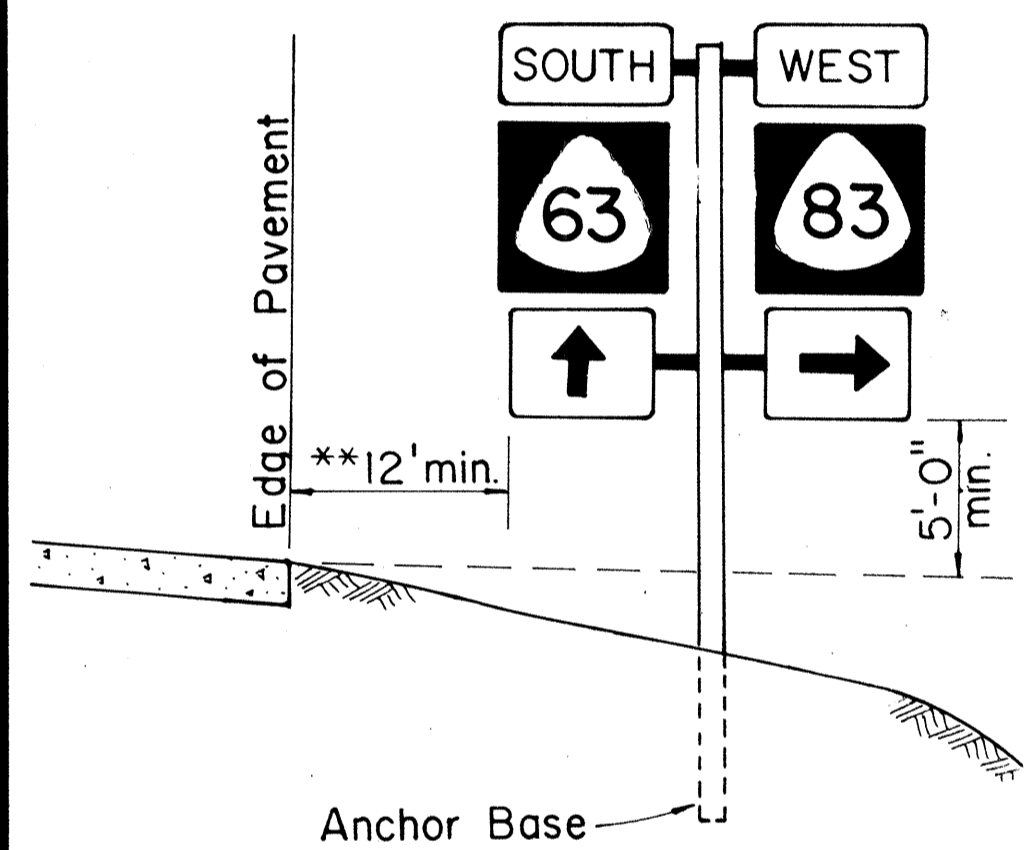
- Signs shall be placed in conformance with positions shown and described in the "Manual on Uniform Traffic Control Devices for Streets and Highways", 1978, Part II, Section 2A-21, as amended, and as supplemented herein.
- Sign 48" and wider or larger than 10 sq. ft. in area shall be mounted on two or more sign posts except as noted below.
- Signs 48" and wider or larger than 10 sq. ft. in area may be mounted on objects other than sign posts (i.e. on highway lighting poles) as follows:
  - Signs 48" and wider but less than 10 sq. ft. in area shall be mounted with a minimum of two sets of band bracket and back braces.
  - Signs larger than 10 sq. ft. and less than 28 sq. ft. in area shall be mounted with a minimum of two sets of band brackets and back braces.
  - Signs larger than 28 sq. ft. in area shall be mounted with a minimum of three sets of band bracket and back braces.
- All parking restriction signs with arrows shall be mounted 45° to the line of traffic flow.
- Sign posts shall extend 3/2" above each sign, where required, for attachment of City and County street name signs.
- (R) or (L) indicates right or left and shown on the plans.
- See plans for special details of signs along bikeways.
- The minimum lateral distances shown are guidelines and shall be exceeded whenever possible. The Contractor shall place signs at the maximum practical lateral distance from the edge of the traveled way up to 30 feet and shall utilize protected locations whenever possible. Final locations of all signs shall be approved by the Engineer.
- Signs in medians shall be placed at midpoint of median up to a maximum distance of 30 feet from the edge of traveled way. When appropriate, signs for opposing directions shall be placed back to back.
- Anchor bases shall be installed for all signpost installations, unless otherwise shown or directed. See sheets DT 100A and DT 100B.



**GALVANIZED SQUARE TUBE OR FLANGED CHANNEL POST**



**ROADSIDE ASSEMBLY RURAL DISTRICT**



**BAND BRACKET**

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 10/14/83  
TRAFFIC ENGINEER DATE

APPROVED:  
*S. Fujiyama* 10-18-83  
ASSISTANT CHIEF, ENGINEERING DATE

**TYPICAL MOUNTING DETAILS**

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 100 approved 11/15/77	<i>[Signature]</i>	10-18-83

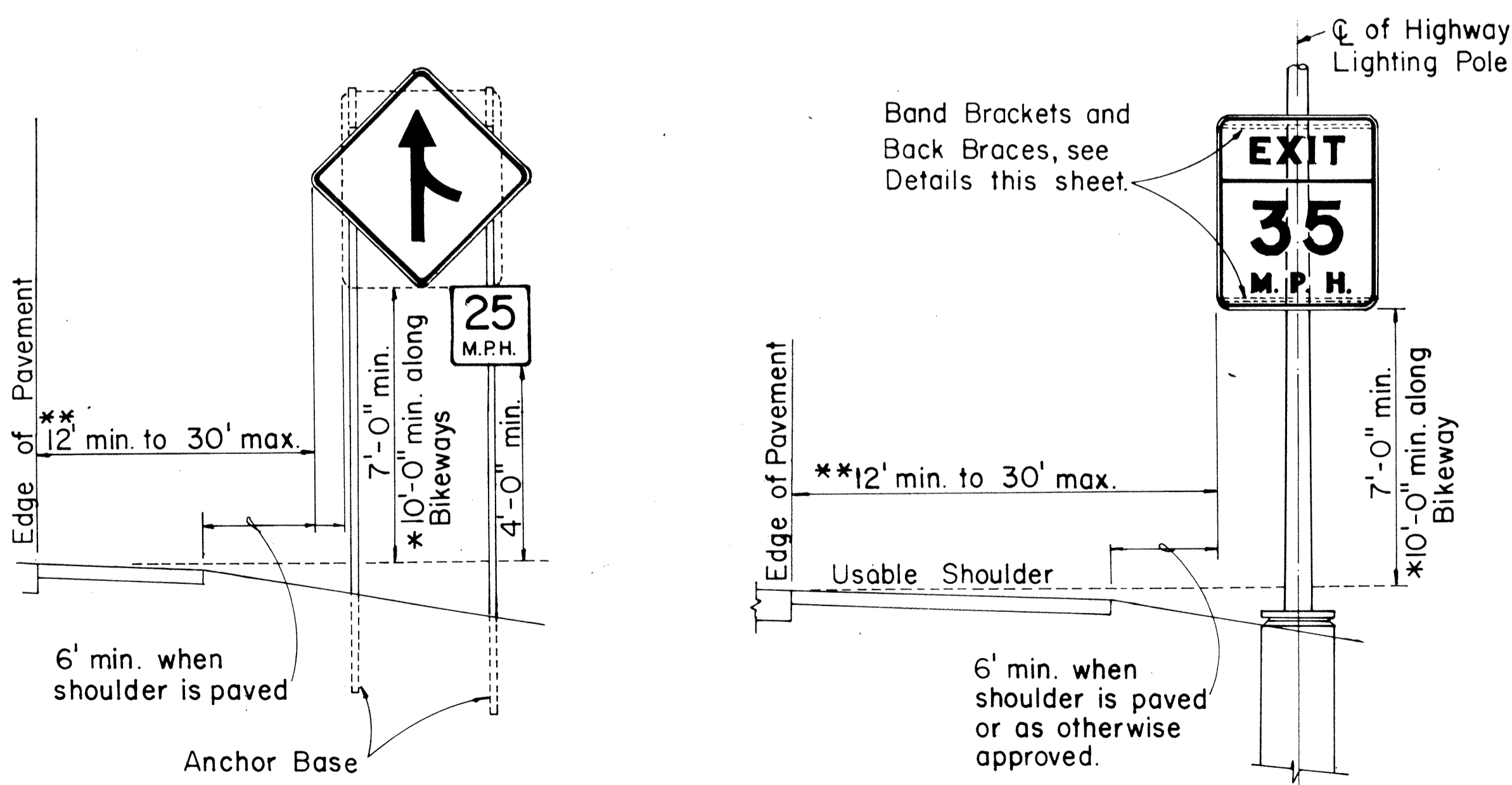
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**

**MISCELLANEOUS SIGN DETAILS**

Not to Scale: \_\_\_\_\_ Oct. 1983

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ SHEETS DT 100



**HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION**

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	133	156

A or A,	C	C,
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 4.

### GENERAL NOTES

- Sign posts and base posts shall be flanged channel type structural steel conforming to ASTM A 499 and galvanized in accordance with ASTM A 123.  
NOMINAL DIMENSIONS:  
2.50 lbs./ft. - 3.125" x 1.562"  
4.00 lbs./ft. - 3.500" x 1.750"
- Retainer - Spacer Strap shall be AISI 1020 steel and galvanized in accordance with ASTM A 123.
- Retainer and Connector Bolts shall be 5/16 - 18 UNC x 1.75" long hex. head, integral flange conforming to ASTM A 354 Grade BC. Nuts shall be 5/16 - 18 UNC hex. head, integral flange conforming to ASTM A 563 Grade D. All bolts and nuts shall be cadmium plated per Federal spec. QQP 416 B, Class 2, Type 2.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- For additional details see sht. DT 100.
- Basic formulas for use with the windload charts:  
Factor =  $A \times B \times H$   
Therefore, if sign area (A x B) is known,  
Maximum H =  $\frac{\text{Factor}}{\text{sign area}(A \times B)}$   
and if H is known,  
Maximum sign area (A x B) =  $\frac{\text{Factor}}{H}$

APPROVAL RECOMMENDED:

*Eichi Tanaka* 9/21/82  
TRAFFIC ENGINEER DATE

APPROVED:

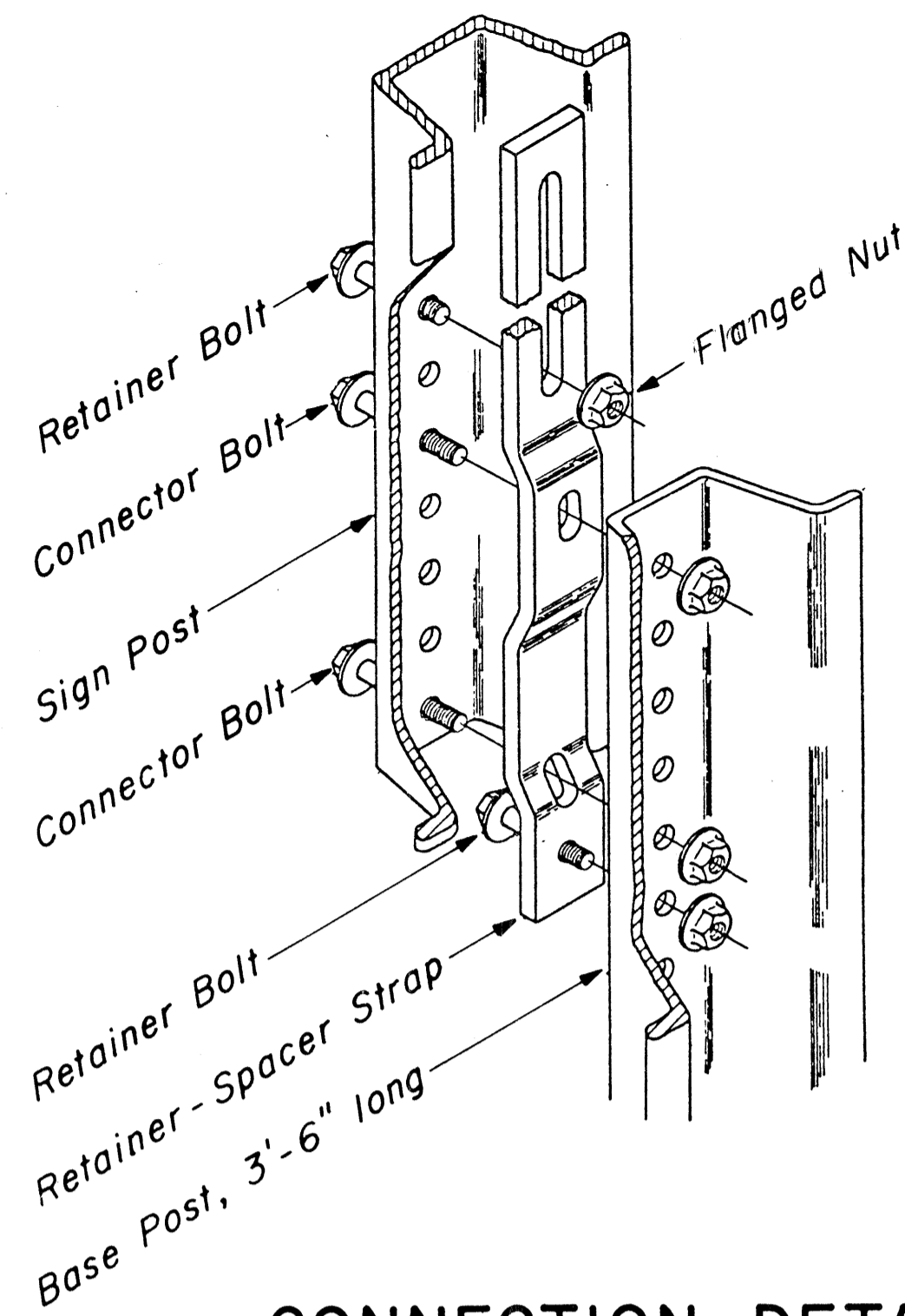
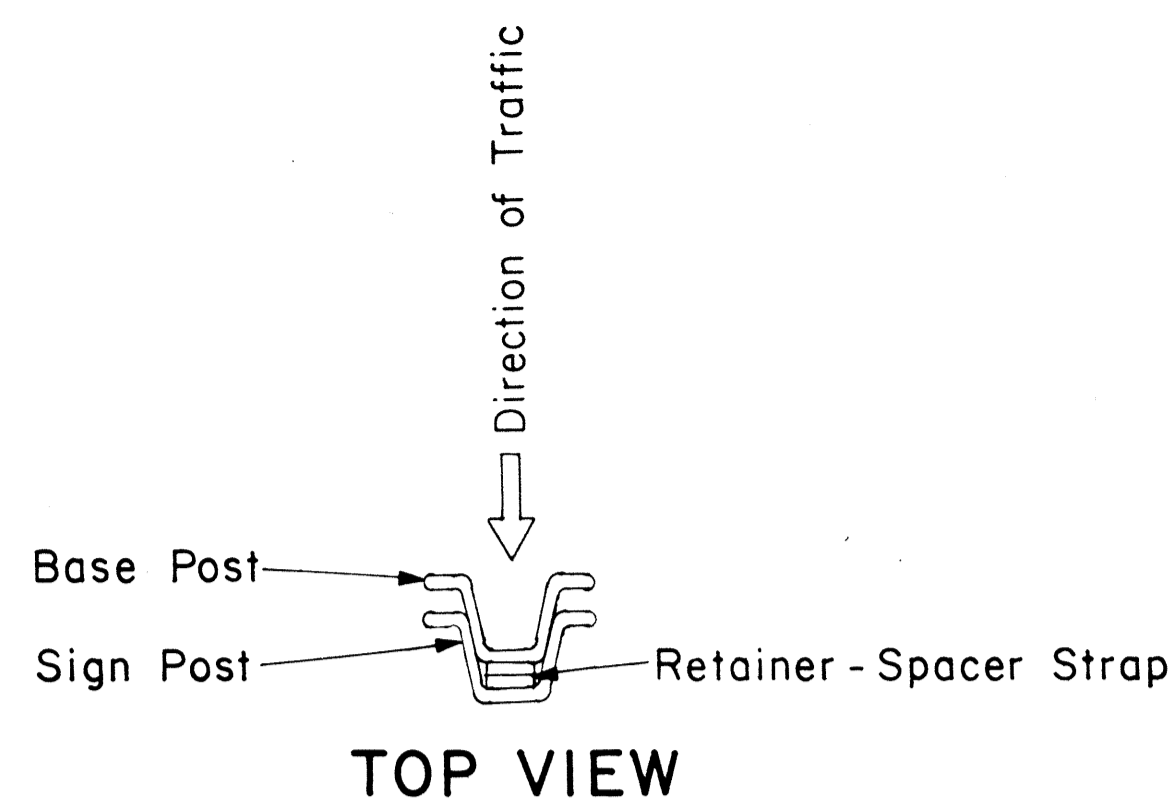
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

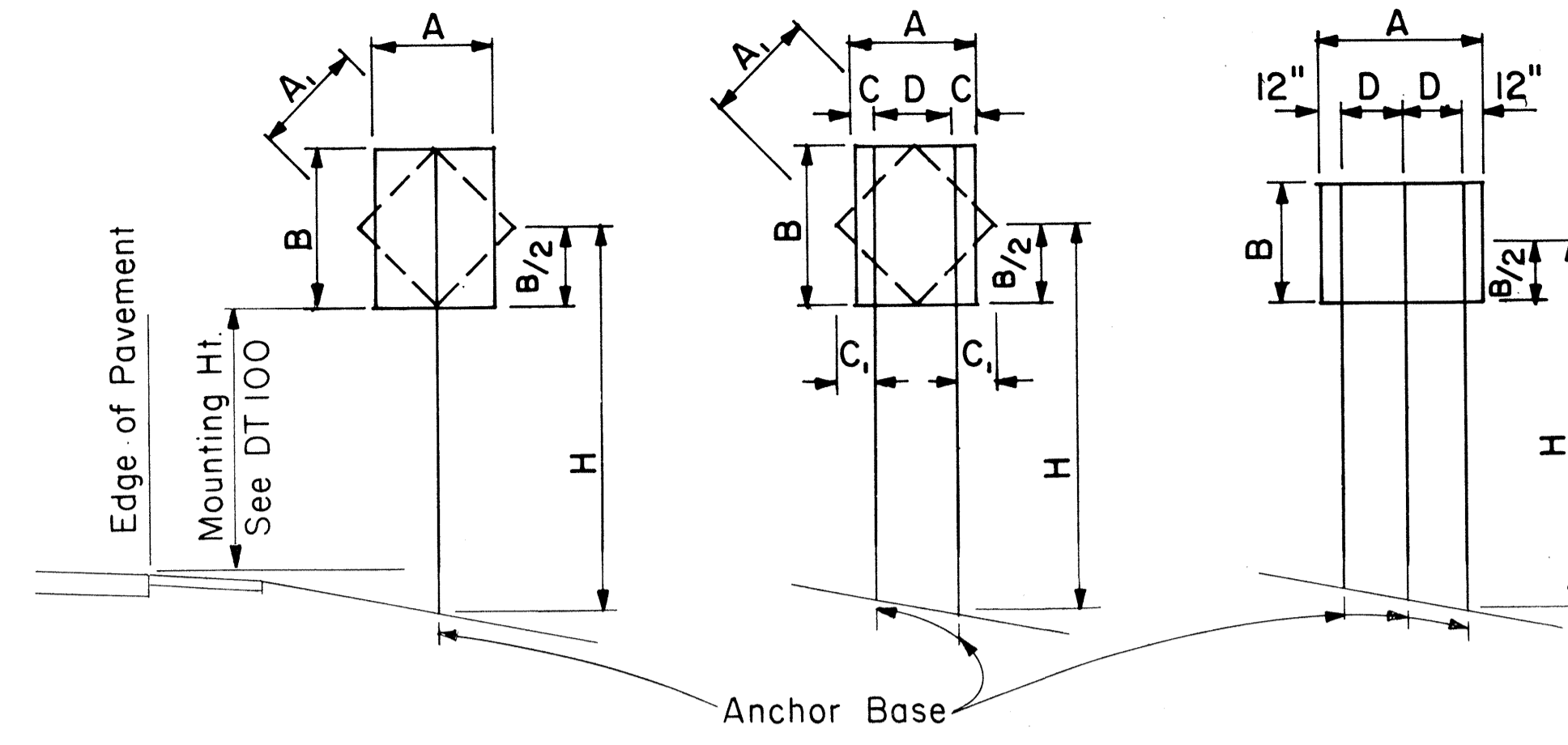
STANDARD DETAILS  
GALVANIZED FLANGED CHANNEL  
SIGN POST MOUNTING

Scale: As Shown Date: Sept. 1982

SHEET NO. OF SHEETS DT 100A



CONNECTION DETAIL  
Not to Scale



1-POST Sign area 10 sq. ft. and less  
2-POST Sign area greater than 10 sq. ft. or A = 48" - 60"  
3-POST A = greater than 60"

TYPICAL INSTALLATION  
Not to Scale

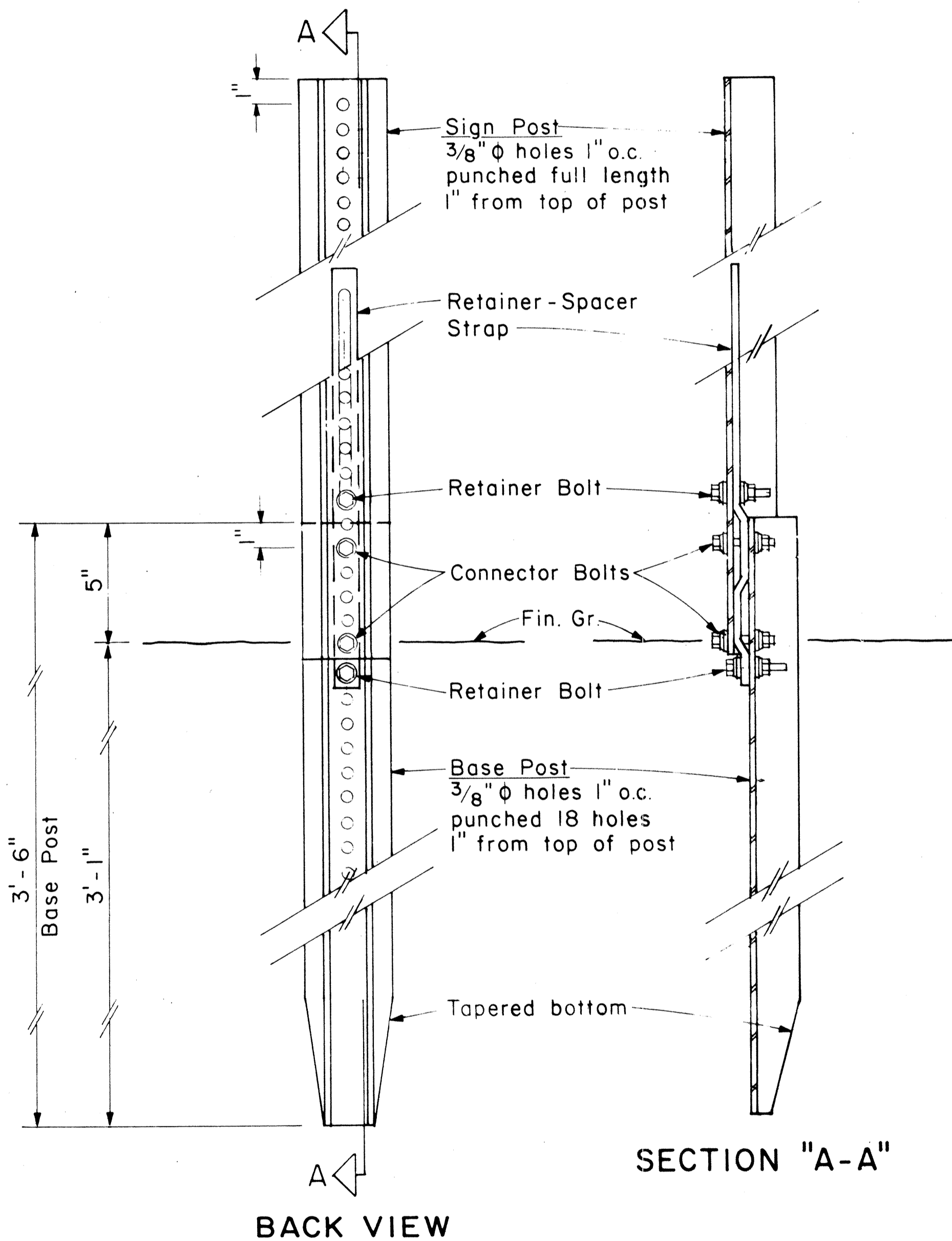
FLANGED CHANNEL: 1-POST INSTALLATION		H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
Post Size	A x B x H (Factor)	7	8	9	10	11	12	
2.50 lbs./ft.	57	8.14	7.13	6.33	5.70	5.18	4.75	-
4.00 lbs./ft.	112	-	-	-	-	-	9.33	

FLANGED CHANNEL: 2-POST INSTALLATION		H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
Post Size	A x B x H (Factor)	7	8	9	10	11	12	
2.50 lbs./ft.	124	17.71	15.50	13.77	12.40	11.27	10.33	-
4.00 lbs./ft.	241	34.43	30.13	26.78	24.10	21.91	20.08	

FLANGED CHANNEL: 3-POST INSTALLATION		H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
Post Size	A x B x H (Factor)	7	8	9	10	11	12	
2.50 lbs./ft.	187	26.71	23.38	20.78	18.70	17.00	15.58	-
4.00 lbs./ft.	362	51.71	45.25	40.22	36.20	32.91	30.17	

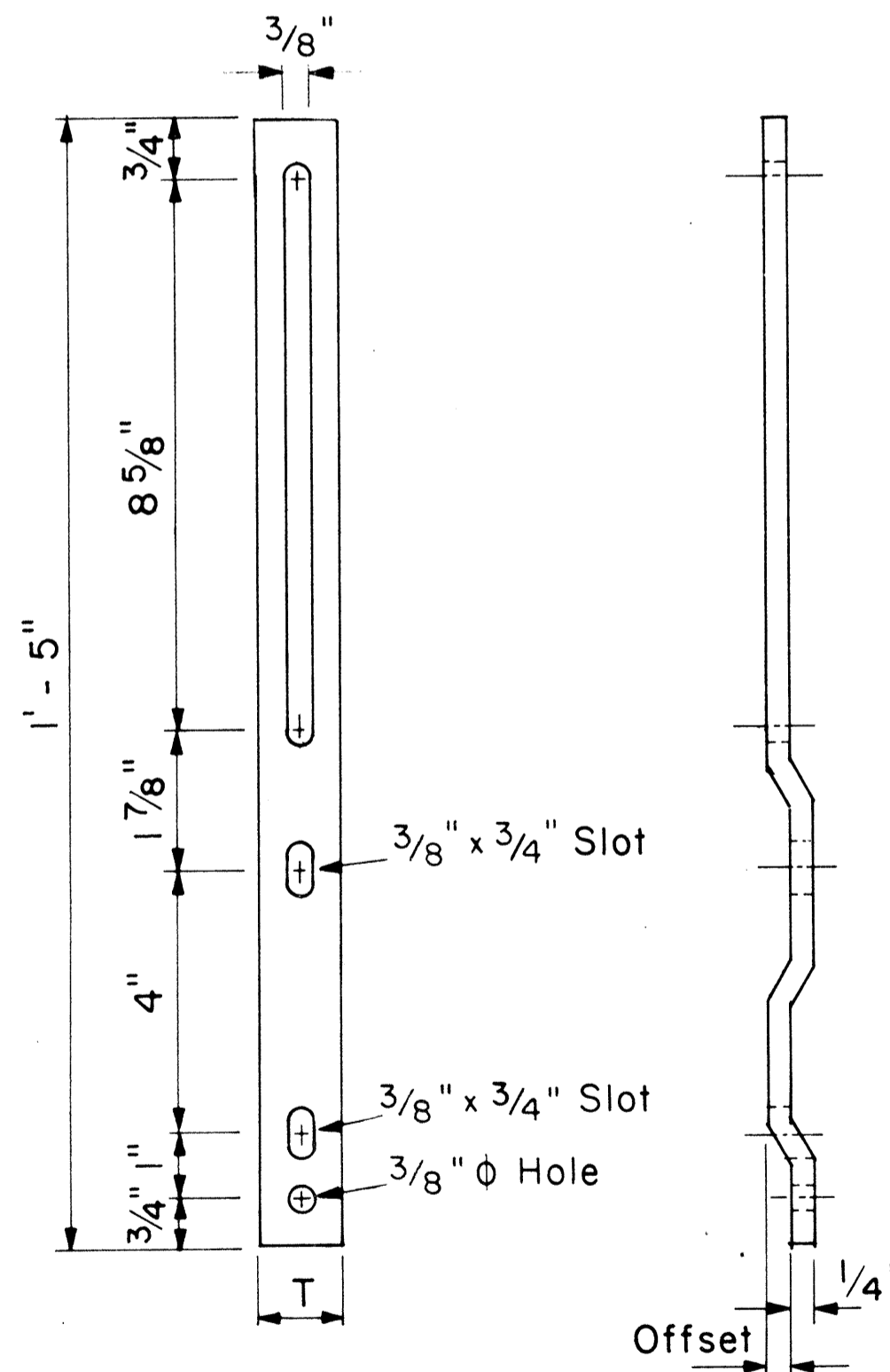
### WINDLOAD CHARTS

NO.	REVISION	APPROVED BY	DATE



### ANCHOR BASE DETAIL

Scale: 3" = 1'-0"



RETAINER-SPACER STRAP  
Not to Scale

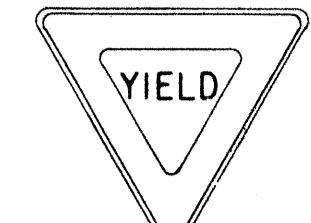
RETAINER-SPACER STRAP	Post Size	T	Offset
2.50 lbs./ft.	1.00"	0.145"	
4.00 lbs./ft.	1.12"	0.280"	

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
ORIGINAL PLAN No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	134	156



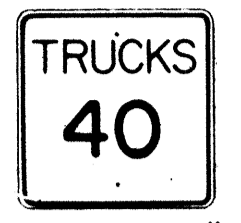
R1-1 30"x30"  
R1-1-A 36"x36"  
4-WAY  
R1-3 12"x6"  
R1-3-A 18"x9"



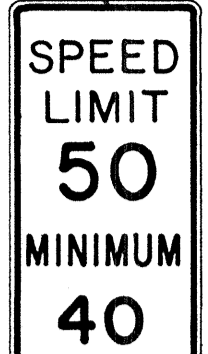
R1-2 36"x36"x36"  
R1-2-A 48"x48"x48"



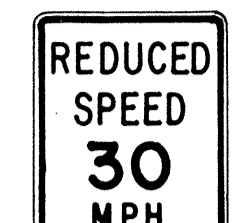
R2-1(50) 24"x30"  
R2-1(50)-A 48"x60"



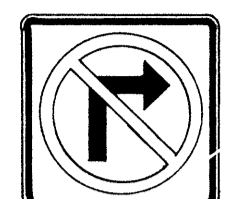
R2-2(40) 24"x24"  
R2-2(40)-A 48"x48"



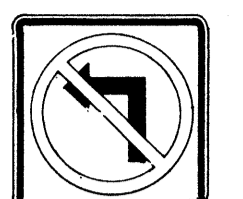
R2-4a(50/40) 24"x48"  
R2-4a(50/40)-A 48"x96"



R2-5b(30) 24"x30"  
R2-5b(30)-A 48"x60"



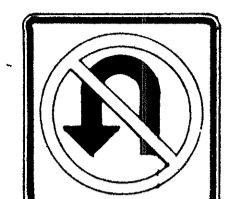
R3-1 24"x24"  
24"x18"  
R3-1-A 48"x48"  
48"x36"



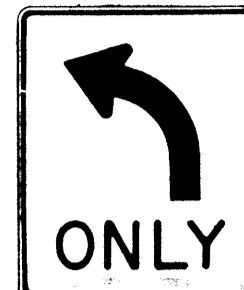
R3-2 24"x24"  
24"x18"  
R3-2-A 48"x48"  
48"x36"



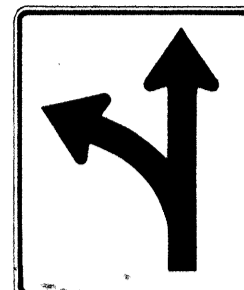
R3-3 24"x24"  
R3-3-A 48"x48"



R3-4 24"x24"  
24"x18"  
R3-4-A 4"x4"  
48"x36"



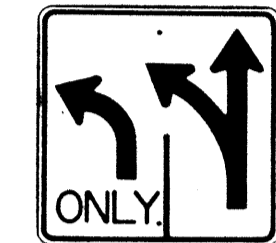
R3-5(L) 30"x36"  
R3-5(L)-A 48"x60"



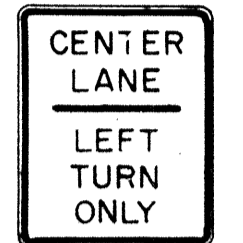
R3-6(L) 30"x36"  
R3-6(L)-A 48"x60"



R3-7(R) 30"x30"  
R3-7(R)-A 48"x48"



R3-8(L) 30"x30"  
R3-8(L)-A 36"x36"  
R3-8(L)-B 48"x48"



R3-9 24"x30"



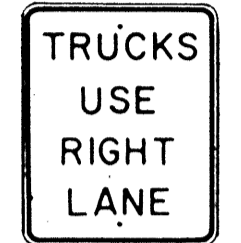
R4-1 24"x30"



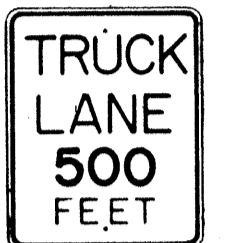
R4-2 24"x30"



R4-3 24"x30"  
R4-3-A 48"x60"



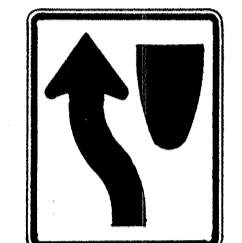
R4-5 24"x30"



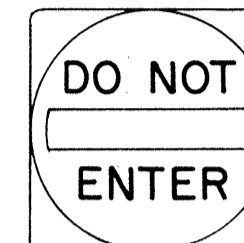
R4-6(500) 24"x30"



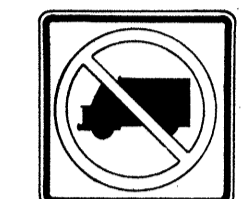
R4-7 24"x30"  
24"x18"



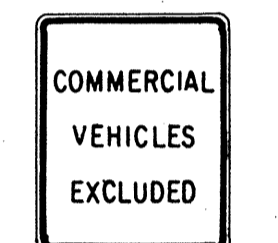
R4-8 24"x30"  
24"x18"



R5-1 30"x30"  
R5-1-A 48"x48"



R5-2 24"x24"  
24"x18"



R5-4 24"x30"



R5-6 24"x24"  
24"x18"



R5-9 36"x24"



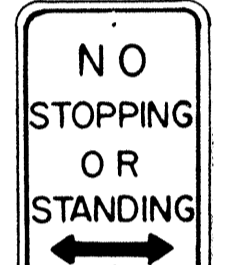
R6-1(R) 36"x12"



R6-2(R) 18"x24"



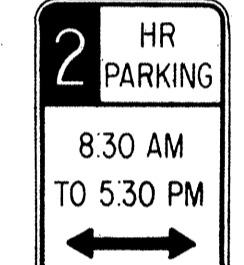
R7-1 12"x18"  
R7-1-A 24"x30"



R7-4 12"x18"  
R7-4-A 24"x30"



R7-1-7(R) 12"x18"



R7-108 12"x18"



R7-201 12"x6"  
R7-201-A 24"x12"



R8-1 24"x30"



R8-2 24"x30"



R8-3 24"x30"



R8-4 30"x24"  
R8-4-A 48"x36"



R8-5 24"x30"



R8-6 24"x30"



R8-7 30"x24"  
R8-7-A 48"x36"



R9-1 18"x24"



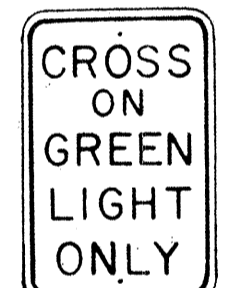
R9-2 12"x18"



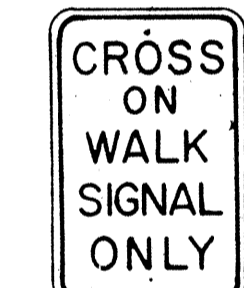
R9-3 12"x18"



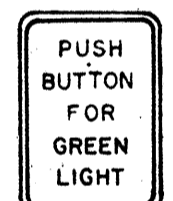
R9-4 18"x24"



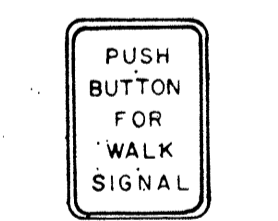
R10-1 12"x18"



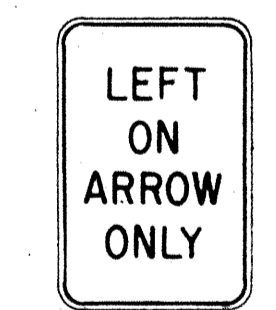
R10-2 12"x18"



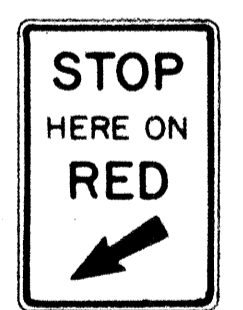
R10-3 9"x12"



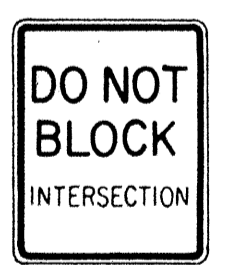
R10-4 9"x12"



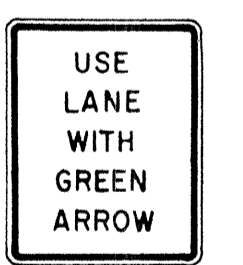
R10-5 24"x30"



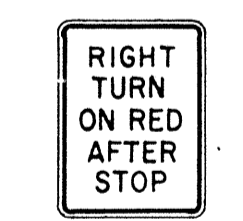
R10-6 24"x36"



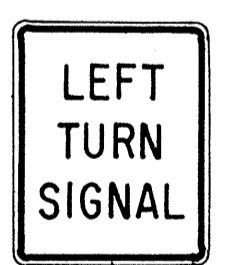
R10-7 24"x30"



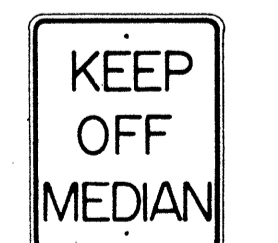
R10-8 24"x30"



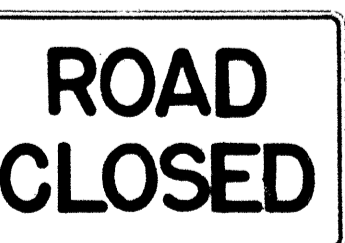
R10-9 24"x30"



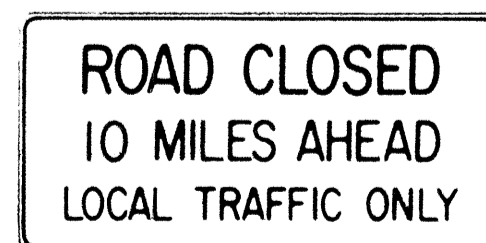
R10-10 24"x30"



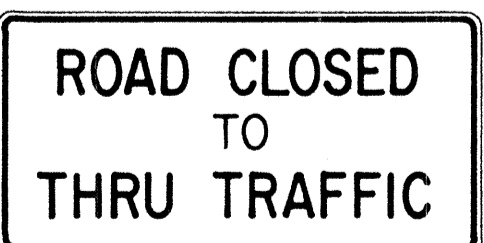
R11-1 24"x30"



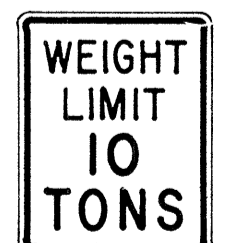
R11-2 48"x30"



R11-3(10) 60"x30"



R11-4 60"x30"



R12-1(10) 24"x30"

**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.
- All signs shall be erected without educational plaques unless called for in the plans.

APPROVAL RECOMMENDED:  
*Etsuki Tanaka* 3/17/72  
TRAFFIC ENGINEER DATE

APPROVED:  
*Robert Zetser* 3-28-72  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.I.	2/20/72
2	Revised General Note 1.	H.I.	10/10/74
3	Added General Note 5	H.I.	8/7/77

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

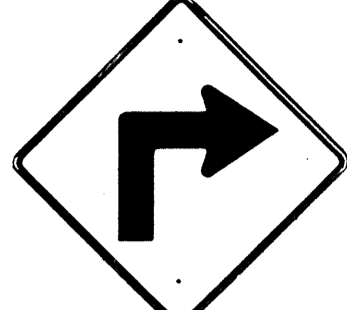

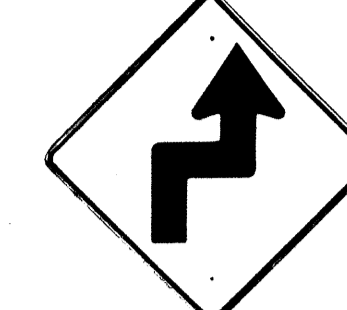


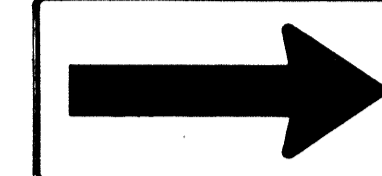
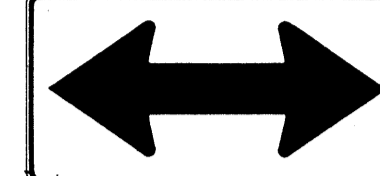
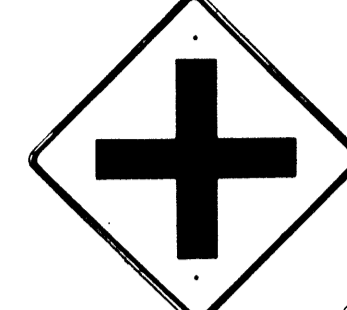
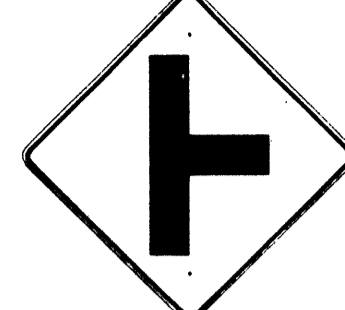
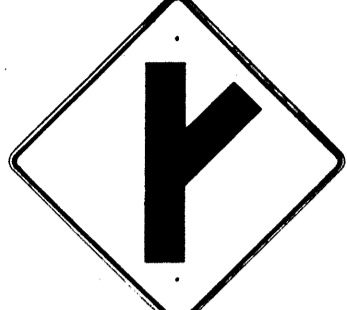
**STANDARD DETAILS  
REGULATORY SIGNS**

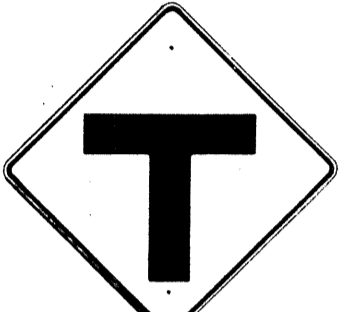
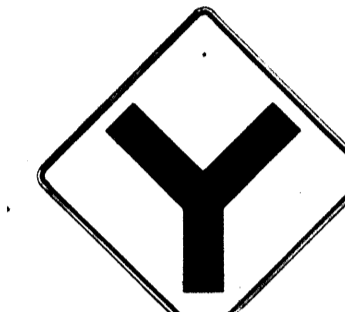


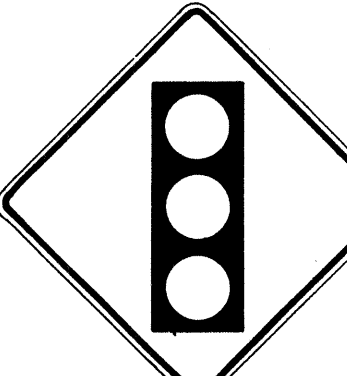

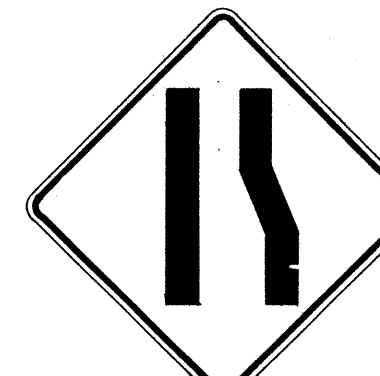



NOT TO SCALE





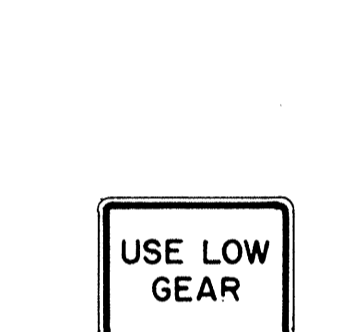



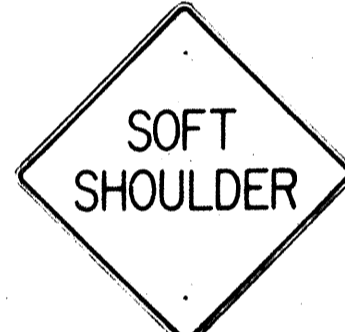

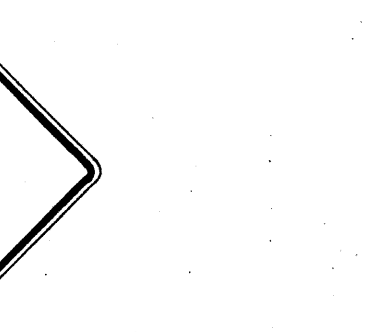
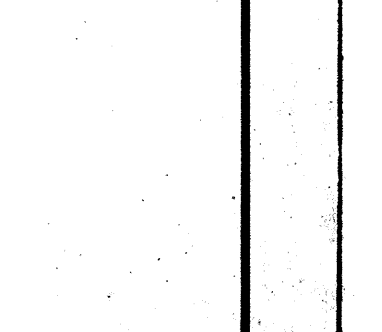

SHEET No. OF SHEETS DT 101








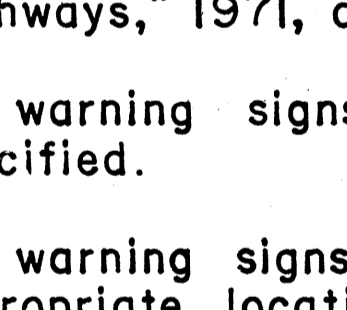
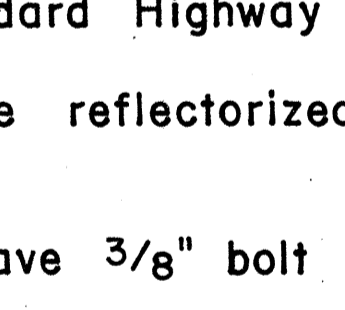
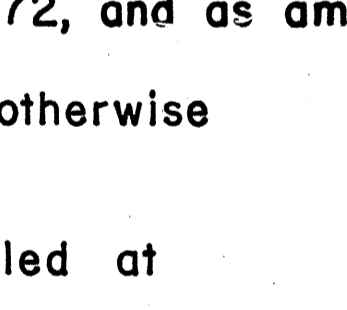
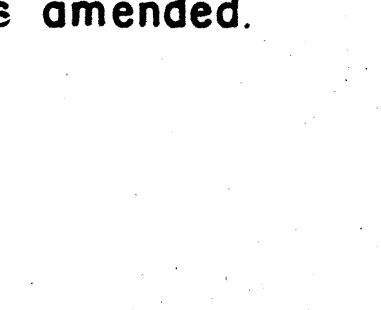
SURVEY PLOTTED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 ORIGINAL PLAN: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 No. \_\_\_\_\_

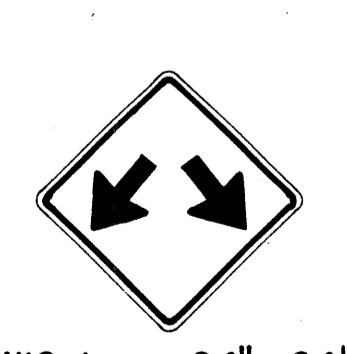


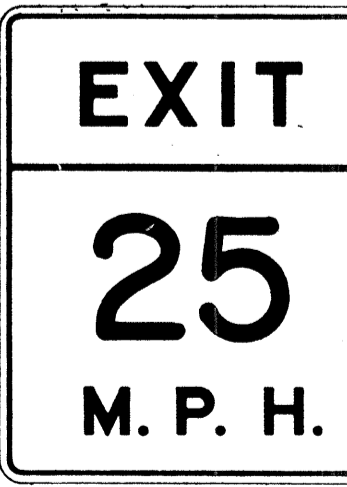
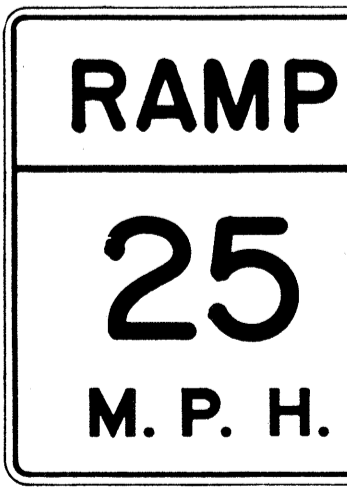


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII *	HAW.	FOG3-1(16) FOG3-1(17)	1984	135	156

 W1-1(R) 30"x30" W1-1(R)-A 48"x48"	 W1-2(R) 30"x30" W1-2(R)-A 48"x48"	 W1-3(R) 30"x30" W1-3(R)-A 48"x48"	 W1-4(R) 30"x30" W1-4(R)-A 48"x48"	 W1-5(R) 30"x30" W1-5(R)-A 48"x48"	 W1-6 48"x24"	 W1-7 48"x24"	 W2-1 30"x30" W2-1-A 48"x48"	 W2-2 30"x30" W2-2-A 48"x48"	 W2-3(R) 30"x30" W2-3(R)-A 48"x48"
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 W2-4 30"x30" W2-4-A 48"x48"	 W2-5 30"x30" W2-5-A 48"x48"	 W3-1 30"x30" W3-1-A 36"x36"	 W3-2 30"x30" W3-2-A 36"x36"	 W3-3 36"x36" 24"x18"	 W4-1(R) 30"x30" 24"x18" W4-1(R)-A 48"x48" 24"x18"	 W4-2(R) 36"x36" W4-2(R)-A 48"x48"	 W5-1 36"x36"	 W5-2 30"x30" W5-2-A 36"x36"	 W5-3 36"x36"
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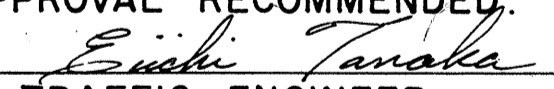
 W6-1 36"x36" 24"x18"	 W6-2 36"x36" 24"x18"	 W6-3 30"x30" 24"x18"	 W6-3-A 36"x36" 24"x18"	 W6-3-B 48"x48" 24"x18"	 W7-1 30"x30" 24"x18"	 W7-1-A 36"x36" 24"x18"	 W7-2 24"x18"	 W8-1 30"x30" W8-1-A 36"x36"	 W8-2 30"x30" W8-2-A 36"x36"	 W8-3 30"x30" W8-3-A 36"x36"	 W8-4 30"x30" W8-4-A 36"x36"	 W8-5 30"x30" 24"x18" W8-5-A 36"x36" 24"x18"
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 W9-1(R) 30"x30" W9-1(R)-A 36"x36" W9-1(R)-B 48"x48"	 W9-2(L) 36"x36" W9-2(L)-A 48"x48"	 W10-1 36" Diameter	 W11-1 30"x30" 24"x18"	 W11-1-A 36"x36" 24"x18"	 W11-2 30"x30" 24"x18"	 W11-2-A 36"x36" 24"x18"	 W11-4 30"x30" 24"x18"	 W11-4-A 36"x36" 24"x18"	 W11-5 30"x30" 24"x18"	 W11-5-A 36"x36" 24"x18"
--	---	--	---	---	---	---	---	---	---	---

 W12-1 24"x24" W12-1-A 36"x36" W12-1-B 48"x48"	 W12-2(12'-6") 36"x36" 24"x18"	 W13-1(25) 18"x18" W13-1(25)-A 24"x24"	 W13-2(25) 48"x60"	 W13-3(25) 48"x60"	 W14-1 30"x30"	 W14-3 36"x48"x48"
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**GENERAL NOTES**

1. 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.
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in ( ) indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
5. Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized.

APPROVAL RECOMMENDED:  
  
 TRAFFIC ENGINEER 3/17/82 DATE

APPROVED:  
  
 ASSISTANT CHIEF, ENGINEERING 3-20-82 DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.T.	3/20/82
2	Revised General Note 1	H.T.	10/16/84
3	Revised General Note 5	M.T.	9-16-75
4	Revised General Note 5	H.T.	9-14-76
5	Added Note 1	H.T.	11-8-77

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**WARNING SIGNS**

NOT TO SCALE  
 SHEET No. OF SHEETS DT 102

**NOTE**  
 1. All signs shall be erected without educational plaques unless called for in the plans.

DATE \_\_\_\_\_  
 SURVEY PLOTTED BY \_\_\_\_\_  
 PLAN CHECKED BY \_\_\_\_\_  
 DESIGNED BY \_\_\_\_\_  
 QUANTITIES BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 No. \_\_\_\_\_



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	137	156



CW20-1a 48" x 48"



CW20-2d 48" x 48"



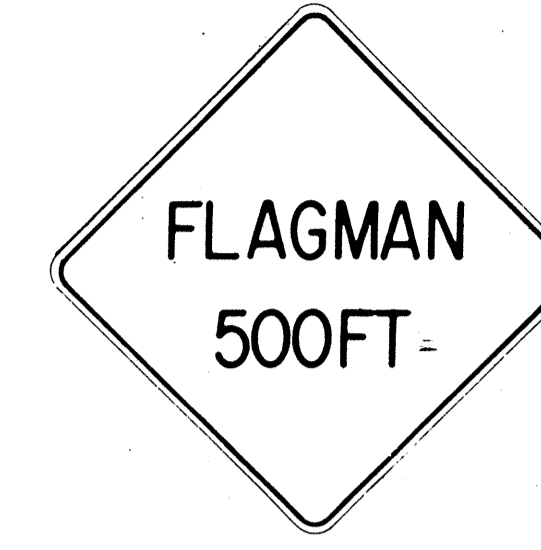
CW20-3b 48" x 48"



CW20-4d 48" x 48"



CW20-5d(L) 48" x 48"



CW20-7c 48" x 48"



CW21-1 30" x 30"



CW21-2 30" x 30"



CW21-3 36" x 36"



CW21-4 36" x 36"



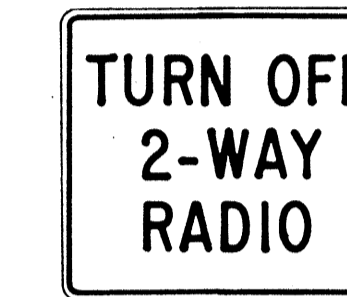
CW21-5 30" x 30"



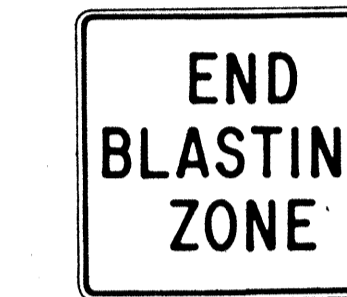
CW21-6 30" x 30"



CW22-1b 48" x 48"



CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



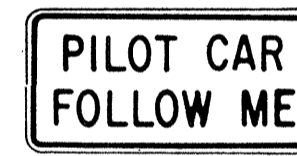
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



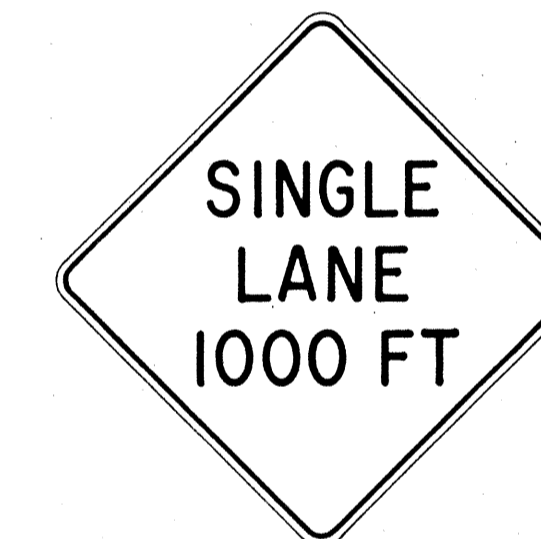
CM4-10(R) 48" x 18"



CG20-4 36" x 18"



CW23-1 36" x 36"



CW23-2b 48" x 48"



CW23-3(R) 48" x 48"

**GENERAL NOTES**

1. 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.
2. All construction signs shall be reflectorized.
3. All construction signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in ( ) indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
5. For "CW" series signs, suffixes a,b,c and d are as follows:  
a-1500 FT, b-1000 FT, c-500 FT and d-AHEAD.

APPROVAL RECOMMENDED:  
*Erich Tanaka* 3/21/72  
TRAFFIC ENGINEER DATE

APPROVED:  
*Walter S. Salsich* 3/23/72  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.T.	3/23/72
2	Revised General Note 1	H.T.	10/16/74
3	Revised General Note 2	H.T.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.T.	9-14-76

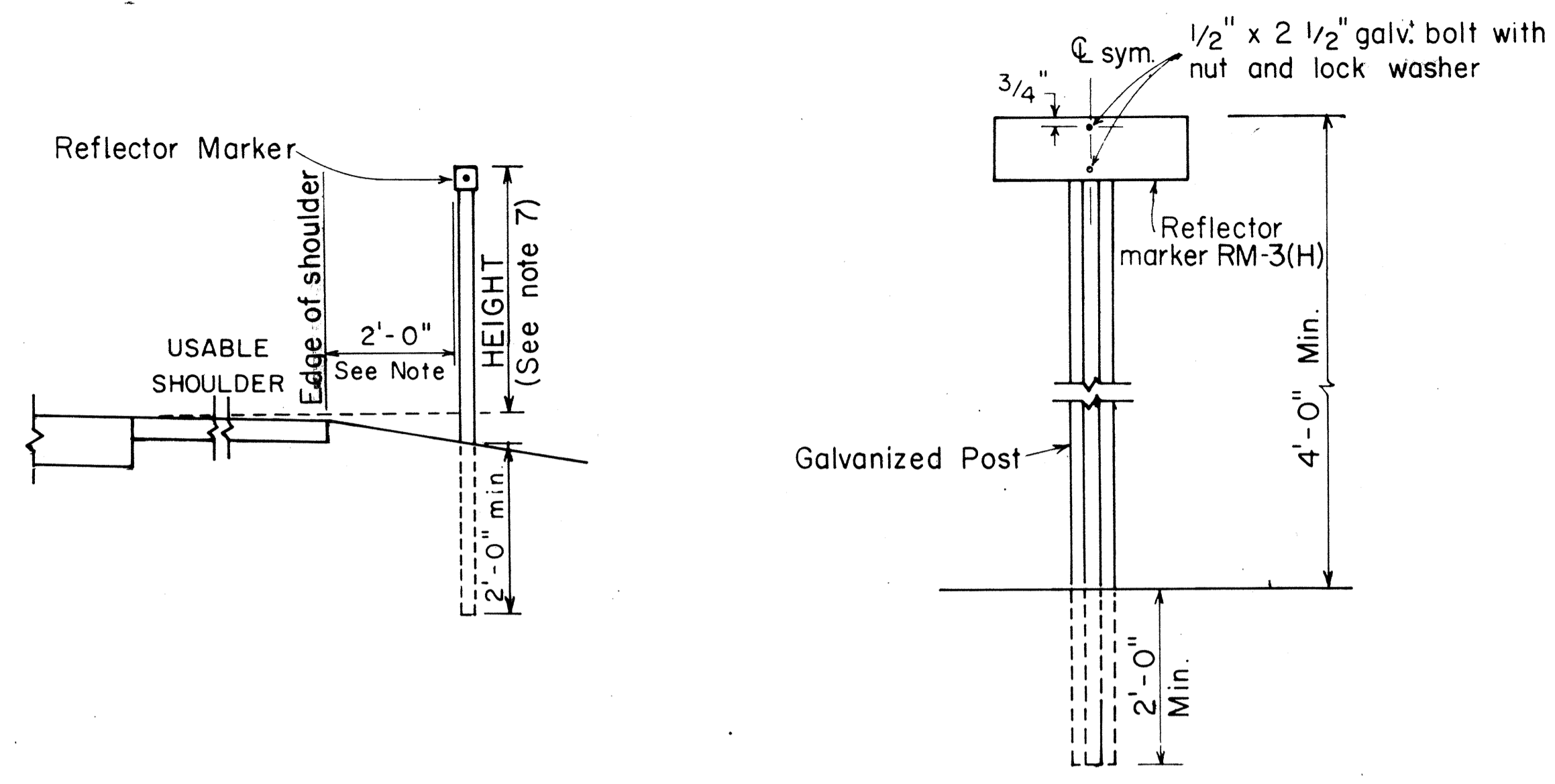
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**CONSTRUCTION SIGNS**

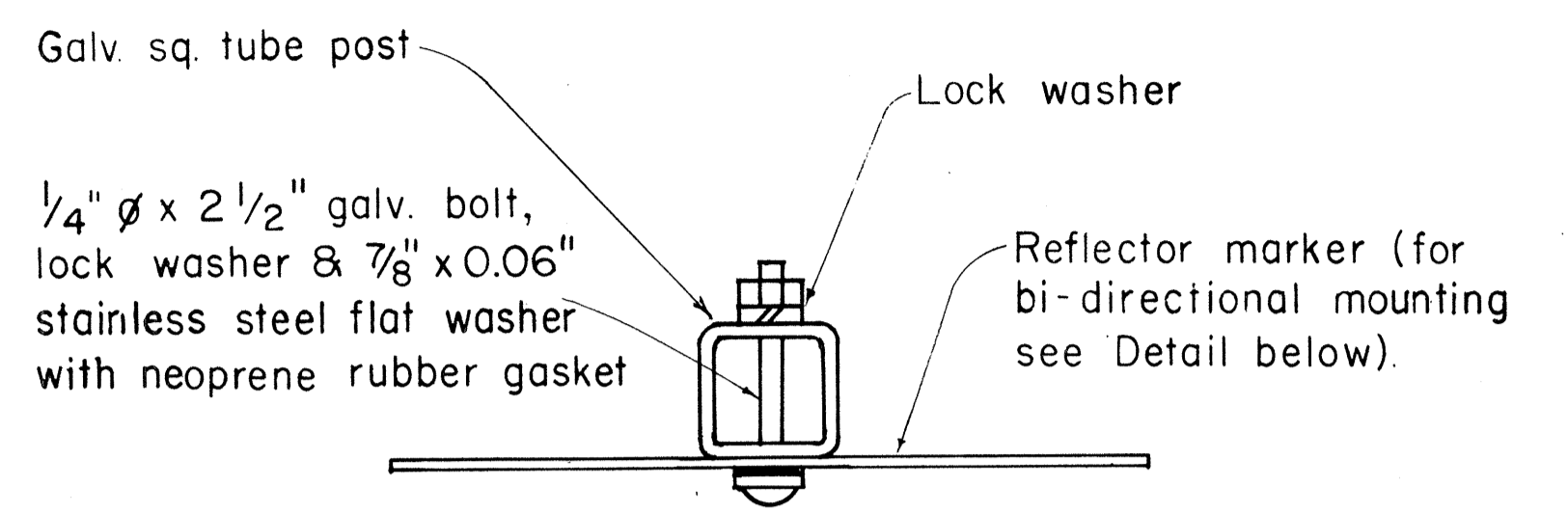
NOT TO SCALE

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

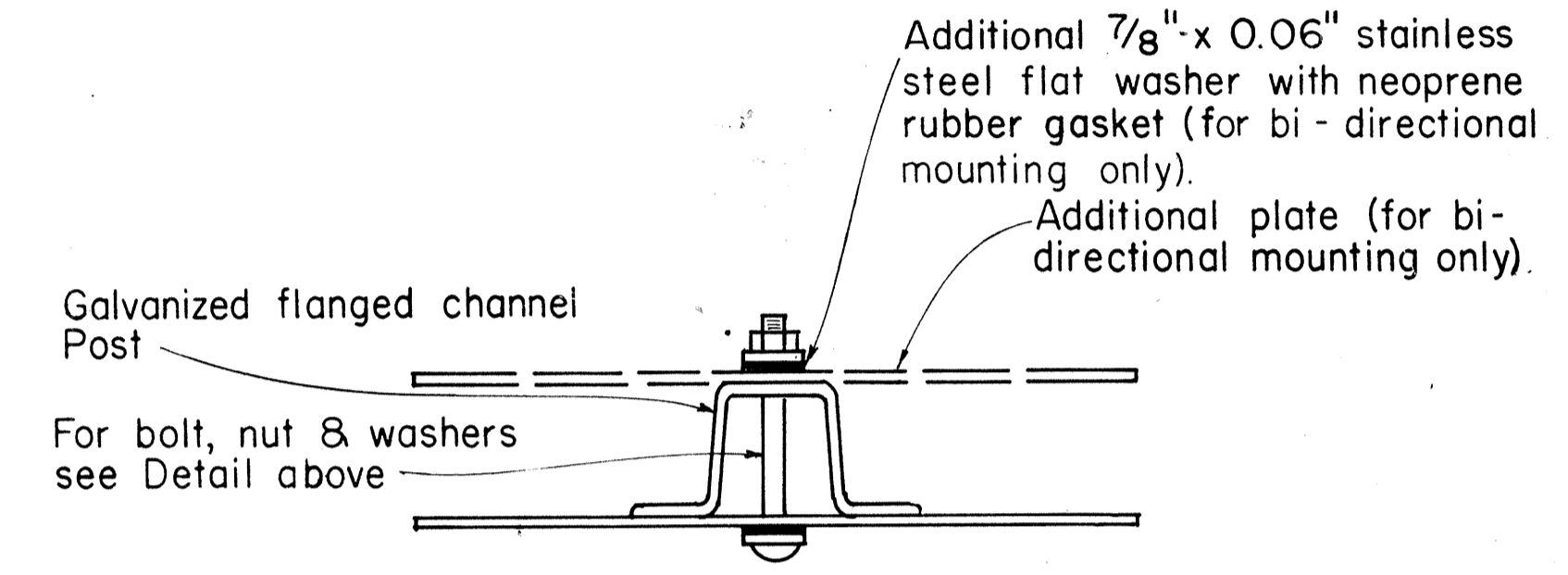
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	138	156



**REFLECTOR MARKER MOUNTING DETAIL**



**GALVANIZED SQUARE TUBE POST**



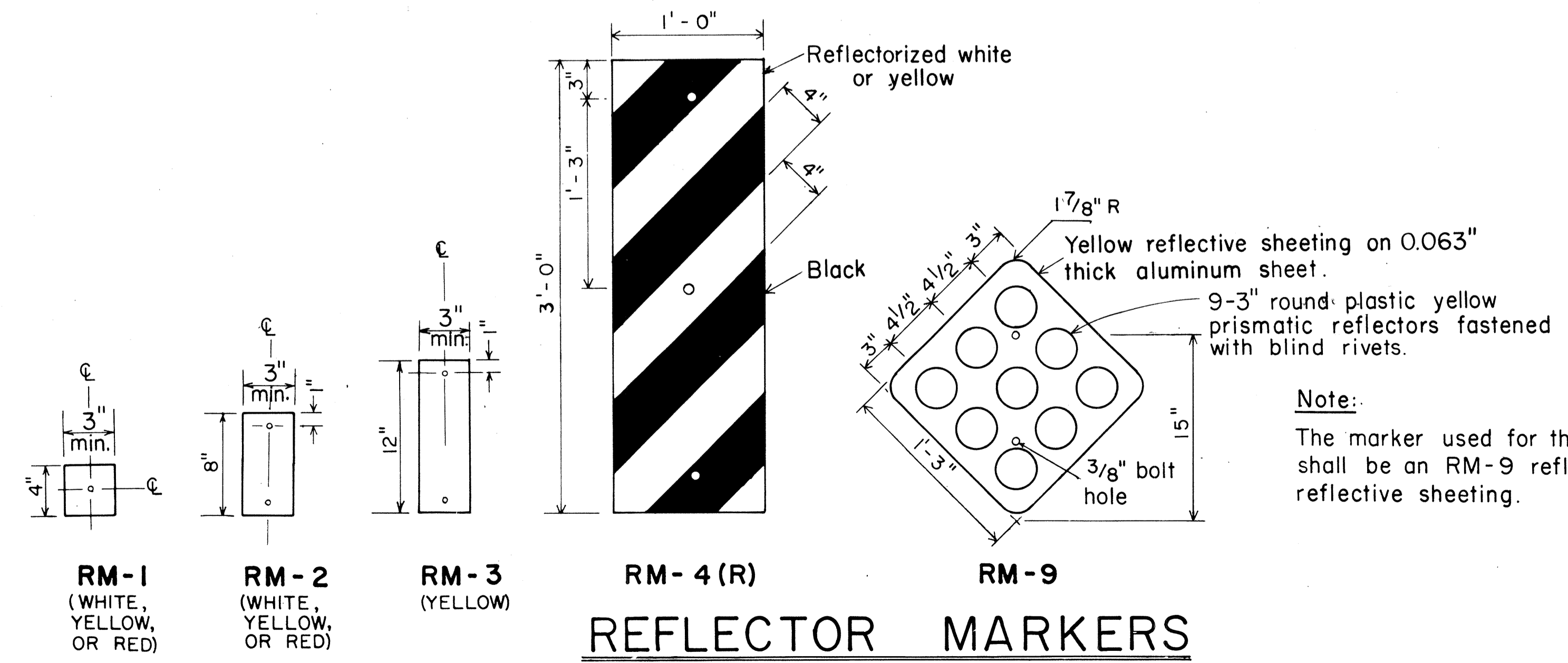
**GALVANIZED FLANGED CHANNEL POST**

**TYPICAL MOUNTING DETAILS**

**GENERAL NOTES:**

1. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
2. (R) or (L) indicates right or left and shall be as shown on the plans.
3. Reflector markers RM-1 and RM-2 shall be:
  - a) Yellow if placed along the left edge of divided roadways, one-way roadways, and ramps in the direction of travel.
  - b) White if placed along the right edge of divided roadways, one-way roadways, and ramps in the direction of travel.
4. For RM-4, the stripes shall slope downward at an angle of 45° toward the side of the obstruction that traffic is to pass.
5. For reflector marker RM-9, reflective sheeting material may be used as an alternate.
6. (H) indicates horizontal mounting of reflector marker.
7. Height = 4'-0" min. for RM-1, RM-2 and RM-3.  
Height = 5'-6" min. for RM-4 and RM-9.
8. Final locations of reflector markers shall be approved by the Engineer.

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



**REFLECTOR MARKERS**

**Note:**  
The marker used for the end of a roadway shall be an RM-9 reflectorized with red reflective sheeting.

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 11/21/77  
TRAFFIC ENGINEER DATE

APPROVED:  
*Herbert S. Sakai* 11/21/77  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised Mounting Details	H-H	4/23/80
2	Revised General Notes, Mounting Details and Reflector Markers.	p-d	7-28-83

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
MISCELLANEOUS REFLECTOR MARKERS

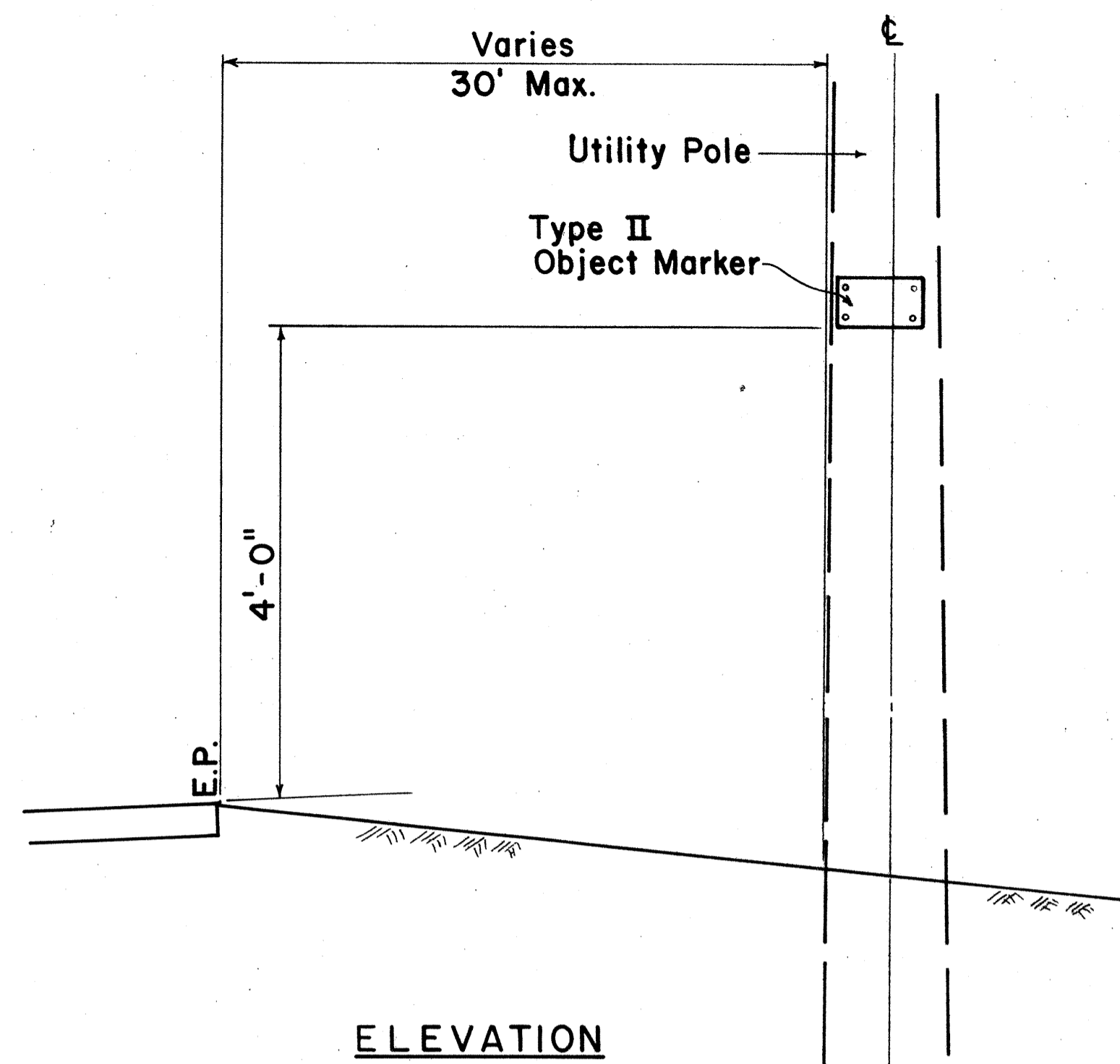
Not to scale June, 1977

SHEET NO. OF SHEETS DT 110

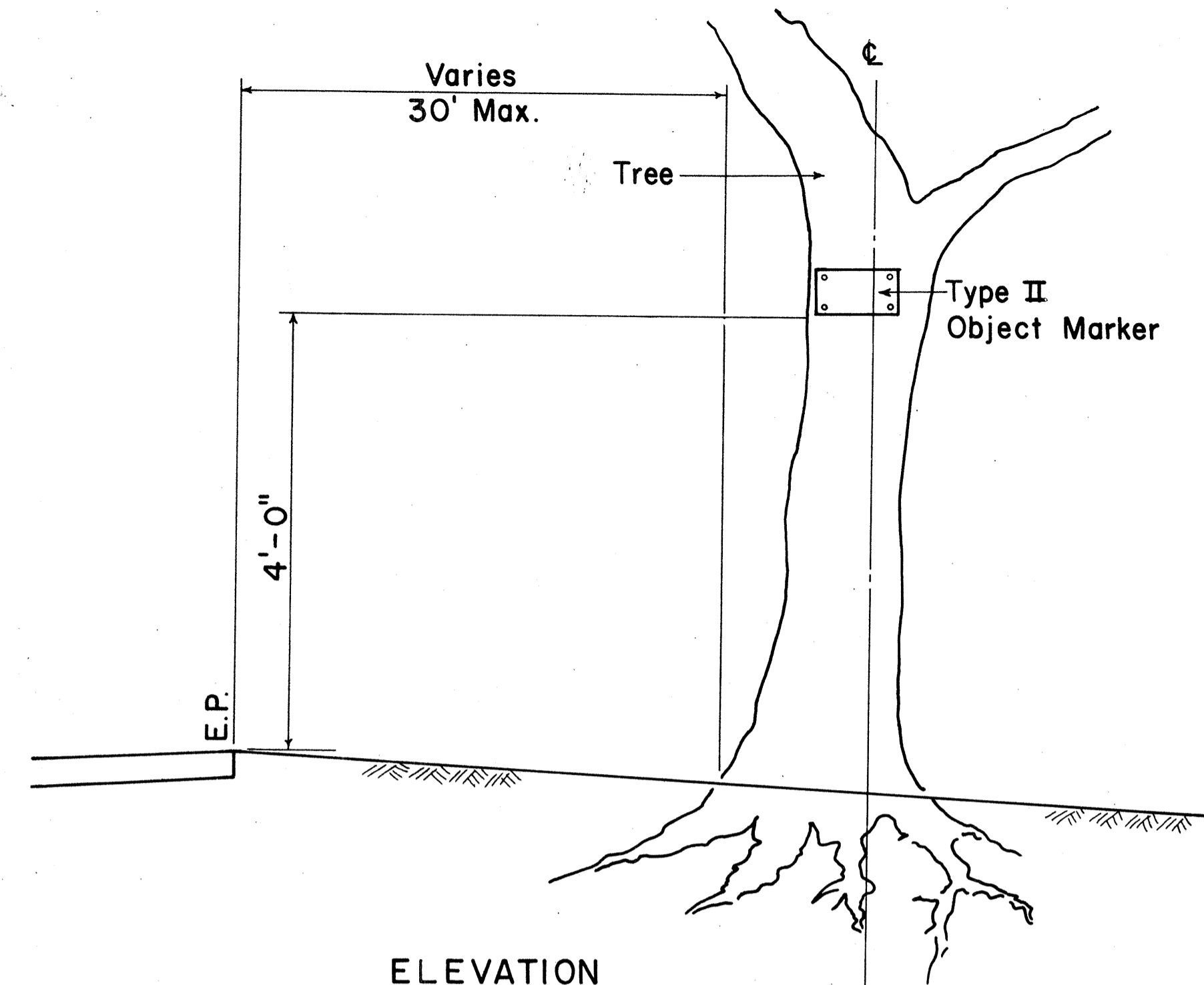
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	139	156

**GENERAL NOTES**

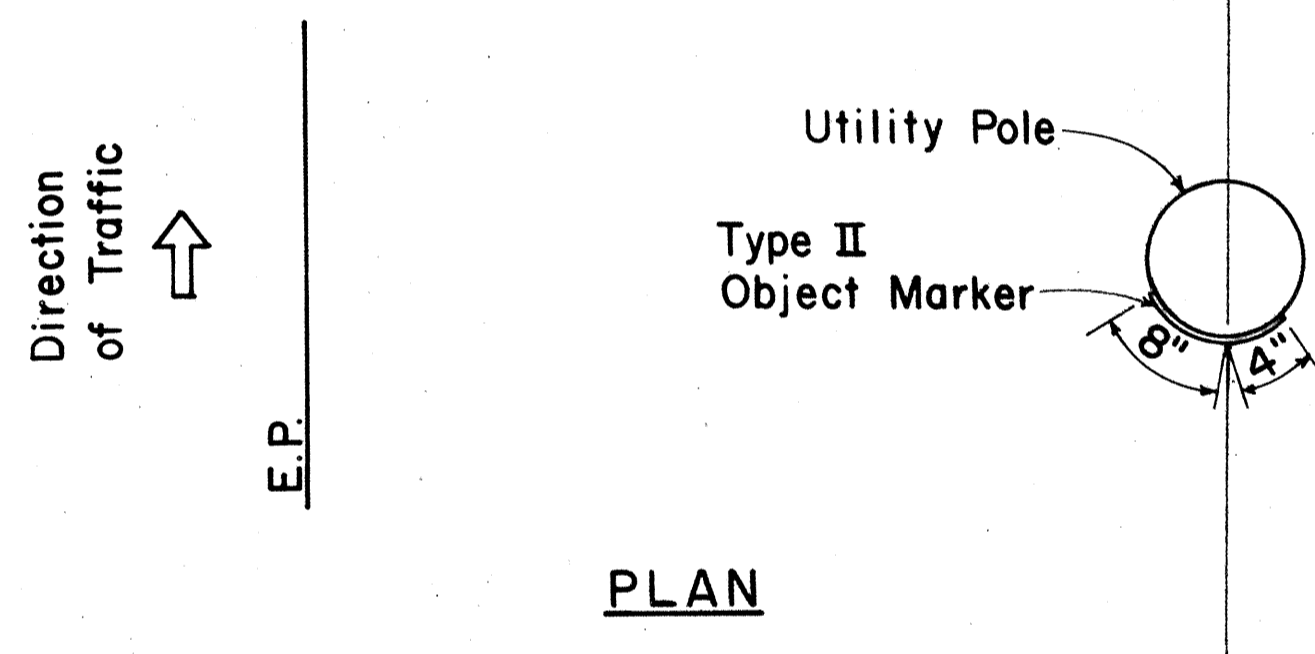
- All objects (utility poles or trees) that are within the State highway right of way and within 30 feet of the roadway edge of pavement shall be marked as directed by the Engineer.
- The Contractor shall prepare the mounting surface of each object as directed by the Engineer and place the Type II Object Marker as shown on this plan.
- Type II Object Markers shall be mounted on utility poles and trees with 1 3/4" galv. roofing nails (4 ea.).
- Branches of trees which obscure the object markers shall be trimmed. (Payment shall be incidental to Type II Object Markers as shown in the proposal).
- Type II Object Markers for utility poles and trees, etc., shall be made of amber reflective sheeting material overlaid on 0.020" aluminum sheeting.
- Objects such as concrete posts, concrete or rock walls and boxes, metal posts (greater than 2" in diameter), or metal boxes shall be marked with post mounted object markers. Post mounted Type II Object Markers shall conform to the following requirements:
  - It shall consist of amber reflective sheeting material overlaid on 0.063" thick sheet aluminum backing of the dimensions shown on the plans.
  - It shall be mounted on either metal posts or flexible delineator posts with 1/4"x2" galv. bolts, nuts and washers. Metal posts shall be galvanized and shall be either 1 1/2"x 1 1/2", 12 gage square tube posts or 1.12 lbs. per ft. flanged channel posts.



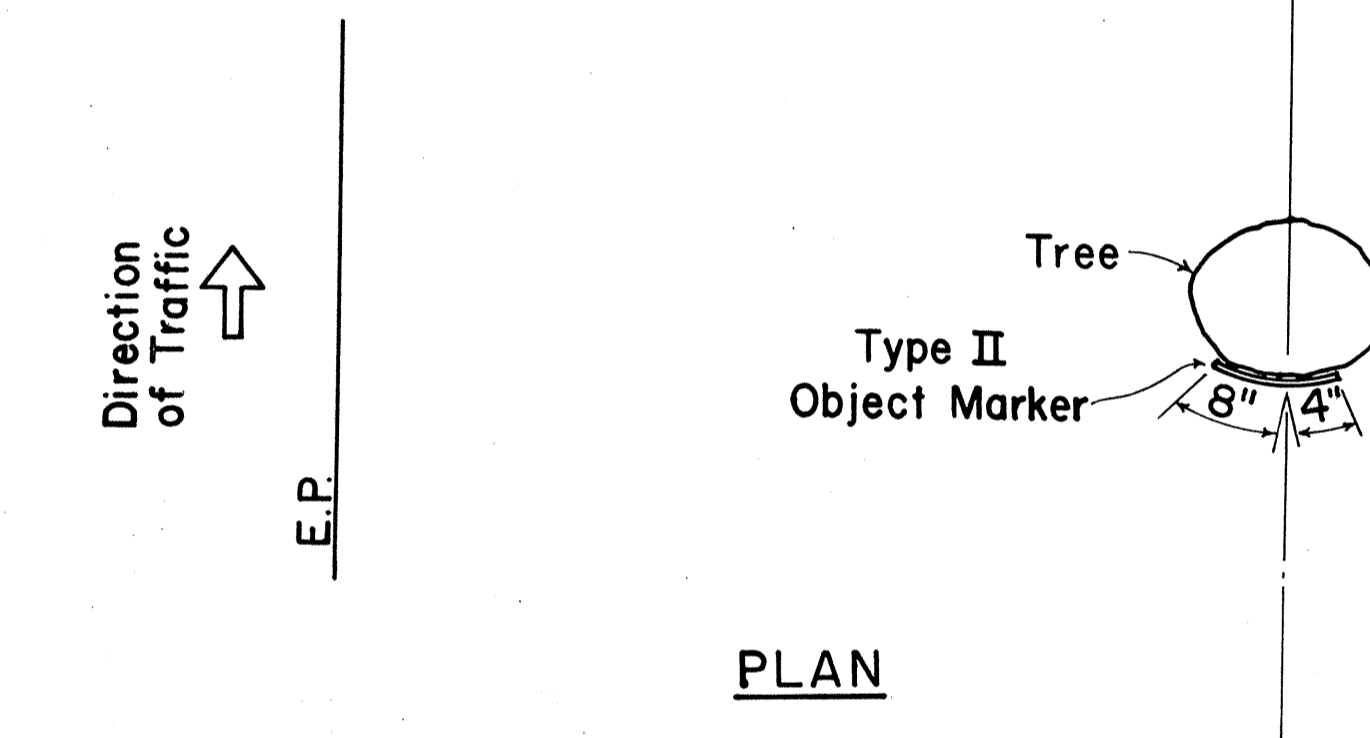
ELEVATION



ELEVATION

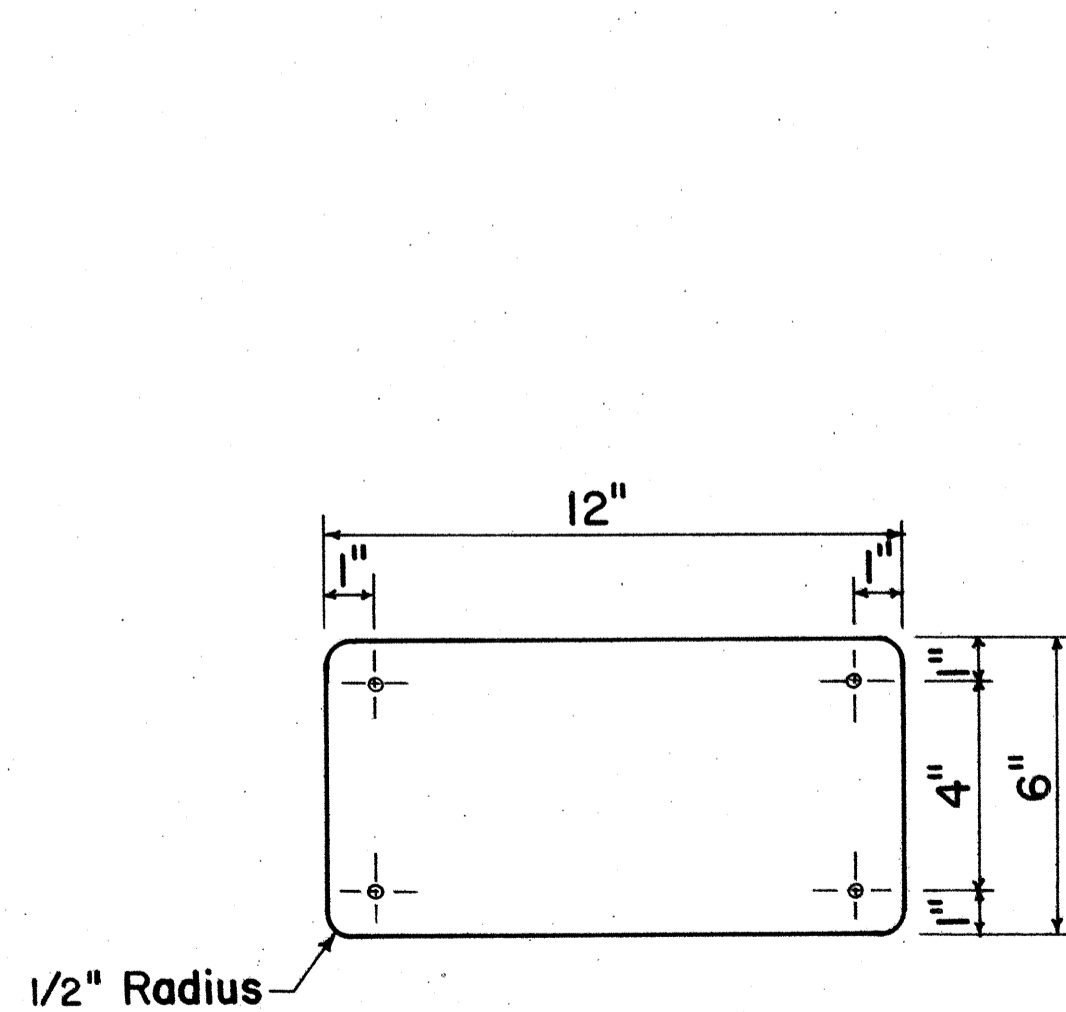


PLAN

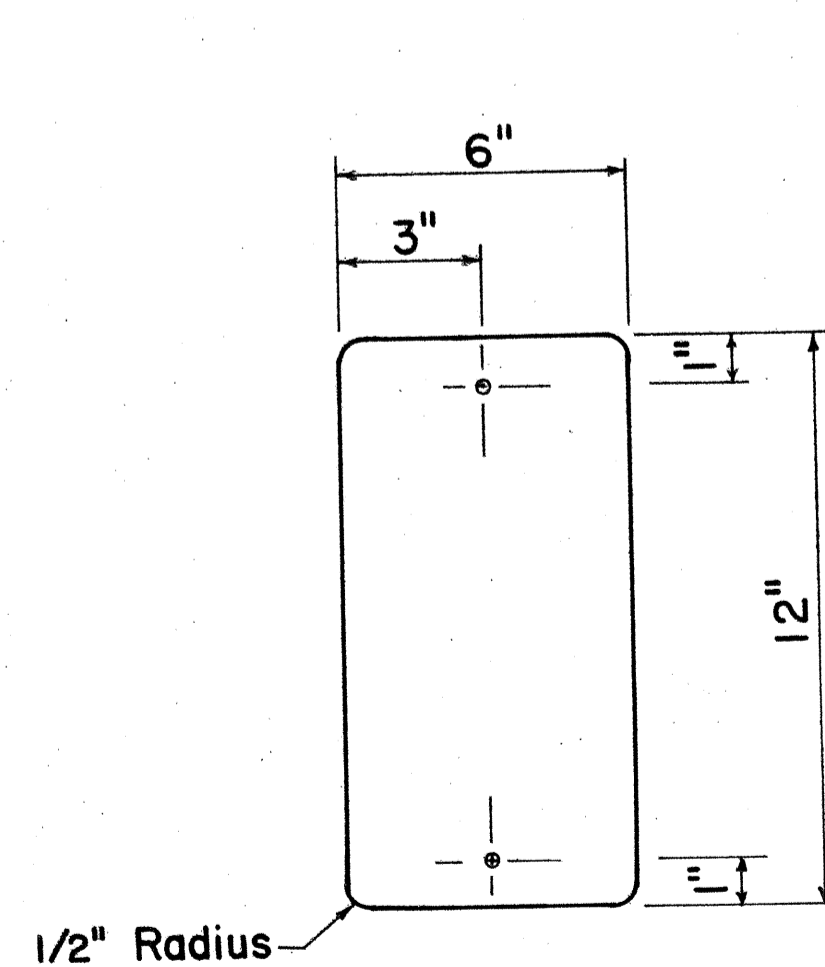


PLAN

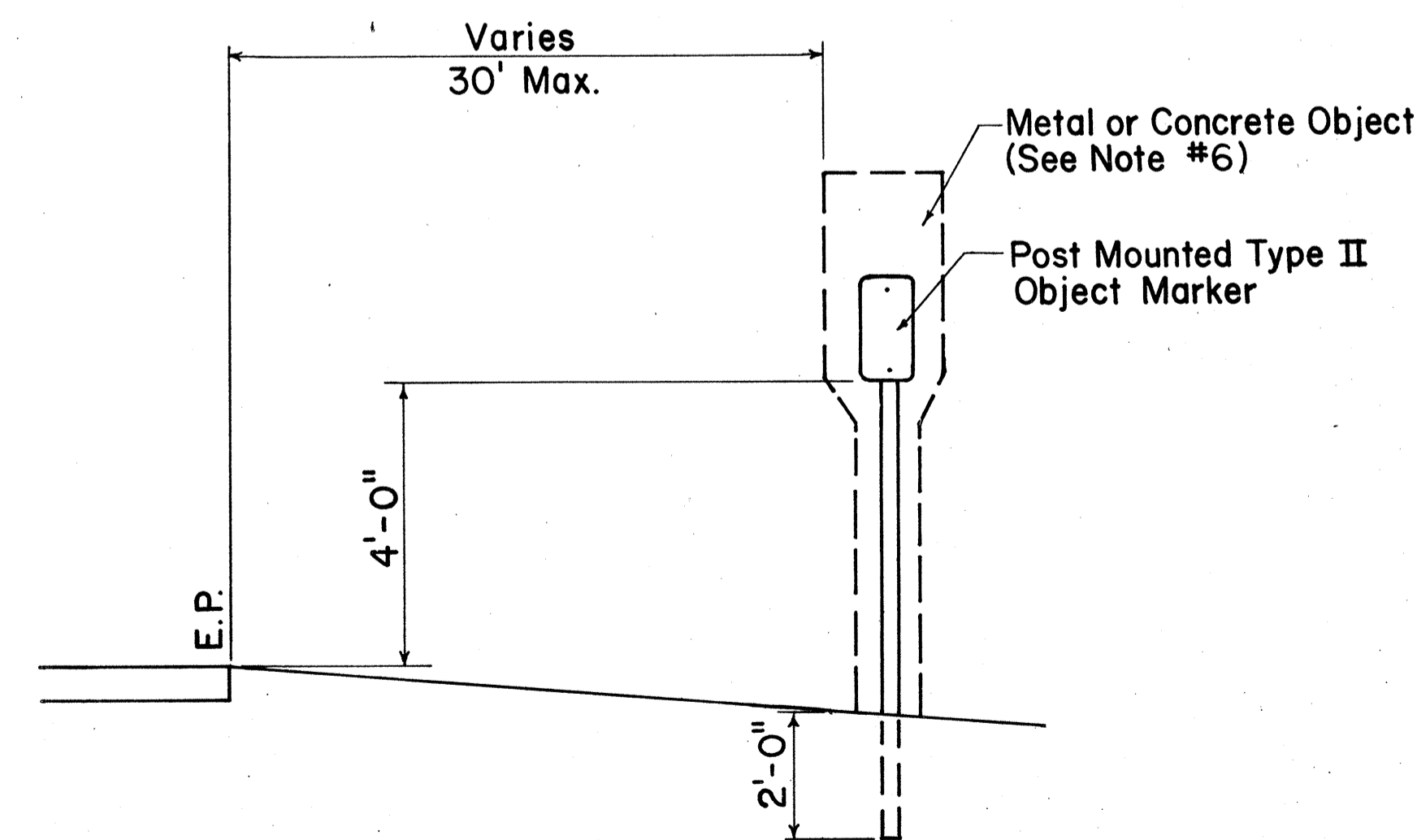
**TYPICAL TYPE II OBJECT MARKER MOUNTING DETAIL**



**TYPE II OBJECT MARKER**



**TYPE II OBJECT MARKER POST MOUNTED**



**POST MOUNTED TYPE II OBJECT MARKER DETAIL**

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 3/30/83  
 TRAFFIC ENGINEER DATE

APPROVED:  
*J. Fujiyama* 3-31-83  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**TYPE II OBJECT MARKERS**

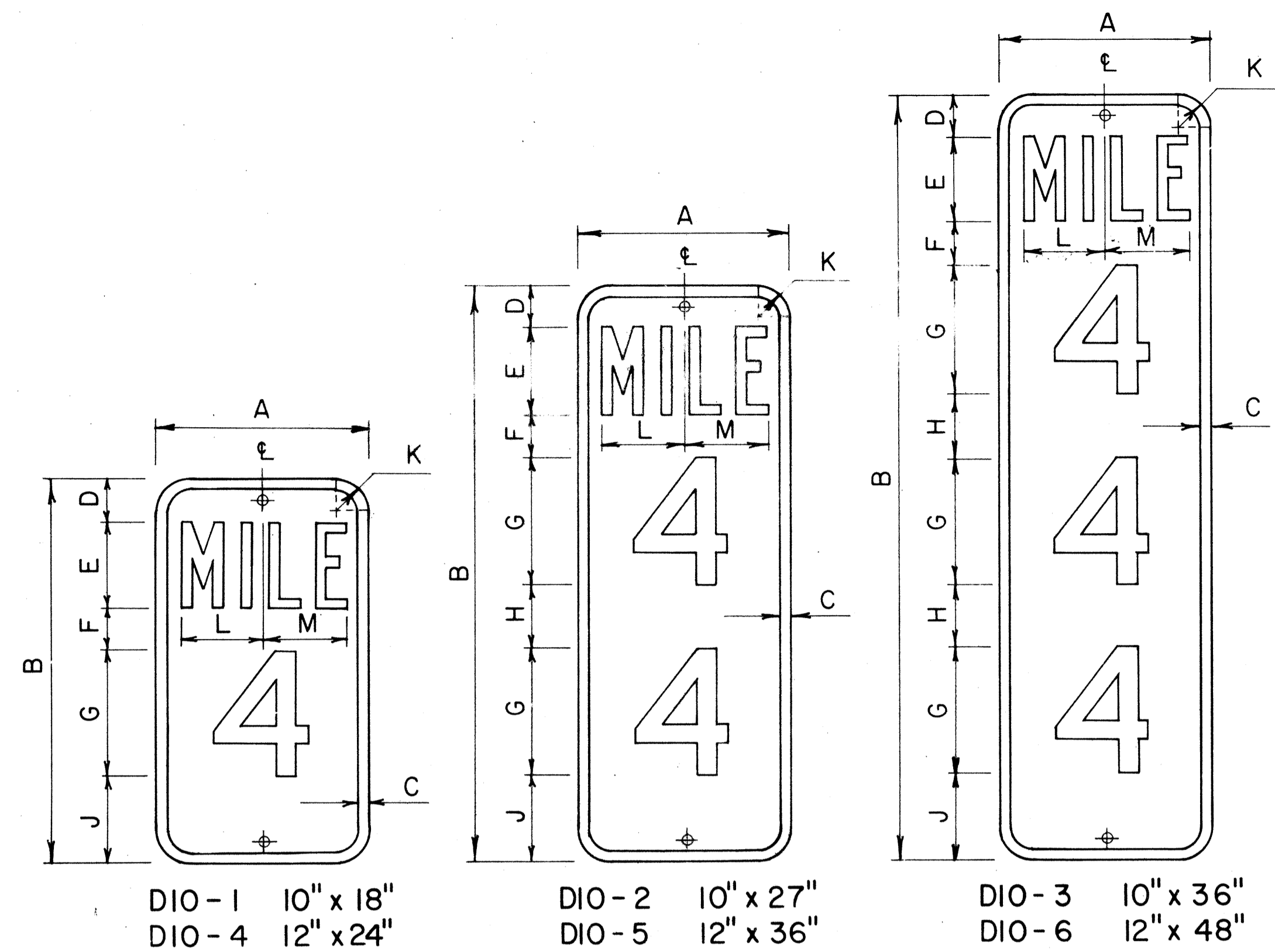
Scale: Not to scale Date: March 1983  
 SHEET NO. OF SHEETS DT III

DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN No. \_\_\_\_\_  
 NOTE BOOK No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	140	156

**GENERAL NOTES:**

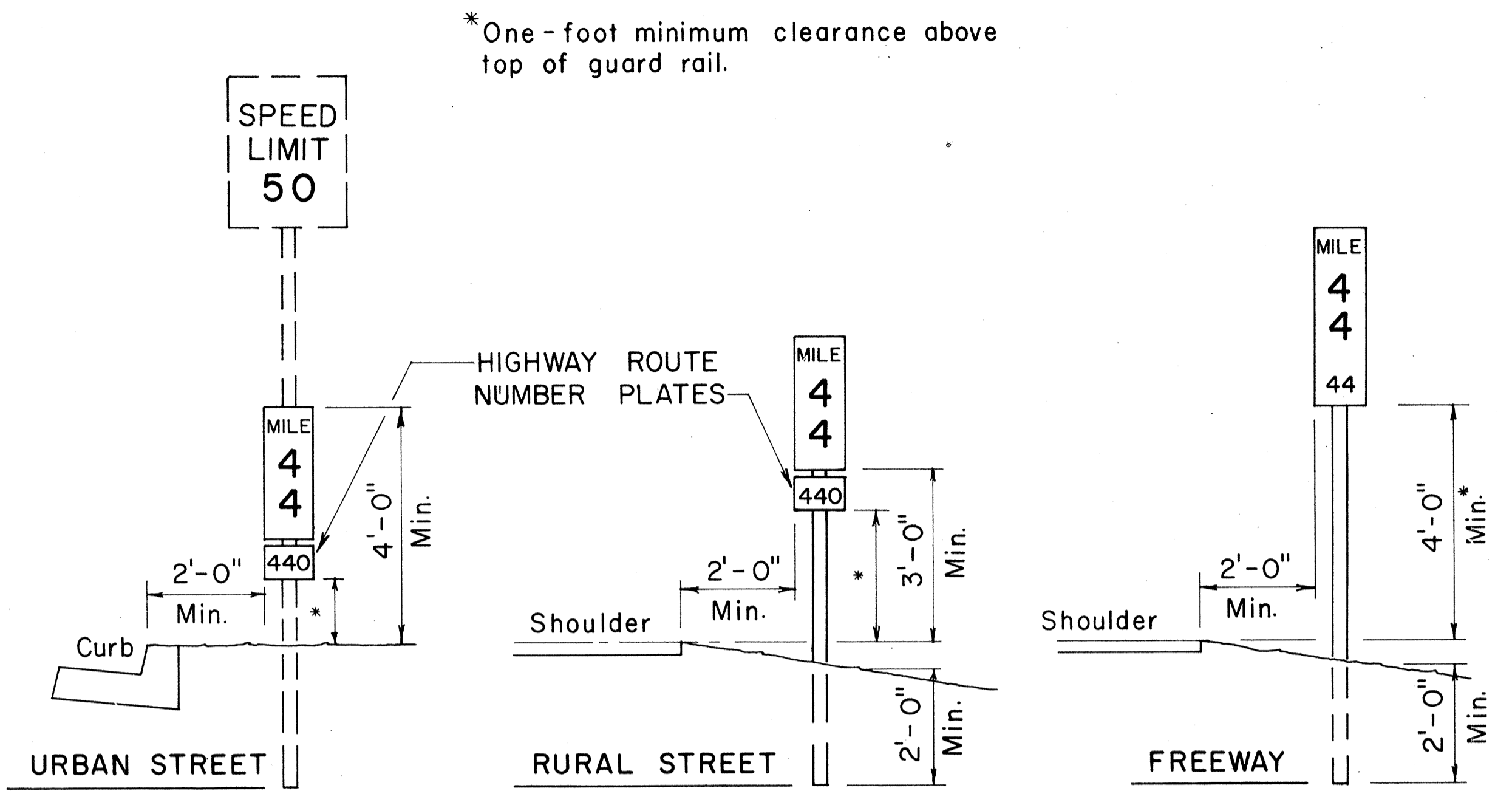
- Milepost marker and highway route number plates shall conform to the latest editions of the following FHWA publications:
  - "Standard Alphabets for Highway Signs," and as amended.
  - "Standard Highway Signs," and as amended.
  - "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Milepost markers and highway route numbers shall be completely reflectorized with reflective sheeting as follows:
  - Milepost markers shall have white legends and border on a green background.
  - Highway route numbers shall have black numerals on a white background.
- The plate backings for milepost markers and highway route numbers shall conform to the requirements for standard highway signs. The plates shall have 3/8" bolt holes drilled at appropriate locations.
- Highway route number plates shall be used in conjunction with milepost marker plates on all roadways, except Interstate freeways. Fabrication and installation costs of highway route number plates shall be considered incidental to the milepost marker assembly.
- Milepost markers shall be installed on all roadways as follows:
  - One milepost on each side of multi-lane roadways.
  - Back-to-back mileposts on one side of 2-lane roadways. (Right side of roadway in direction of increasing mileage.)



**MILEPOST MARKER PLATE DETAILS**

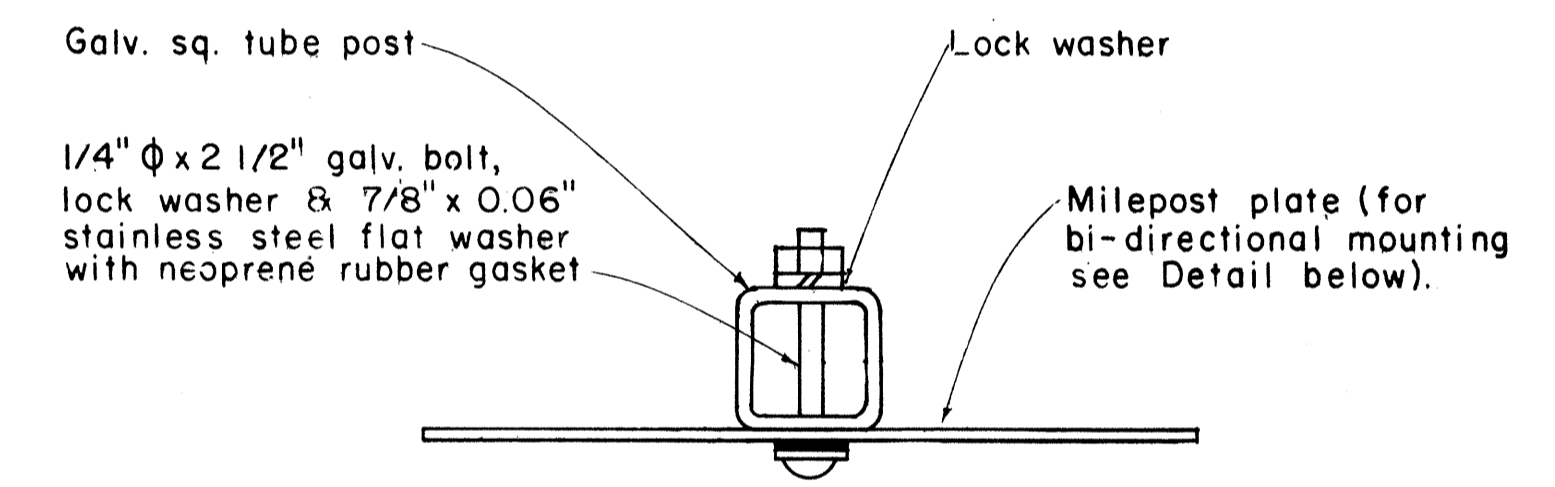
Scale: 3/16" = 1"

MILEPOST PLATE SCHEDULE (INCHES)															
NAME	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	LETTER SERIES	NUMERAL SERIES
DIO-1	10 x 18	10	18	1/2	2	4	2	6	4	1 1/2	3 3/8	3 3/8		B	C
DIO-4	12 x 24	12	24	1/2	3	4	3	10	4	1 1/2	4 3/8	4 3/8		C	C
DIO-2	10 x 27	10	27	1/2	2	4	2	6	3	4	1 1/2	3 3/8	3 3/8	B	C
DIO-5	12 x 36	12	36	1/2	3	4	3	10	3	3	1 1/2	4 3/8	4 3/8	C	C
DIO-3	10 x 36	10	36	1/2	2	4	2	6	3	4	1 1/2	3 3/8	3 3/8	B	C
DIO-6	12 x 48	12	48	1/2	3	4	3	10	2 1/2	3	1 1/2	4 3/8	4 3/8	C	C

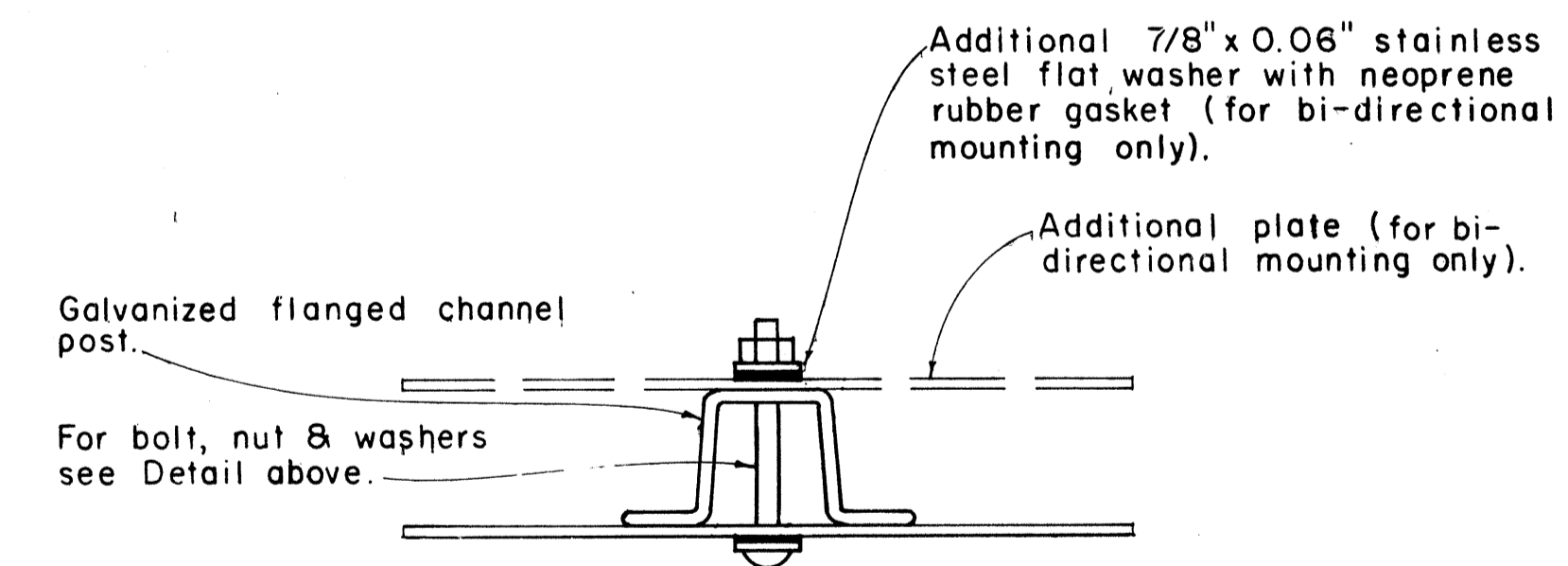


**TYPICAL ROADSIDE INSTALLATION**

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



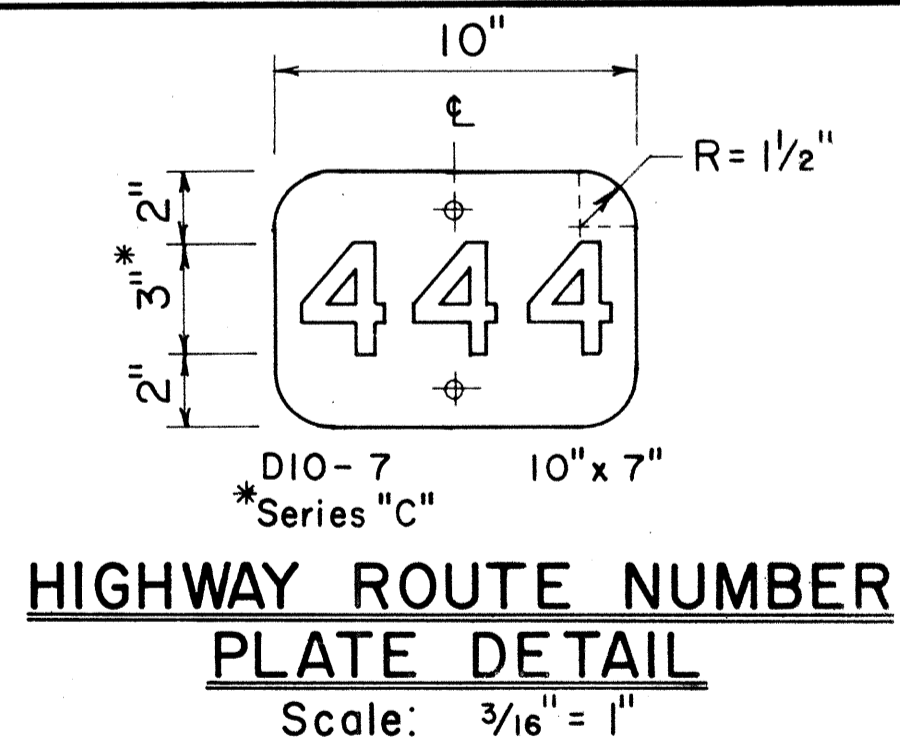
**GALVANIZED SQUARE TUBE POST**



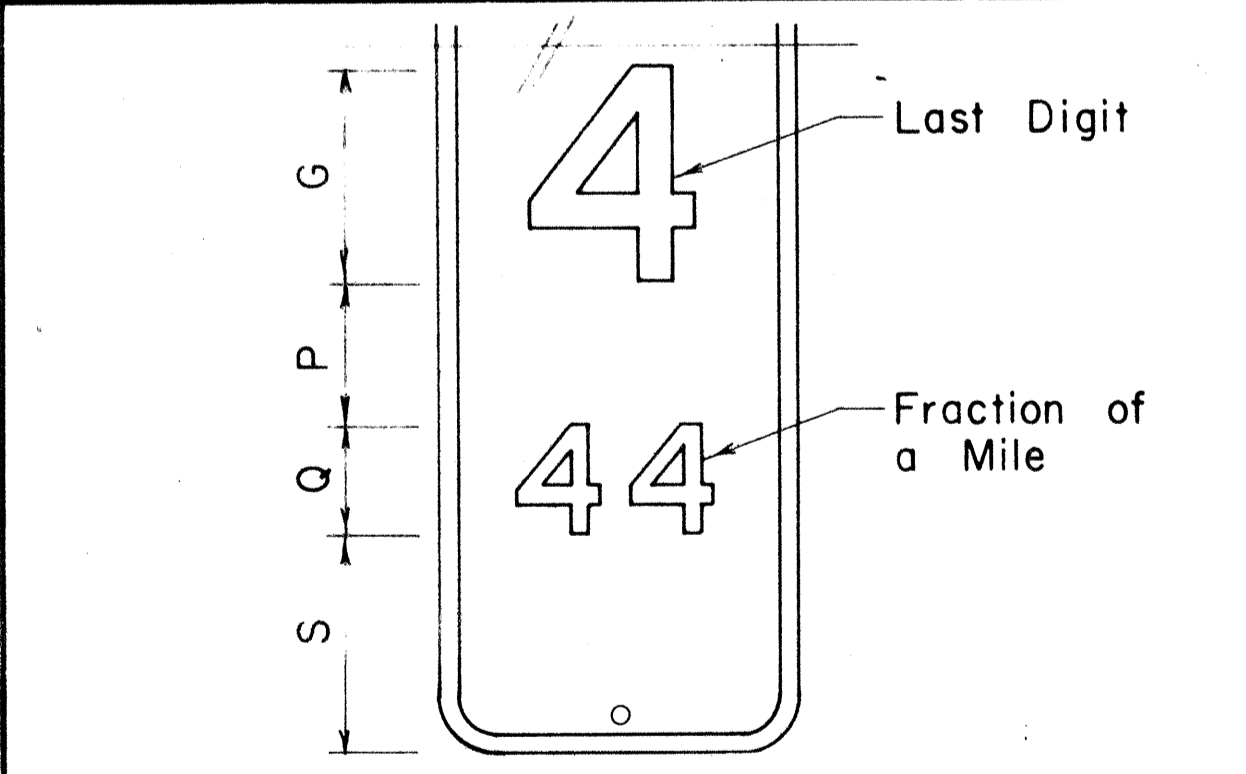
**GALVANIZED FLANGED CHANNEL POST**

**TYPICAL MOUNTING DETAILS**

Scale: 1/2" = 1"



**HIGHWAY ROUTE NUMBER PLATE DETAIL**



**MILEPOST MARKER FRACTION DETAIL**

MILEPOST PLATE SCHEDULE WITH FRACTION OF A MILE						
NAME	SIZE	G	P	Q	S	NUMERAL SERIES
D10-1a	10" x 27"	6"	4"	3"	6"	C
D10-4a	12" x 36"	10"	4"	5"	7"	C
D10-2a	10" x 36"	6"	4"	3"	6"	C
D10-5a	12" x 48"	10"	4"	5"	6"	C
D10-3a	10" x 45"	6"	4"	3"	6"	C
D10-6a	12" x 60"	10"	4"	5"	6"	C

NO.	REVISION	APPROVED BY	DATE
1	Revised Mounting Details	H.K.	4/23/80

APPROVAL RECOMMENDED:  
*Eishi Tanaka*  
 TRAFFIC ENGINEER  
 DATE: 1/17/78

APPROVED:  
*Robert S. Sakuma*  
 ASSISTANT CHIEF, ENGINEERING  
 DATE: 1/12/78

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**

**MILEPOSTS**

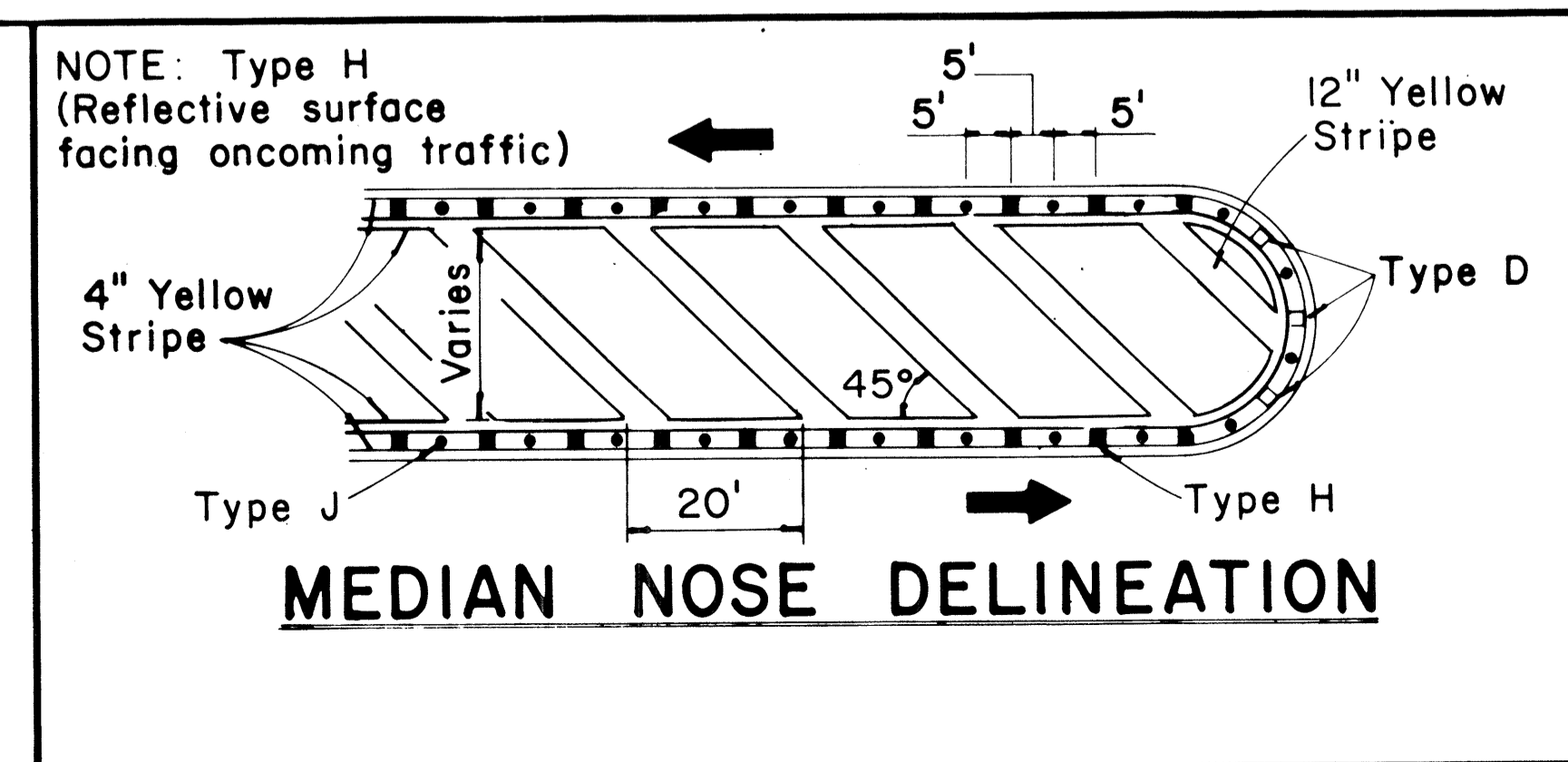
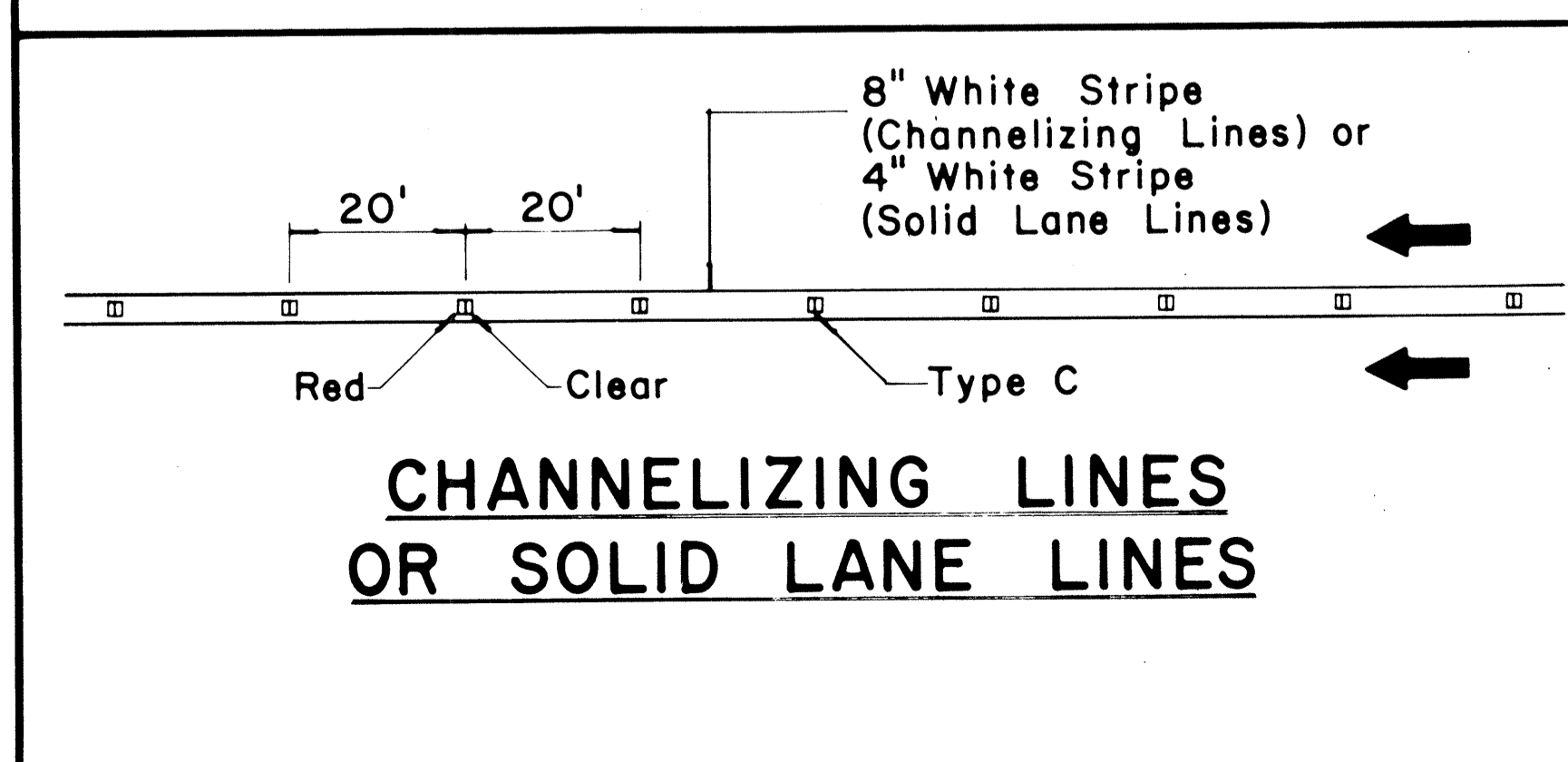
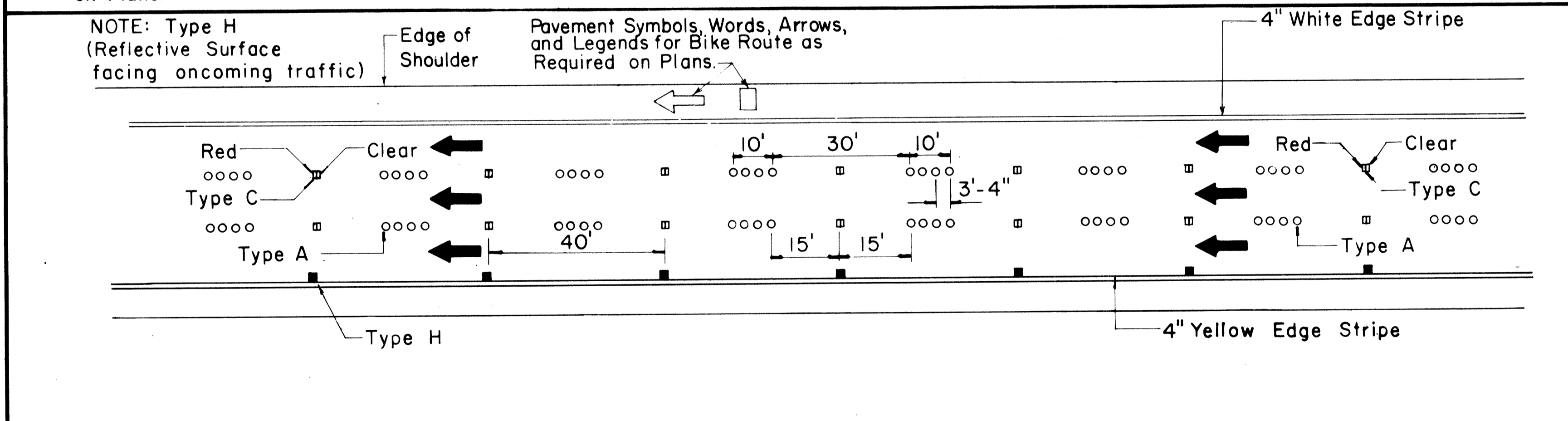
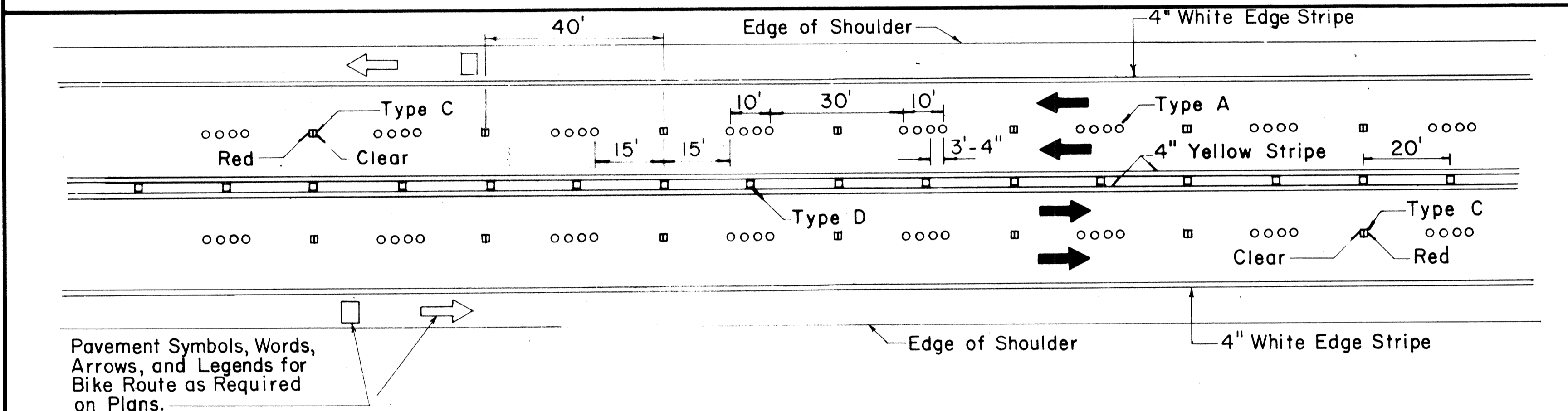
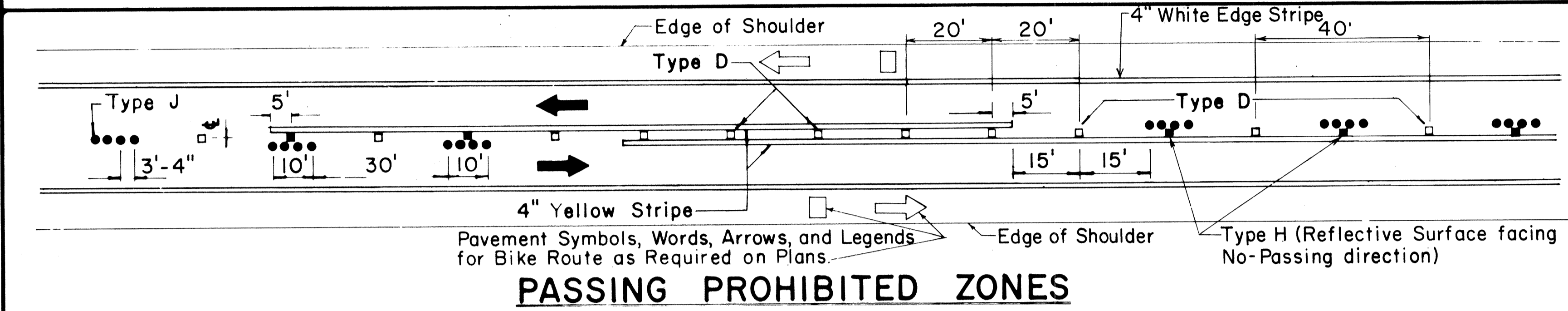
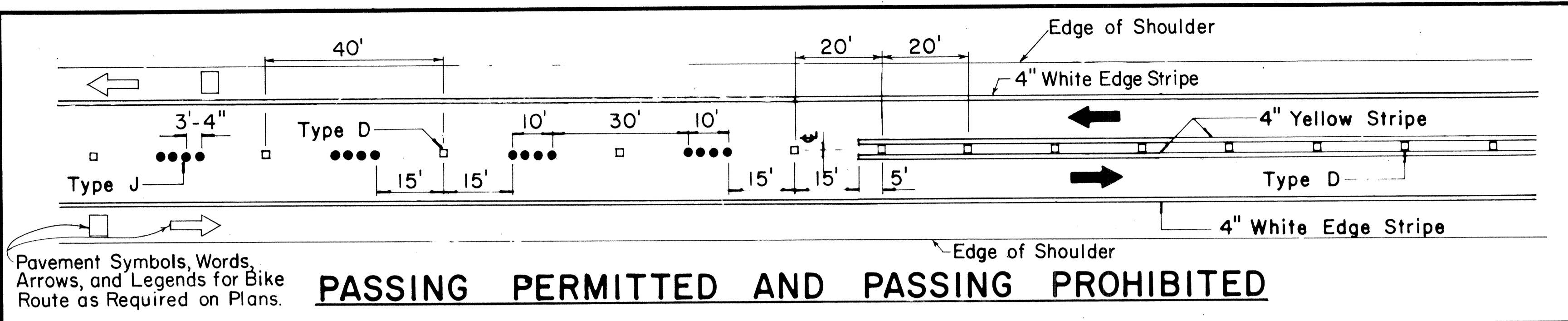
SCALE: As Shown DATE: December, 1977

SHEET No. OF SHEETS DT 116

DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 NOTE BOOK NO.: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 No. \_\_\_\_\_



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	141	156

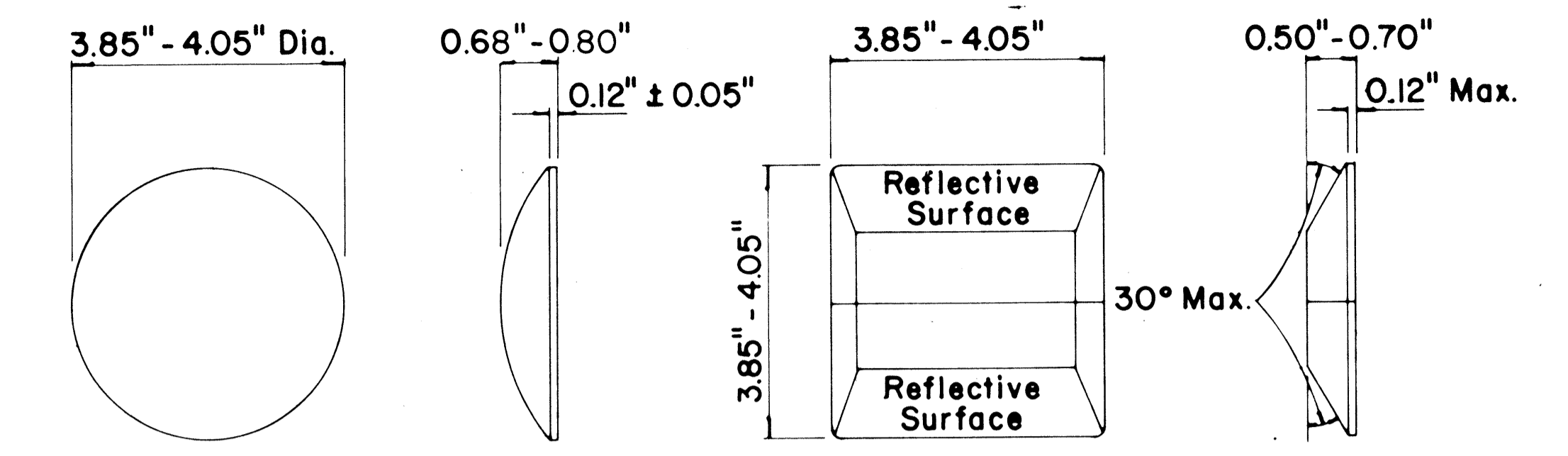


TWO - LANE

MULTI - LANE

DIVIDED HIGHWAY AND FREEWAY

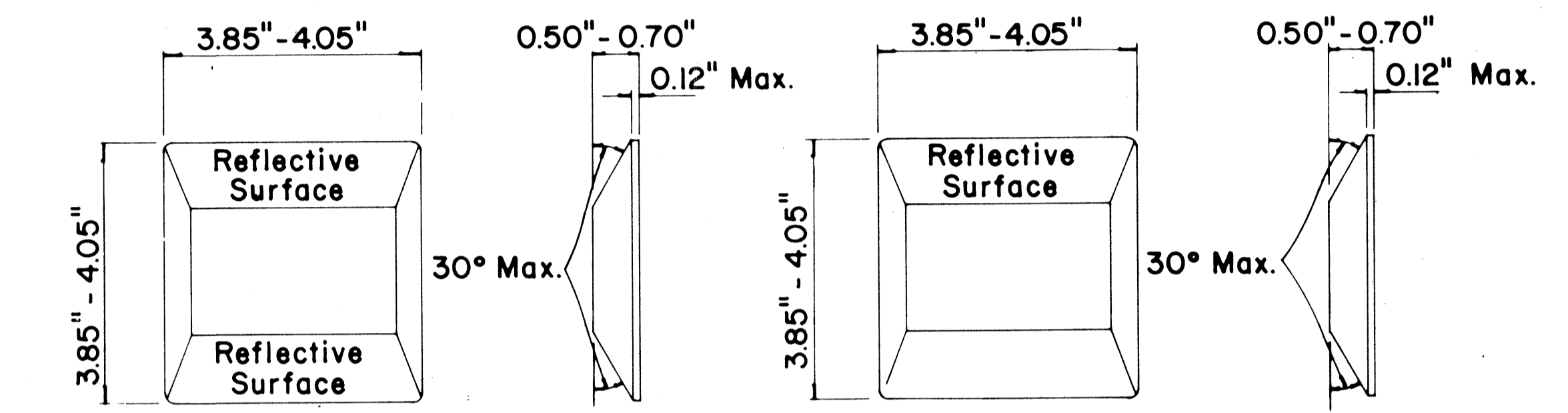
MISCELLANEOUS



**TYPE A**  
NON-REFLECTIVE WHITE MARKER

**TYPE J**  
NON-REFLECTIVE YELLOW MARKER

**TYPE C**  
RED-CLEAR REFLECTIVE MARKER



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

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

**GENERAL NOTES**

- Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Layout and installation of pavement marking and striping shall be done by the Contractor. The Contractor shall check the layouts with the Engineer prior to performing work.
- Edge lines shall not be continued through intersections and shall not be broken for driveways unless otherwise shown or directed.

**LEGEND**

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

APPROVAL RECOMMENDED:  
*Erich Tanaka* 7/21/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Harbert J. Zekich* 1/24/78  
ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Supersedes DT 300 approved 11/18/71.	H.T.	1/24/78
2	Delete Type A Markers from Bike Route Delineation.	H.T.	10/15/79
3	Added General Note 3. Revised left edge stripe.	H.T.	9-28-83

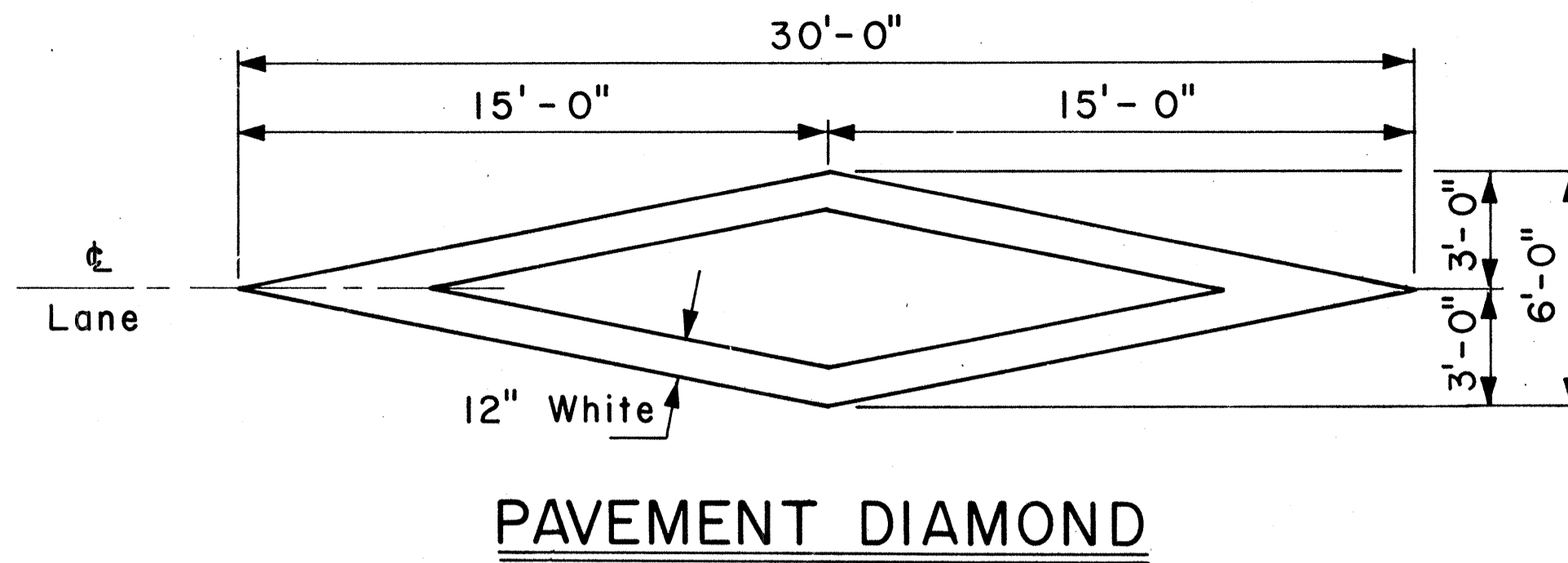
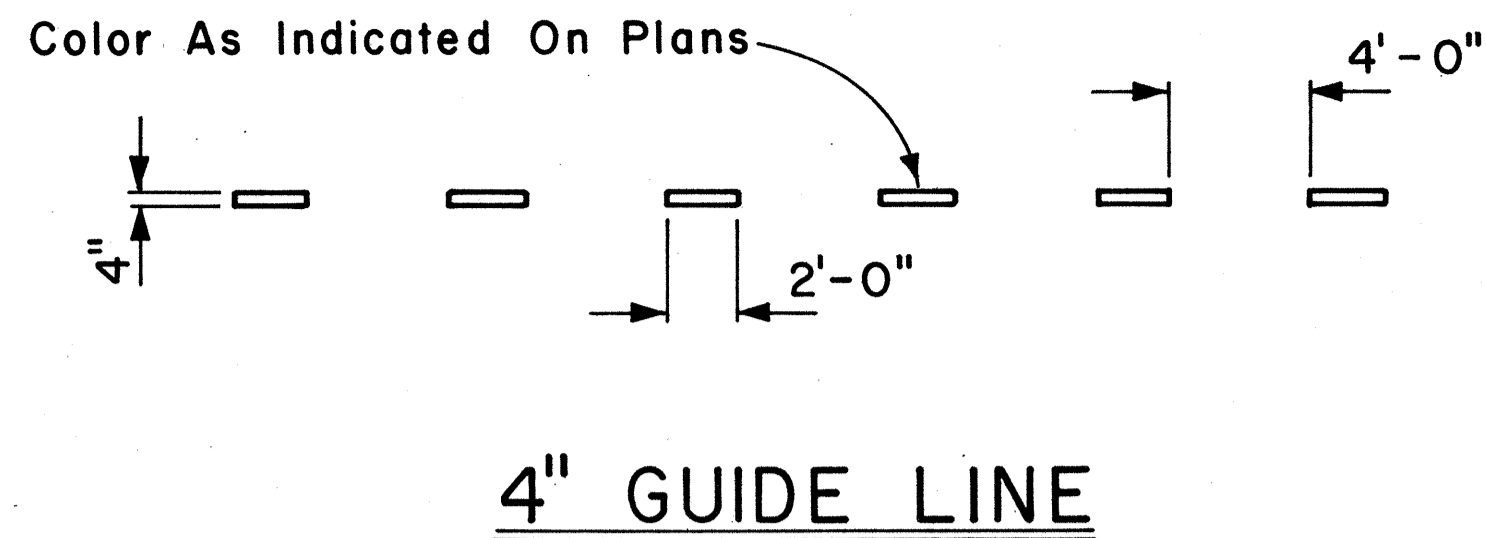
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**RAISED PAVEMENT MARKERS**  
**AND STRIPING**

Not to Scale July 1978  
SHEET No. OF SHEETS DT 300

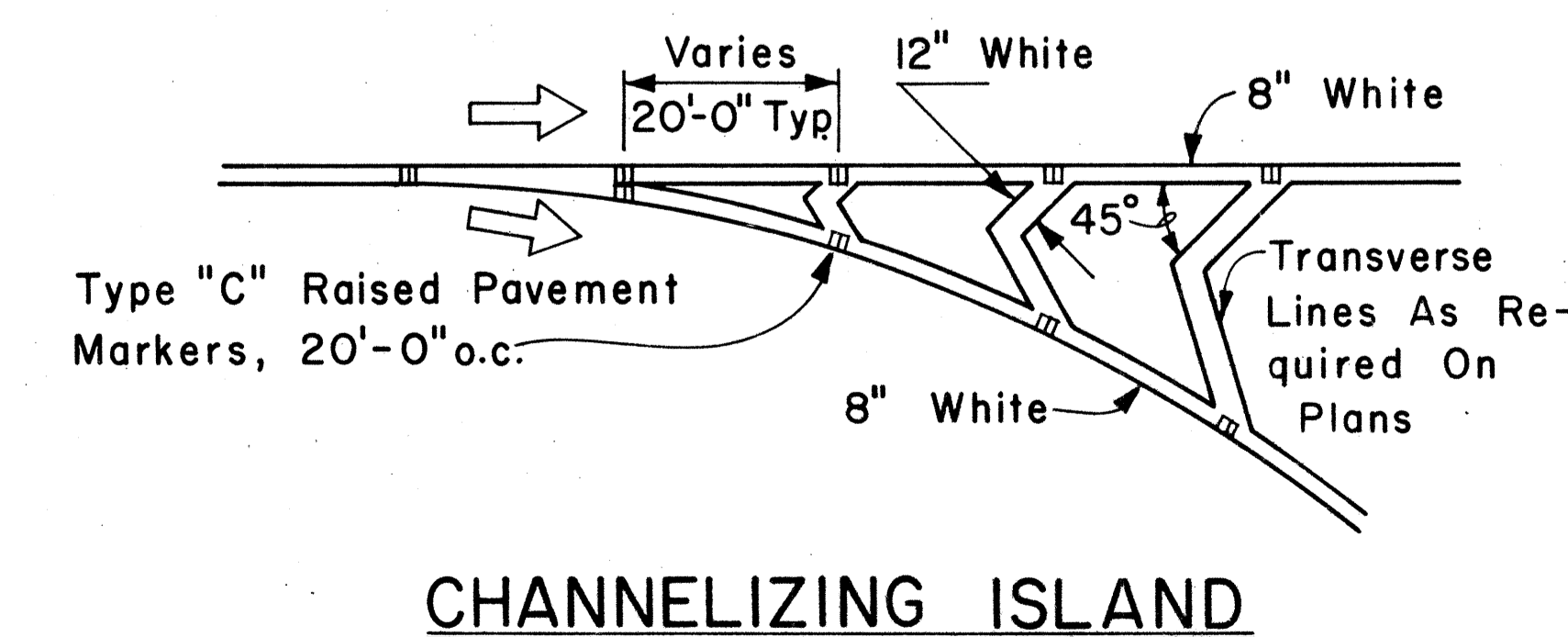
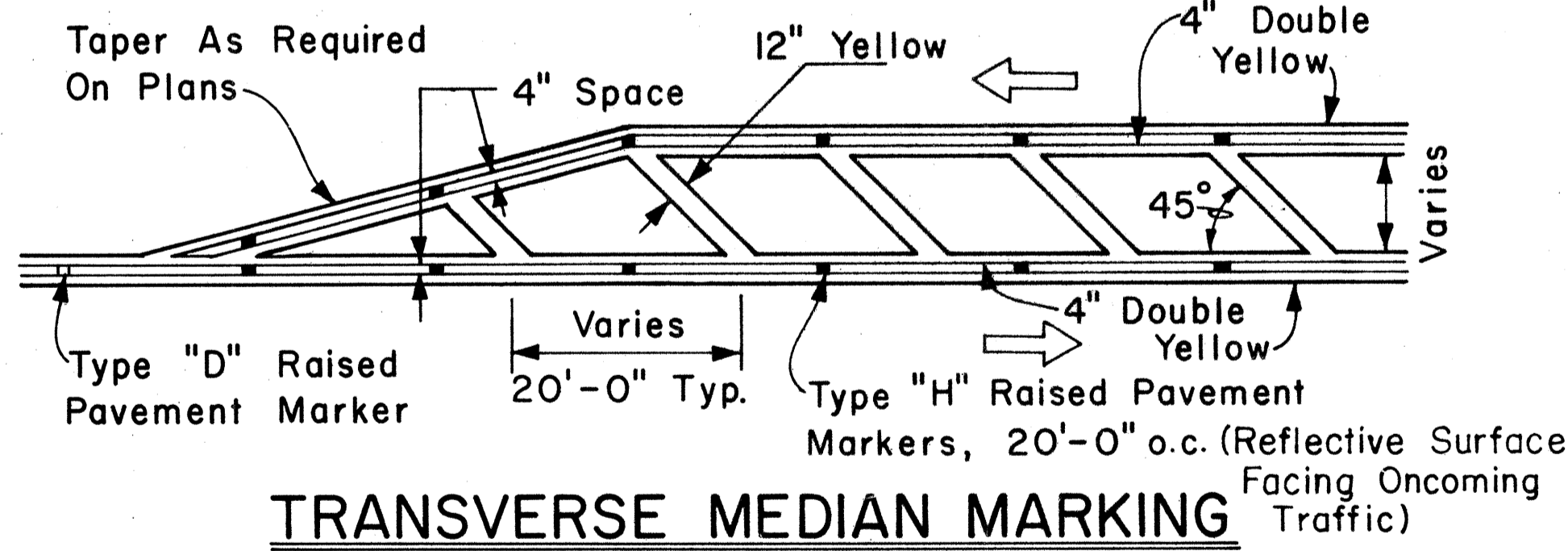
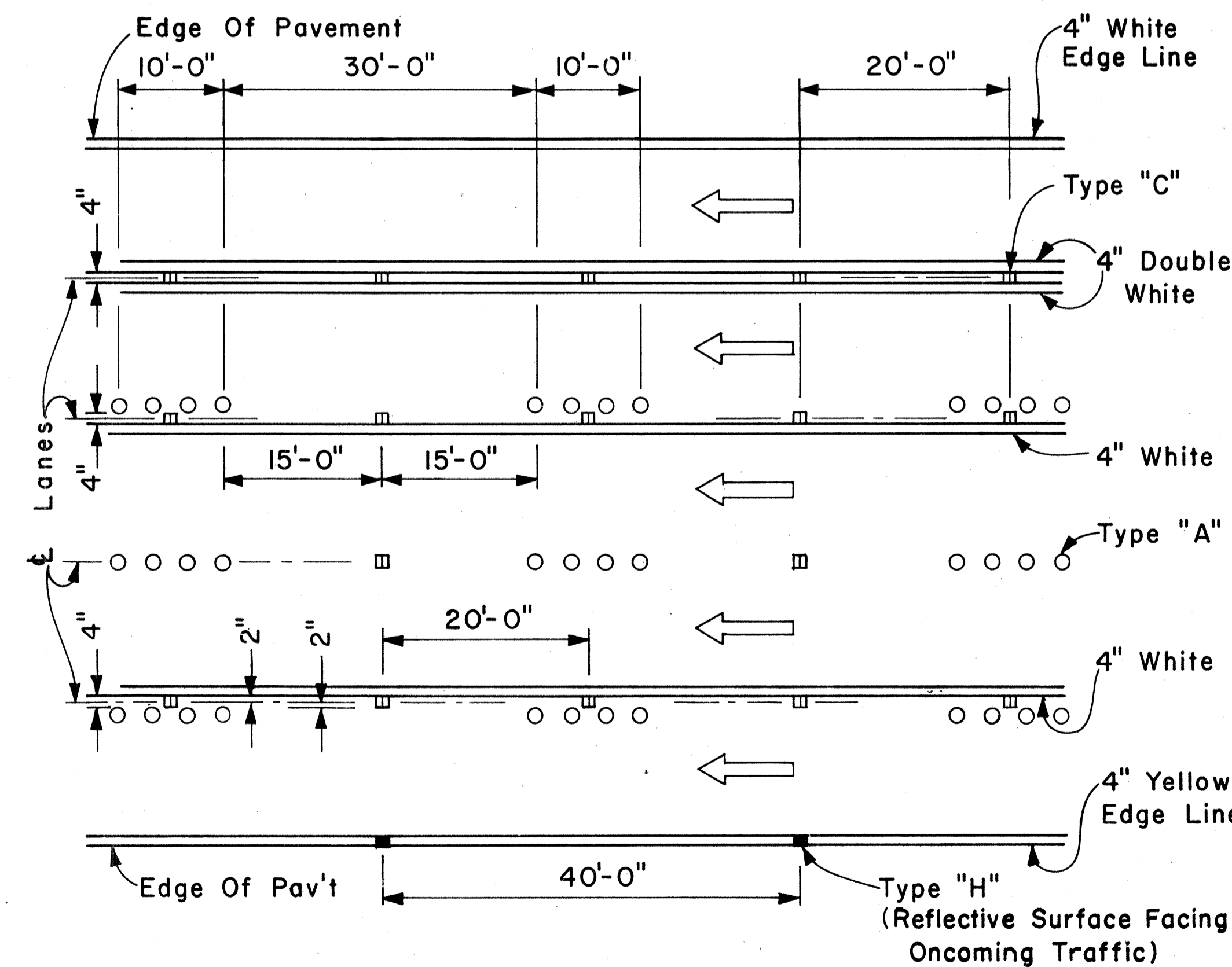
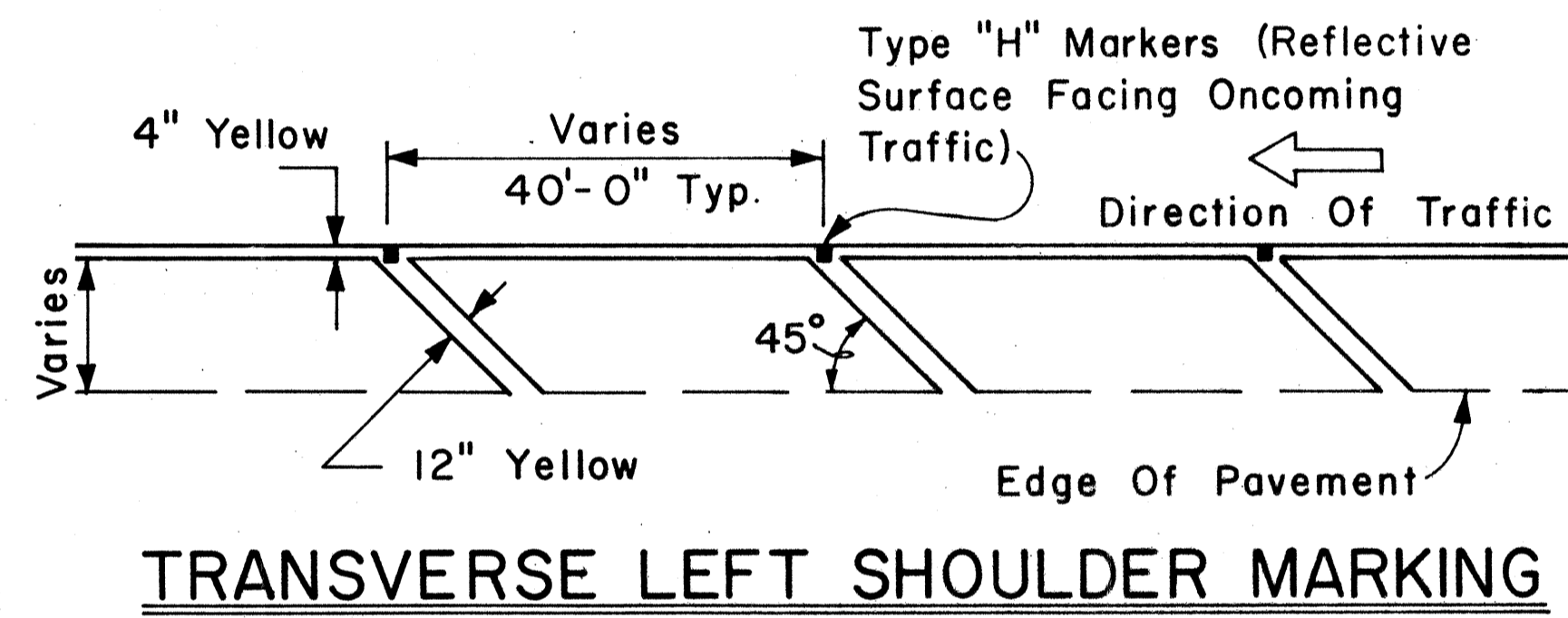
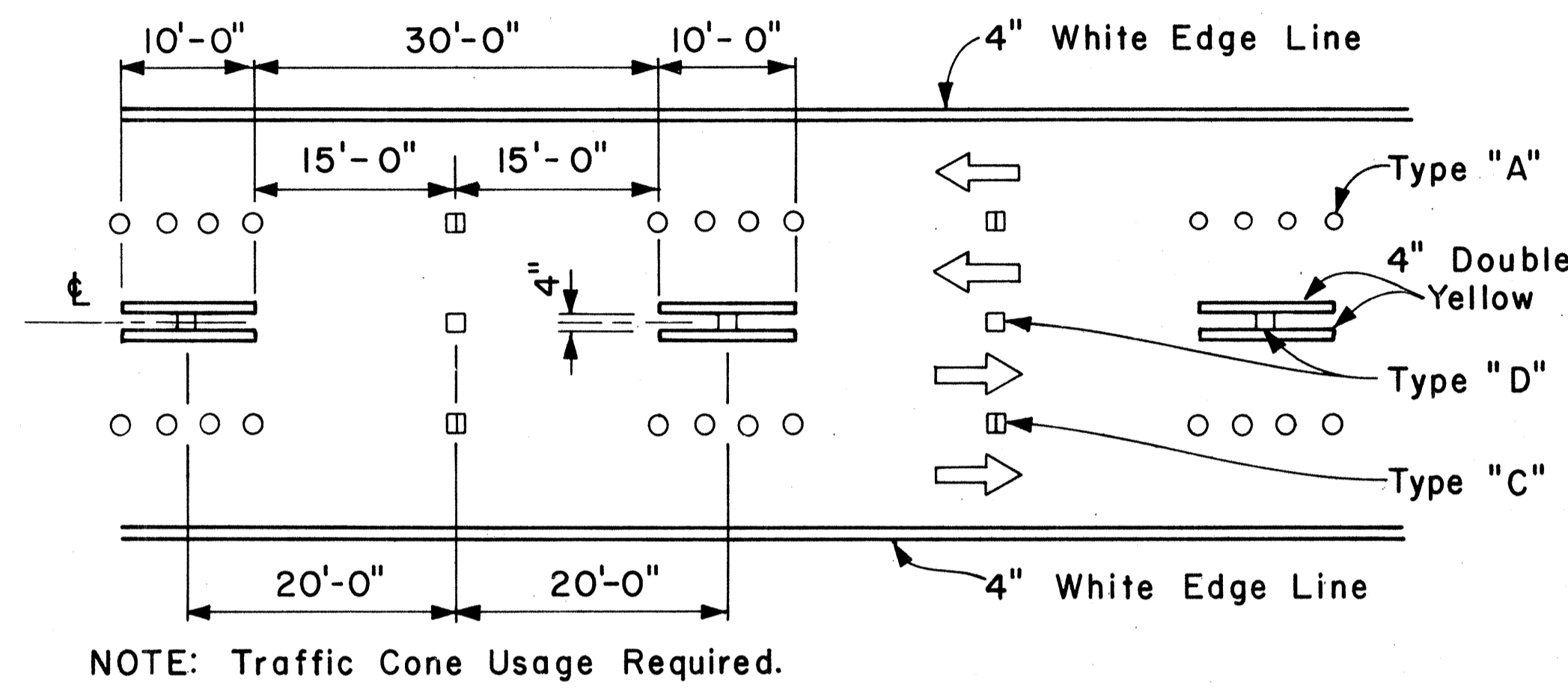
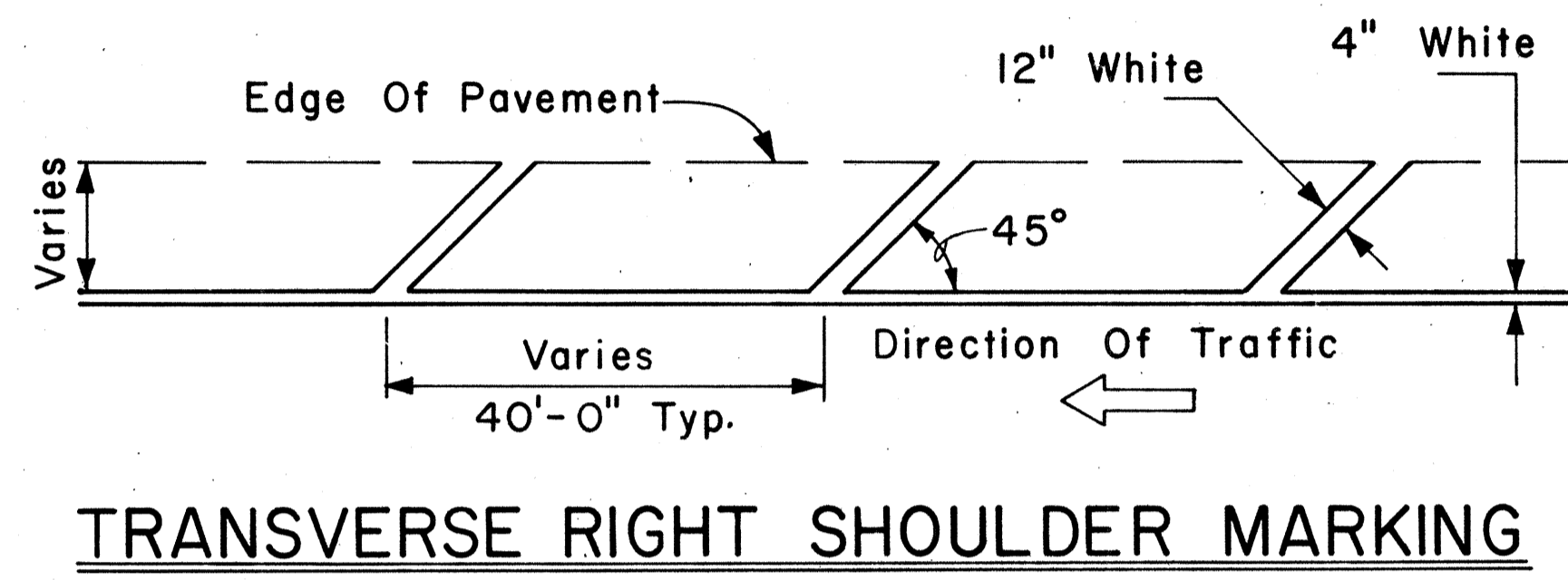
DATE  
SURVEY PLANNED BY  
DESIGNED BY  
CHECKED BY  
ORIGINAL PLAN  
NOTE BOOK  
QUANTITIES BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(10) F-063-1(11)	1984	142	156



**GENERAL NOTES:**

1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.



APPROVAL RECOMMENDED:  
*Eishi Tanaka* 5/2/78  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Harbor 2. Zalschiw* 5/2/78  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION  
**STANDARD DETAILS**  
 MISCELLANEOUS  
 PAVEMENT MARKINGS

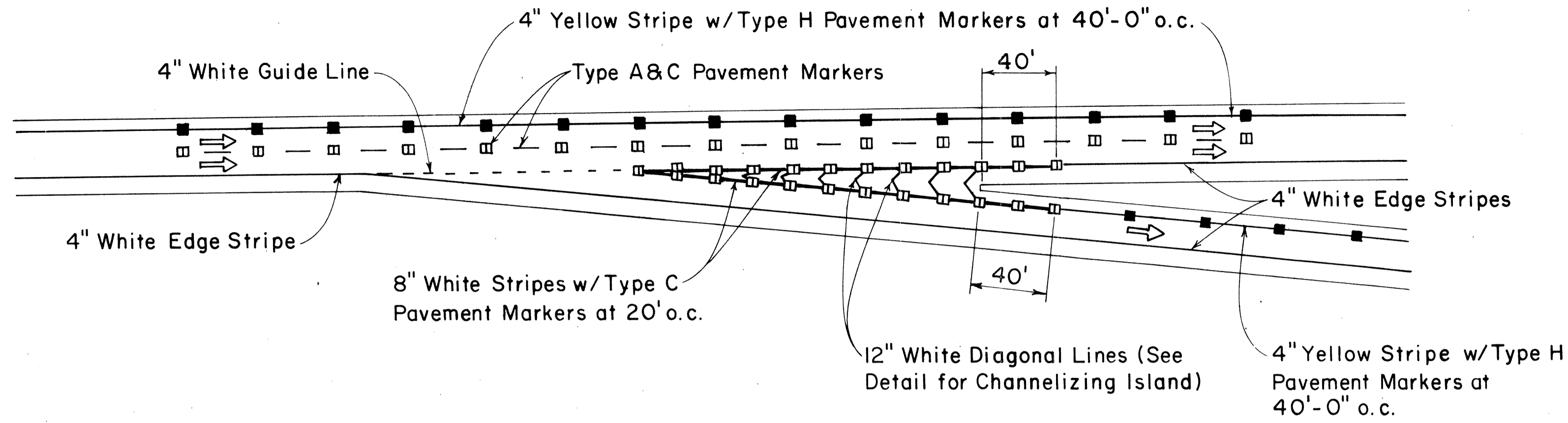
Scale: Not to Scale Date: April, 1978  
 SHEET No. OF SHEETS DT 302

SURVEY PLOTTED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 DESIGNED BY \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 QUANTITIES BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 No. \_\_\_\_\_

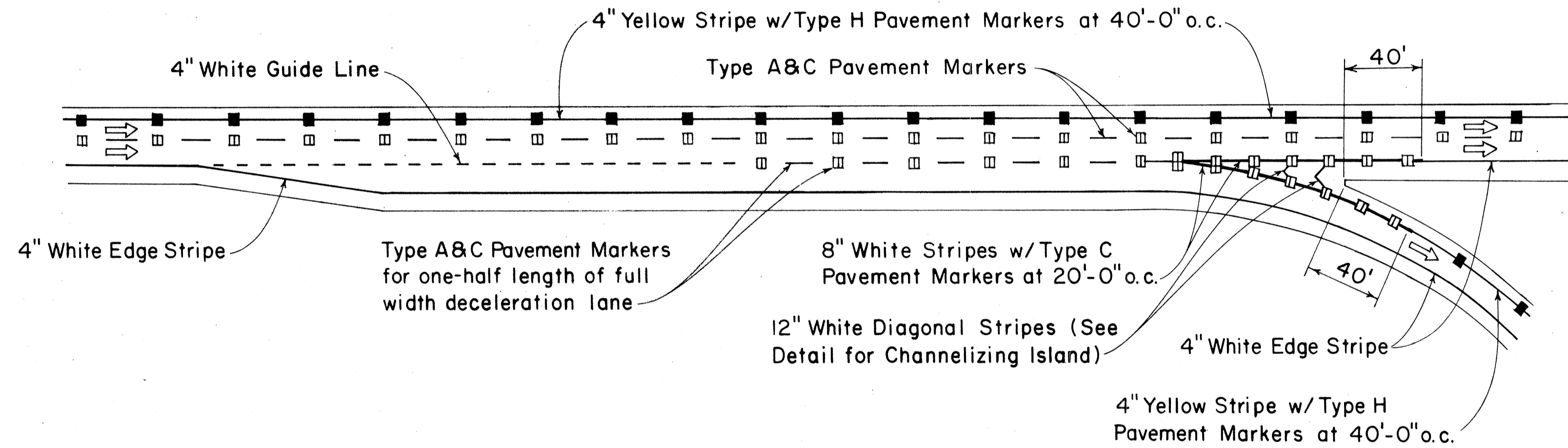
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(16) F063-1(17)	1984	143	156

**GENERAL NOTES:**

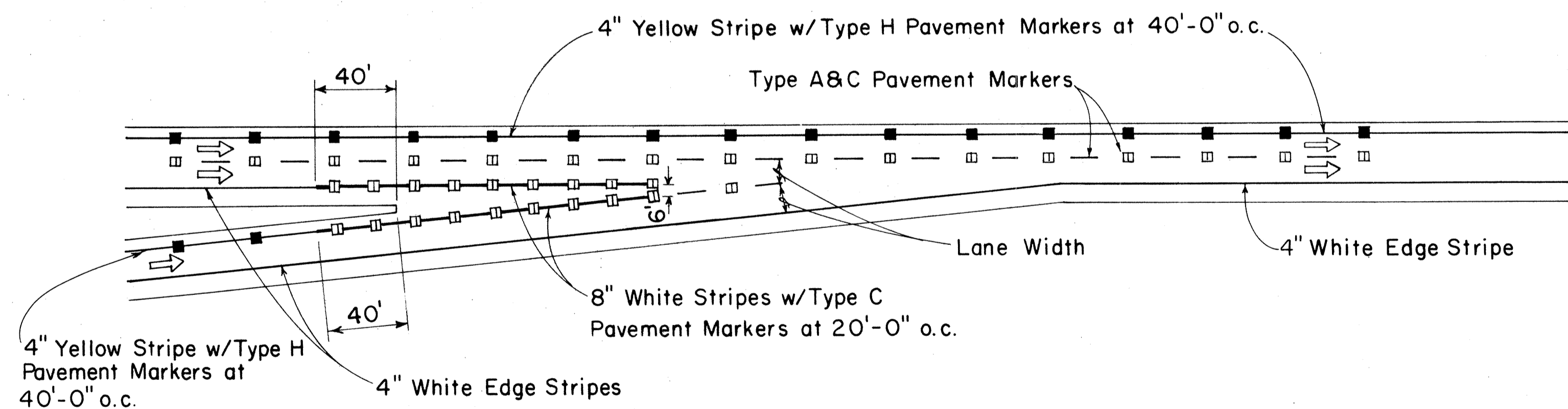
1. Pavement Markings and Striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of Pavement Markings and Striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional details, see sheet DT 300.



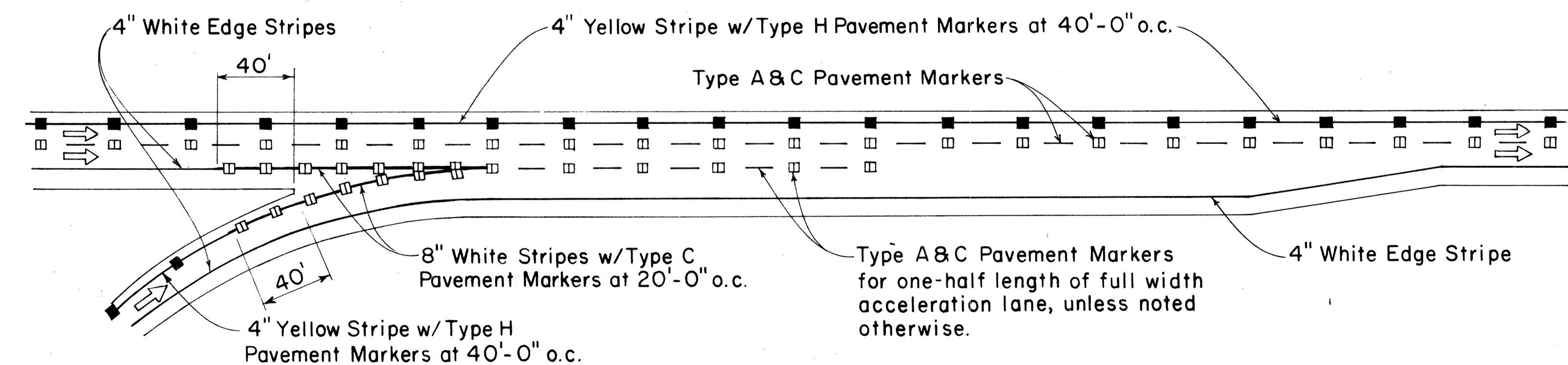
TAPERED DECELERATION LANE  
TYPICAL ROADWAY EXIT MARKINGS



PARALLEL DECELERATION LANE  
TYPICAL ROADWAY EXIT MARKINGS



TAPERED ACCELERATION LANE  
TYPICAL ROADWAY ENTRANCE MARKINGS



PARALLEL ACCELERATION LANE  
TYPICAL ROADWAY ENTRANCE MARKINGS

APPROVAL RECOMMENDED:  
*Eddie Tanaka* 7/21/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Robert S. Zakeiah* 7/24/78  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

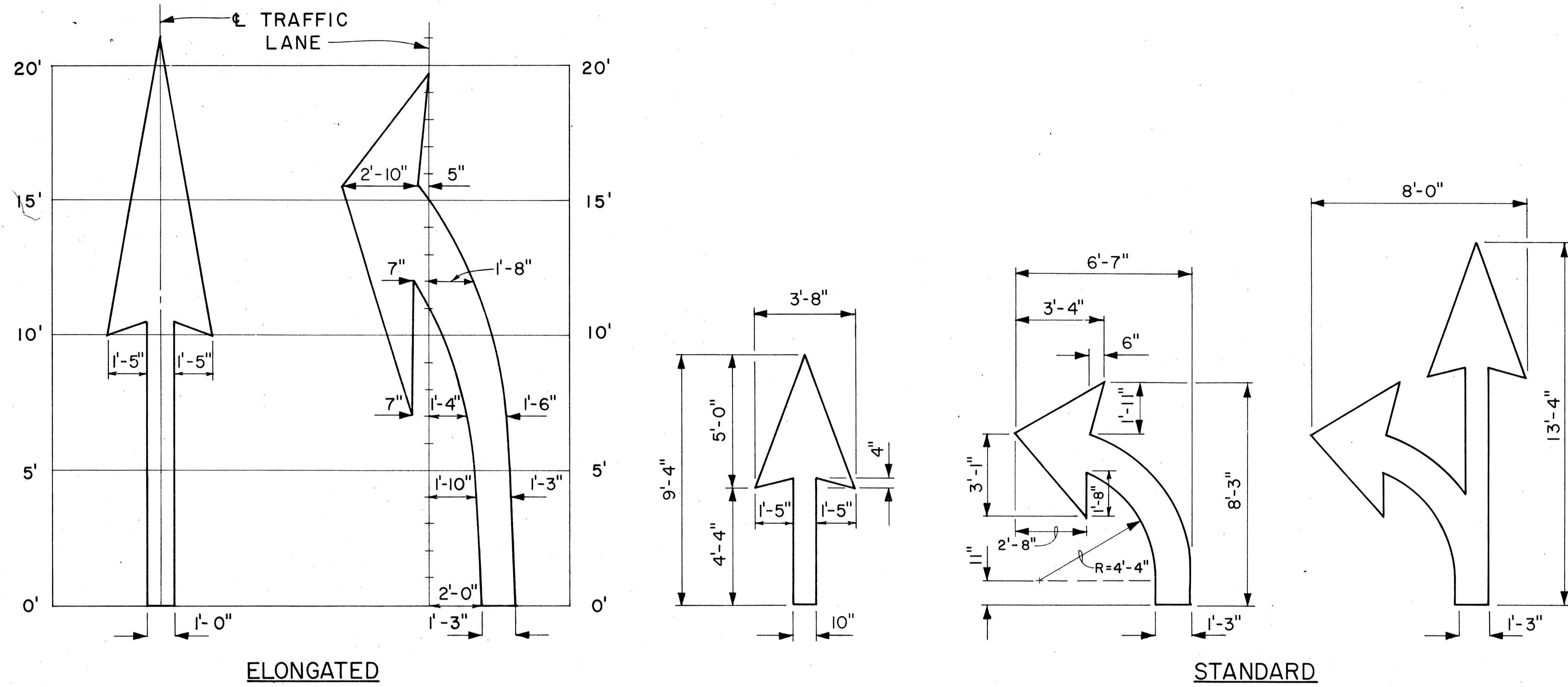
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**  
**MISCELLANEOUS**  
**PAVEMENT MARKINGS**

Not to Scale July 1978  
SHEET NO. OF SHEETS DT 304

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(16) F063-1(17)	1984	144	156



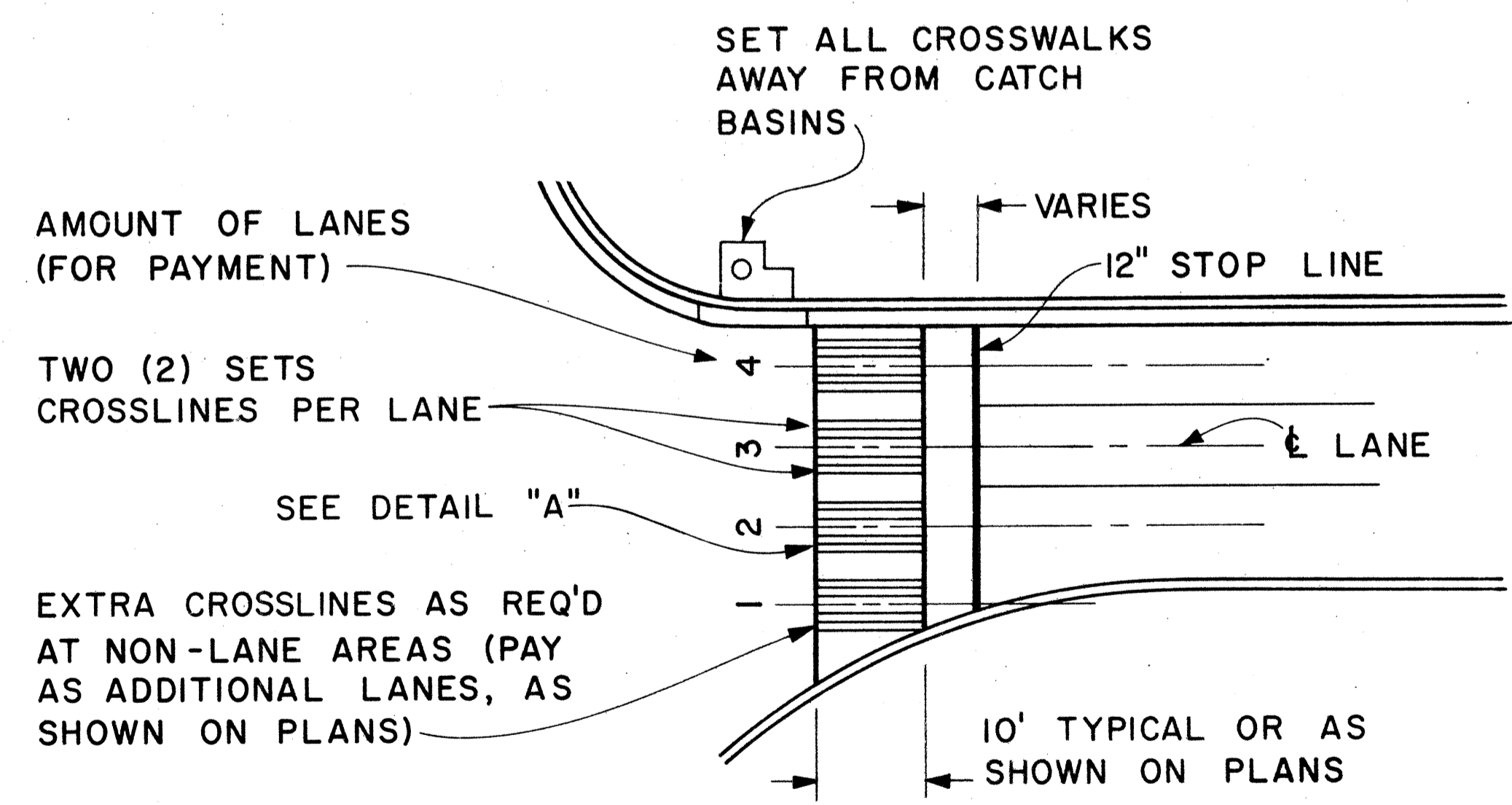
**PAVEMENT ARROWS**

Scale: 3/8" = 1'

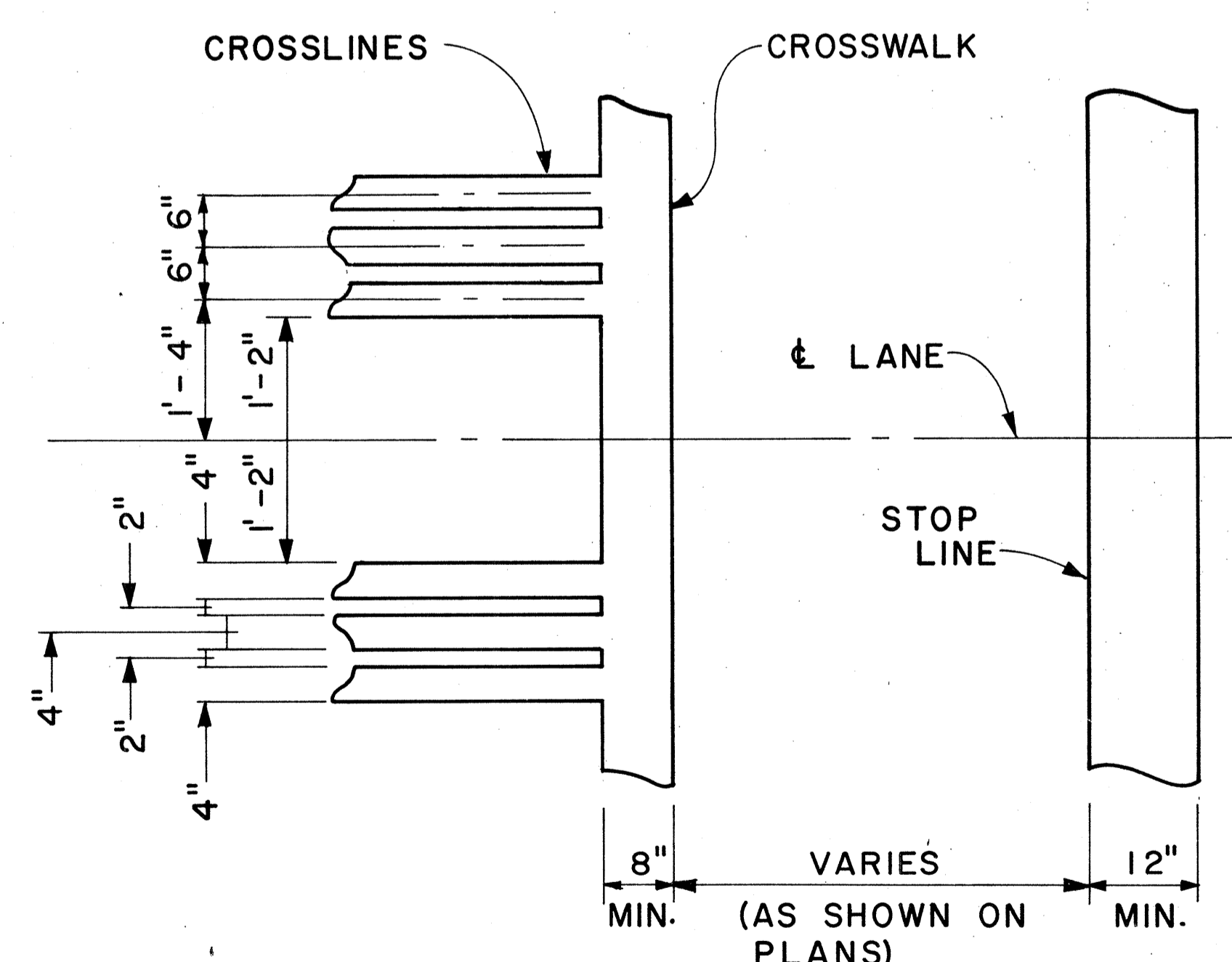
**GENERAL NOTES:**

1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.

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



**PLAN**



**DETAIL "A"**

**CROSSWALK & STOP LINE**

Scale: Not to Scale

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 5/2/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Harold S. Zalskiw* 5/2/78  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

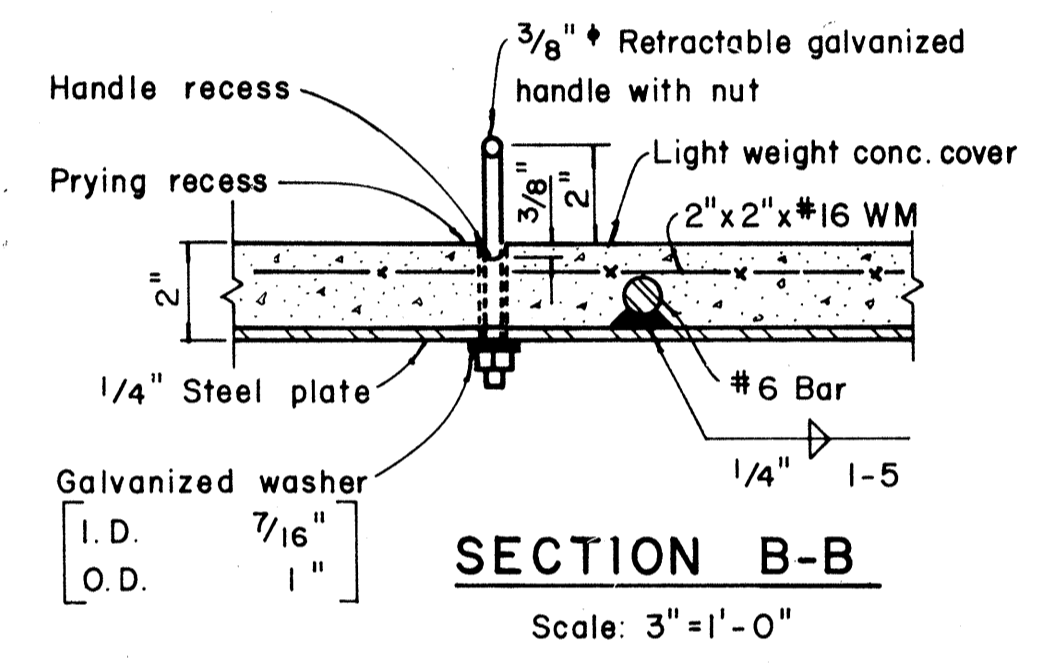
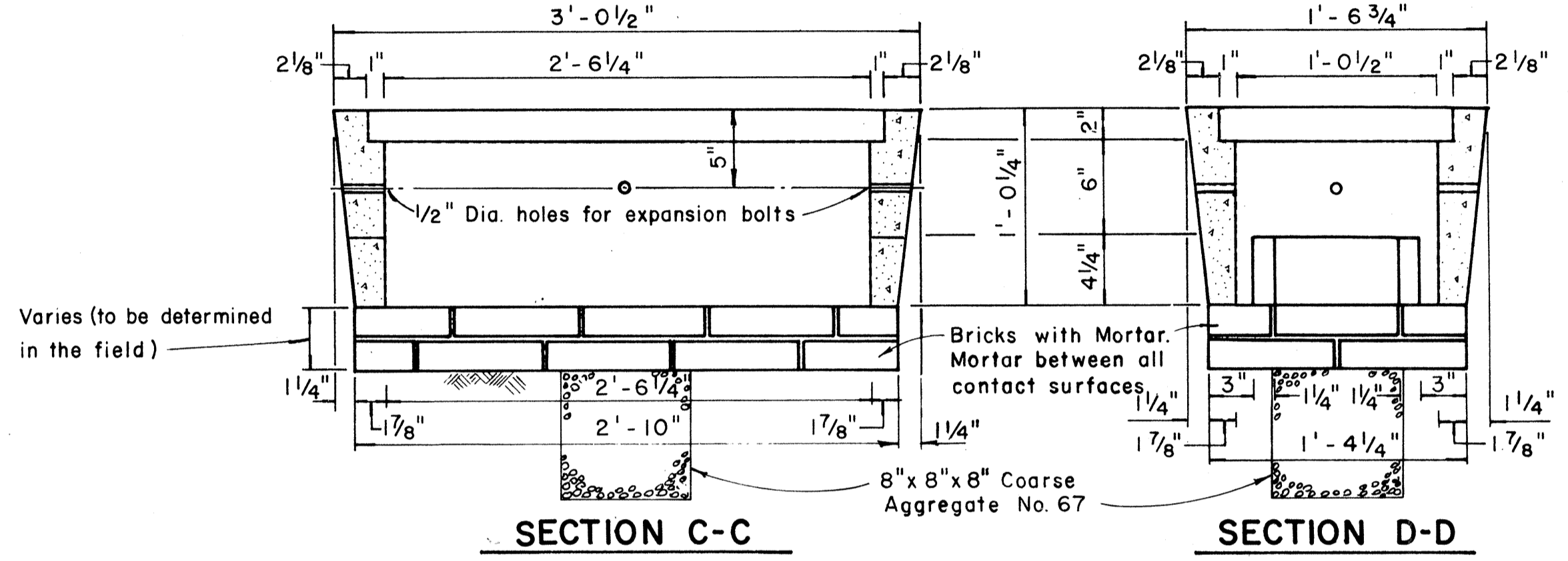
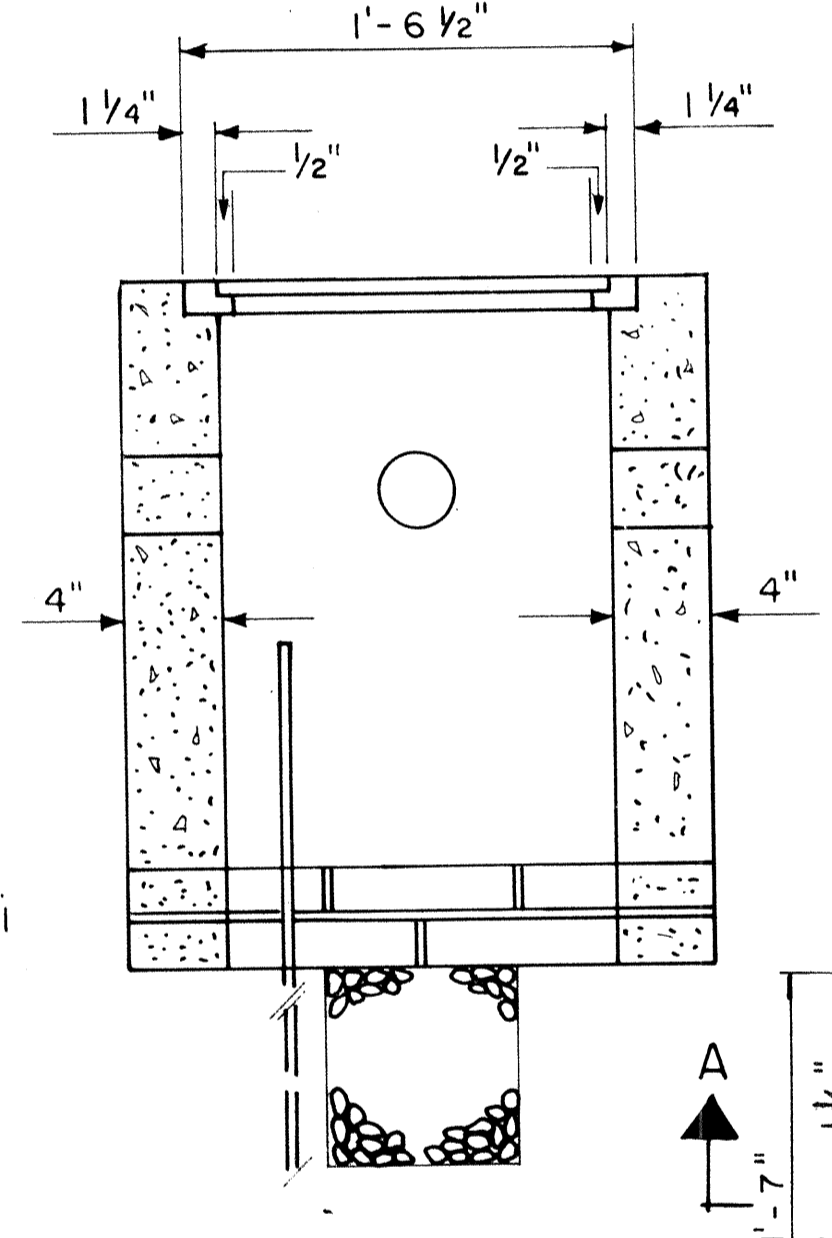
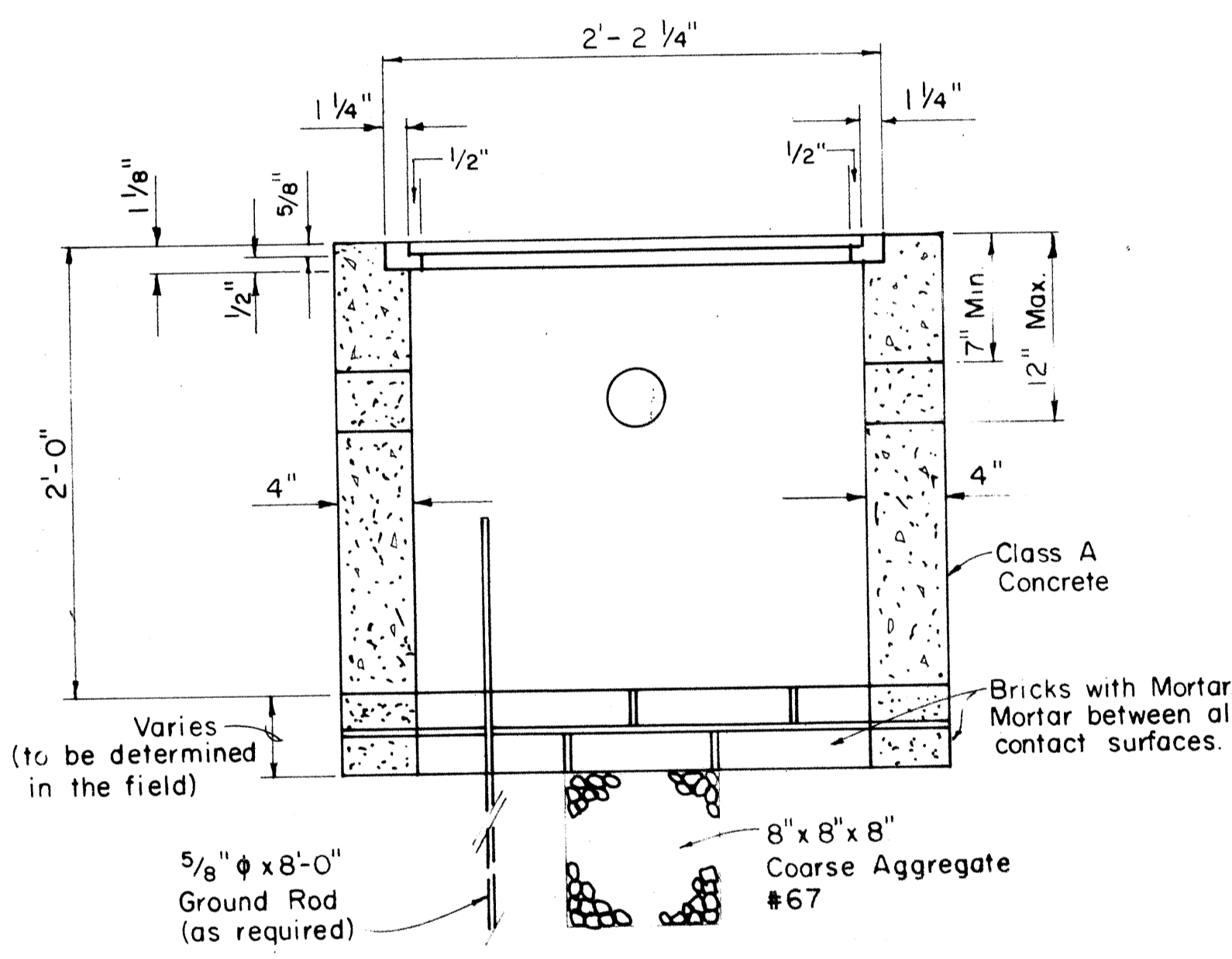
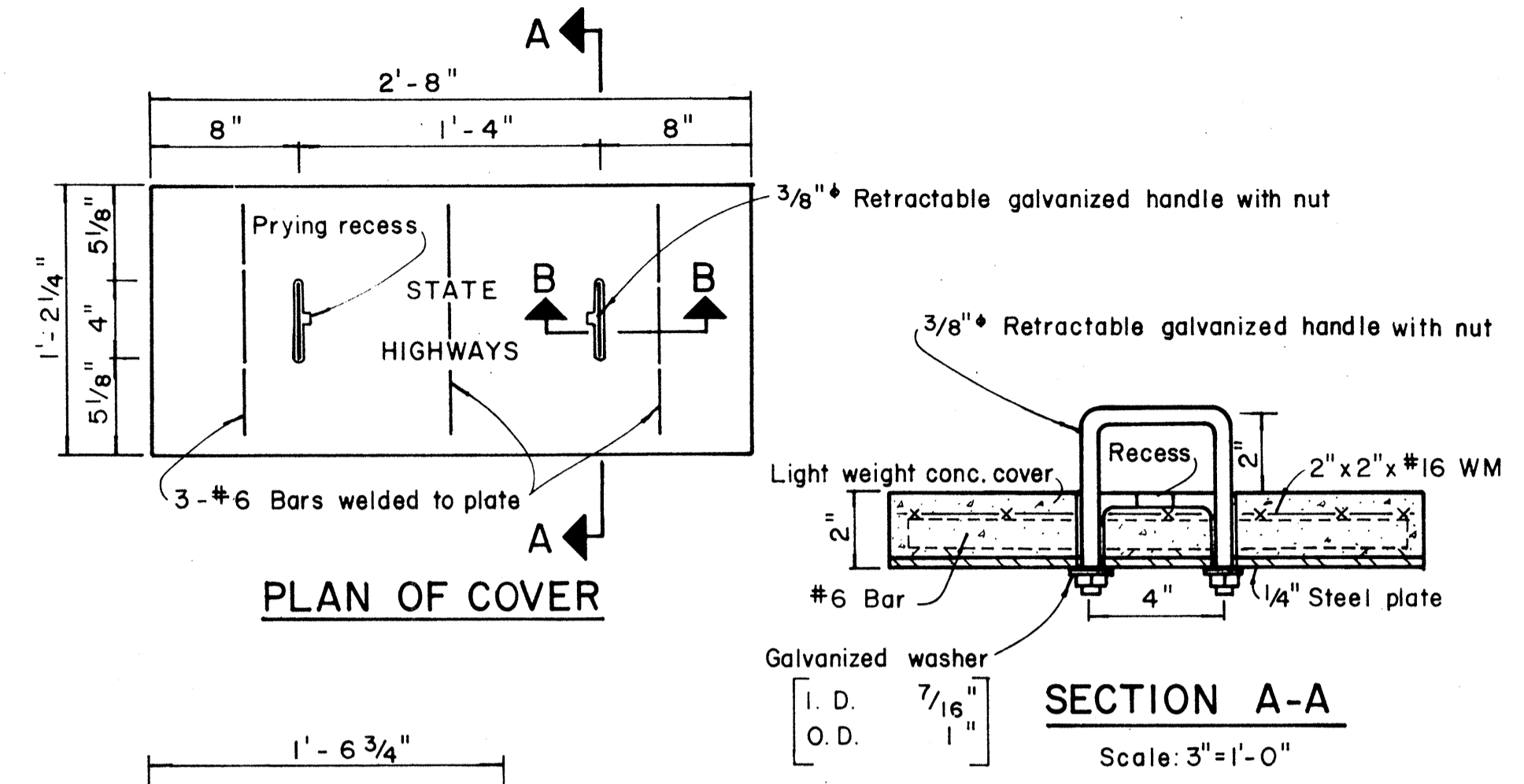
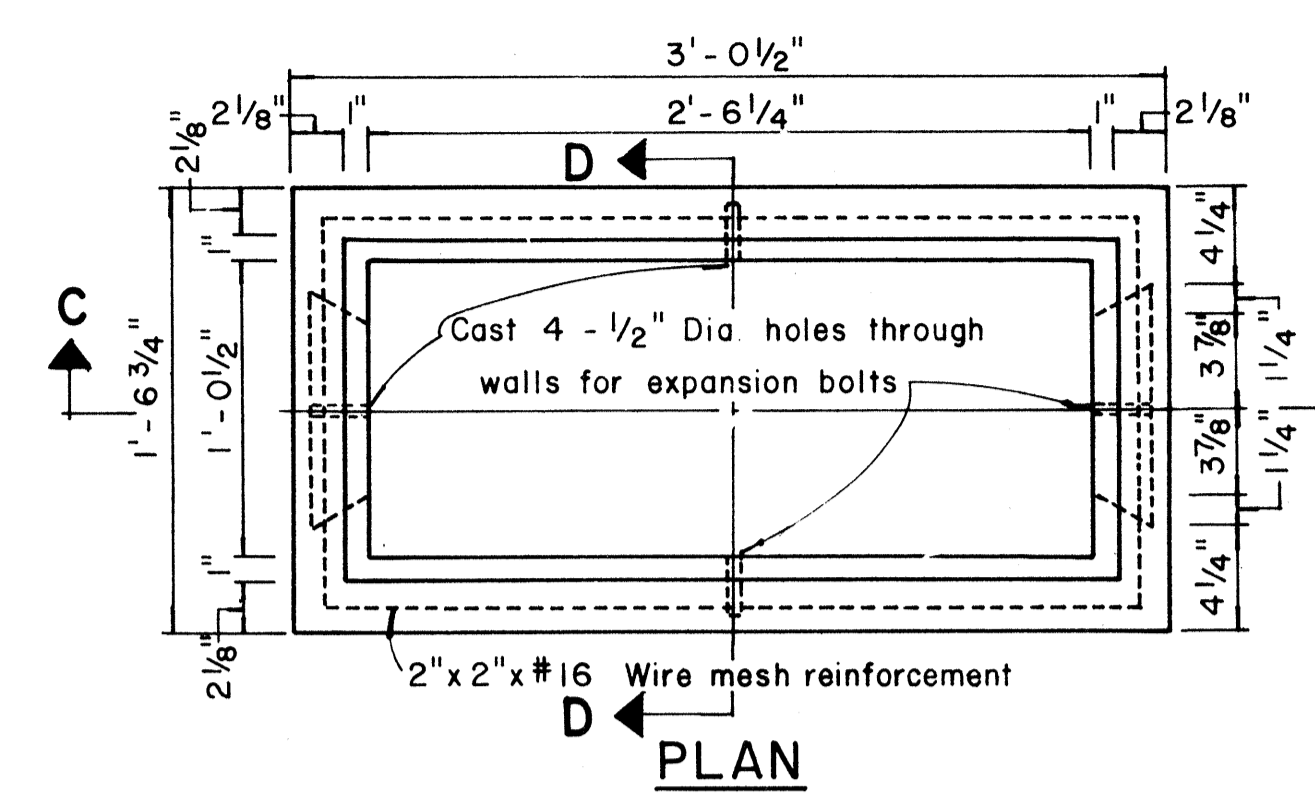
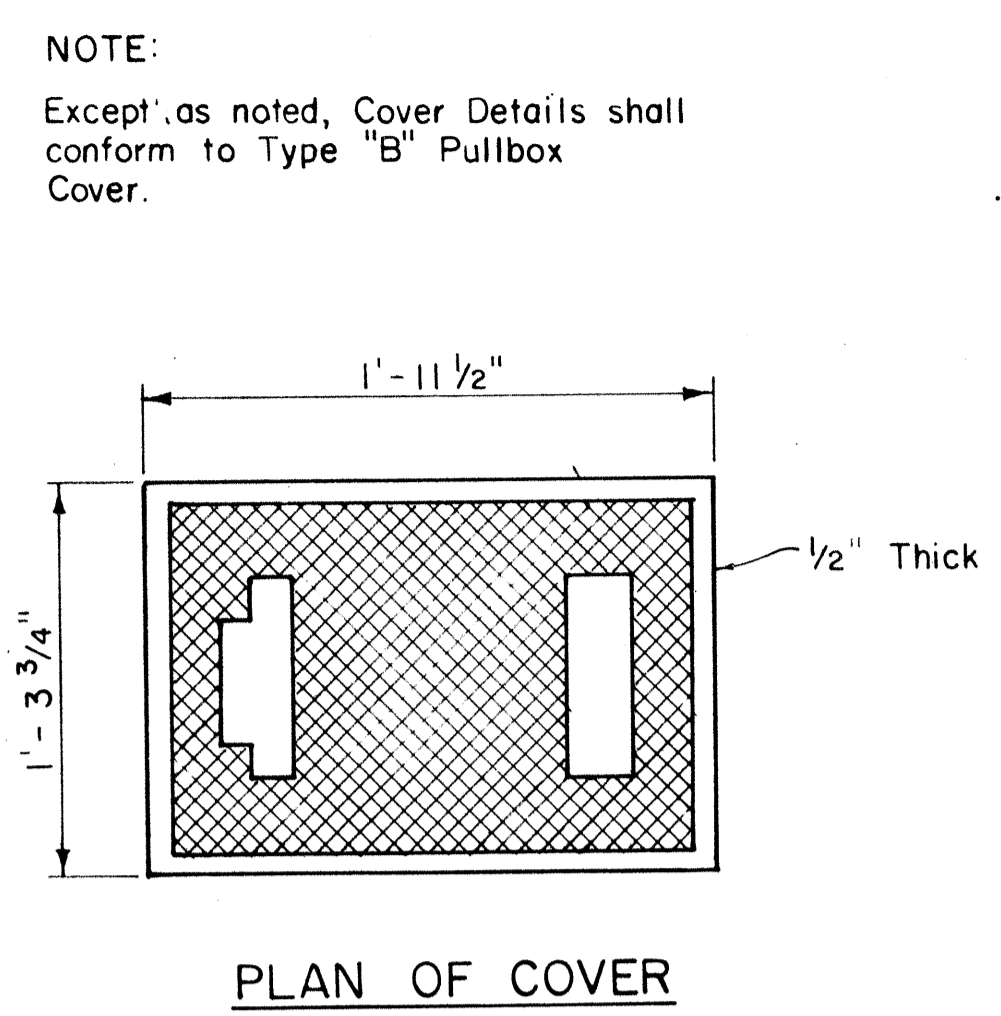
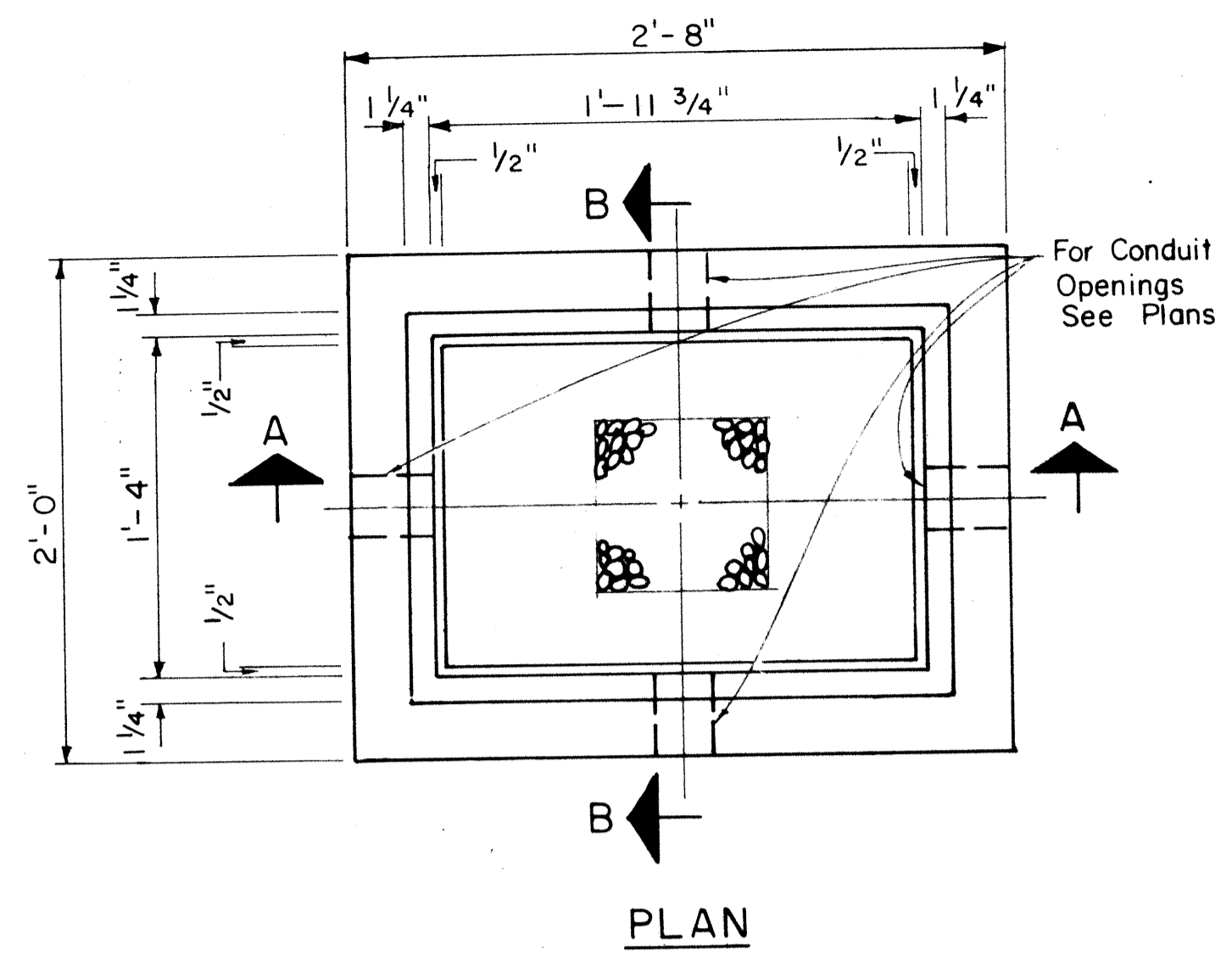
**STANDARD DETAILS**

MISCELLANEOUS  
PAVEMENT MARKINGS

Scale: As Shown Date: March, 1978  
SHEET No. OF SHEETS DT 306

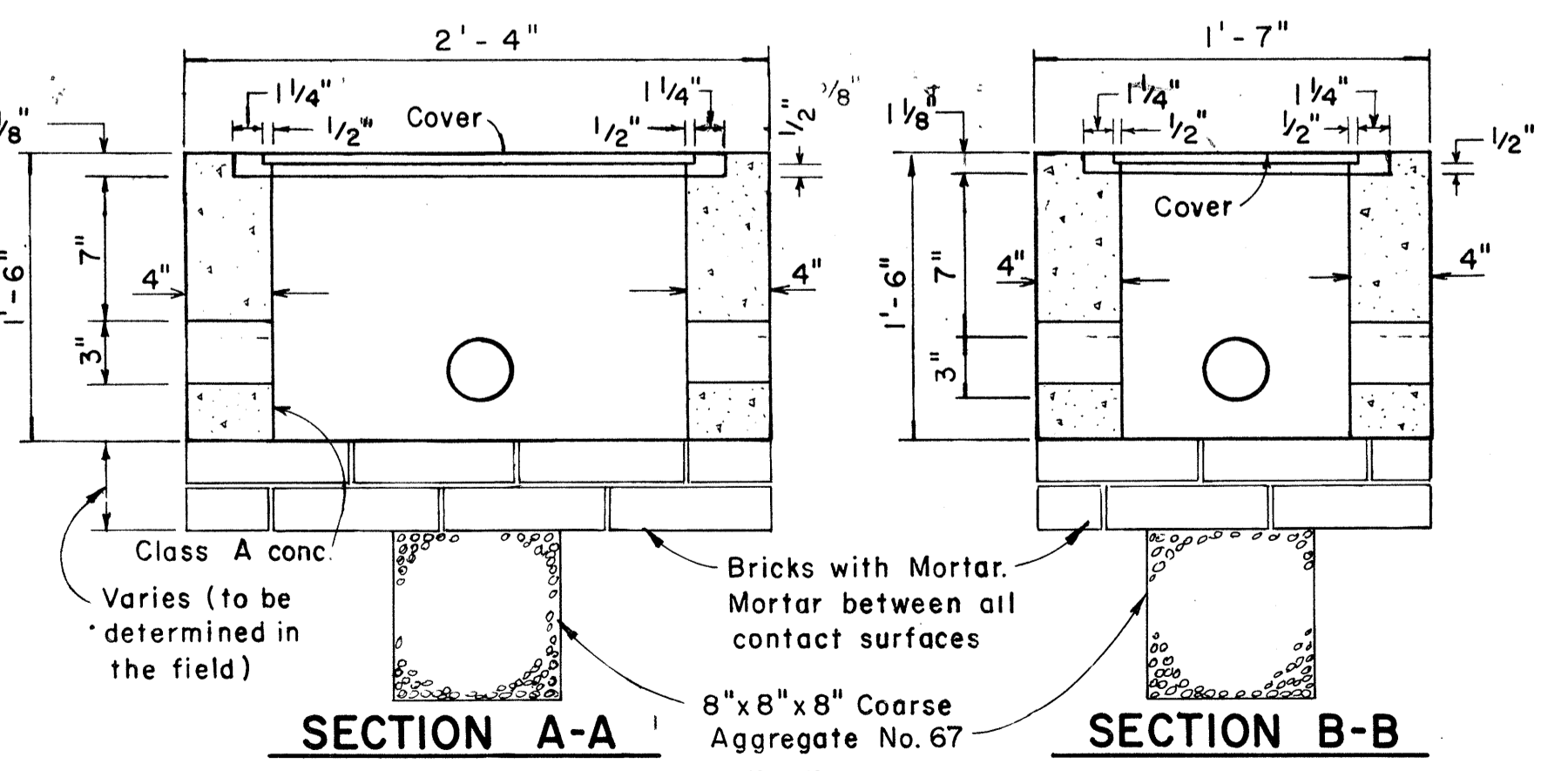
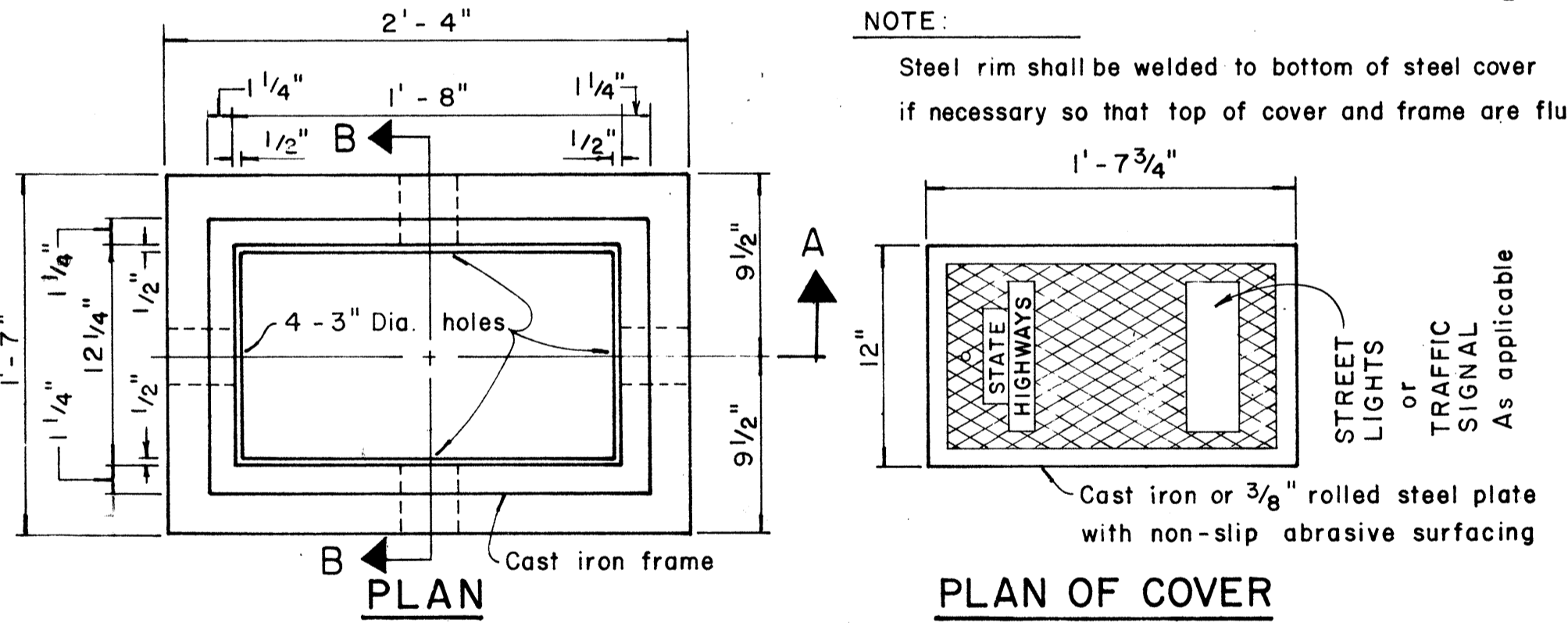


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	146	156



SECTION A-A  
SECTION B-B  
**TYPE "A" PULLBOX**  
Scale: 1/2" = 1'-0"

**TYPE "C" PULLBOX**  
Scale: 1/2" = 1'-0"



SECTION A-A  
SECTION B-B  
**TYPE "B" PULLBOX**  
Scale: 1/2" = 1'-0"

APPROVAL RECOMMENDED:  
*[Signature]* 12/29/62  
TRAFFIC ENGINEER DATE

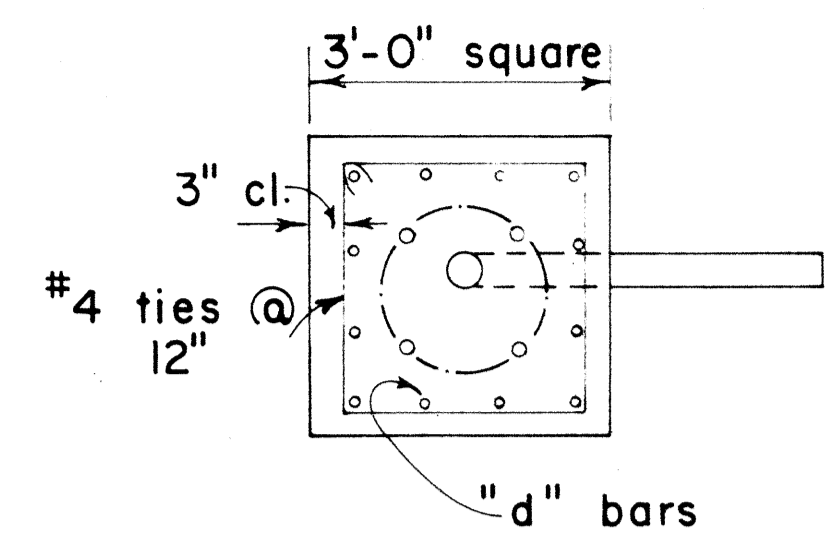
APPROVED:  
*[Signature]* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	H.T.	3-5-76
2	Revised Type "A" Pullbox & Added Modified Cover.	H.T.	1-31-80
3	Revised Type B & C Pullbox details.	[Signature]	2-1-83

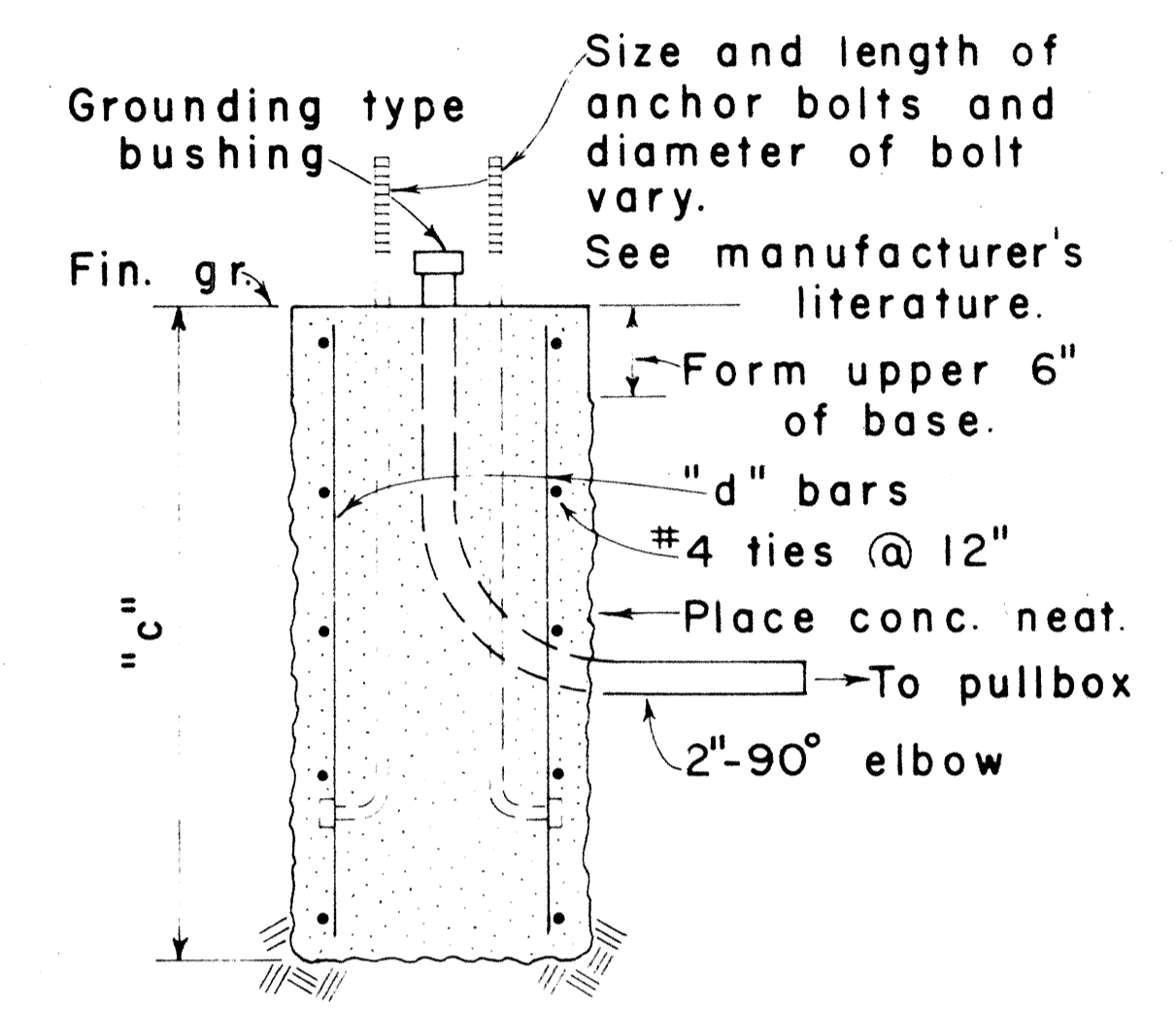
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
**PULLBOXES**  
Scale as noted Date  
SHEET No. OF SHEETS DT 401

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

**MODIFIED COVER DETAIL**  
Not to Scale



**PLAN - SECTION**

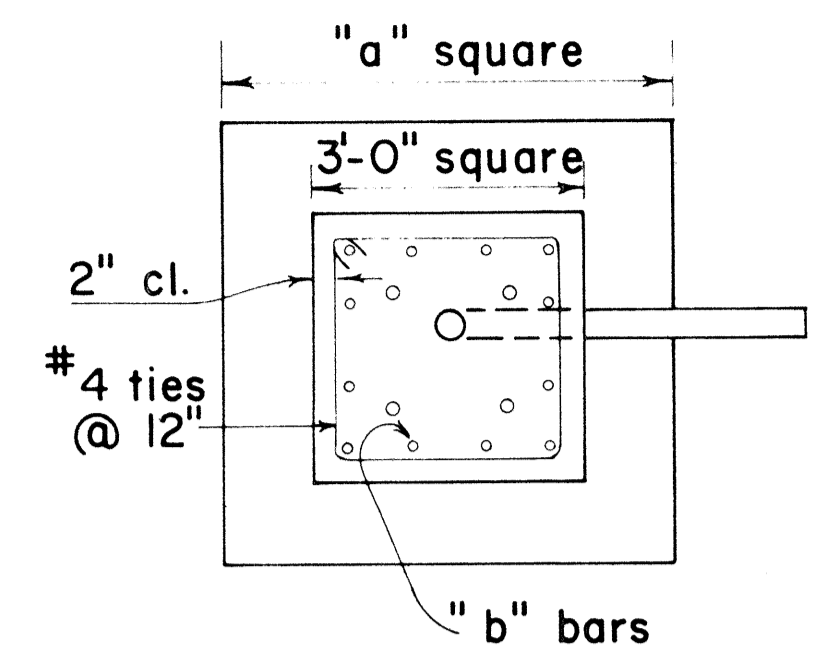


NOTE:  
Concrete shall be Class B.

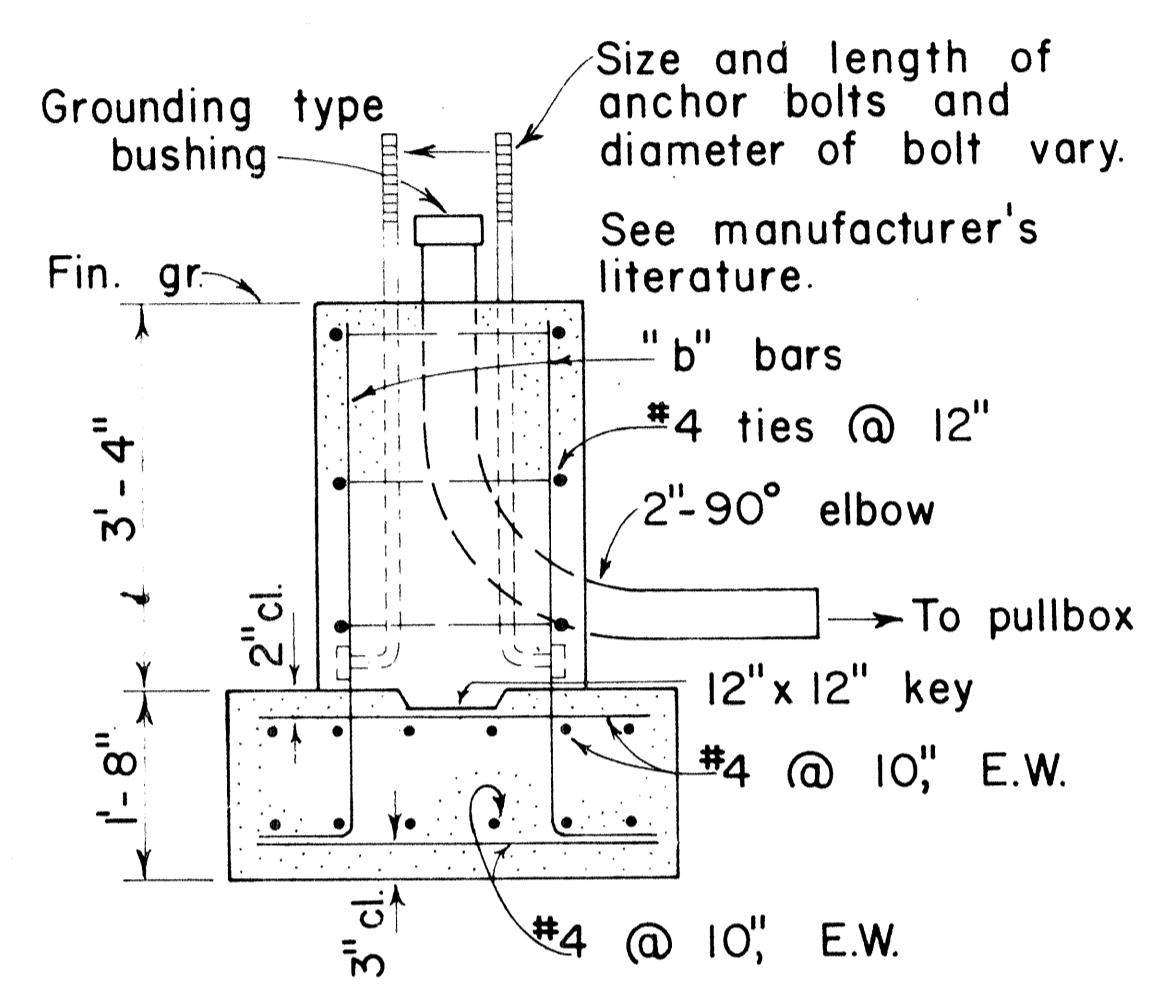
**SECTION**

MAST ARM LENGTH	"c"	"d" BARS
16' - 18'	5' - 0"	12 - #6
20'	5' - 6"	12 - #6
25'	6' - 0"	12 - #6
30'	6' - 6"	12 - #6
35'	7' - 0"	12 - #8
40'	8' - 0"	12 - #8

**TYPE II**



**PLAN - SECTION**



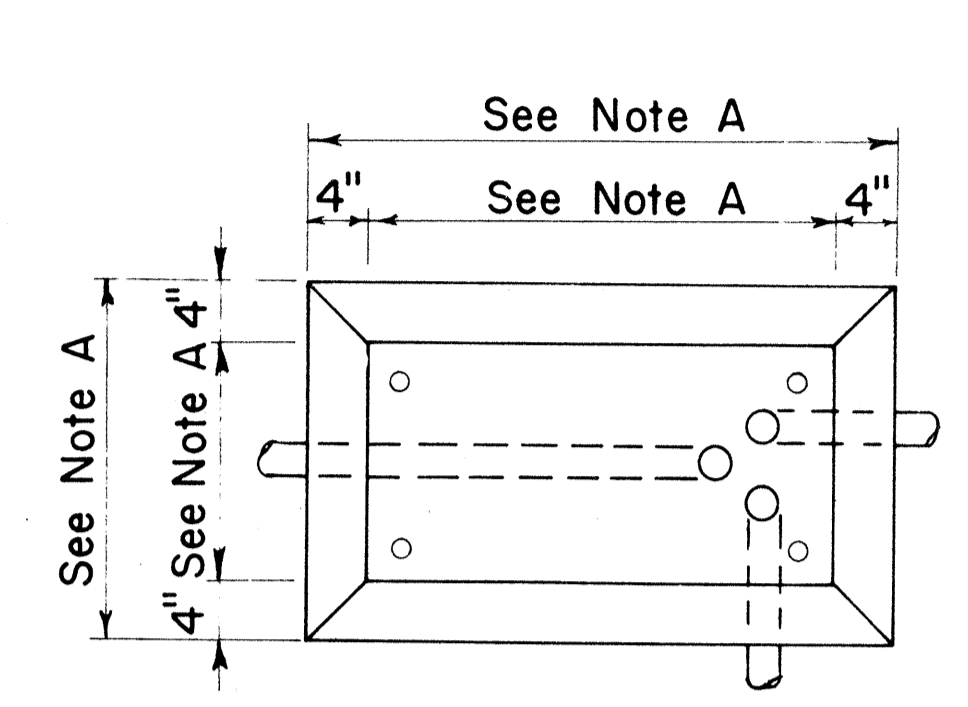
NOTE:  
Concrete shall be Class B.

**SECTION**

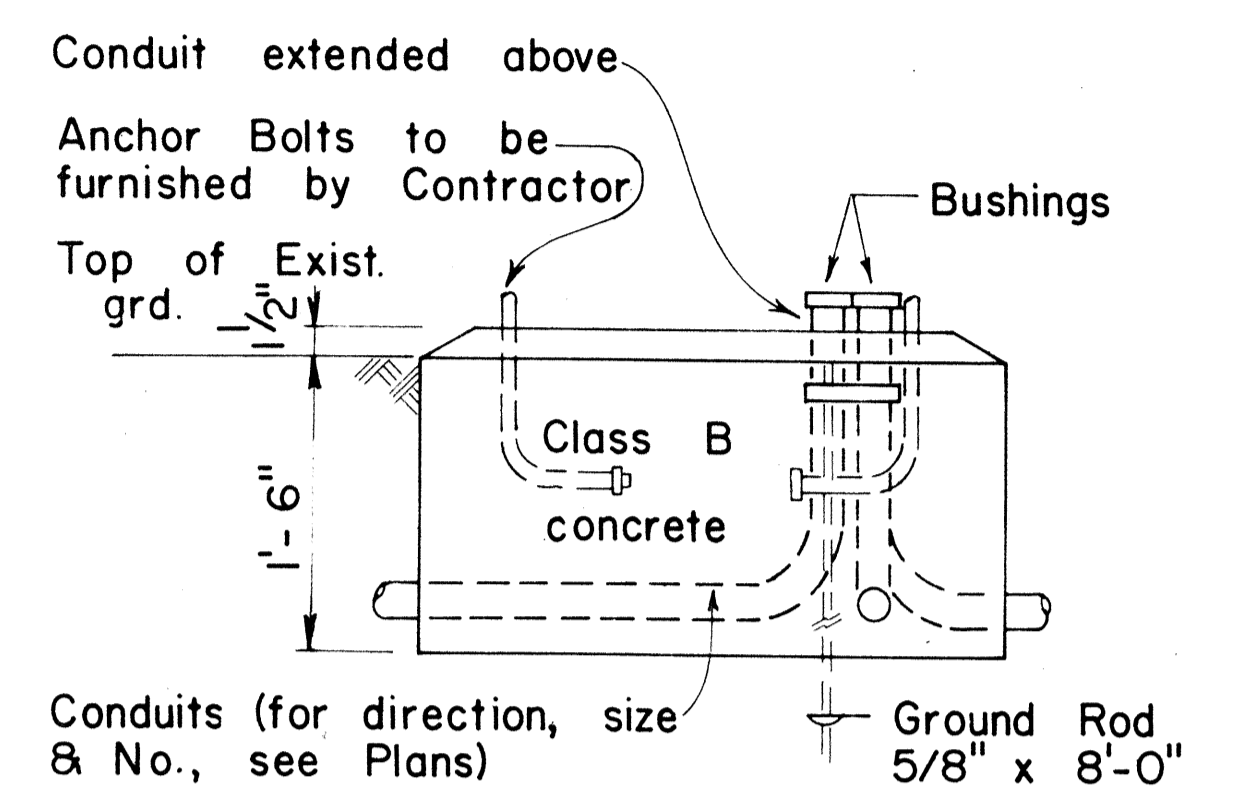
MAST ARM LENGTH	"a"	"b" BARS
16' - 18'	5' - 0"	12 - #6
20'	5' - 6"	12 - #6
25'	6' - 0"	12 - #6
30'	6' - 6"	12 - #8
35'	6' - 6"	12 - #8
40'	7' - 0"	12 - #8

**TYPE IIA**

**FOOTING FOR MAST ARM STANDARD**



**PLAN**



**ELEVATION**

**CONCRETE BASE FOR CONTROLLER CABINET**

- NOTES:
- A. Dimensions to be determined by the size of the Controller Cabinet to be furnished under this Contract.
  - B. Details of Conduits, Anchor Bolts, etc., are approximate only. Exact details shall be secured by the Contractor from Manufacturer.

SURVEY PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN No. \_\_\_\_\_

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 3/4/76  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Robert R. P. Kashi* 2-5-76  
 ASSISTANT CHIEF, ENGINEERING DATE

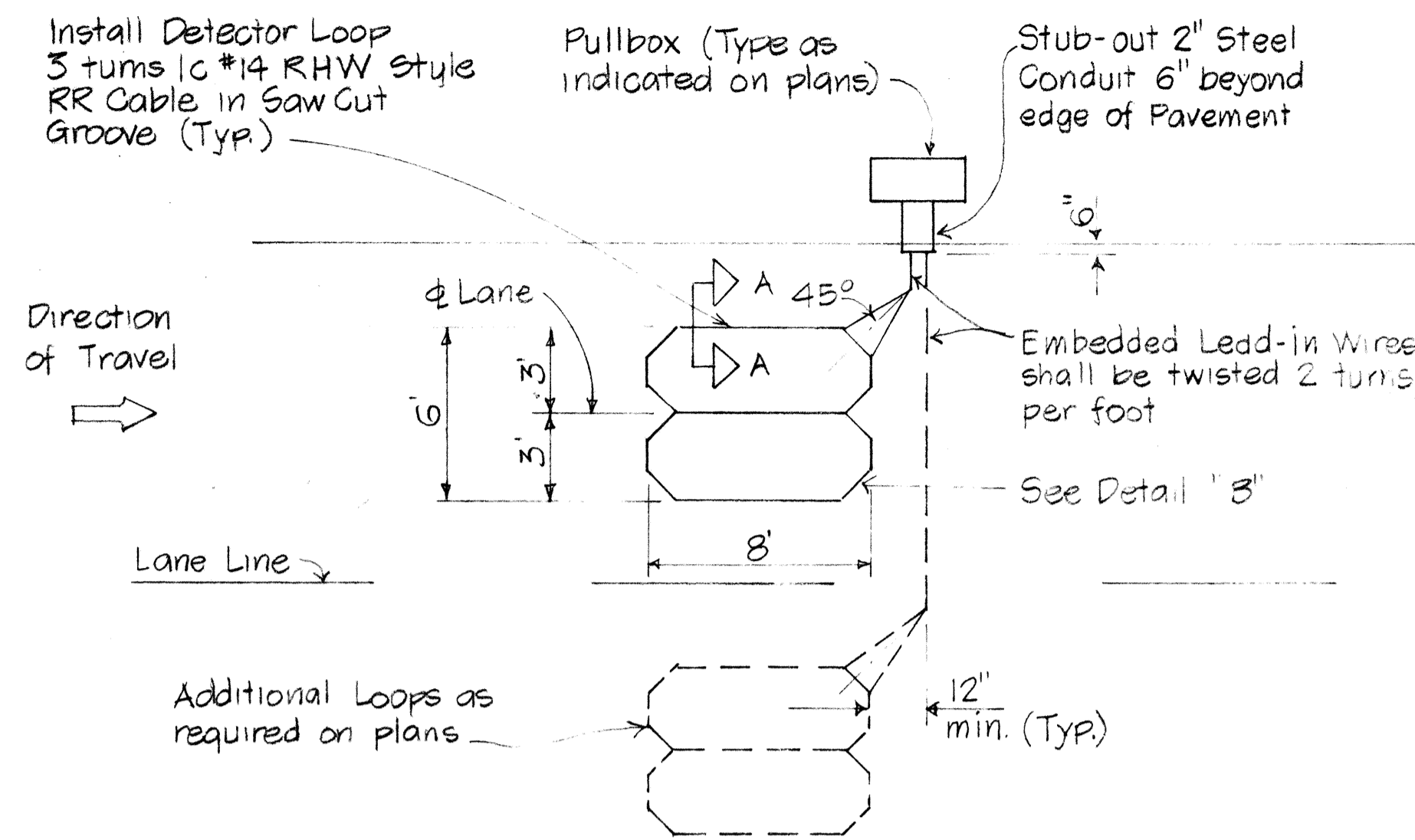
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

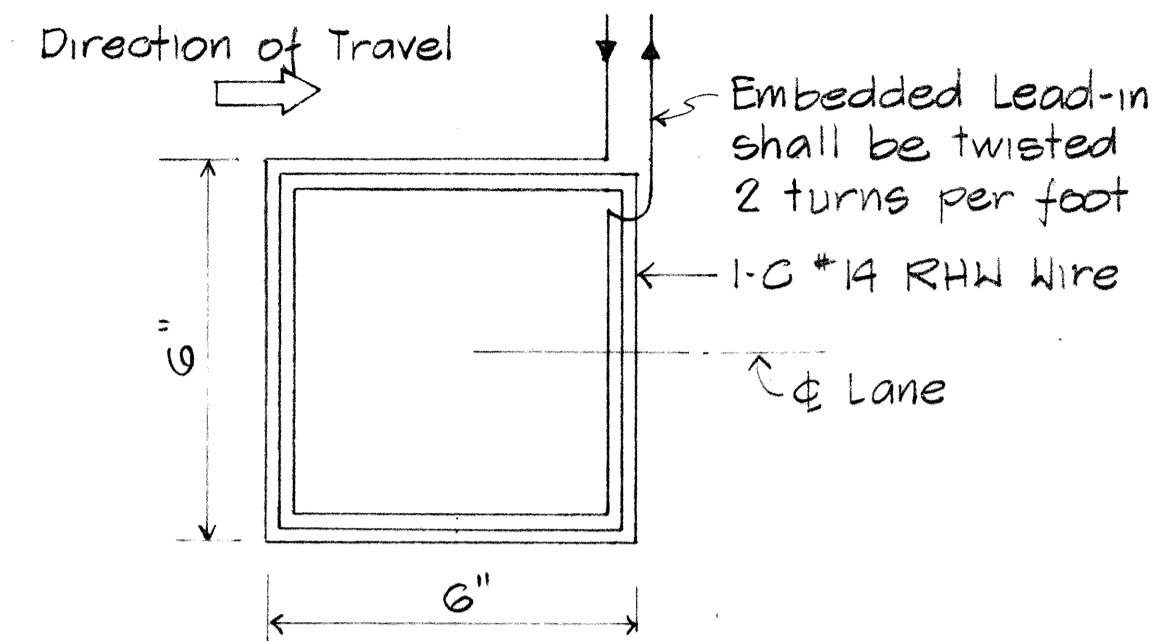
**TRAFFIC SIGNAL SYSTEM  
 MISCELLANEOUS DETAILS**

Not to Scale

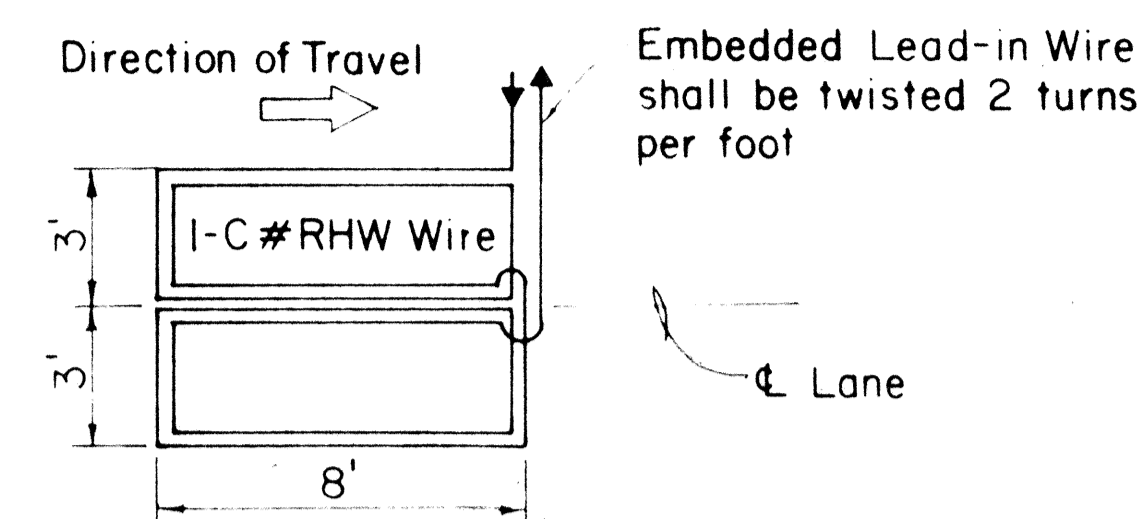
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	148	156



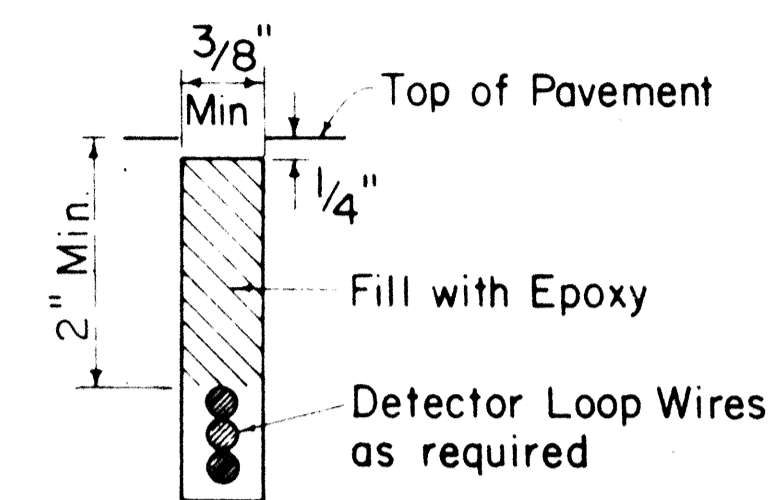
**SINGLE LOOP LAYOUT**



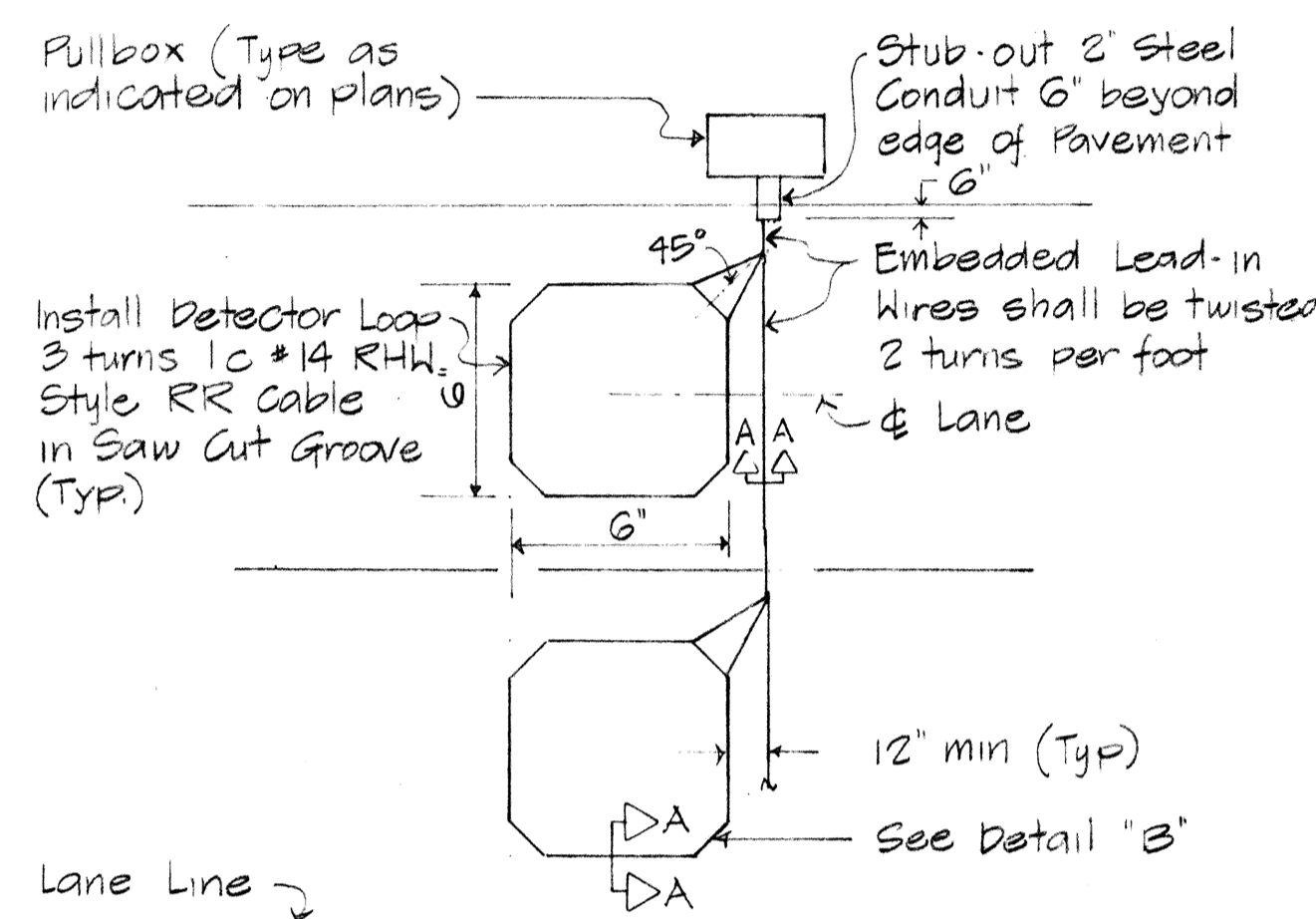
**WIRING DIAGRAM**



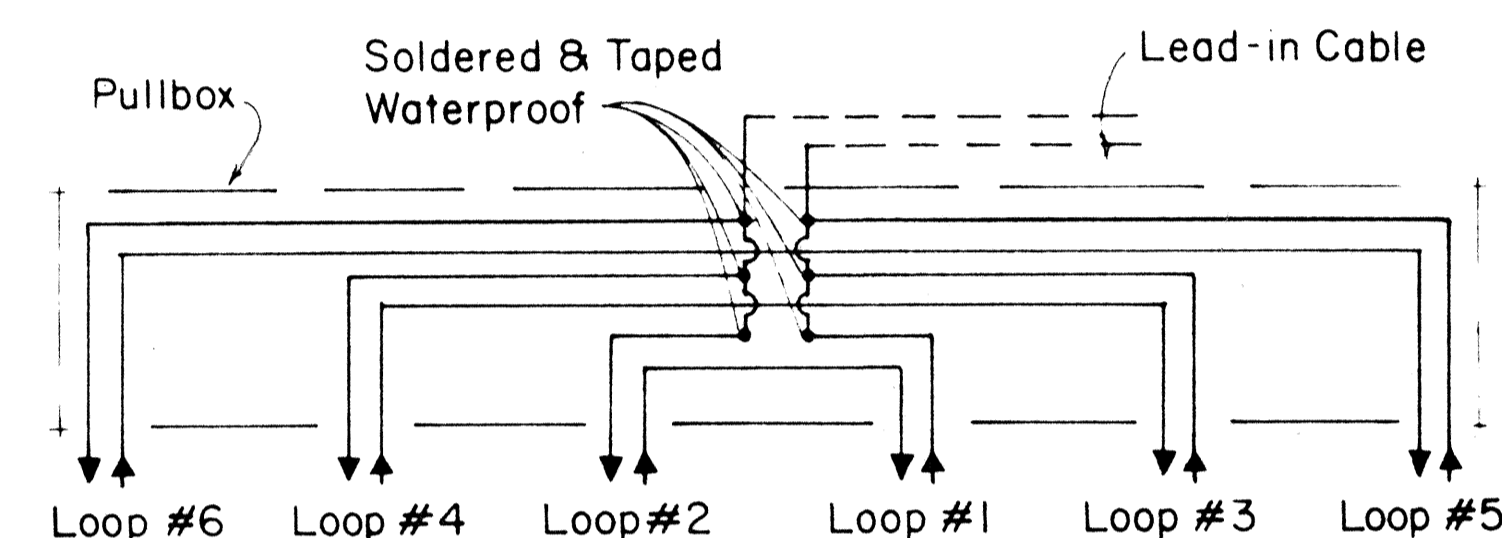
**WIRING DIAGRAM**



**DETECTOR LOOP SAW-CUT SECTION A-A (TYPICAL)**



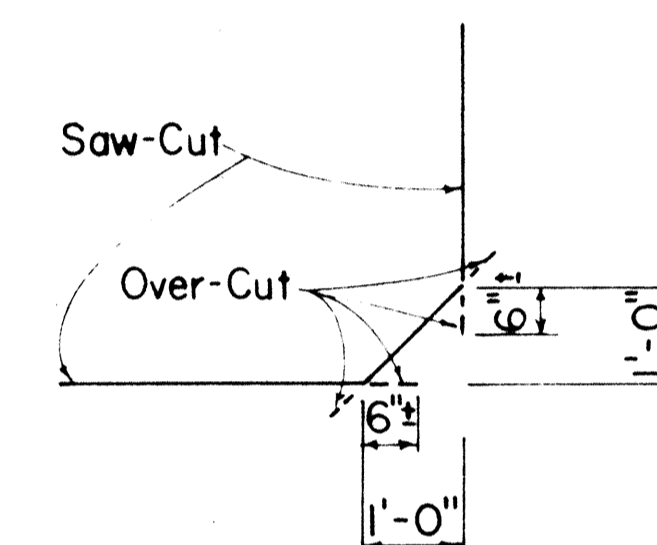
**LOOP LAYOUT**



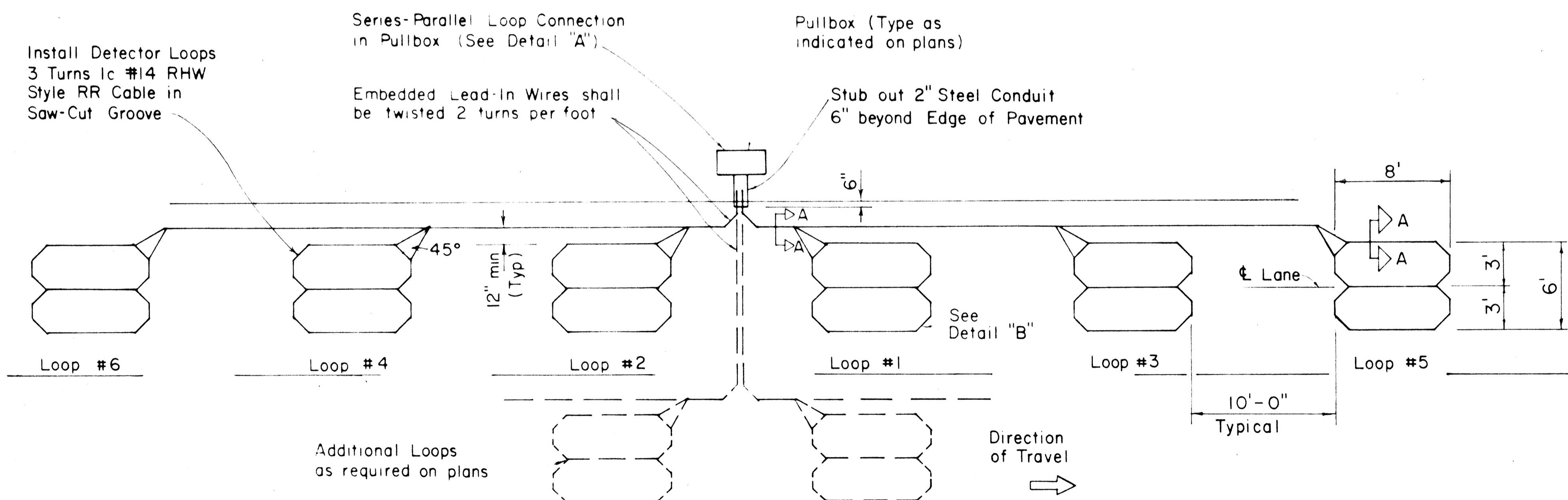
**DETAIL "A"**

**TYPICAL SERIES-PARALLEL LOOP CONNECTION**

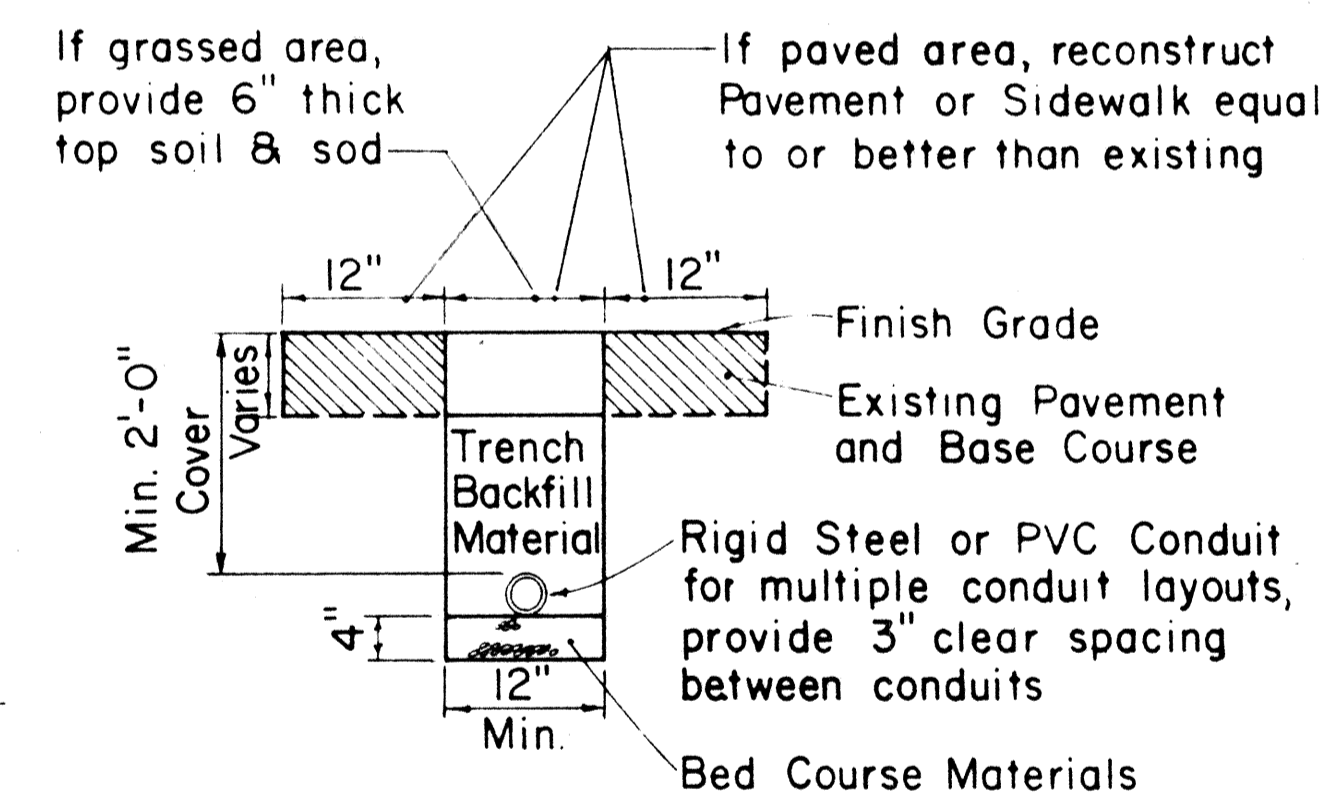
Note: Back-Fill Over-Cuts with Epoxy



**DETAIL "B" SAW-CUT AT CORNERS**



**MULTIPLE LOOP LAYOUT**



**TYPICAL TRENCH SECTION FOR CONDUIT**

NOTE:

- All conduits under roadways shall be steel or PVC schedule 80. All other conduits shall be steel or PVC schedule 40.

**LEGEND**

- 6' x 6' Loop detector
- 6' x 8' Loop detector

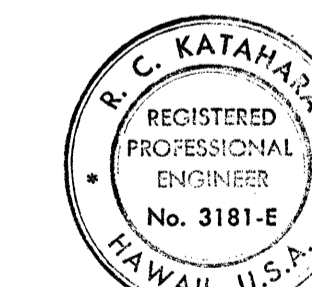
DATE	REVISION
2/7/85	Added 6 ft x 6 ft Loop Detector Wiring Diagram & Loop Layout.

Not to Scale

SHEET NO. OF SHEETS DT 405

**ADD. 148**

DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

*R.C. KATAHARA*

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**

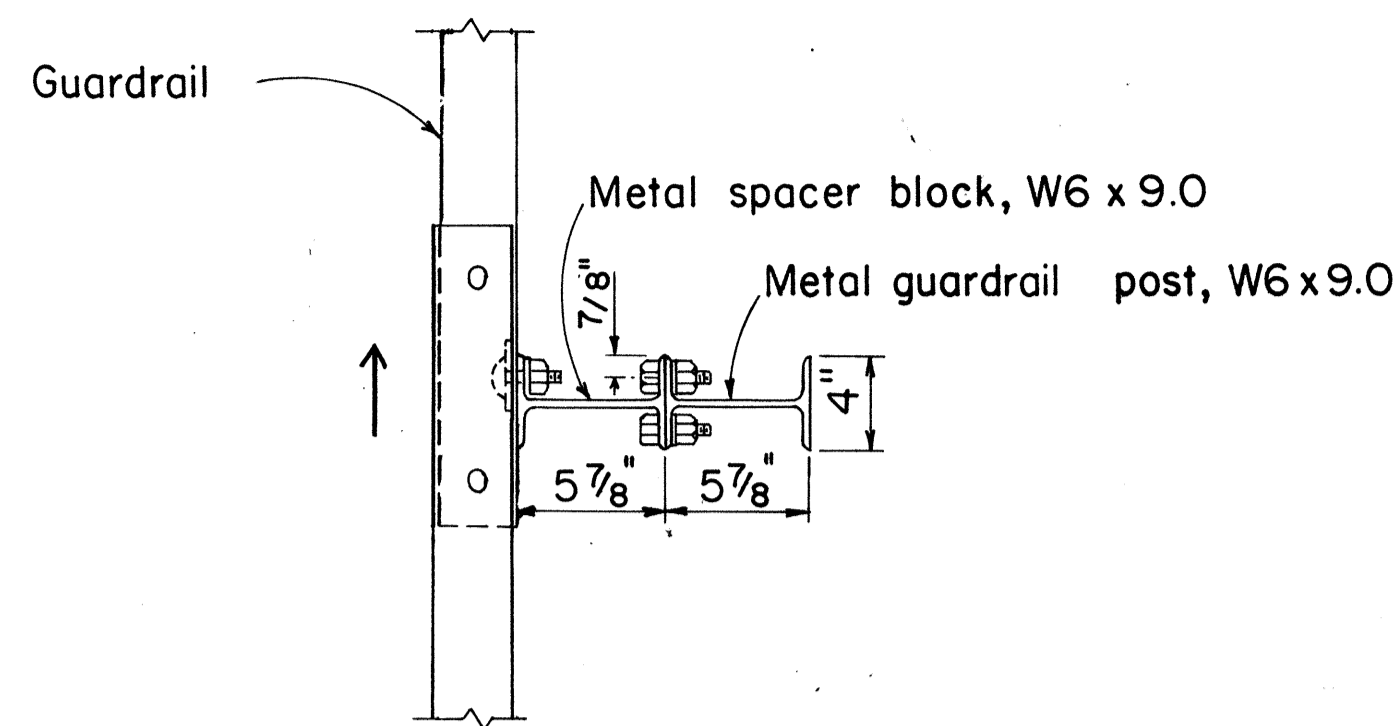
**LOOP DETECTORS**



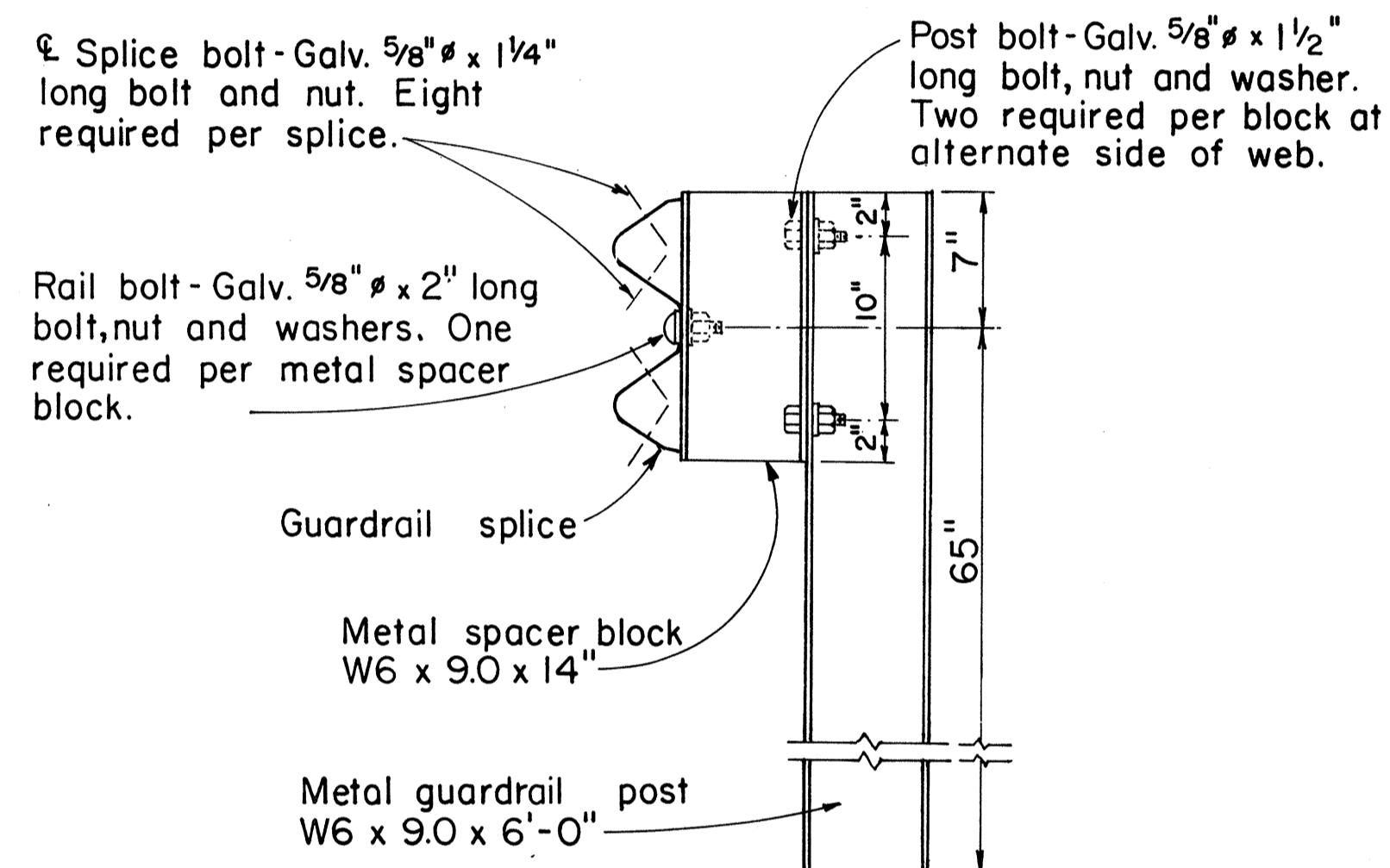
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	147	156

**GENERAL NOTES**

- Both of the alternate type posts may be used on any one project however, only one type of post shall be used in any single run of guardrail.
- All hardware, posts and blocks shall be galvanized. No punching, drilling or cutting will be permitted after galvanizing.
- Connection details for bent plate post and block shall be similar to the details shown for structural shape post, and block.
- Where conditions require, special post lengths in increments of 6 inches may be specified.
- For details of rail elements, bolts and nuts, see sheet DT 501.
- All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee.



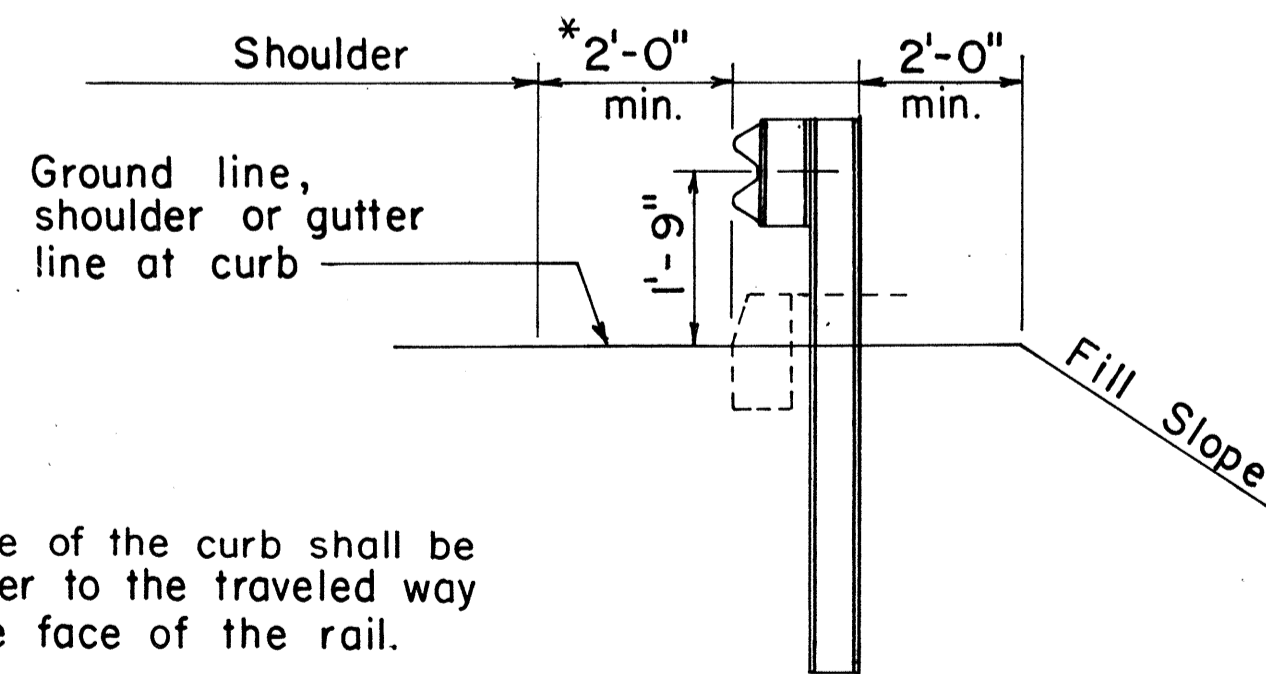
PLAN



ELEVATION

**SINGLE METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK**

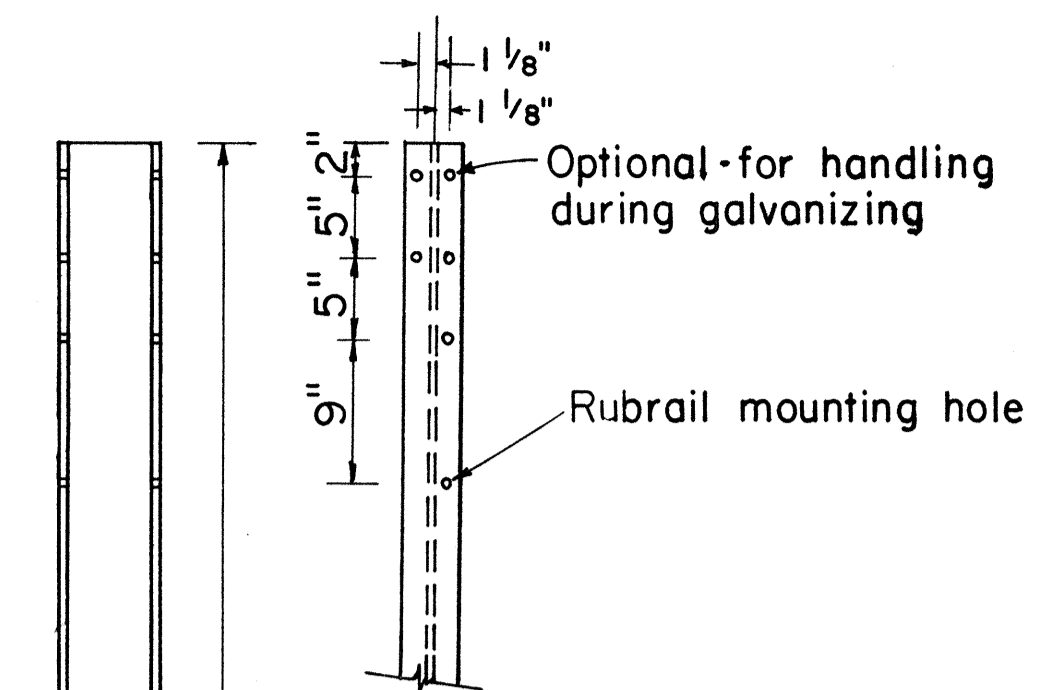
SCALE: 1/2" = 1'-0"



AT SHOULDER SECTION

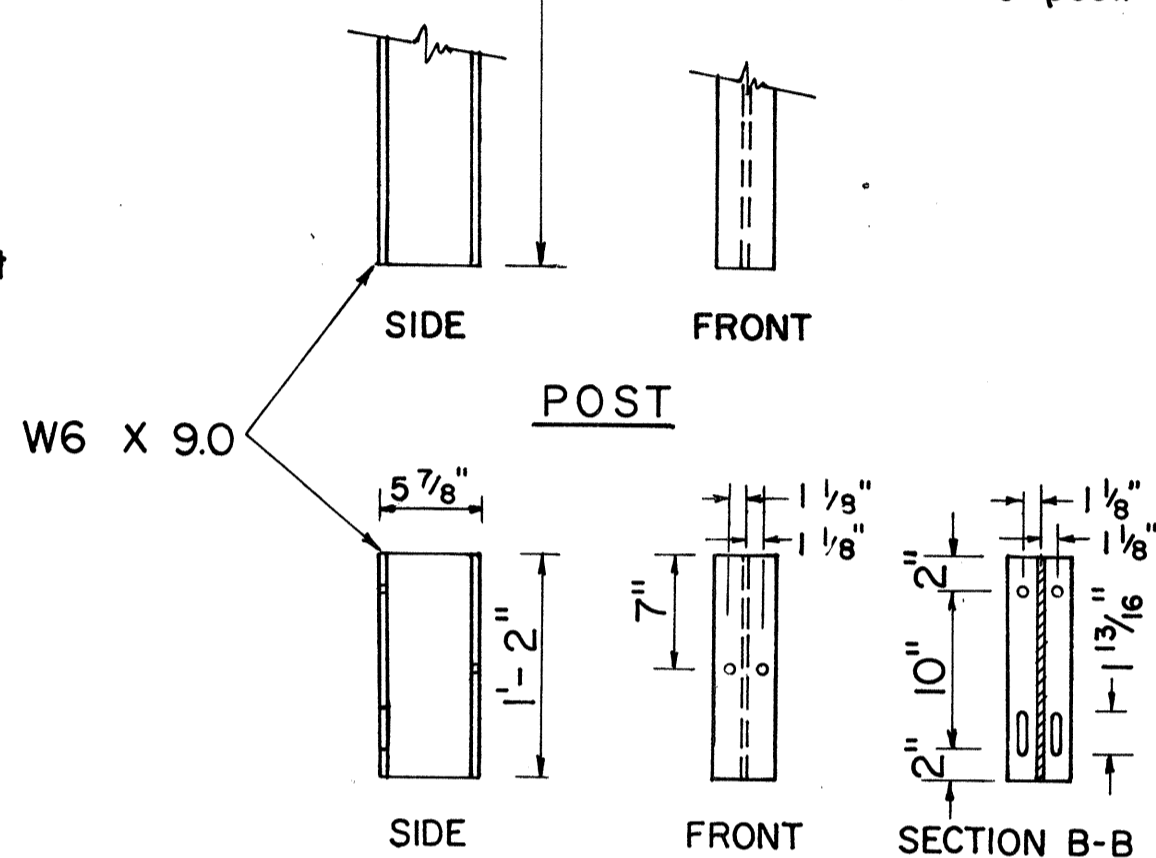
**TYPICAL METAL GUARDRAIL DETAIL**

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



**NOTE:**

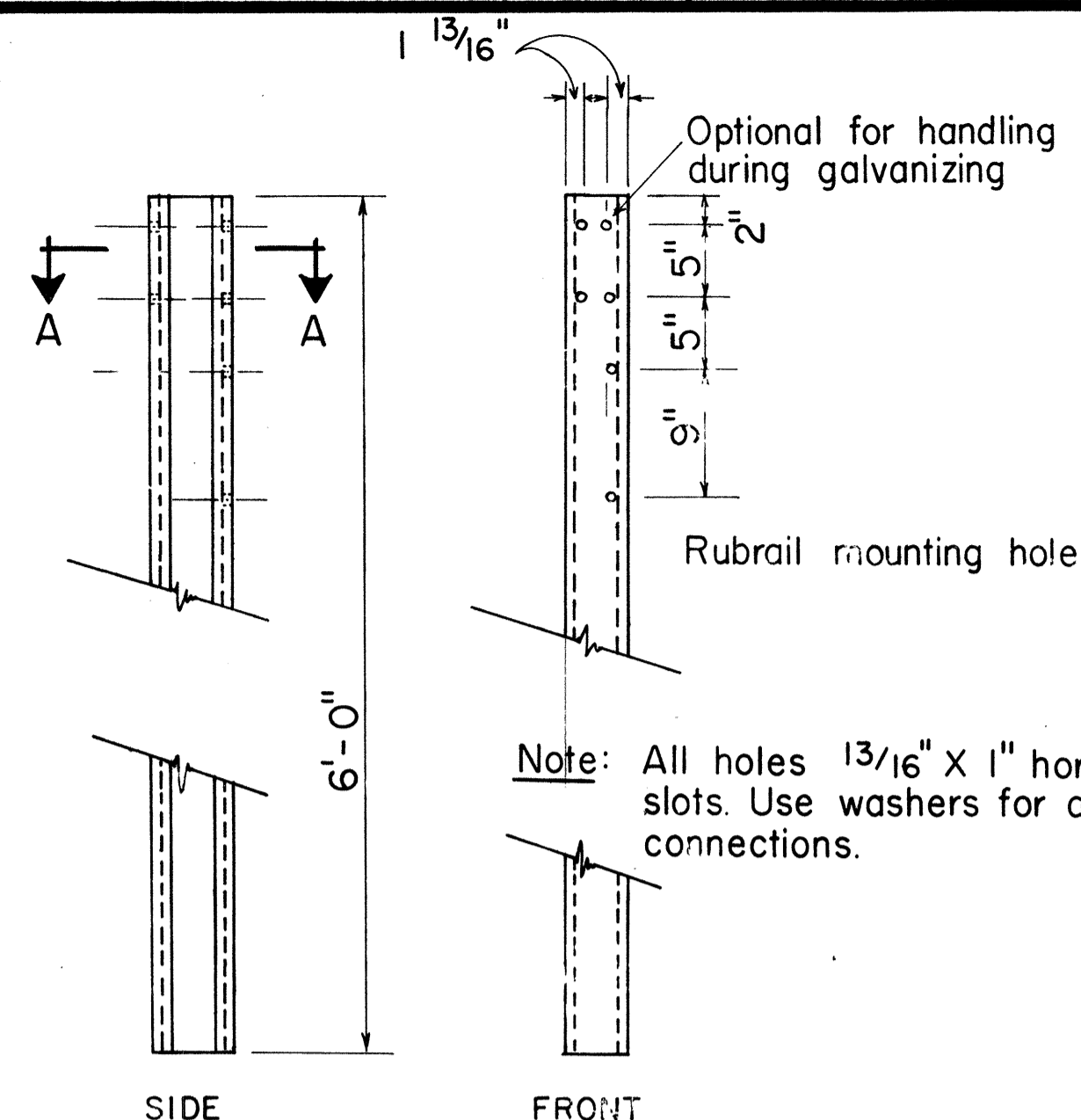
All holes 13/16"  $\phi$ . Bolt hole pattern is symmetrical with respect to the vertical axis of the post.



BLOCK

**STRUCTURAL SHAPE POST AND BLOCK**

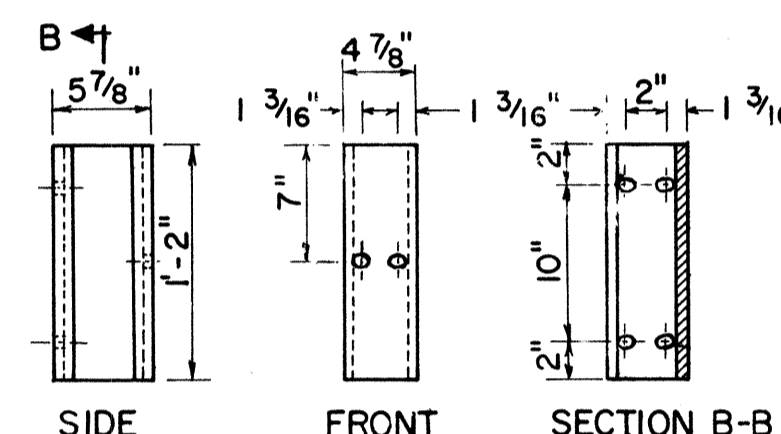
SCALE: 1" = 1'-0"



SIDE

FRONT

**POST**

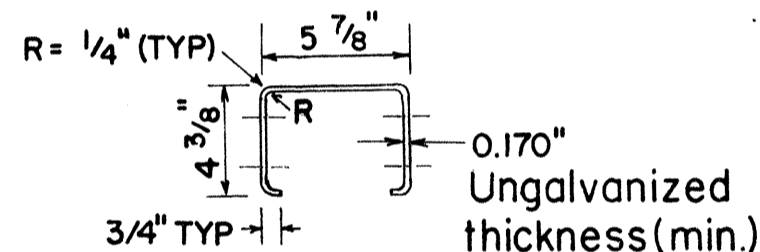


SIDE

FRONT

SECTION B-B

**BLOCK**

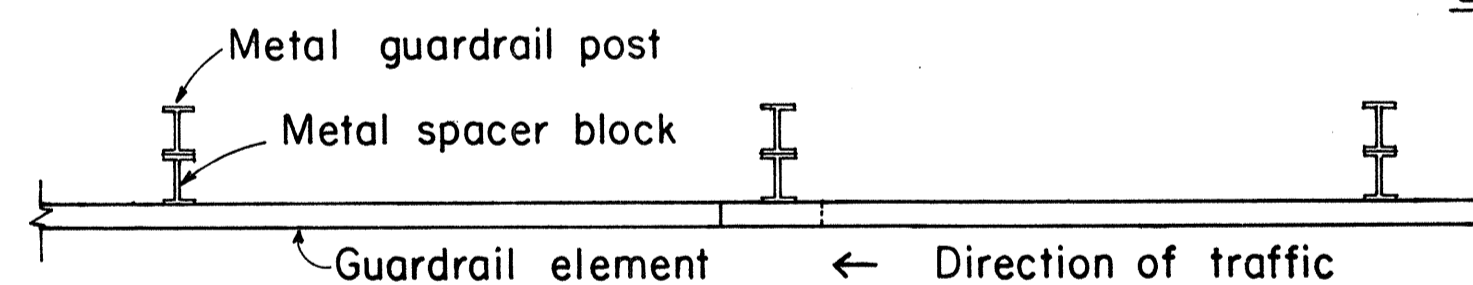


**SECTION A-A**

N.T.S.

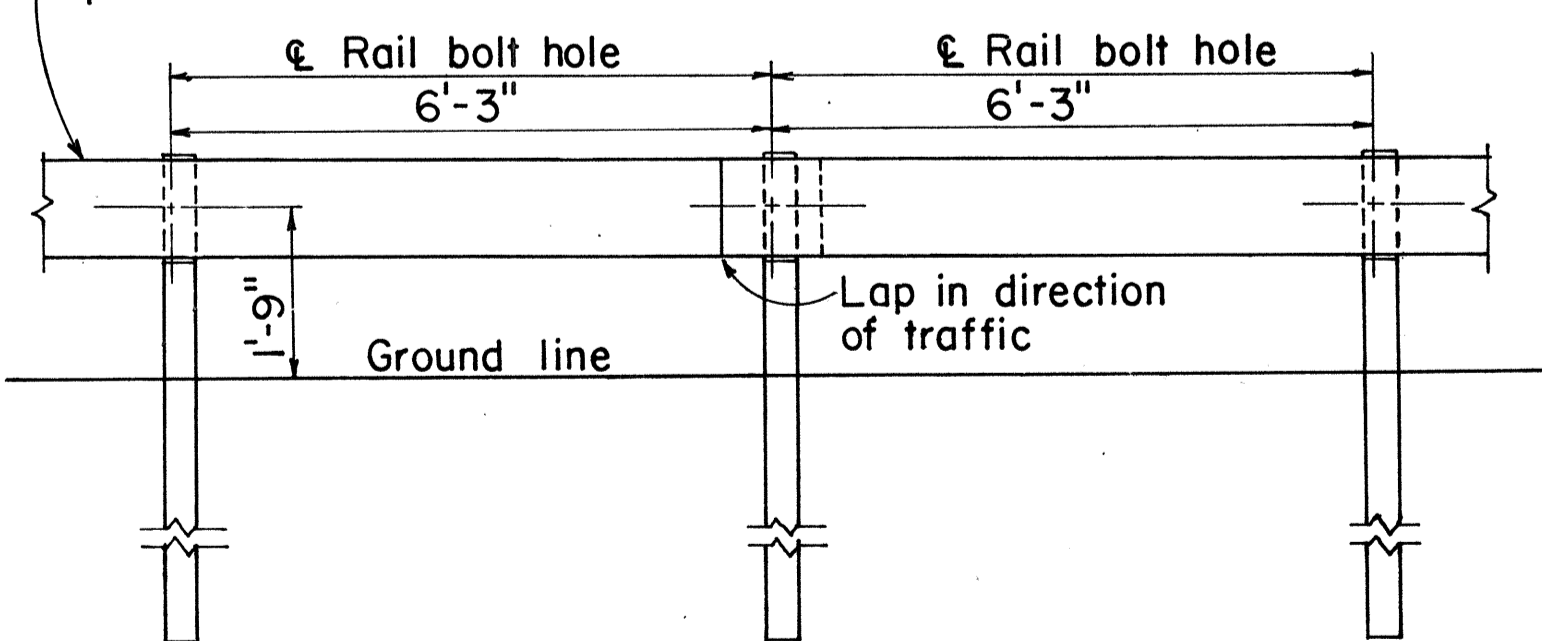
**BENT PLATE POST AND BLOCK**

SCALE: 1" = 1'-0"



**PLAN**

Use 12" long backup plate at posts where W-beam splice does not occur.



ELEVATION

**METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK**

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

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

APPROVAL RECOMMENDED:

*Eiichi Tanaka* 9/7/82  
TRAFFIC ENGINEER DATE

APPROVED:

*Hubert Palischi* 9/22/82  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 500 approved 12/30/69.	H.F.	9/22/82
2	Added General Notes No. 6	SDO	9-28-83

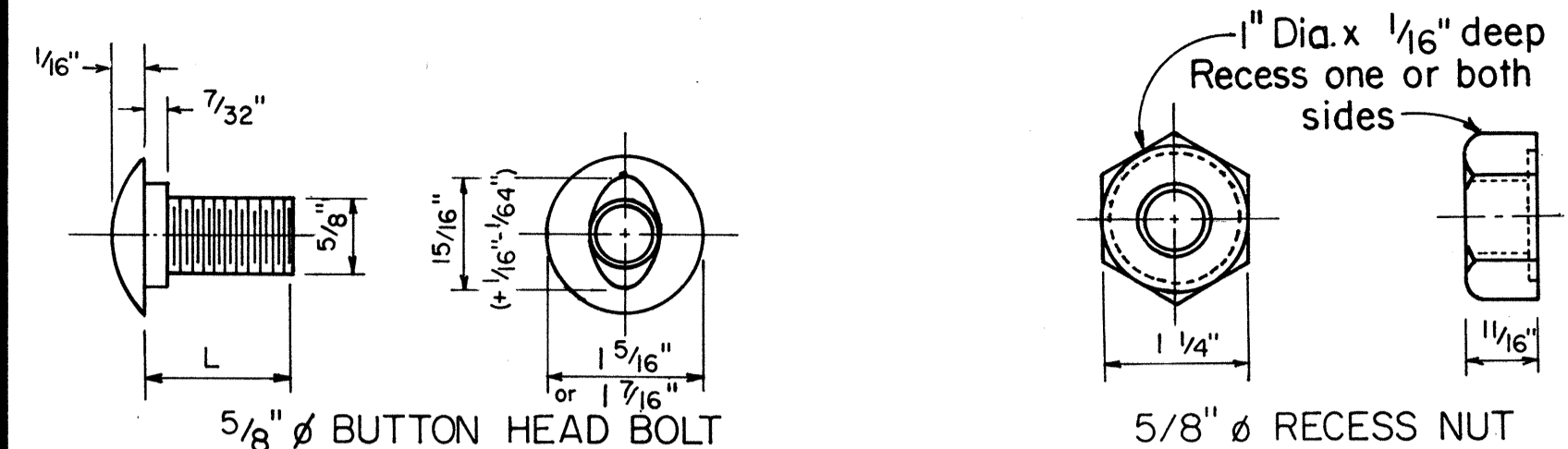
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**METAL GUARDRAIL**

Scale: As Shown July, 1982

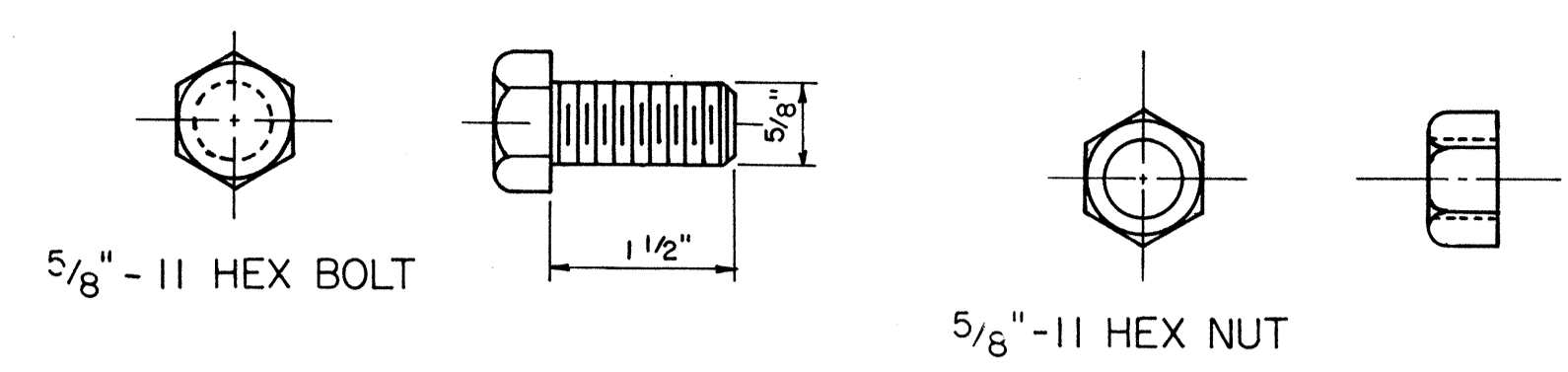
SHEET No. OF SHEETS DT 500

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1(16) F-063-1(17)	1984	150	156

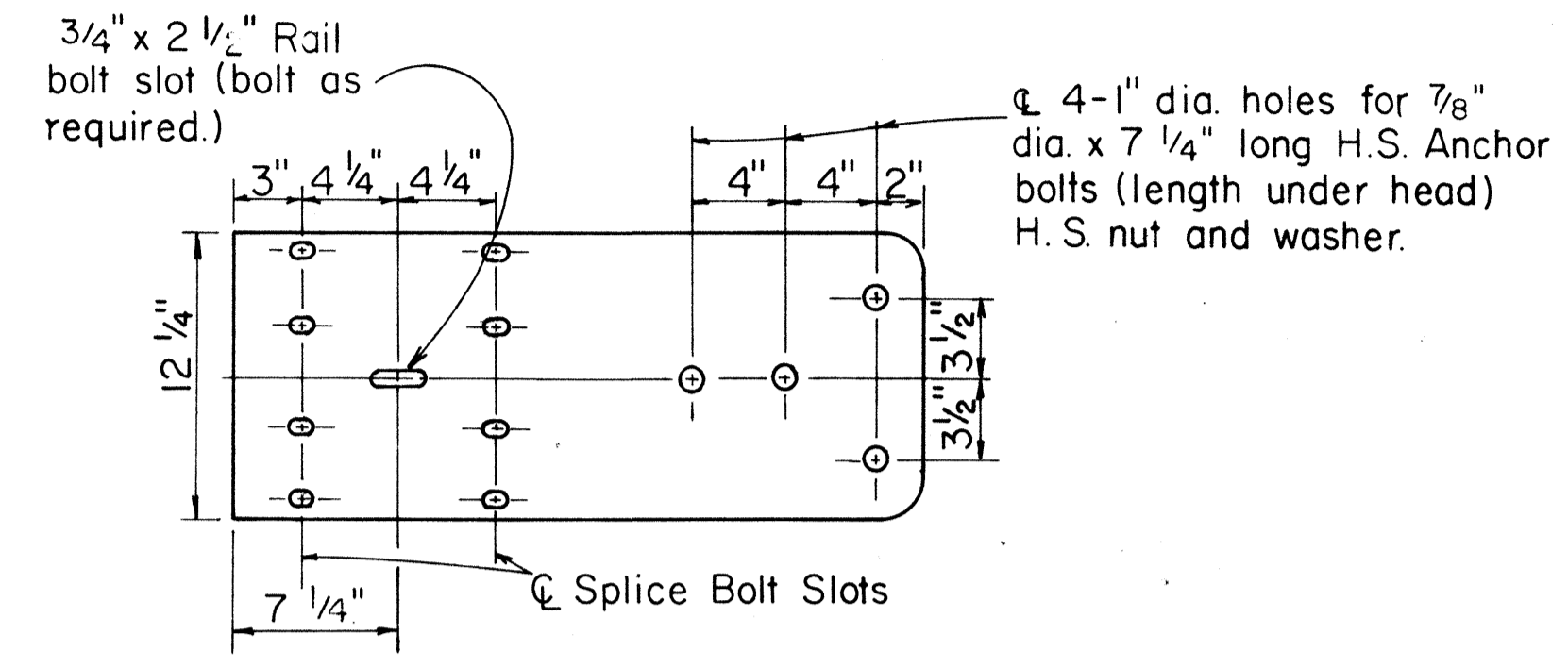
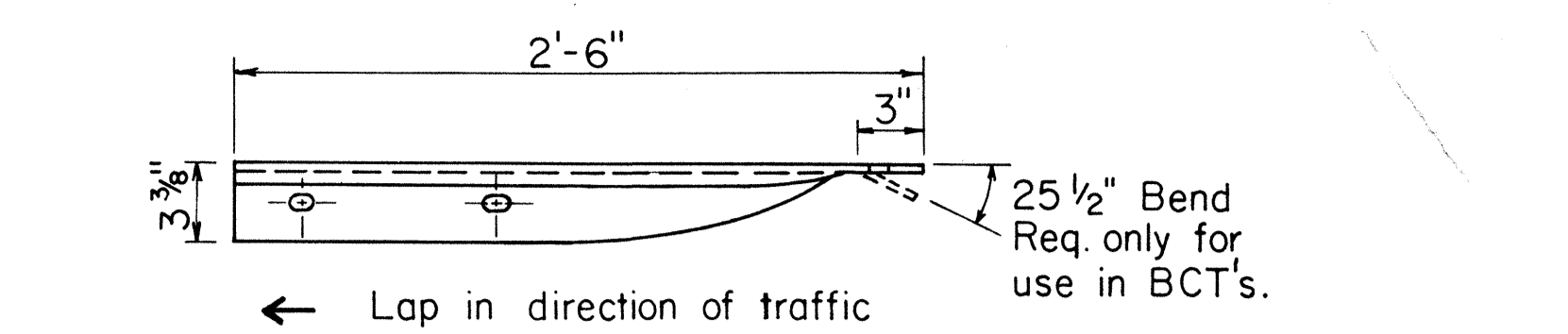


L	Thread Length	Intended Use
1 1/4"	Full length thread	Splice rail elements
2"	1/2" min. thread len.	Fasten rails to posts

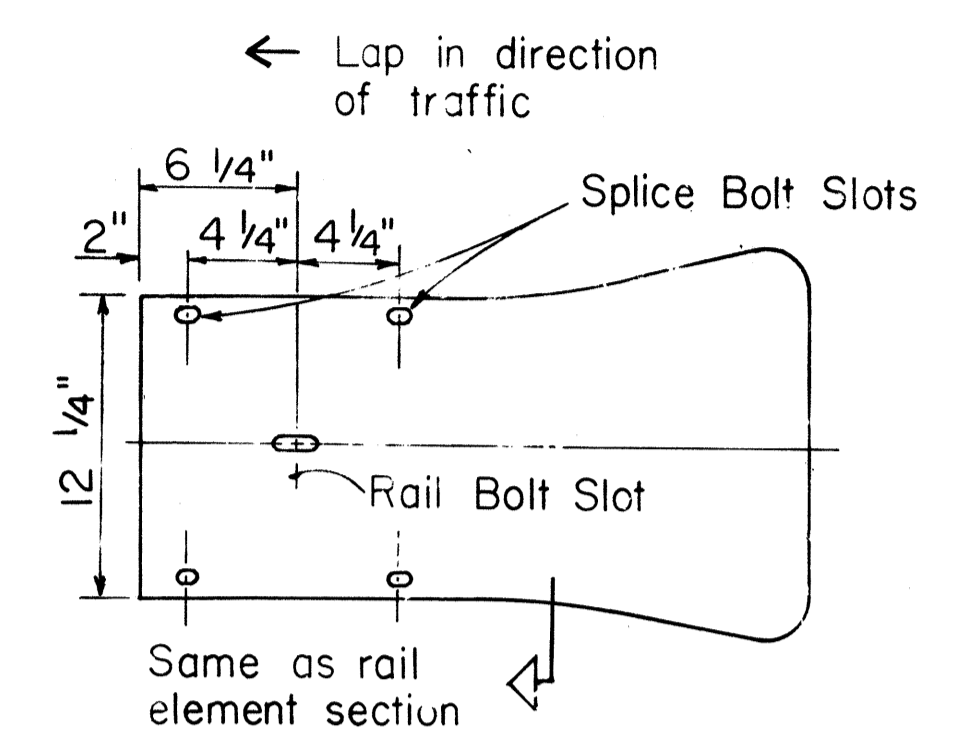
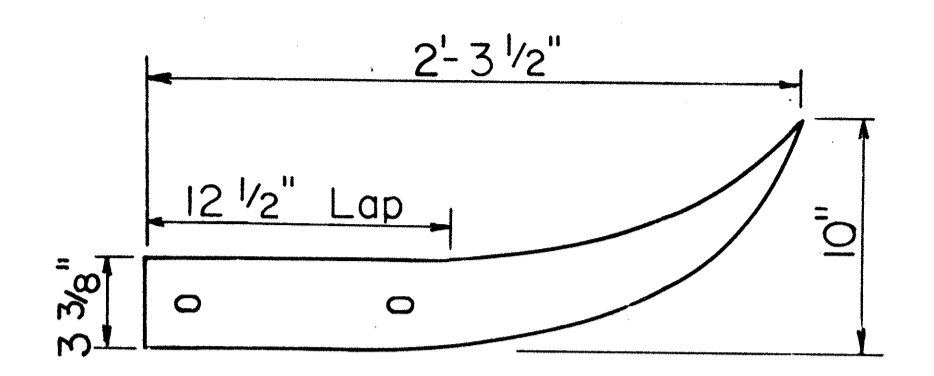
**5/8" BUTTON HEAD BOLT AND RECESS NUT**  
Scale: N.T.S.



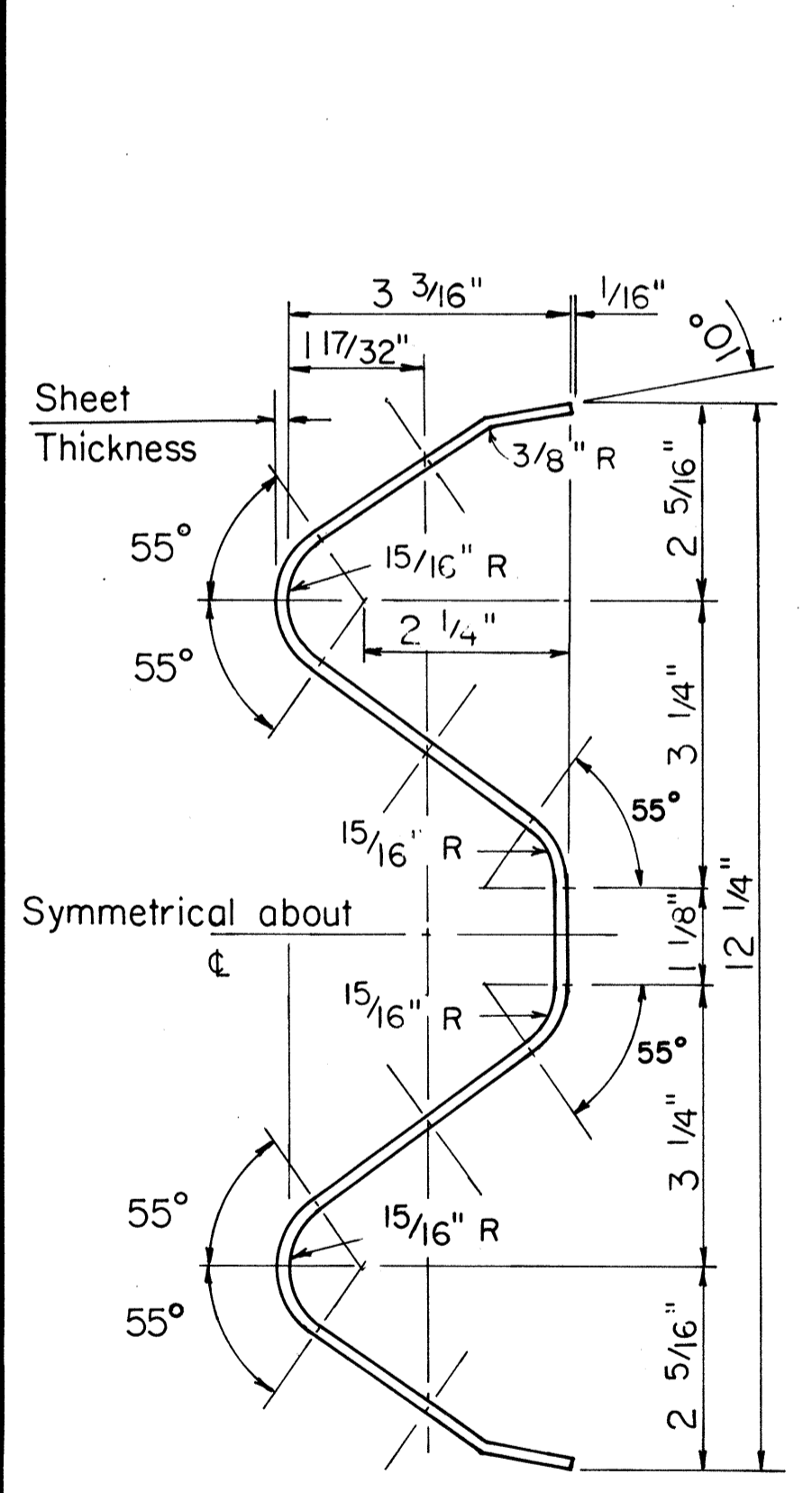
**5/8" HEX POST BOLT AND NUT**  
Scale: N.T.S.



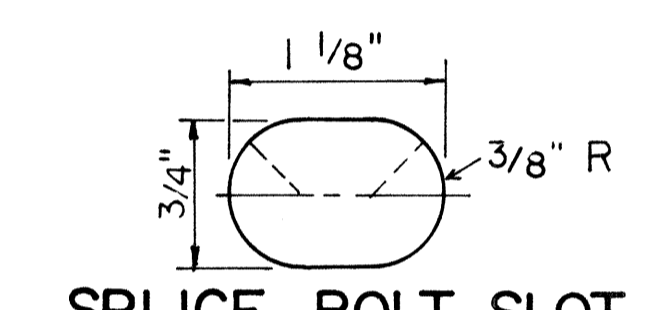
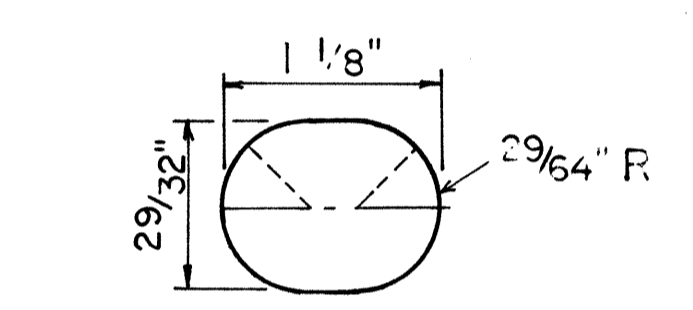
**W BEAM TERMINAL CONNECTOR**  
Scale: 1 1/2" = 1'-0"  
Lap in direction of traffic



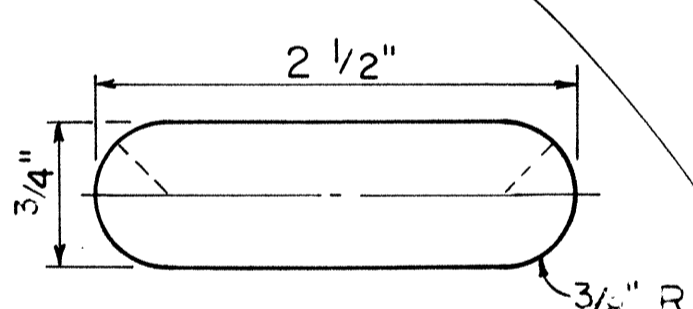
**W BEAM END SECTION (FLARED)**  
Scale: 1 1/2" = 1'-0"



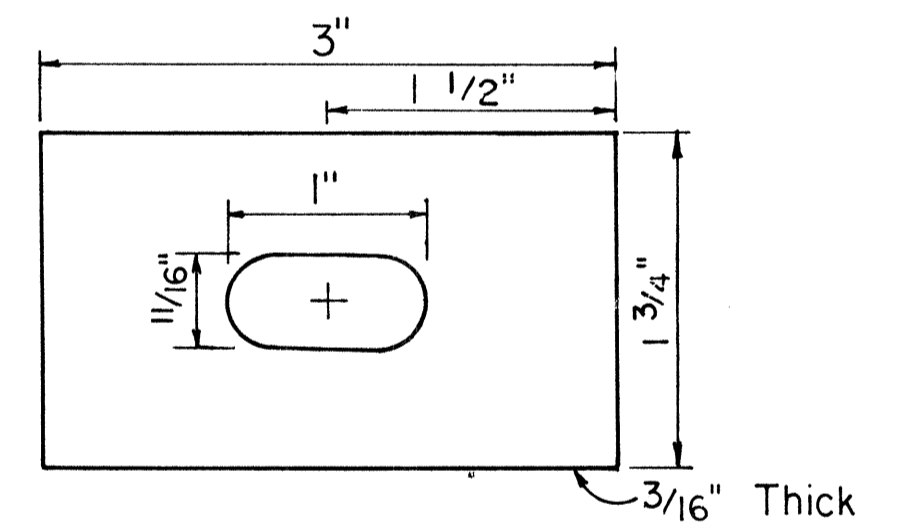
**RAIL ELEMENT SECTION**  
Scale: 6" = 1'-0"



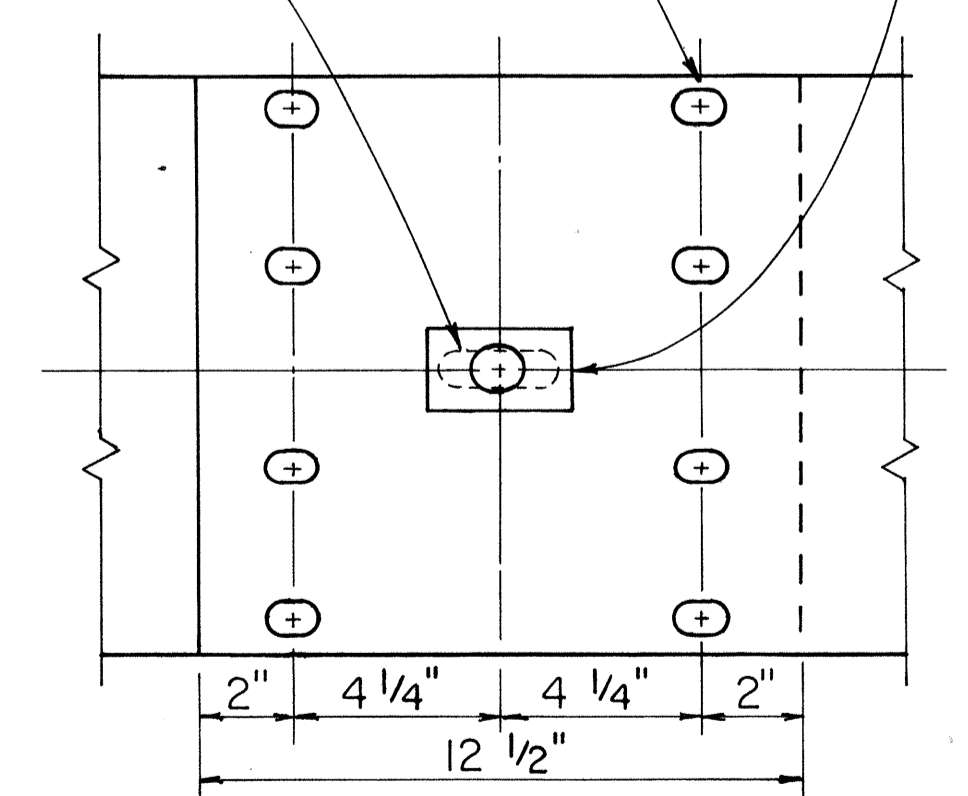
**SPLICE BOLT SLOT FOR ALL ENDS**  
Scale: Full Size



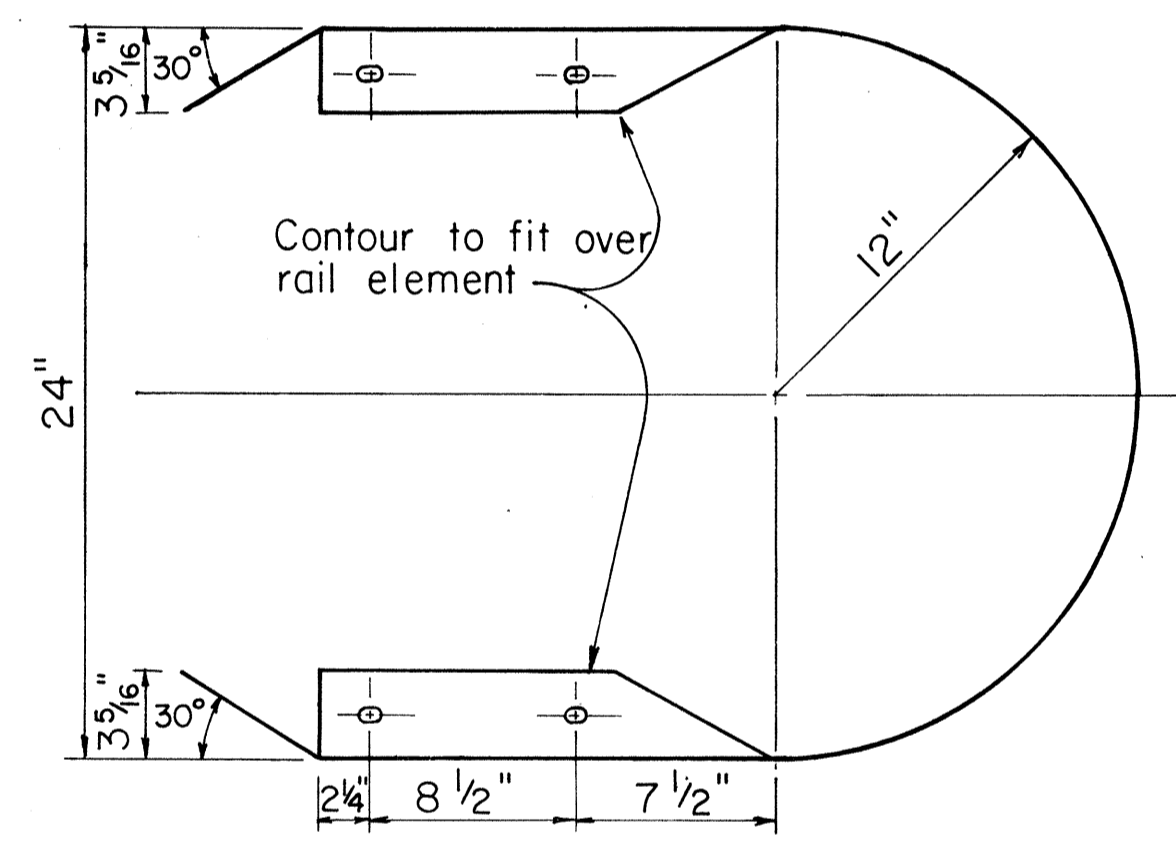
**RAIL BOLT SLOT**



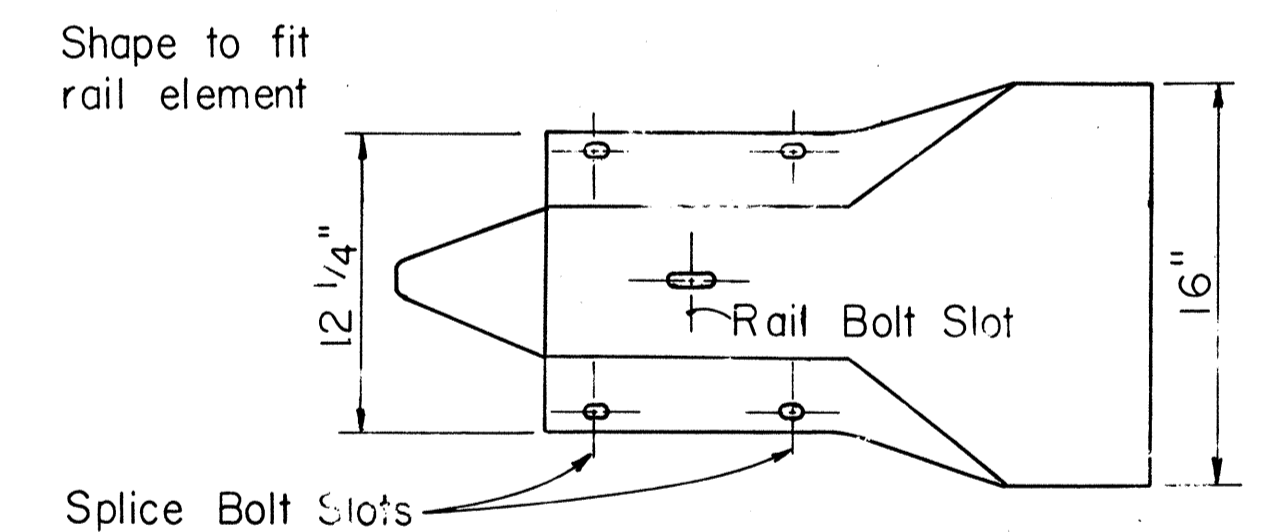
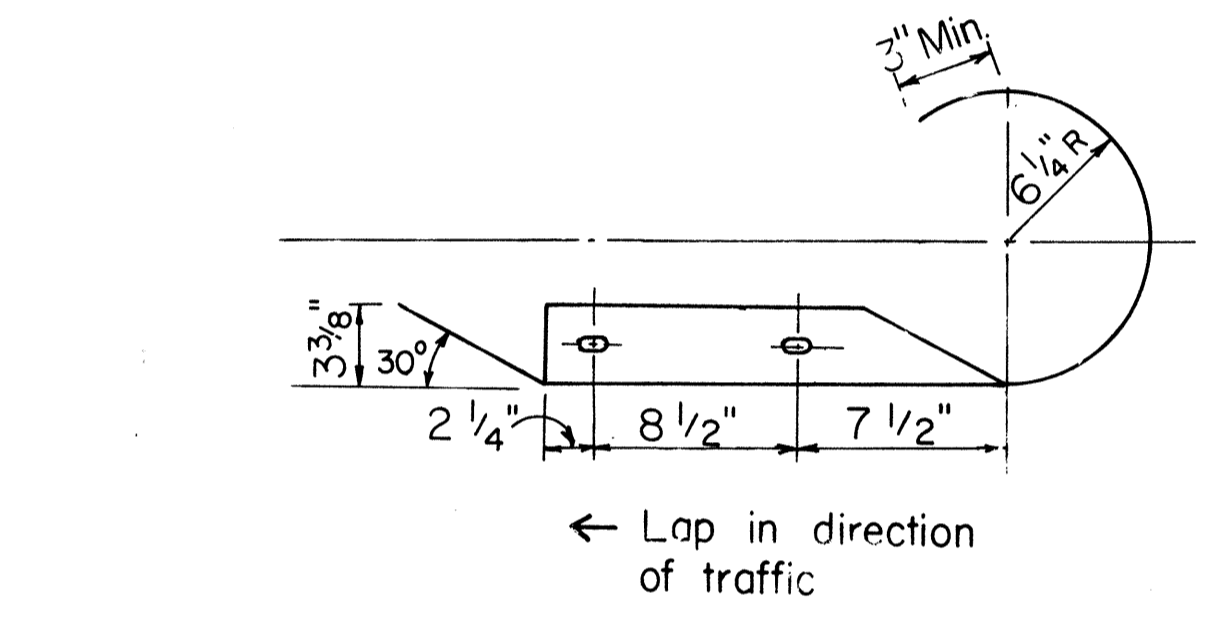
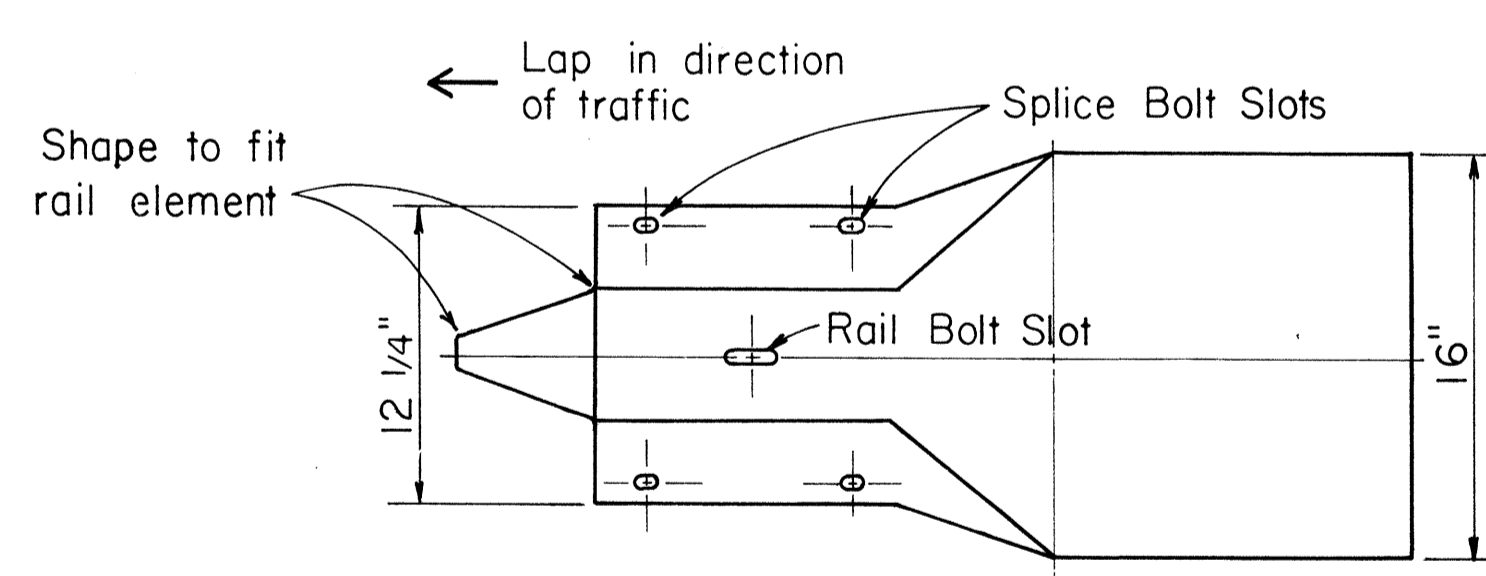
**RAIL BOLT WASHER**



**RAIL SPLICE**  
Scale: 3" = 1'-0"



**W BEAM END SECTION (BUFFER)**  
Scale: 1 1/2" = 1'-0"



**W BEAM END SECTION (ROUNDED)**  
Scale: 1 1/2" = 1'-0"

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 9/20/82  
TRAFFIC ENGINEER DATE

APPROVED:  
*Harold S. ...* 9/22/82  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 501 approved 12/30/69	H.f.	9/22/82

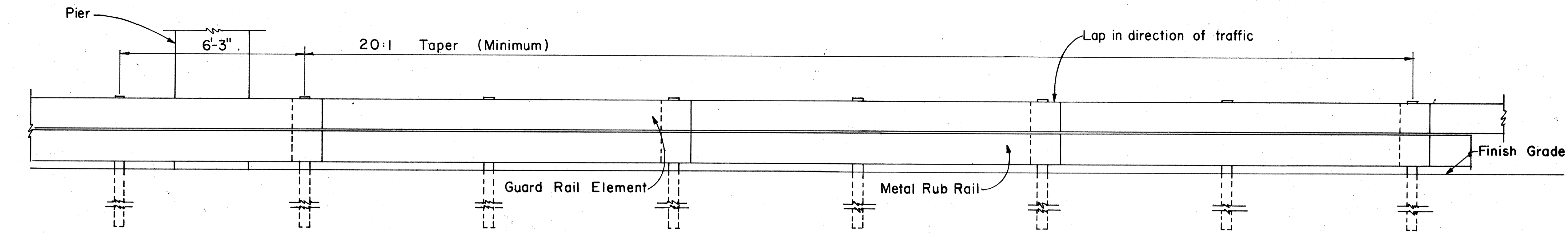
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**METAL GUARDRAIL**

Scale: As Noted July, 1982  
SHEET NO. OF SHEETS DT 501

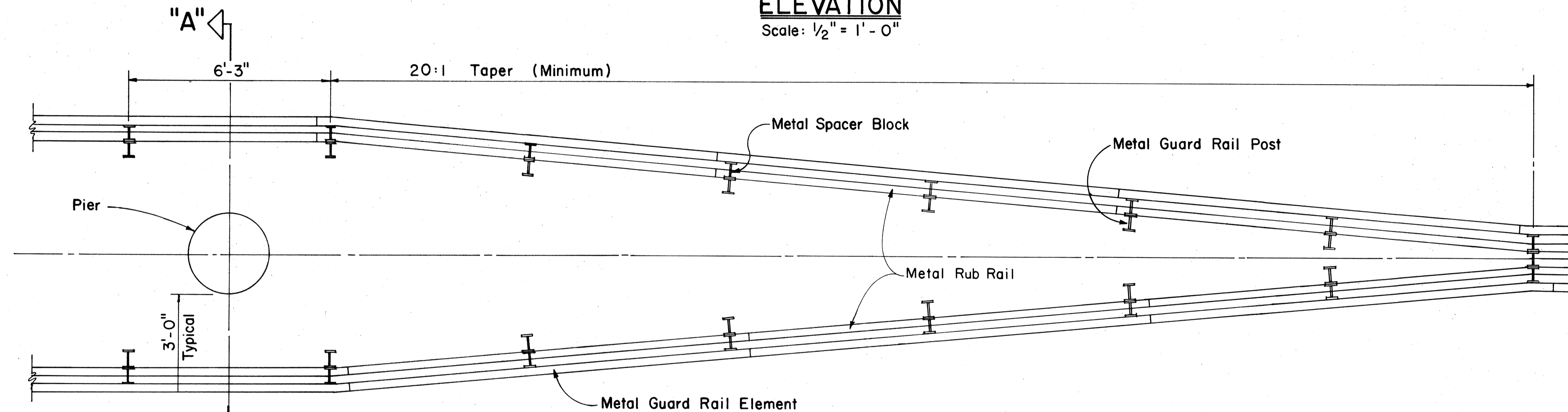
DATE: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
ORIGINAL PLAN: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	151	156



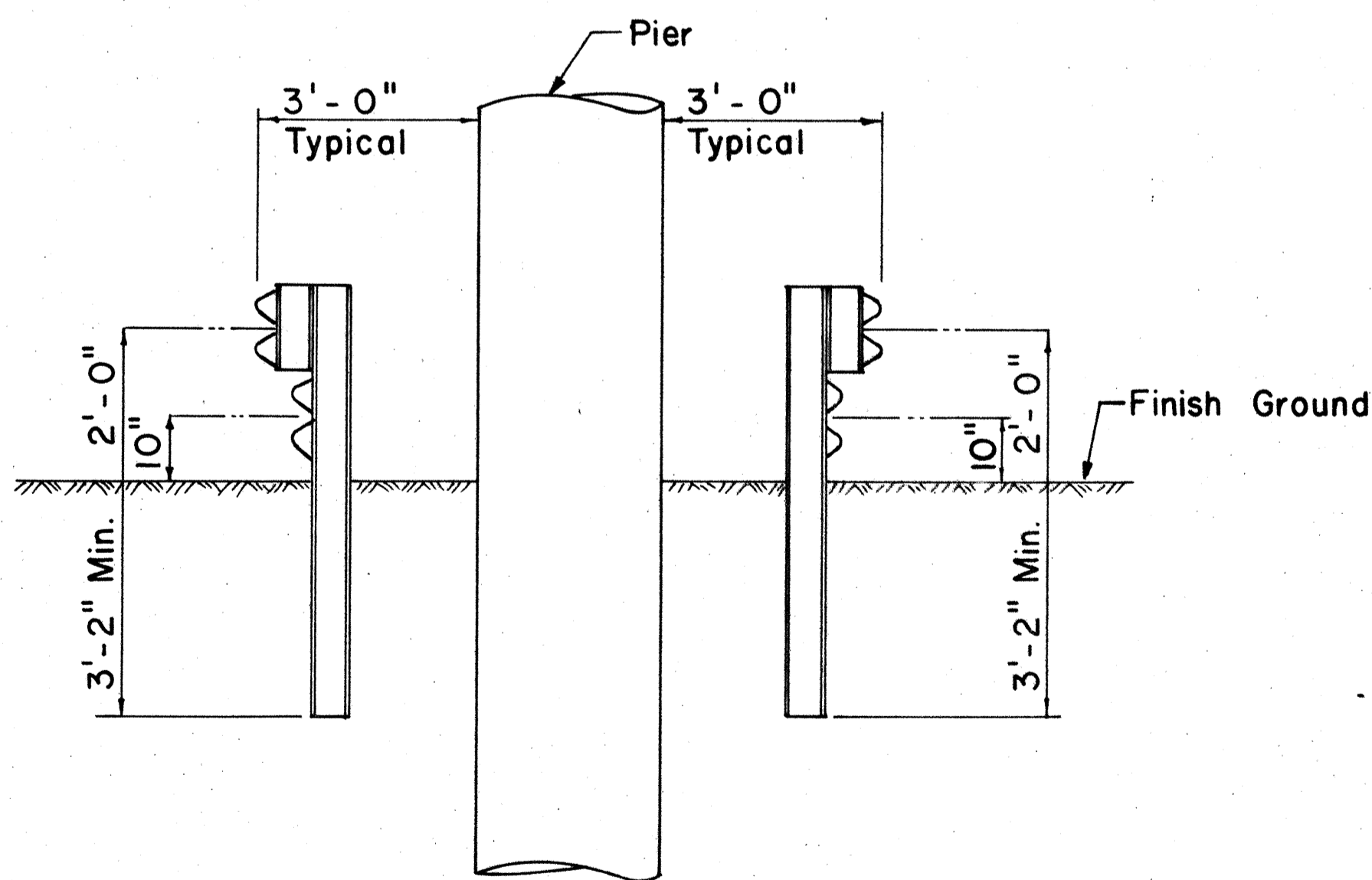
**ELEVATION**

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



**PLAN**

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



**SECTION "A" - "A"**

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

APPROVAL RECOMMENDED:

*Eishi Tanaka* 9/7/82  
TRAFFIC ENGINEER DATE

APPROVED:

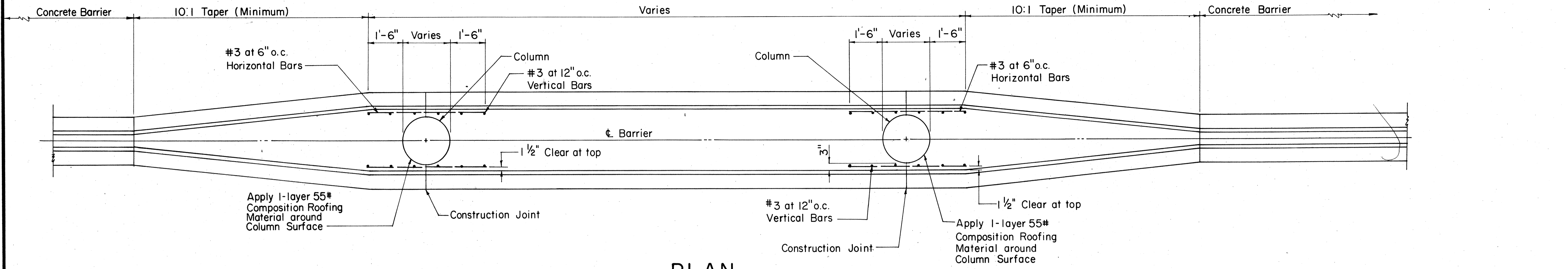
*Hubert Sakai* 9/21/82  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 505 approved 12/30/69.	H.P.	9/21/82

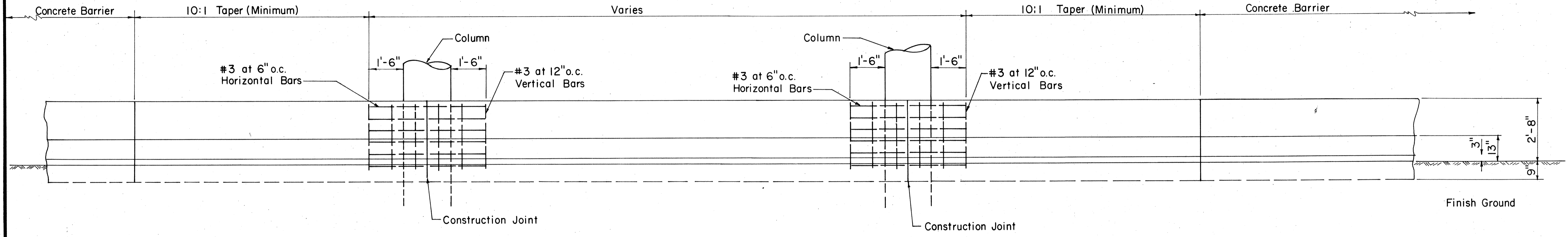
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
**METAL GUARDRAIL**  
**WITH RUBRAIL AT**  
**OBSTRUCTION**  
Scale: As Shown  
SHEET No. OF SHEETS DT505

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

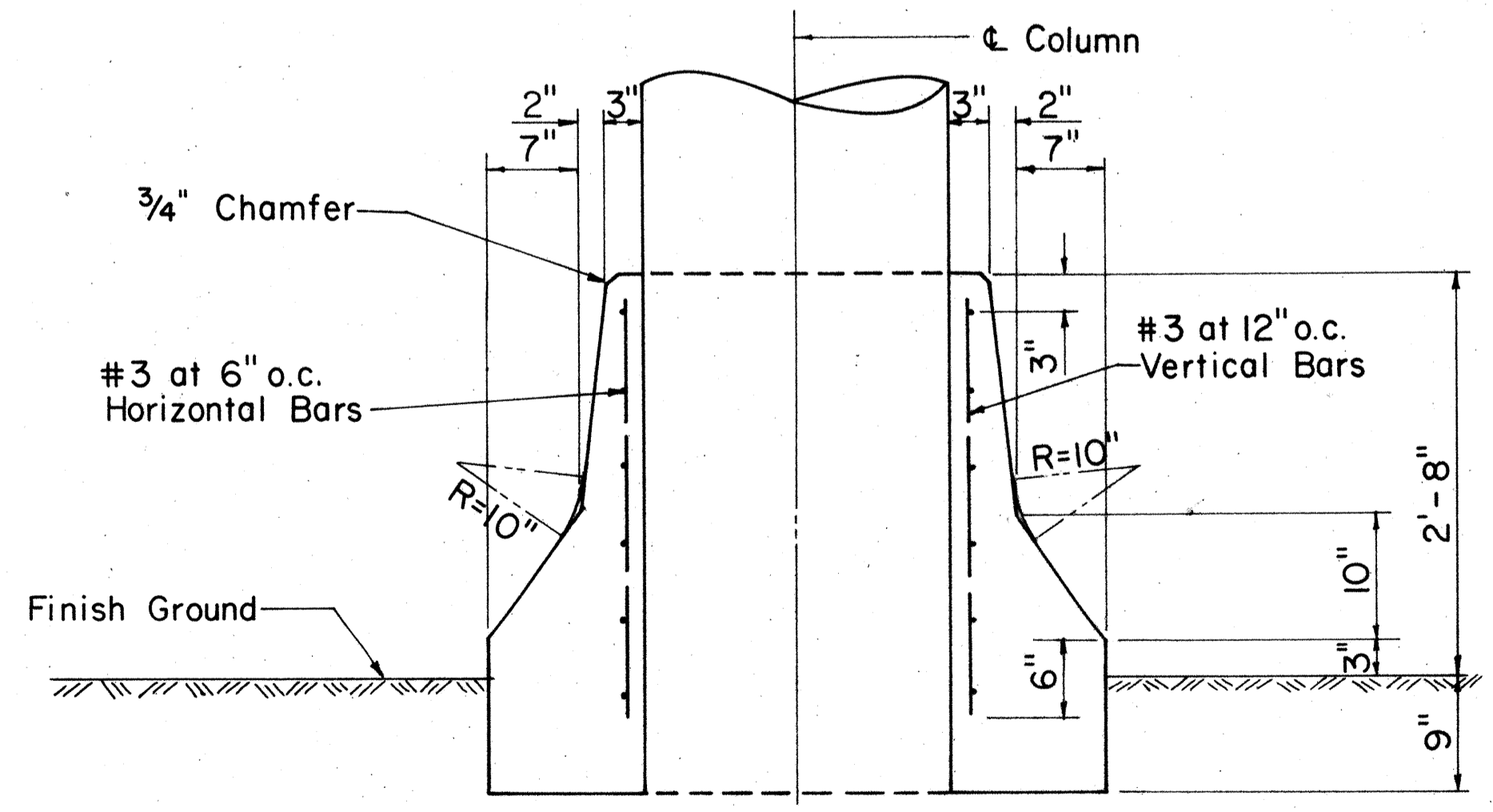
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	152	156



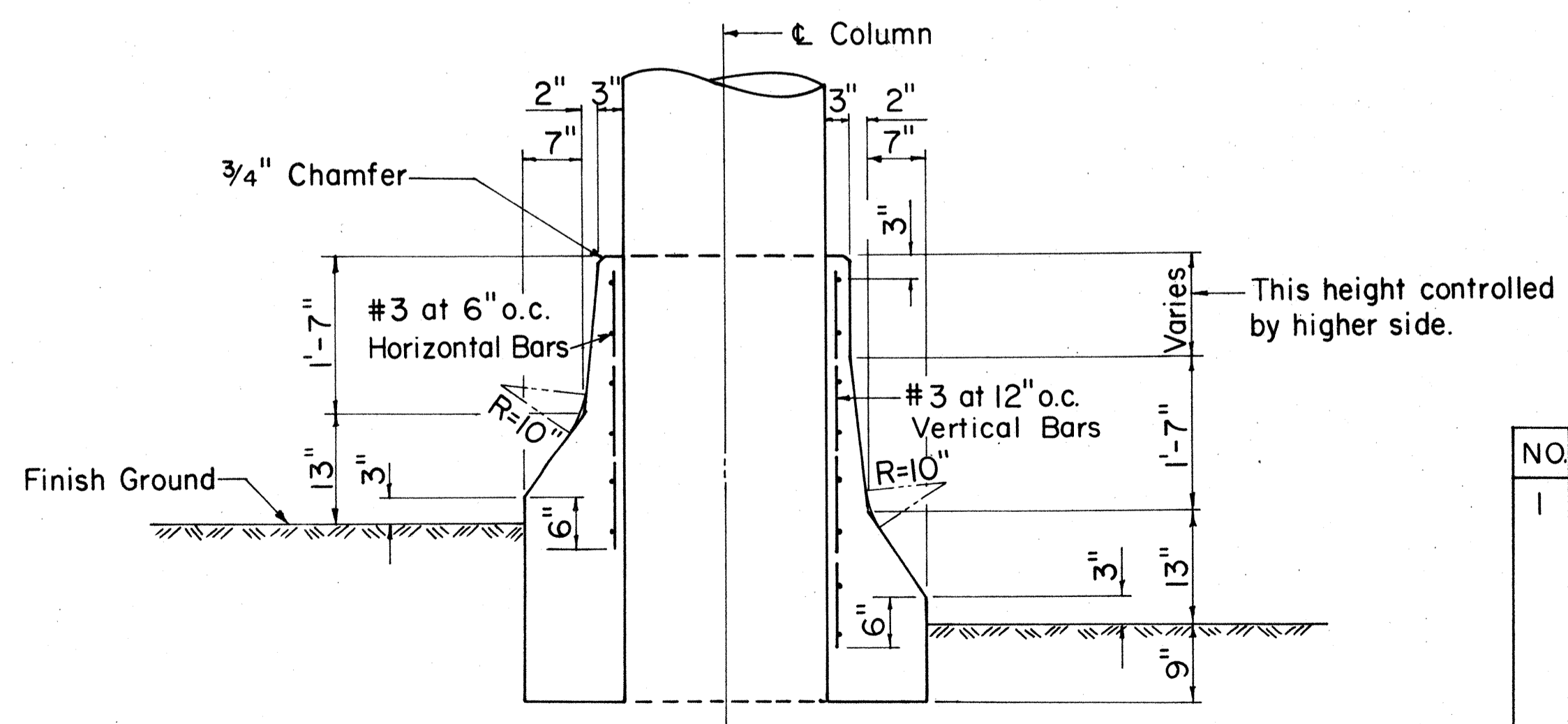
**PLAN**  
Scale: 1/2"=1'-0"



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



**TYPICAL SECTION AT TANGENT**  
Scale: 1"=1'-0"



**TYPICAL SECTION AT SUPER**  
Scale: 3/4"=1'-0"

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

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 9/7/82  
TRAFFIC ENGINEER DATE

APPROVED:  
*Herbert Sakemitsu* 9/22/82  
ASSISTANT CHIEF, ENGINEERING DATE

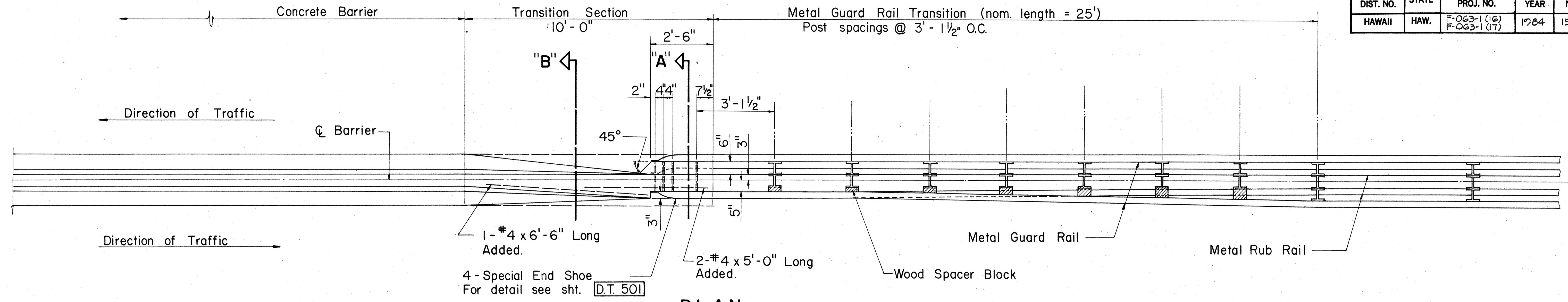
NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 512 approved 12/30/69.	H.C.	9/22/82

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

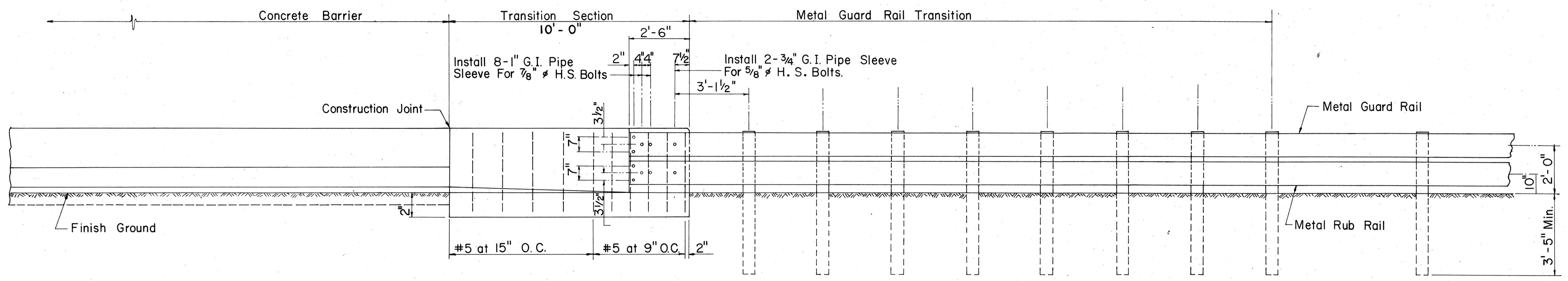
**STANDARD DETAILS**  
**CONCRETE BARRIER**  
**TRANSITION**

Scale as noted

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	153	156

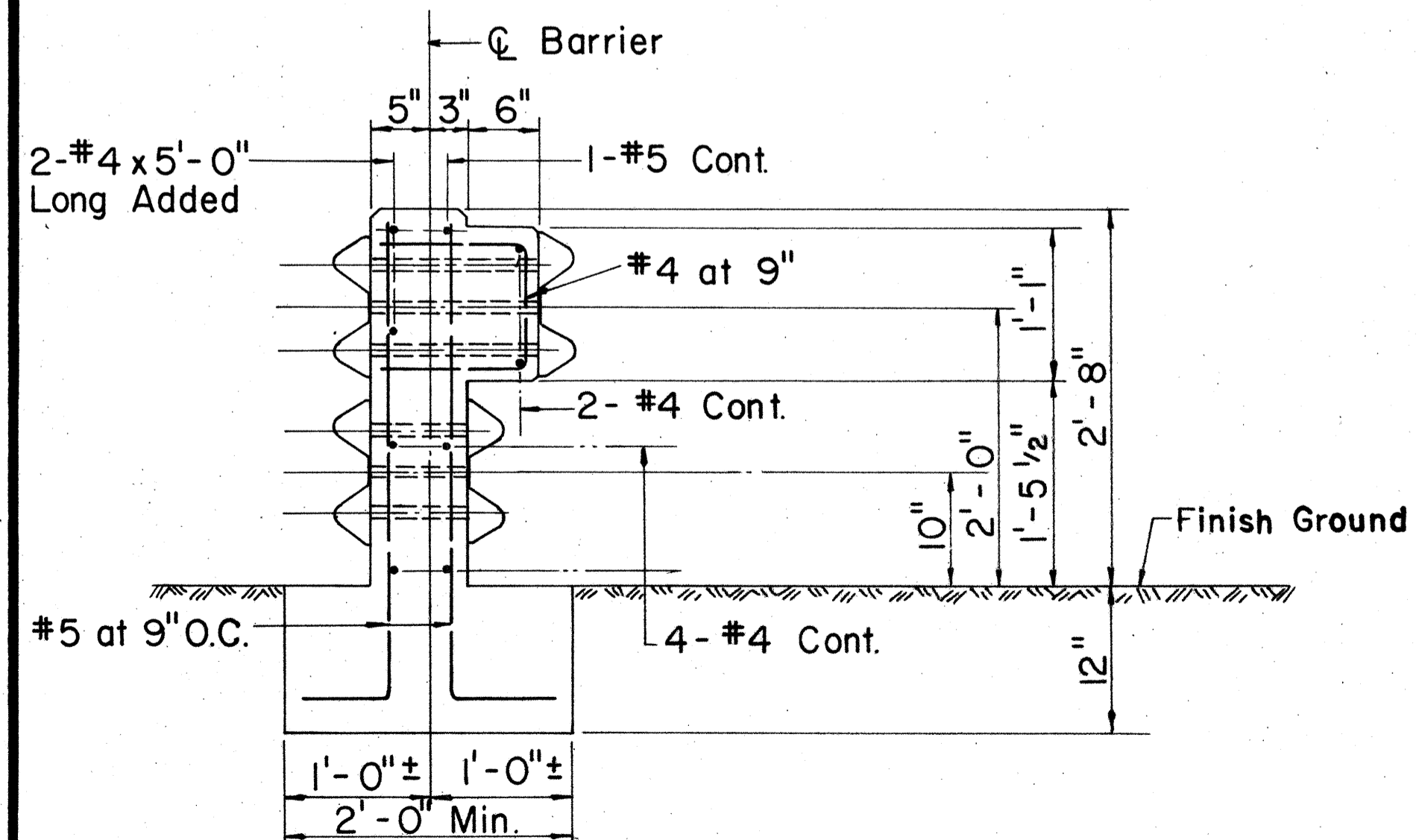


**PLAN**  
Scale: 1/2" = 1'-0"

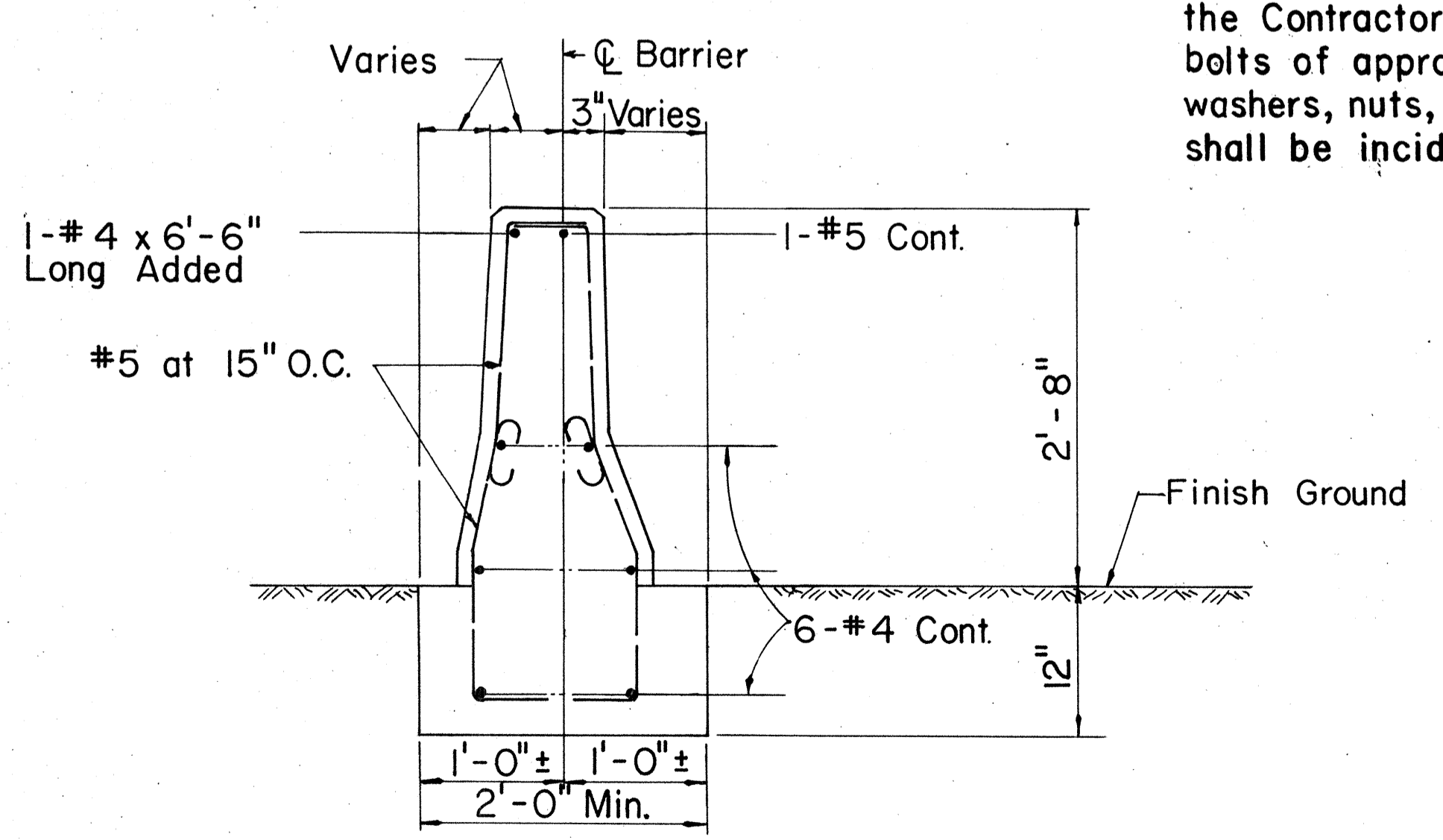


**ELEVATION**  
Scale: 1/2" = 1'-0"

**NOTE:**  
For anchoring metal guard rail elements to concrete barrier, the Contractor shall furnish and install reinforcing steel, bolts of appropriate lengths and size with appurtenant washers, nuts, wooden blocks and pipe sleeves. (Payments shall be incidental to concrete barrier.)



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



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

SURVEY PLOTTED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 ORIGINAL PLAN: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 No. \_\_\_\_\_

APPROVAL RECOMMENDED:  
*Etschi Tanaka* 9/28/83  
 TRAFFIC ENGINEER DATE

APPROVED:  
*P. Ojijama* 9-29-83  
 ASSISTANT CHIEF, ENGINEERING DATE

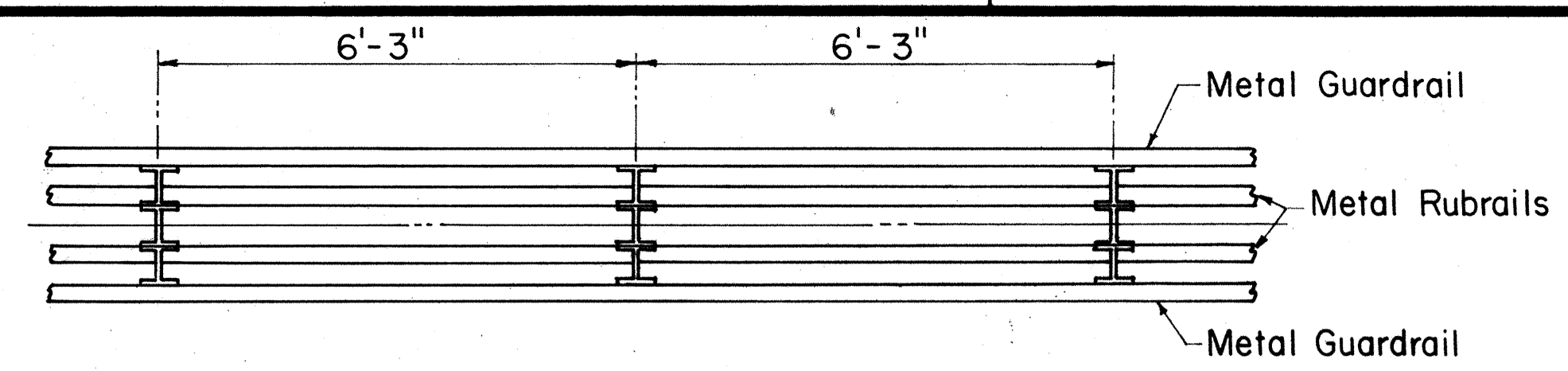
NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 513 approved 12/30/69	<i>[Signature]</i>	9-29-83

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

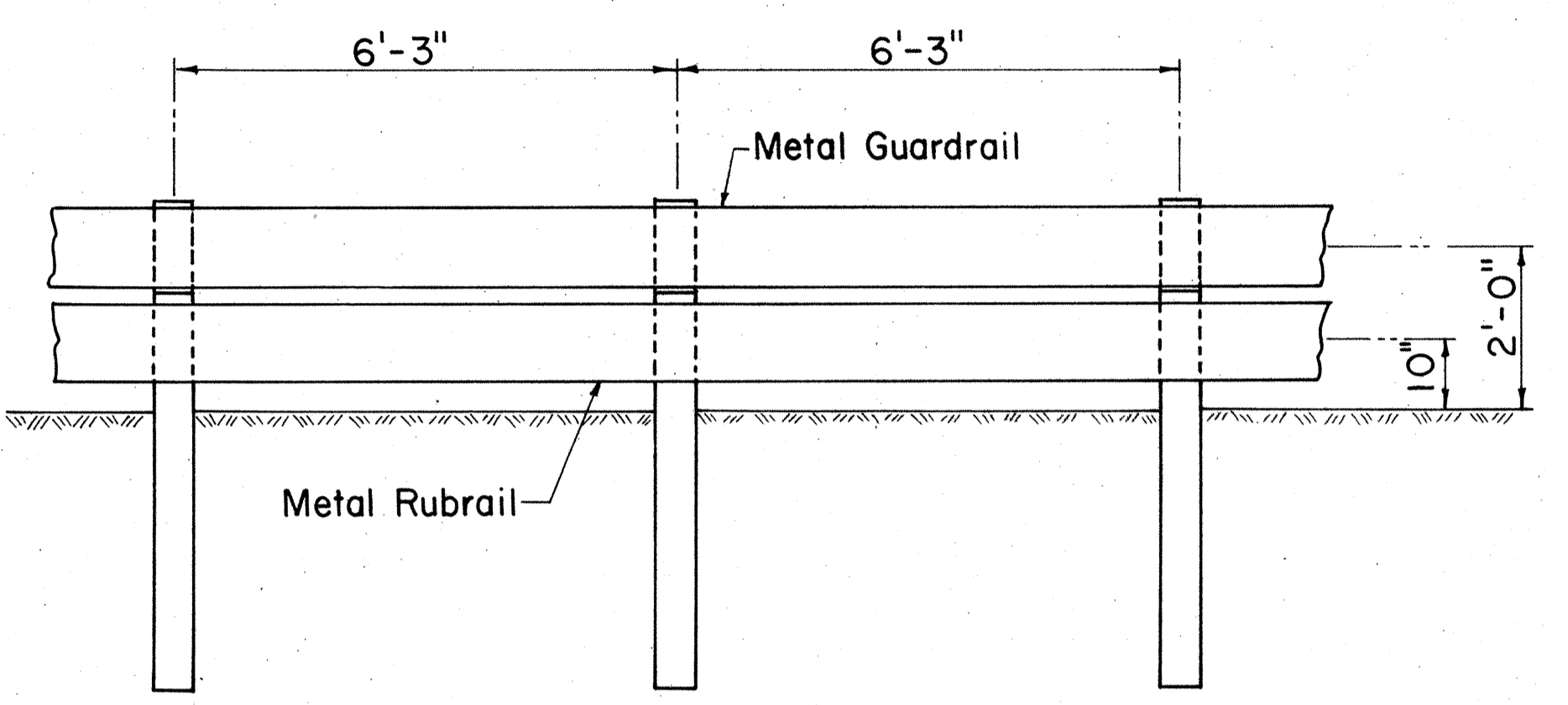
**STANDARD DETAIL  
 METAL GUARD RAIL  
 CONNECTION TO  
 CONCRETE BARRIER**

Scale As Noted  
 SHEET No. OF SHEETS DT 513

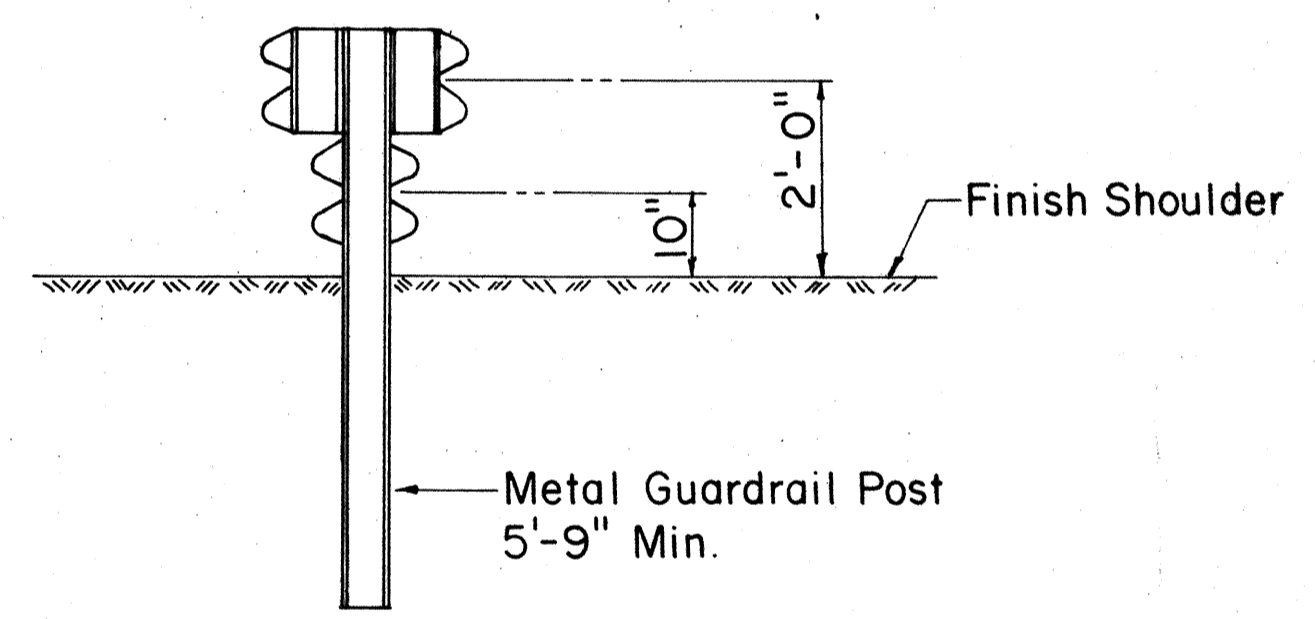
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-1 (16) F-063-1 (17)	1984	154	156



PLAN

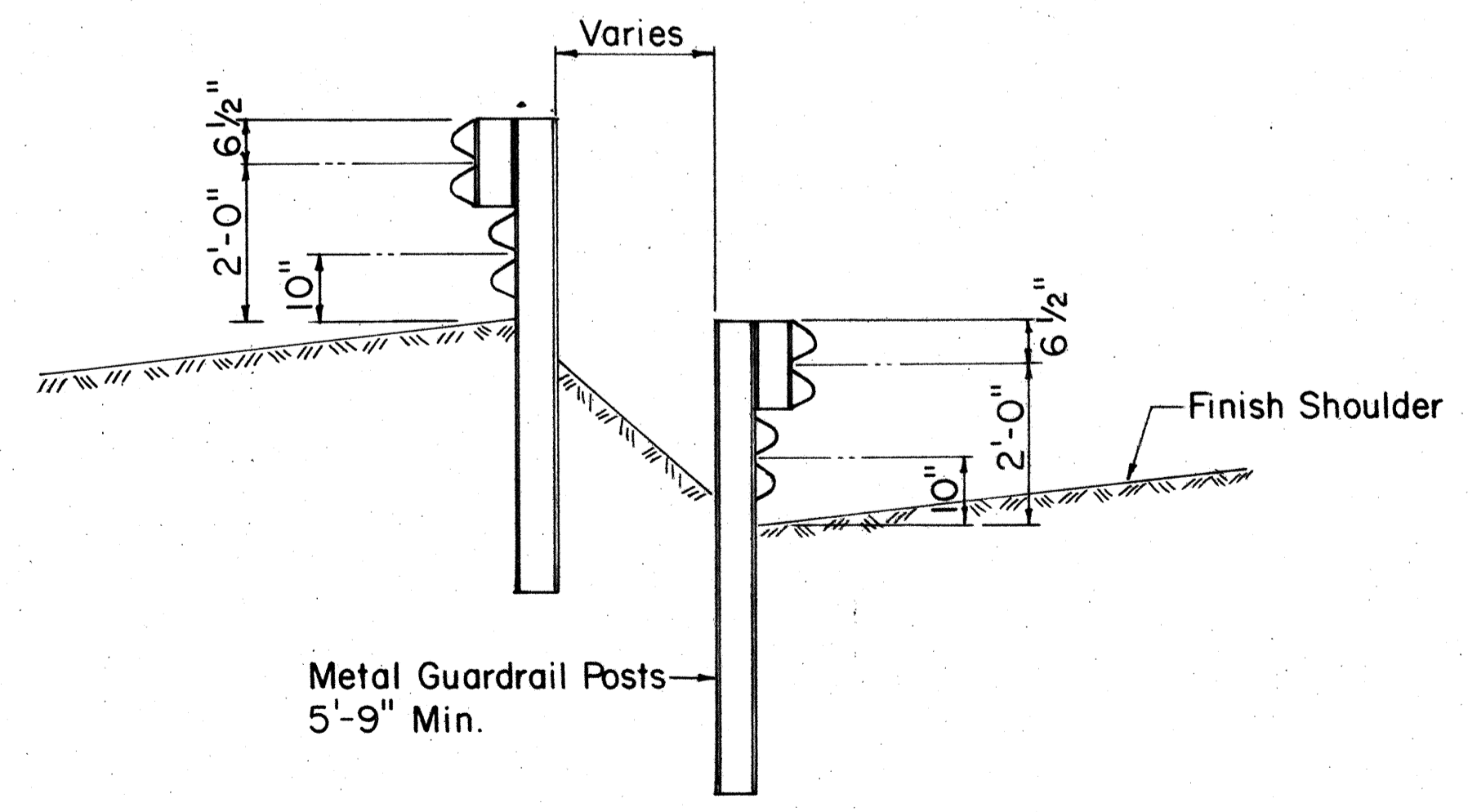


ELEVATION

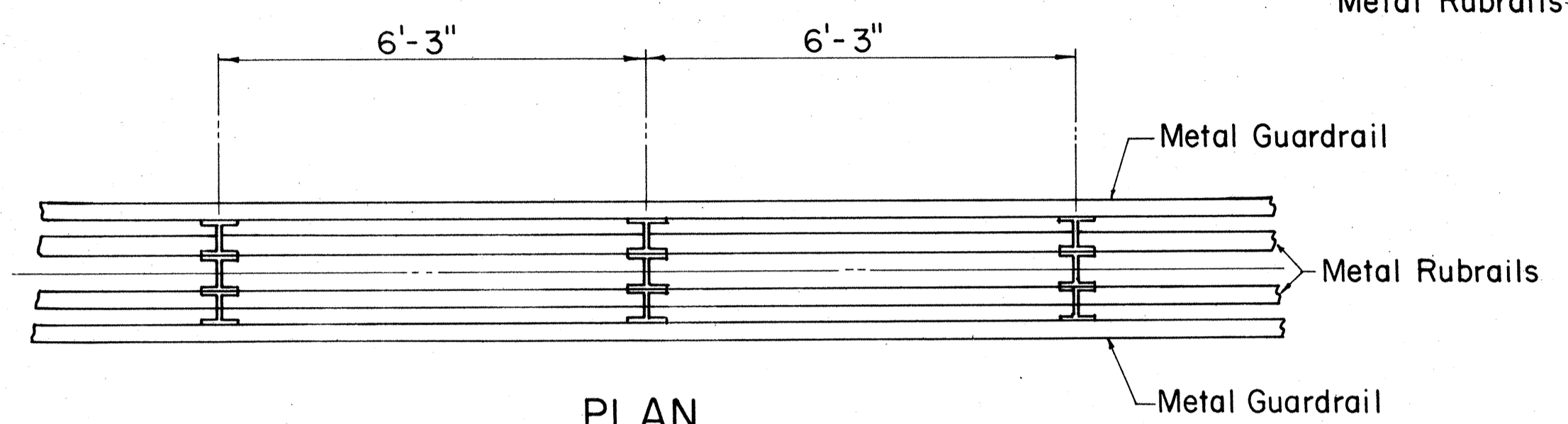


SECTION

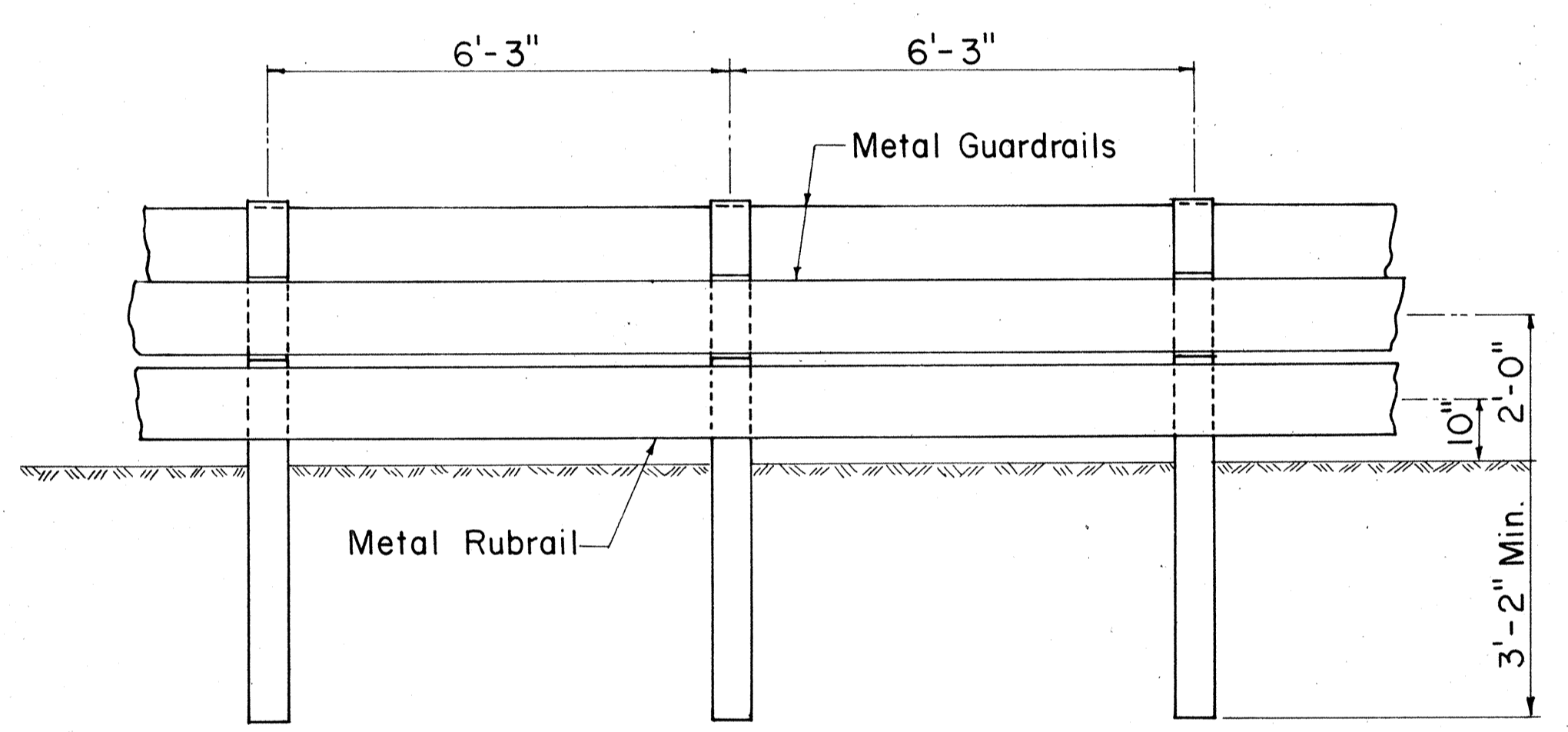
TYPICAL MEDIAN BARRIER INSTALLATION



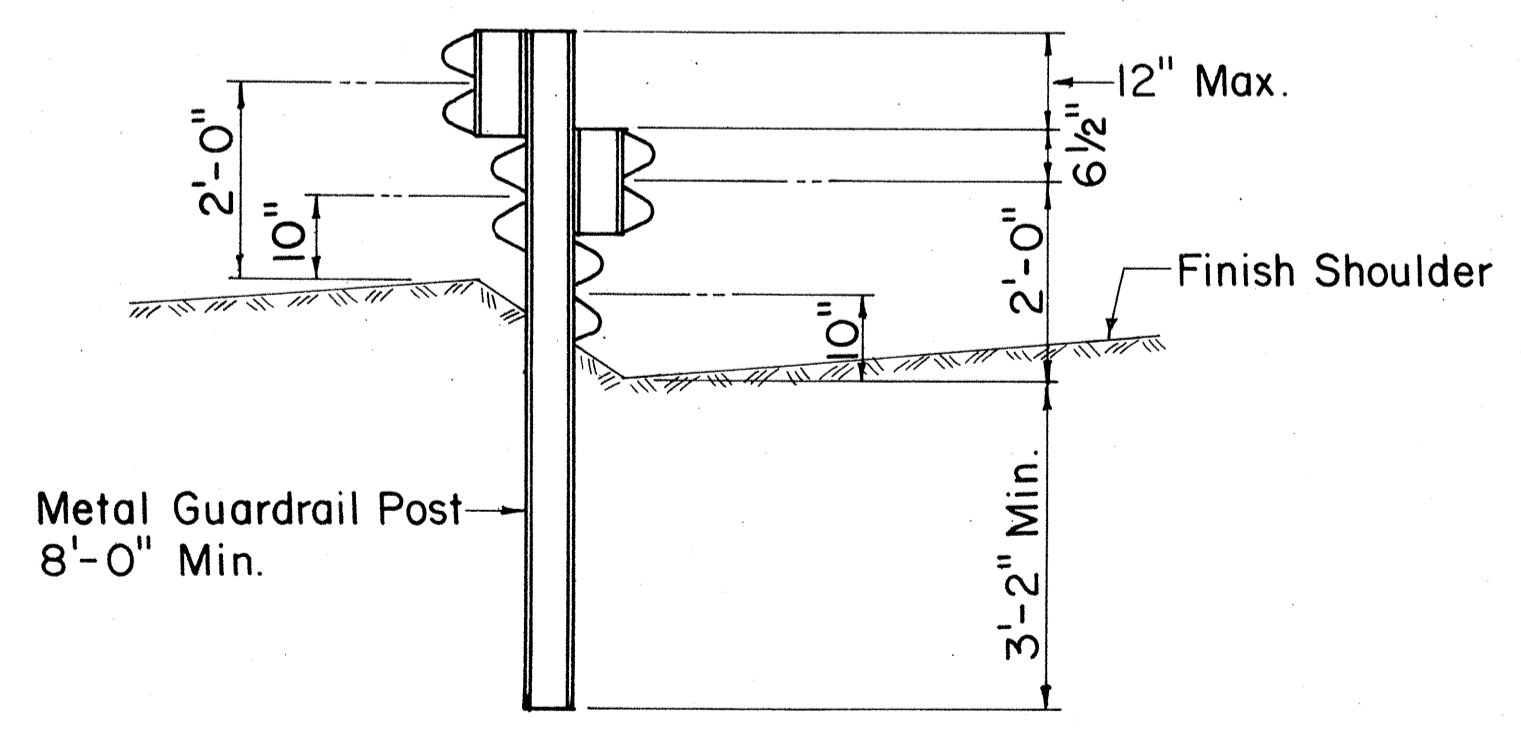
TYPICAL DOUBLE POST SECTION



PLAN

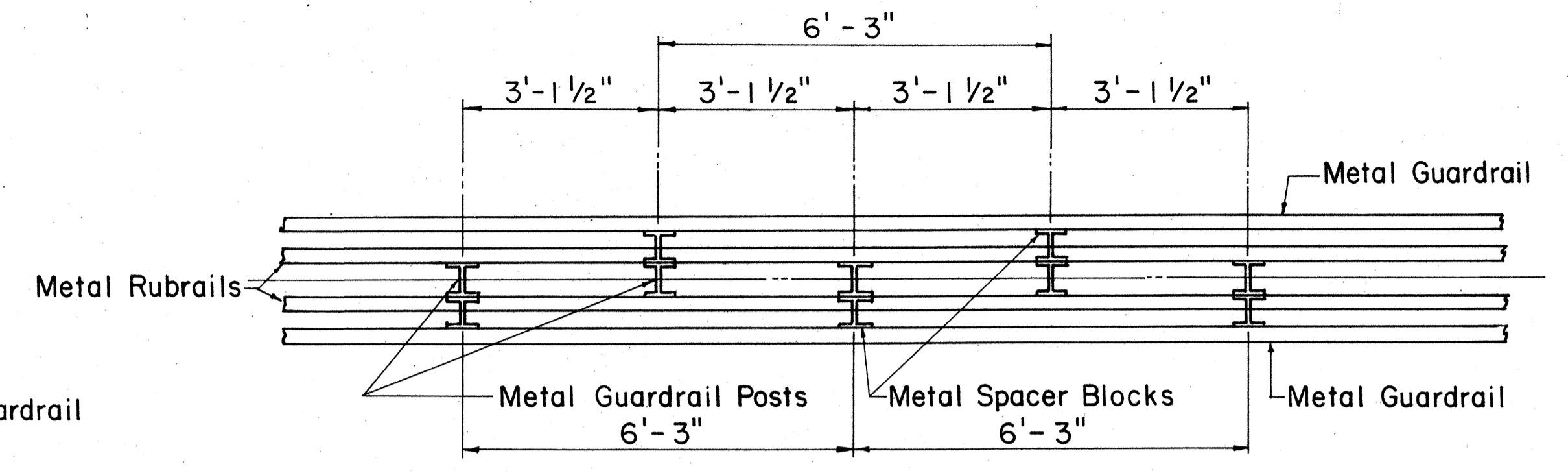


ELEVATION

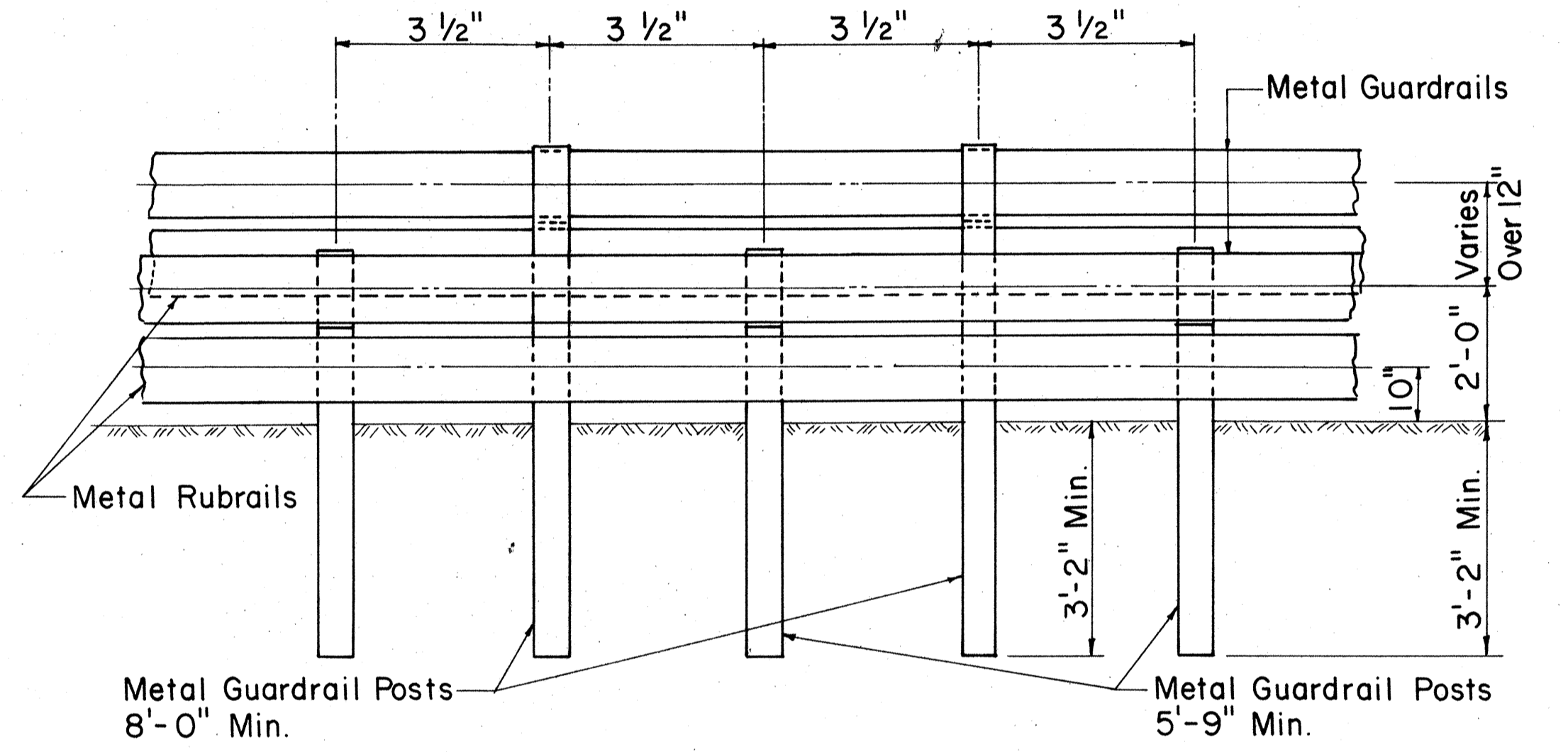


SECTION

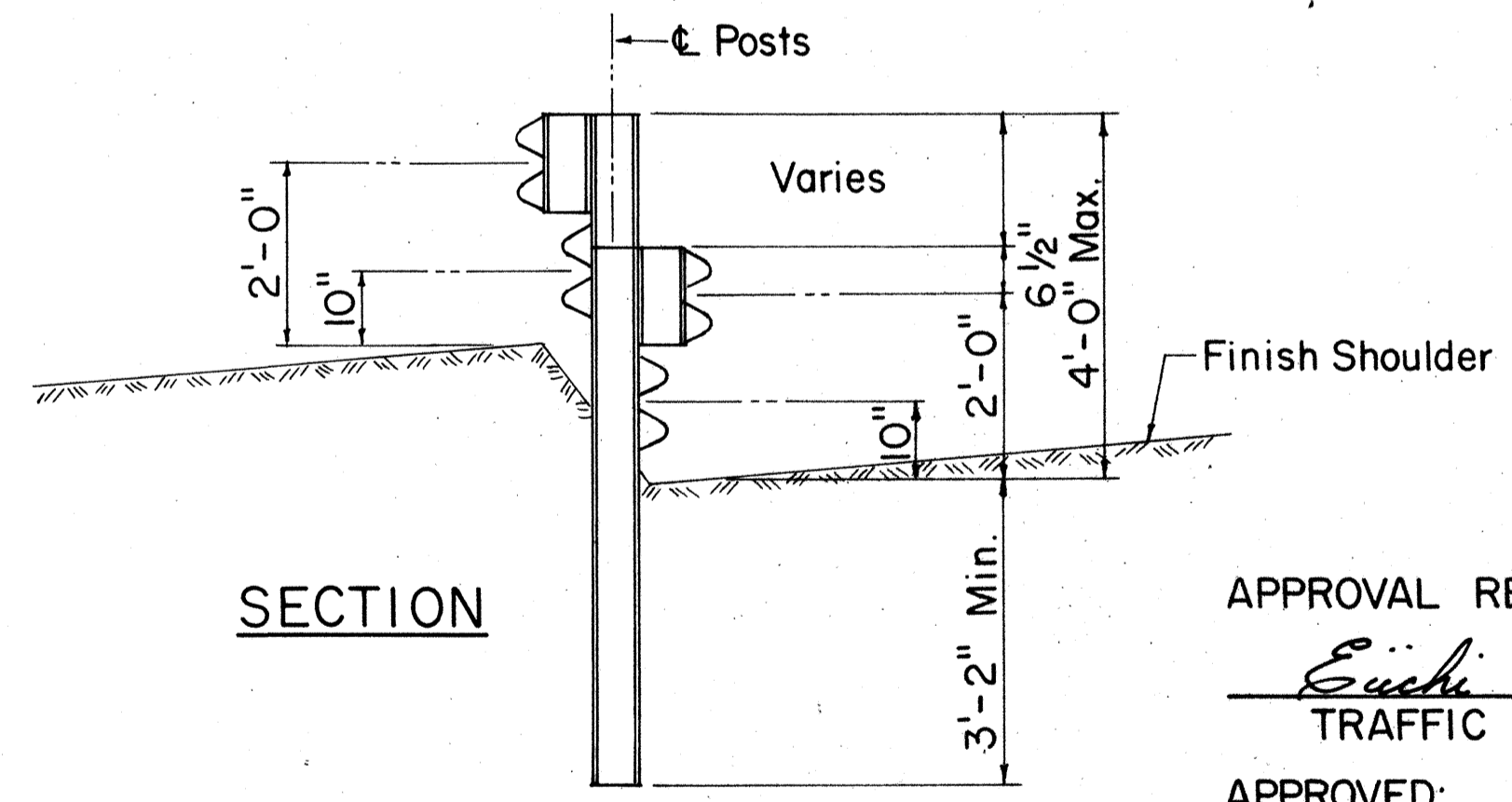
TYPICAL SAW TOOTH INSTALLATION



PLAN



ELEVATION



SECTION

TYPICAL STAGGERED INSTALLATION

APPROVAL RECOMMENDED:  
*Euchi Tanaka*  
TRAFFIC ENGINEER  
DATE: 1/28/83

APPROVED:  
*J. Fujiyama*  
ASSISTANT CHIEF, ENGINEERING  
DATE: 1-31-83

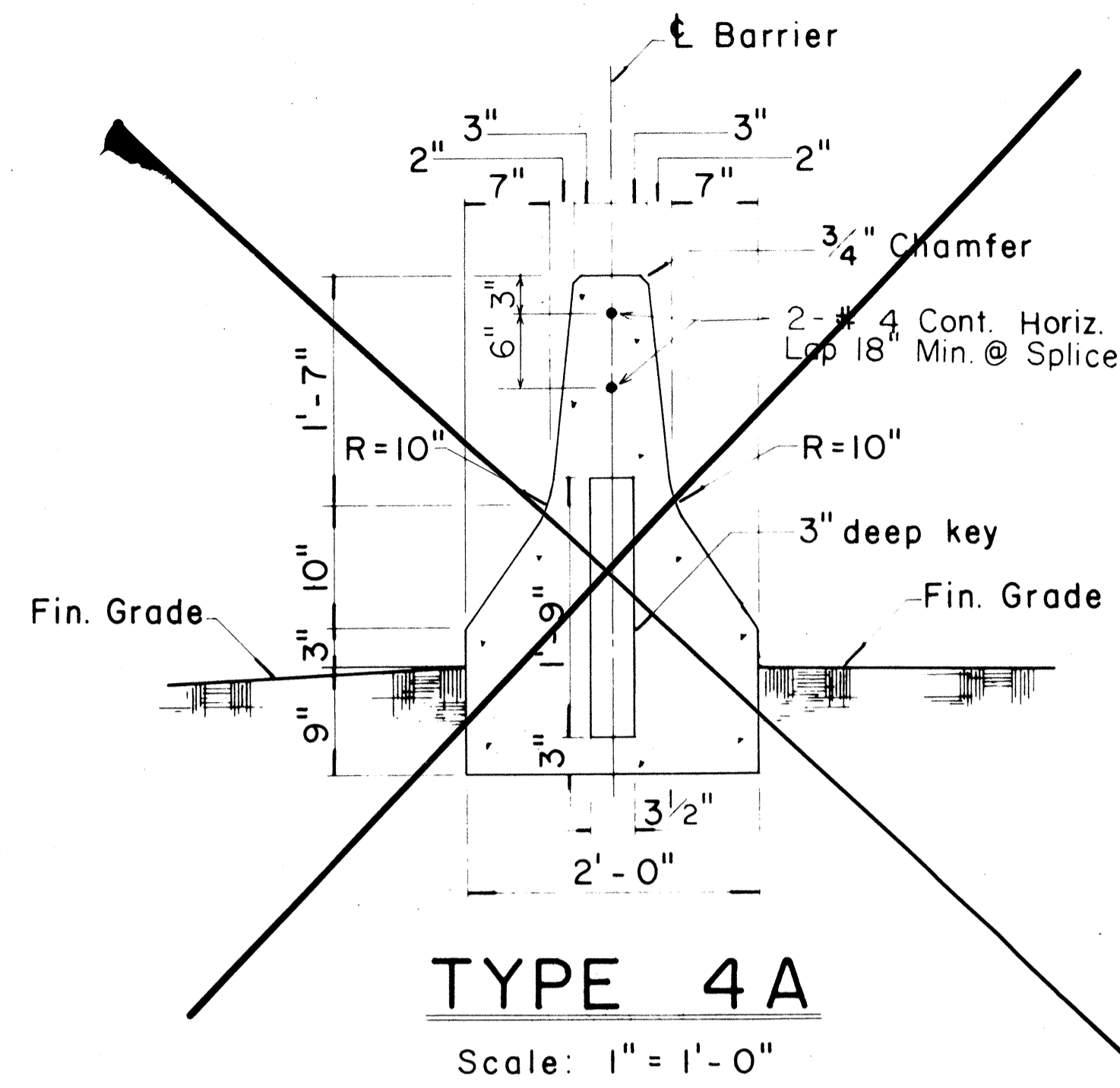
NO.	REVISION	APPROVED BY	DATE
1	Supersedes DT 514 Approved 12/30/69	<i>[Signature]</i>	1-31-83

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
**METAL GUARDRAIL**  
**WITH RUBRAIL**

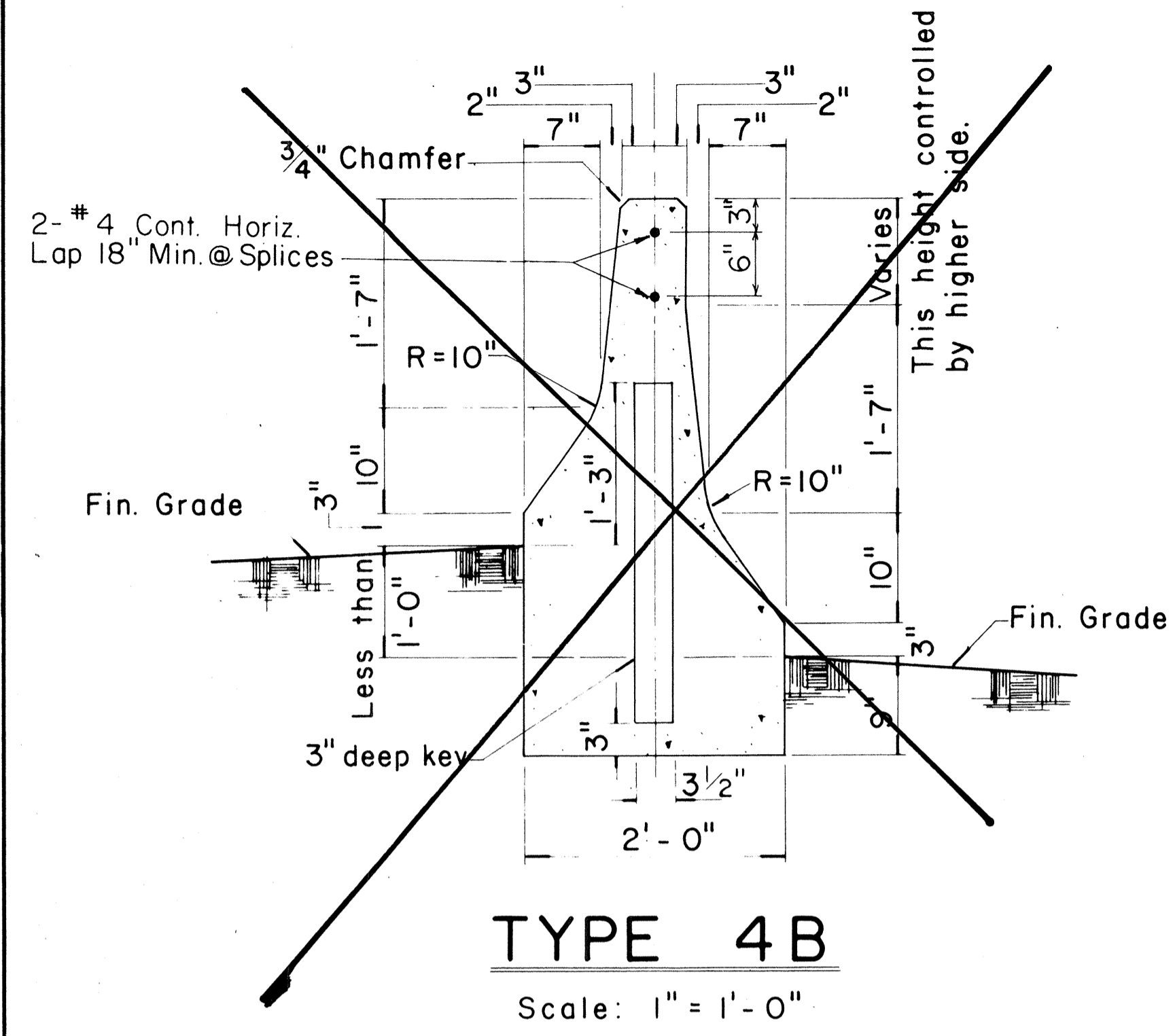
Scale: 1/2" = 1'-0" October 1982  
SHEET NO. OF SHEETS DT 514

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

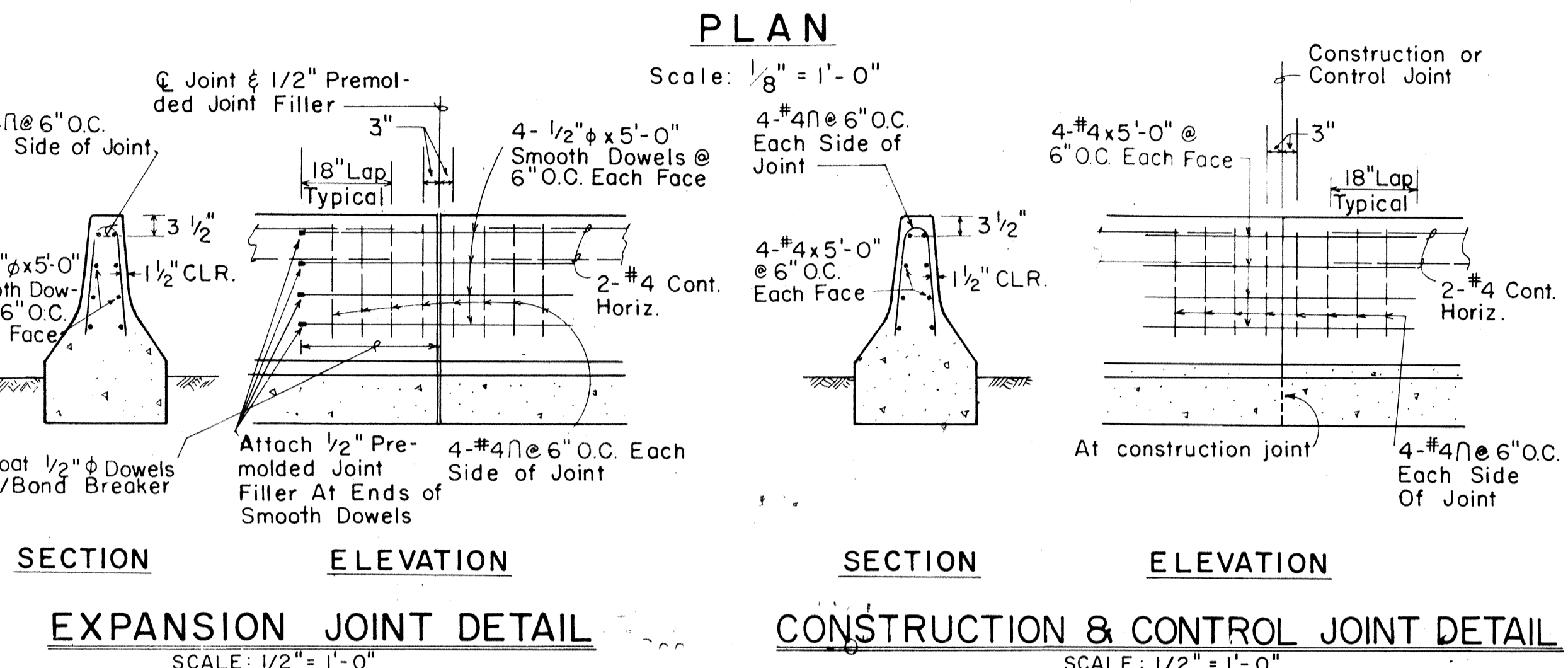
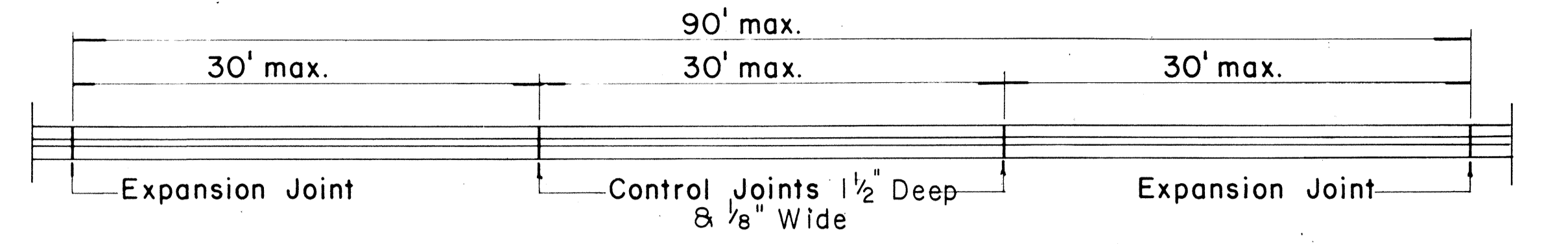
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F063-1(16) F063-1(17)	1984	155	156



**TYPE 4A**  
Scale: 1" = 1'-0"

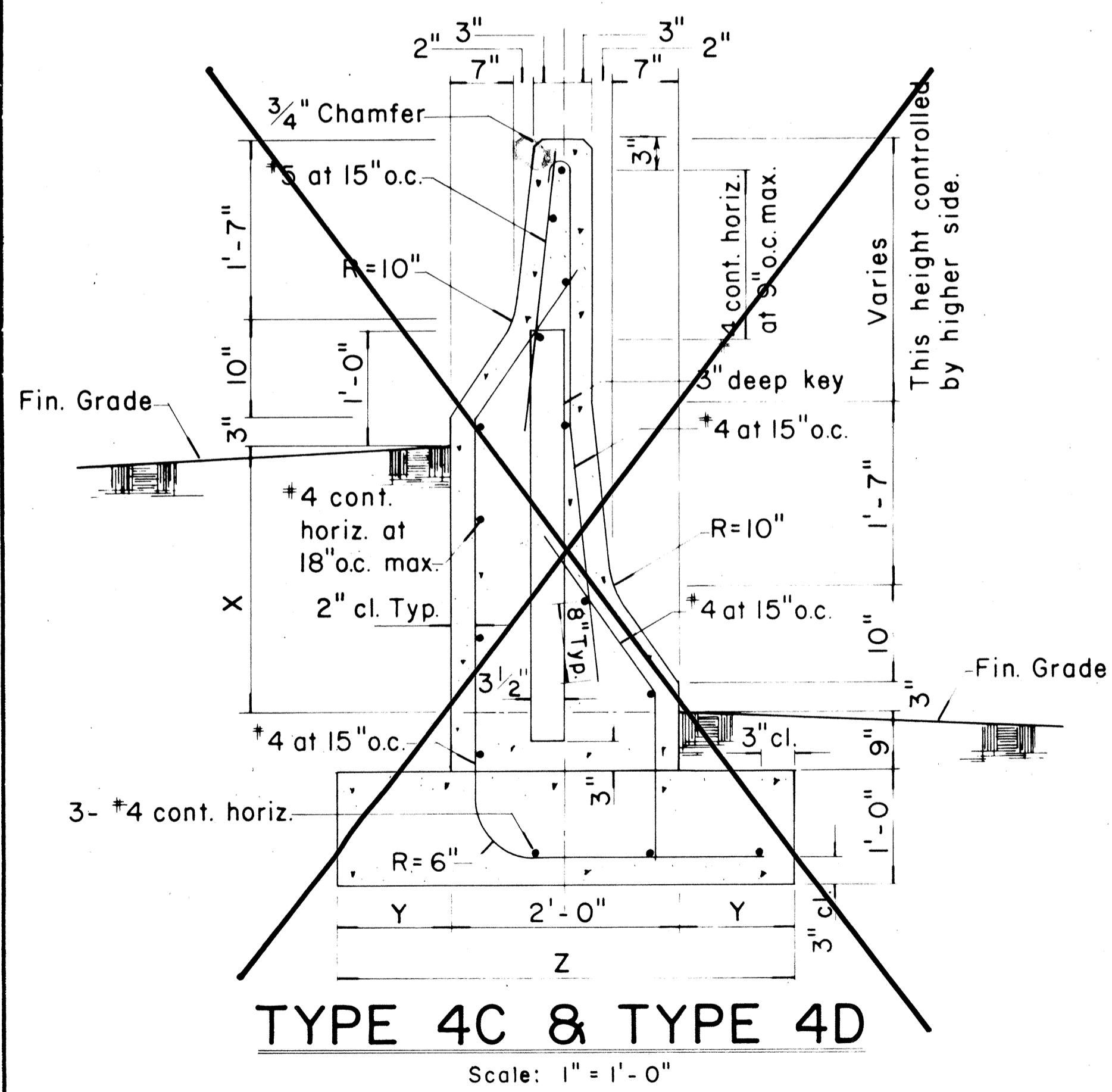


**TYPE 4B**  
Scale: 1" = 1'-0"



**EXPANSION JOINT DETAIL**  
SCALE: 1/2" = 1'-0"

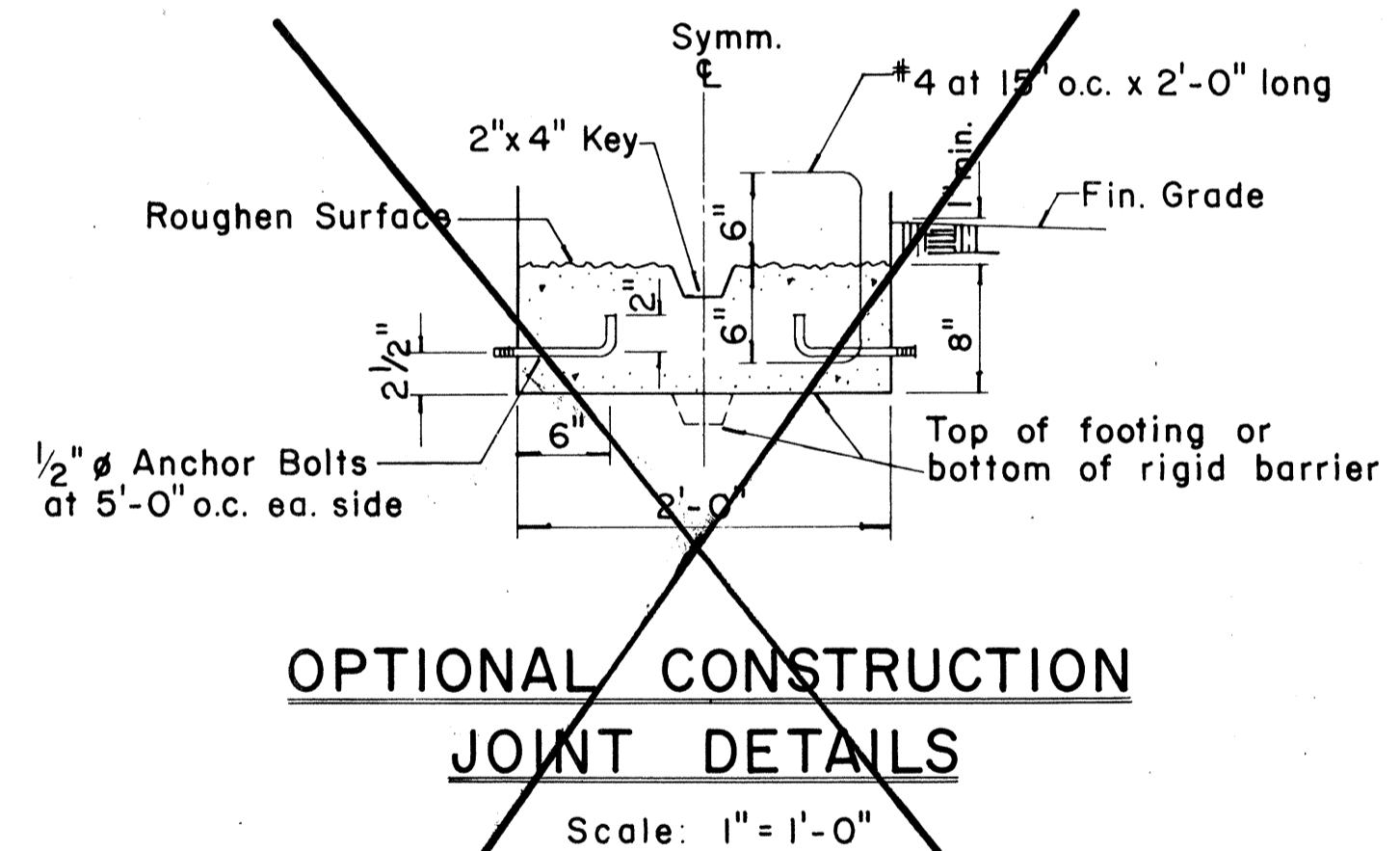
**CONSTRUCTION & CONTROL JOINT DETAIL**  
SCALE: 1/2" = 1'-0"



**TYPE 4C & TYPE 4D**  
Scale: 1" = 1'-0"

TYPE	DIFFERENCE IN FIN. GRADE	FOOTING	
	X	Y	Z
4C	1'-0" min., 2'-4" max.	1'-0"	4'-0"
4D	Greater than 2'-4", 4'-4" max.	1'-3"	4'-6"

NOTE:  
Except where noted all dimensions shall be the same for Type 4C and Type 4D.



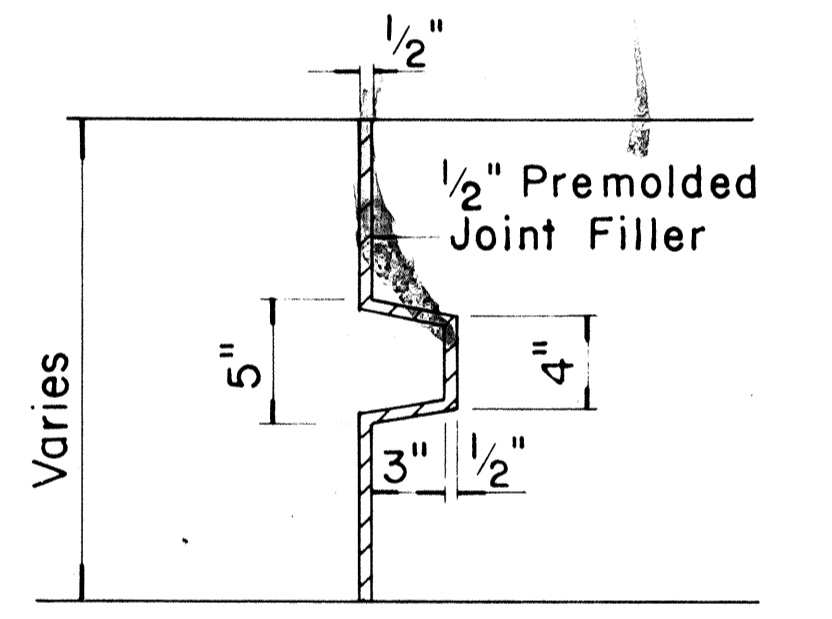
**OPTIONAL CONSTRUCTION JOINT DETAILS**  
Scale: 1" = 1'-0"

NOTE:  
The intent of the optional construction joint details for the Type 4 Rigid Barrier Guard Rail is to provide a method of securing the forms and preventing uplift so that the barrier will have a uniform and presentable appearance.  
The Contractor may submit an alternate method of constructing the barrier for the approval of the Engineer and for use on a trial basis. Any unsatisfactory work shall be removed or corrected as directed by the Engineer and at the Contractor's expense.

**GENERAL NOTES**

1. Precast Rigid Barrier Guard Rail may be installed as an option to cast-in-place Type 4 Rigid Barrier Guard Rail. Contractor shall submit shop drawings to Engineer for approval.
2. Expansion Joints shall be constructed at ninety-foot (90 ft.) maximum intervals and at existing expansion joints of structures. (Use 1/2" pre-molded joint filler, incidental to Type 4 Rigid Barrier Guard Rail). Control Joints shall be placed between expansion joints at 30' maximum. Shear keys shall be required at all construction joints.
3. The exterior surface and vertical alignment of the Type 4 Rigid Barrier Guard Rail shall be constructed to give a uniform and presentable appearance. Variation of more than 1/4" in 20' max. and 1/2" in 40' or more will be considered objectionable. The Engineer will determine the acceptability of the work.  
During the course of the work, samples may be tested and measurements made to establish whether or not the specified values or dimensions are being met. If the specified values or dimensions are not being met, the Engineer will determine the degree of the non-conformance, the effect on the serviceability of the project, whether the work be accepted and remain in place and, if so, the amount to be paid for such work, or whether the work shall be removed and replaced or otherwise corrected at the Contractor's expense.

NOTE: 1/2" PREMOLDED JOINT FILLER IS NOT REQUIRED AT CONSTRUCTION JOINTS.



**SECTION THRU KEY AT EXPANSION JOINT**  
Scale: 1/2" = 1'-0"

APPROVAL RECOMMENDED:  
*Erichi Tanaka* 1/20/81  
TRAFFIC ENGINEER DATE

APPROVED:  
*Shigeru Sakurai* 1/21/81  
ASSISTANT CHIEF, ENGINEERING DATE

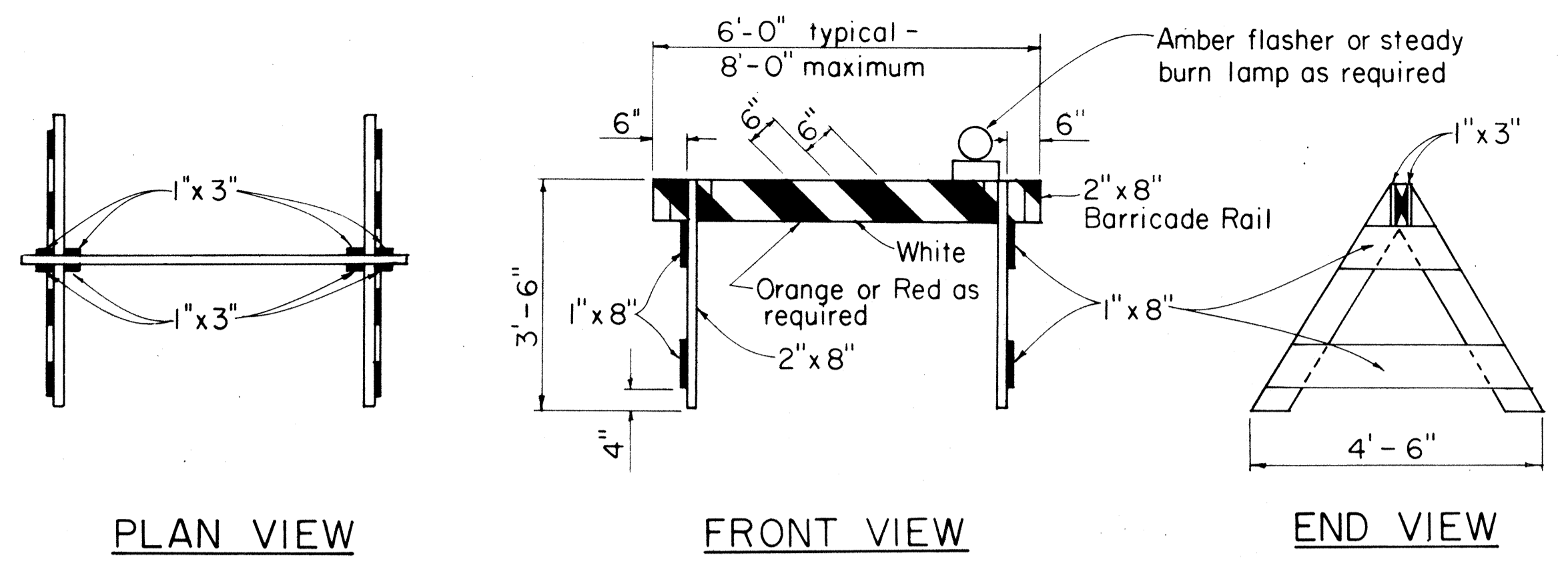
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**GUARD RAIL TYPE 4**  
**(RIGID BARRIER)**

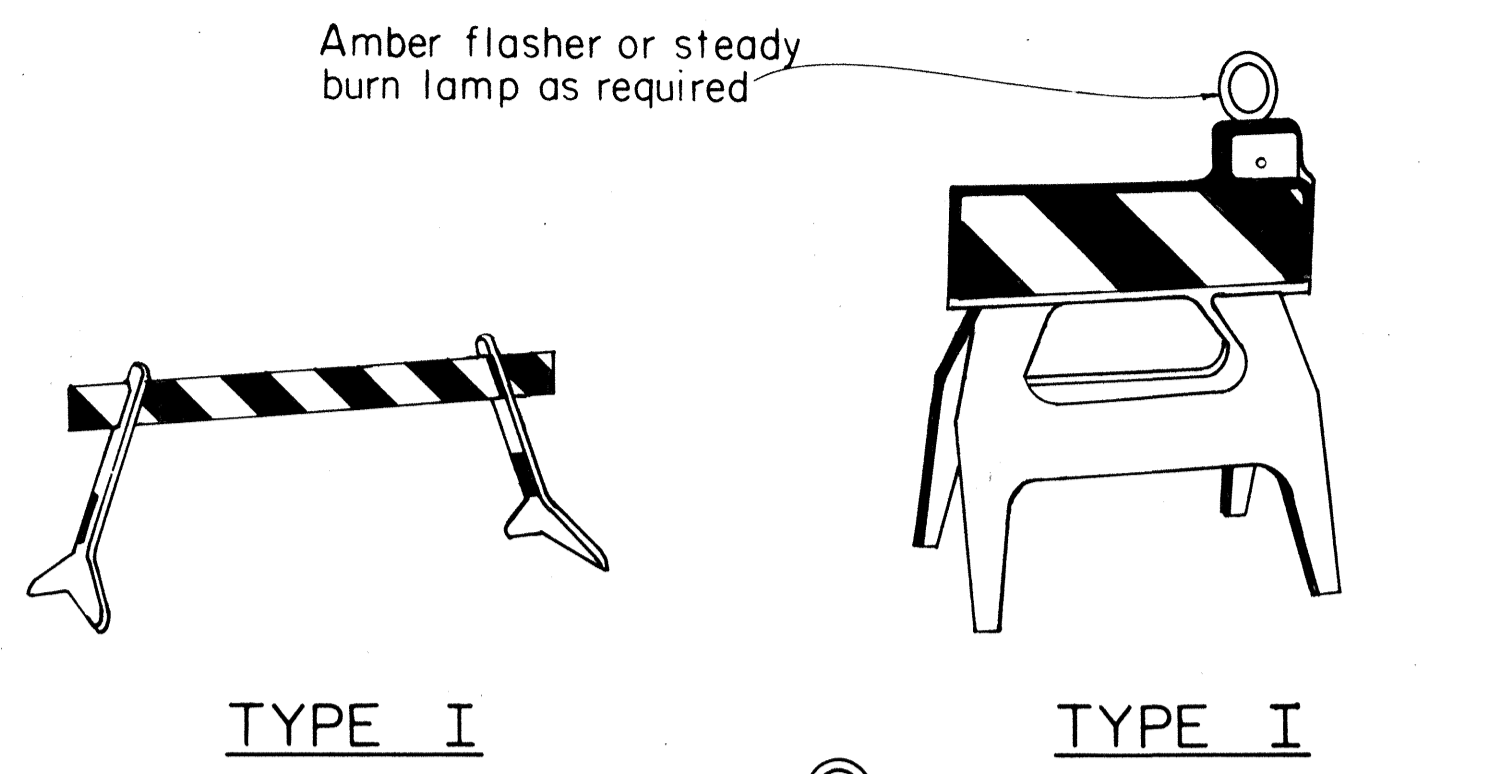
Scale: As Shown  
SHEET No. OF SHEETS DT 521

NO.	REVISION	APPROVED BY	DATE
1	Supersede Sht. DT 521 Approved 2-10-72	H.L.	3/21/81

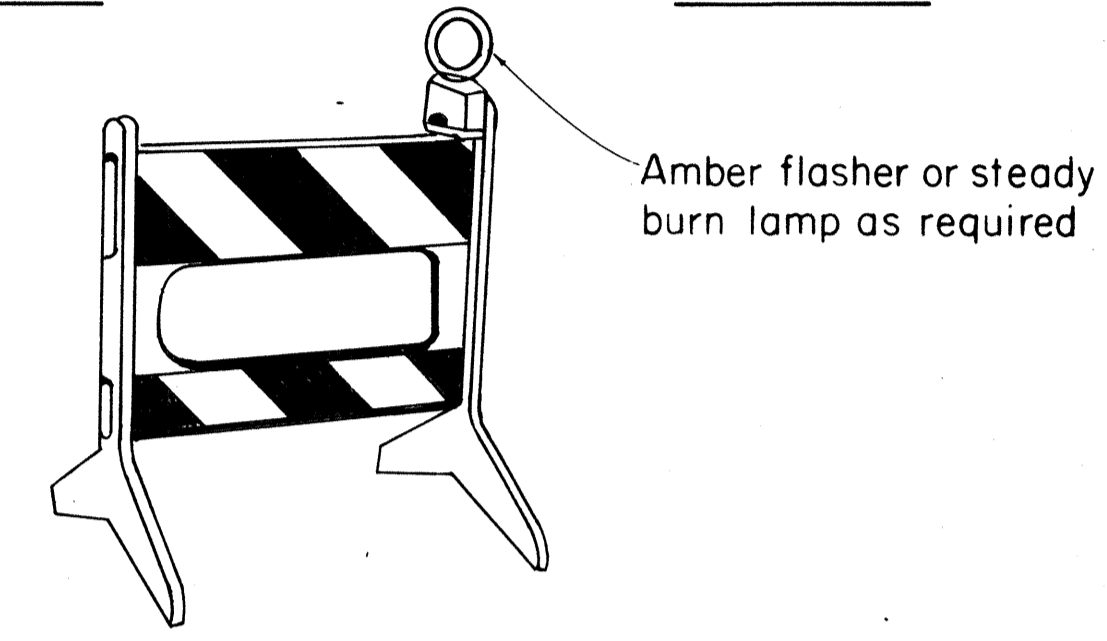
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-063-(16) F-063-(17)	1984	156	156



**TYPE I BARRICADE**  
Scale: 1/2" = 1'-0"



**TYPE I**

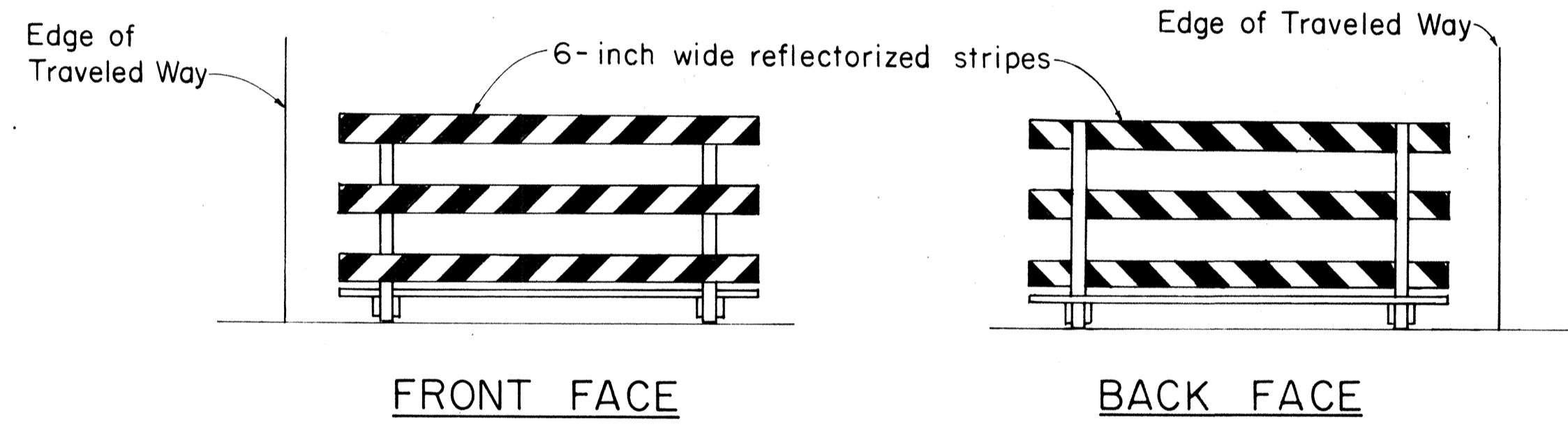


**TYPE II**

**PLASTIC MOLDED BARRICADE OPTIONS\***

Not to Scale

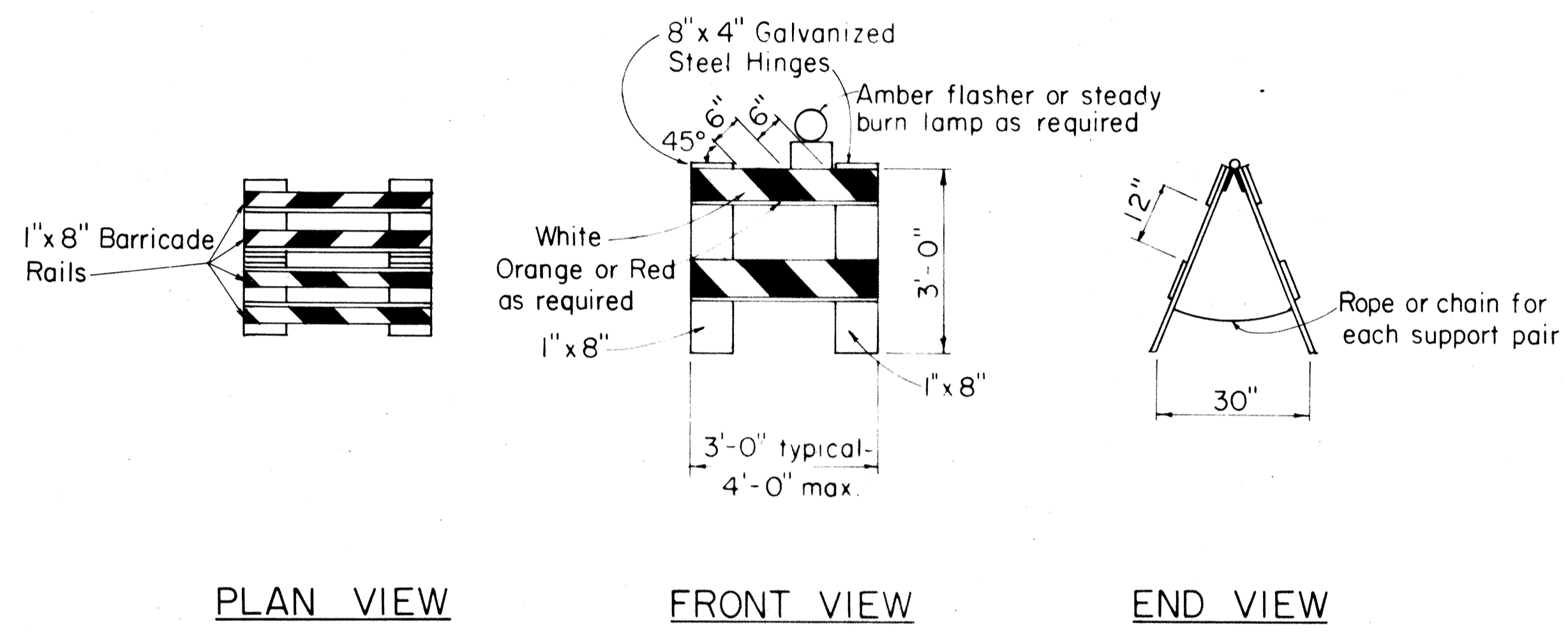
\* Shop Drawings must be submitted for approval.



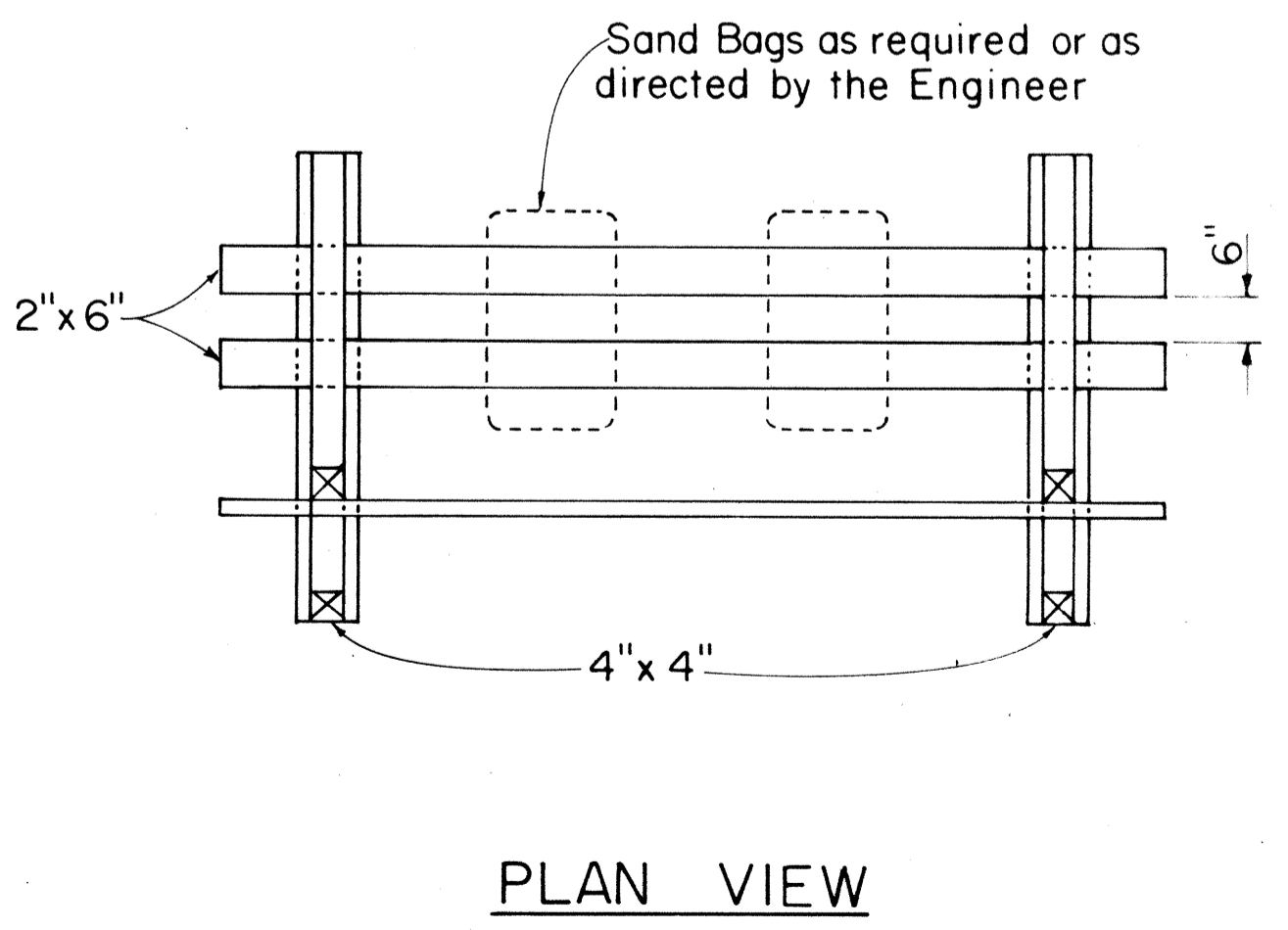
**TYPICAL BARRICADE STRIPING DETAILS\*\***

Not to Scale

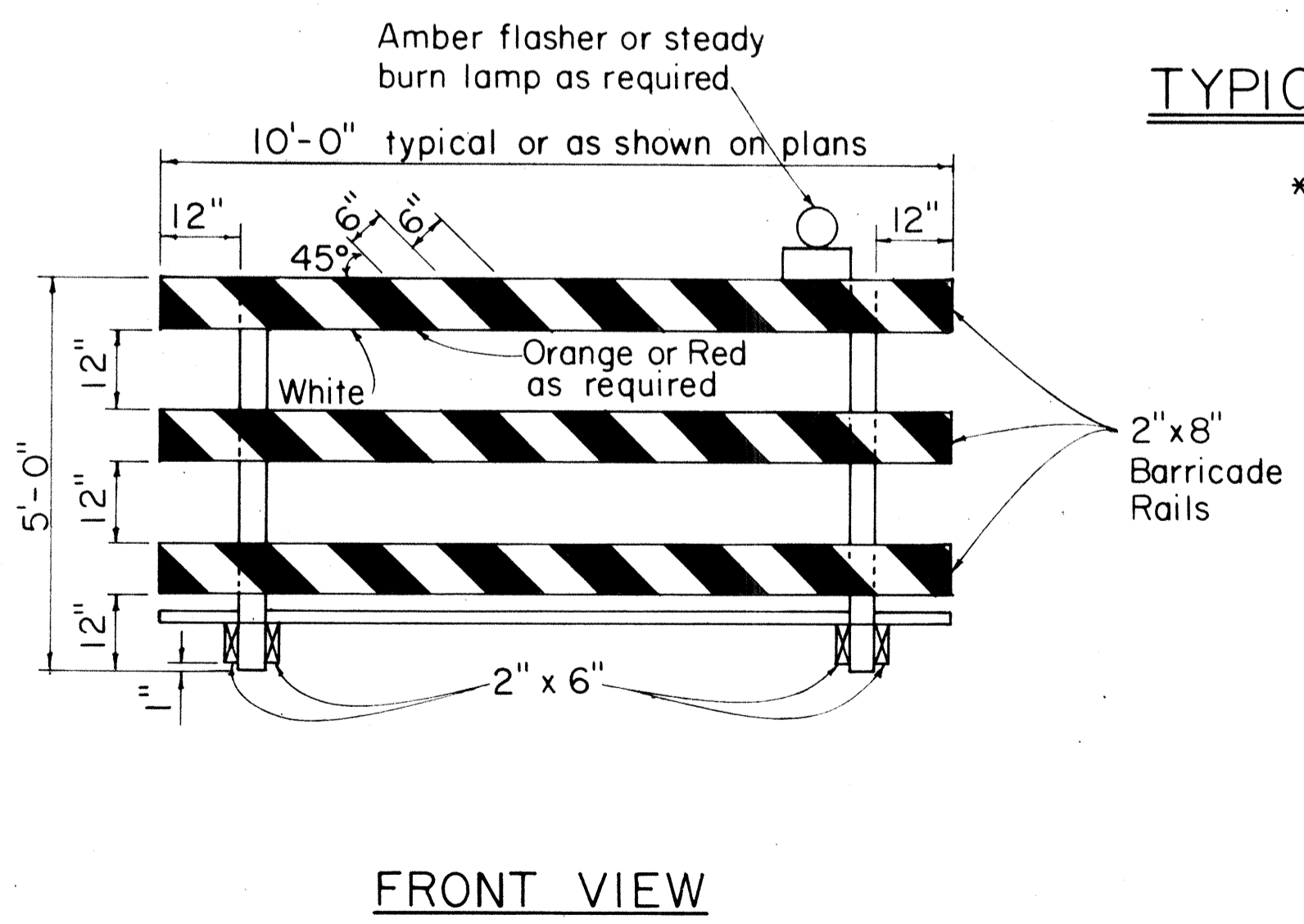
\*\* Similar for Types I & II



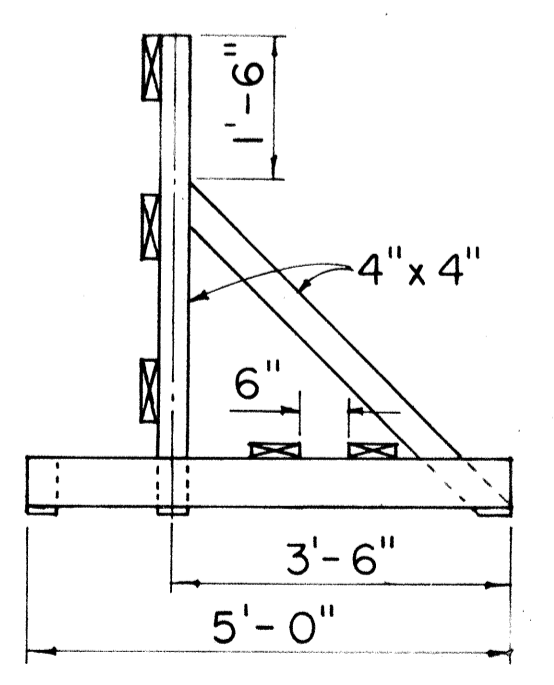
**TYPE II BARRICADE**  
Scale: 1/2" = 1'-0"



**PLAN VIEW**



**FRONT VIEW**



**END VIEW**

**TYPE III BARRICADE**  
Scale: 1/2" = 1'-0"

**GENERAL NOTES**

1. The front and back faces of each barricade rail shall be reflectorized with stripes sloping downward toward the same side (traveled way) of each barricade.
2. Contractor may submit alternate barricade designs for approval.
3. Sandbags or other approved weights shall not be placed on top of any striped rail.
4. The Contractor is directed to Section 626.

NO.	REVISION	APPROVED BY	DATE
1	Supersedes DT 800 Approved 12/30/69	H.T.	10/23/81

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 10/21/81  
TRAFFIC ENGINEER DATE

APPROVED:  
*Robert S. Sefris* 10/23/81  
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**

**BARRICADES**

SCALE: As Shown  
SHEET No. OF SHEETS DT 800

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
No. \_\_\_\_\_