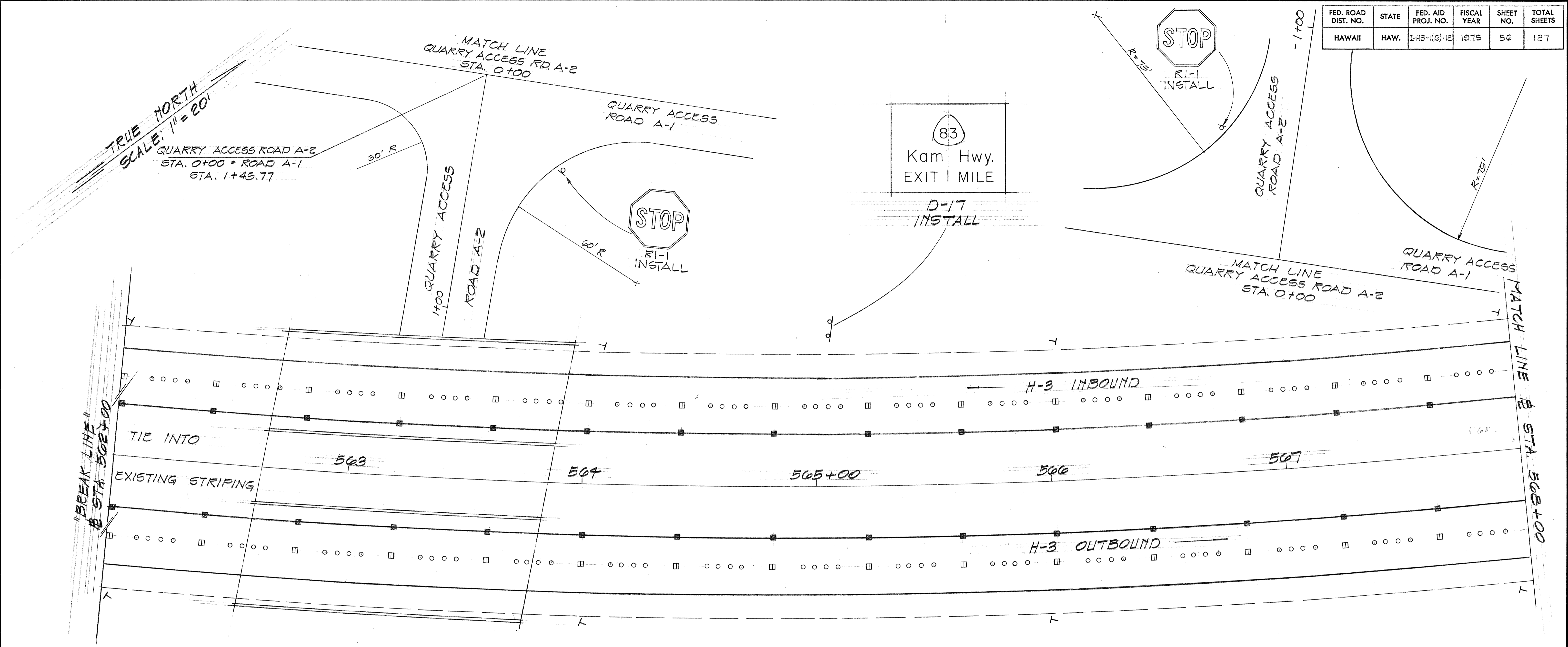


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-43-1(0):12 | 1975 | 56 | 127 |



LEGEND

- ○ ○ ○ Type "A" Raised Pavement Markers
- Type "C" Raised Pavement Marker
- Type "H" Raised Pavement Marker
- 40'-0" — 4" Solid Yellow Line w/Type "H" Raised Pavement Markers
- 4" Solid White Shoulder Edge Line
- |- Reflector Marker (RM-1)

GENERAL NOTES - PAVEMENT MARKINGS

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**SIGNING &
PAVEMENT MARKING**

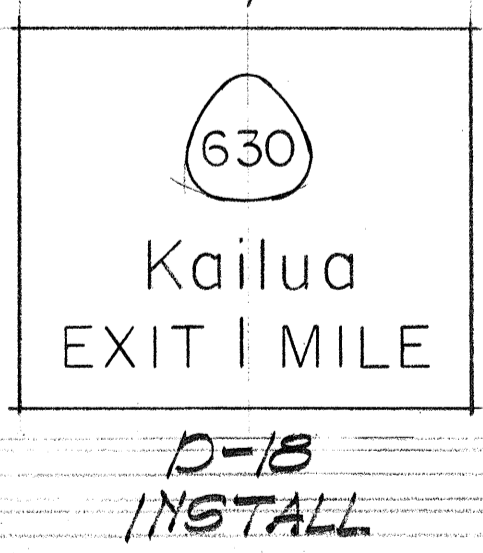
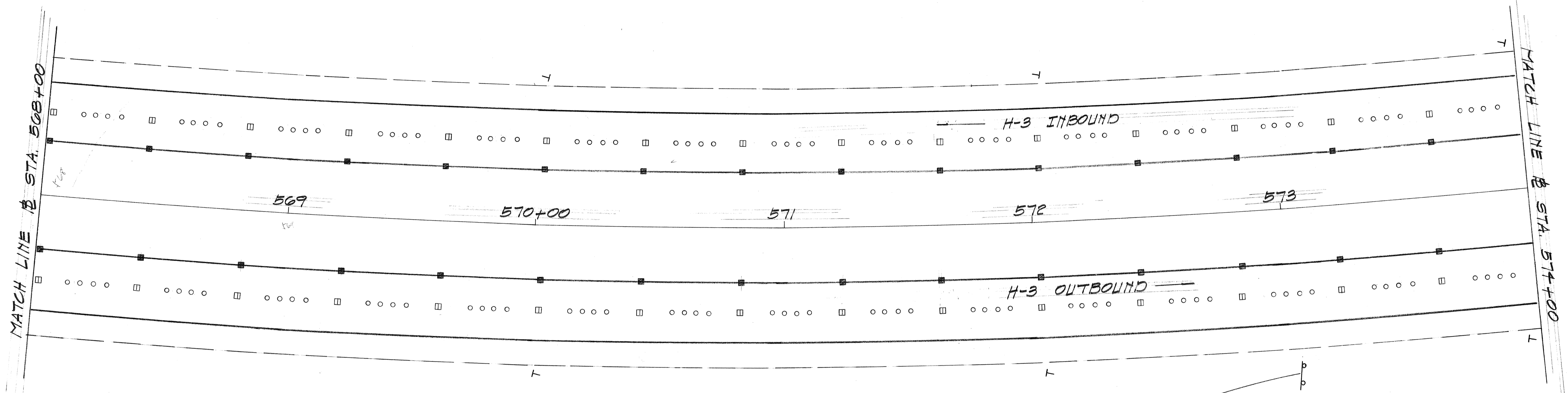
F.A.I. PROJ. No. I-43-1(0):12
SCALE: AS SHOWN JUNE 1974

SHEET No. 1 OF 10 SHEETS

| | |
|-------------------|--|
| DATE | |
| SURVEY PLOTTED BY | |
| 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. | I-H3-1(G)-12 | 1975 | 57 | 127 |

TRUE NORTH
SCALE: 1"=20'



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**SIGNING &
PAVEMENT MARKING**

F.A.I. PROJ. No. I-H3-1(G)-12
SCALE: AS SHOWN JUNE 1974

SHEET No. 2 OF 10 SHEETS

| | |
|-------------------|------|
| ORIGINAL PLAN | DATE |
| SURVEY PLOTTED BY | |
| 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. | I-H3-1(6):12 | 1975 | 58 | 127 |

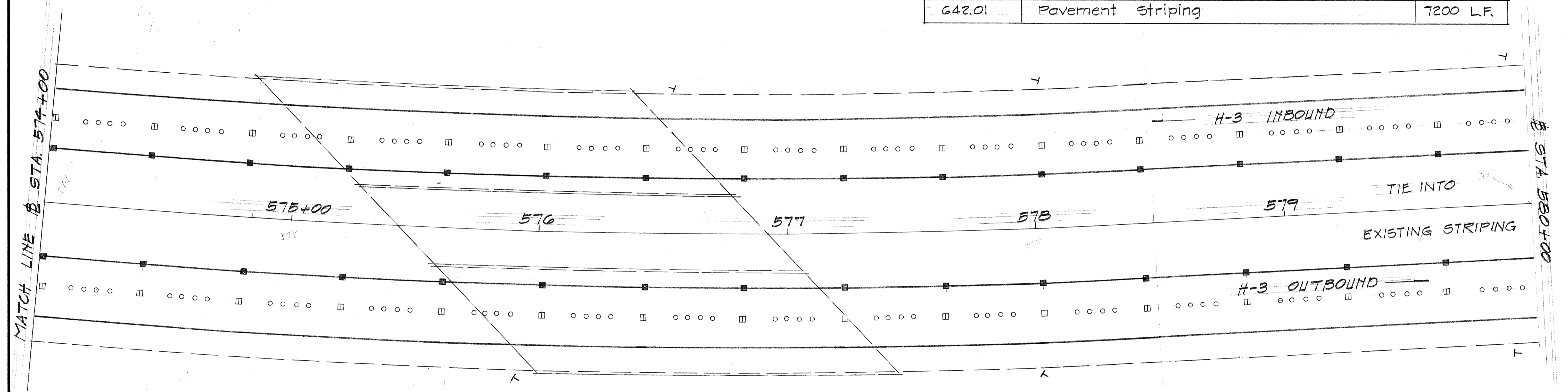
DESTINATION SIGN SUMMARY

| SIGN NO | DESCRIPTION | AREA (SQ. FT.) |
|---------|-----------------------|----------------|
| D-17 | Kam. Hwy. EXIT 1 MILE | 184.00 |
| D-18 | Kailua EXIT 1 MILE | 138.00 |

SUMMARY OF REFLECTOR MARKERS, REGULATORY SIGNS AND PAVEMENT MARKINGS

| ITEM NO. | DESCRIPTION | QUANTITY |
|----------|---------------------------------------|-----------|
| G21.41 | Reflector Marker with Post | 20 ea. |
| G21.51 | Regulatory and Warning Sign with Post | 2 ea. |
| G22.10 | Type "A" Raised Pavement Markers | 360 ea. |
| G22.30 | Type "C" Raised Pavement Markers | 90 ea. |
| G22.80 | Type "H" Raised Pavement Markers | 90 ea. |
| G42.01 | Pavement Striping | 7200 L.F. |

TRUE NORTH
SCALE: 1" = 20'



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

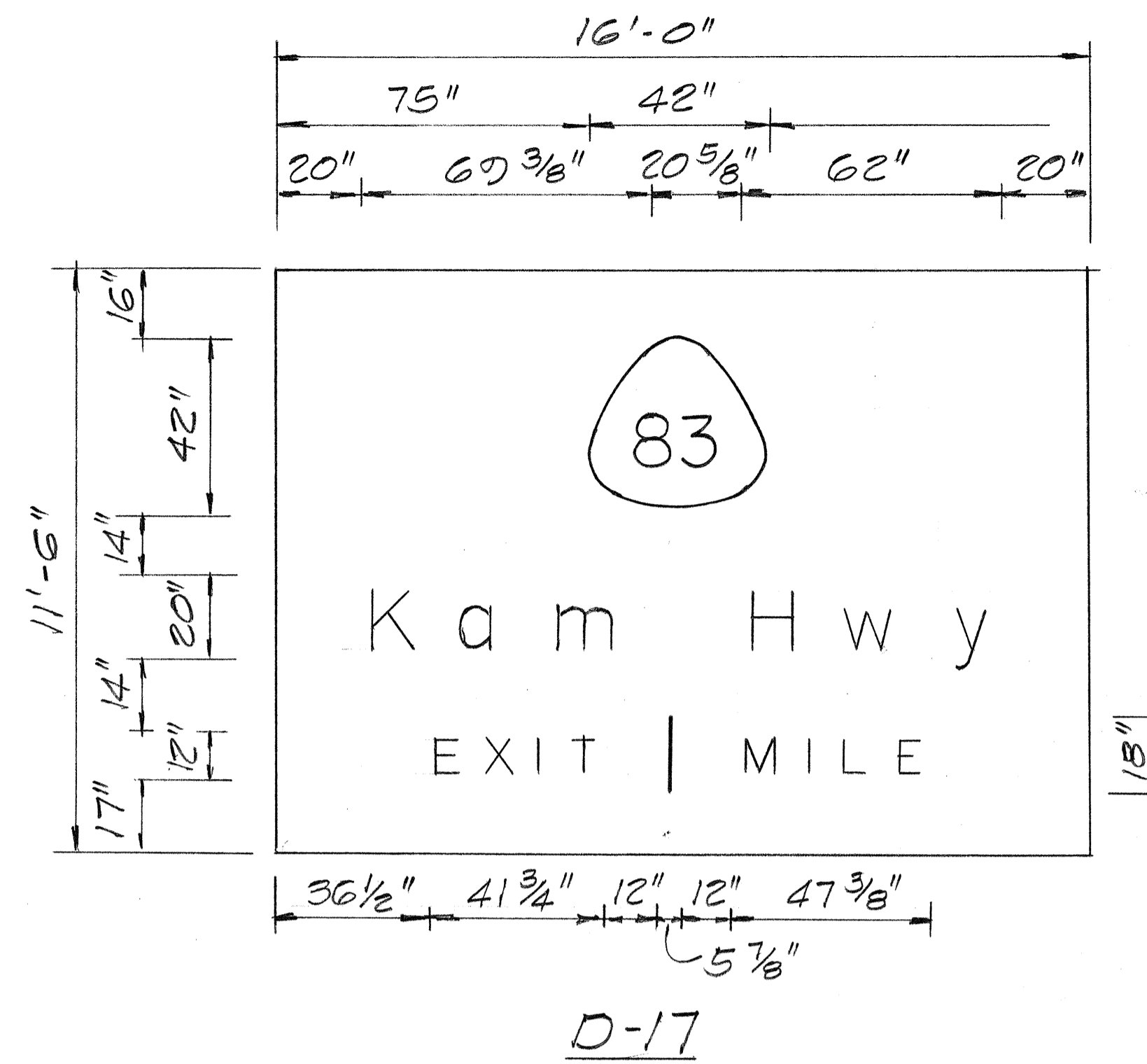
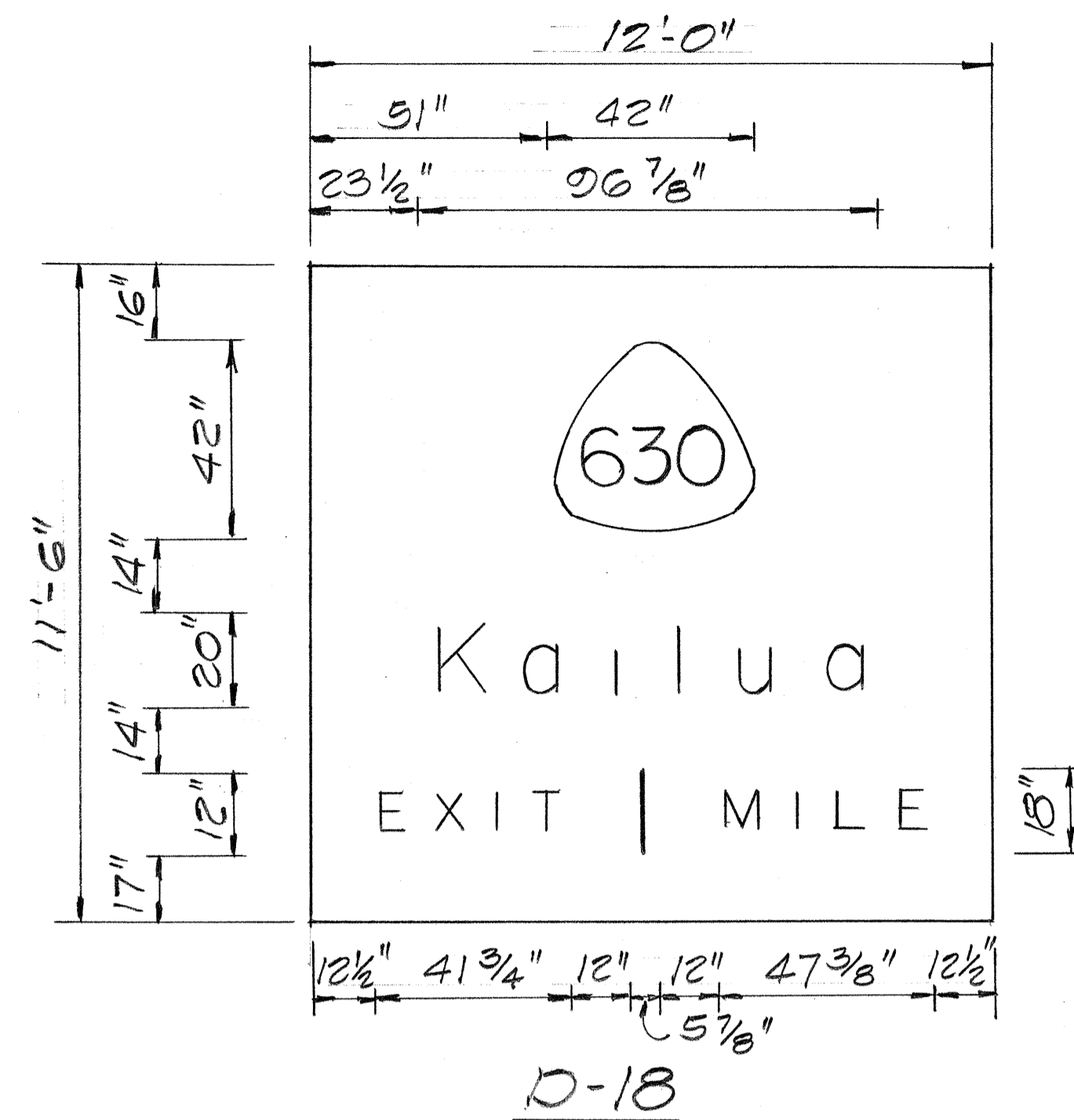
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING & PAVEMENT MARKING

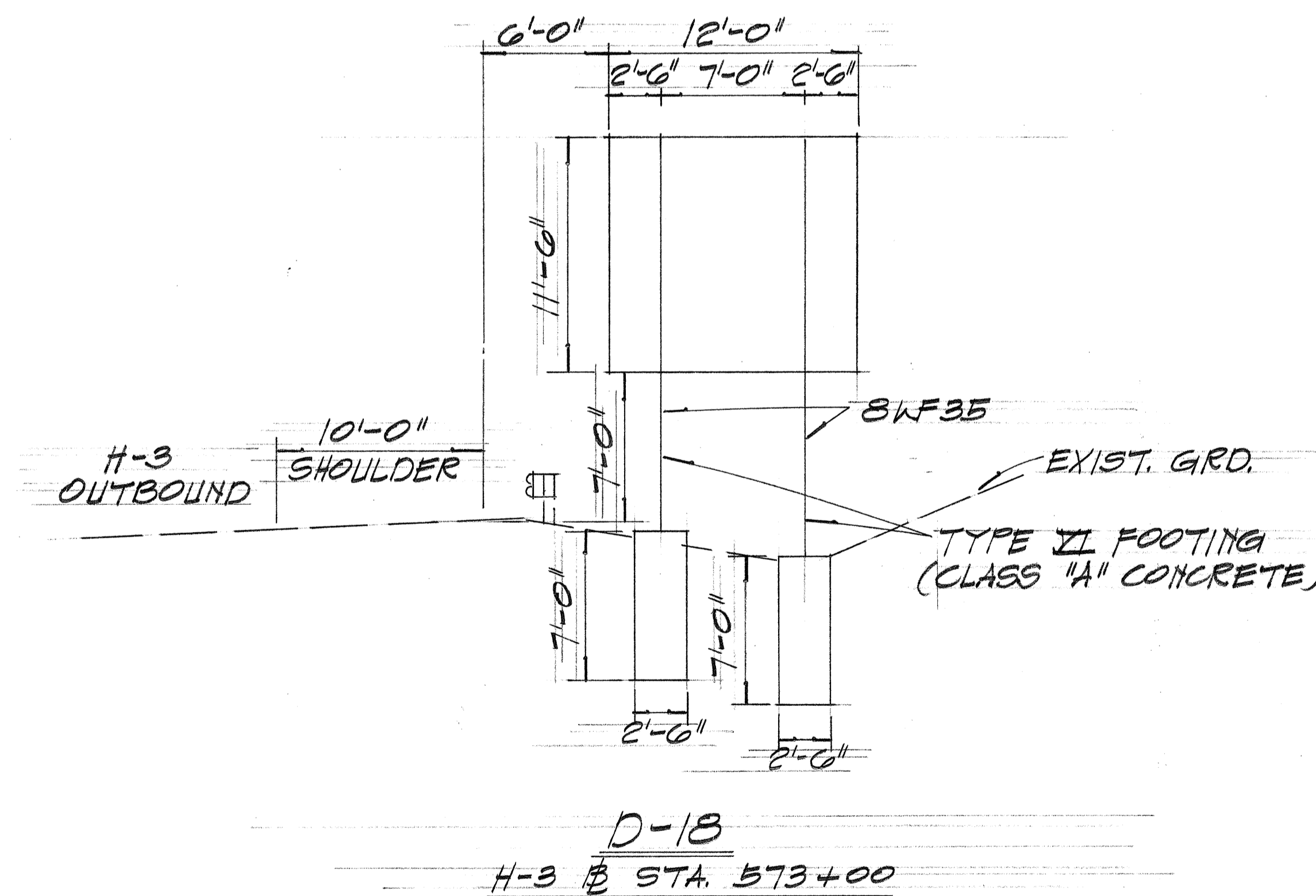
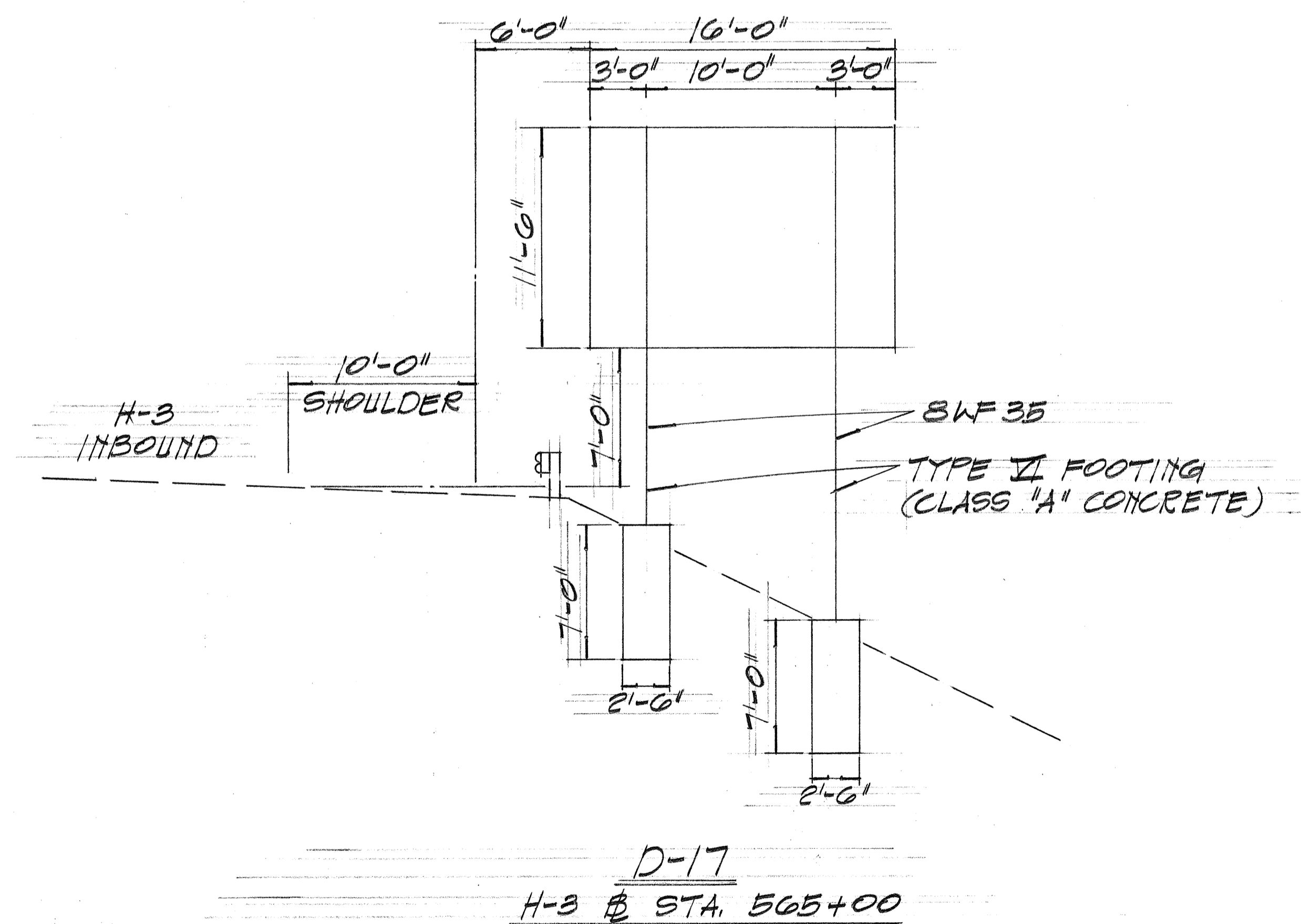
F.A.I. PROJ. No. I-H3-1(6):12
SCALE: AS SHOWN JUNE 1974

SHEET No. 3 OF 10 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(G)-12 | 1975 | 59 | 127 |



- GENERAL NOTES**
- LETTERS & NUMERALS SHALL BE MODIFIED SERIES "E" AS SHOWN IN THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS", FHWA, 1966.
 - BORDERS & ROUTE MARKERS SHALL CONFORM WITH DETAILS AS SHOWN ON PLANS.
 - LEGENDS & BORDERS FOR DESTINATION SIGNS D-17 & D-18 SHALL BE WHITE REFLECTIVE SHEETING ON DEMOUNTABLE ALUMINUM CUT-OUTS. BACKGROUND SHALL BE GREEN REFLECTIVE SHEETING.
 - CUT-OUTS SHALL BE FASTENED TO SIGN PANEL WITH ALUMINUM BLIND RIVETS.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

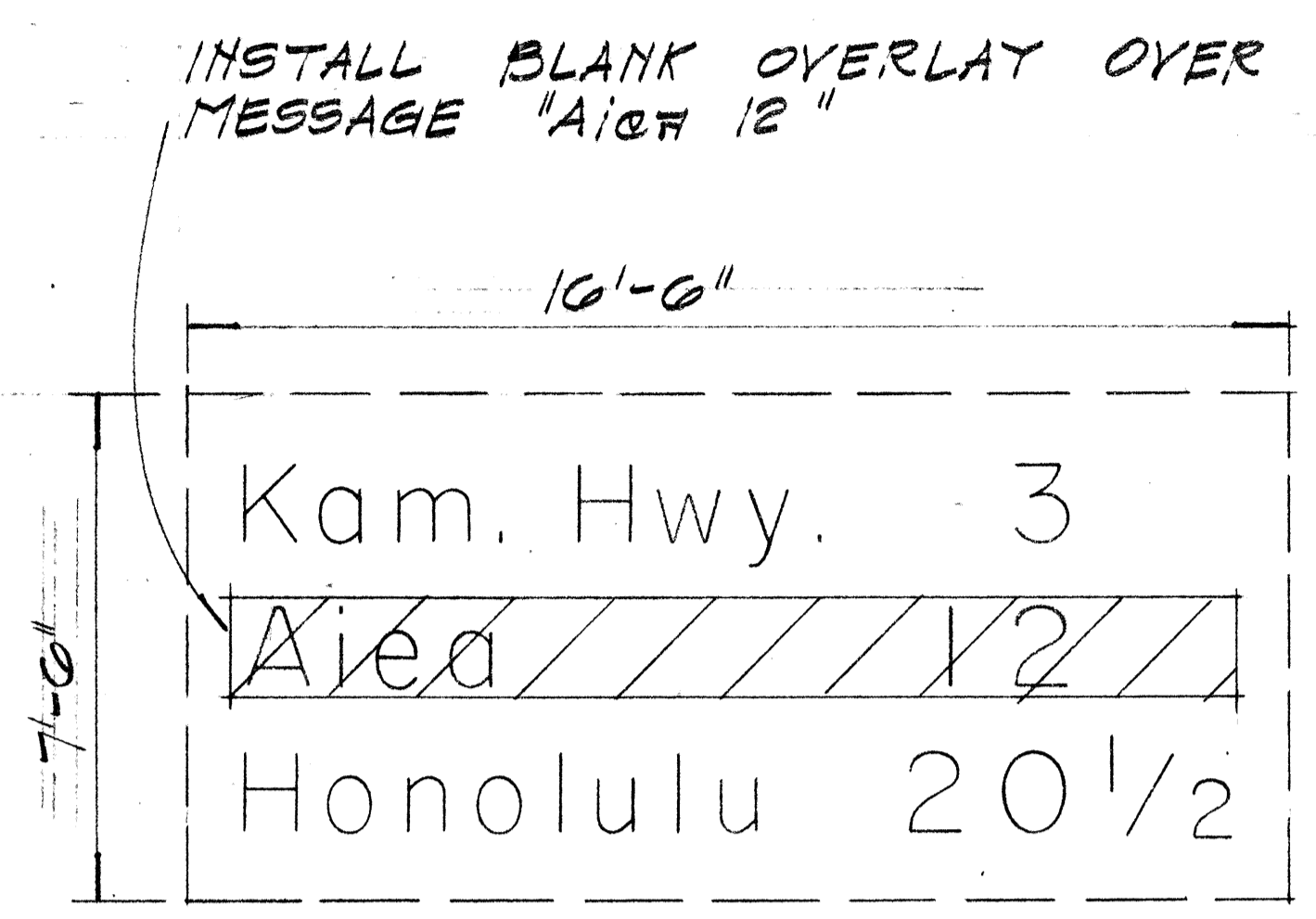
FRAME LAYOUT
PANEL LAYOUT

F.A.I. PROJ. No. I-H3-1(G)-12
NOT TO SCALE JUNE 1974

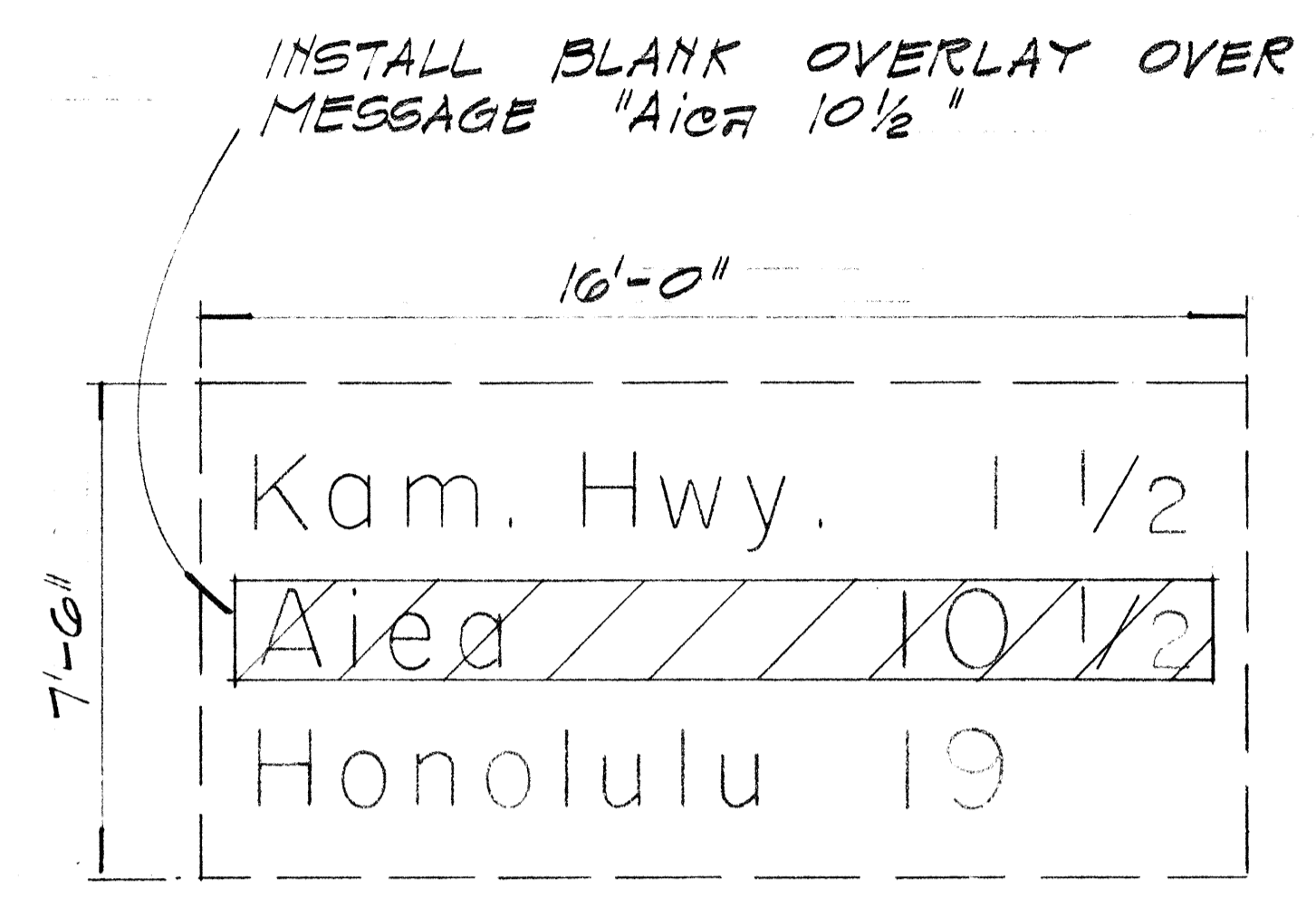
SHEET No. 4 OF 18 SHEETS

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

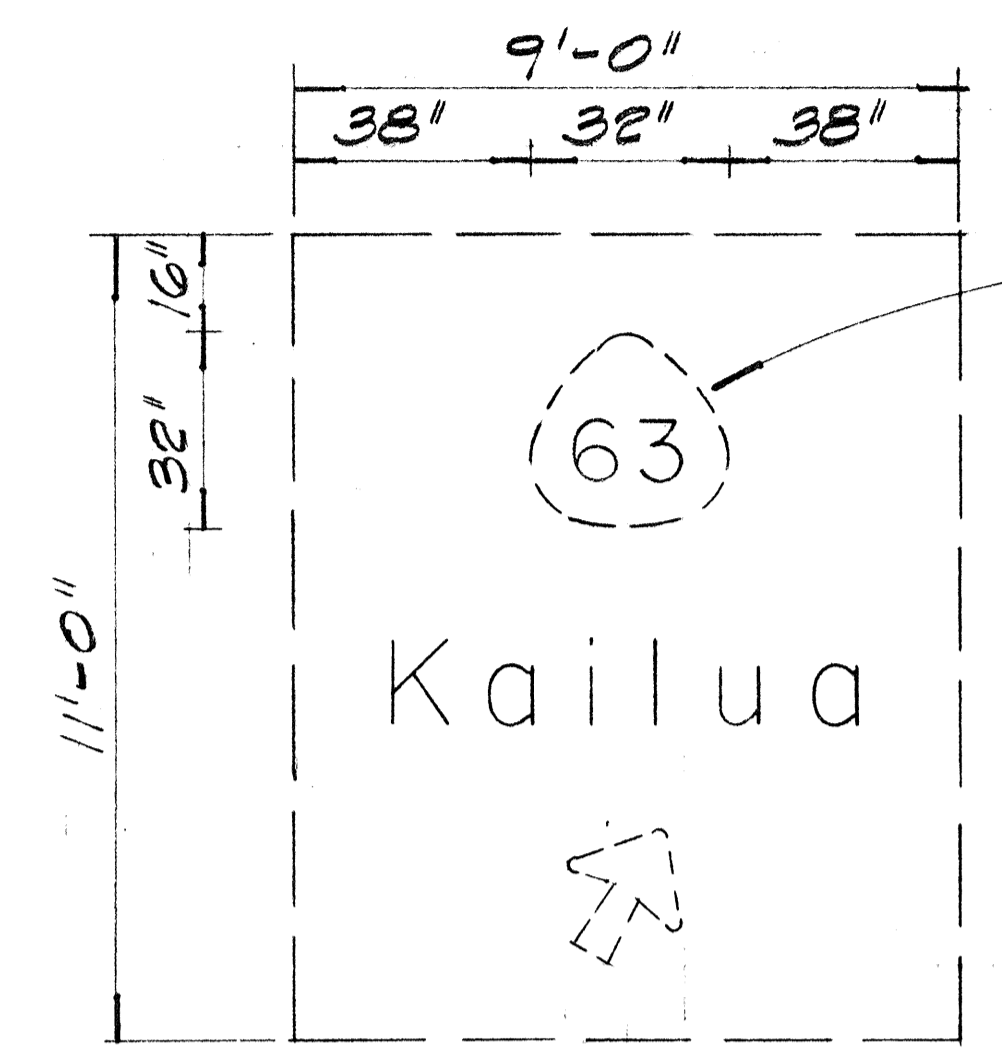
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(6)-12 | 1975 | 60 | 127 |



MODIFICATION OF EXIST. SIGN D-2
H-3 STA. 005+00 I.B. RT.
NOT TO SCALE



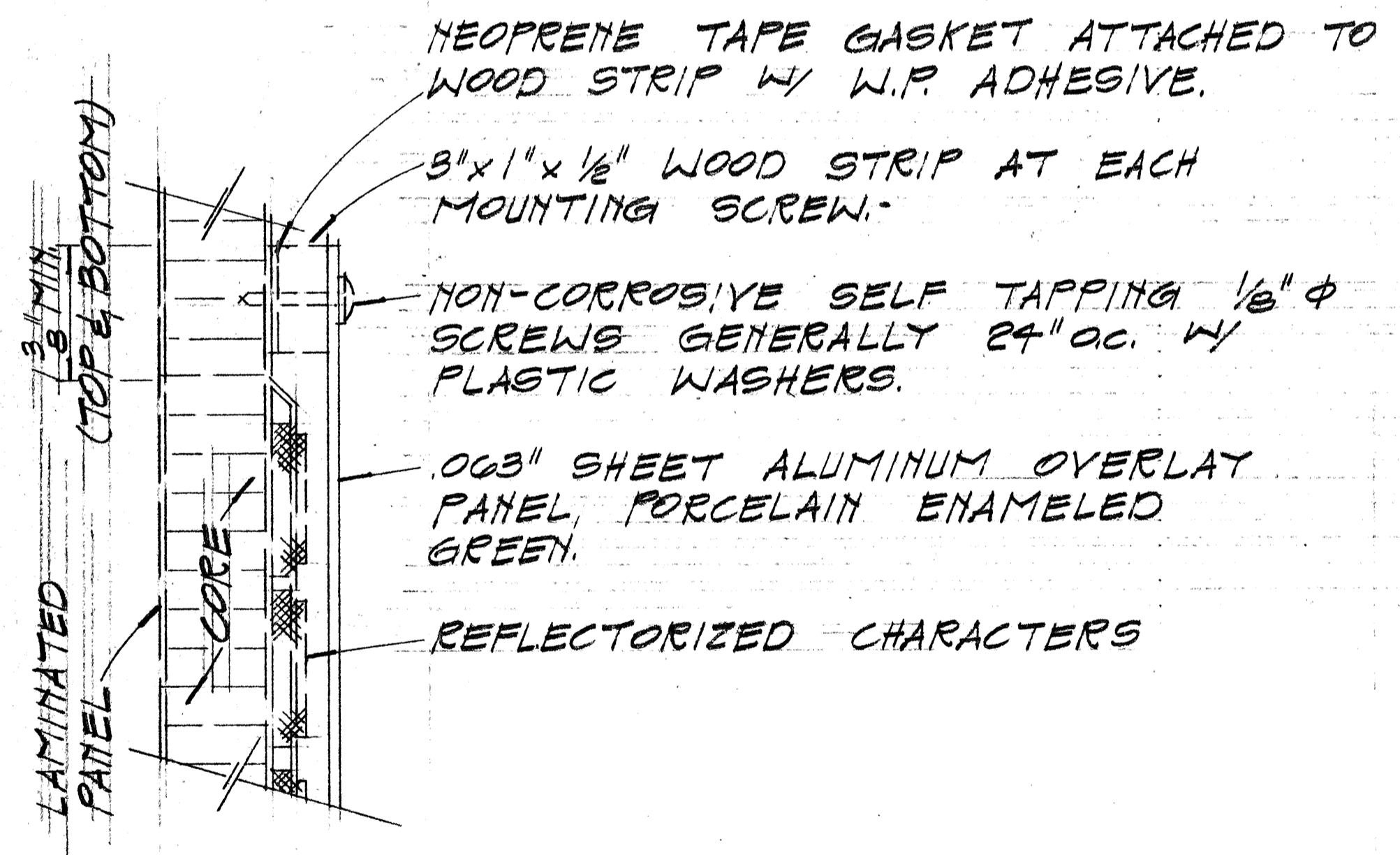
MODIFICATION OF EXIST. SIGN D-4
H-3 STA. 590+50 I.B. RT.
NOT TO SCALE



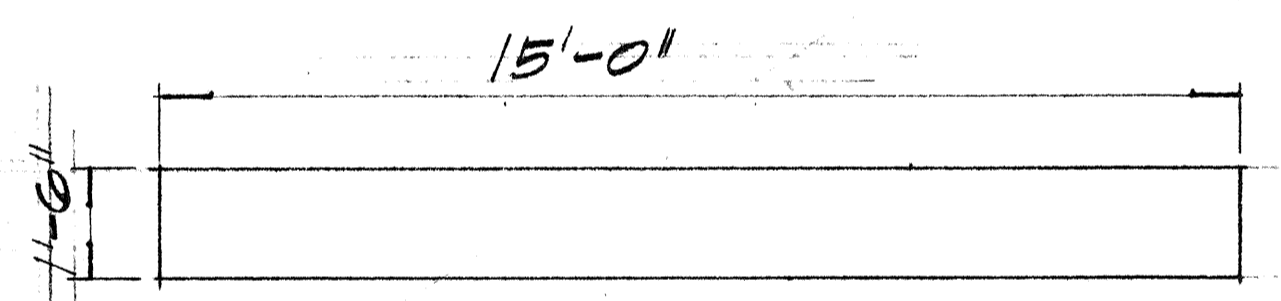
CHANGE EXIST. STATE ROUTE MARKER NUMERAL TO READ "630" CONTRACTOR SHALL HAVE OPTION OF MODIFYING EXIST. STATE ROUTE MARKER OR INSTALLING NEW MARKER.

NOTE: FOR DETAILS ON STATE ROUTE MARKER SEE PLAN SHT. # DT 209

MODIFICATION OF EXIST. SIGN E-1
H-3 STA. 020+00 O.B. RT.
NOT TO SCALE



MOUNTING DETAIL
NOT TO SCALE



BLANK OVERLAY
SCALE: 3/8" = 1'-0"

BLANK OVERLAY DETAILS FOR SIGNS D-2 & D-4
SCALE: AS SHOWN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

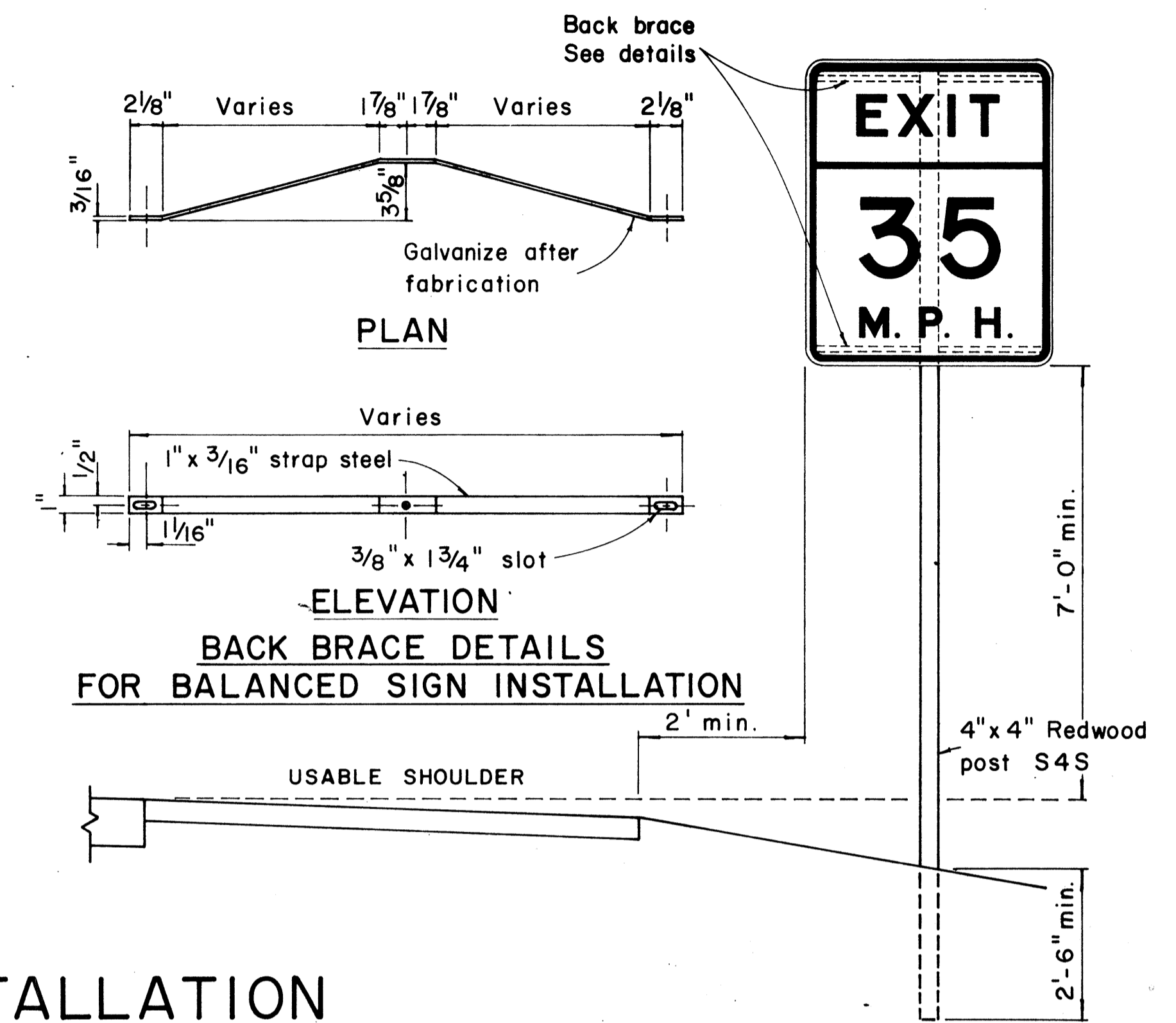
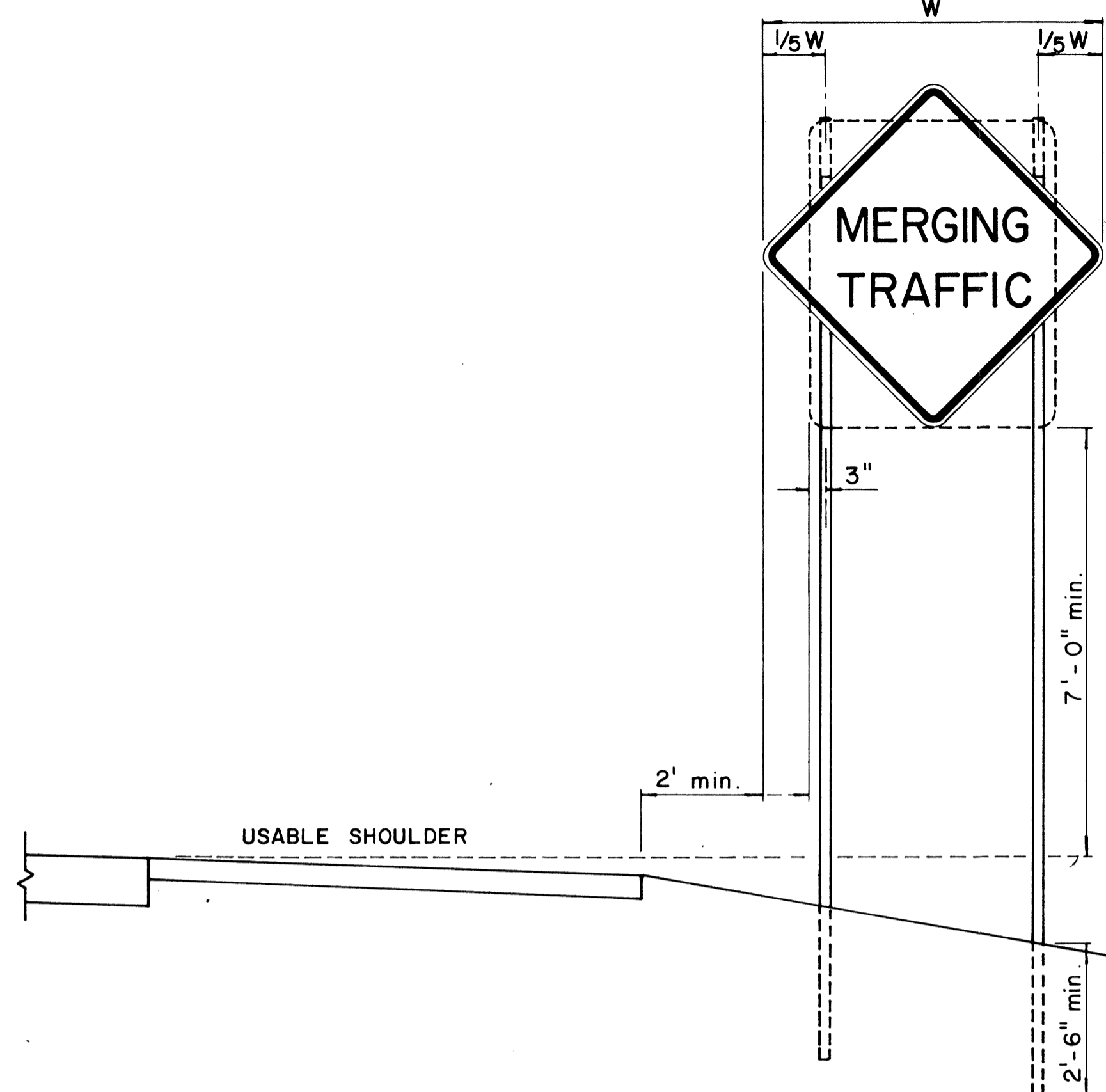
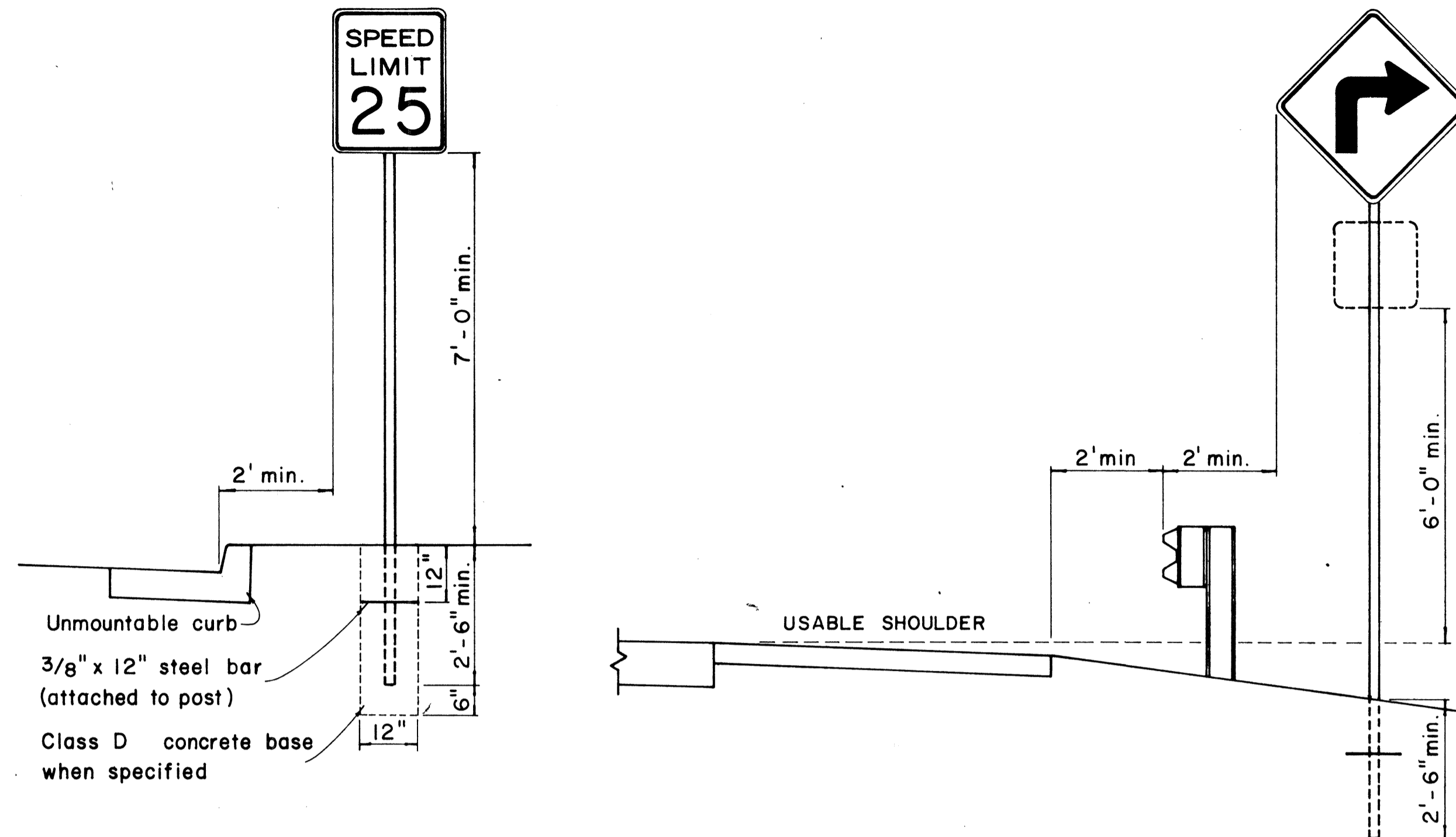
MODIFICATION OF EXISTING SIGNS

F.A.I. PROJ. NO. I-H3-1(6)-12
SCALE: AS SHOWN. JUNE 1974

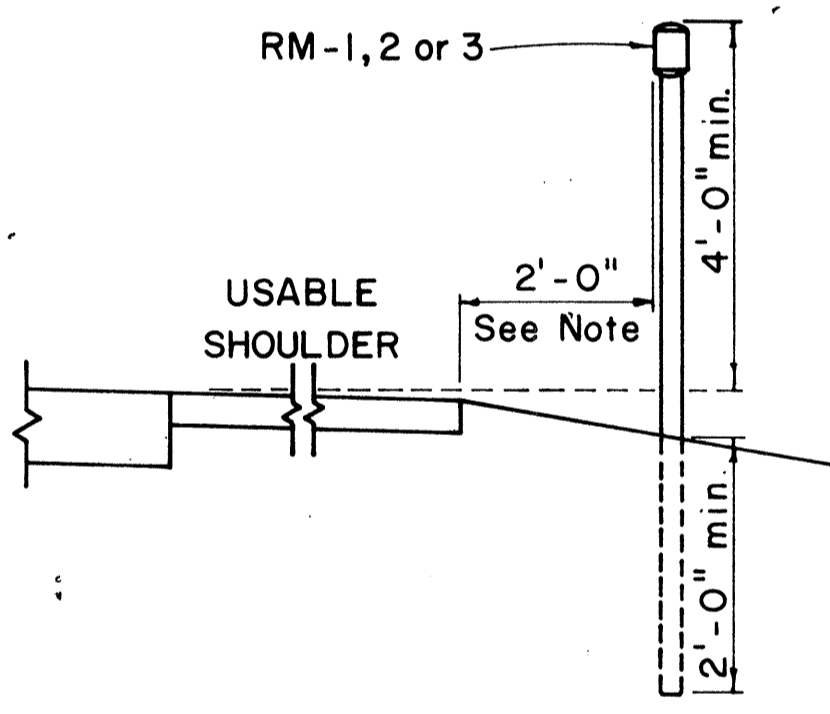
SHEET NO. 5 OF 10 SHEETS

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

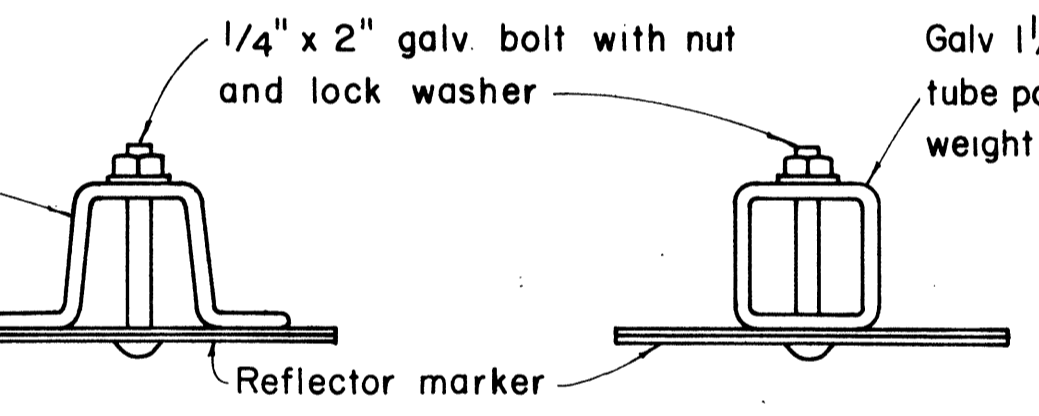
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-43-1(G)12 | 1975 | 61 | 127 |



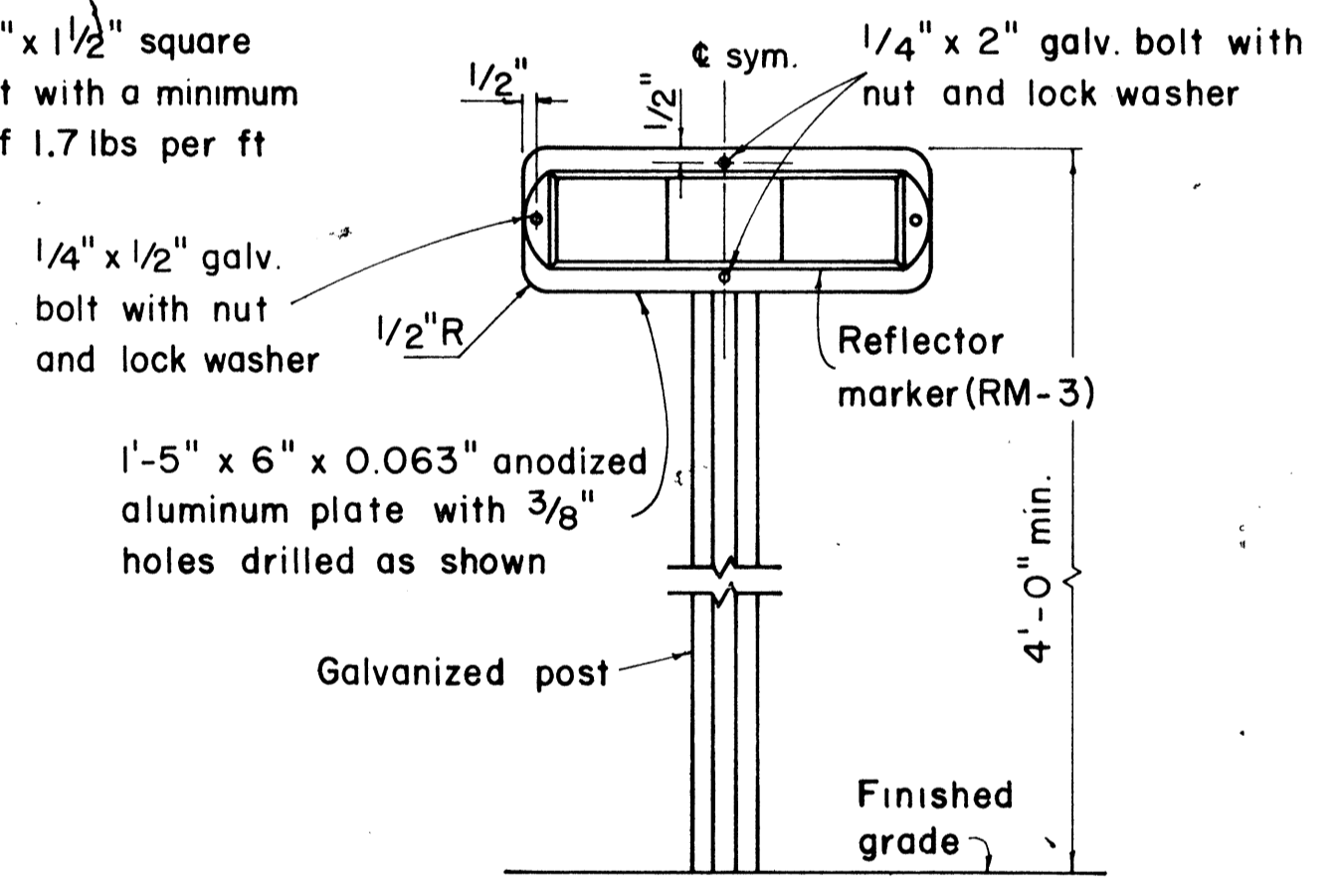
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



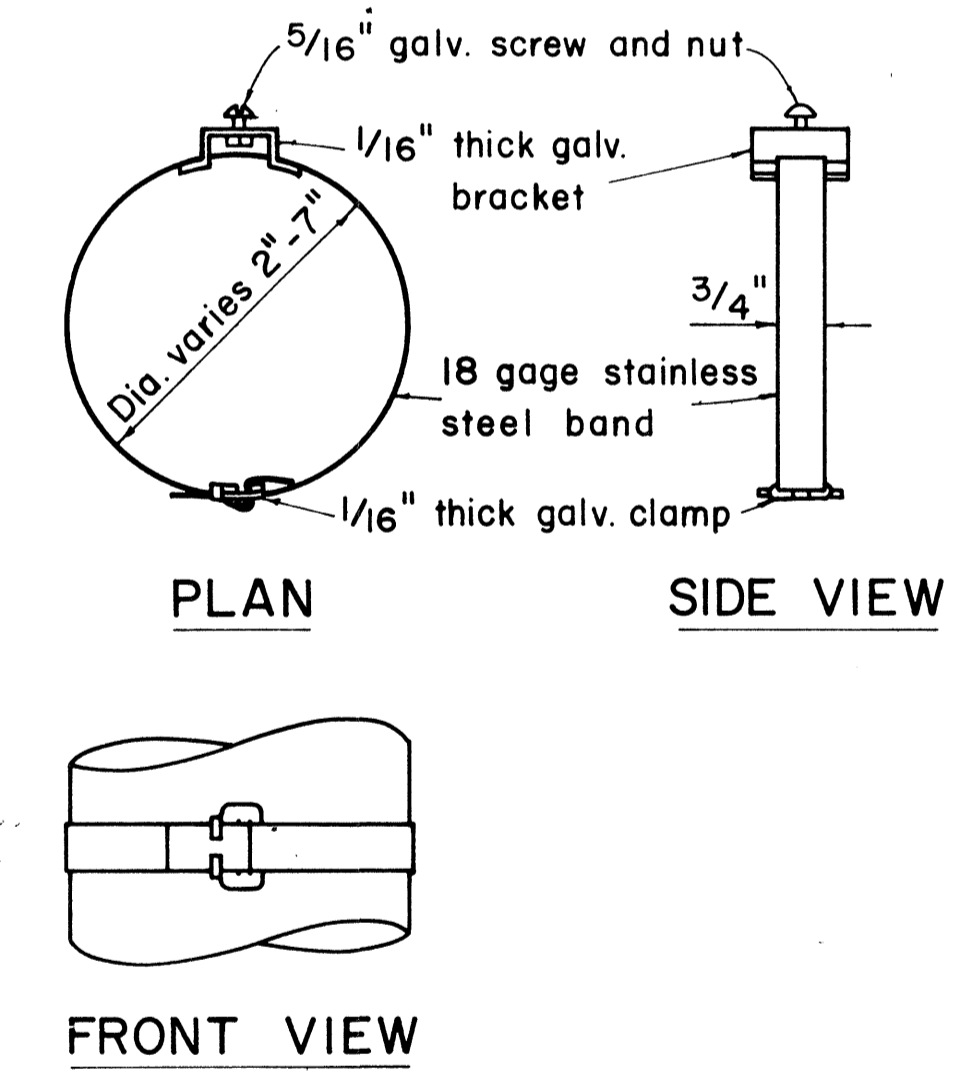
Galv. flanged channel 1/8" x 3 1/16" rolled section post with a minimum weight of 2 lbs. per ft. Upper 2 ft. shall have a single row of 3/8" holes centered in the web at 1" o.c.



TYPICAL SECTION OF ROAD DELINEATOR



TYPICAL DETAIL HORIZONTAL REFLECTOR MARKER RM-3H



PLAN SIDE VIEW FRONT VIEW

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

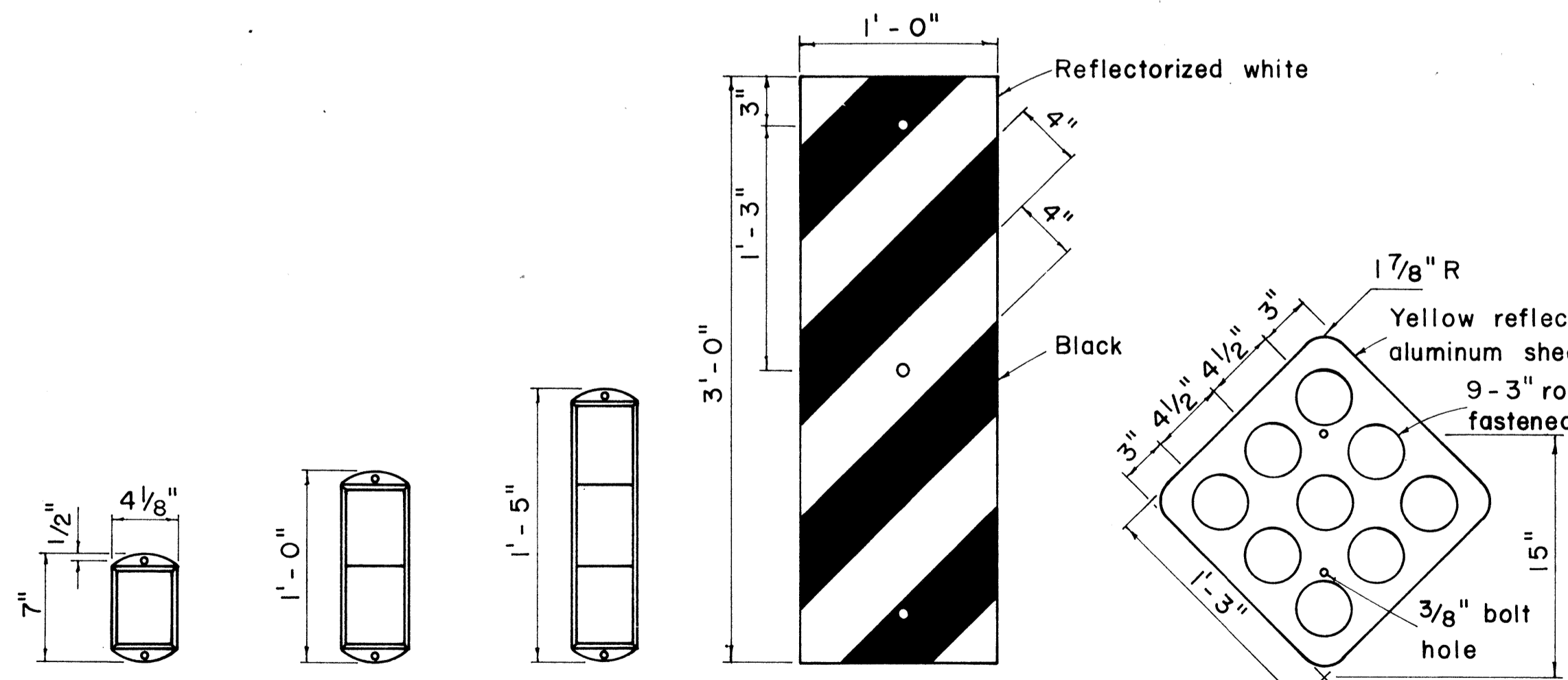
APPROVAL RECOMMENDED:
Etschi Tanaka 12/29/69
 TRAFFIC ENGINEER DATE

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

TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
| | | | |

ROAD DELINEATOR




REFLECTOR MARKERS

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

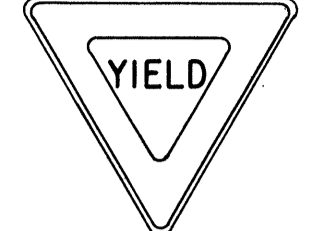
STANDARD DETAILS
 MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968
 SHEET No. 6 OF 18 SHEETS DT 100

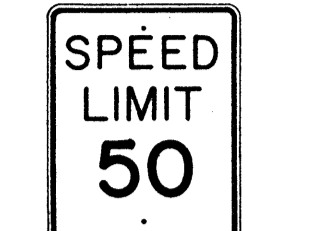
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | [H-1(G):12 | 1975 | 62 | 127 |



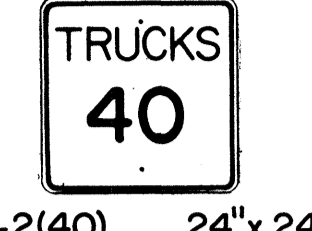
R1-1 30"x30"
R1-1-A 36"x36"
4-WAY
R1-3 12"x6"
R1-3-A 18"x9"



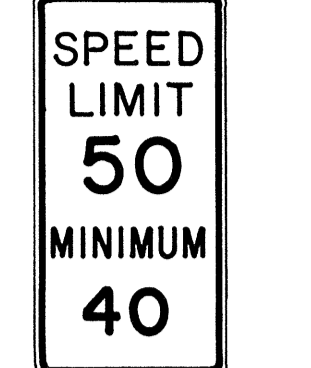
R1-2 36"x36"x36"
R1-2-A 48"x48"x48"



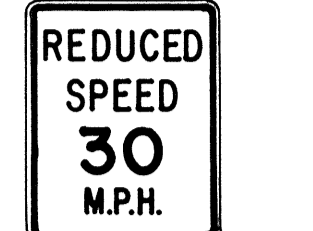
R2-1(50) 24"x30"
R2-1(50)-A 48"x60"




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 48"x48"
48"x36"




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



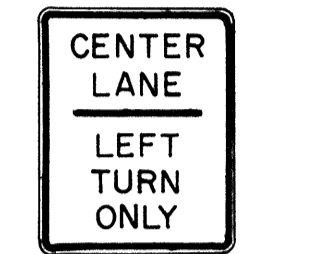
R3-6(L) 30"x36"
R3-6(L)-A 48"x60"




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"



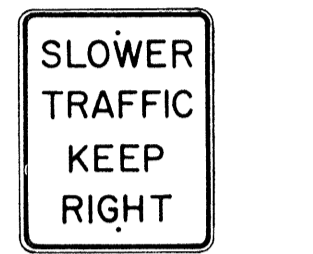
R3-9 24"x30"



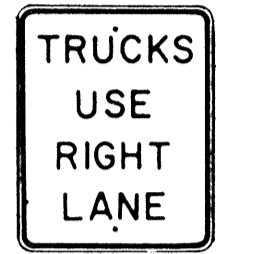
R4-1 24"x30"




R4-2 24"x30"



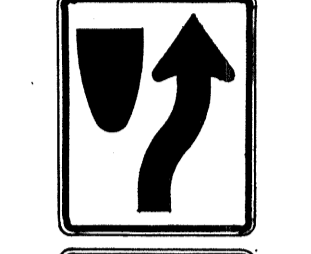
R4-3 24"x30"
R4-3-A 48"x60"



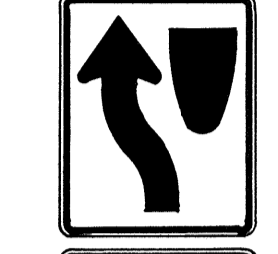
R4-5 24"x30"



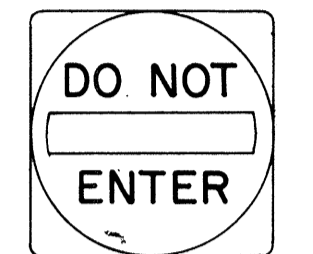
R4-6(500) 24"x30"




R4-7 24"x30"
24"x18"



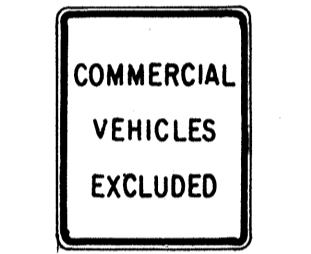
R4-8 24"x30"
24"x18"




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




R5-2 24"x24"
24"x18"



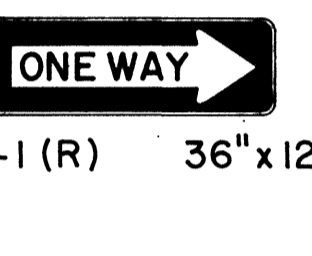
R5-4 24"x30"




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"



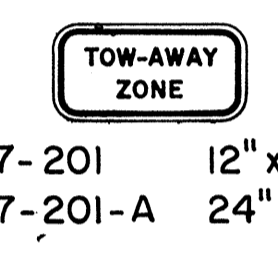
R7-4 12"x18"
R7-4-A 24"x30"




R7-107(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"



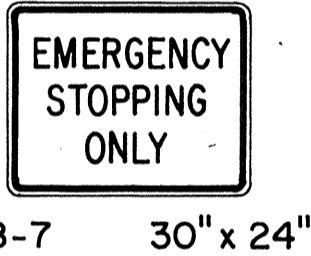
R8-4 30"x24"
R8-4-A 48"x36"



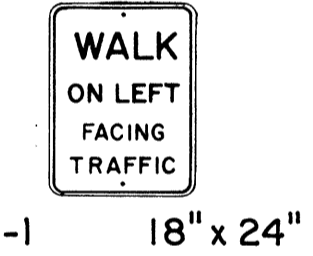
R8-5 24"x30"




R8-6 24"x30"




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



R9-1 18"x24"



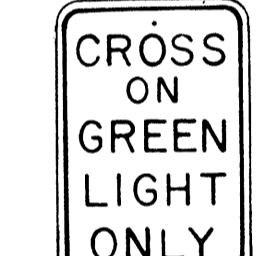
R9-2 12"x18"




R9-3 12"x18"



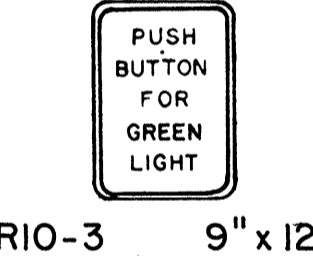
R9-4 18"x24"




R10-1 12"x18"



R10-2 12"x18"




R10-3 9"x12"



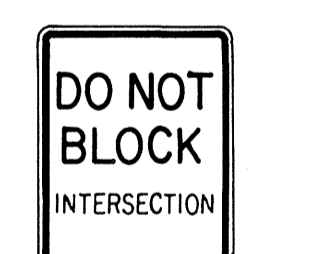
R10-4 9"x12"



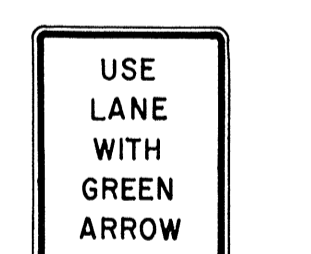
R10-5 24"x30"



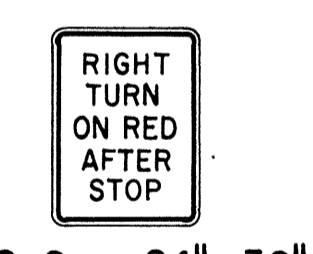
R10-6 24"x36"



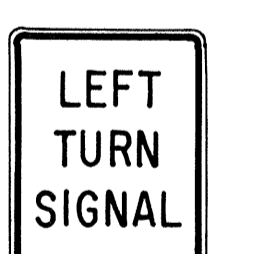
R10-7 24"x30"




R10-8 24"x30"




R10-9 24"x30"




R10-10 24"x30"



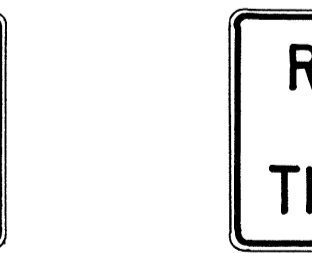
R11-1 24"x30"




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."
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

APPROVAL RECOMMENDED:
Erich Tanaka 3/17/72
TRAFFIC ENGINEER DATE

APPROVED:
Robert Roberts 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|--|-------------|---------|
| 1 | Supersedes Sht. DT 101 Approved 12-30-69 | H.C. | 3/20/72 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

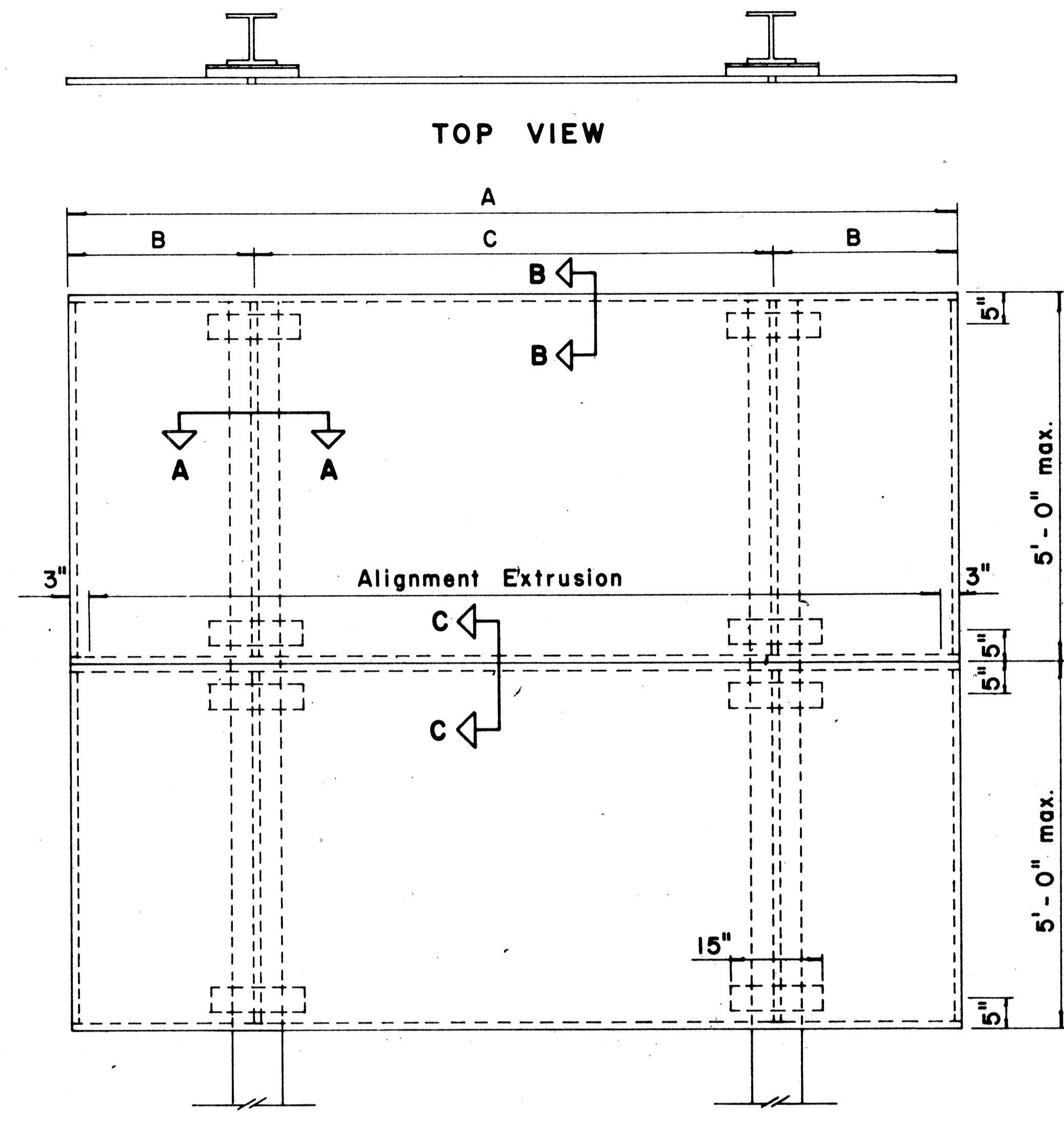
NOT TO SCALE
SHEET No. 7 OF 18 SHEETS DT 101

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

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-43-1(2)12 | 1975 | 64 | 127 |

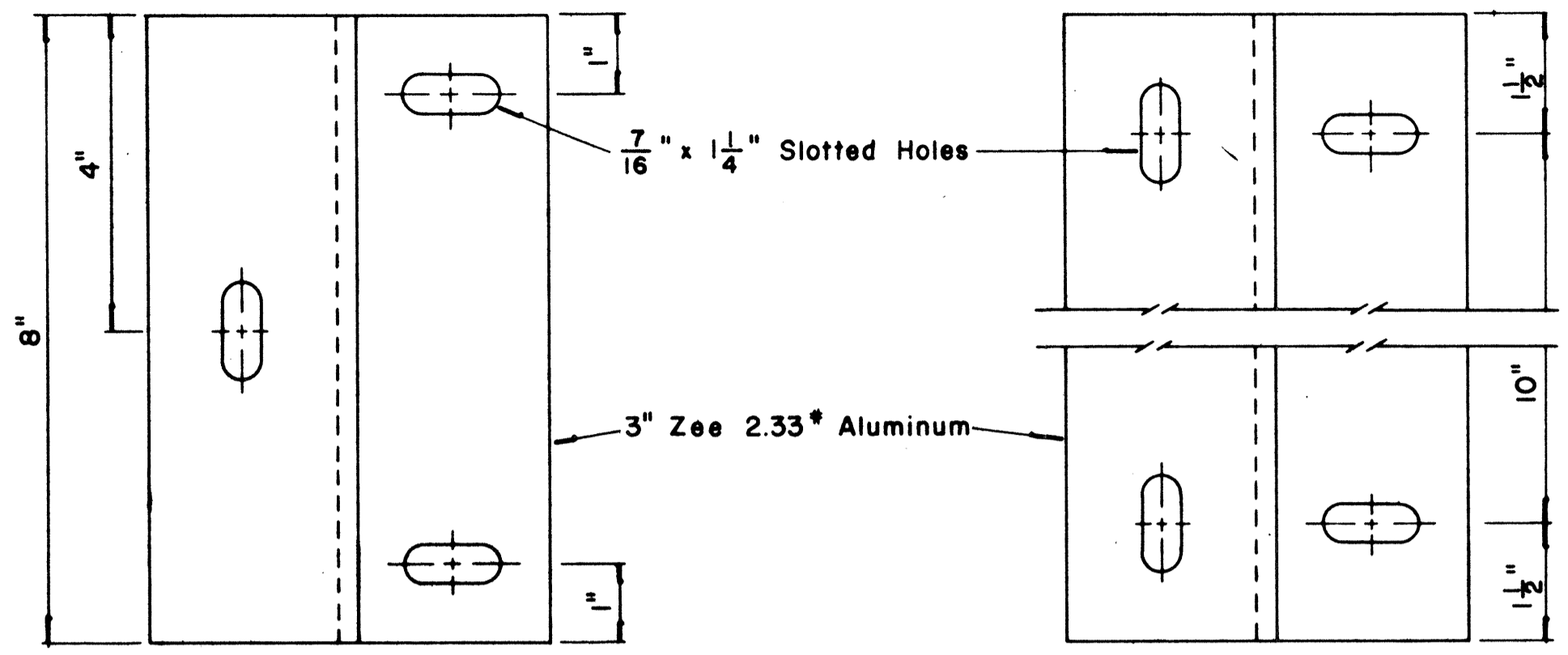
(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

| PANEL THICK. | LENGTH OF SIGN | | NO. OF SUPPORTS | OVERHANG | | SUPPORT SPACING |
|--------------|----------------|---|-----------------|----------|---|-----------------|
| | A | B | | B | C | |
| 1" | 6'-0" | 2 | 12" | 48" | | |
| 1" | 6'-6" | 2 | 15" | 48" | | |
| 1" | 7'-0" | 2 | 15" | 54" | | |
| 1" | 7'-6" | 2 | 18" | 54" | | |
| 1" | 8'-0" | 2 | 18" | 60" | | |
| 1" | 8'-6" | 2 | 20" | 62" | | |
| 1" | 9'-0" | 2 | 22" | 64" | | |
| 1" | 9'-6" | 2 | 23" | 68" | | |
| 1" | 10'-0" | 2 | 24" | 72" | | |
| 1" | 10'-6" | 2 | 24" | 78" | | |
| 1" | 11'-0" | 2 | 24" | 84" | | |
| 1" | 11'-6" | 2 | 27" | 84" | | |
| 1" | 12'-0" | 2 | 30" | 84" | | |
| 1" | 12'-6" | 2 | 30" | 90" | | |
| 1" | 13'-0" | 2 | 30" | 96" | | |
| 1" | 13'-6" | 2 | 30" | 102" | | |
| 1" | 14'-0" | 2 | 30" | 108" | | |
| 1" | 14'-6" | 2 | 36" | 102" | | |
| 1" | 15'-0" | 2 | 36" | 108" | | |
| 2.5" | 15'-6" | 2 | 36" | 114" | | |
| 2.5" | 16'-0" | 2 | 39" | 114" | | |
| 2.5" | 16'-6" | 2 | 39" | 120" | | |
| 2.5" | 17'-0" | 2 | 39" | 126" | | |
| 2.5" | 17'-6" | 2 | 42" | 126" | | |
| 2.5" | 18'-0" | 2 | 42" | 132" | | |
| 2.5" | 18'-6" | 2 | 45" | 132" | | |
| 2.5" | 19'-0" | 2 | 45" | 138" | | |
| 2.5" | 19'-6" | 2 | 45" | 144" | | |
| 2.5" | 20'-0" | 2 | 48" | 144" | | |
| 2.5" | 20'-6" | 2 | 48" | 150" | | |
| 2.5" | 21'-0" | 2 | 51" | 150" | | |
| 2.5" | 21'-6" | 2 | 51" | 156" | | |
| 2.5" | 22'-0" | 2 | 51" | 162" | | |
| 2.5" | 22'-6" | 2 | 54" | 162" | | |
| 2.5" | 23'-0" | 2 | 54" | 168" | | |
| 2.5" | 23'-6" | 2 | 54" | 174" | | |
| 2.5" | 24'-0" | 2 | 57" | 174" | | |



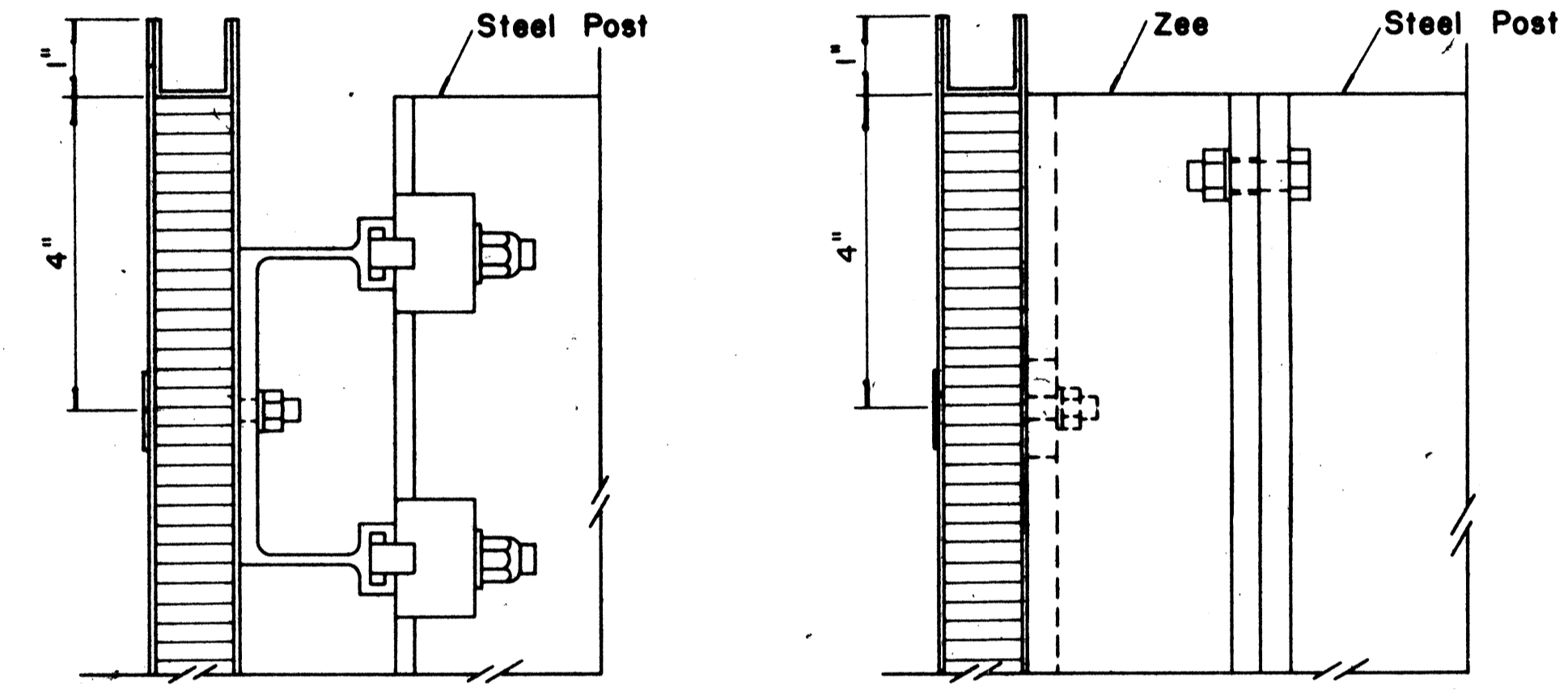
TYPICAL SIGN ASSEMBLY

Scale: $\frac{3}{4}$ " = 1'-0"



ZEE MOUNTING DETAILS

Scale: $\frac{1}{2}$ " = 1"

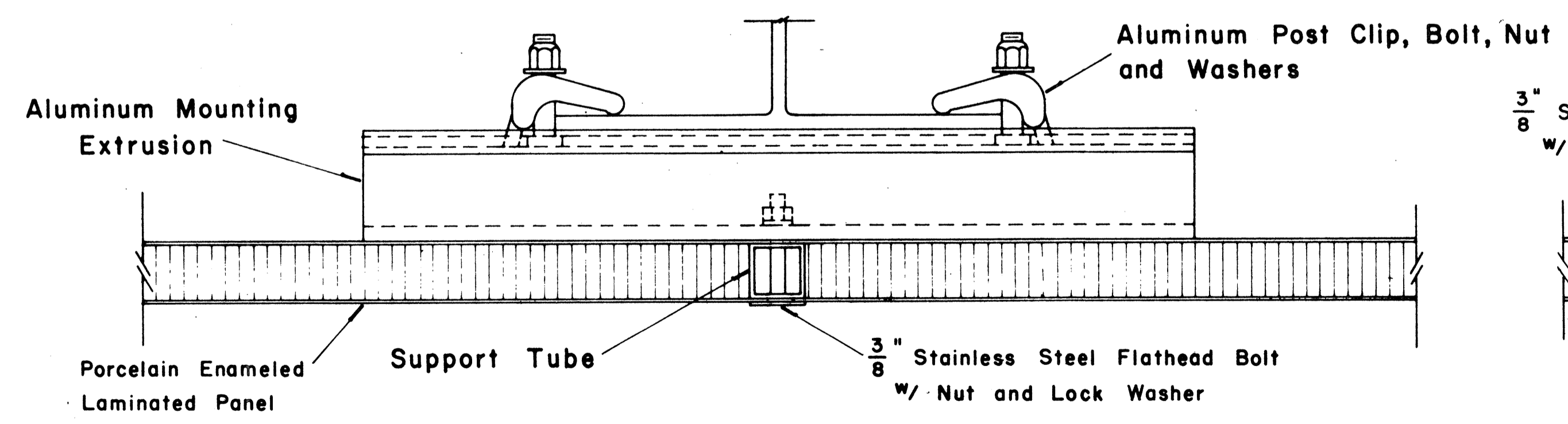


SECTION "B-B"

Scale: $\frac{1}{2}$ " = 1"

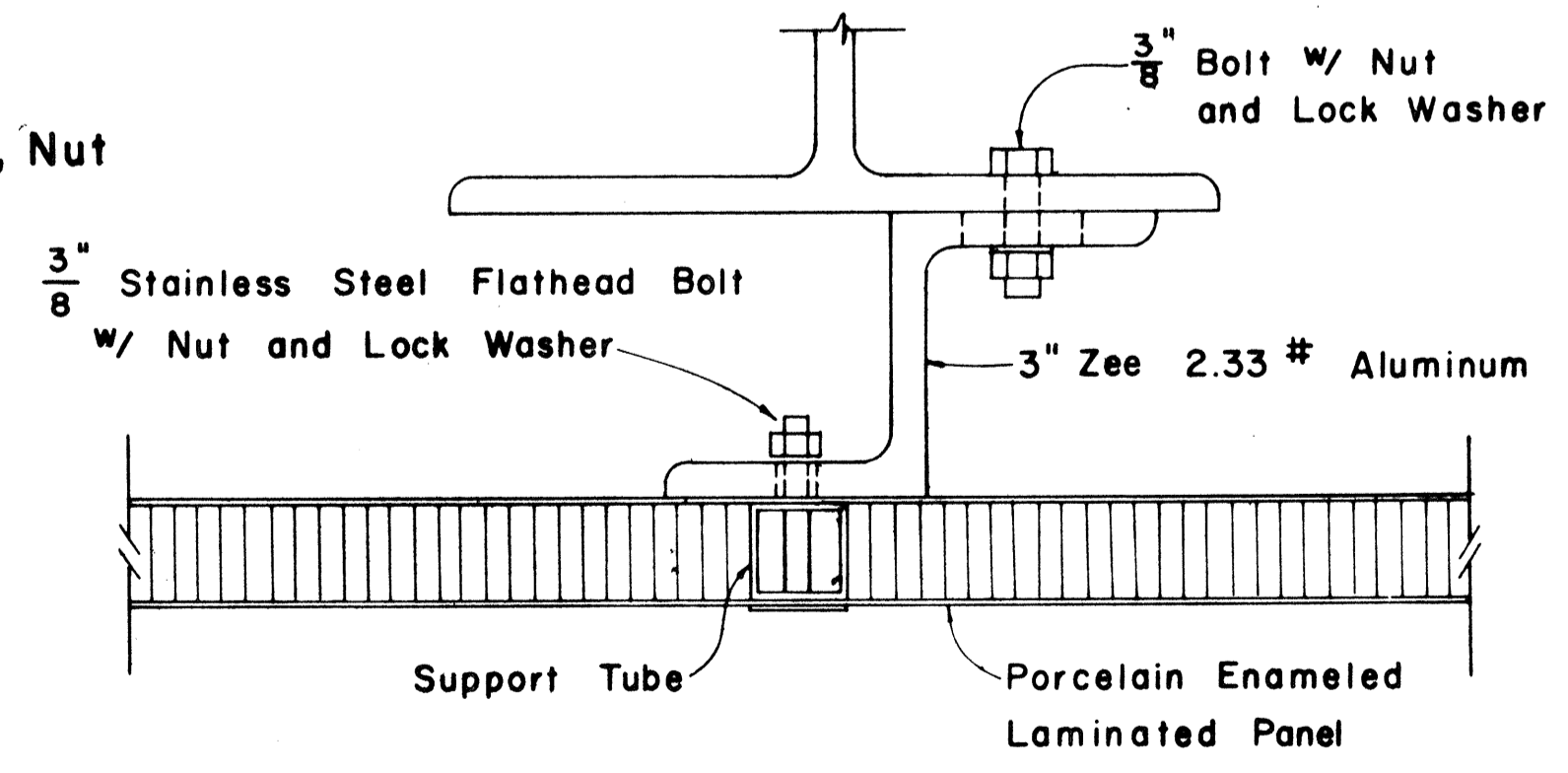
SECTION "B-B" (Alternate)

Scale: $\frac{1}{2}$ " = 1"



SECTION "A-A"

Scale: $\frac{1}{2}$ " = 1"



SECTION "A-A" (Alternate)

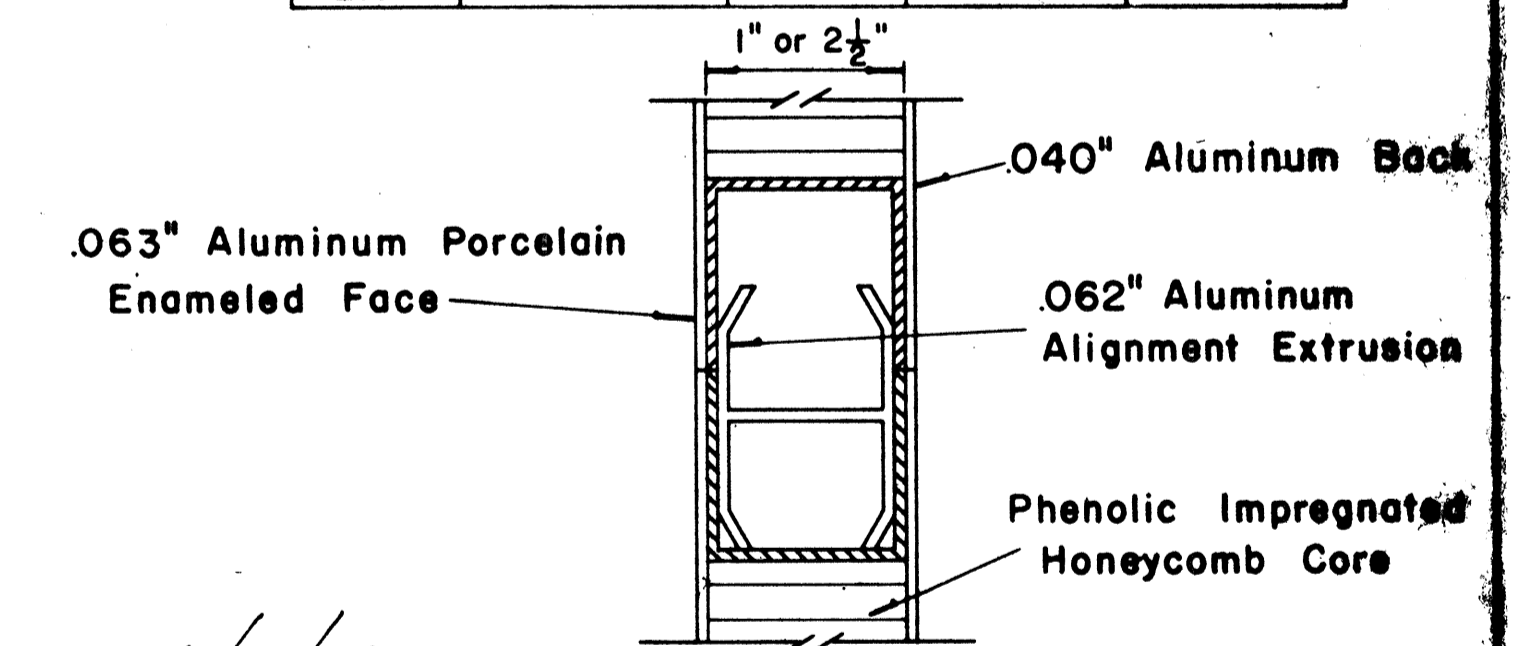
Scale: $\frac{1}{2}$ " = 1"

APPROVAL RECOMMENDED:

Eishi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

John J. ... 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE



CLOSURE DETAIL SECTION "C-C"

FULL SCALE

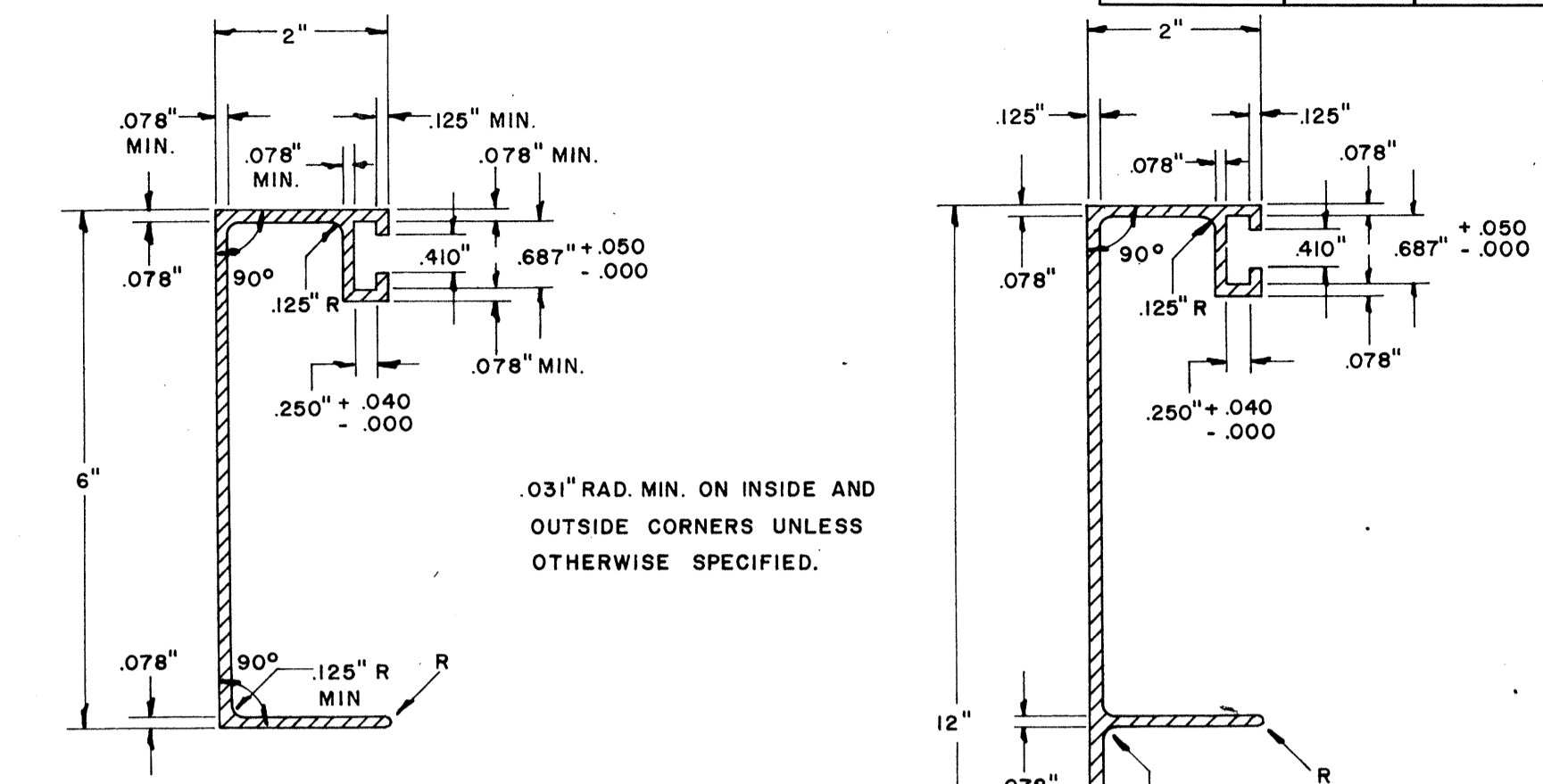
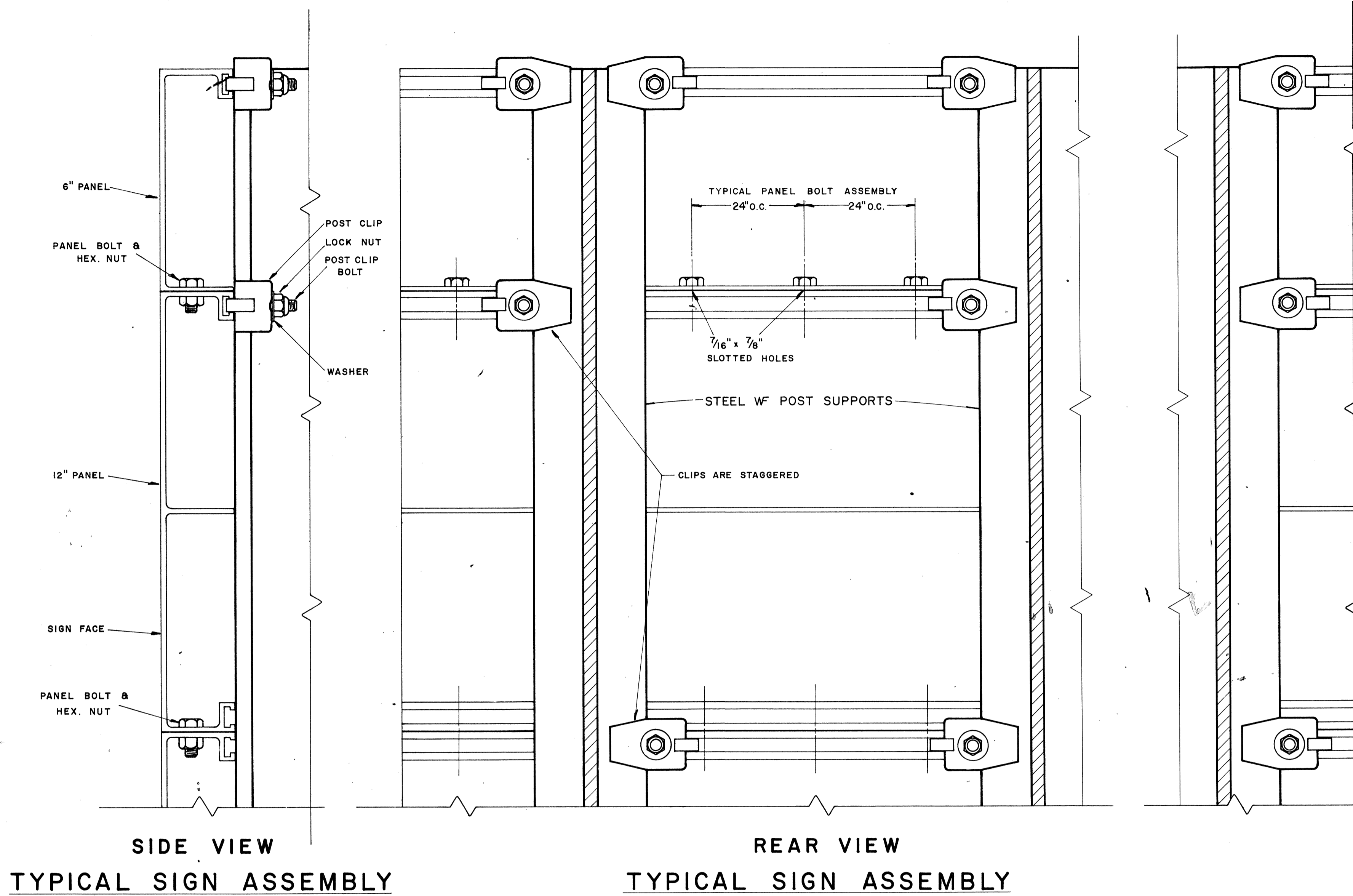
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
| | | | |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

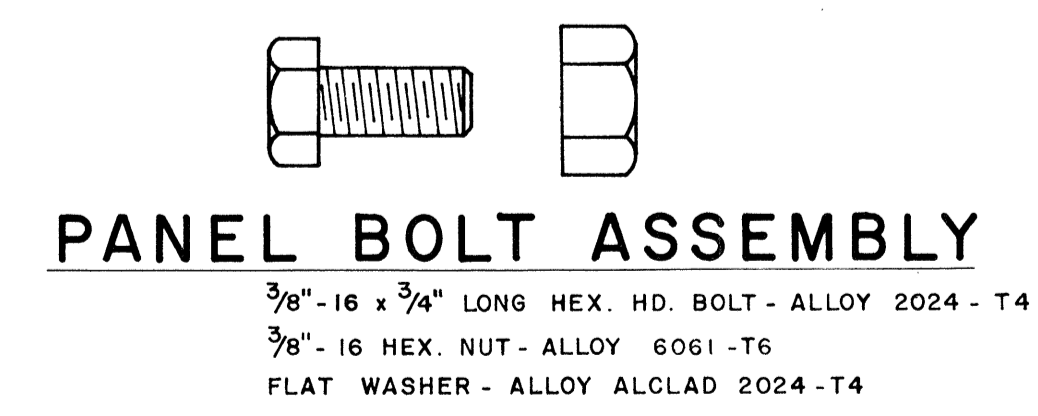
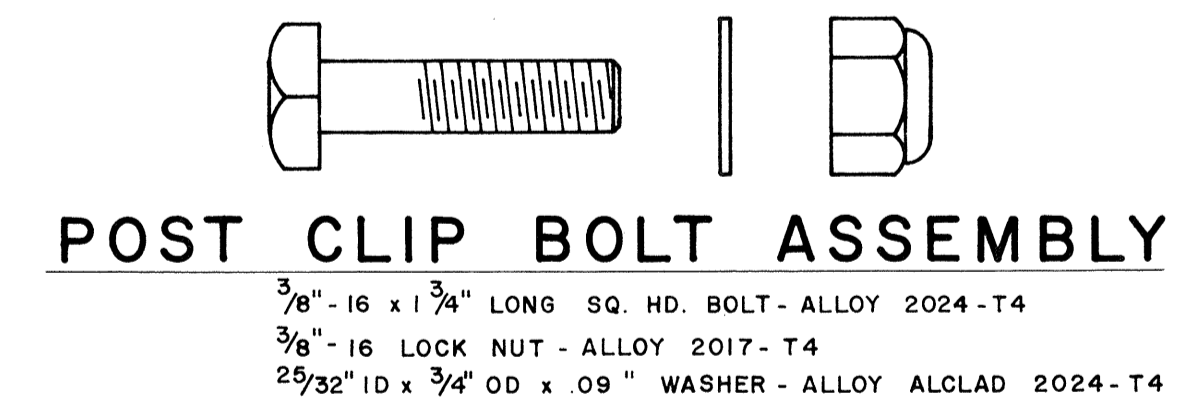
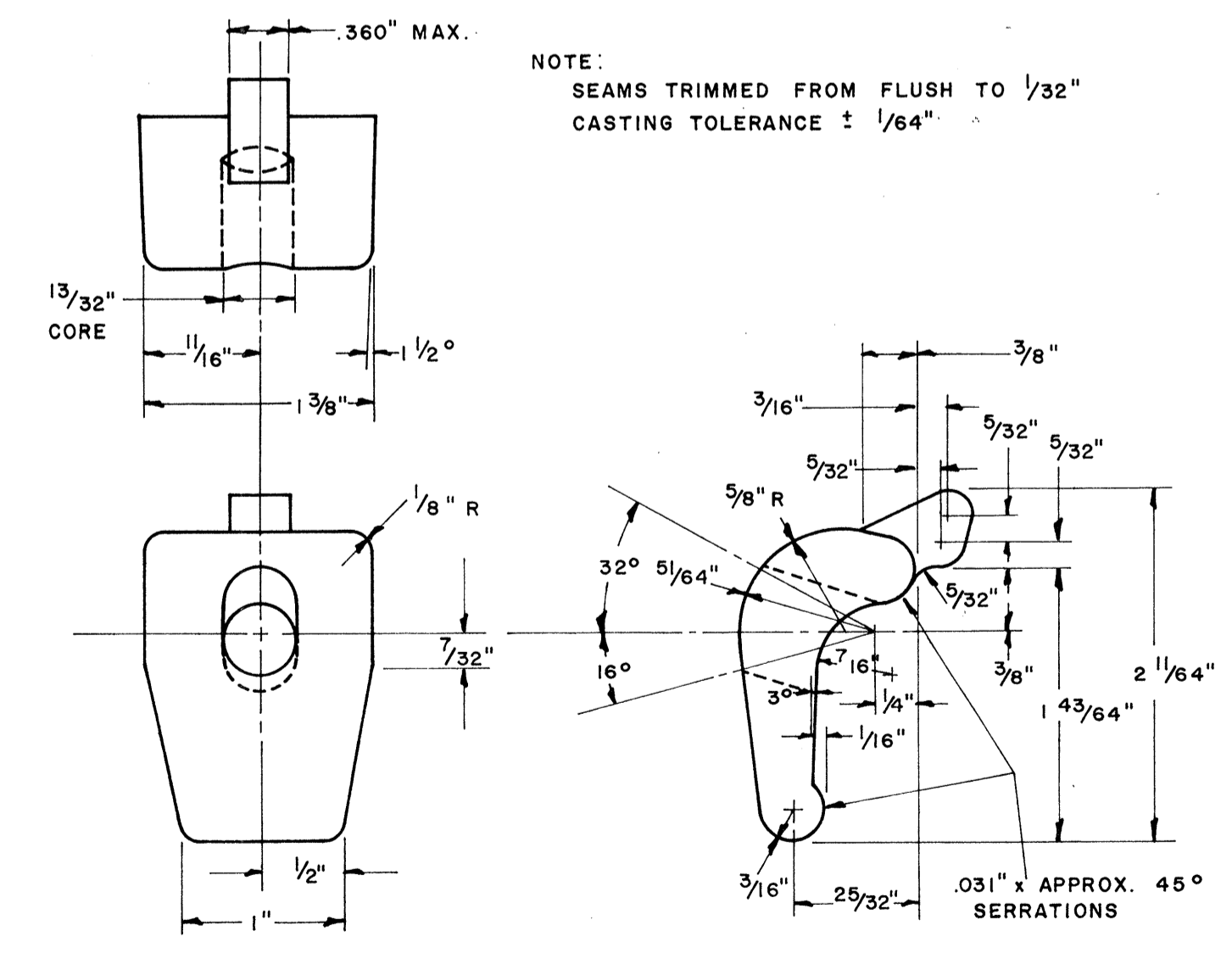
STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)

Scale: As Shown

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-18-1(G)12 | 1975 | 65 | 127 |



SOLID EXTRUDED SIGN PANEL DETAILS



NOTE:
Extruded Aluminum Panels to be used for
Destination Signs with Reflective Sheeting Background

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

APPROVED:
Arthur S. [Signature] 12-30-62
ASSISTANT CHIEF, ENGINEERING DATE

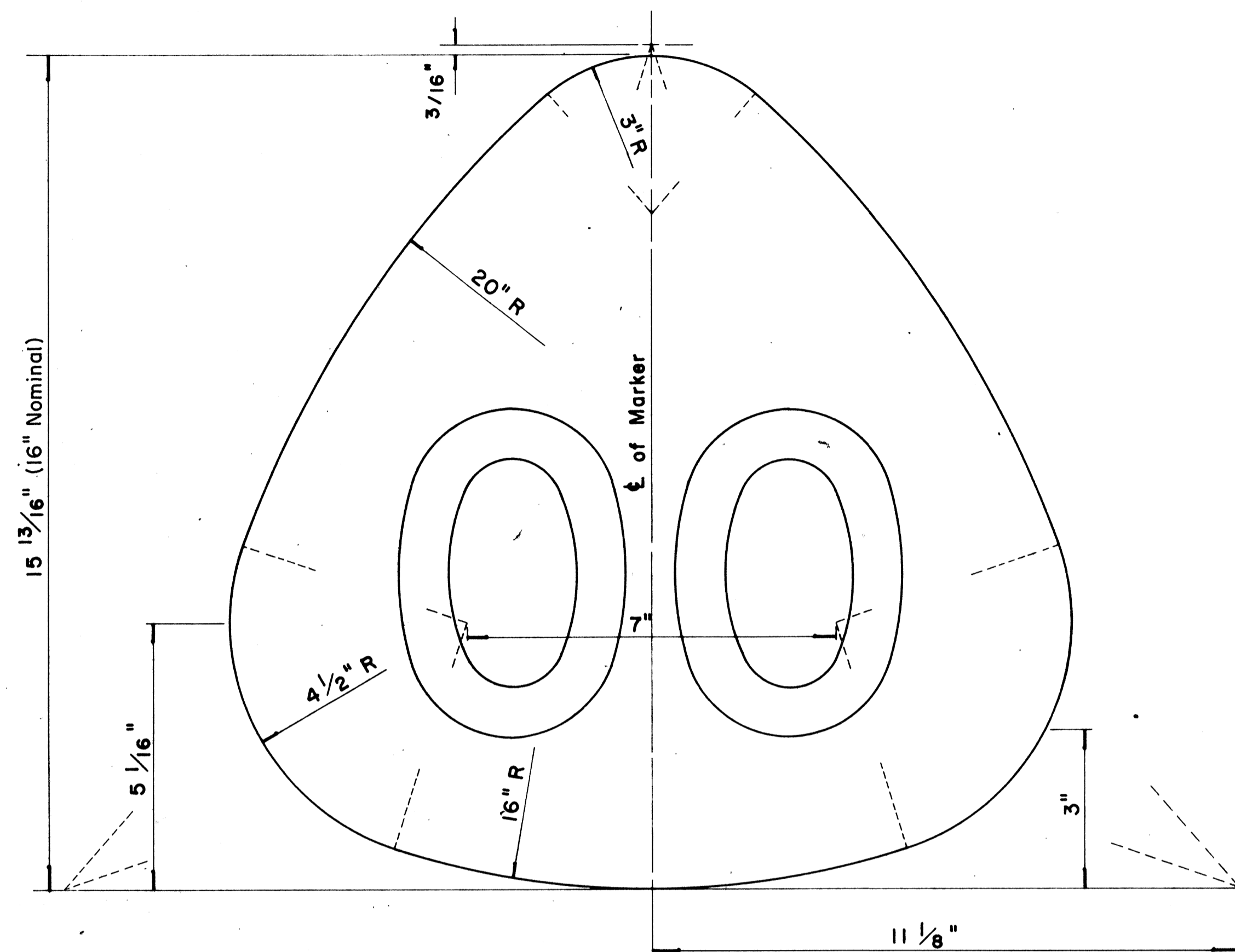
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
| | | | |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
SOLID ALUMINUM
EXTRUDED SIGN PANEL
AND
ACCESSORY DETAILS
SCALE:

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
QUANTITIES BY: _____
NOTE BOOK NO. _____
ORIGINAL PLAN NO. _____

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(6)-12 | 1975 | 66 | 127 |

| MARKER SIZE | MULTIPLY DIMENSIONS BY | NUMERAL SIZE |
|-------------|------------------------|--|
| | | 2 Digit - Series D 3 Digit - Series C |
| * 16" | 1 | 6" |
| 21" | 1.3 | 8" |
| 32" | 2.0 | 12" |
| 42" | 2.63 | 16" |



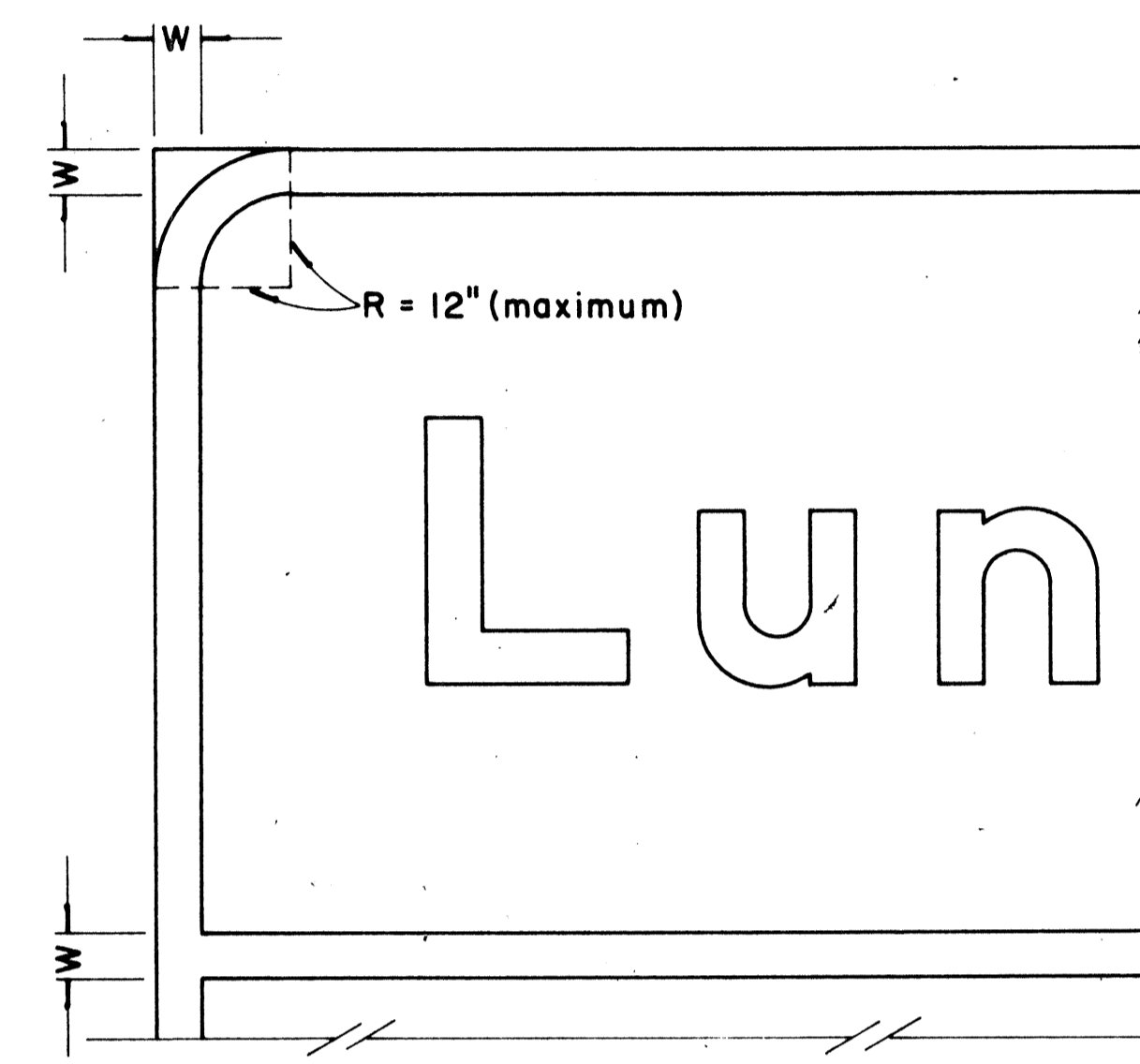
**STATE ROUTE MARKER
FOR GUIDE SIGNS**

Scale: Half Size

NOTE:

- State Route Markers on Guide signs shall have black numerals on a white reflectorized background mounted on a flat aluminum cut-out.
- Numerals shall conform to the FHWA publication "Standard Alphabets for Highway Signs," 1966.
- Cut-outs shall be fastened on sign panel with aluminum blind rivets. See Standard Specifications.
- * The 16" State Route Marker shall be used only with the Construction Identification sign.

| RADII FOR SIGNS | | |
|-------------------------|----|-----|
| Least Dimension of Sign | W | R |
| 2'-0" to 4'-6" | 2" | 3" |
| 4'-9" to 5'-6" | 2" | 6" |
| 5'-9" to 7'-6" | 2" | 9" |
| 7'-9" and greater | 2" | 12" |



**BORDER DETAIL
FOR GUIDE SIGNS**

Not to Scale

NOTE:

- Area outside corner radius need not be trimmed.
- All borders shall be embossed cut-outs, white and reflectorized.
- All Guide signs shall have borders.

APPROVAL RECOMMENDED:
Eishi Tanaka 4/11/72
 TRAFFIC ENGINEER DATE

APPROVED:
Walter Z. Sakai 4/12/72
 ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|---|-------------|---------|
| 1 | Supersedes Sht. DT 209 Approved 12-30-69 | WZ | 4/12/72 |

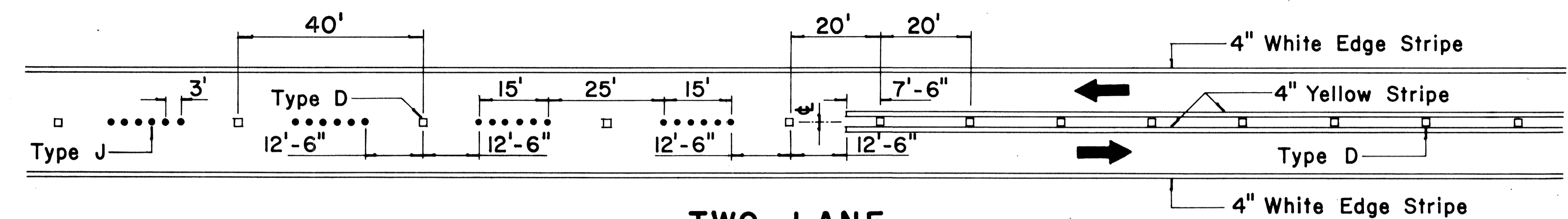
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 STANDARD DETAILS
 STATE ROUTE MARKER
 AND BORDER DETAIL
 FOR GUIDE SIGNS

Scale: As Shown

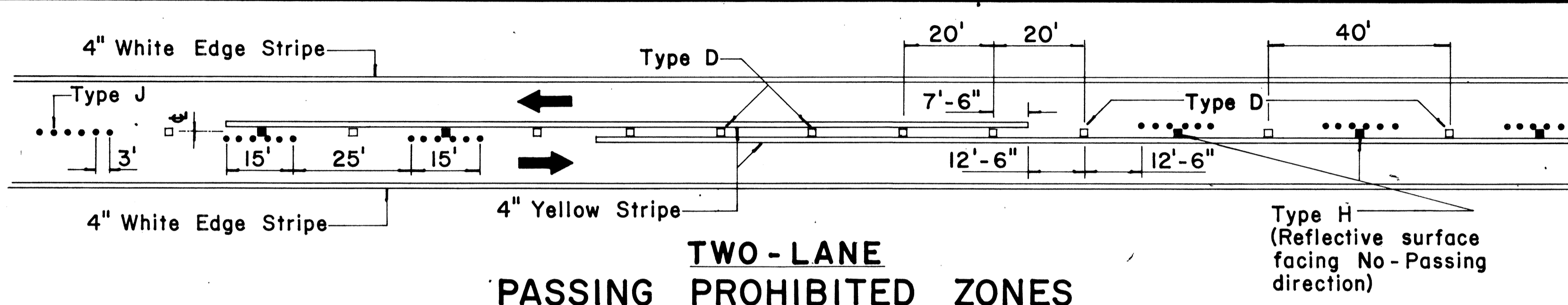
SHEET No. 11 OF 18 SHEETS DT 209

SURVEY PLOTTED BY: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 QUANTITIES BY: _____
 CHECKED BY: _____
 ORIGINAL PLAN NO. _____

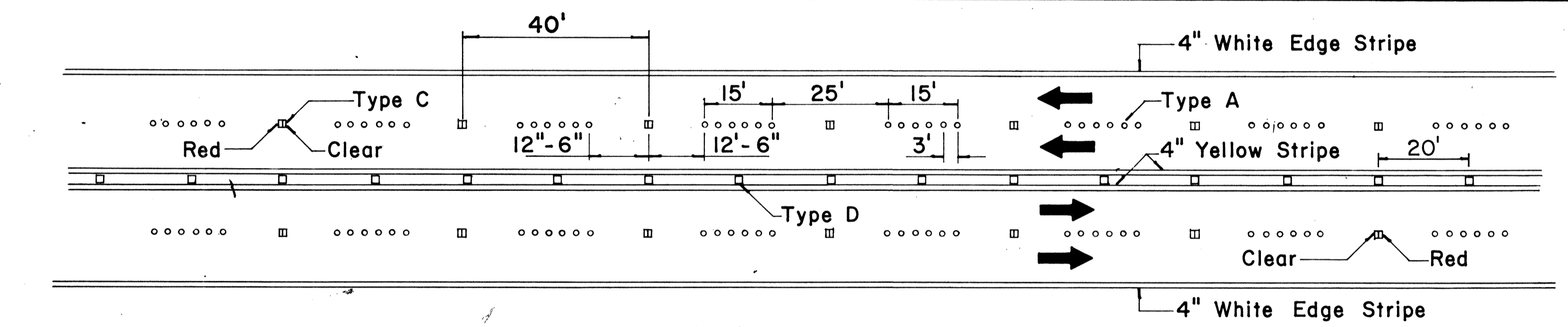
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H-1(6)12 | 1975 | 67 | 127 |



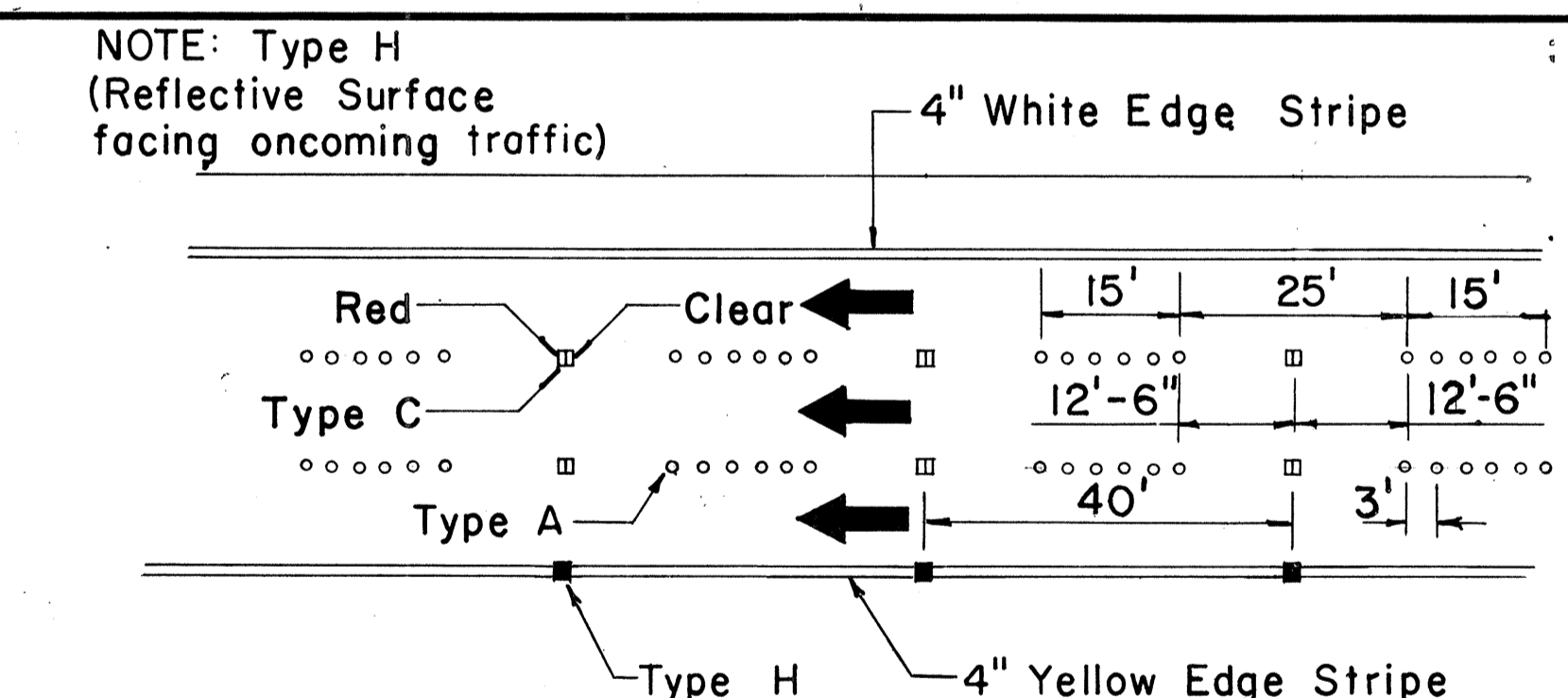
**TWO-LANE
PASSING PERMITTED AND PASSING PROHIBITED**



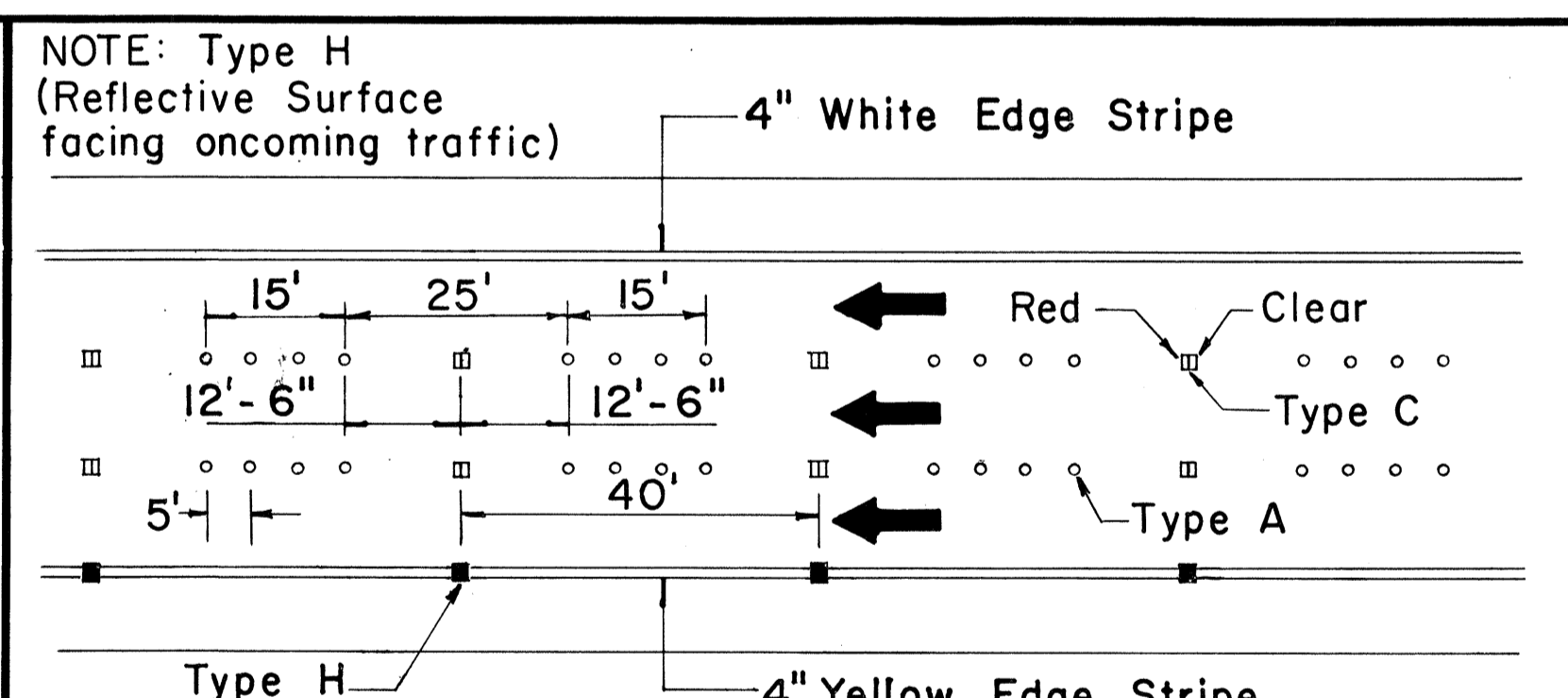
**TWO-LANE
PASSING PROHIBITED ZONES**



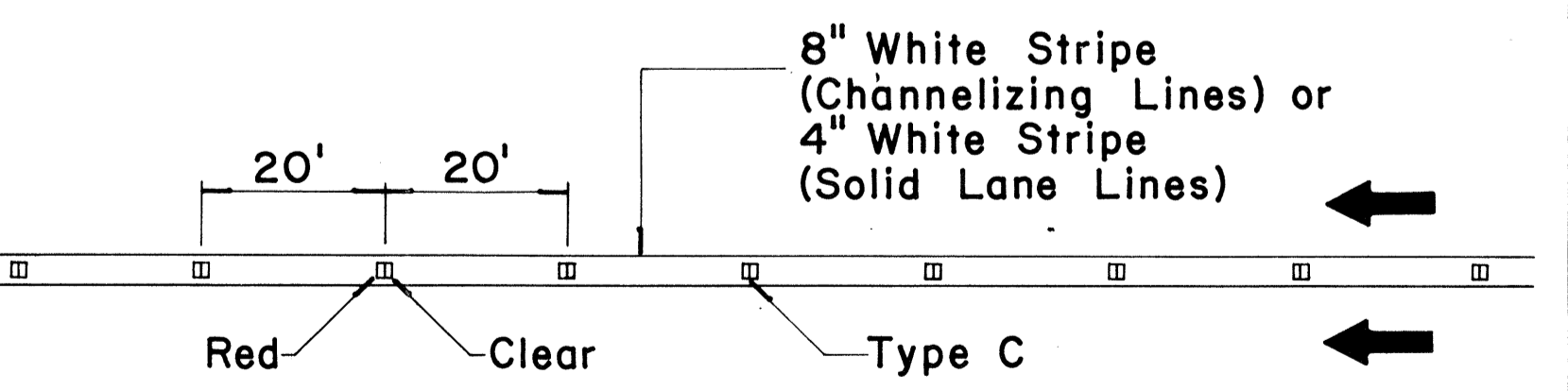
**MULTI-LANE
LANE LINES AND CENTER LINE**



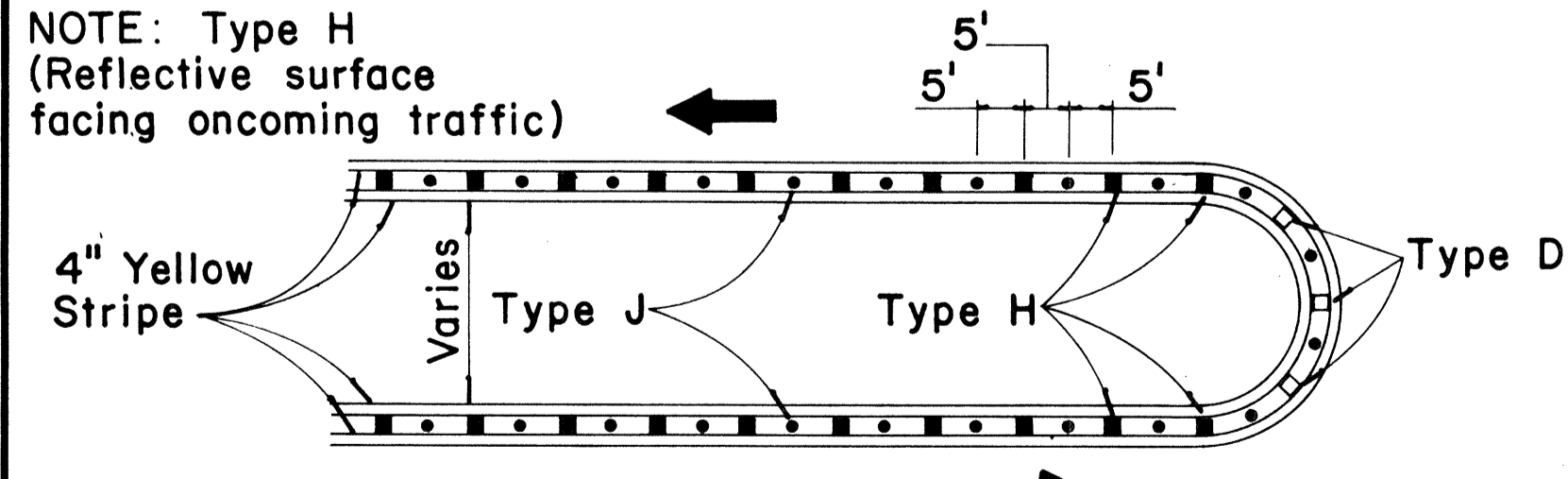
DIVIDED HIGHWAY LANE LINES



FREEWAY LANE LINES



**CHANNELIZING LINES
OR SOLID LANE LINES**



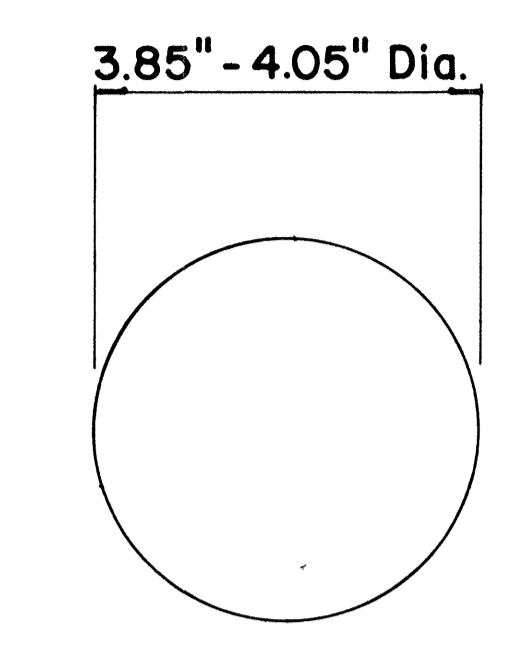
MEDIAN NOSE DELINEATION

TWO - LANE

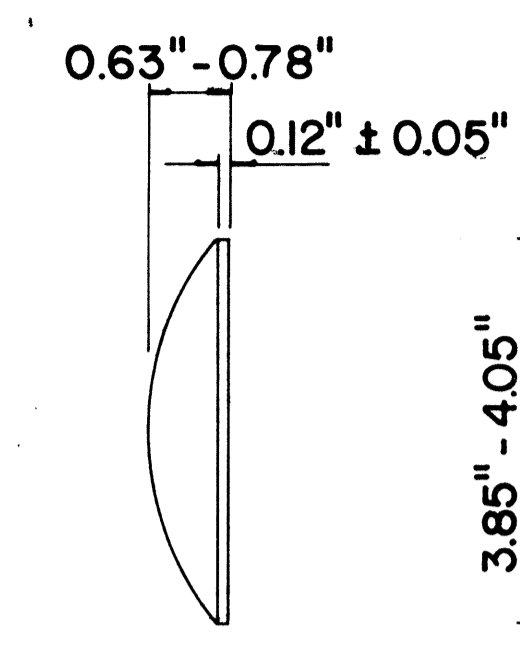
MULTI - LANE

DIVIDED HIGHWAY
AND
FREEWAY

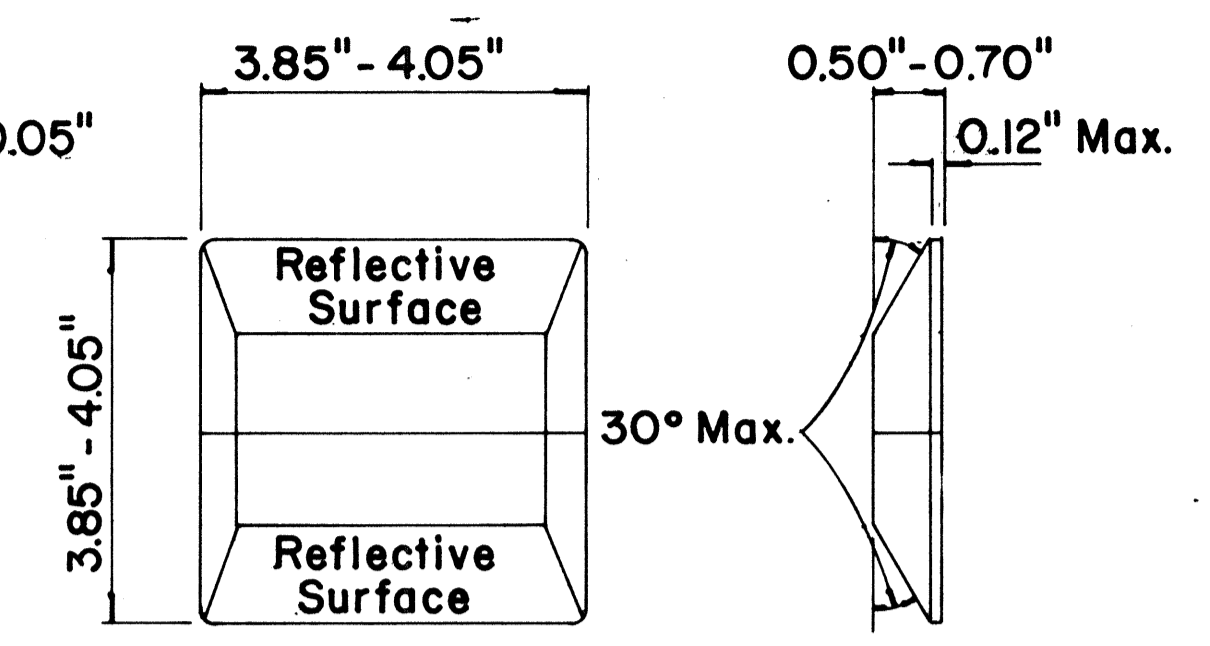
MISCELLANEOUS



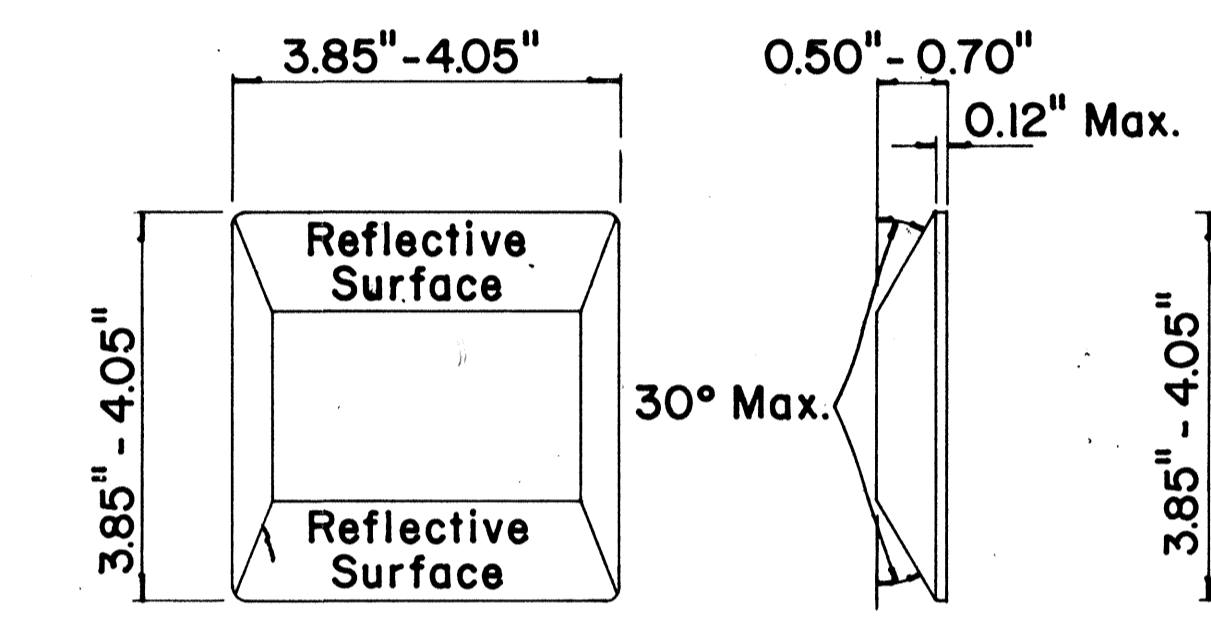
**TYPE A
NON-REFLECTIVE WHITE MARKER**



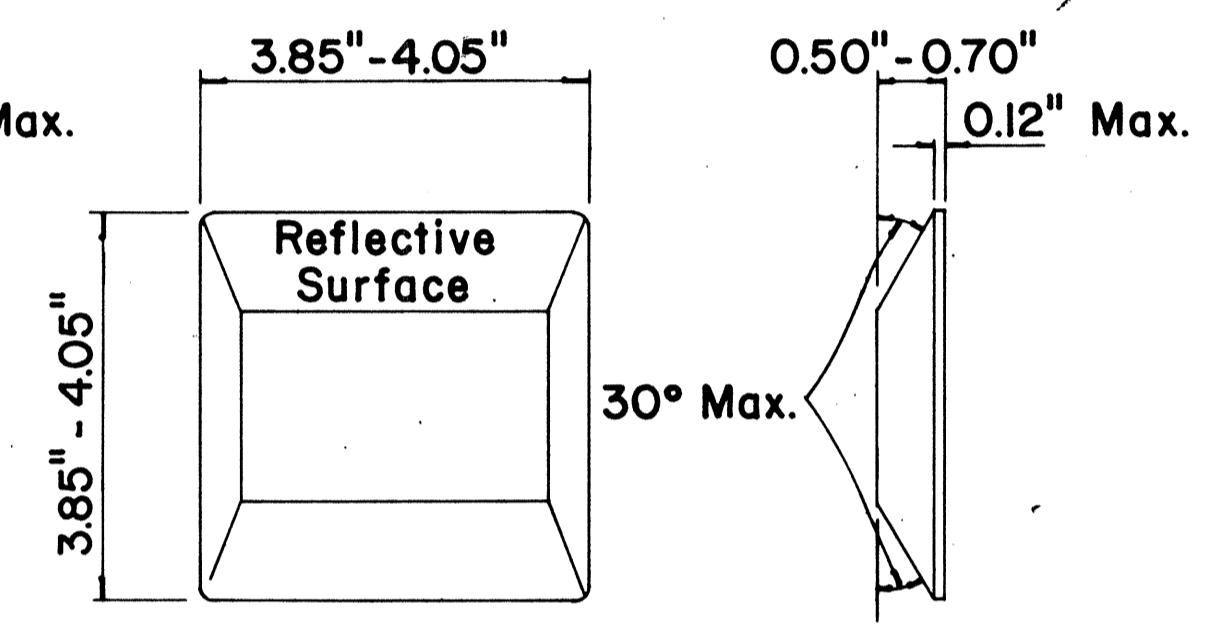
**TYPE J
NON-REFLECTIVE YELLOW MARKER**



**TYPE C
RED-CLEAR REFLECTIVE MARKER**



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



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

GENERAL NOTES

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

LEGEND

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

APPROVAL RECOMMENDED:
E. I. Tanaka 11/18/71
TRAFFIC ENGINEER DATE

APPROVED:
Sheldon S. Sato 11/18/71
ASSISTANT CHIEF, ENGINEERING DATE

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

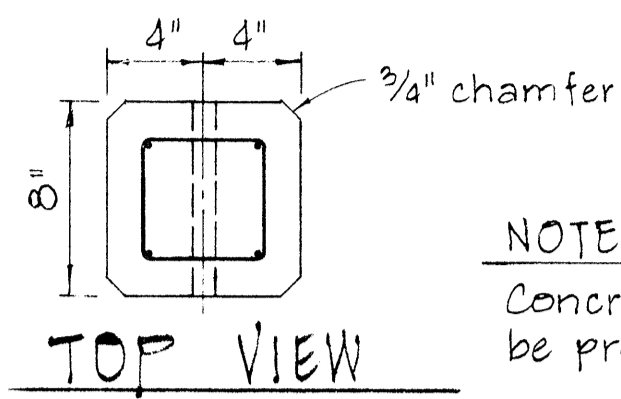
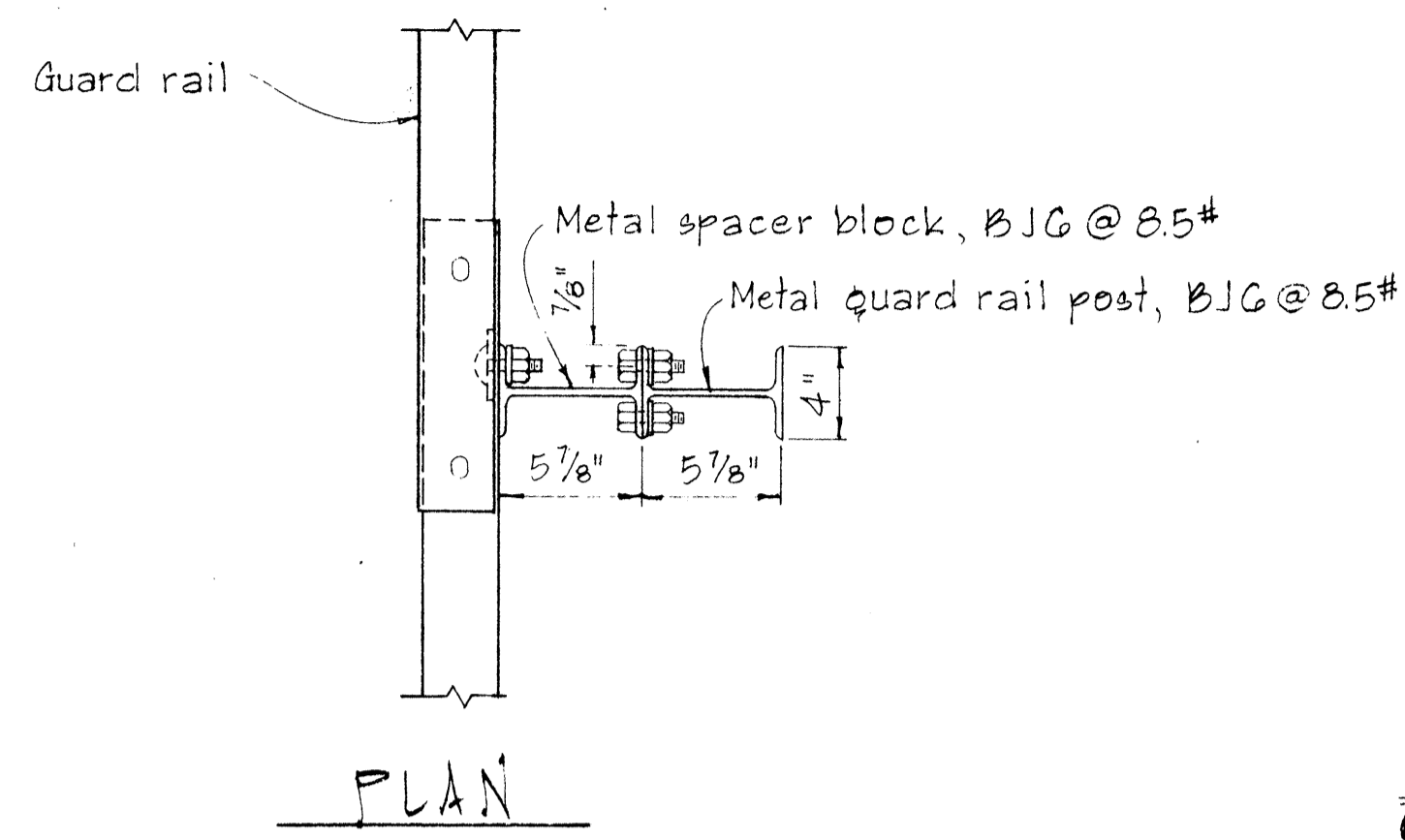
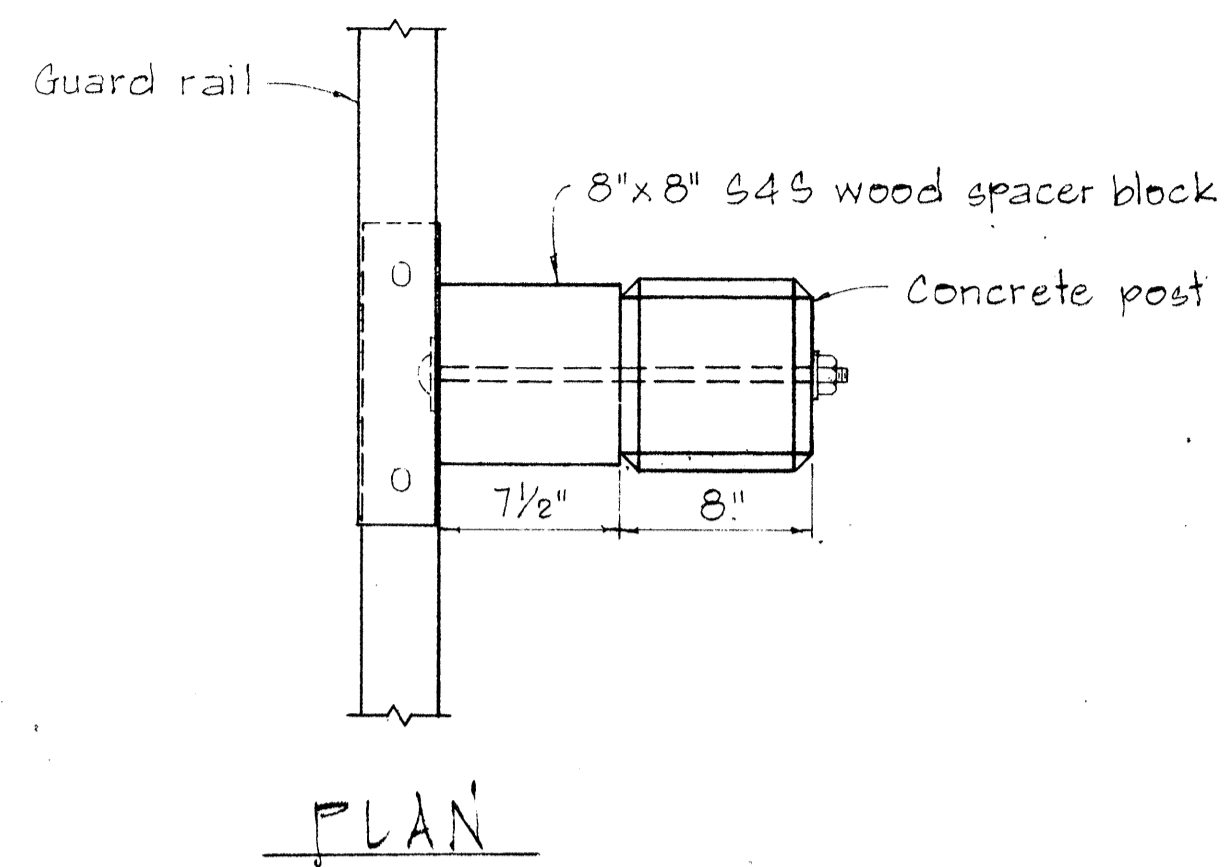
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STANDARD DETAILS
RAISED PAVEMENT MARKERS**

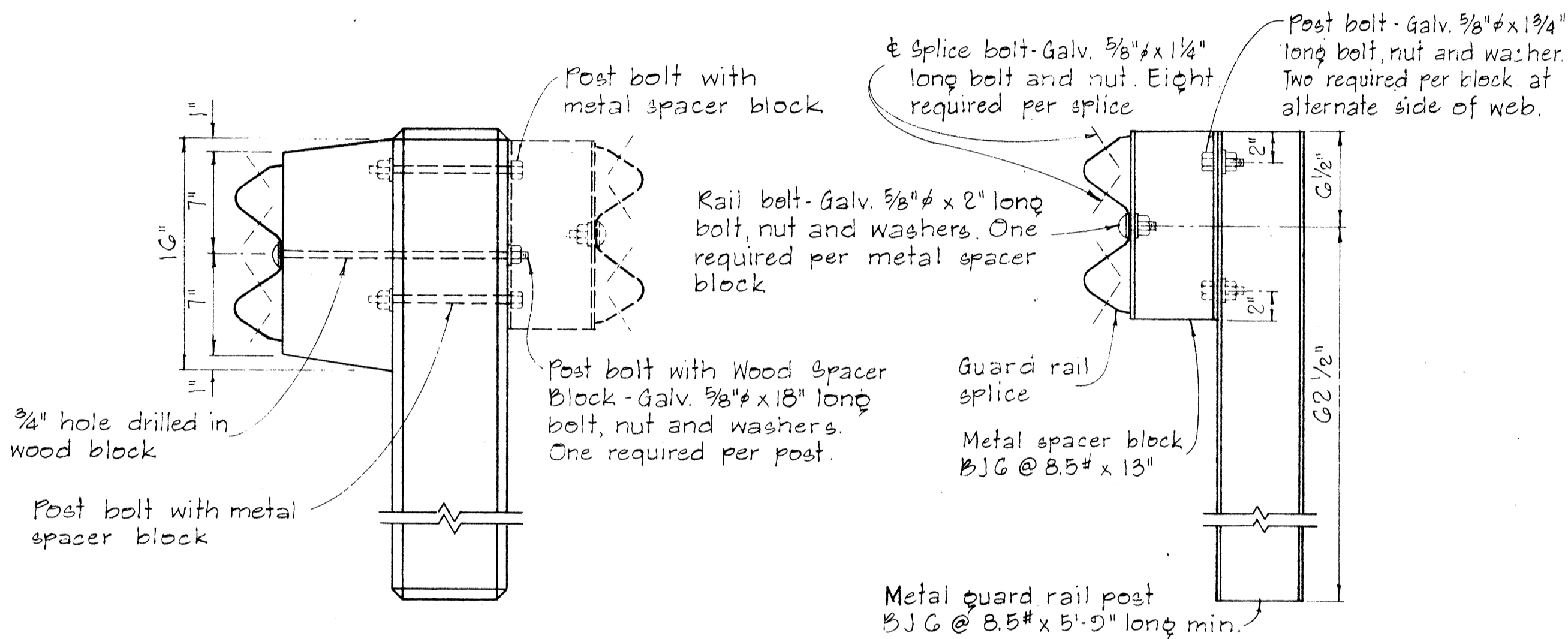
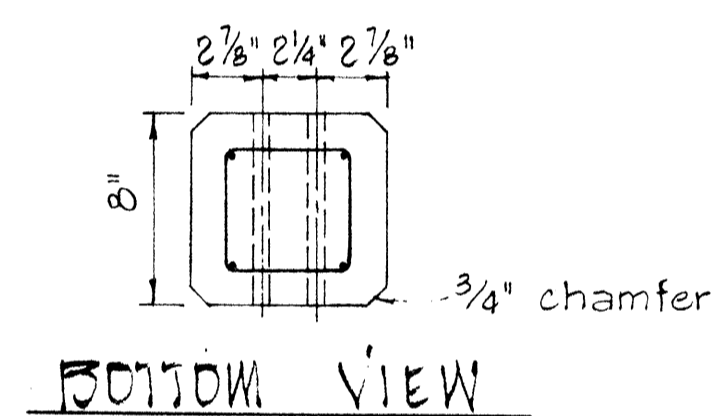
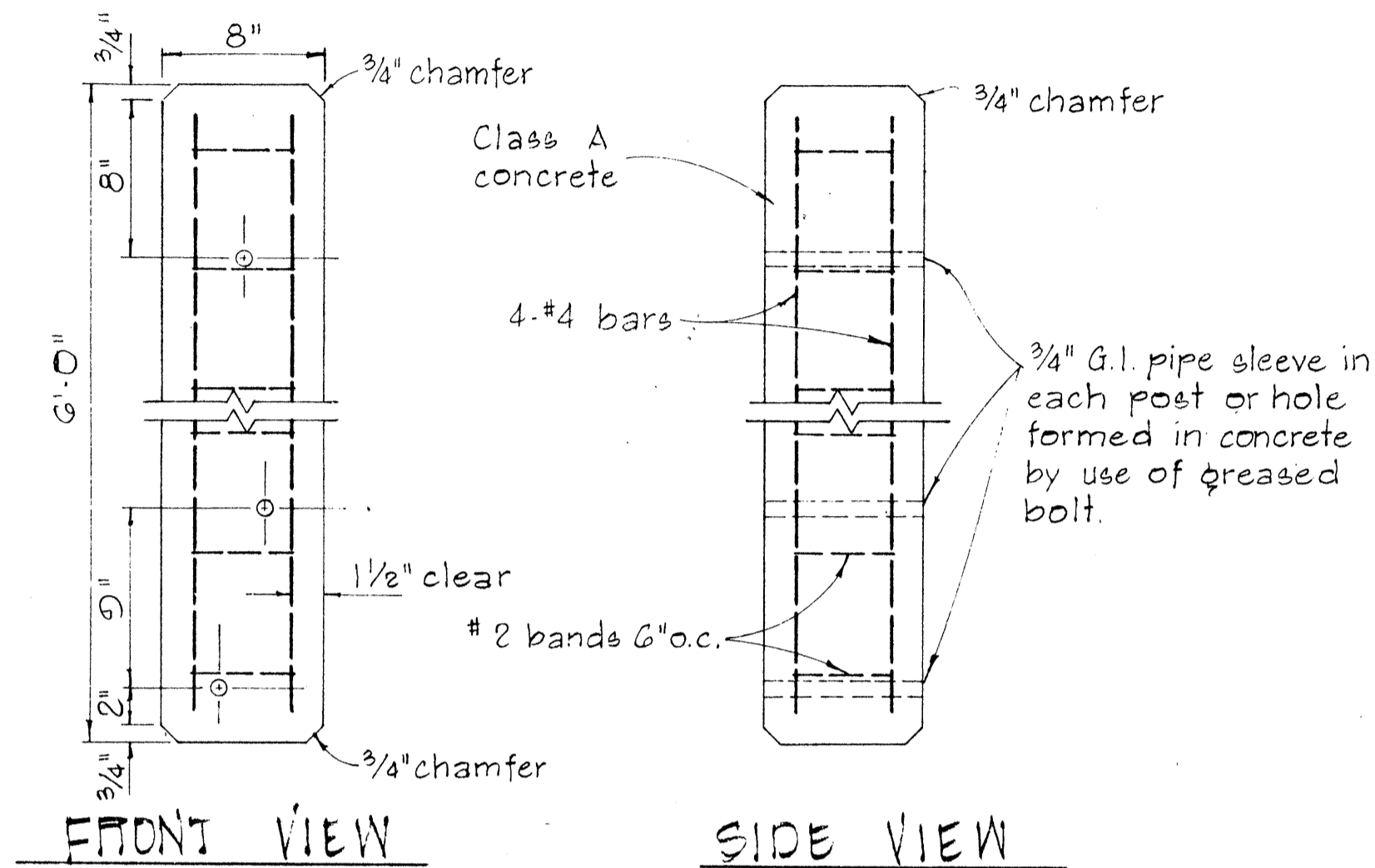
Not to Scale October 1971
SHEET No. 12 OF 18 SHEETS DT 300

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

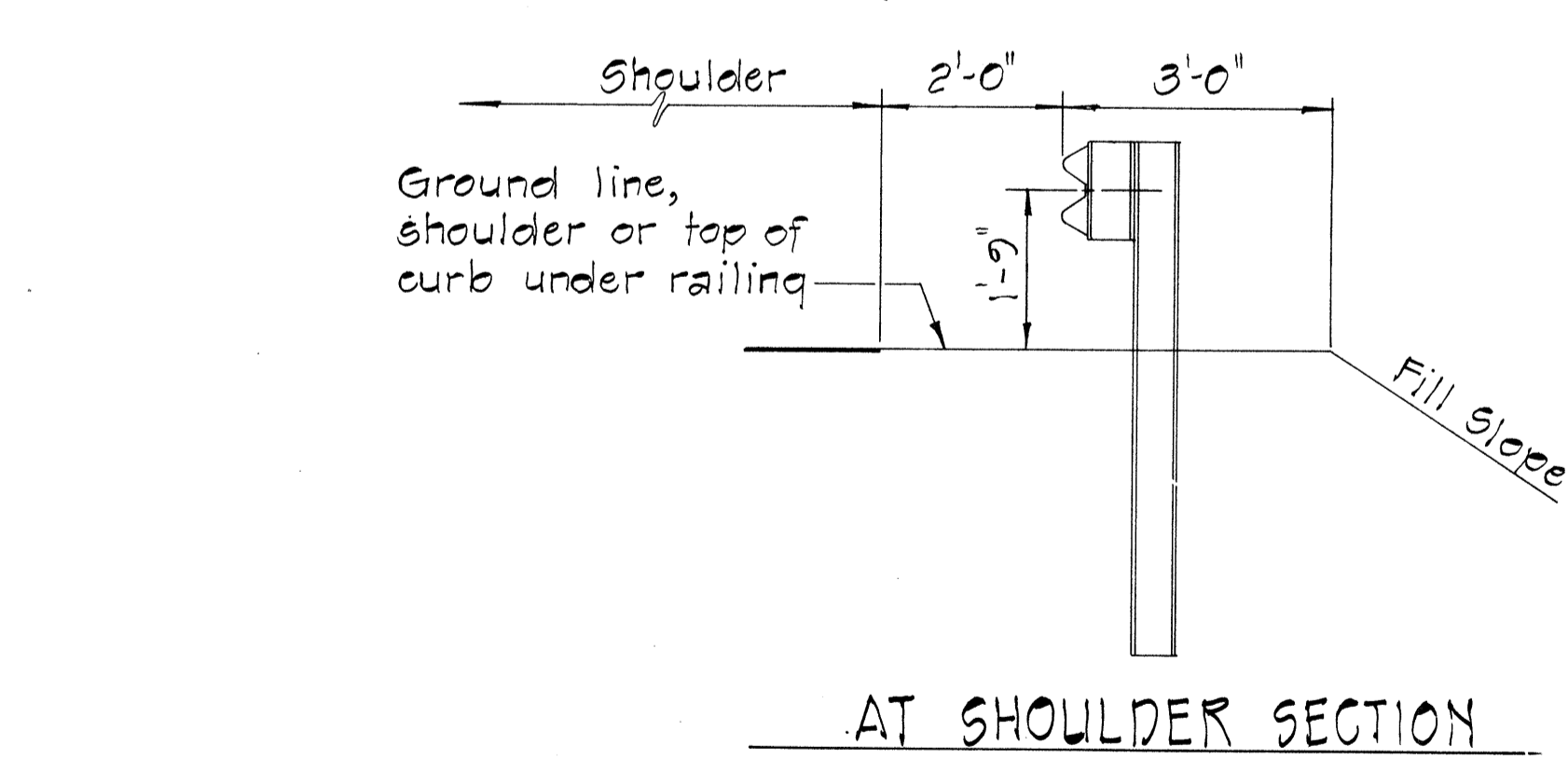
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | T-113-1(2) | 1975 | 68 | 127 |



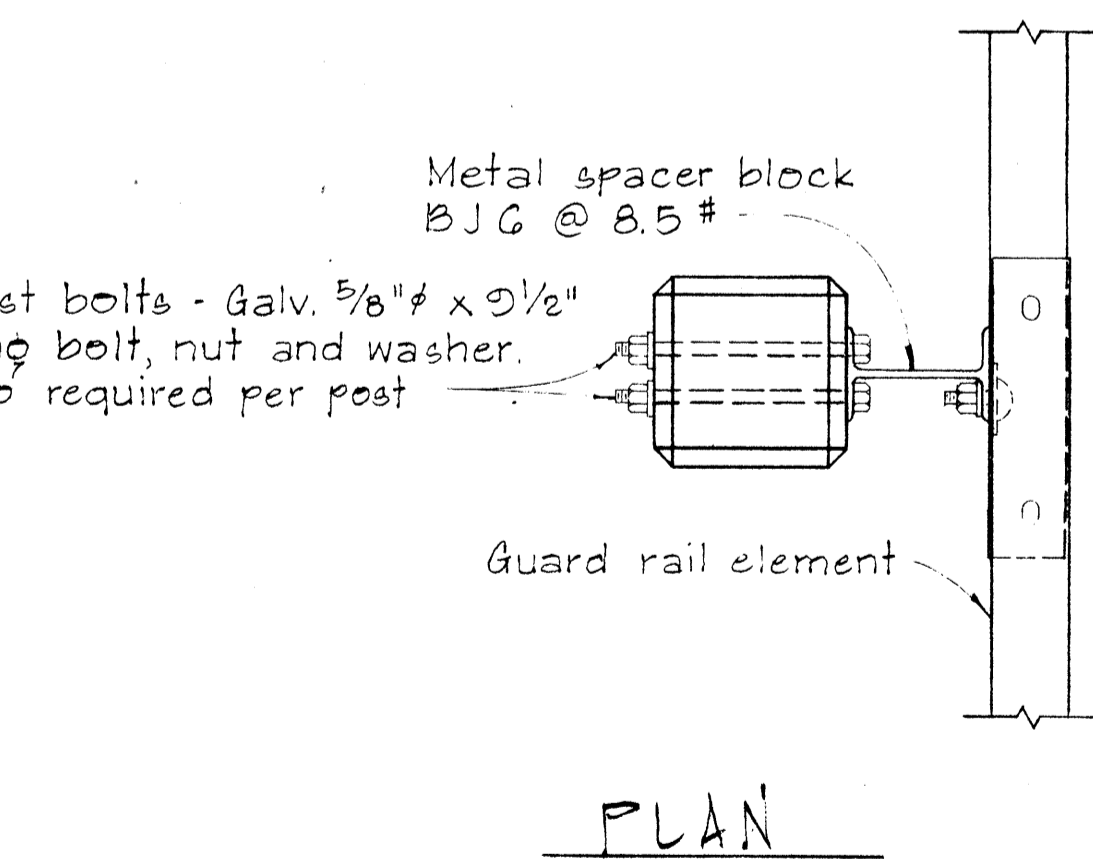
NOTE:
Concrete post shall be precast



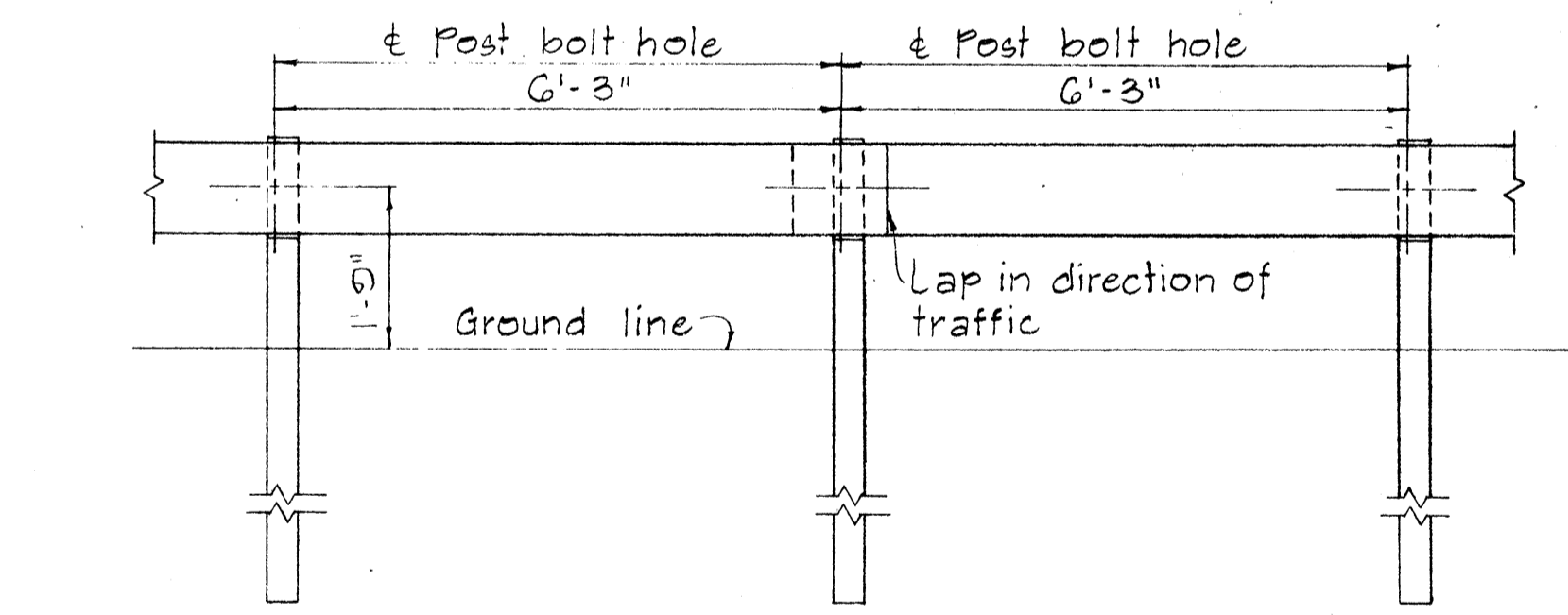
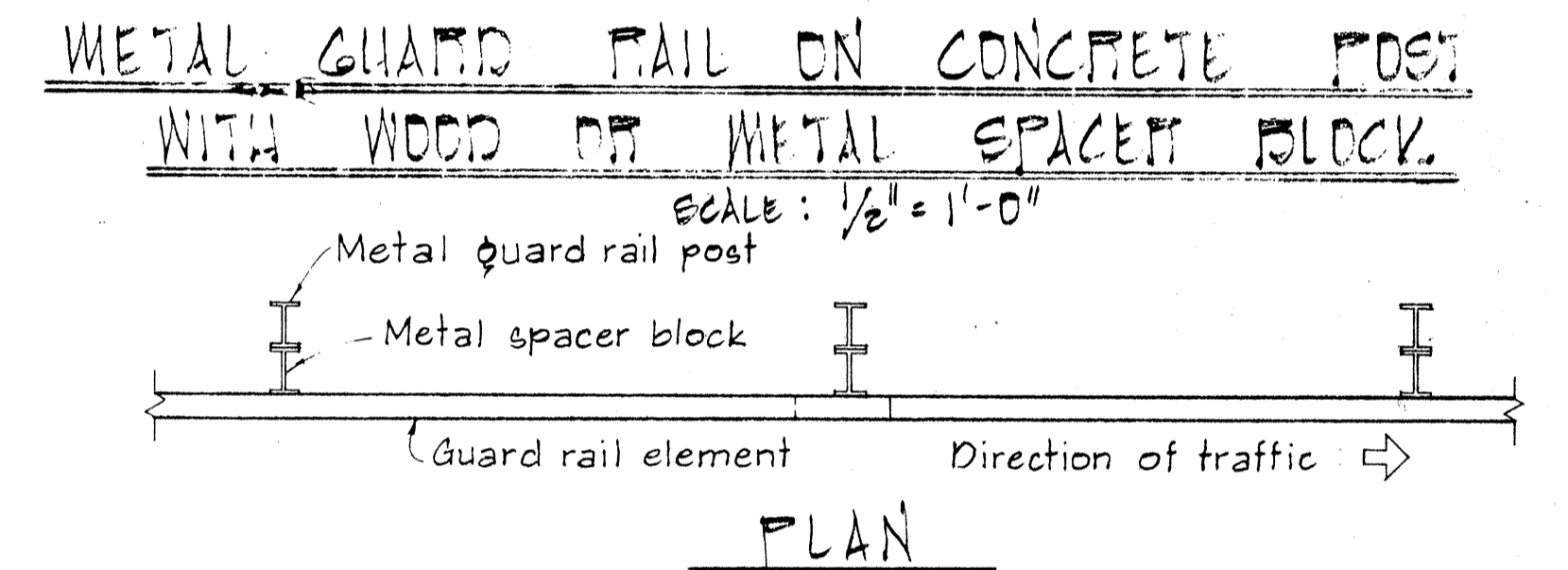
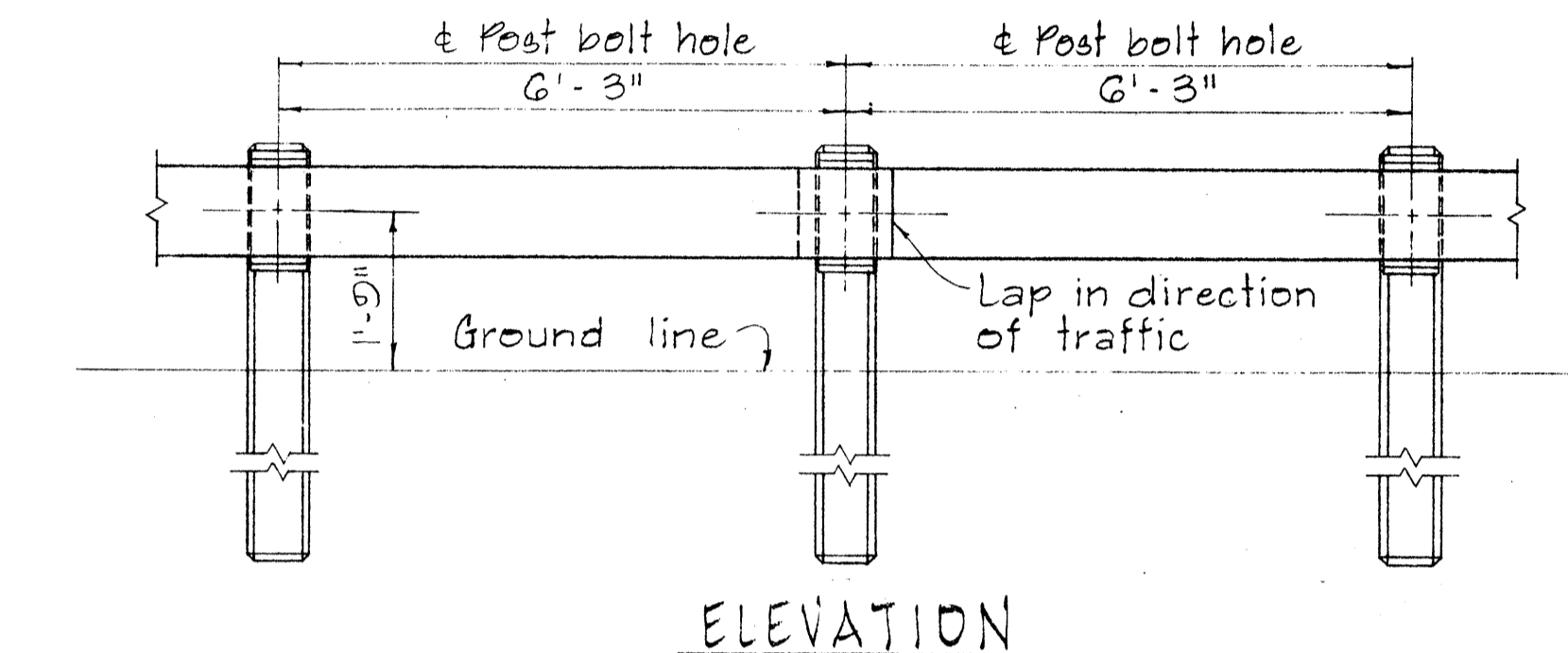
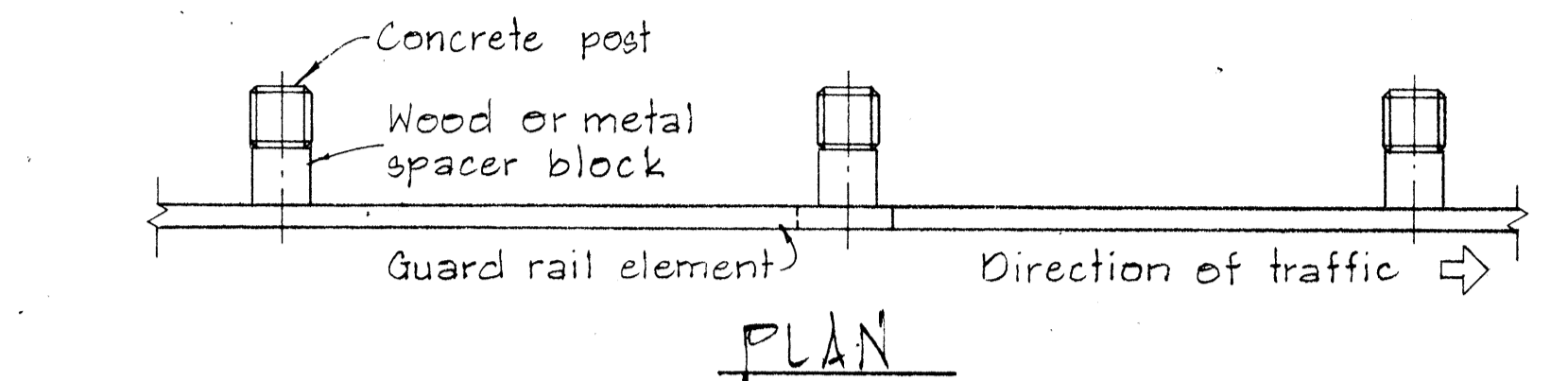
DETAIL OF CONCRETE POST
SCALE: 1 1/2" = 1'-0"



TYPICAL METAL GUARD RAIL DETAIL
SCALE: 1/2" = 1'-0"



SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"



METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK
SCALE: 1/2" = 1'-0"

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
| | | | |

APPROVAL RECOMMENDED:
Evelyn Tanaka
TRAFFIC ENGINEER 12/29/69 DATE

APPROVED:
Shelton J. DeLeon
ASSISTANT CHIEF, ENGINEERING 12-30-69 DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

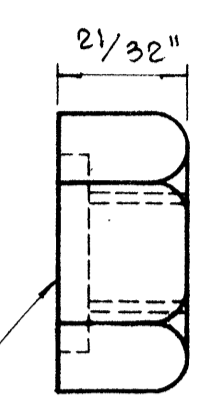
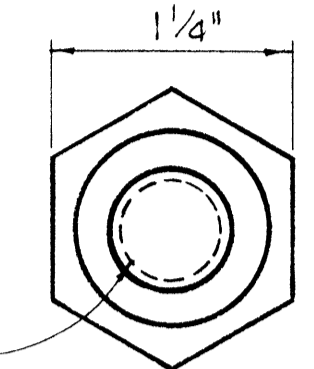
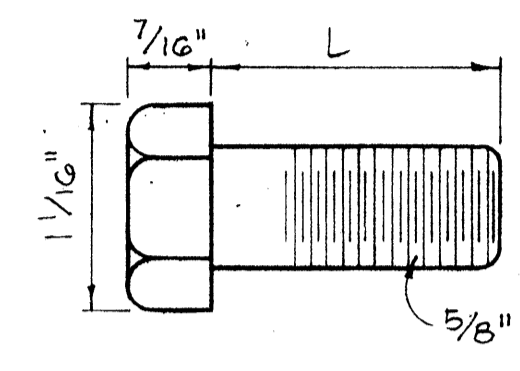
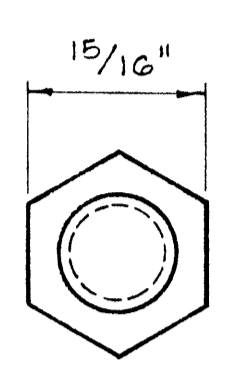
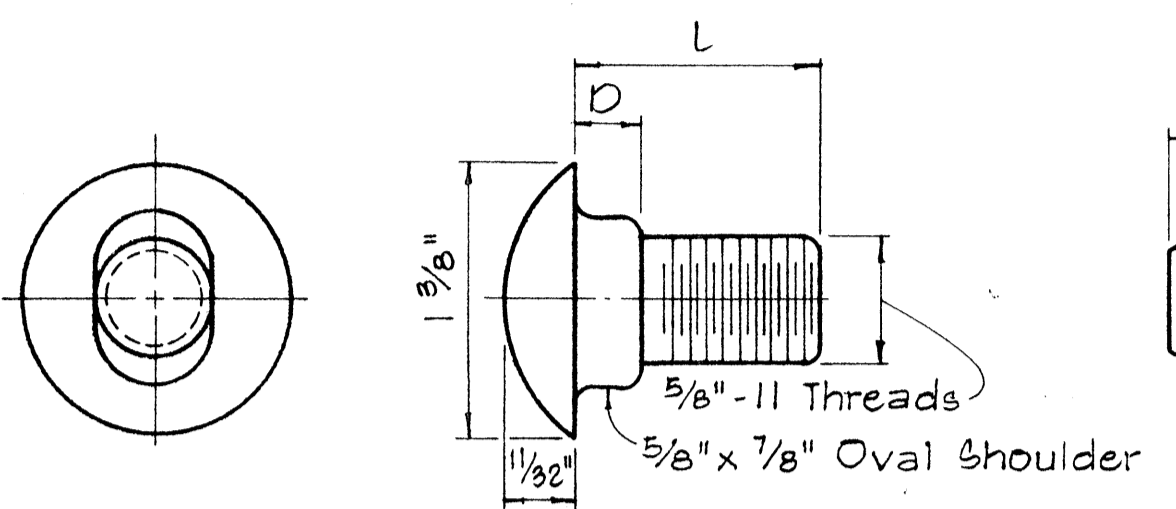
STANDARD DETAILS
METAL GUARD RAIL

SCALE: AS SHOWN NOV. 1968

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-113-1(6)12 | 1975 | 69 | 127 |

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

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



5/32" Deep x 15/16" Dia. C' Bore for Type A Bolt only. Plain nut for Type B Bolt.

TYPE A BOLT

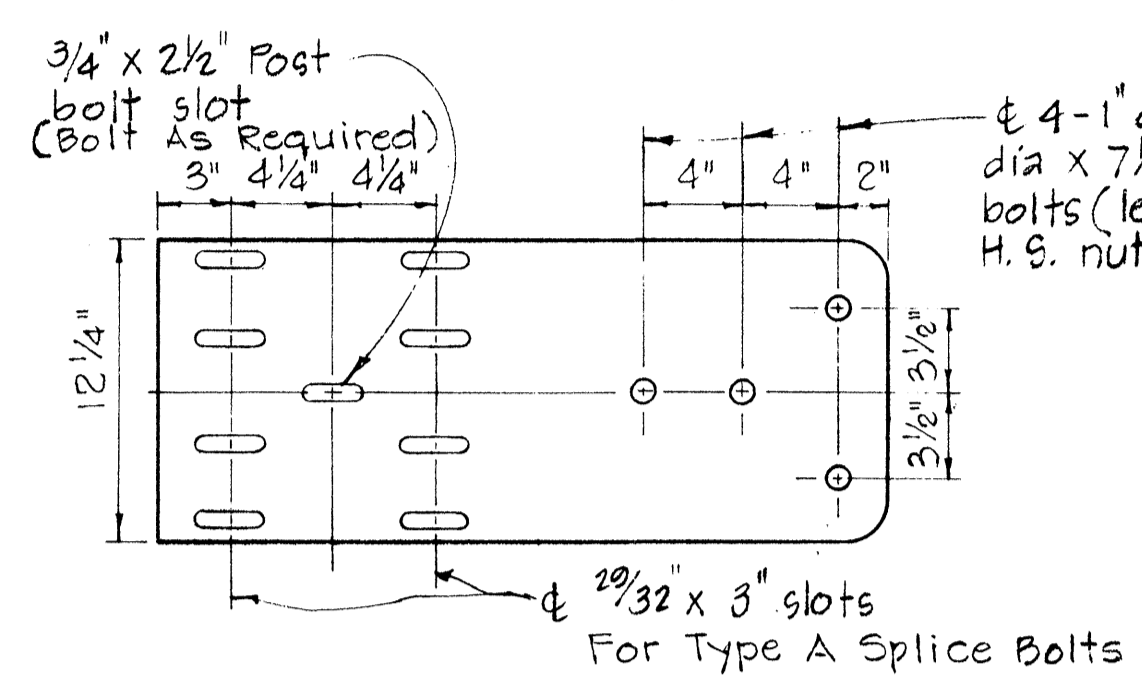
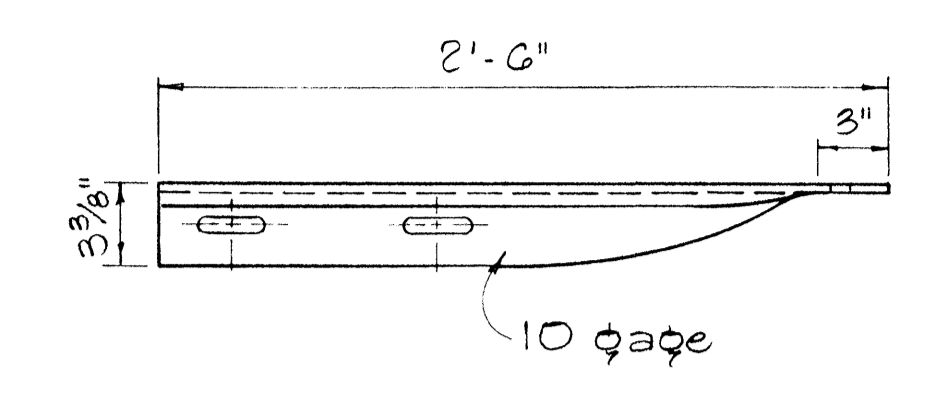
TYPE B BOLT

SPLICE RAIL AND POST BOLTS

Scale: Full Size

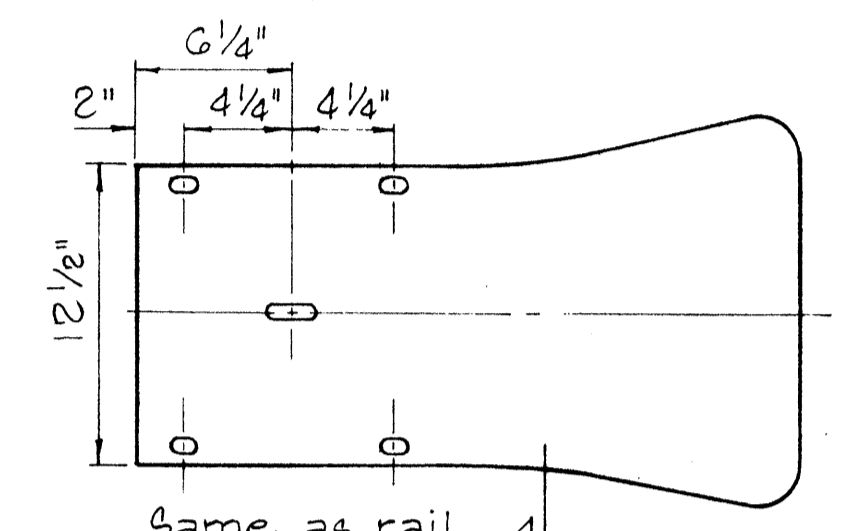
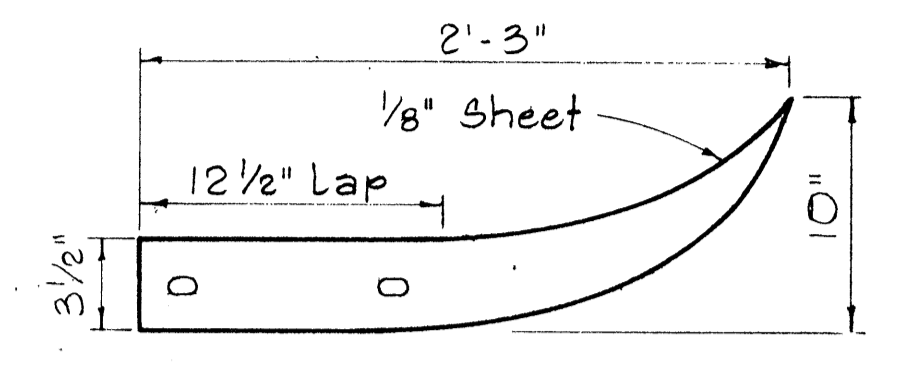
HEXAGON NUT

Scale: Full Size



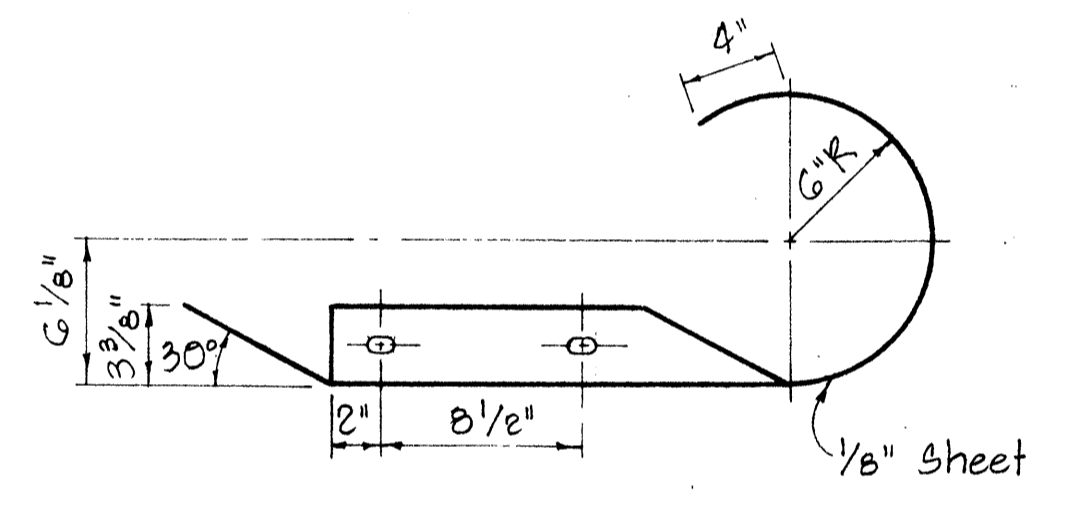
SPECIAL END SHOE

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



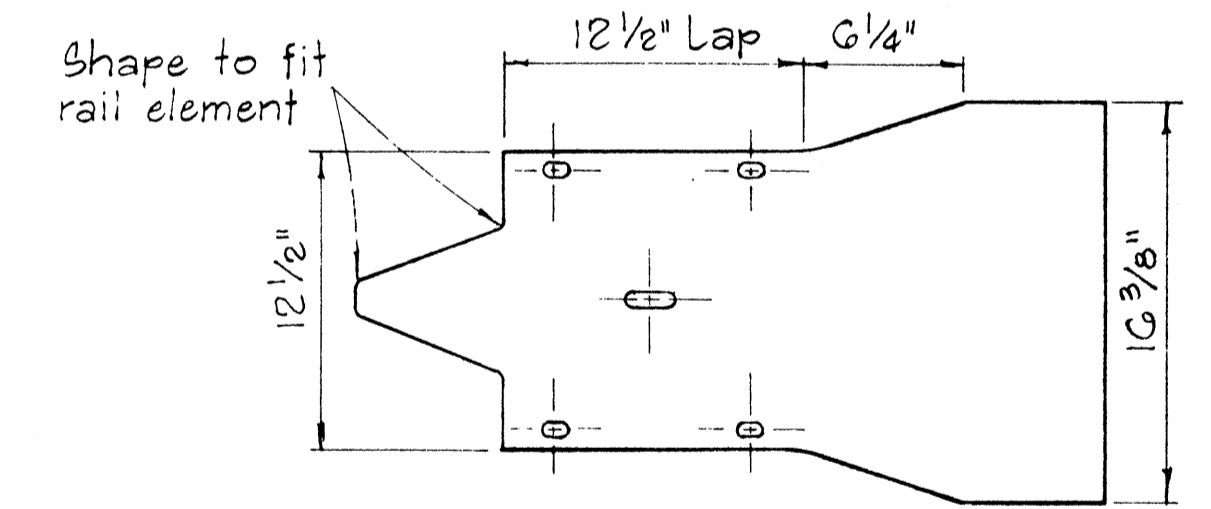
FLARED END

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



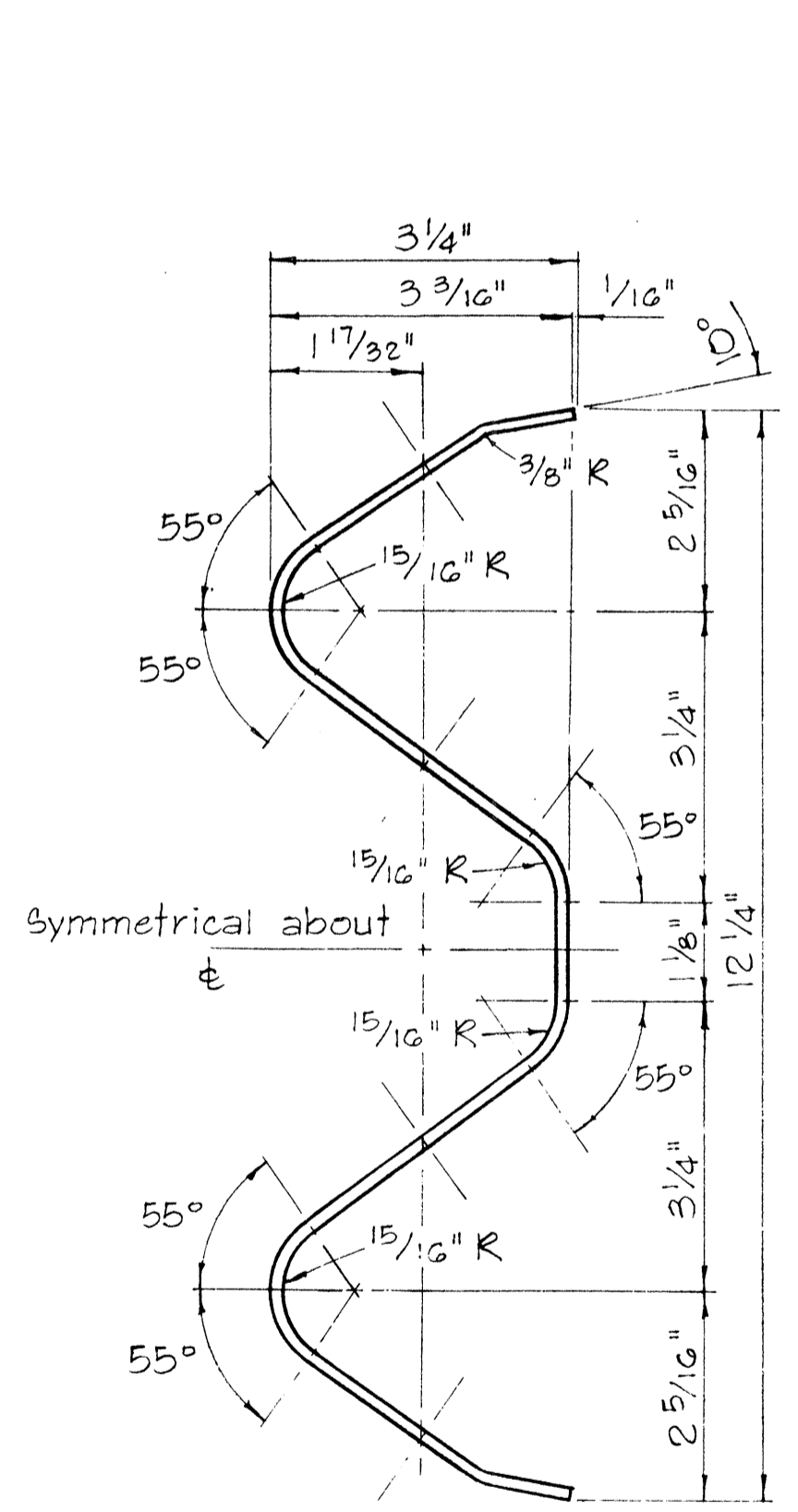
CURVED END

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



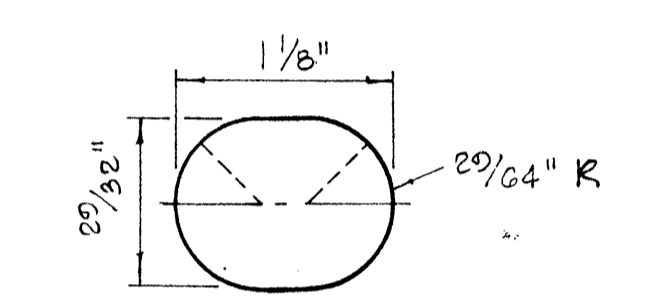
MEDIAN END

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



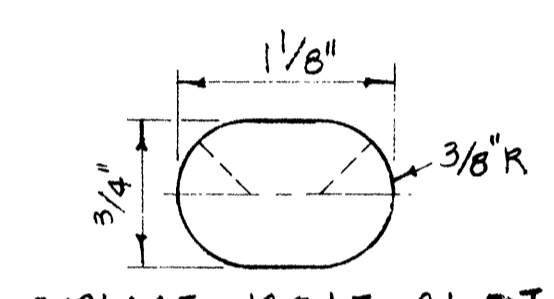
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

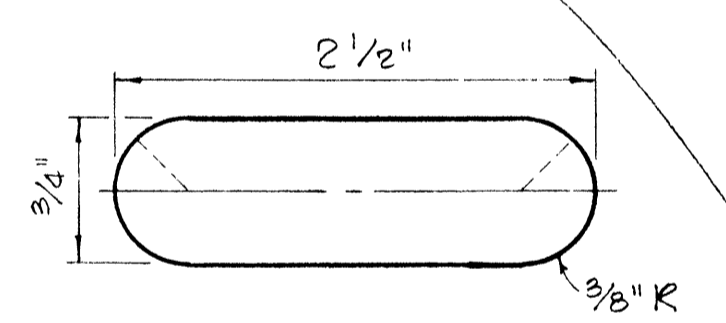


SPLICE BOLT SLOT FOR ALL ENDS

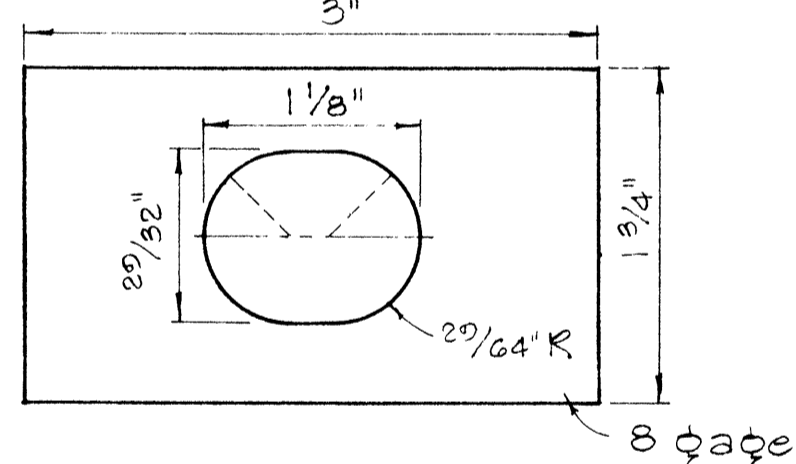
Scale: Full Size



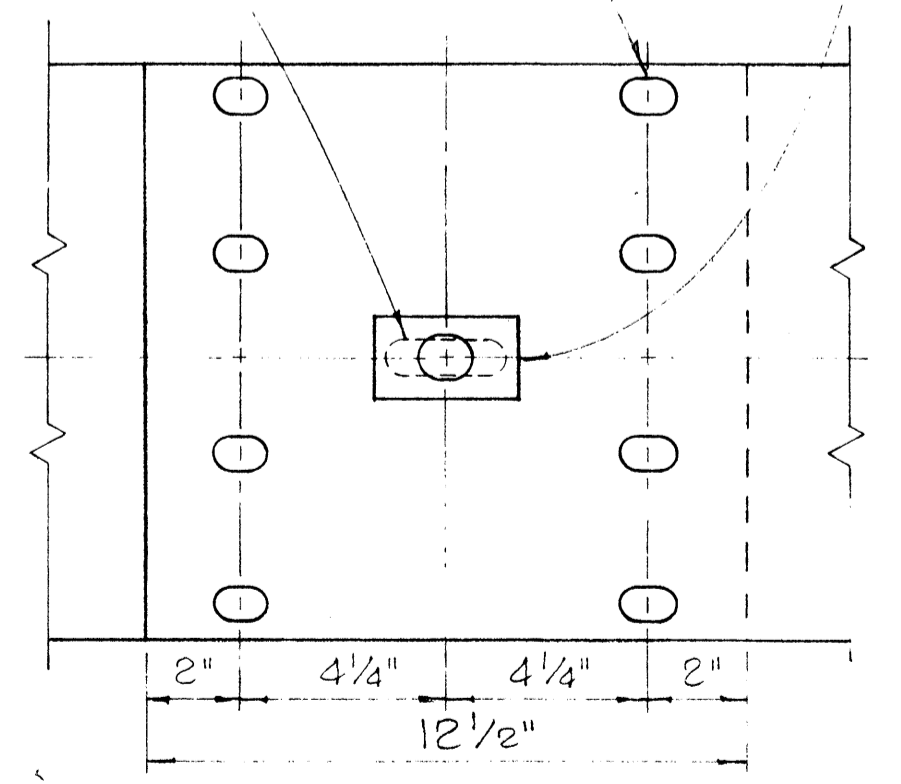
SPLICE BOLT SLOT FOR SPECIAL END SHOE



POST BOLT SLOT



RAIL WASHER



RAIL SPLICE

Scale: 3" = 1'-0"

NOTES:

- H.S. Bolts shall conform to the requirements of ASTM A 325.
- Special End Shoe shall be fabricated from 10 Gauge steel conforming to the requirements of AASHTO 180.

| MEDIAN END DIMENSIONS | | | |
|--|---------|----------|--|
| TYPE OF POST AND BLOCK | W | R | |
| Double Metal Guard Rail on Concrete Post with Wood Blocks | 29 3/4" | 14 7/8" | |
| Double Metal Guard Rail on Concrete Post with Metal Blocks (BJC) | 26 1/2" | 13 1/4" | |
| Double Metal Guard Rail on Metal Post with Metal Blocks (BJC) | 24 3/8" | 12 3/16" | |

| NO | REVISION | APPROVED BY | DATE |
|----|----------|-------------|------|
| | | | |

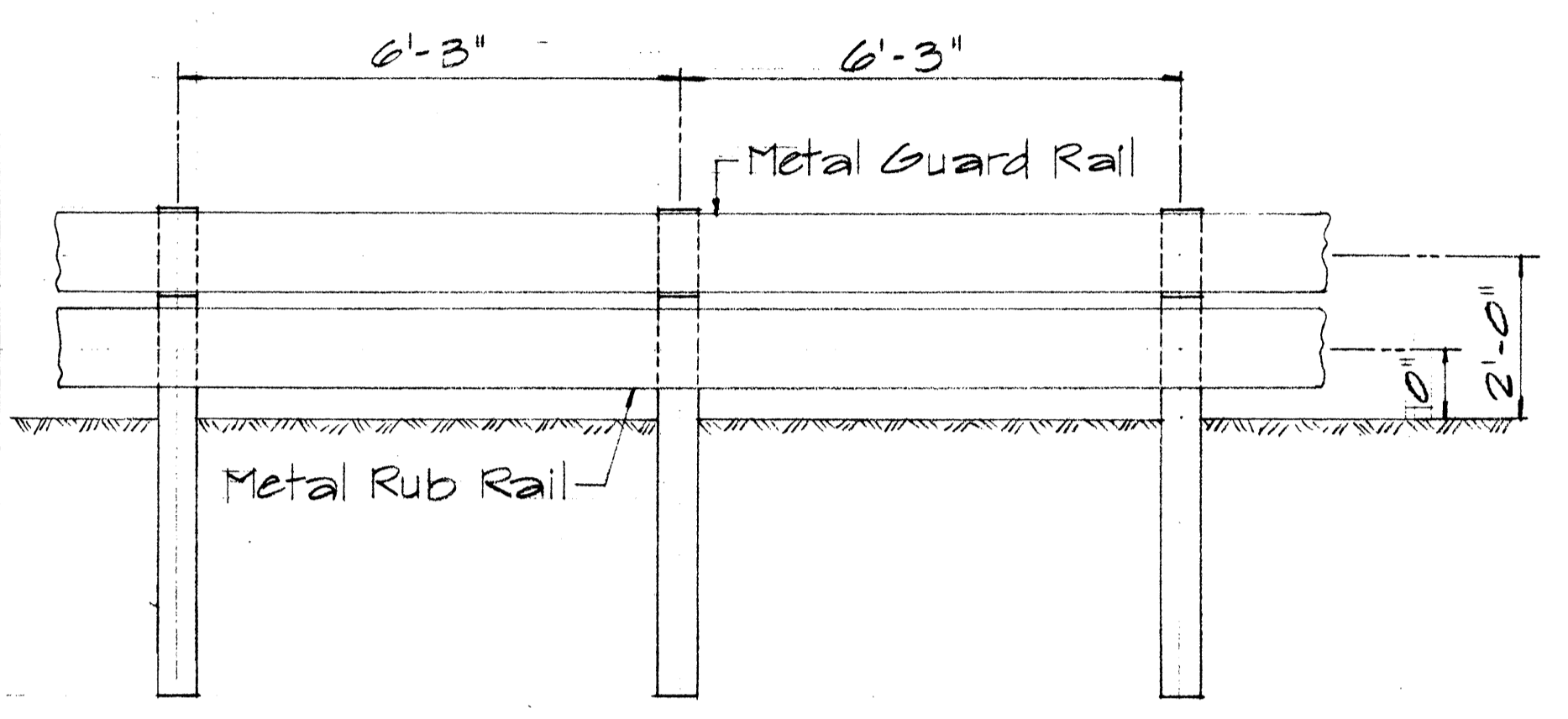
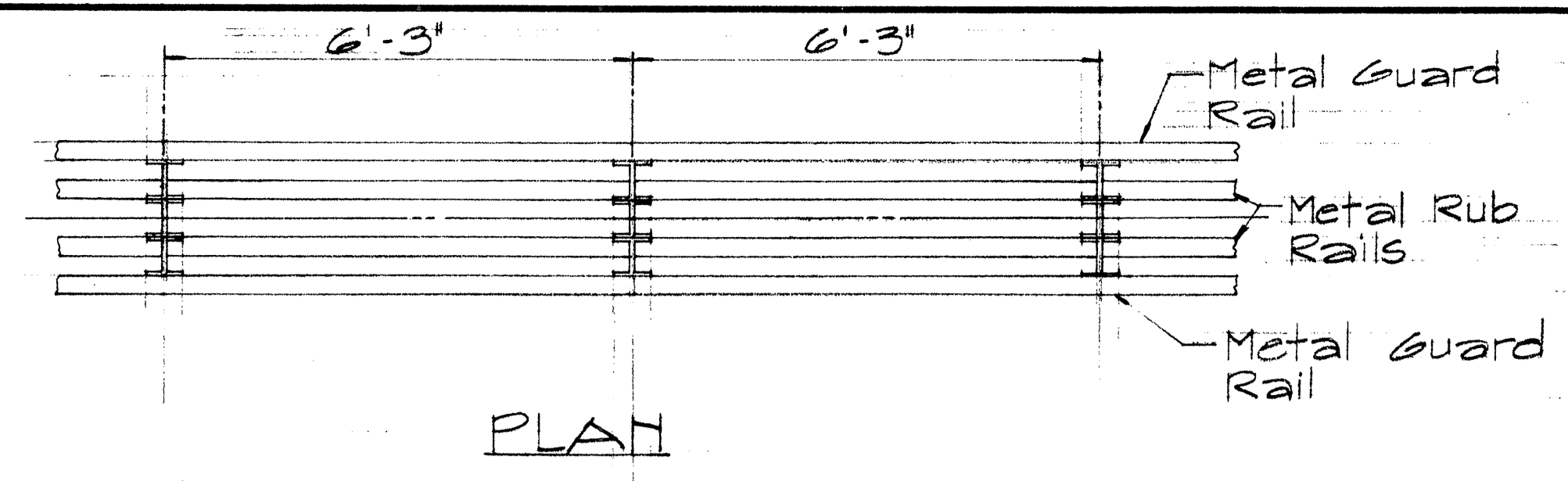
APPROVAL RECOMMENDED:
Erich Tanaka 12/29/69
 TRAFFIC ENGINEER DATE
 APPROVED:
Richard J. J. J. 12-30-69
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

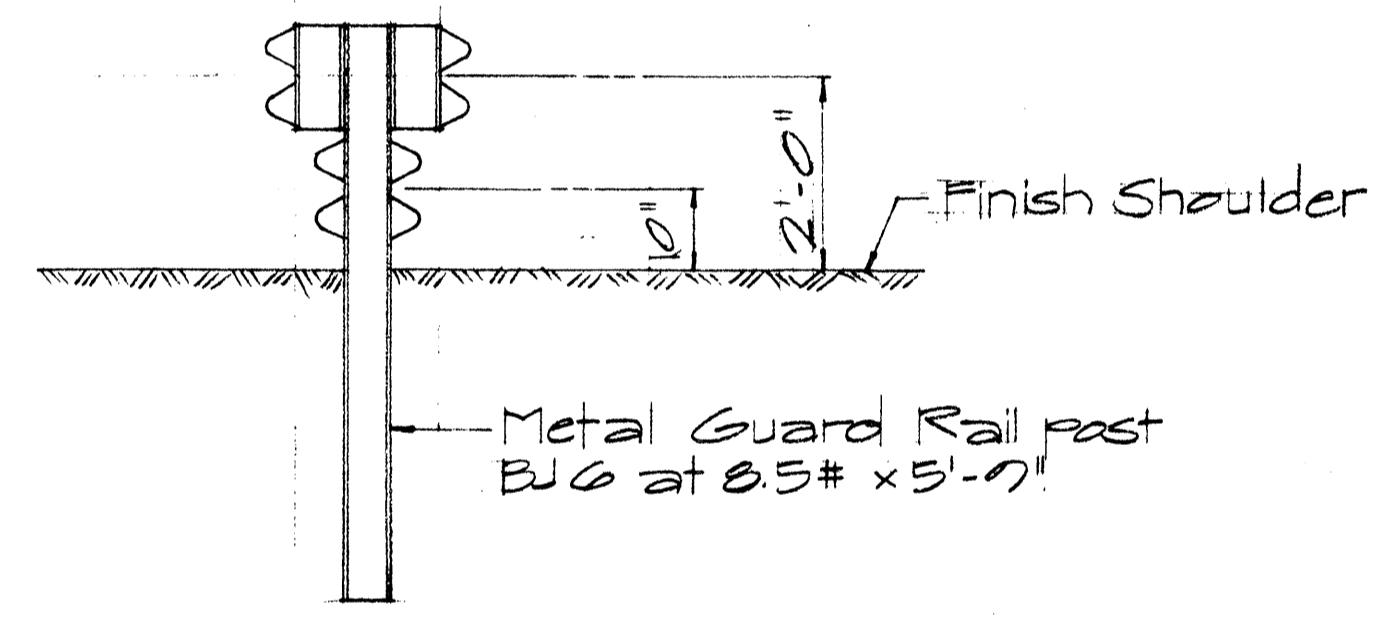
STANDARD DETAILS
 METAL GUARD RAIL

Scale: As Noted August, 1968
 SHEET No. 14 OF 18 SHEETS DT 501

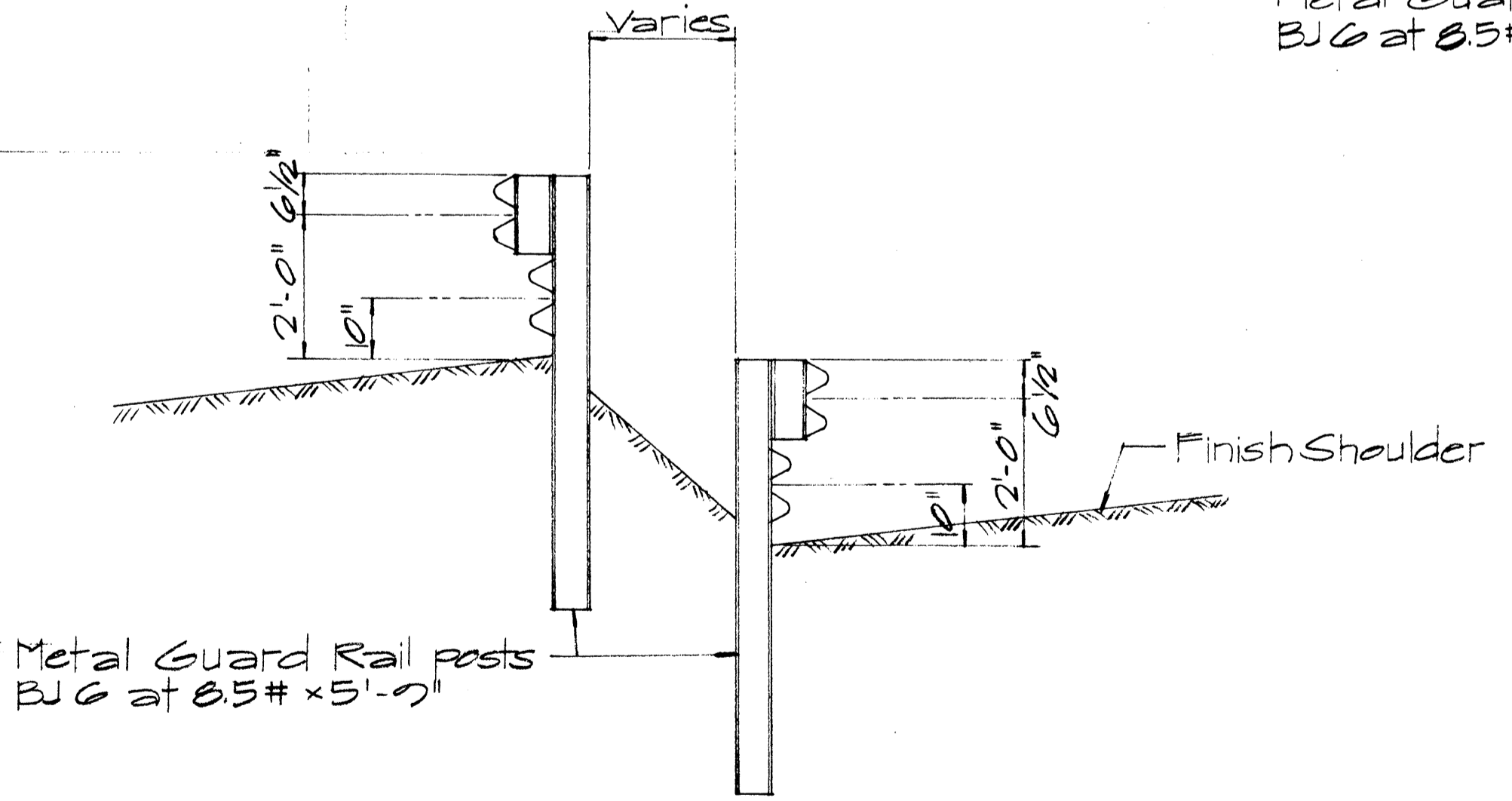
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-13-1(6)-12 | 1976 | C.O.695-1 | 127 |



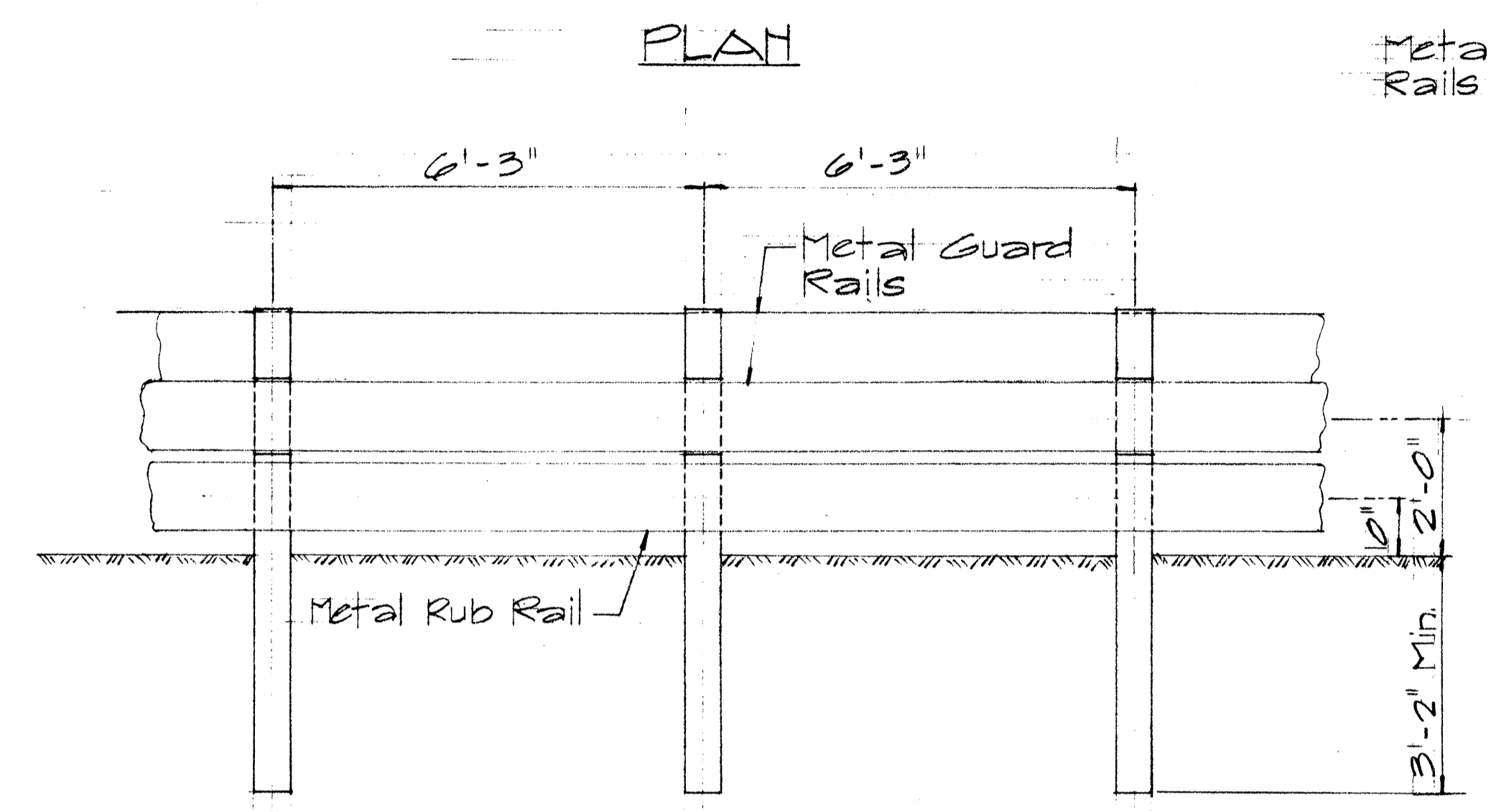
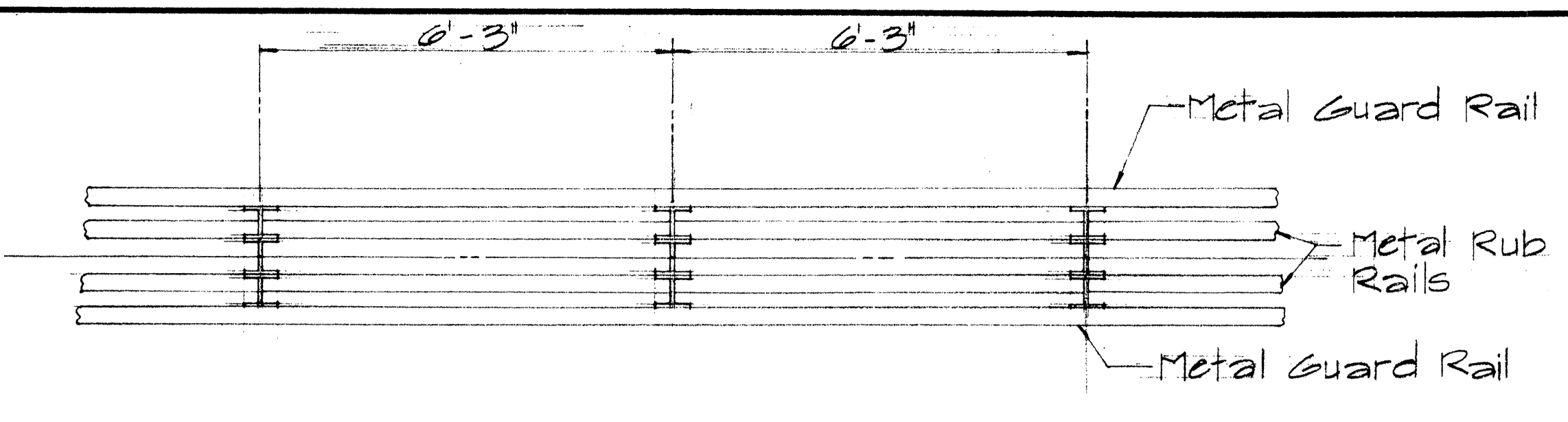
ELEVATION



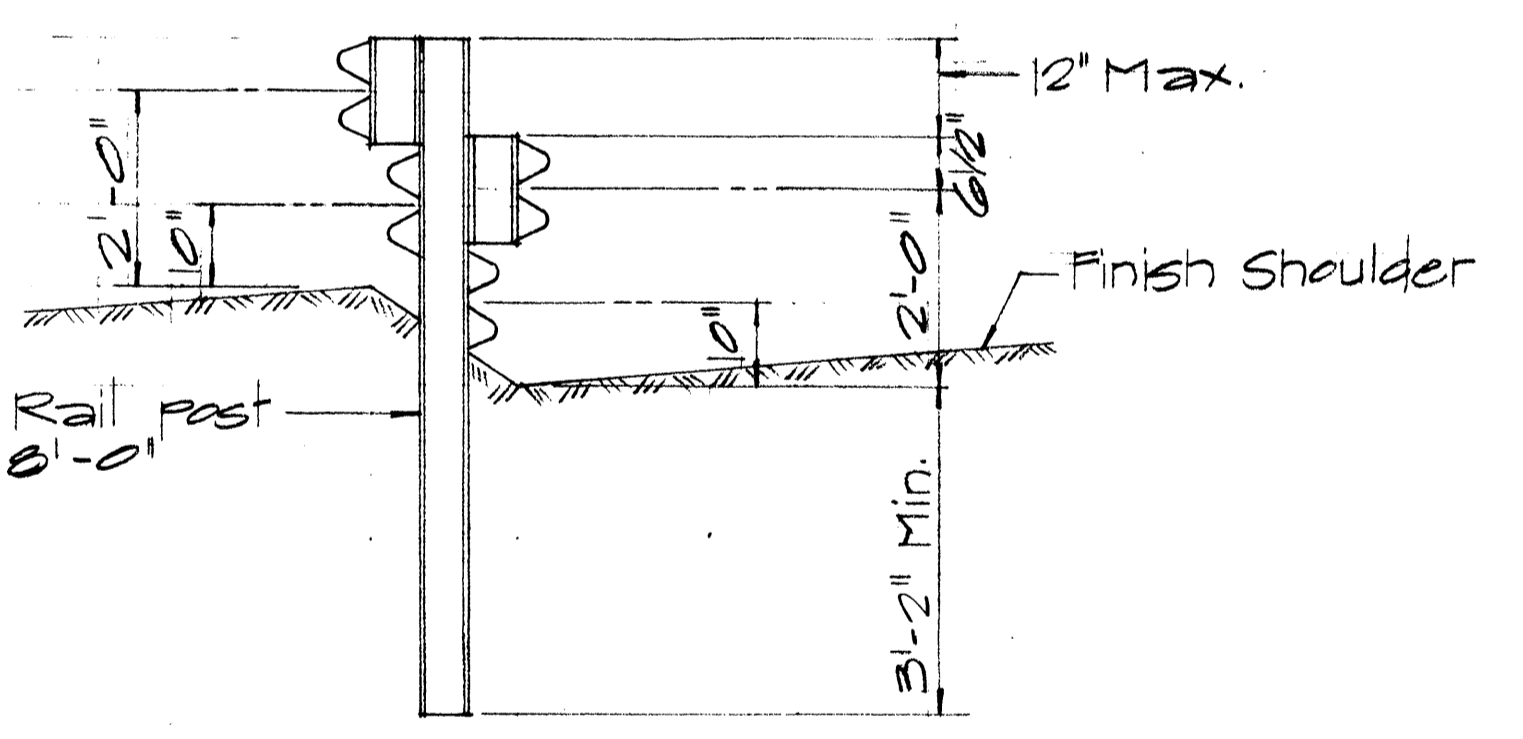
SECTION



TYP. DOUBLE POST SEC.

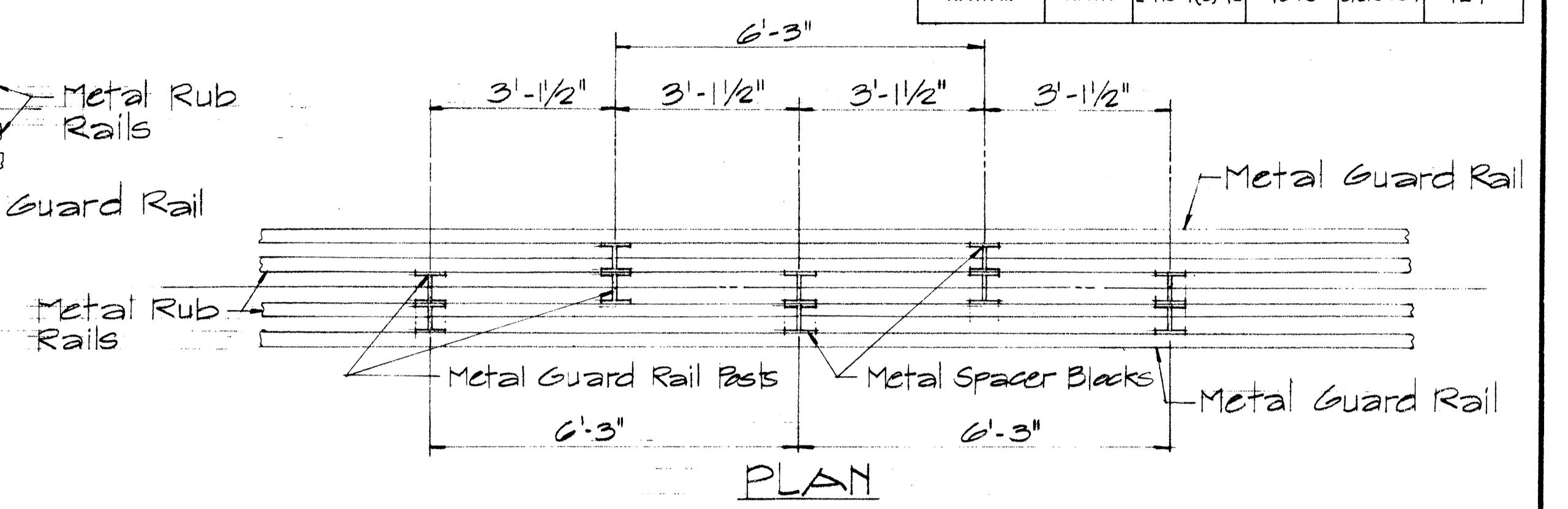


ELEVATION

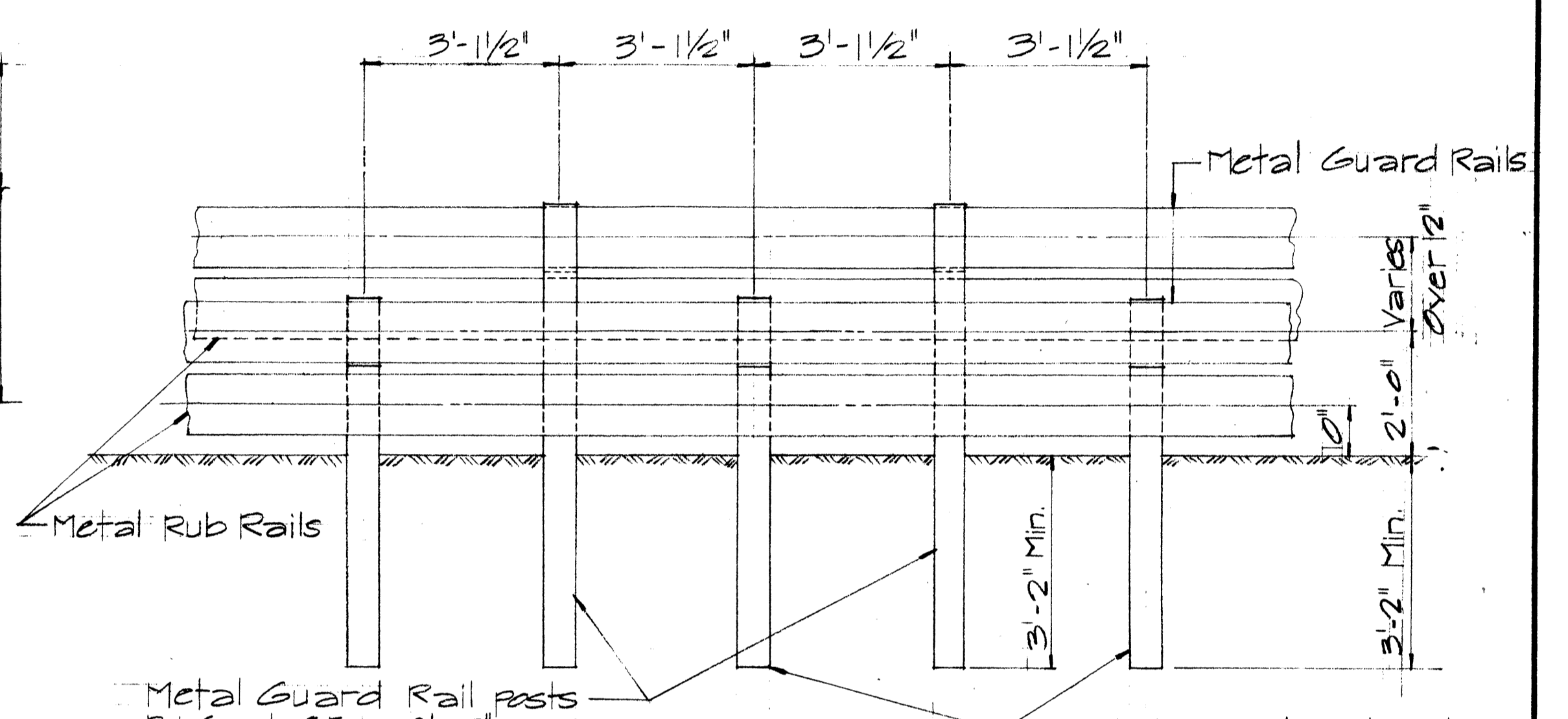


SECTION

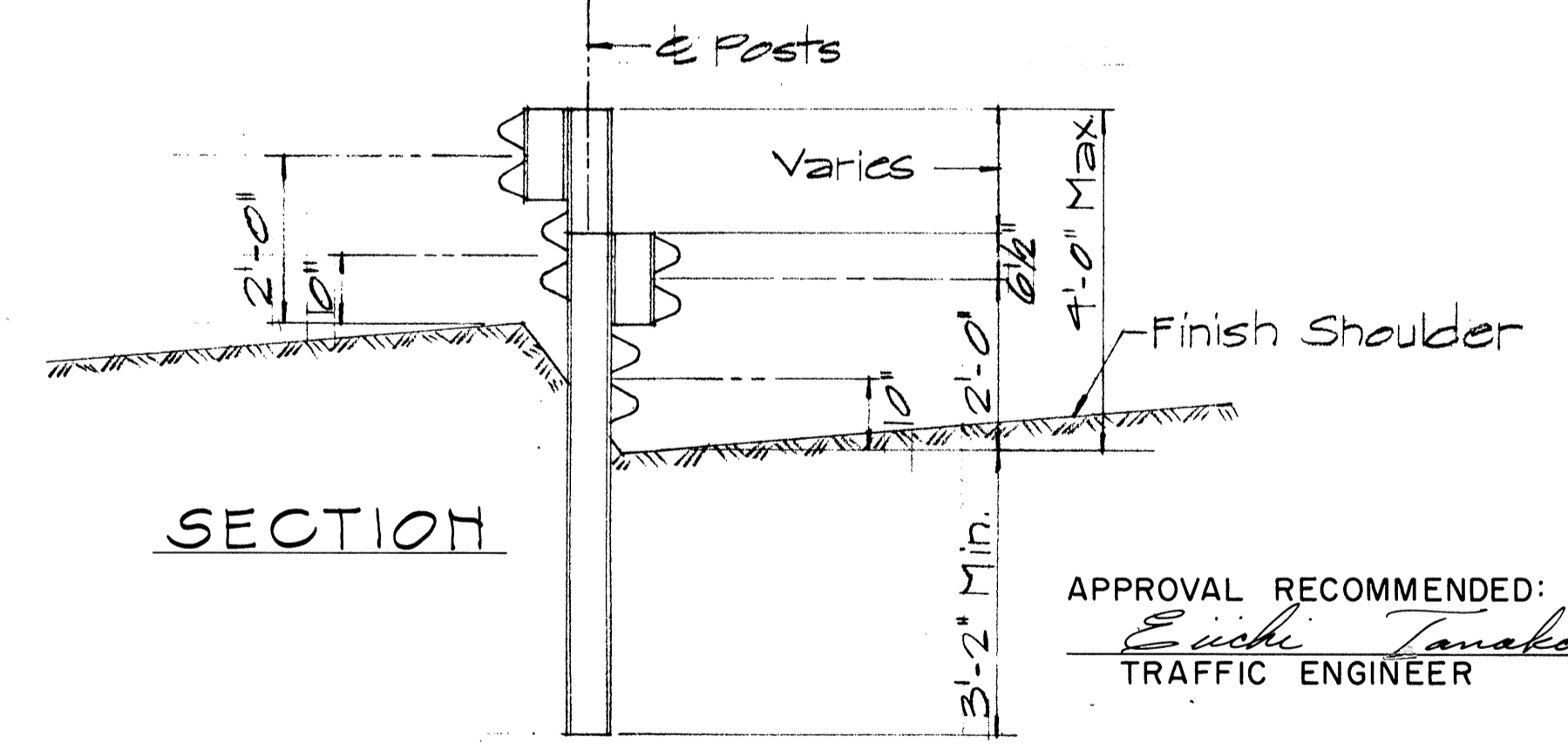
TYPICAL SAW TOOTH INSTALLATION
Sc. 1/2" = 1'-0"



PLAN



ELEVATION



SECTION

TYPICAL STAGGERED INSTALLATION
Sc. 1/2" = 1'-0"

APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER 12/29/69 DATE

APPROVED:
Richard S. Saito
ASSISTANT CHIEF, ENGINEERING 12-30-69 DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
| | | | |

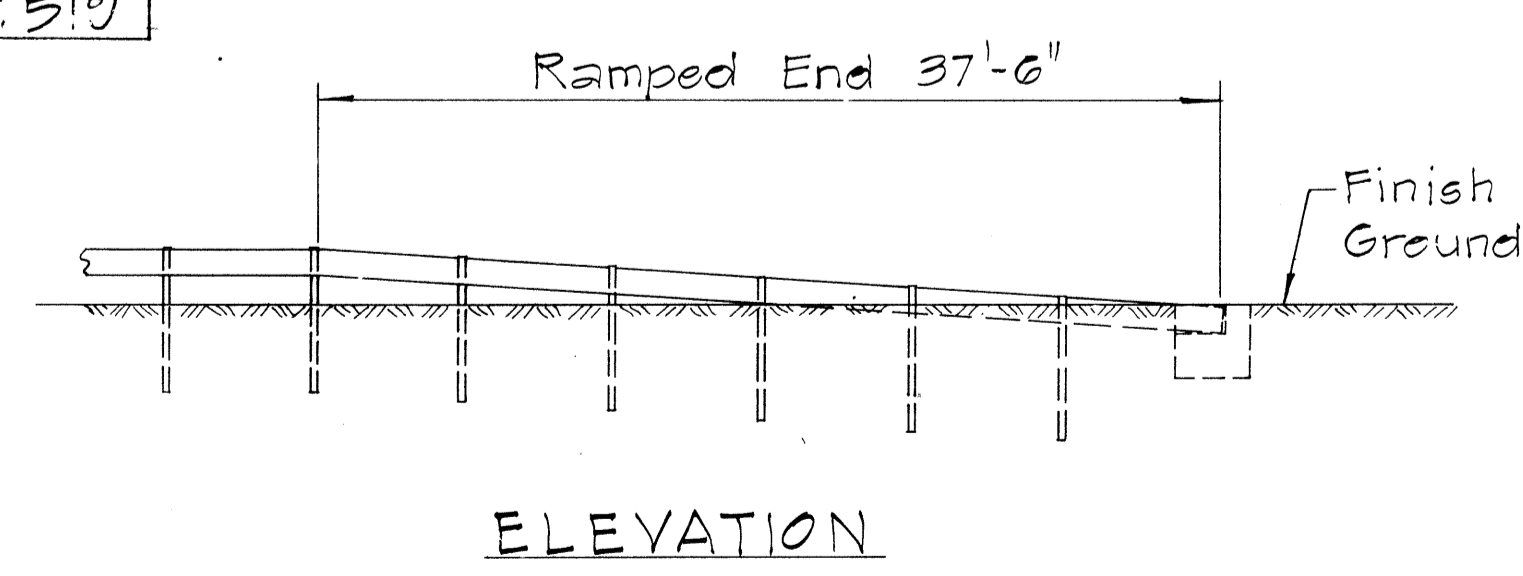
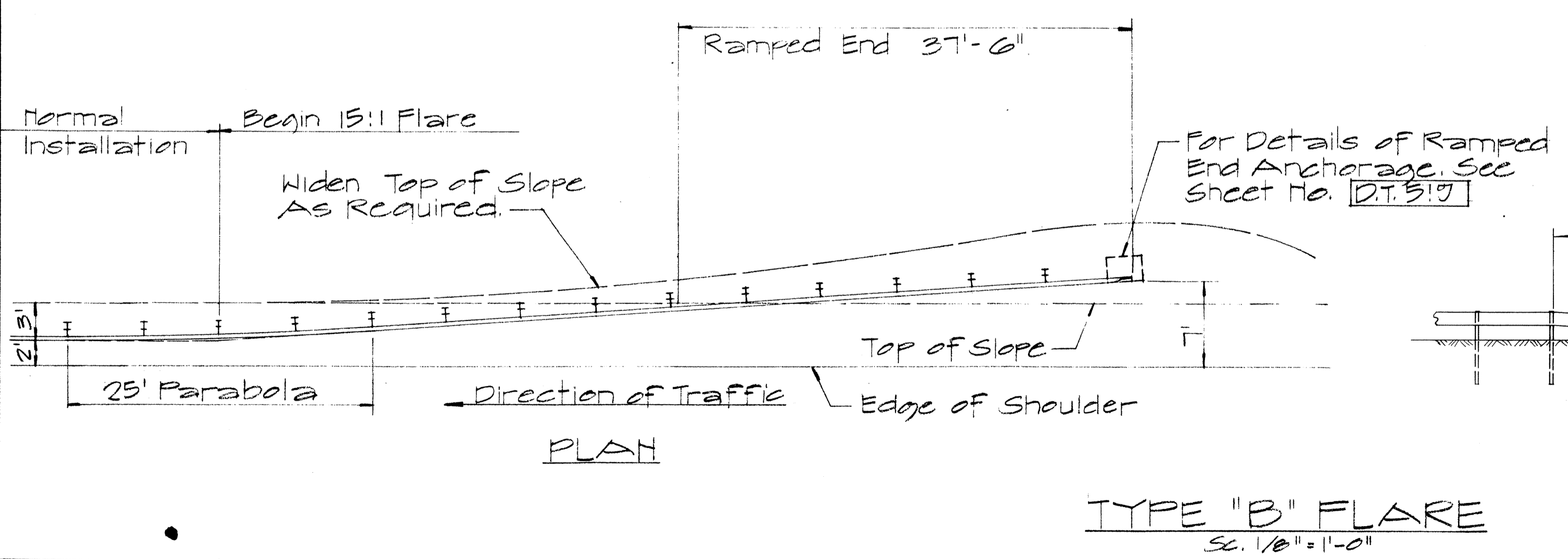
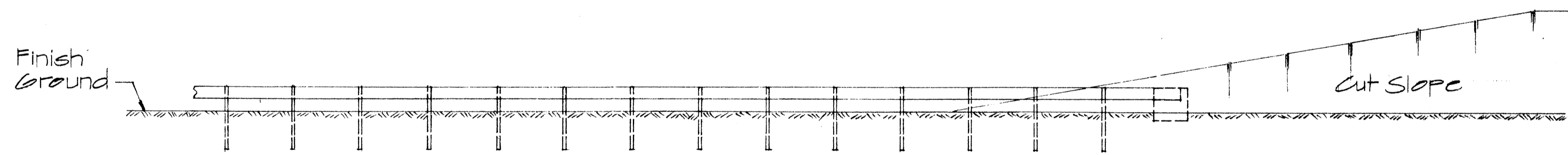
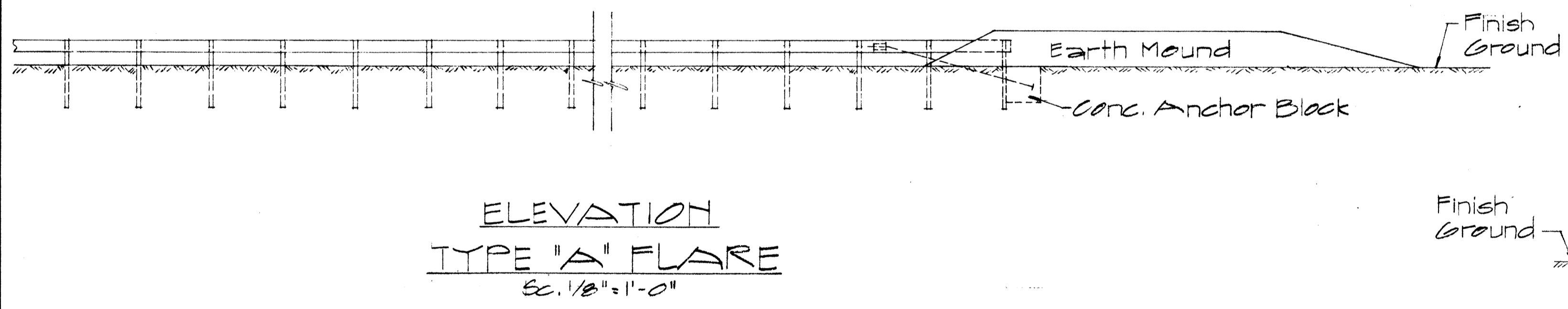
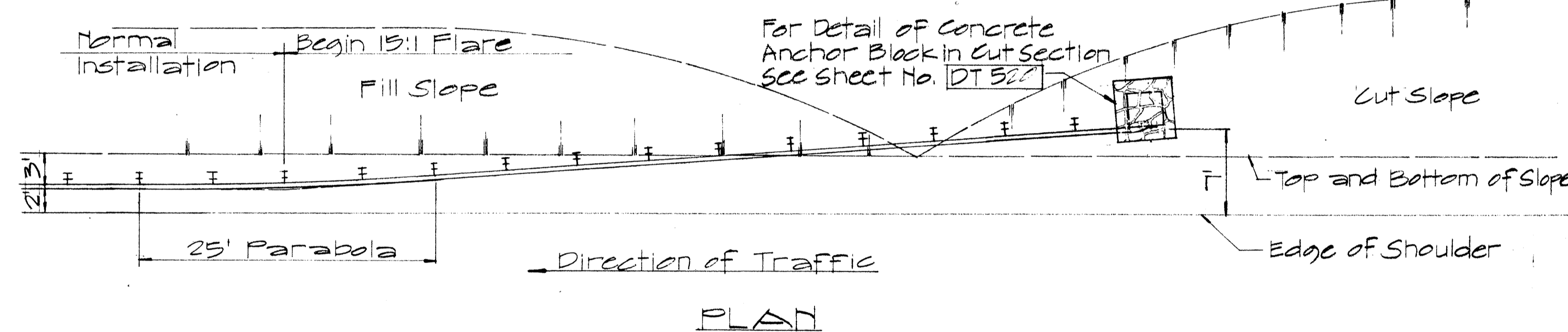
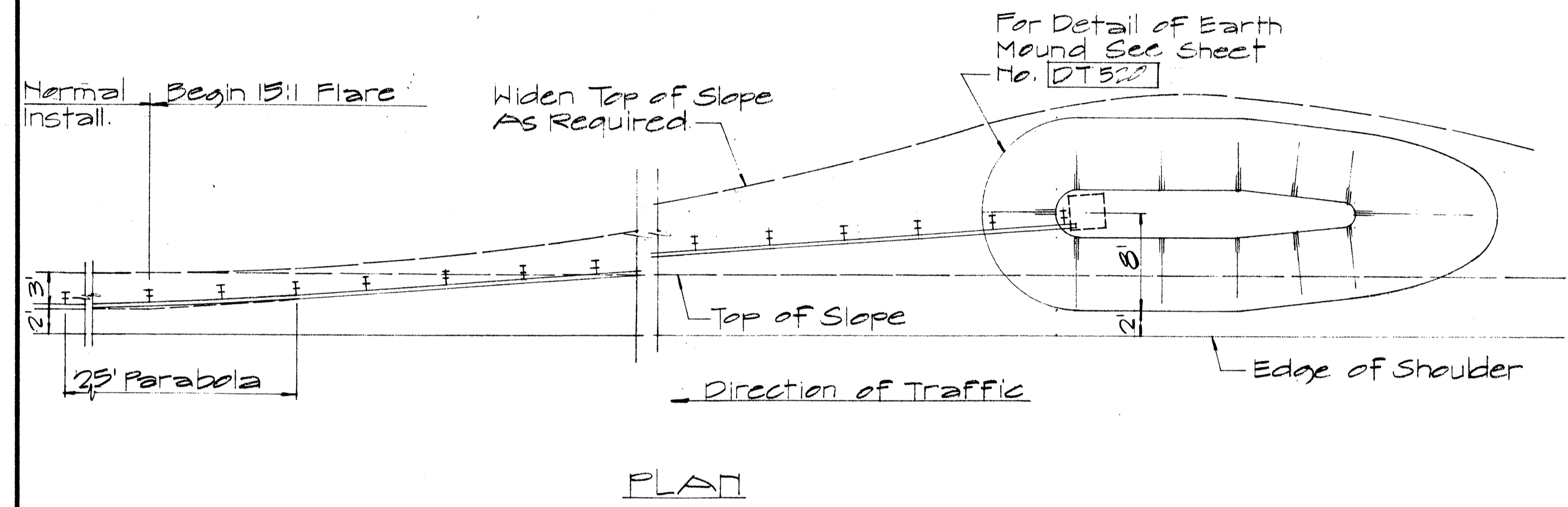
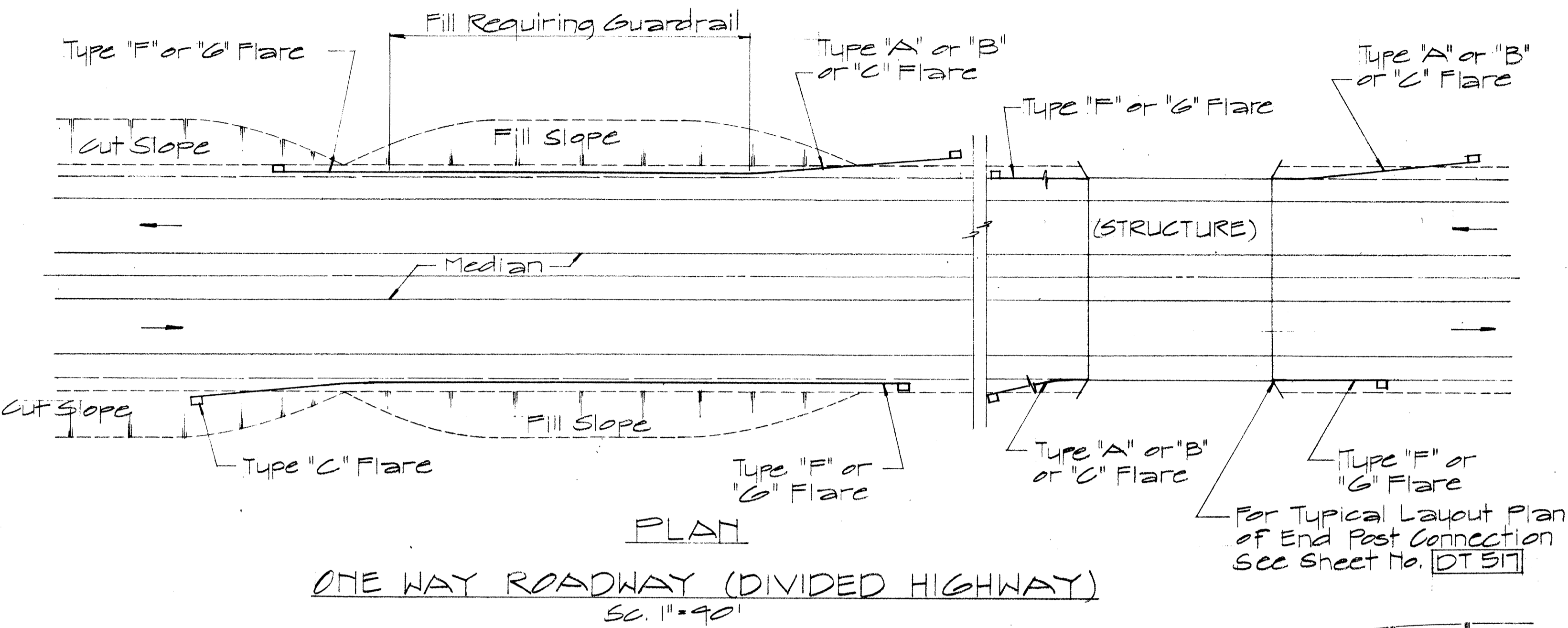
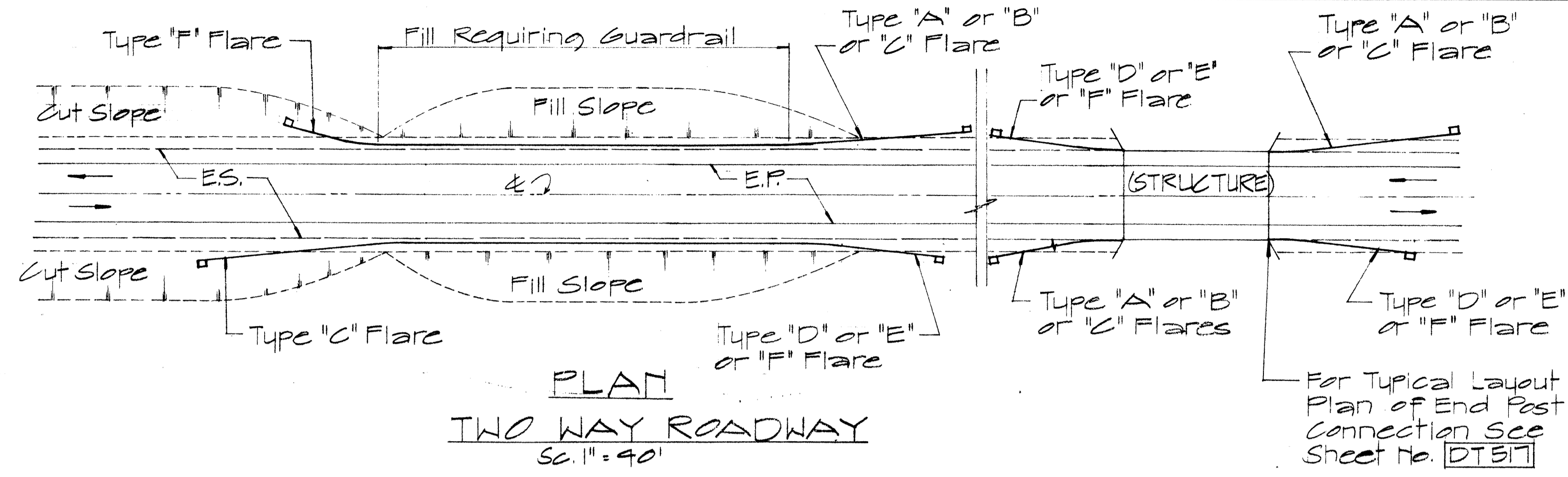
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAIL
METAL GUARD RAIL
WITH RUB RAIL
Scale: 1/2" = 1'-0" Feb. 1969

DATE
 CHECKED BY
 DESIGNED BY
 DRAWN BY
 TRACED BY
 REVISIONS
 NO.

PRINTED ON NO. 1000H CLEARPRINT

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(6)-12 | 1975 | 70 | 127 |

NOTE:
Metal guard rail connection to structures requires End Post Connection. See structure plans.



APPROVAL RECOMMENDED:
Eiichi Tanaka 12/23/62
TRAFFIC ENGINEER DATE

APPROVED:
W. S. [Signature] 12-20-69
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
| | | | |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

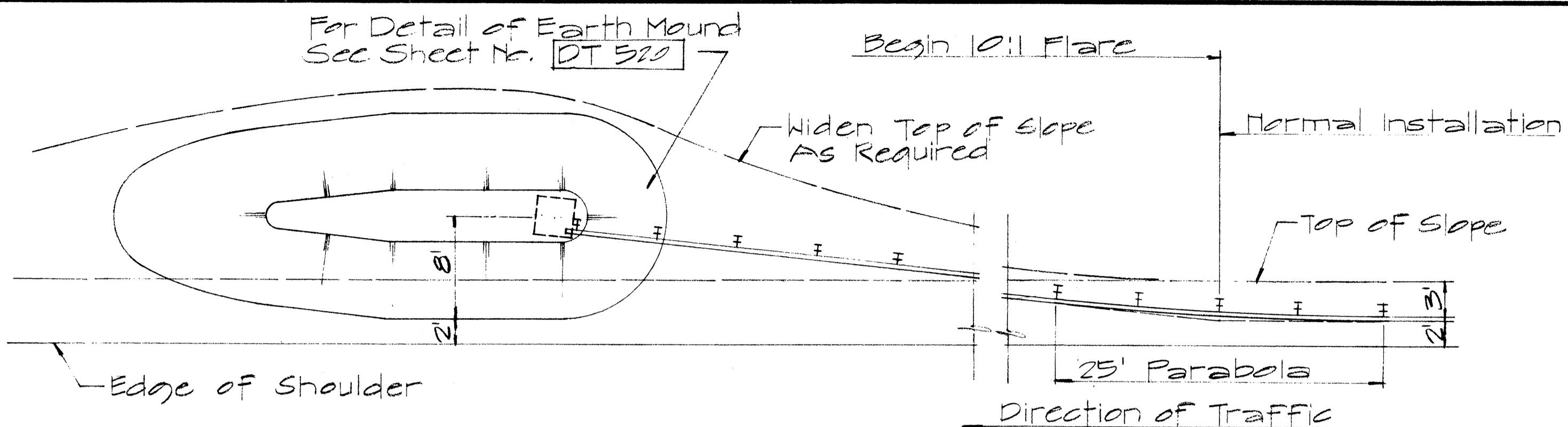
**STANDARD DETAILS
OF APPROACH END
FLARE - ONE & TWO
WAY ROADWAY**

Sc. As Noted April 1969

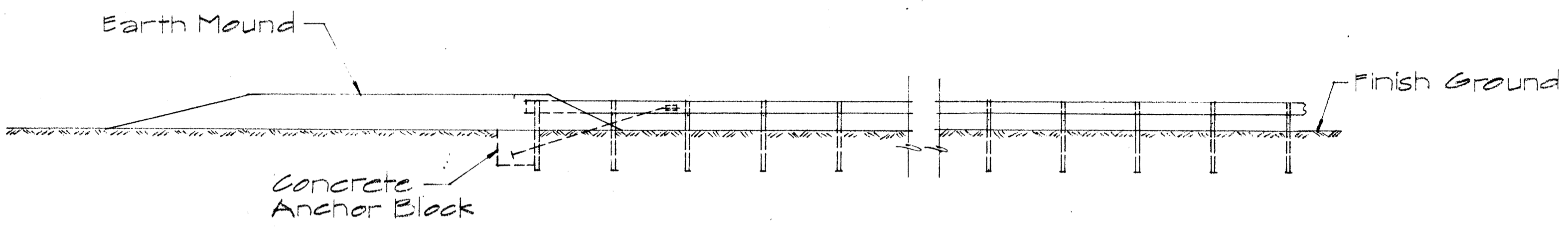
SHEET No. 15 OF 18 SHEETS [DT 516]

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. | I-H3-1(6)12 | 1975 | 71 | 127 |

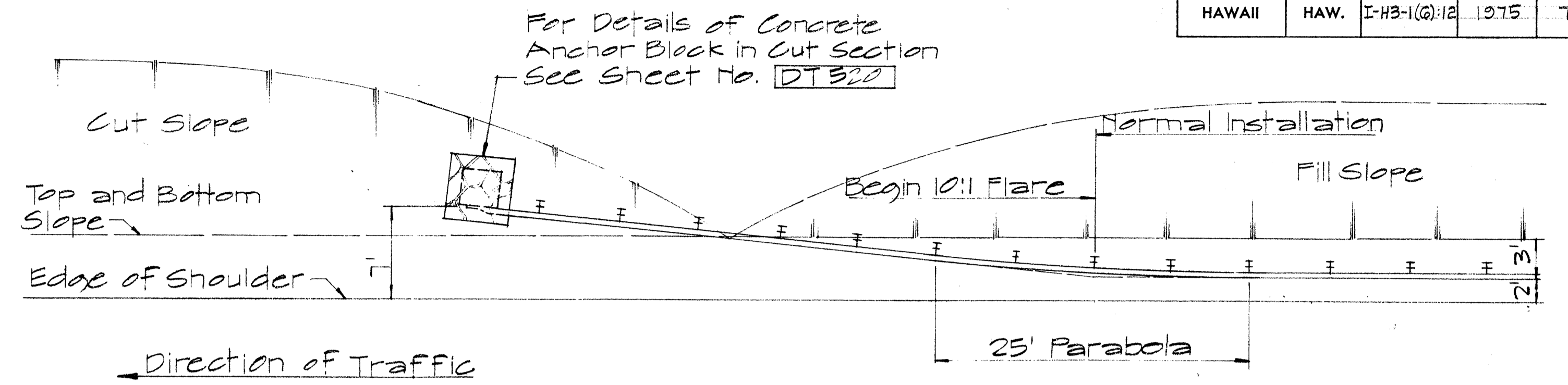


PLAN

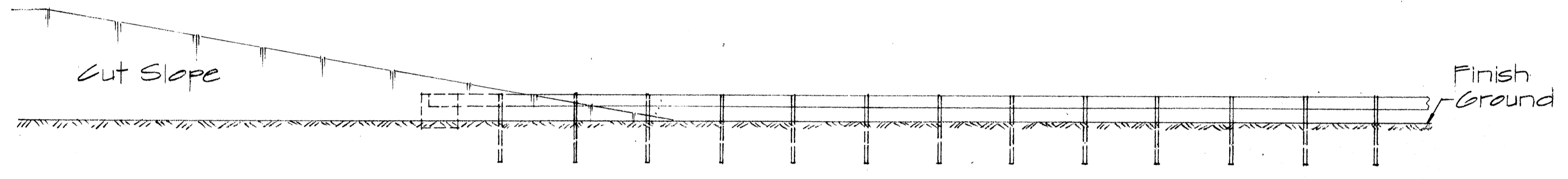


ELEVATION

TYPE "D" FLARE
Sc. 1/8" = 1'-0"

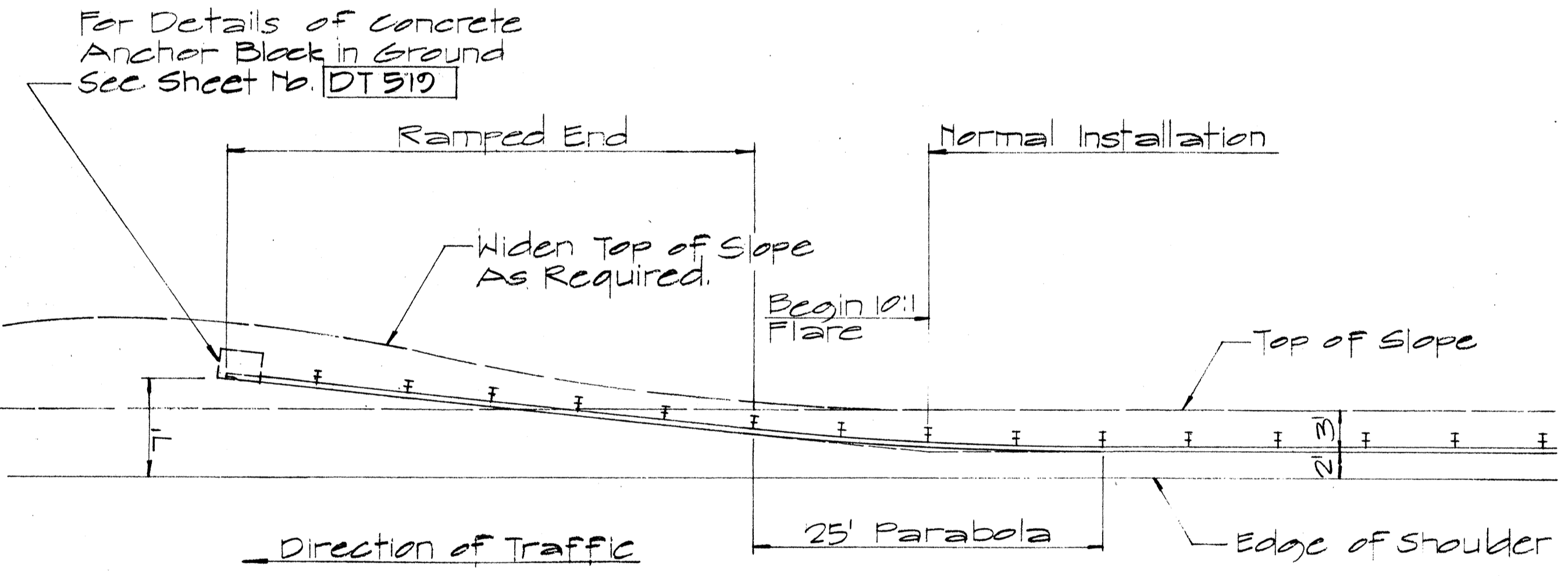


PLAN

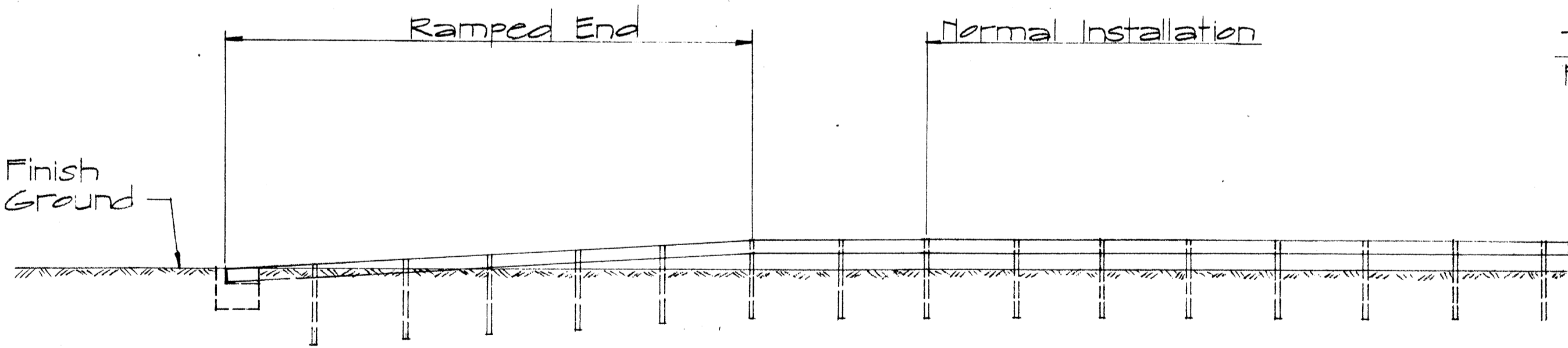


ELEVATION

TYPE "F" FLARE
Sc. 1/8" = 1'-0"

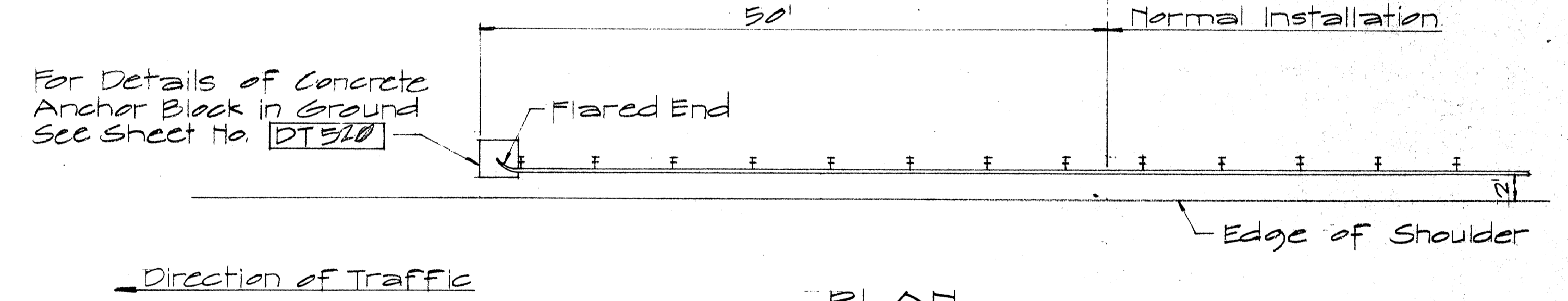


PLAN

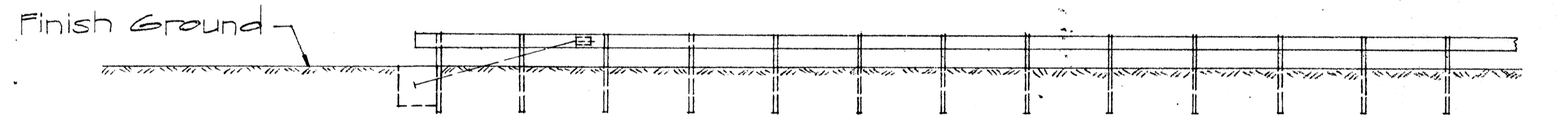


ELEVATION

TYPE "E" FLARE
Sc. 1/8" = 1'-0"

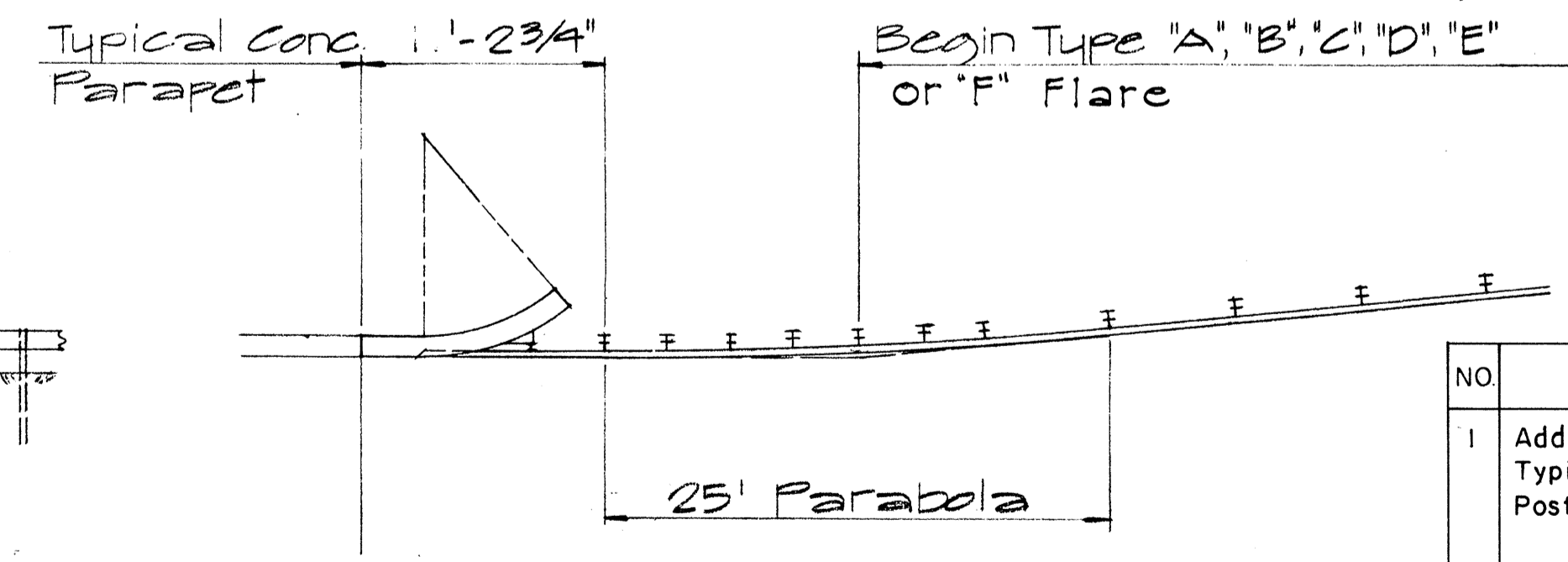


PLAN



ELEVATION

TYPE "G" FLARE
Sc. 1/8" = 1'-0"



TYPICAL LAYOUT PLAN OF END POST CONNECTION
Sc. 1/8" = 1'-0"

| NO. | REVISION | APPROVED BY | DATE |
|-----|--|-------------|---------|
| 1 | Additional Posts Added to Typical Layout Plan of End Post Connection | H.C. | 4-12-72 |

APPROVAL RECOMMENDED:
Eiichi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:
Wm. S. Kal 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

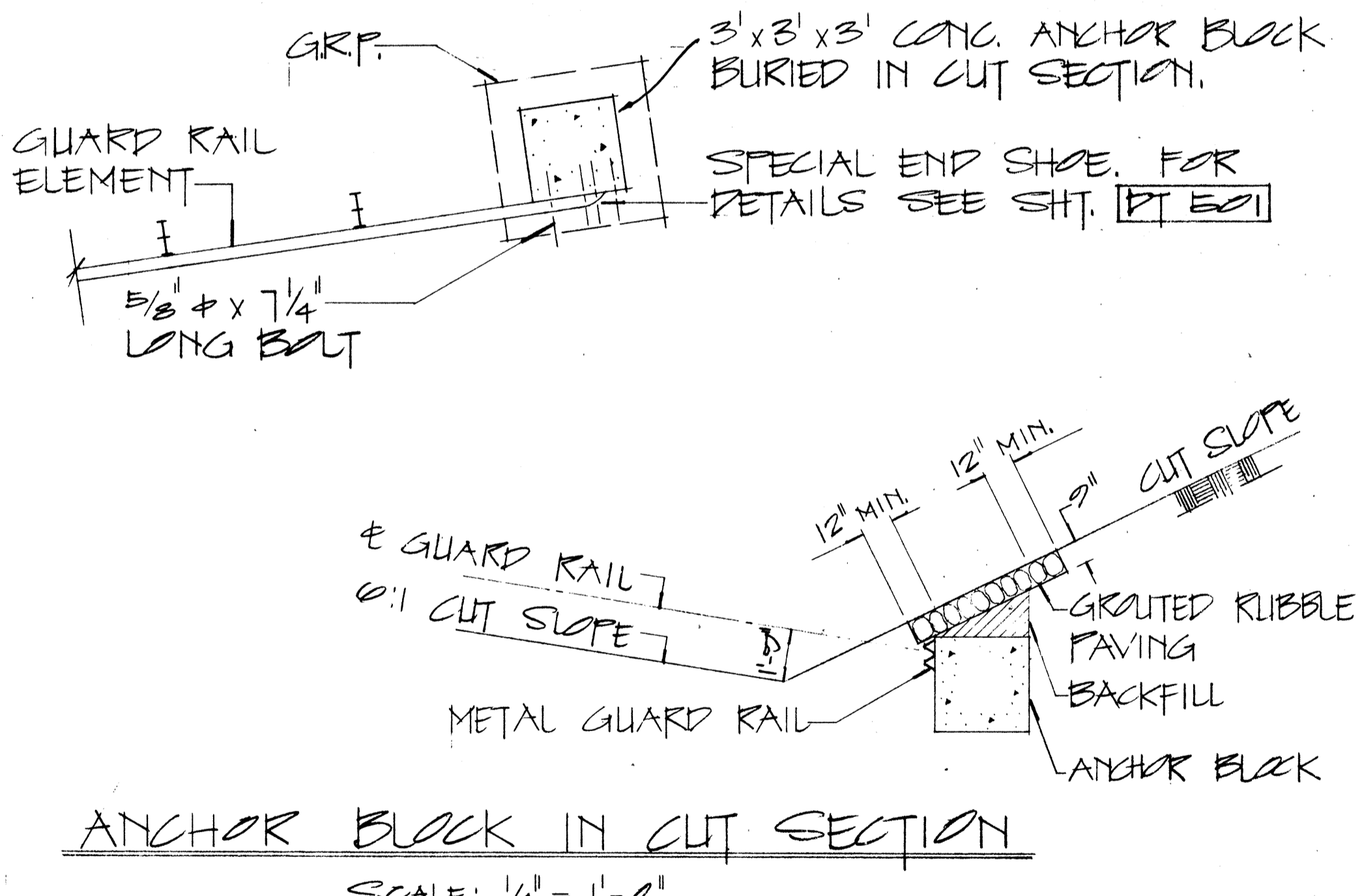
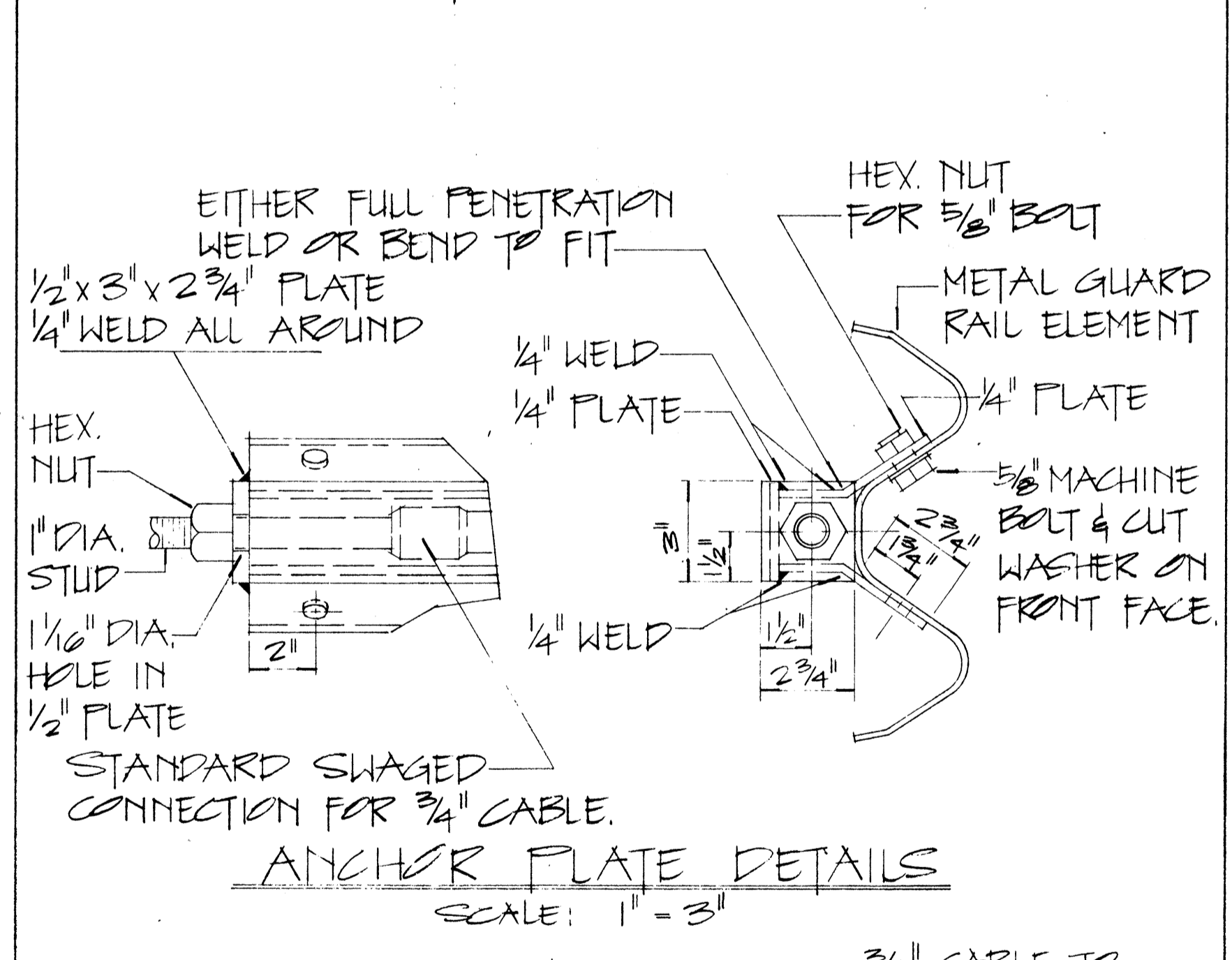
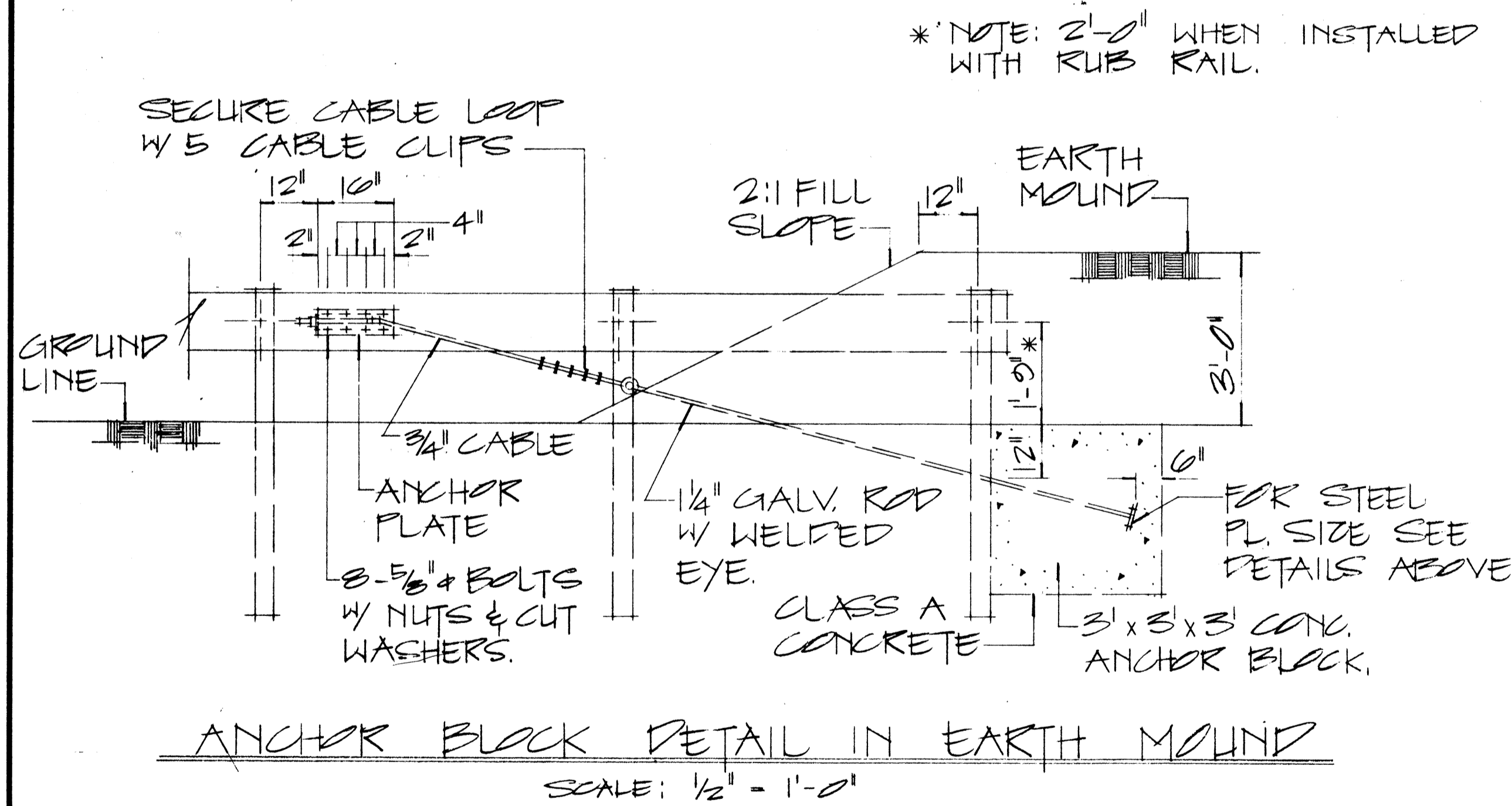
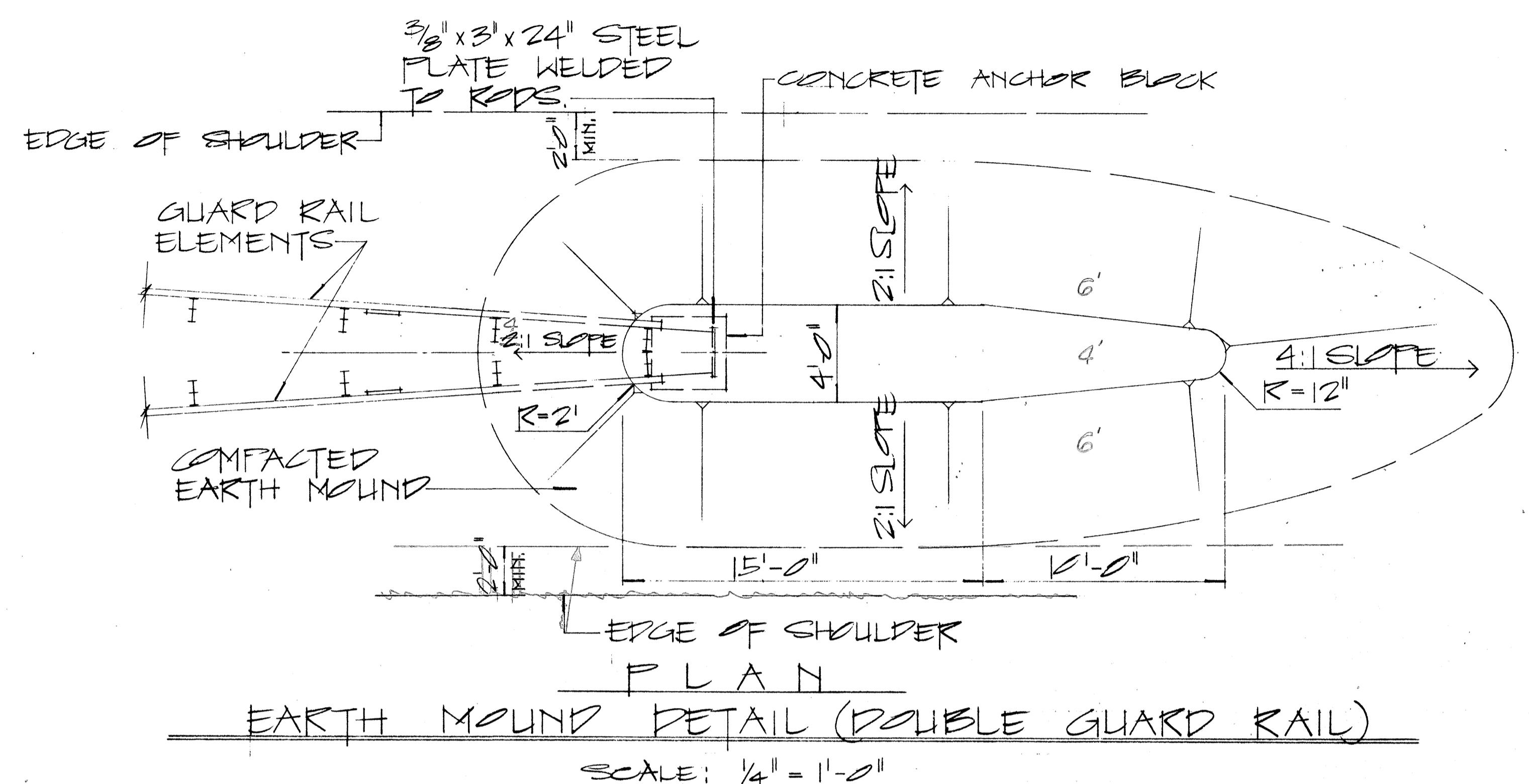
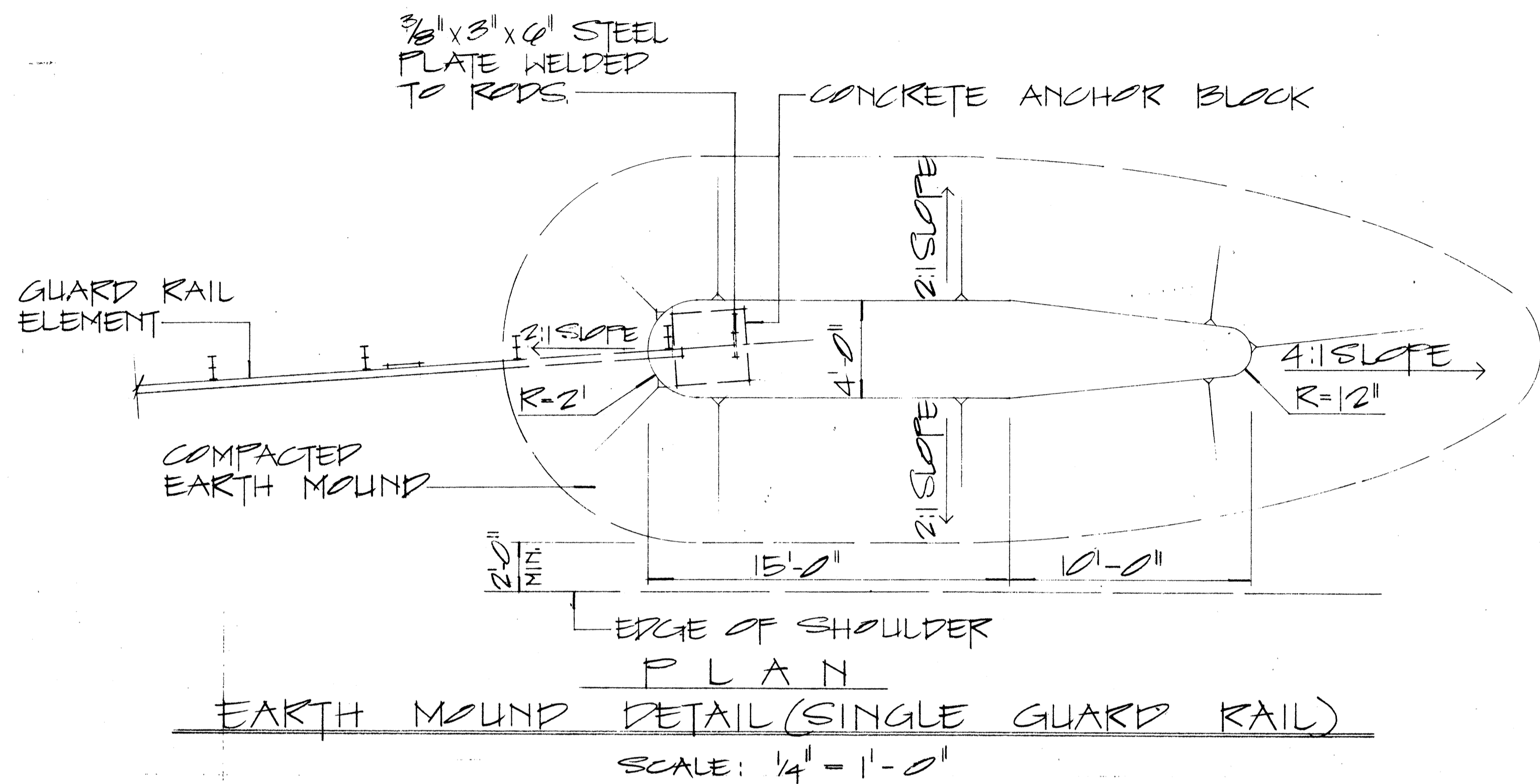
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
TRAILING END
FLARE - ONE & TWO
WAY ROADWAY

Scale: As Noted APRIL 1969

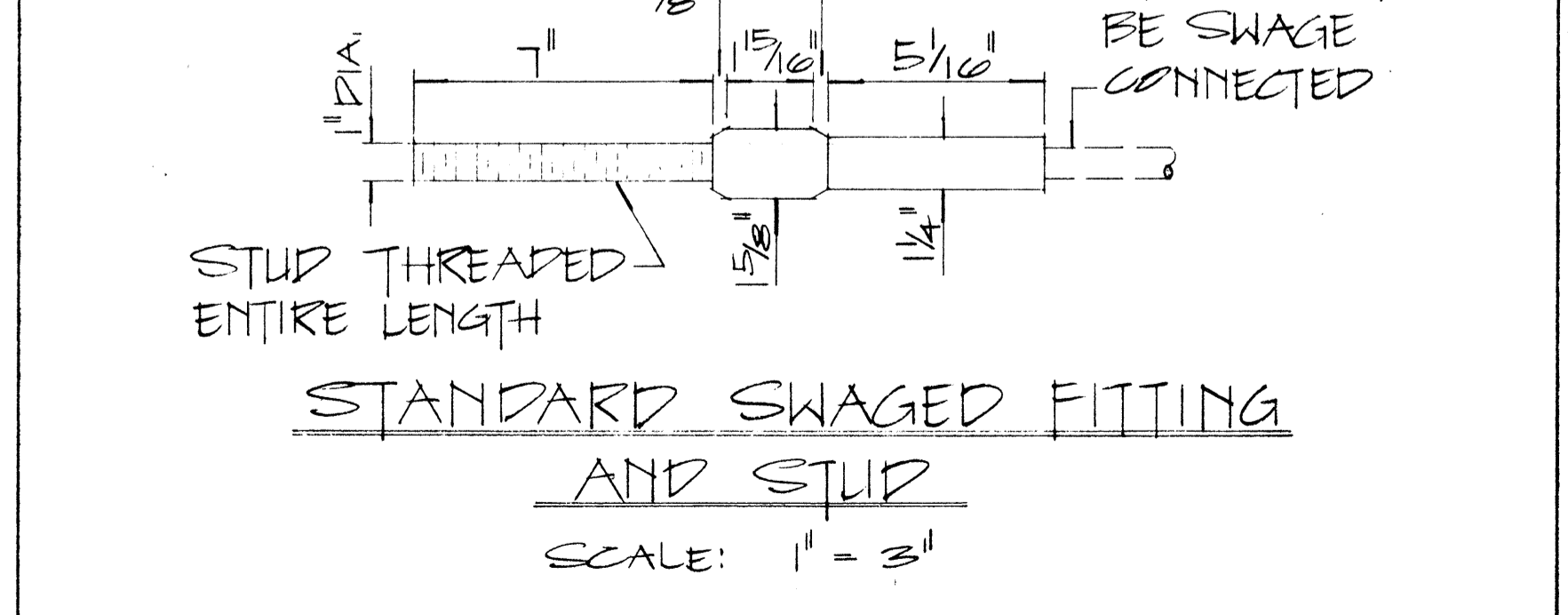
DATE
SURVEY PLOTTED BY
DRAWN BY
DESIGNED BY
CHECKED BY
NOTE BOOK
No.

| | | | | | |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| HAWAII | HAW. | 1-4837(6)12 | 1975 | 72 | 127 |



NOTE:

1. GALVANIZED ANCHOR ROD, METAL GUARD RAIL AND POST BURIED IN GROUND SHALL BE COVERED WITH a Min. 20-Mil thickness of Coal TAR ENAMEL, conforming to AWWA Standard: C 203
2. CONCRETE, GRP, EXCAVATION, EARTH MOUND, ANCHOR RODS AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.



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

APPROVED:
John J. Sals 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
| | | | |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
EARTH MOUND AND ANCHOR BLOCK DETAILS

SCALE: AS SHOWN 02 1969

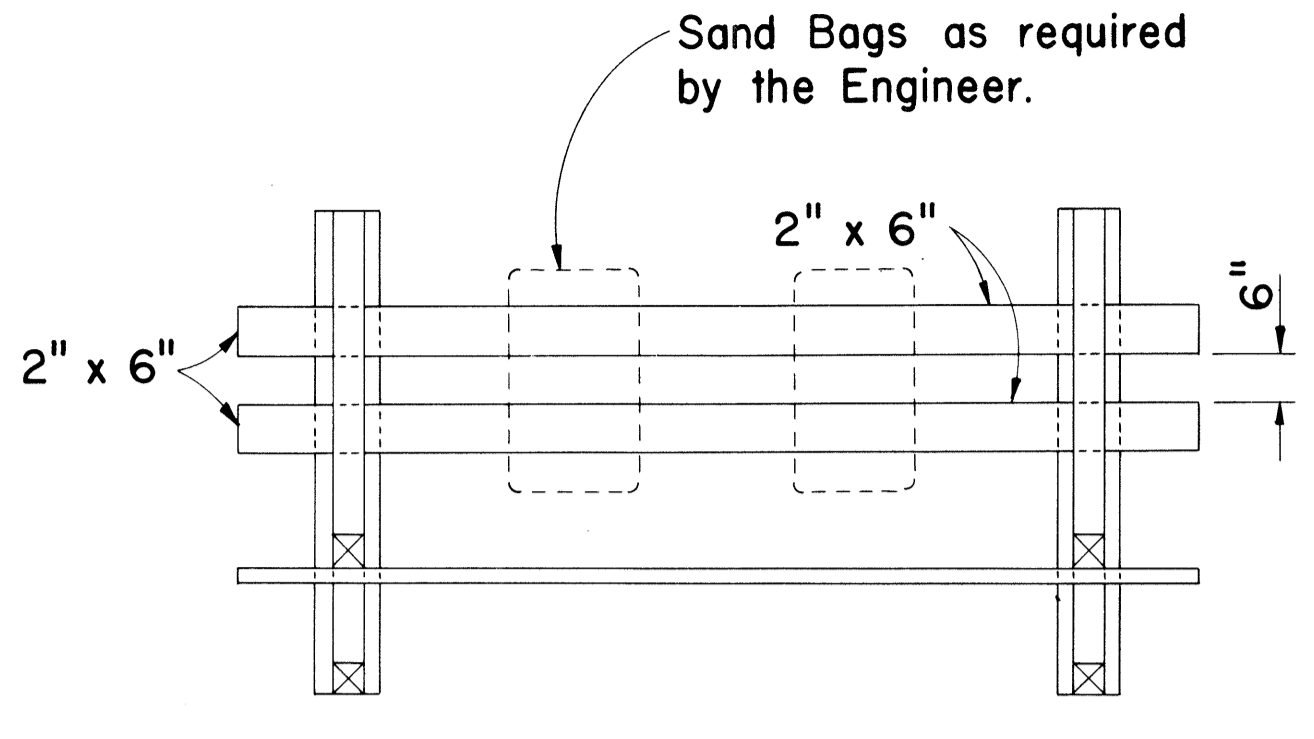
SHEET No. 17 OF 18 SHEETS PT 520

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
DATE: _____

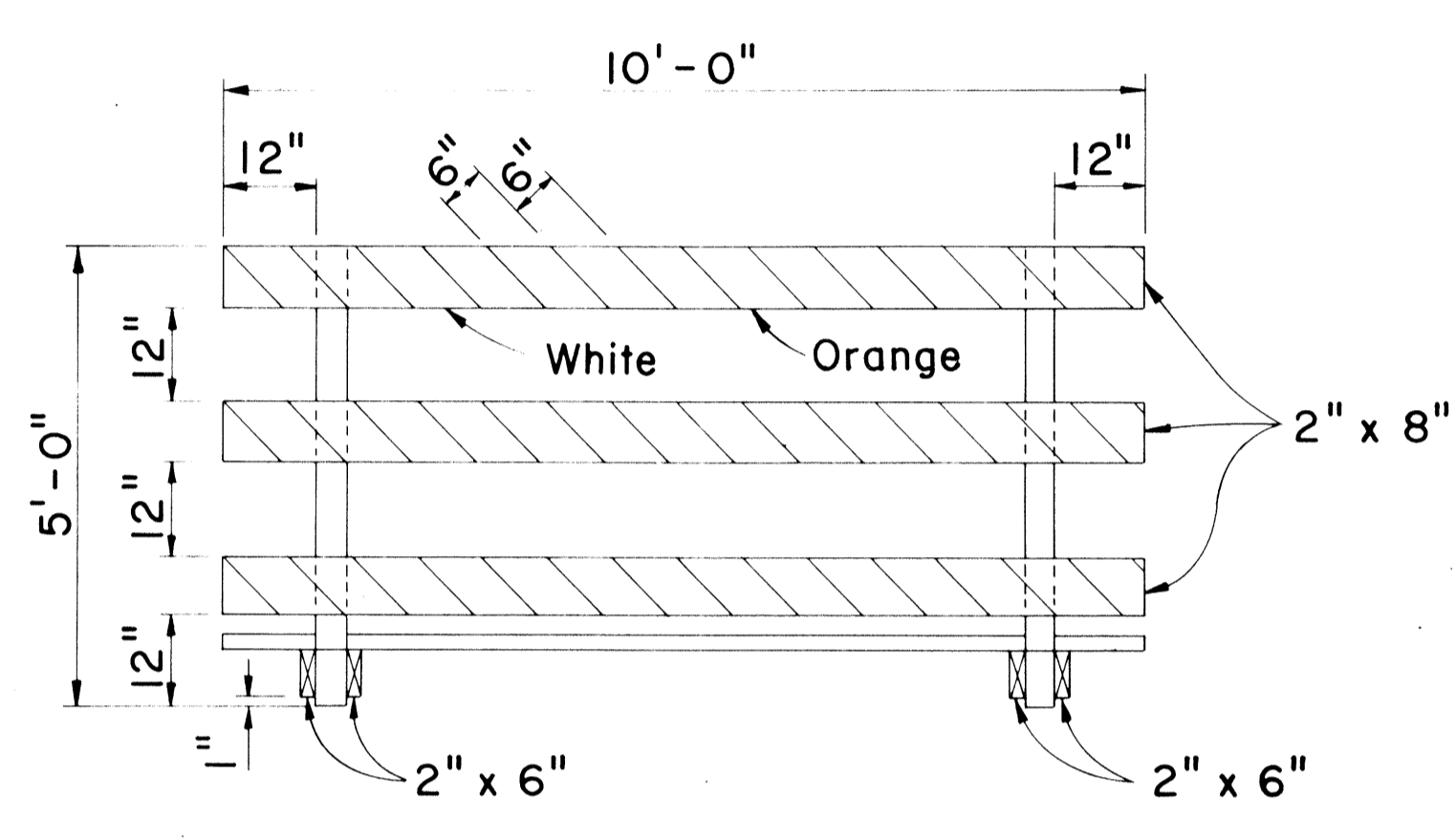
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(6):12 | 1975 | 73 | 127 |

GENERAL NOTES

1. The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
2. The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.
3. The orange and white stripes shall slant downward toward the side on which traffic is to pass and shall be reflectorized.



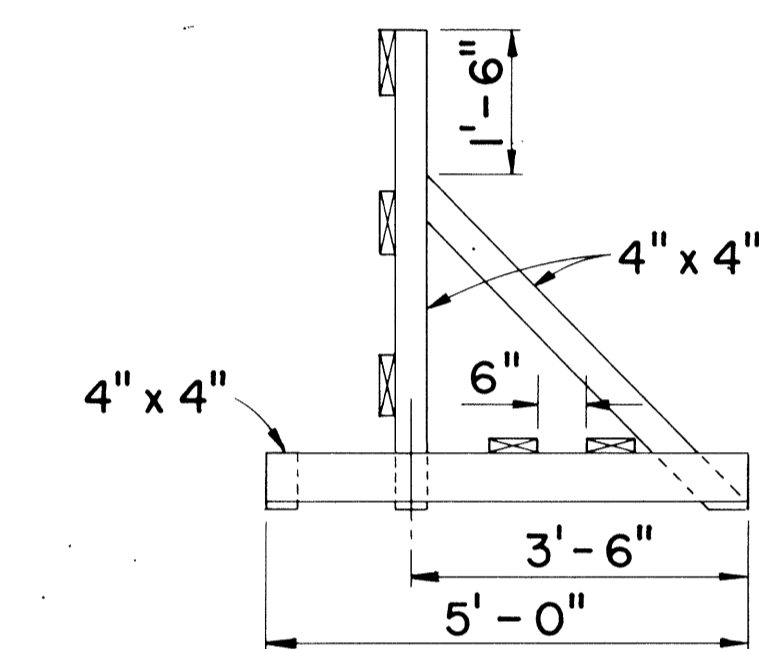
PLAN VIEW



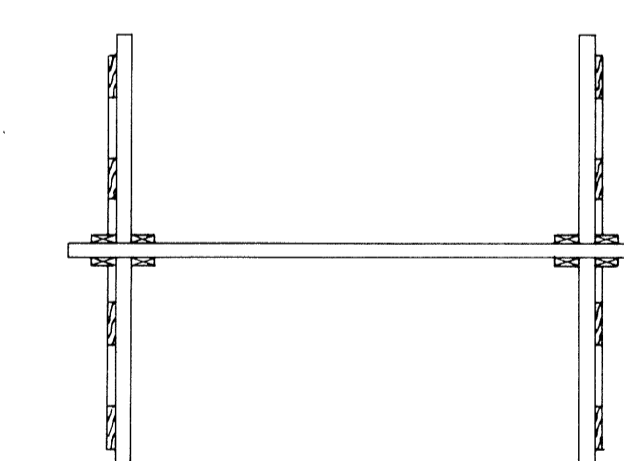
FRONT VIEW

CLASS I BARRICADE

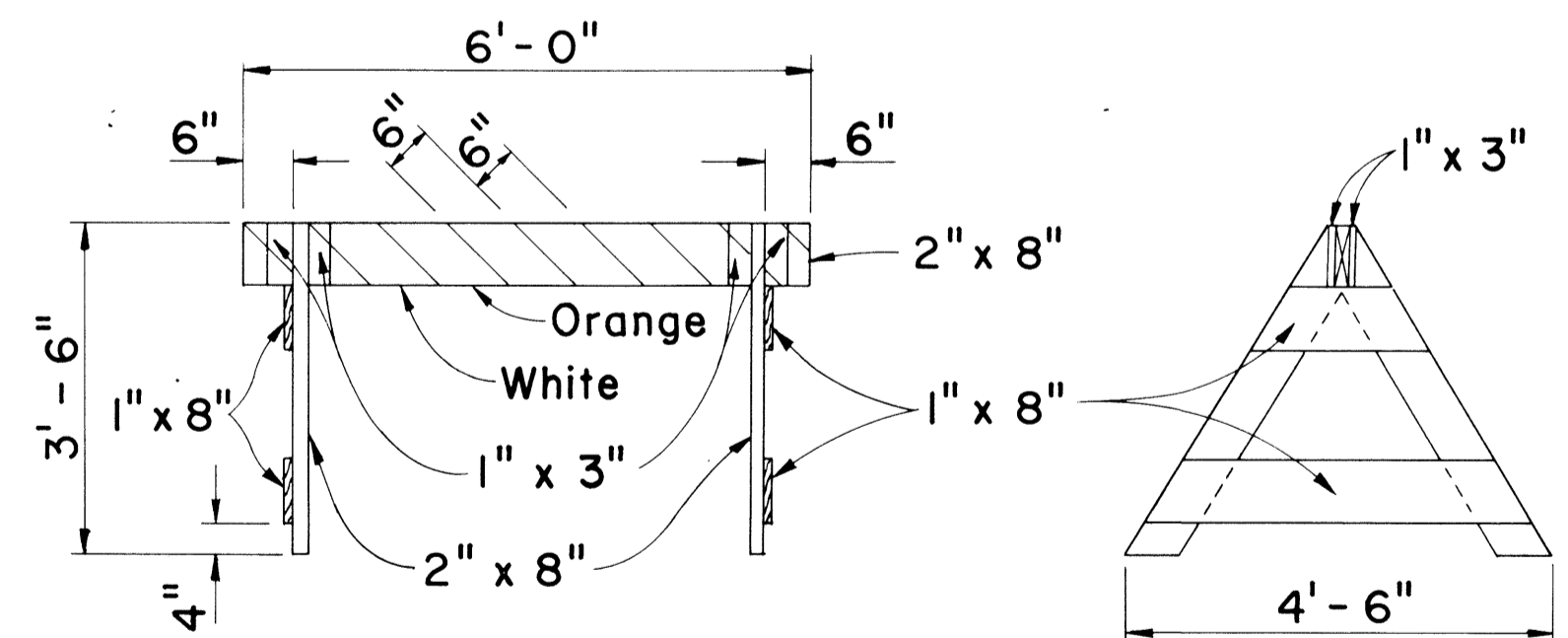
Scale: 1/2" = 1'-0"



END VIEW



PLAN VIEW

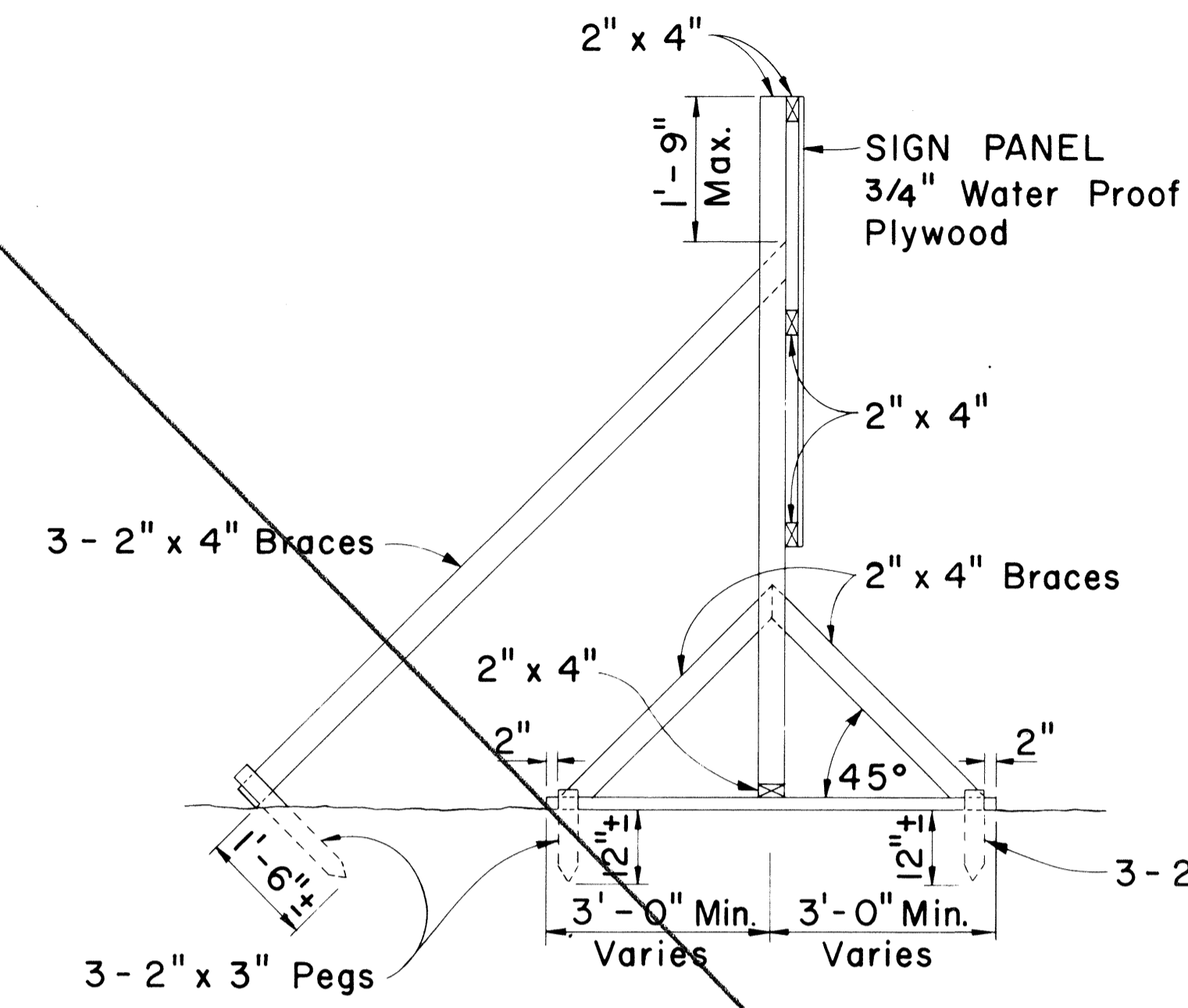


FRONT VIEW

END VIEW

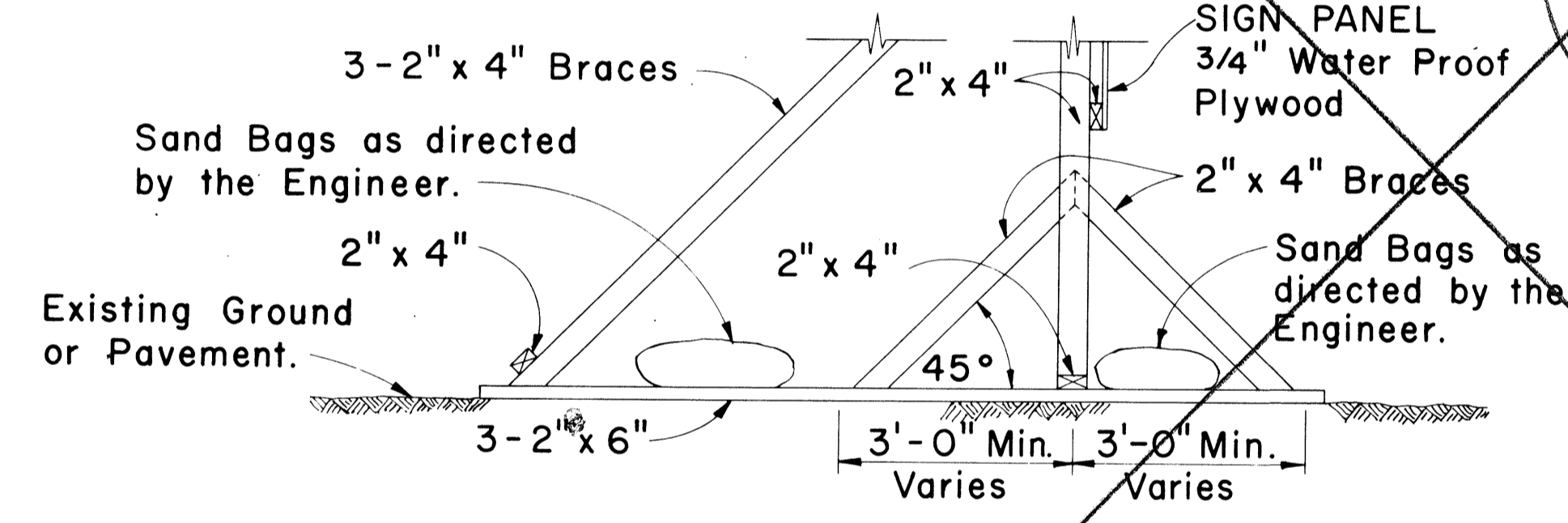
CLASS II BARRICADE

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



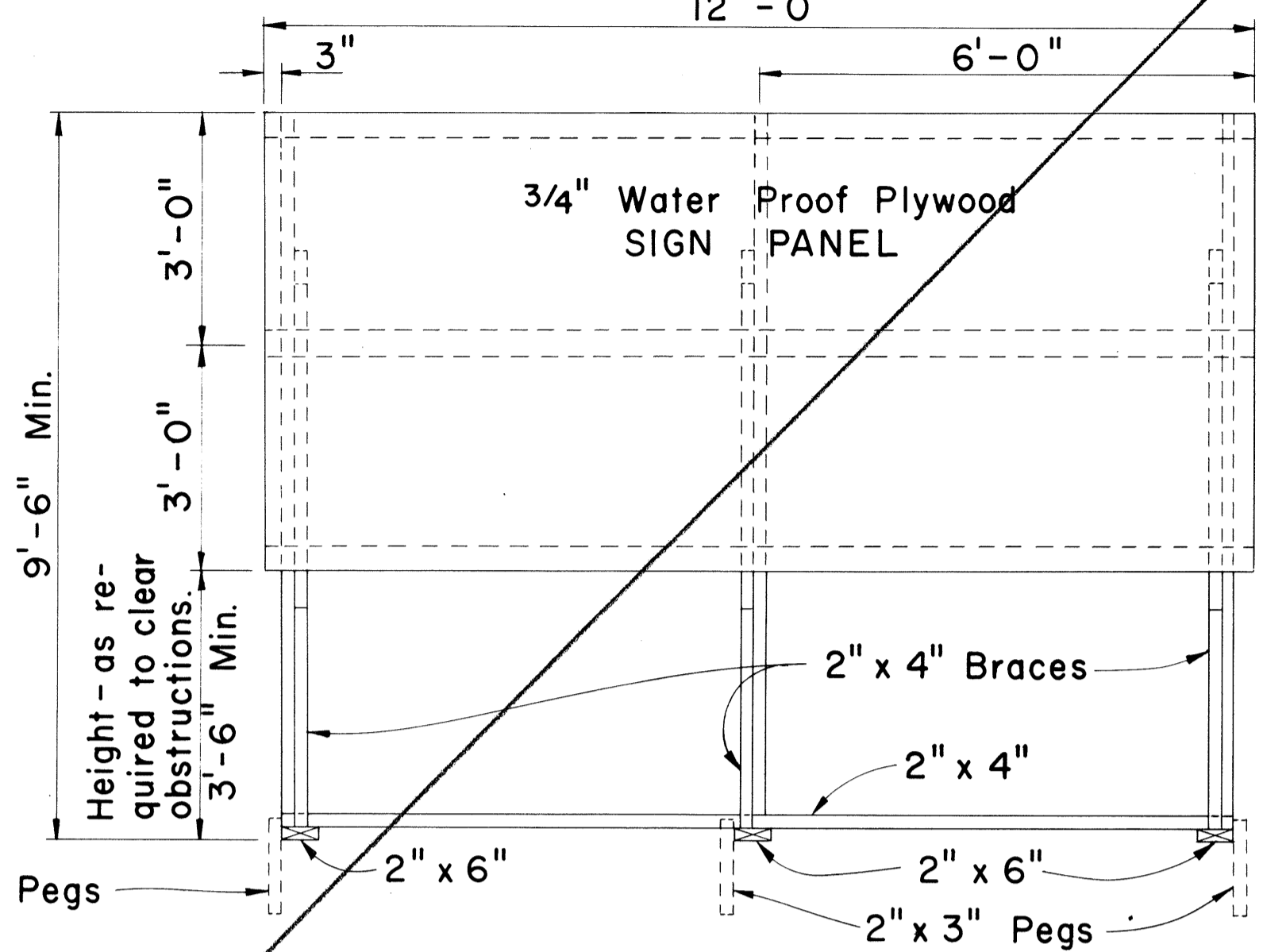
SIDE VIEW

(SIGN FRAME ANCHORED IN GROUND)
Scale: 1/2" = 1'-0"



SIDE VIEW

(SIGN FRAME WEIGHTED DOWN)
Scale: 1/2" = 1'-0"



FRONT VIEW

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

GENERAL NOTES

1. The sign legend shall be black on white background except for the Interstate Route marker which shall be as shown on the plan.
2. The Contractor shall construct, install and maintain the project signs at the locations shown on the Plans and as ordered by the Engineer.
3. Letters shall be Series "C" of the sizes shown on the Plan and shall conform with the "Standard Alphabet for Highway Signs", Bureau of Public Roads, 1966.
4. The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.

APPROVAL RECOMMENDED:
Erica Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:
Shelton S. J... 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

YOUR HIGHWAY TAXES AT WORK

FEDERAL HIGHWAY TRUST FUNDS

\$ 0,000,000

U.S. DEPT. OF TRANSPORTATION
FEDERAL HIGHWAY ADMIN.

STATE HIGHWAY FUNDS

\$ 000,000

HAWAII STATE
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN PANEL
Scale: 3/4" = 1'-0"

INTERSTATE SYSTEM
CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown

| NO | REVISION | APPROVED BY | DATE |
|----|------------------------------------|-------------|----------|
| 1 | Reduce sign width to 12'-0" | H.T. | 4-3-70 |
| 2 | Delete "Bureau of Public Roads" | H.T. | 2-29-70 |
| 3 | Add Note No. 3 for Barricades | H.T. | 5-4-71 |
| 4 | Revise stripe color for Barricades | H.T. | 10-21-72 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS

~~CONSTRUCTION IDENTIFICATION SIGN~~
~~AND~~
WOOD BARRICADES

FAI. PROJ. NO. I-H3-1(6):12

SCALE: As Shown DATE:

SHEET No. 18 OF 18 SHEETS DT 800

SURVEY PLOTTED BY: _____ DATE: _____
 DRAWN BY: _____
 TRACED BY: _____
 QUANTITIES BY: _____
 CHECKED BY: _____
 No. _____