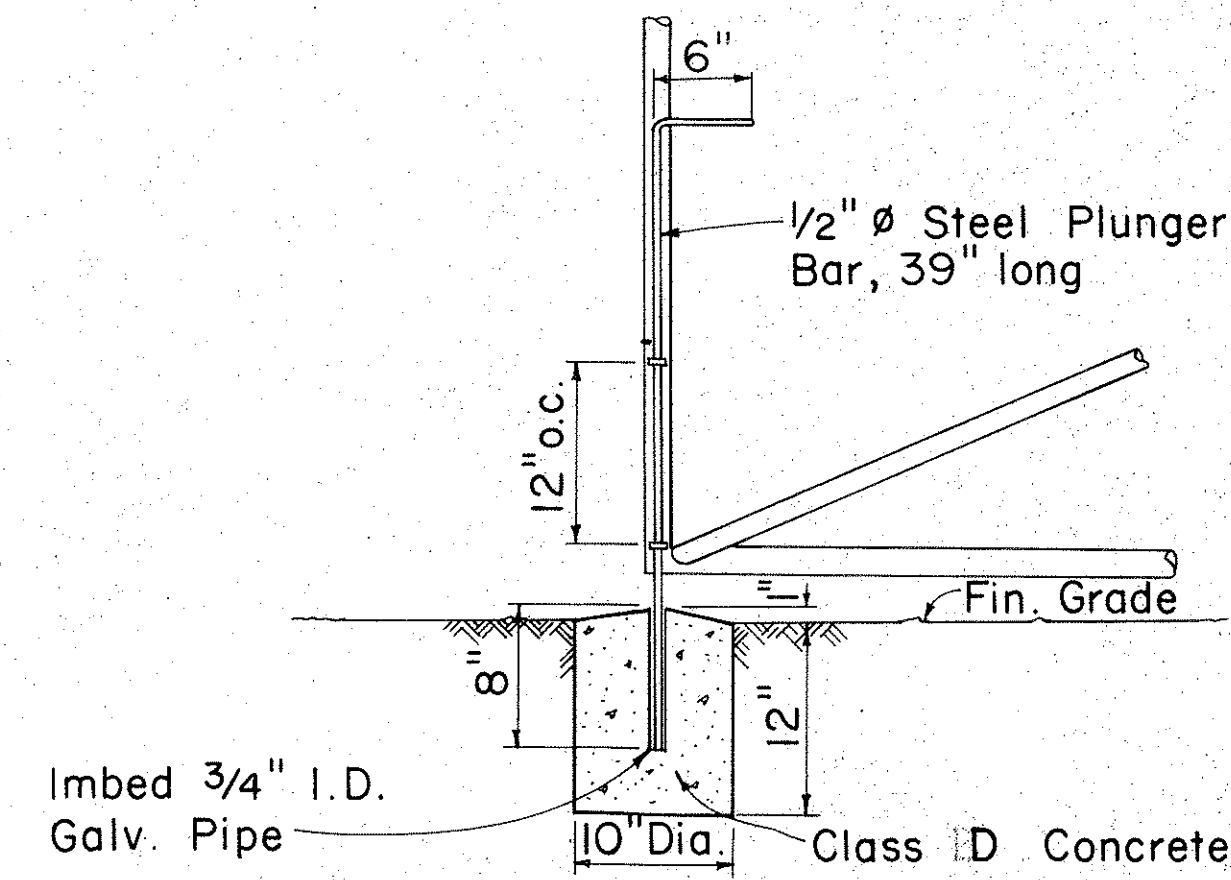
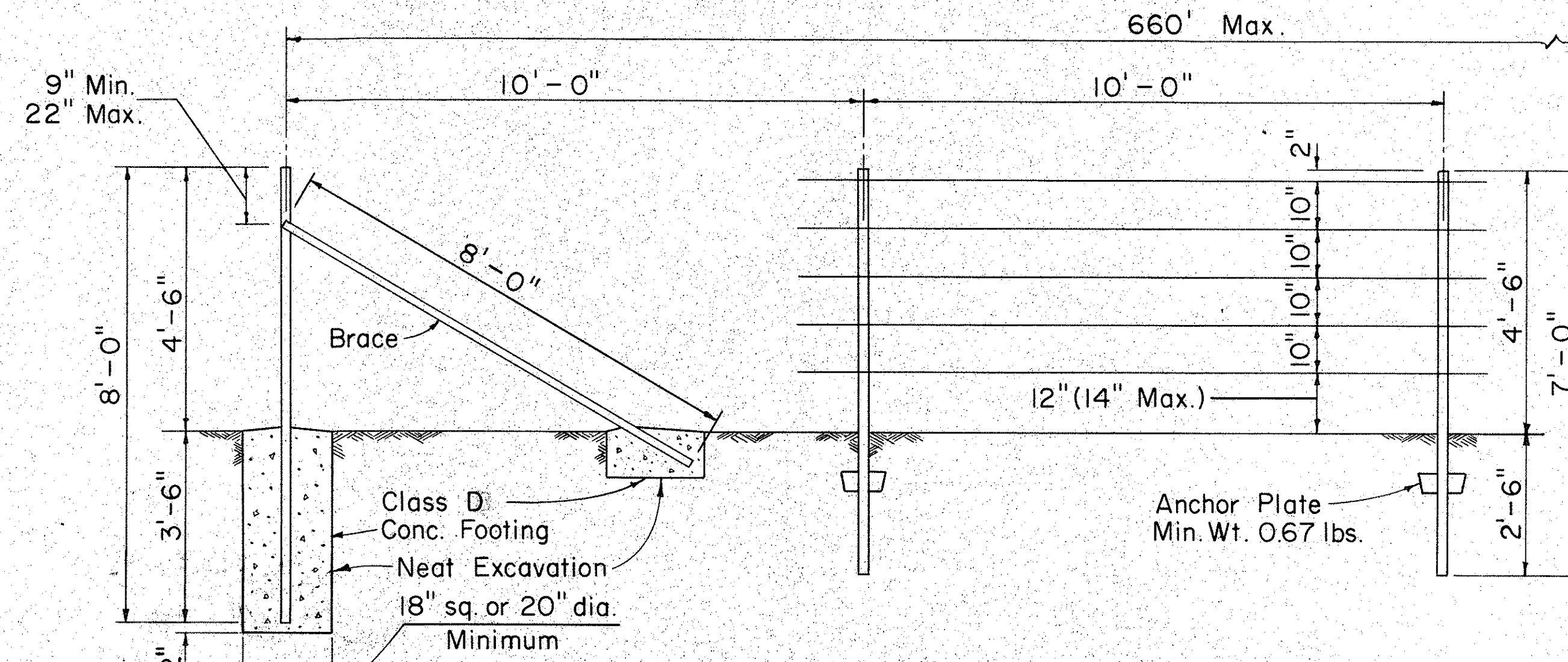


| STATE | PROJ. NO.            | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------|----------------------|-------------|-----------|--------------|
| HAW.  | BMD66-343<br>PHASE I | FY 74-75    | 31        | 41           |

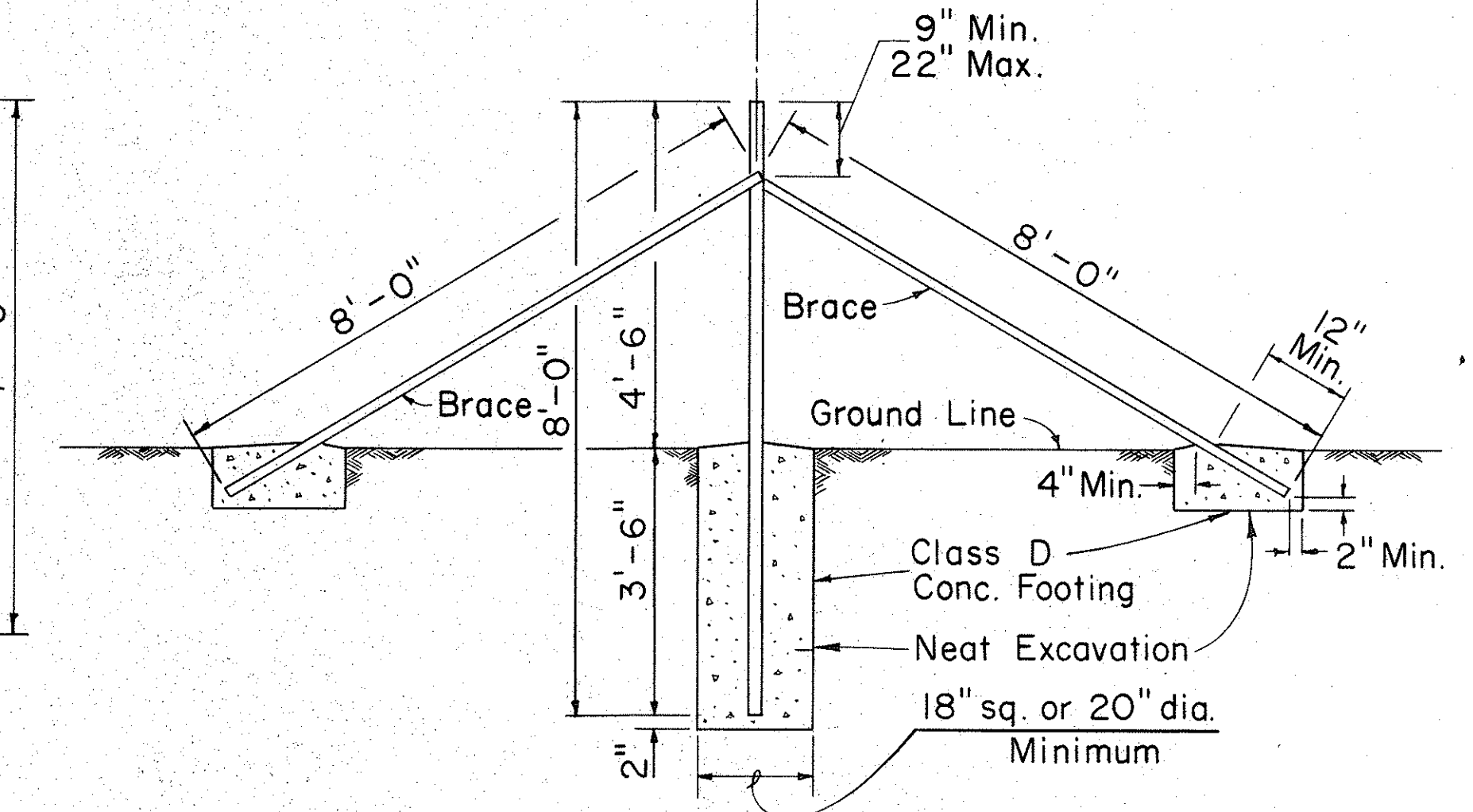


**DETAIL B**  
Scale: 1" = 1'-0"

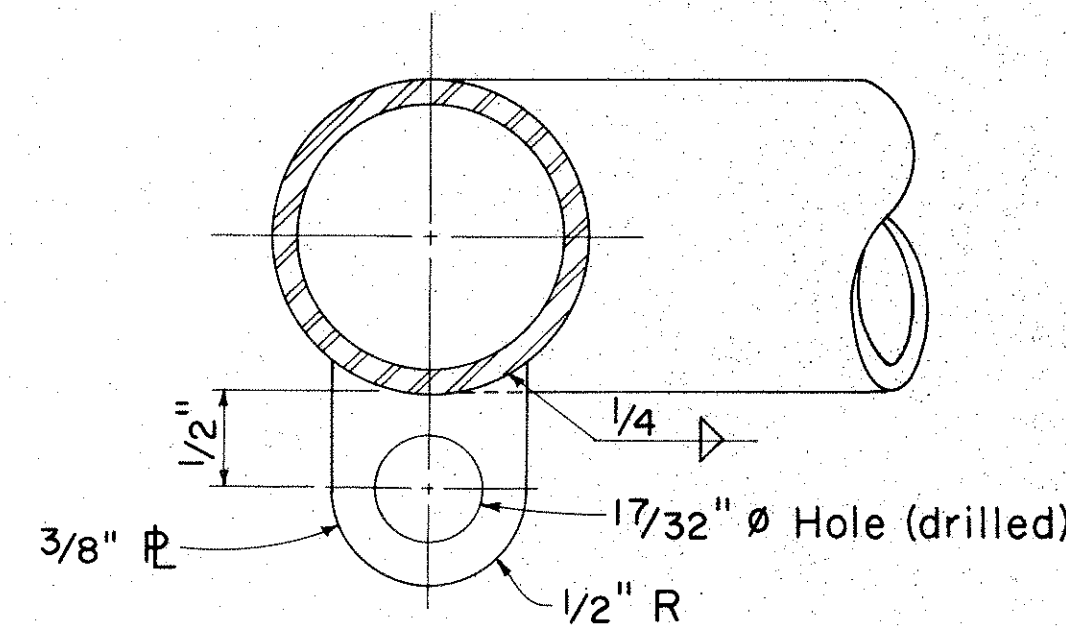


**END OR CORNER POST**  
Scale: 1/2" = 1'-0"

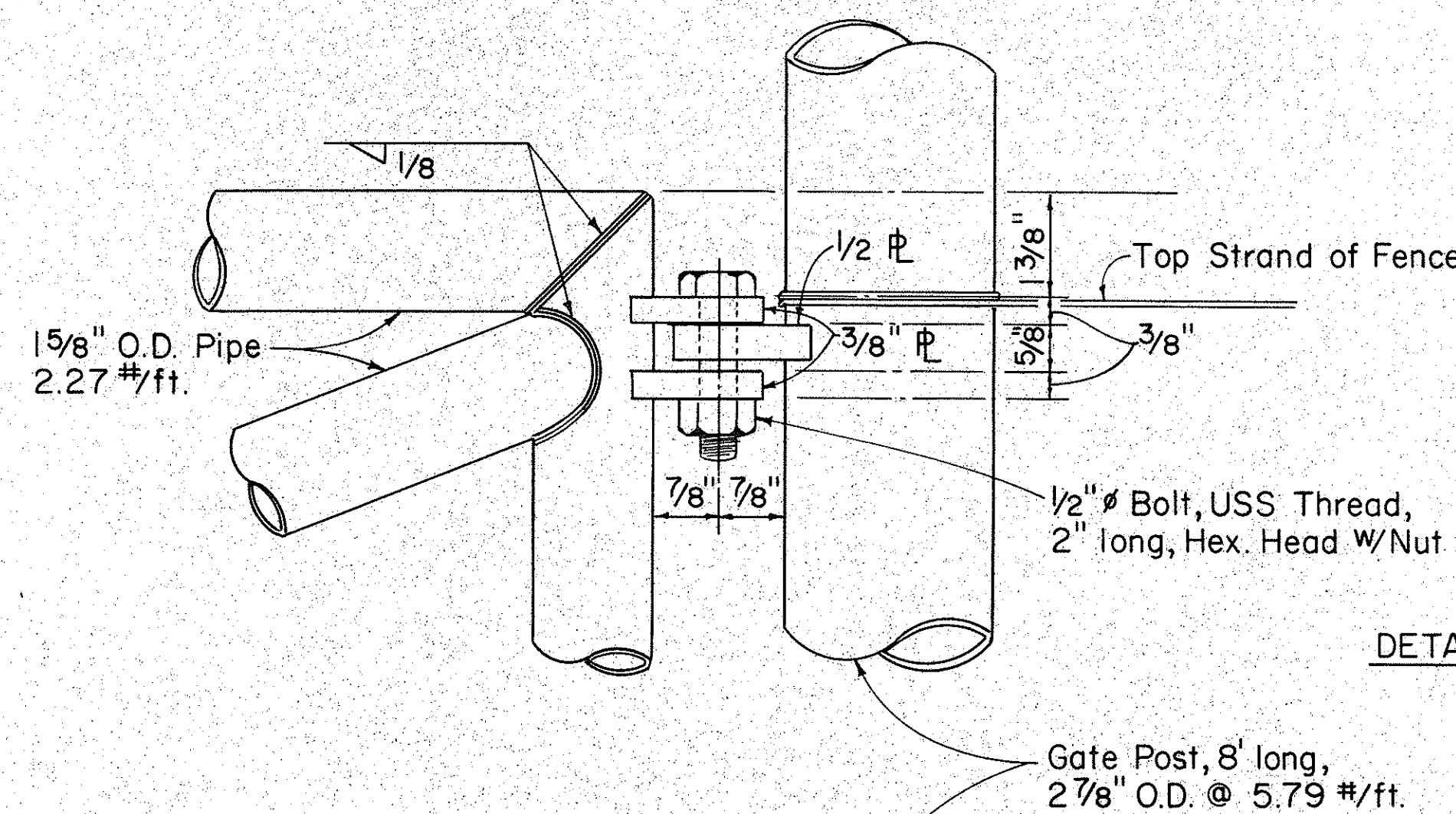
**LINE POST**  
Scale: 1/2" = 1'-0"



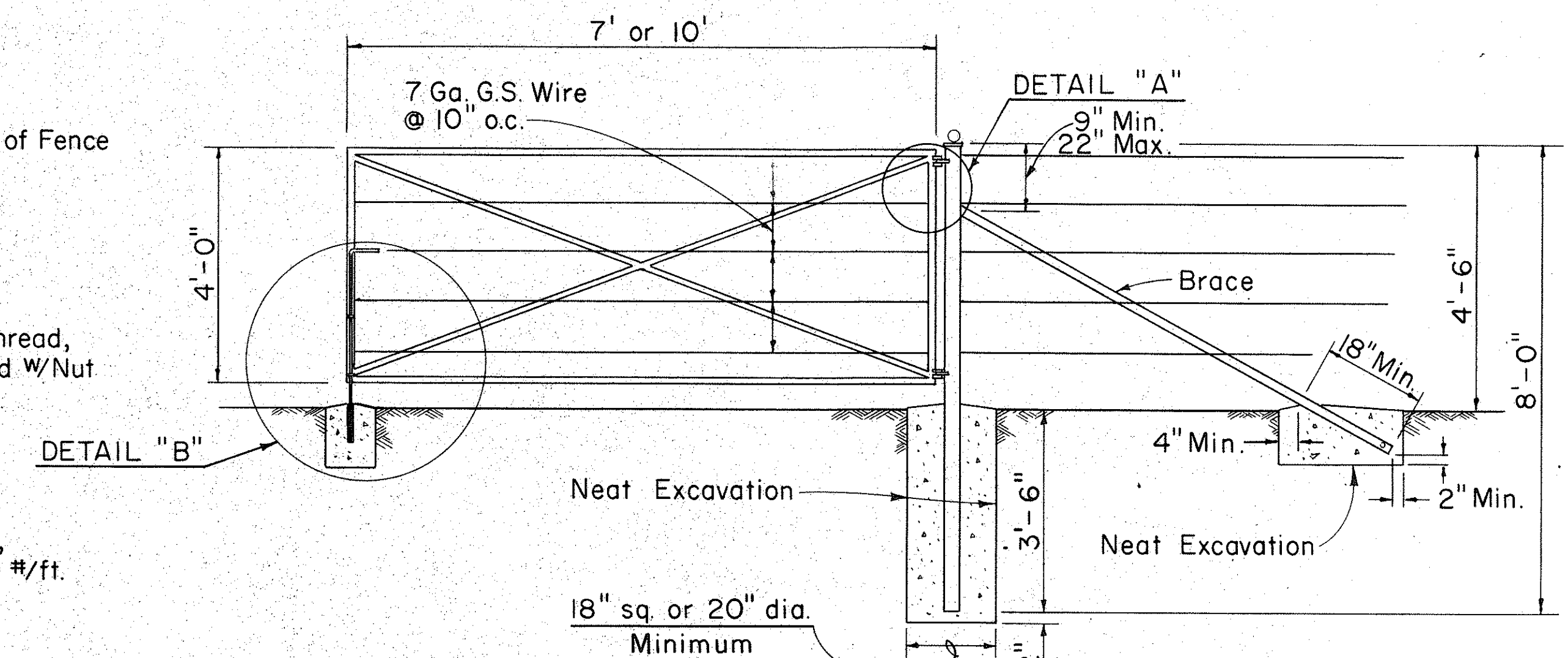
**INTERMEDIATE ANCHOR POST**  
Scale: 1/2" = 1'-0"



**GUIDE FOR PLUNGER BAR**  
Scale: Full Size



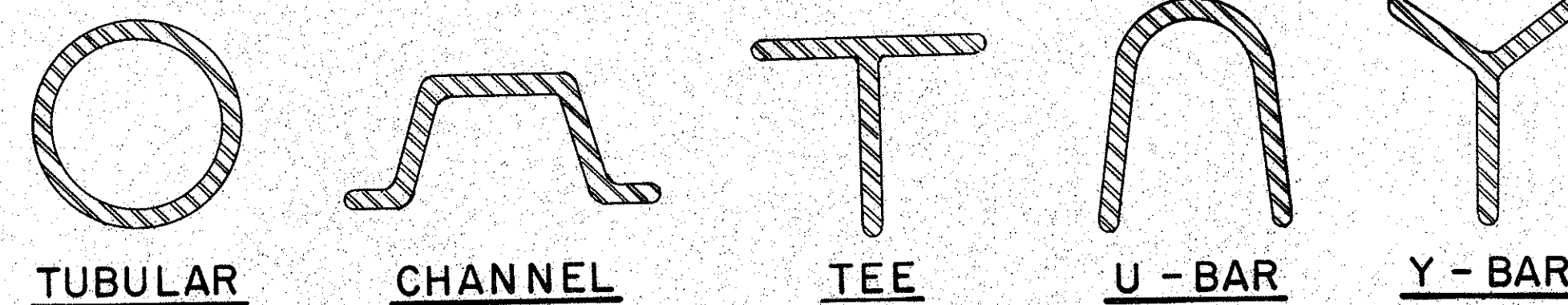
**DETAIL A**  
Not To Scale



**HALF-VIEW - DOUBLE HUNG GATES**  
Scale: 1/2" = 1'-0"

**NOTES:**

1. Gate Hinge Blades and Plunger bar guides shall be chamfered 1/32" all around and as required to prevent conflict between moving parts.
2. All parts of Gates shall be galvanized after fabrication.
3. All holes shall be reamed as necessary to admit hinge bolts or plunger bars.
4. Gate panels shall be strung with 7 ga. smooth fence wire spaced to conform to spacing of adjacent fence strands.
5. One plunger bar required per set of double-hung gates. None required for single-hung gate.



**TYPICAL SECTIONS OF METAL POSTS**  
Not To Scale

APPROVAL RECOMMENDED:  
*[Signature]* 12-4-69  
HIGHWAY DESIGN ENGINEER DATE

APPROVED:  
*[Signature]* 12-10-69  
ASSISTANT CHIEF, ENGINEERING DATE

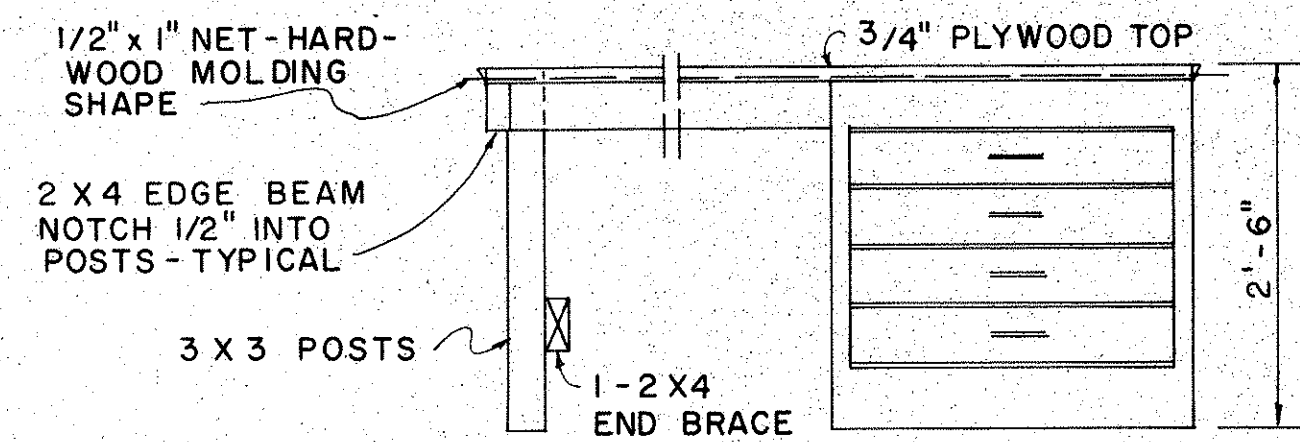
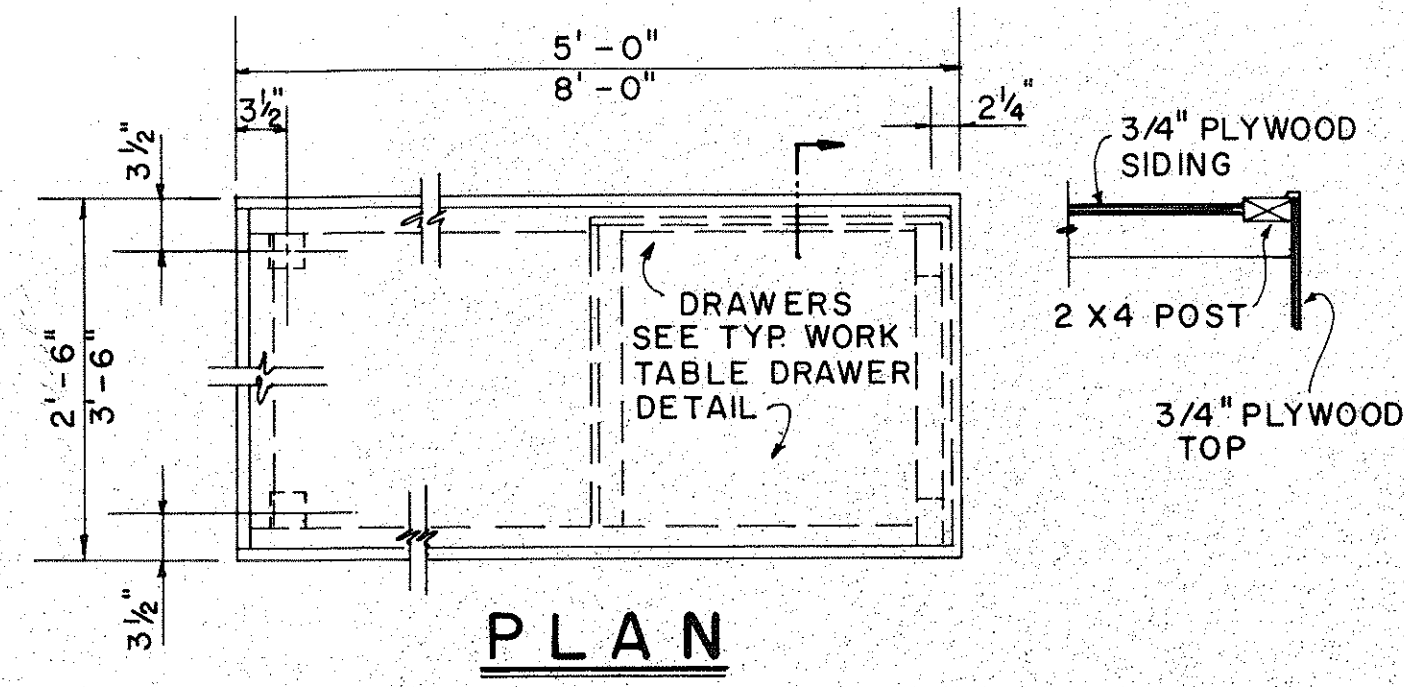
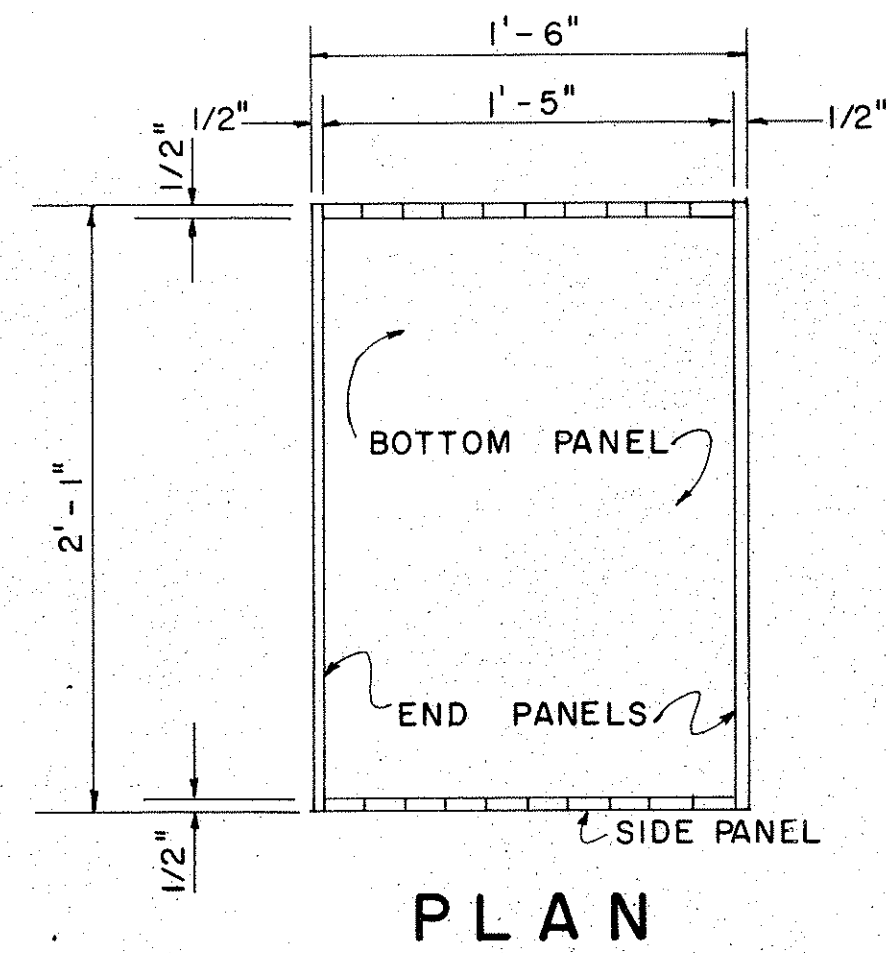
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |
|     |          |             |      |
|     |          |             |      |

|                                                                      |
|----------------------------------------------------------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION |
| <b>STANDARD DETAILS</b>                                              |
| <b>WIRE FENCE WITH METAL POSTS</b>                                   |
| Scale: As Noted                                                      |

SHEET No. OF SHEETS DD 607.3

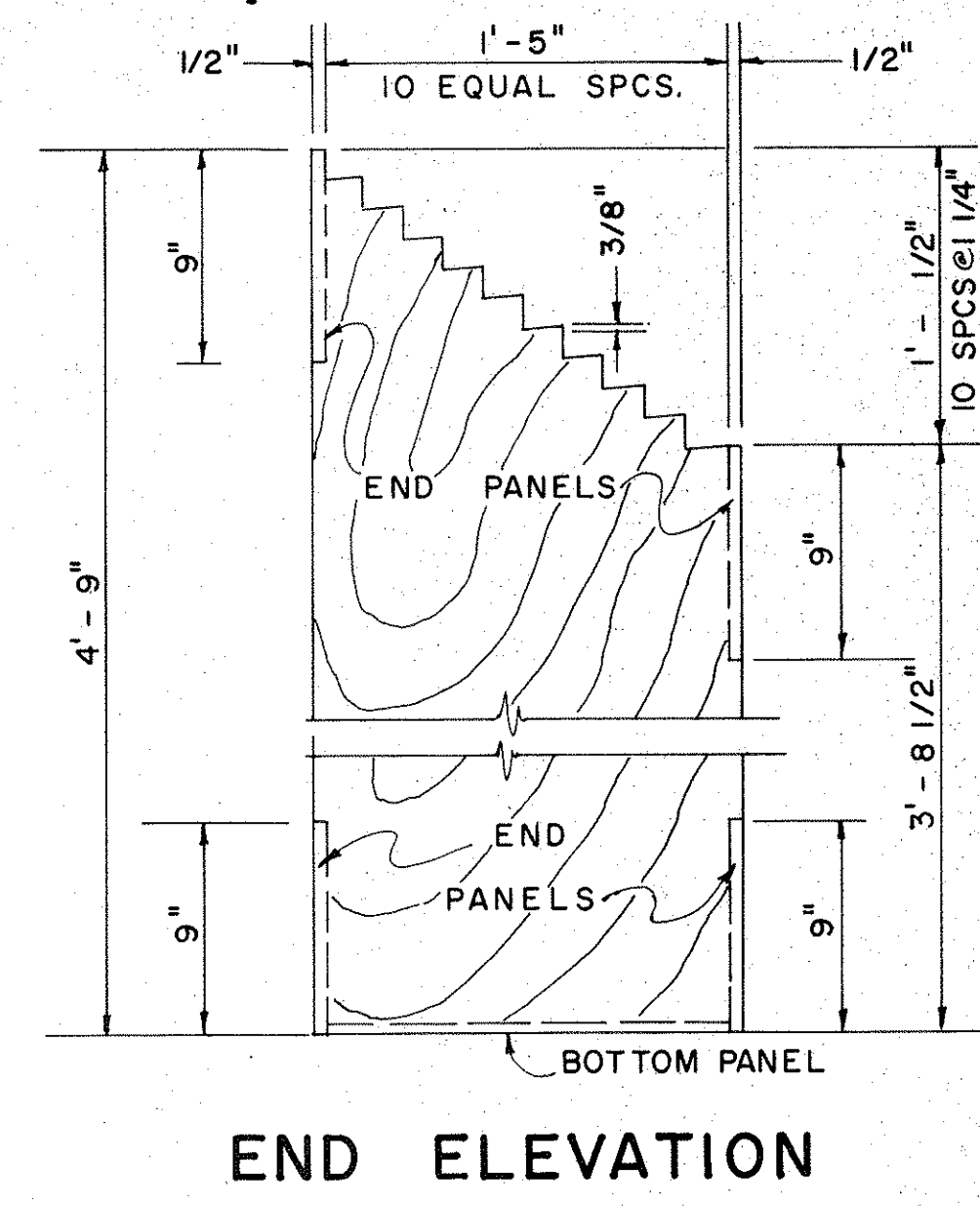
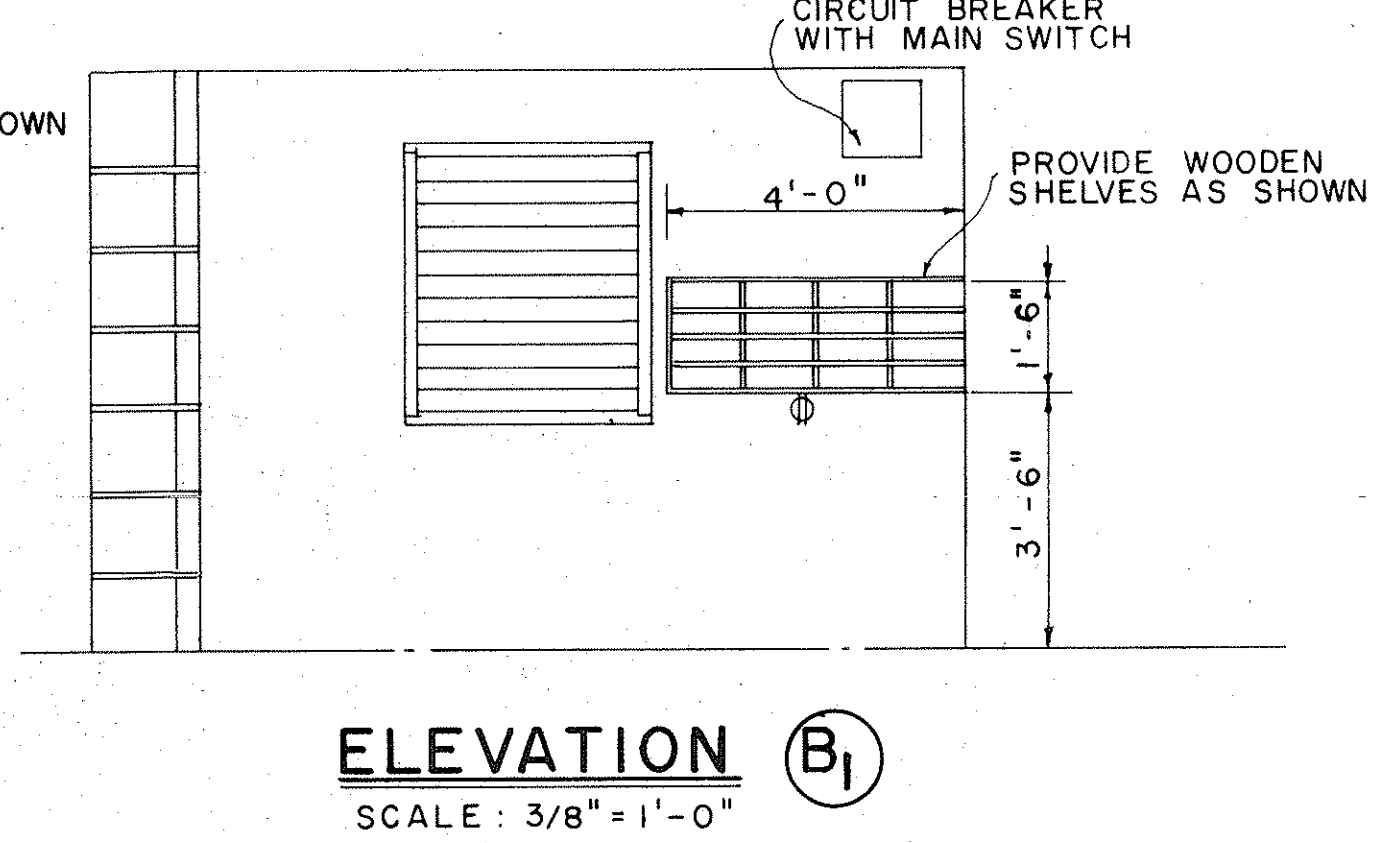
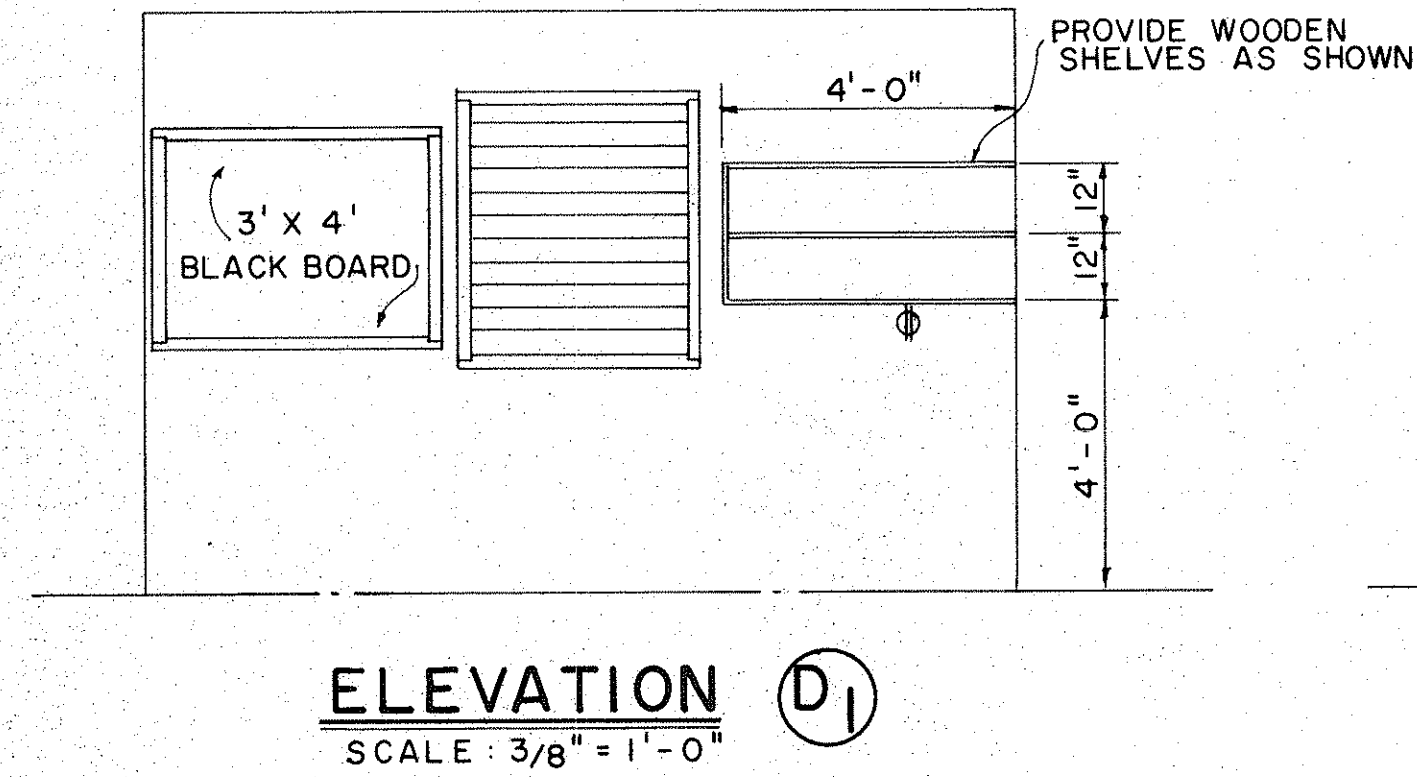
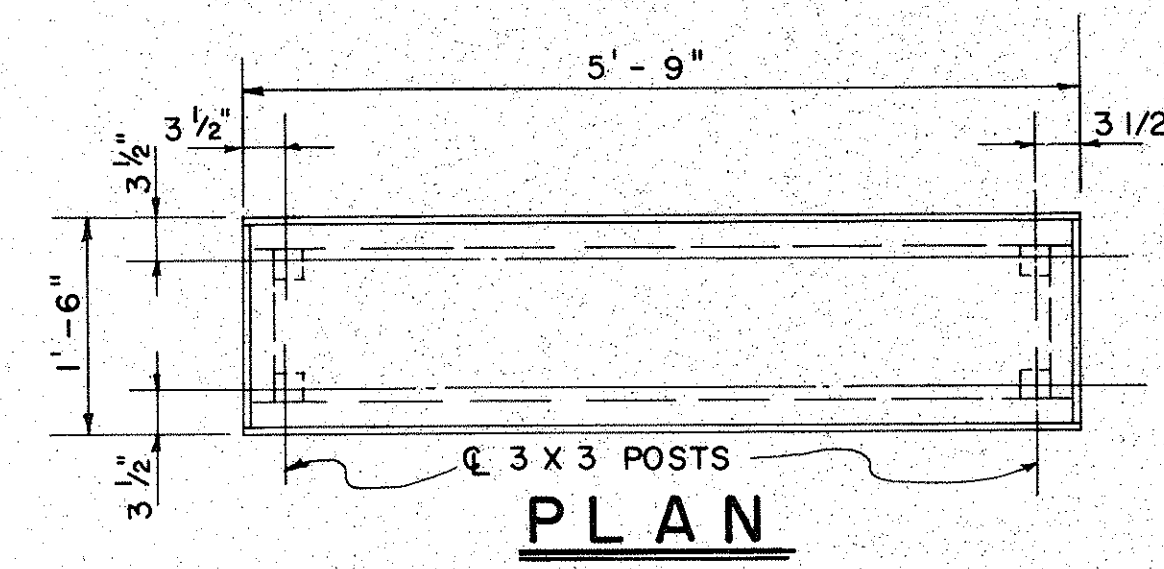


| STATE  | PROJ. NO.            | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|--------|----------------------|-------------|-----------|--------------|
| HAWAII | BMD66-343<br>PHASE I | FY74-75     | 33        | 41           |

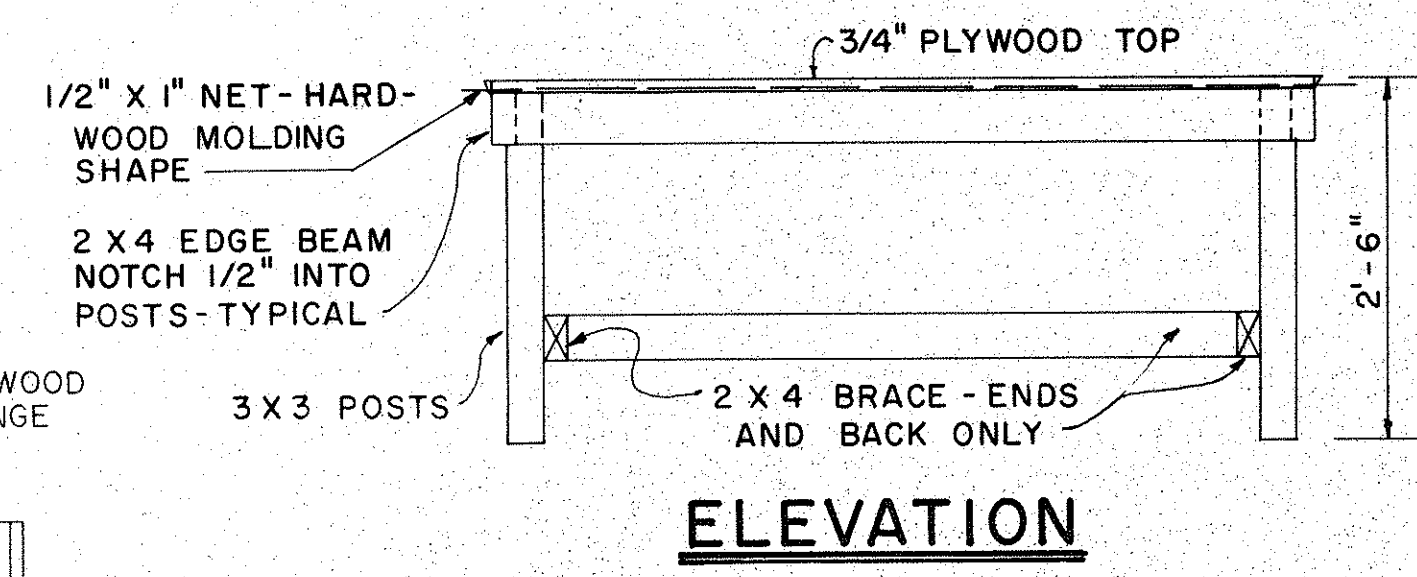
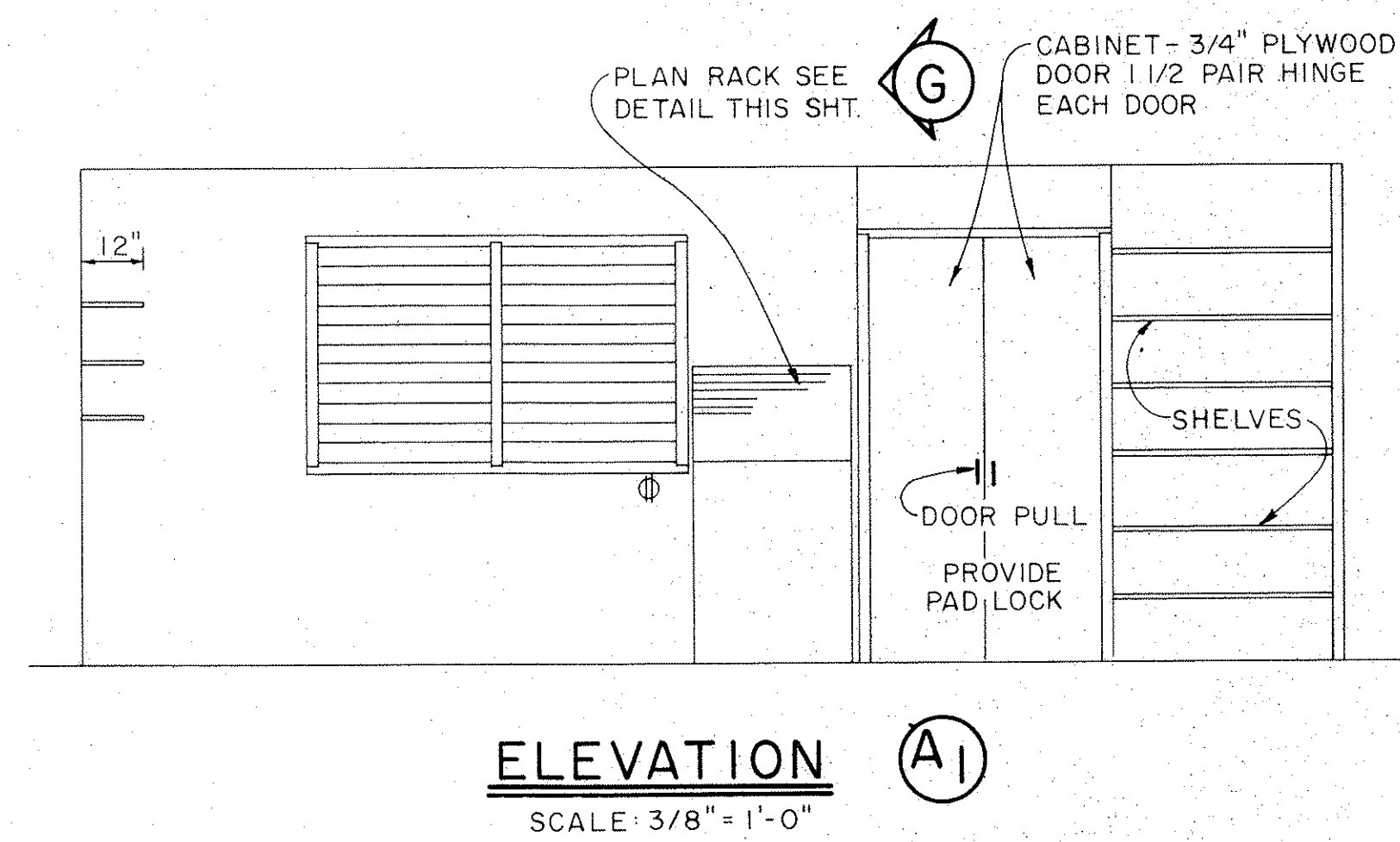


**ELEVATION**  
 2'-6" x 5'-0" 2 REQ'D  
 3'-6" x 8'-0" 1 REQ'D  
 2'-6" x 8'-0" 1 REQ'D

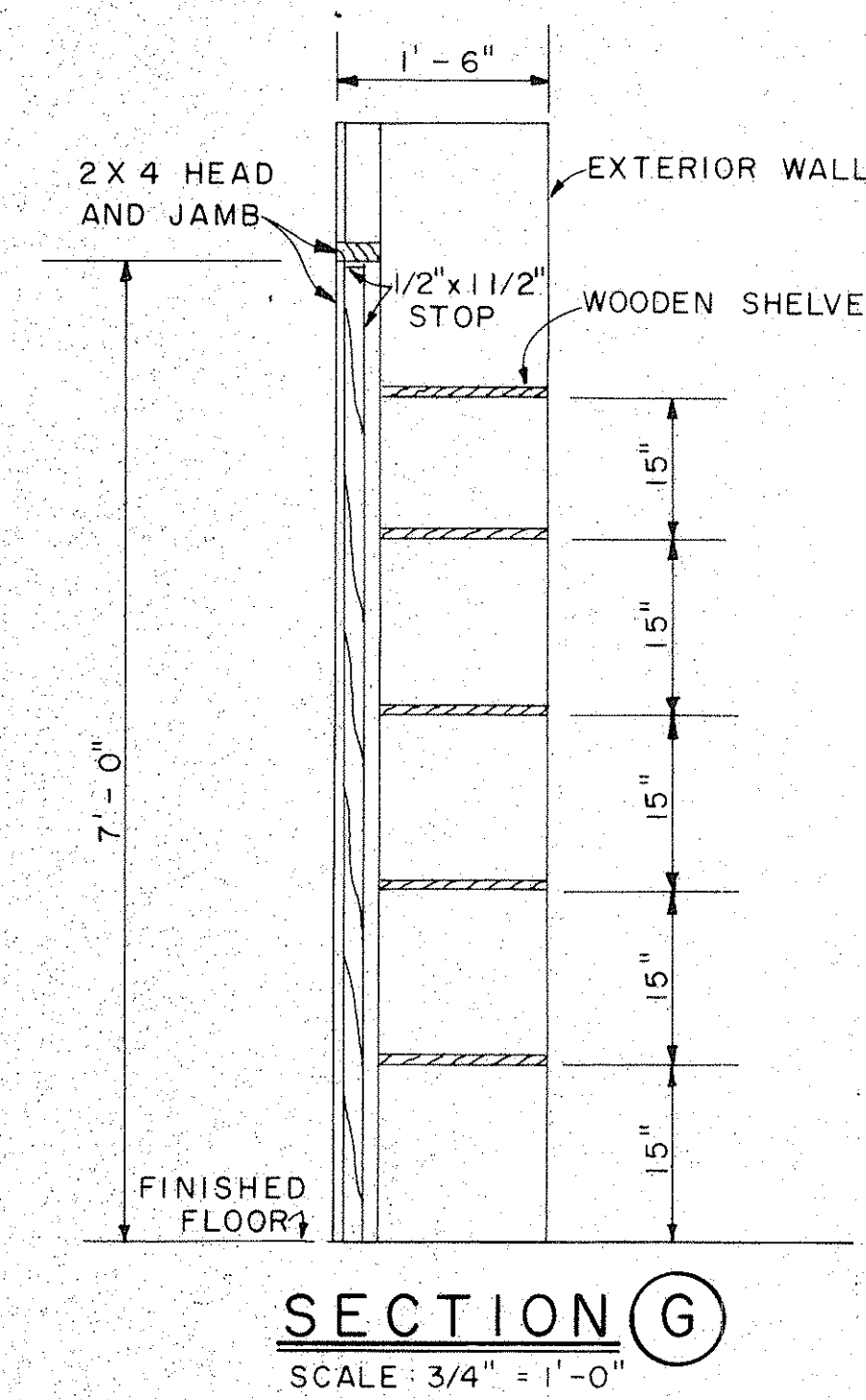
**PORTABLE WORK TABLE DETAIL**  
 SCALE: 3/4" = 1'-0"



**PLAN RACK DETAIL**  
 SCALE: 1 1/2" = 1'-0"  
 (ONE REQUIRED)



**1'-6" x 5'-9" PORTABLE WORK TABLE DETAIL**  
 SCALE: 3/4" = 1'-0"



APPROVAL RECOMMENDED:  
 HIGHWAY DESIGN ENGINEER 12-4-69 DATE  
 APPROVED:  
 ASSISTANT CHIEF, ENGINEERING 12-10-69 DATE

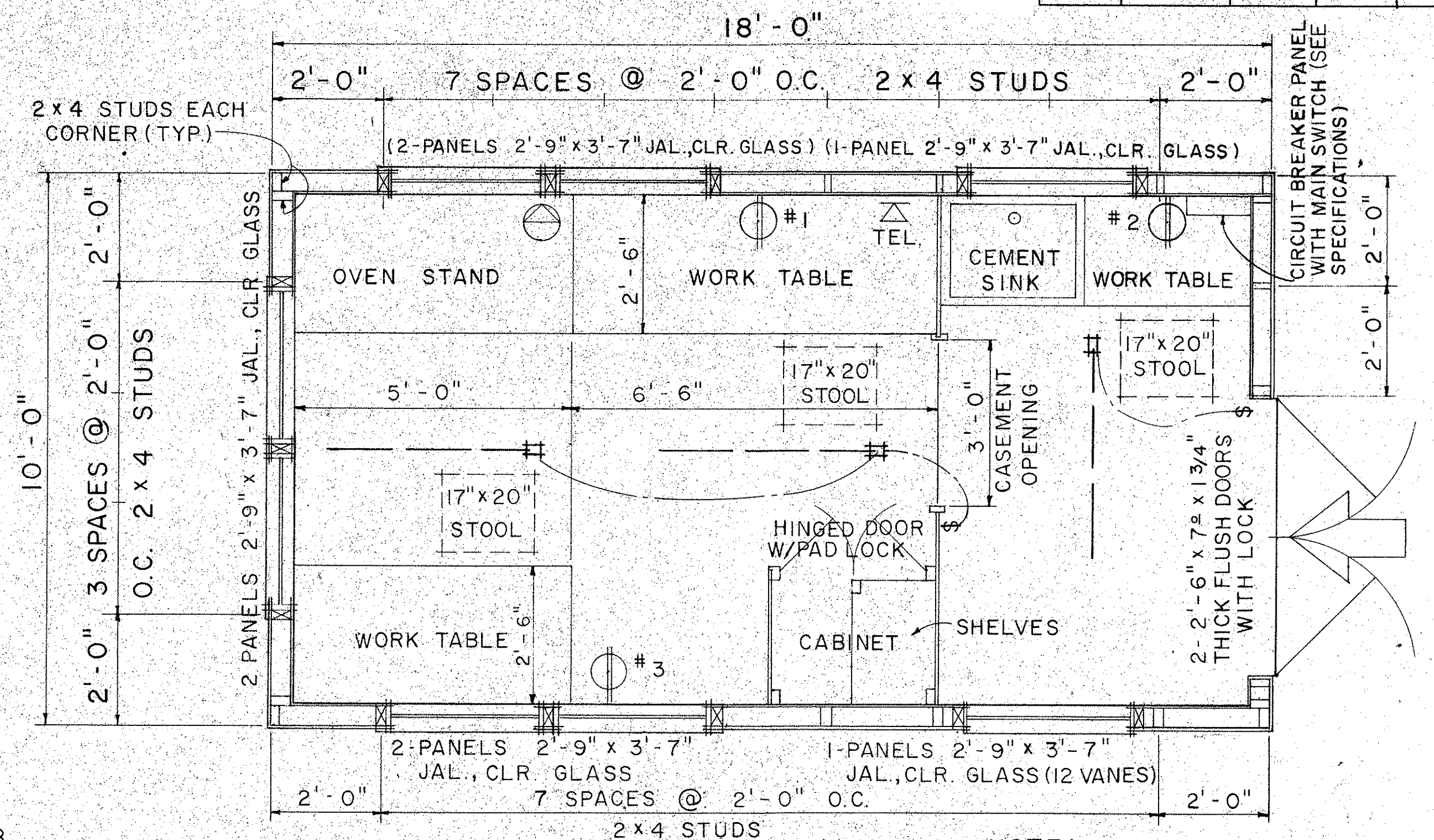
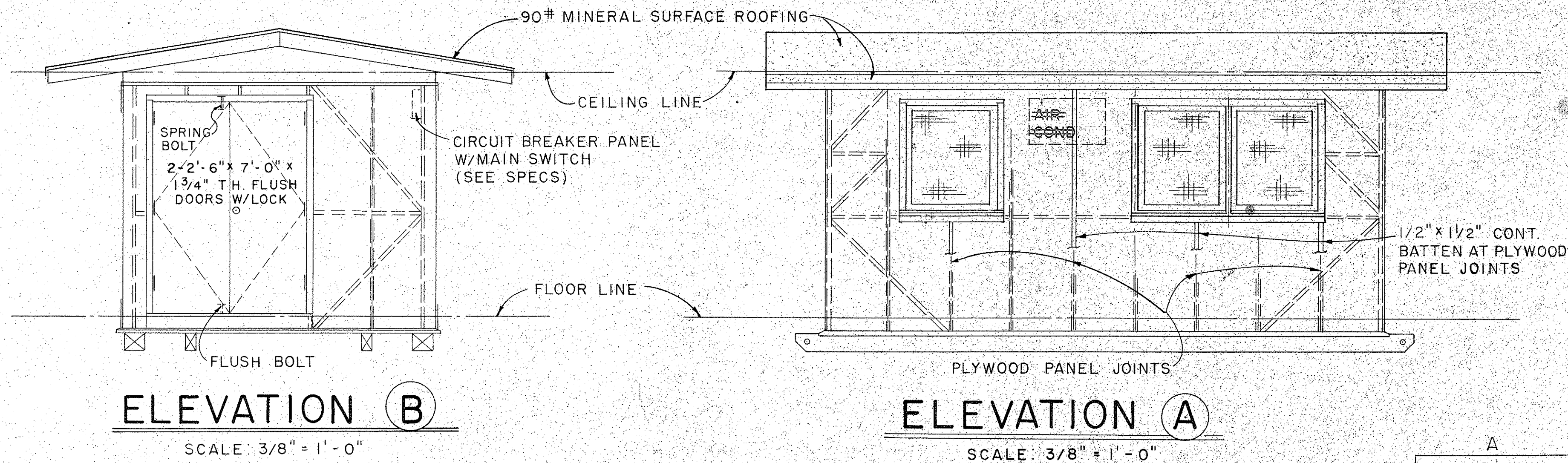
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**FIELD OFFICE**

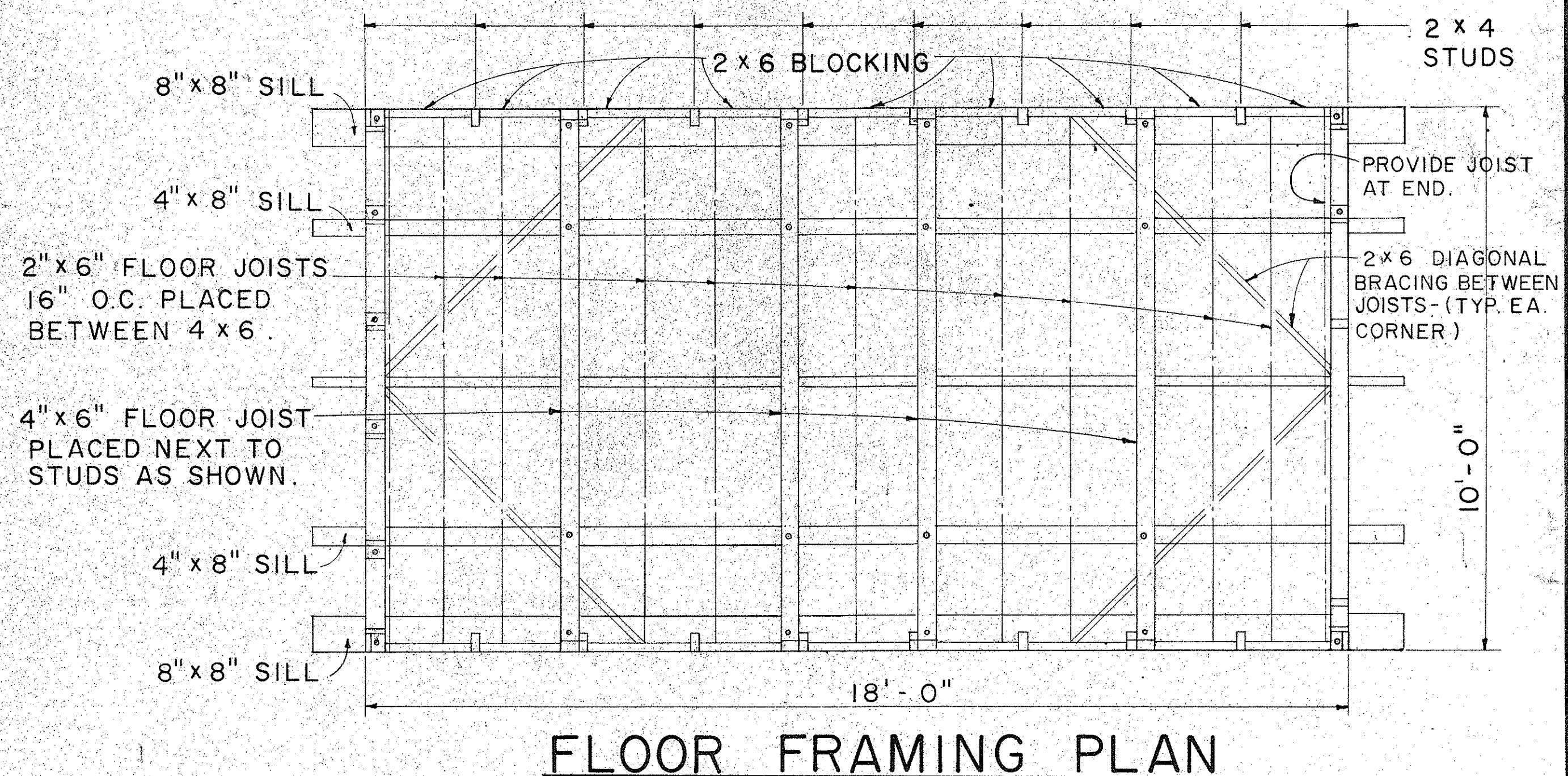
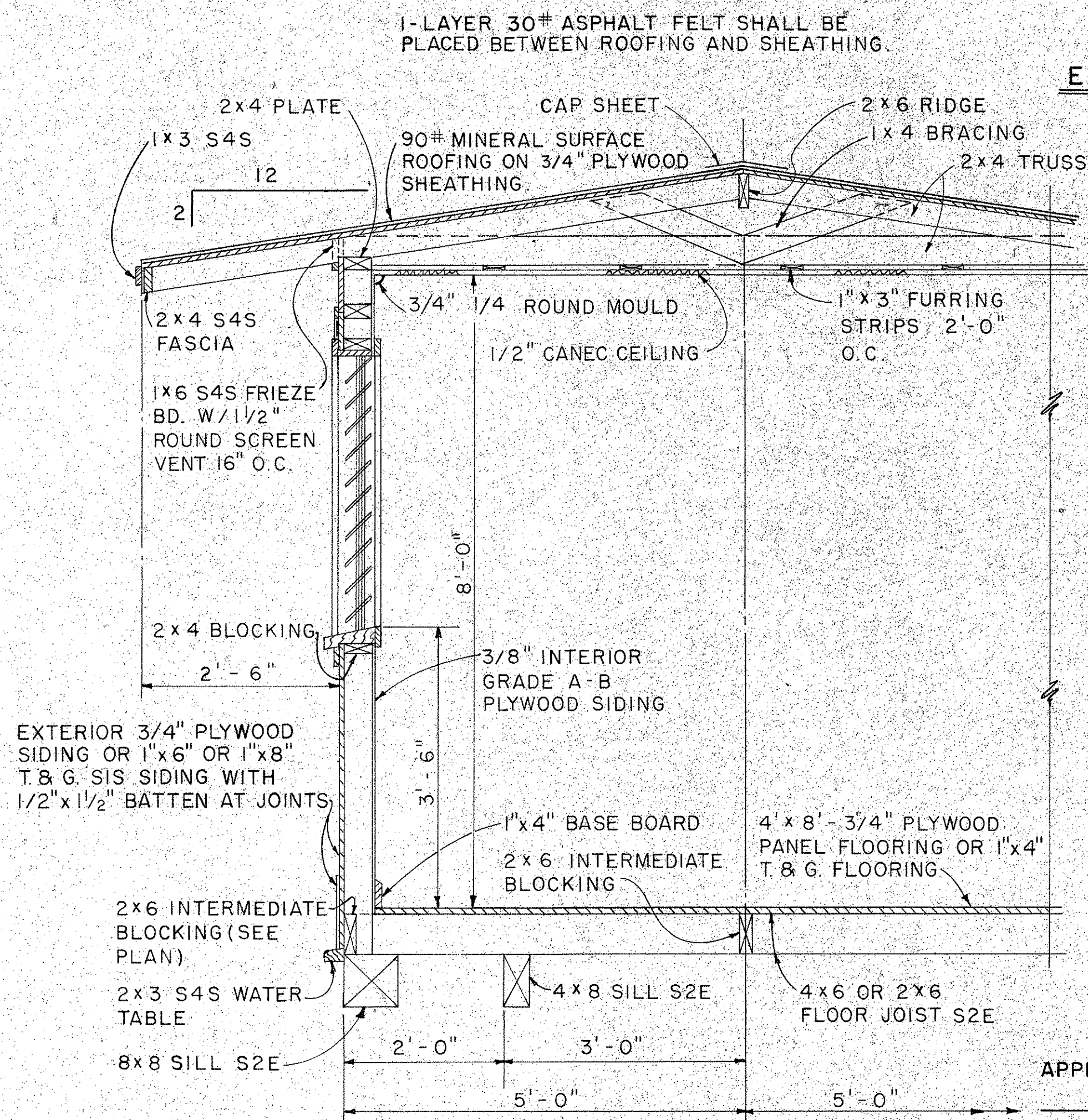
Scale: As Noted

| STATE | PROJ. NO.             | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------|-------------|-----------|--------------|
| HAW.  | BMD 66-343<br>PHASE I | FY 74-75    | 34        | 41           |



- NOTE:
1. FLUORESCENT FIXTURE SHALL BE 48", 2 LAMP, 40 WATT, RAPID START.
  2. TELEPHONE AND WALL OUTLET, 4'-0" ABOVE FLOOR.

EXTERIOR & INTERIOR KEY



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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PROJECT SITE LABORATORY**

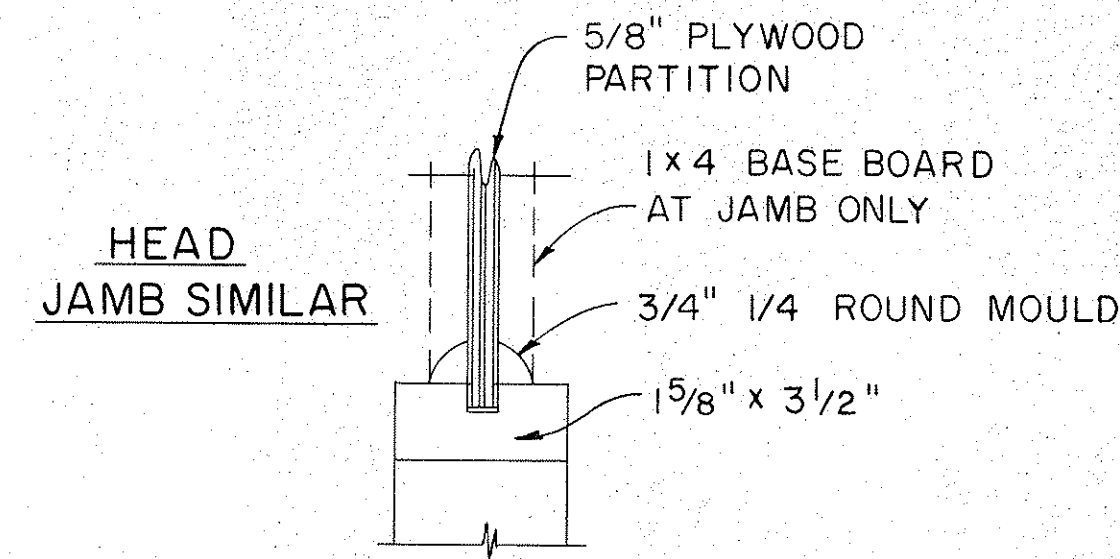
Scale: As Noted

NOTE:  
ALL 3/4" PLYWOOD SHALL BE EXTERIOR GRADE A-C OR BETTER.

APPROVAL RECOMMENDED: *[Signature]* 12-4-69  
HIGHWAY DESIGN ENGINEER DATE

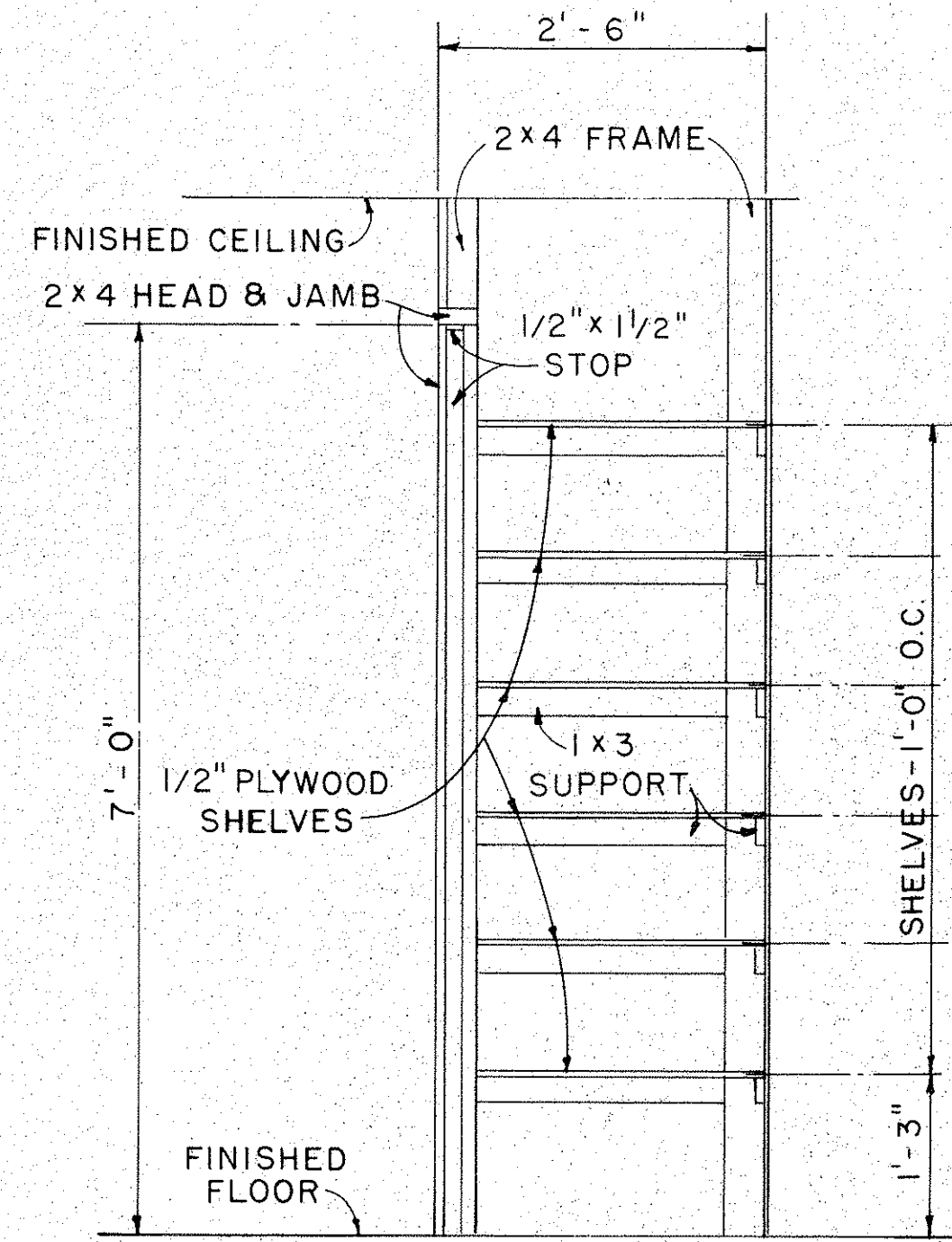
APPROVED: *[Signature]* 12-10-69  
ASSISTANT CHIEF, ENGINEERING DATE

| STATE | PROJ. NO.            | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------|----------------------|-------------|-----------|--------------|
| HAW.  | BMD66-343<br>PHASE I | FY74-75     | 35        | 41           |



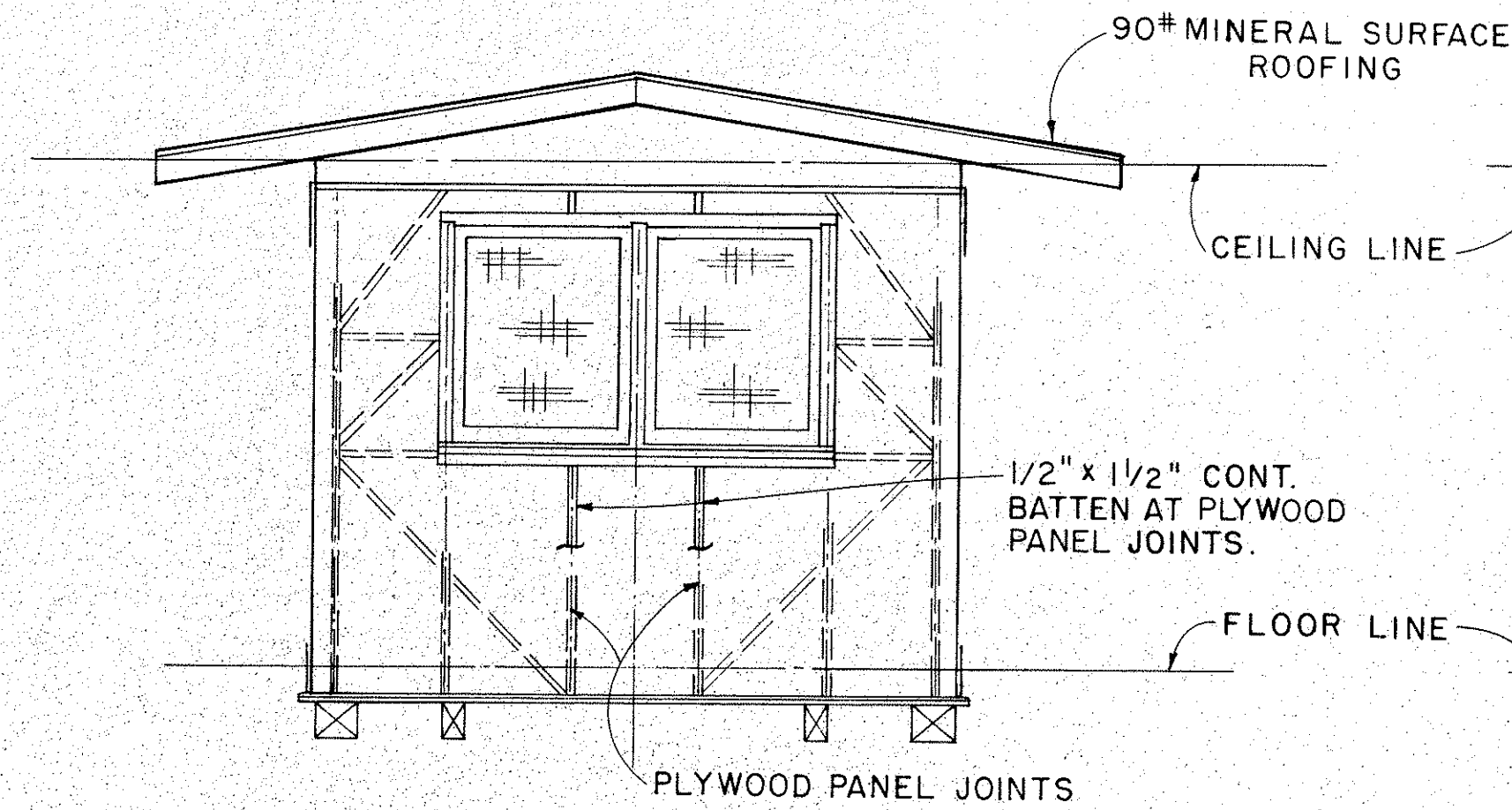
**CASEMENT DETAIL**

SCALE: 3" = 1'-0"



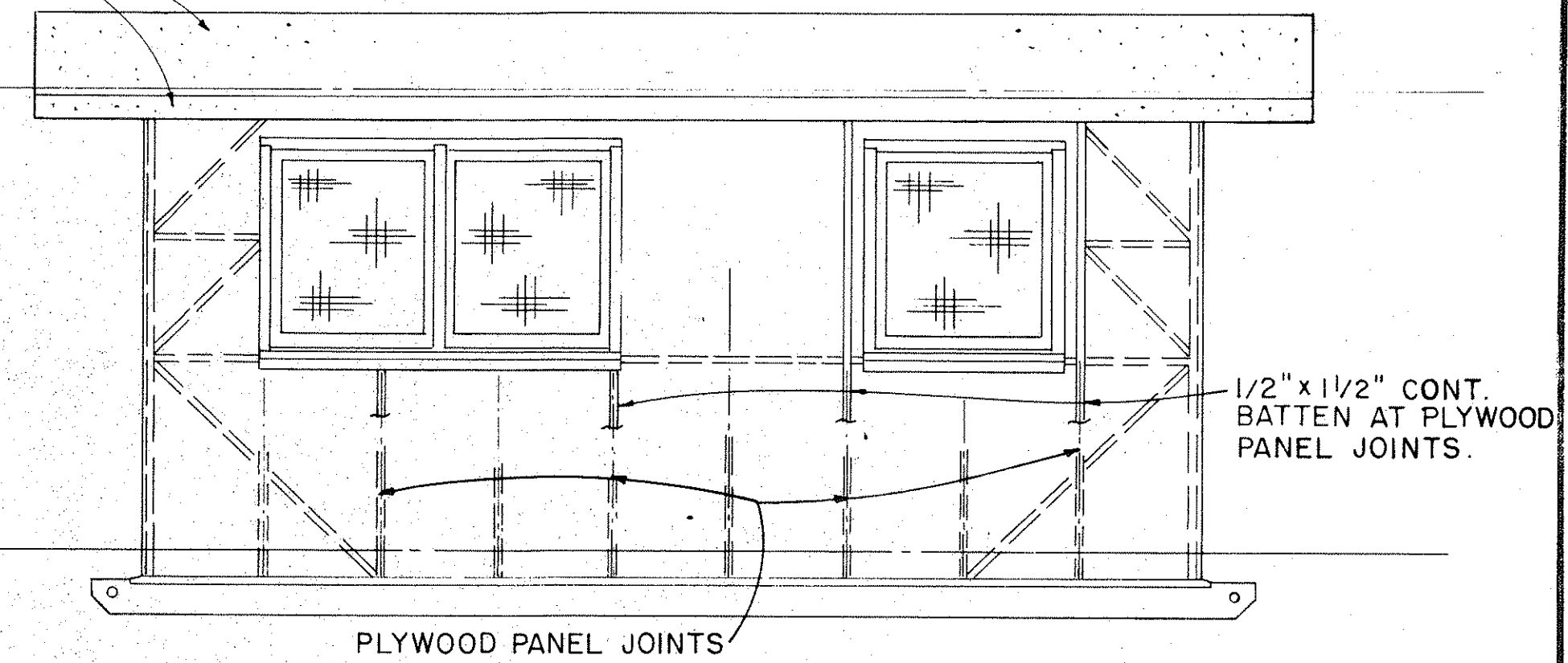
**CABINET DETAIL**

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



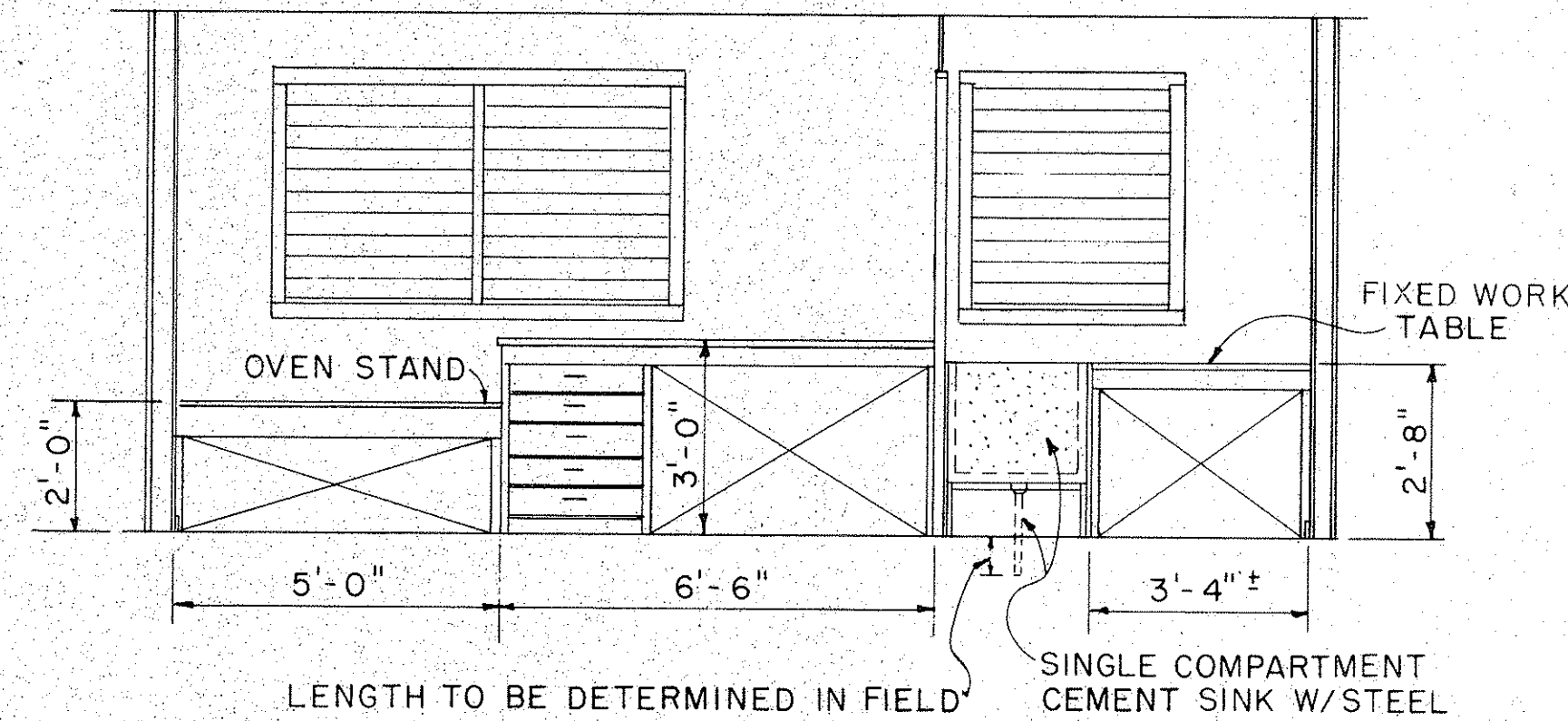
**ELEVATION (D)**

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



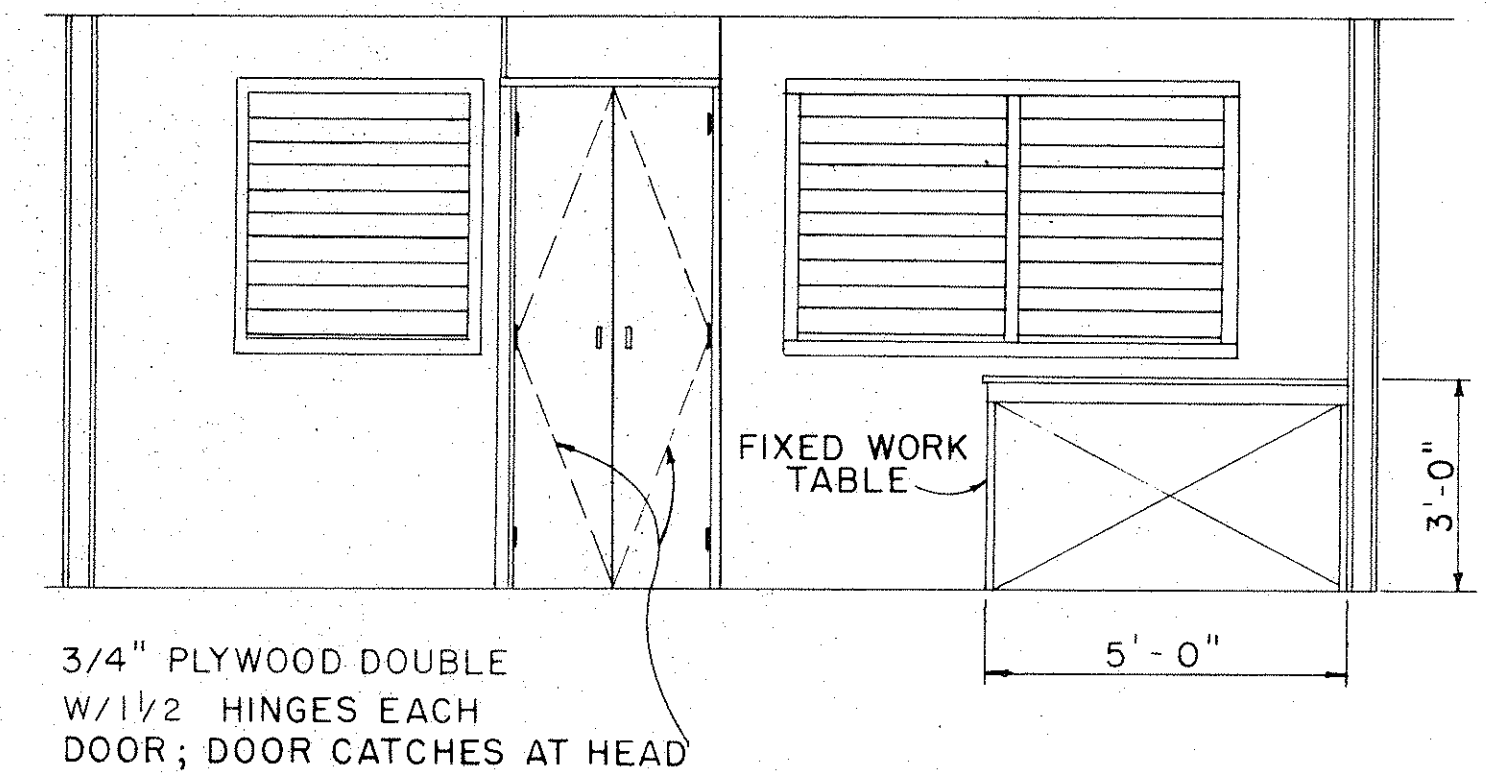
**ELEVATION (C)**

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



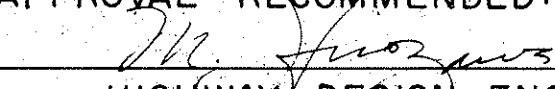
**ELEVATION (C1)**

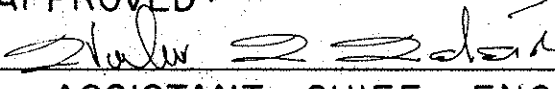
SCALE: 3/8" = 1'-0"



**ELEVATION (A1)**

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

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

APPROVED:  
  
 ASSISTANT CHIEF, ENGINEERING 12-10-69  
 DATE

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

|                                                                      |  |
|----------------------------------------------------------------------|--|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION |  |
| PROJECT SITE LABORATORY                                              |  |
| Scale: As Noted                                                      |  |

|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK     | DRAWN BY          |      |
|               | DESIGNED BY       |      |
|               | QUANTITIES BY     |      |
|               | CHECKED BY        |      |





| STATE | PROJ. NO.             | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------|-------------|-----------|--------------|
| HAW.  | BMD 66-343<br>PHASE I | FY 74-75    | 38        | 41           |



CW 20-1a 48" x 48"



CW 20-2d 48" x 48"



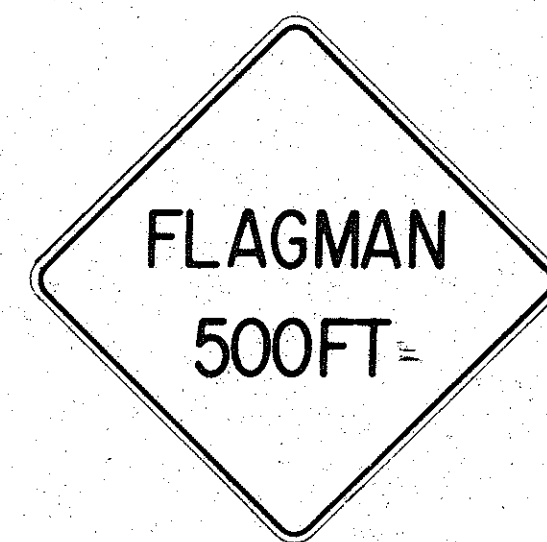
CW 20-3b 48" x 48"



CW 20-4d 48" x 48"



CW 20-5d(L) 48" x 48"



CW 20-7c 48" x 48"



CW 21-1 30" x 30"



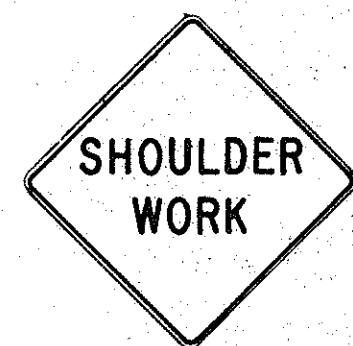
CW 21-2 30" x 30"



CW 21-3 36" x 36"



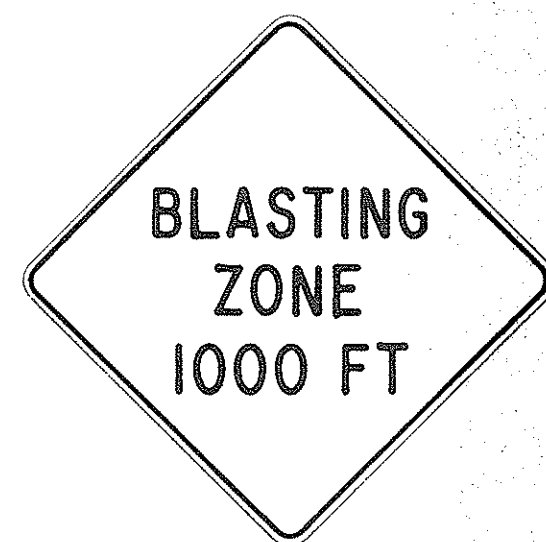
CW 21-4 36" x 36"



CW 21-5 30" x 30"



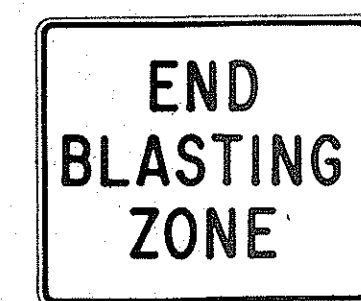
CW 21-6 30" x 30"



CW 22-1b 48" x 48"



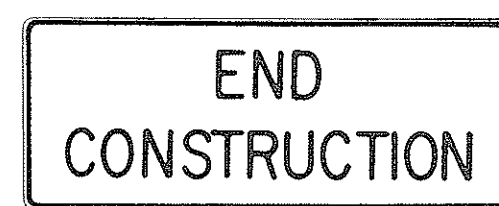
CW 22-2 42" x 36"



CW 22-3 42" x 36"



CG 20-1(5) 60" x 36"



CG 20-2 60" x 24"



CM 4-9(R) 30" x 24"



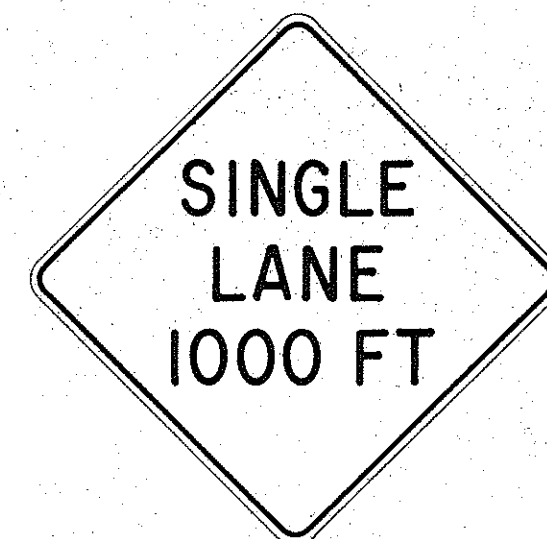
CM 4-10(R) 48" x 18"



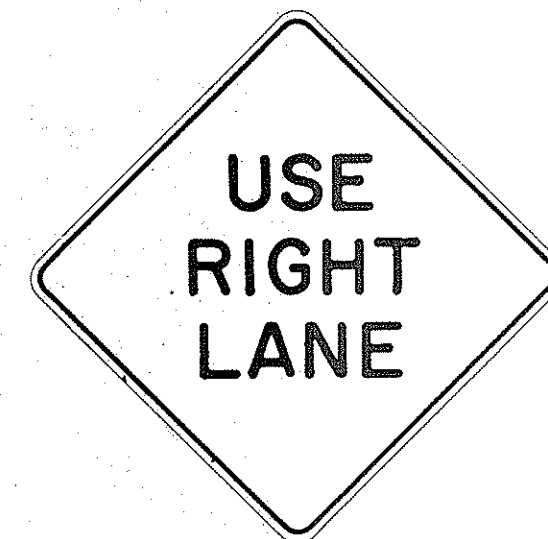
CG 20-4 36" x 18"



CW 23-1 36" x 36"



CW 23-2b 48" x 48"



CW 23-3(R) 48" x 48"

#### 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 construction signs shall be reflectorized unless otherwise specified.
- All construction signs shall have  $\frac{3}{8}$ " bolt holes drilled at appropriate locations.
- Numerals in ( ) indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- 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*  
TRAFFIC ENGINEER

*3/21/72*  
DATE

APPROVED:

*Shirley S. Sakai*  
ASSISTANT CHIEF, ENGINEERING

*3/23/72*  
DATE

| NO. | REVISION                                    | APPROVED BY | DATE    |
|-----|---------------------------------------------|-------------|---------|
| 1   | Supersedes Sht. DT 104<br>Approved 12-30-69 | H.T.        | 3/23/72 |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

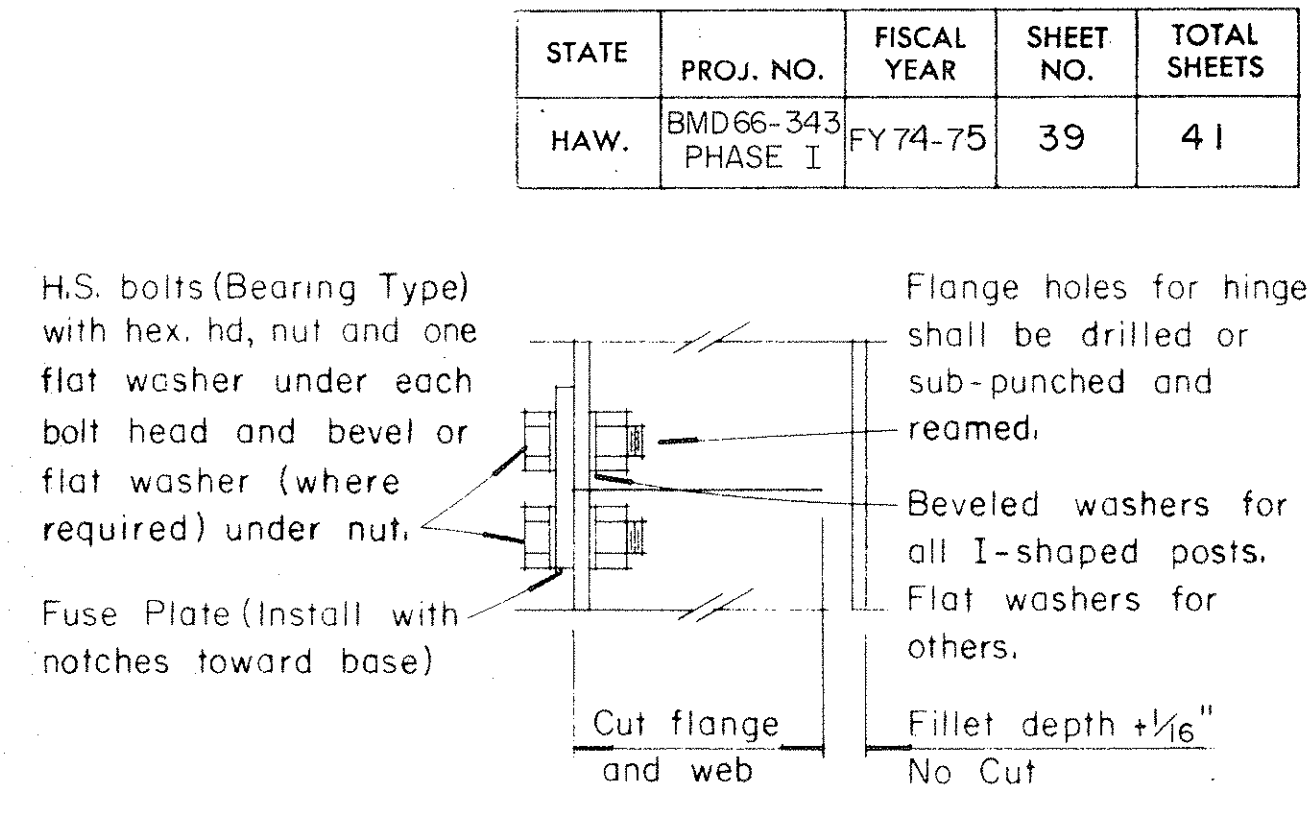
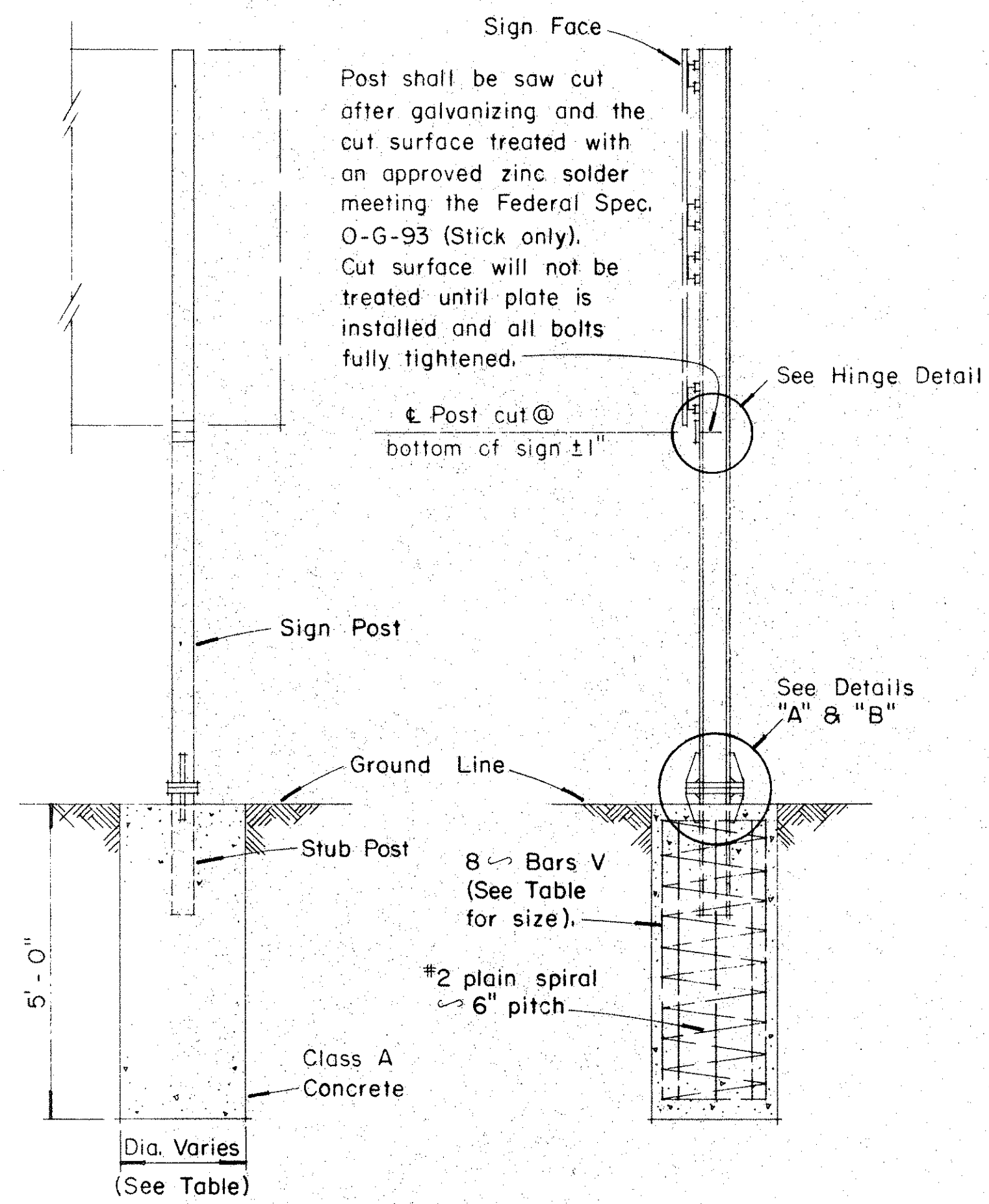
#### STANDARD DETAILS CONSTRUCTION SIGNS

NOT TO SCALE

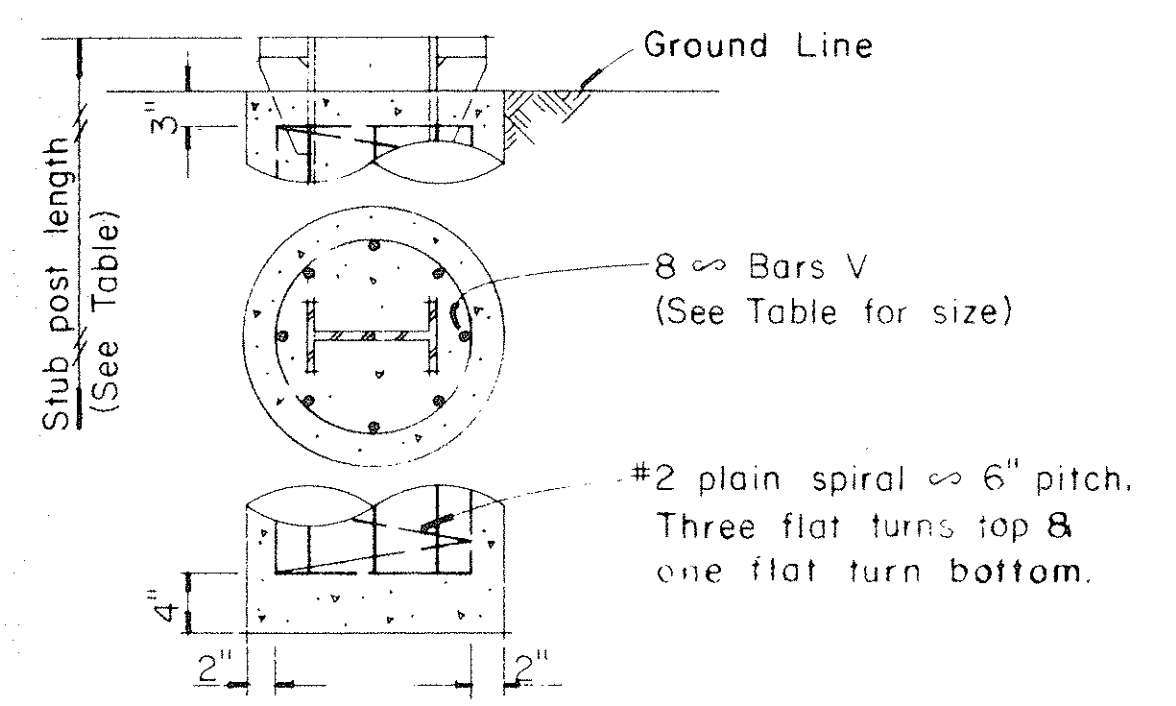
SHEET No. OF SHEETS DT 104

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

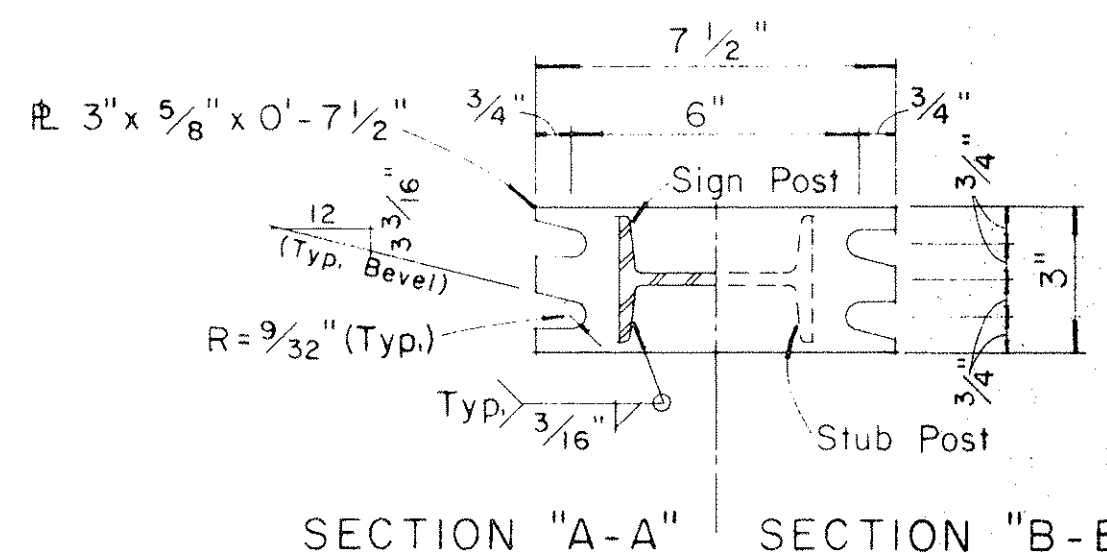
| BASE CONNECTION DATA TABLE |                                      |                |        |        |        |        |      |      |       |         | FUSE PLATE DATA TABLE |        |        |        |        |        |      |         |       |           |                      | FOUNDATION DATA |                 |                  |             |
|----------------------------|--------------------------------------|----------------|--------|--------|--------|--------|------|------|-------|---------|-----------------------|--------|--------|--------|--------|--------|------|---------|-------|-----------|----------------------|-----------------|-----------------|------------------|-------------|
| Post Size                  | Bolt Size & Torque                   | A              | B      | C      | D      | E      | t1   | t2   | W     | R       | F                     | G      | H      | J      | K      | L      | N    | d1      | t3    | Bolt Dia. | Wt. of each Fuse Pl. | Stub Length     | Stub Projection | Footing Diameter | Bars V Size |
| 6 B 8.5                    |                                      |                |        |        |        |        |      |      |       |         | 3 5/8"                | 2"     | 1 1/8" | 4"     | 2 1/4" | 7/8"   | 1/2" | 9/16"   | 1/4"  | 1/2"      | 1.09 #               | 2'-0"           | 3"              | 2'-0"            | #5          |
| 6 B 12                     | 5/8" $\phi$ x 2 3/4" Torque = 450" # | 5"             | 2"     | 1 1/4" | 2 3/4" | 1 1/8" | 3/4" | 1/2" | 1/4"  | 1 1/32" | 3 3/4"                | 2"     | 1 1/8" | 4"     | 2 1/4" | 7/8"   | 5/8" | 1 1/16" | 3/8"  | 5/8"      | 1.60 #               | 2'-0"           | 3"              | 2'-0"            | #5          |
| 6 B 15.5                   |                                      |                |        |        |        |        |      |      |       |         | 4 1/2"                | 2 1/2" | 1 1/4" | 6"     | 3 1/2" | 1 1/4" | 3/4" | 1 3/16" | 1/2"  | 3/4"      | 3.75 #               | 2'-6"           | 3"              | 2'-0"            | #6          |
| 8 W 17                     |                                      |                |        |        |        |        |      |      |       |         | 4 1/2"                | 2 1/2" | 1 1/4" | 5 1/4" | 2 3/4" | 1 1/4" | 3/4" | 1 3/16" | 1/2"  | 3/4"      | 3.27 #               | 2'-6"           | 3"              | 2'-0"            | #7          |
| 8 W 20                     |                                      |                |        |        |        |        |      |      |       |         | 4 7/8"                | 2 1/2" | 1 1/2" | 5 1/4" | 2 3/4" | 1 1/4" | 7/8" | 1 5/16" | 9/16" | 7/8"      | 3.93 #               | 3'-0"           | 2 1/2"          | 2'-0"            | #8          |
| 10 W 21                    | 3/4" $\phi$ x 3 1/2" Torque = 750" # | 6"             | 2 1/4" | 1 3/8" | 3 1/2" | 1 1/4" | 1"   | 3/4" | 5/16" | 1 3/32" | 5 3/8"                | 3"     | 1 1/2" | 5 3/4" | 2 3/4" | 1 1/2" | 7/8" | 1 5/16" | 9/16" | 7/8"      | 4.75 #               | 3'-0"           | 2 1/2"          | 2'-0"            | #9          |
| 10 W 25                    |                                      |                |        |        |        |        |      |      |       |         | 5 3/8"                | 3"     | 1 1/2" | 5 3/4" | 2 3/4" | 1 1/2" | 7/8" | 1 5/16" | 9/16" | 7/8"      | 4.79 #               | 3'-0"           | 2 1/2"          | 2'-0"            | #10         |
| 12 W 27                    |                                      |                |        |        |        |        |      |      |       |         | 5 3/8"                | 3"     | 1 1/2" | 6 1/2" | 3 1/2" | 1 1/2" | 7/8" | 1 5/16" | 9/16" | 7/8"      | 5.42 #               | 3'-0"           | 2 1/2"          | 2'-0"            | #11         |
| 3 I 5.7                    | 1/2" $\phi$ x 2 1/2" Torque = 200" # | SEE DETAIL "A" |        |        |        |        |      |      |       |         | 3 1/8"                | 1 1/2" | 1 1/8" | 2 5/8" | 1 1/2" | 9/16"  | 1/2" | 9/16"   | 1/4"  | 1/2"      | 0.64 #               | 1'-6"           | 3 1/2"          | 1'-6"            | #5          |
| 4 I 7.7                    |                                      |                |        |        |        |        |      |      |       |         | 3 1/8"                | 1 1/2" | 1 1/8" | 2 5/8" | 1 1/2" | 9/16"  | 1/2" | 9/16"   | 1/4"  | 1/2"      | 0.64 #               | 1'-6"           | 3 1/2"          | 1'-6"            | #5          |



HINGE DETAIL

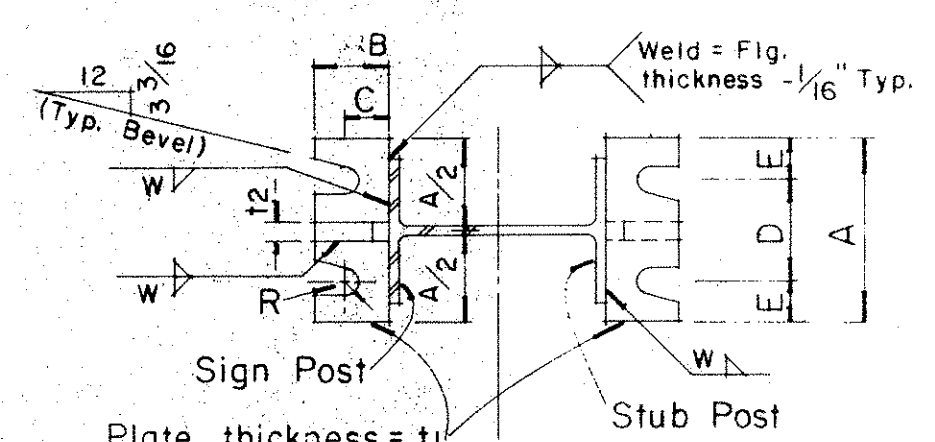


FOUNDATION DETAIL

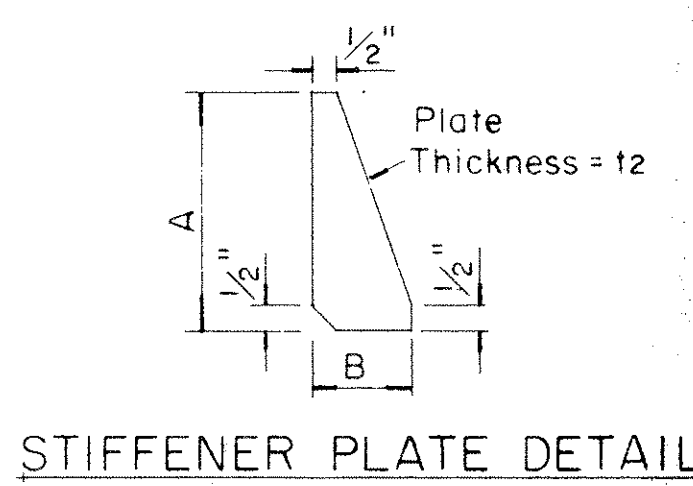


SECTION "A-A" SECTION "B-B"

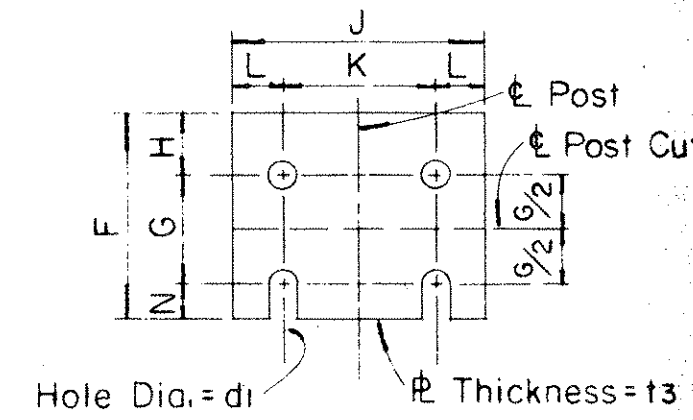
NOTE:  
Sections shown are for installations on right shoulder and in gore. Reverse plate slot bevels for installations on left shoulder.



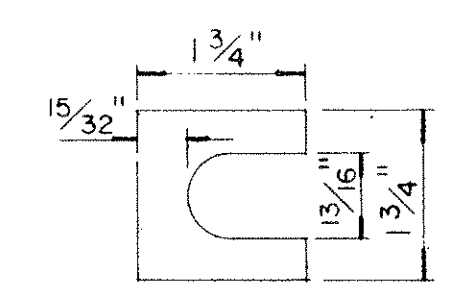
SECTION "C-C" SECTION "D-D"



STIFFENER PLATE DETAIL



FUSE PLATE DETAIL



SHIM DETAIL

GENERAL NOTES

- Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM A 307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform with the requirements of ASTM A 441.
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

| Bolt Size   | Min. Tension | Bolt Size   | Min. Tension |
|-------------|--------------|-------------|--------------|
| 1/2" $\phi$ | 12050 Lbs.   | 3/4" $\phi$ | 28400 Lbs.   |
| 5/8" $\phi$ | 19200 Lbs.   | 7/8" $\phi$ | 36050 Lbs.   |

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

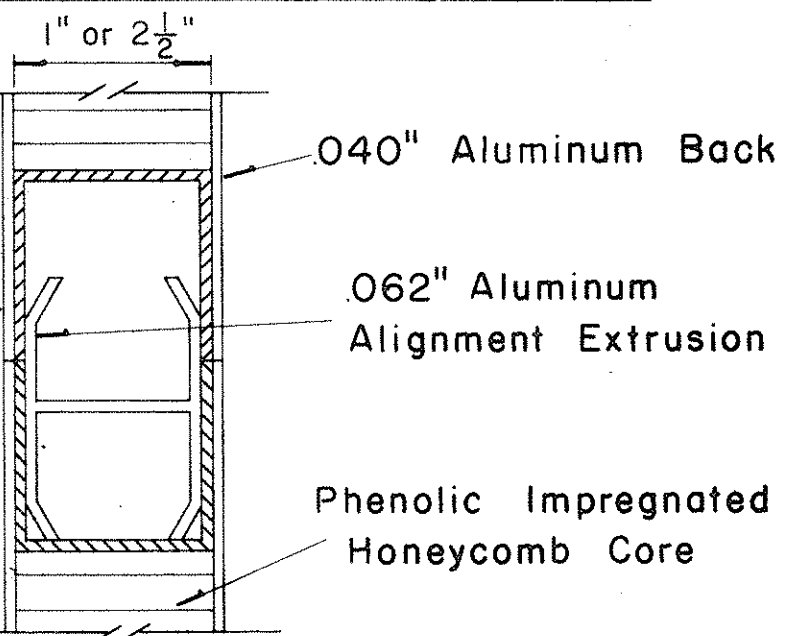
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
**BREAK-AWAY SIGN SUPPORTS**  
**FOR**  
**GROUND MOUNTED GUIDE SIGNS**  
Not to Scale

| STATE | PROJ. NO.             | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------|-------------|-----------|--------------|
| HAW.  | BMD 66-343<br>PHASE I | FY 74-75    | 40        | 41           |

(GROUND MOUNTED SIGNS)  
SUPPORT SPACING TABLE

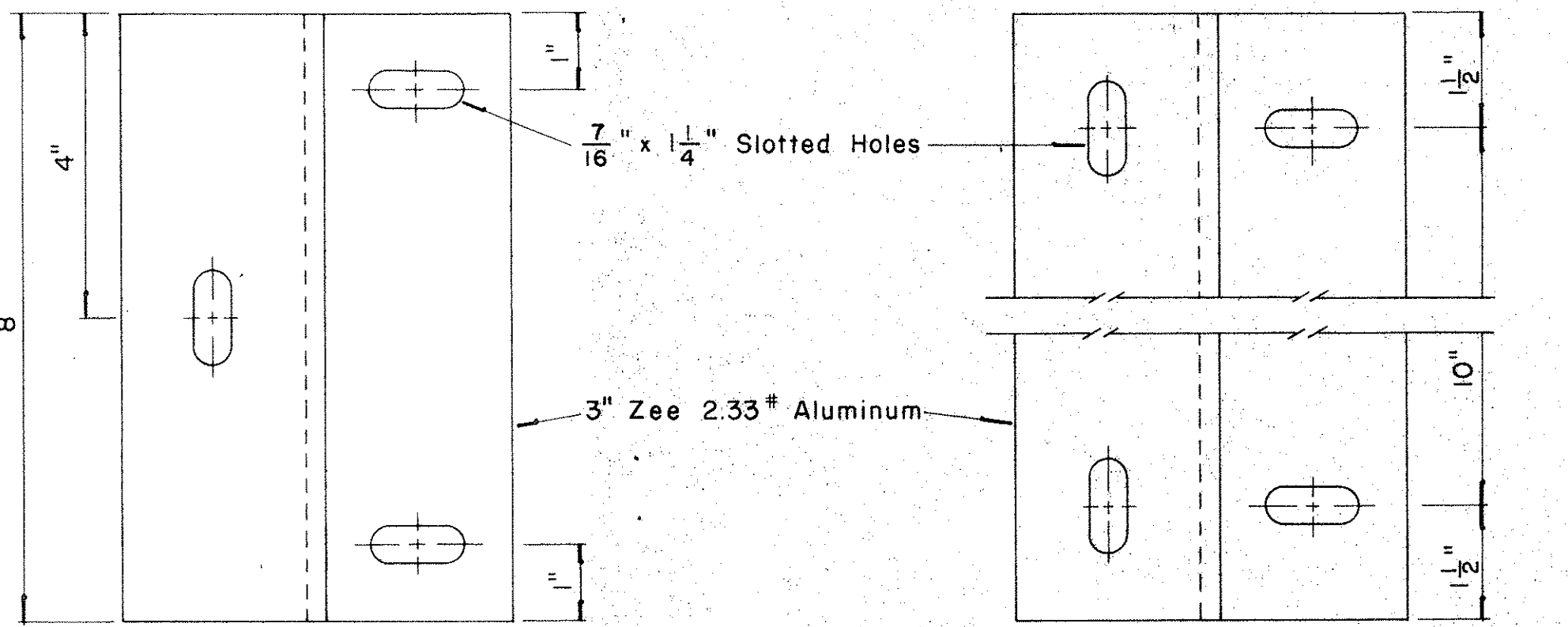
| PANEL THICK. | LENGTH OF SIGN | NO. OF SUPPORTS | OVERHANG | SUPPORT SPACING |
|--------------|----------------|-----------------|----------|-----------------|
|              | A              |                 | B        | C               |
| 1"           | 6' - 0"        | 2               | 12"      | 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"            |



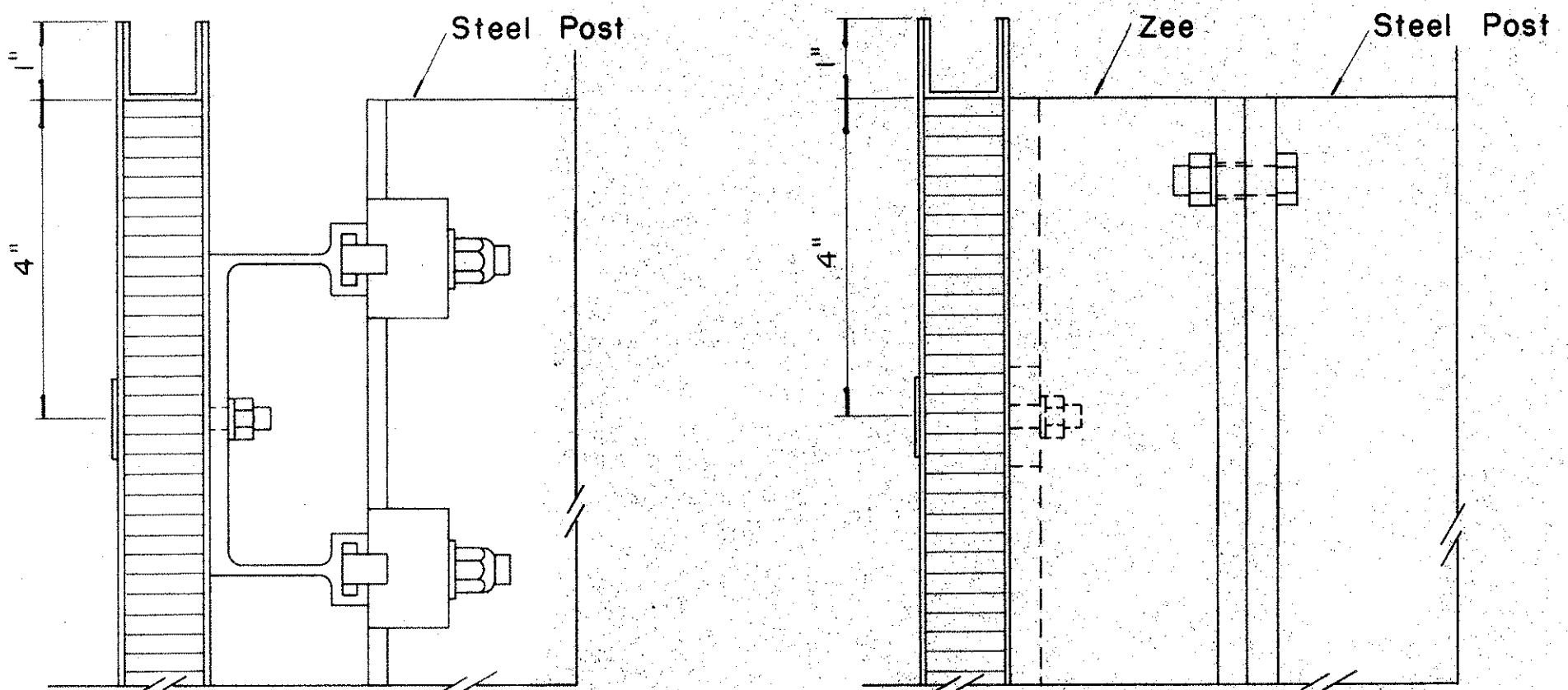
CLOSURE DETAIL  
SECTION "C-C"  
FULL SCALE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
LAMINATED ALUMINUM  
SIGN PANELS  
(GROUND MOUNTED)  
Scale: As Shown

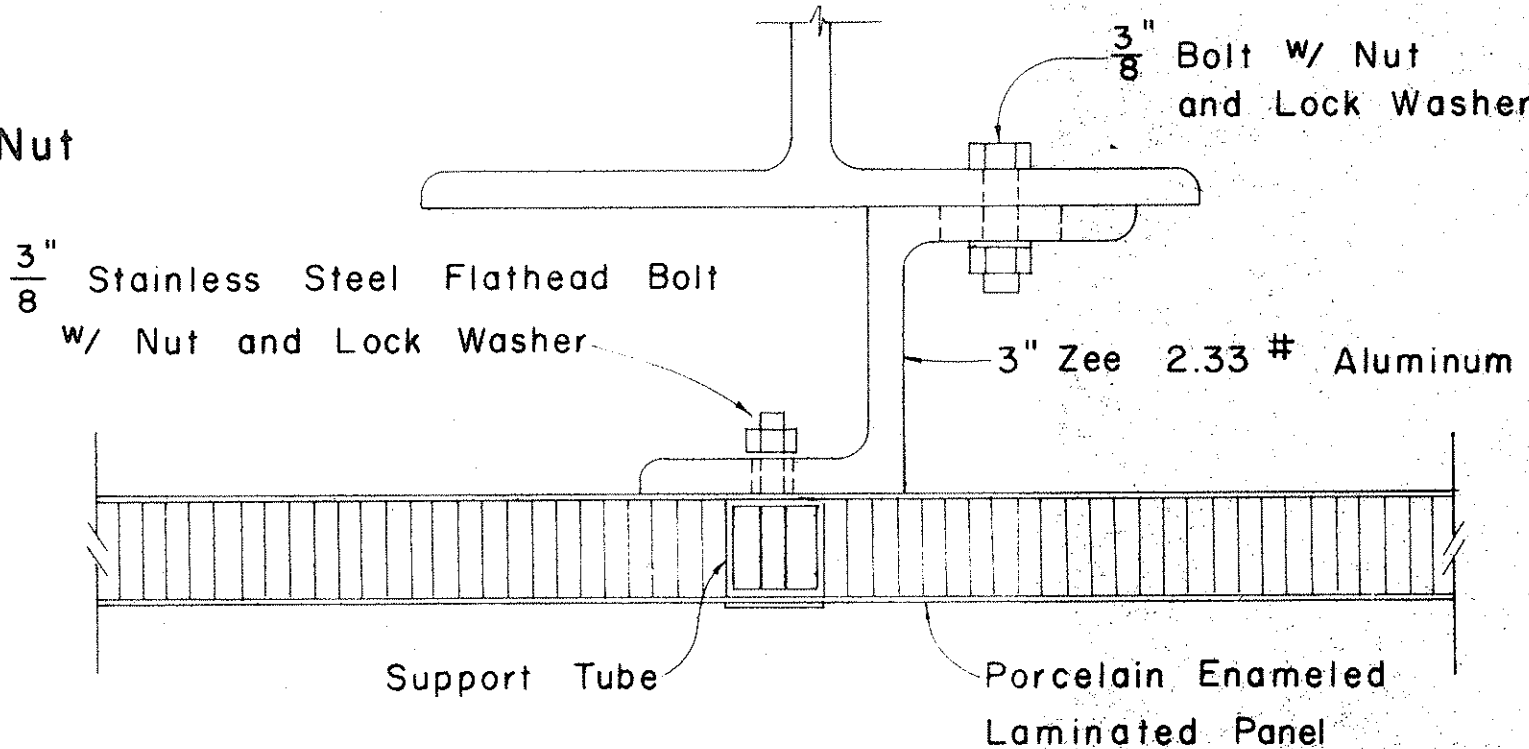
SHEET No. OF SHEETS DT 206



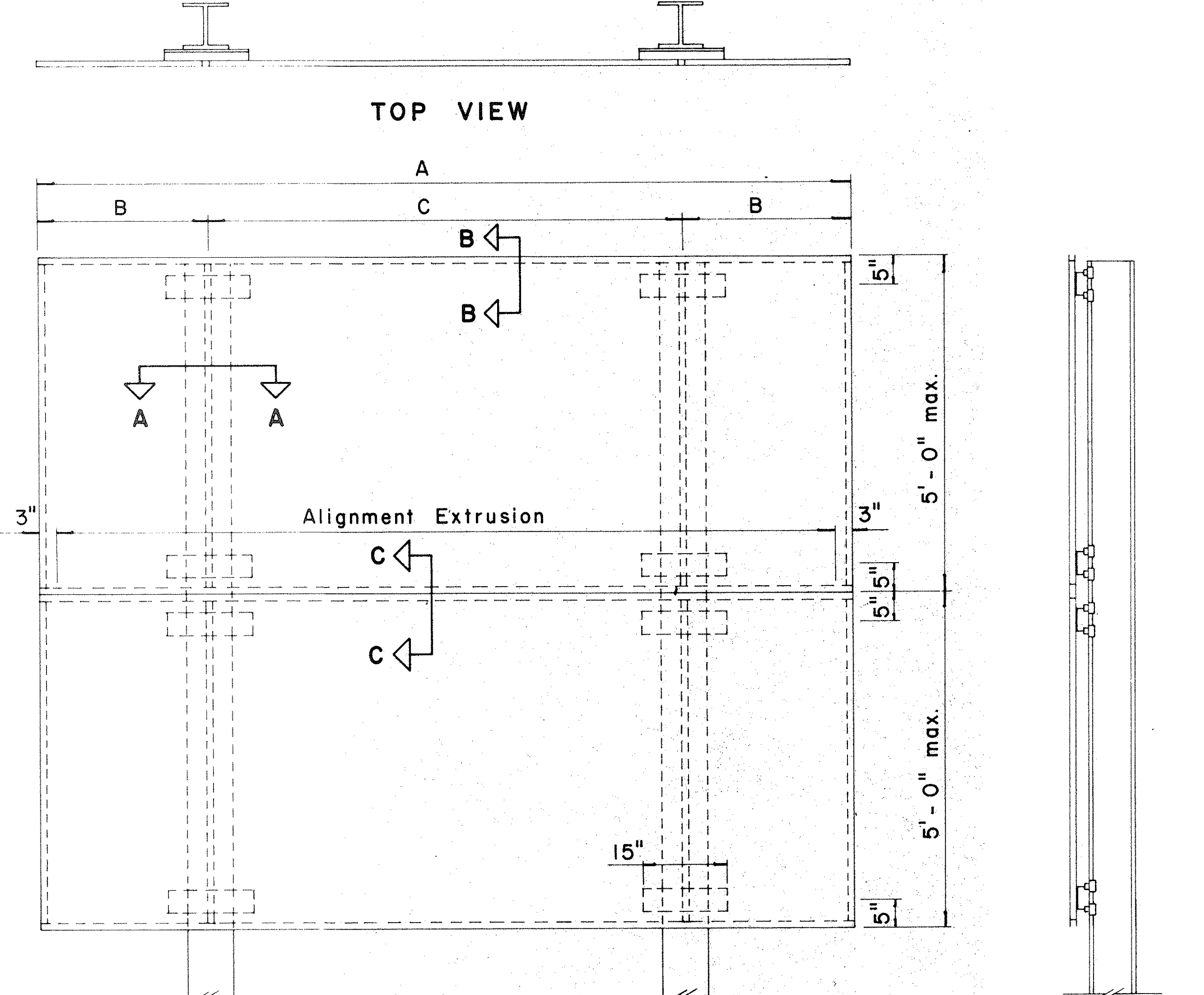
END MOUNTING INTERMEDIATE MOUNTING  
ZEE MOUNTING DETAILS  
Scale: 1/2" = 1"



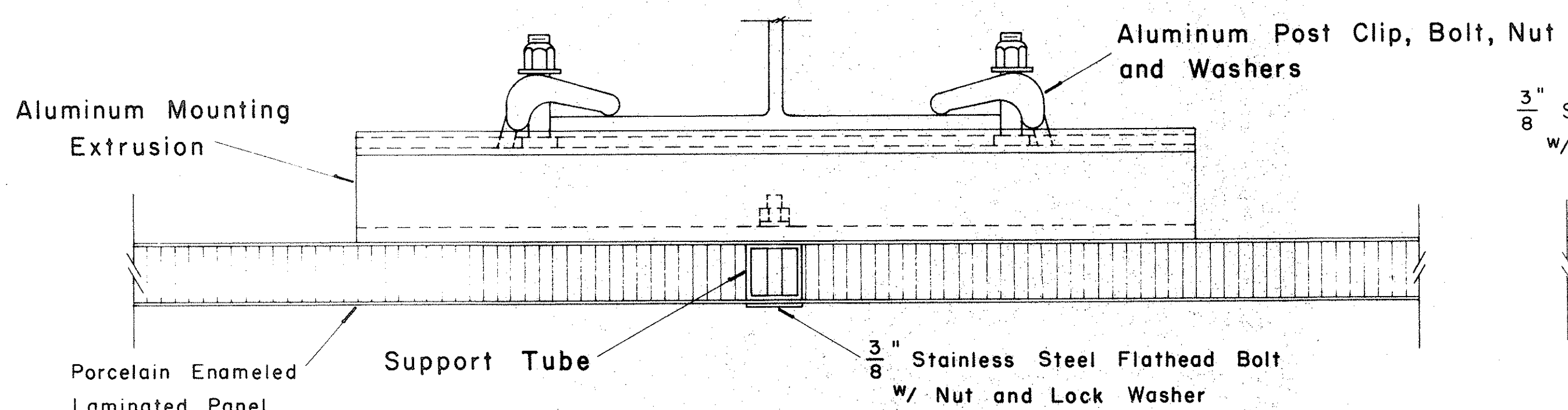
SECTION "B-B" SECTION "B-B" (Alternate)  
Scale: 1/2" = 1" Scale: 1/2" = 1"



SECTION "A-A" (Alternate)  
Scale: 1/2" = 1"



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



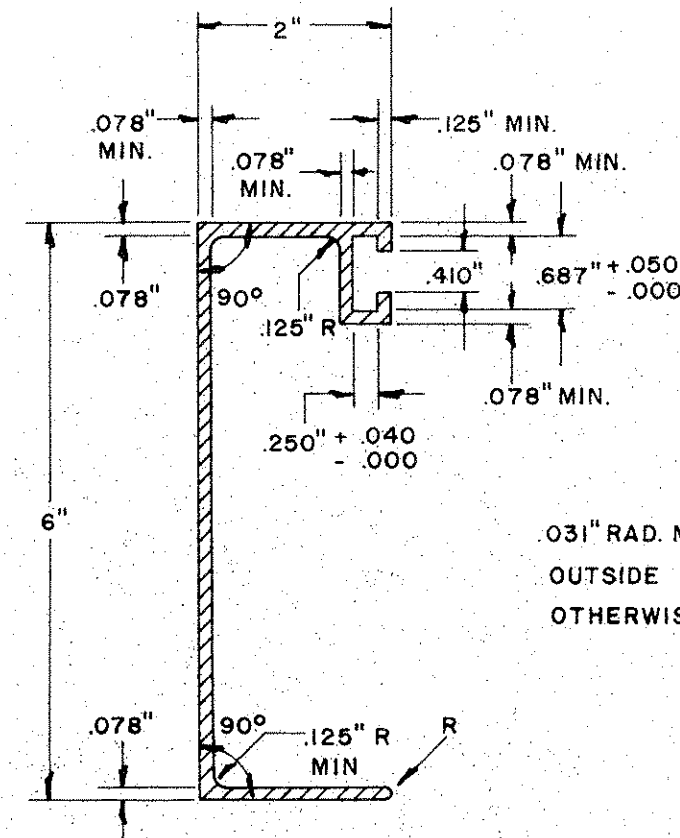
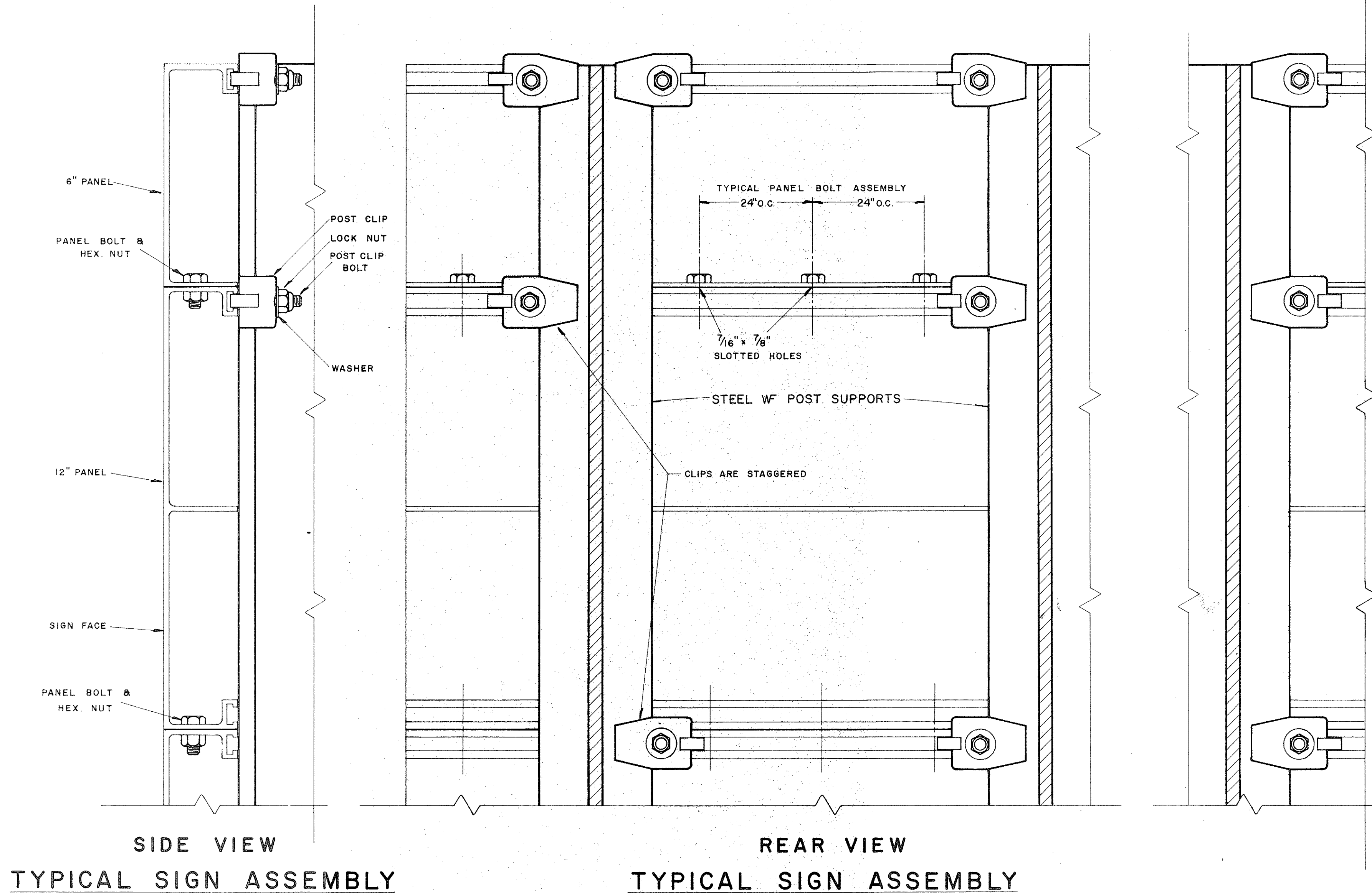
SECTION "A-A"  
Scale: 1/2" = 1"

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

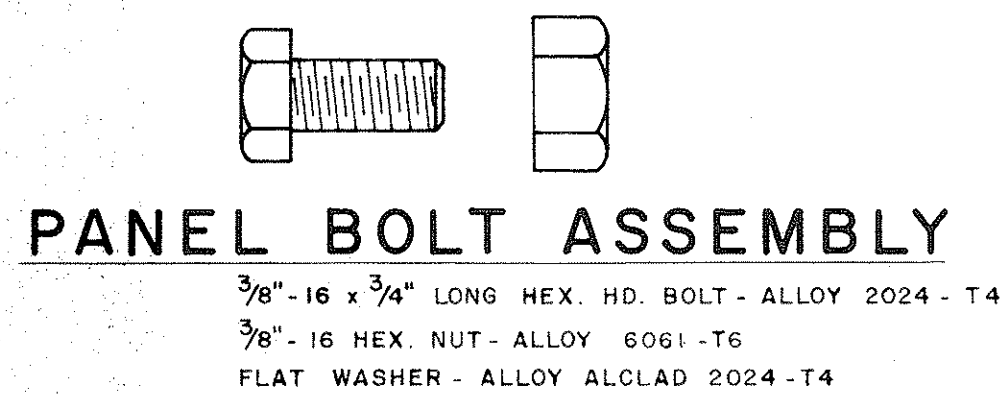
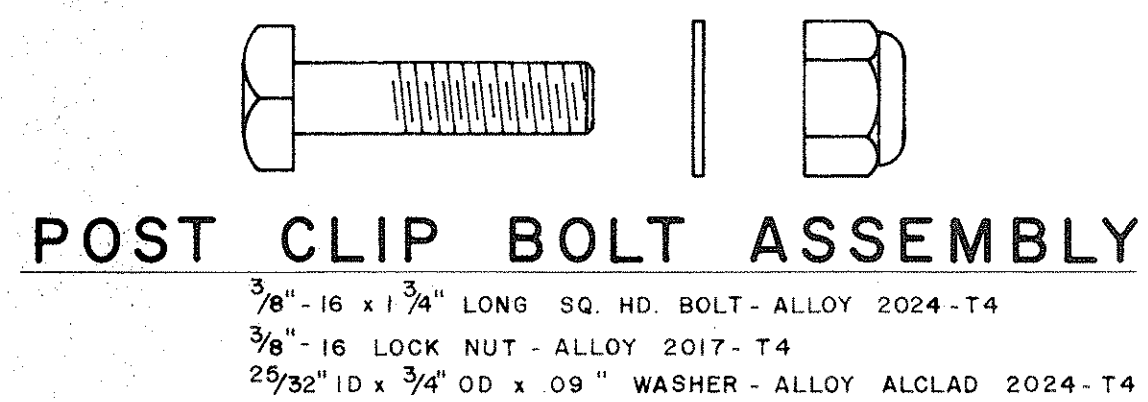
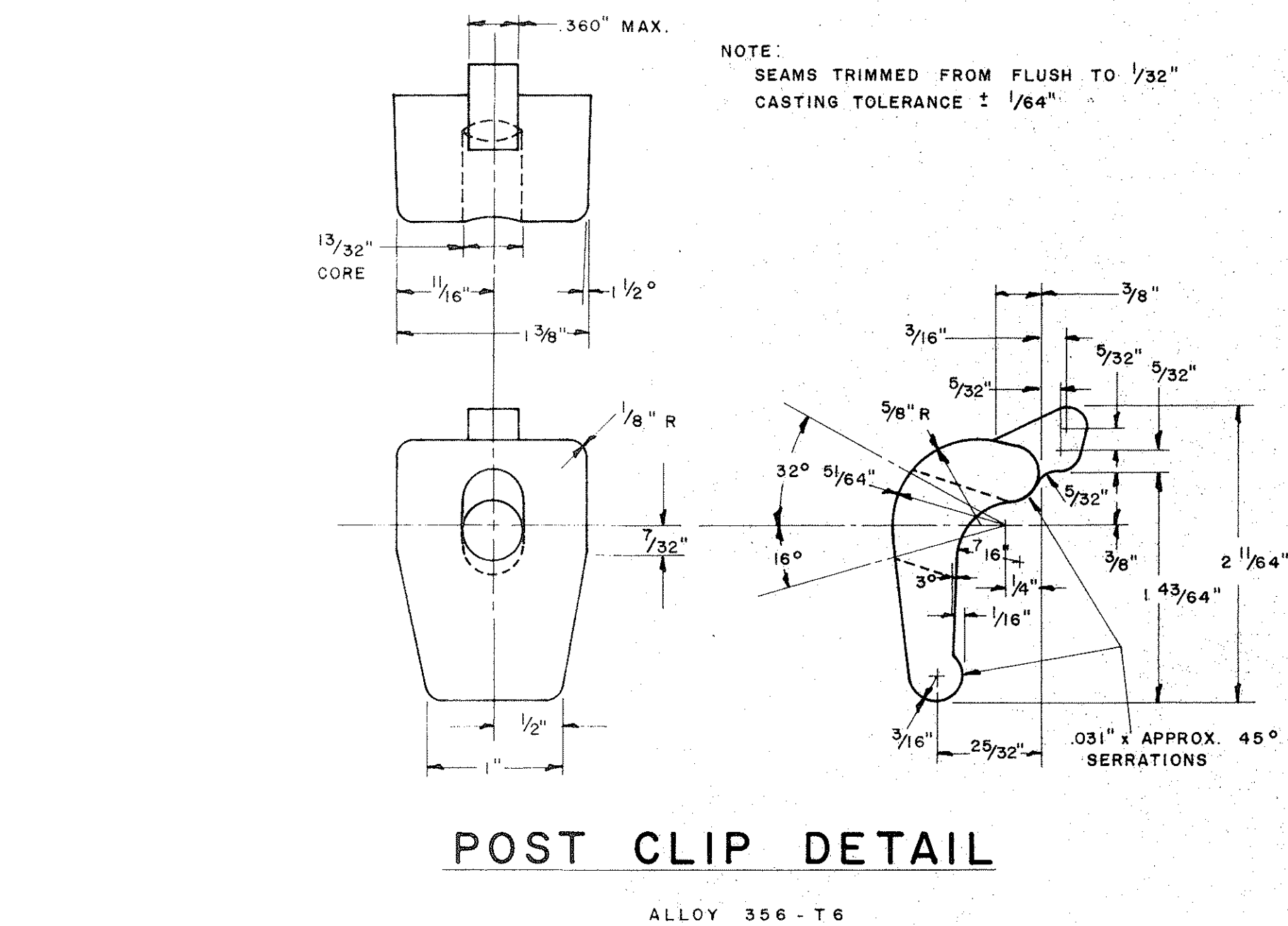
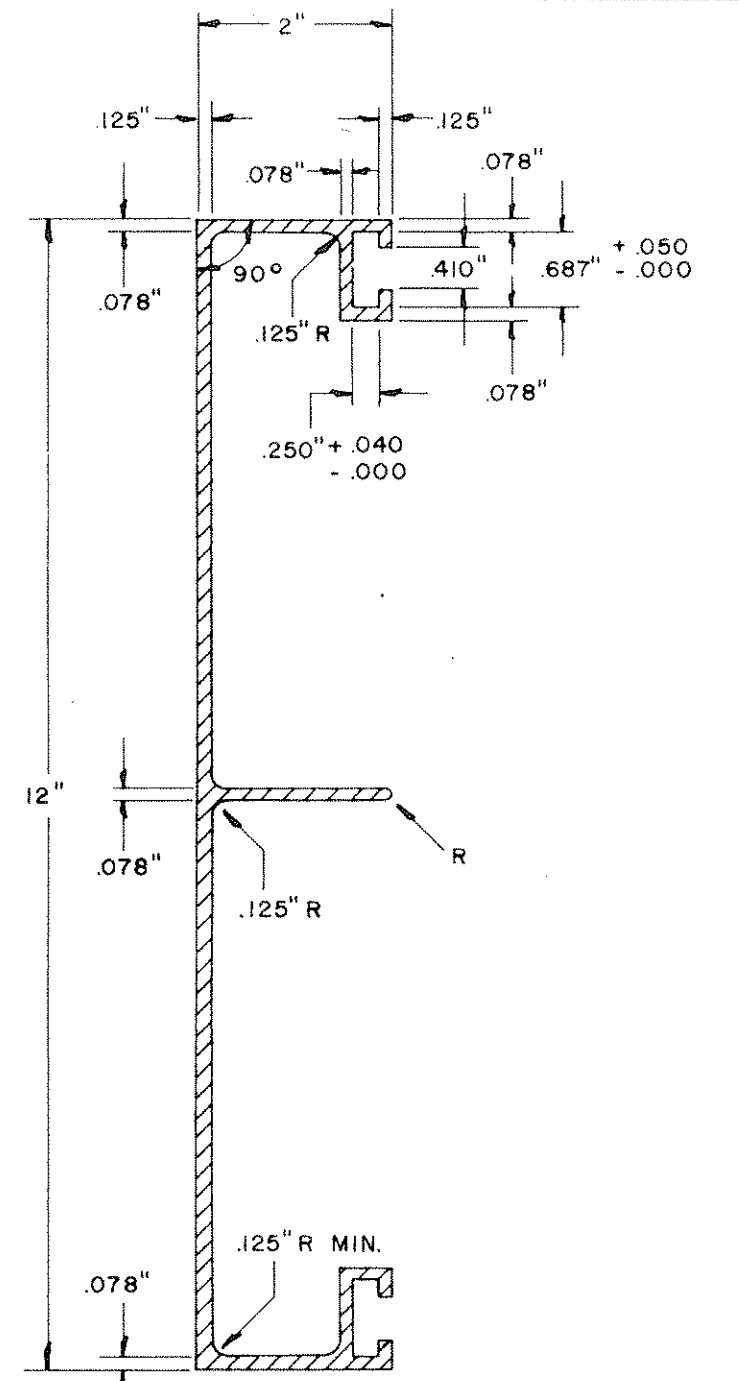
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

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

| STATE | PROJ. NO.            | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-------|----------------------|-------------|-----------|--------------|
| HAW.  | BMD66-343<br>PHASE I | FY74-75     | 41        | 41           |



### SOLID EXTRUDED SIGN PANEL DETAILS



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

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

APPROVAL RECOMMENDED:  
*Erichi Tanaka*  
TRAFFIC ENGINEER 12/29/62 DATE

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

|                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION<br><b>STANDARD DETAILS</b><br>SOLID ALUMINUM<br>EXTRUDED SIGN PANEL<br>AND<br>ACCESSORY DETAILS<br>SCALE: |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

SHEET NO. OF SHEETS DT207