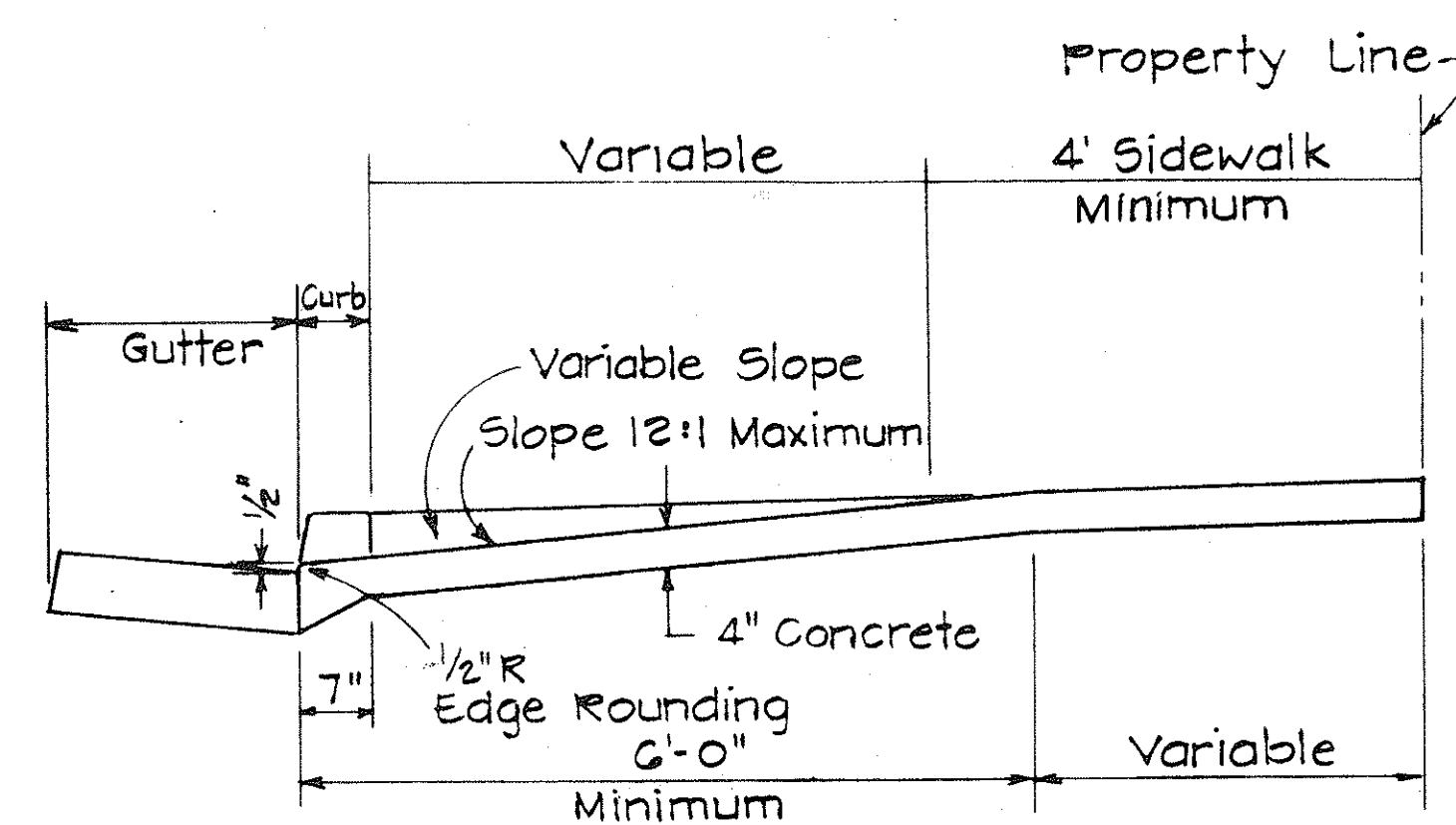
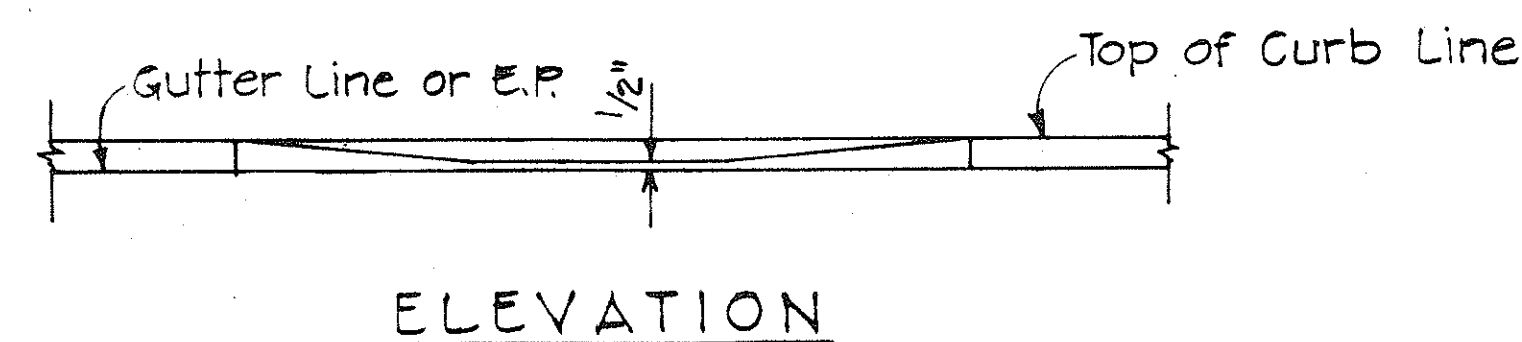
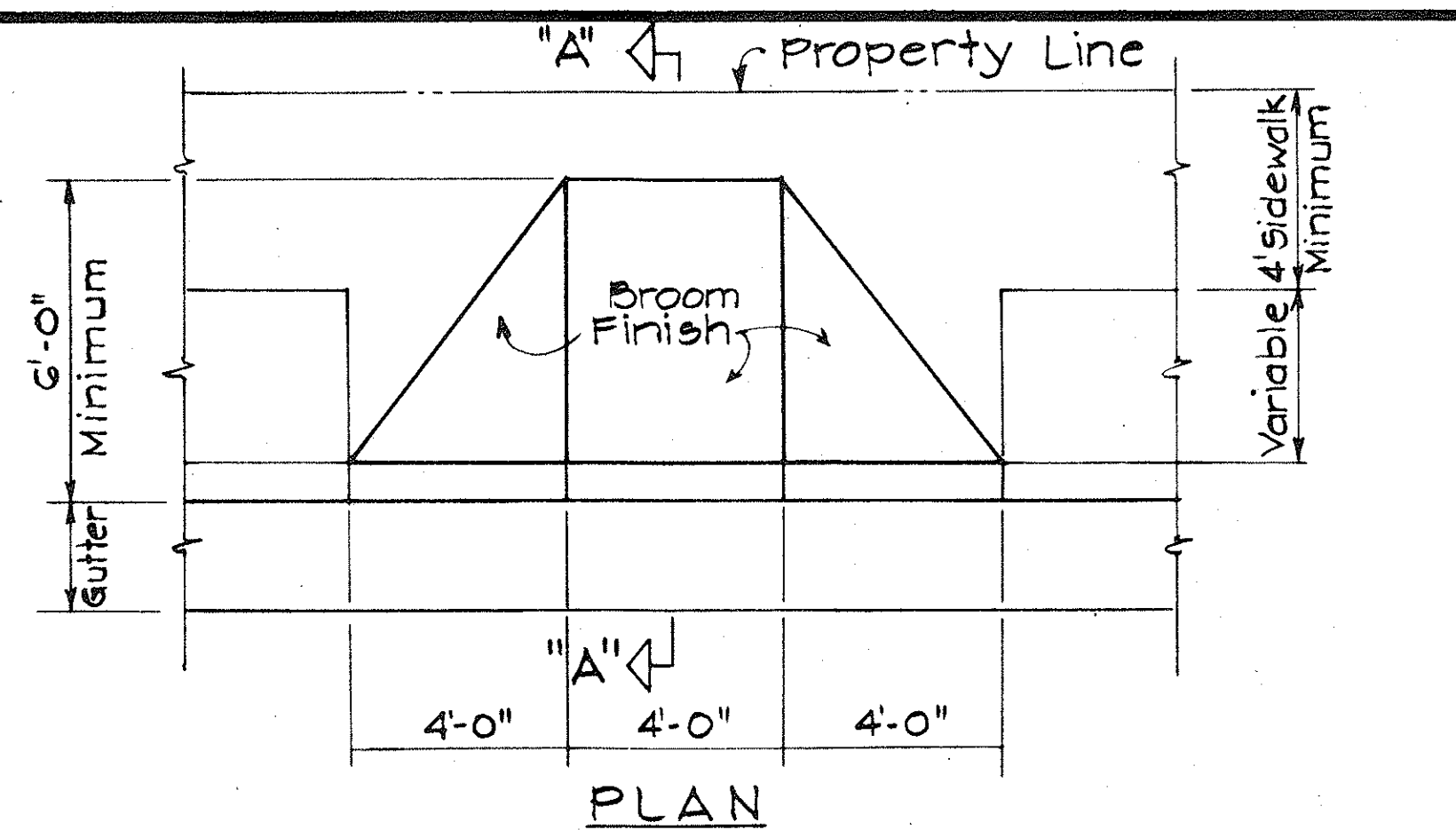


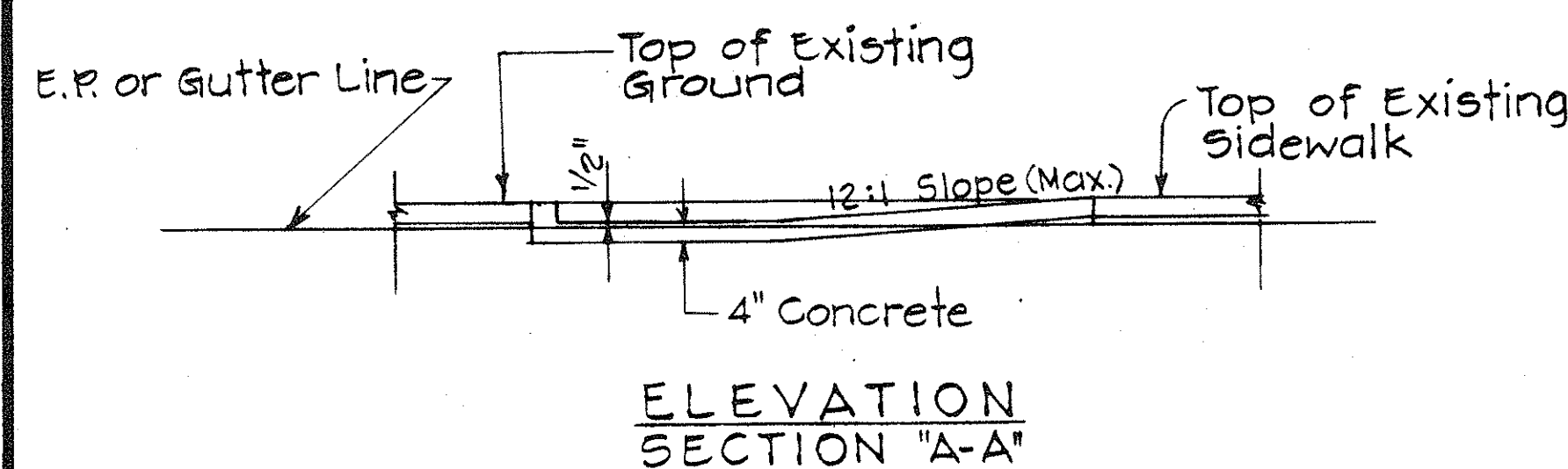
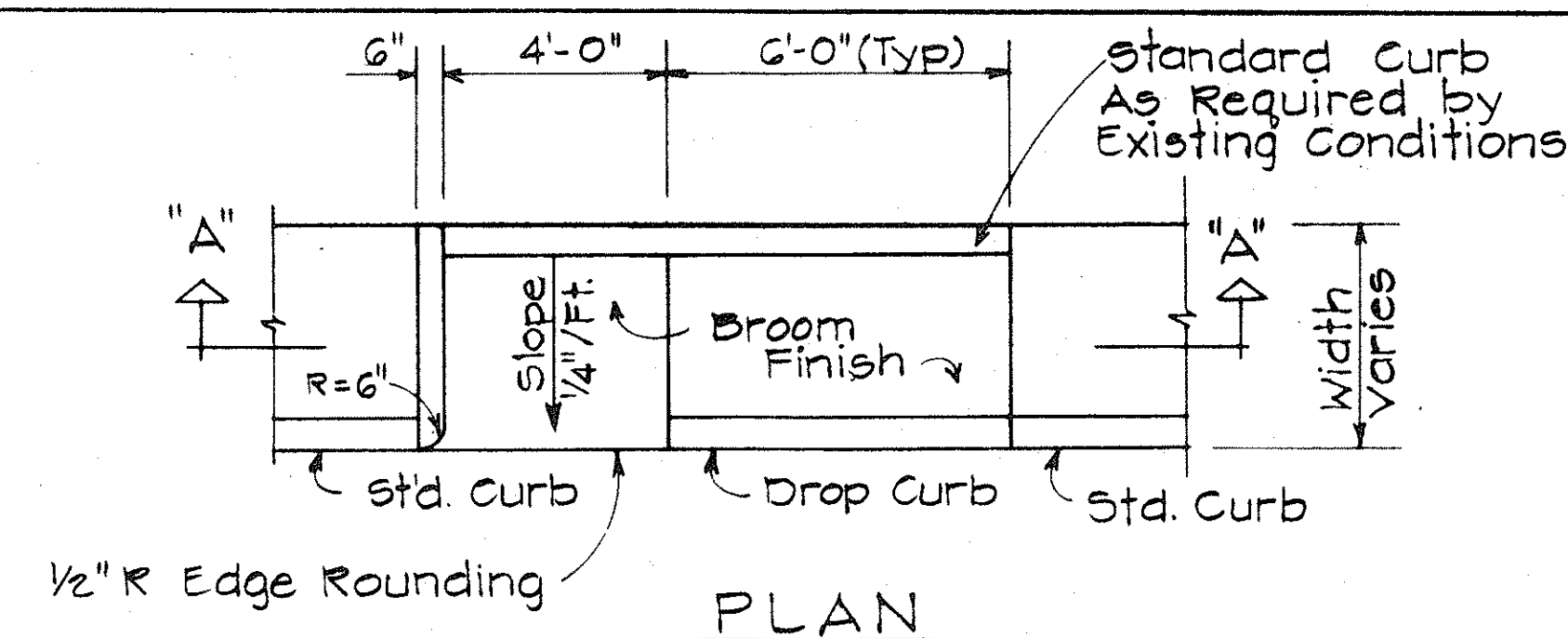




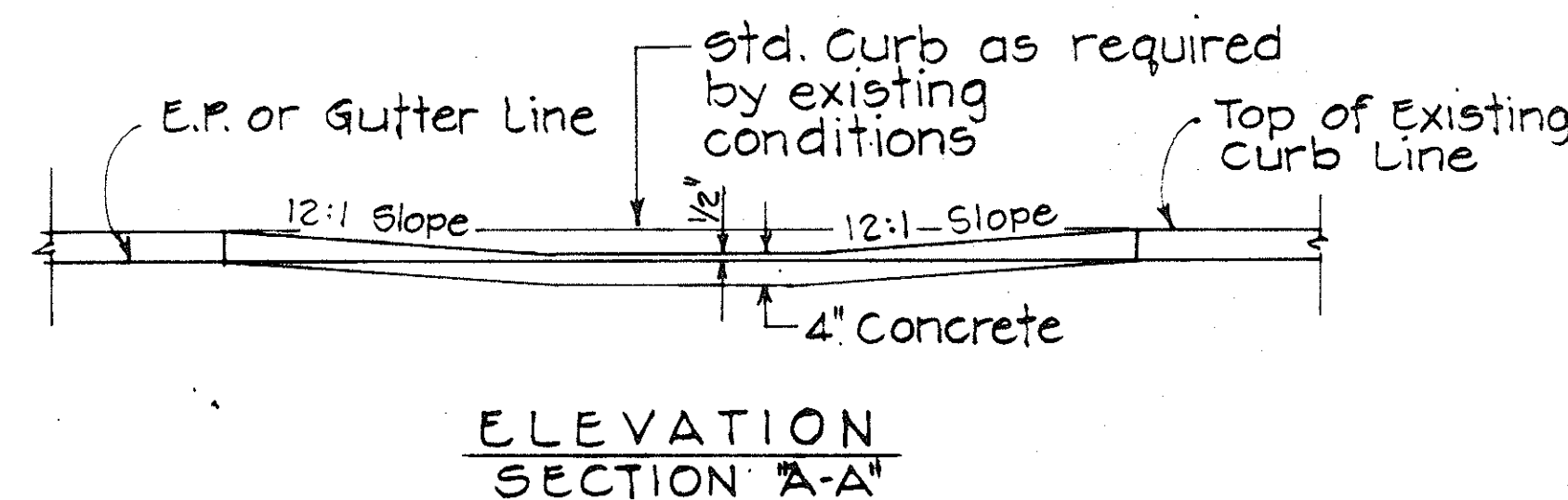
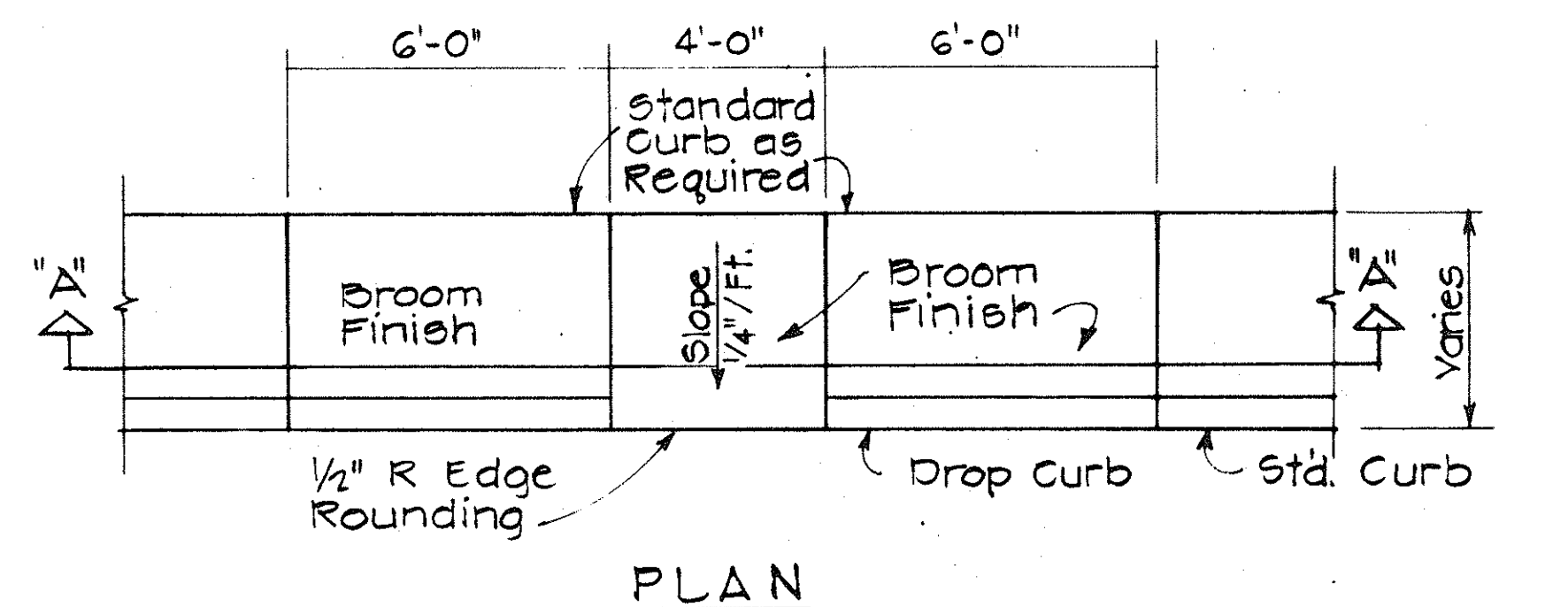
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | FF-078-16          | 1976        | CO.1351   | 142          |



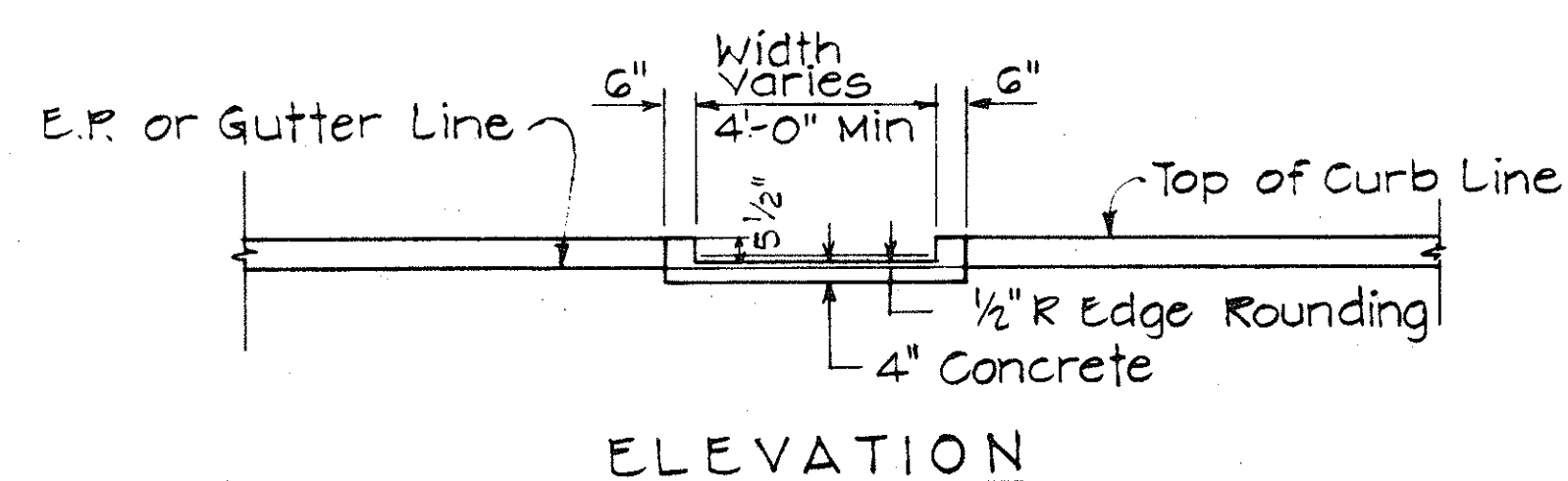
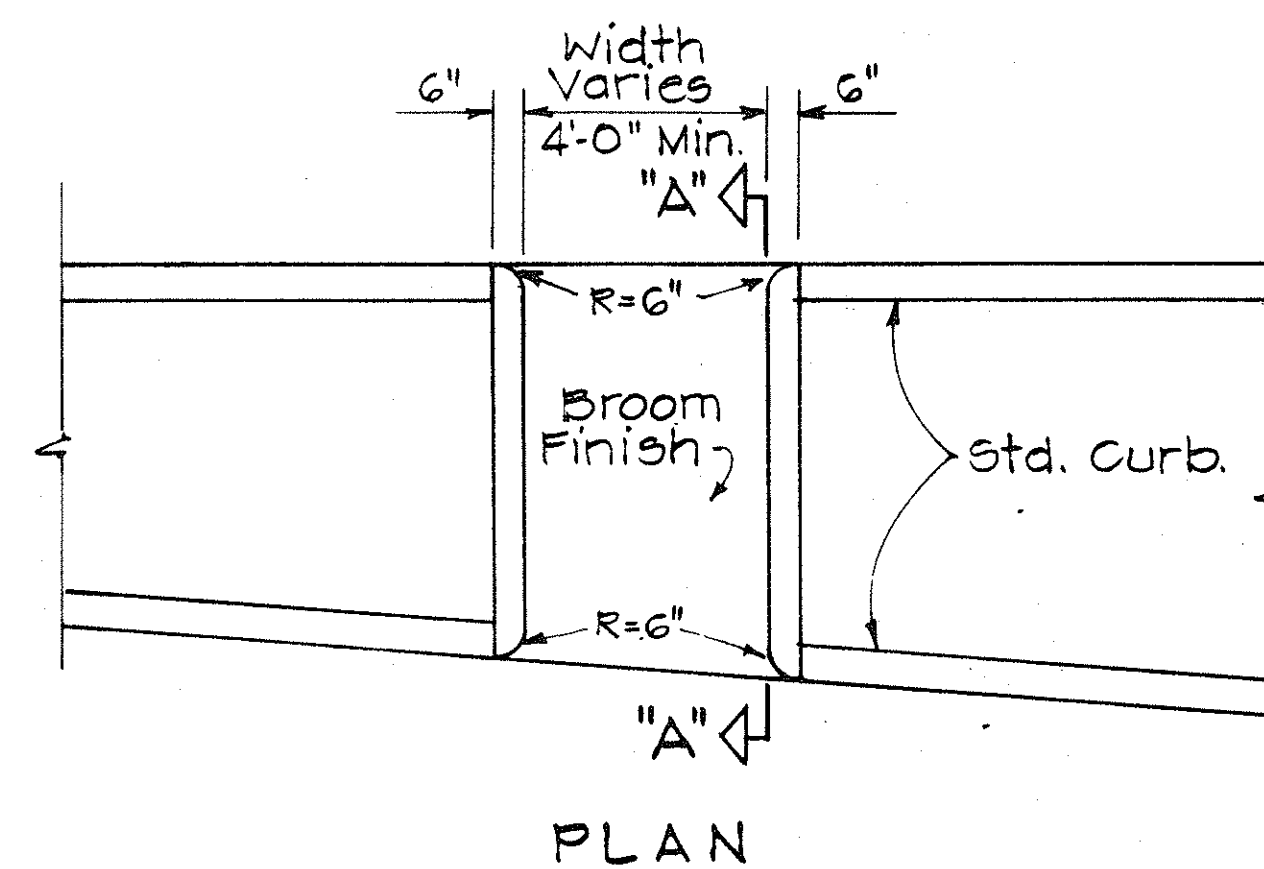
**WHEELCHAIR RAMP - TYPE "A"**  
USE WHERE LONGITUDINAL OBSTRUCTIONS EXIST



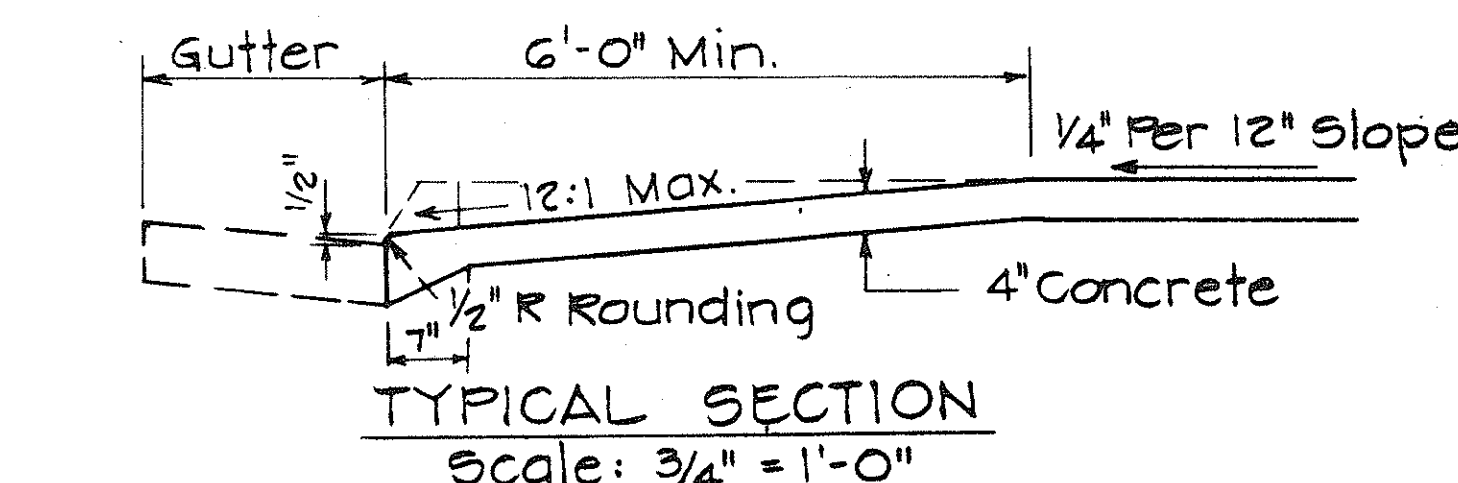
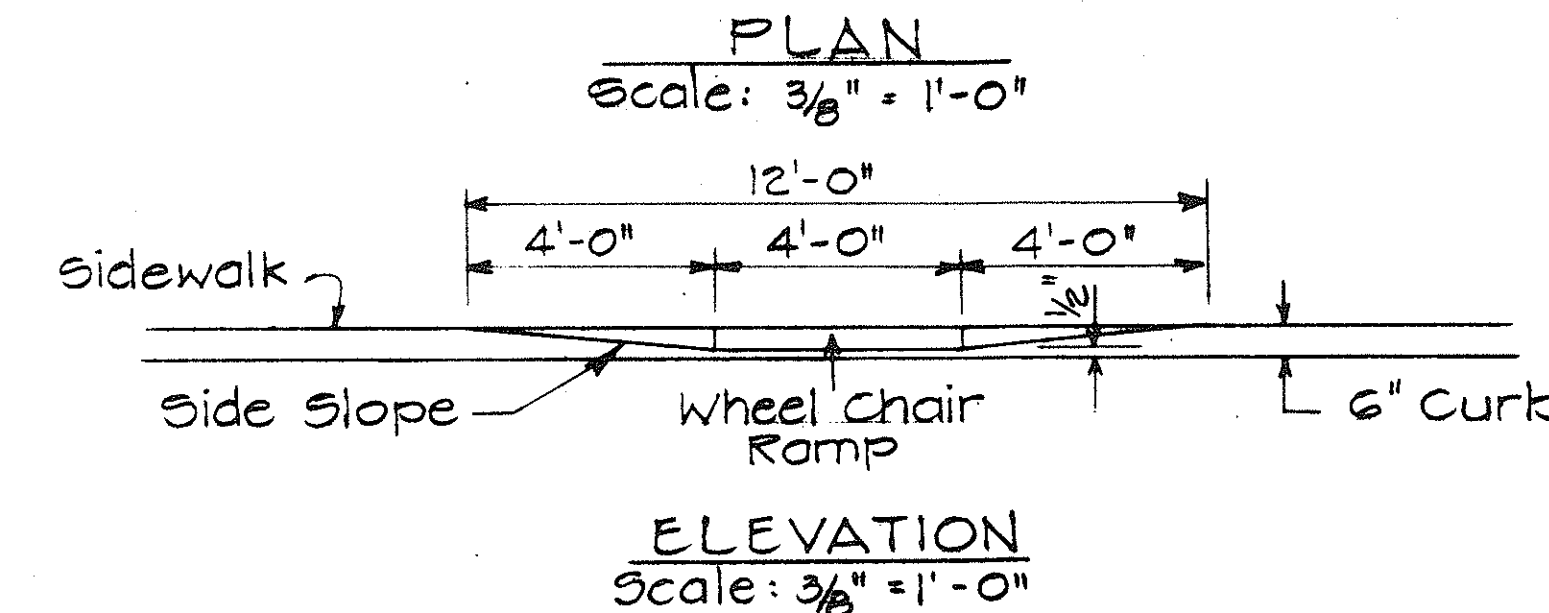
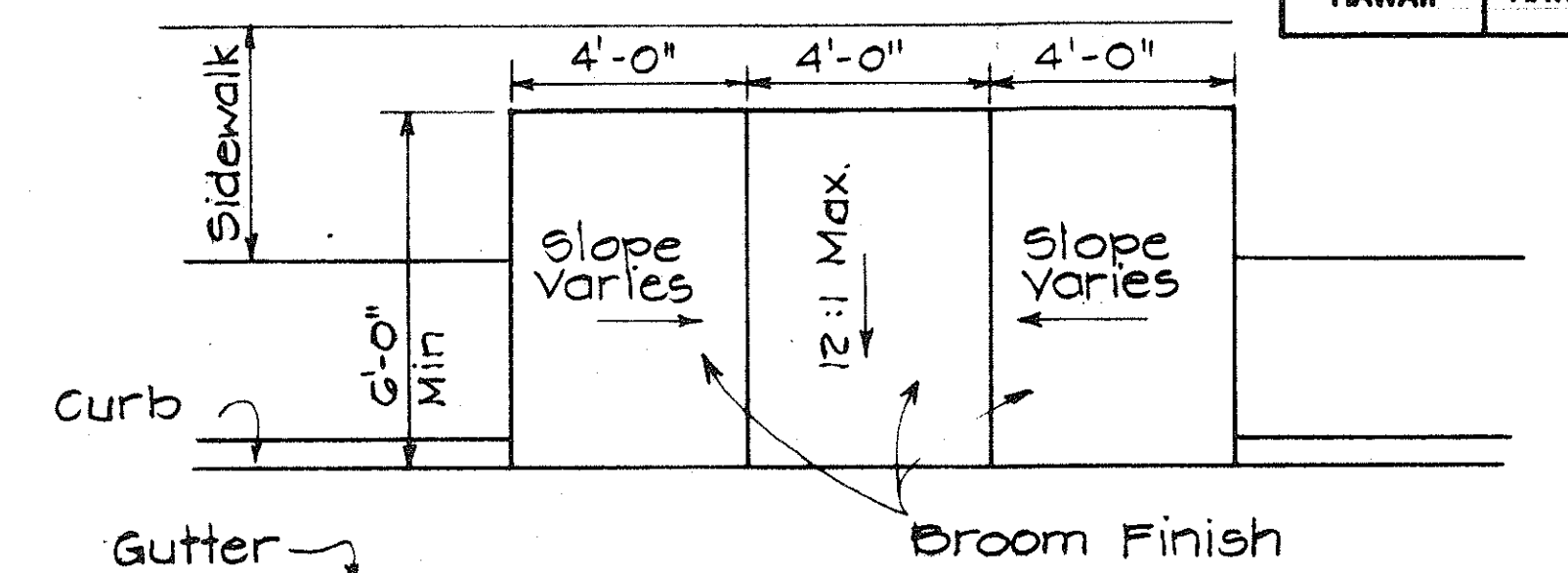
**WHEELCHAIR RAMP - TYPE "B"**  
USE AT PARTIAL SIDEWALKS WITH WIDTHS LESS THAN 6'-0"



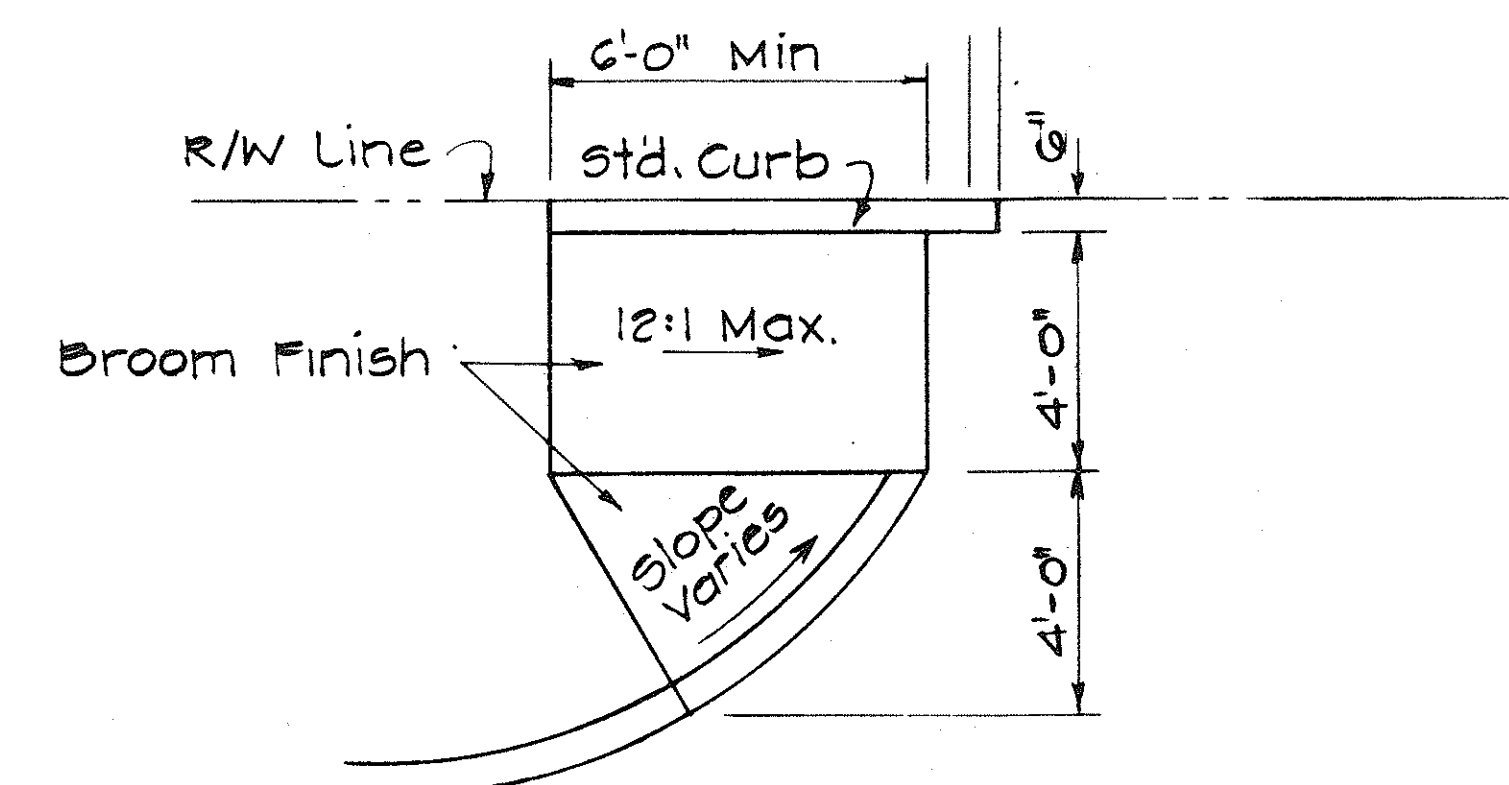
**WHEELCHAIR RAMP - TYPE "C"**  
USE AT SIDEWALKS WITH LESS THAN 6'-0" WIDTH



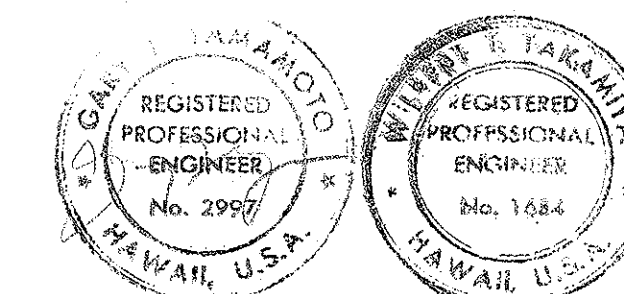
**WHEELCHAIR RAMP - TYPE "D"**  
USE AT MEDIAN CROSSINGS



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



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



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS OF  
WHEEL CHAIR RAMPS**

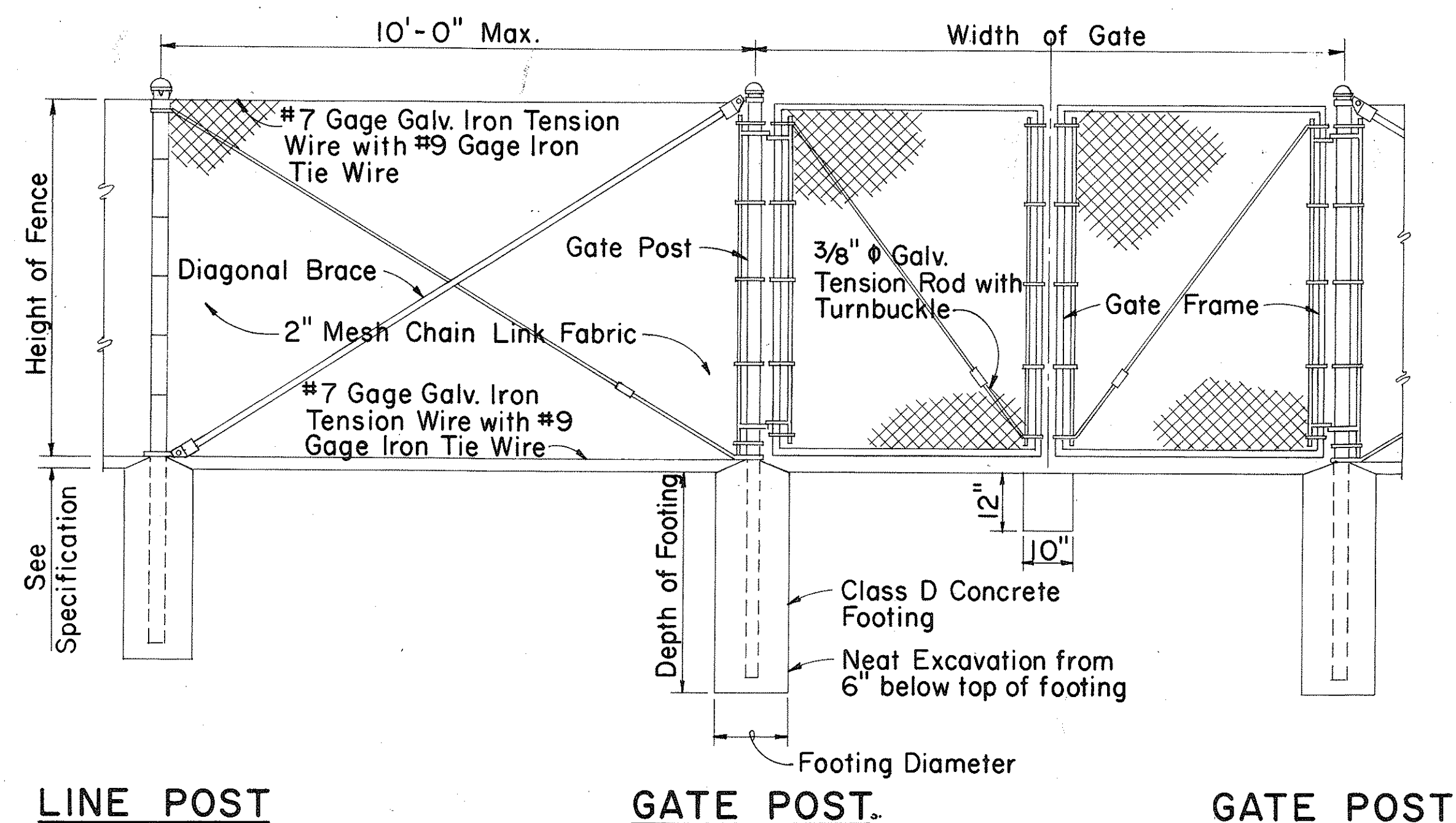
Scale: As Shown

SHEET NO. OF SHEETS

CO.13 S-1



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | U-FF-078-1(6)      | 1976        | 14        | 142          |



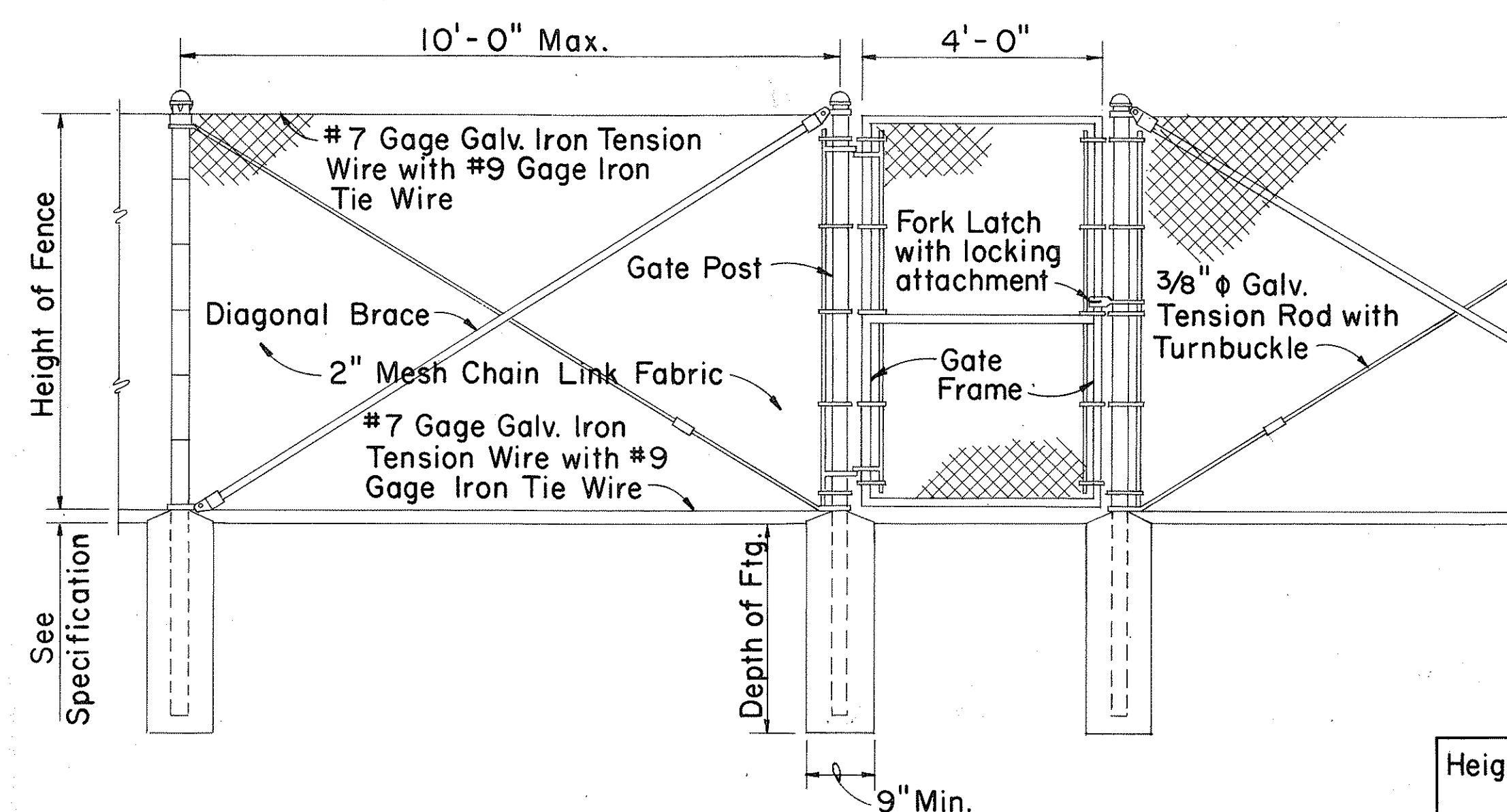
LINE POST

GATE POST

GATE POST

### DETAIL OF CHAIN LINK GATE

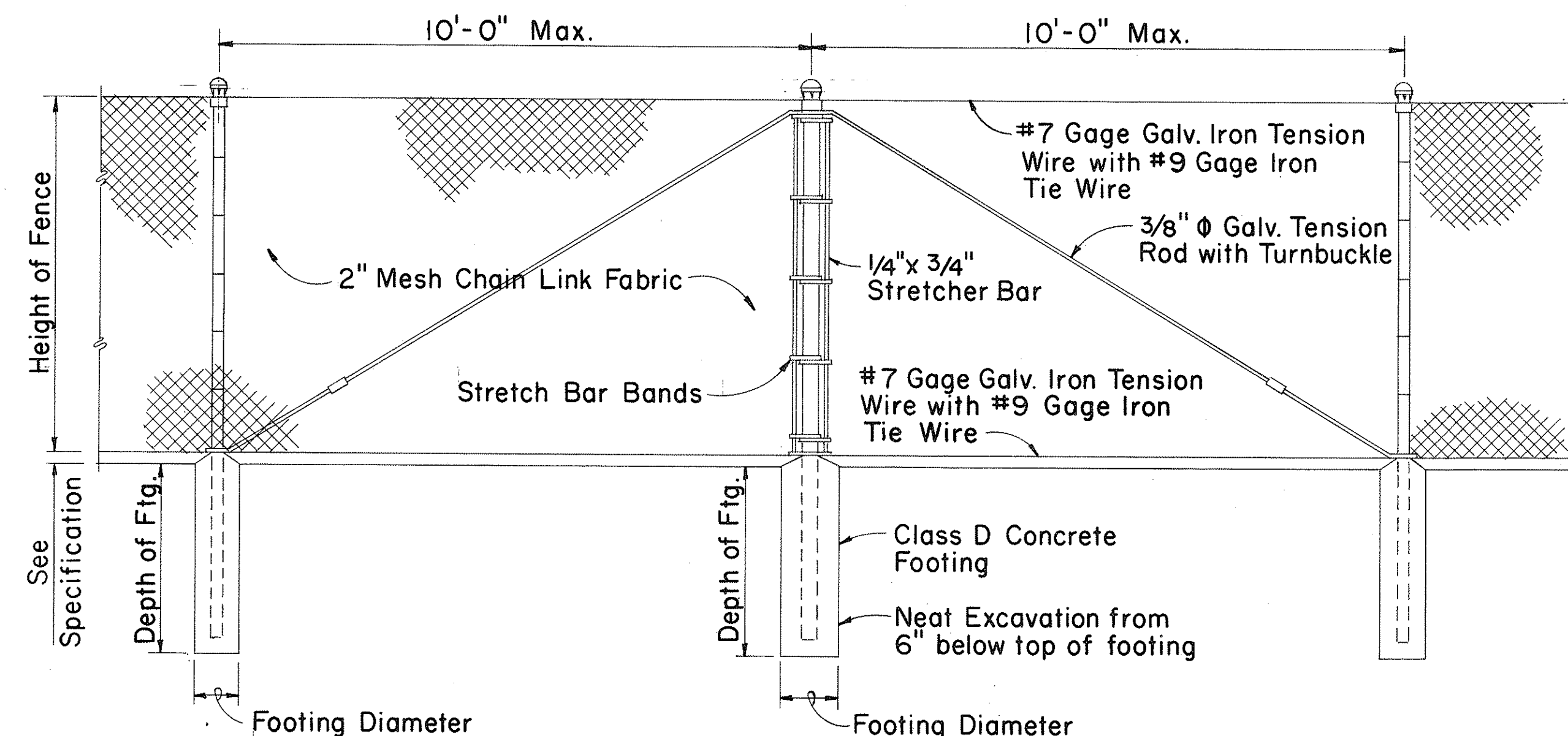
- NOTE: 1. Gate fork latch and lock, flush plate and anchor, and plunger shall be installed with Gates, and shall be considered as incidental to Chain Link Fence Gate.  
2. Gate frames shall be mitered and welded at corners.  
3. Fence detail not shown shall be in accordance with the Standard Specifications.



LINE POST

GATE POST GATE POST

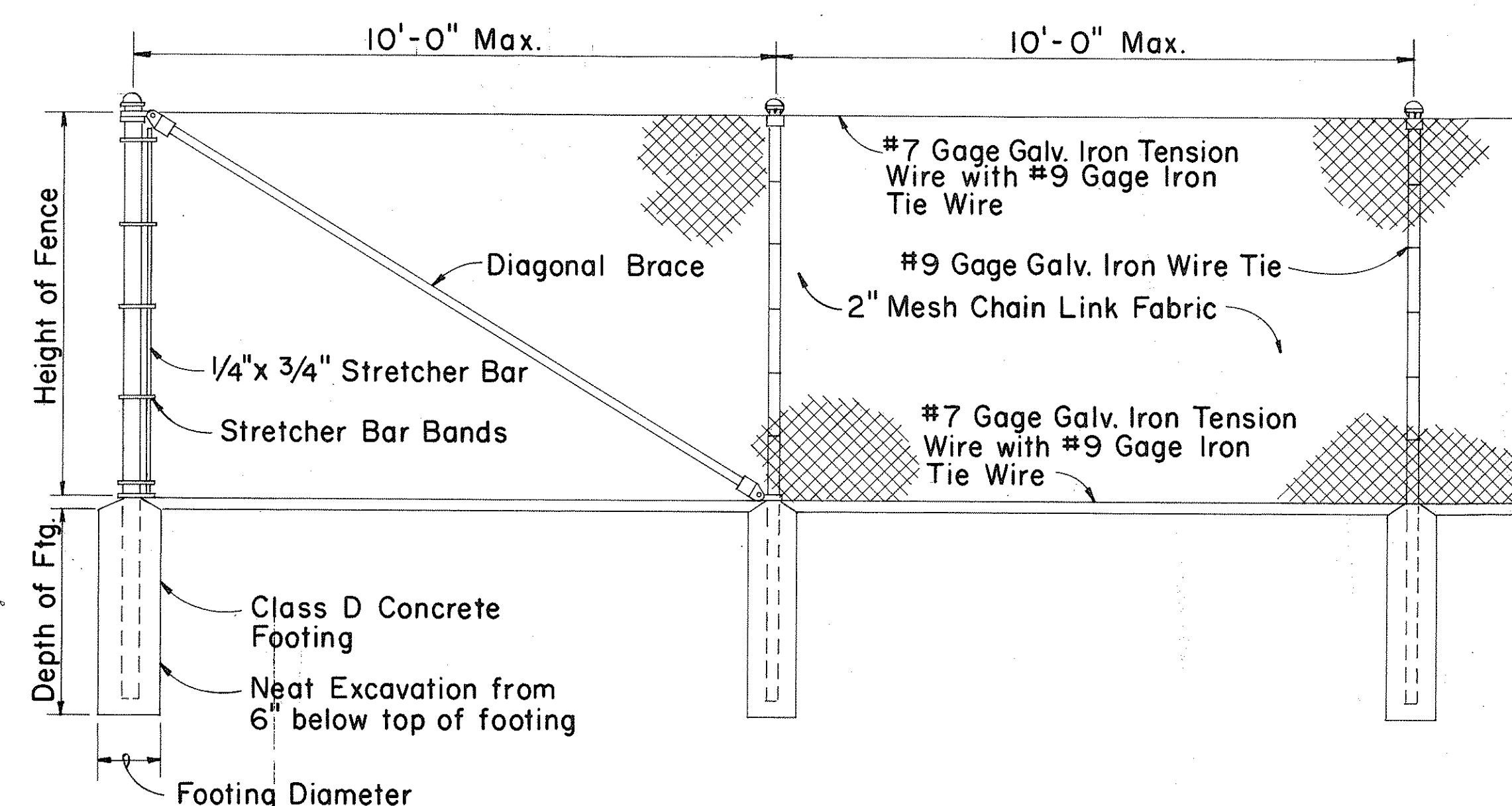
### DETAIL OF 4 FT. CHAIN LINK GATE



LINE POST

PULL POST

LINE POST



END POST

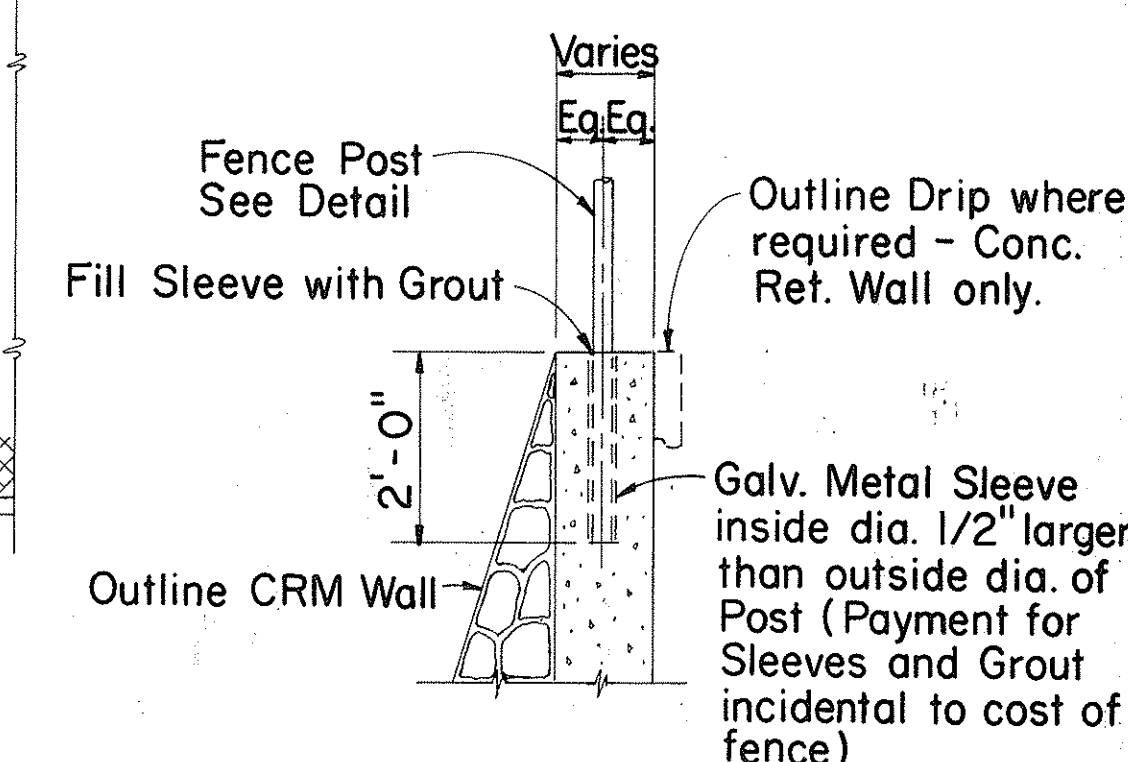
LINE POST

LINE POST

### 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"                         |

### TYPICAL SECTION (WITH CONCRETE FOOTING)



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

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

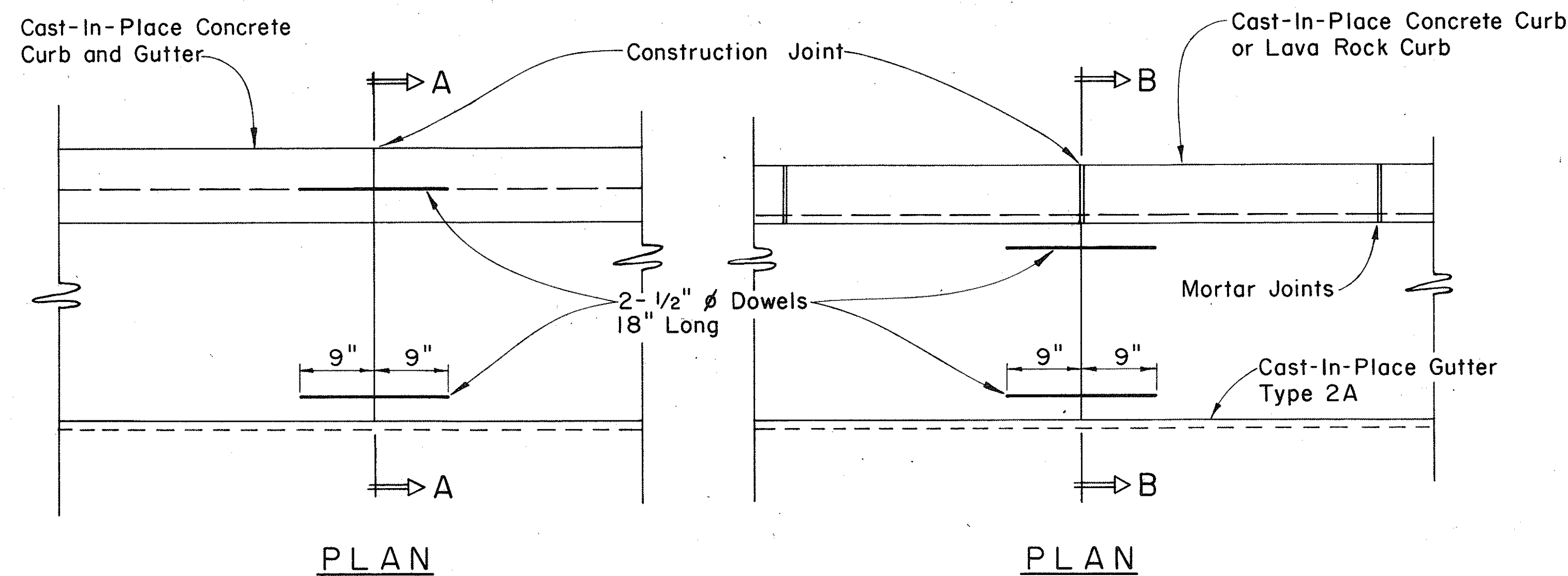
STANDARD DETAILS

CHAIN LINK FENCE  
(WITHOUT TOPRAIL)

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

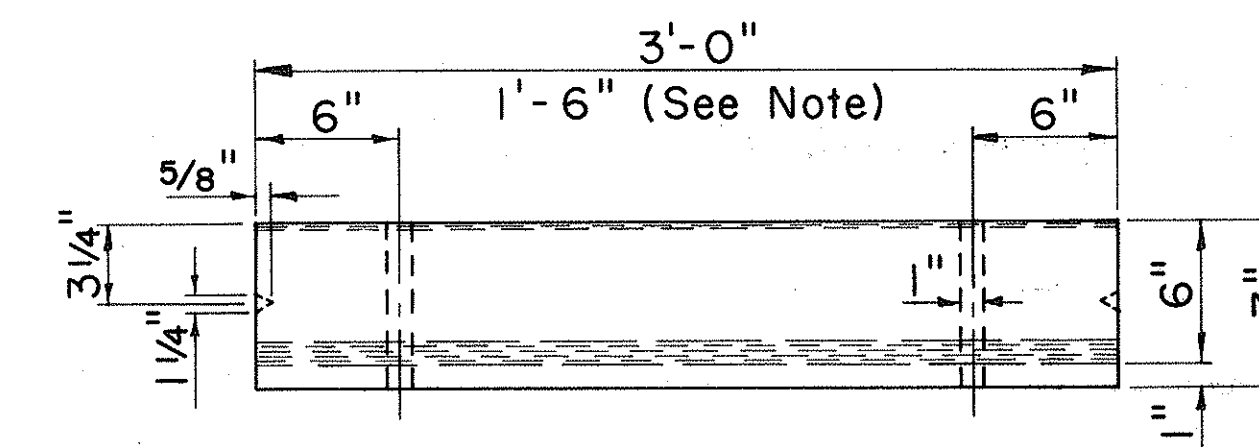
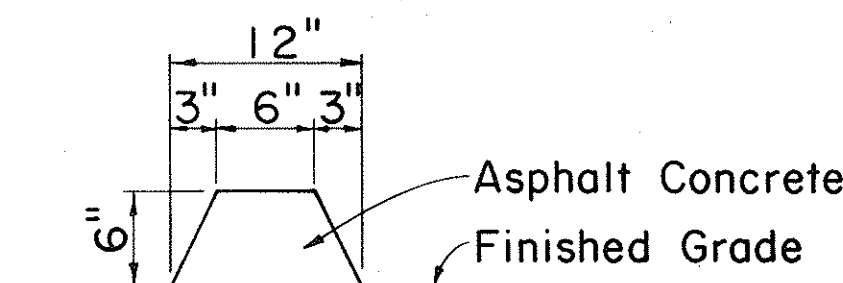


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11-078-16          | 1976        | 15        | 142          |

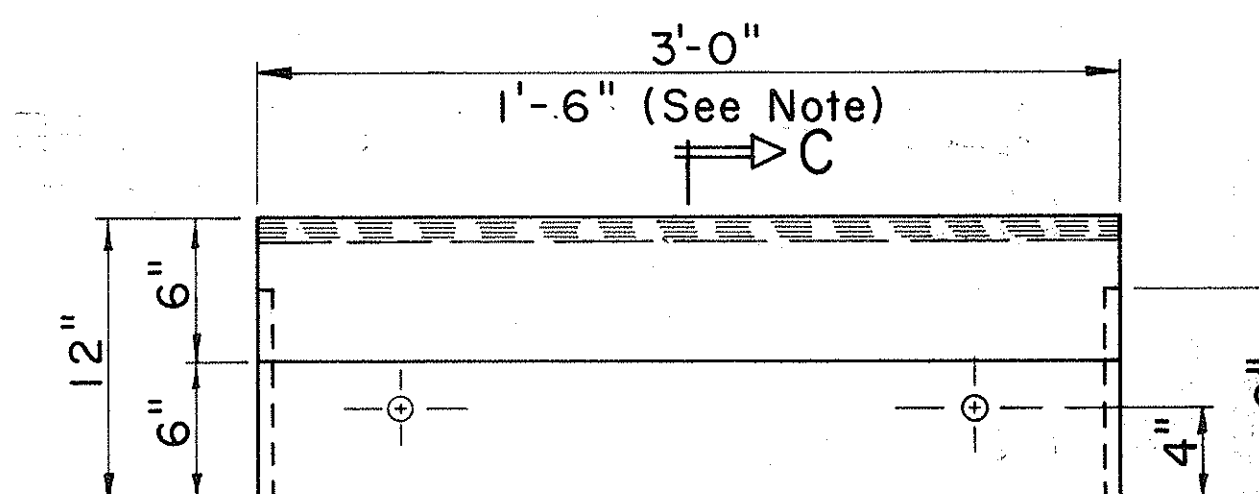


### CURB, TYPE 6 BITUMINOUS CURB

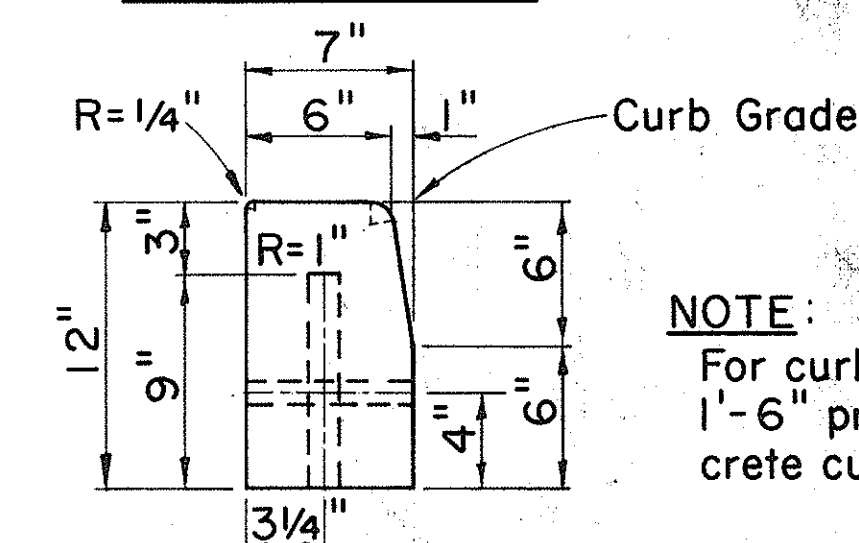
Scale: 1 1/2" = 1'-0"



PLAN



ELEVATION

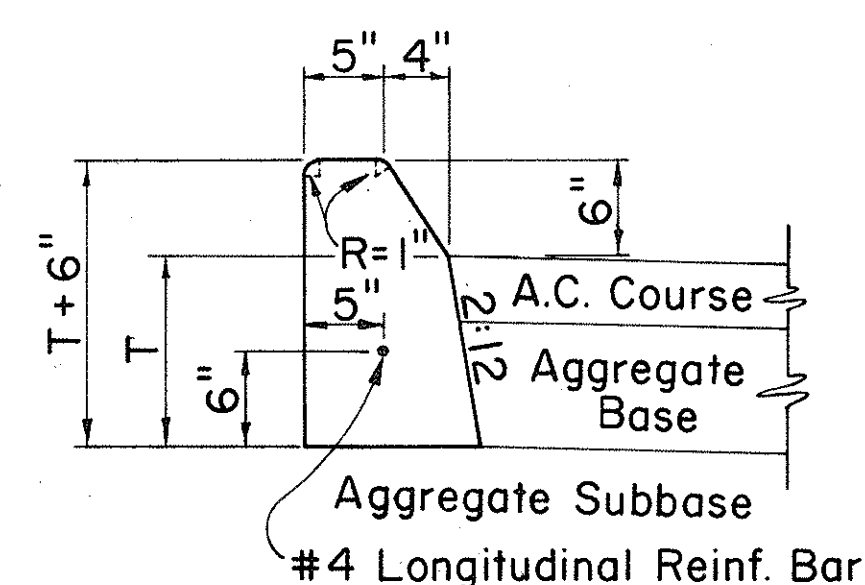
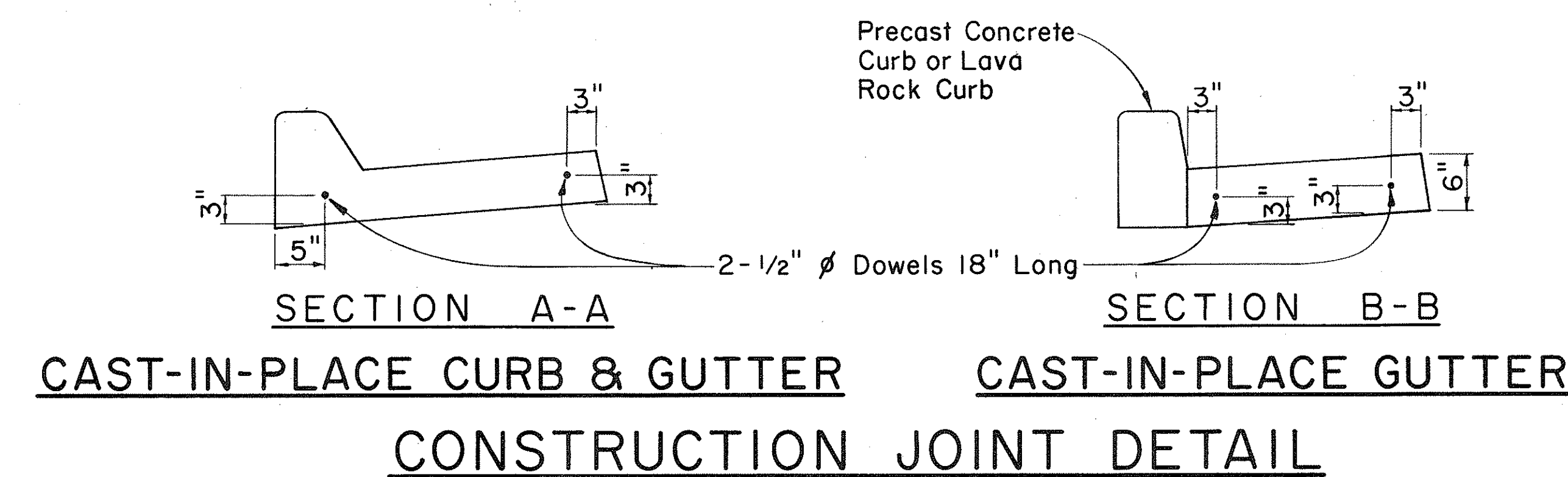


NOTE:  
For curb returns use  
1'-6" pre-cast concrete  
curbs.

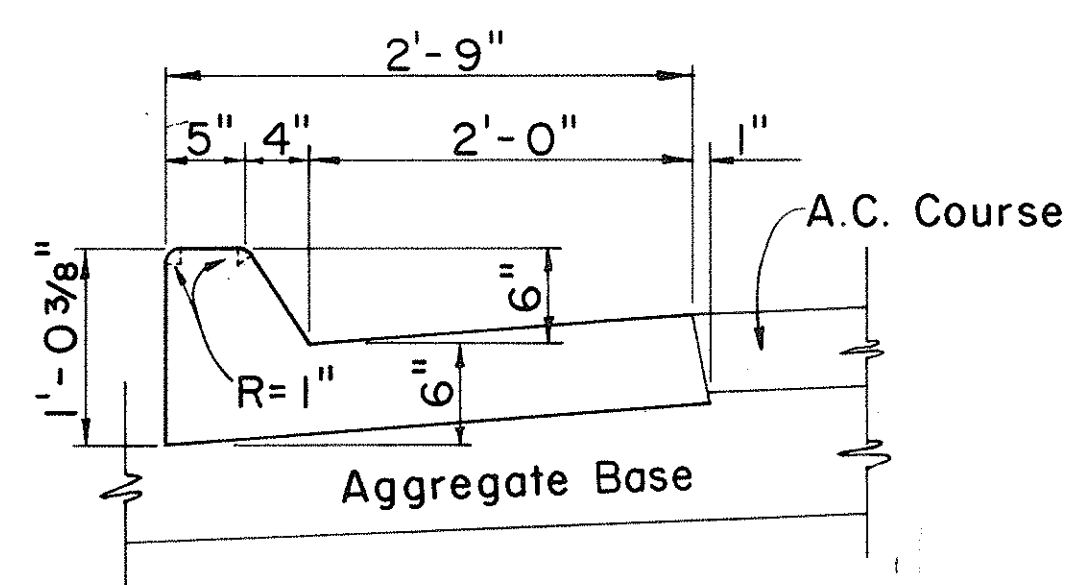
### SECTION C-C CURB, TYPE 3D

### PRE-CAST CONC. CURB

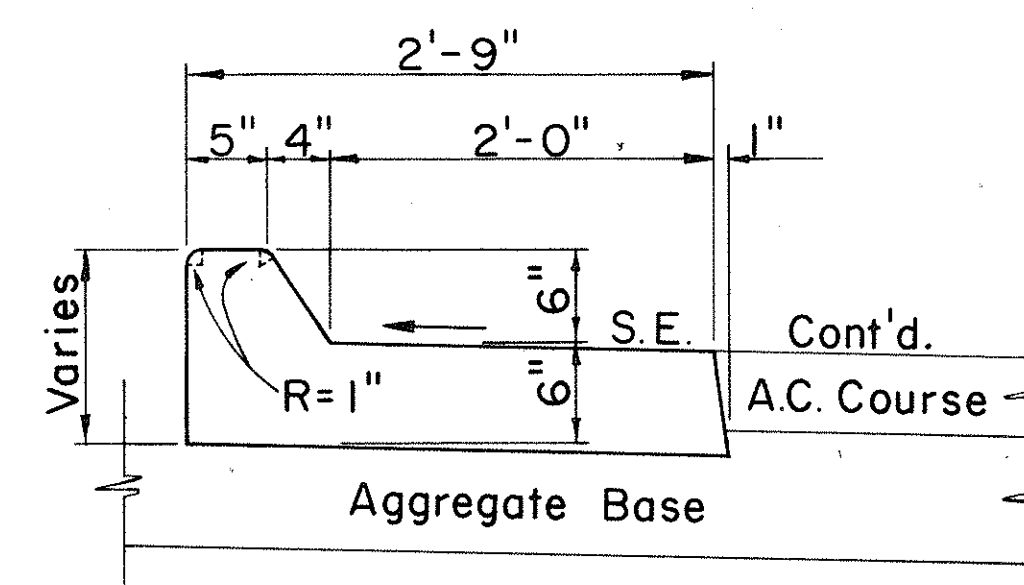
Scale: 1 1/2" = 1'-0"



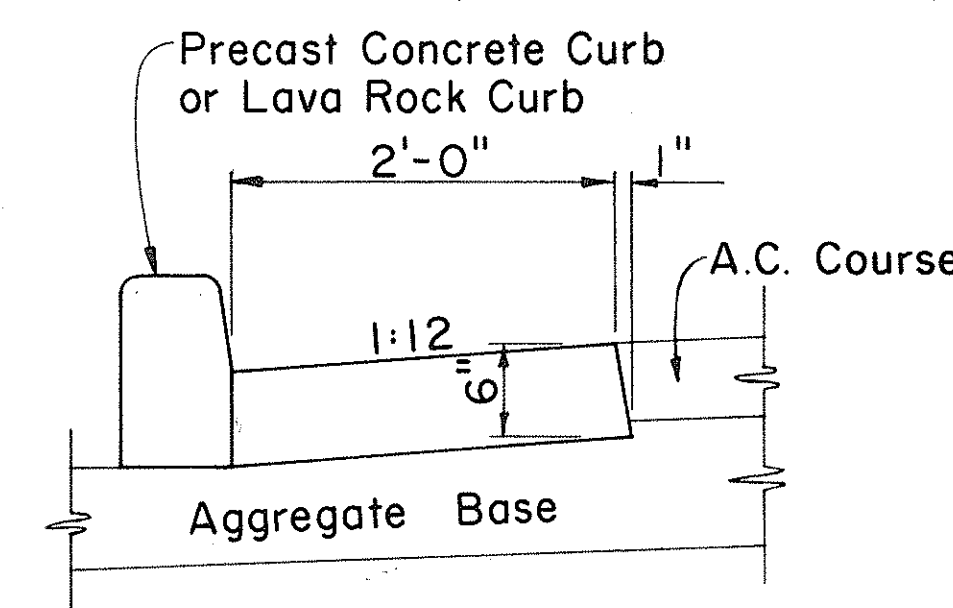
### CURB, TYPE 2A



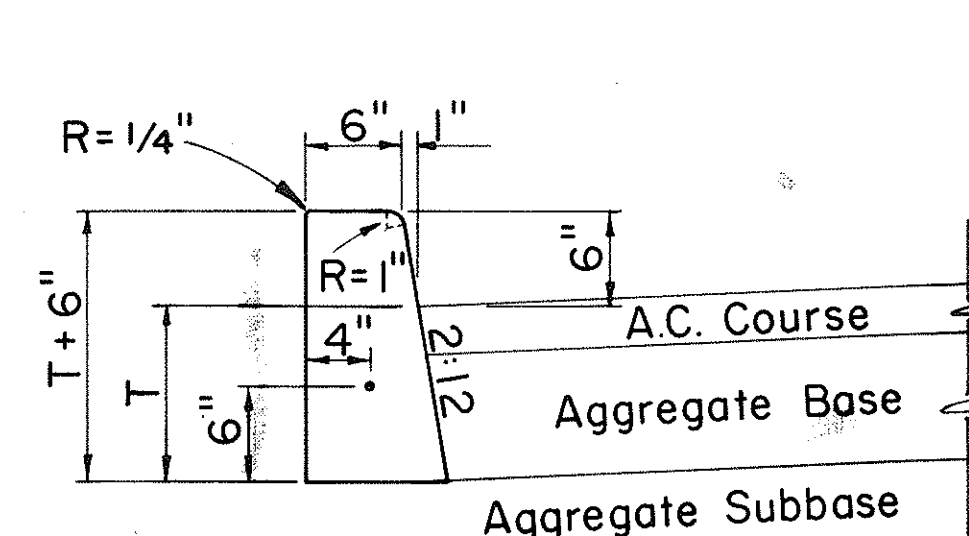
### CURB & GUTTER, TYPE 2AG



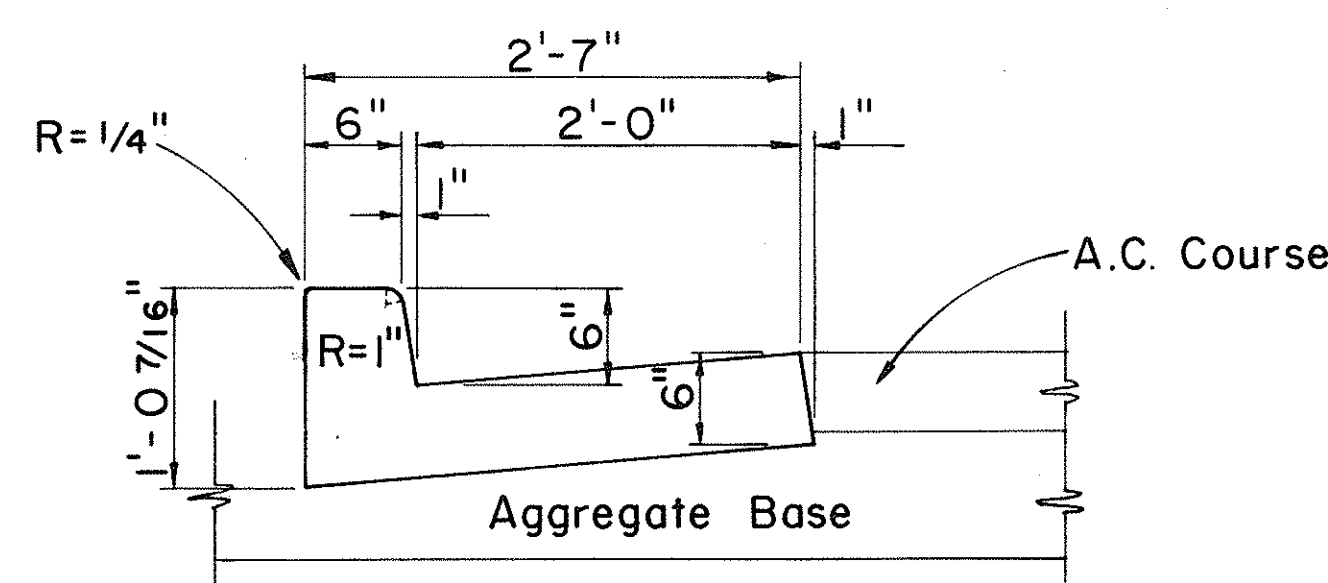
### CURB & GUTTER, TYPE 2AGM



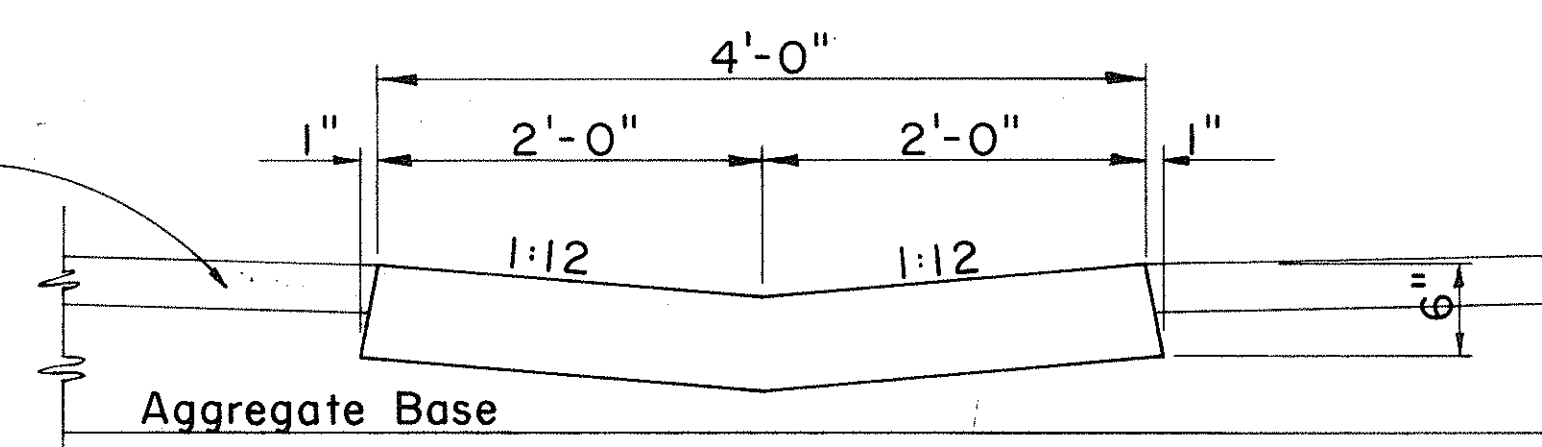
### GUTTER, TYPE 2A



### CURB, TYPE 2D



### CURB & GUTTER, TYPE 2DG



### GUTTER, TYPE 2G

### CAST-IN-PLACE CONCRETE CURBS AND/OR GUTTERS

Scale: 1" = 1'-0"

APPROVAL RECOMMENDED:  
HIGHWAY DESIGN ENGINEER  
DATE 12-4-67

APPROVED:  
ASSISTANT CHIEF, ENGINEERING  
DATE 12-10-67

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

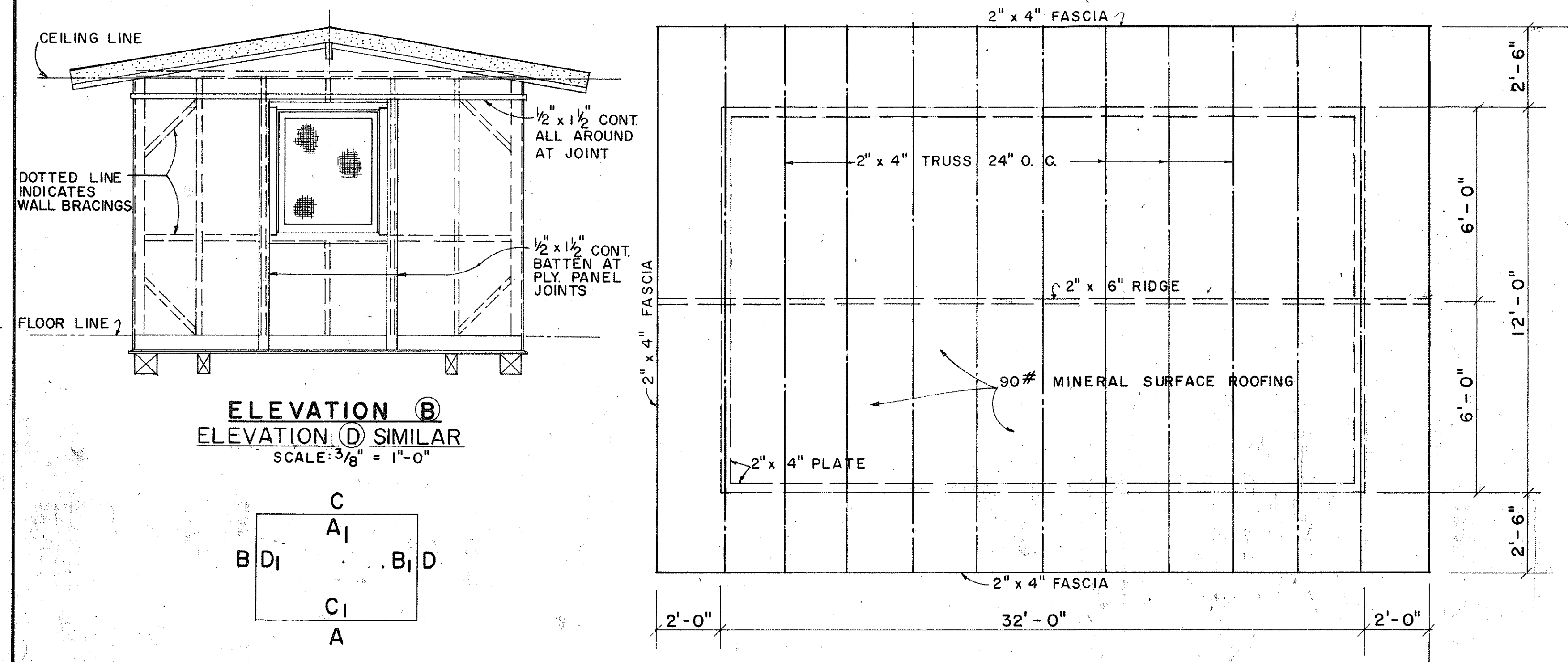
STANDARD DETAILS  
TYPICAL DETAILS OF CURB  
AND/OR GUTTERS

Scale: As Shown

SHEET No. 3 OF 12 SHEETS DD 609.1

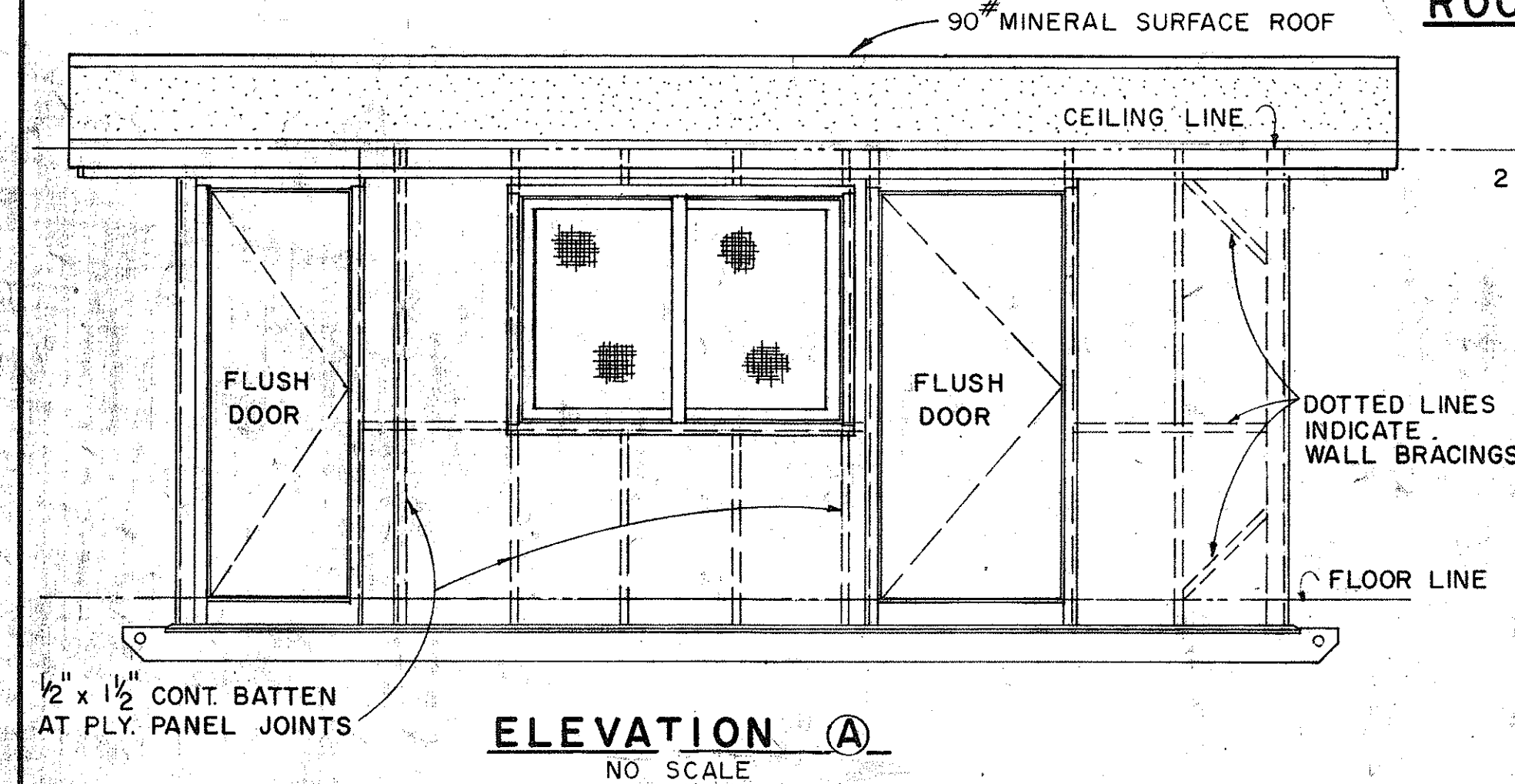


| FED. ROAD DIST. NO. | STATE  | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAWAII | U-FF-078-16        | 1976        | 16        | 142          |

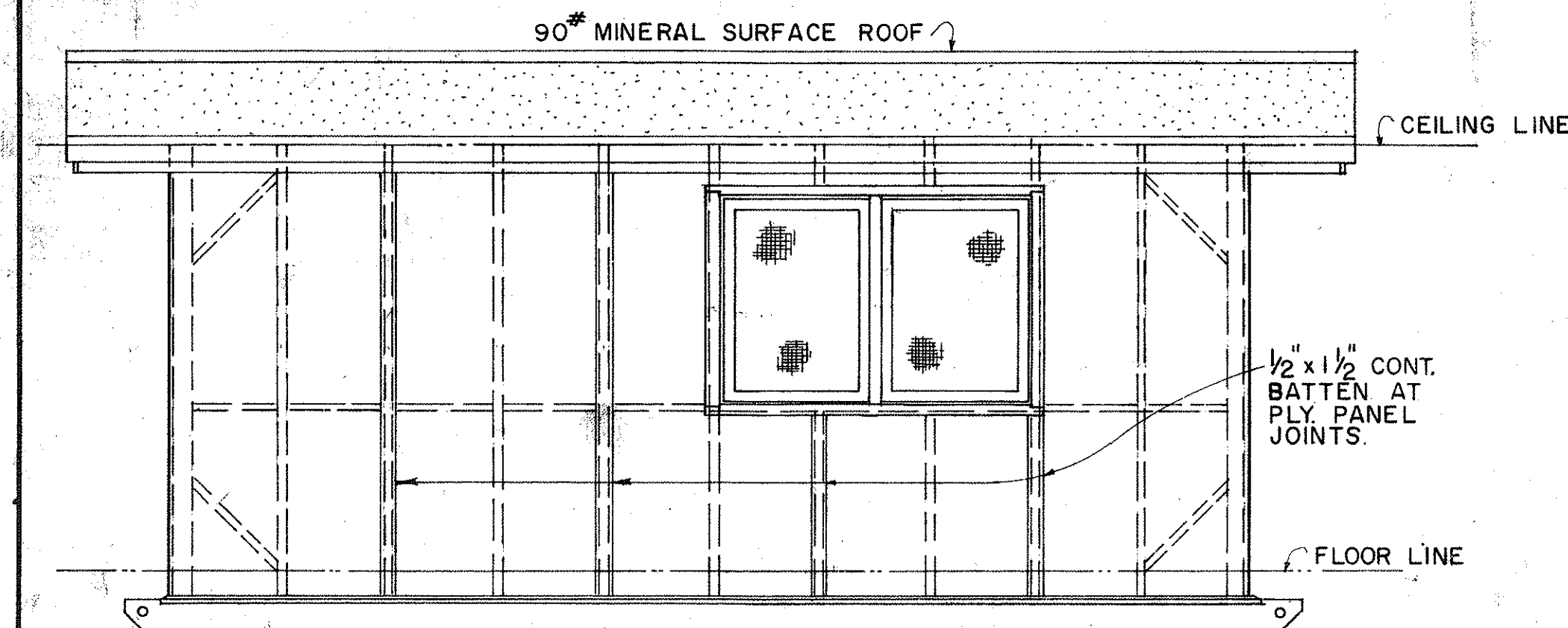


EXTERIOR & INTERIOR KEY

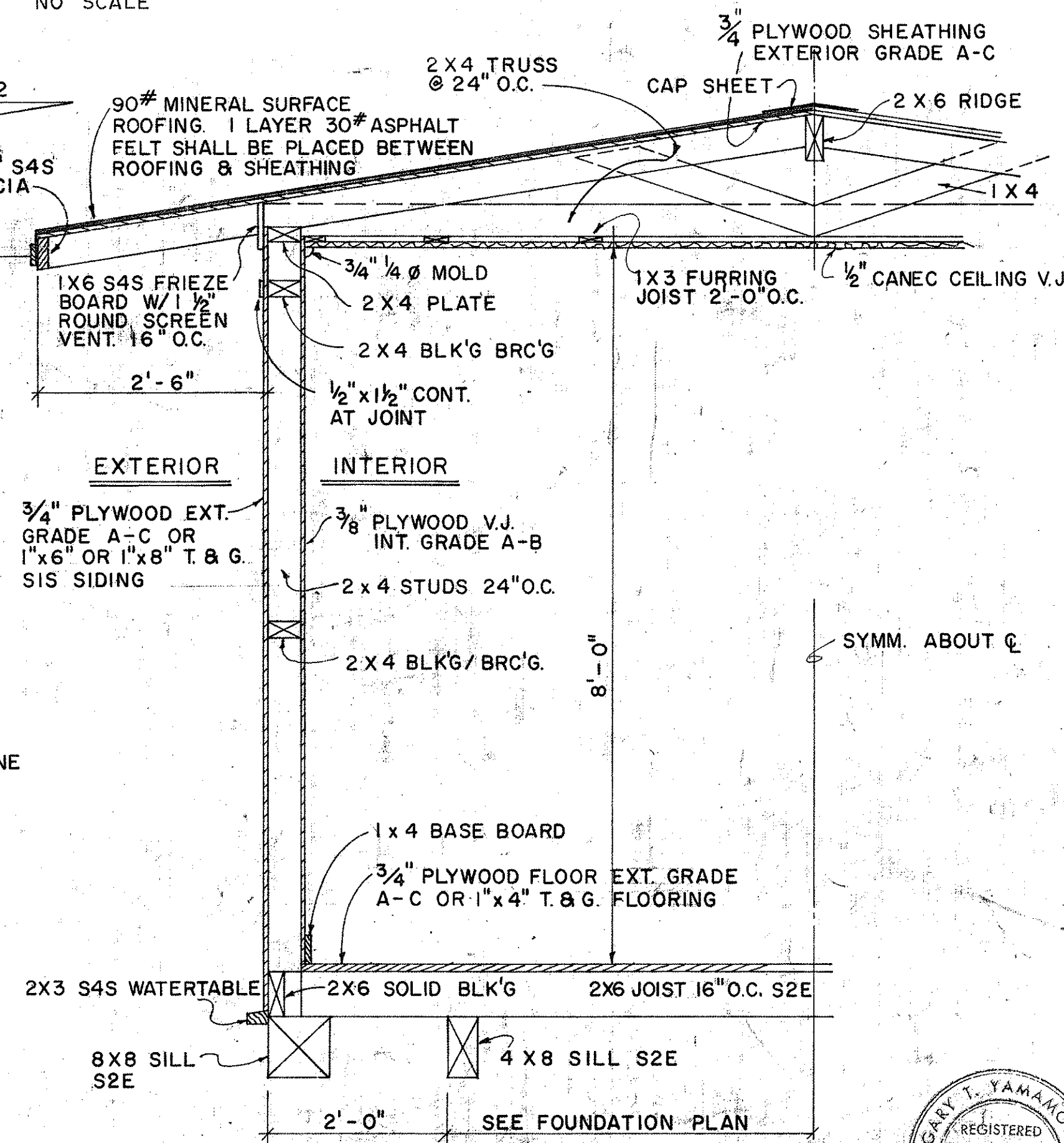
ROOF FRAMING PLAN  
NO SCALE



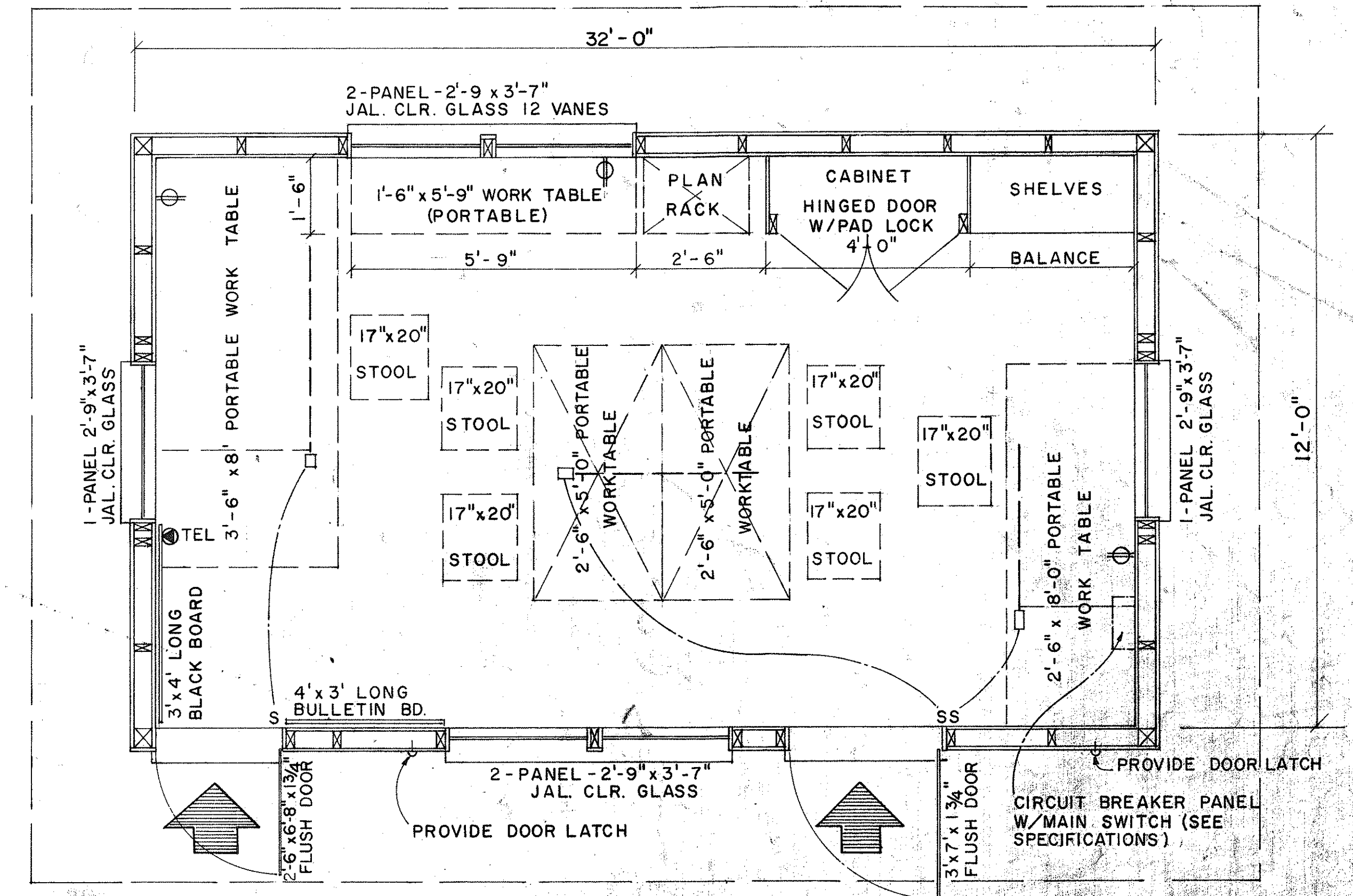
ELEVATION (A)  
NO SCALE



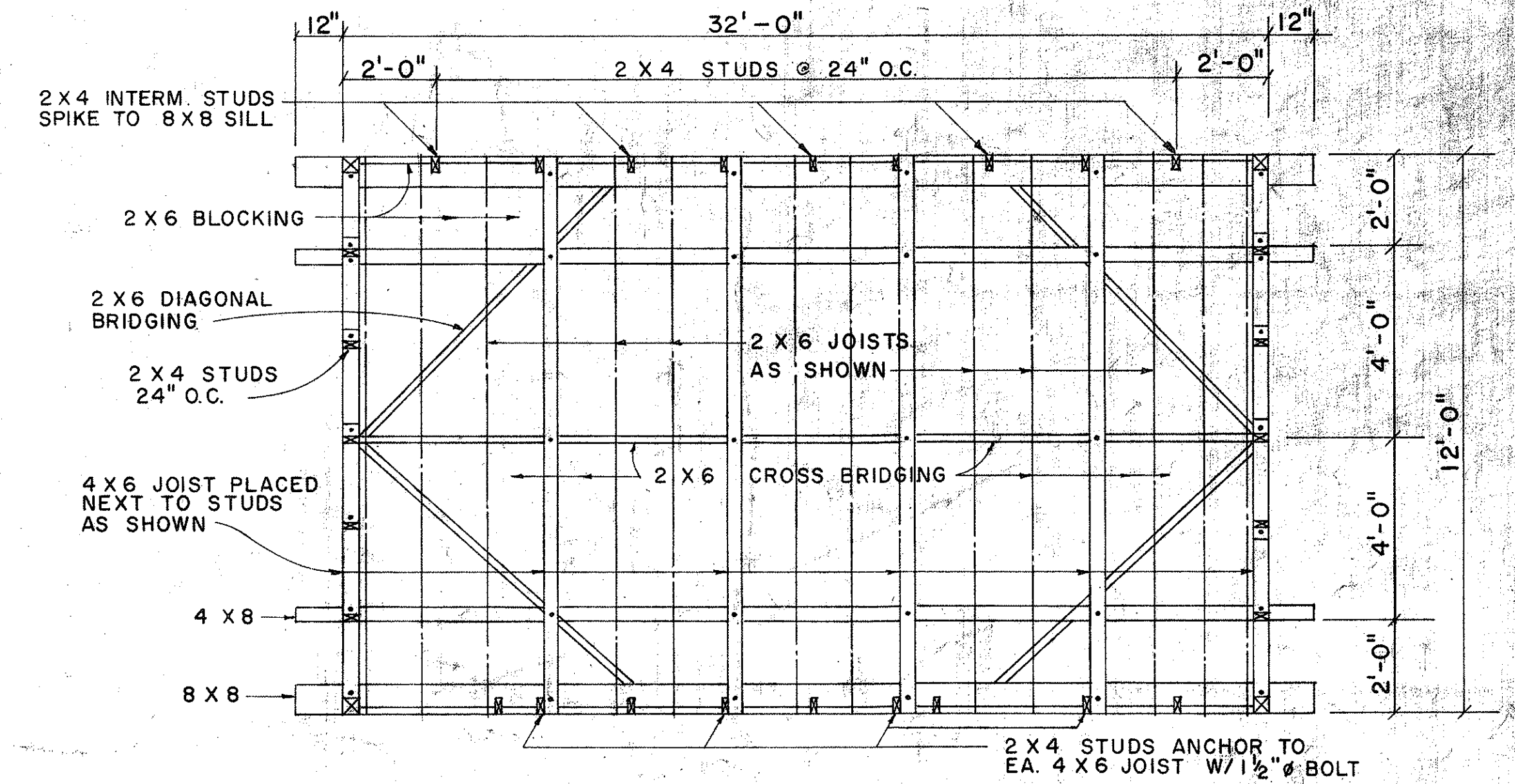
ELEVATION (C)  
NO SCALE



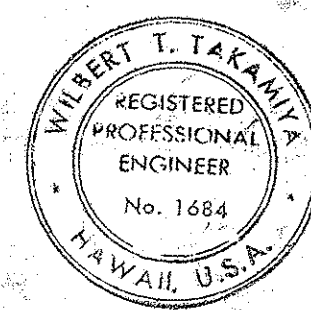
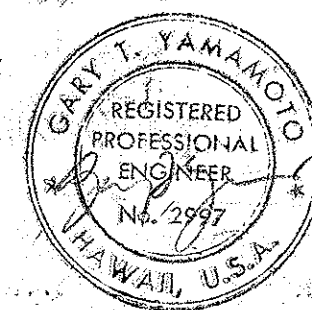
TYPICAL WALL SECTION  
SCALE: 3/4" = 1'-0"



FLOOR PLAN  
NO SCALE



FOUNDATION FRAMING PLAN  
NO SCALE



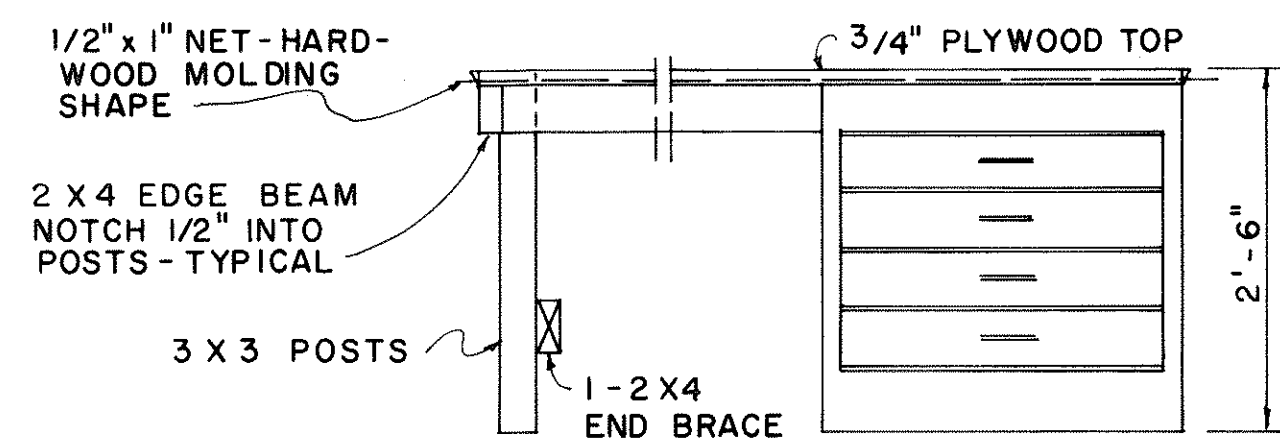
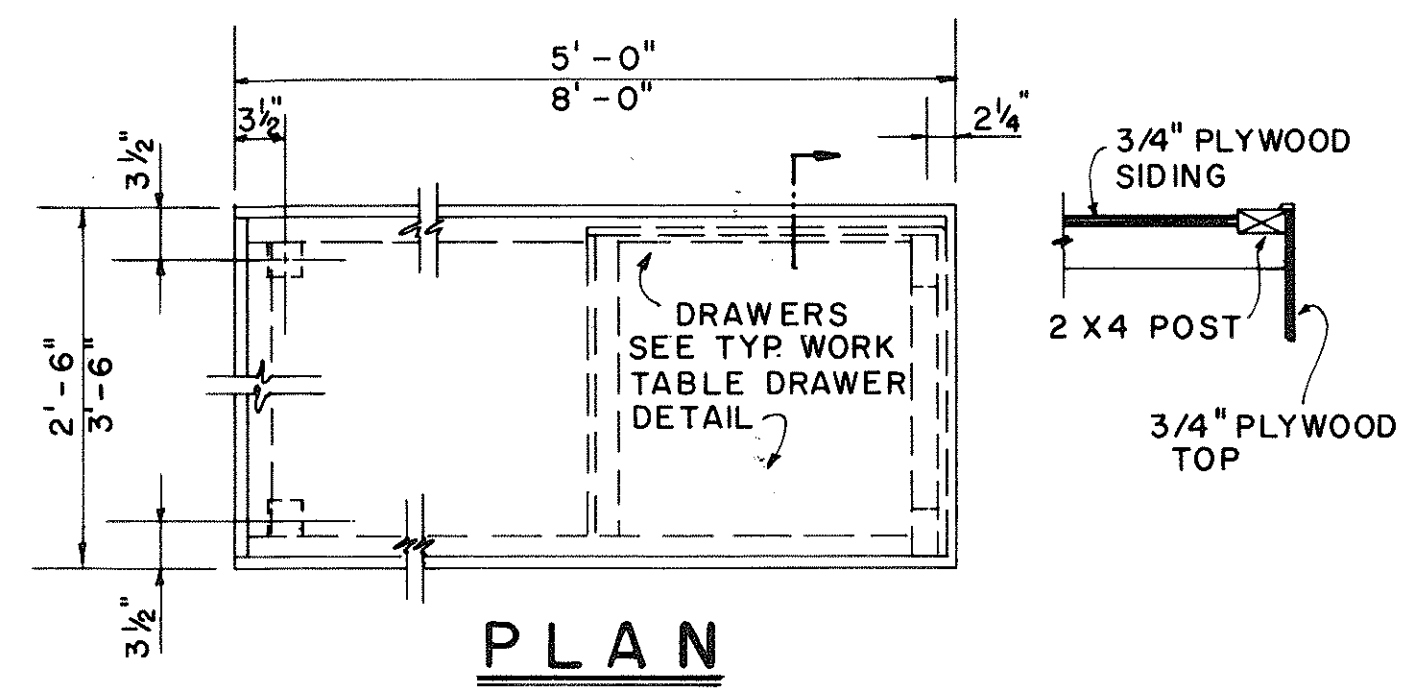
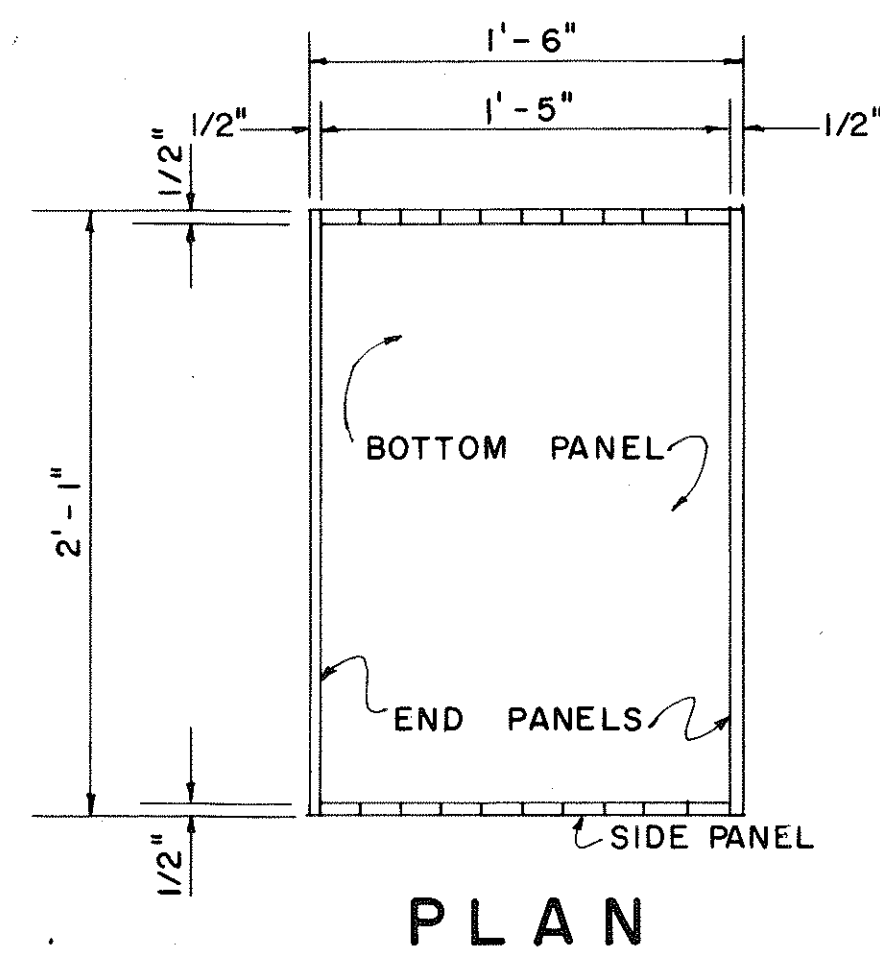
THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.

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

|                                                                 |
|-----------------------------------------------------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>FIELD OFFICE |
| Scale: As Noted                                                 |



| FED. ROAD DIST. NO. | STATE  | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAWAII | 1-FF-0781(6)       | 1976        | 17        | 142          |

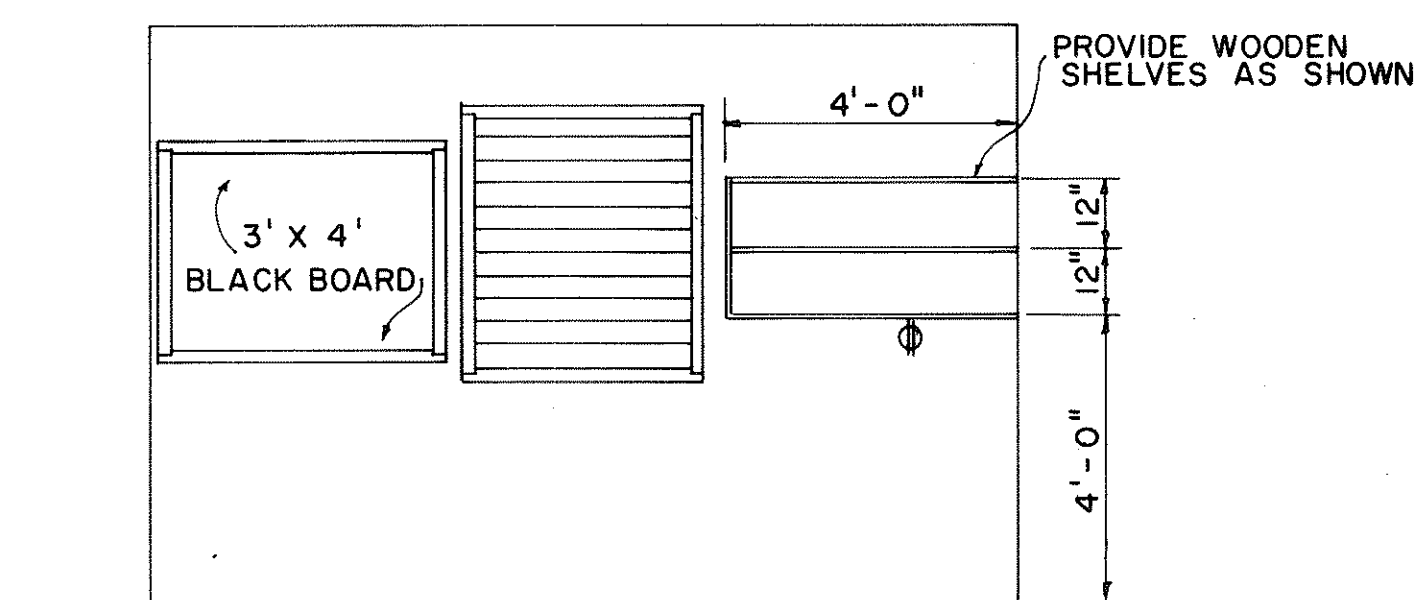
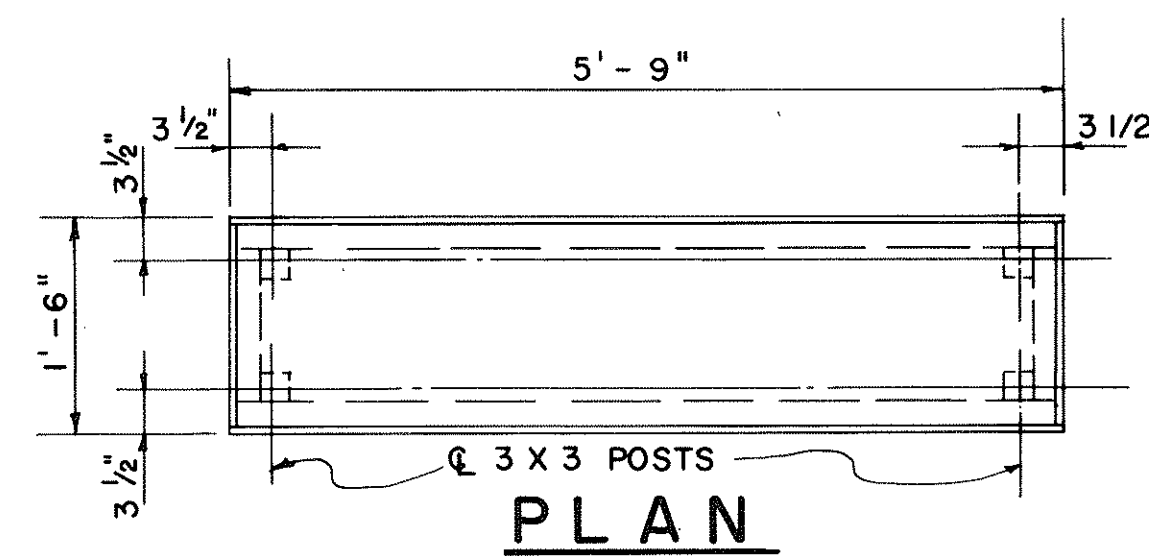


### ELEVATION

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"

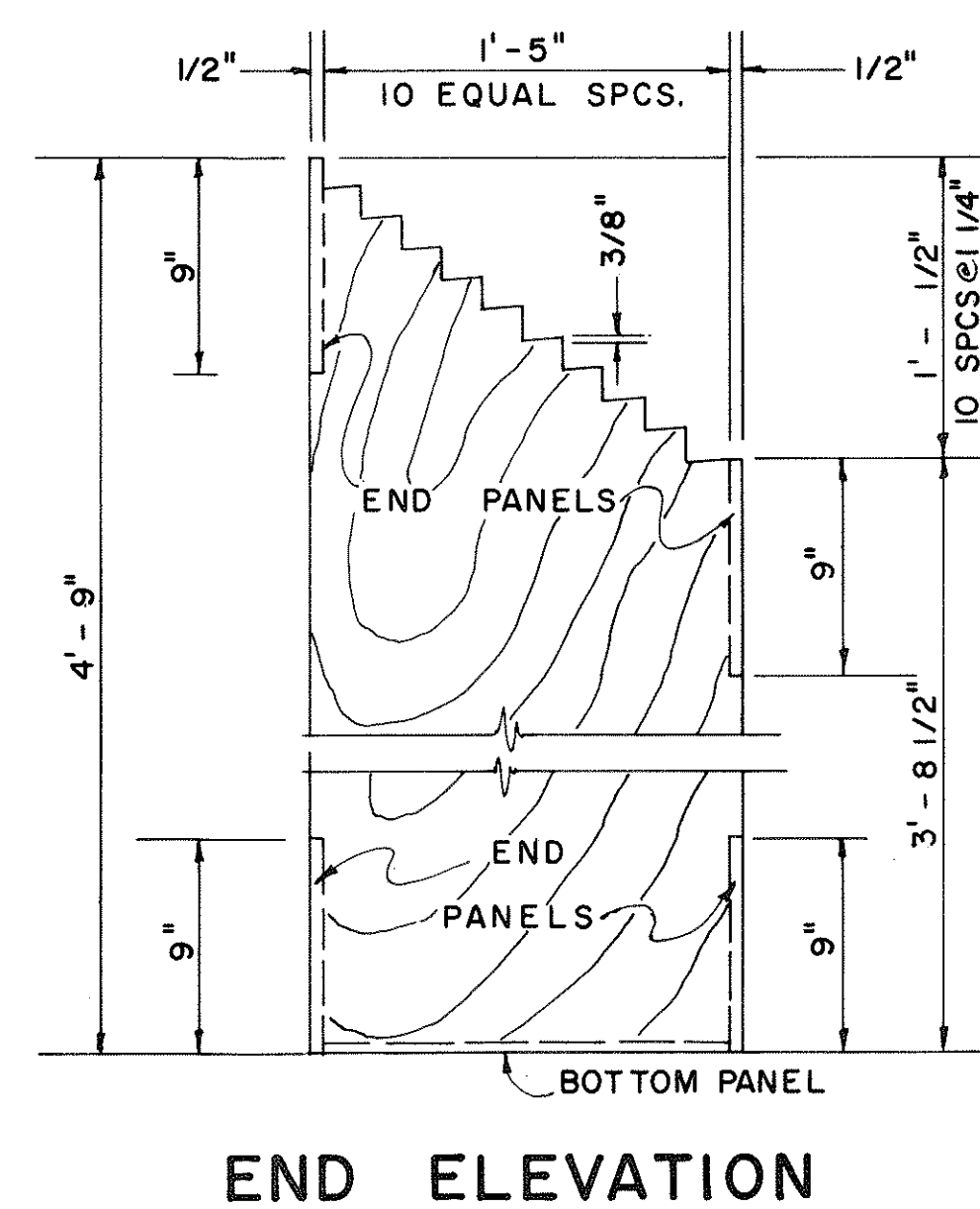


### ELEVATION D1

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

### ELEVATION B1

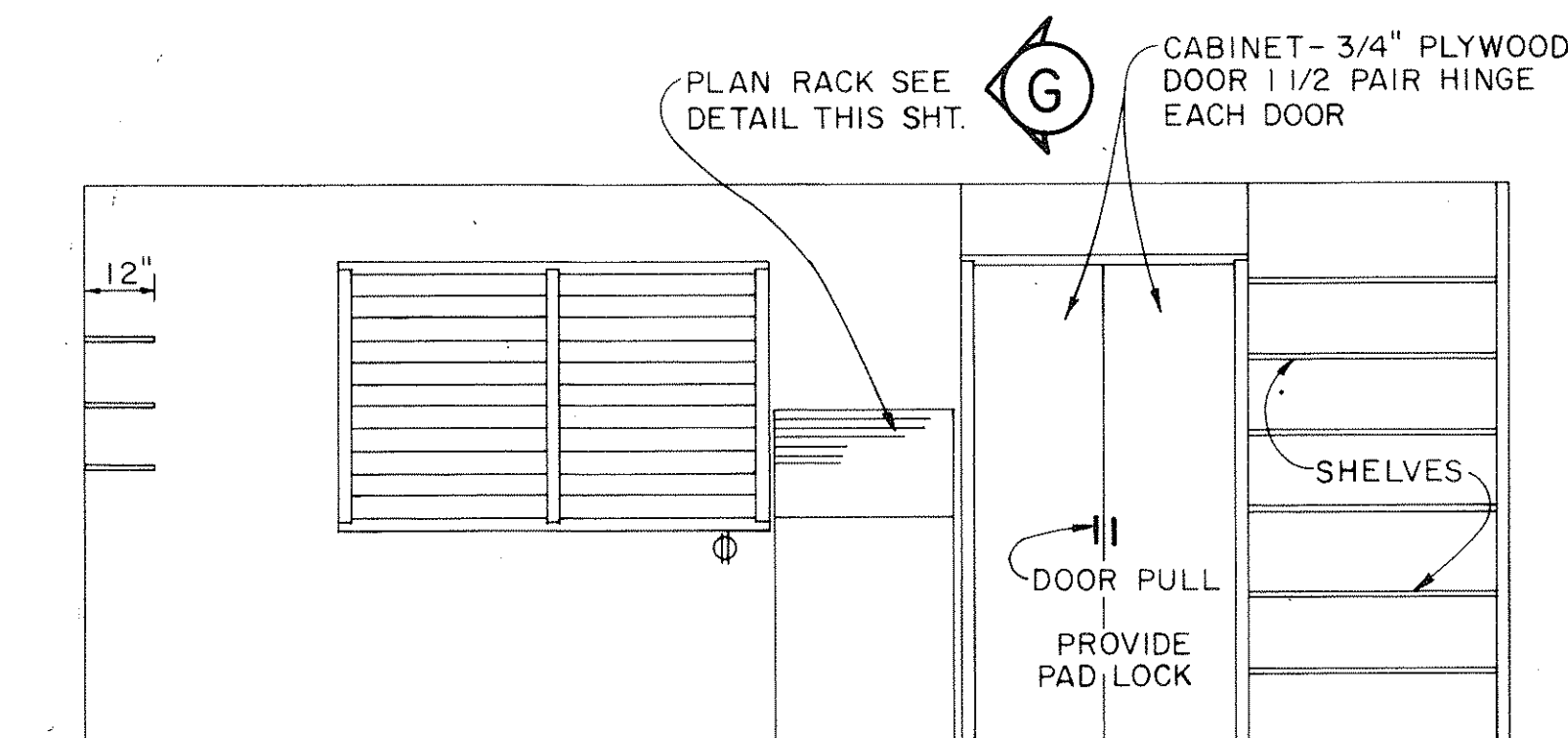
SCALE: 3/8" = 1'-0"



### PLAN RACK DETAIL

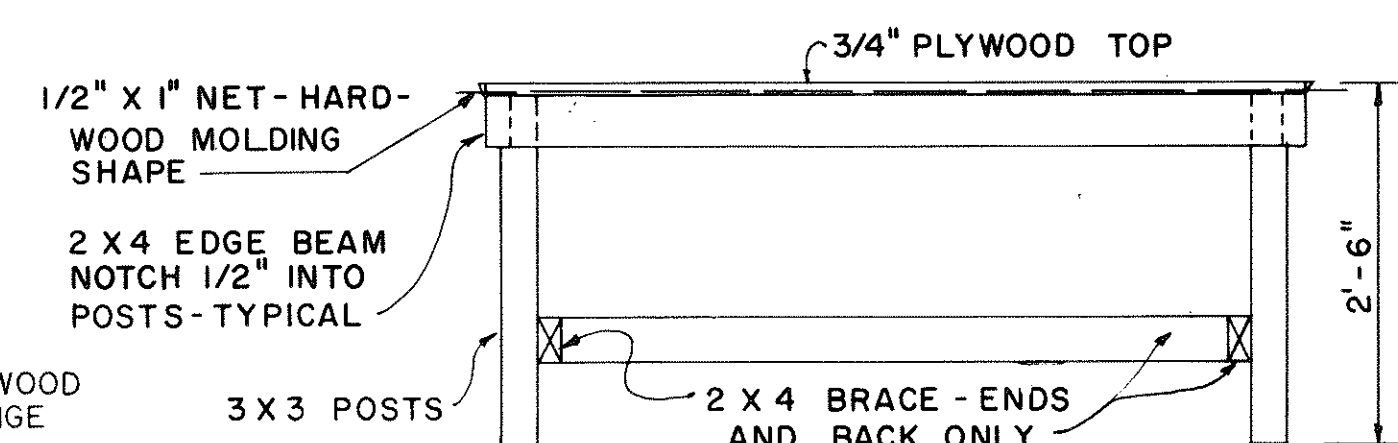
SCALE: 1 1/2" = 1'-0"

(ONE REQUIRED)



### ELEVATION A1

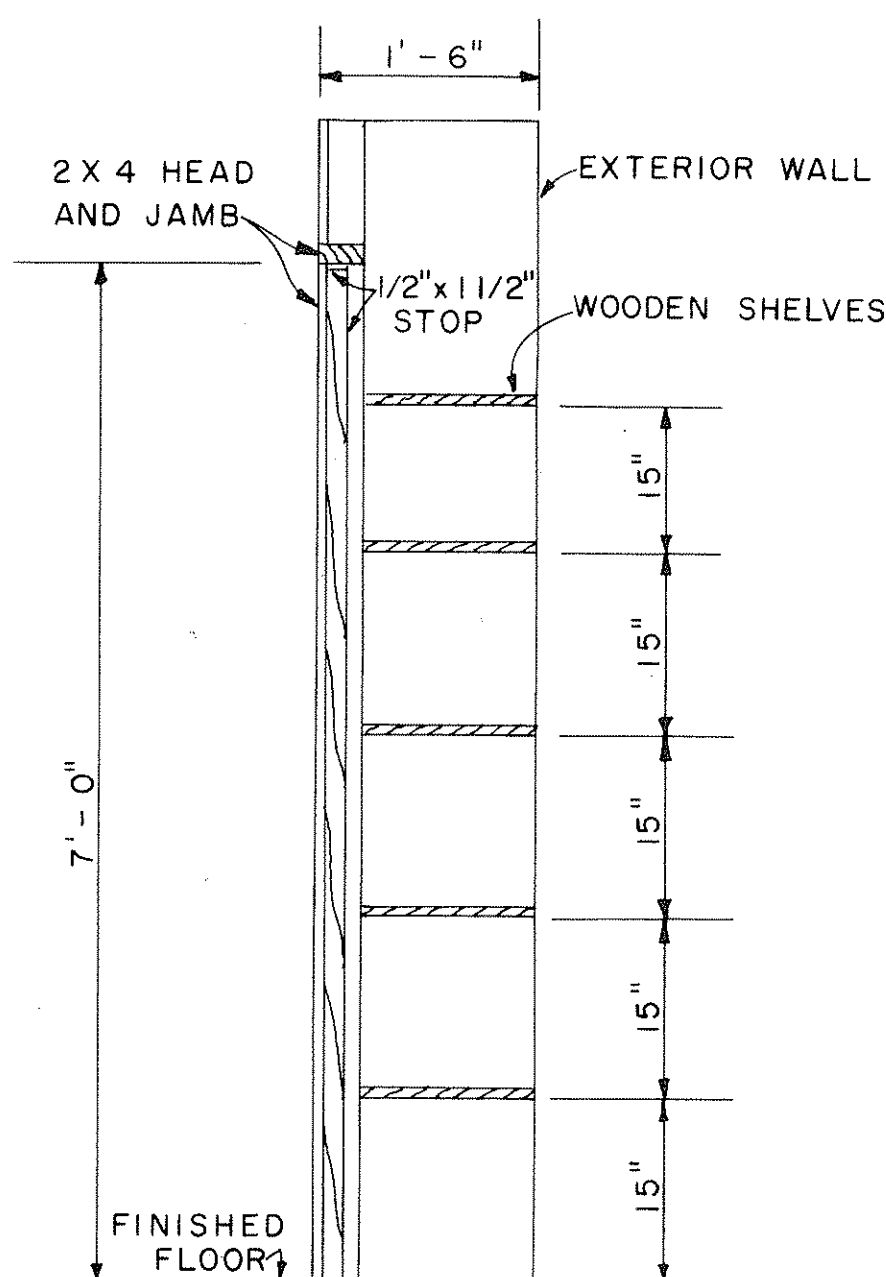
NO SCALE



### ELEVATION

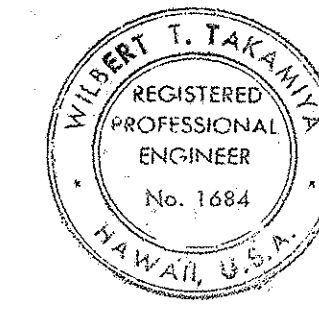
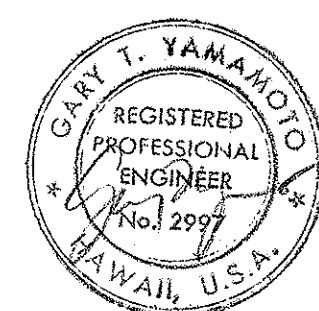
### 1'-6" x 5'-9" PORTABLE WORK TABLE DETAIL

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



### SECTION G

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



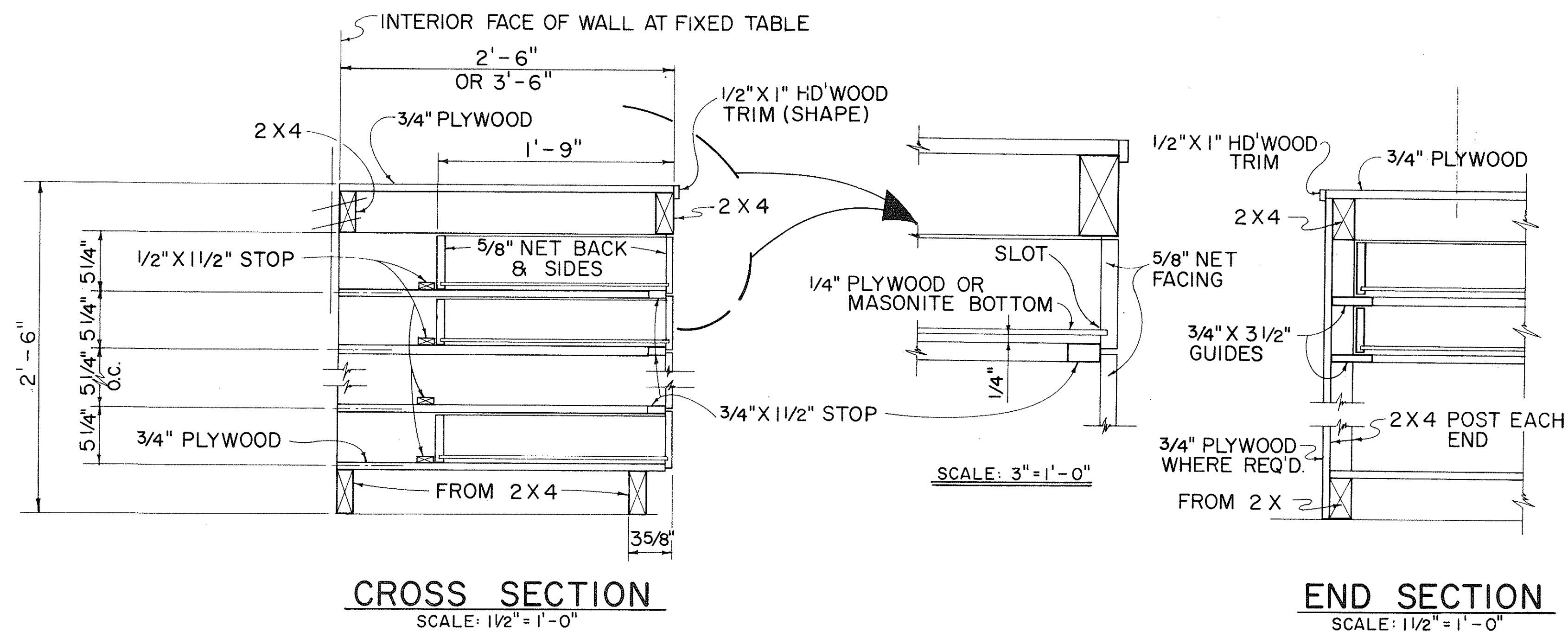
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

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

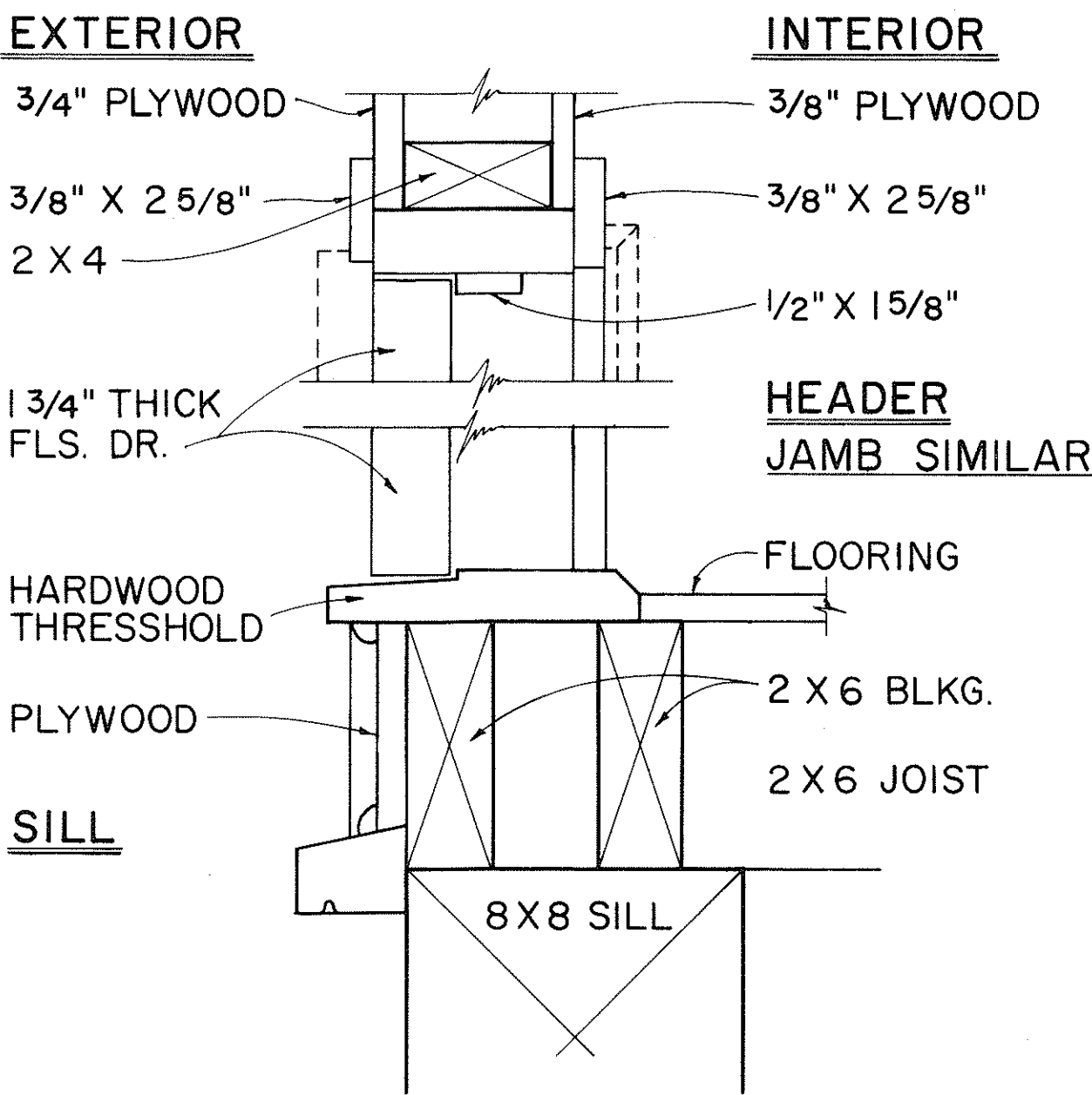
|                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION<br><br>FIELD OFFICE<br><br>Scale: As Noted |
|-----------------------------------------------------------------------------------------------------------------|



| FED. ROAD DIST. NO. | STATE  | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAWAII | 4-FF-018-16        | 1976        | 18        | 142          |

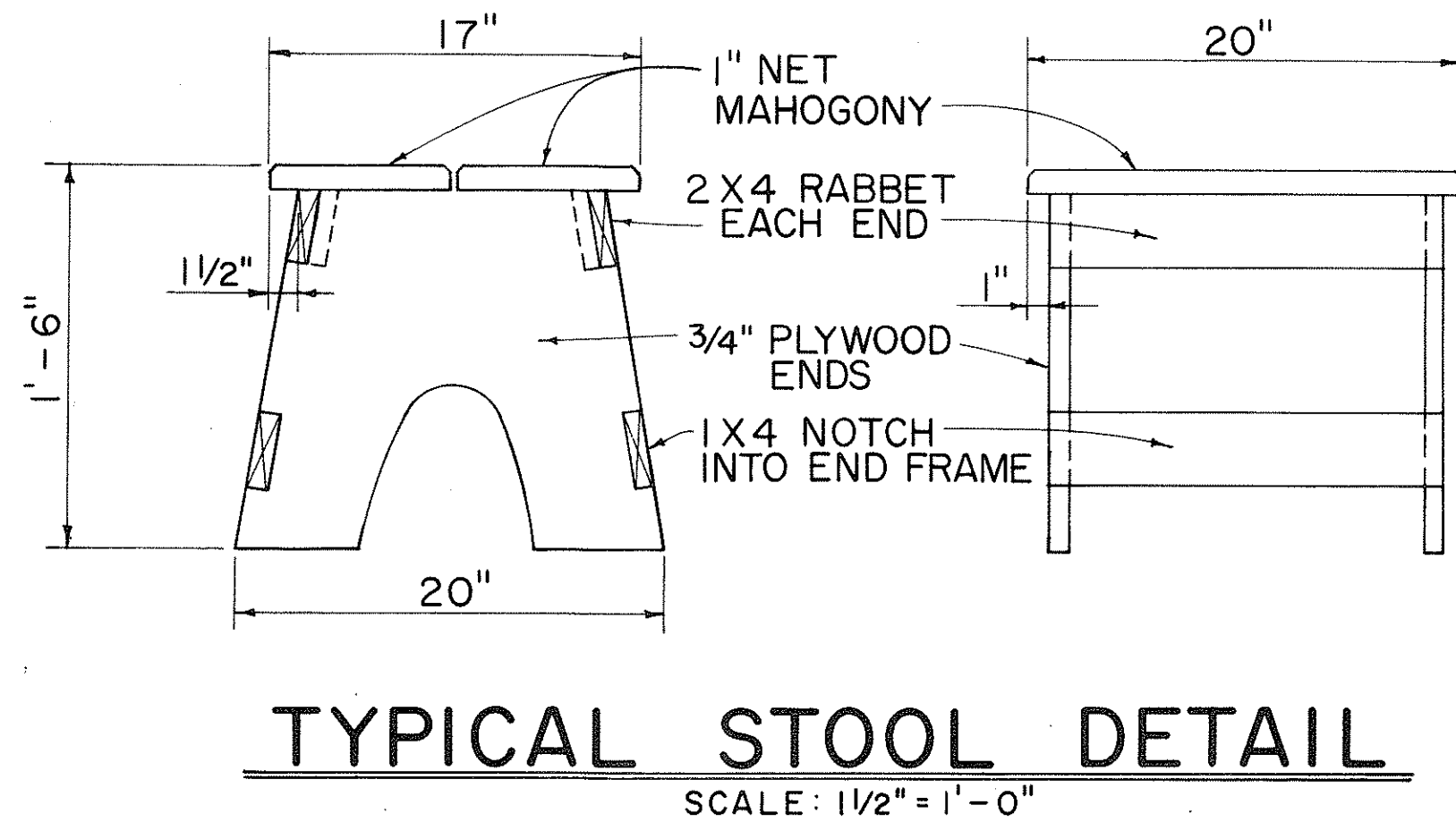


TYPICAL WORK TABLE DRAWER DETAIL

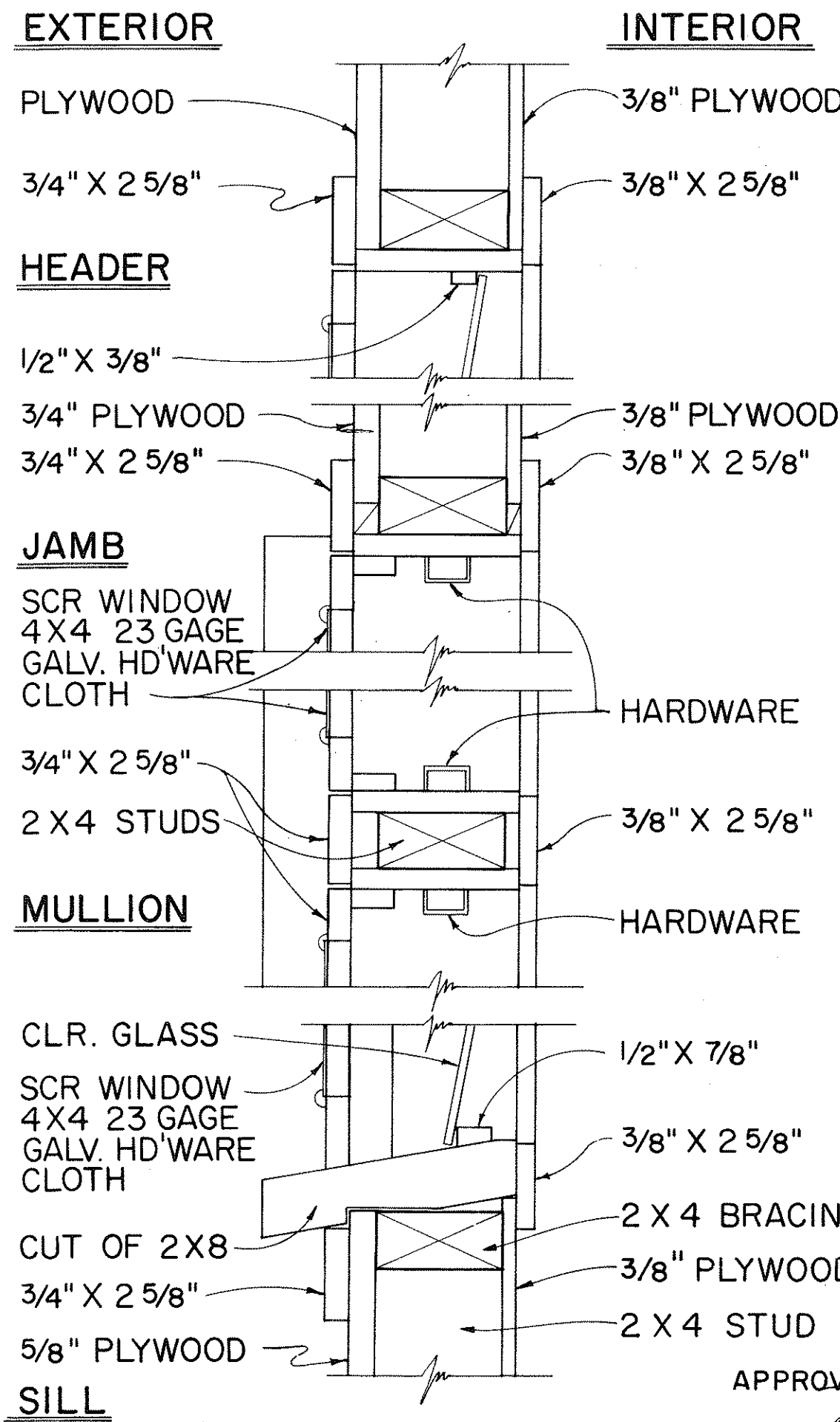


TYP. SWING OUT DOOR

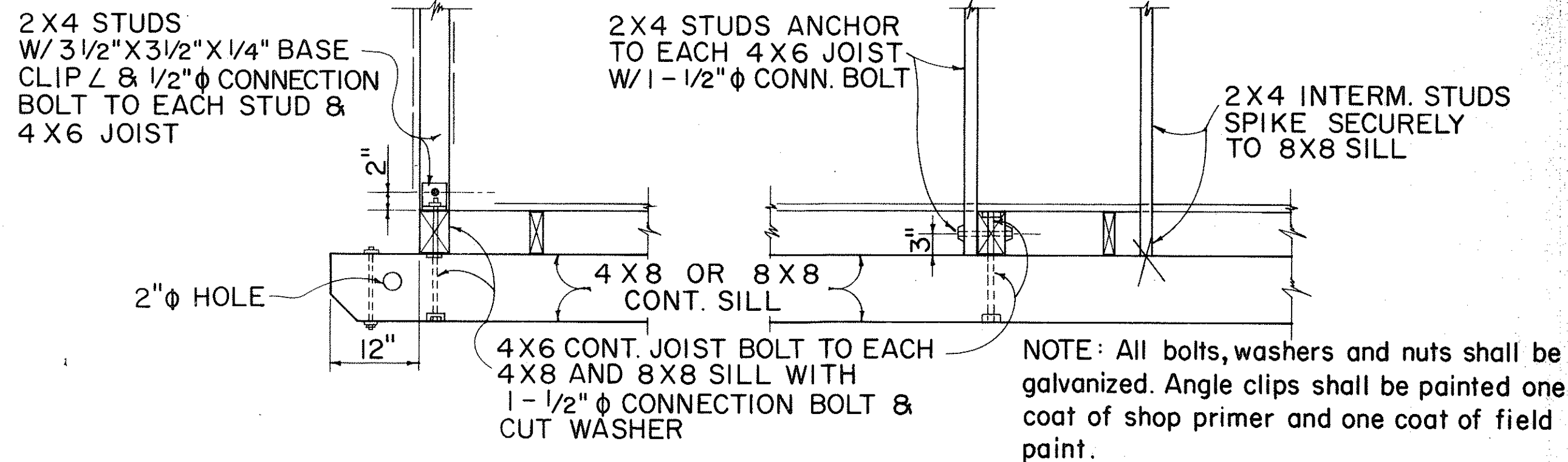
TYPICAL SINGLE OR DOUBLE EXTERIOR DOOR DETAIL



NOTE: CONTRACTOR MAY WITH THE APPROVAL OF THE ENGINEER FURNISH THE FIELD OFFICE OR PROJECT SITE LABORATORY WITH STOOLS OTHER THAN THE TYPE SHOWN IN THE DETAIL.



TYPICAL DETAIL JALOUSIES WINDOWS  
SCALE: 3" = 1'-0"



TYPICAL 2 X 4 STUD & 4 X 6 FLOOR JOIST BASE CONNECTION DETAILS

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

FIELD OFFICE  
&  
PROJECT SITE LABORATORY

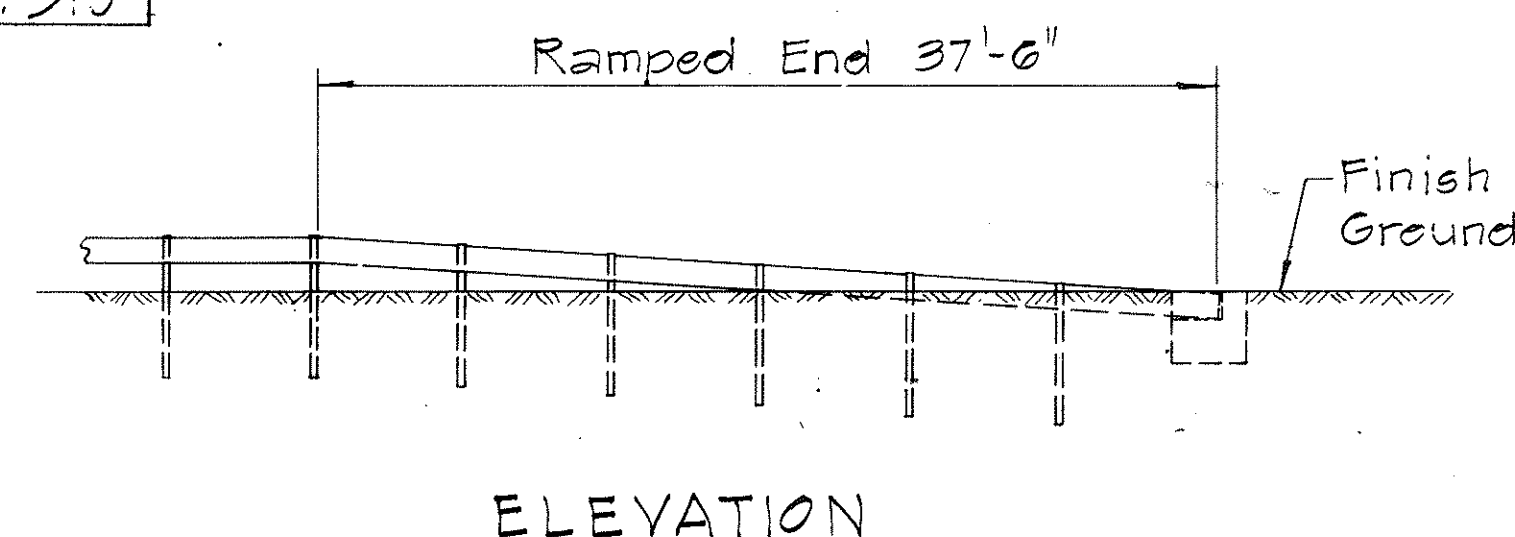
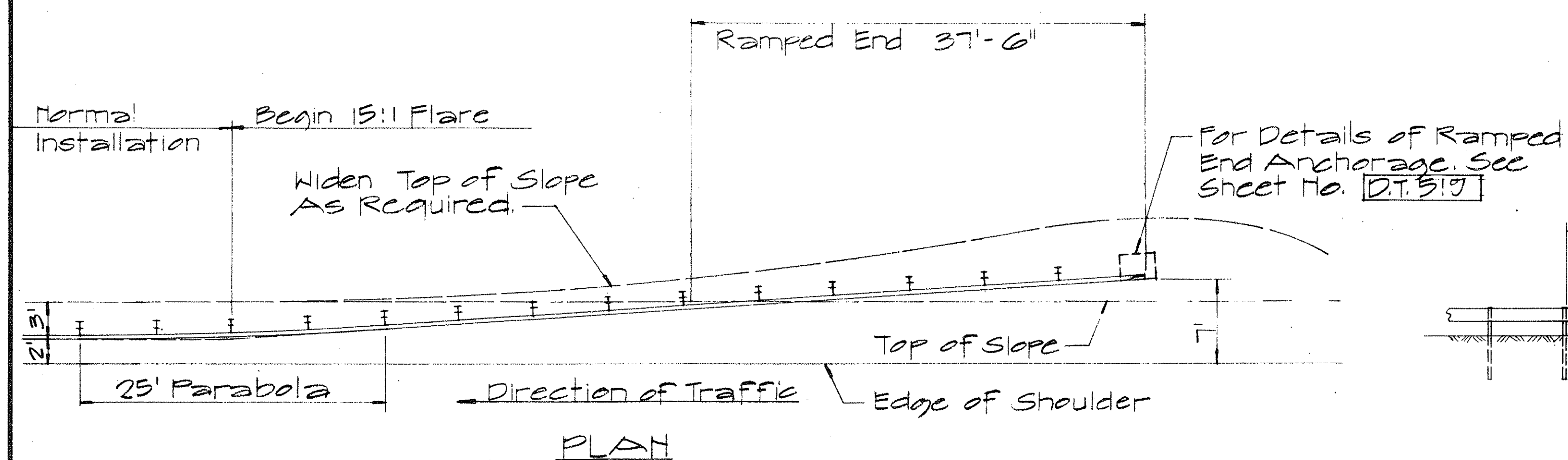
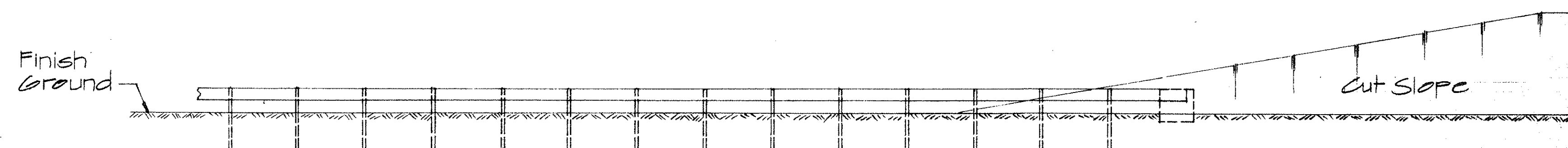
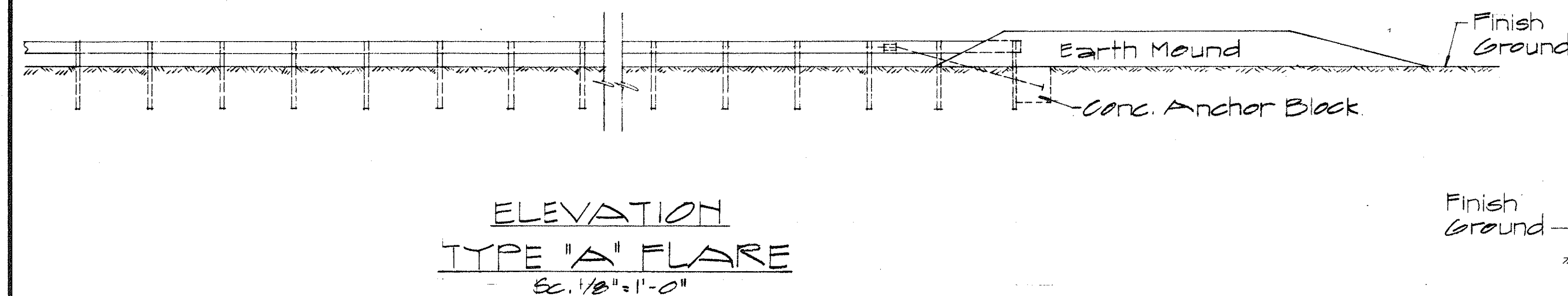
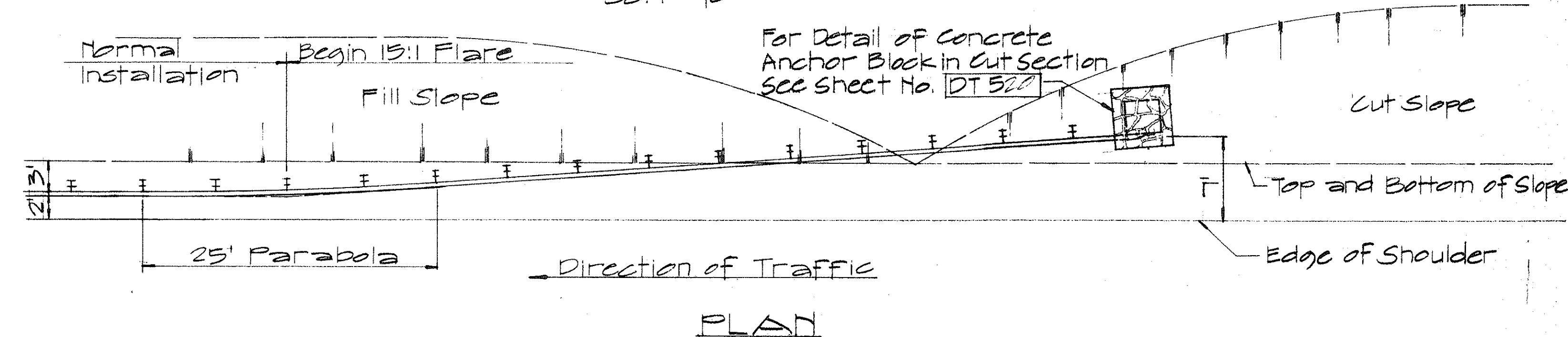
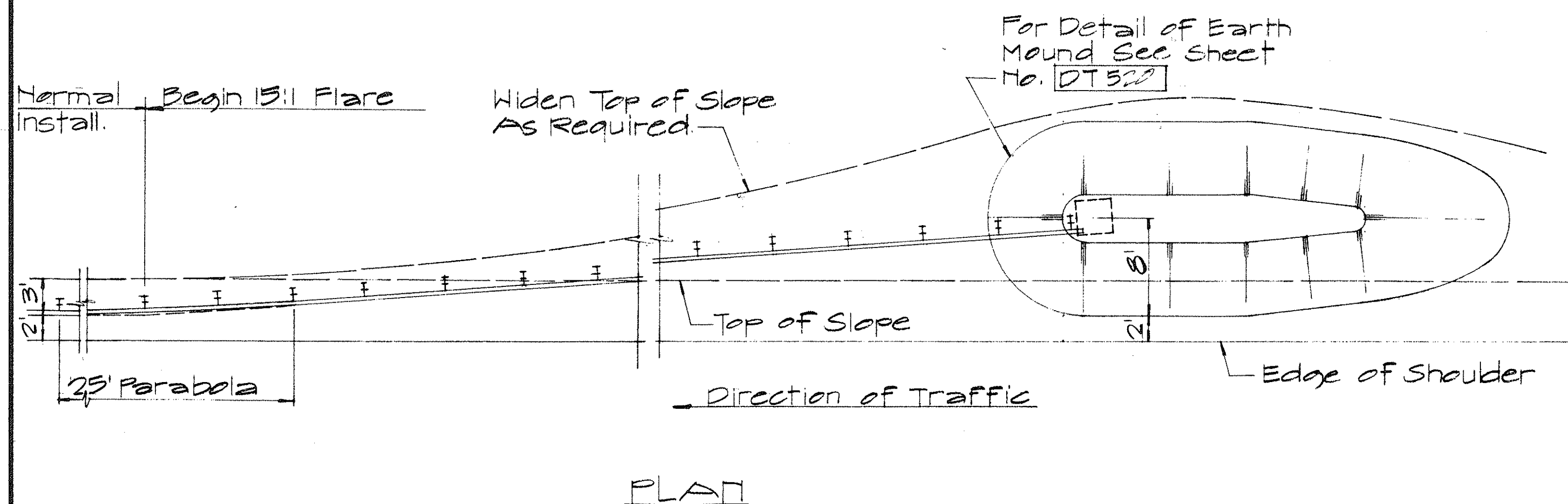
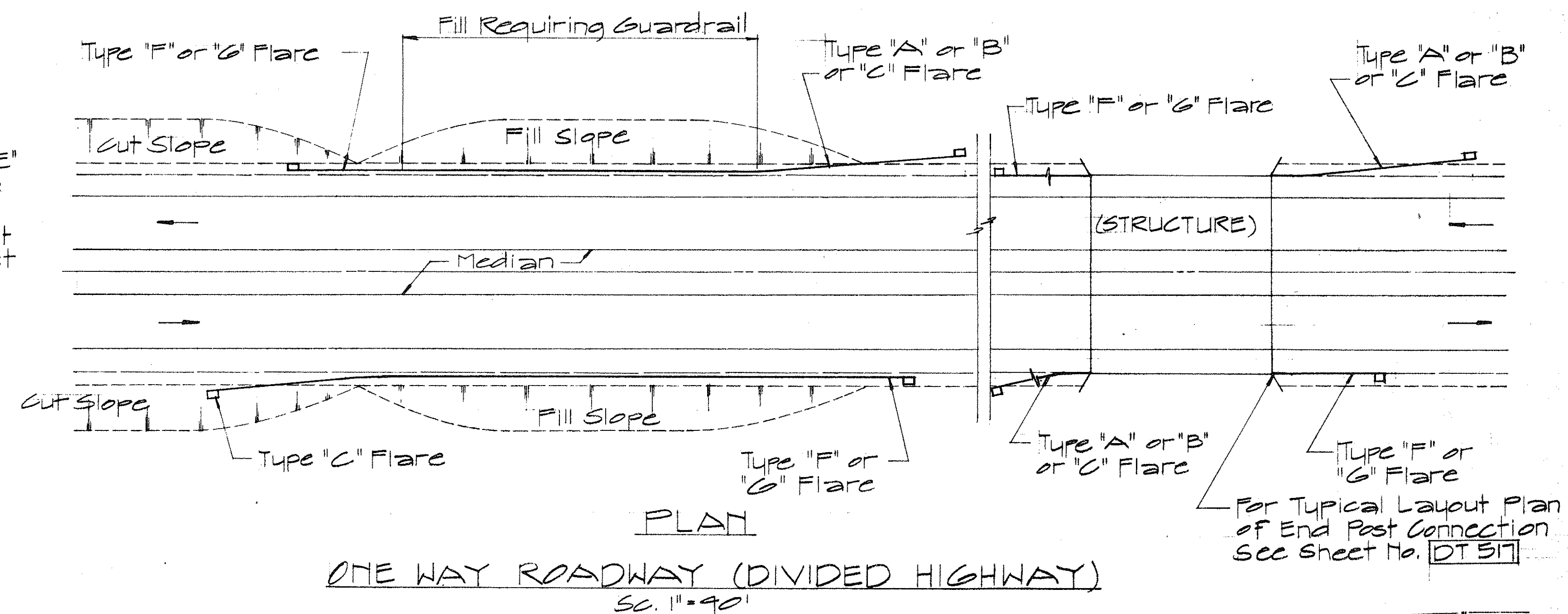
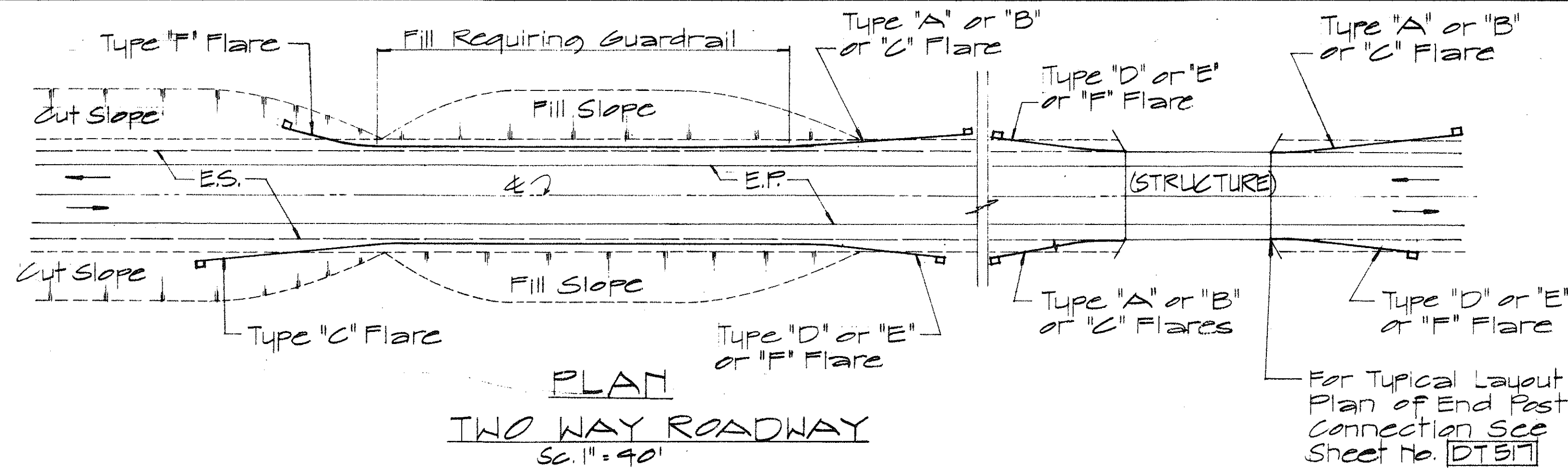
Scale: As Noted



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 114-078-16         | 1976        | 19        | 142          |

# NOTE:

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



## ELEVATION TYPE "C" FLARE Sc. 1/8" = 1'-0"

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

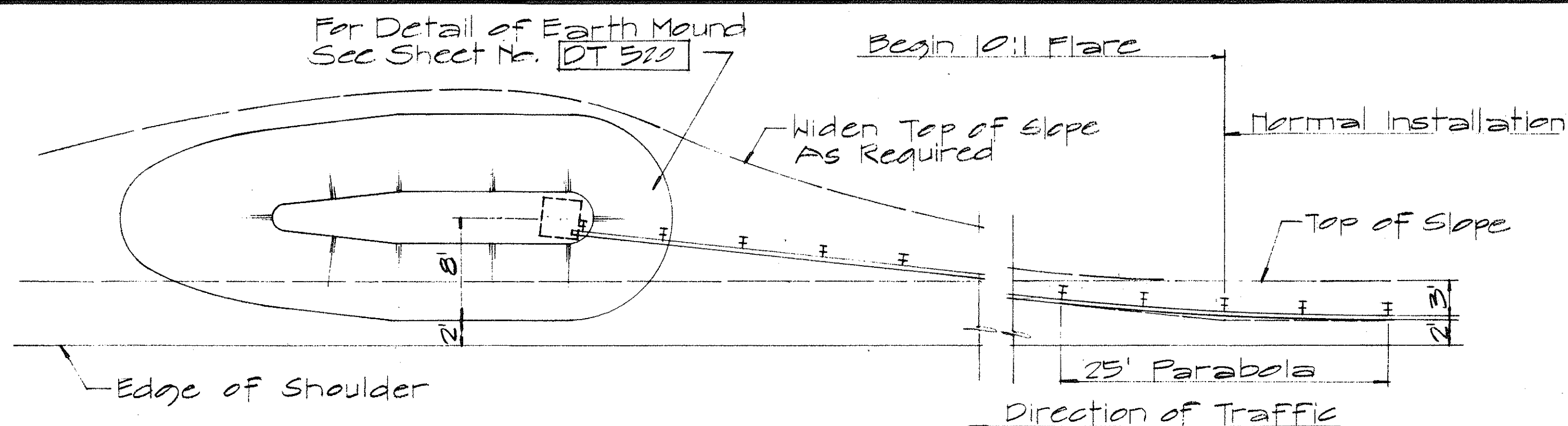
APPROVAL RECOMMENDED:  
*Erich Tanaka*  
 TRAFFIC ENGINEER  
 12/29/69  
 DATE

APPROVED:  
*W. B. B. B.*  
 ASSISTANT CHIEF, ENGINEERING  
 12-30-69  
 DATE

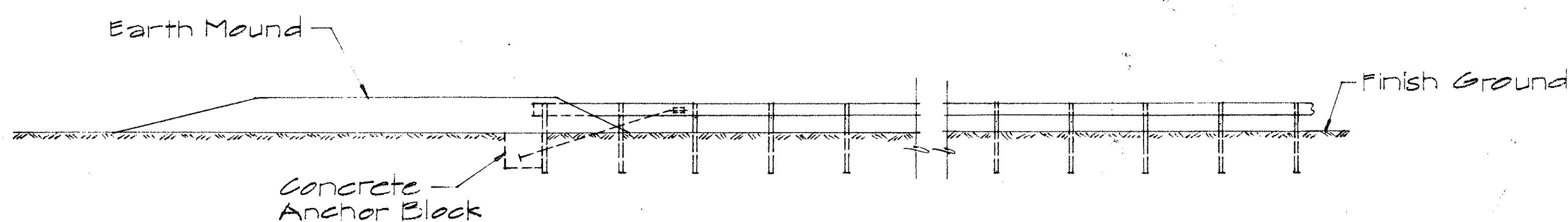
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**STANDARD DETAILS  
 OF APPROACH END  
 FLARE - ONE & TWO  
 WAY ROADWAY**  
 Sc. As Noted April 1969  
 SHEET No. 7 OF 13 SHEETS [DT 516]



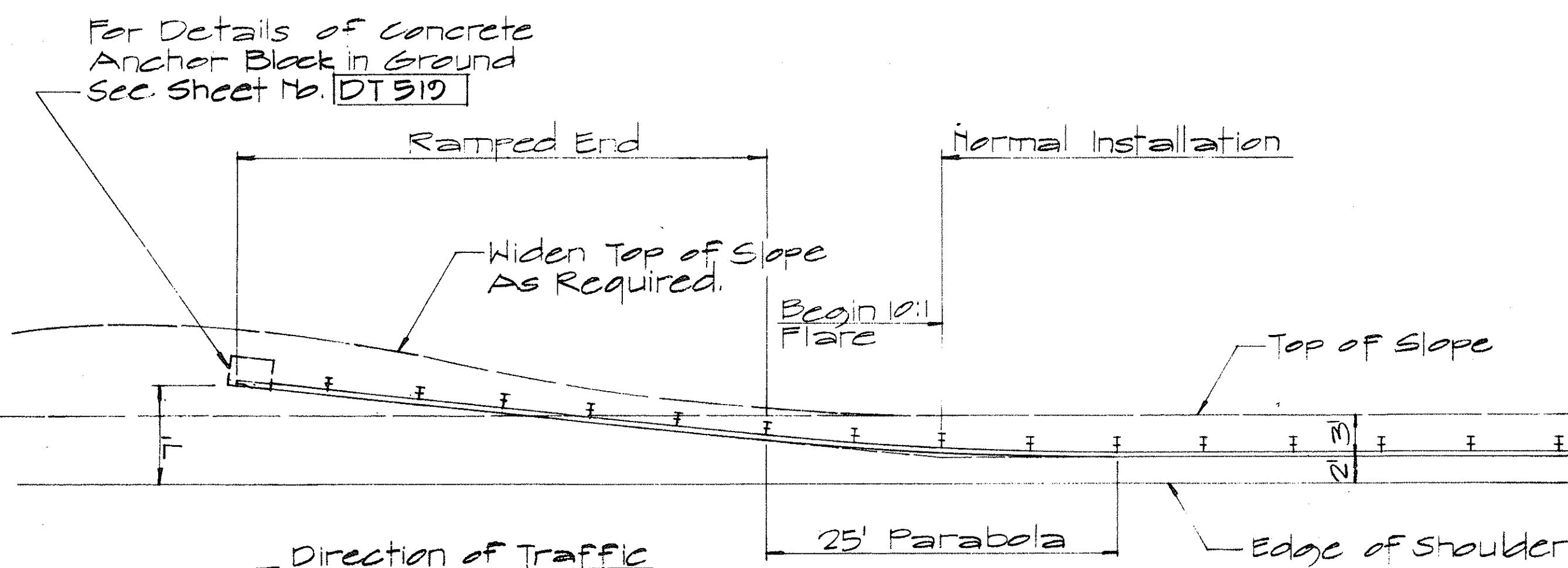
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11-PP-078-16       | 1976        | 20        | 142          |



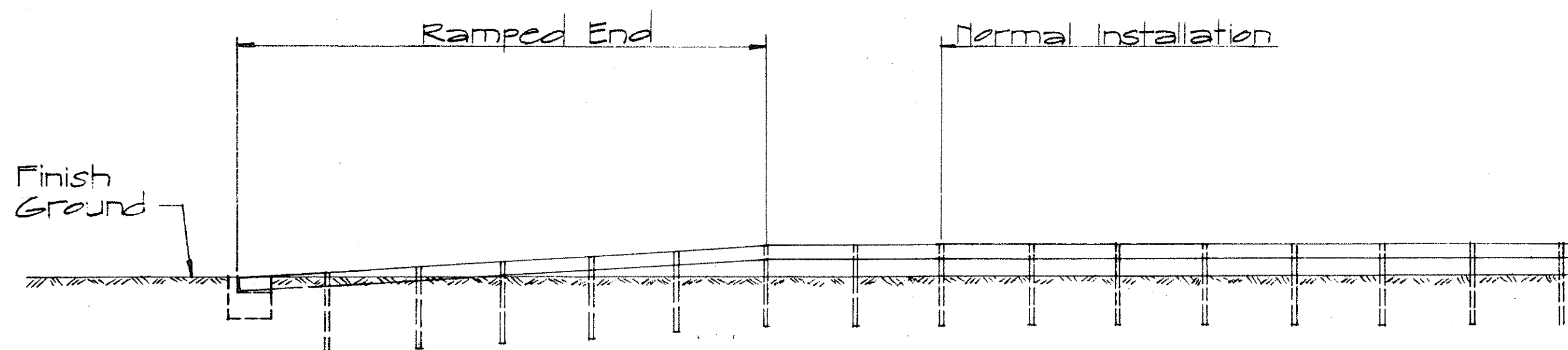
PLAN



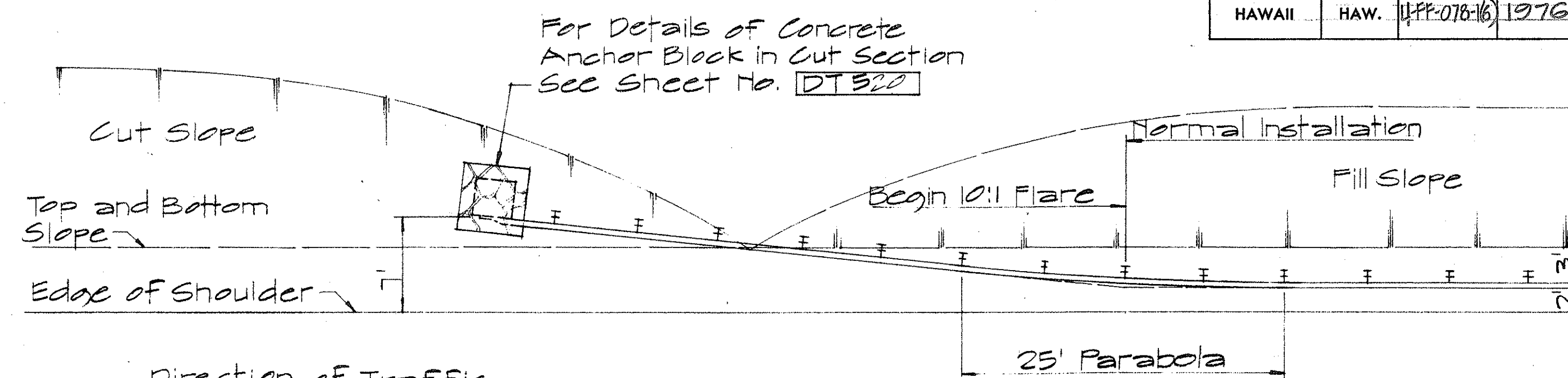
ELEVATION  
TYPE "D" FLARE  
Sc. 1/8" = 1'-0"



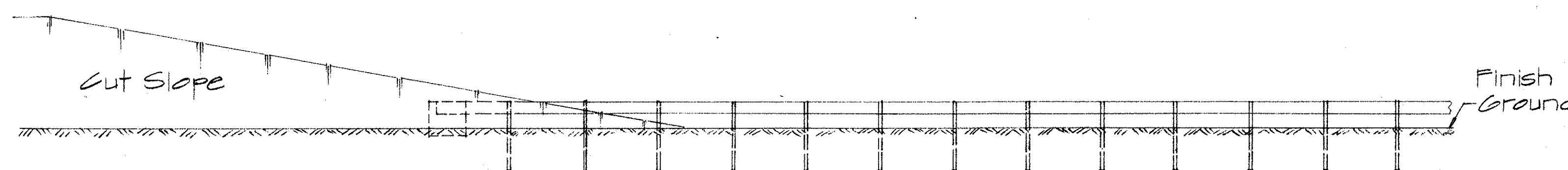
PLAN



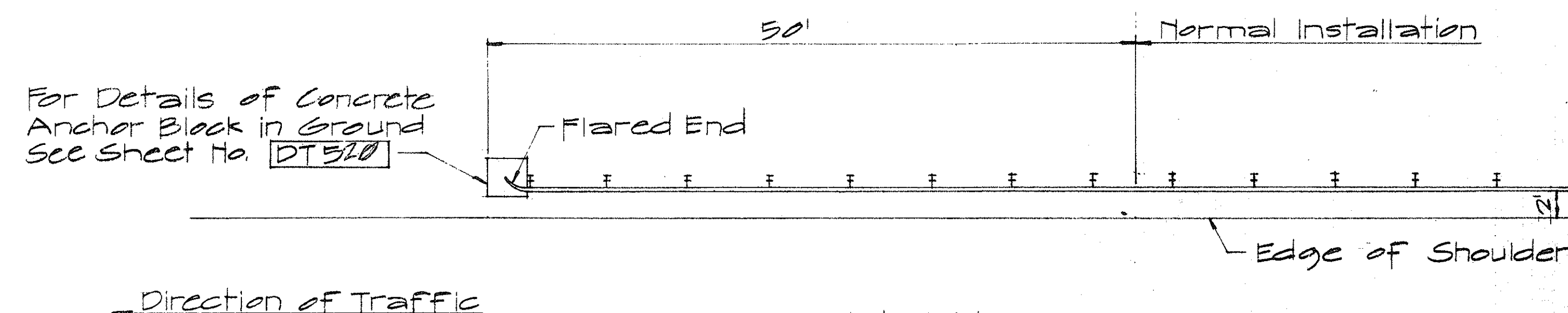
ELEVATION  
TYPE "E" FLARE  
Sc. 1/8" = 1'-0"



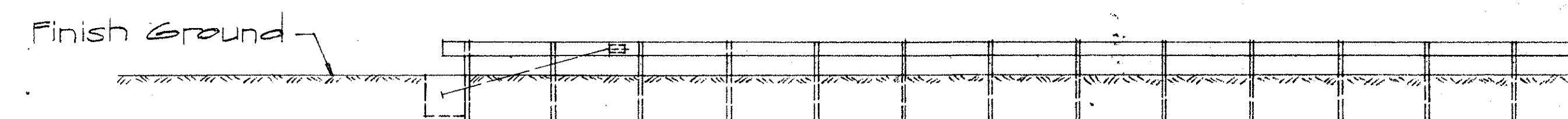
PLAN



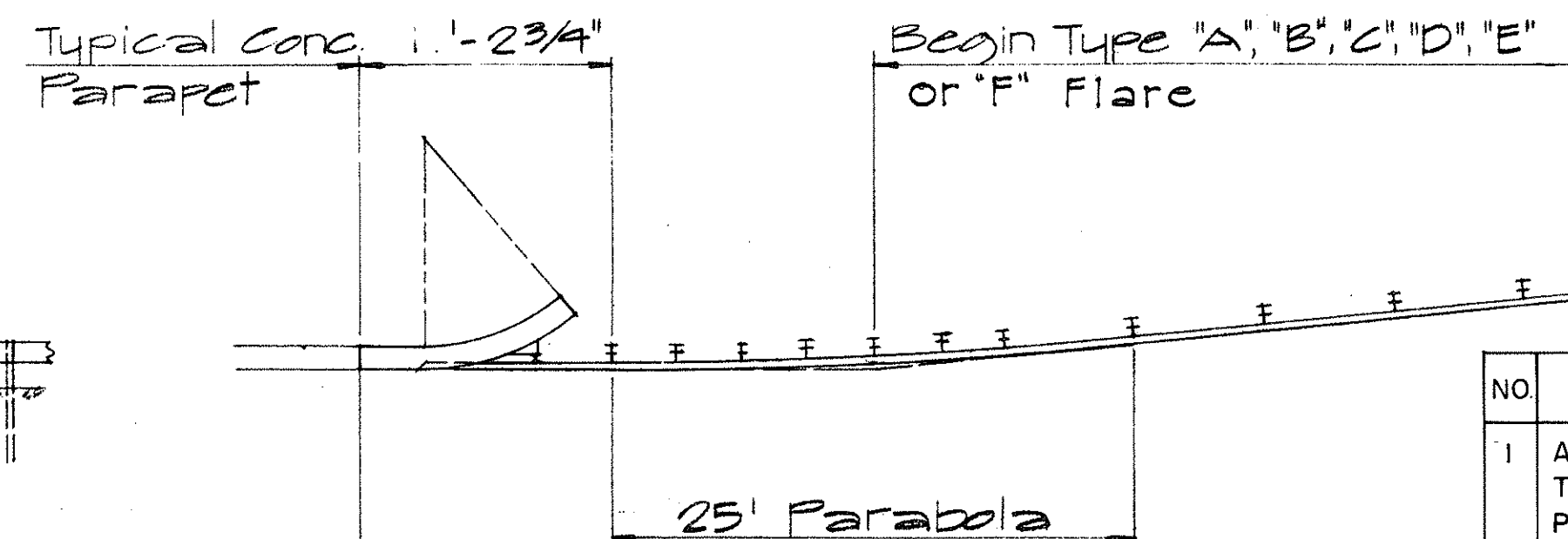
ELEVATION  
TYPE "F" FLARE  
Sc. 1/8" = 1'-0"



PLAN



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



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

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

APPROVED:  
*W. S. Sal* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STANDARD DETAILS  
TRAILING END  
FLARE - ONE & TWO  
WAY ROADWAY

Scale: As Noted April 1969

SHEET No. 8 OF 13 SHEETS DT 517

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



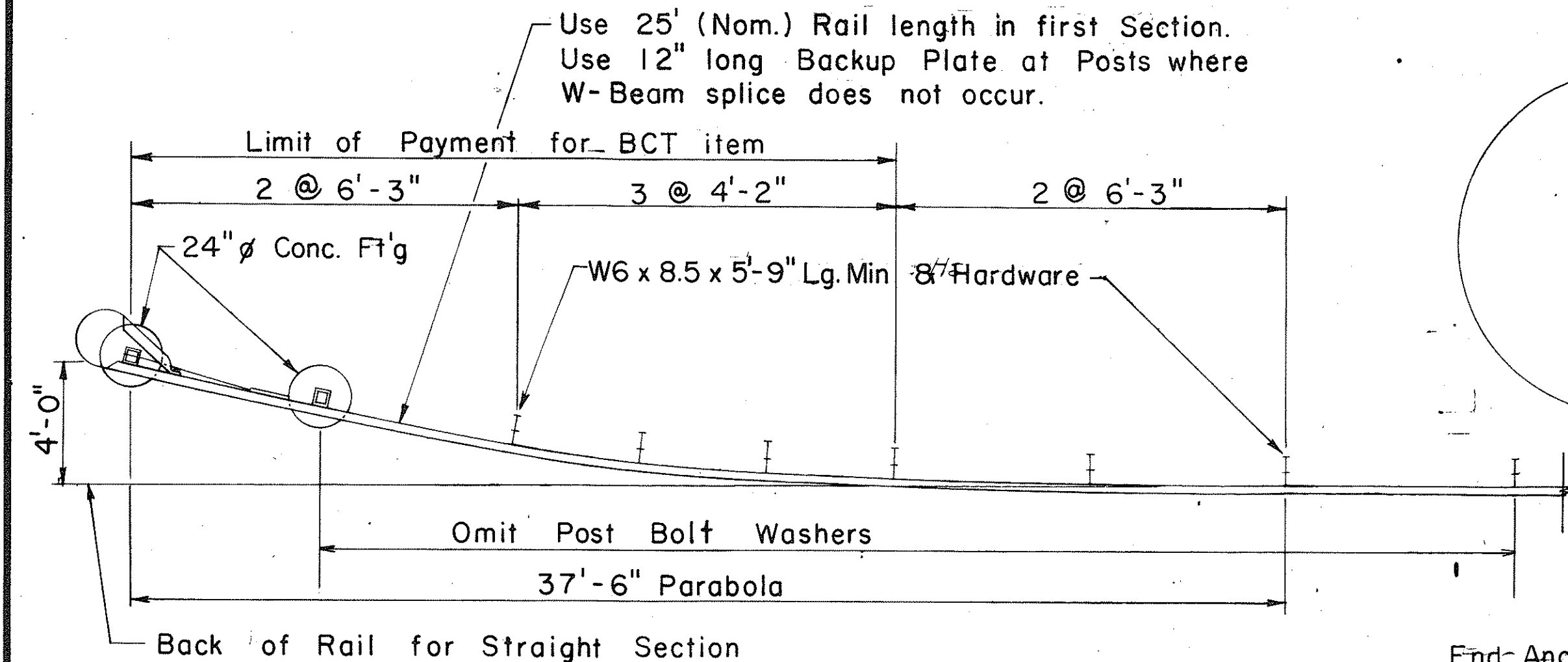




| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | U-PP-078-1(6)      | 1976        | 215-1     | 142          |

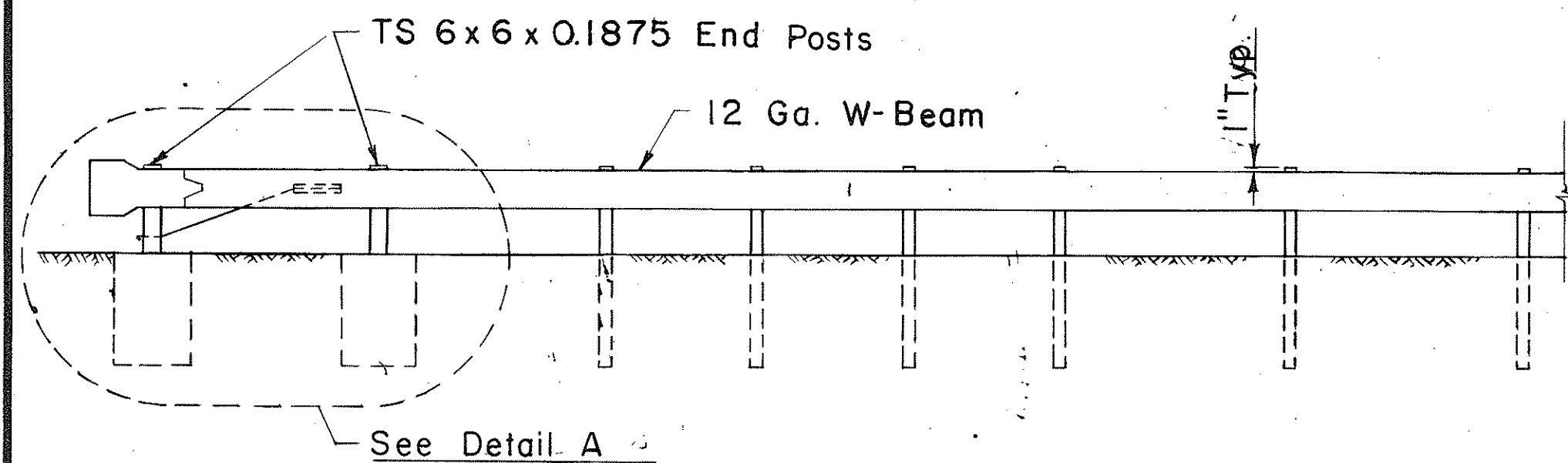
# NOTES:

1. Anchor Plate and Anchor Cable Assembly (Standard Swaged Fitting and Stud). See Standard Detail Sheet No. DT 520.
2. Other Anchor Cable Assemblies may be used. Minimum breaking strength of assembly should be 40,000 lbs.
3. Second Terminal Post does not require holes to accommodate Anchor Cable.
4. Slip Base Load shall be controlled with a Calibrated Torque Wrench - Torque 155 - 170 ft. lbs.
5. Concrete shall be Class A.



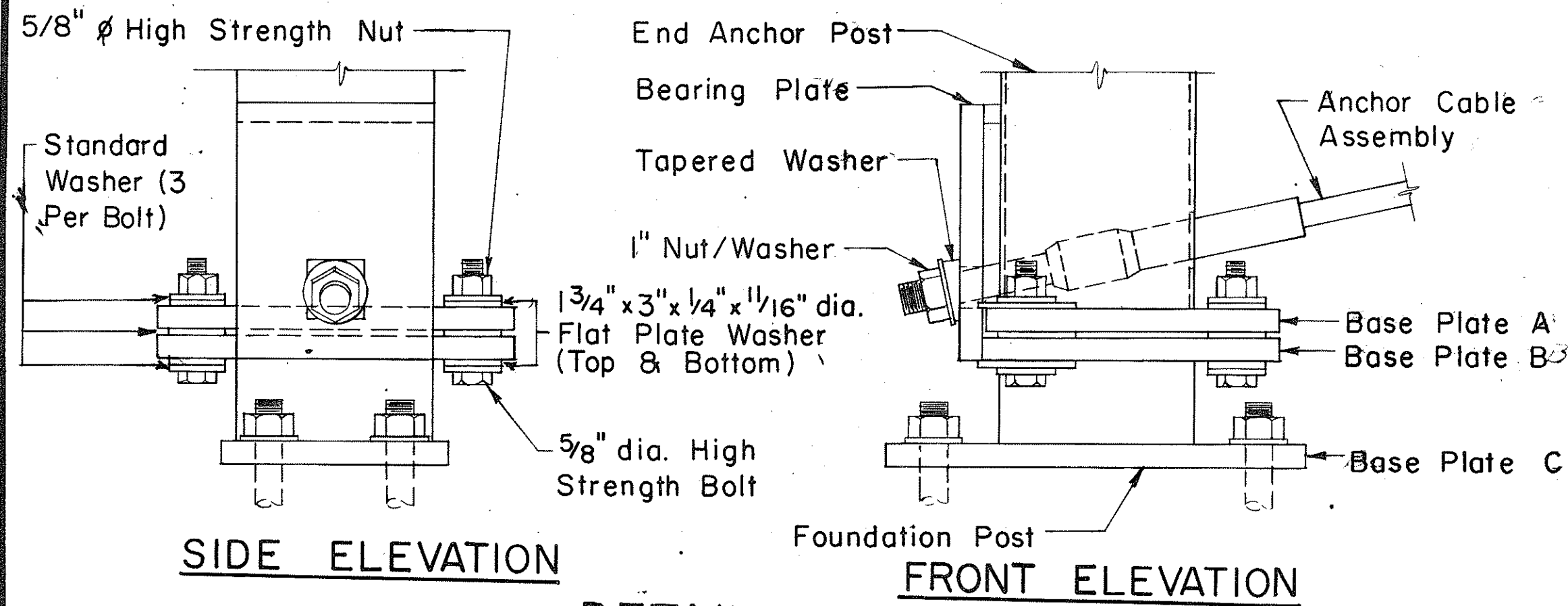
## PLAN

Scale: 1/4" = 1'-0"



## ELEVATION

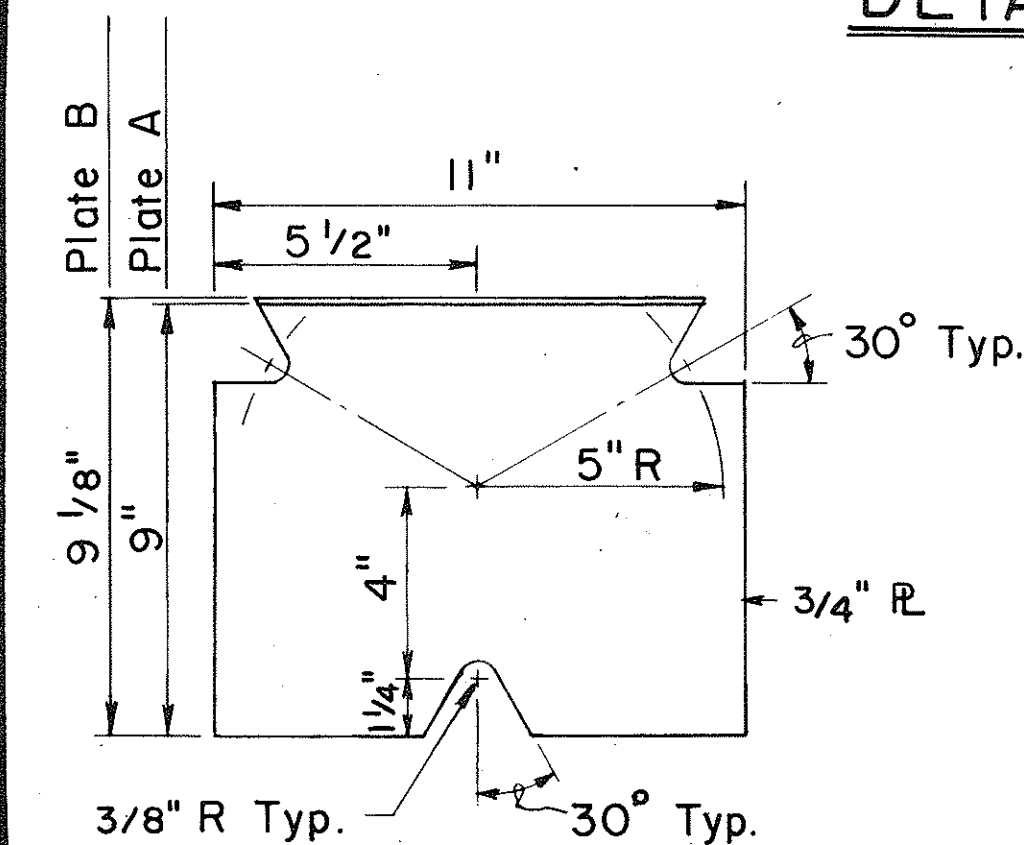
Scale: 1/4" = 1'-0"



## SIDE ELEVATION

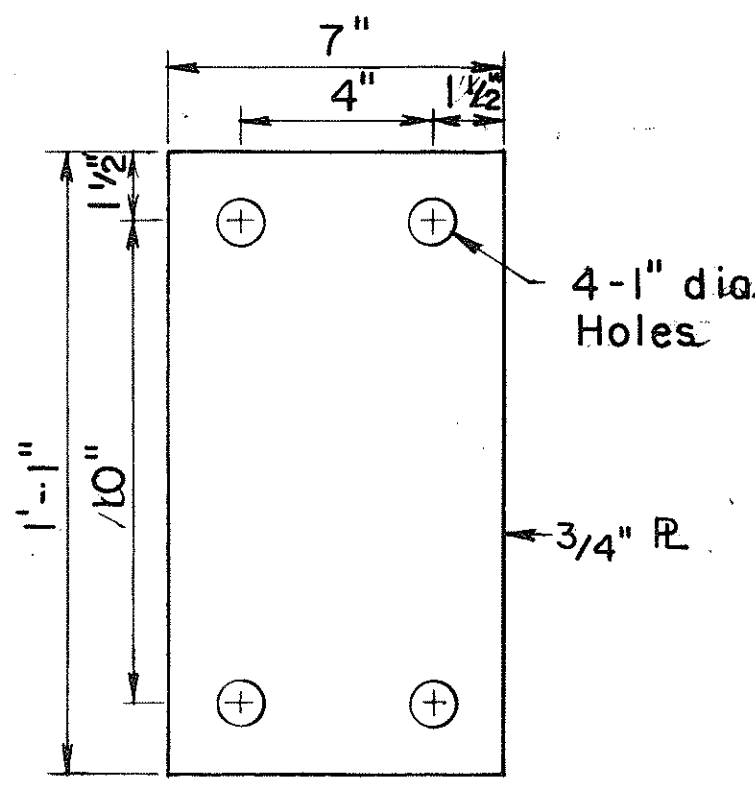
## DETAIL B

## FRONT ELEVATION



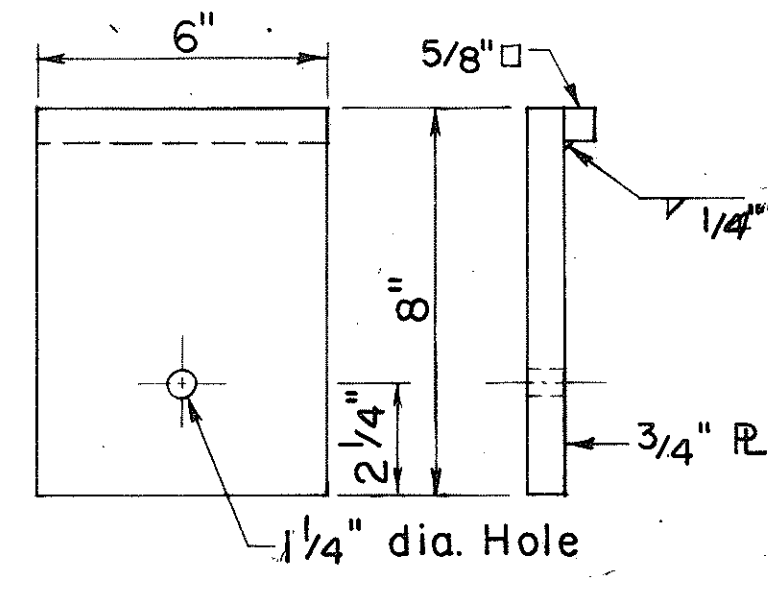
## BASE PLATES A & B

Scale: 3" = 1'-0"



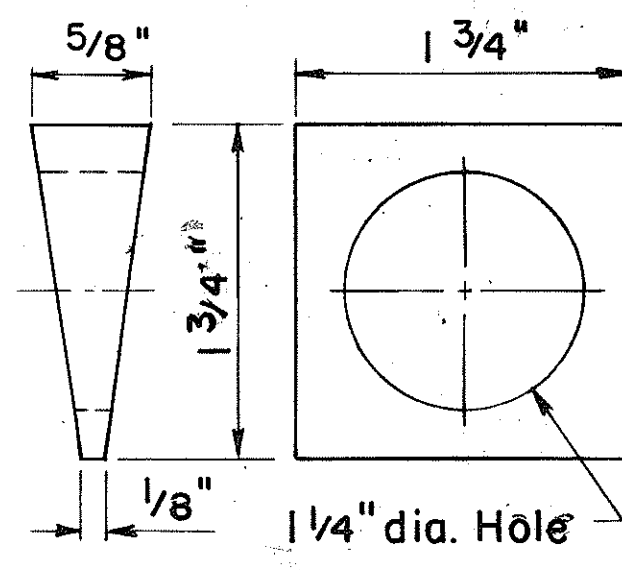
## BASE PLATE C

Scale: 3" = 1'-0"



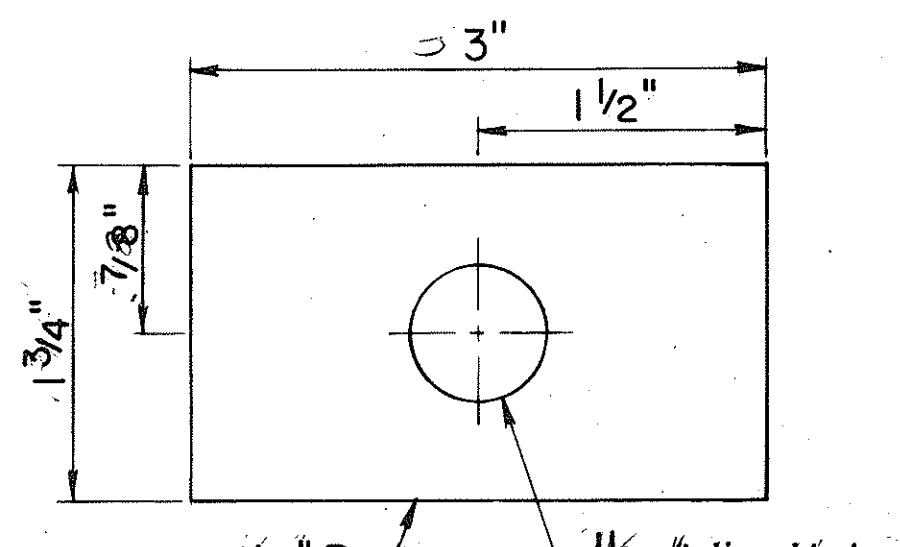
## BEARING PLATE

Scale: 3" = 1'-0"



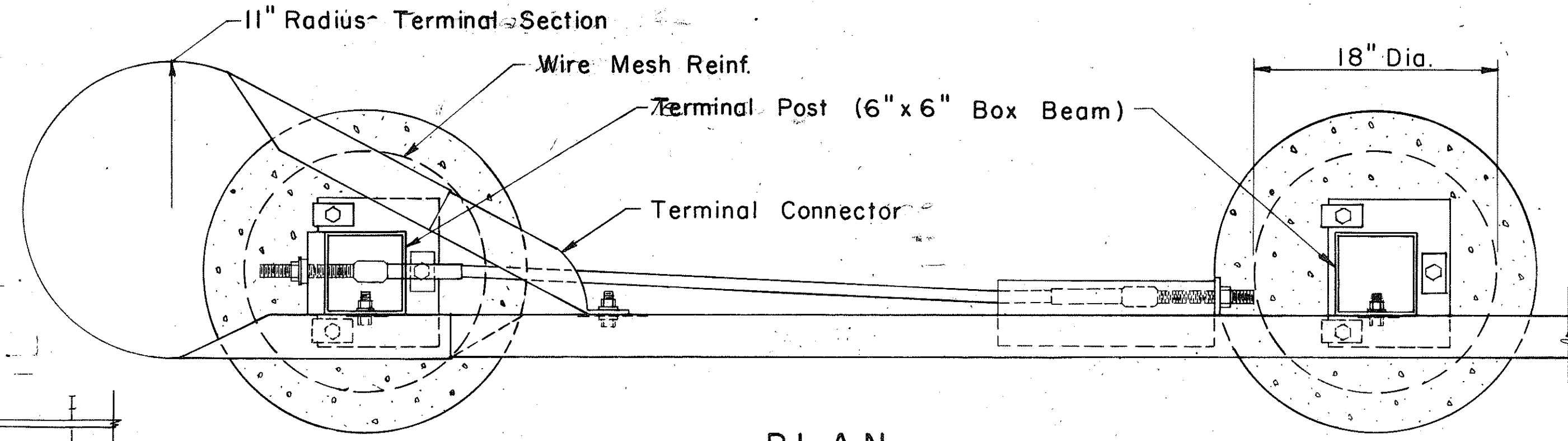
## TAPERED WASHER

Scale: Full Size

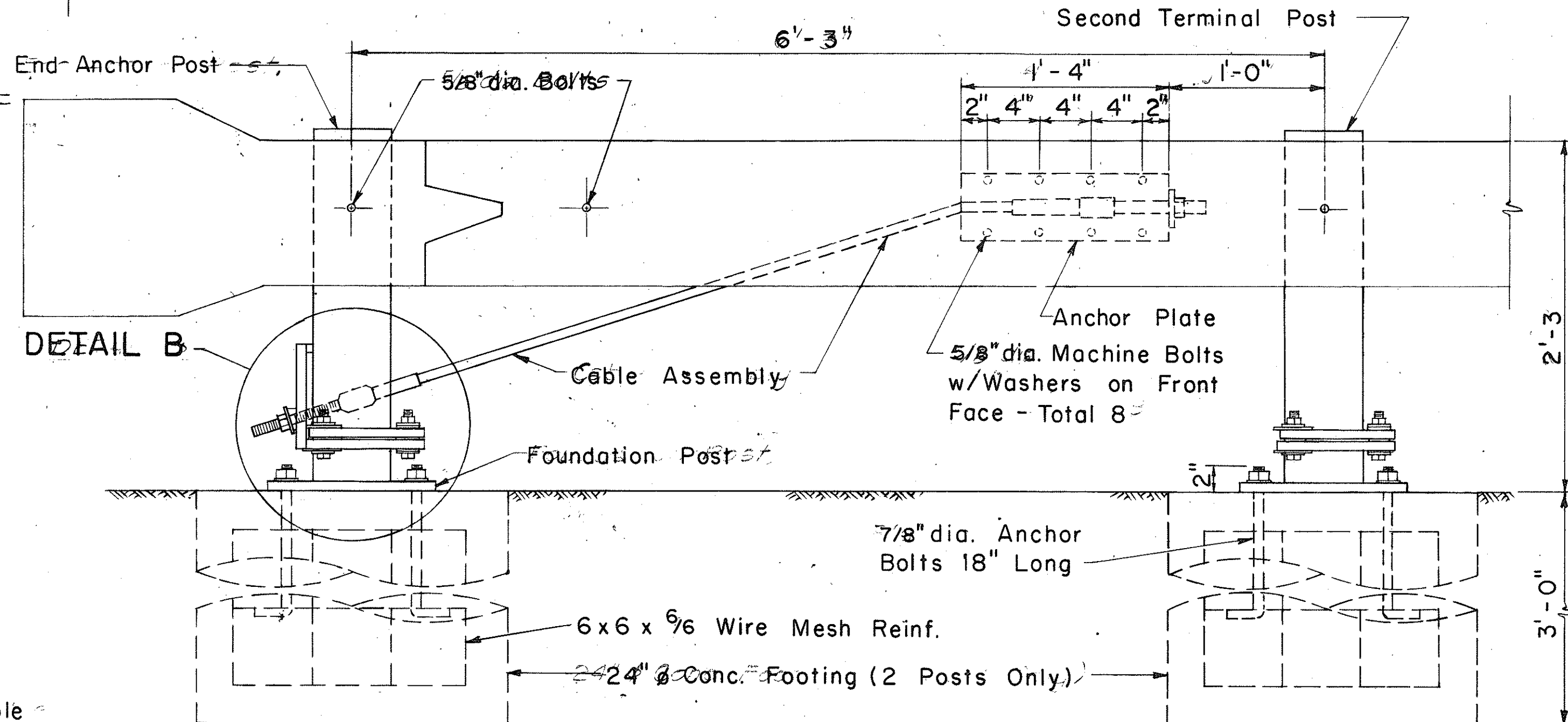


## FLAT PLATE WASHER

Scale: Full Size



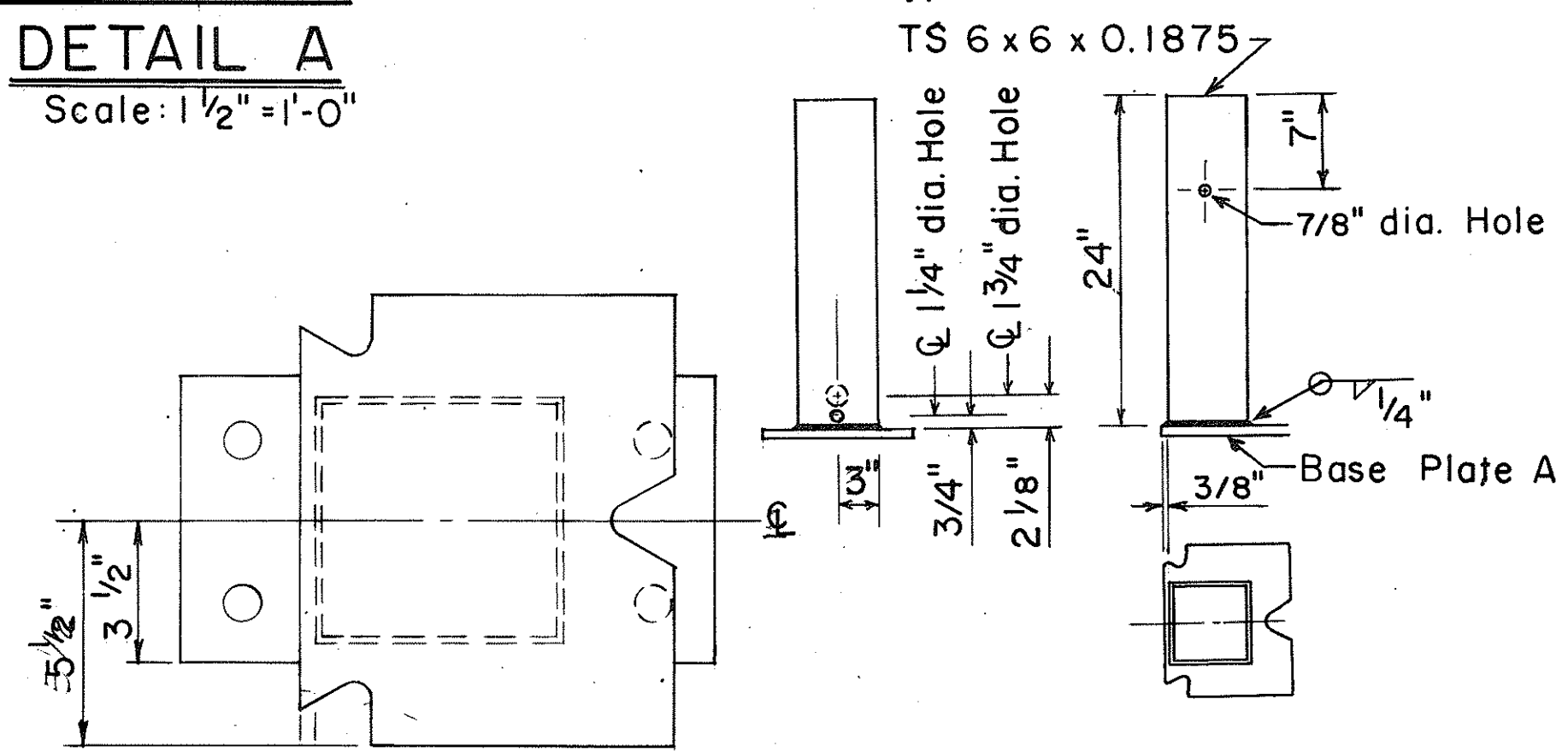
## PLAN



## ELEVATION

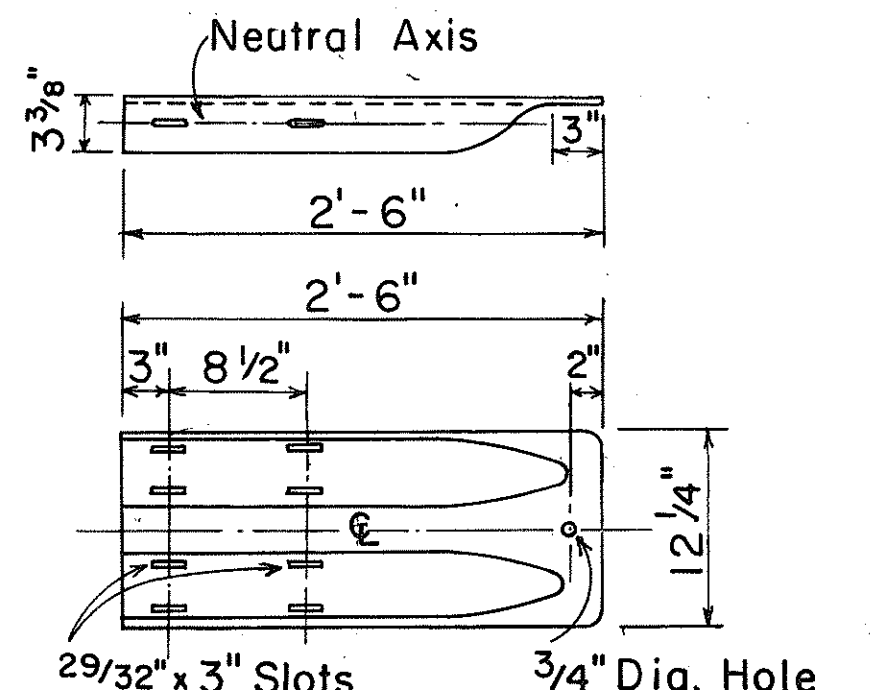
## DETAIL A

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



## TERMINAL POST

Scale: 1" = 1'-0"



## TERMINAL CONNECTOR

Scale: 1" = 1'-0"

APPROVAL RECOMMENDED:

*Erich Tanaka*  
TRAFFIC ENGINEER

6/14/78  
DATE

APPROVED:

*Shawyer Z. Kishi*  
ASSISTANT CHIEF, ENGINEERING

6/15/78  
DATE

| NO. | REVISION                                    | APPROVED BY | DATE    |
|-----|---------------------------------------------|-------------|---------|
| 1   | Supersedes Sht. DT 519<br>Approved 12/30/69 | H.T.        | 6/15/78 |

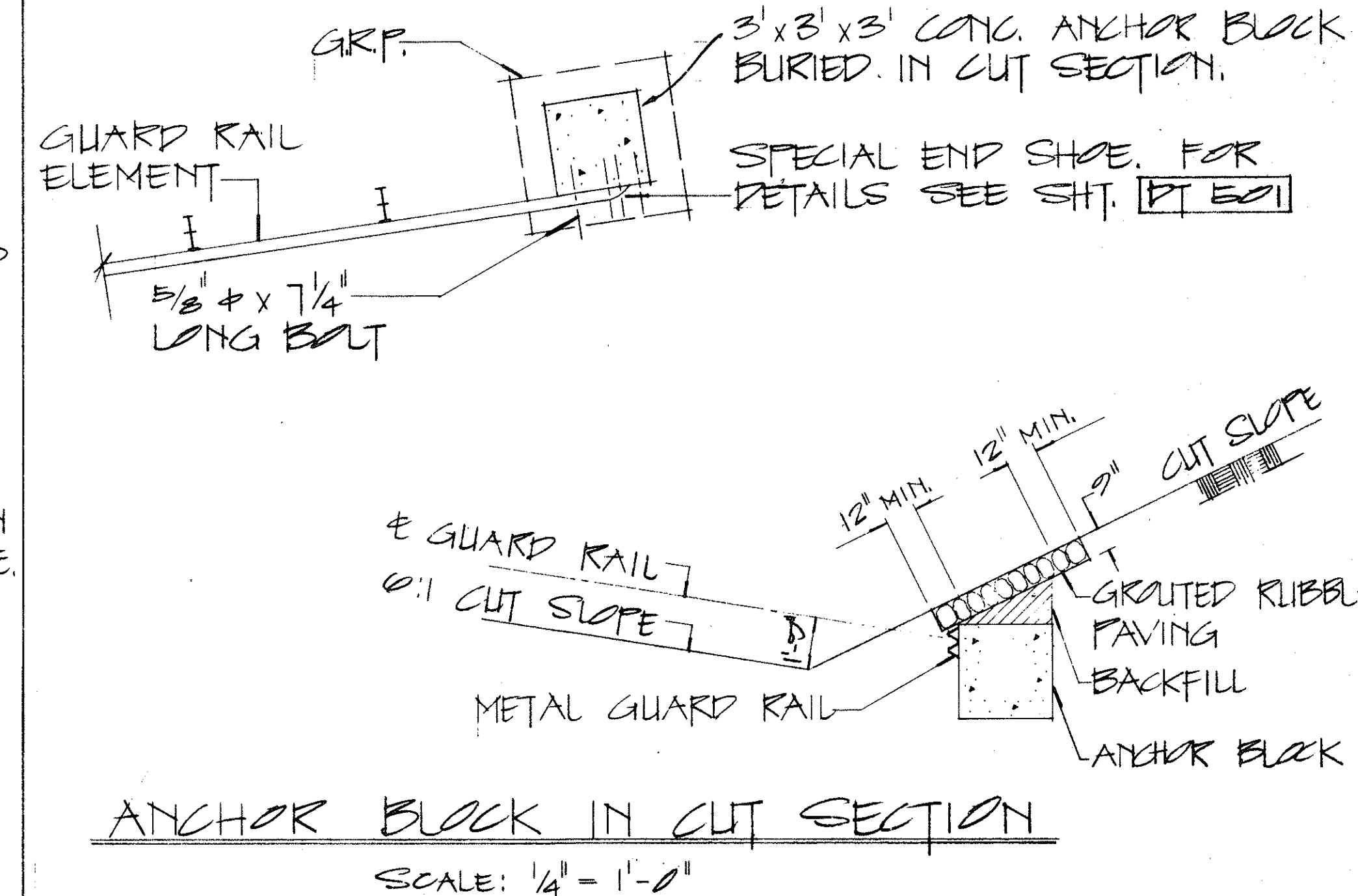
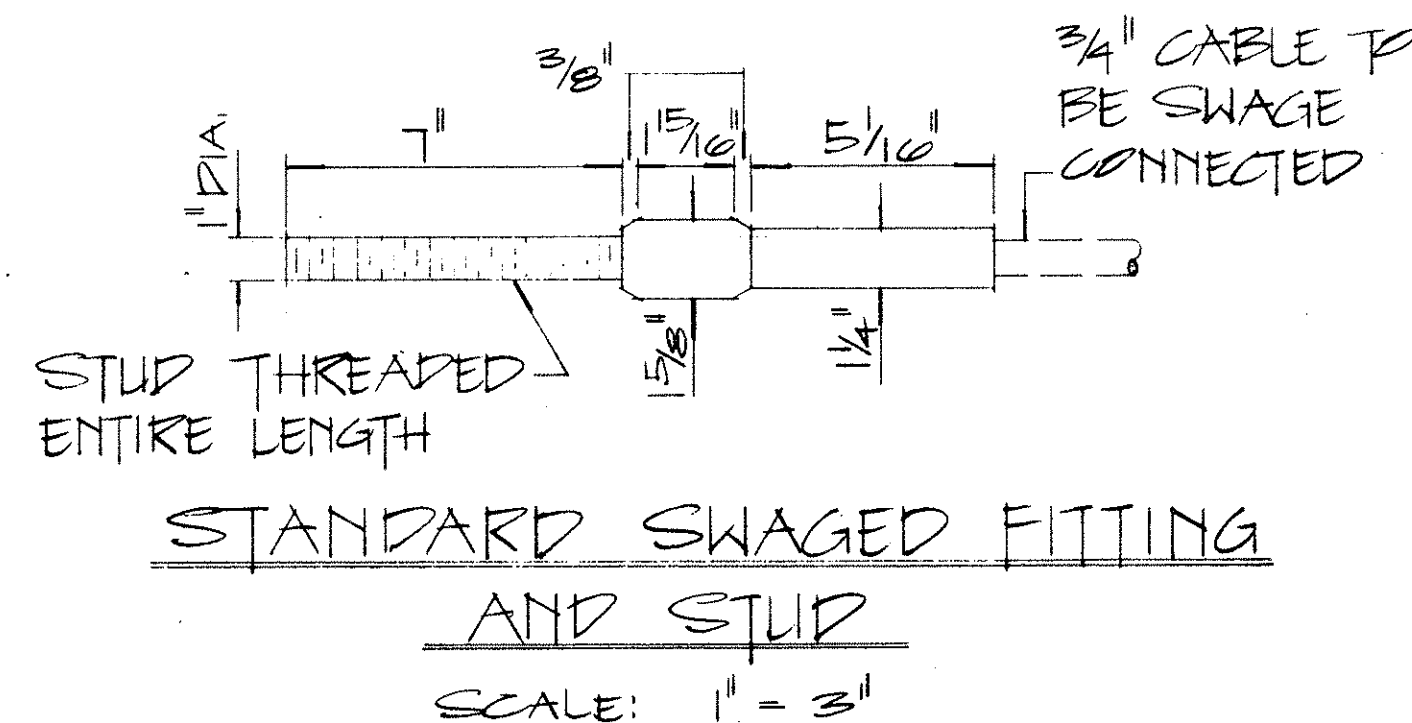
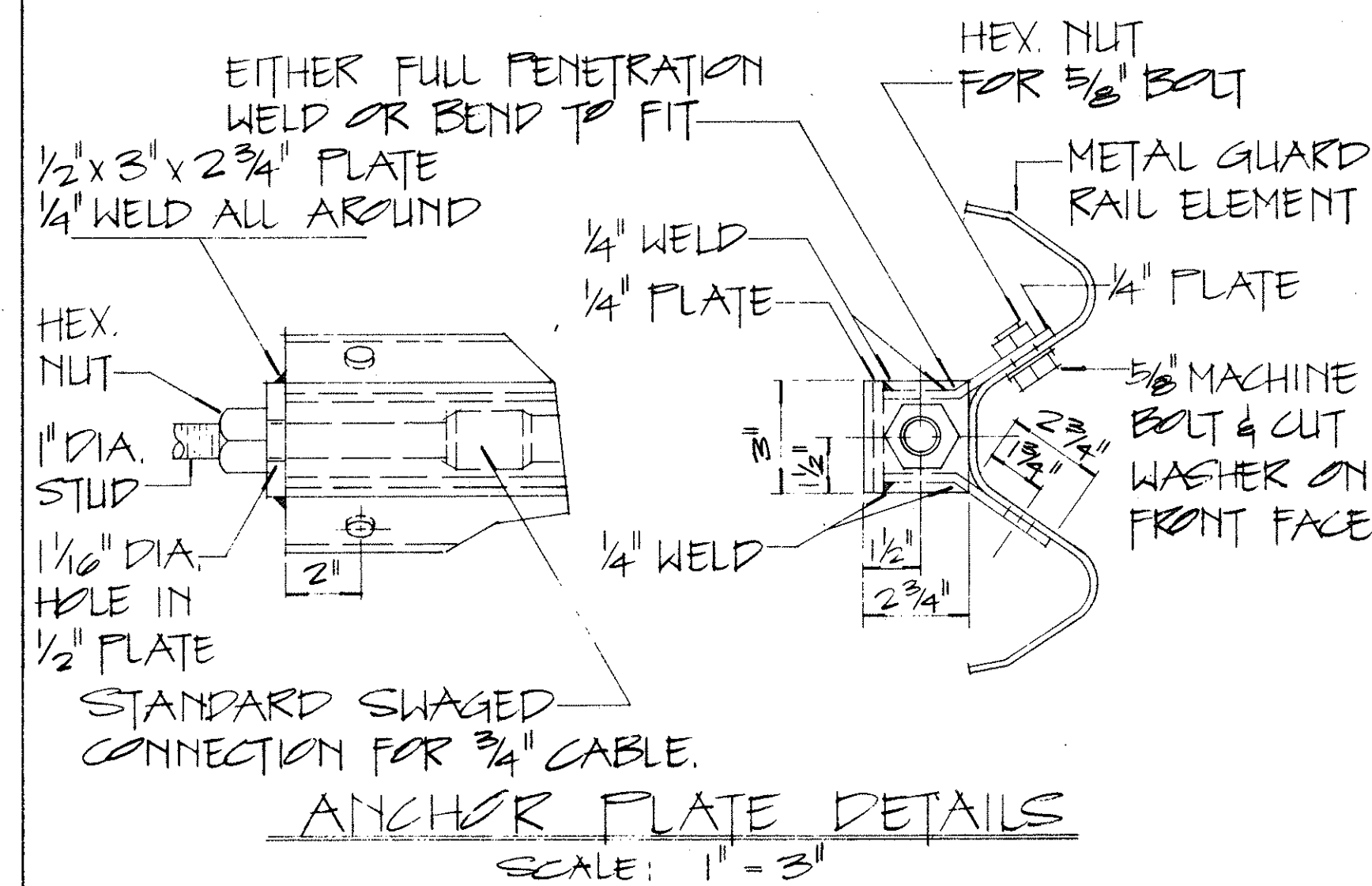
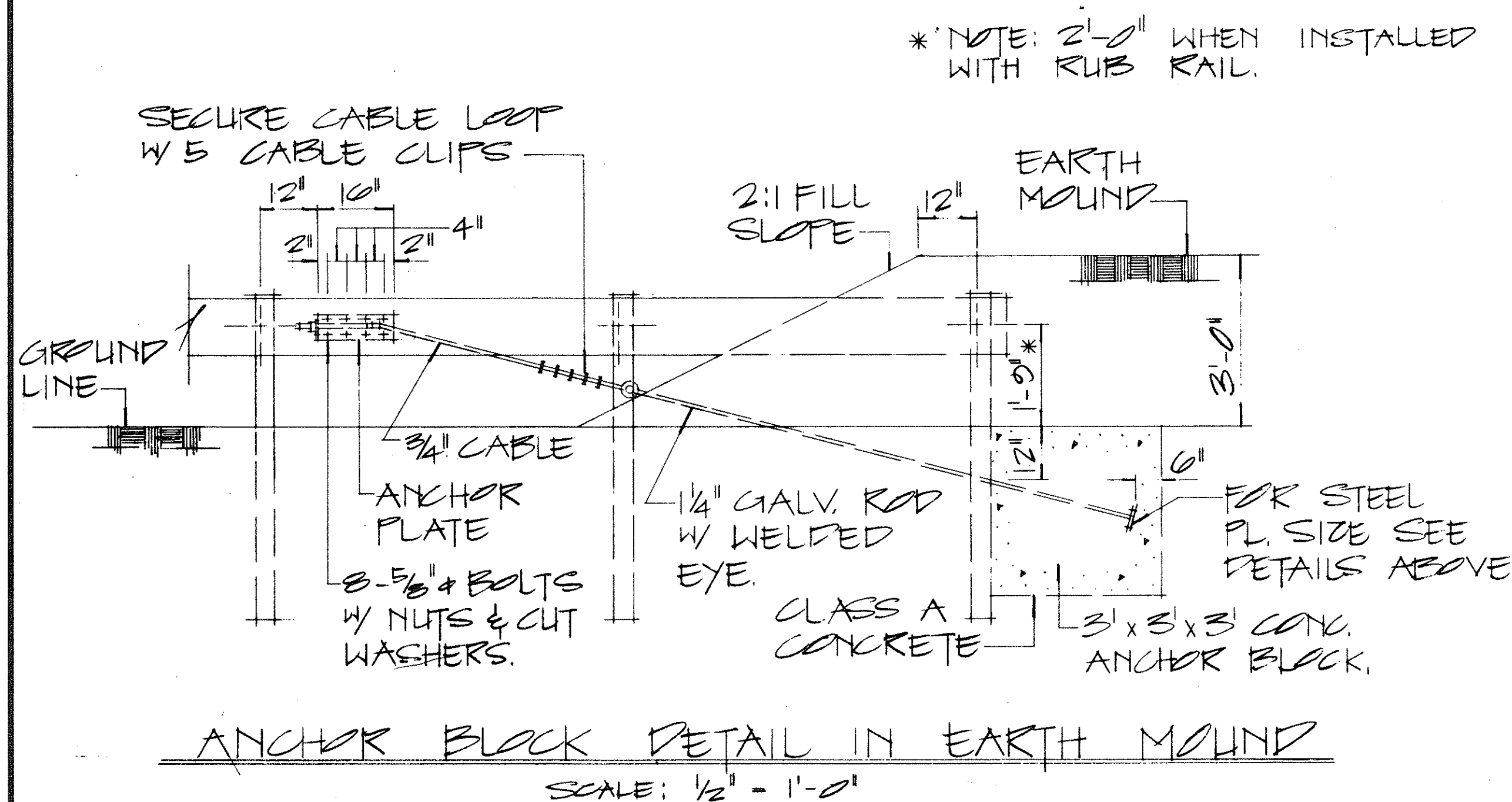
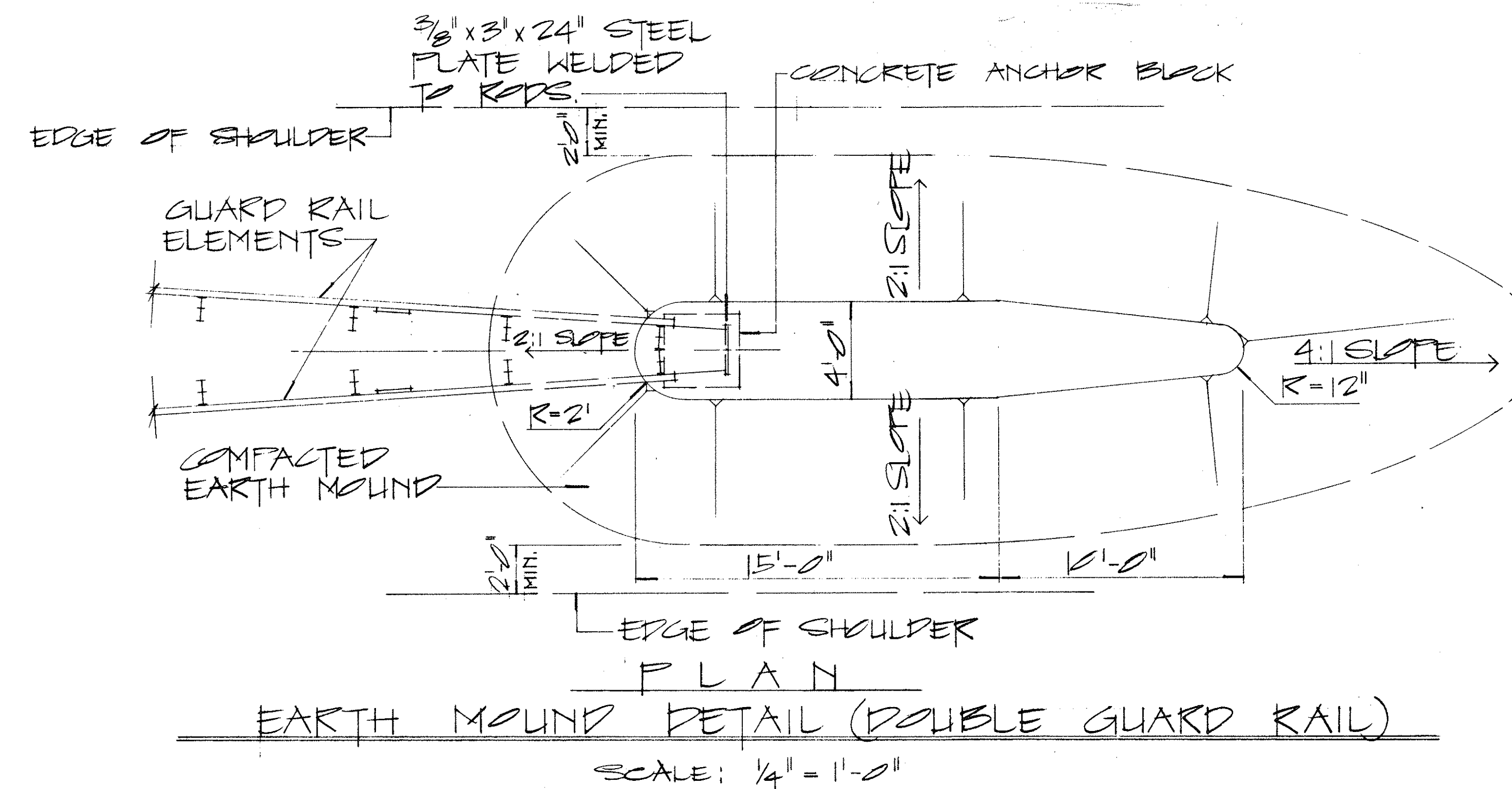
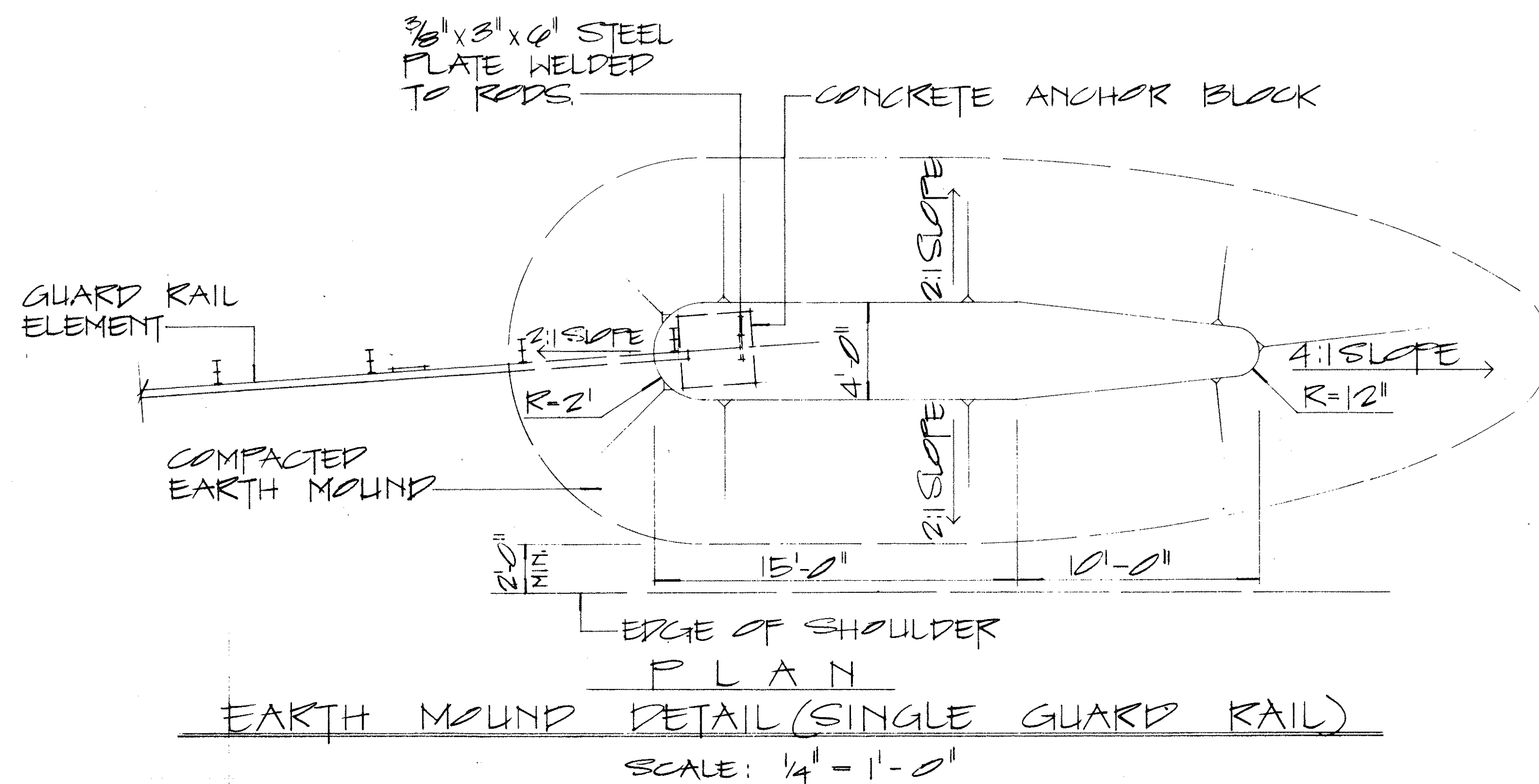
|                                                                      |
|----------------------------------------------------------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION |
| <b>STANDARD DETAIL</b>                                               |
| <b>BREAKAWAY CABLE TERMINAL (BCT)</b>                                |
| Scale: As Shown Date: June 1978                                      |
| SHEET No. OF SHEETS DT 519                                           |

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

C021S-1



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11F0781(6)         | 1976        | 22        | 142          |



APPROVAL RECOMMENDED: *Euske Tanaka* 12/22/69  
TRAFFIC ENGINEER DATE

APPROVED: *22222* 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

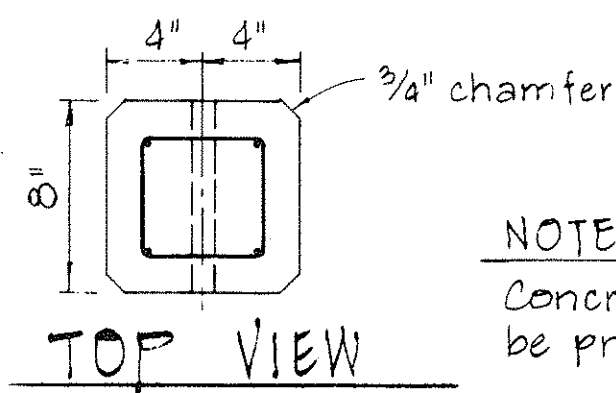
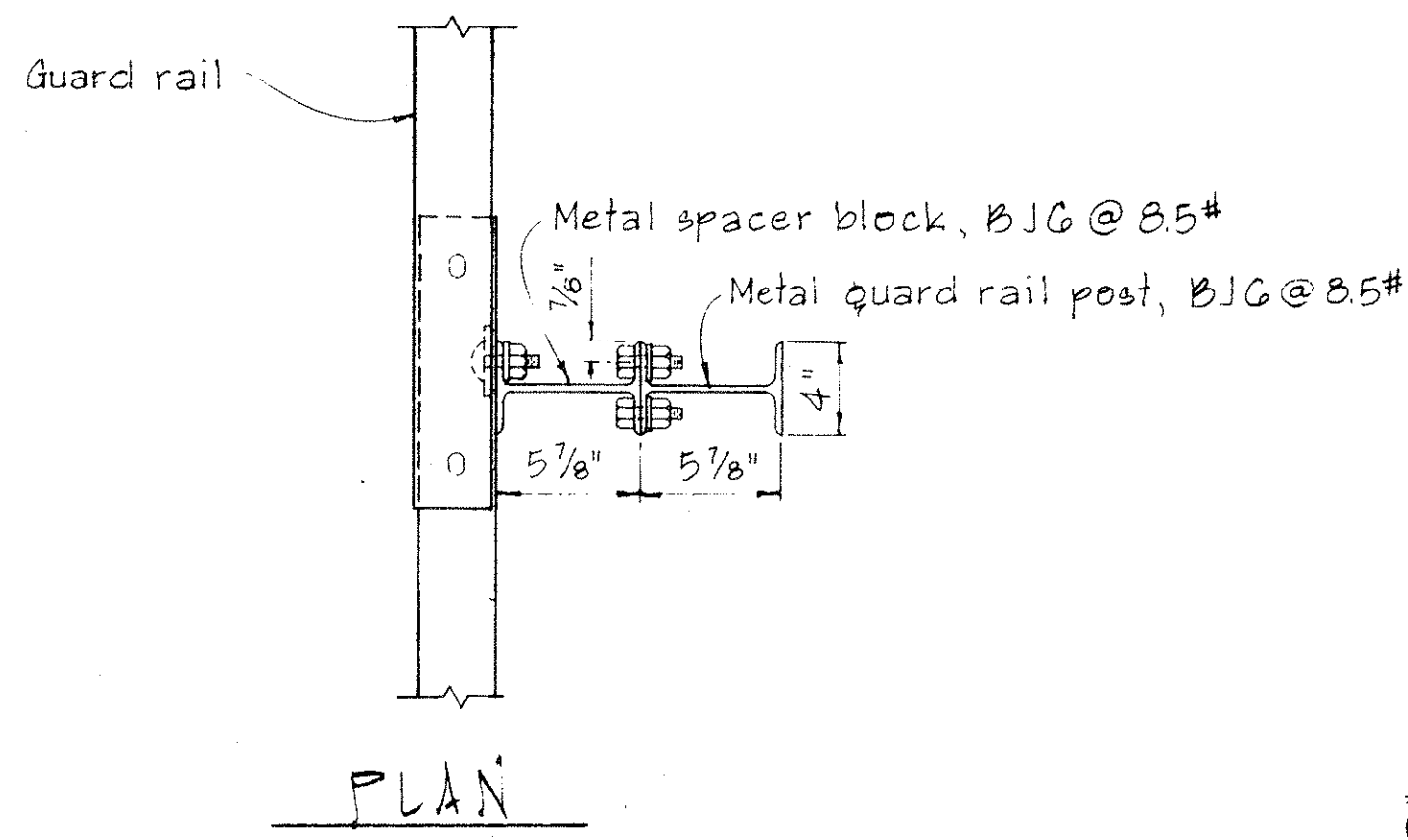
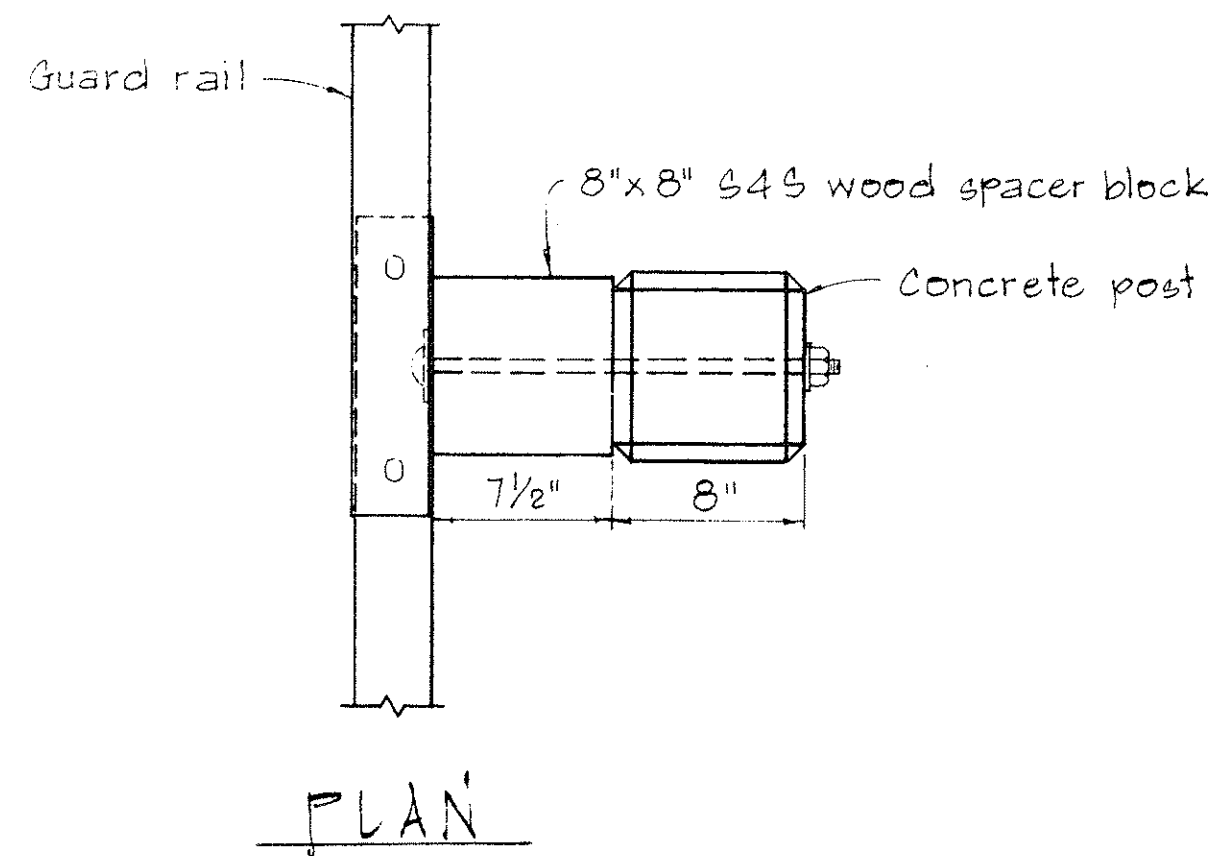
SCALE: AS SHOWN 12/10/69

SHEET NO. 10 OF 13 SHEETS PT 520

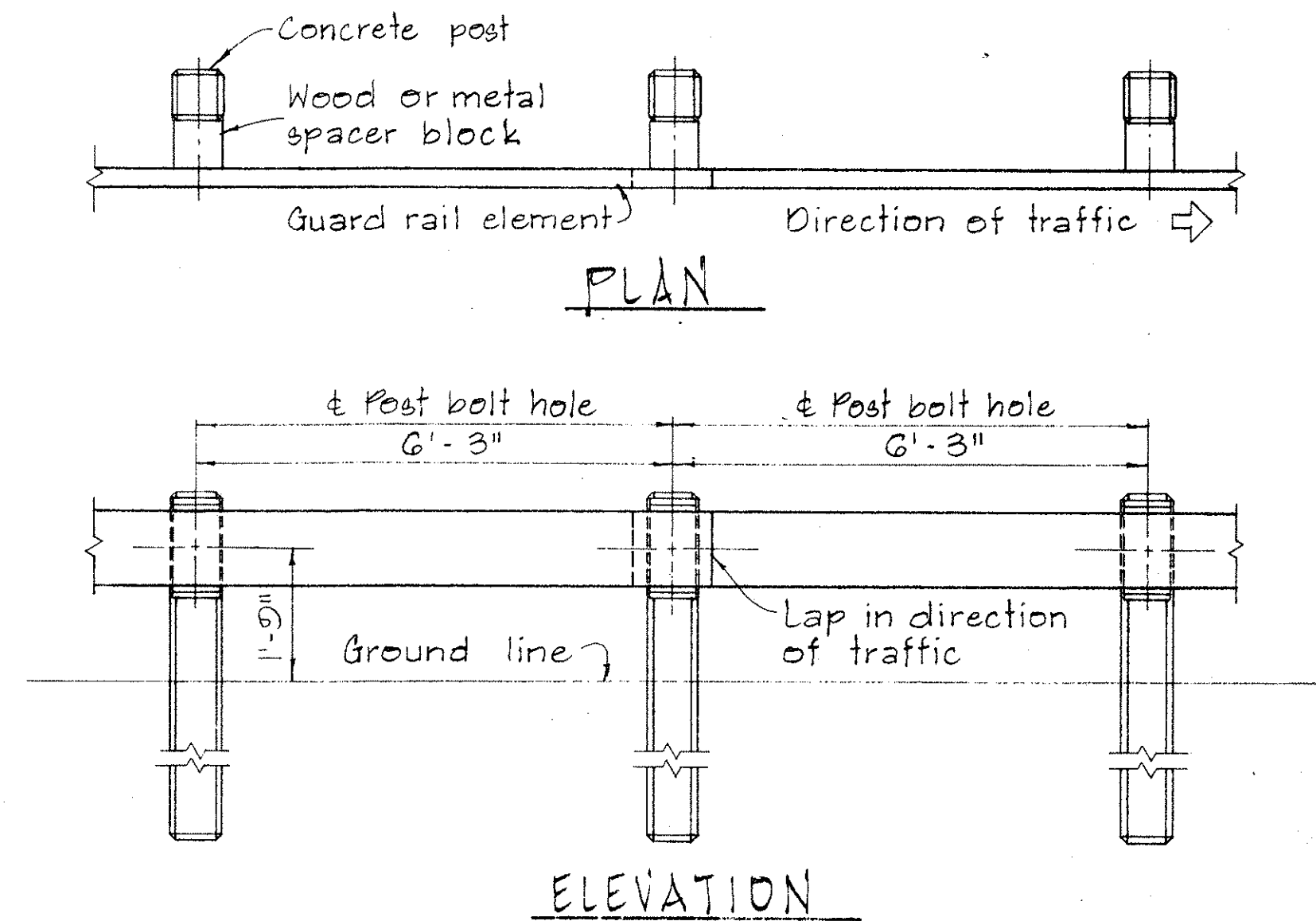
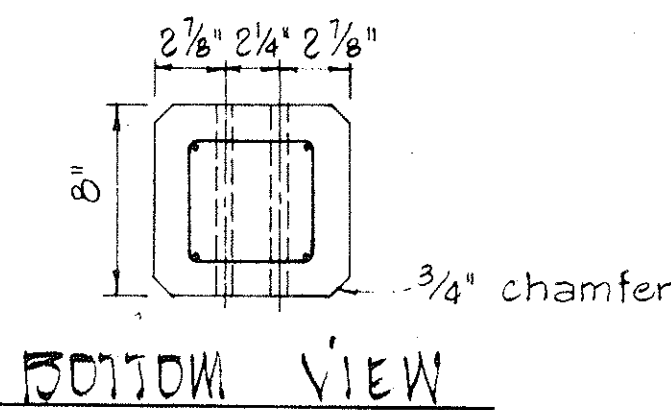
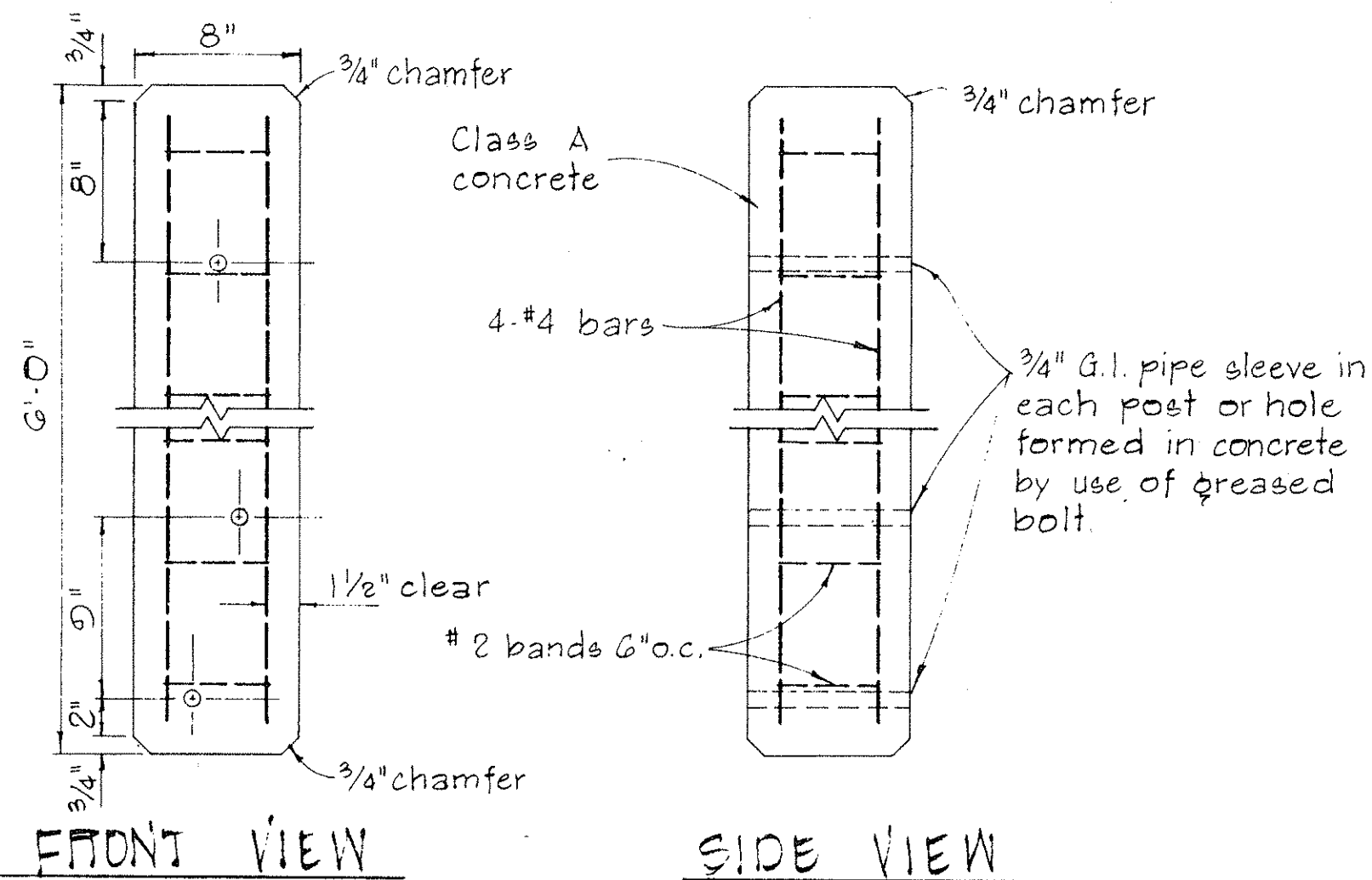
|               |  |
|---------------|--|
| DATE          |  |
| SURVEYED BY   |  |
| DRAWN BY      |  |
| DESIGNED BY   |  |
| QUANTITIES BY |  |
| CHECKED BY    |  |
| ORIGINAL PLAN |  |
| NOTE BOOK     |  |
| NO.           |  |



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11F-078-16         | 1976        | 23        | 142          |

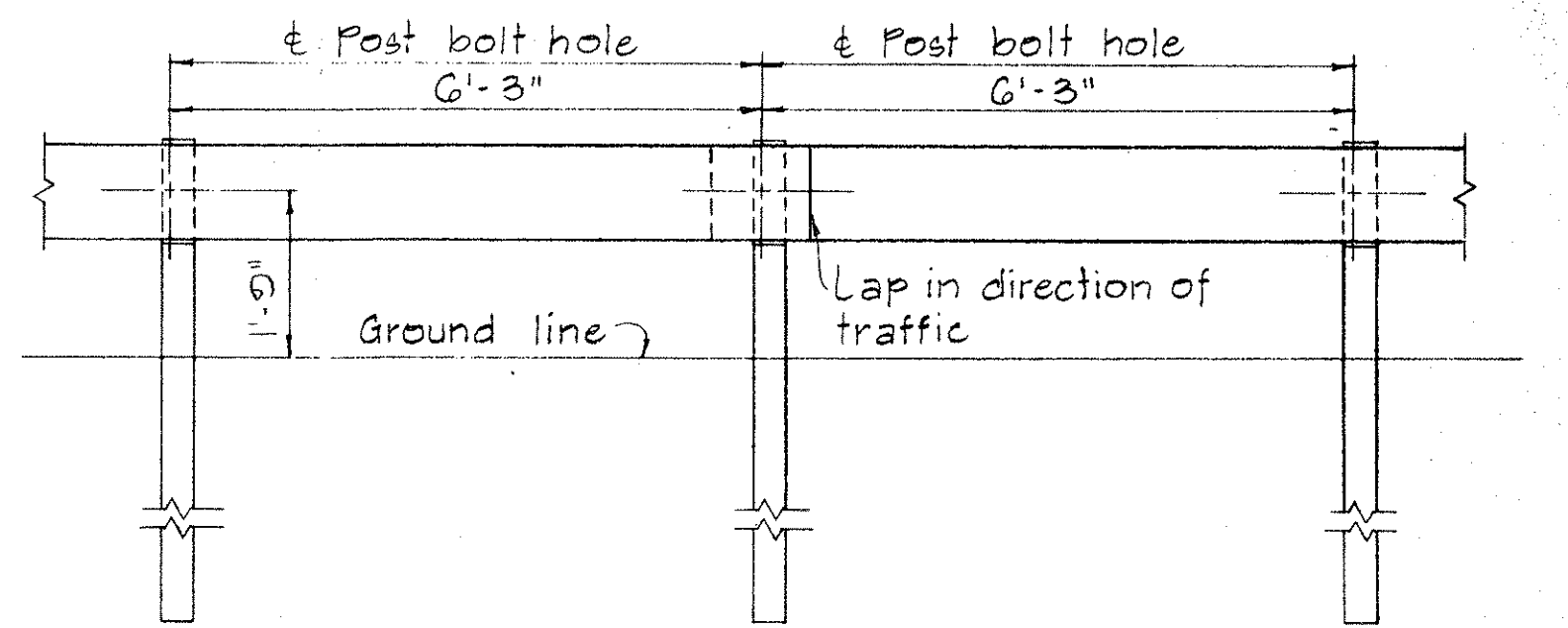
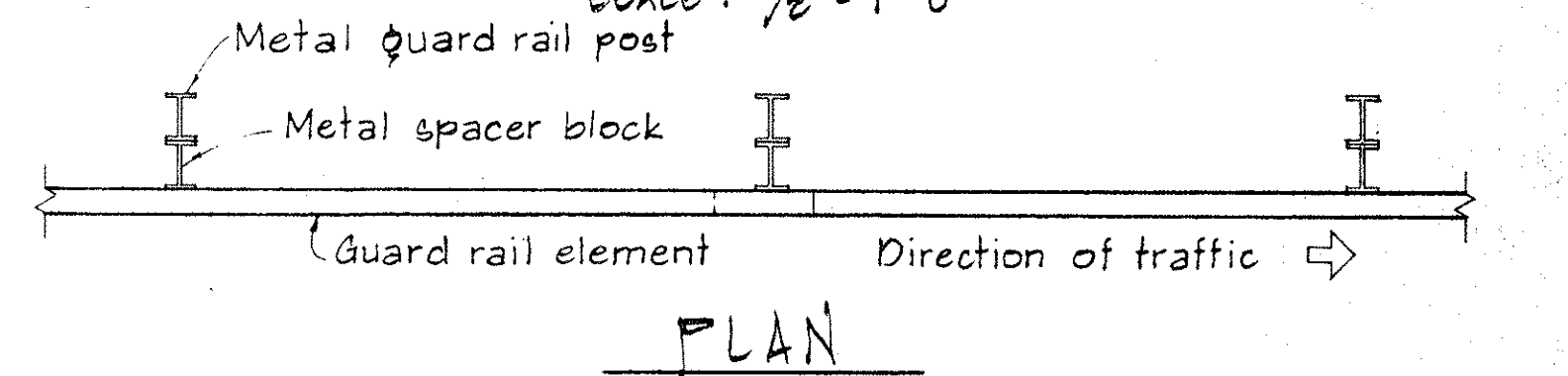


NOTE:  
Concrete post shall be precast



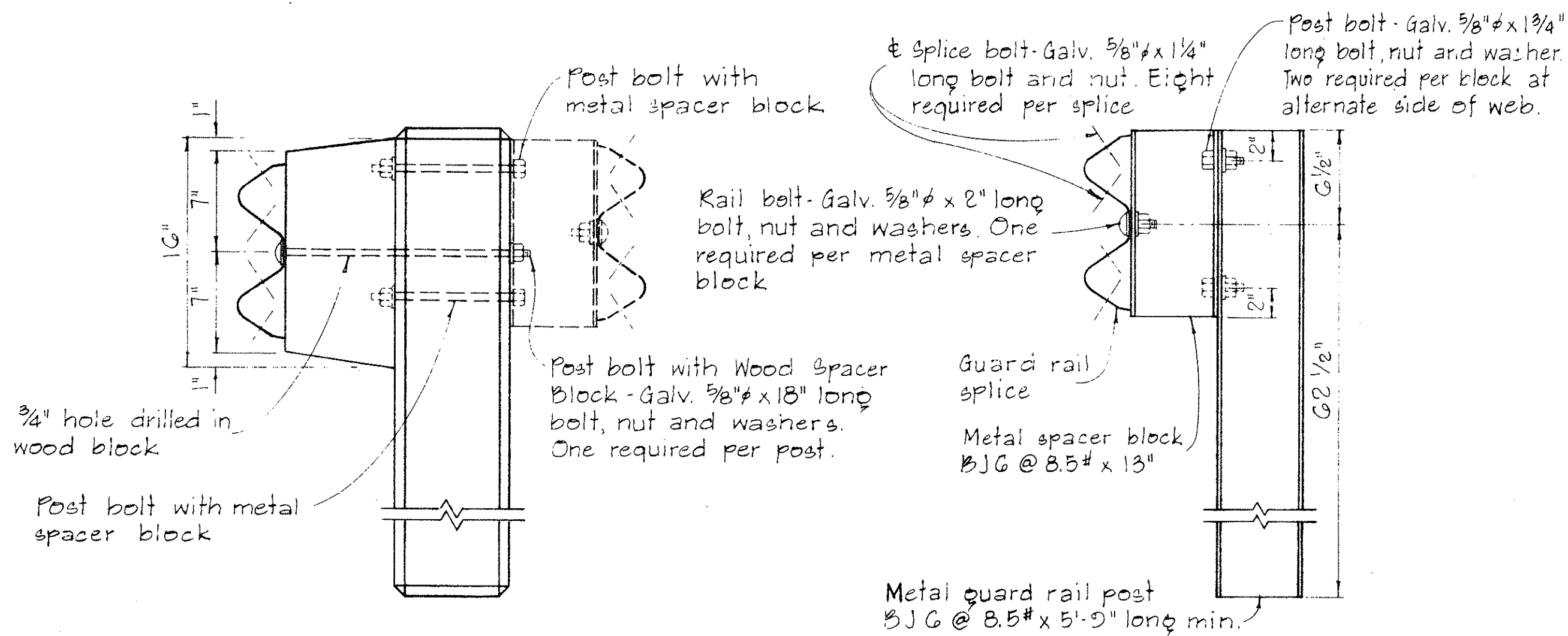
METAL GUARD RAIL ON CONCRETE POST WITH WOOD OR METAL SPACER BLOCK

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



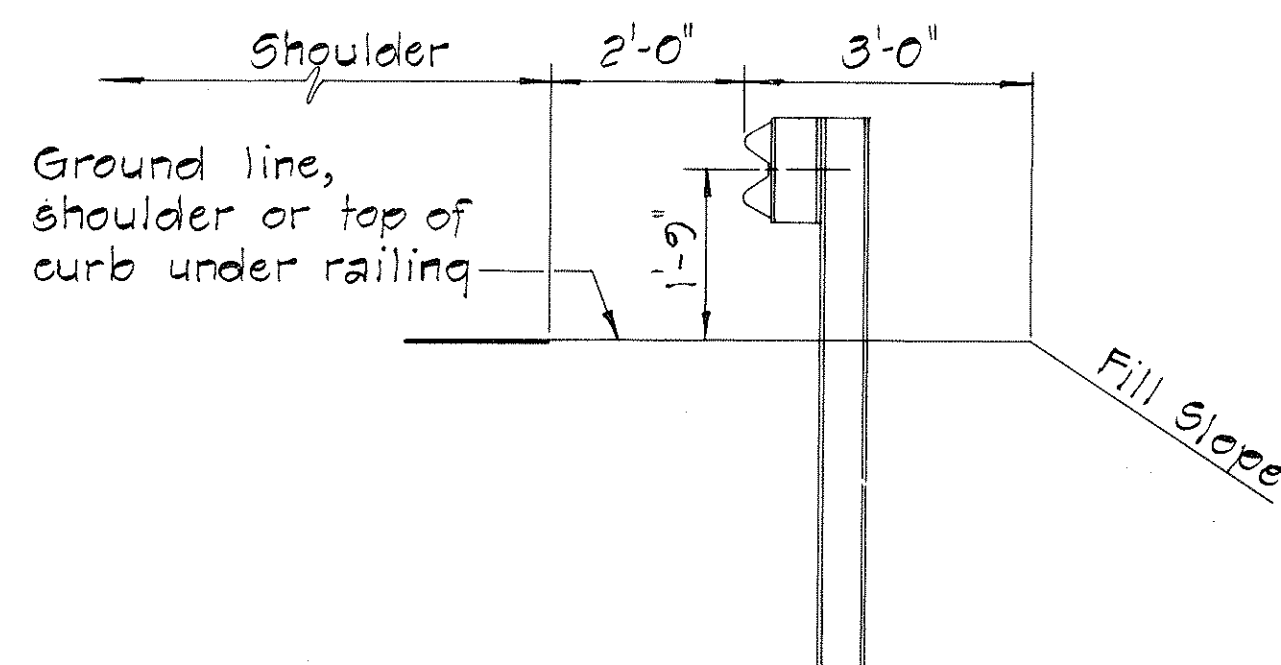
METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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



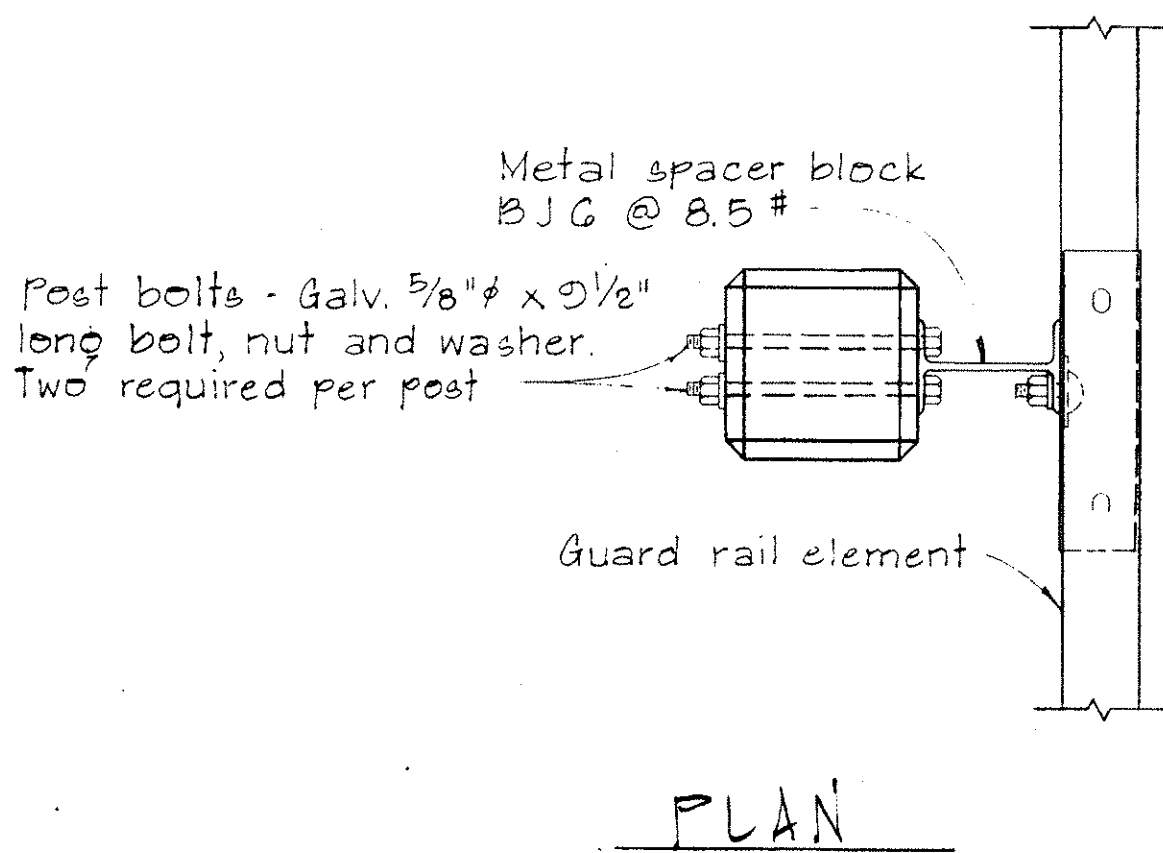
SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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"

APPROVAL RECOMMENDED:  
Traffic Engineer

12/29/69  
DATE

APPROVED:  
Assistant Chief, Engineering

12-30-69  
DATE

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STANDARD DETAILS  
METAL GUARD RAIL

SCALE: AS SHOWN

NOV. 1968

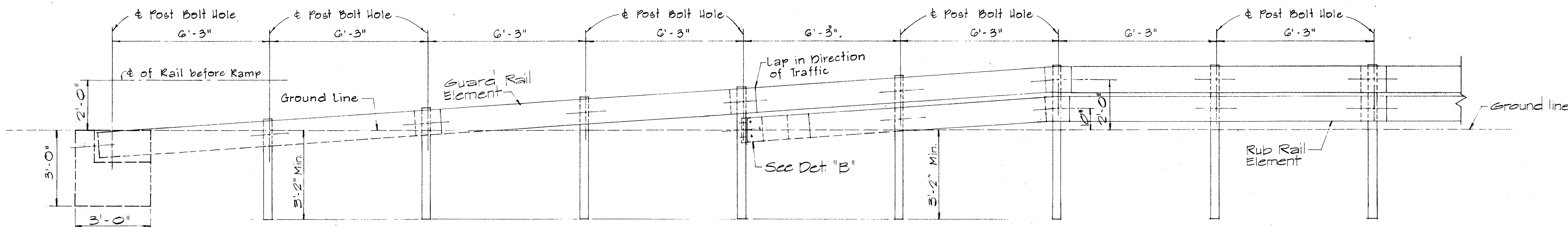
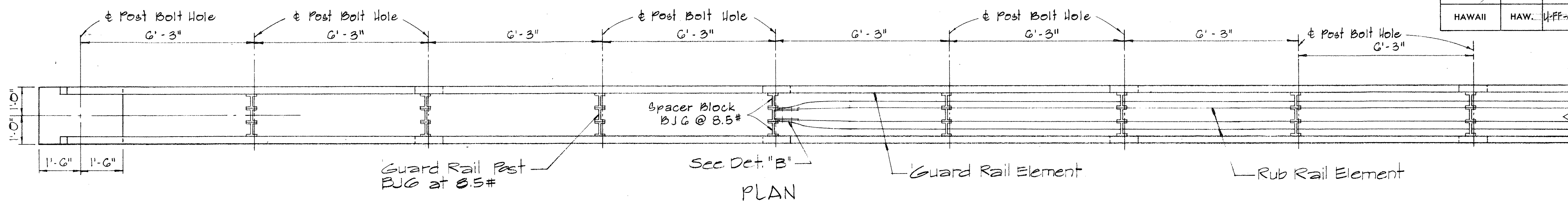
SHEET No. 11 OF 13 SHEETS DT 500







| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 4FF-078-16         | 1976        | 25        | 142          |

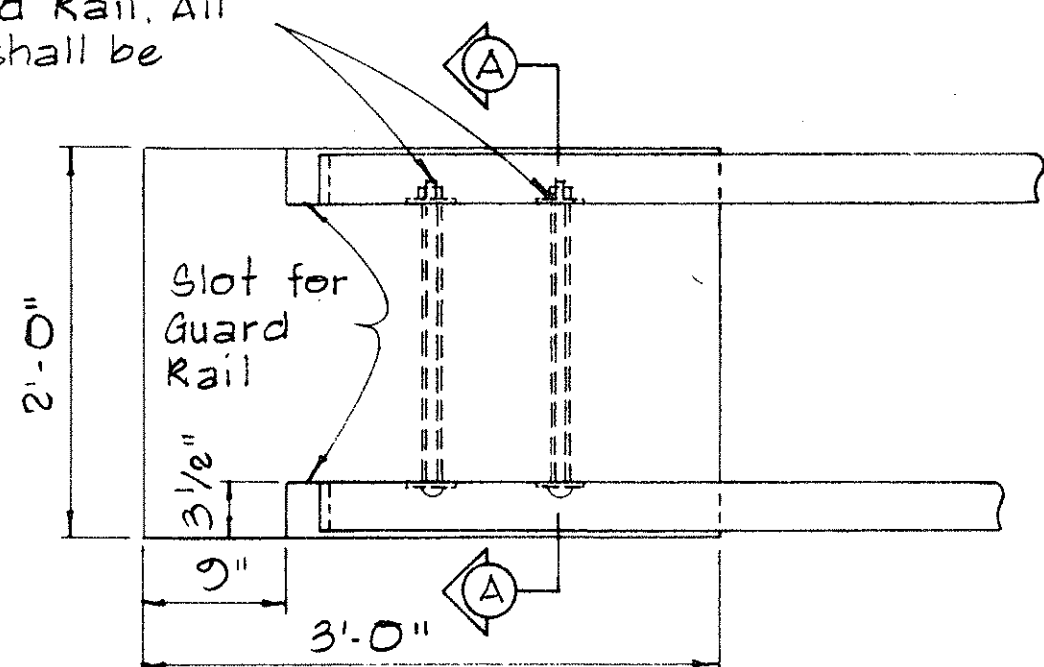


ELEVATION

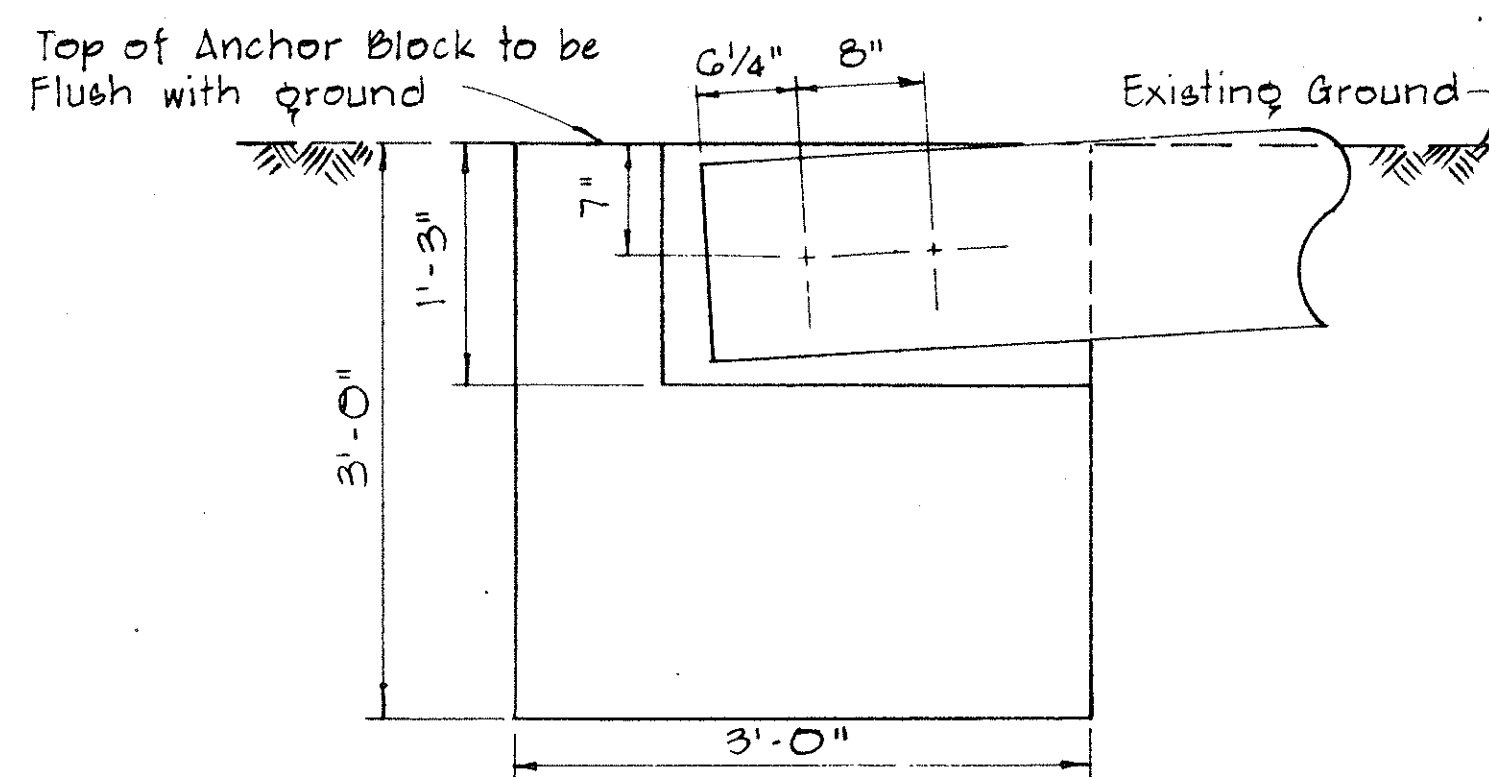
## STRAIGHT APPROACH - RAMP END ANCHORAGE (MEDIAN)

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

5/8" Bolts with 3/4" G.I. Pipe Sleeve in each hole. Incidental to Metal Guard Rail. All Metal Pieces shall be Galvanized.



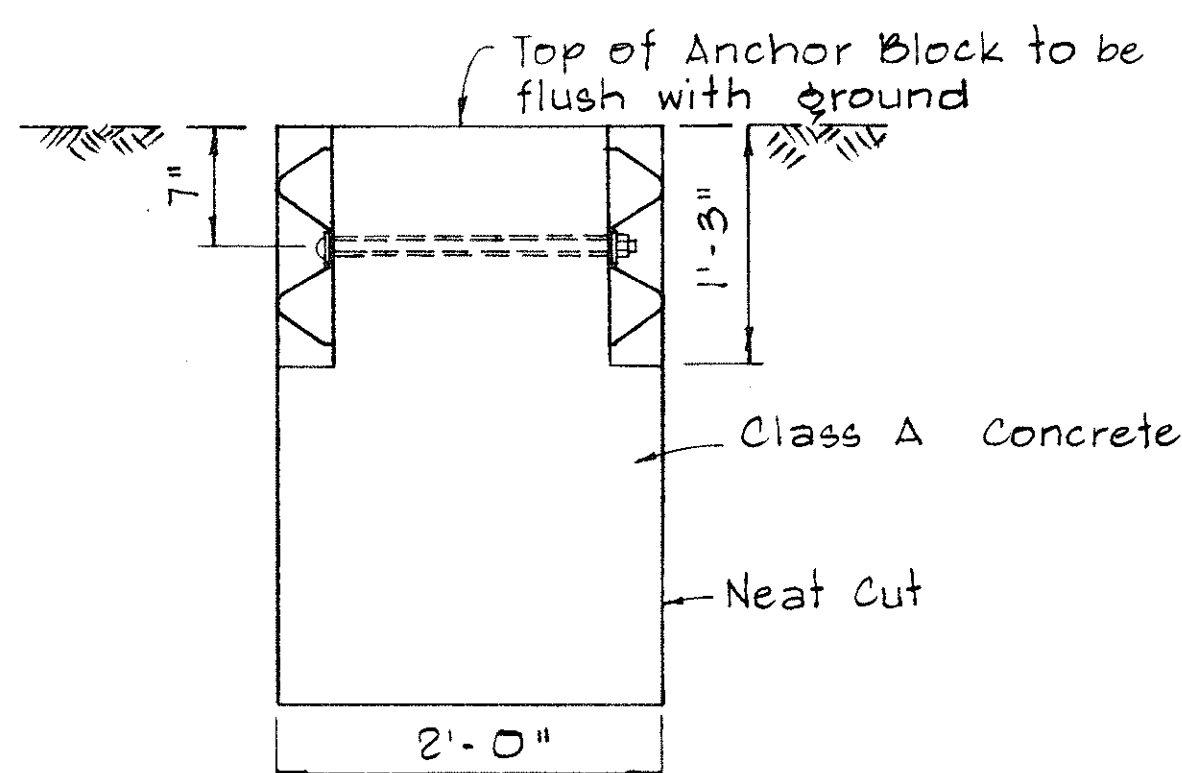
PLAN



ELEVATION

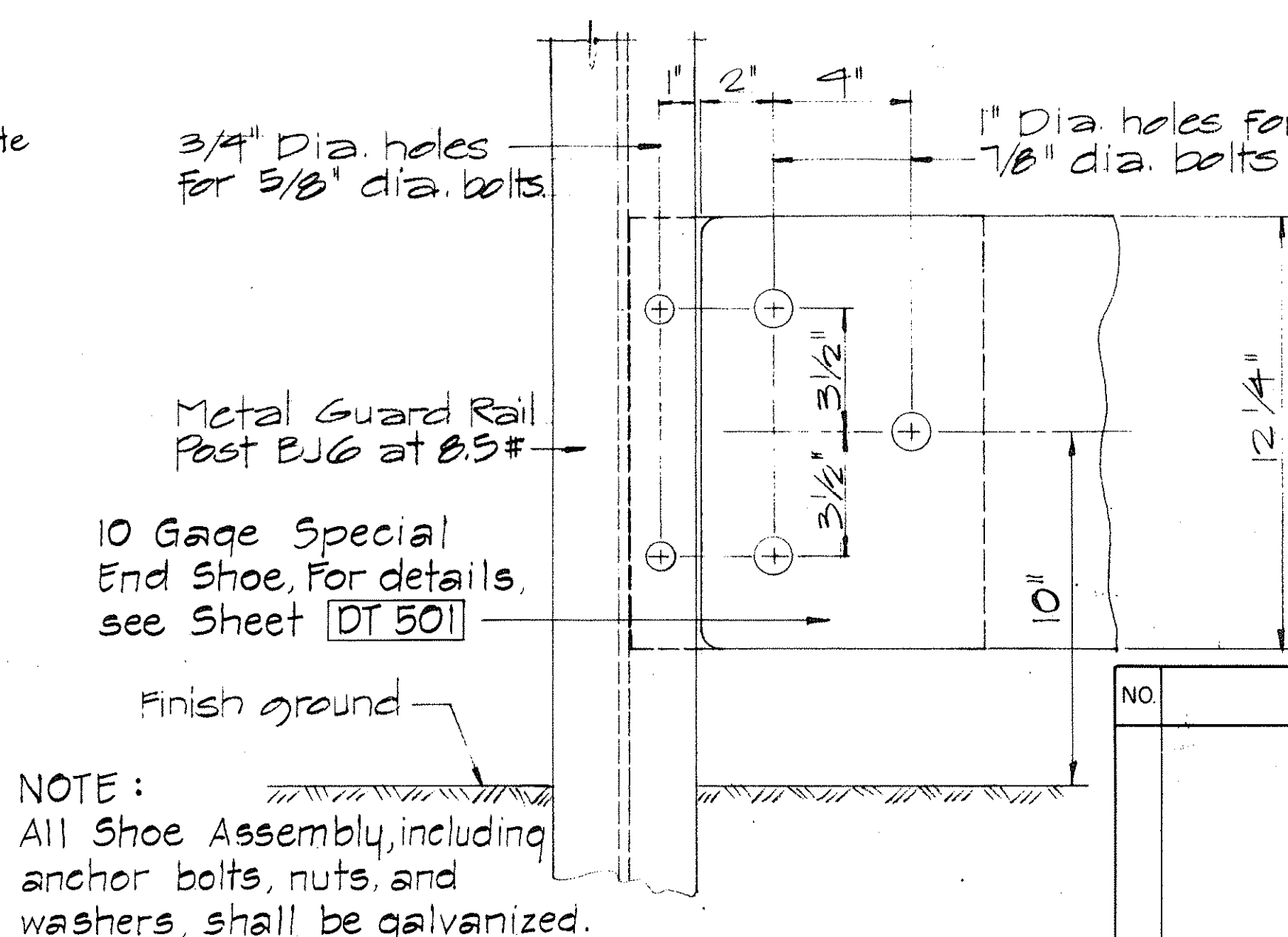
## CONCRETE ANCHOR BLOCK FOR RAMP END

Scale: 1" = 1'-0"



SECTION A-A

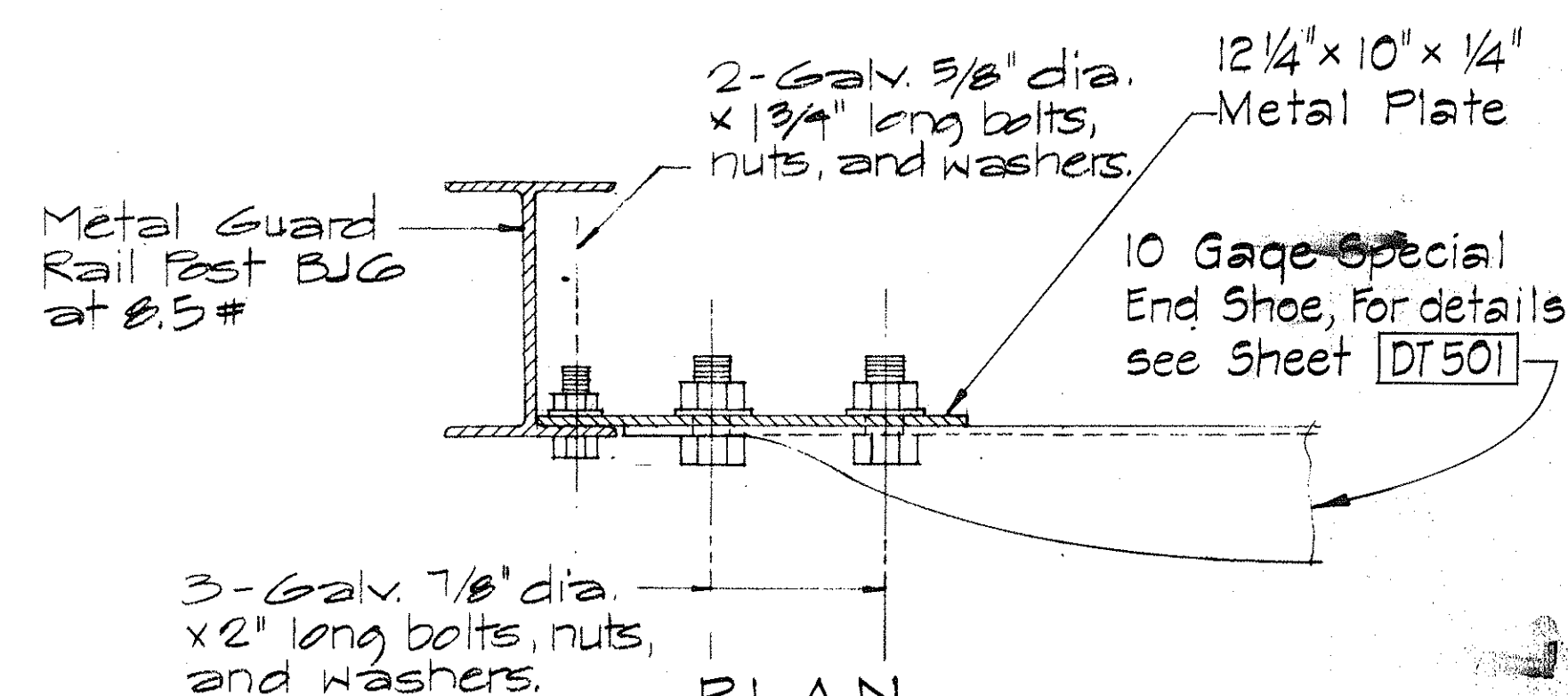
NOTE: Concrete, Excavation, and Miscellaneous Appurtenances necessary to anchor the Guard Rail Ends, shall be incidental to the Metal Guard Rail.



ELEVATION

## DETAIL "B"

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



PLAN

APPROVAL RECOMMENDED:  
Evelyn Tanaka  
TRAFFIC ENGINEER

12/29/89  
DATE

APPROVED:  
Richard J. Delat  
ASSISTANT CHIEF, ENGINEERING

12-20-89  
DATE

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STANDARD DETAIL  
GUARD RAIL  
RAMP END ANCHORAGE

Scale: as Noted

August, 1988

SHEET No. 13 OF 13 SHEETS DT 502