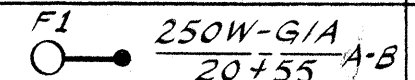
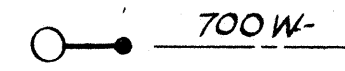
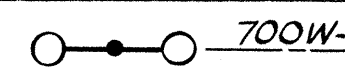
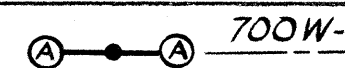
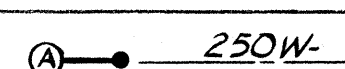
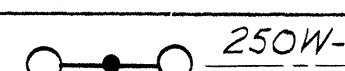
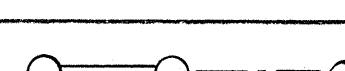
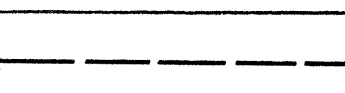
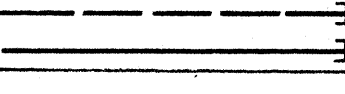
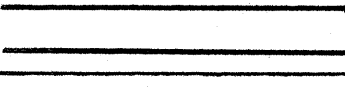
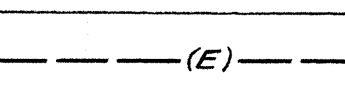


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HH(89):13          | 1971        | 125       | 362          |

| PLAN LEGEND                                                                         |                                                                                |               |              |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------|--------------|
| SYMBOL                                                                              | REPRESENTS                                                                     | DETAIL N°     | NOTE N°      |
|    | LTG STD W/250 WATT LUMINAIRE & FND (LAMP #F1; FDR G1A; PHASES A&B; STA. 20+55) | 1/7E<br>9/7E  | G1           |
|    | LTG STD W/700 WATT LUMINAIRE & FND.                                            | 1/7E<br>9/7E  | G1           |
|    | LTG STD W/TWO 700 WATT LUMINAIRES & FND.                                       | 1/7E<br>1/10E | G1           |
|    | LTG STD W/TWO 700 WATT LUMINAIRES & ANCHORAGE                                  | 1/7E<br>7/8E  |              |
|    | LTG STD W/250 WATT LUMINAIRE & ANCHORAGE                                       | 1/7E<br>4/8E  |              |
|    | LTG STD W/TWO 250 WATT LUMINAIRES & FND.                                       | 1/7E<br>9/7E  | G1           |
|    | ILLUMINATED SIGN CONNECTED TO PHASES C & A OF THE INDICATED CIRCUIT            | 8/7E          |              |
|    | REMOVE EXISTING LUMINAIRE & WOOD POLE                                          |               | G18          |
|    | CONDUIT RUN IN CONCRETE STRUCTURE OR ENCASED IN CONCRETE                       | 7/7E          | G4, G5<br>G8 |
|    | CONDUIT RUN IN EARTH WITHOUT ENCASEMENT                                        |               | G3<br>G8     |
|    | CAPPED CONDUIT OR CONDUIT TRANSITION AS PLAN INDICATES                         |               |              |
|    | CONDUIT TURNING DOWN                                                           |               |              |
|    | CONDUIT TURNING UP                                                             |               |              |
|    | PULL BOX TYPE B                                                                | 3/9E          |              |
|    | PULL BOX TYPE S                                                                | 1/9E          |              |
|    | METAL PULL BOX                                                                 | 4/8E          |              |
|    | PULL BOX TYPE B FOR TRAFFIC SIGNAL SYSTEM                                      |               |              |
|   | RETAIN EXISTING UNDERGROUND LTG CONDUCTOR                                      |               |              |
|  | USED IN CONJUNCTION WITH OTHER SYMBOLS TO INDICATE EXISTING CONSTRUCTION       |               |              |

GENERAL NOTES

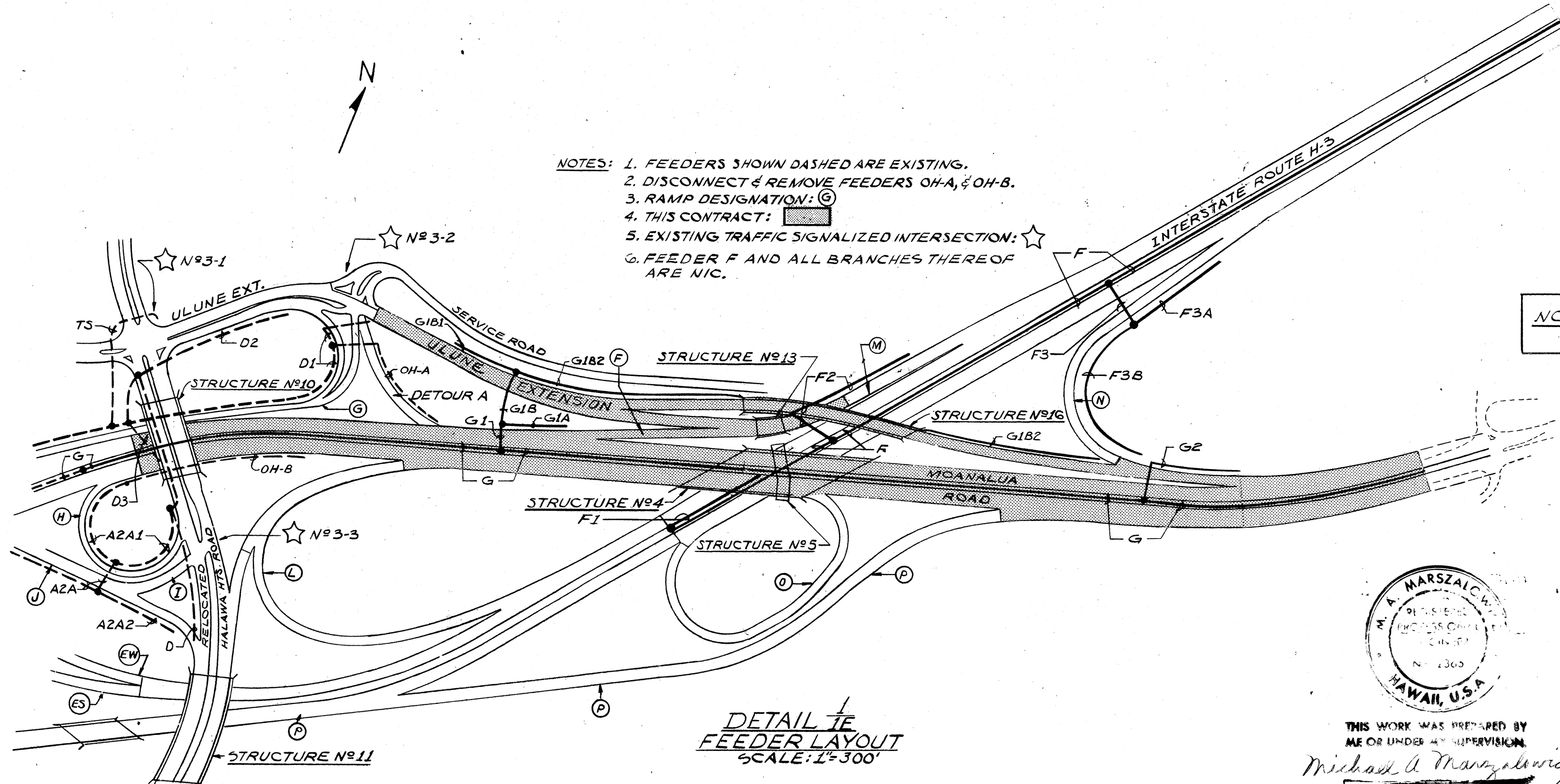
- G1. The indicated locations of lighting standards, conduit and other electrical components may be adjusted as field conditions necessitate.
- G2. Conduit one-inch and smaller shall be RGS or where noted RAL.
- G3. Conduit run in non-paved areas shall be NMC, directly buried.
- G4. Conduit run under roadway shall be PVC or RGS, encased.
- G5. Conduit run in median barrier or other structure shall be NMC unless otherwise noted. See note G19.
- G6. Provide a conduit expansion/deflection fitting at beginning and end of bridge in runs crossing bridges.
- G7. As indicated on plan sheets, all three phase legs shall be run to the indicated pull point to enable future extension.
- G8. Underground lighting feeders shall be run in two-inch conduit except as Note G15 provides.
- G9. None.
- G10. At locations indicated connect to existing conductors.
- G11. None.
- G12. None.
- G13. None.
- G14. None.
- G15. Branch taps to underdeck lighting systems and to sign lighting systems shall be one-inch RGS concrete encased.
- G16. None.
- G17. None.
- G18. Where indicated, remove and stockpile existing State owned facilities.
- G19. Provide at each expansion joint a conduit expansion/deflection fitting in all runs embedded in median barrier. See Details 4/7E and 5/7E.

LIST OF ABBREVIATIONS

|         |                                 |
|---------|---------------------------------|
| LTG STD | Lighting Standard               |
| FND     | Concrete Foundation for LTG STD |
| CONC    | Concrete                        |
| RGS     | Rigid Galvanized Steel Conduit  |
| NIC     | Not in Contract                 |
| FDR     | Feeder                          |
| LTS     | Lights                          |
| CKT     | Circuit                         |
| NMC     | Non-metallic Conduit            |
| GND     | Ground                          |
| NTS     | Not to Scale                    |
| LUM     | Luminaire                       |
| PVC     | Polyvinylchloride Conduit       |
| RAL     | Rigid Aluminum Conduit          |
| FUT     | Future                          |

DETAIL (& NOTE) NUMBERING

- 1 Detail (or Note) numbering
- 7E Sheet No. on which Detail (or Note) appears



NOTE: ELECTRICAL SHEETS ARE NUMBERED 1E THRU 5E; 7E THRU 11E; AND 13E.

ELECTRICAL SHEET 1E

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ELECTRICAL PLAN  
SYMBOLS AND NOTES

HALAWA INTERCHANGE  
PROJECT NO. I-HI-(89):13

SHEET No. 1E OF 13E SHEETS

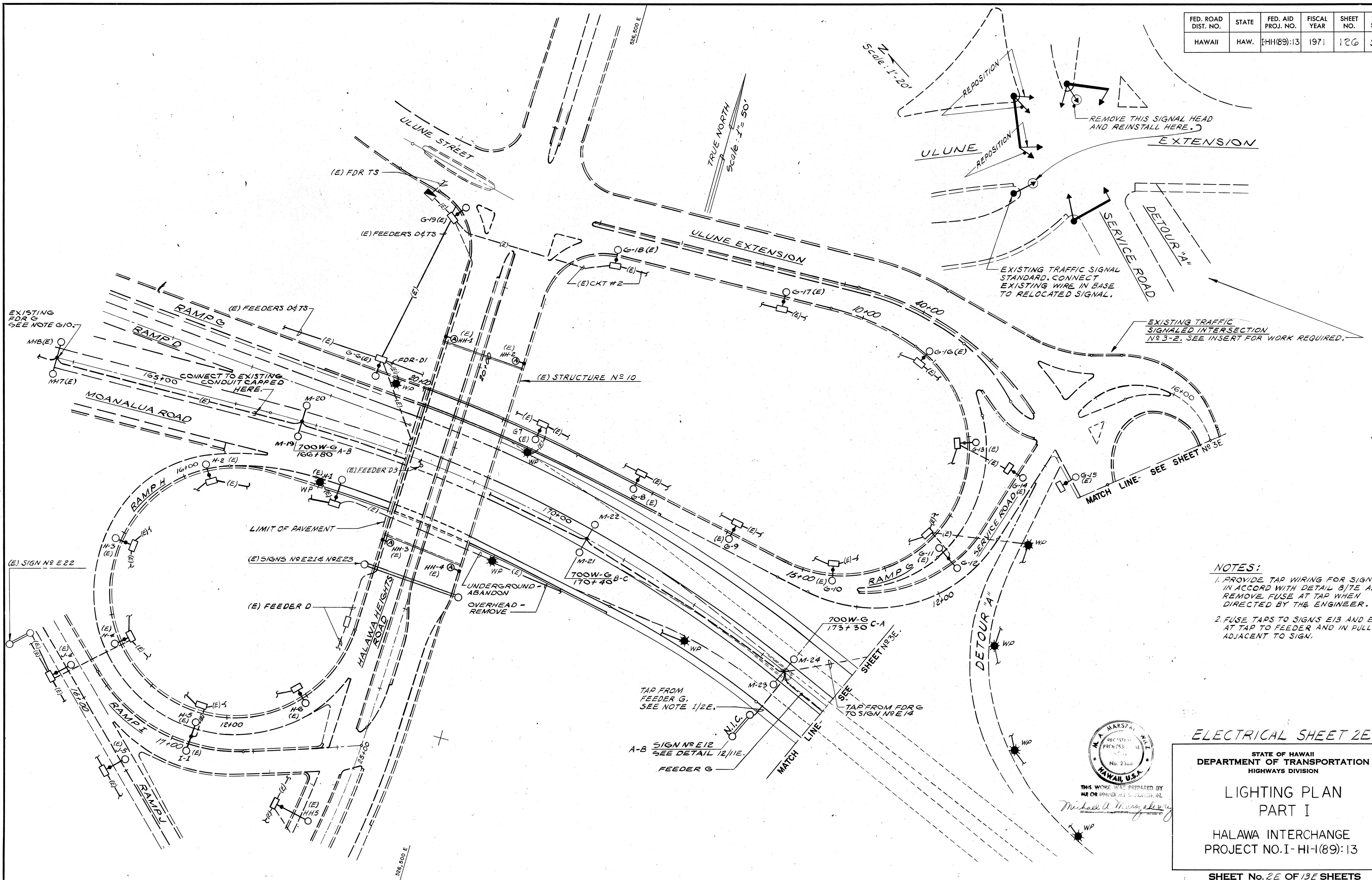


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Michael A. Marszaluk

|             |  |
|-------------|--|
| DATE        |  |
| DESIGNED BY |  |
| CHECKED BY  |  |
| NOTED BY    |  |
| NO.         |  |



| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | [HH(89):13            | 1971           | 126          | 362             |



NOTES:

1. PROVIDE TAP WIRING FOR SIGN IN ACCORD WITH DETAIL 8/7E AND REMOVE FUSE AT TAP WHEN DIRECTED BY THE ENGINEER.
2. FUSE TAPS TO SIGNS E13 AND E16 AT TAP TO FEEDER AND IN PULLBOX ADJACENT TO SIGN.

ELECTRICAL SHEET 2E

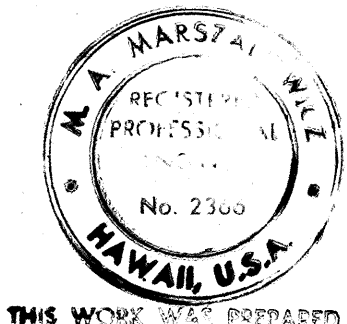
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

# LIGHTING PLAN

## PART I

HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89):13

**SHEET No. 2E OF 13E SHEETS**



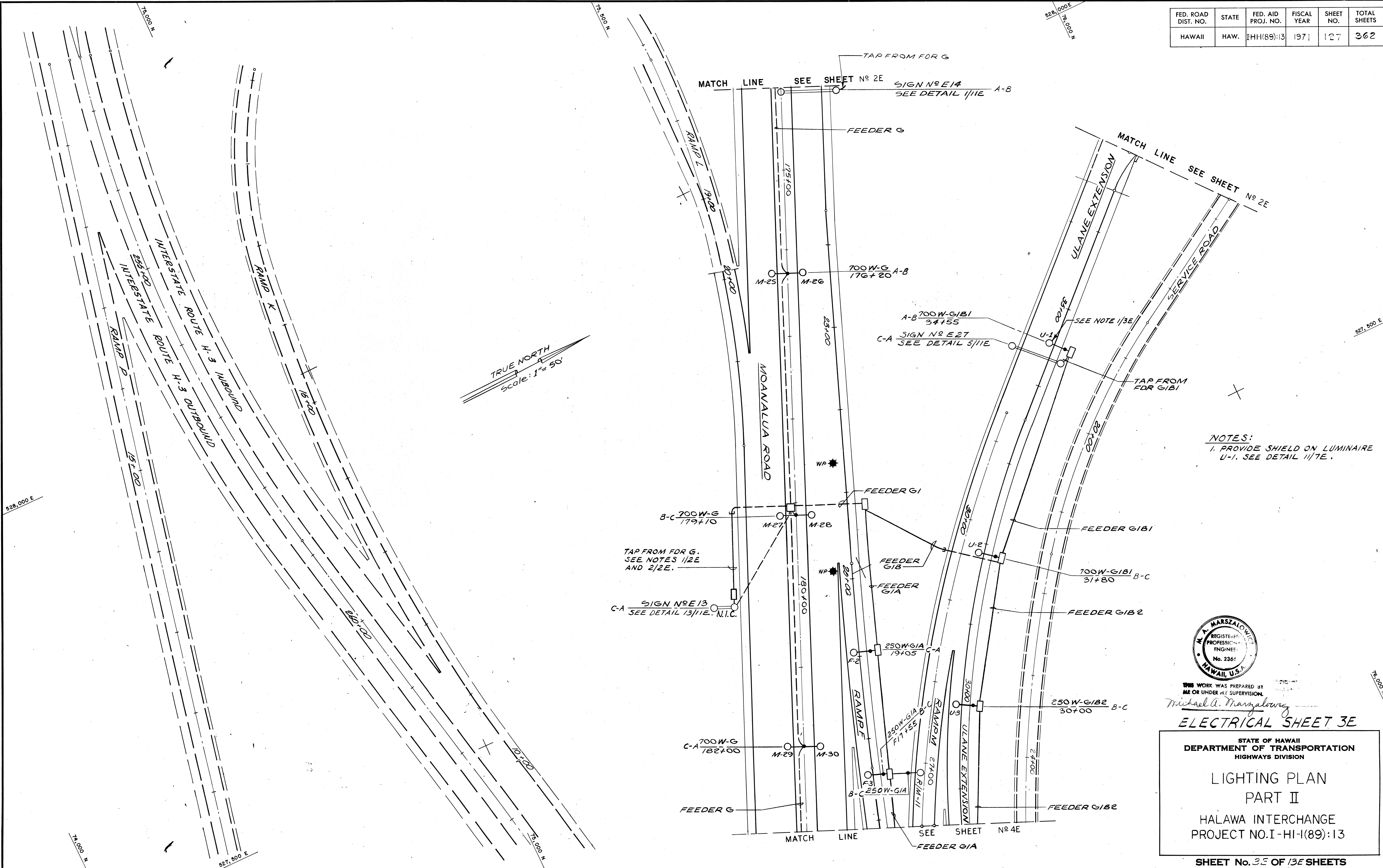
THIS WORK WAS PREPARED BY  
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Michael A. Tharone

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



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | [HH(89):13         | 1971        | 127       | 362          |

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



NOTES:  
1. PROVIDE SHIELD ON LUMINAIRE U-1. SEE DETAIL 11/7E.



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*Michael A. Marszalowicz*  
**ELECTRICAL SHEET 3E**  
 STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
 LIGHTING PLAN  
 PART II  
 HALAWA INTERCHANGE  
 PROJECT NO. I-HI-1(89):13  
 SHEET No. 3E OF 13E SHEETS

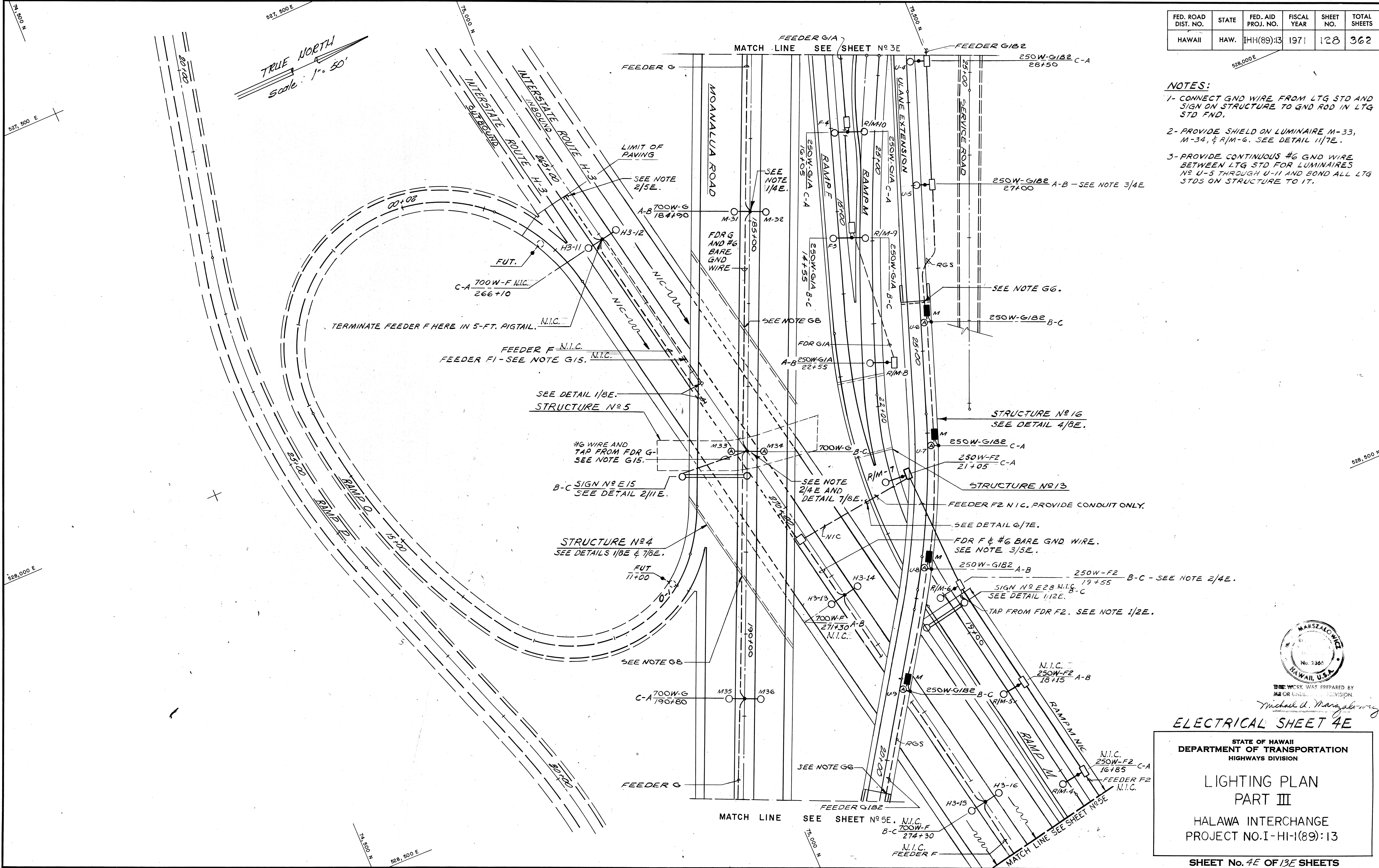


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | IHH(89)13          | 1971        | 128       | 362          |

# NOTES:

- 1- CONNECT GND WIRE FROM LTG STD AND SIGN ON STRUCTURE TO GND ROD IN LTG STD FND.
- 2- PROVIDE SHIELD ON LUMINAIRE M-33, M-34, & R/M-6. SEE DETAIL 11/7E.
- 3- PROVIDE CONTINUOUS #6 GND WIRE BETWEEN LTG STD FOR LUMINAIRES NO U-5 THROUGH U-11 AND BOND ALL LTG STDs ON STRUCTURE TO IT.

|                   |      |
|-------------------|------|
| ORIGINAL PLAN     | DATE |
| SURVEY PLOTTED BY |      |
| DRAWN BY          |      |
| CHECKED BY        |      |
| NOTED BY          |      |
| QUANTITIES BY     |      |
| CHECKED BY        |      |



## ELECTRICAL SHEET 4E

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

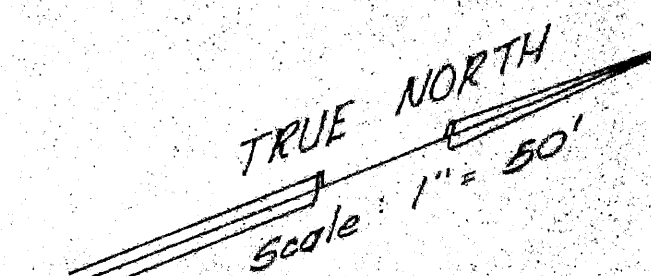
### LIGHTING PLAN PART III

HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89)-13

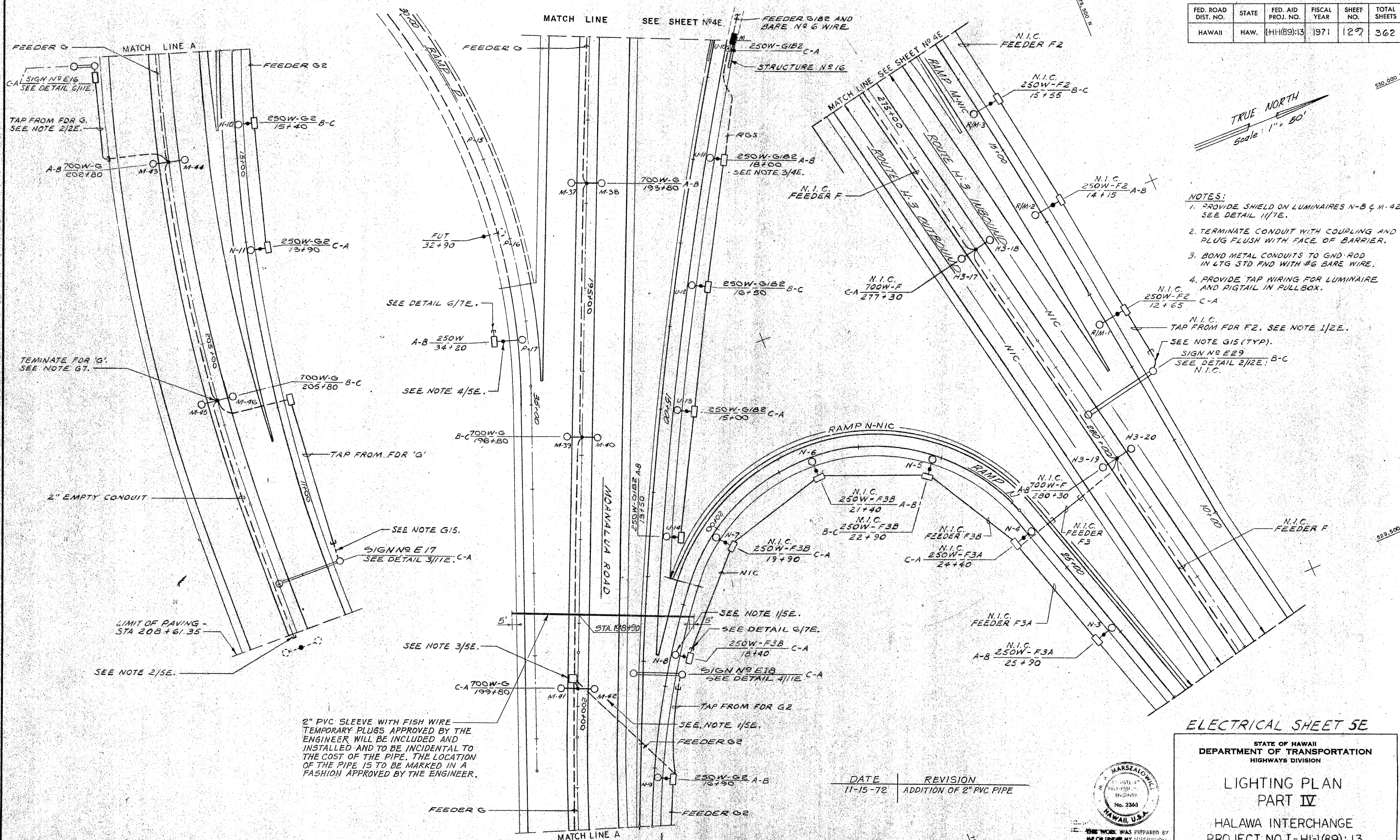
SHEET No. 4E OF 13E SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | [H-1(89):13]       | 1971        | 127       | 362          |



- NOTES:**
1. PROVIDE SHIELD ON LUMINAIRES N-B & M-42. SEE DETAIL 11/7E.
  2. TERMINATE CONDUIT WITH COUPLING AND PLUG FLUSH WITH FACE OF BARRIER.
  3. BOND METAL CONDUITS TO GND. ROD IN LTG STD FND WITH #6 BARE WIRE.
  4. PROVIDE TAP WIRING FOR LUMINAIRE AND RIGTAIL IN PULL BOX.
- N.I.C. 250W-F2 15+55  
N.I.C. 250W-F2 14+15  
N.I.C. 250W-F2 12+65  
N.I.C. TAP FROM FDR F2. SEE NOTE 1/2E.  
SEE NOTE G15 (TYP).  
SIGN NO E29 SEE DETAIL 2/12E. B-C N.I.C.



# ELECTRICAL SHEET 5E

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

## LIGHTING PLAN PART IV

HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89):13

SHEET No. 5E OF 13 SHEETS



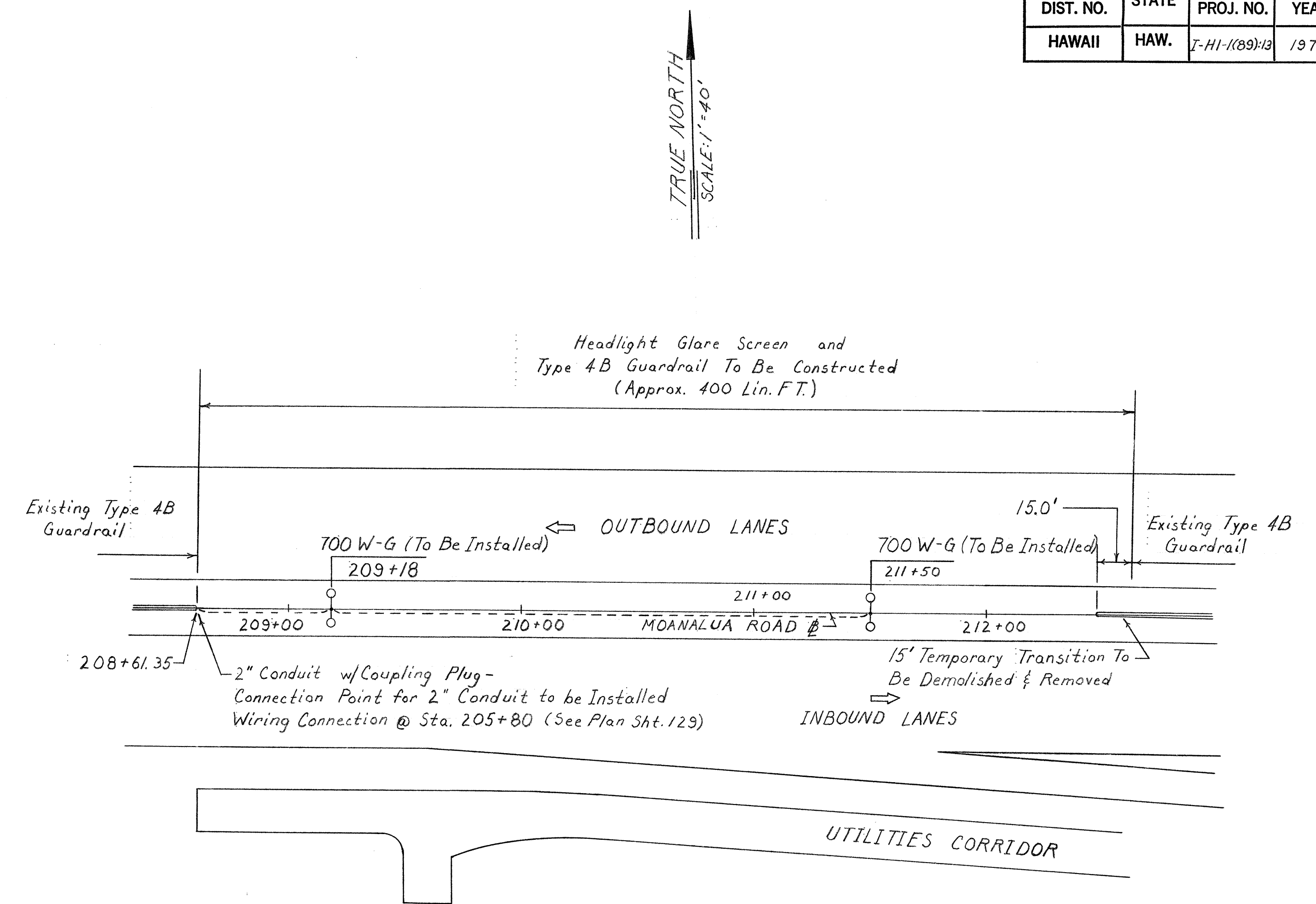
THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.  
Michael A. Mangalung

| DATE     | REVISION                |
|----------|-------------------------|
| 11-15-72 | ADDITION OF 2" PVC PIPE |

|             |          |
|-------------|----------|
| DATE        | 11-15-72 |
| DESIGNED BY | MA       |
| CHECKED BY  | MA       |
| APPROVED BY | MA       |
| NOTED BY    | MA       |
| ORIGINAL    | MA       |



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO.    | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|--------------|--------------|
| HAWAII              | HAW.  | I-HI-1(89):13      | 1976        | C.O. 129 S-1 | 362          |



NOTE: Stationing Extended From The  
FAIP No. I-HI-1(89):13 Baseline.

|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| TRACED BY     |                   |      |
| NOTED BY      |                   |      |
| CHECKED BY    |                   |      |
| No.           |                   |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

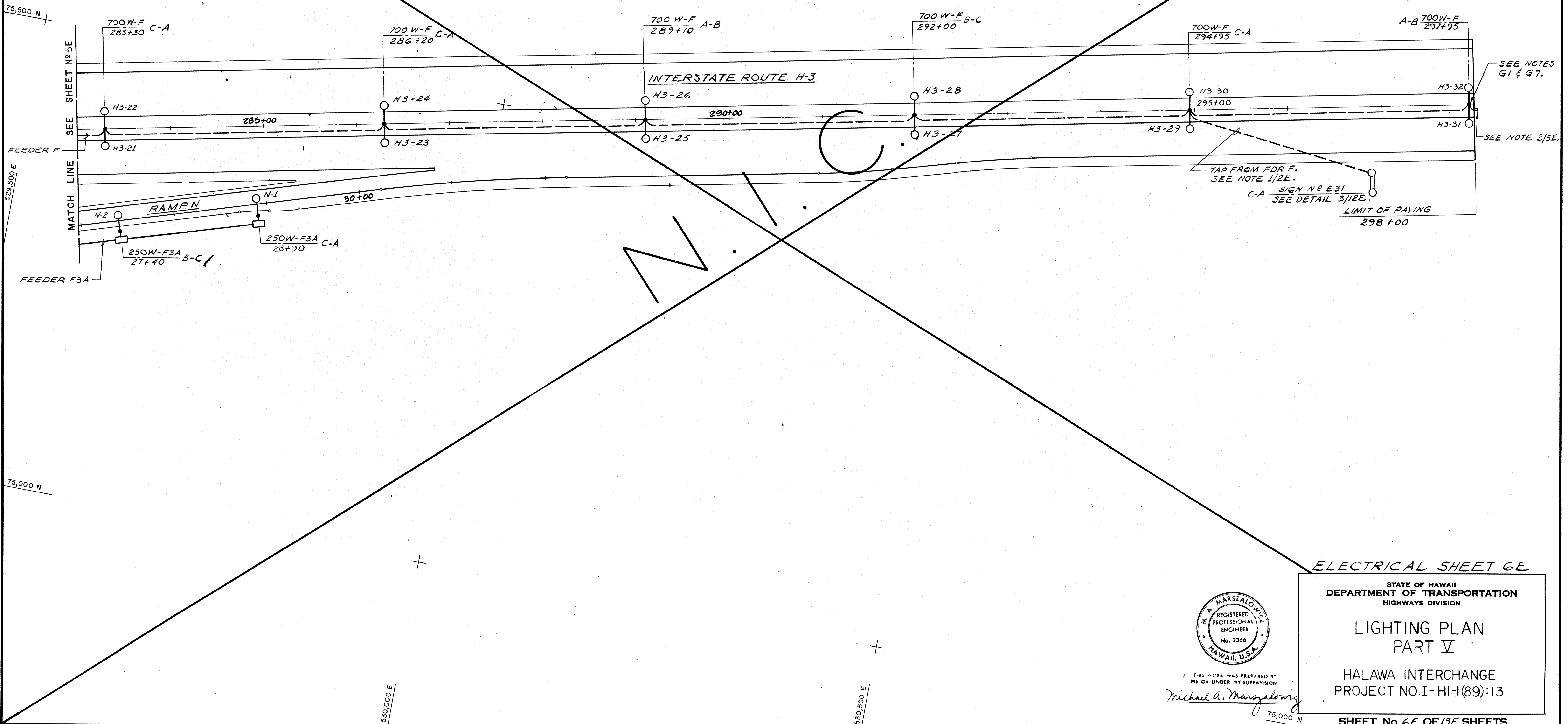
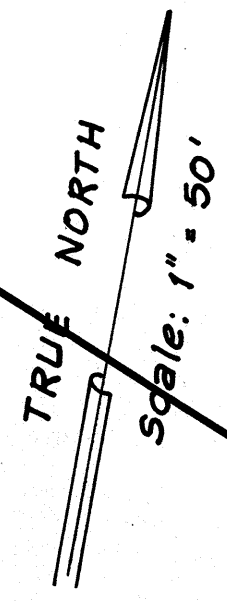
LIGHTING PLAN  
PART IV  
C.C.O. #51  
HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89):13  
Scale: As Shown

SHEET NO. OF SHEETS

C.O. 129 S-1



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HI-1(89):13        | 1971        | 130       | 362          |



|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTED BY      | DRAWN BY          |      |
| CHECKED BY    | TRACED BY         |      |
|               | QUANTITIES BY     |      |
|               | CHECKED BY        |      |



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**ELECTRICAL SHEET 6E**

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LIGHTING PLAN  
PART V**

HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89):13

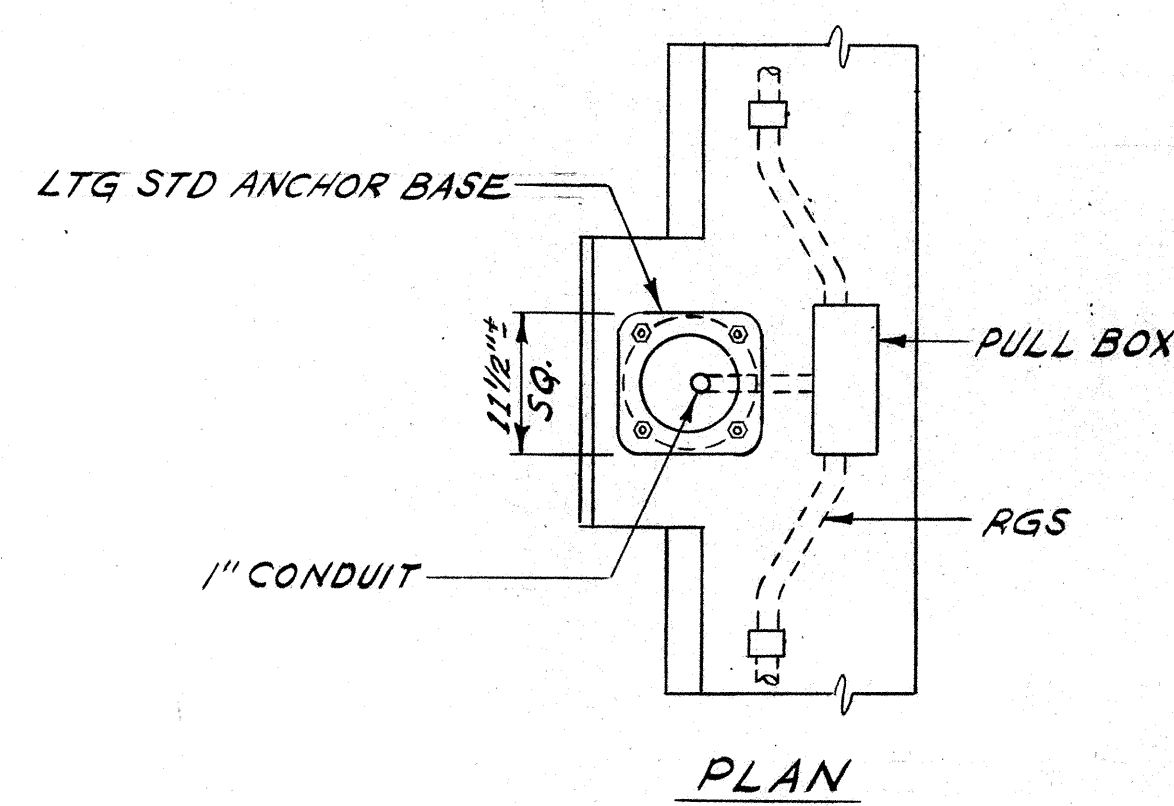
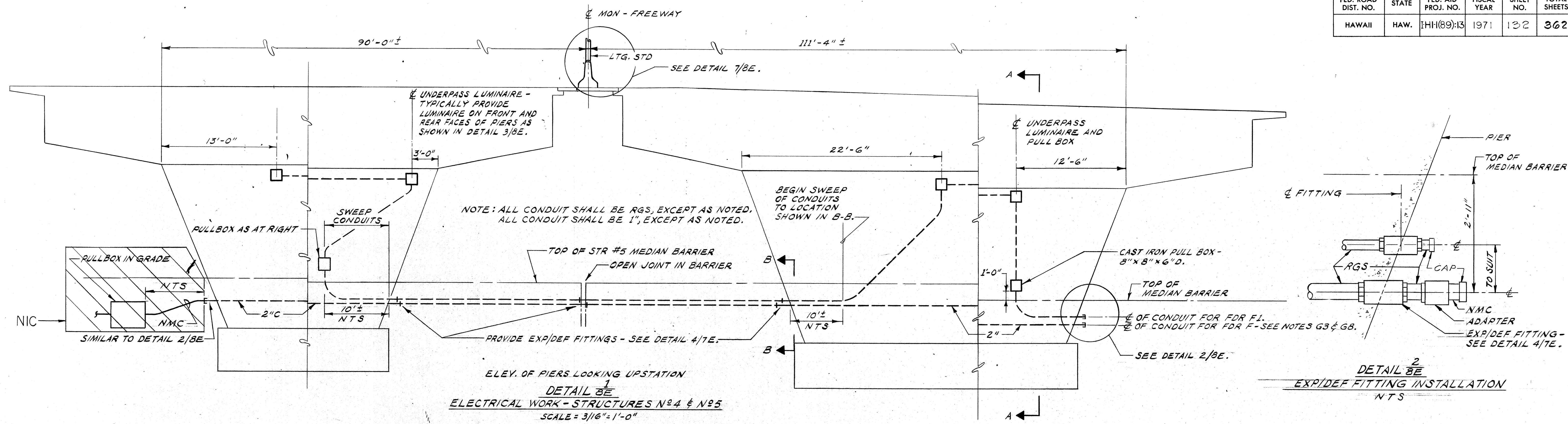
**SHEET No. 6E OF 13E SHEETS**







| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | IHH(89)13          | 1971        | 132       | 362          |



DISTRIBUTE CONNECTIONS AMONG PHASES AS FOLLOWS:  
BETWEEN PHASES A & B - 3 LIGHTS.  
BETWEEN PHASES B & C - 2 LIGHTS.  
BETWEEN PHASES C & A - 3 LIGHTS.

NOTE: ANCHOR BOLTS, WASHERS & NUTS TO BE HOT DIPPED GALVANIZED.

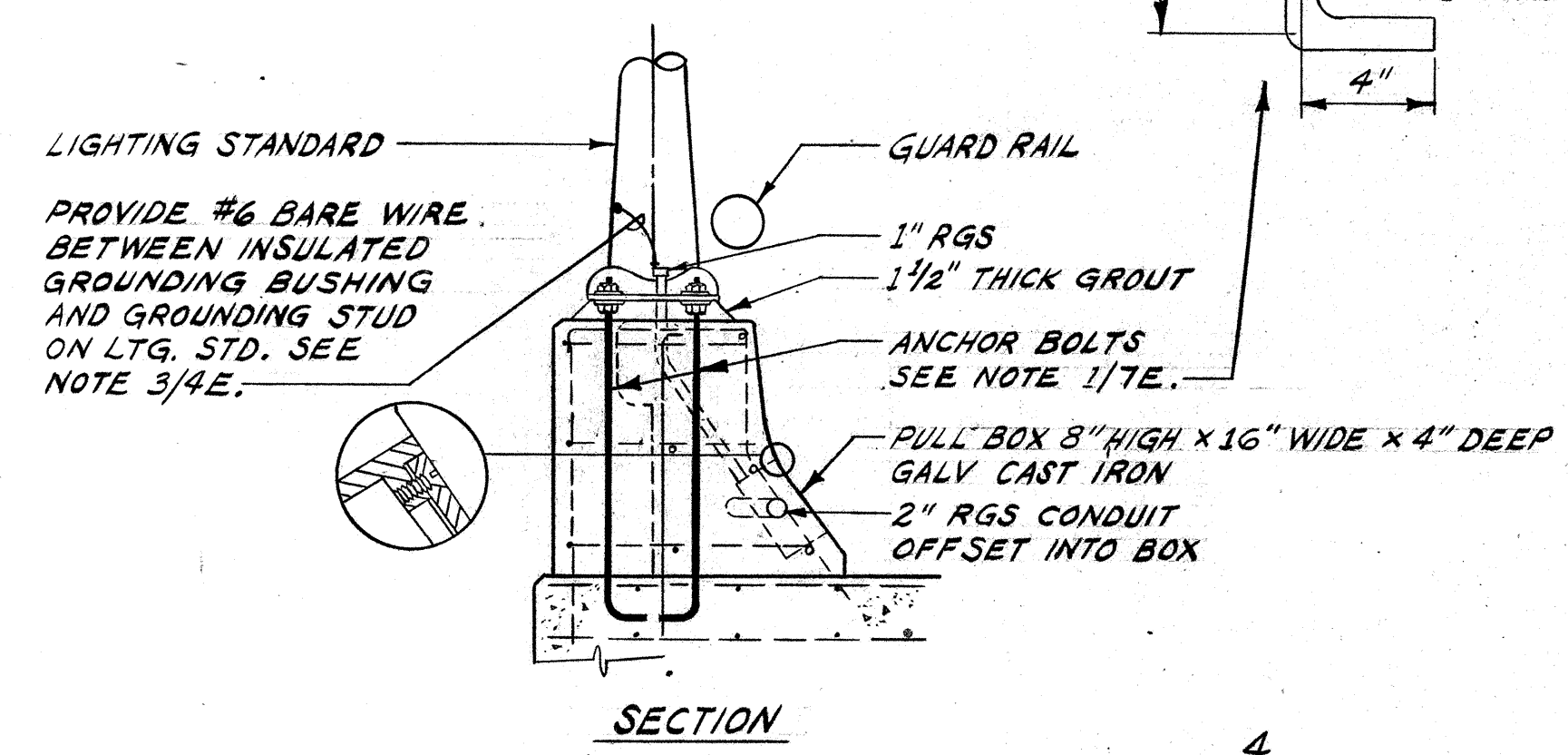
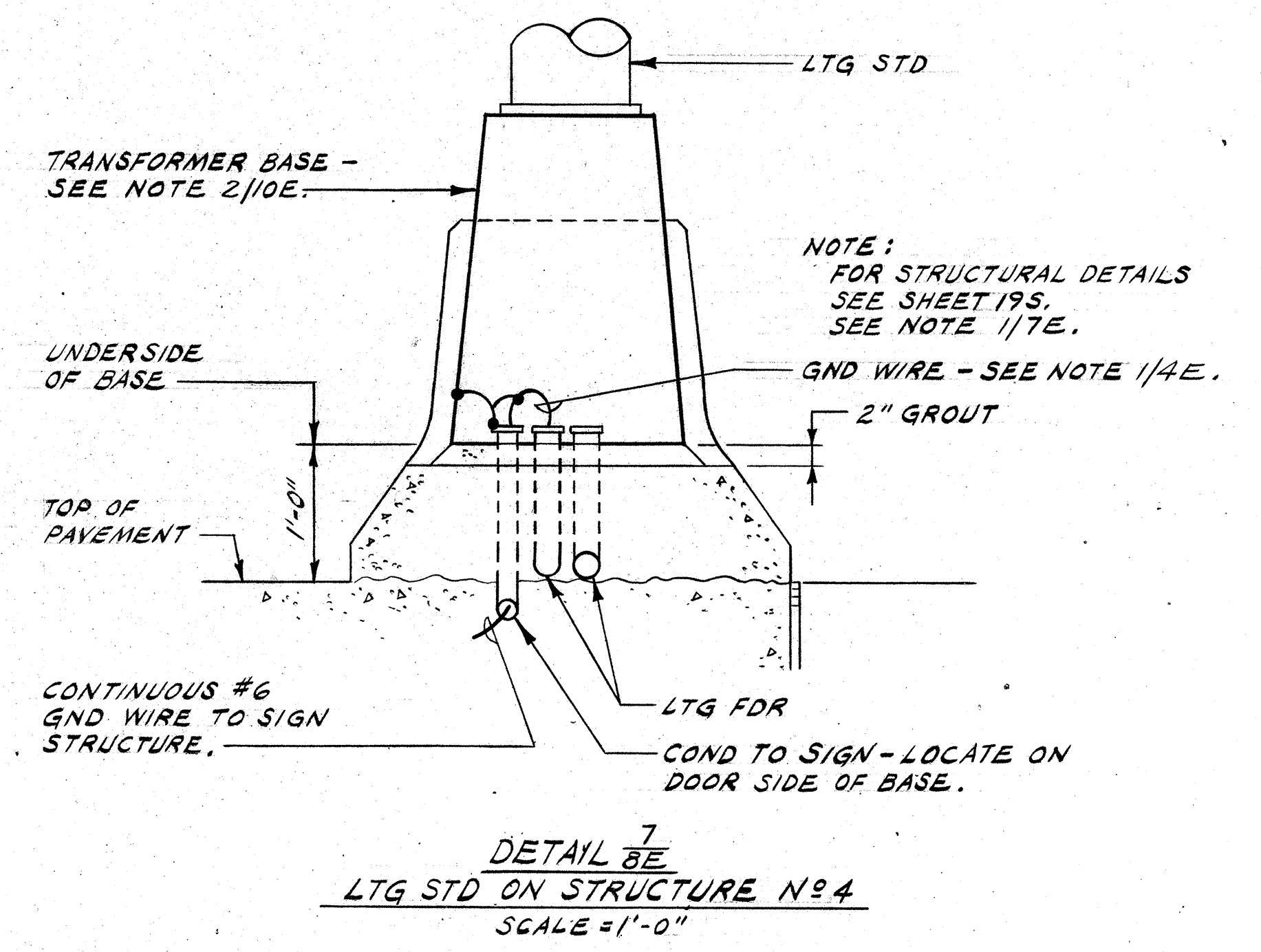
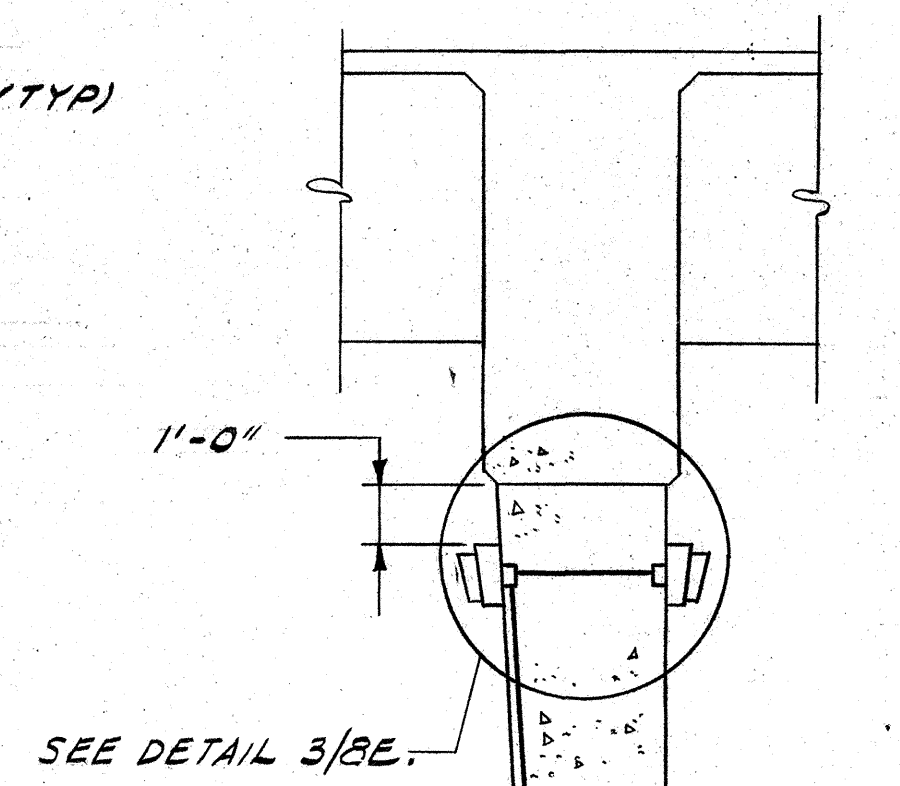
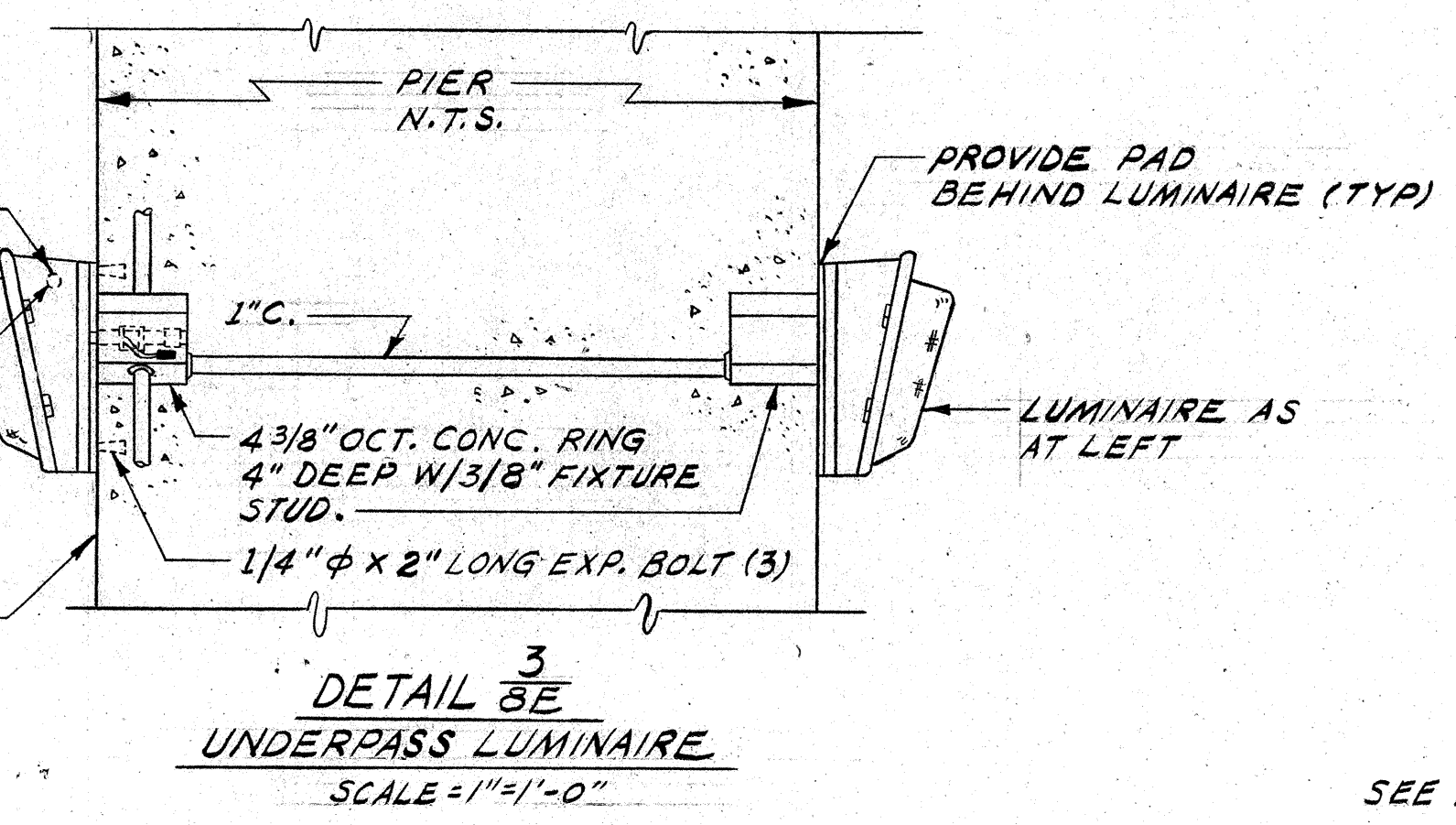
1" N.C.

2'-8"

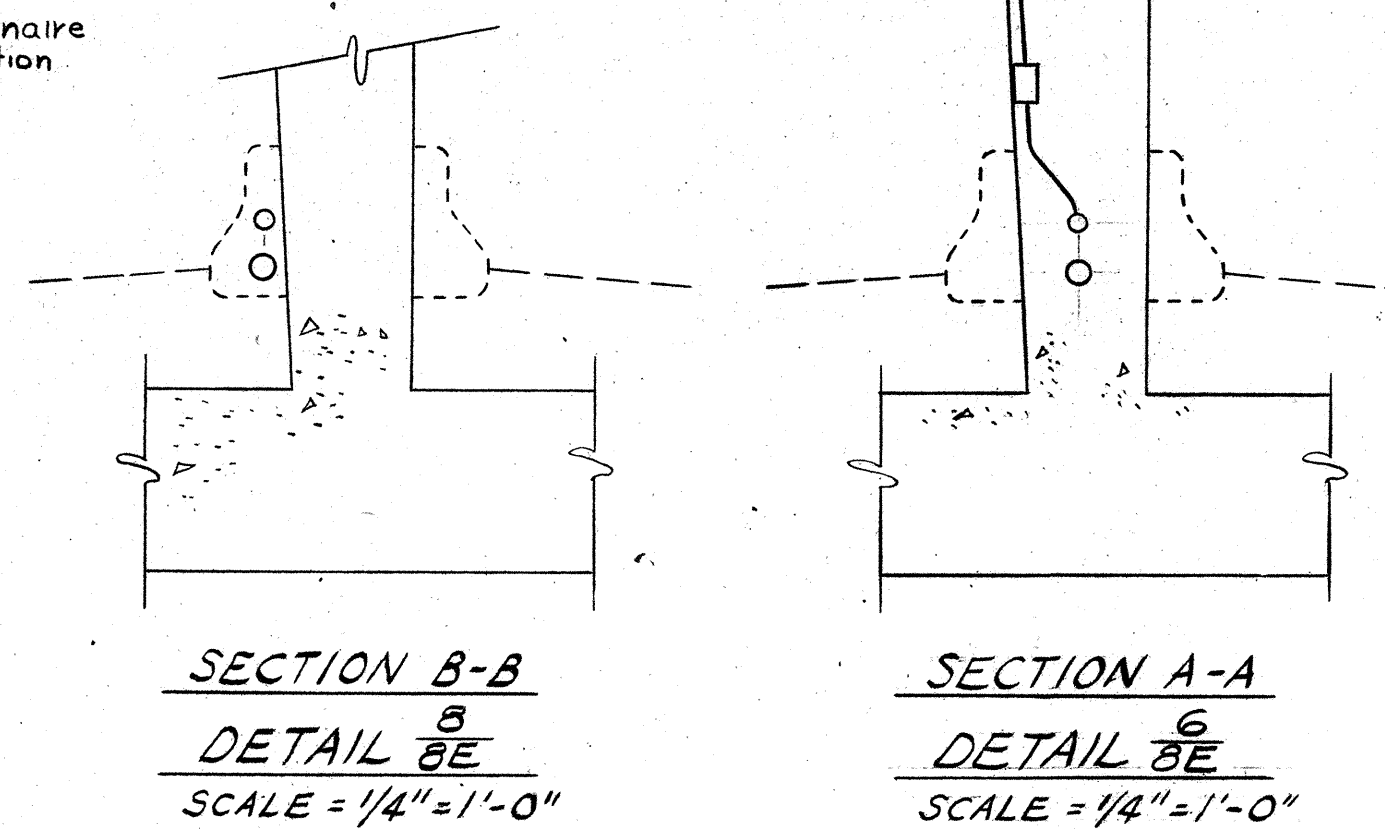
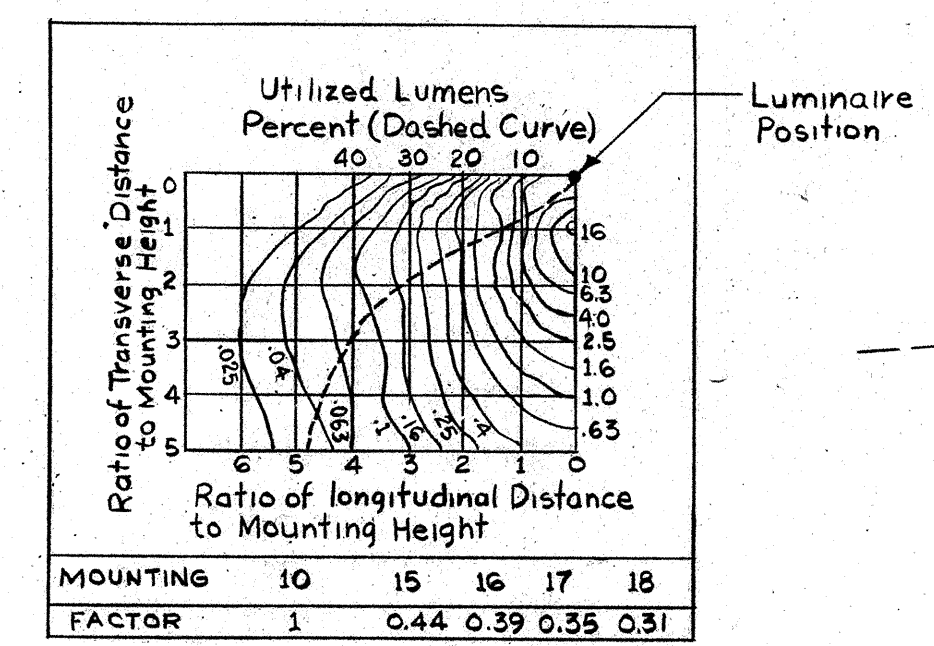
6" THREADS

1" DIA.

4"



DETAIL 4  
LTG STD ON STRUCTURE N16  
NO SCALE



W. A. MARZALOWICZ  
REGISTERED PROFESSIONAL ENGINEER  
No. 2366  
HAWAII, U.S.A.

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Michael A. Marzalone

ELECTRICAL SHEET 8E

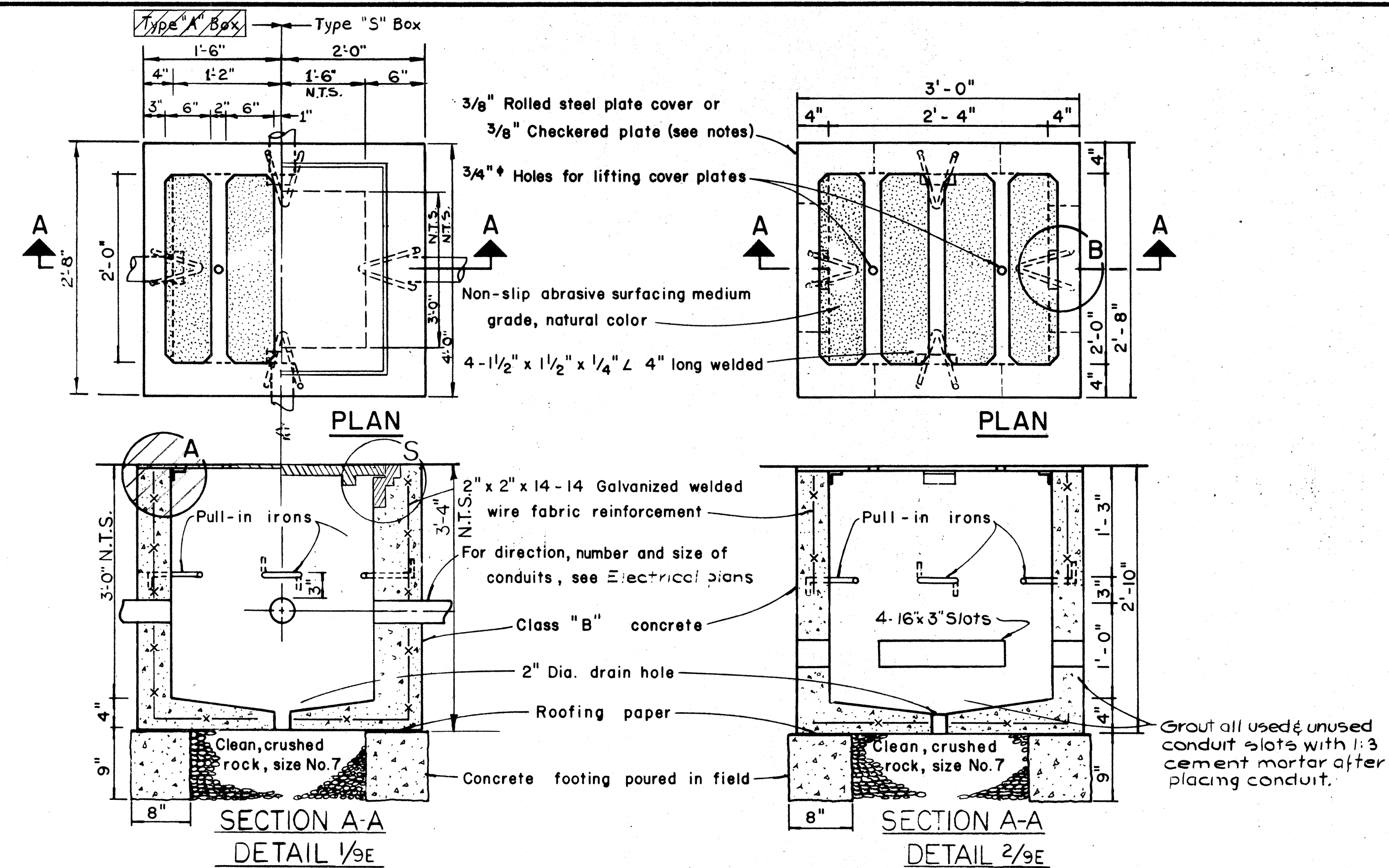
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ELECTRICAL DETAILS  
STRUCTURES

HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89):13

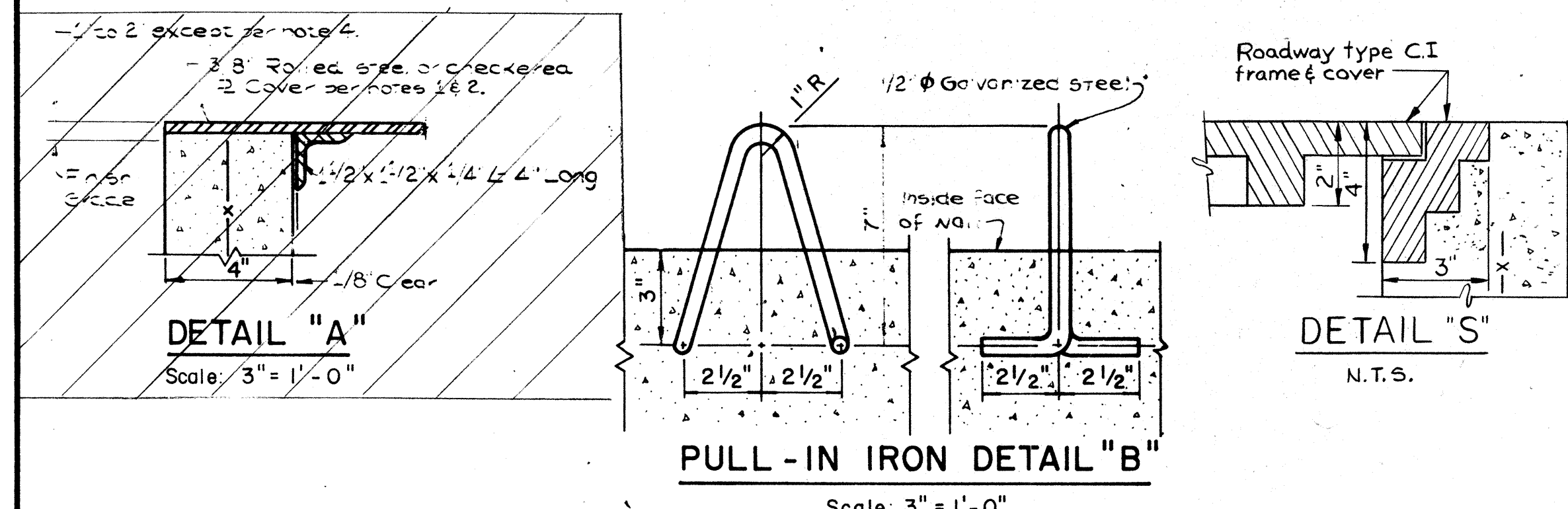
SHEET No. 8E OF 13E SHEETS





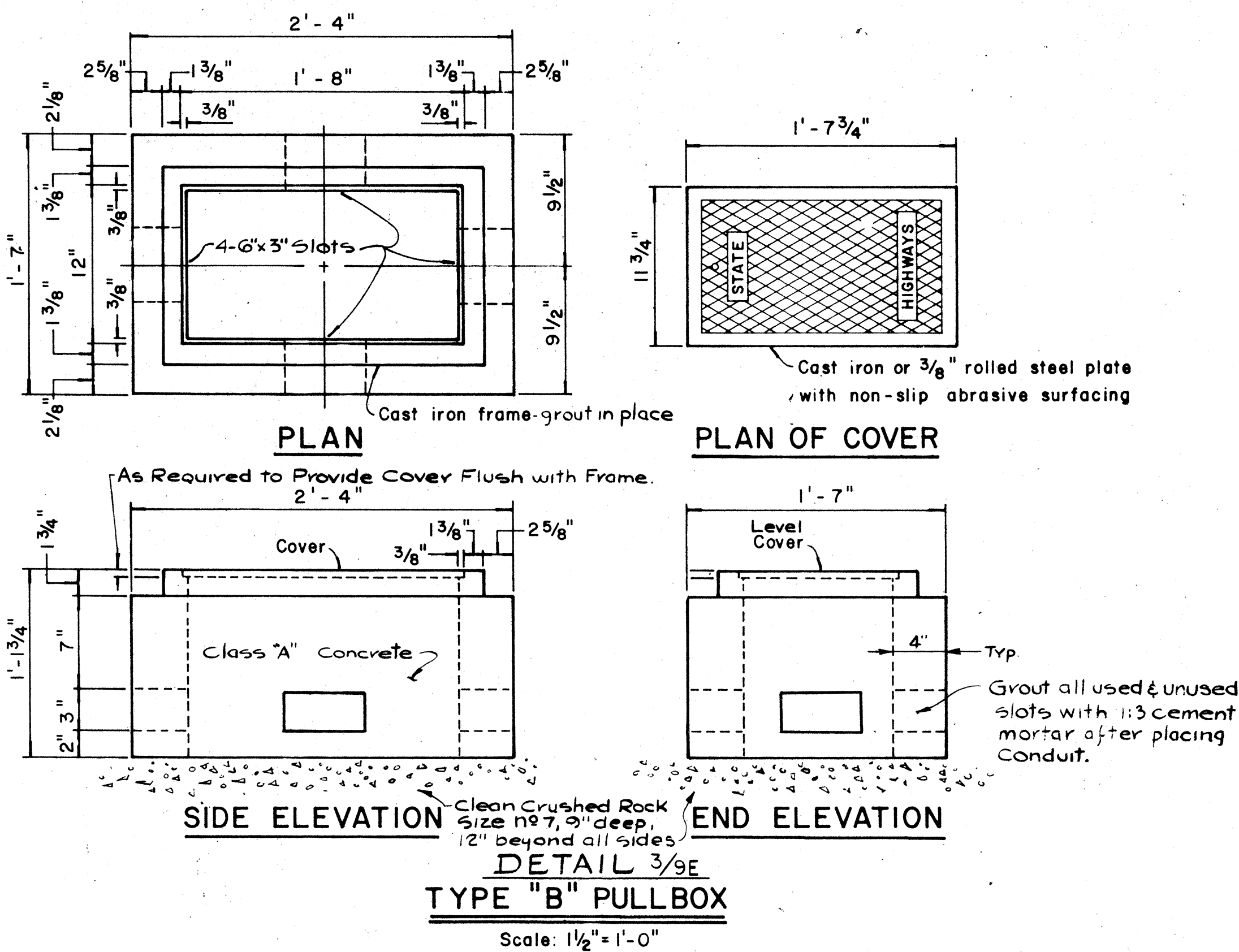
TYPE "A" PULLBOX CAST-IN-PLACE  
TYPE "S" PULLBOX CAST-IN-PLACE  
Scale: 1" = 1'-0"

TYPE "A" PULLBOX PRECAST  
Scale: 1" = 1'-0"

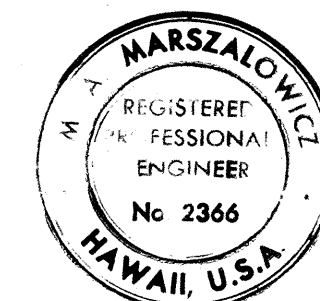


NOTES: (FOR TYPE "A" & "S")

- 3/8" Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
- 3/8" Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
- Pull irons shall be placed opposite each conduit slot.
- Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
- Each pullbox shall have a pair of pull irons as indicated. These may be used for lifting.



DETAIL 3/3E  
TYPE "B" PULLBOX  
Scale: 1 1/2" = 1'-0"



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## ELECTRICAL SHEET 9E

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### ELECTRICAL DETAILS PULLBOXES

HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89)-13

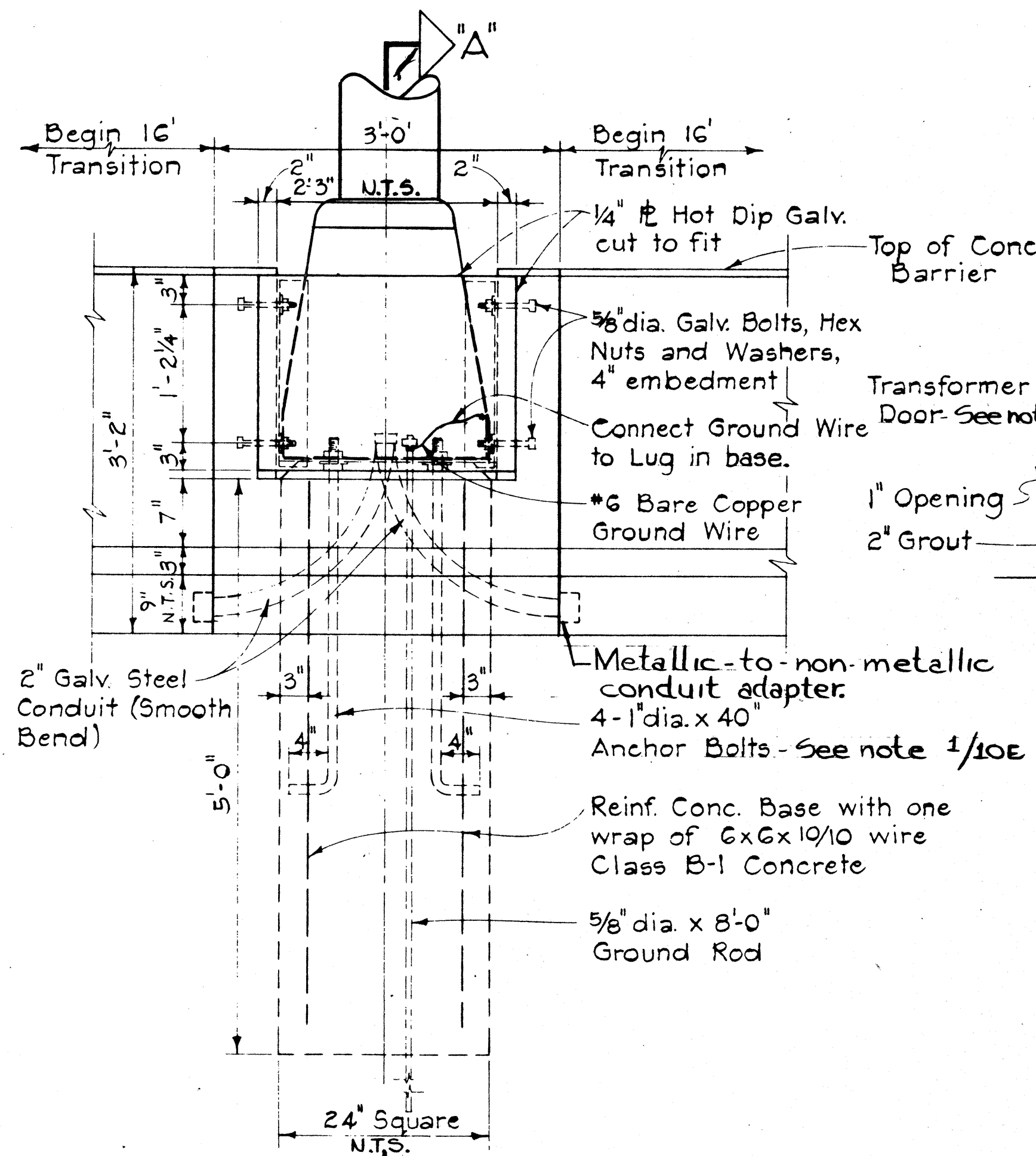
Scale as noted Date

SHEET No. 9E OF 13E SHEETS

11 33 33



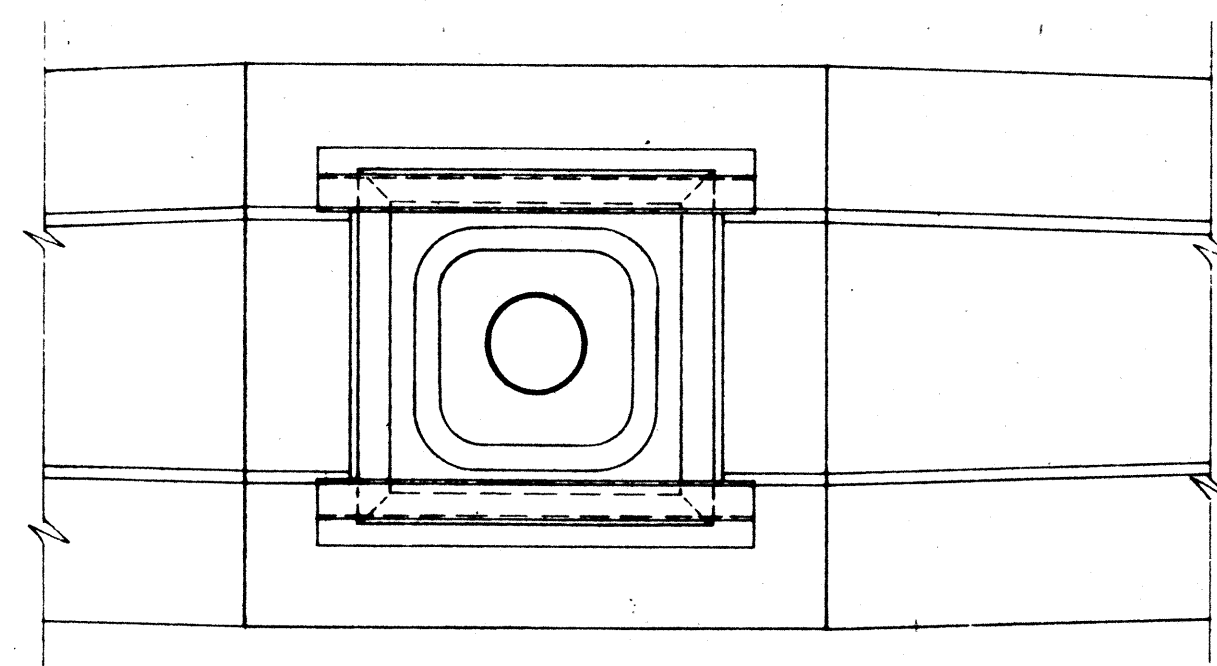
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11H(89)13          | 1971        | 134       | 362          |



ELEVATION DETAIL 1/10E

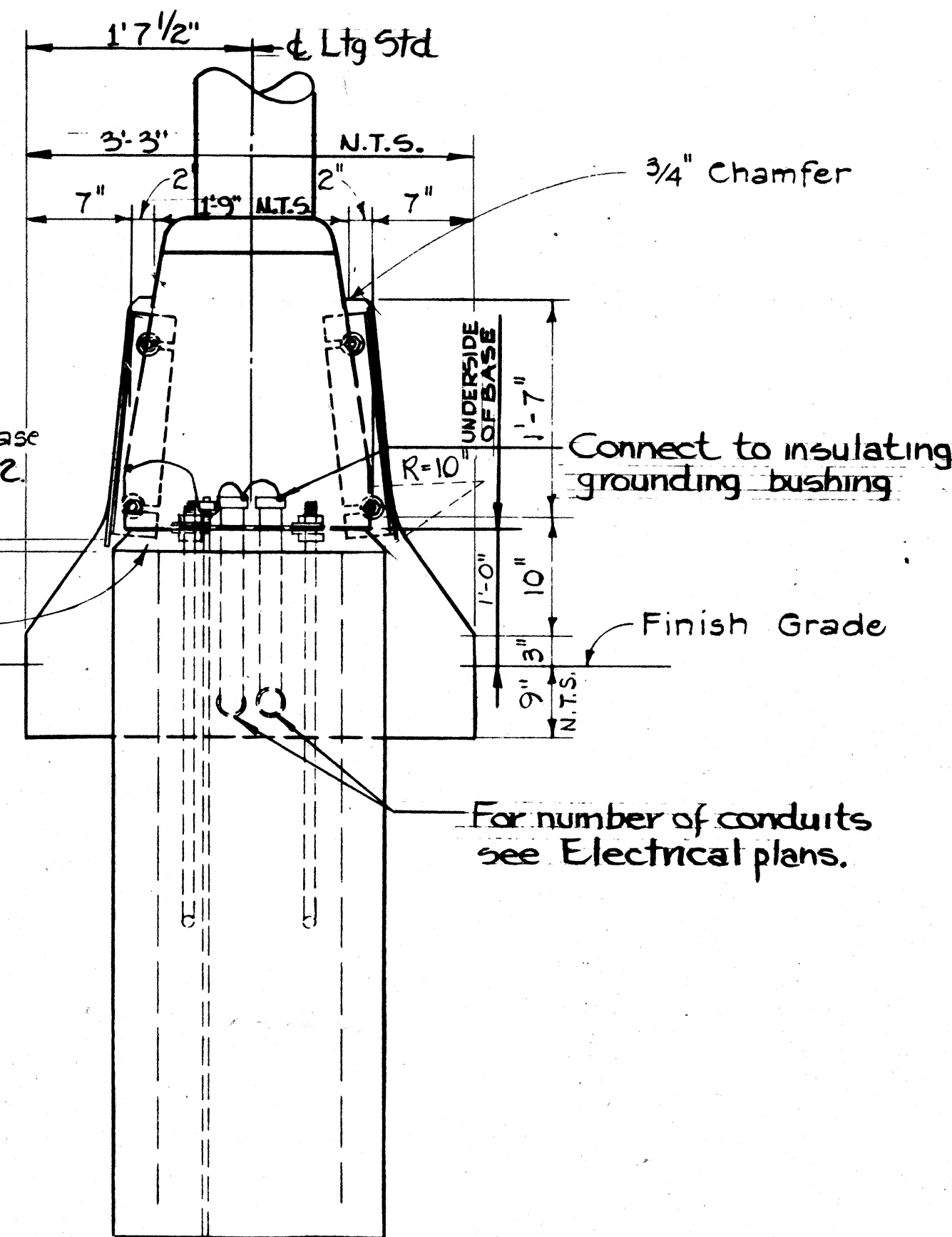
### HIGHWAY LIGHTING STANDARD MOUNTING DETAIL ON TYPE "A" CONCRETE BARRIER

Scale: 1" = 1'-0"

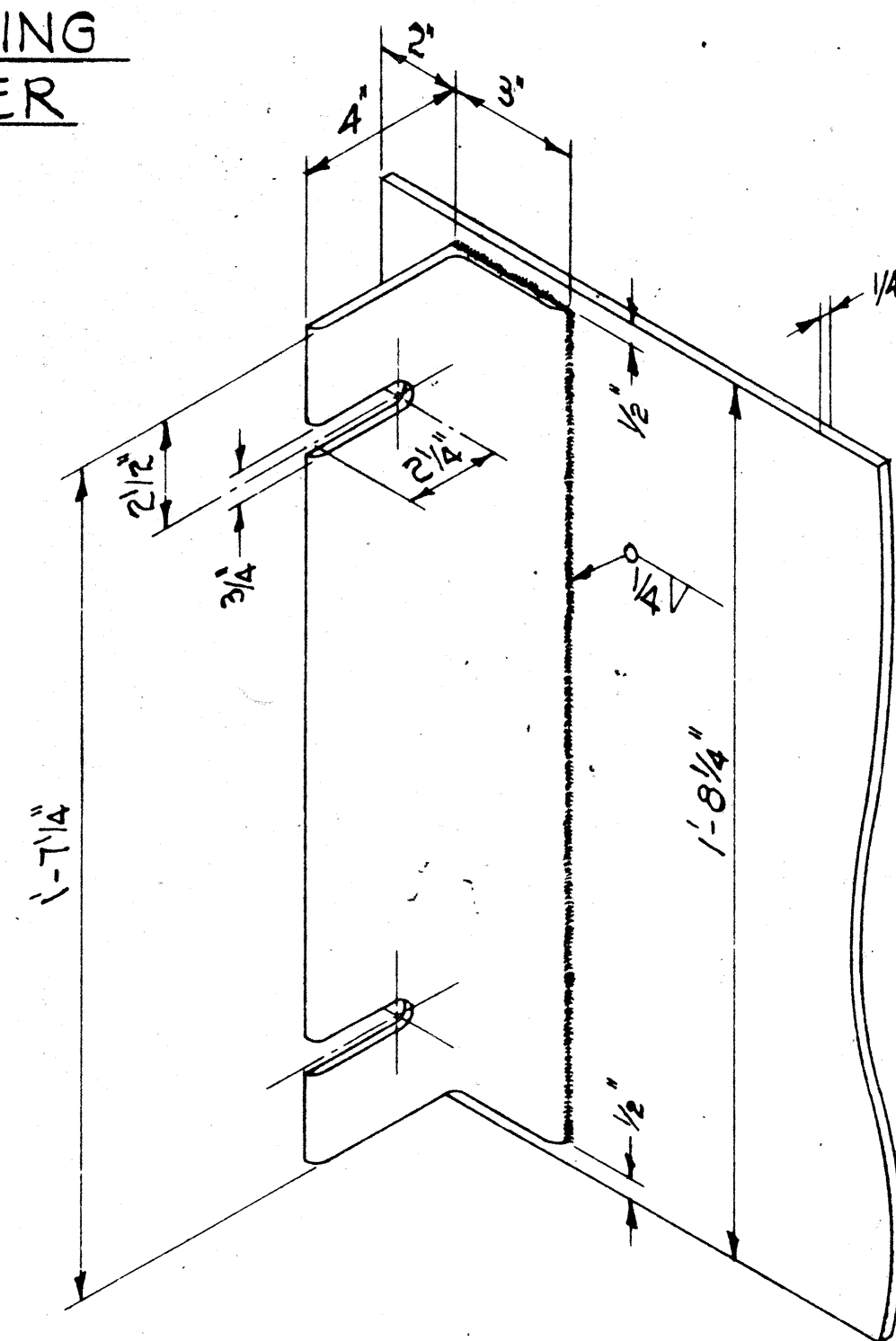


TYPICAL PLAN

Scale: 1" = 1'-0"

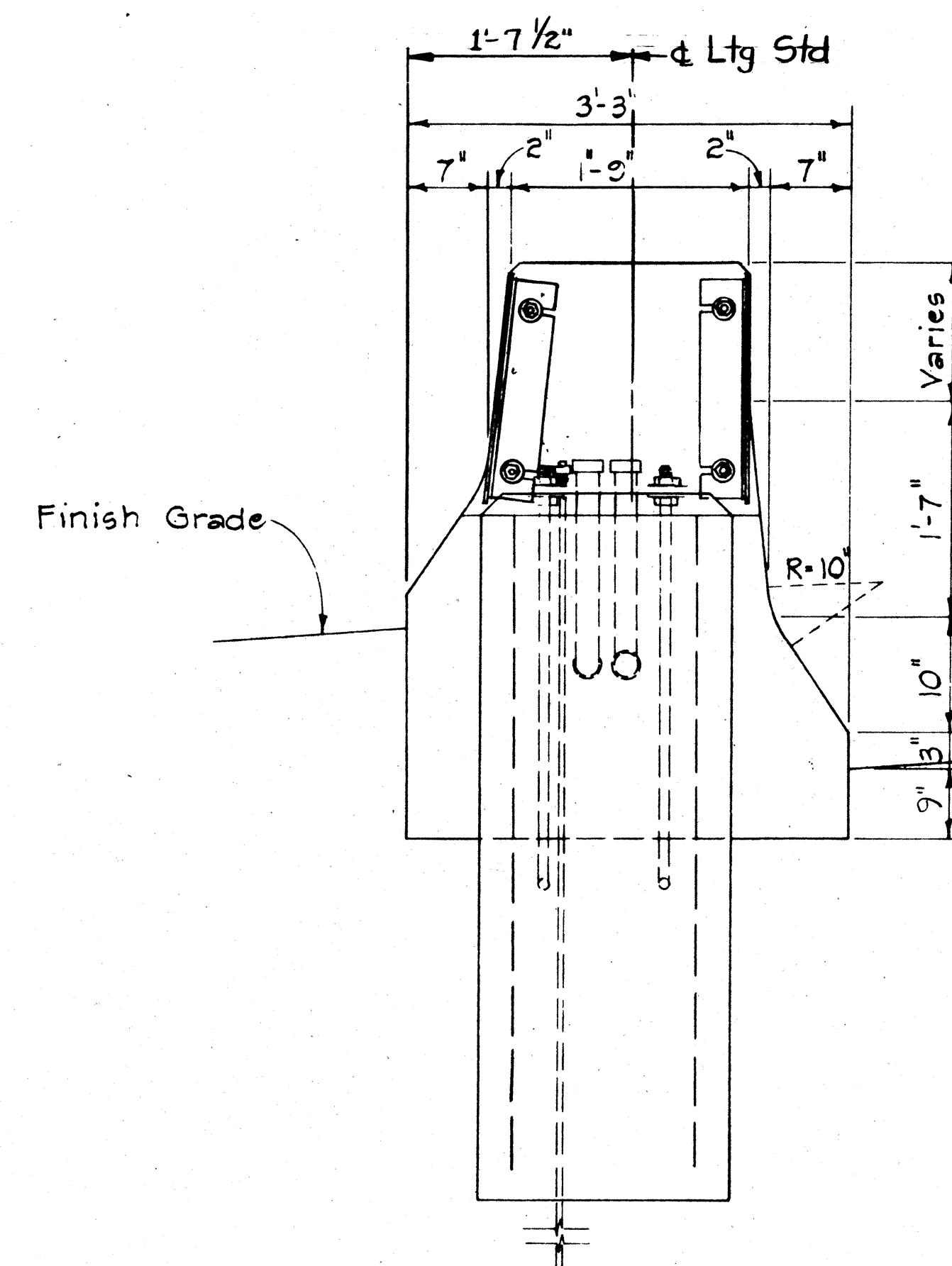


SECTION "A-A"



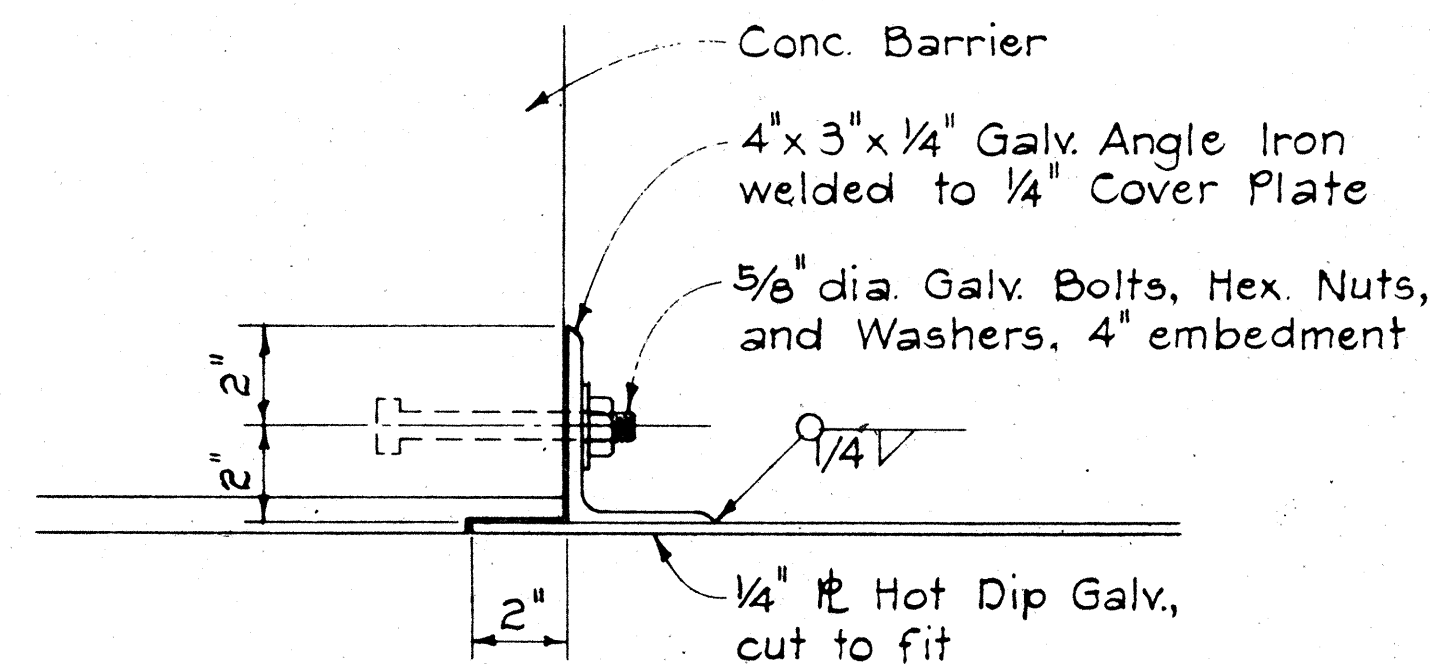
ANGLE IRON-COVER PLATE DETAIL

Scale: 3" = 1'-0"



### HIGHWAY LIGHTING STANDARD MOUNTING DETAIL ON TYPE "B" CONCRETE BARRIER

Scale: 1" = 1'-0"

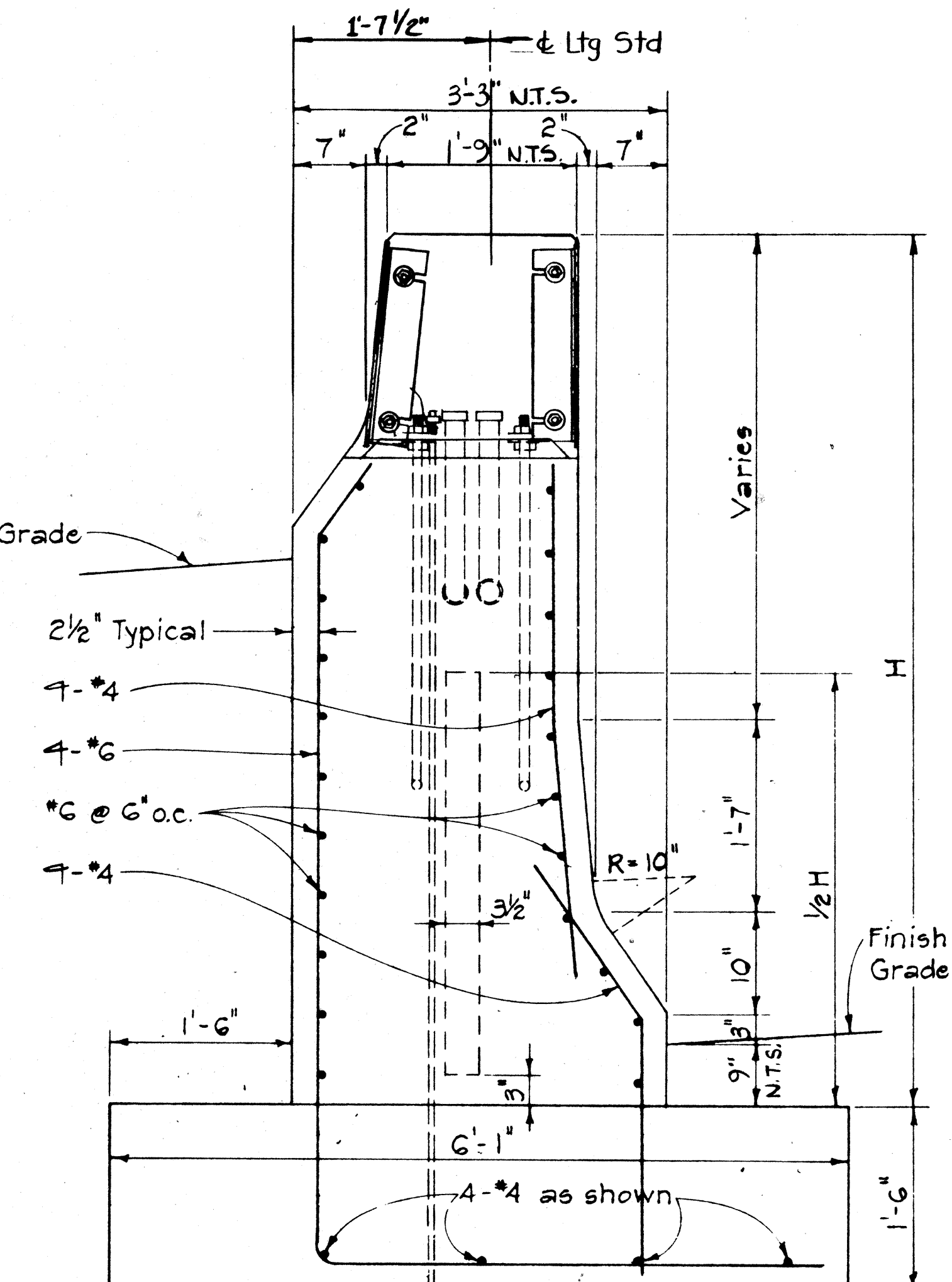


COVER PLATE ANCHOR DETAIL

Scale: 3" = 1'-0"

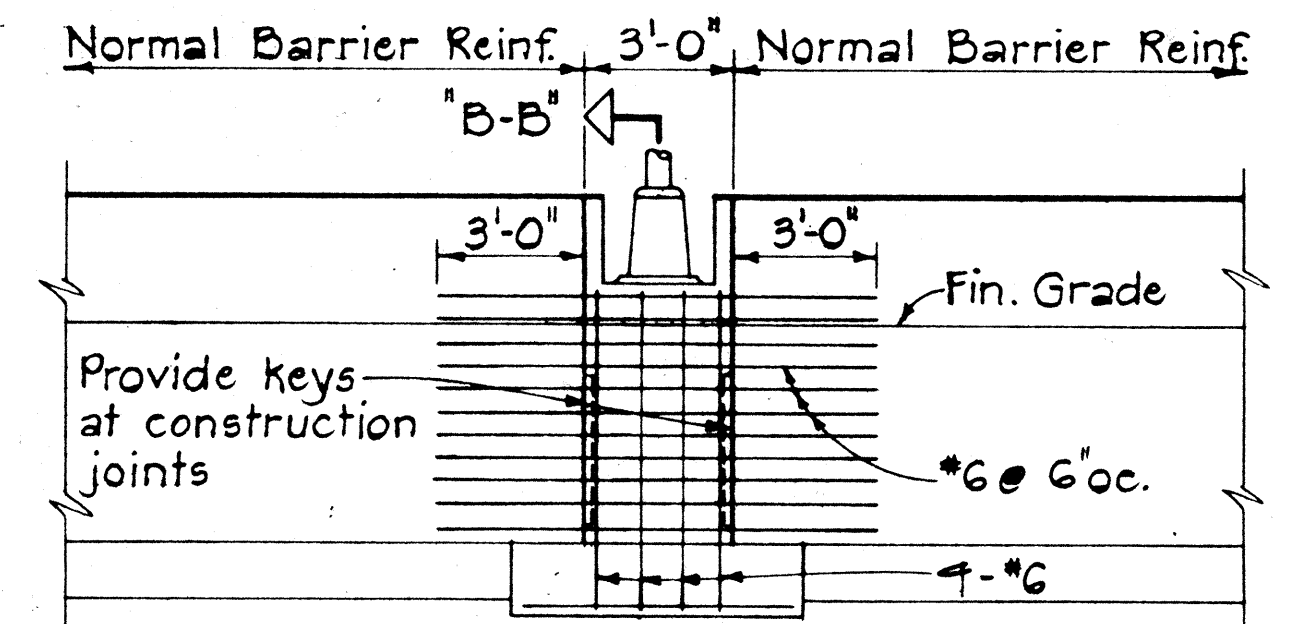
#### NOTES:

1. Provide 5-foot by 2-foot by 2-foot lighting standard foundation complete including elbows, grounding, anchor rods, reinforcing, concrete, and excavation under lighting standard item. Provide all other indicated construction under barrier item.
2. Position transformer base so that door is at right hand side of all lighting standards when looking up station.



SECTION "B-B"

Scale: 1" = 1'-0"

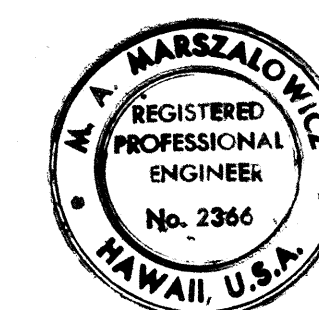


ELEVATION

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

### HIGHWAY LIGHTING STANDARD MOUNTING DETAIL ON TYPE "C" CONC BARRIER

ELECTRICAL SHEET 10E



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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ELECTRICAL DETAILS  
LTG. STD. ON BARRIER

HALAWA INTERCHANGE  
PROJECT NO. I-HH(89)13

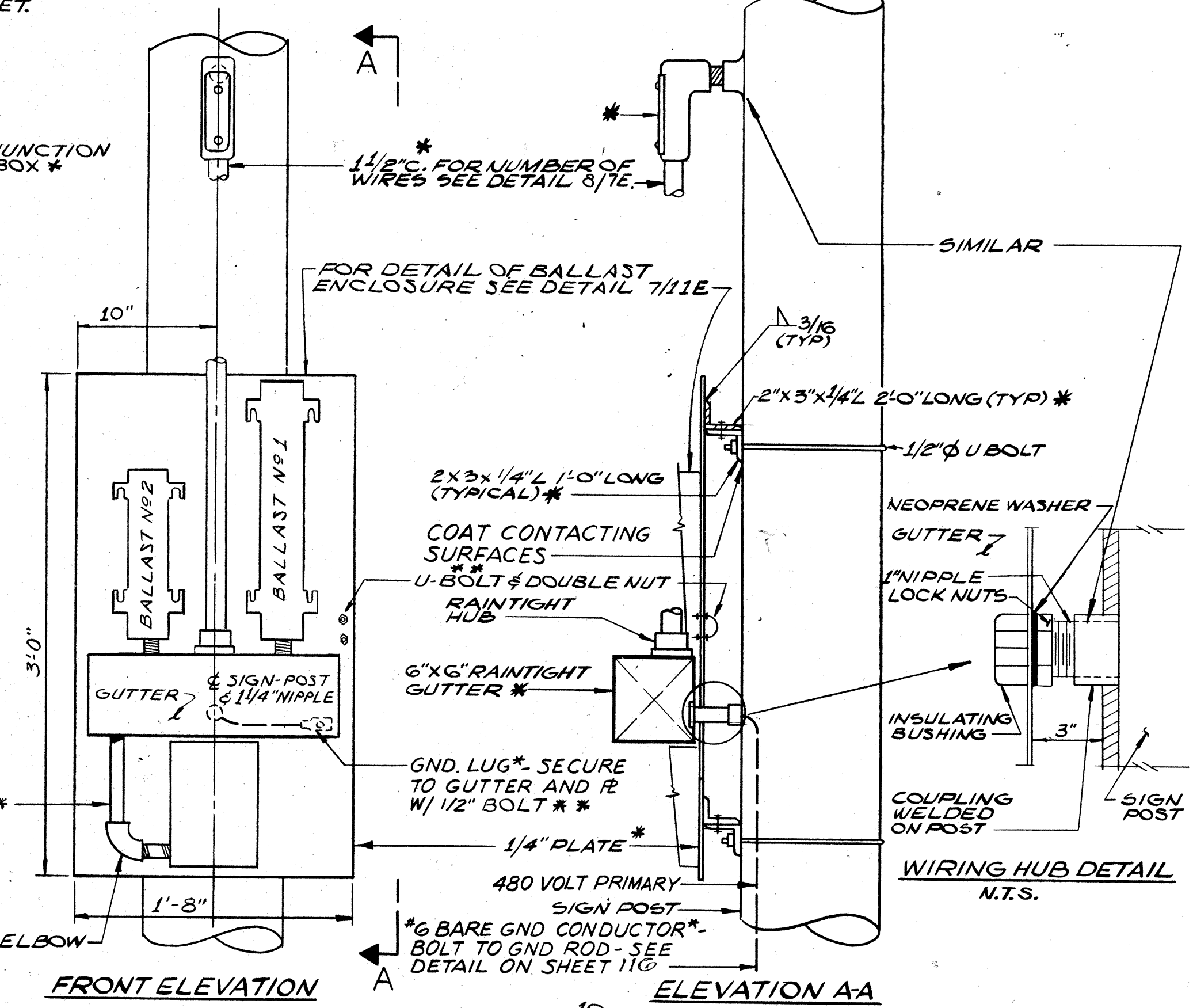
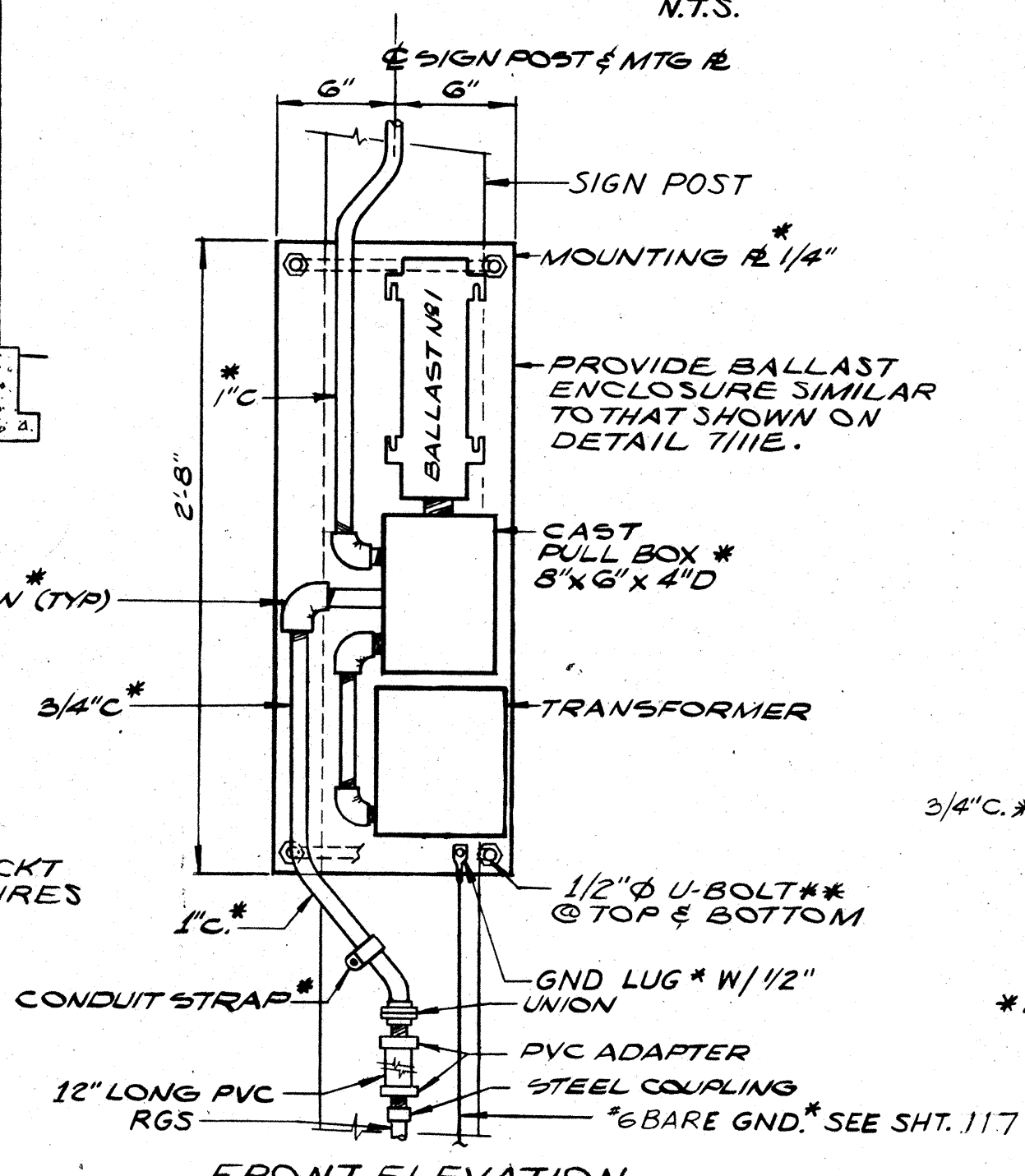
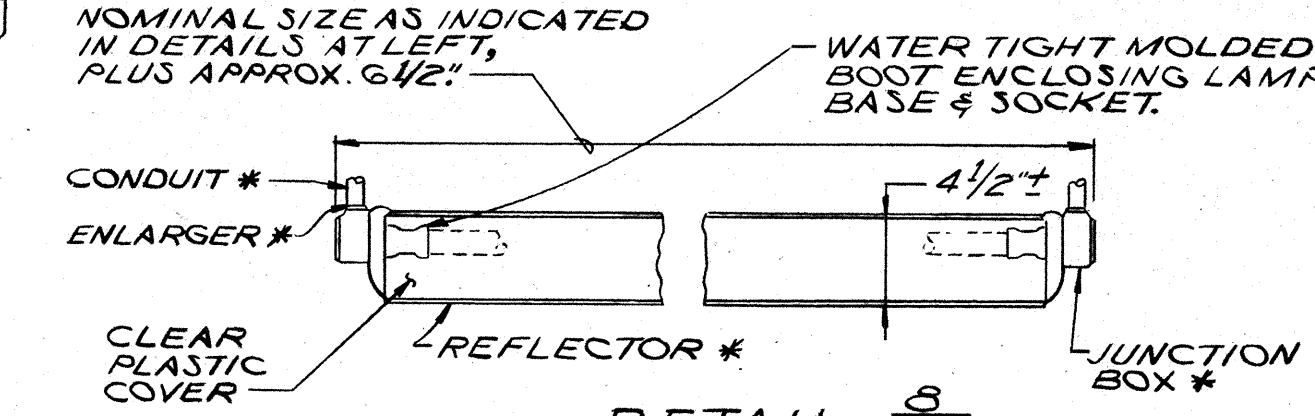
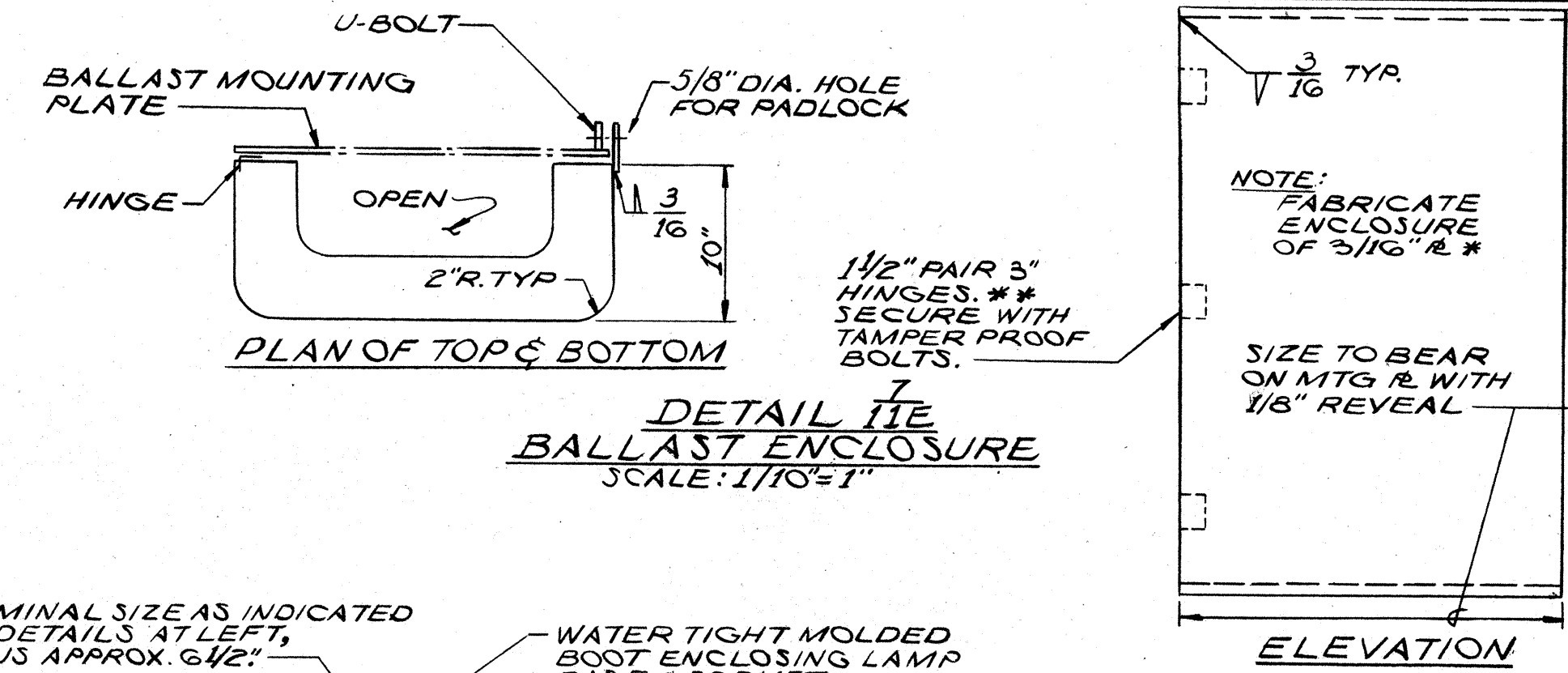
Scale: As Shown Date:

SHEET No. 10E OF 13E SHEETS

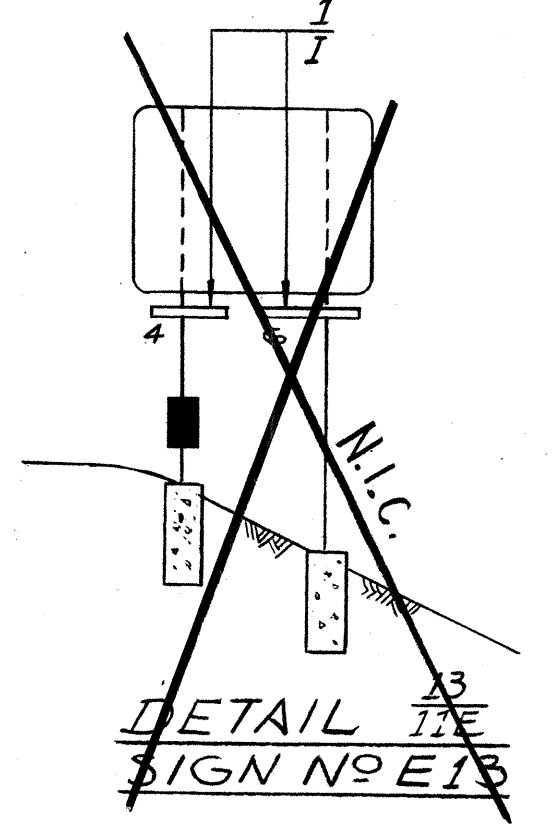
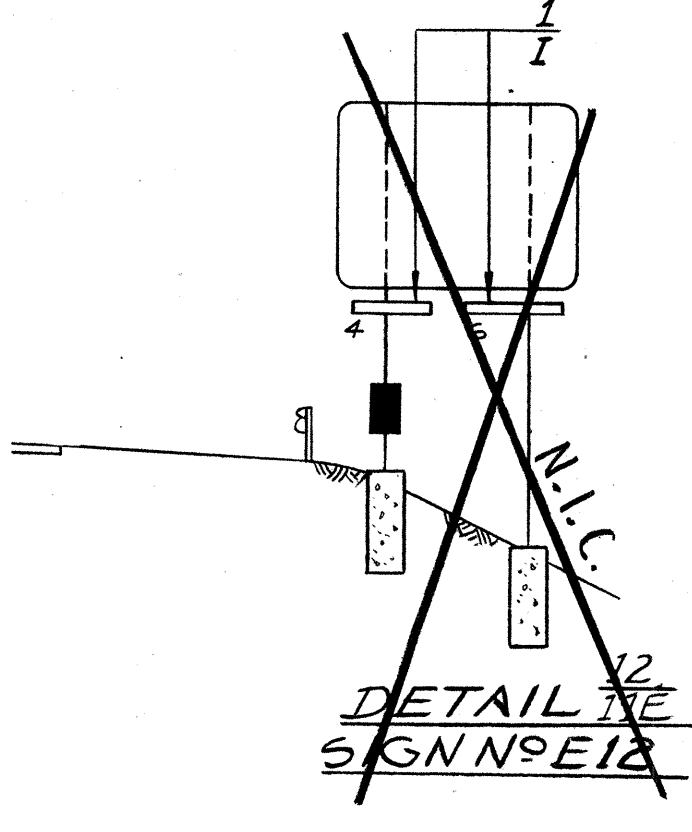
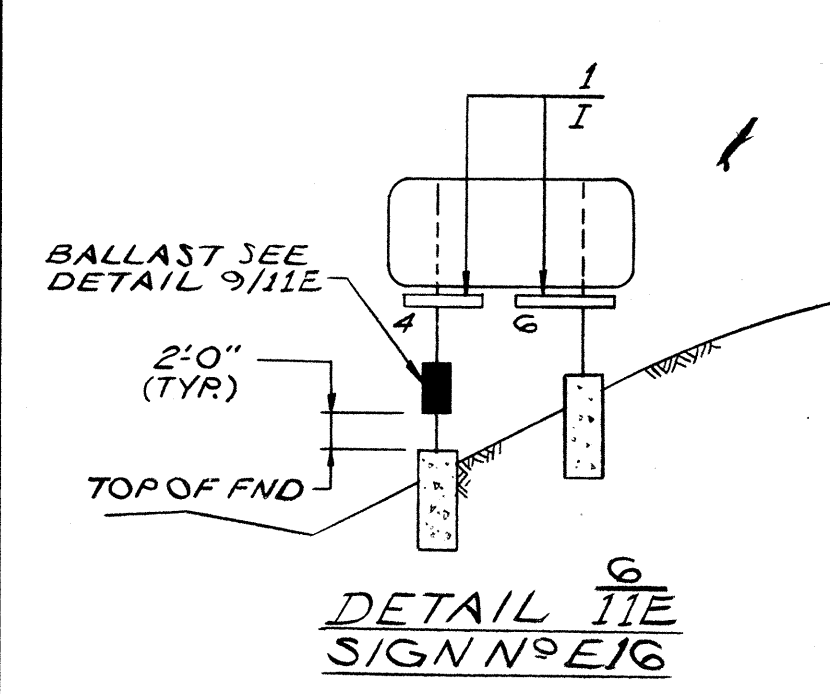
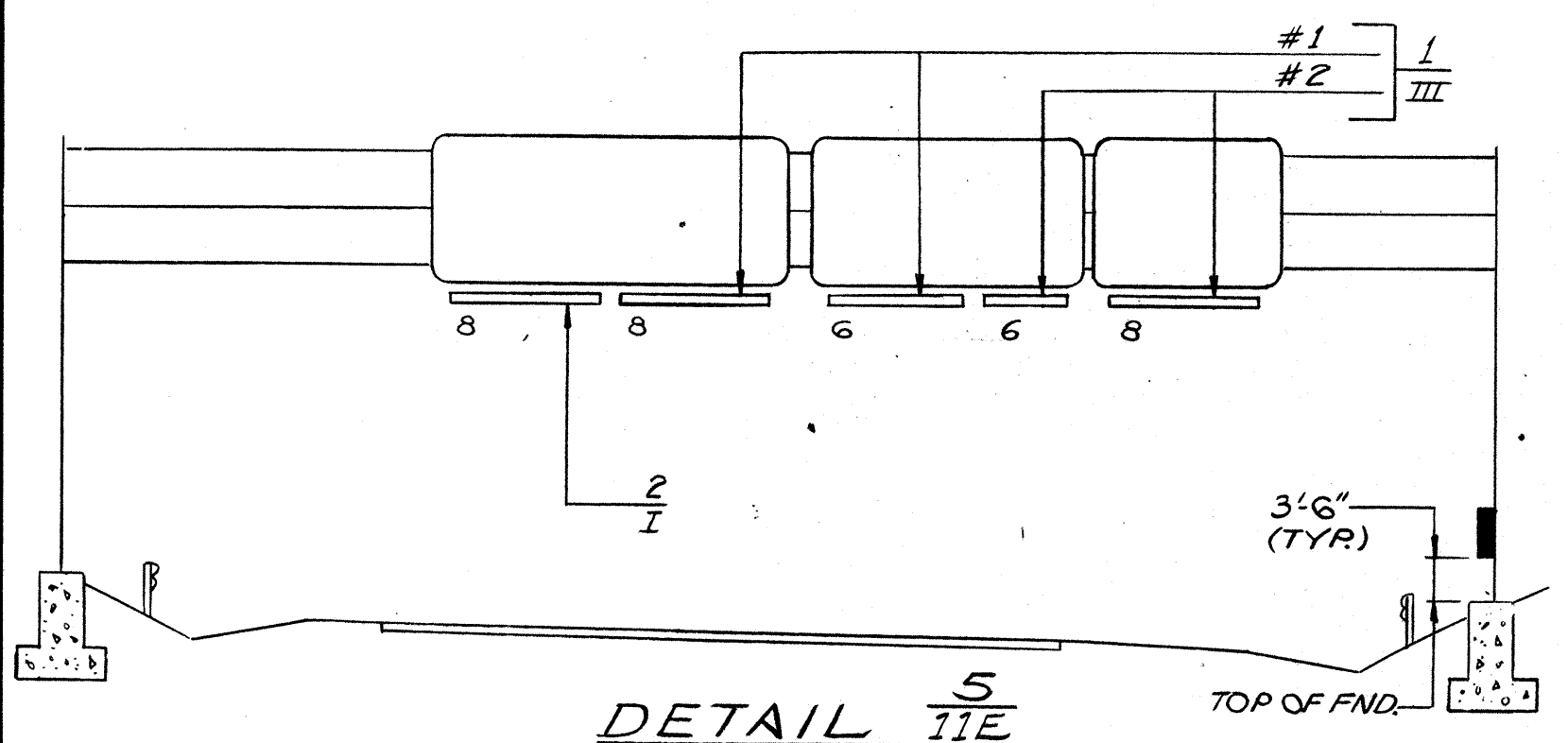
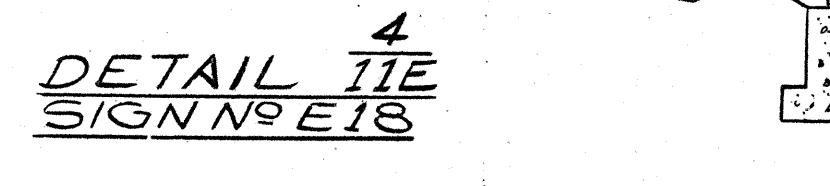
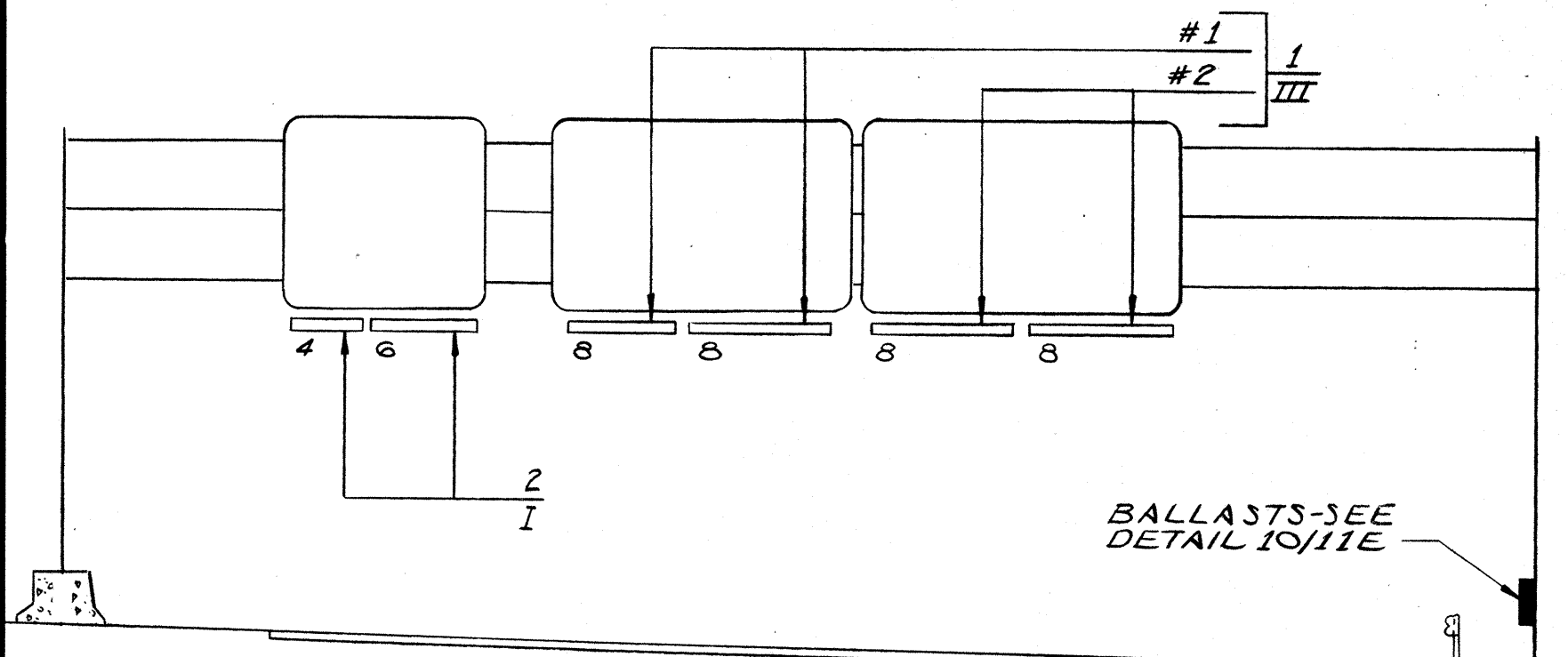
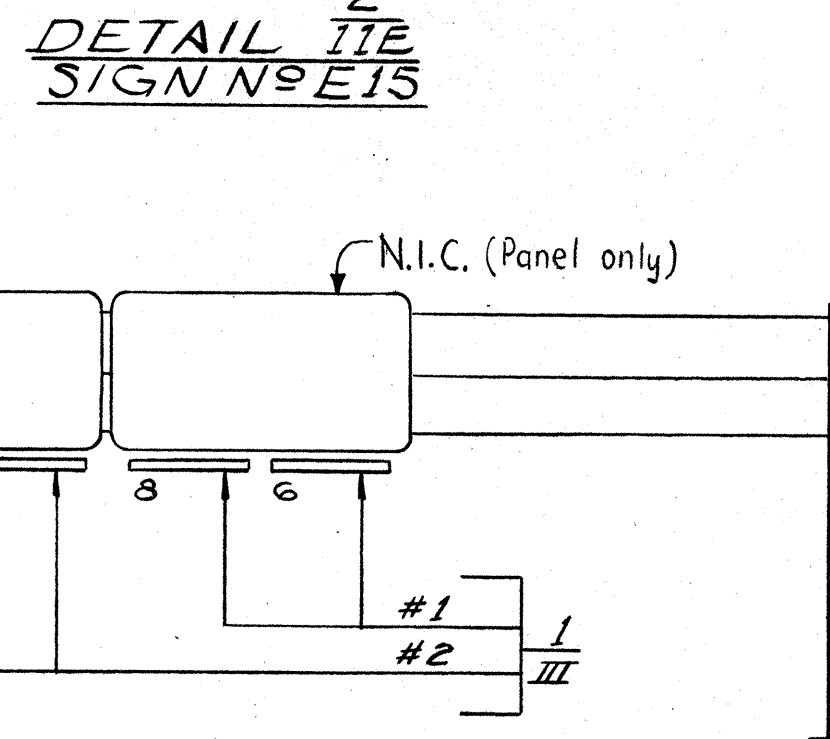
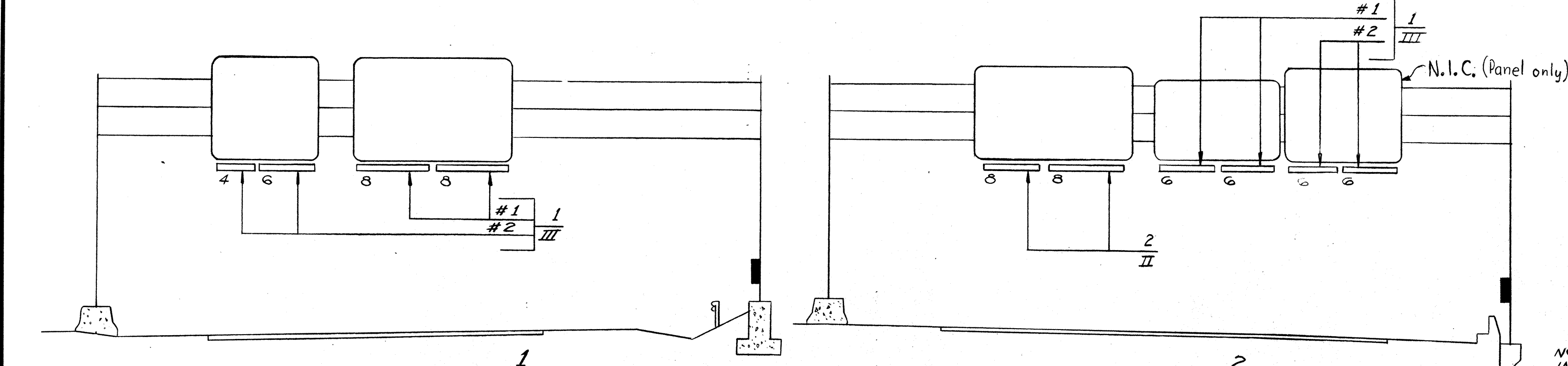
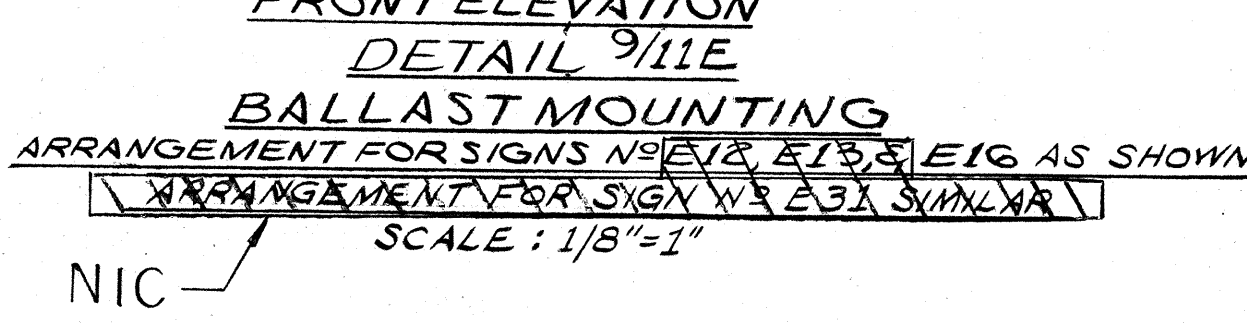
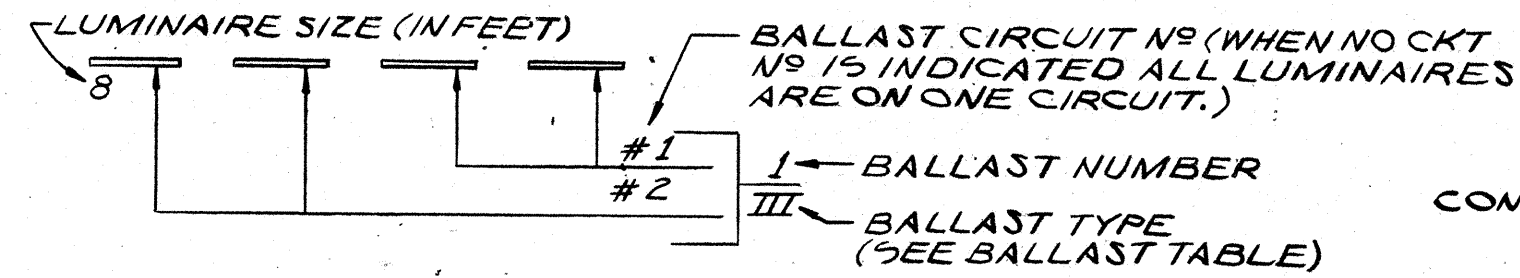


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 1H-1(89):13        | 1971        | 135       | 362          |

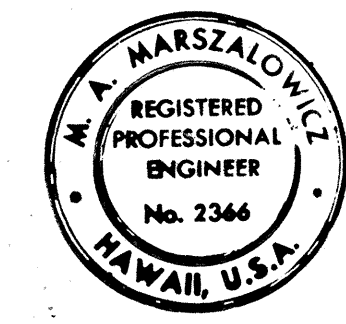
NOTES:  
 1- FOR SCHEMATIC DIAGRAM OF CONNECTION TO SIGN LUMINAIRES SEE DETAIL 8/11E.  
 2- FOR DETAIL OF FOUNDATION FOR OVERHEAD SIGN SEE SHEET 11G.  
 3- FOR DETAIL OF FOUNDATION FOR GROUND MOUNTED SIGN SEE SHEET 117.  
 \* ITEMS REFERENCED WITH ASTERISK SHALL BE OF ALUMINUM.  
 \*\* ITEMS REFERENCED WITH DOUBLE ASTERISK SHALL BE OF STAINLESS STEEL.



| TYPE | DESCRIPTION             |
|------|-------------------------|
| I    | 1 OR 2 LAMP COMBINATION |
| II   | 2 OR 3 LAMP COMBINATION |
| III  | 4 LAMP COMBINATION      |



THE ABOVE DETAILS ARE N.T.S.



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 Michael A. Marszalowicz

# ELECTRICAL SHEET 11E

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

ELECTRICAL DETAILS  
 ILLUMINATED SIGNS  
 PART I  
 HALAWA INTERCHANGE  
 PROJECT NO. I-HI-1(89):13

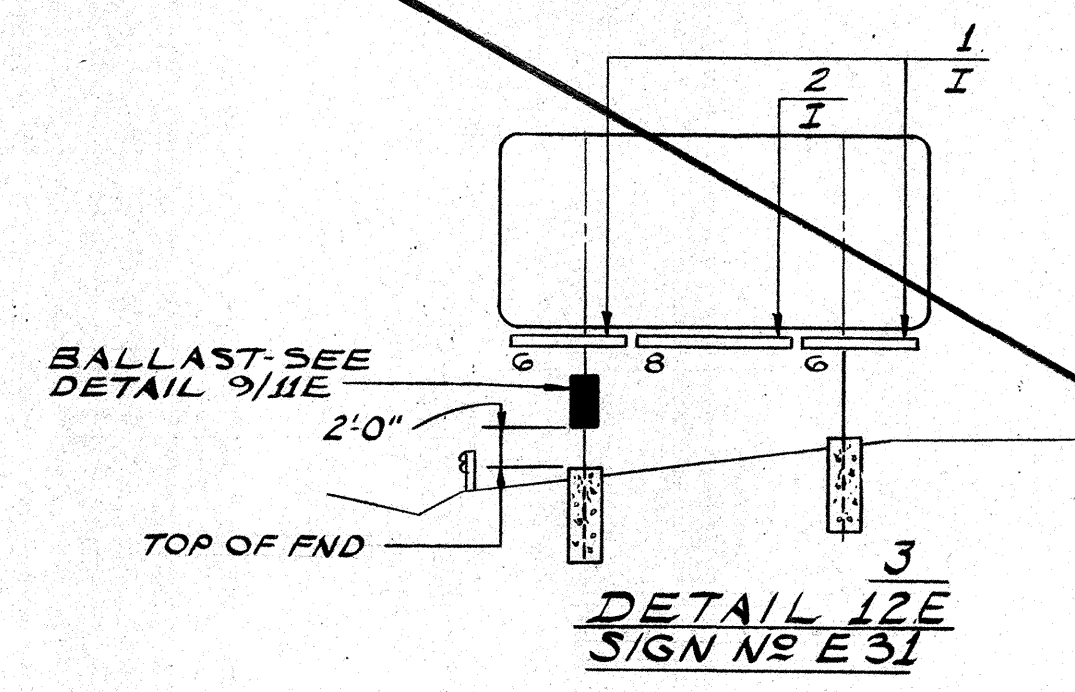
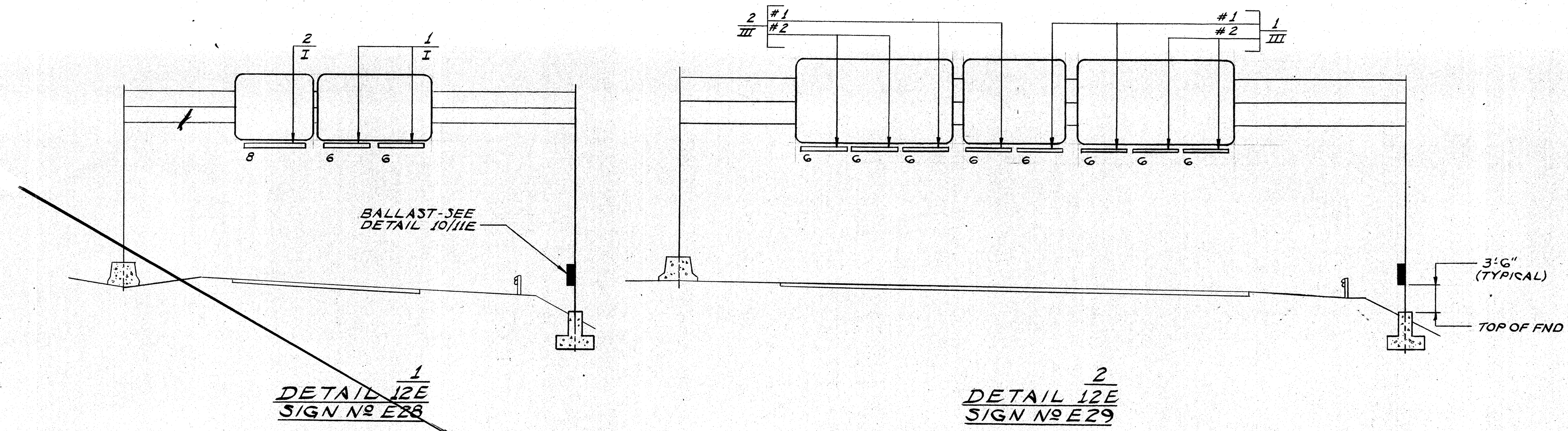
SHEET No. 11E OF 13E SHEETS

91 92 93

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



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HI-1(89):13        | 1971        | 136       | 362          |



NOTE: FOR LUM-TO-BALLAST CONNECTION KEY & BALLAST TABLE SEE SHEET 11E.

THE ABOVE DETAILS ARE N.T.S.

N.I.C.

|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTED BY      | DRAWN BY          |      |
| CHECKED BY    | TRACED BY         |      |
|               | QUANTITIES BY     |      |
|               | CHECKED BY        |      |

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*Michael A. Marzabov*



ELECTRICAL SHEET 12E

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

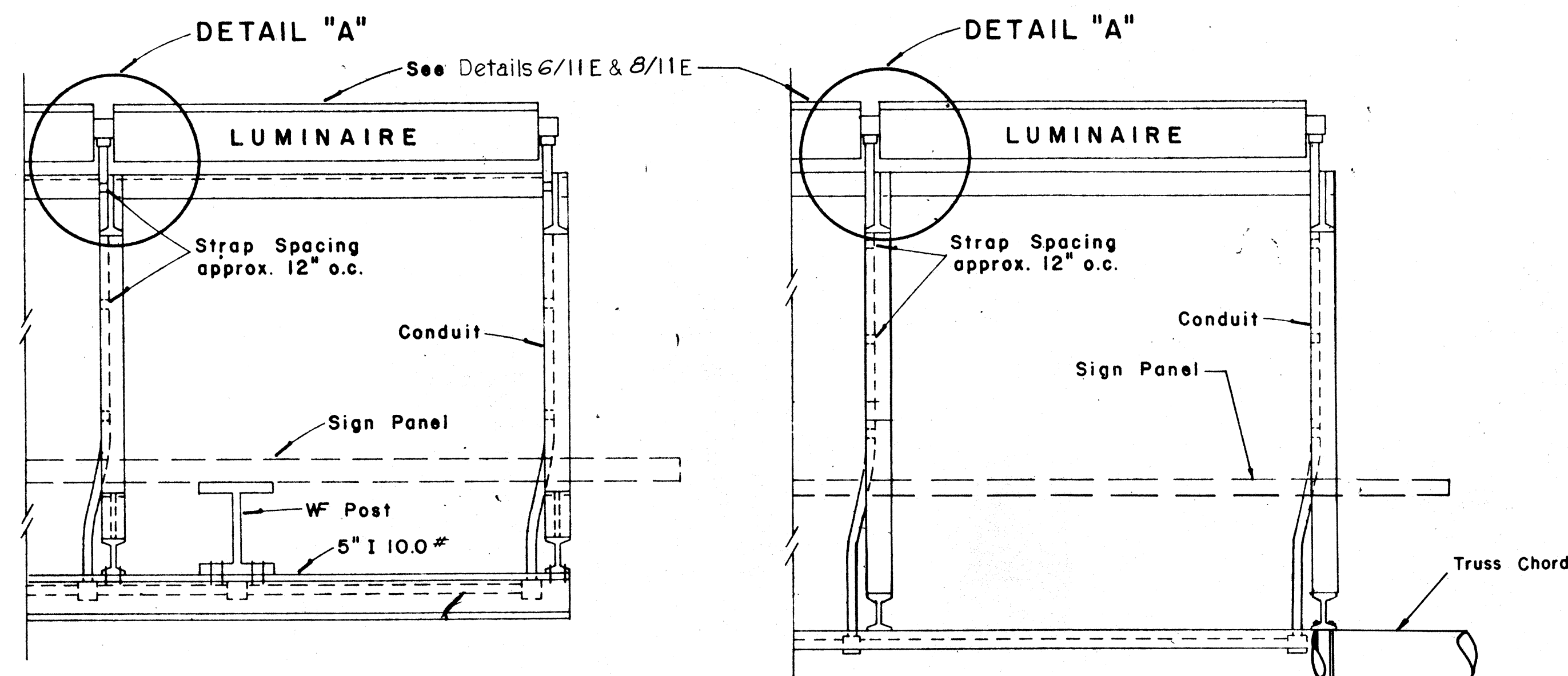
ELECTRICAL DETAILS  
ILLUMINATED SIGNS  
PART II  
HALAWA INTERCHANGE  
PROJECT NO. I-HI-1(89):13

SHEET No. 12E OF 13E SHEETS



# GENERAL NOTES

- For Raceway layout for sign luminaires see Detail 11/11E.
- Luminaire brackets shall be spaced to fit luminaires. See Detail 8/11E. Spacing between brackets shall not exceed 6'-9".
- Luminaire brackets shall be located behind sign panels so as to be concealed thereby from the motorist's view. Location shall also be such that a minimum conduit offset will be required.

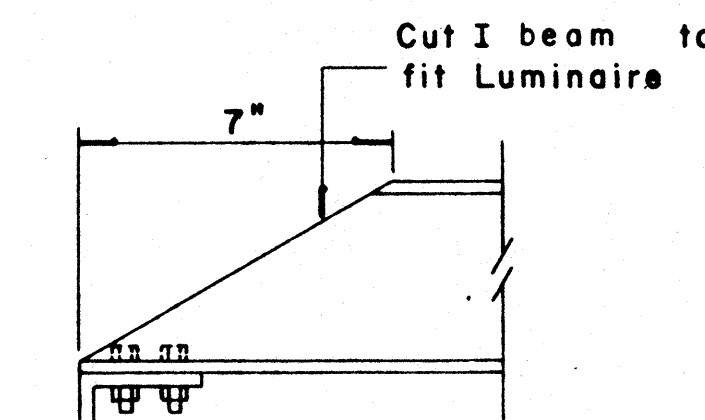
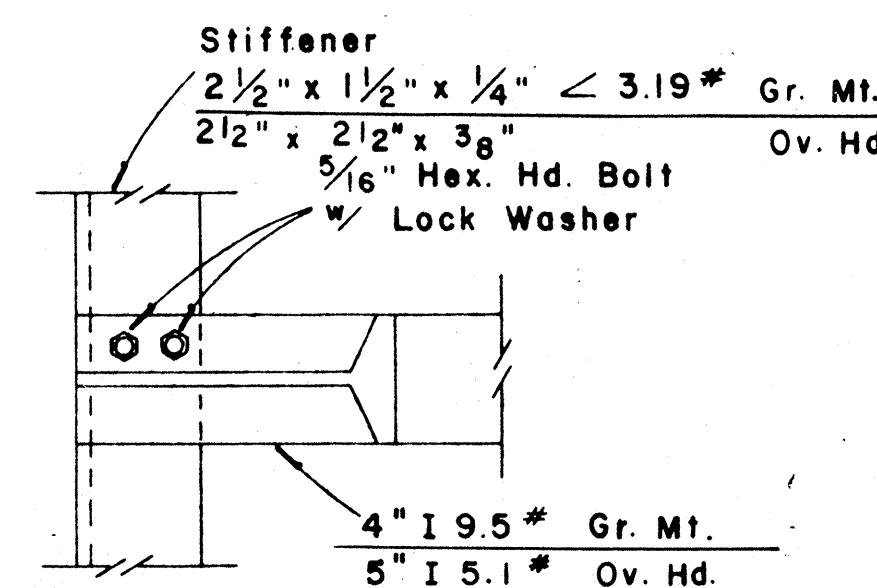


GROUND MOUNTED

OVERHEAD

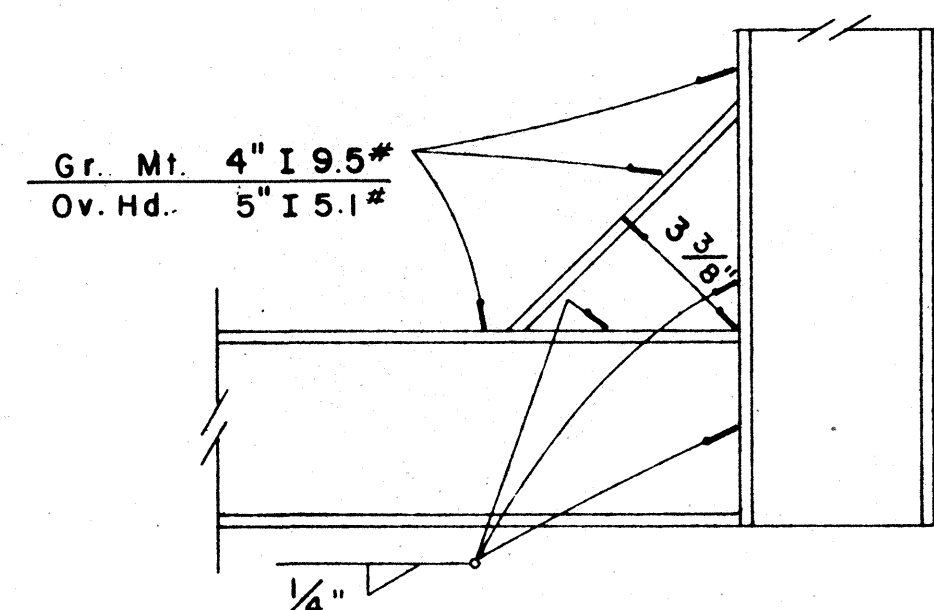
## TOP VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



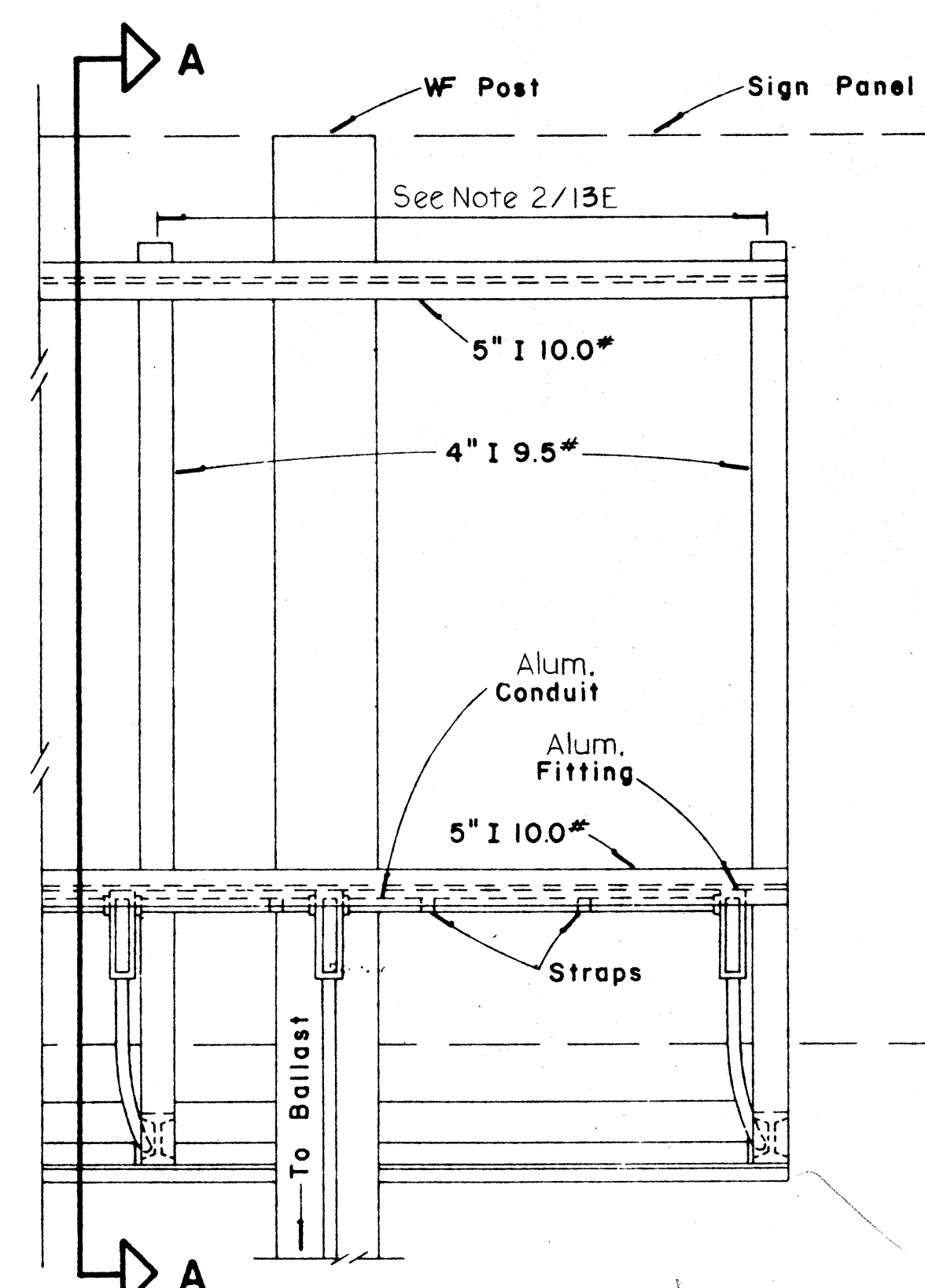
DETAIL "A"

Scale: 3" = 1'-0"

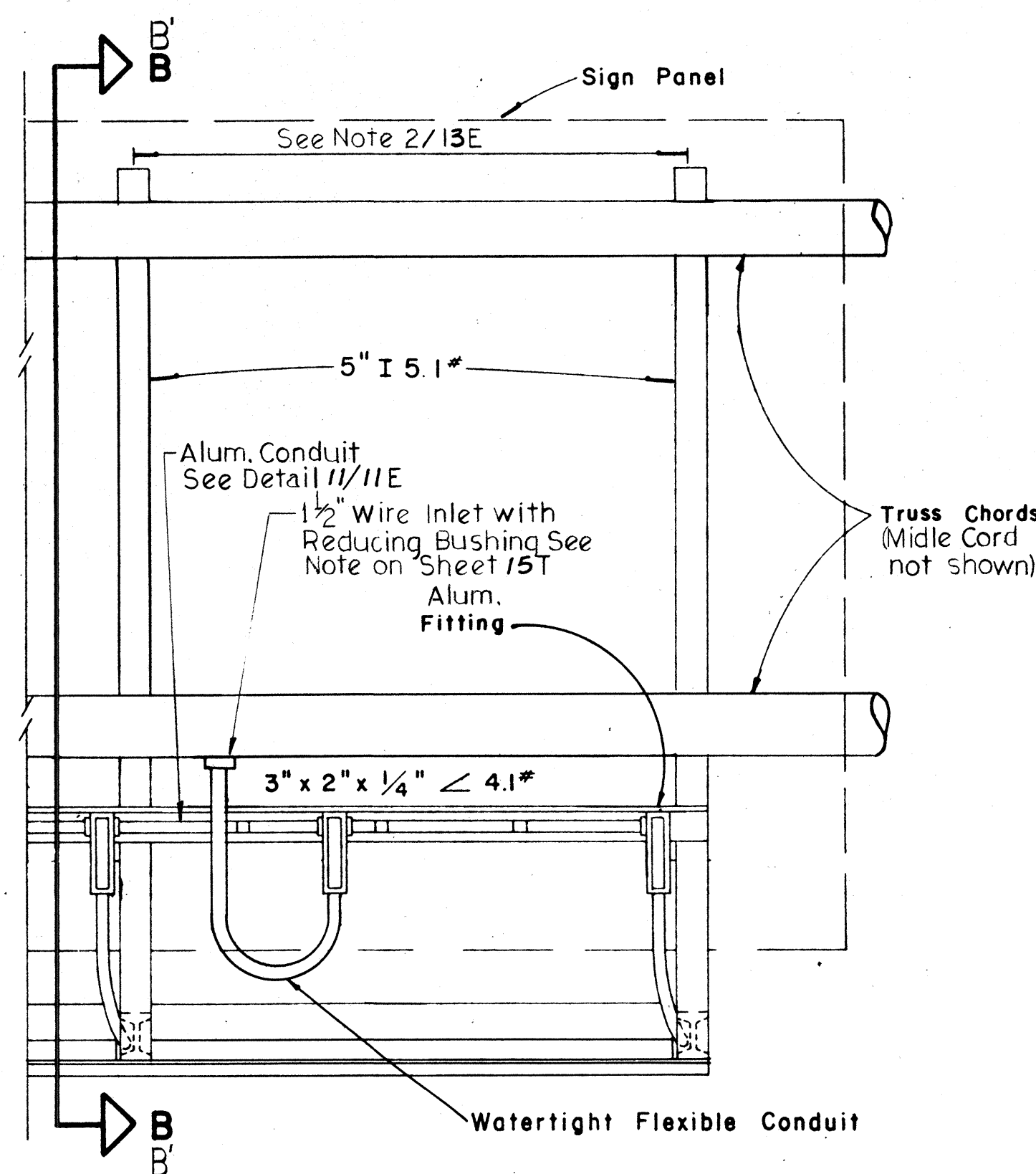


DETAIL "B"

Scale: 3" = 1'-0"



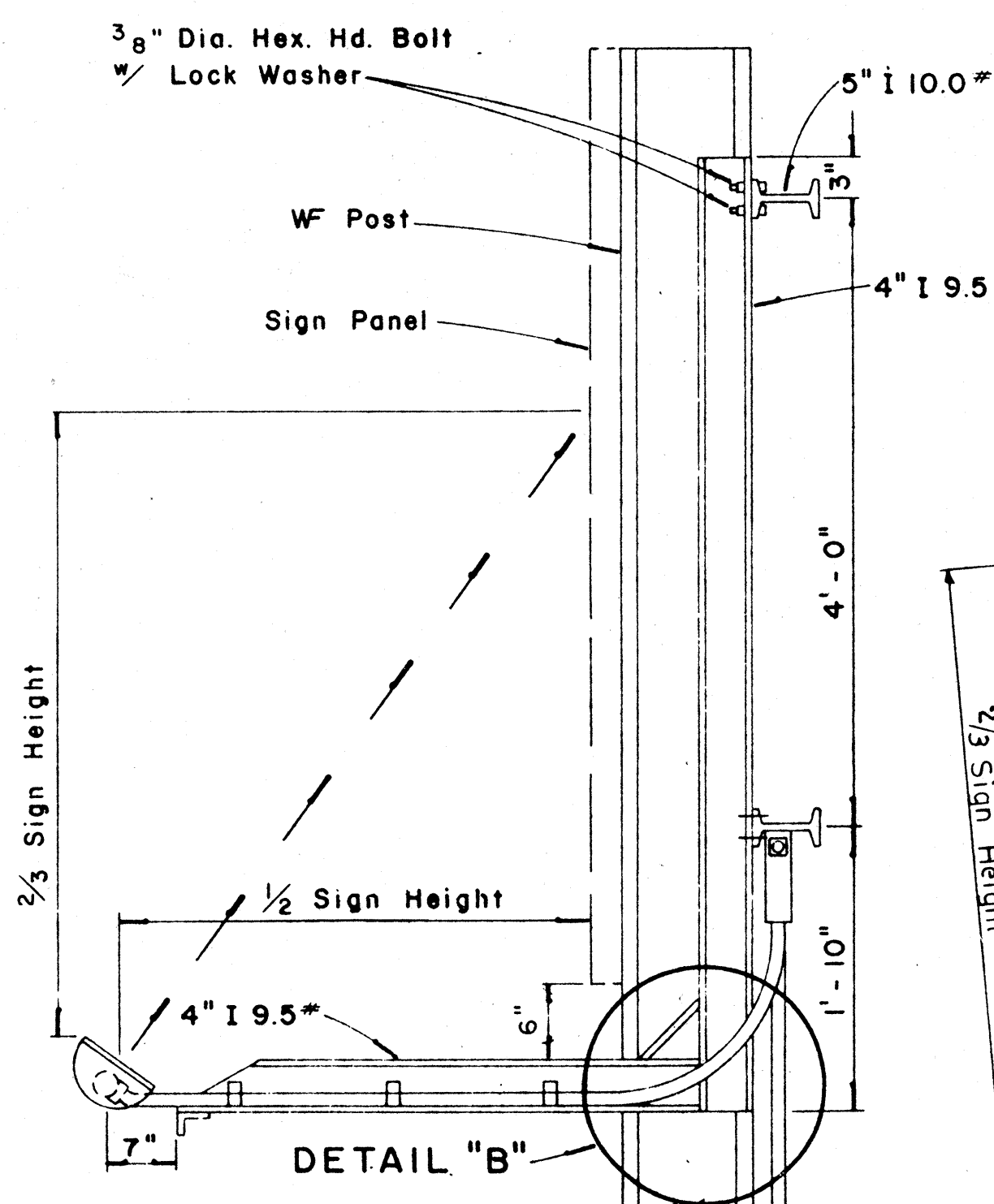
GROUND MOUNTED



OVERHEAD

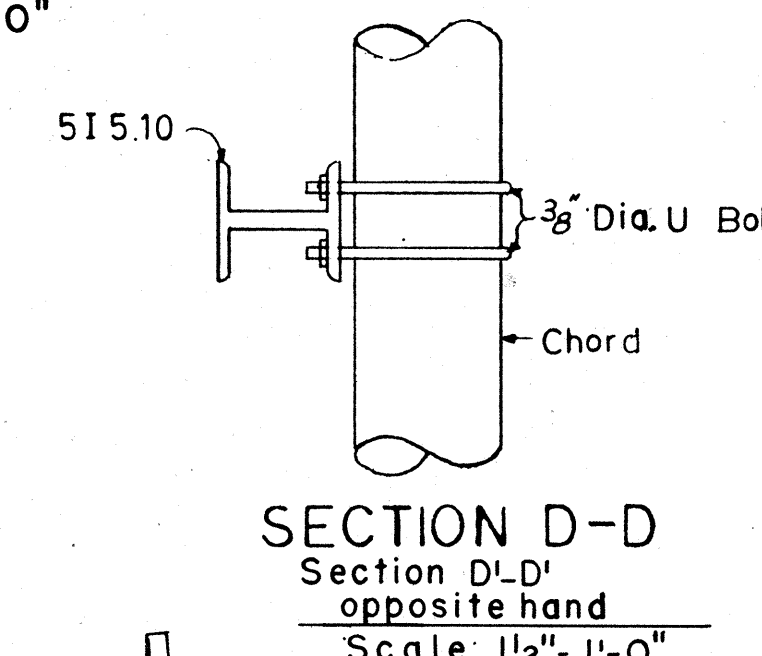
## REAR VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"

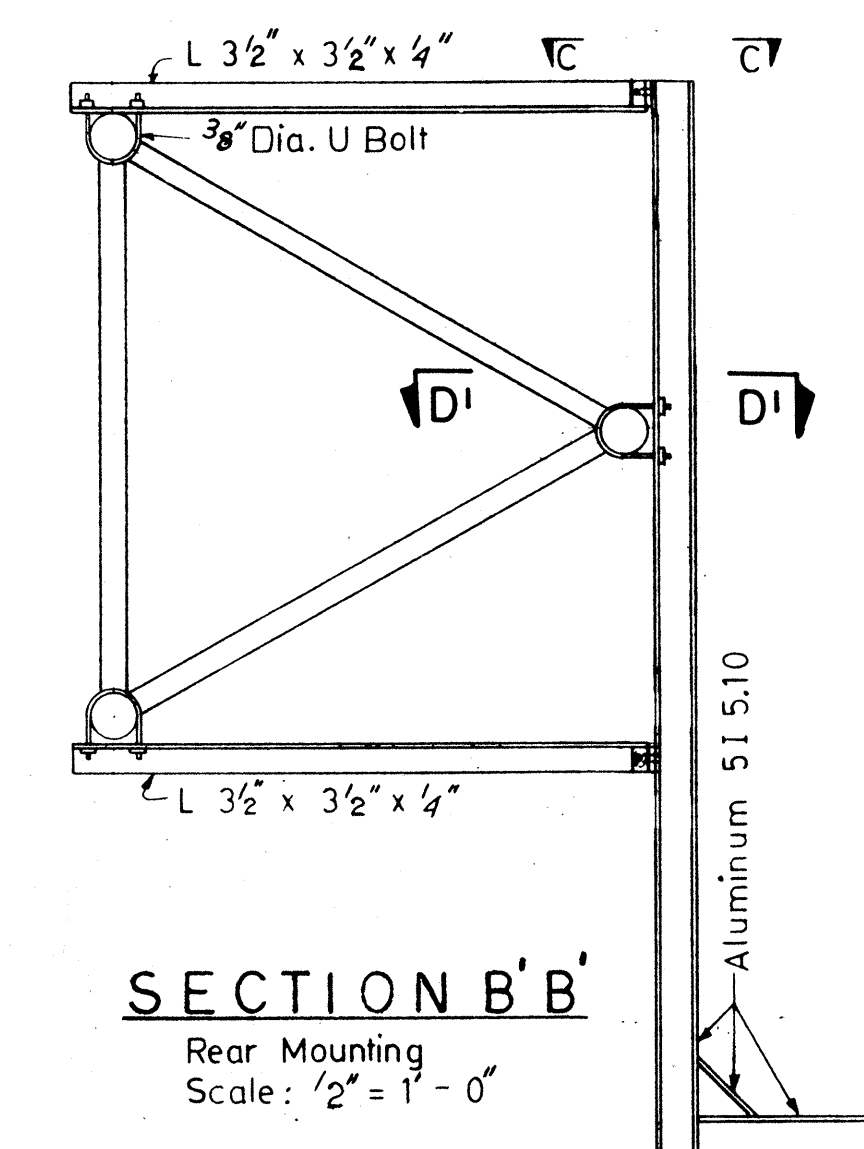


SECTION "A-A"

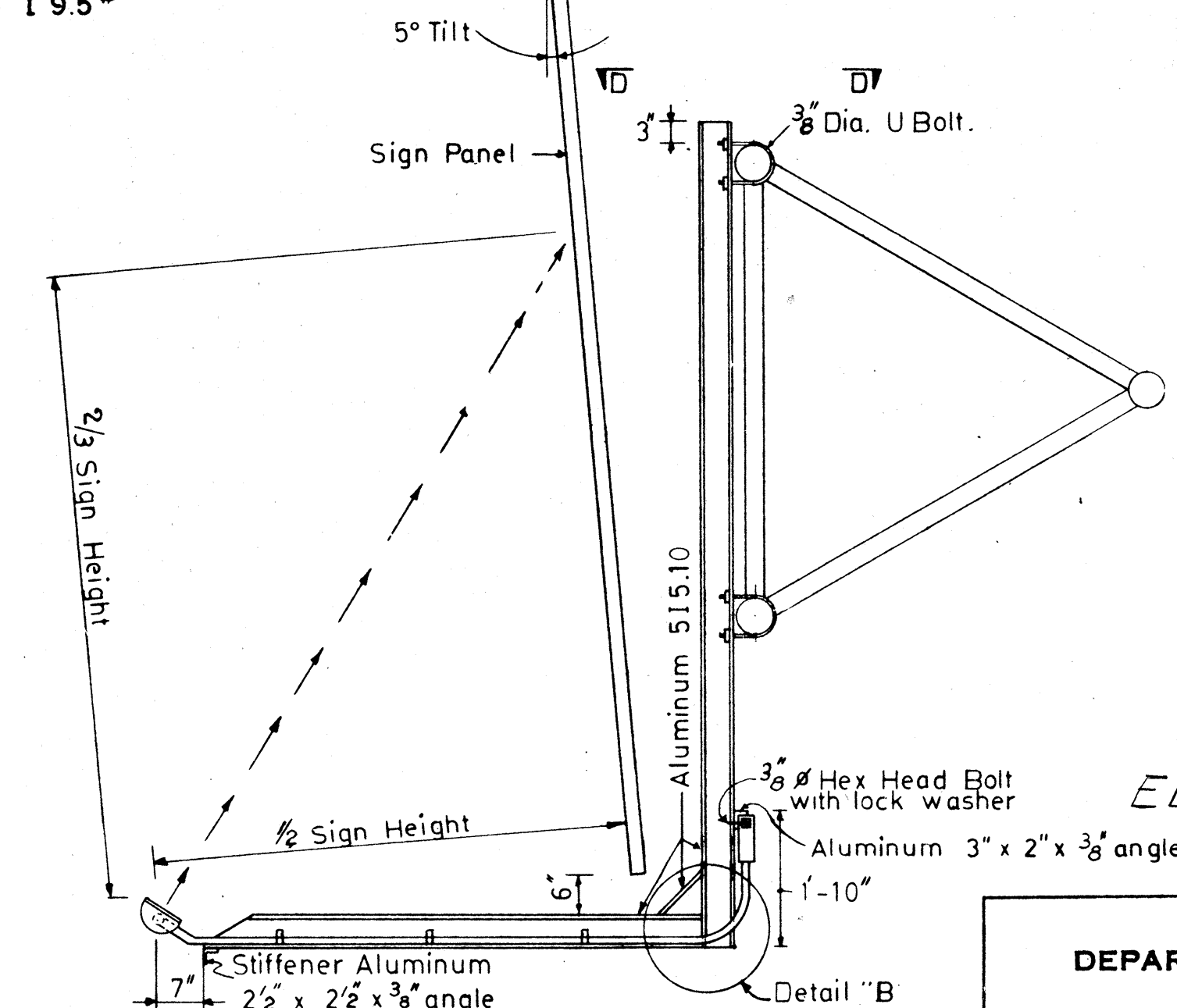
Scale: 1" = 1'-0"



SECTION D-D  
Section D-D'  
opposite hand  
Scale: 1 1/2" = 1'-0"



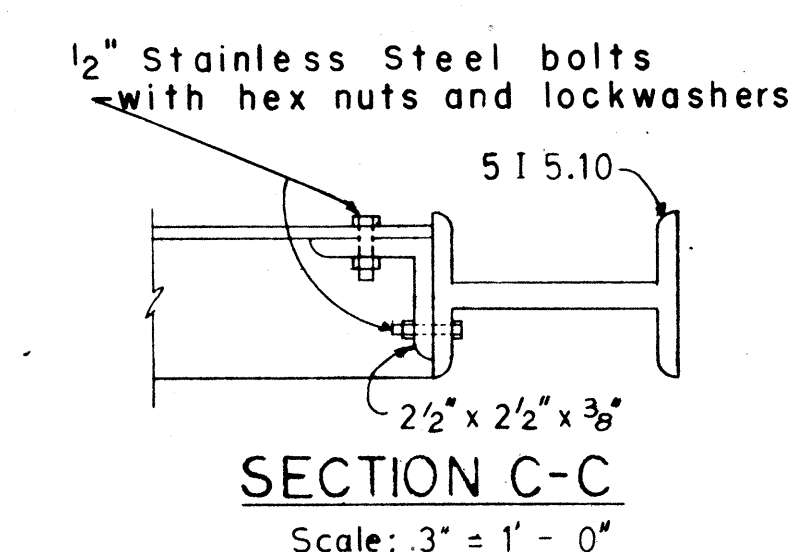
SECTION B-B'  
Rear Mounting  
Scale: 2" = 1'-0"



SECTION B-B

Front Mounting  
Scale: 2" = 1'-0"

NOTE: 3/8" Dia. "U" bolts to be Stainless Steel with hex nuts and washers



SECTION C-C  
Scale: 3" = 1'-0"

ELECTRICAL SHEET 13E

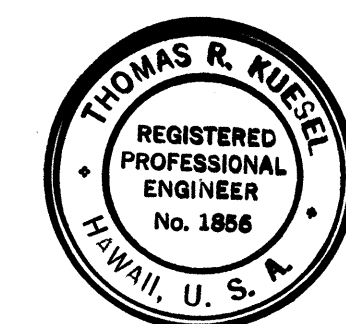
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ELECTRICAL DETAILS  
SIGN LUMINAIRE MOUNTINGS

HALAWA INTERCHANGE  
PROJECT NO. I-HI-189-13

Scale: As Shown Date: Oct. 30, 1970

SHEET No. 13 OF 36 SHEETS



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Michael A. Mangione