

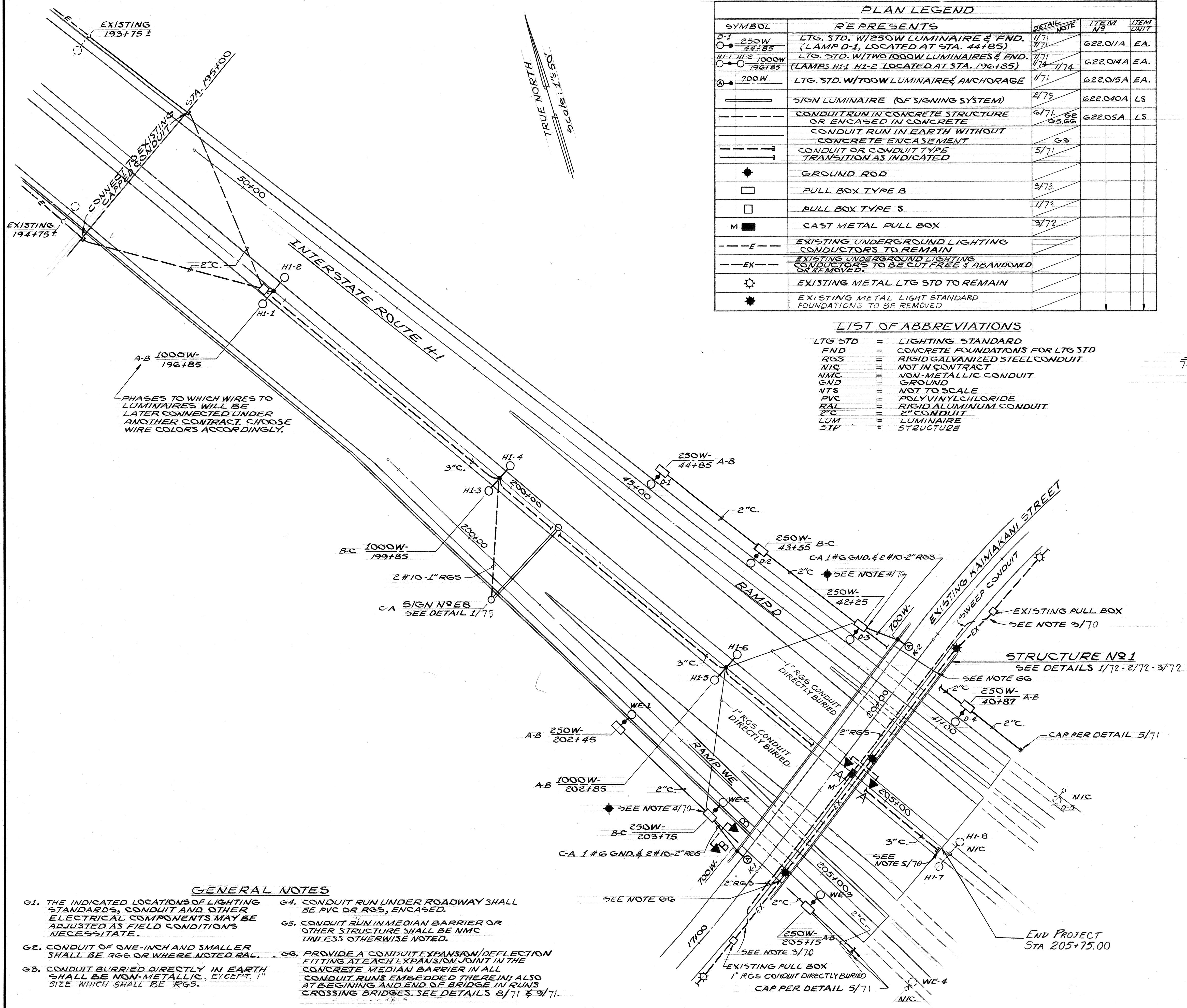
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(77):13	1969	70	154

- NOTES:**
- EXISTING LIGHTING FACILITIES ALONG KAIMAKANI ARE CITY & COUNTY OF HONOLULU JURISDICTION.
 - EXISTING C.E.C. LIGHTING STANDARD ASSEMBLIES SHALL BE DISMANTLED AND STOCKPILED ON THE SITE.
 - PROVIDE & CONNECT 2" CONDUIT TO EXISTING CONDUIT AT EXISTING PULL BOX. PROVIDE & CONNECT 3#4 CABLES TO EXISTING LIKE CABLES IN EXISTING PULL BOXES.
 - PROVIDE GROUND ROD IN THE INDICATED PULL BOX & CONNECT #6 GND CONDUCTOR FROM STANDARD ON STRUCTURE TO IT.
 - PROVIDE CONDUIT COUPLING FLUSH WITH FACE OF BARRIER AND PLUG.

PLAN LEGEND				
SYMBOL	REPRESENTS	DETAIL NOTE	ITEM NO.	ITEM UNIT
D-1	250W W/250W LUMINAIRE & FND. (LAMP D-1, LOCATED AT STA. 44+85)	1/71	622.01A	EA.
HI-1 HI-2	1000W W/1000W LUMINAIRE & FND. (LAMPS HI-1 HI-2 LOCATED AT STA. 196+85)	1/71	622.04A	EA.
700W	LTG. STD. W/700W LUMINAIRE & ANCHORAGE	1/71	622.03A	EA.
	SIGN LUMINAIRE (OF SIGNING SYSTEM)	2/75	622.040A	LS
	CONDUIT RUN IN CONCRETE STRUCTURE OR ENCASED IN CONCRETE	6/71	622.05A	LS
	CONDUIT RUN IN EARTH WITHOUT CONCRETE ENCASUREMENT	6/71		
	CONDUIT OR CONDUIT TYPE TRANSITION AS INDICATED	5/71		
	GROUND ROD			
	PULL BOX TYPE B	3/73		
	PULL BOX TYPE S	1/73		
M	CAST METAL PULL BOX	3/72		
	EXISTING UNDERGROUND LIGHTING CONDUCTORS TO REMAIN			
	EXISTING UNDERGROUND LIGHTING CONDUCTORS TO BE CUT FREE & ABANDONED OR REMOVED			
	EXISTING METAL LTG STD TO REMAIN			
	EXISTING METAL LIGHT STANDARD FOUNDATIONS TO BE REMOVED			

- LIST OF ABBREVIATIONS**
- LTG STD = LIGHTING STANDARD
FND = CONCRETE FOUNDATIONS FOR LTG STD
RGS = RIGID GALVANIZED STEEL CONDUIT
NIC = NOT IN CONTRACT
NMC = NON-METALLIC CONDUIT
GND = GROUND
NTS = NOT TO SCALE
PVC = POLYVINYLCHLORIDE
RAL = RIGID ALUMINUM CONDUIT
2"C = 2" CONDUIT
LUM = LUMINAIRE
STR = STRUCTURE

1 ← DETAIL (OR NOTE) NO.
70 ← SHEET NO. ON WHICH DETAIL (OR NOTE) APPEARS
DETAIL (OR NOTE) NUMBERING



- GENERAL NOTES**
- THE INDICATED LOCATIONS OF LIGHTING STANDARDS, CONDUIT AND OTHER ELECTRICAL COMPONENTS MAY BE ADJUSTED AS FIELD CONDITIONS NECESSITATE.
 - CONDUIT OF ONE-INCH AND SMALLER SHALL BE RGS OR WHERE NOTED RAL.
 - CONDUIT BURIED DIRECTLY IN EARTH SHALL BE NON-METALLIC, EXCEPT, 1" SIZE WHICH SHALL BE RGS.
 - CONDUIT RUN UNDER ROADWAY SHALL BE PVC OR RGS, ENCASED.
 - CONDUIT RUN IN MEDIAN BARRIER OR OTHER STRUCTURE SHALL BE NMC UNLESS OTHERWISE NOTED.
 - PROVIDE A CONDUIT EXPANSION/DEFLECTION FITTING AT EACH EXPANSION JOINT IN THE CONCRETE MEDIAN BARRIER IN ALL CONDUIT RUNS EMBEDDED THEREIN; ALSO AT BEGINNING AND END OF BRIDGE IN RUNS CROSSING BRIDGES. SEE DETAILS 8/71 & 9/71.



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Peter P. Alvarado

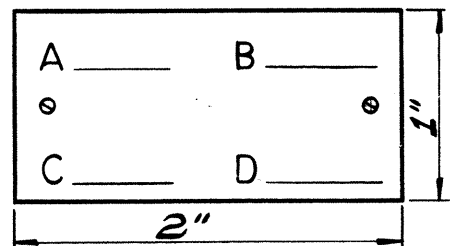
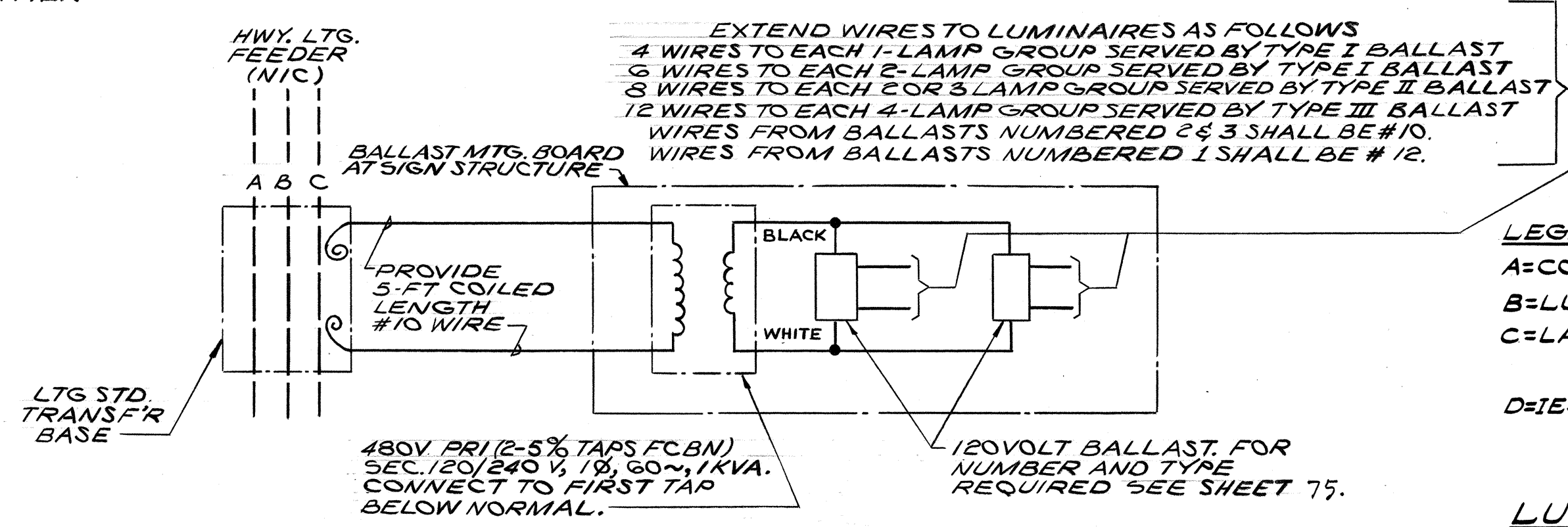
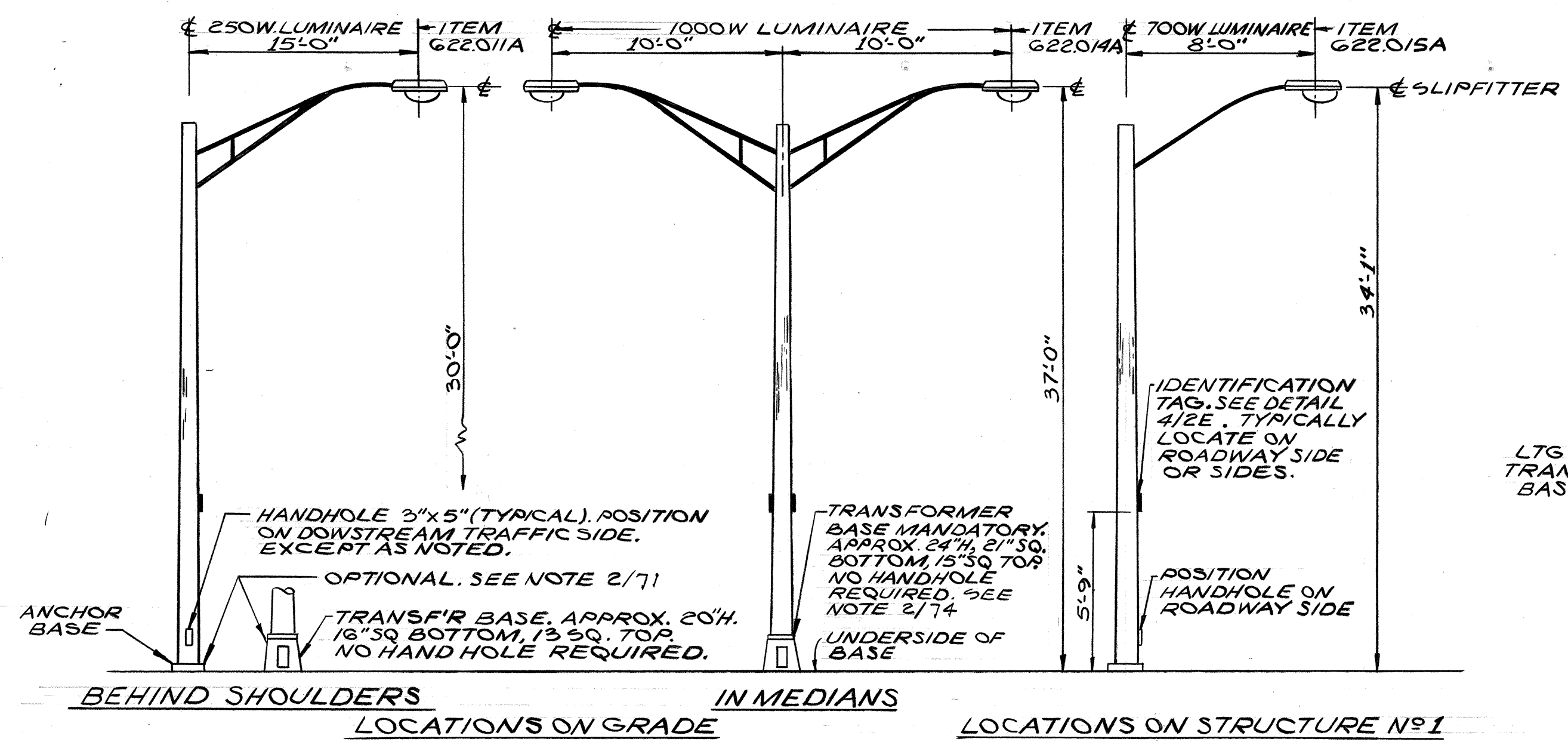
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING PLAN
SYMBOLS & NOTES
HALAWA INTERCHANGE
PROJECT NO. I-HI-1(77):13

SCALE: 1"=50'-0" DATE: NOV. 28, 1969
SHEET No. 1 OF 70 SHEETS

DESIGNED BY	DATE
NOTED BY	
CHECKED BY	
APPROVED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(17):13	1969	71	154

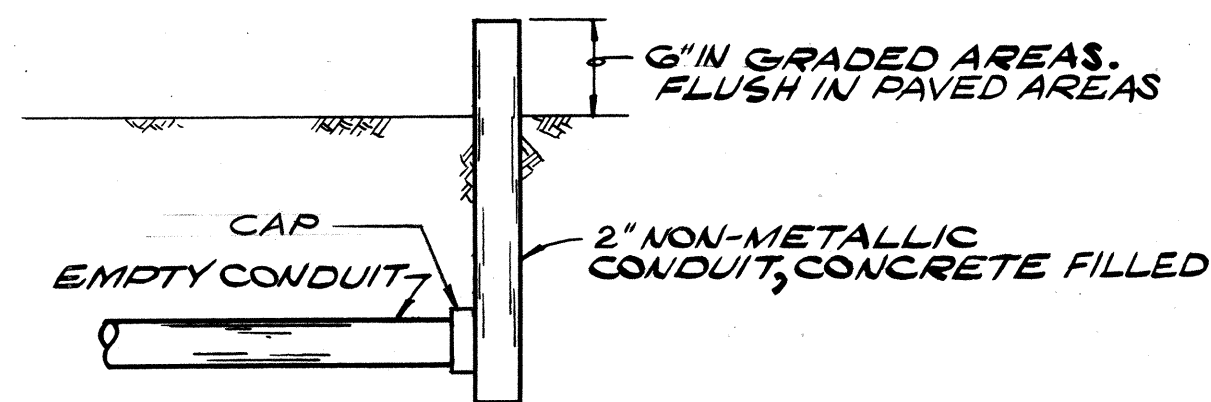
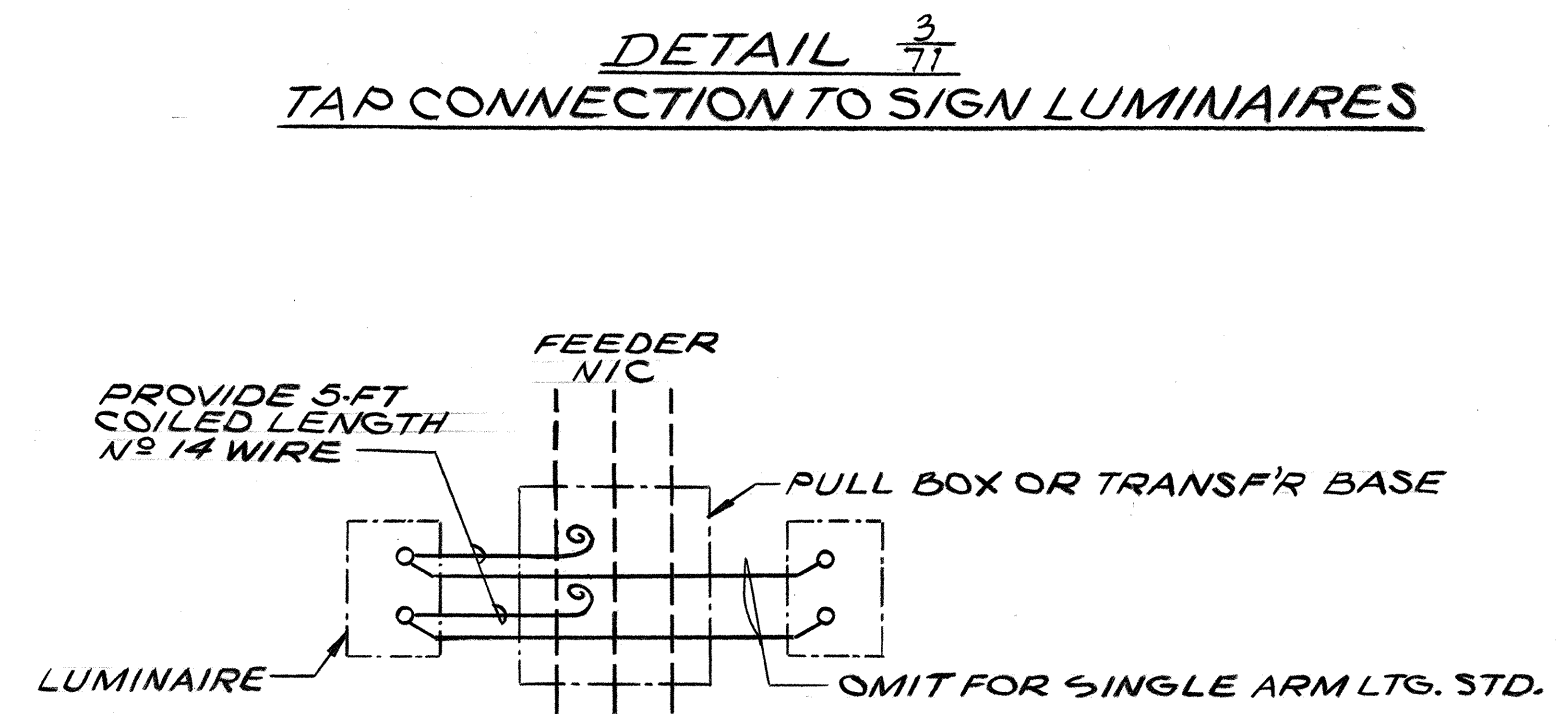


LEGEND
A=CONTRACT NO.
B=LUMINAIRE NO.; SEE PLANS
C=LAMP CODE: (SEE PLANS FOR LAMP SIZE)
D=IES DISTRIBUTION: (SEE PLANS FOR LAMP SIZE)

250W: H-37-5 KB
700W: H-35-18 NA
1000W: H-36-15 GV

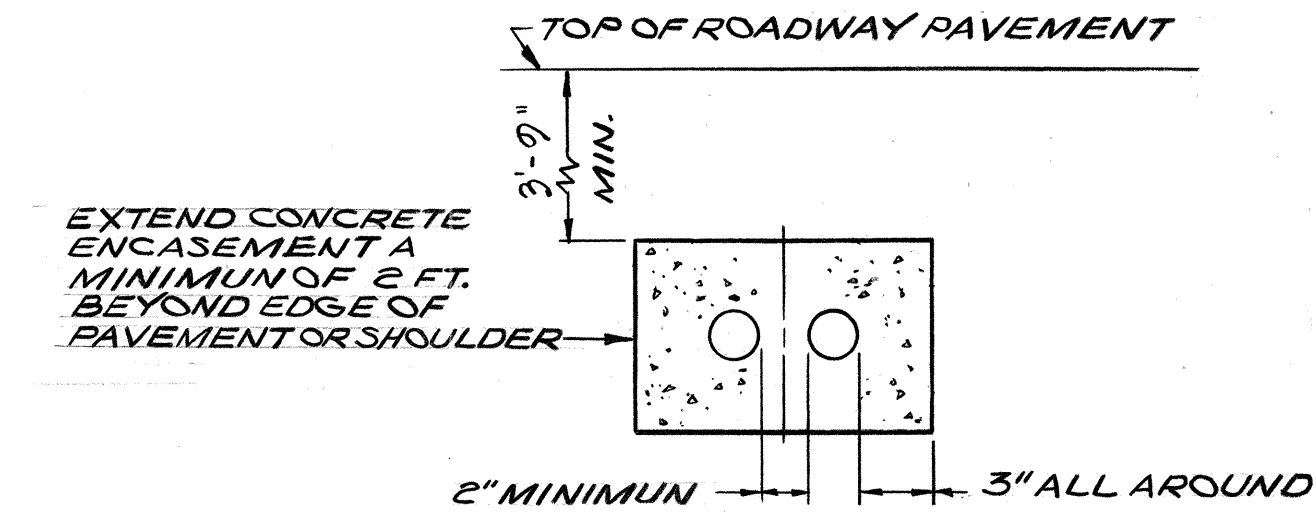
250W: M-C-II
700W: M-C-III
1000W: M-C-III

DETAIL 4
LUMINAIRE IDENTIFICATION TAG
N.T.S.

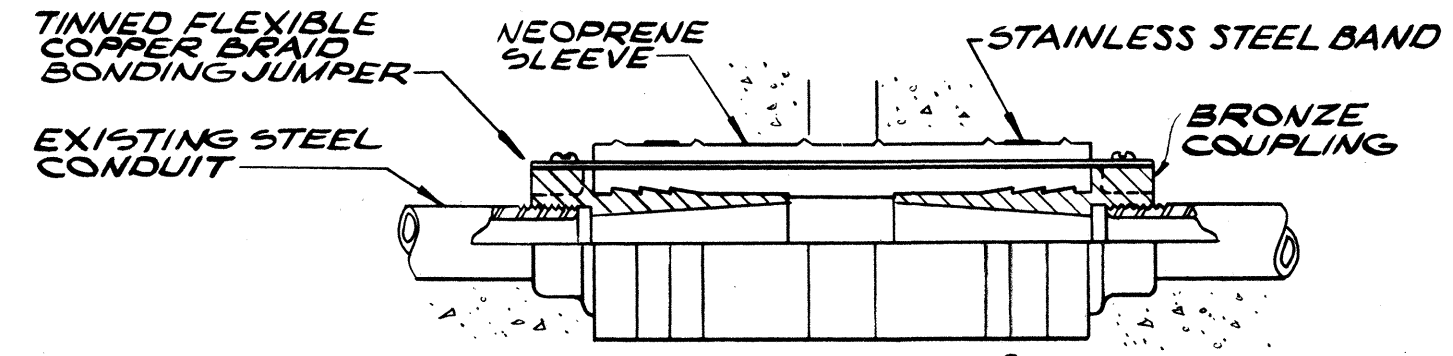


DETAIL 5
CONDUIT CAP & MARK

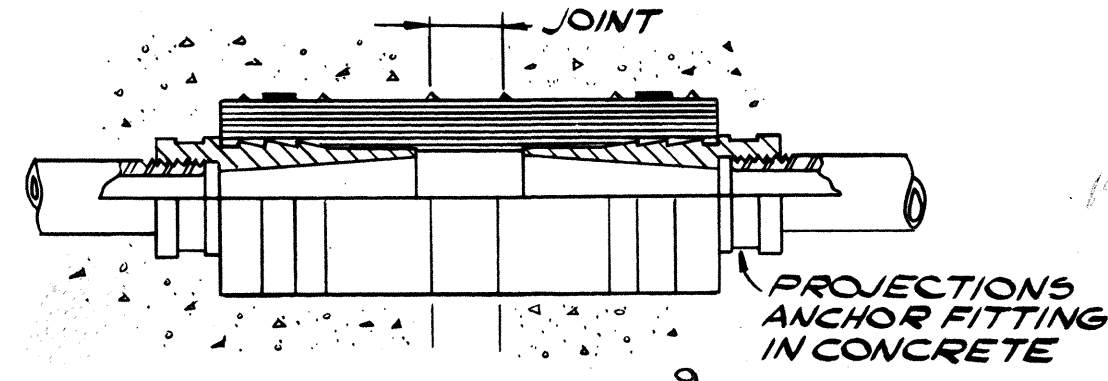
DETAIL 2
TAP CONNECTION HWY. LTG. LUMINAIRE
TWIN ARM SHOWN: SINGLE ARM SIMILAR EXCEPT AS NOTED



DETAIL 6
CONCRETE ENCASEMENT FOR CONDUITS UNDER ROADWAY
NO SCALE

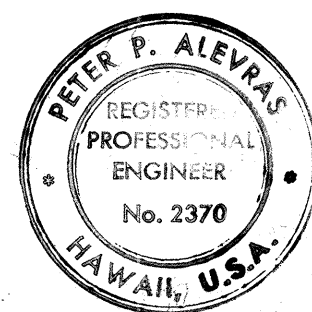


DETAIL 8
EXPANSION & DEFLECTION FITTING METAL CONDUIT
NO SCALE



DETAIL 9
EXPANSION & DEFLECTION FITTING NON-METAL CONDUIT
NO SCALE

NOTES:
1-ANCHOR BOLT DIAMETER & LENGTH, LOCATION AND PROJECTION SHALL BE SUITED TO THE LIGHTING STANDARD APPROVED.
2-ALUMINUM LIGHTING STANDARD WITH SHOE BASE OPTION IS PICTURED. STEEL LIGHTING STANDARD WITH CAST ALUMINUM TRANSFORMER BASE OPTION NOT PICTURED BUT IS SIMILAR. FOUNDATION DETAIL'S APPLY TO BOTH OPTIONS.

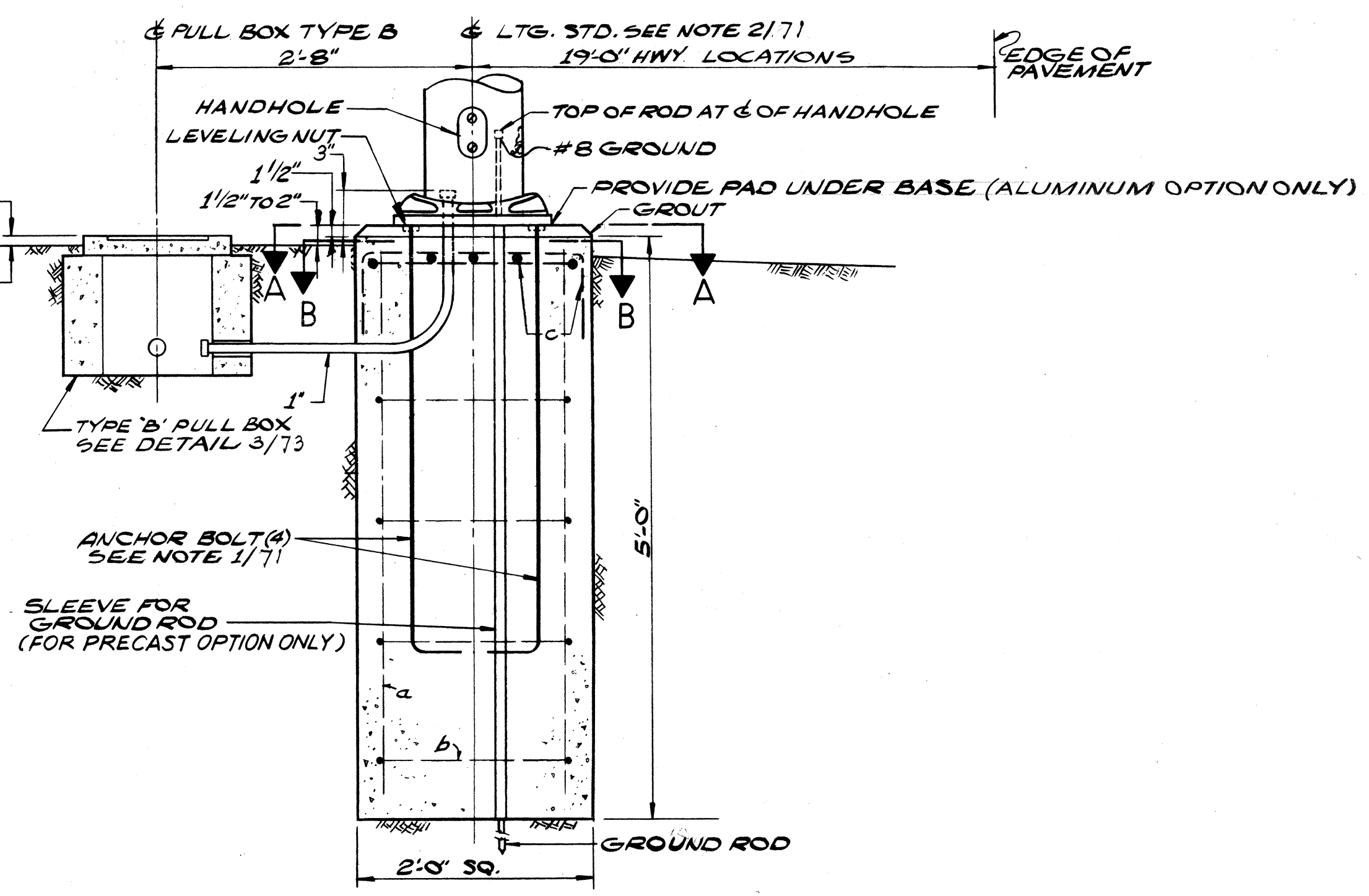
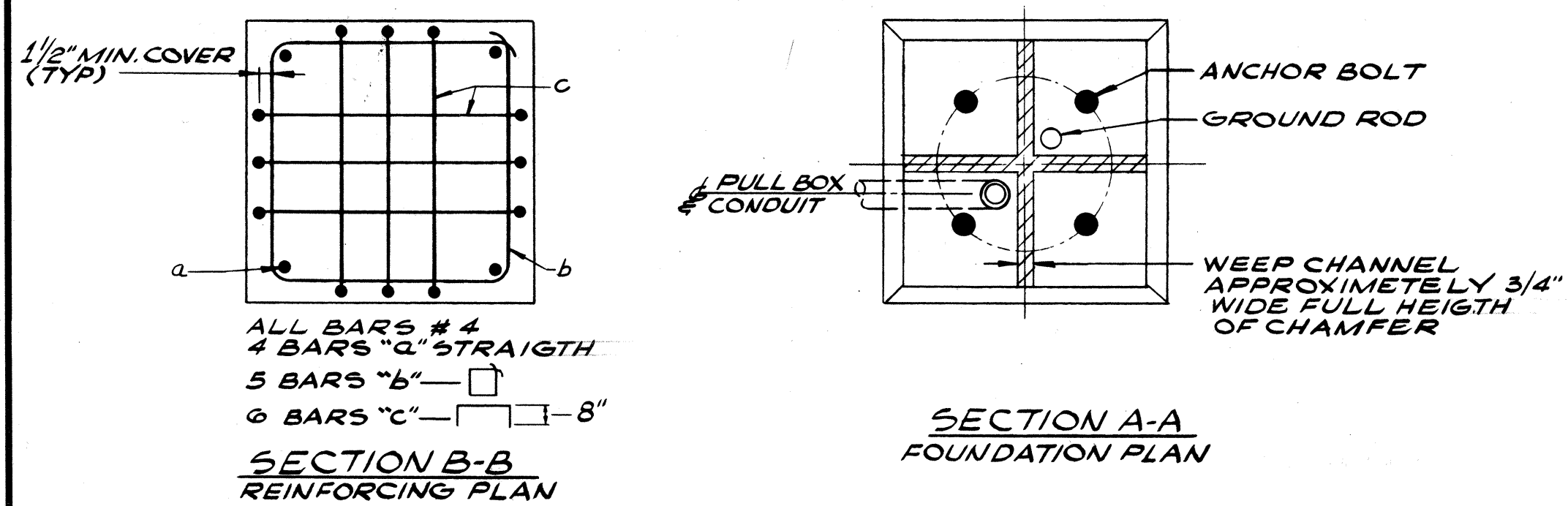


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Peter P. Aleiras

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL DETAILS
PART I
HALAWA INTERCHANGE
PROJECT NO. I-HI-1(17):13

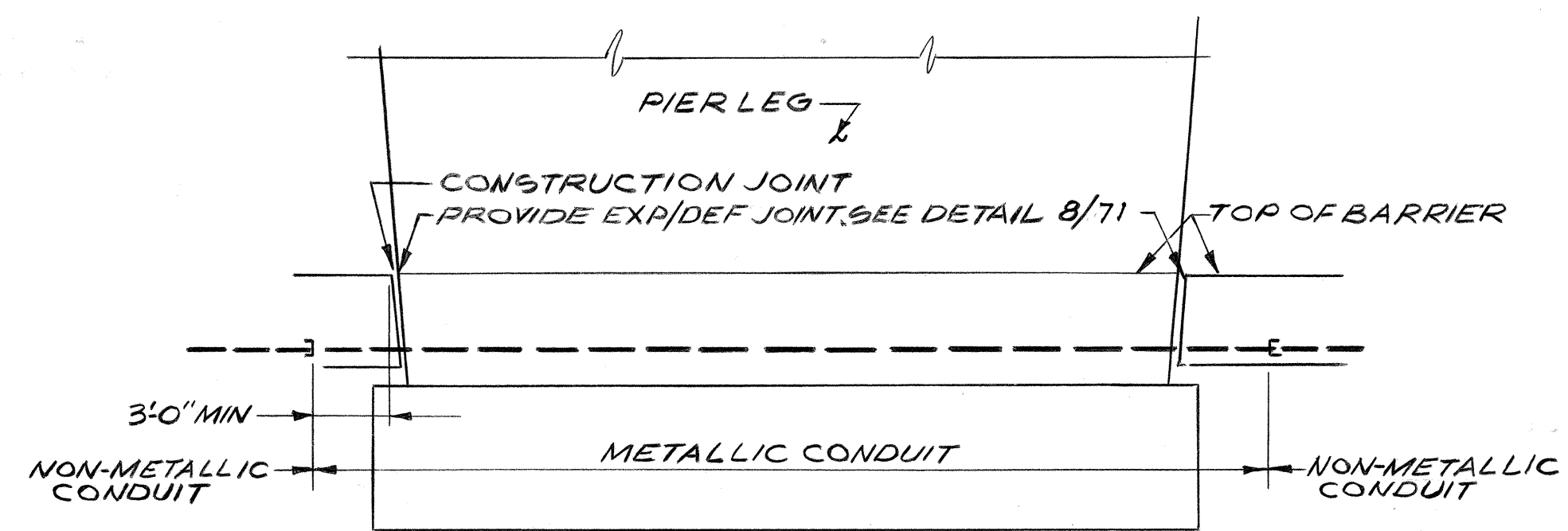
SCALE: AS SHOWN
DATE: NOV. 28, 1969
SHEET No. 2E OF 7E SHEETS



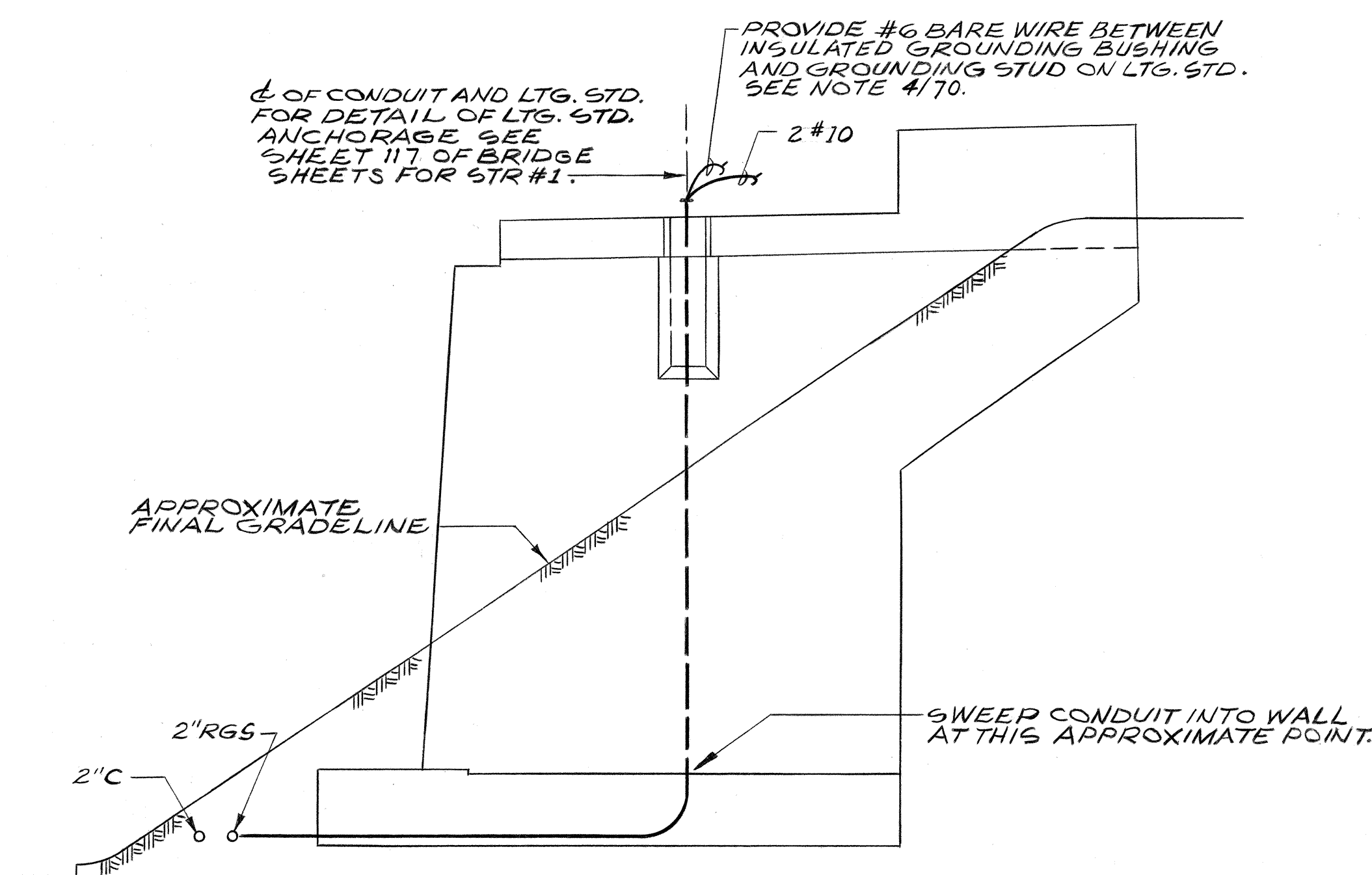
DETAIL 7
LIGHTING STANDARD FOUNDATION FOR LOCATIONS BEHIND SHOULDERS
SCALE: 1"=1'-0"

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	
ORIGINAL	
NOTE BOOK	
No.	

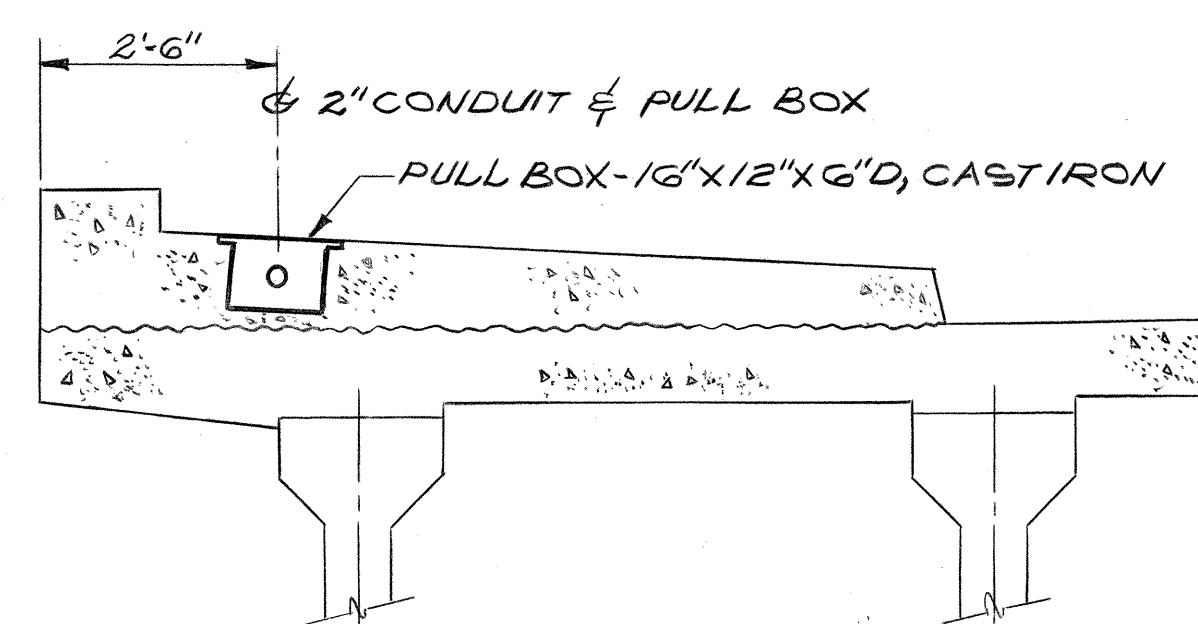
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(77):13	1969	72	154



ELEVATION
DETAIL 1/2
CONDUIT THRU PIER
STRUCTURE NO. 1
SCALE: 3/16" = 1'-0"

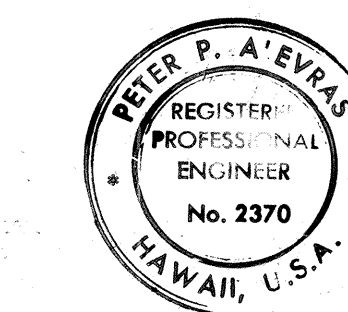


SECTION B-B
DETAIL 1/2
STRUCTURE NO. 1
SCALE: 3/16" = 1'-0"



SECTION A-A
DETAIL 3/2
STRUCTURE NO. 1
SCALE: 1/2" = 1'-0" HOR.
3/4" = 1'-0" VERT.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	"
DRAWN BY	"
DESIGNED BY	"
NOTED BY	"
CHECKED BY	"
IN CHARGE	"
NO.	"



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

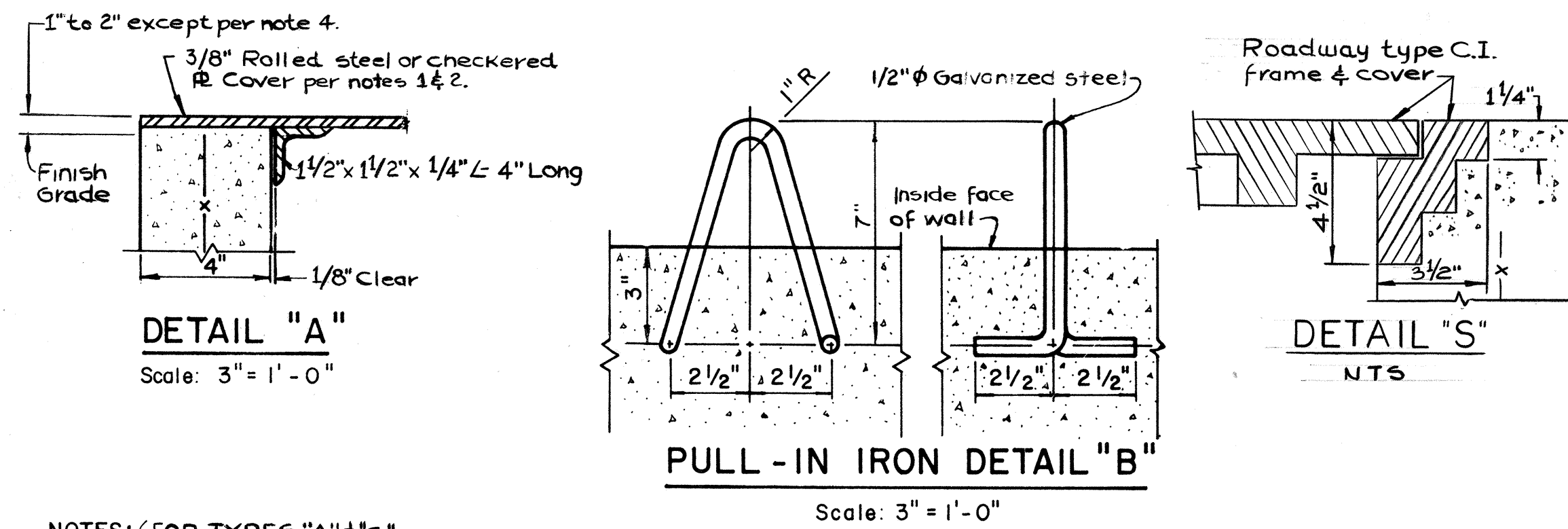
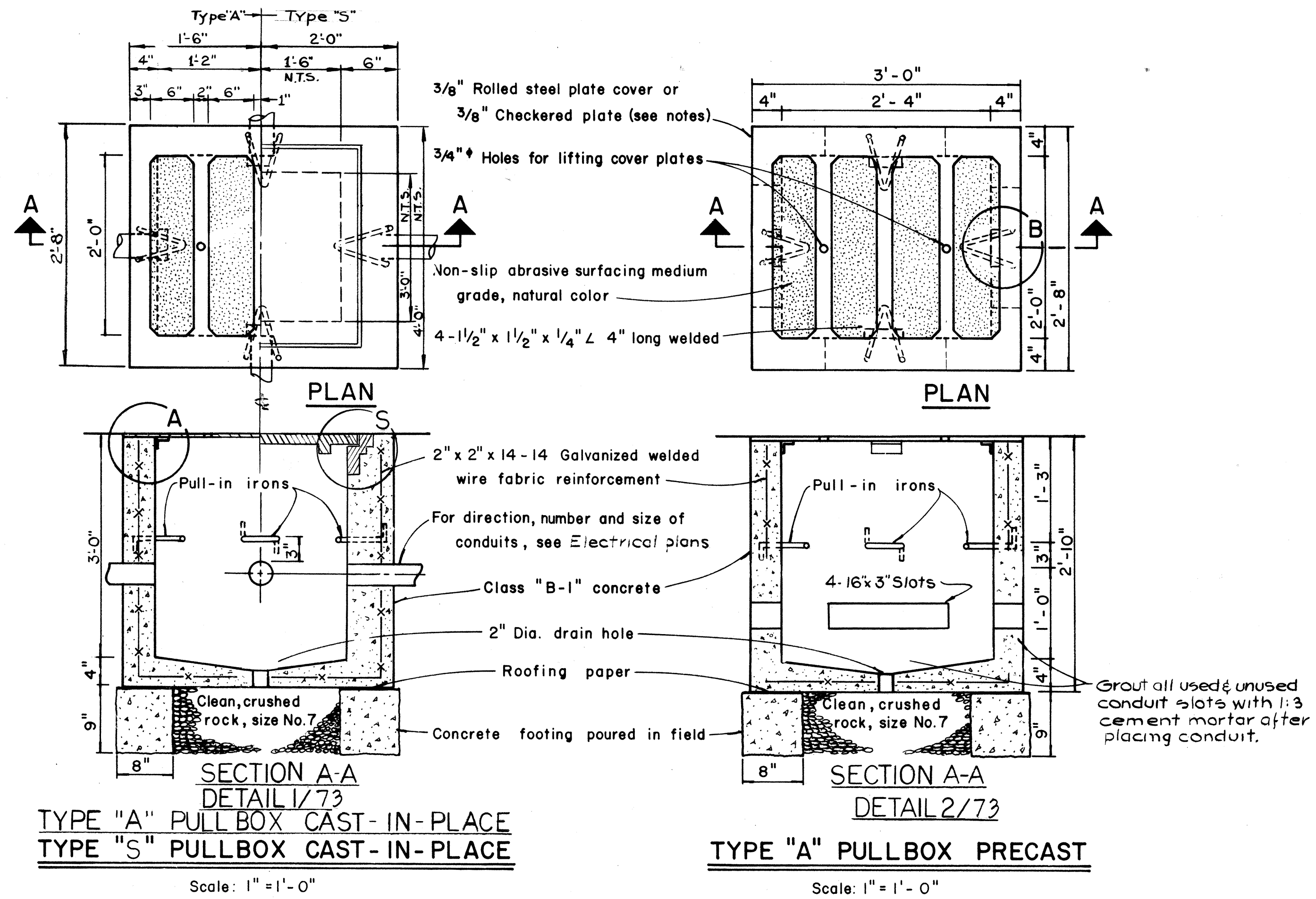
ELECTRICAL DETAILS
PART II

HALAWA INTERCHANGE
PROJECT NO. I-HI-1(77):13

SCALE: AS SHOWN DATE: NOV. 28, 1969
SHEET No. 3E OF 7E SHEETS

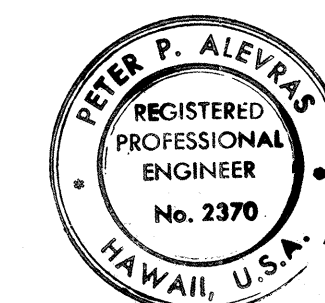
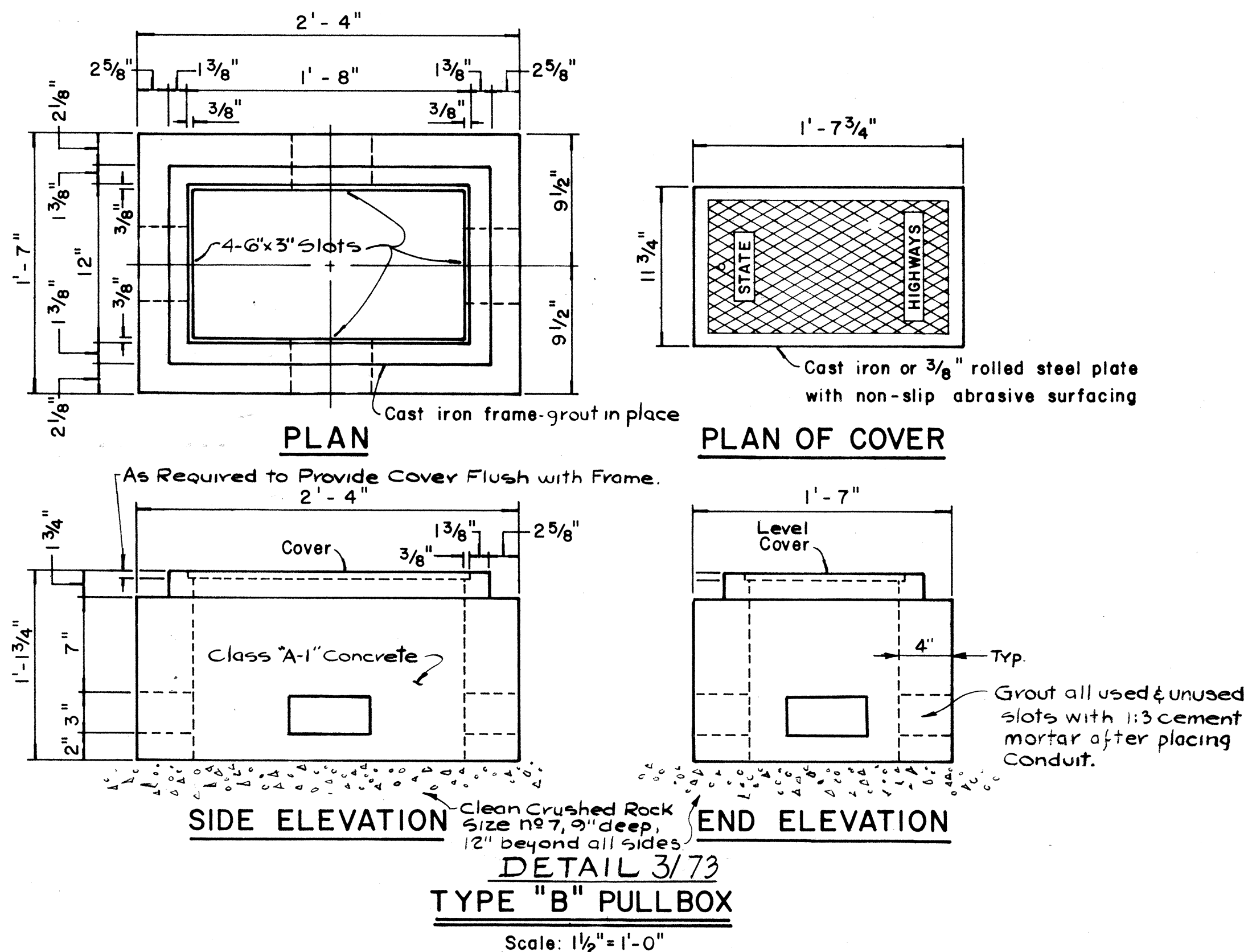
72

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	EH-1(10):13	1969	73-155	155



NOTES: (FOR TYPES "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.



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

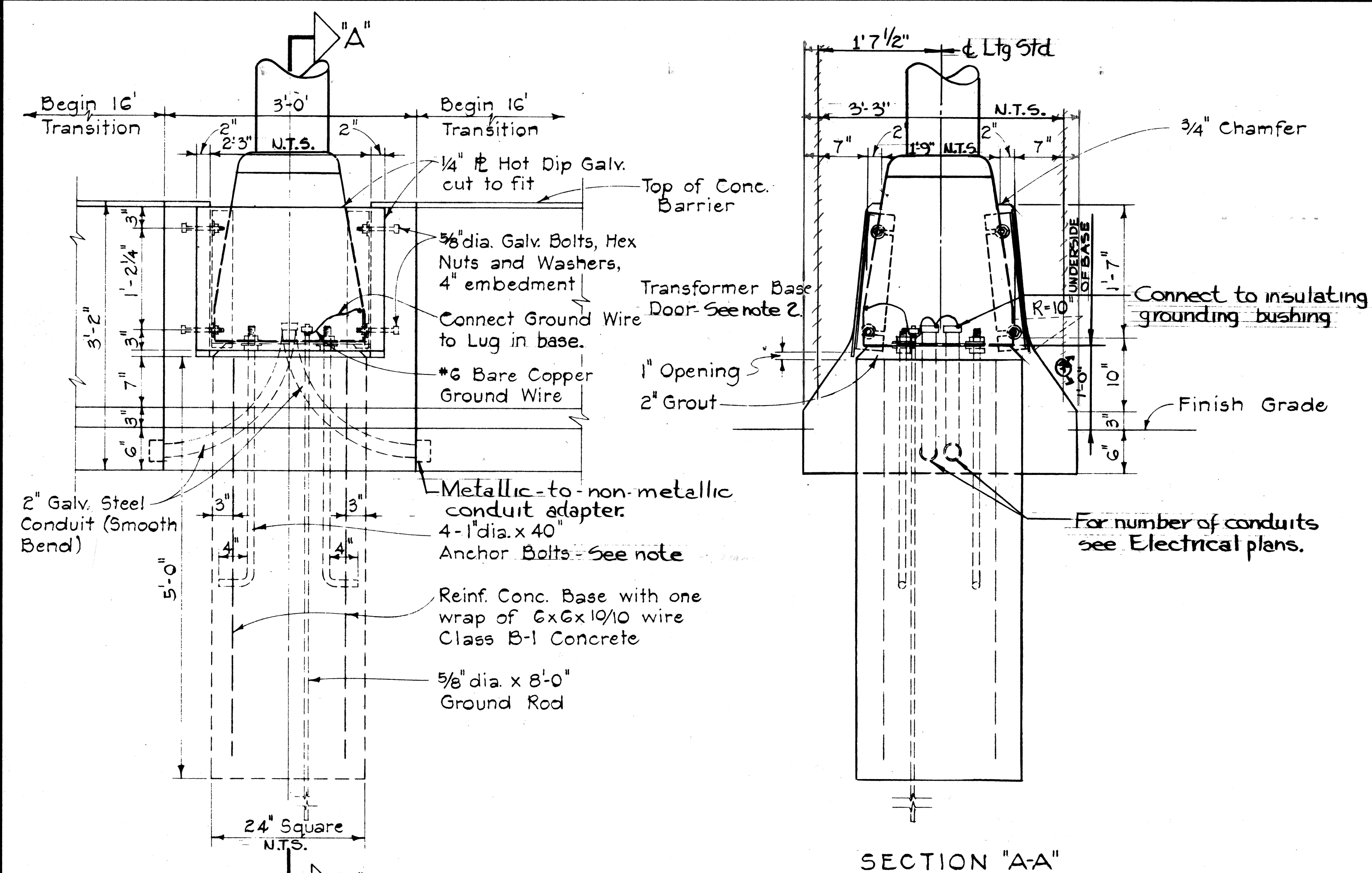
ELECTRICAL
PULL BOX DETAILS
HALAWA INTERCHANGE
PROJECT NO. I-HI-1(77):13

Scale as noted Date: NOV. 28, 1969

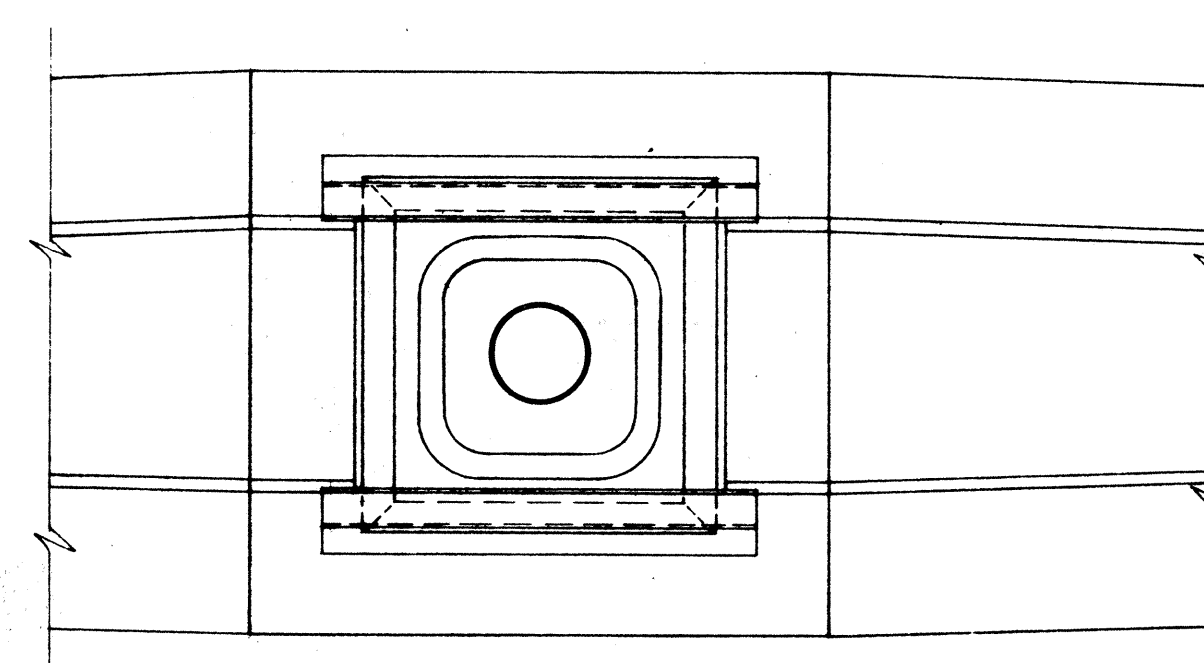
SHEET No. 4E OF 7E SHEETS

73

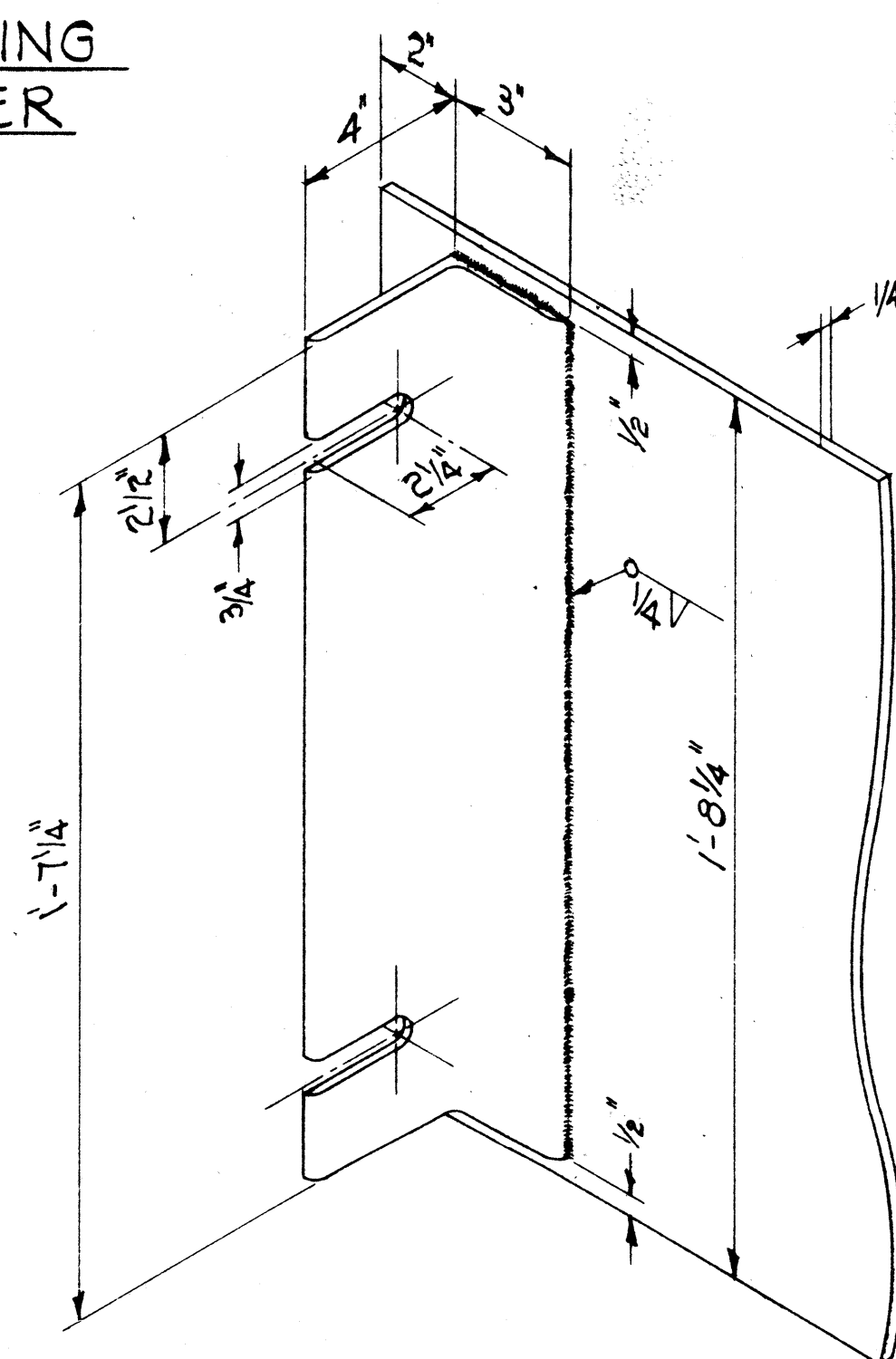
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(17):13	1969	74	155



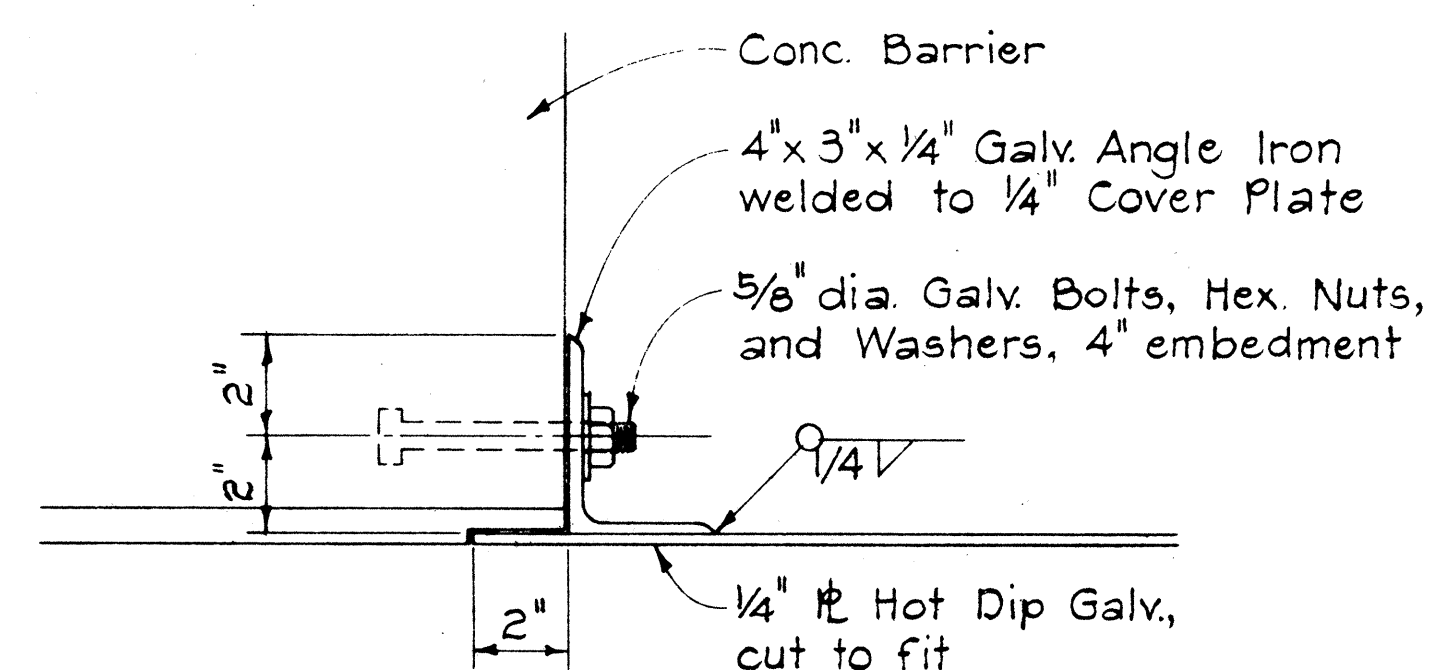
ELEVATION DETAIL 1/74
HIGHWAY LIGHTING STANDARD MOUNTING
DETAIL ON TYPE 'A' CONCRETE BARRIER
 Scale: 1" = 1'-0"



TYPICAL PLAN
Scale: 1" = 1'-0"



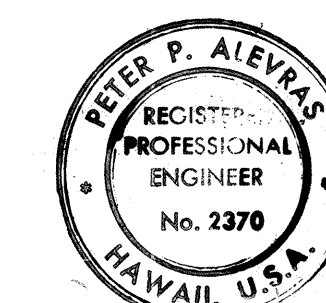
ANGLE IRON - COVER PLATE DETAIL
Scale: 3" - 1'-0"



COVER PLATE ANCHOR DETAIL
Scale: 3"=1'-0"

NOTES:

1. Constructing conc. barrier Foundation for Hwy. Lighting Standards shall consist of all work and materials necessary for constructing the 3'-0" concrete barrier section as shown on the plans. The work shall include furnishing and installing cover plates, angle irons, anchor bolts, ground rod, nuts & bolts and all other appurtenances, and labor including galvanizing, as shown and necessary to complete the work.
2. Position transformer base so that door is at right hand side of all lighting standards when looking up station.



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**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

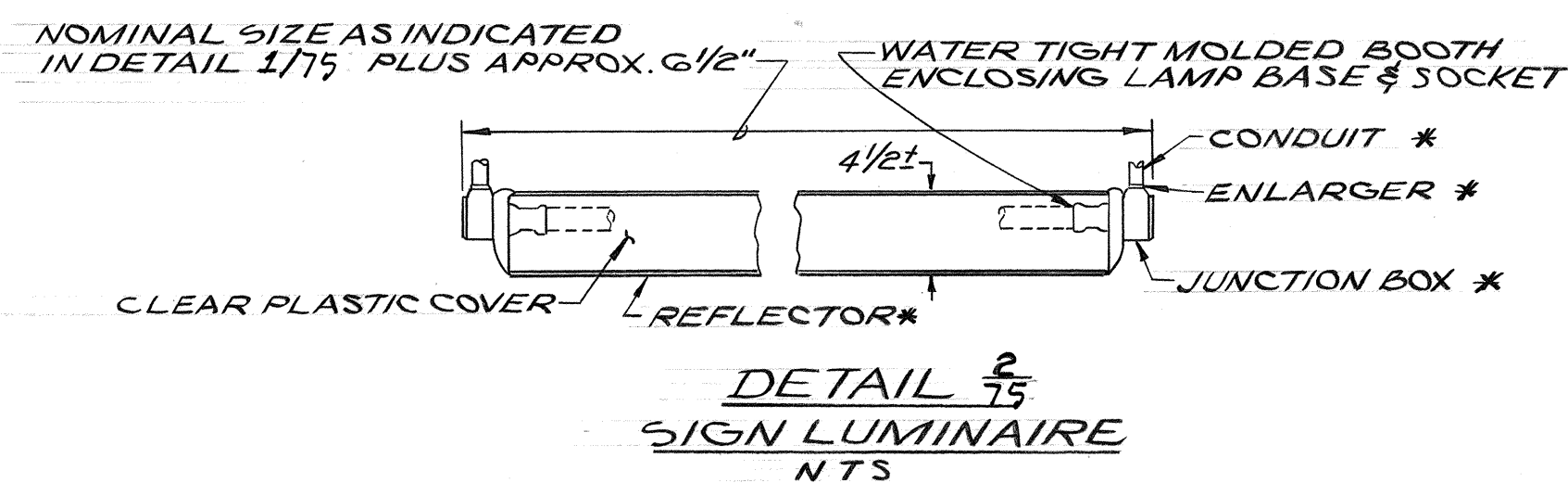
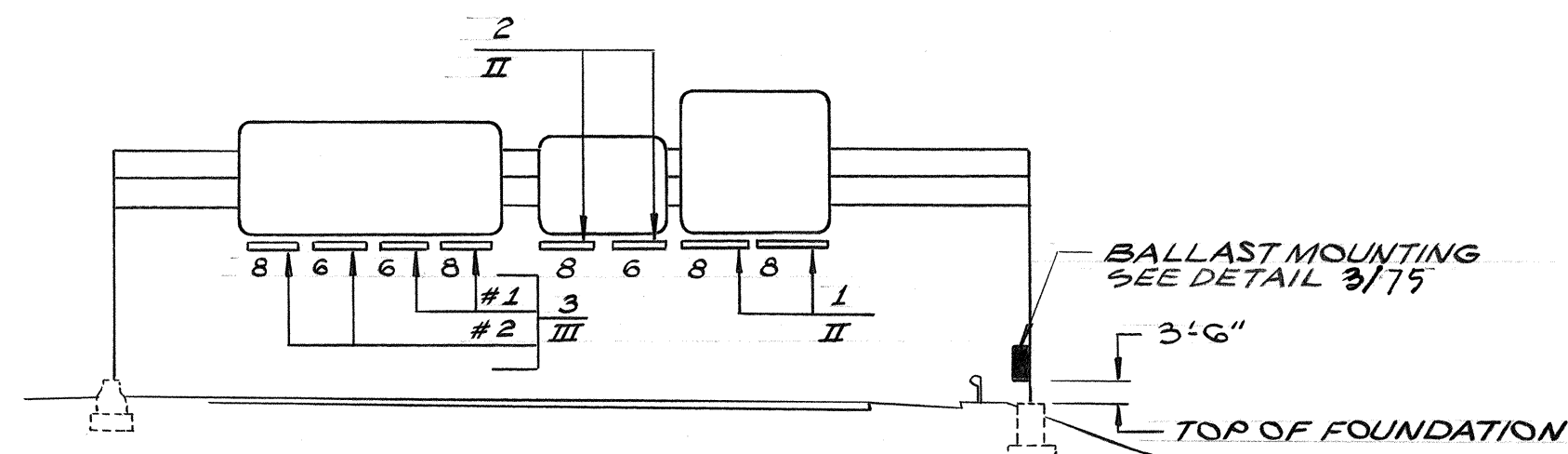
LIGHTING STANDARD MOUNTING
ON CONCRETE BARRIER
HALAWA INTERCHANGE
PROJECT NO. I-HI-1(77):B

Scale: As Shown Date: NOV. 28, 1969

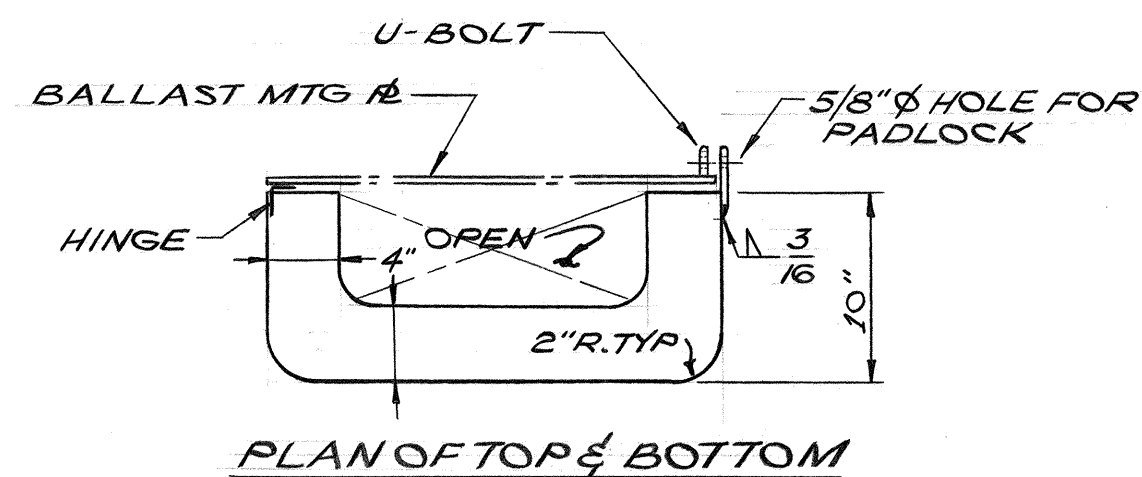
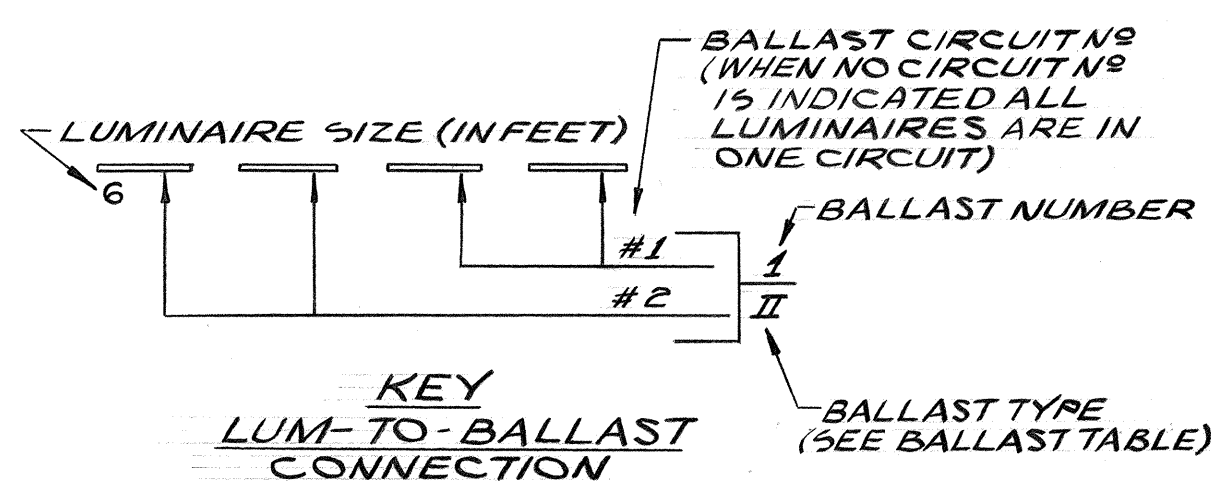
SHEET No.5F OF 7E SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(17):13	1969	75	1554

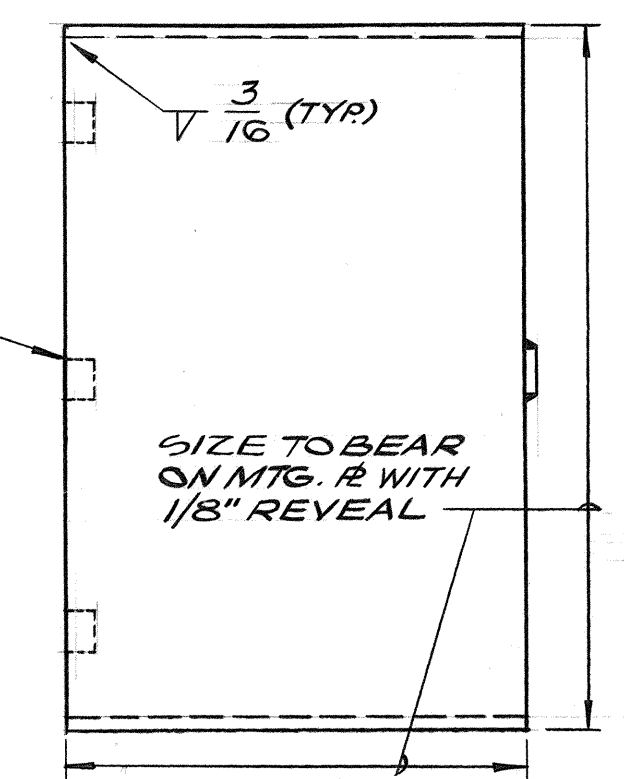
- NOTES:
- 1- FOR SCHEMATIC DIAGRAM OF CONNECTION TO SIGN LUMINAIRE'S SEE DETAIL 2/71.
 - 2- FOR DETAIL OF FOUNDATION FOR OVERHEAD SIGN SEE SHEET NO. 63.
- * - ITEMS REFERENCED WITH ASTERISK SHALL BE OF ALUMINUM.
- ** - ITEMS REFERENCED WITH DOUBLE ASTERISK SHALL BE OF STAINLESS STEEL.



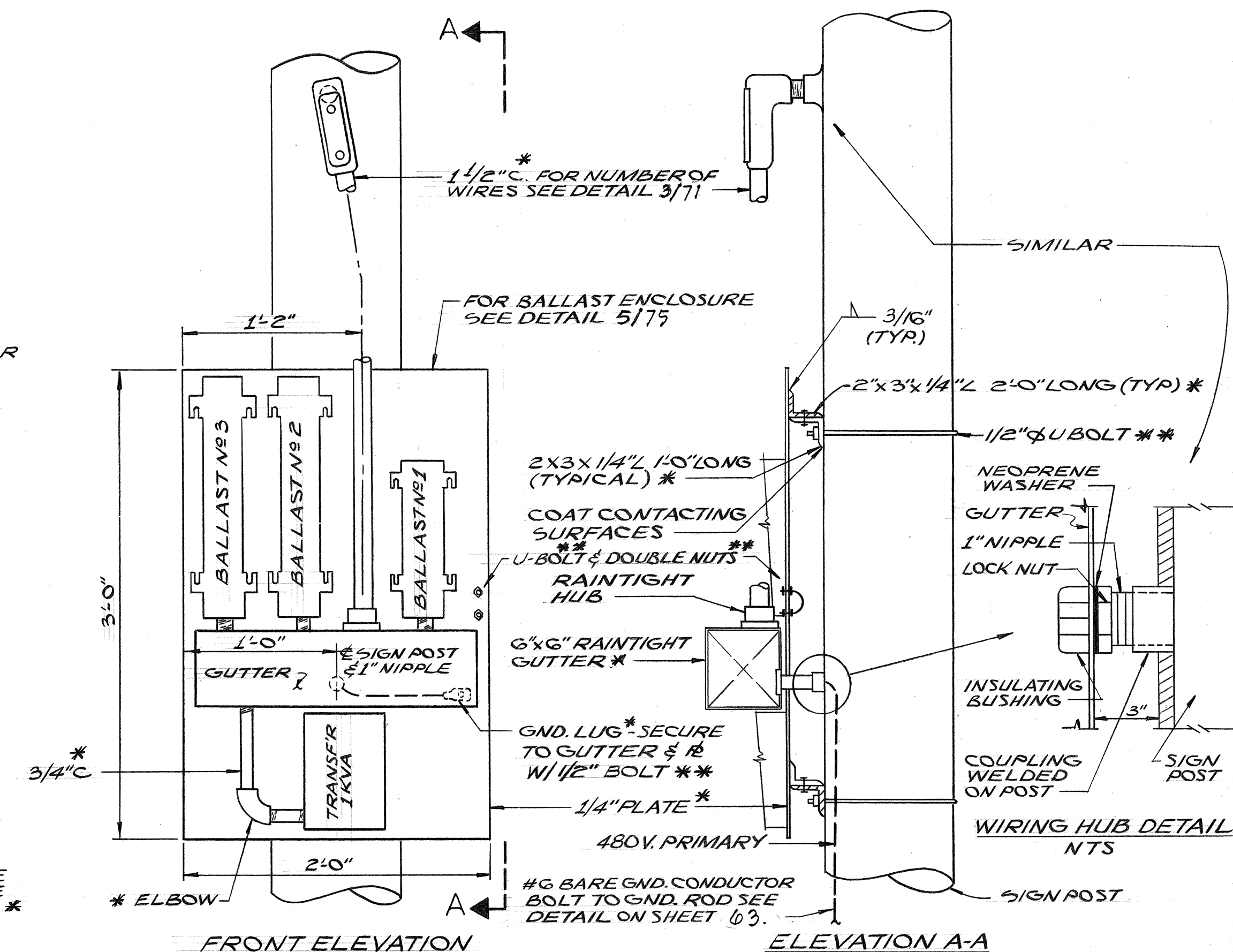
TYPE	DESCRIPTION
I	1 OR 2 LAMP COMBINATION
II	2 OR 3 LAMP COMBINATION
III	4 LAMP COMBINATION



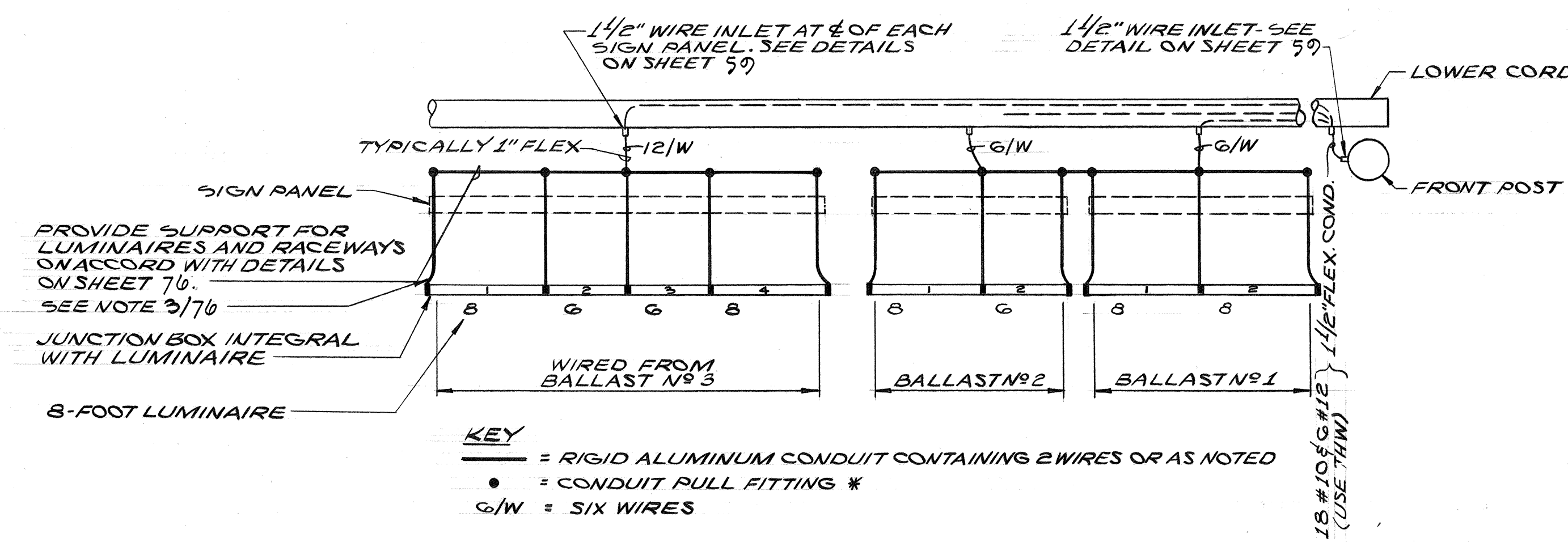
1 1/2 PAIR 3" HINGES. ** SECURE WITH TAPER PROOF BOLTS.



NOTE: FABRICATE ENCLOSURE OF 3/16" R *.



DETAIL 3/75
BALLAST MOUNTING
ARRANGEMENT FOR SIGN NOES
SCALE: 1/8" = 1"

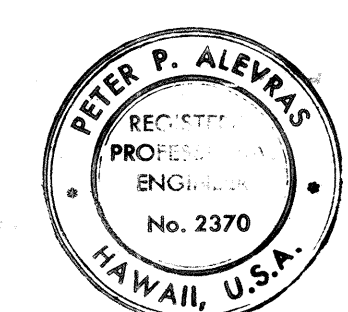


KEY

- = RIGID ALUMINUM CONDUIT CONTAINING 2 WIRES OR AS NOTED
- = CONDUIT PULL FITTING *
- G/W = SIX WIRES

PLAN 4/75
RACEWAY LAYOUT FOR SIGN NOES
SCALE: 1/8" = 1/4"

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



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Peter P. Alevis

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

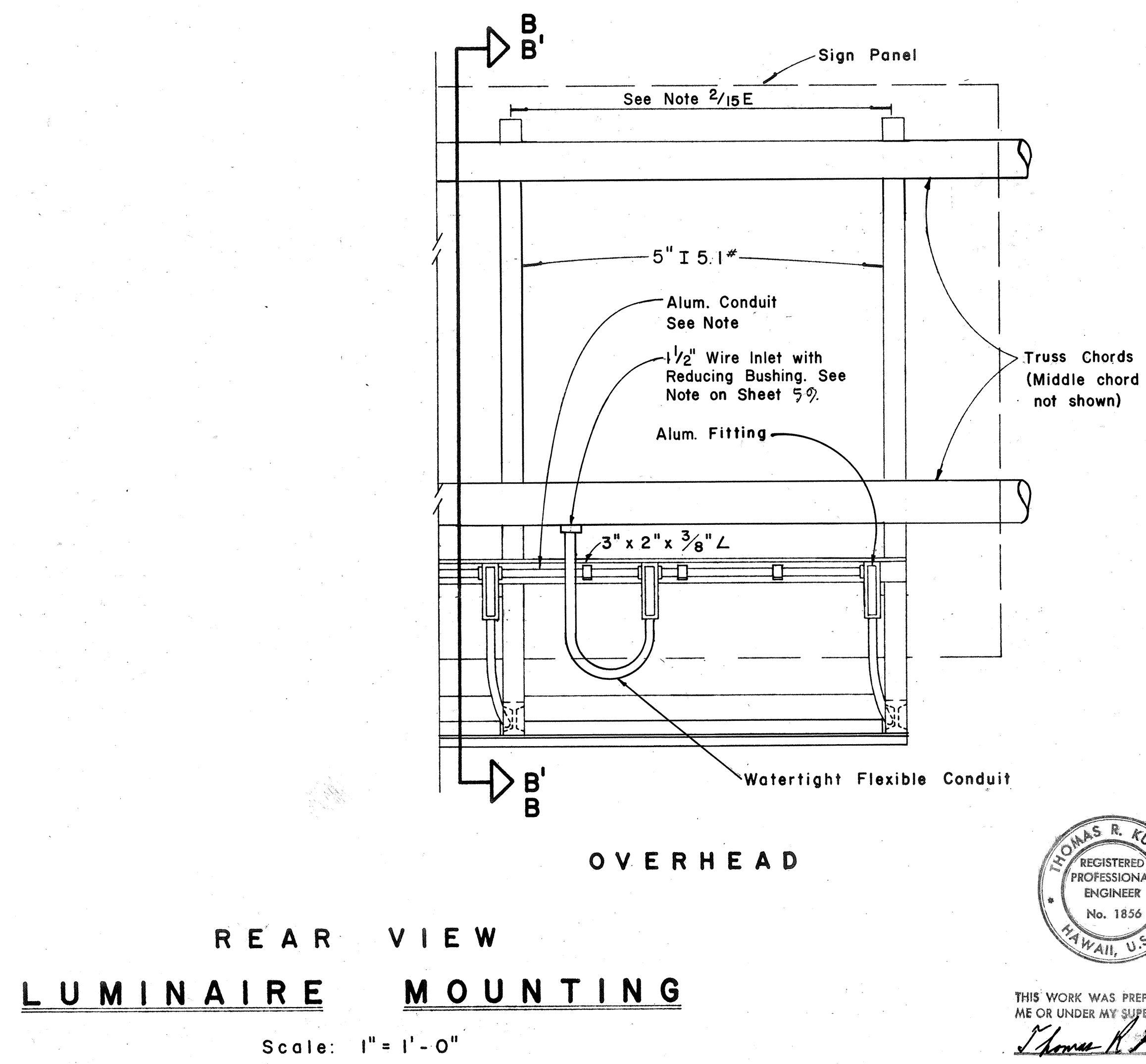
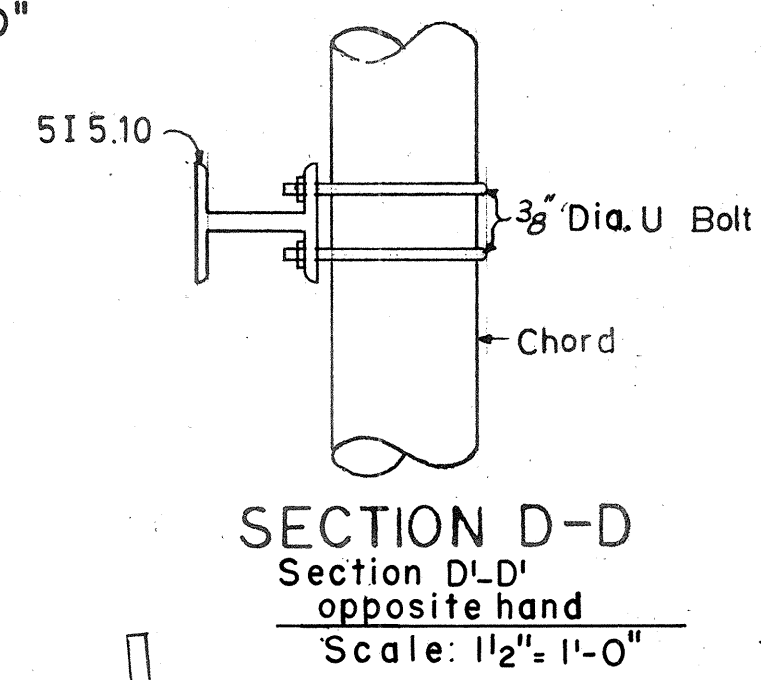
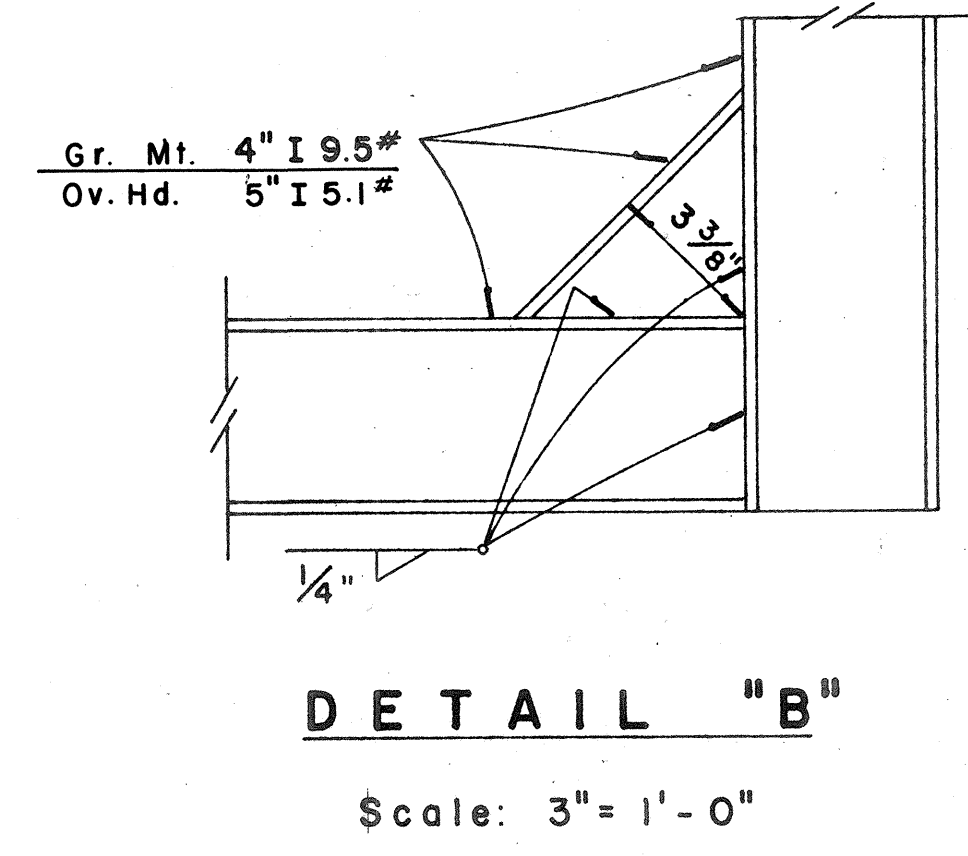
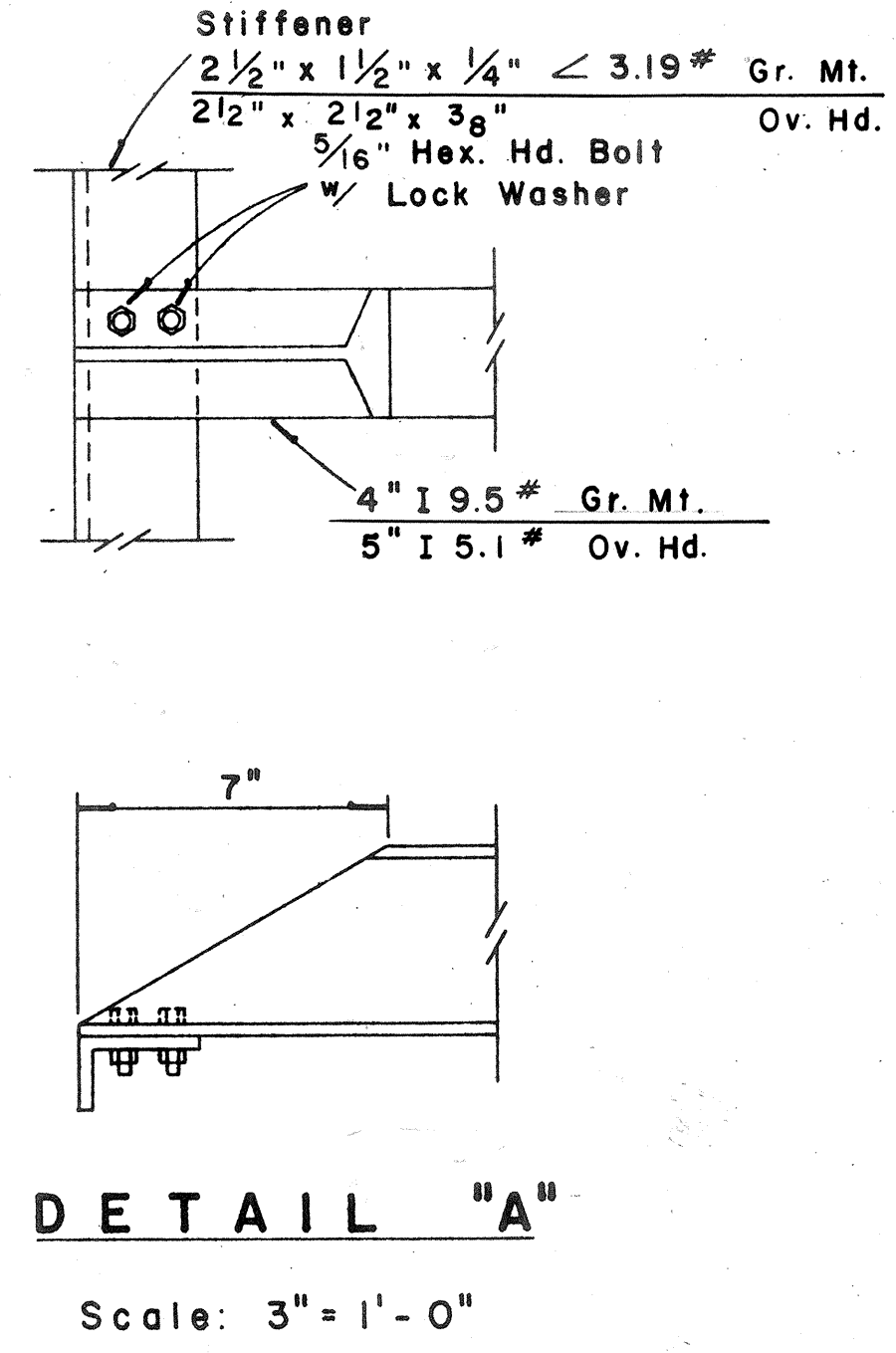
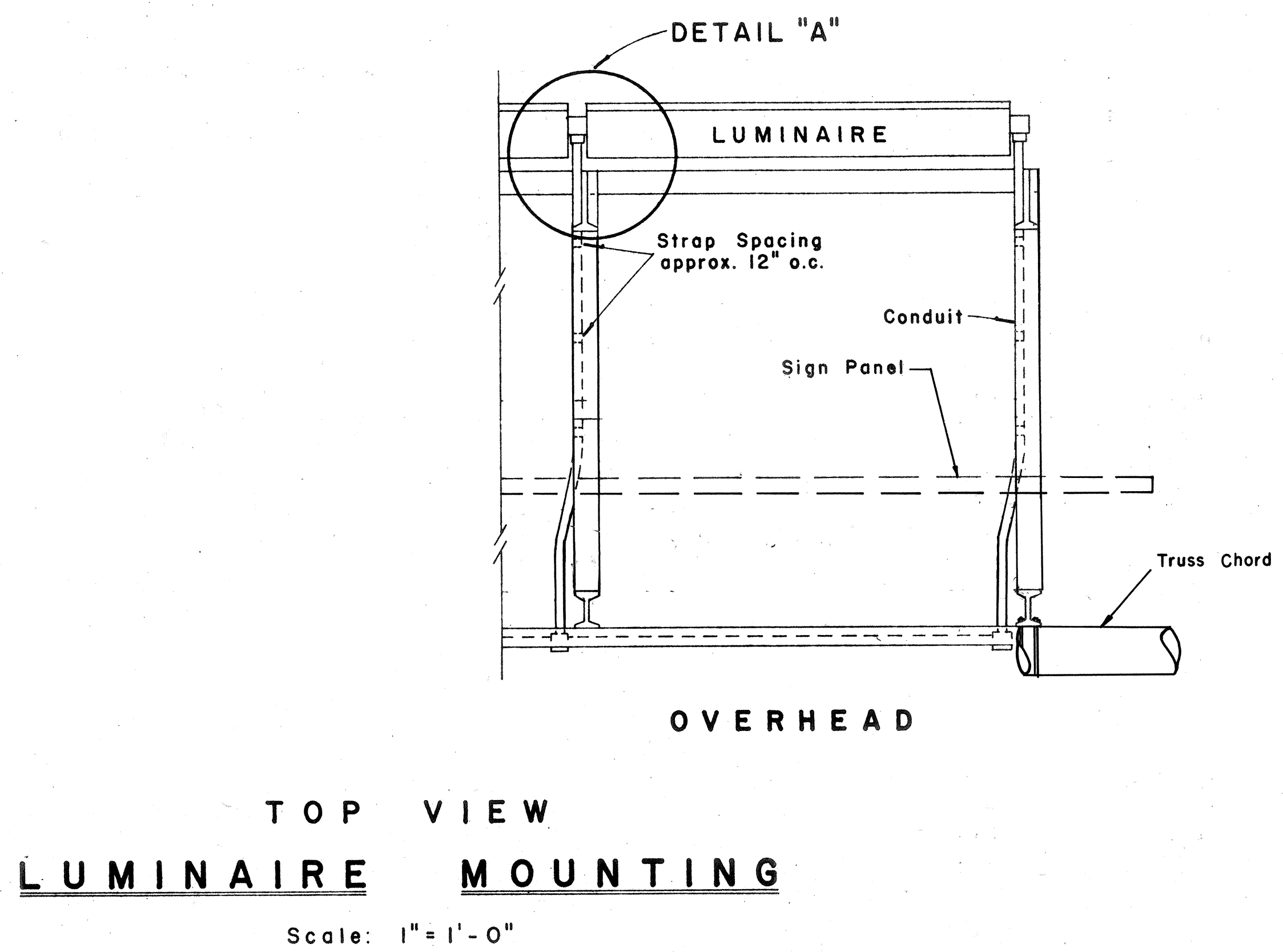
HIGHWAY ELECTRICAL
SIGNS DETAILS
HALAWA INTERCHANGE
PROJECT NO. I-HI-1(77):13
SCALE: AS SHOWN
DATE: NOV. 28, 1969
SHEET No. 6E OF 7E SHEETS

75

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	541-1(17)	1969	76	155

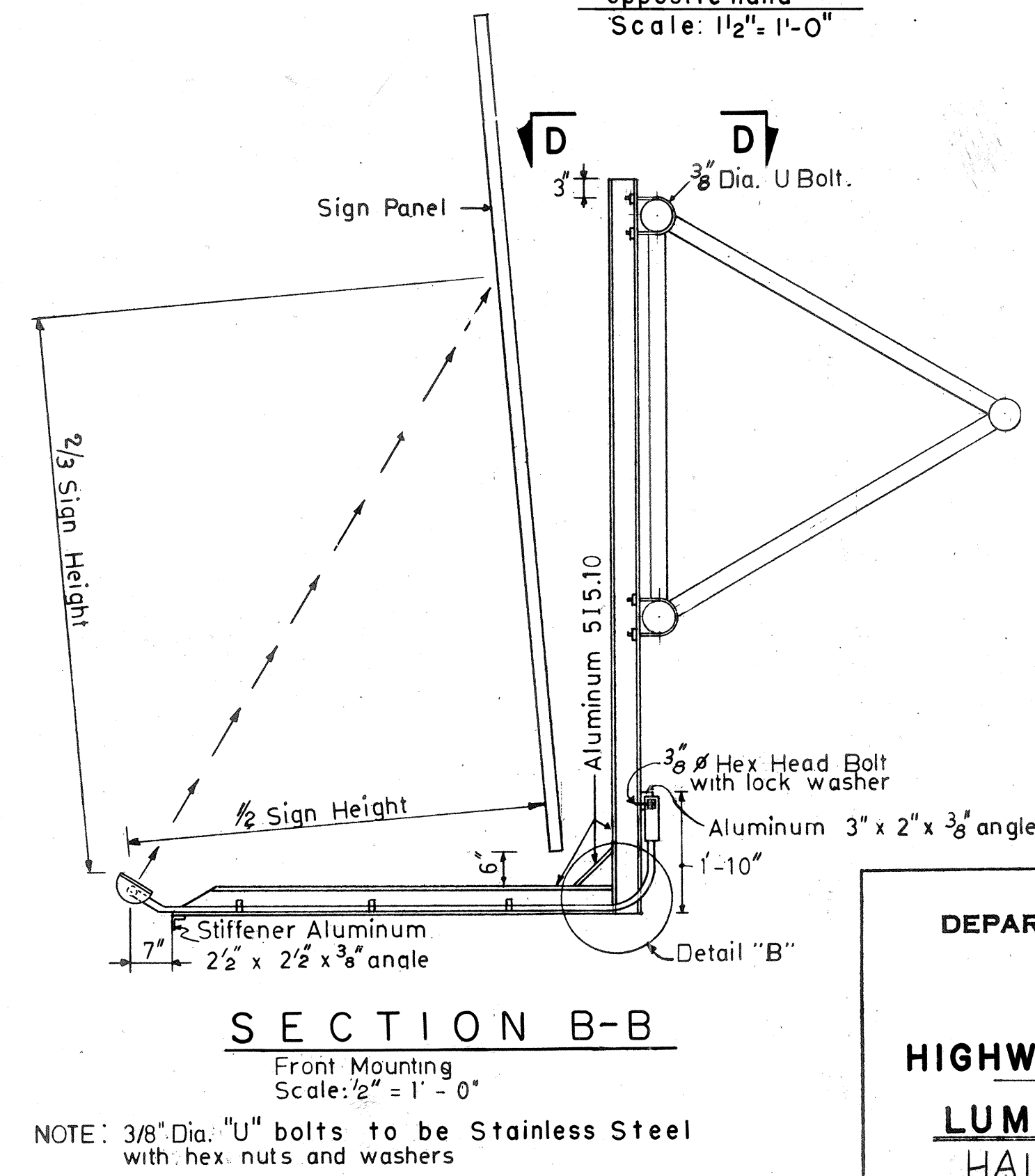
GENERAL NOTES

- For Raceway layout for sign luminaires see Detail 4/75.
- Luminaire brackets shall be spaced to fit luminaires. See Detail 2/75. 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.



THOMAS R. KUSEL
REGISTERED PROFESSIONAL ENGINEER
No. 1856
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Thomas R. Kusel



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY ELECTRICAL SIGNS
LUMINAIRE MOUNTINGS
HALAWA INTERCHANGE
PROJECT NO. I-HI-1 (17):13
Scale: As Shown Date: Nov. 28, 1969
SHEET No. 76 OF 76 SHEETS

ORIGINAL PLAN	DESIGNED BY	DATE
NOTE BOOK	TRACED BY	1-16-69
	QUANTITIES BY	1-16-69
	CHECKED BY	1-16-69