

ORIGINAL PLAN

DATE

SURVEY PLOTTED BY

DESIGNED BY

TRACED BY

NOTED BY

QUANTITIES BY

CHECKED BY

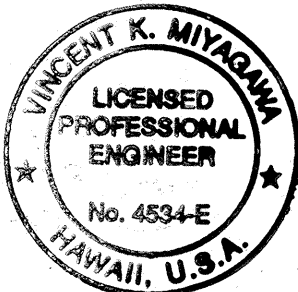
No.

LIGHT STANDARD SCHEDULE							
POLE ① NUMBER	APPROXIMATE STATION ③	LIGHT NUMBER	BRACKET ARM LENGTH	BASE TYPE ANCHOR SLIP		MODIFY ② GUARDRAIL	REMARKS
1	65+25H	1,1A	10'	●	⑦	NO	400W HPS, TYPE III
2	66+40H	2,2A	10'	●	⑦	NO	400W HPS, TYPE III
3	67+20H	3,3A	10'		● ⑦	NO	250W HPS, TYPE III
4	68+24H	4	10'		● ⑦	NO	250W HPS, TYPE III
5	68+27W	5	10'	●	⑦	ADD RUB RAIL	250W HPS, TYPE III, ⑤
6	69+44H	6	10'		● ⑦	NO	150W HPS, TYPE II, ⑥
7	69+37W	7	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
8	70+55H	8	10'		● ⑦	NO	150W HPS, TYPE II, ⑥
9	70+50W	9	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
10	72+00H	10	10'		● ⑦	NO	150W HPS, TYPE II, ⑥
11	72+00W	11	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
12	73+47W	12	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
13	73+50H	13	10'		● ⑦	NO	150W HPS, TYPE II, ⑥
14	74+93W	14	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
15	74+98H	15	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
16	76+42W	16	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
17	76+45H	17	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
18	78+00W	18	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
19	77+90H	19	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
20	79+51W	20	-6±10'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
21	79+35H	21	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
22	80+98W	22	10'	●	⑦	ADD RUB RAIL	250W HPS, TYPE III, ⑥
23	80+80H	23	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
24	81+85W	24	10'		● ⑦	NO	250W HPS, TYPE III, ⑥
25	82+20H	25	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
26	82+71W	26	10'		● ⑦	NO	250W HPS, TYPE III, ⑥
27	83+60H	27	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
28	83+77W	28	6'		● ⑦	NO	150W HPS, TYPE II, ⑥
29	84+70H	29	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
30	84+83W	30	6'		● ⑦	NO	150W HPS, TYPE II, ⑥
31	85+87H	31	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
32	85+90W	32	6'		● ⑦	NO	150W HPS, TYPE II, ⑥
33	86+97H	33	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
34	87+00W	34	6'		● ⑦	NO	150W HPS, TYPE II, ⑥
35	88+05H	35	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
36	88+09W	36	6'		● ⑦	NO	150W HPS, TYPE II, ⑥
37	89+19H	37	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
38	89+17W	38	6'		● ⑦	NO	150W HPS, TYPE II, ⑥
39	90+38H	39	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
40	90+27W	40	6'		● ⑦	NO	150W HPS, TYPE II
41	91+25H	41	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
42	91+84H	42	6'	●	⑧	ADD RUB RAIL	150W HPS, TYPE II, ⑤
43	91+32W	43	6'	●	⑦	NO	250W HPS, TYPE II, ④
44	91+75W	44,44A	6'	●	⑦	NO	250W HPS, TYPE II
45	93+13H	45	6'		● ⑦	NO	150W HPS, TYPE II
46	92+60W	46,46A	6'	●	⑦	NO	250W HPS, TYPE II
47	93+05W	47	6'	●	⑦	NO	150W HPS, TYPE II, ④
48	94+26H	48	6'		● ⑦	NO	250W HPS, TYPE II
49	94+35W	49	6'	●	⑦	ADD RUB RAIL	150W HPS, TYPE II, ⑤
50	95+54H	50	6'		● ⑦	NO	150W HPS, TYPE II

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(16)	1996	8	12

LEGEND:

- ① POLE NUMBERS ARE FOR REFERENCE ONLY.
- ② GUARDRAIL MODIFICATIONS SHALL CONFORM TO STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION STANDARD PLANS TE-52 AND TE-54.
- ③ H = HONOLULU BOUND LANES.
W = WAHIAWA BOUND LANES.
- ④ LOCATE POLE ON HOUSE SIDE OF SIDEWALK.
- ⑤ LOCATE POLE ON HOUSE SIDE OF EXISTING GUARDRAIL.
- ⑥ LOCATE POLE ON HOUSE SIDE OF CONCRETE SWALE.
- ⑦ CONCRETE BASE DETAIL "A".
- ⑧ CONCRETE BASE DETAIL "B" SLOPE.



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

By *Vincent K. Miyakawa*
Its **PROJECT ENGINEER**
Date *5-22-92*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**LIGHT STANDARD
SCHEDULE**

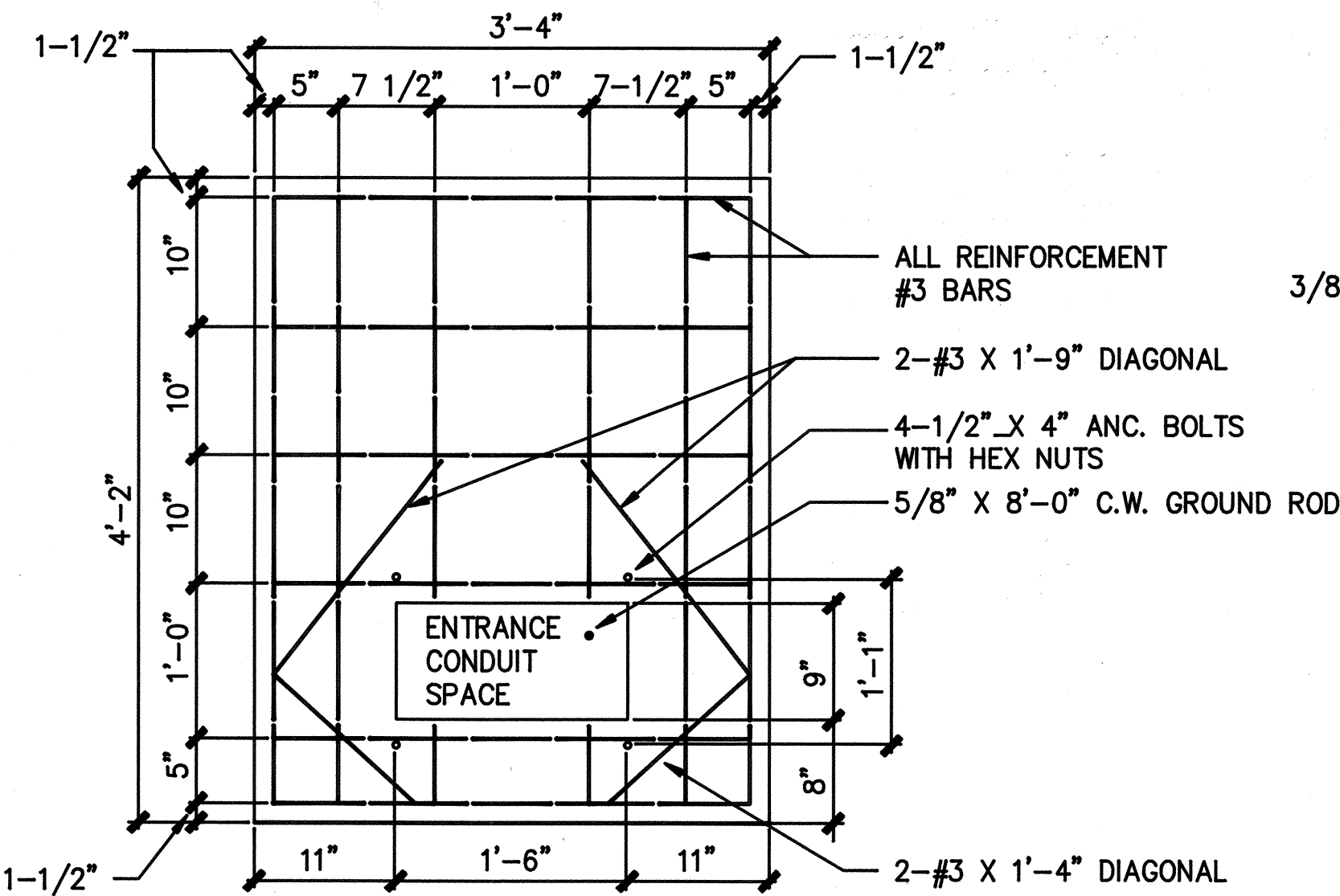
KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS
KIPAPA STREET TO WAIKALANI DRIVE
PROJECT NO. NH-099-1(16)

SCALE: NO SCALE

DATE:

SHEET No. 8 OF 12 SHEETS

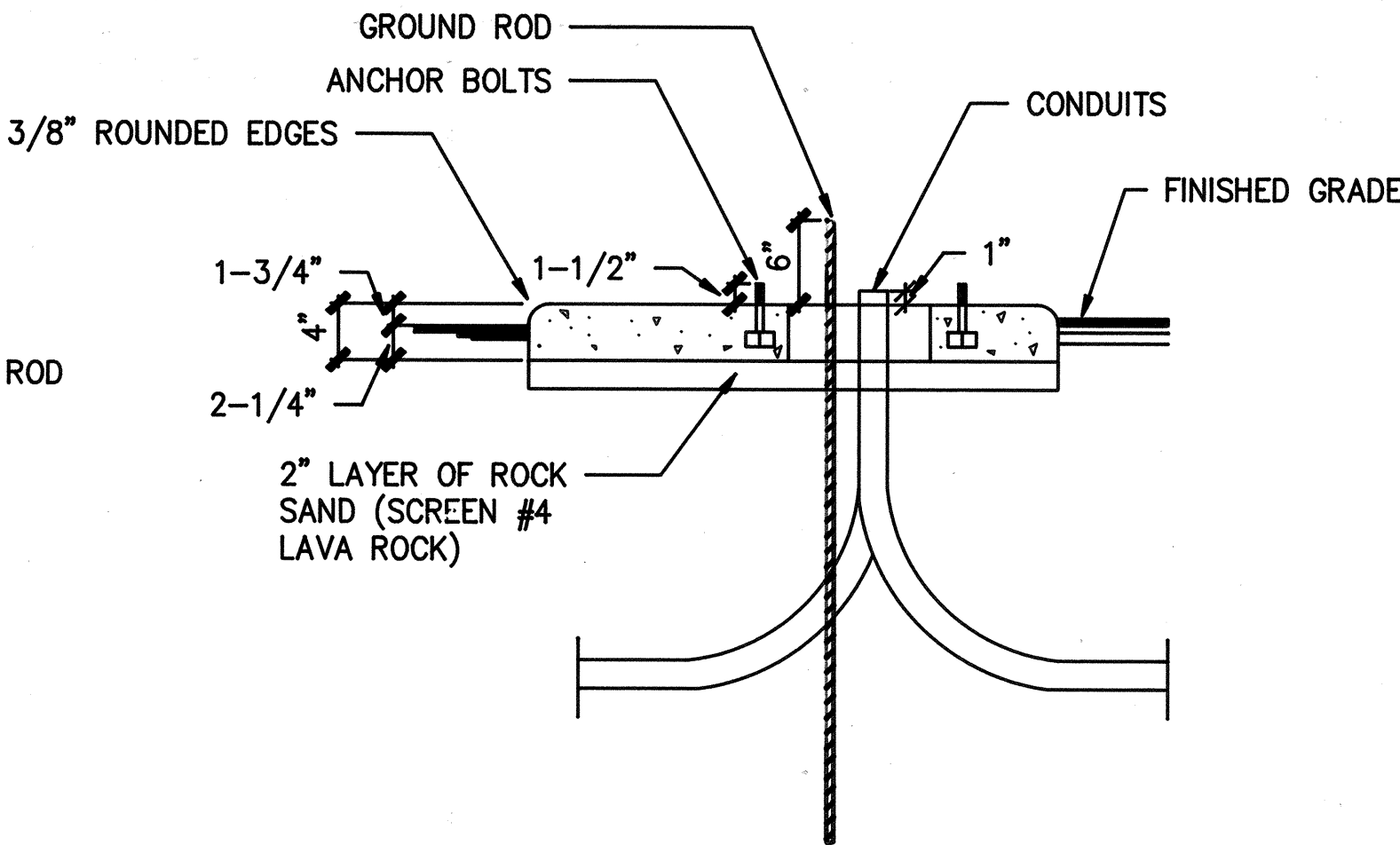
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(16)	1996	9	12



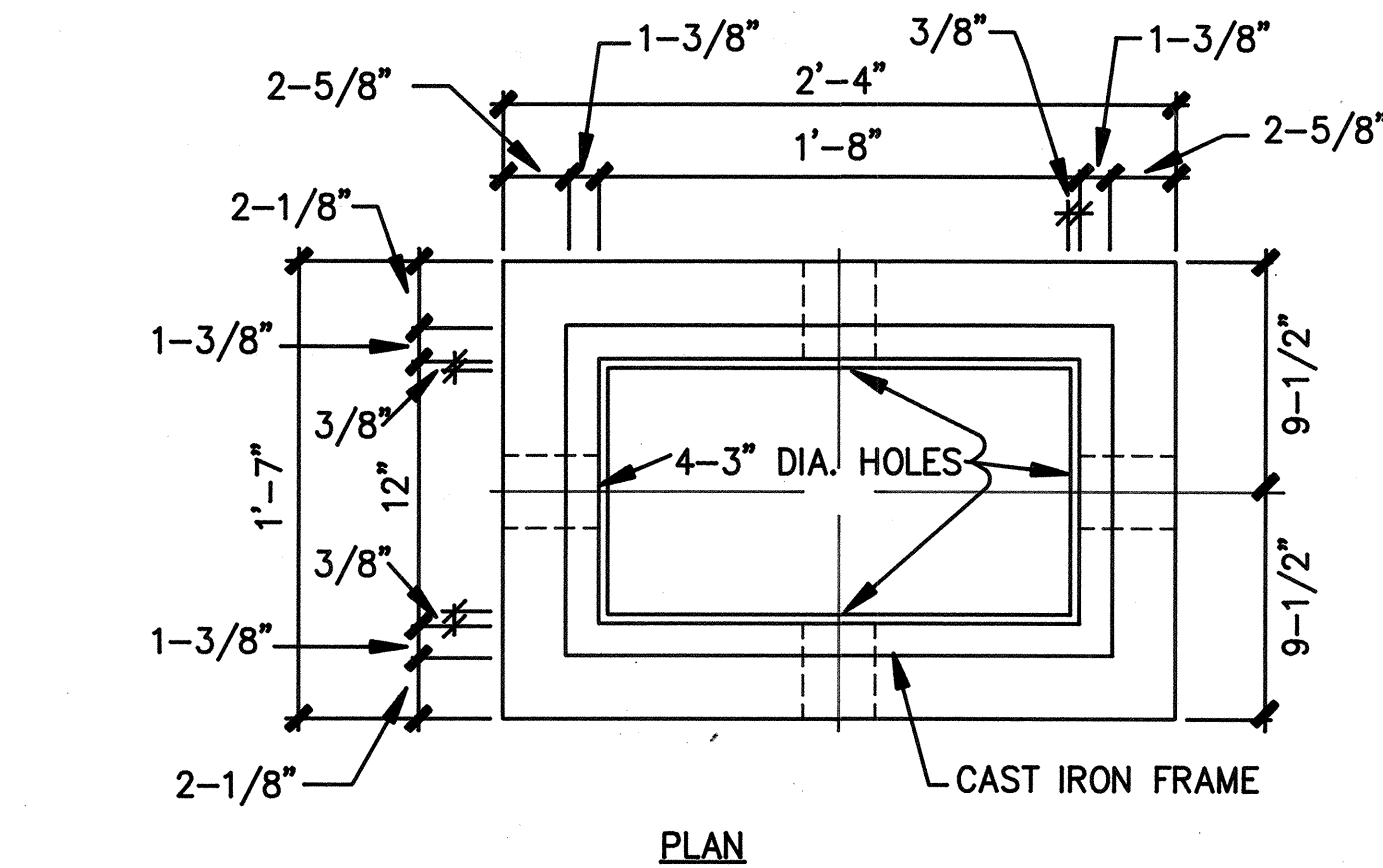
FRONT

A PRECAST PAD PLAN SCALE: 1" = 1'-0"

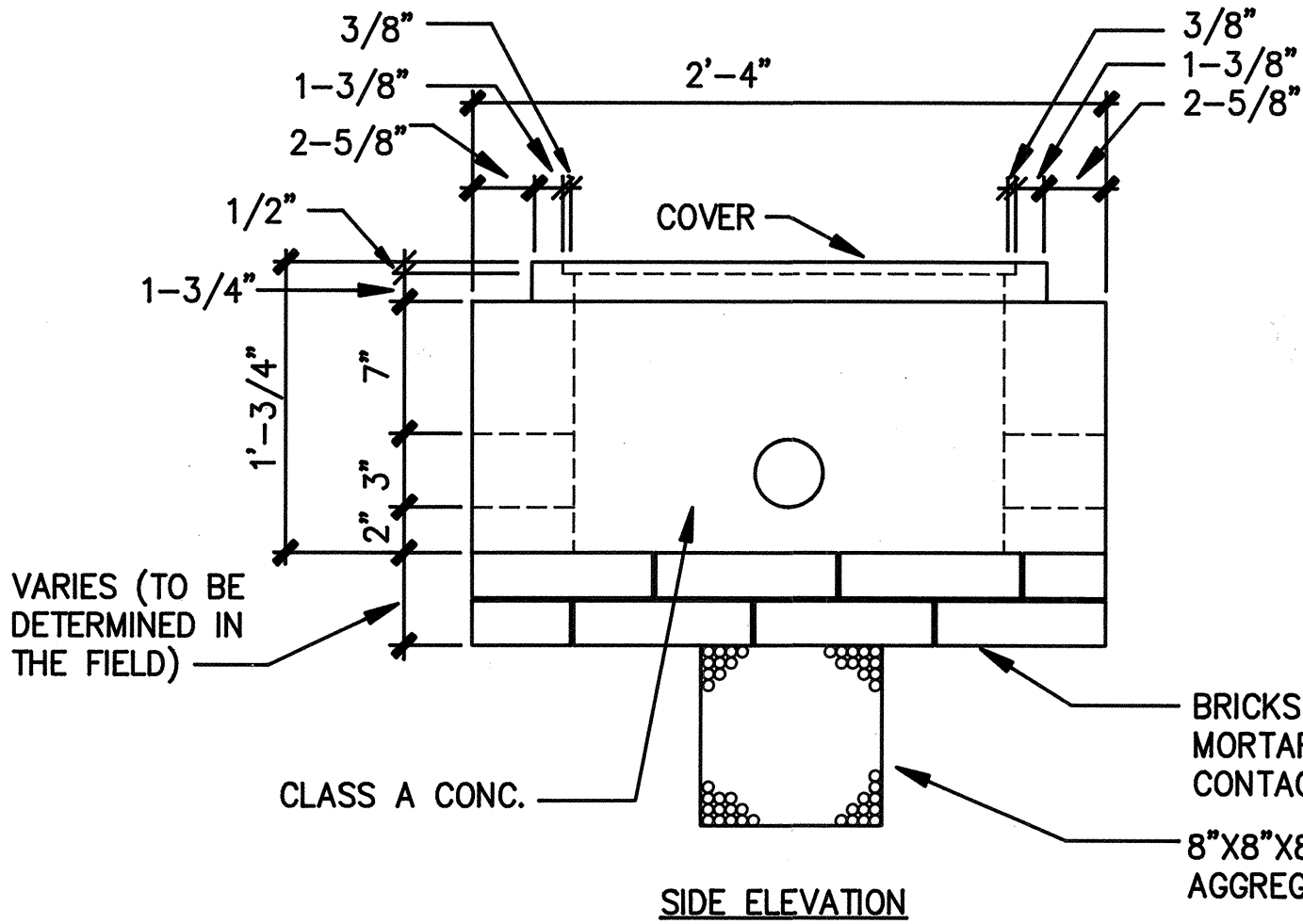
NOTE: TRANSFORMER PAD SHALL CONFORM TO ALL HECO REQUIREMENTS. COORDINATE REQUIREMENTS WITH HECO. MAINTAIN MINIMUM CLEAR SPACE OF 2' ON SIDES AND BACK, AND 8' IN FRONT OF TRANSFORMER PAD.



SECTION
SCALE: 1"=1'-0"

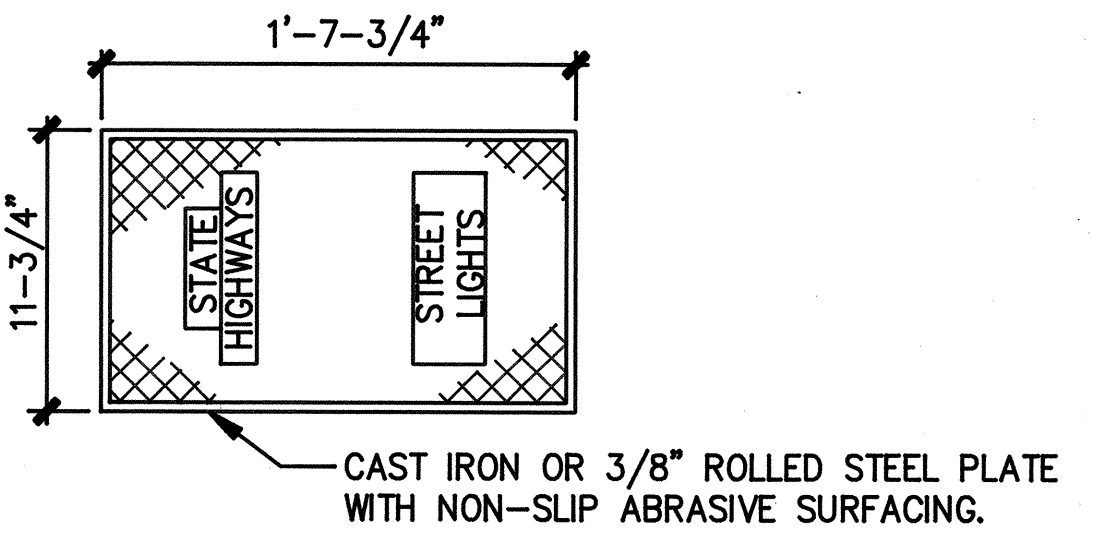


PLAN

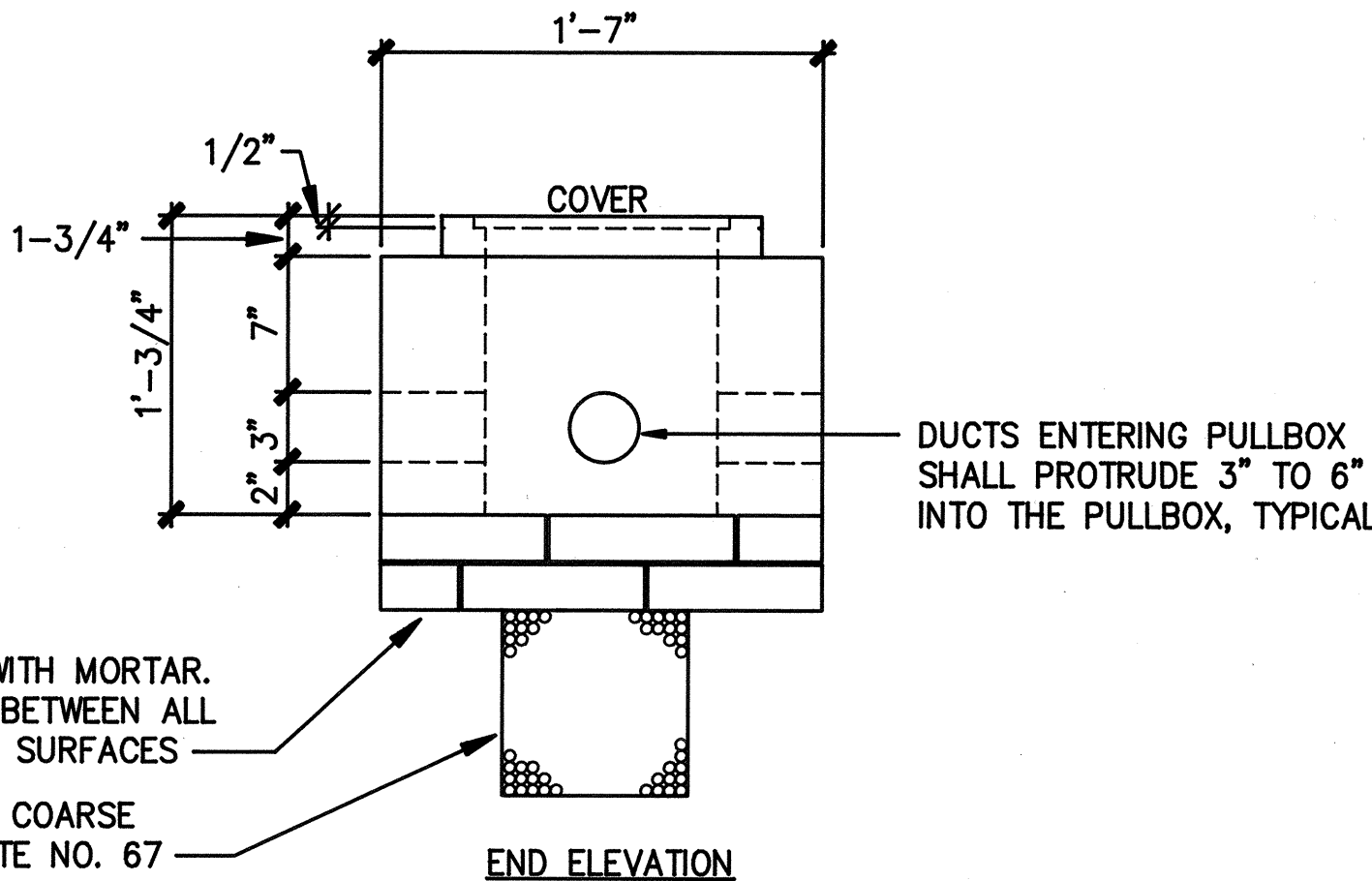


SIDE ELEVATION

NOTE: STEEL RIM SHALL BE WELDED TO BOTTOM OF STEEL COVER IF NECESSARY SO THAT TOP OF COVER AND FRAME ARE FLUSH



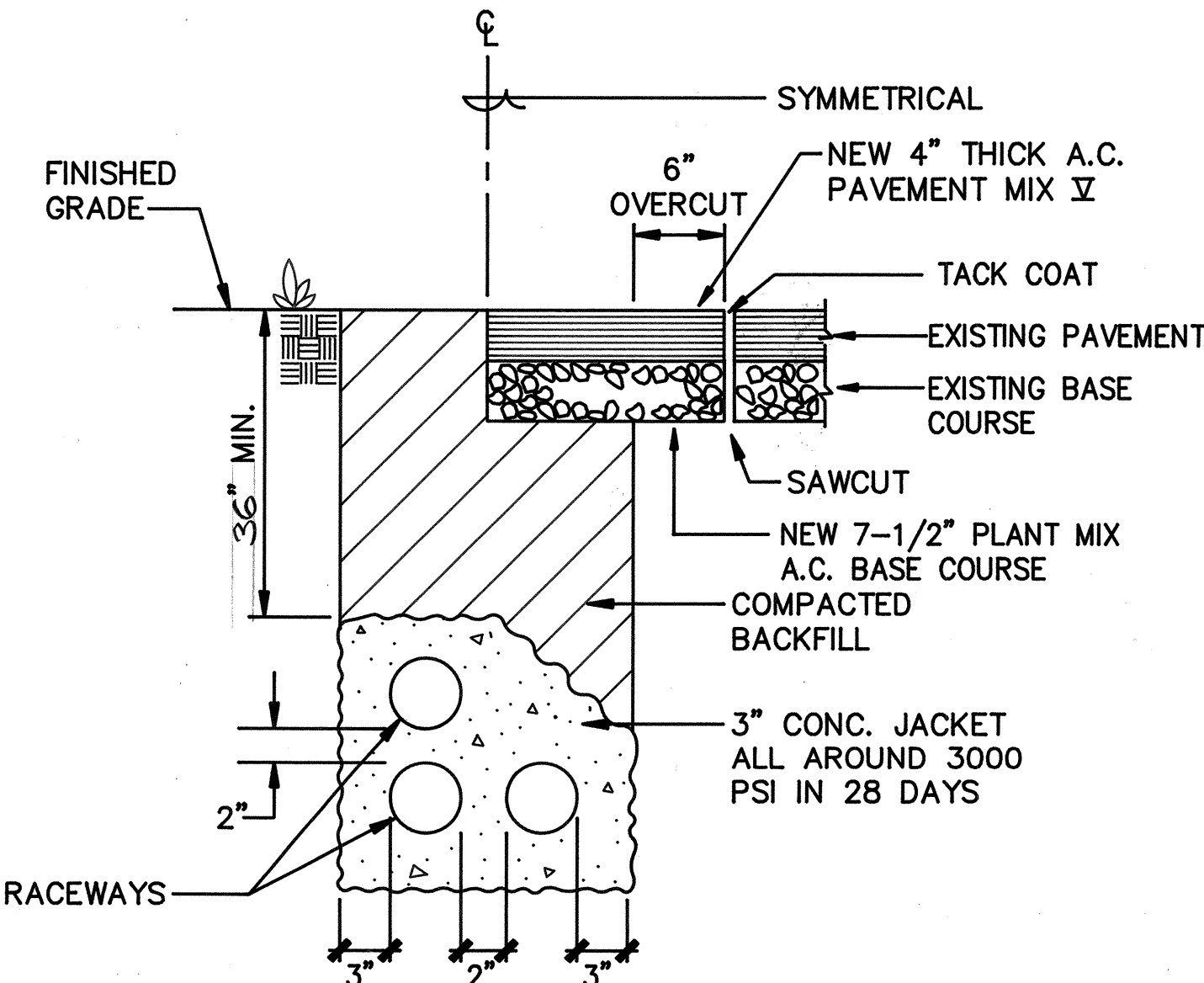
PLAN OF COVER



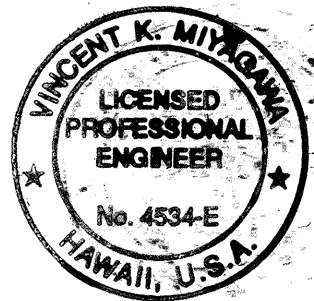
END ELEVATION

TYPE "B" PULLBOX NOT TO SCALE

DUCT SECTION SCHEDULE	
TYPE	DESCRIPTION
1	3" PVC CONDUIT, ELECTRICAL PRIMARY, CONDUCTORS BY HECO, PROVIDE PULLSTRING.
2	2" PVC CONDUIT, ELECTRICAL SECONDARY, 3#2 RHW-USE
3	2" PVC CONDUIT, HIGHWAY LIGHTING, 4#4 RHW-USE, 1#6 RHW-USE GROUND.
4	2" PVC CONDUIT, HIGHWAY LIGHTING, 2#4 RHW-USE, 1#6 RHW-USE GROUND.



TYPICAL DUCT SECTION
NOT TO SCALE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

By VINCENT K. MIYAGAWA
Its PROJECT ENGINEER
Date 5-22-92

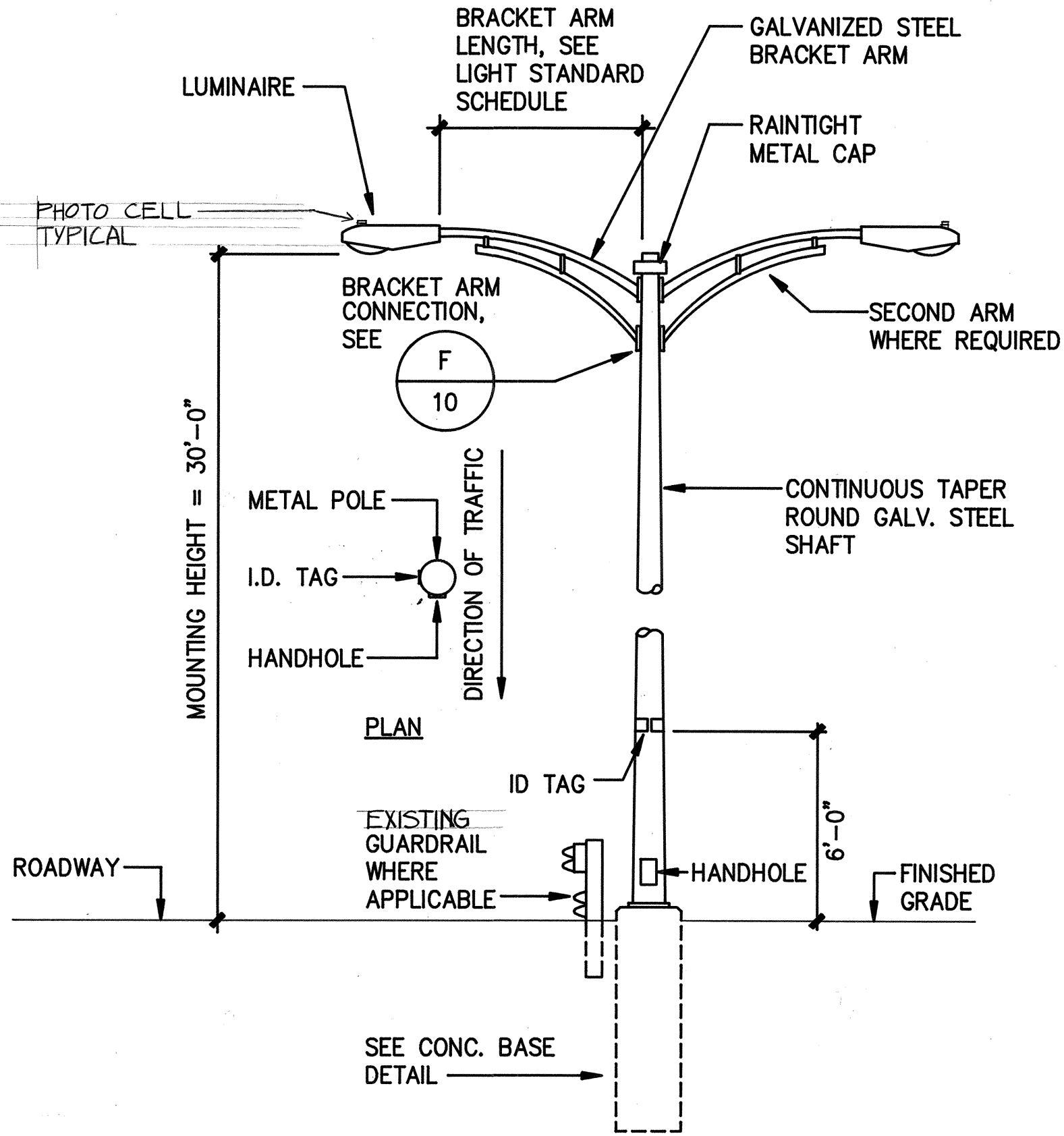
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISCELLANEOUS DETAILS
KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS
KIPAPA STREET TO WAIKALANI DRIVE
PROJECT NO. NH-099-1(16)
SCALE: NOT TO SCALE
DATE:
SHEET NO. 9 OF 12 SHEETS

9

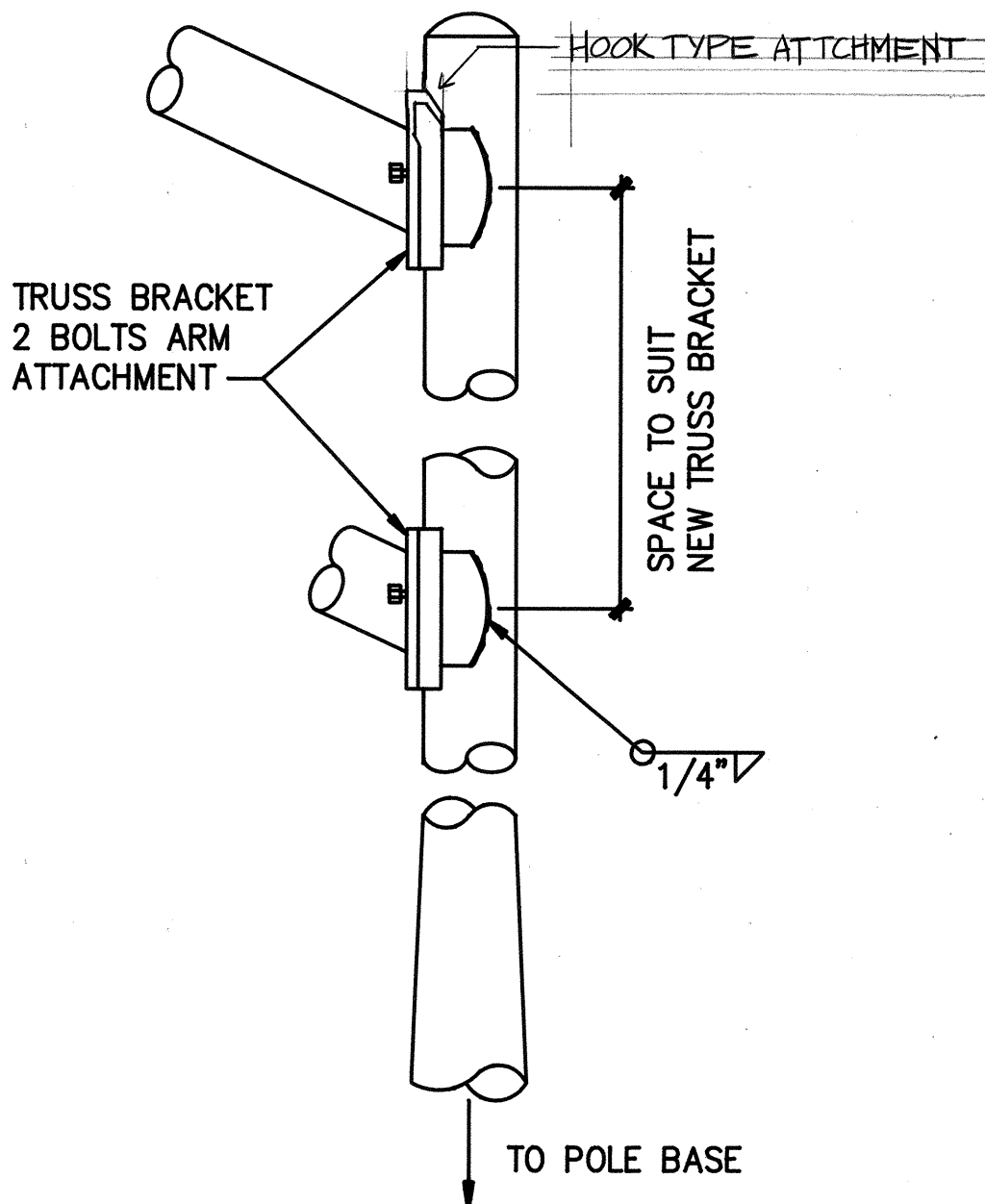
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(16)	1996	10	12

GENERAL NOTES

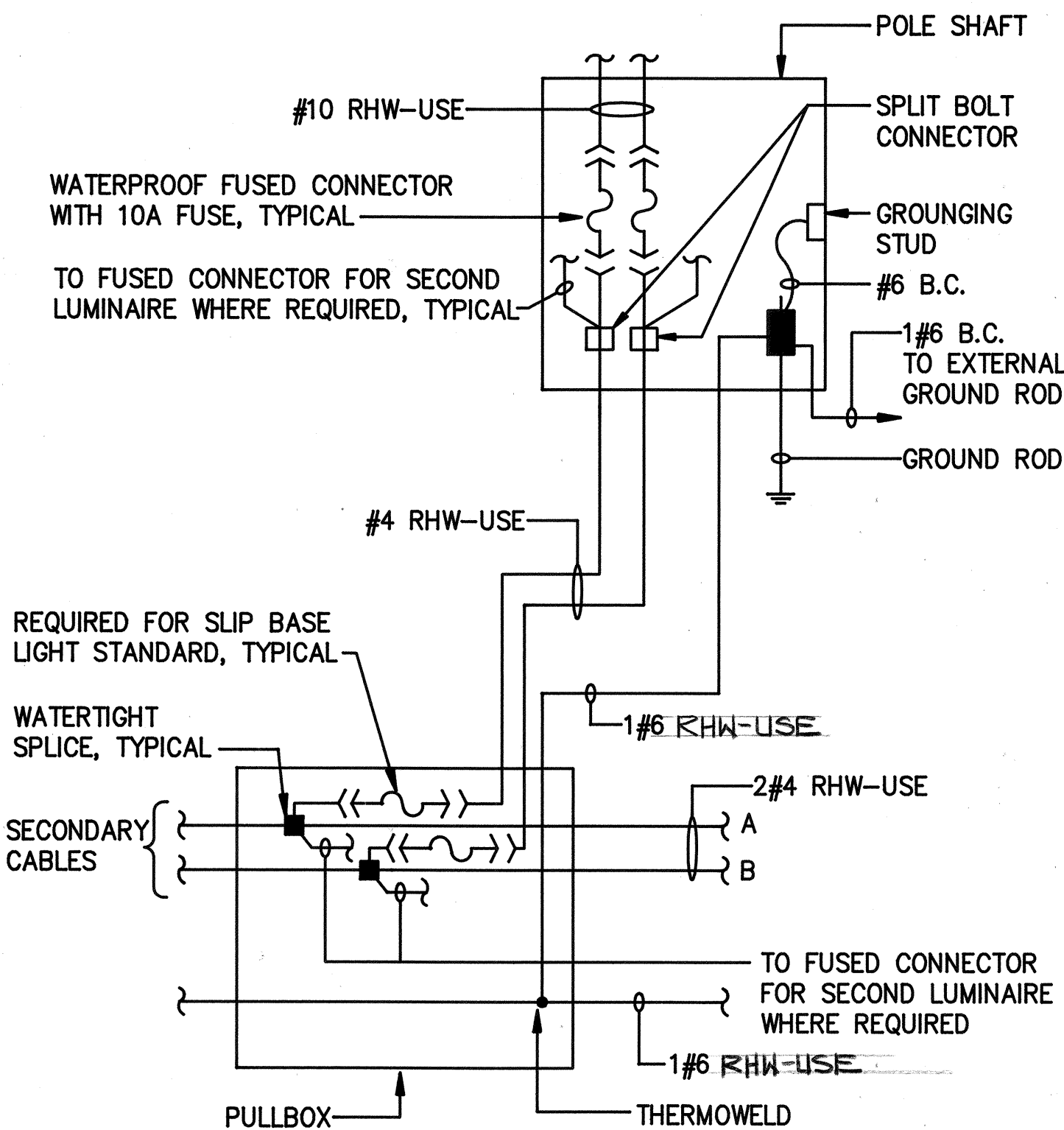
- ALL LUMINAIRES SHALL BE HIGH PRESSURE SODIUM WITH WATTAGE & IES TYPE LIGHT DISTRIBUTION AS SHOWN ON PLANS.
- THE CONTRACTOR SHALL NOTIFY AND COORDINATE WORK WITH THE STATE ELECTRICAL MAINTENANCE SECTION, ADD: 727 KAKOI ST., PHONE NO. 834-4581, 72 HOUSE IN ADVANCE OF COMMENCING INSTALLATION OF STREET LIGHT SYSTEM.



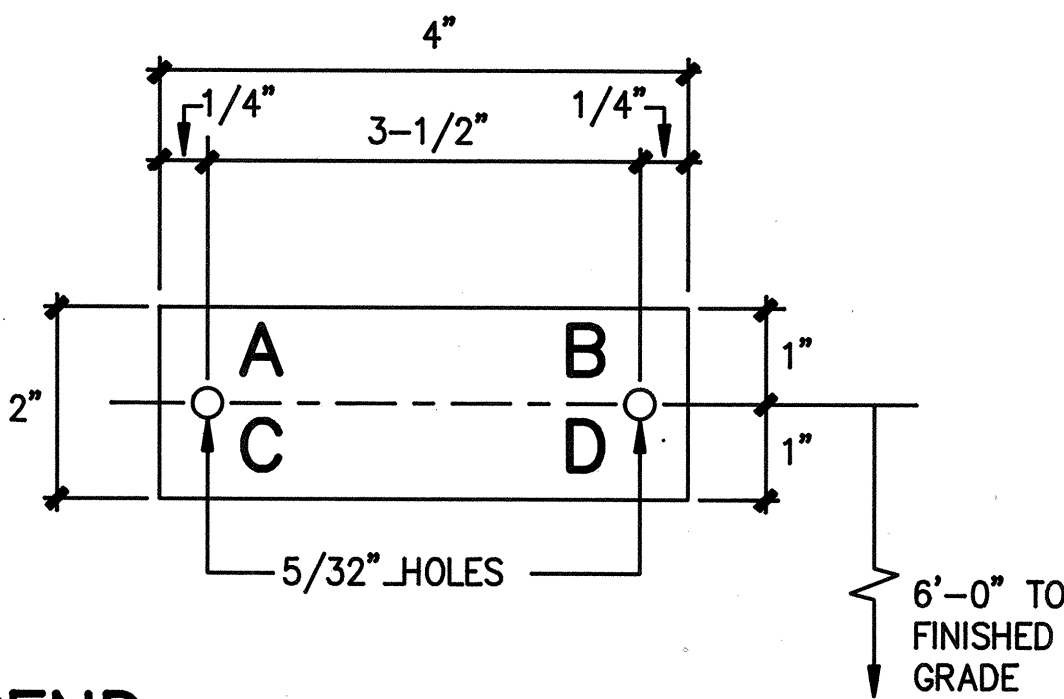
C STREET LIGHT DETAIL
10 NOT TO SCALE



F BRACKET ARM ATTACHMENT DETAIL
10 NOT TO SCALE



A WIRING CONNECTION DIAGRAM
10 NO SCALE



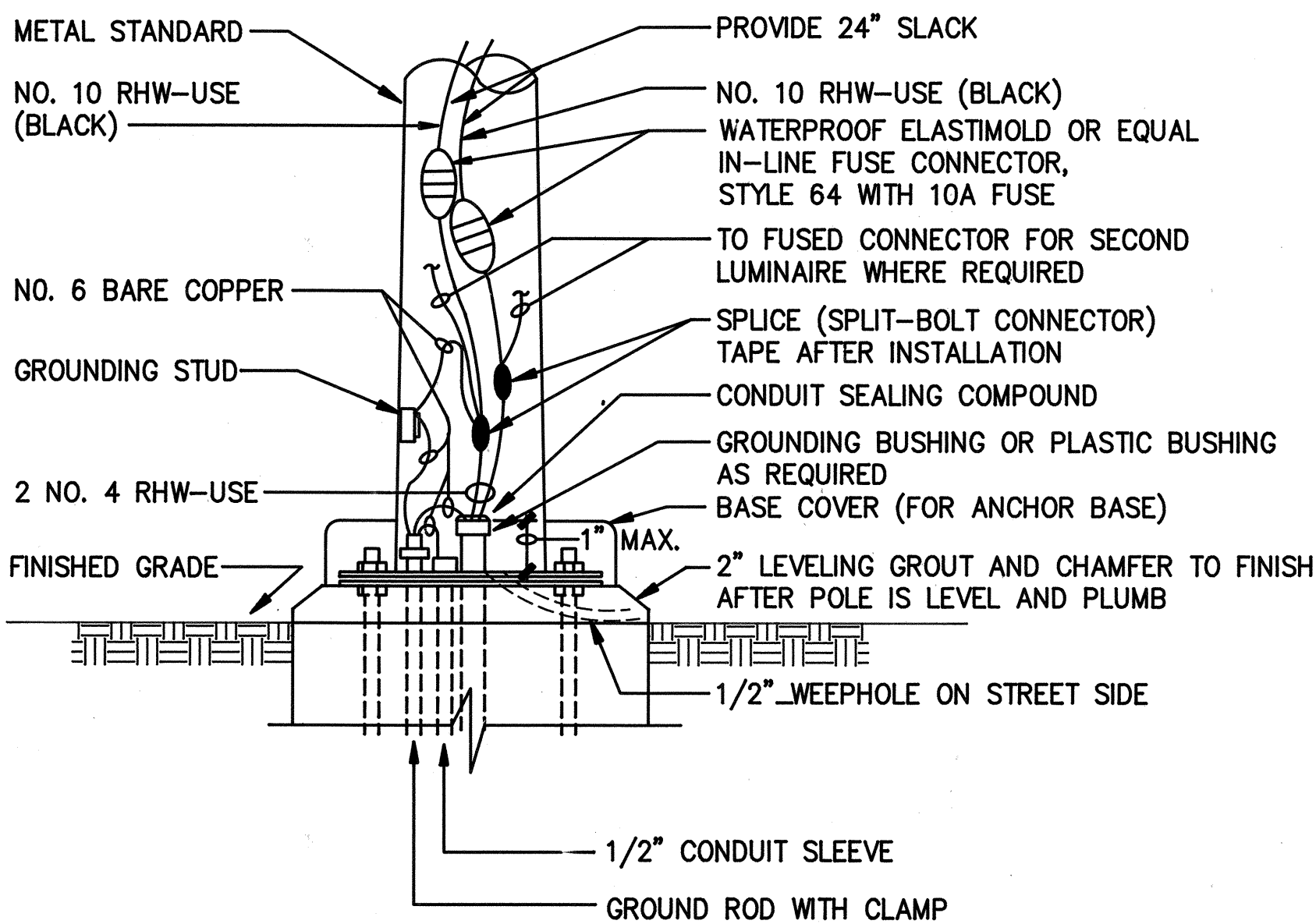
LEGEND:

- A - CONTRACT NUMBER *
- B - LIGHT NUMBER *
- C - LAMP DATA ("N" FOR H.P.S.)
- D - REFRACTOR DATA
- * - DATA TO BE COORDINATED WITH DEPARTMENT OF TRANSPORTATION PRIOR TO CONSTRUCTION

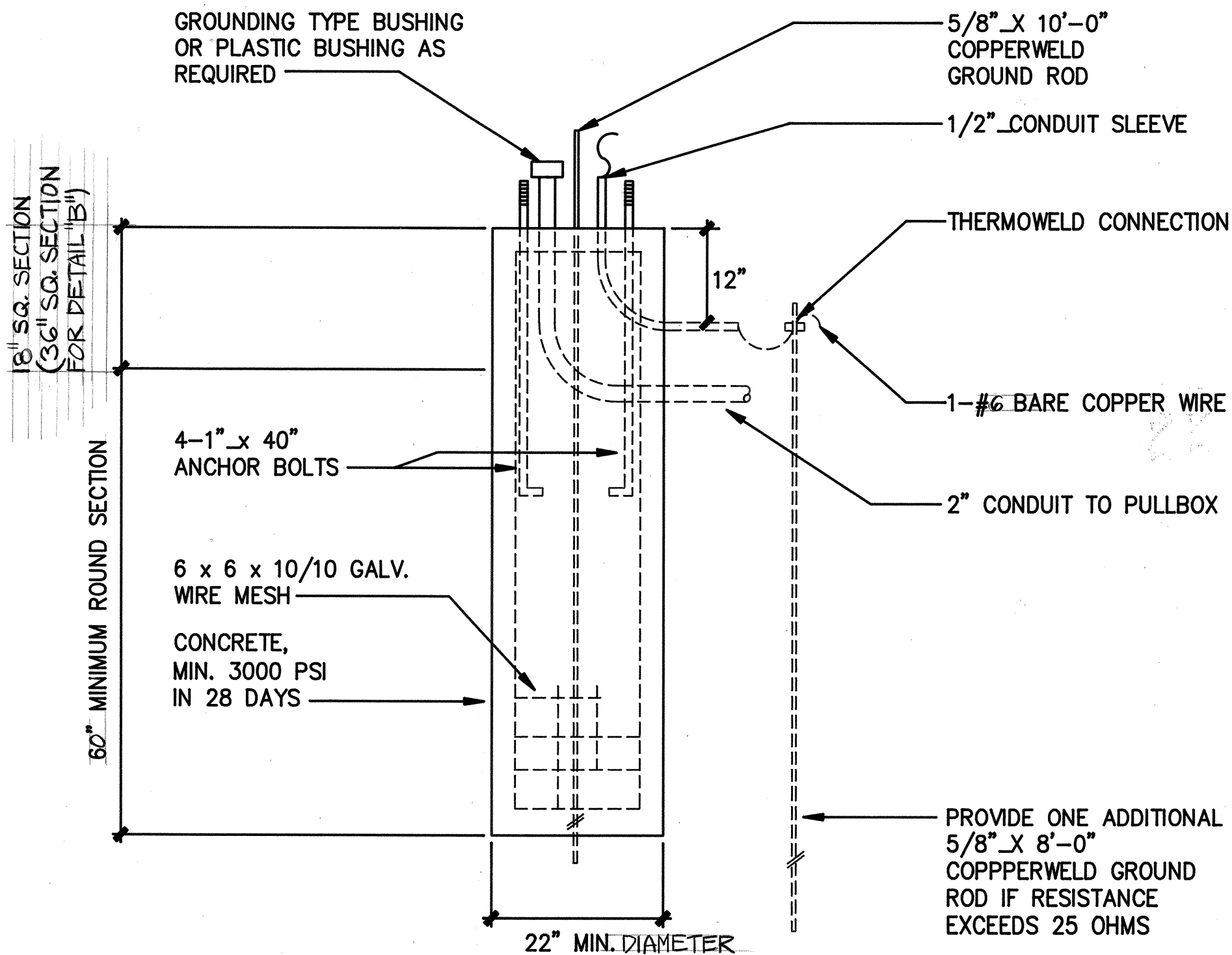
NOTES:

- I.D. TAG SHALL BE 3-PLY BLACK/WHITE/BLACK LAMINATED PLASTIC (E-Z-GRAV TYPE TAG) WITH 5/16" HIGH COMMERCIAL GOTHIC ENGRAVED LETTERS.
- ATTACH TO STEEL POLE WITH NO. 7 CADMIUM PLATED DRIVE SCREWS, NO. 29 DRILL HOLES IN POLE.

B IDENTIFICATION TAG DETAIL
10 NOT TO SCALE

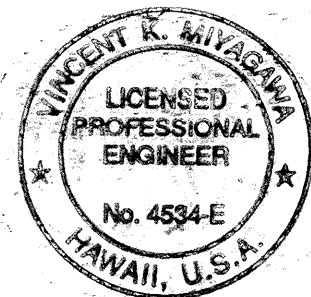


D POLE BASE DETAIL
10 NOT TO SCALE



E CONCRETE BASE DETAIL "A"
10 NOT TO SCALE

(CONCRETE BASE DETAIL "B", INSTALLATION ON SLOPE, SIMILAR EXCEPT AS NOTED.)



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

By: *Vincent K. Mitagawa*
Its: **PROJECT ENGINEER**
Date: **5-22-92**

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT POLE DETAILS

KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS
KIPAPA STREET TO WAIKALANI DRIVE
PROJECT NO. NH-099-1(16)

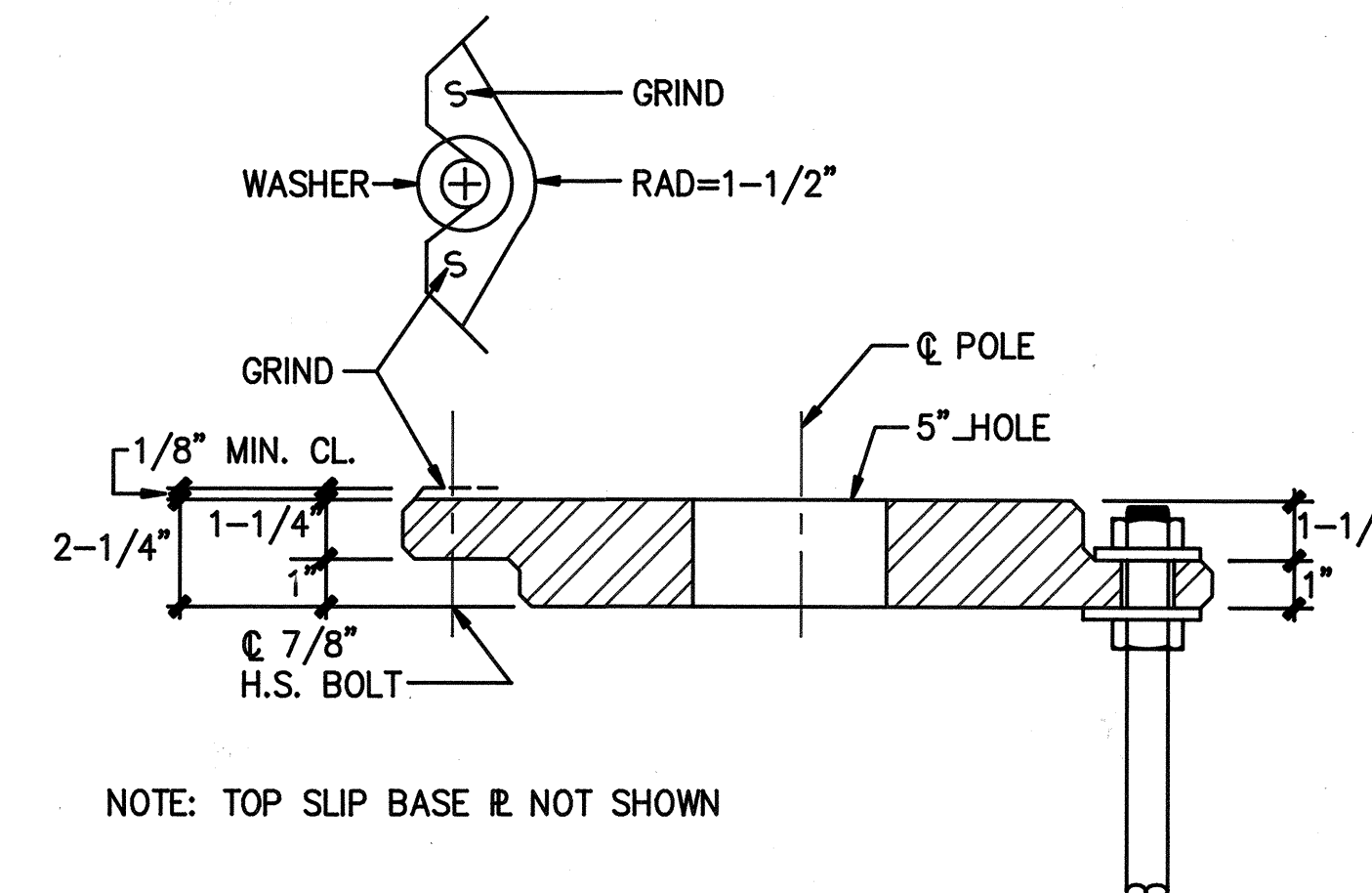
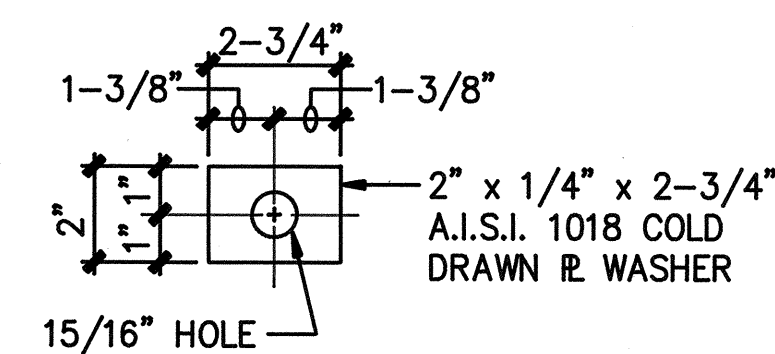
SCALE: NOT TO SCALE DATE:

SHEET No. 10 OF 12 SHEETS

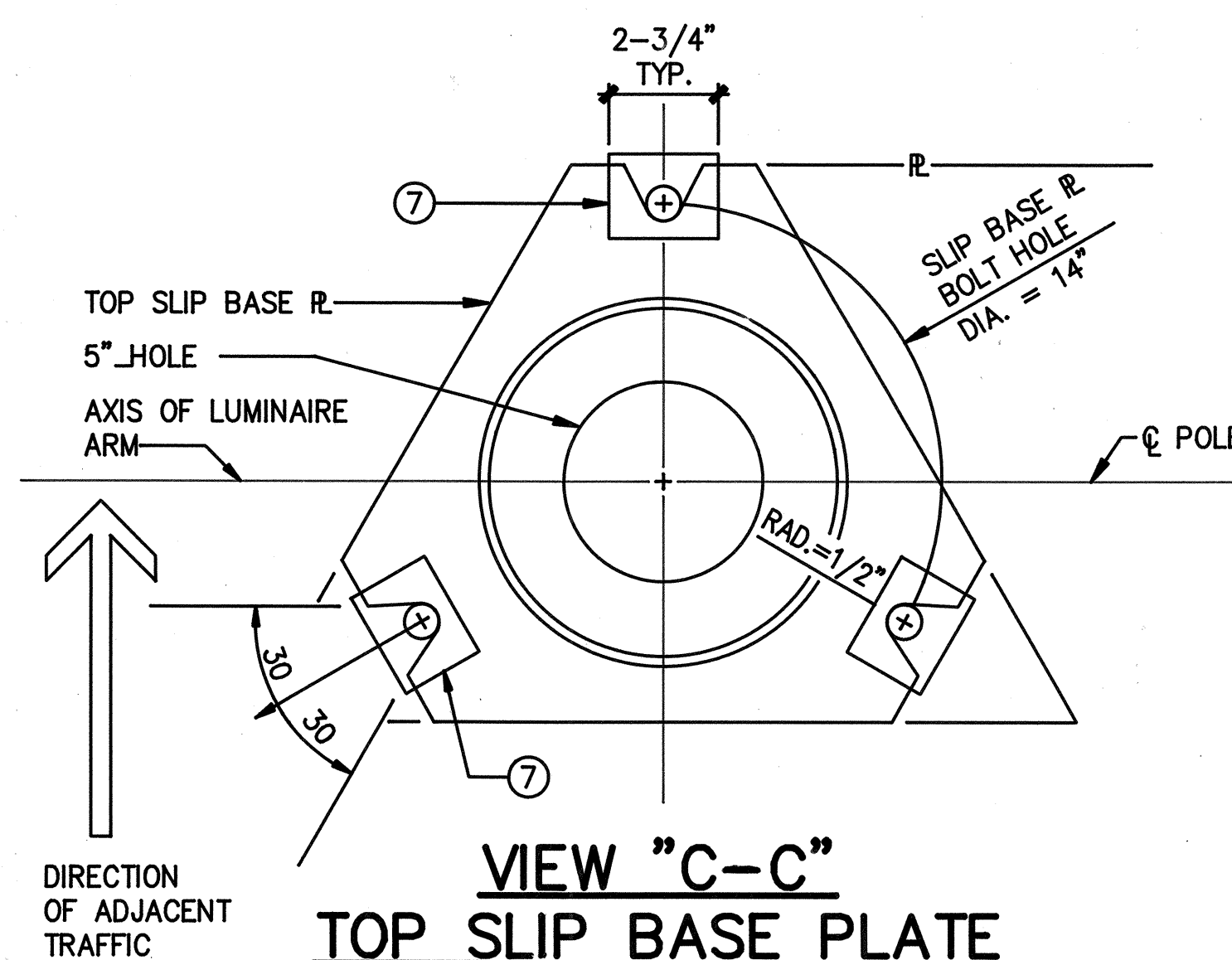
SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

NOTES

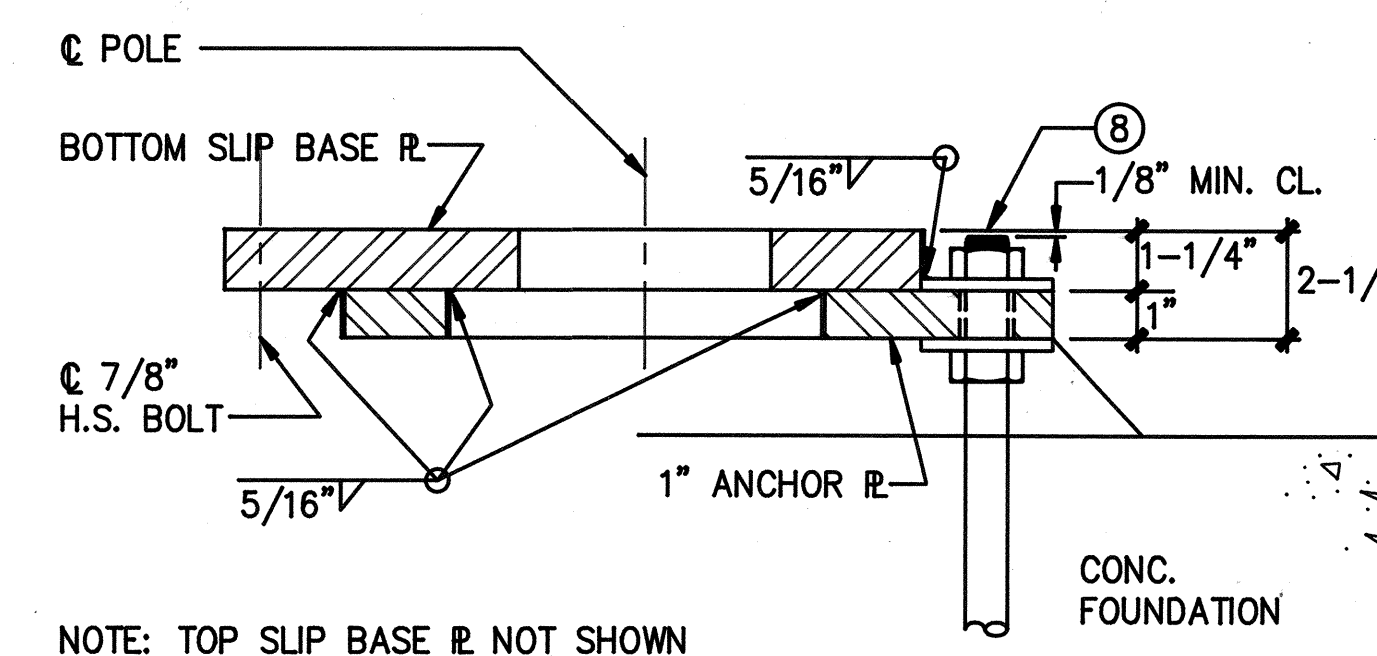
1. ALL STEEL SHAFTS, R'S, MAST ARMS, BOLTS, SCREWS NUTS AND WASHERS TO BE GALV. AFTER FAB. OR MODIFICATION.
2. R'S TO CONFORM TO ASTM A-36.
3. CAST OPTION TO CONFORM TO ASTM A-486 CL. 90.
4. TORQUE 7/8" H.S. SLIP BASE FL BOLTS TO 84 FT. LBS 7/8" H.S. ANCHOR BARS, WRENCH TIGHTEN-TORQUE.
5. FABRICATORS ELECTING LARGER THAN MINIMUM ARM DIMETERS MUST ADJUST DETAILS AS REQUIRED TO PERMIT SOLID SEATING OF CAP SCREWS IN LIEU OF TORQUE REQUIREMENTS FOR H.S. BOLTS, CAP SCREWS SHALL BE TIGHTENED BY THE TURN OF NUT METHOD 1/6 TURN FROM SNUG TIGHT CONDITION. NO WASHER WILL BE REQUIRED.
6. 28 GA. KEEPER R, PLACE ON TOP OF MIDDLE FLAT WASHER ASTM A-526 125 COMMERCIAL IDENTIFIED BY "C".
7. PLATE WASHER. IDENTIFIED BY "D".
8. 3-7/8" H.S. BARS, THREAD 6" AND GALV. 10", WITH HEX HD NUT LEVELING NUT AND WASHER. IDENTIFIED BY "E".
9. HEX HD NUT SHOWN OR AS AN ALT. DET. ANCHOR R'S MAY BE RETAINED WITH 5/16" FILLET WELDS ALL ROUND OR FORMED HEADS.
10. TOP OF CONDUITS SHALL NOT EXTEND ABOVE BOTTOM SLIP BASE PLATE UPPER SURFACE.
11. ORIENTATION OF SLIP BASE SUPPORT WITH RESPECT TO LUMINAIRE MAST ARM AND TRAFFIC DIRECTION SHALL BE IN ACCORDANCE WITH THE LATEST FEDERAL HIGHWAY ADMINISTRATION GUIDELINES.



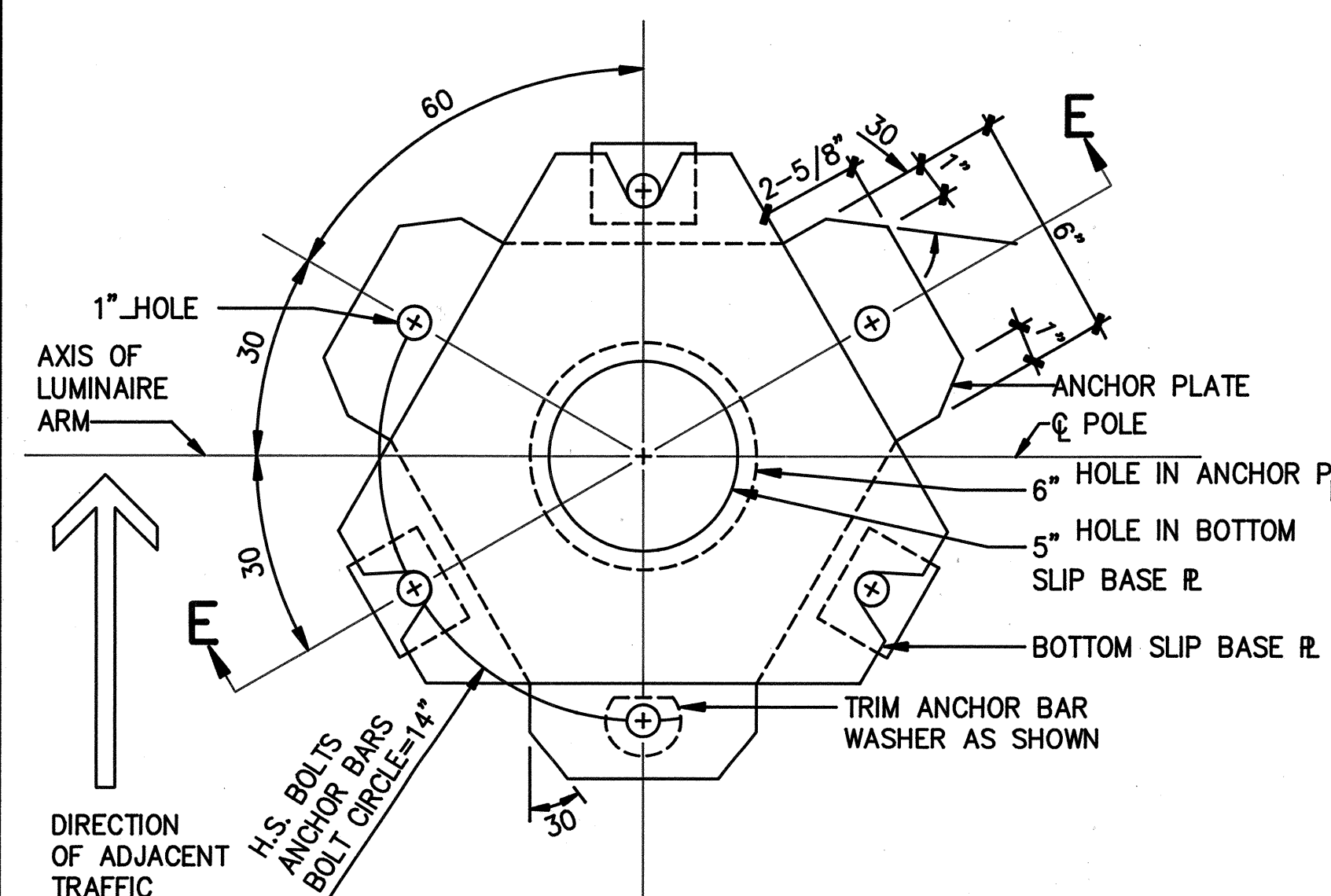
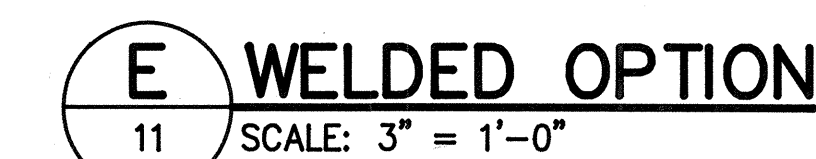
VIEW "E-E"



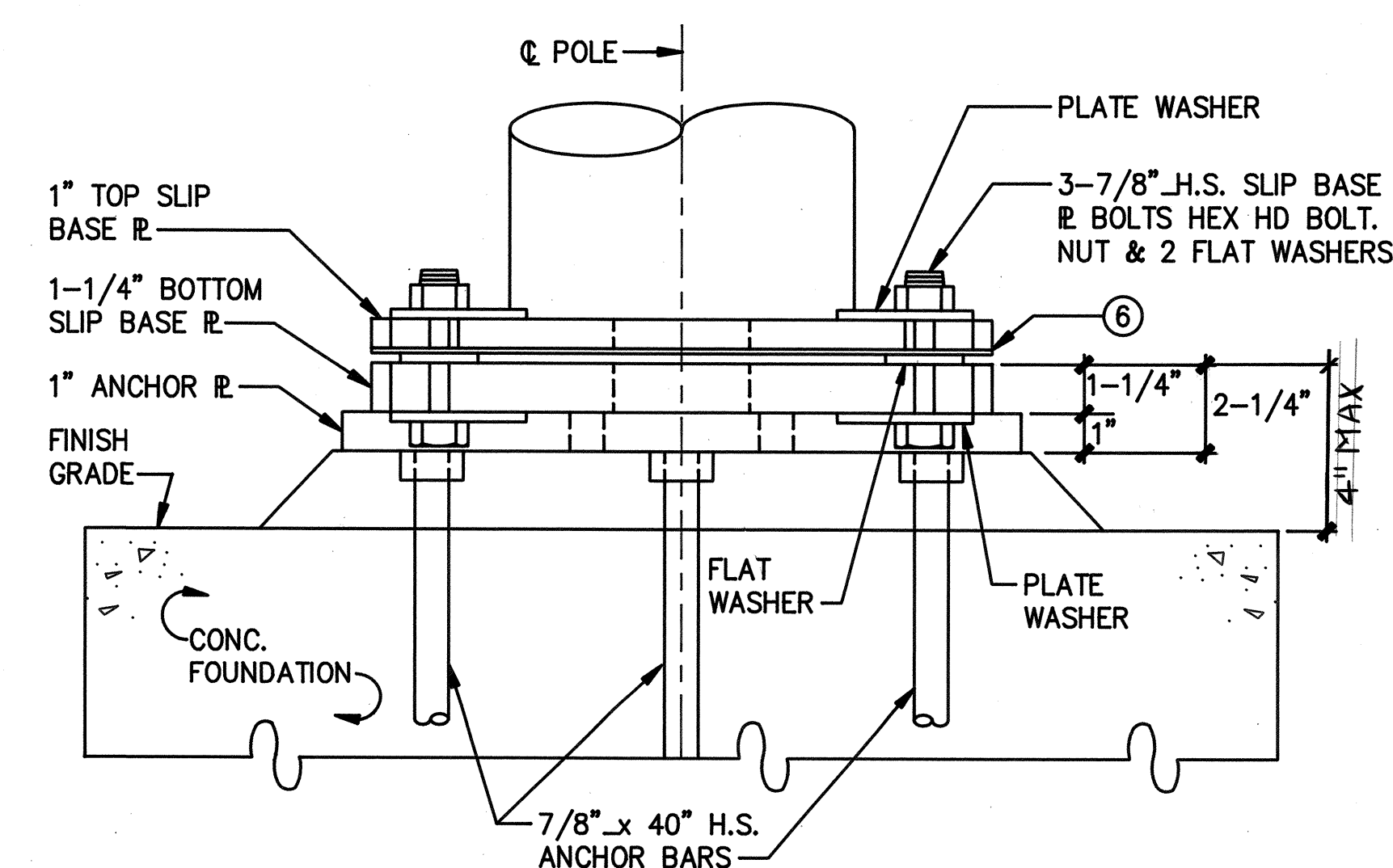
TOP SLIP BASE PLATE



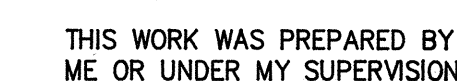
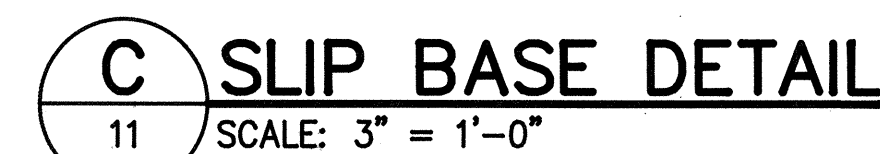
VIEW "E-E"



PLAN-BOTTOM PLATES



BOTTOM SLIP BASE PLATE



By [Signature] ECS, INC.
Its PROJECT ENGINEER
Date 5-22-92

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

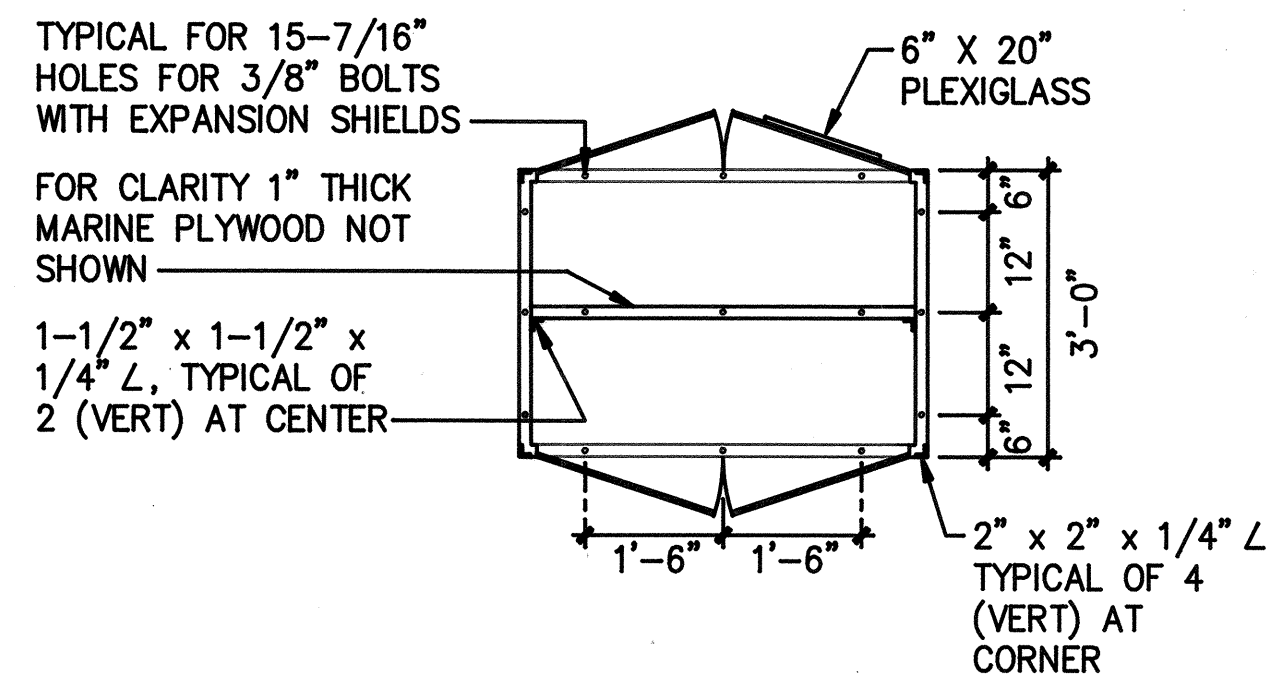
SLIP BASE
DETAILS

KAMFHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS
KIPAPA STREET TO WAIKALANI DRIVE
PROJECT NO. NH-099-1(16)

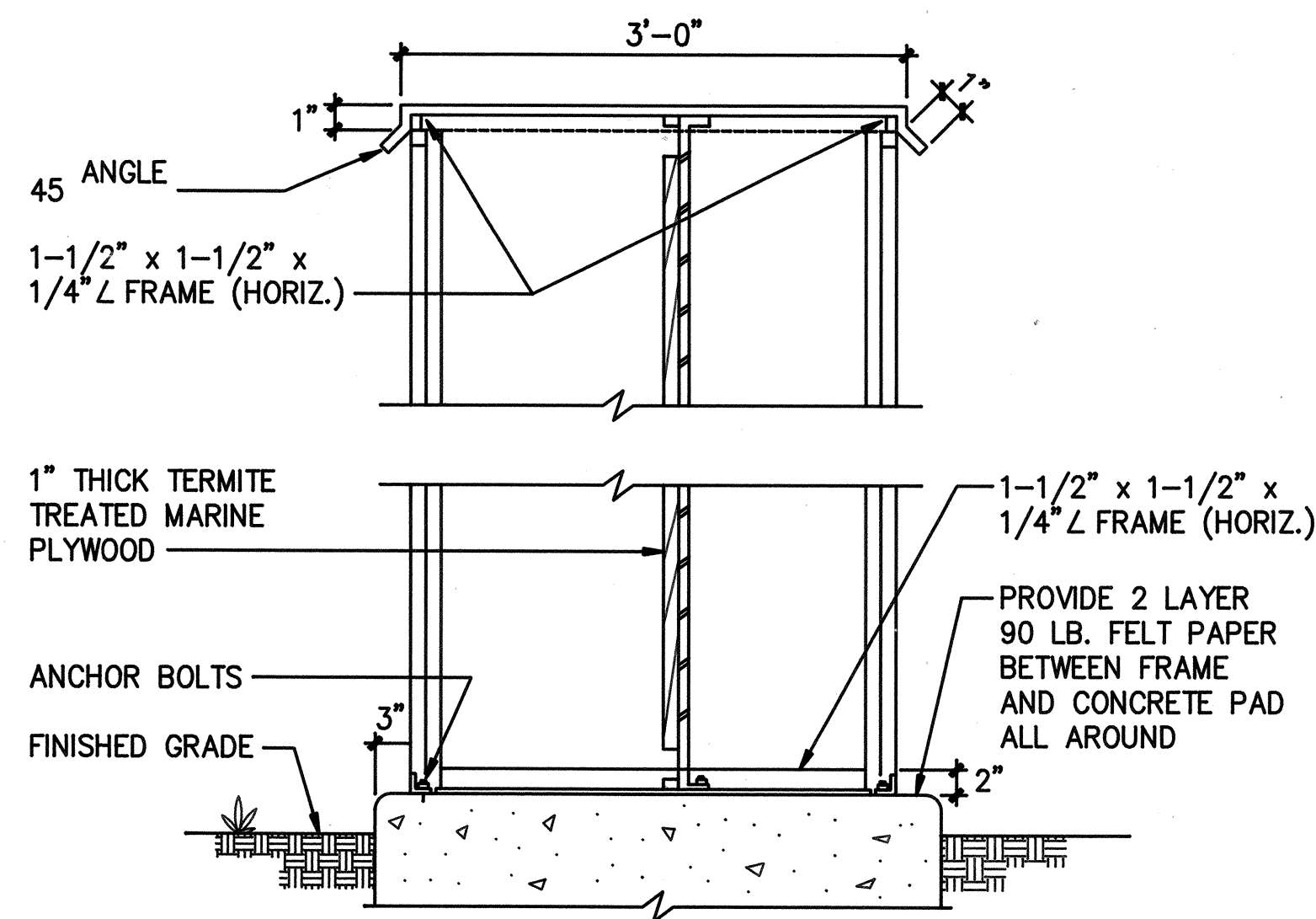
SCALE: 3" = 1'-0" DATE:

SHEET NO. 11 OF 12 SHEETS

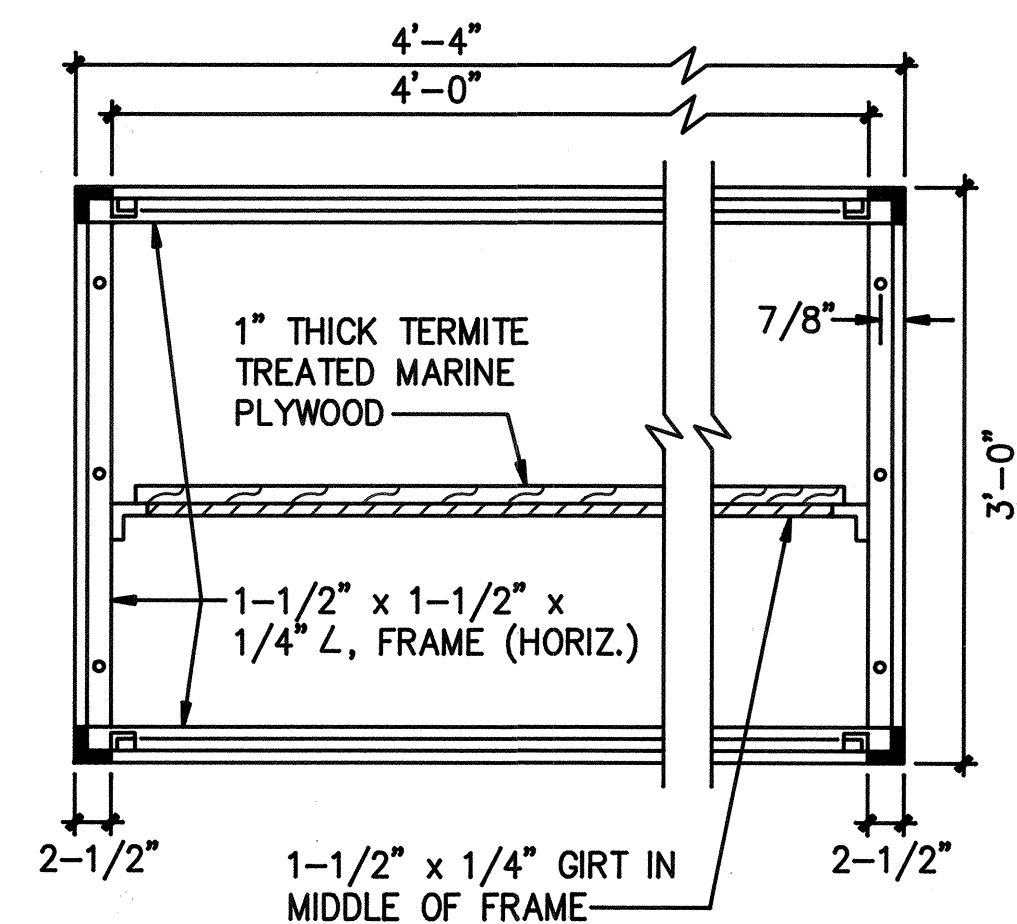
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(16)	1996	12	12



PLAN



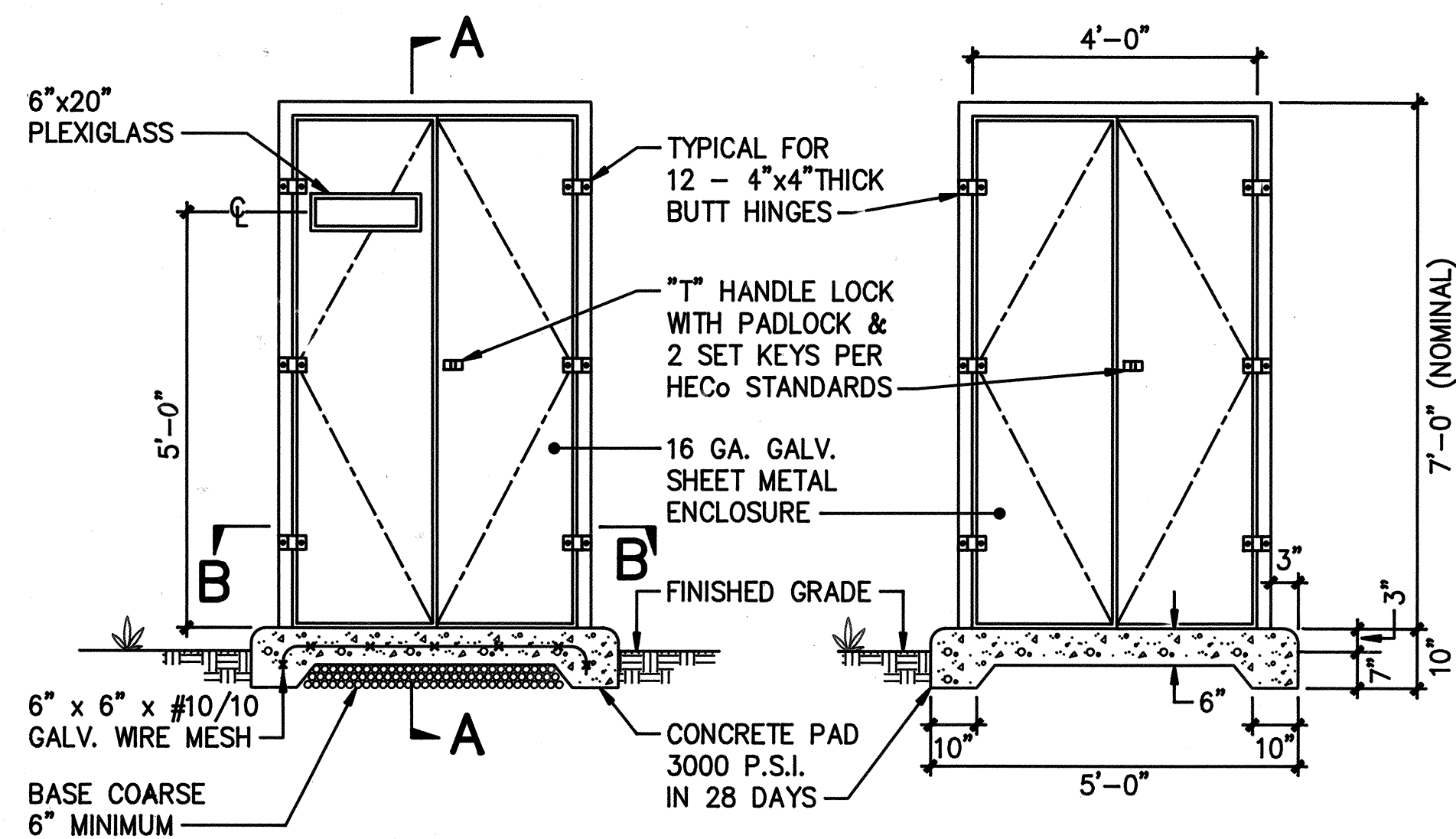
SECTION "A-A"



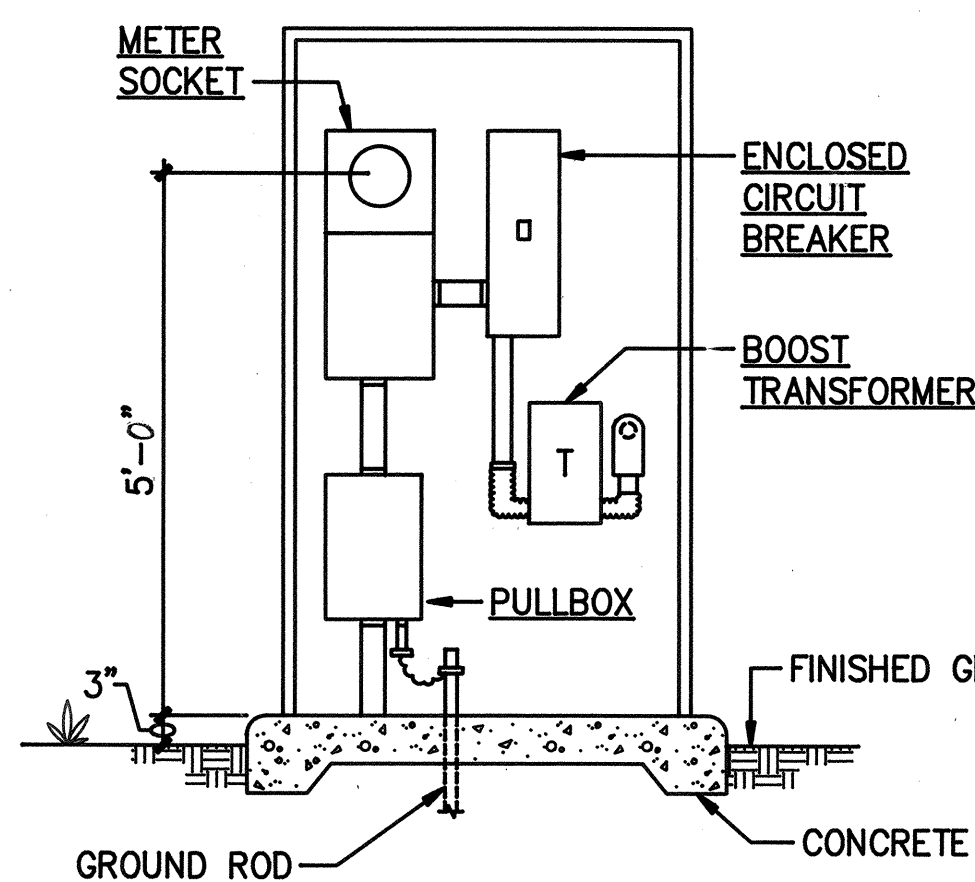
SECTION "B-B"

NOTES:

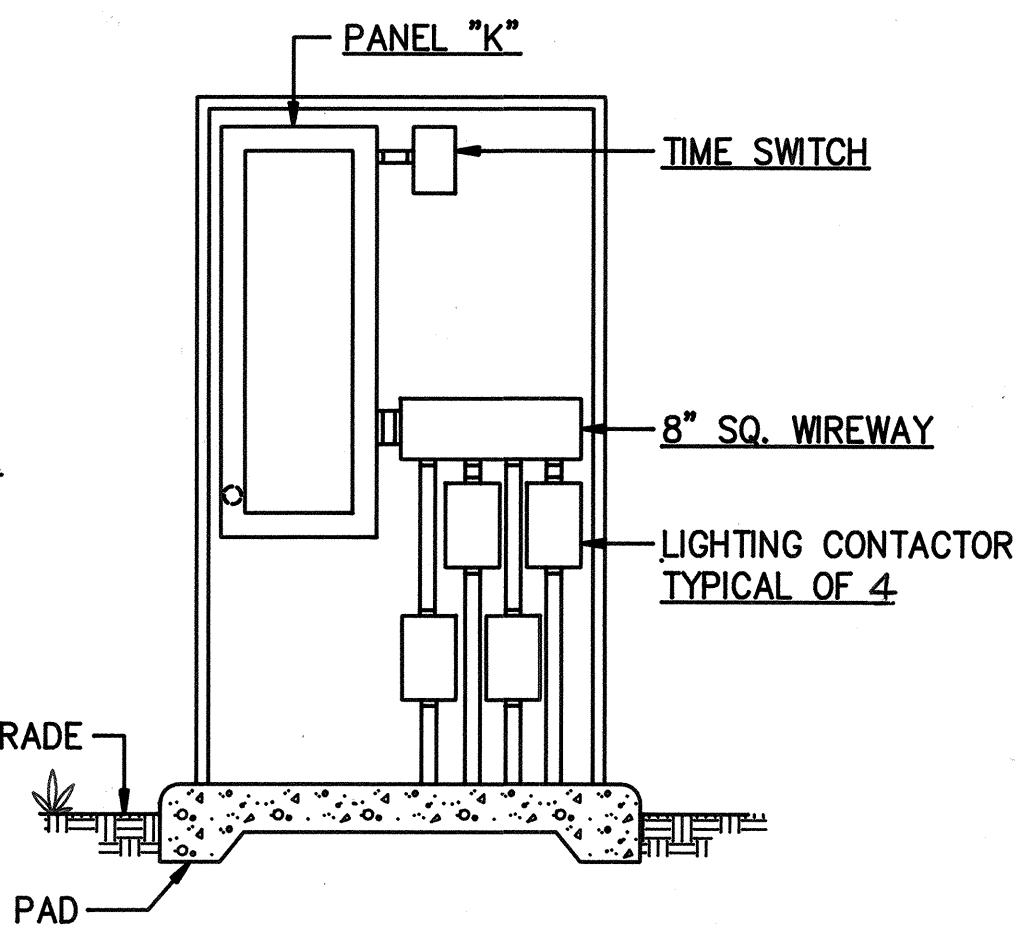
1. PAINT ENCLOSURE INSIDE AND OUTSIDE WITH MARINE GREEN EPOXY ENAMEL.
2. PROVIDE SHOP DRAWINGS PRIOR TO FABRICATION.
3. GALVANIZED ANGLE BRACKET PVC PAINT FINISH.



ENCLOSURE ELEVATION



ELEVATION SERVICE EQUIPMENT

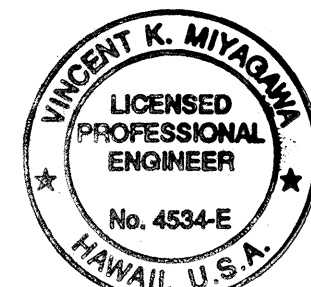


ELEVATION PANEL "K"

A ELECTRICAL SERVICE EQUIPMENT ENCLOSURE

12

NOT TO SCALE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

By *Vincent K. Miyama*
Its **PROJECT ENGINEER**
Date **5-22-92**

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL SERVICE EQUIPMENT ENCLOSURE

KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS
KIPAPA STREET TO WAIKALANI DRIVE
PROJECT NO. NH-099-1(16)

SCALE: NO SCALE DATE:

SHEET NO. 12 OF 12 SHEETS