

LIGHT STANDARD SCHEDULE

POLE NUMBER	APPROXIMATE STATION ②	LIGHT NUMBER	BRACKET ARM LENGTH	BASE TYPE		REMARKS
				ANCHOR	SLIP	
1	40+93H	1	10'		● ④	250W HPS, TYPE II
2	41+03W	2	10'		● ④	250W HPS, TYPE II
3	42+34H	3	10'		● ④	250W HPS, TYPE II
4	42+43W	4	10'		● ④	250W HPS, TYPE II
5	43+75H	5	10'		● ④	250W HPS, TYPE II
6	43+84W	6	10'		● ④	250W HPS, TYPE II
7	45+11H	7	10'		● ④	250W HPS, TYPE II
8	45+22W	8	10'		● ④	250W HPS, TYPE II
9	46+53H	9	10'		● ④	250W HPS, TYPE II
10	46+65W	10	10'		● ④	250W HPS, TYPE II
11	47+72H	11	10'		● ④	250W HPS, TYPE II
12	48+07W	12	10'		● ④	250W HPS, TYPE II
13	49+35H	13	10'		● ④	250W HPS, TYPE II
14	49+47W	14	10'		● ④	250W HPS, TYPE II
15	50+75H	15	10'		● ④	250W HPS, TYPE II
16	50+86W	16	10'		● ④	250W HPS, TYPE II
17	52+07H	17	10'		● ④	250W HPS, TYPE II
18	52+26W	18	10'		● ④	250W HPS, TYPE II
19	53+41H	19	10'		● ④	250W HPS, TYPE II
20	53+67W	20	10'		● ④	250W HPS, TYPE II
21	54+80H	21	10'		● ④	250W HPS, TYPE II
22	59+55H	22	10'		● ④	250W HPS, TYPE III ⑤
23	59+30W	23	10'	● ④		250W HPS, TYPE III, LOCATE POLE ON STREET SIDE OF STREET SIDEWALK ⑤
24	60+40H	24	10'		● ④	250W HPS, TYPE III ⑥
25	60+07W	25	10'	● ④		250W HPS, TYPE III, ③ ⑥
26	61+27H	26	10'		● ④	250W HPS, TYPE III ⑦
27	60+86W	27	10'	● ④		250W HPS, TYPE III, ③ ⑦
28	62+08H	28	10'		● ④	250W HPS, TYPE III ⑧
29	61+62W	29	10'	● ④		250W HPS, TYPE III, ③ ⑧
30	62+42W	30	10'	● ④		250W HPS, TYPE III, ③ ⑨
31	62+96H	31	10'		● ④	250W HPS, TYPE III ⑨
32	63+20W	32	10'	● ④		250W HPS, TYPE III, ③ ⑩
33	63+80H	33	10'	● ④		250W HPS, TYPE III ⑩
34	64+38W	34	10'	● ④		250W HPS, TYPE III, ③ ⑪
35	64+65H	35	10'	● ④		250W HPS, TYPE III, ③ ⑪

PANEL "K"

120/240 VOLTS, 1 PHASE, 3 WSN  
2P100A. MAIN BREAKER  
SURFACE MOUNTED  
10,000 MIN. AIC.

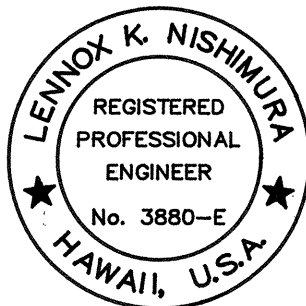
CKT. No.	CKT. POLE	BKR. AMPS	USE	CONN LOAD (KVA)		WIRE SIZE	GND SIZE
				A	B		
1	2	30	HIGHWAY LIGHTS	1.0	1.0	4	6
2	2	30	HIGHWAY LIGHTS	0.9	0.9	4	6
3	2	30	HIGHWAY LIGHTS	0.9	0.9	4	6
4	2	30	HIGHWAY LIGHTS	0.9	0.9	4	6
5	2	30	HIGHWAY LIGHTS ⑫	1.2	1.2	4	6
6	2	30	HIGHWAY LIGHTS ⑫	1.2	1.2	4	6
7	2	20	TIME SWITCH	0.1	0.1	12	---
8	2	---	PFB	---	---	---	---
9	1	---	PFB	---	---	---	---
10	1	---	PFB	---	---	---	---
11	1	---	PFB	---	---	---	---
12	1	---	PFB	---	---	---	---
13	1	---	PFB	---	---	---	---
14	1	---	PFB	---	---	---	---
15	1	---	PFB	---	---	---	---
16	1	---	PFB	---	---	---	---
17							
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40							
41							
42							
TOTAL LOAD/PHASE				6.2	6.2		
TOTAL LOAD				12.4	KVA		
DEMAND FACTOR				1.0			
DEMAND LOAD				12.4	KVA		
DEMAND AMPS				52	A		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99C-01-92	1992	6	10

NOTES:

- ① POLE NUMBERS ARE FOR REFERENCE ONLY.
- ② H = HONOLULU BOUND LANES.  
W = WAHIAWA BOUND LANES.
- ③ LOCATE POLE ON HOUSE SIDE OF SIDEWALK.
- ④ CONCRETE BASE DETAIL "A".
- ⑤ DEDUCTIVE #7
- ⑥ DEDUCTIVE #6
- ⑦ DEDUCTIVE #5
- ⑧ DEDUCTIVE #4
- ⑨ DEDUCTIVE #3
- ⑩ DEDUCTIVE #2
- ⑪ DEDUCTIVE #1
- ⑫ SHOULD ALL 7 DEDUCTIVE ITEMS BE ELIMINATED FROM THE PROJECT, THE CIRCUIT BREAKERS AT CIRCUIT #5 & #6 SHALL BE INSTALLED AS SPARE BREAKERS.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
NOTED BY	
CHECKED BY	
No.	

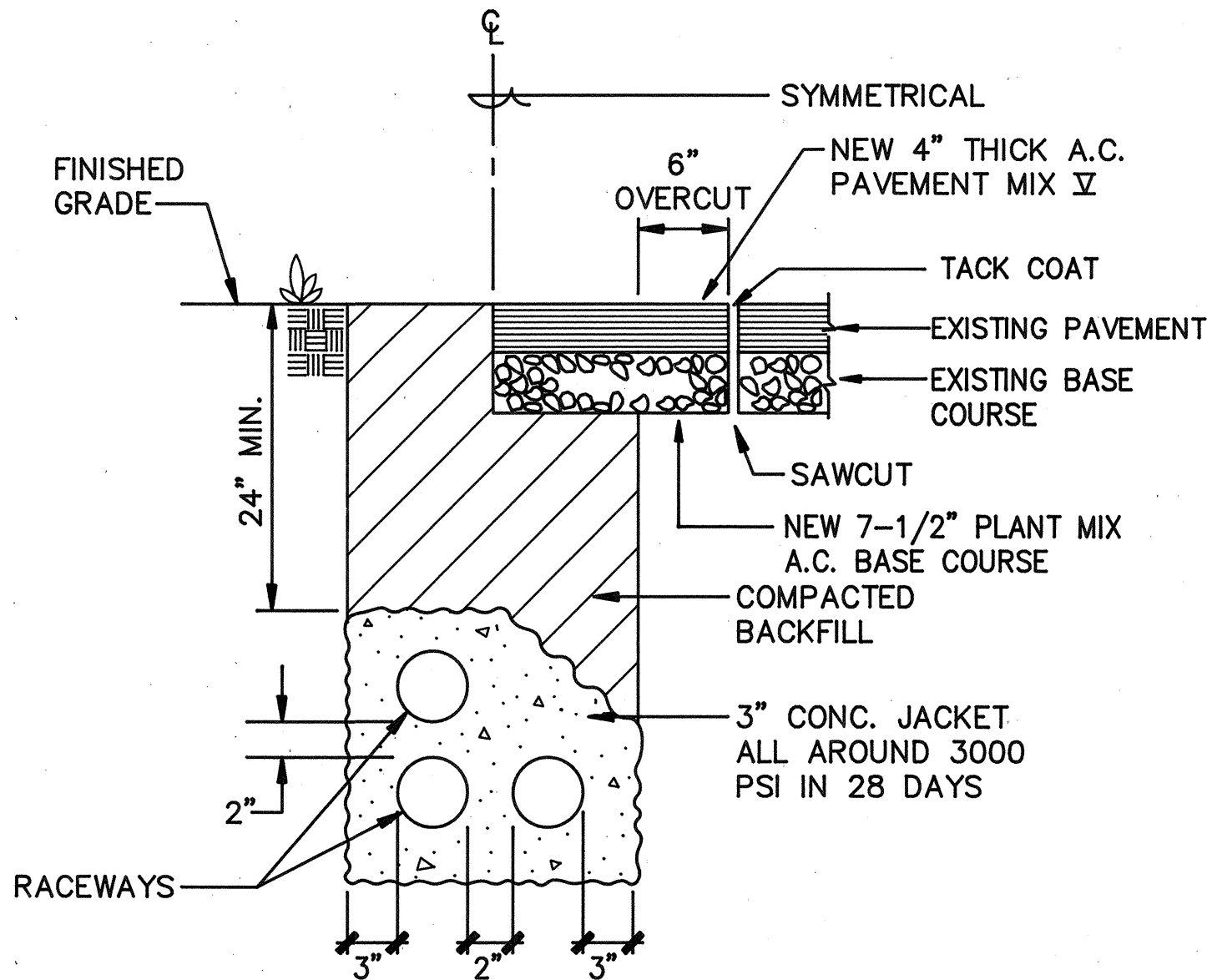


THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.  
ECS, INC.  
By Lennox K. Nishimura  
Its PROJECT ENGINEER  
Date DEC. 9, 1991

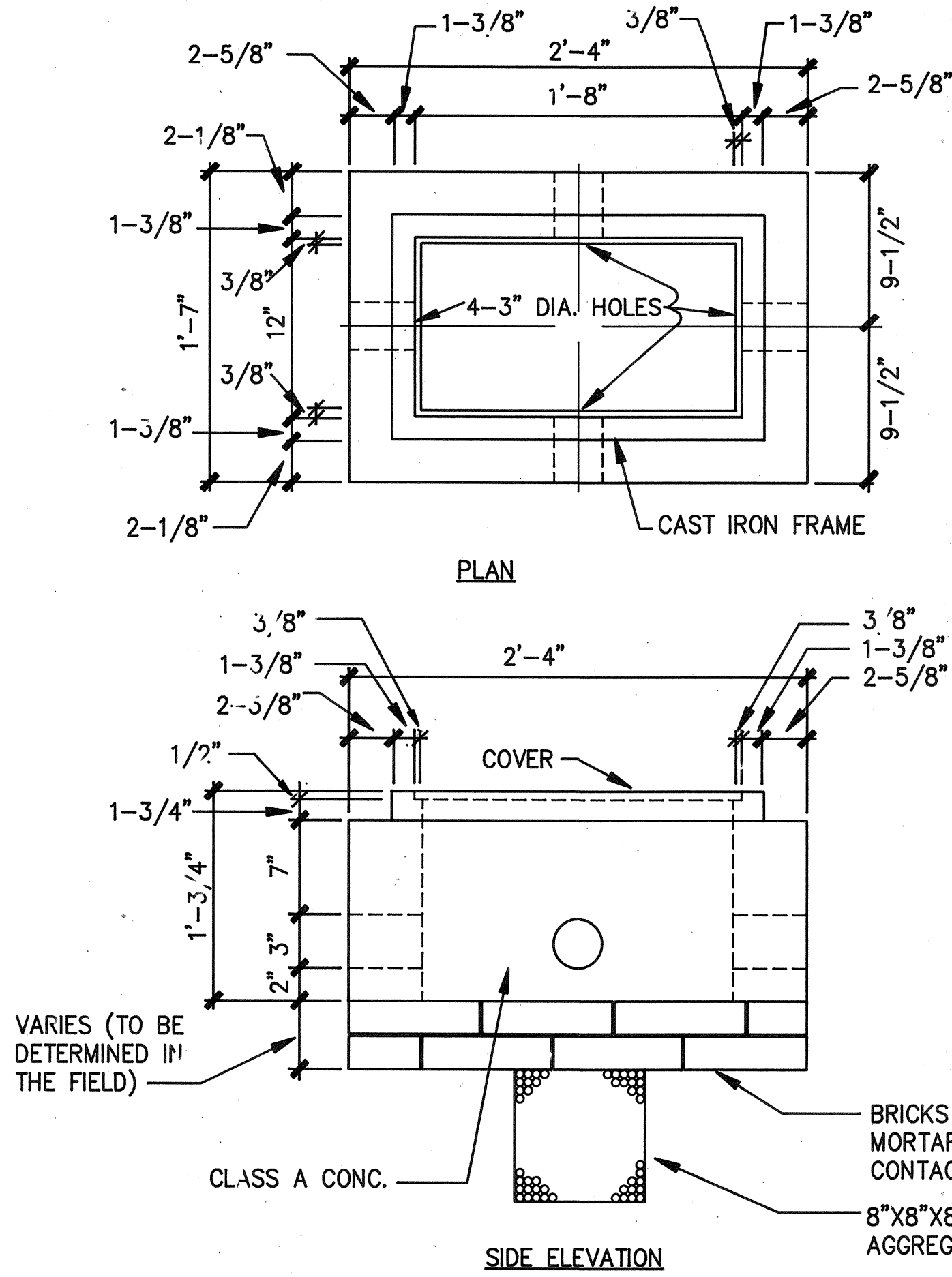
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<b>LIGHT STANDARD SCHEDULE, PANEL SCHEDULE</b>
KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS MEHEULA PARKWAY TO KIPAPA STREET PROJECT NO. 99C-01-92
SCALE: NO SCALE DATE:
SHEET No. 6 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99C-01-92	1992	7	10

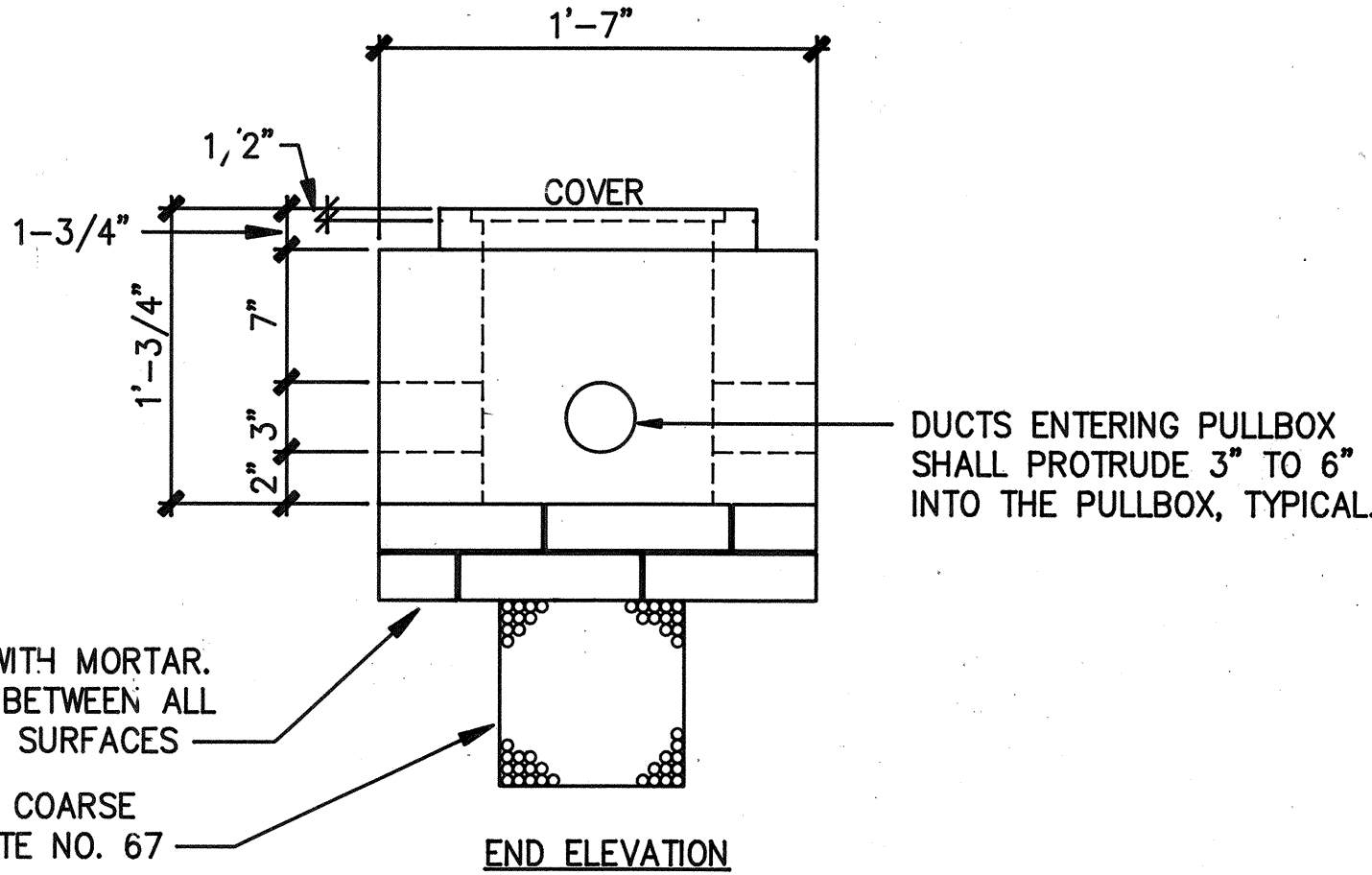
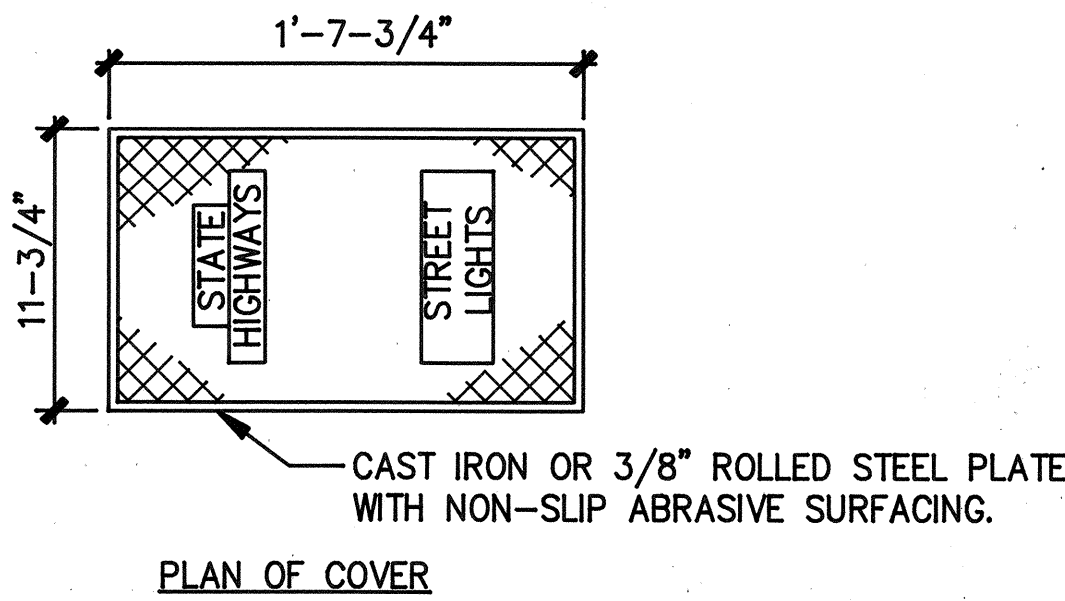
DUCT SECTION SCHEDULE	
TYPE	DESCRIPTION
1	2" PVC CONDUIT, ELECTRICAL SECONDARY, 3#2 AWG.
2	2" PVC CONDUIT, HIGHWAY LIGHTING, 4#4 AWG, 1#6 GROUND.
3	2" PVC CONDUIT, HIGHWAY LIGHTING, 2#4 AWG, 1#6 GROUND.



**TYPICAL DUCT SECTION**  
NOT TO SCALE

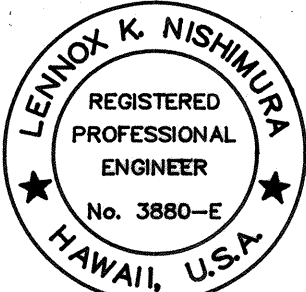


NOTE:  
STEEL RIM SHALL BE WELDED TO BOTTOM OF STEEL COVER  
IF NECESSARY SO THAT TOP OF COVER AND FRAME ARE FLUSH



**TYPE "B" PULLBOX**  
NOT TO SCALE

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



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ECS, INC.  
*Lennox K. Nishimura*  
Its. PROJECT ENGINEER  
Date DEC. 9, 1991

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

KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS  
MEHEULA PARKWAY TO KIPAPA STREET  
PROJECT NO. 99C-01-92  
SCALE: NOT TO SCALE  
DATE:

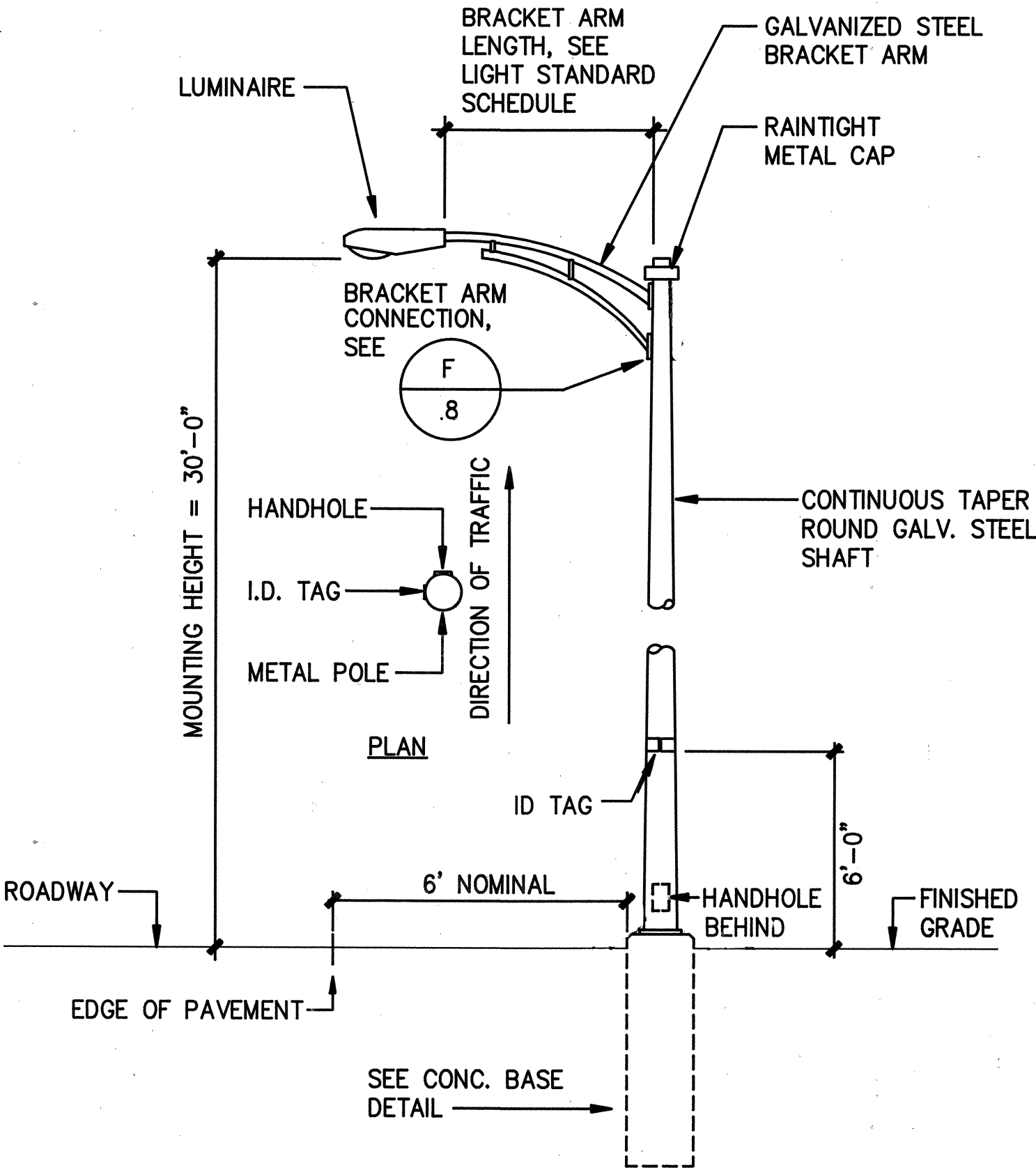
SHEET No. 7 OF 10 SHEETS



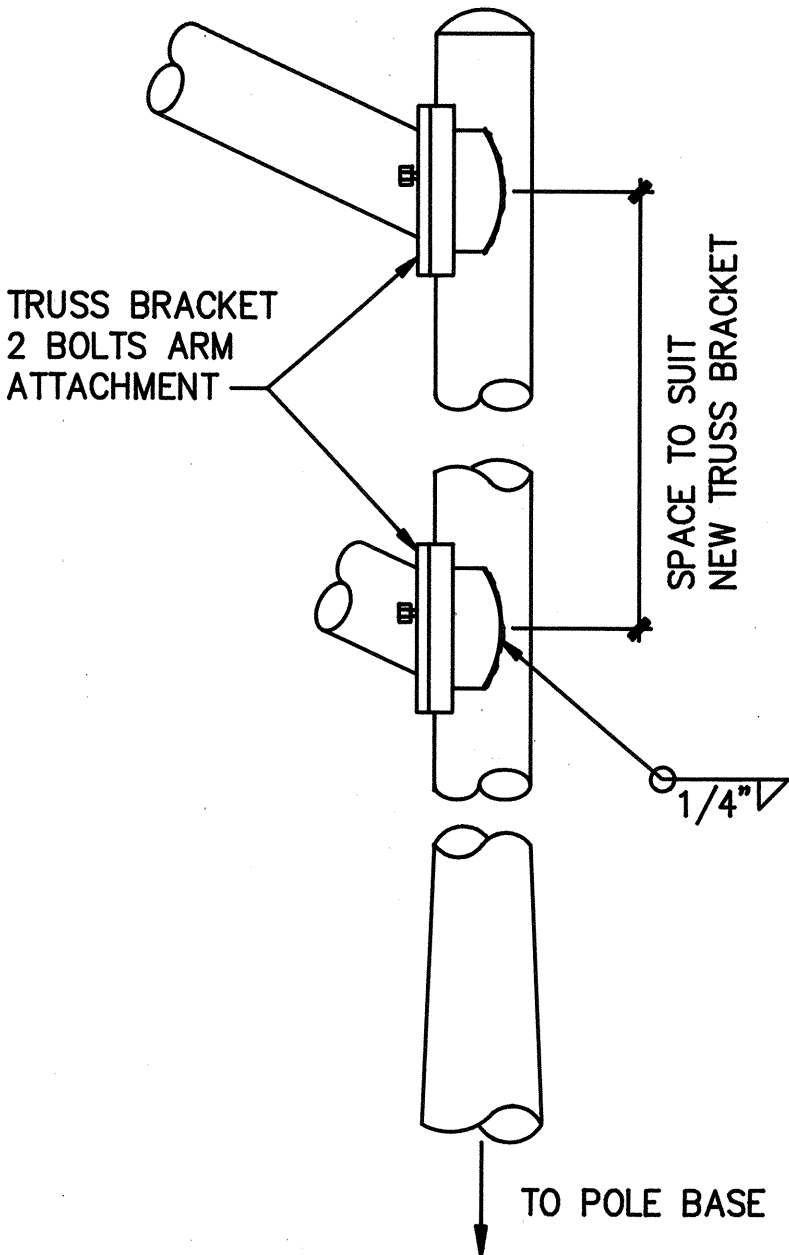
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99C-01-92	1992	8	10

### GENERAL NOTES

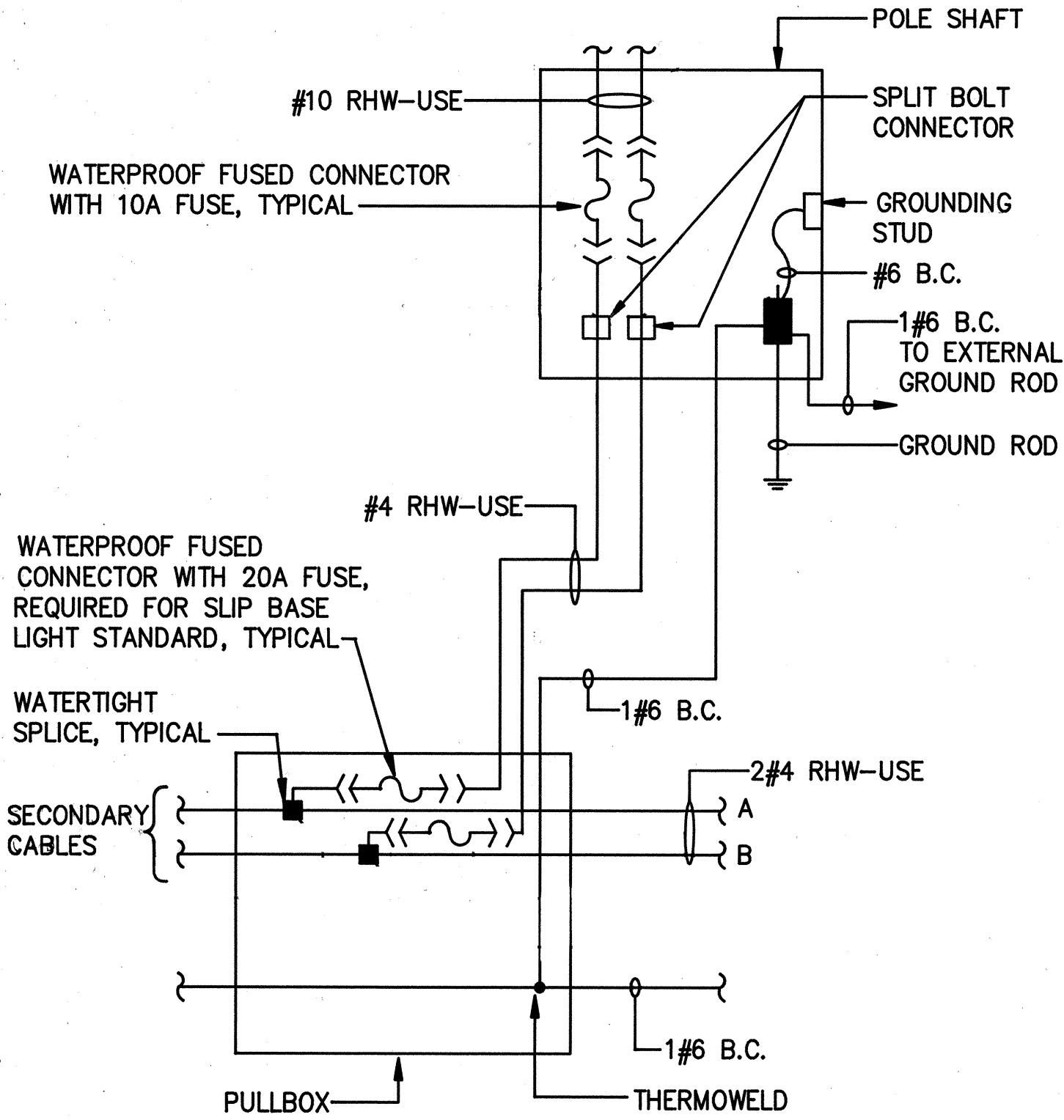
- ALL LUMINAIRES SHALL BE HIGH PRESSURE SODIUM WITH WATTAGE & IES TYPE LIGHT DISTRIBUTION AS SHOWN ON PLANS.
- THE CONTRACTOR SHALL NOTIFY AND COORDINATE WORK WITH THE STATE ELECTRICAL MAINTENANCE SECTION, ADD: 727 KAKOI ST., PHONE NO. 834-4581, 72 HOUSE IN ADVANCE OF COMMENCING INSTALLATION OF STREET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



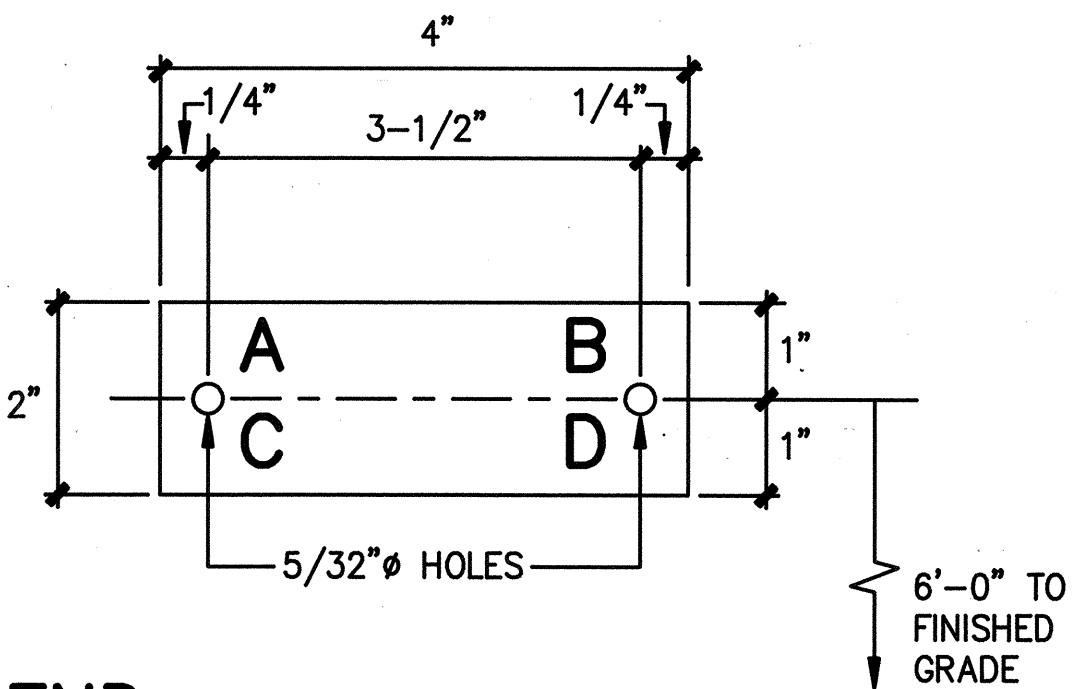
**C STREET LIGHT DETAIL**  
8 NOT TO SCALE



**F BRACKET ARM ATTACHMENT DETAIL**  
8 NOT TO SCALE



**A WIRING CONNECTION DIAGRAM**  
8 NO SCALE



### LEGEND:

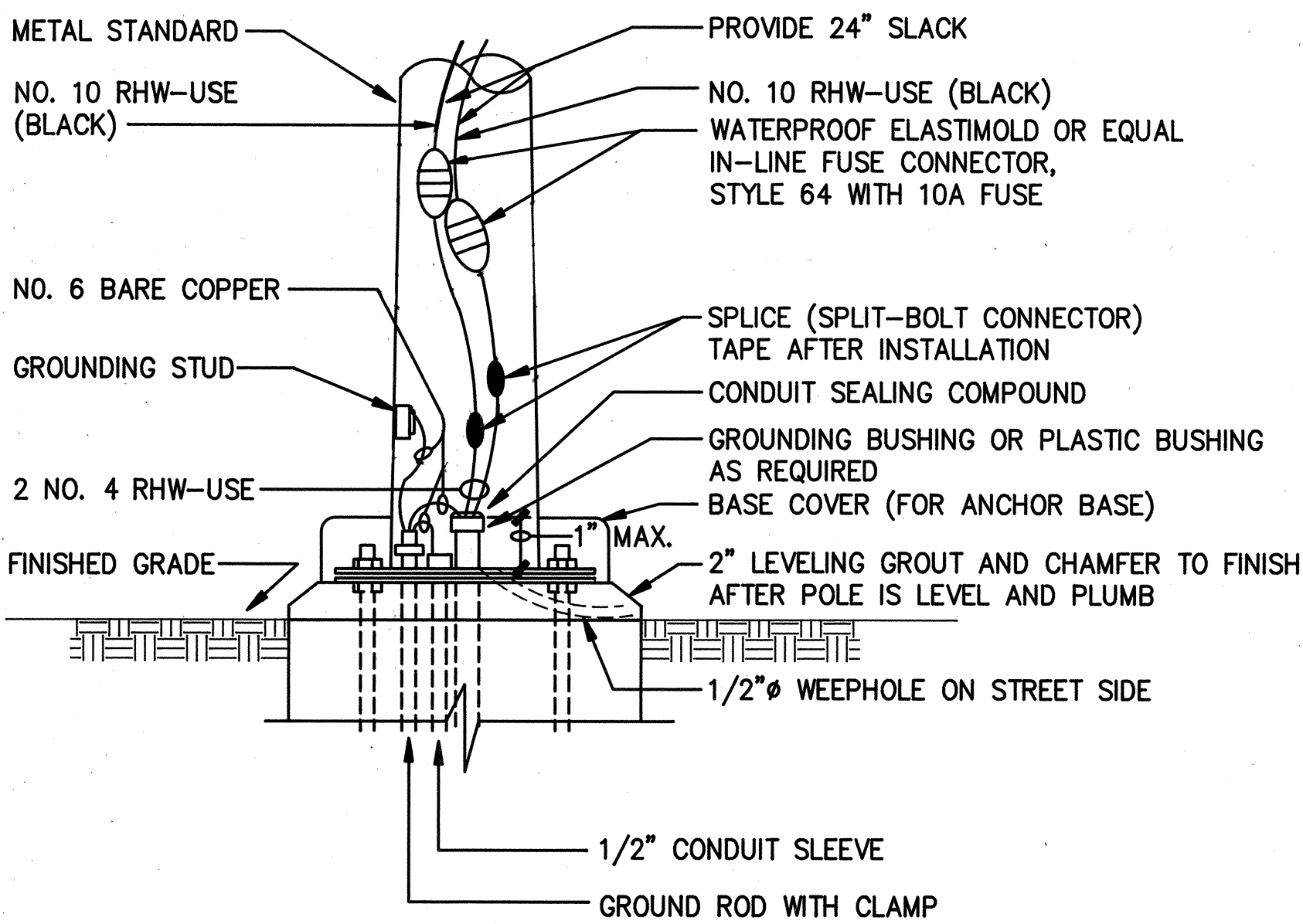
- A - CONTRACT NUMBER \*
- B - LIGHT NUMBER \*
- C - LAMP DATA ("N" FOR H.P.S.)
- D - REFRACTOR DATA

\* - DATA TO BE COORDINATED WITH DEPARTMENT OF TRANSPORTATION PRIOR TO CONSTRUCTION

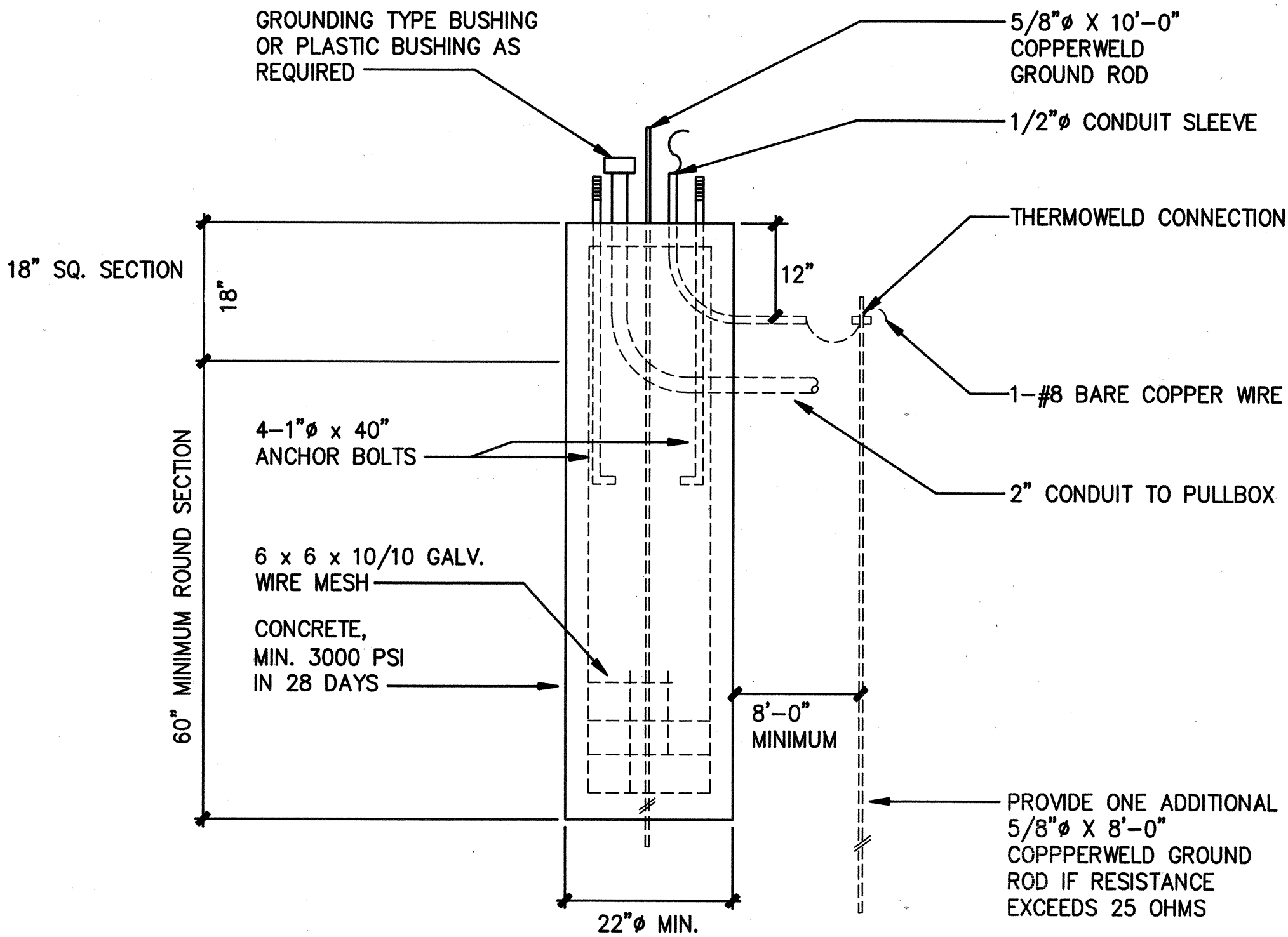
### NOTES:

- 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**  
8 NOT TO SCALE



**D POLE BASE DETAIL**  
8 NOT TO SCALE



**E CONCRETE BASE DETAIL "A"**  
8 NOT TO SCALE



This work was prepared by me or under my supervision  
ECS INC.  
By *Leinox K. Nishimura*  
Its PROJECT ENGINEER  
Date DEC. 9, 1991

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STREET LIGHT POLE DETAILS**  
KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS  
MEHEULA PARKWAY TO KIPAPA STREET  
PROJECT NO. 99C-01-92  
SCALE: NOT TO SCALE  
DATE:

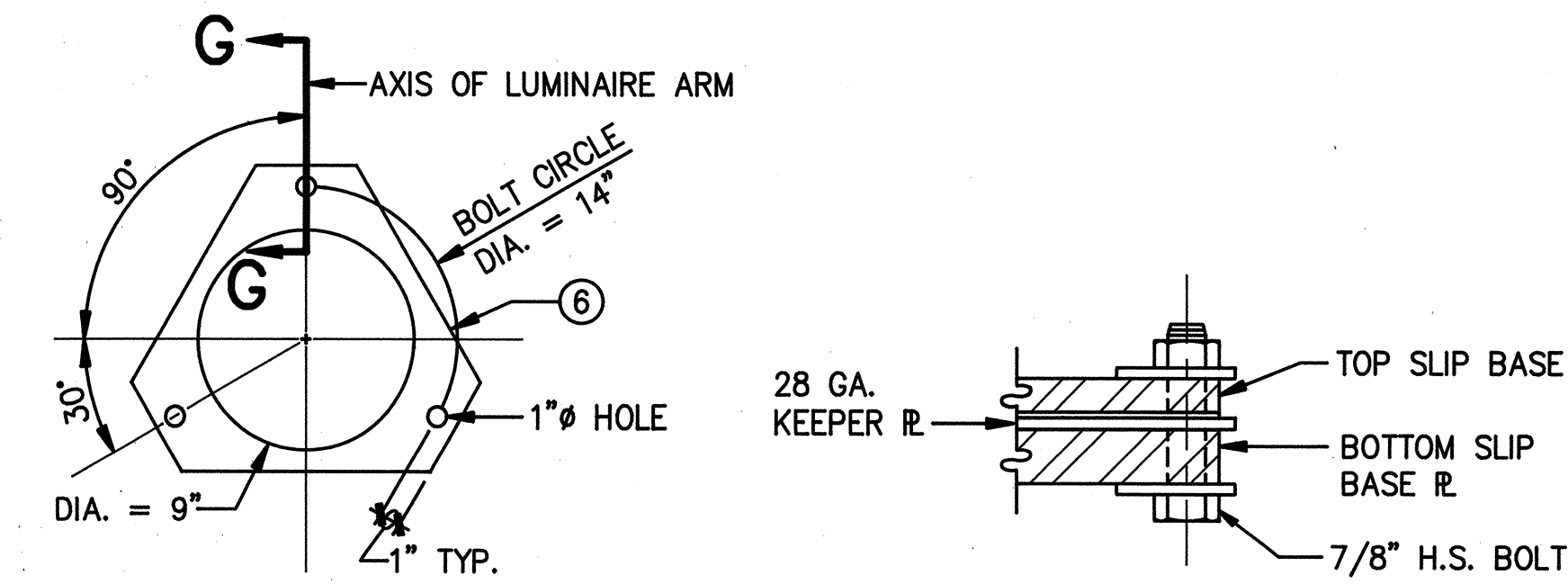
SHEET NO. 8 OF 10 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99C-01-92	1992	9	10

### NOTES

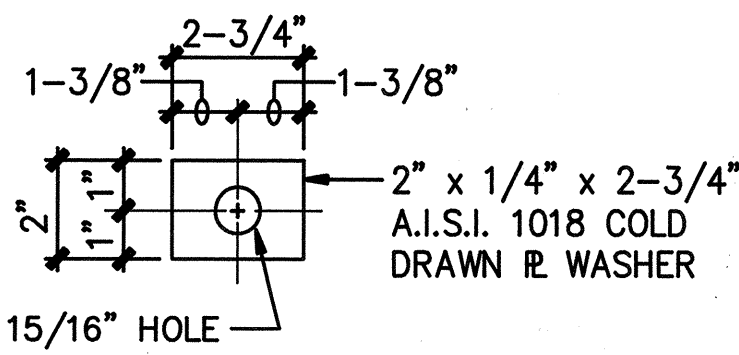
- ALL STEEL SHAFTS, R'S, MAST ARMS, BOLTS, SCREWS NUTS AND WASHERS TO BE GALV. AFTER FAB. OR MODIFICATION.
- R'S TO CONFORM TO ASTM A-36.
- CAST OPTION TO CONFORM TO ASTM A-486 CL. 90.
- TORQUE 7/8" H.S. SLIP BASE R BOLTS TO 84 FT. LBS 7/8" H.S. ANCHOR BARS, WRENCH TIGHTEN-TORQUE.
- FABRICATORS ELECTING 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.
- 28 GA. KEEPER R, PLACE ON TOP OF MIDDLE FLAT WASHER ASTM A-526 125 COMMERCIAL.
- PLATE WASHER
- 3-7/8" H.S. BARS, THREAD 6" AND GALV. 10", WITH HEX HD NUT LEVELING NUT AND WASHER.
- 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.
- TOP OF CONDUITS SHALL NOT EXTEND ABOVE BOTTOM SLIP BASE PLATE UPPER SURFACE.
- 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.



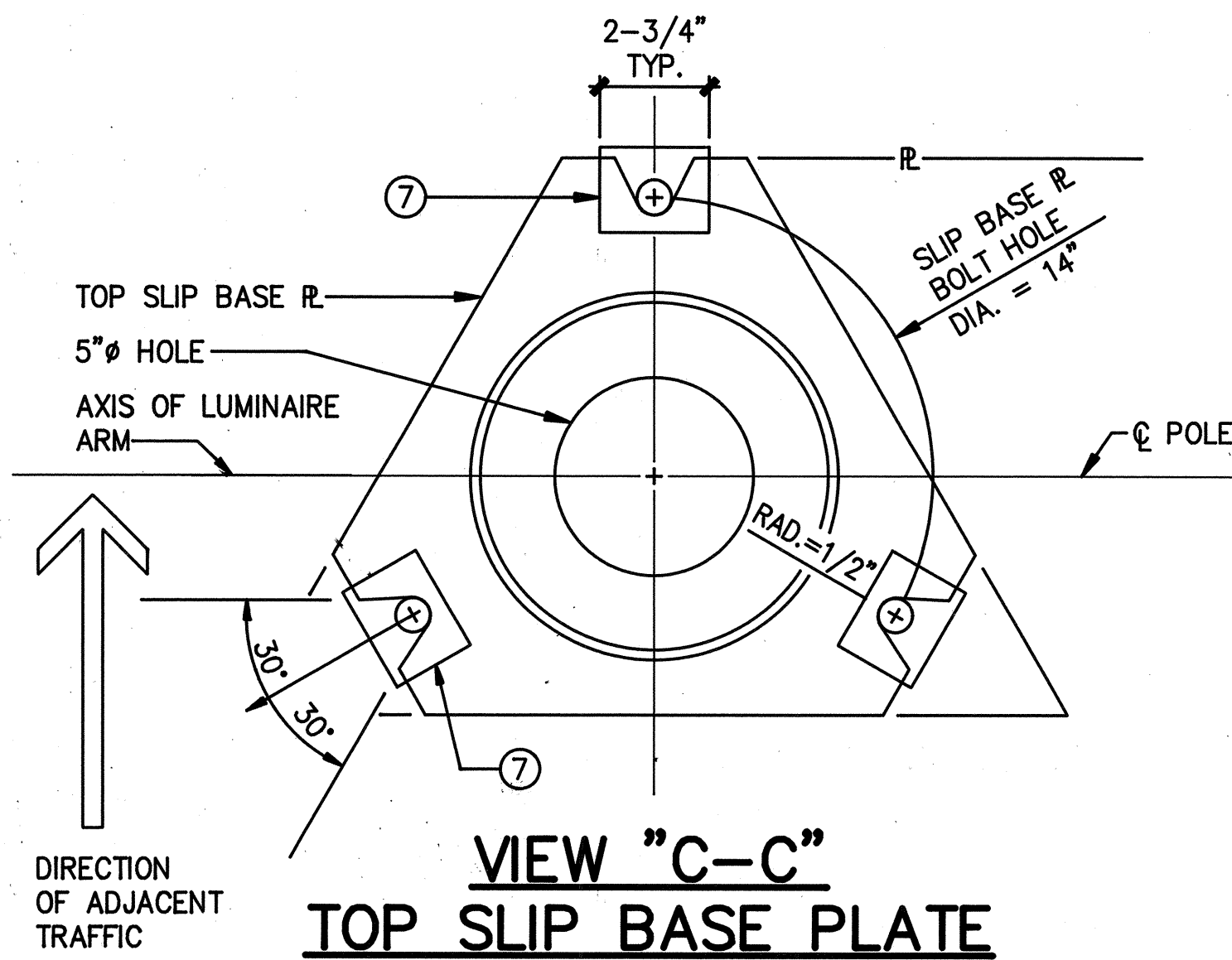
DETAIL "F"

SECTION G-G

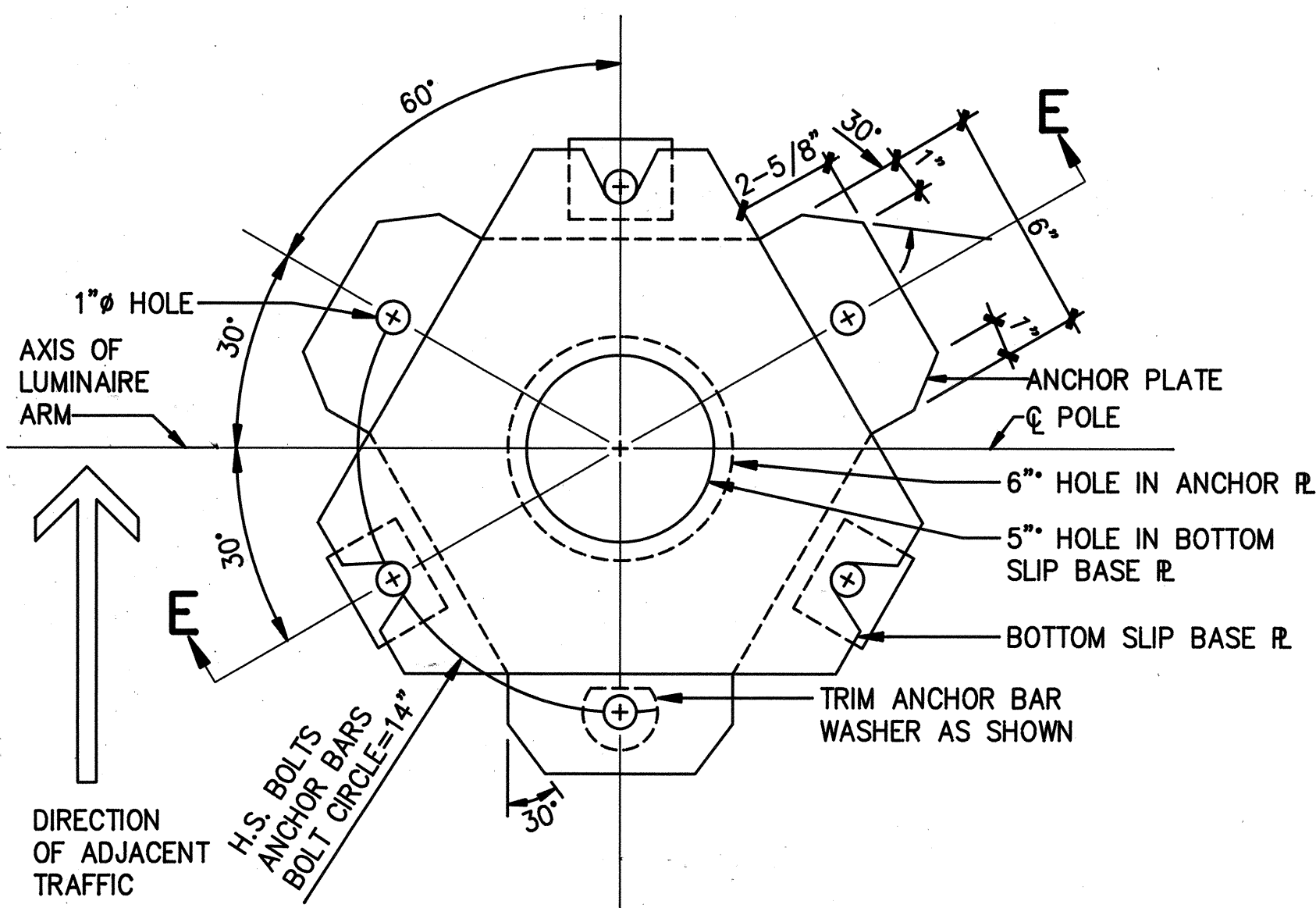
**A KEEPER PLATE**  
9 NOT TO SCALE



**B PLATE WASHER**  
9 NOT TO SCALE

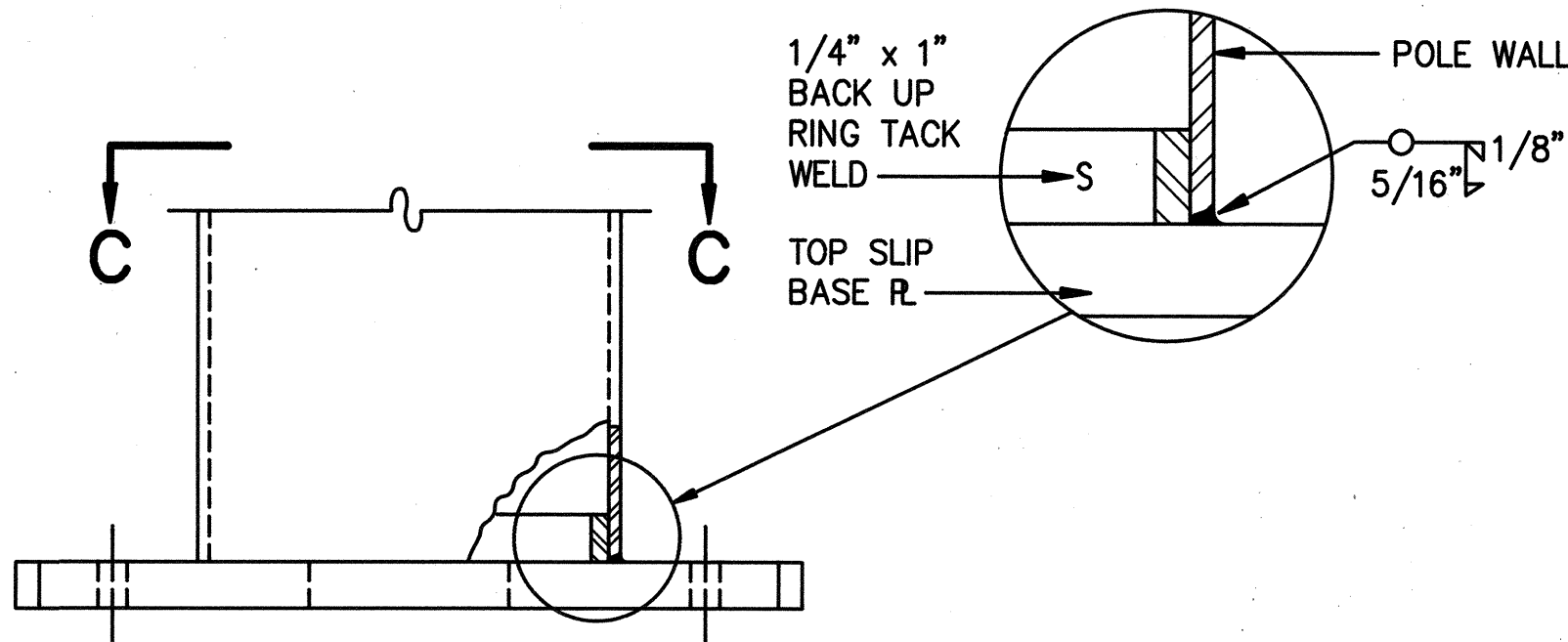


VIEW "C-C"  
TOP SLIP BASE PLATE

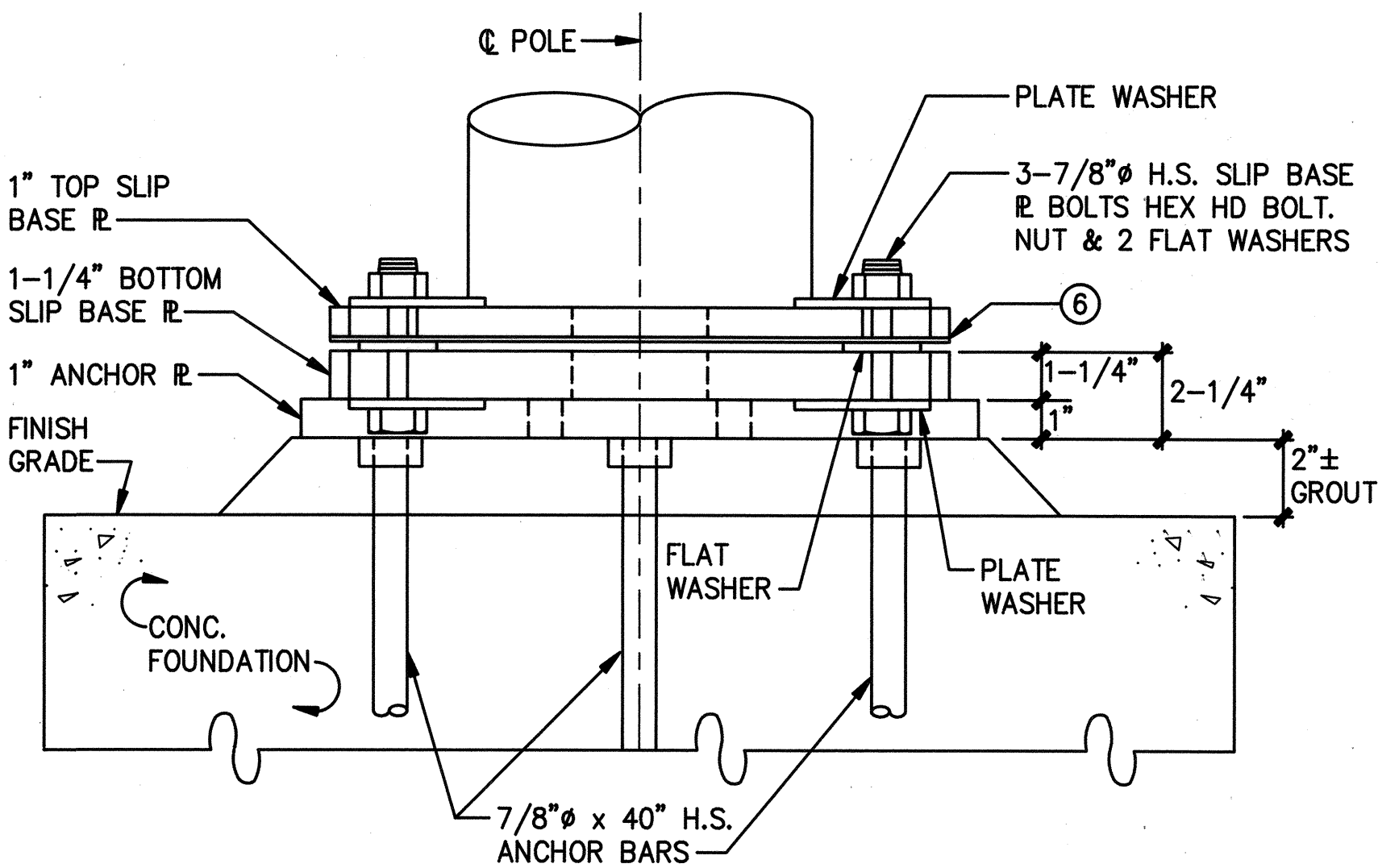


PLAN-BOTTOM PLATES

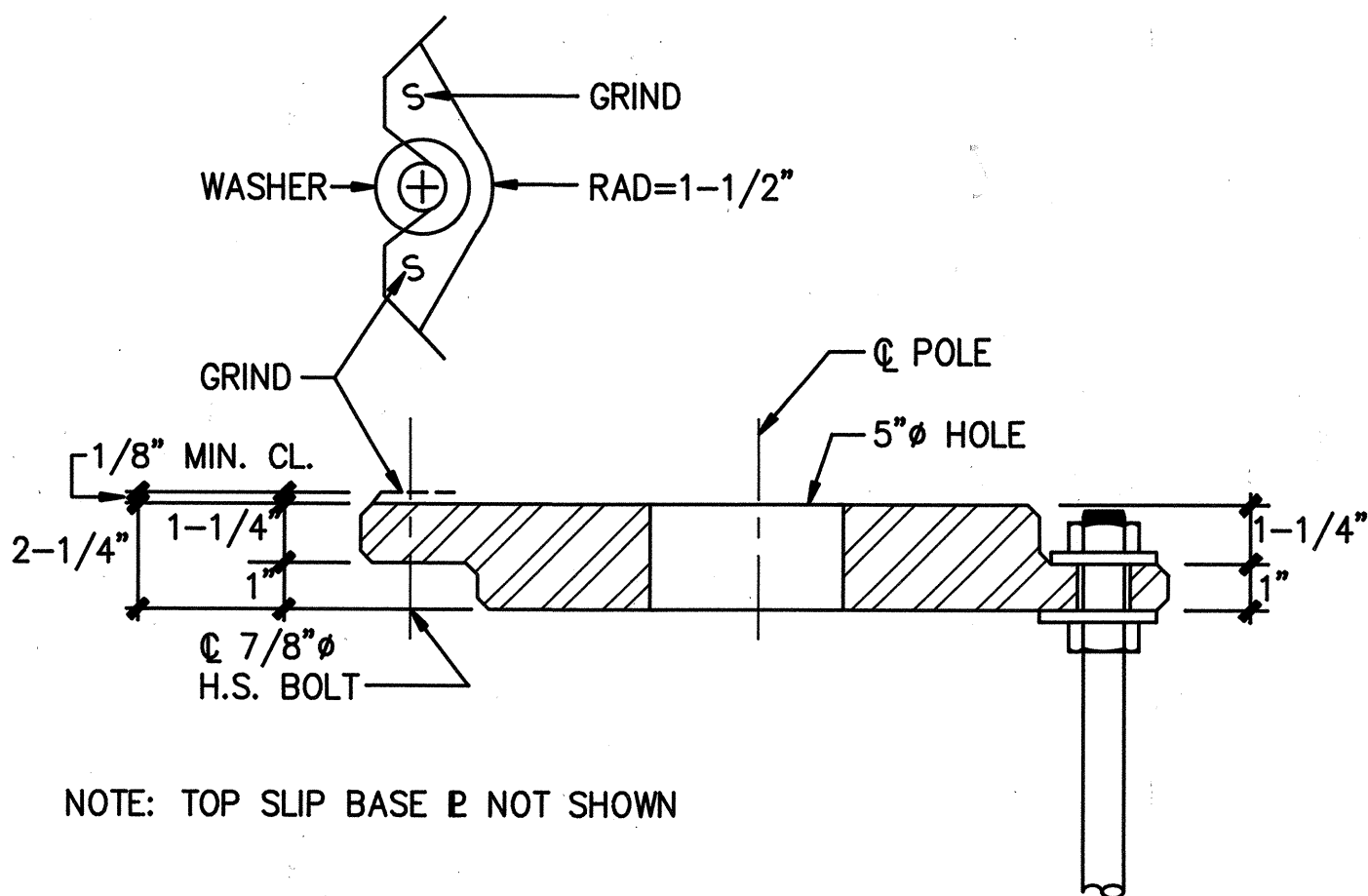
**C SLIP BASE DETAIL**  
9 SCALE: 3" = 1'-0"



TOP SLIP BASE PLATE



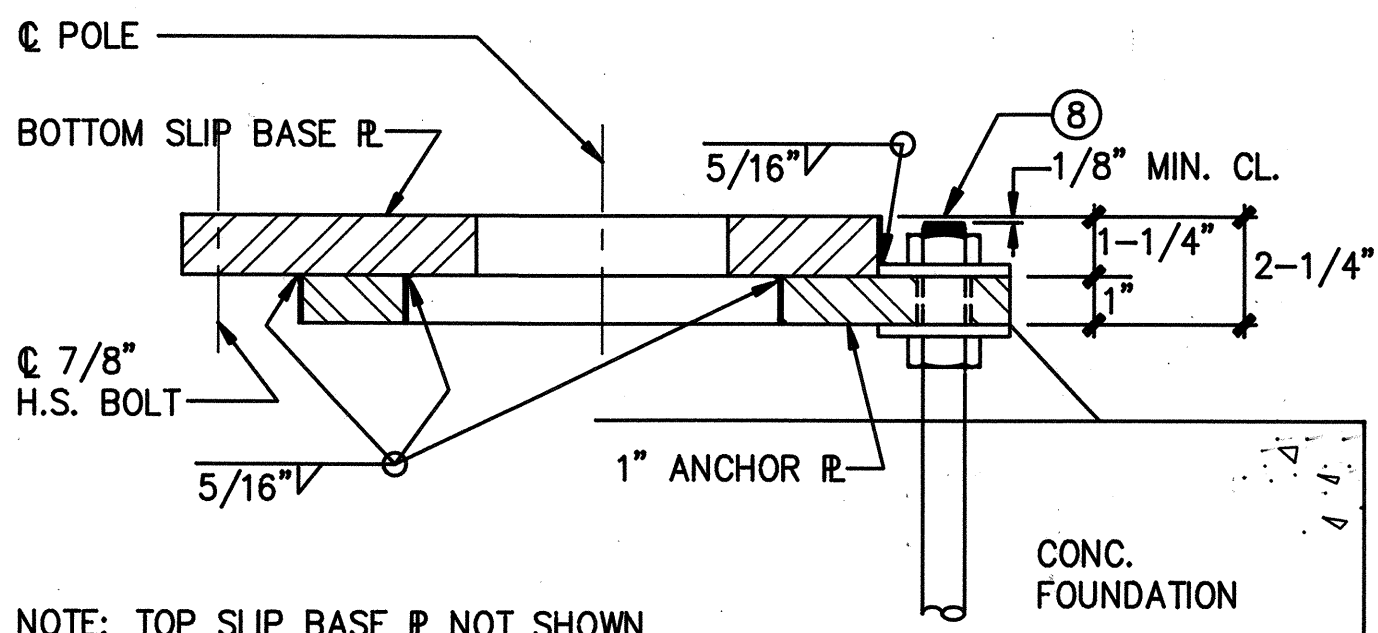
BOTTOM SLIP BASE PLATE



NOTE: TOP SLIP BASE R NOT SHOWN

VIEW "E-E"

**D CAST OPTION**  
9 SCALE: 3" = 1'-0"



NOTE: TOP SLIP BASE R NOT SHOWN

VIEW "E-E"

**E WELDED OPTION**  
9 SCALE: 3" = 1'-0"



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ECS INC.  
By Leinnox K. Nishimura  
Its PROJECT ENGINEER  
Date DEC. 9, 1991

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### SLIP BASE DETAILS

KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS  
MEHEULA PARKWAY TO KIPAPA STREET  
PROJECT NO. 99C-01-92

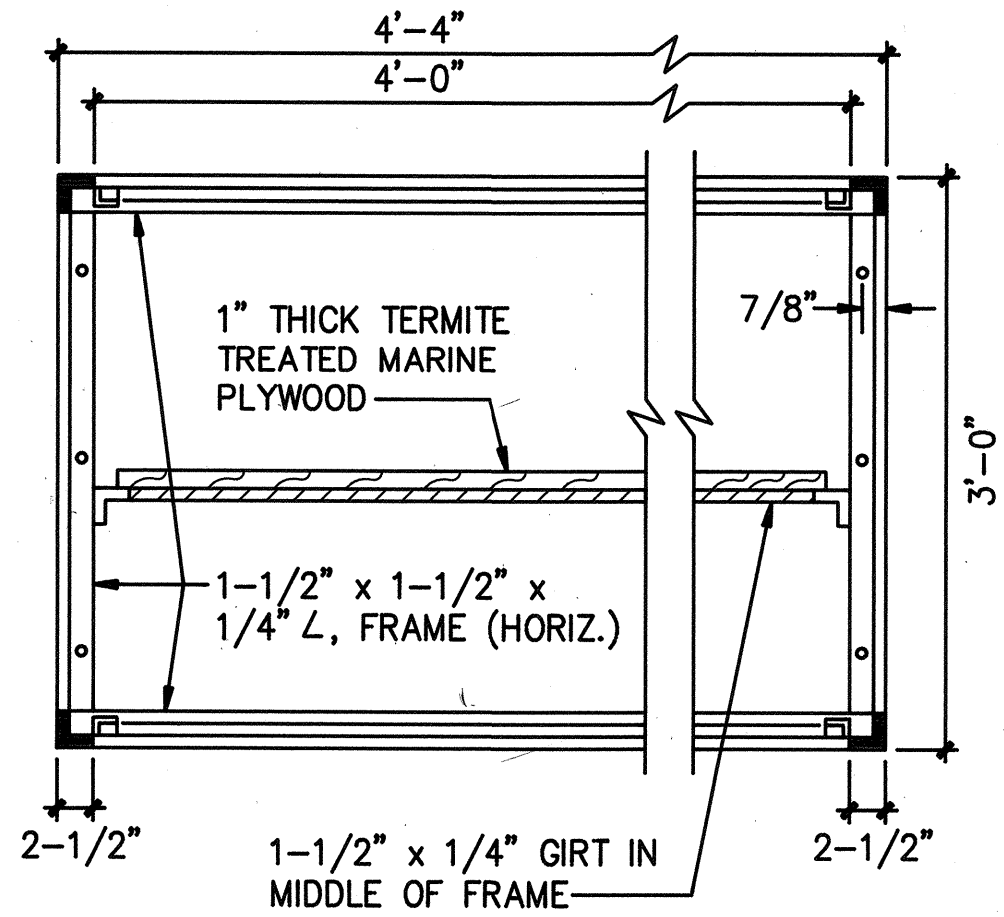
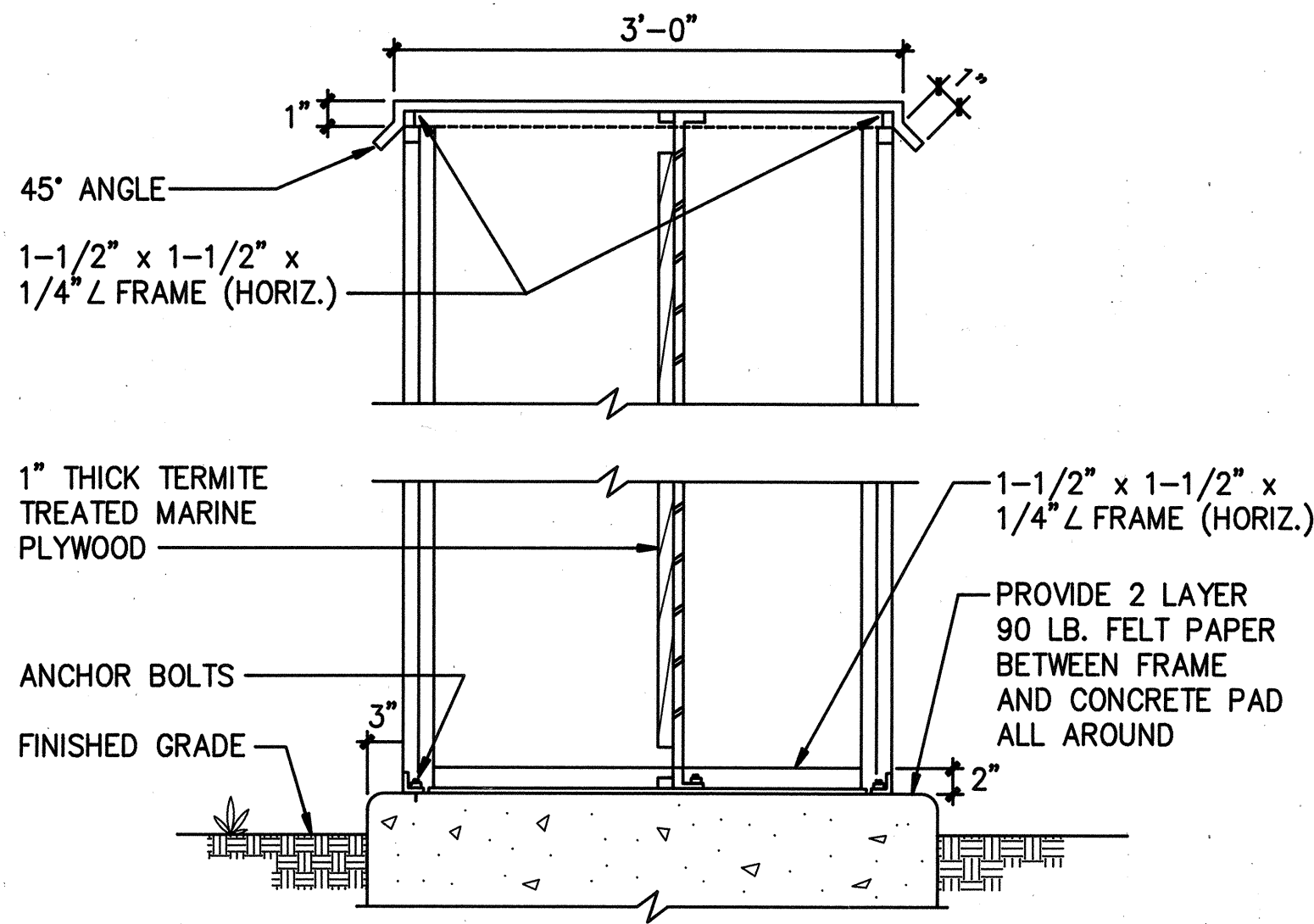
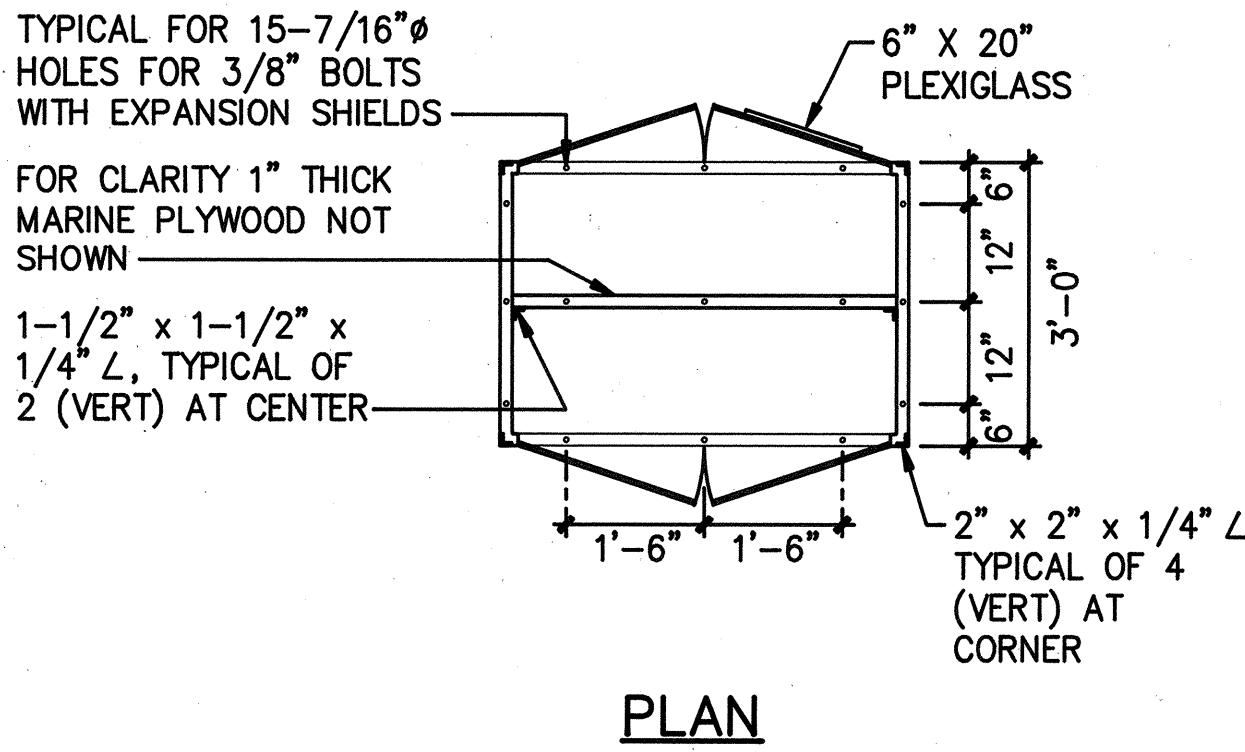
SCALE: 3" = 1'-0"

DATE:

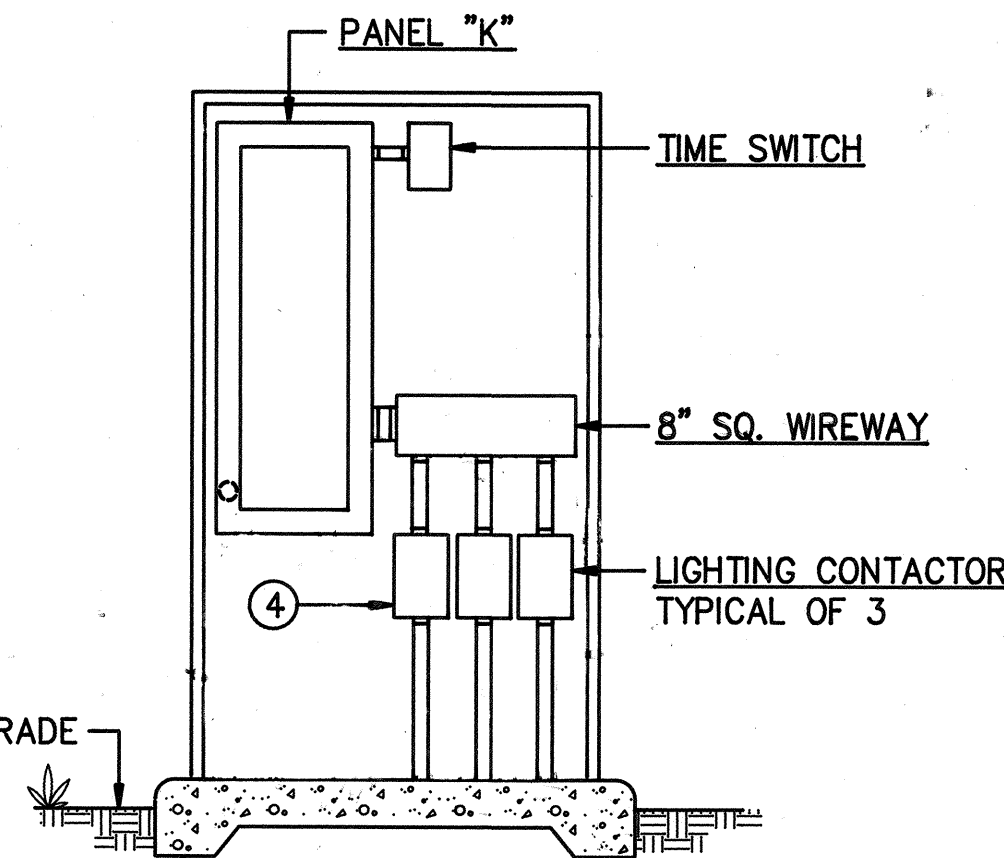
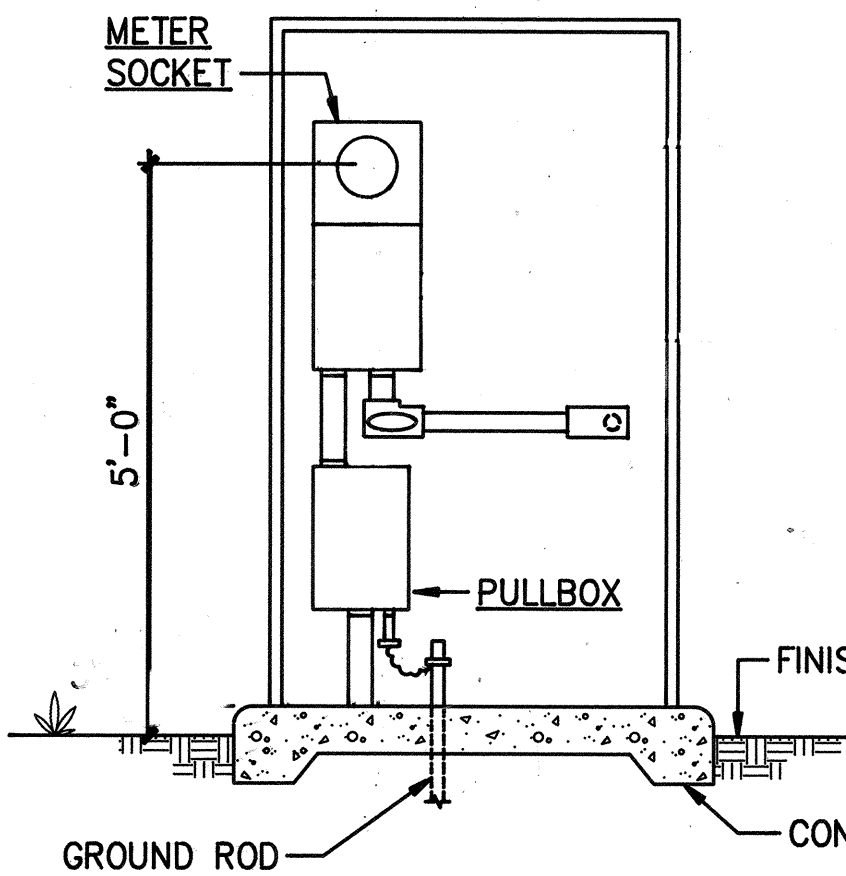
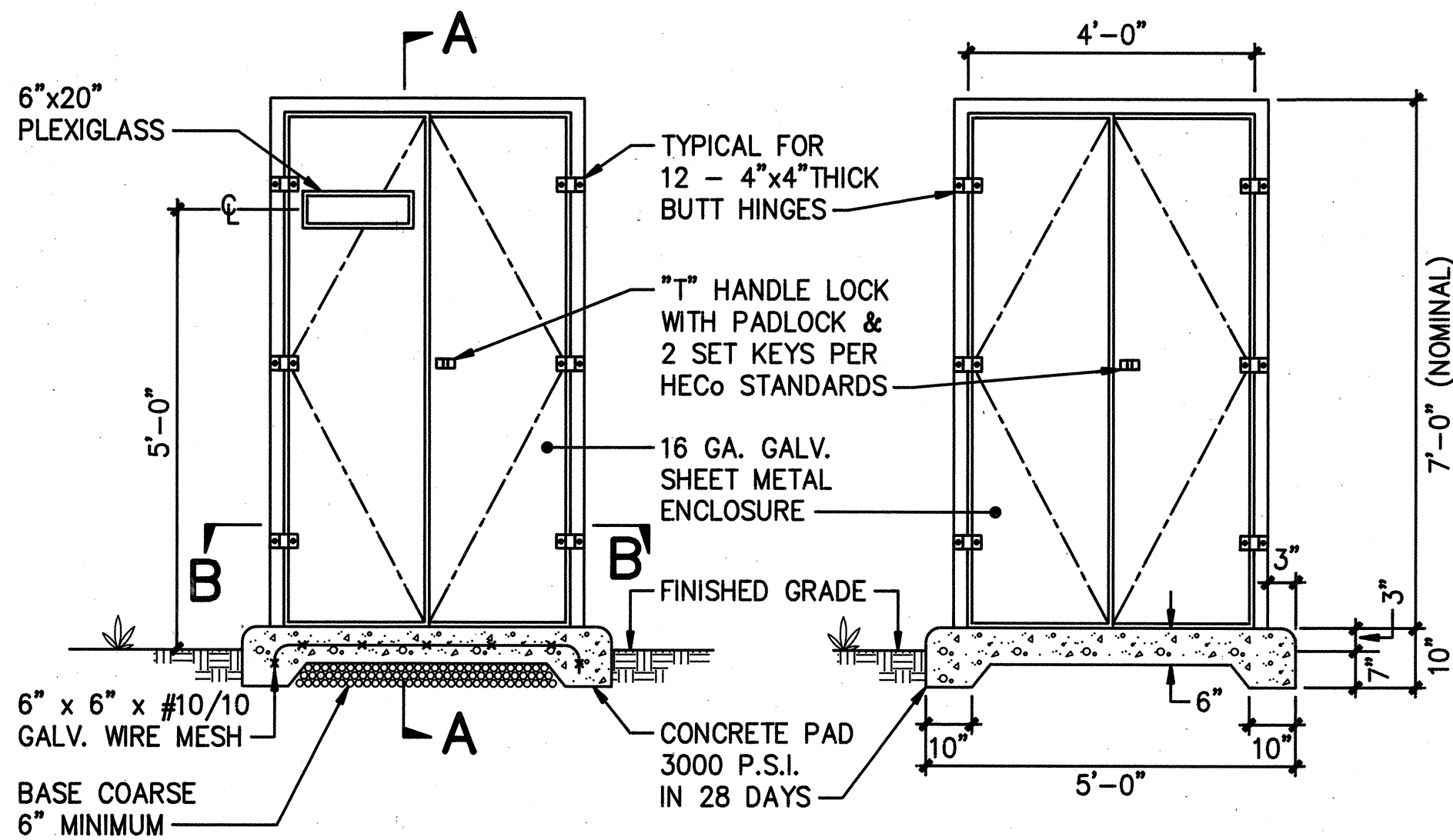
SHEET No. 9 OF 10 SHEETS



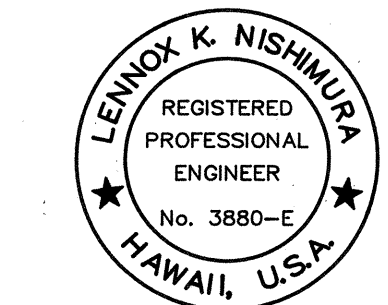
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99C-01-92	1992	10	10



- NOTES:
- PAINT ENCLOSURE INSIDE AND OUTSIDE WITH MARINE GREEN EPOXY ENAMEL.
  - PROVIDE SHOP DRAWINGS PRIOR TO FABRICATION.
  - GALVANIZED ANGLE BRACKET PVC PAINT FINISH.
  - SHOULD ALL 7 DEDUCTIVE ITEMS BE ELIMINATED FROM THE PROJECT, THE LIGHTING CONTACTOR ASSOCIATED WITH CIRCUITS #5 & #6 SHALL NOT BE PROVIDED. PROVIDE SPACE FOR FUTURE INSTALLATION OF THIS LIGHTING CONTACTOR.



# **A** ELECTRICAL SERVICE EQUIPMENT ENCLOSURE 10 NOT TO SCALE



This work was prepared by me or under my supervision  
 EGS INC.  
 By *Lennox K. Nishimura*  
 Its PROJECT ENGINEER  
 Date DEC. 9, 1991

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**ELECTRICAL SERVICE EQUIPMENT ENCLOSURE**  
 KAMEHAMEHA HIGHWAY - INSTALLATION OF HIGHWAY LIGHTS  
 MEHEULA PARKWAY TO KIPAPA STREET  
 PROJECT NO. 99C-01-92

SCALE: NO SCALE  
DATE:

SHEET No. 10 OF 10 SHEETS

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