

ELECTRICAL PLAN

SCHEDULE OF LUMINAIRE

<u>LUMINAIRE NO.</u>	<u>BASE DEPTH</u>	<u>BASE SETBACK</u>	<u>BRACKET LENGTH</u>	<u>LAMP WATTS</u>	<u>LUMINAIRE LIGHT DIST.</u>
HP-11 NIC	5'	12½'	15'	400	IES- I
HP-12	5'	12½'	15'	400	" II
HP-13	5'	4'	6'(2)	400	" II
HP-14	5'	7'	6'(2)	400	" II
HP-15 NIC	5'	6'	6'(2)	400	" II
HP-16 NIC	5'	6'	6'(2)	400	" II
HP-17	5'	3'	6'(2)	400	" II
HP-18	5'	5'	6'(2)	400	" II

NIC - NOT IN CONTRACT (UNDER 2ND INCREMENT.)



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Takete Kavalata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING SYSTEM

PALAILAI INTERCHANGE

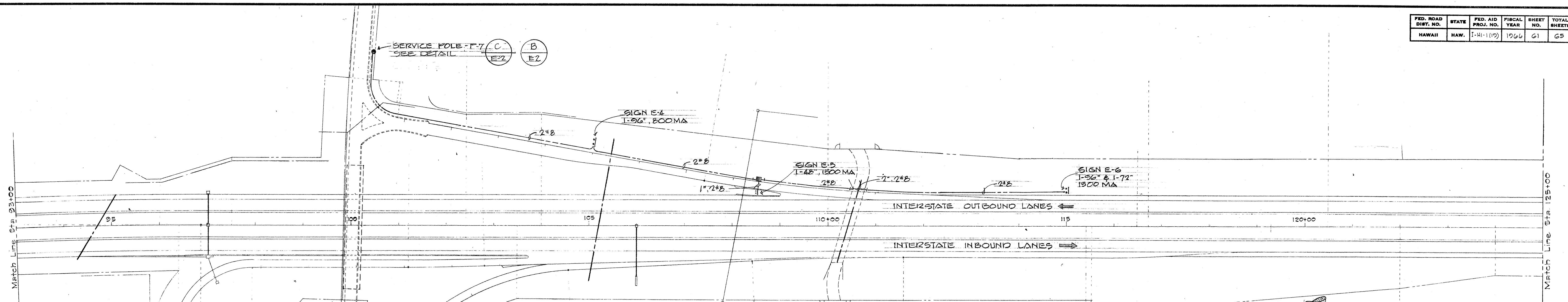
ELECTRICAL PLAN & DETAILS

INTERSTATE ROUTE 4-1

SCALE: AS SHOWN DATE: FEB 1966

DATE: 11.12.1960

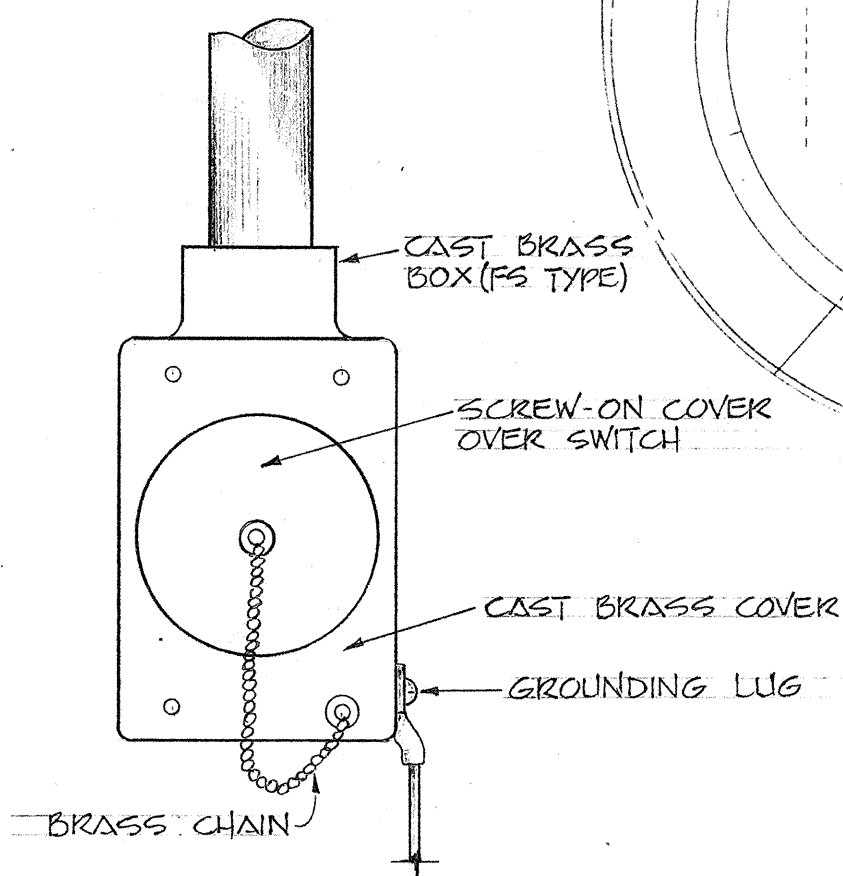
SHEET No. E-1 OF 6 SHEETS



NOTE:
SEE HIGHWAY DEPT. STANDARD DRAWINGS FOR SIGN CONNECTION DETAILS.

ELECTRICAL PLAN

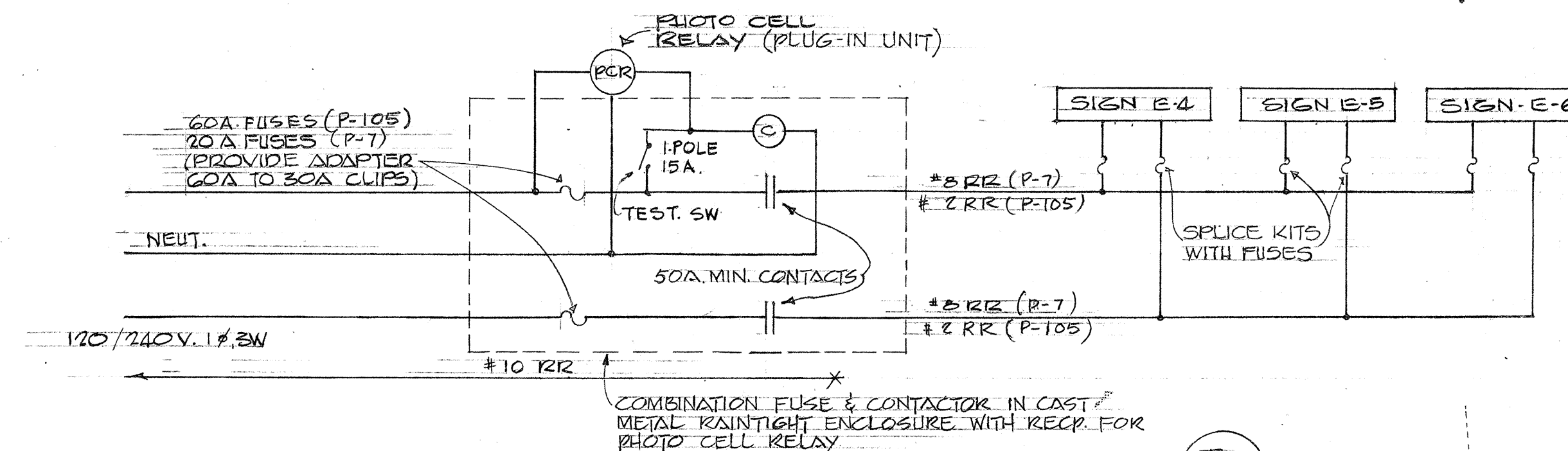
SCALE: 1"=100'



TEST SW. DETAIL

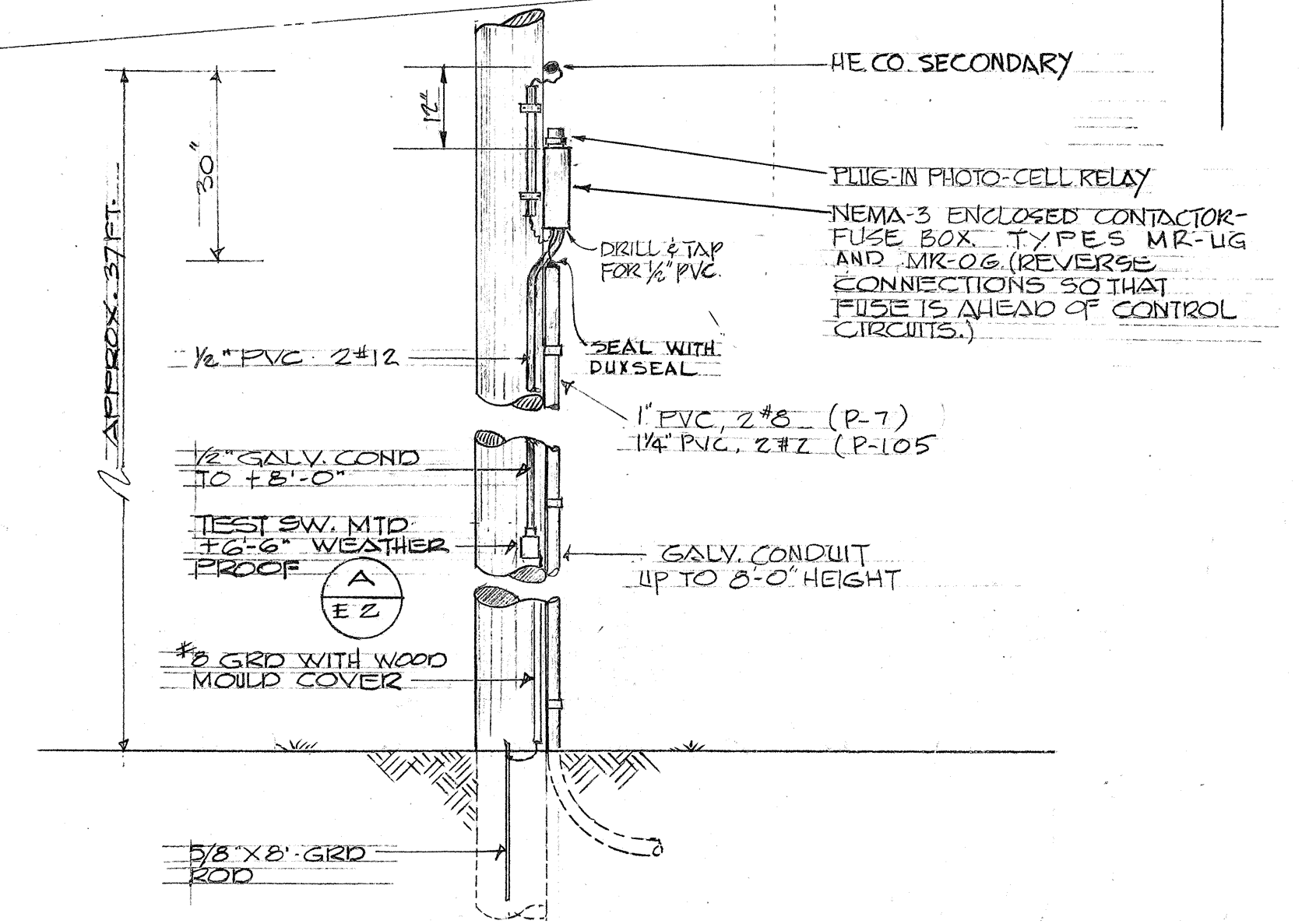
NOT TO SCALE

A
E-2



ONE-LINE DIAGRAM

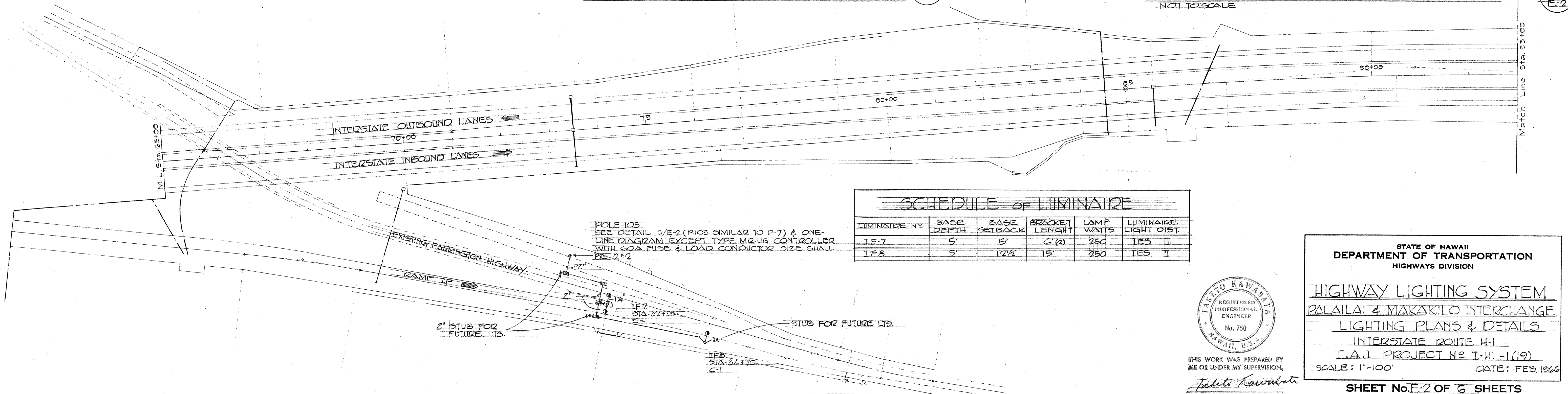
B
E-2



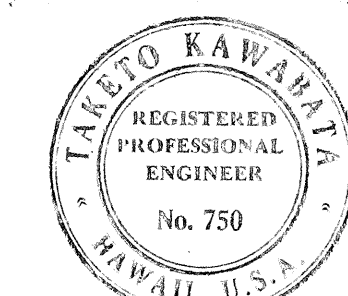
DETAIL AT SERVICE POLES

NOT TO SCALE

C
E-2



SCHEDULE OF LUMINAIRE					
LUMINAIRE NO.	BASE DEPTH	BASE SETBACK	BRACKET LENGTH	LAMP WATTS	LUMINAIRE LIGHT DIST.
IF-7	5'	5'	6'0"	250	IES II
IF-8	5'	12'6"	15'	250	IES II



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION,
Tadeo Kawahata

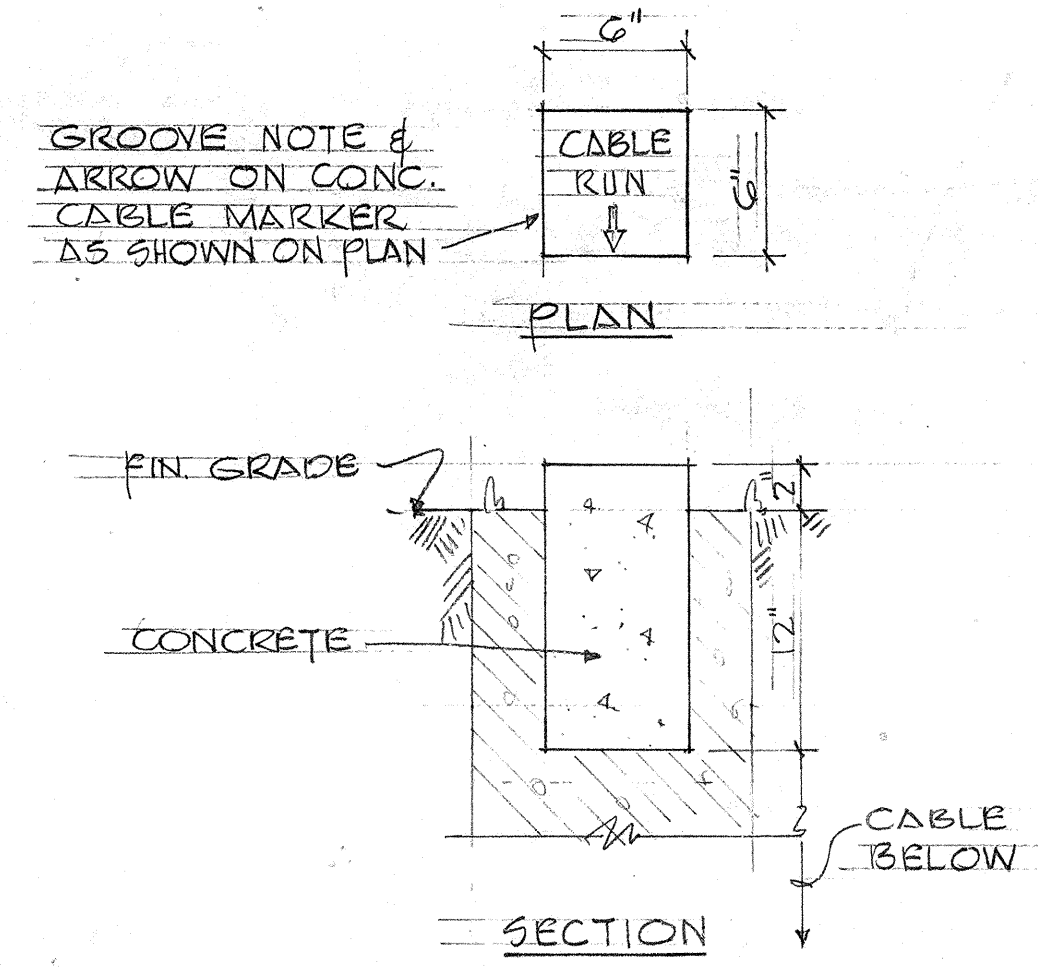
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING SYSTEM
PALAILAI & MAKAKILO INTERCHANGE
LIGHTING PLANS & DETAILS
INTERSTATE ROUTE H-1
E.A.I. PROJECT NO. I-41-1(19)
SCALE: 1"=100' DATE: FEB. 1966

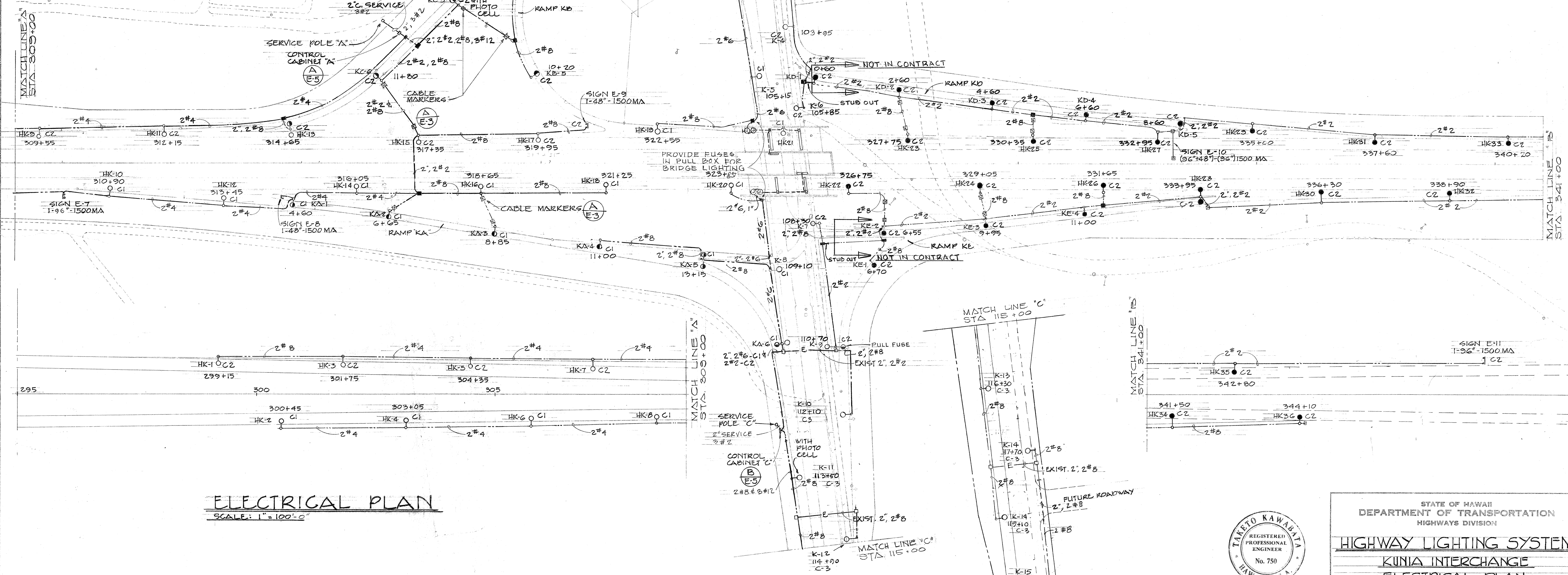
SHEET No. E-2 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-11-1(19)	1966	62	65

GENERAL NOTES: 1. SEE HIGHWAY STANDARD DRAWINGS FOR CONNECTION OF ILLUMINATED HIGHWAY SIGNS.



CABLE MARKER DETAIL
N.T.S.



ELECTRICAL PLAN
SCALE: 1" = 100' 0"

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Taketo Kawabata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING SYSTEM

KUNIA INTERCHANGE

ELECTRICAL PLAN

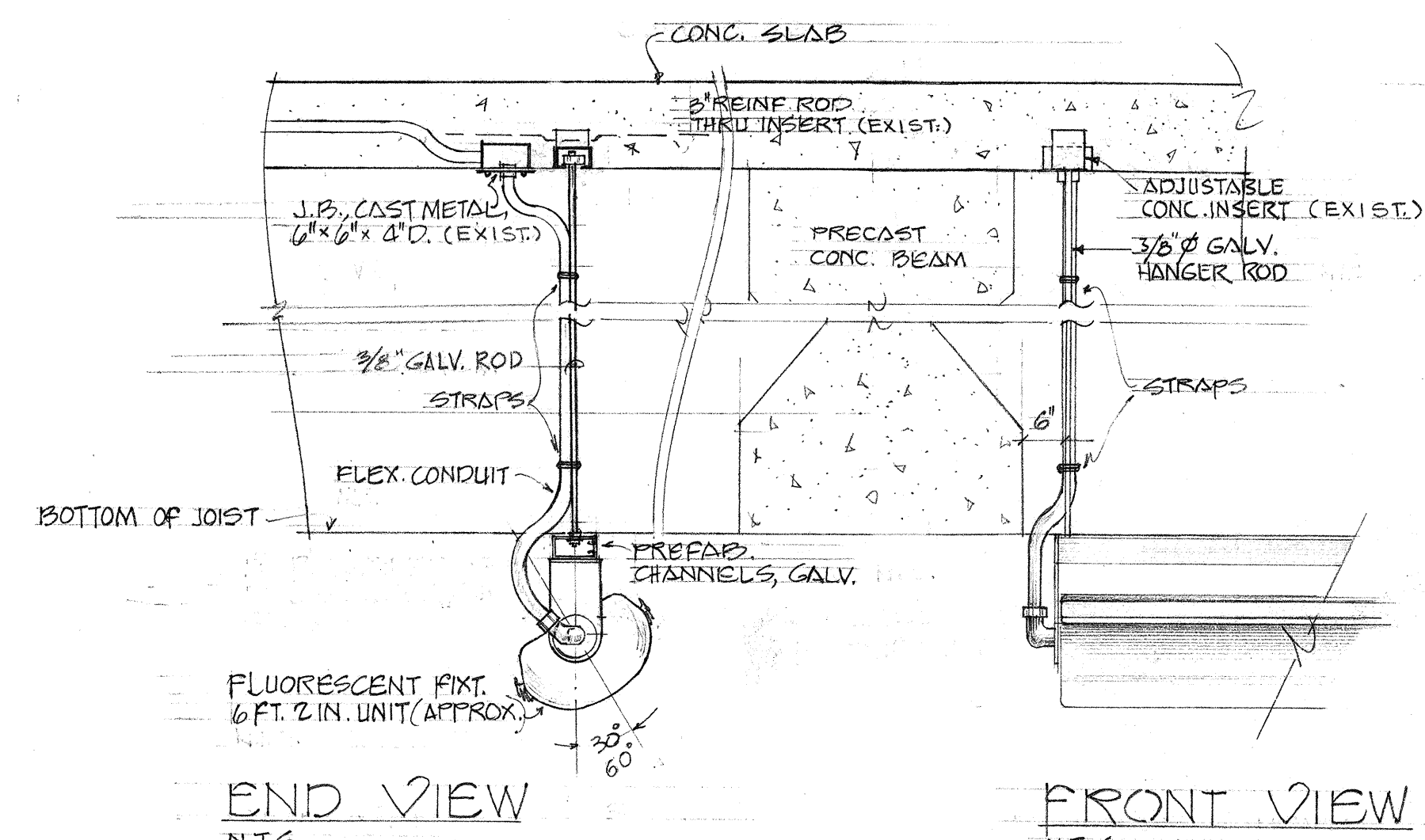
INTERSTATE ROUTE H-1

F.A.I. PROJECT NO I-11-1(19)

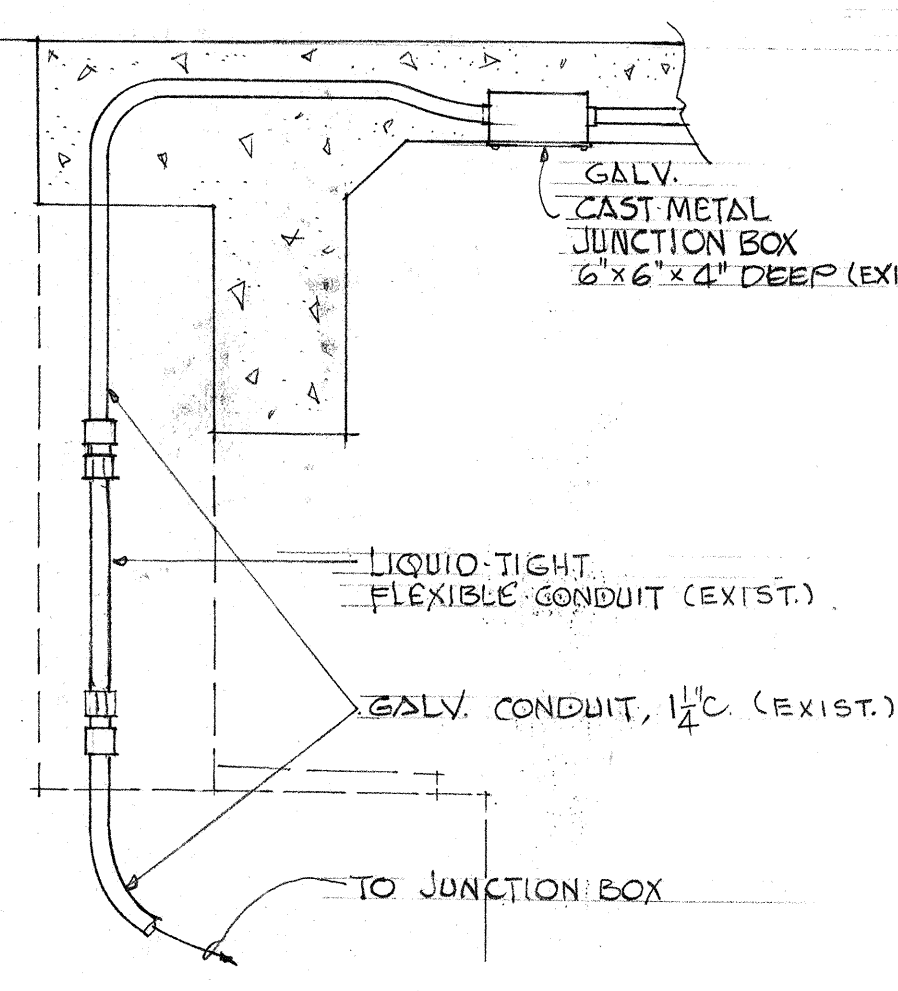
SCALE: _____ DATE: FEB. 1966

SHEET No. E-3 OF 6 SHEETS

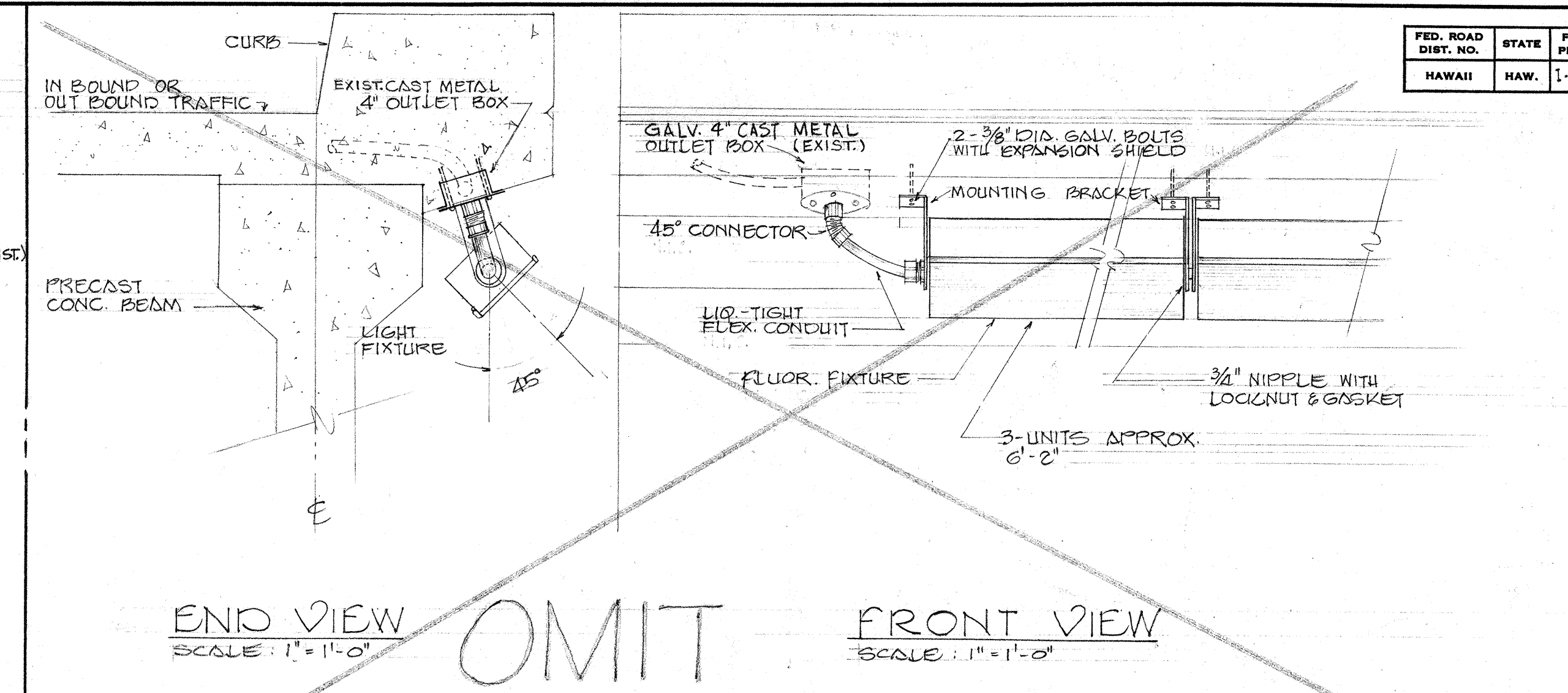
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-41-1(19)	1966	63	65



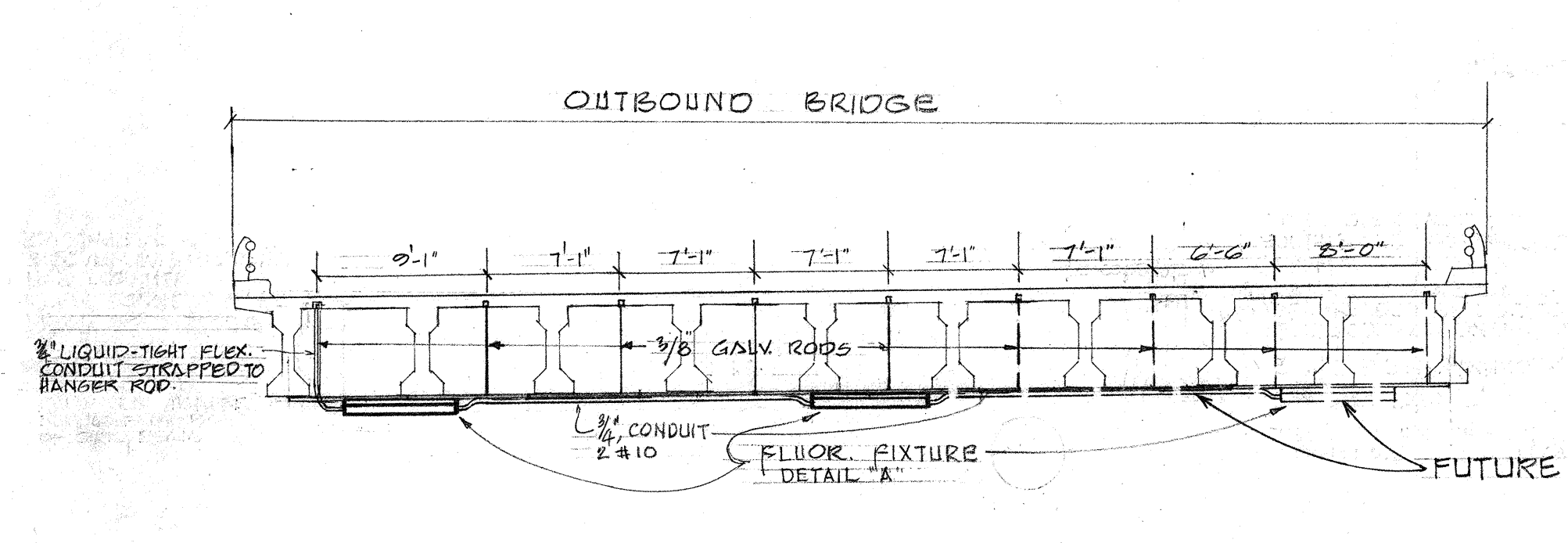
FLUORESCENT FIXTURE DETAIL (A) E-4



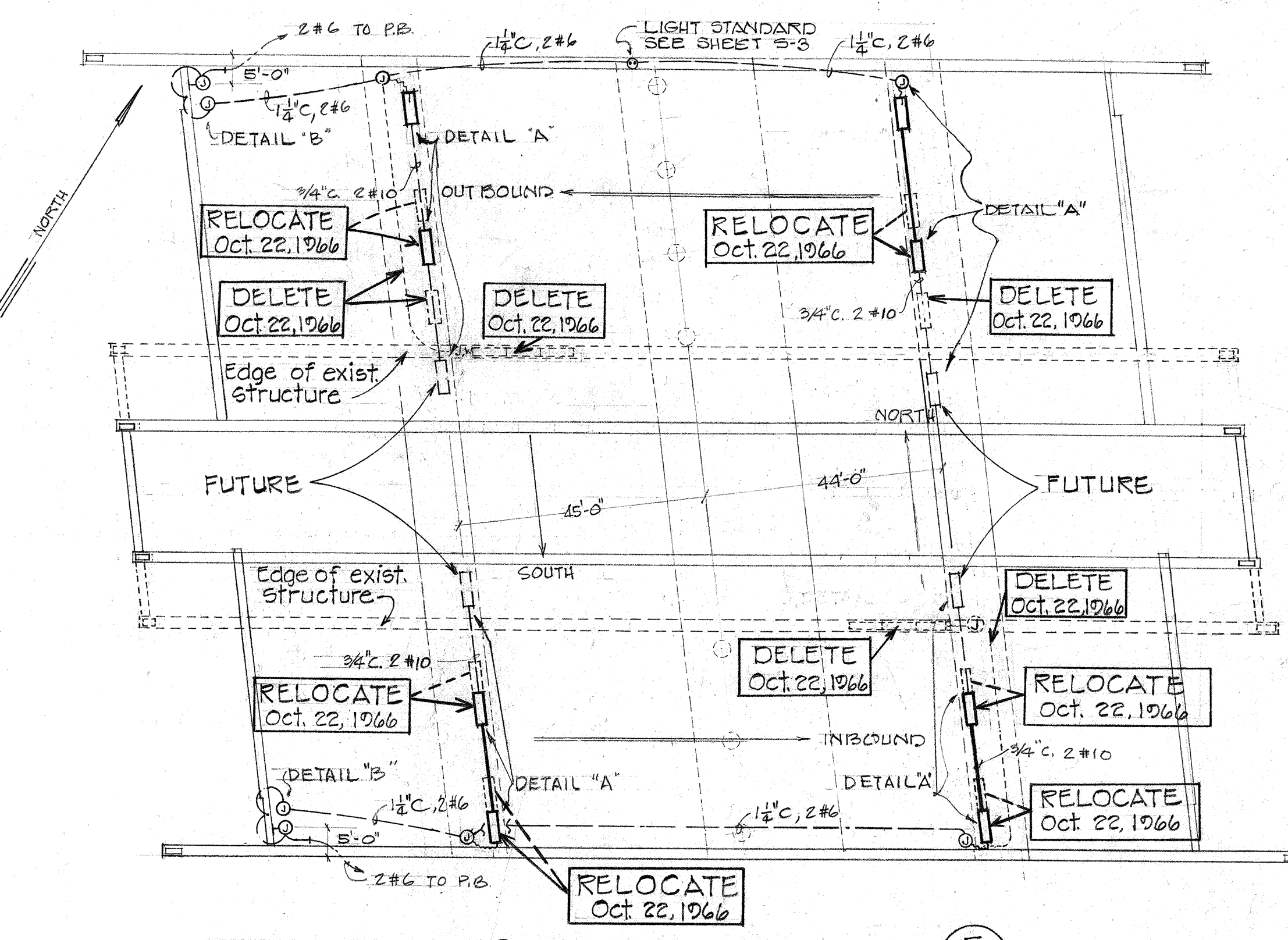
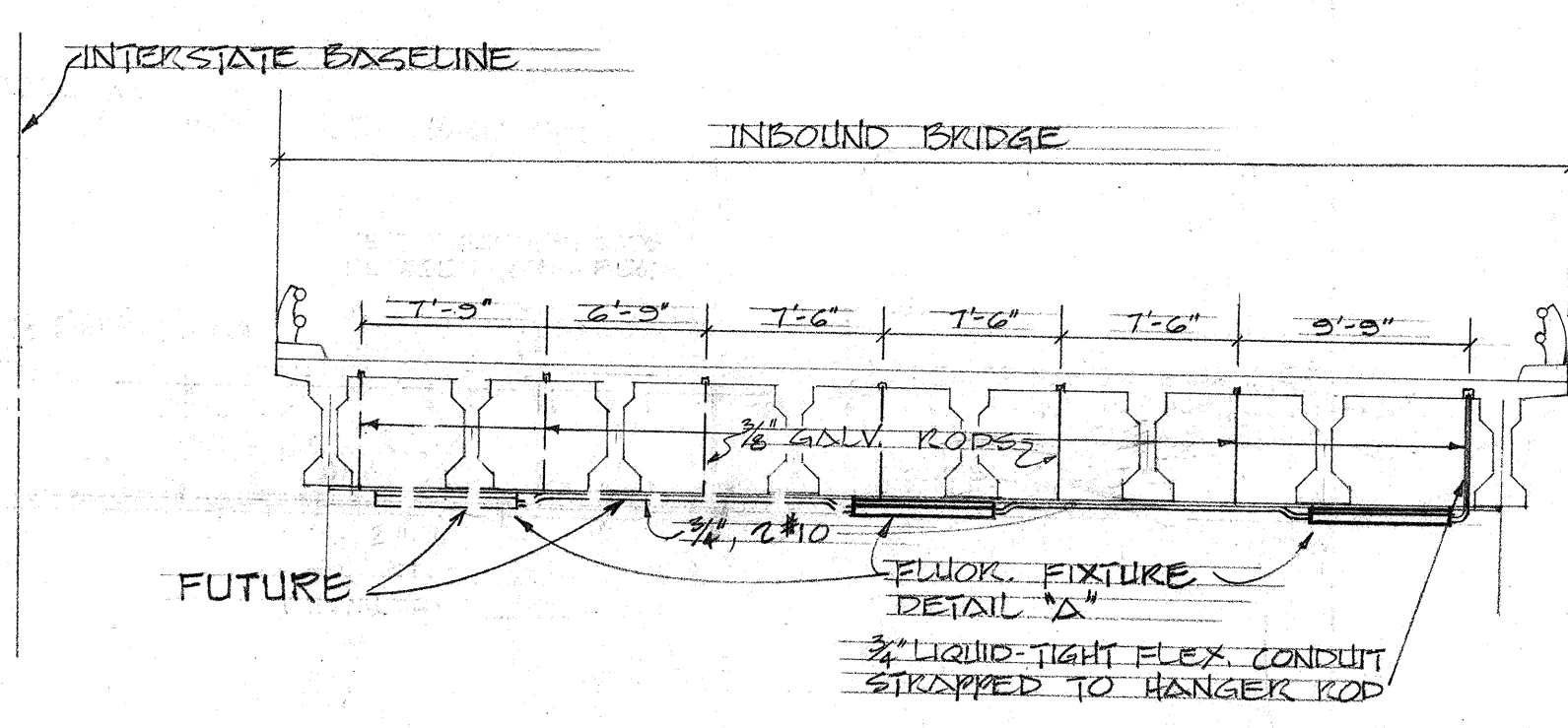
FLEXIBLE CONNECTION DETAIL (B) E-4



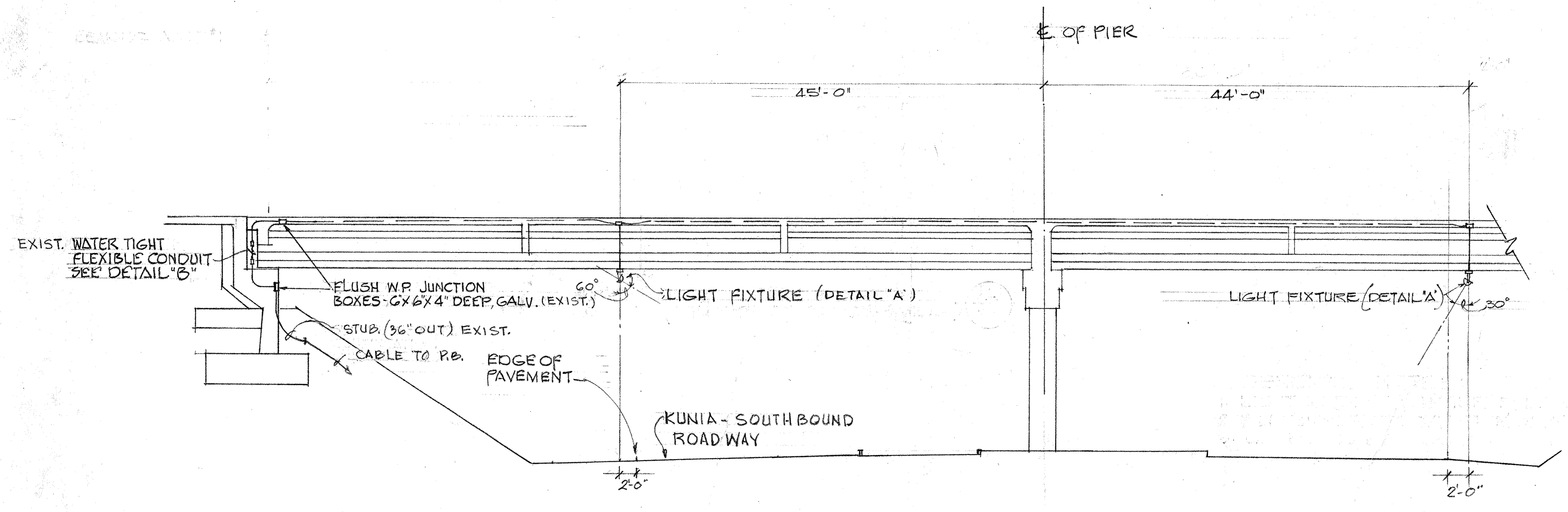
FLUORESCENT FIXTURE MOUNTING DETAIL (C) E-4



LIGHT MOUNTING DETAIL (D) E-4



BRIDGE LIGHTING PLAN (F) E-4



LIGHT MOUNTING ELEVATION (E) E-4

- REVISION NOTES:
1. OMITTED LUMINAIRES ON SIDES OF BRIDGES. 6 EA.
 2. LENGTHENED SPACING OF LUMINAIRES UNDER OUT-BOUND BRIDGE.
 3. ADDED 2 LUMINAIRES UNDER INBOUND BRIDGE.
 4. BRIDGES WIDENED BY 12 FEET.

GENERAL NOTES:

1. LIGHT FIXTURES, HANGER RODS & CHANNELS TO BE INSTALLED UNDER THIS CONTRACT.
2. BOXES AND CONDUITS IN CONCRETE ARE EXISTING.
3. CABLES TO BE FURNISHED UNDER THIS CONTRACT.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Taketo Kawabata

REVISION No. 1 JULY 5, 1966

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

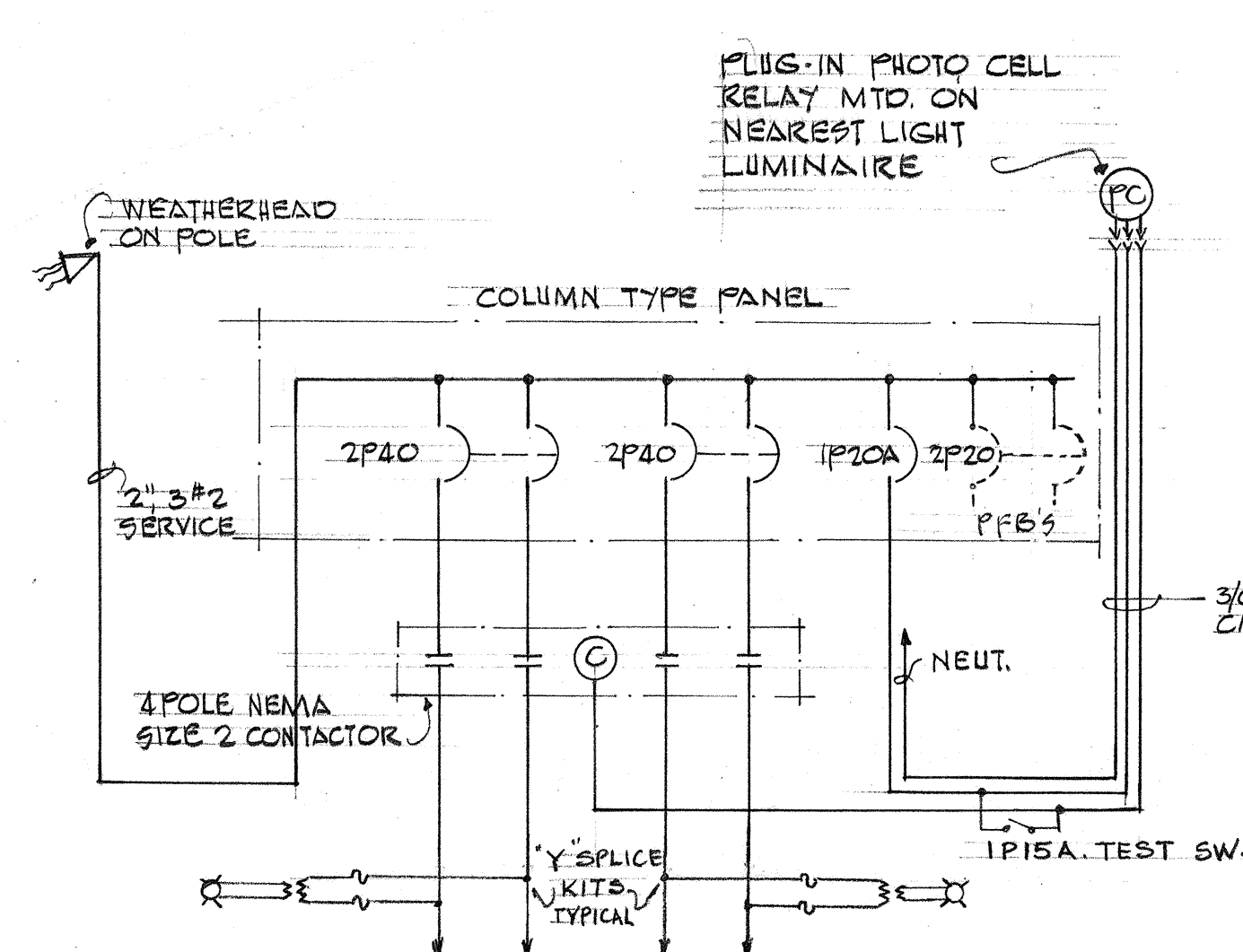
HIGHWAY LIGHTING SYSTEM

KUNIA INTERCHANGE
LIGHTING DETAILS
INTERSTATE ROUTE H-1
F.A.T. PROJECT NO. I-H-1-1(19)
SCALE: DATE: FEB. 1966

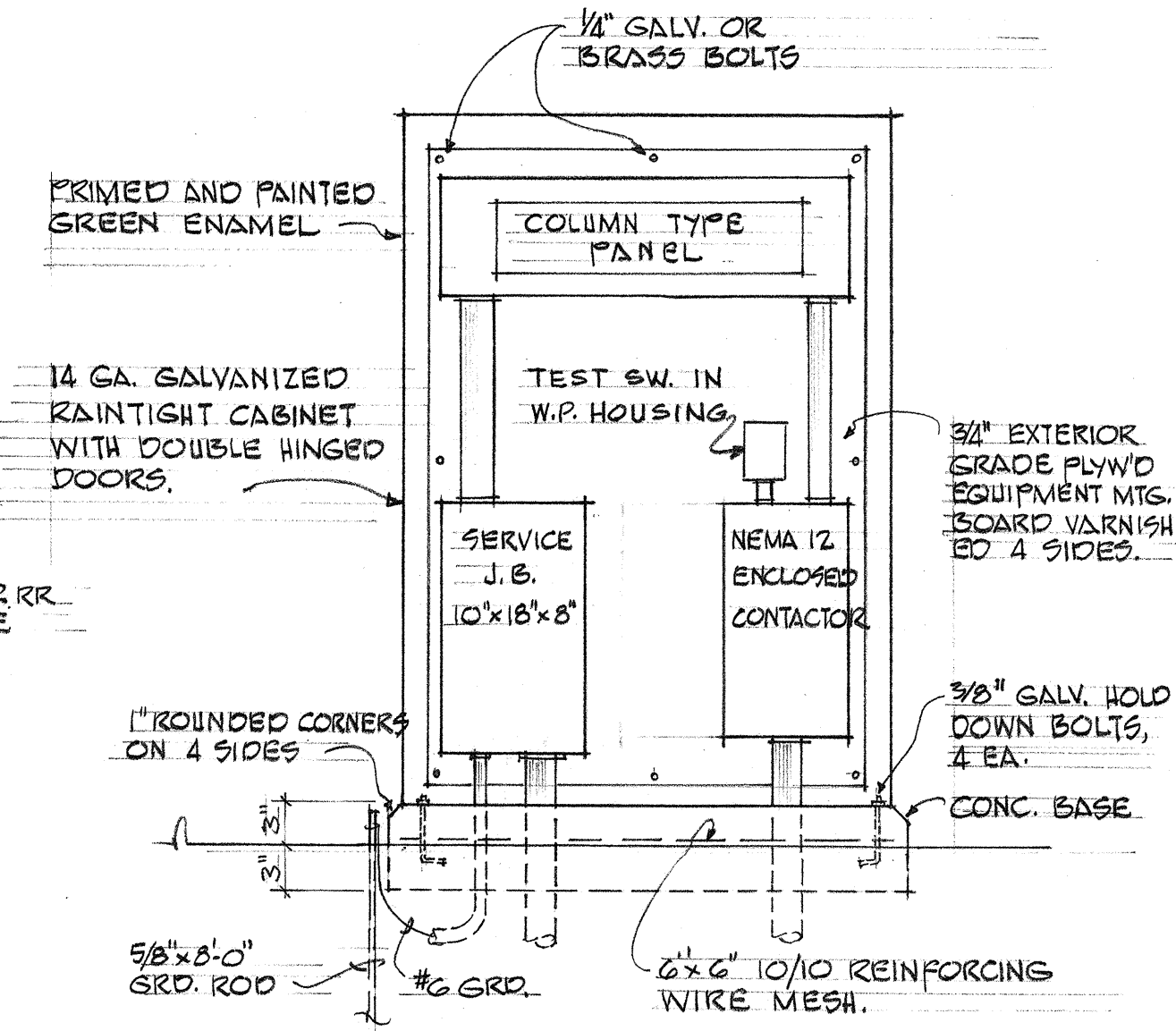
SHEET No. E-4 OF 6 SHEETS

C.O.G. 3

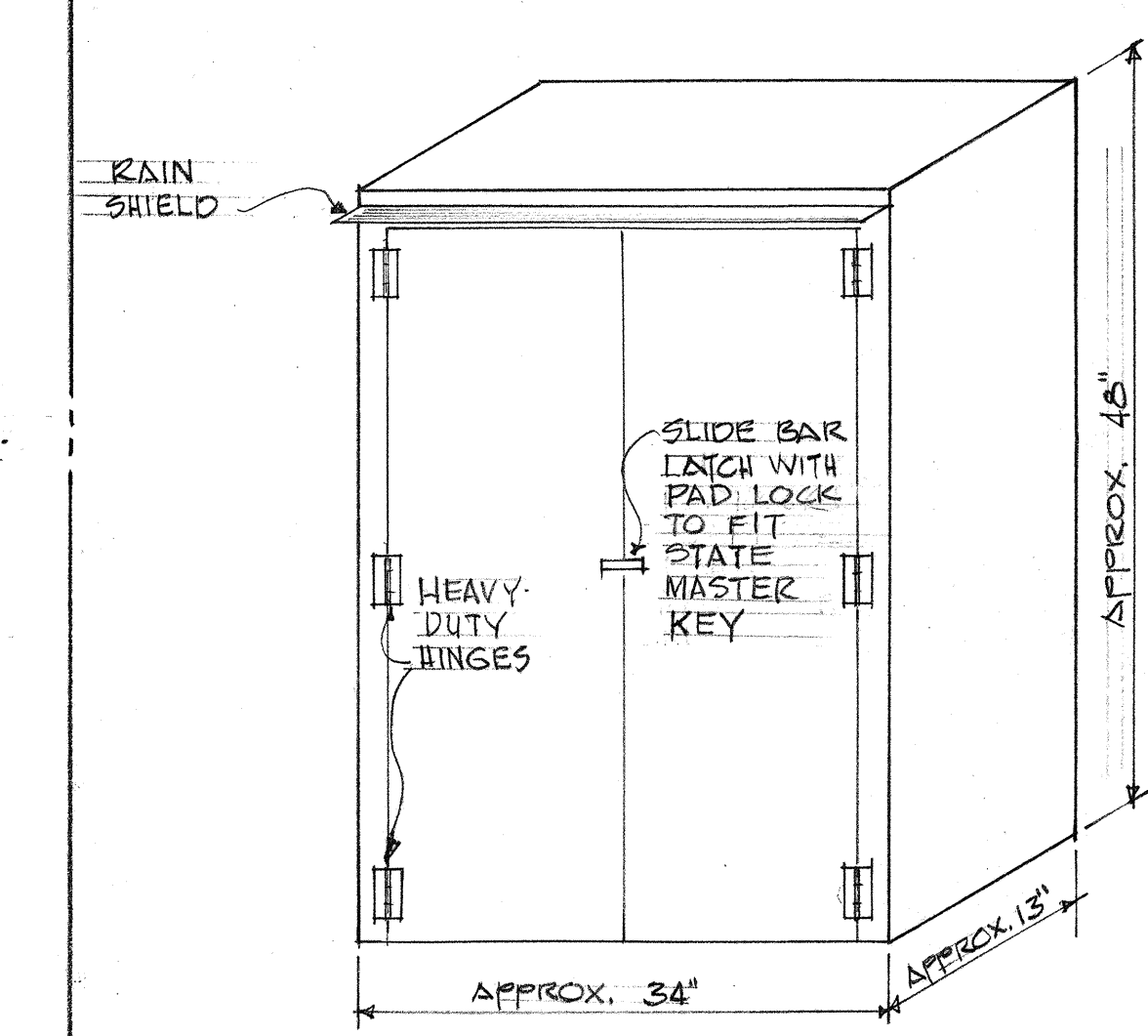
DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



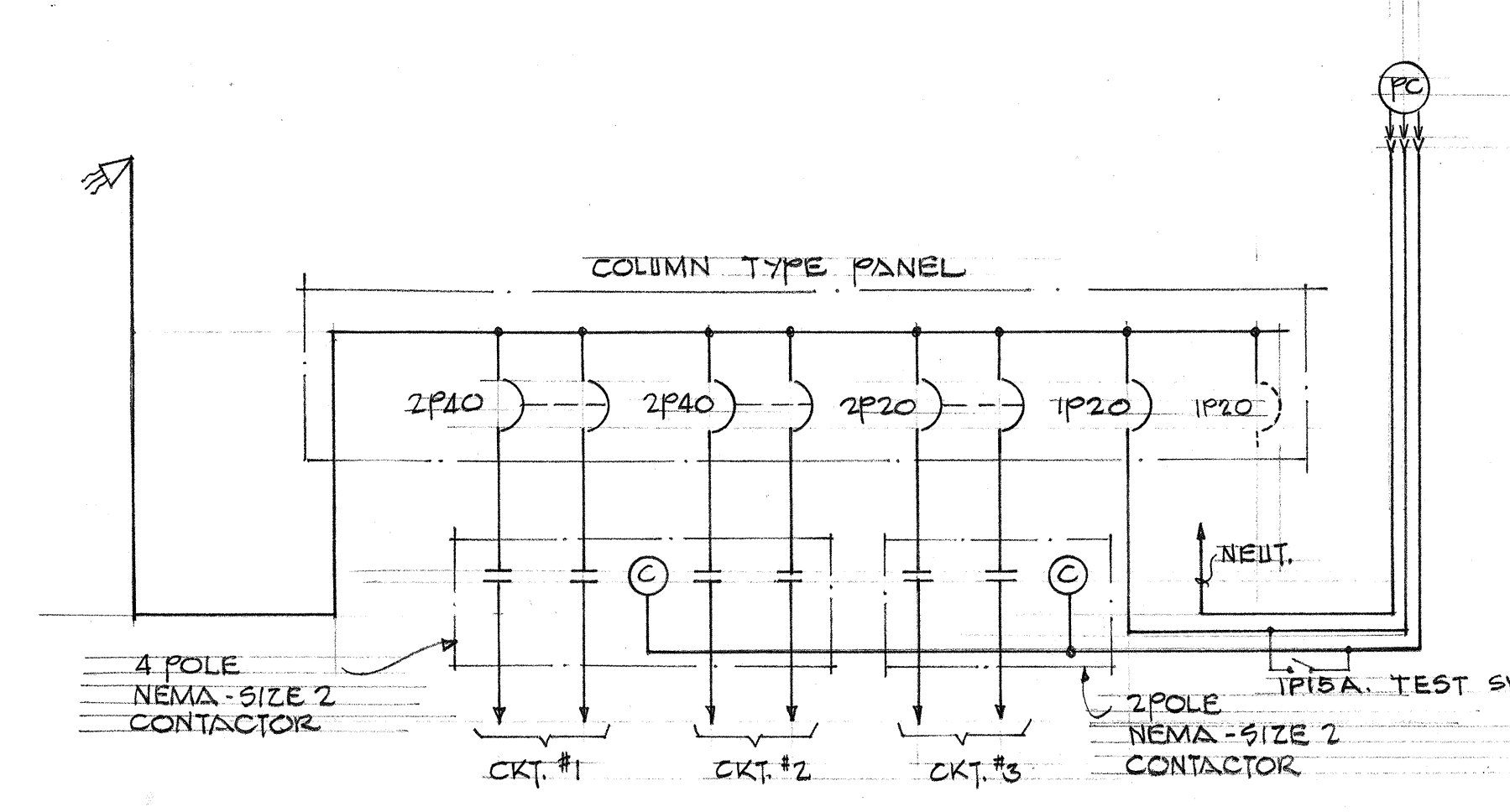
ONE-LINE DIAGRAM - SYSTEM "A" & "B"



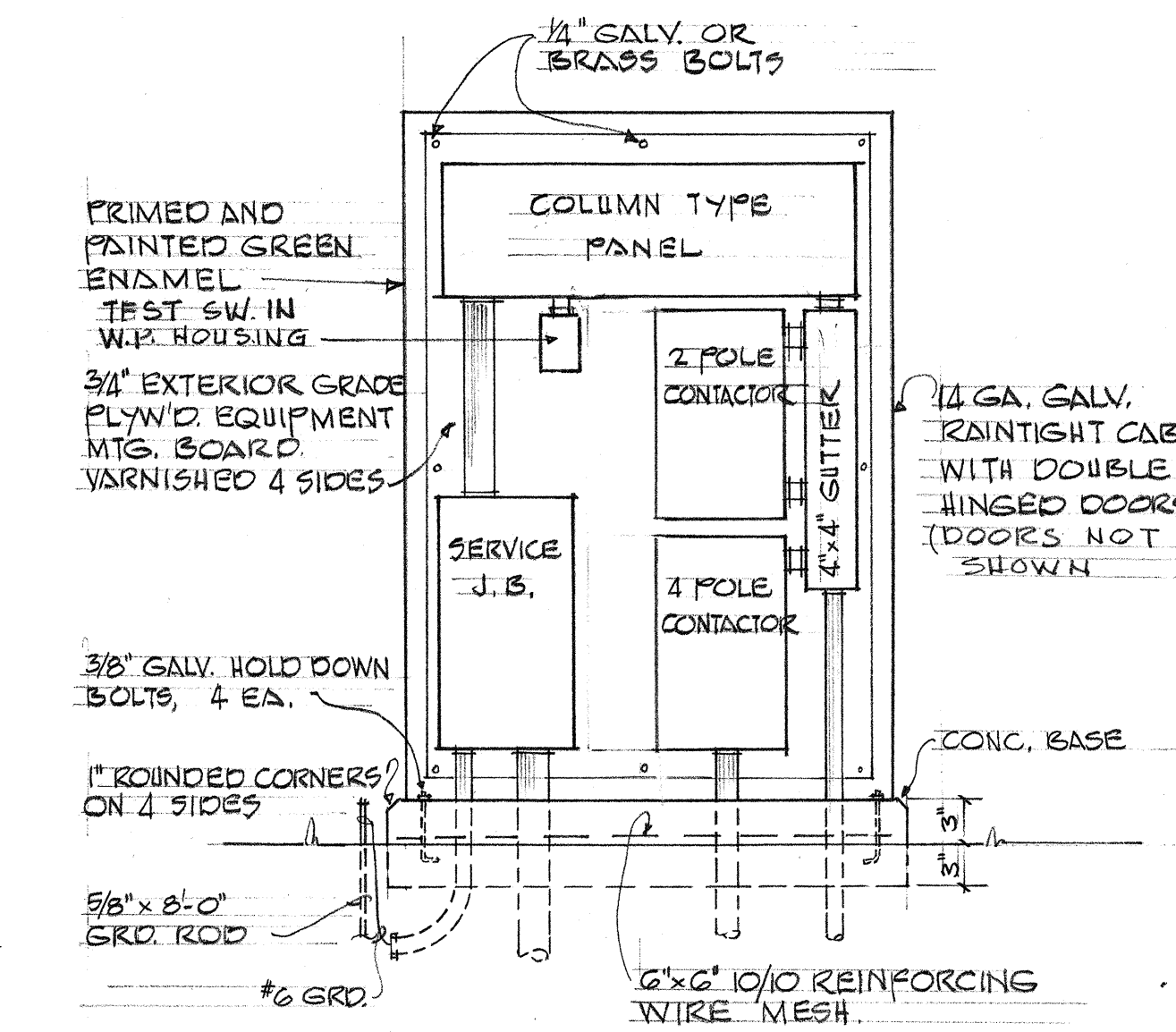
CONTROL CABINET AT SYSTEM "A" & "B" (E-5)



RAINTIGHT CABINET DET. (E-5)



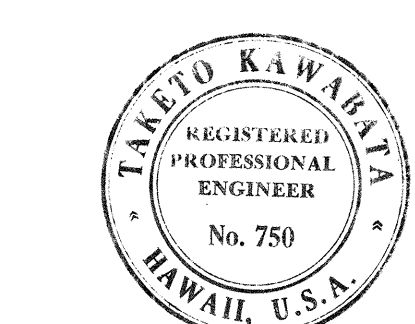
ONE-LINE DIAGRAM - SYSTEM "C"



CONTROL CABINET AT SYSTEM "C" (E-5)

SCHEDULE OF LUMINAIRE					
LUMINAIRE NUMBER	BASE DEPTH	BASE SETBACK FROM ROADWAY	BRACKET LENGTH	LAMP WATTS	LUMINAIRE LIGHT DISTRIBUTION I.E.S.
1	5"	12'-6"	SINGLE 15'	400	II
2	5"				
3	5"				
4	5"				
5	5"				
6	5"				
7	5"				
8	5"				
9	5"				
10	5"				
11	5"				
12	5"		SINGLE TWIN	400	
13	5"			250	
14	5"		SINGLE	400	
15	5"				
16	5"				
17	5"				
18	5"				
19	5"				
20	7"	12'-6"			
21	7"	12'-6"			
22	7"	12'-6"			
23	7"				
24	7"				
25	7"				
26	7"				
27	7"		SINGLE TWIN	400	
28	7"			250	
29	7"		SINGLE	400	
30	7"				
31	7"				
32	7"				
33	7"				
34	7"				
35	7"				
36	7"				
K 1	5"		15'		II
2			12'		
3					
4					
5		12'-6"			
6		10'-6"			
7					
8					
9					
10			12'		
11	*		15'		
12			15'		
13			12'		
14	12A		12'		
15		10'-6"	12'	400	III
K A 1		3'-0"	6'	250	II
2					
3			SINGLE TWIN		
4					
5			TWIN	250	
6			SINGLE	400	
K B 1				250	
2	*				
3					
4					
5		3'-0"	6'		
K C-1		10'-0"	12'		
2		10'-0"	12'		
3		10'-0"	12'		
4		10'-0"	12'		
5	*	6'-0"	10'		
6		6'-0"	10'		
K D 1	NIC	3'-0"	6'		
2					
3					
4					
5					
K E 1	NIC				
2					
3					
4		3'-0"	SINGLE 6'	250	II

* WITH PHOTO-CELL RELAY
+ BASE BOLTS EXISTING IN PLACE
NIC NOT IN CONTRACT



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HIGHWAY LIGHTING SYSTEM
KUNIA INTERCHANGE
MISCELLANEOUS DETAILS
INTERSTATE ROUTE H-1
F.A.I. PROJECT NO. I-H-1(19)
SCALE: AS SHOWN DATE: FEB. 1966

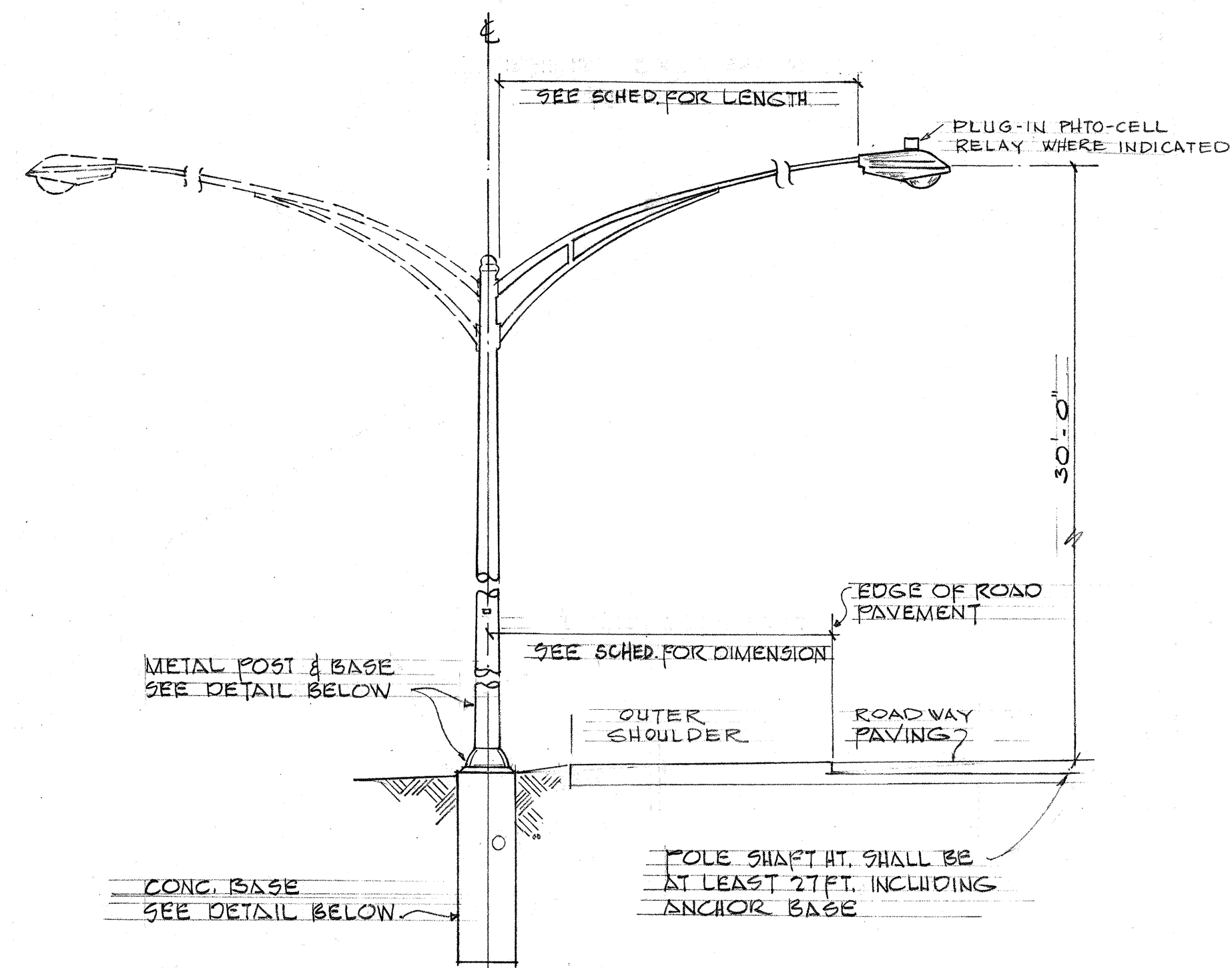
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Taketo Kawabata

SHEET No. E-5 OF 6 SHEETS

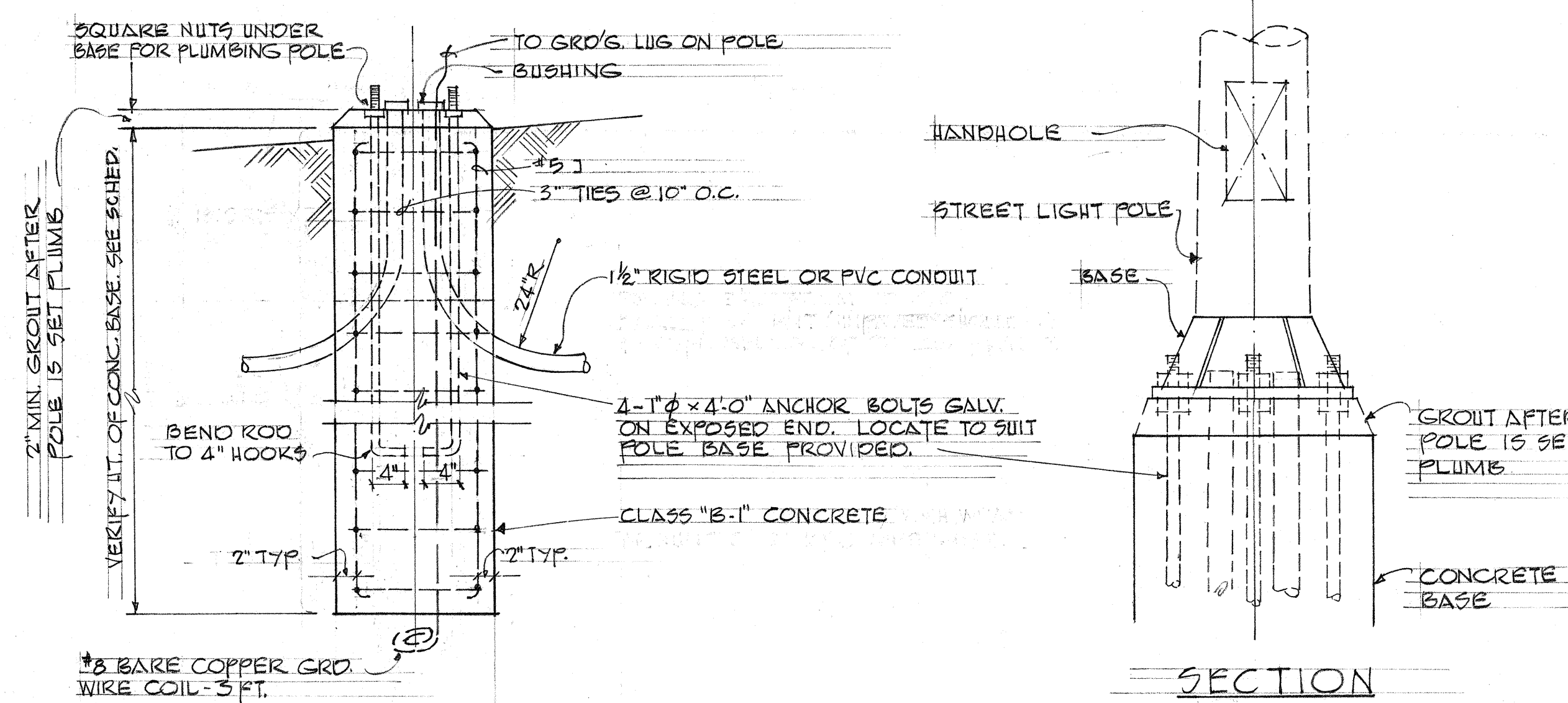
64

DATE
DESIGNED BY
CHECKED BY
ORIGINAL
PLAN
NOTE BOOK
No.

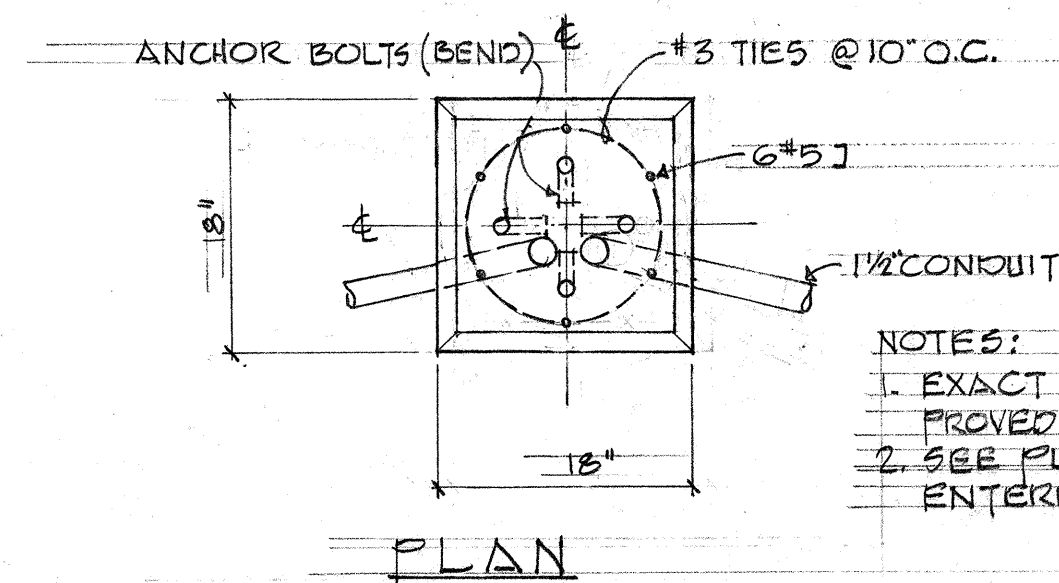
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-41-1(15)	1966	65	65



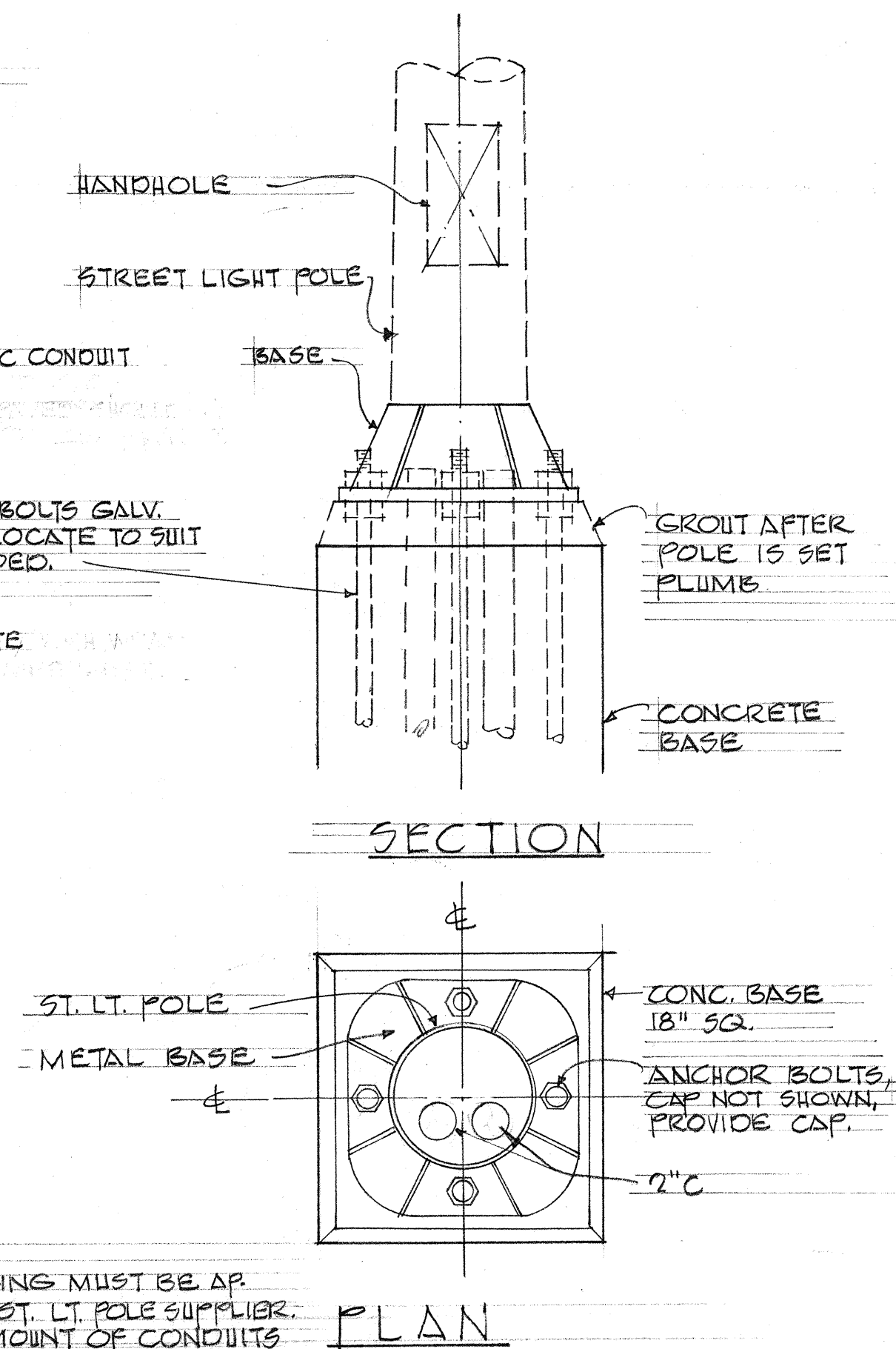
TYPICAL SINGLE ARM METAL STREET
LIGHT POLE
(DOUBLE ARM - WITH DOTTED LINE BRACKET
ADDITION)



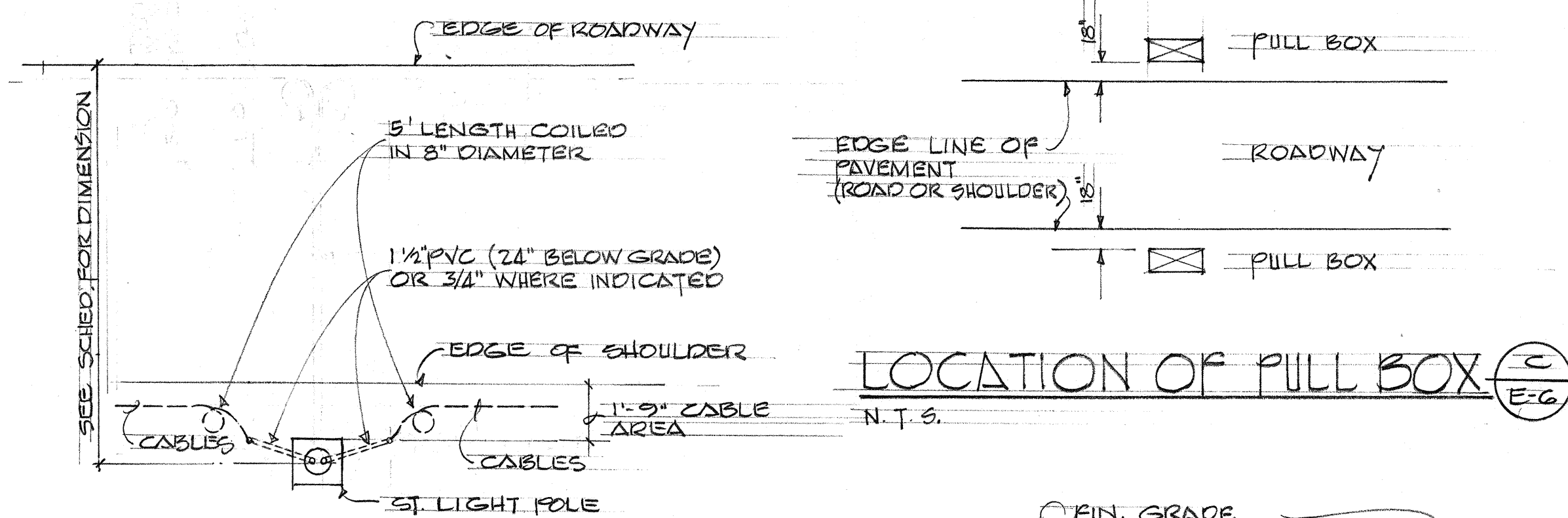
SECTION



CONCRETE BASE DET. F
E-G
N.T.S.



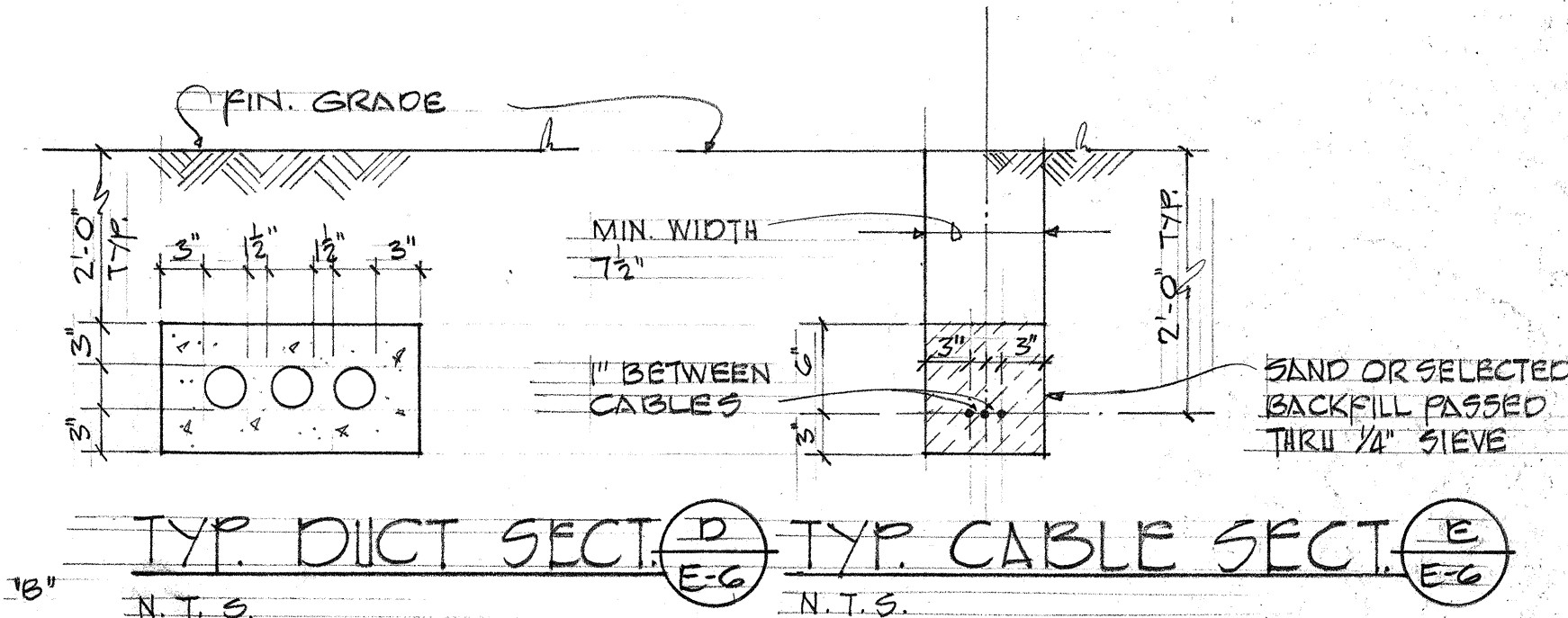
POLE BASE DET. (G)
N.T.S. (E-6)



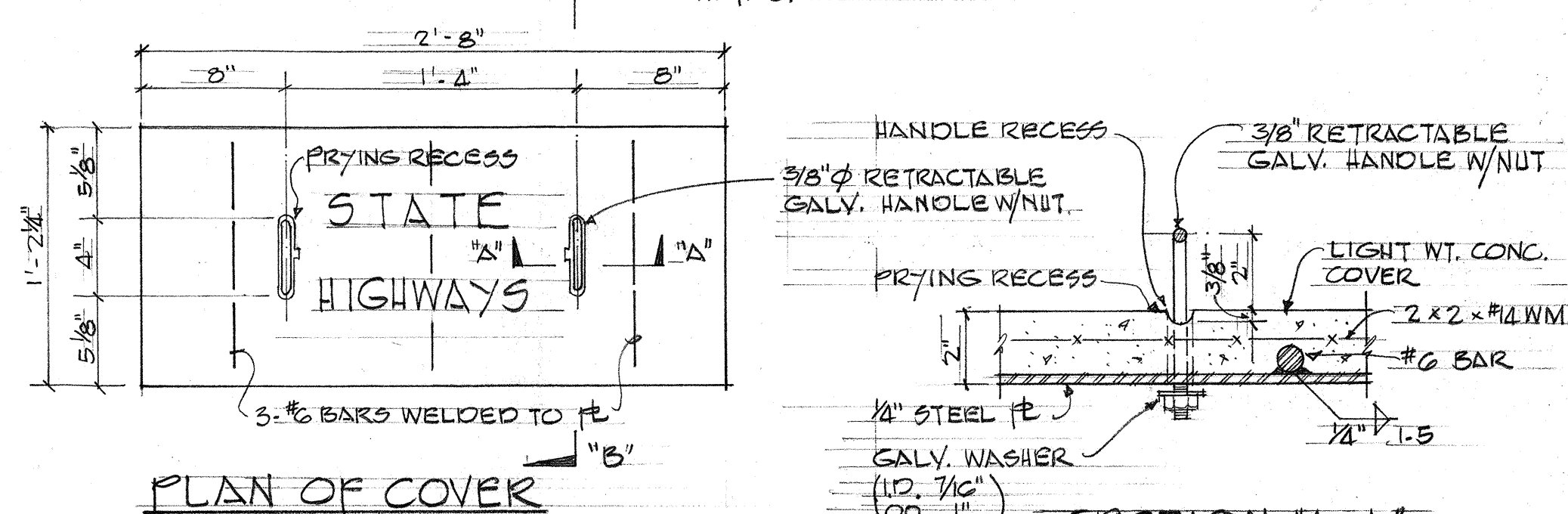
AT STREET LIGHT POLE
PLAN OF CABLE INSTALLATION

N.T.S.

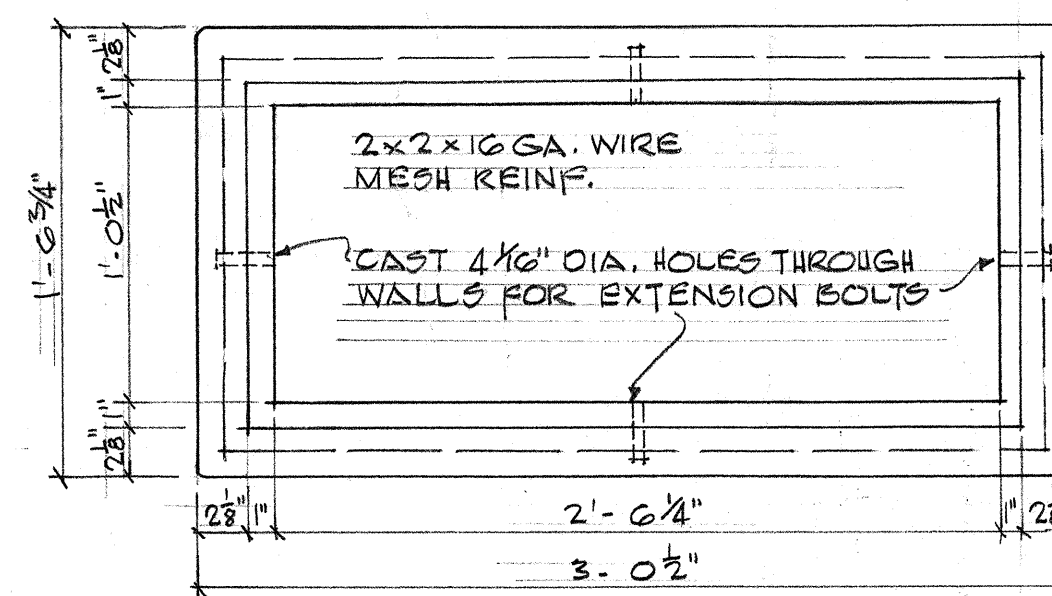
(B)
E-6



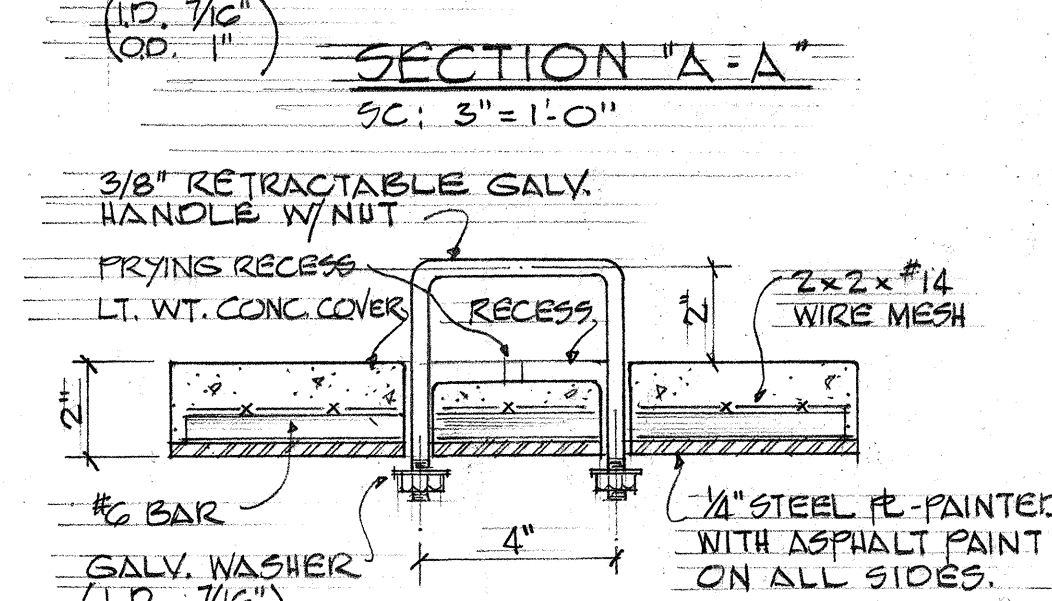
TYP. DUCT SECT. $\left(\frac{D}{E-G} \right)$ TYP. CABLE SECT. $\left(\frac{E}{E-G} \right)$
N.T.S. N.T.S.



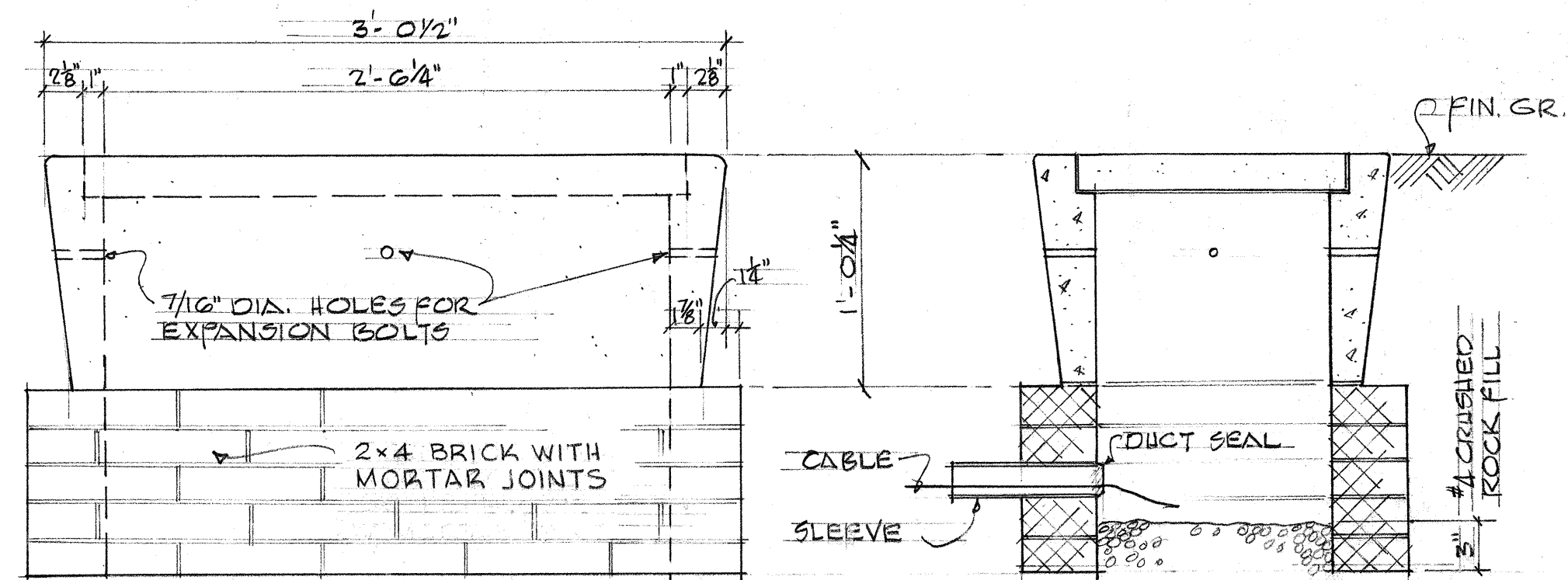
PLAN OF COVER



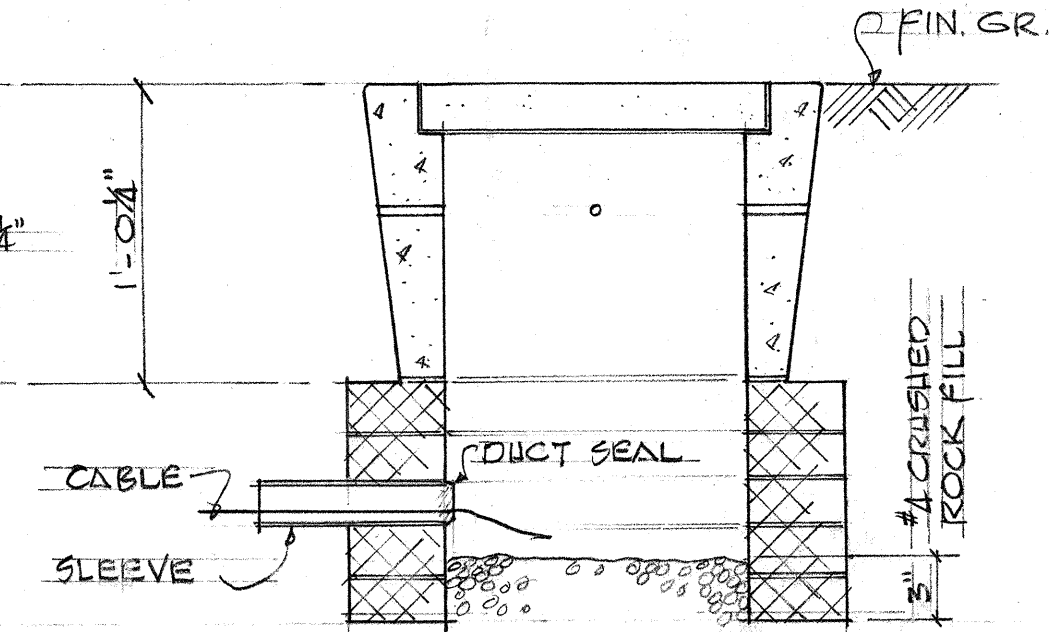
PLAN



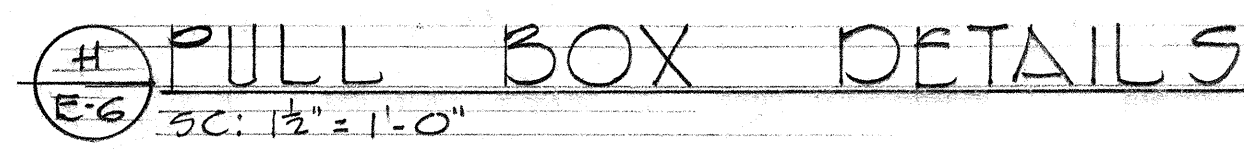
SECTION 'B-B'
SC: 3" = 1'-0"



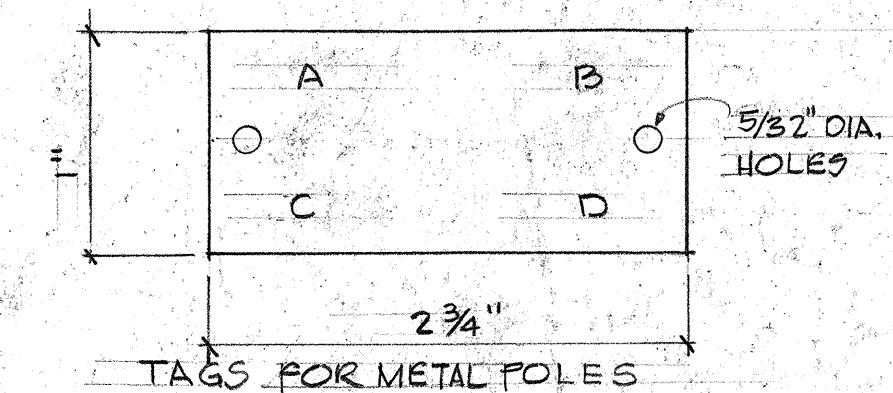
SIDE ELEVATION



CROSS SECTION



NOTE: SIMILAR TO H.T.CO
PULL BOX #434T EXCEPT
FOR COVER WORDING.



LEGEND

A = CONTRACT NO.-OBTAIN FROM STATE OR H.E.CO. LTD.
B = LIGHT NO.-OBTAIN FROM CONTRACT DWS, STATE OR H.E.CO. LTD.
C = LAMP DATA, SEE BELOW.
D = REFRACTOR DATA, USE ROMAN NUMERAL (ES TYPE AS
INDICATED ON DWS OR IN SPECIFICATIONS, I THRU I.

NOTES:

1. MAKE UPON LAMINATED PLASTIC ("GRAVOFLEX"), BLACK ON WHITE.
2. ATTACH TO ALUMINUM POLES WITH NO. 7 AL. DRIVE SCREWS.
ATTACH TO STEEL POLES WITH NO. 7 CAD. PLATED DRIVE SCREWS.
NO. 29 DRILL HOLES IN POLE.
3. ATTACH 6'-0" ABOVE CURB, IF NO CURB, 6'-0" ABV. FLUSH GRADE.
4. LETTERS: NO. 5 REDUCTION, 1/2" ENGRAVED OR STENCILED.
5. ATTACH TO ALL POLES WITH STATE MULTIPLE SYSTEM LUMINAIRE
AND AS REQUIRED BY THE ENGINEER AND H.E. CO. LTD.

LAMP DATA CODE: 4 250C - 250WATT
H 400 - 400WATT, CLEAR
INDICATE NO. AND TYPE OF LUMINAIRES
i.e. 2-4400 (TWO 400WATT, CLEAR)
1-4 250C/1-4400 (ONE 250, STD WHITE
4 ONE 400 CLEAR)

IDENTIFICATION TAG DETAIL I
E-6



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING SYSTEM

KUNIA INTERCHANGE

MISCELLANEOUS DETAILS

INTERSTATE ROUTE H-1

F.A.I. PROJECT NO I-HL-1(19)

SCALE: AS SHOWN DATE: FEB. 1966

SHEET No. 6 OF 6 SHEETS