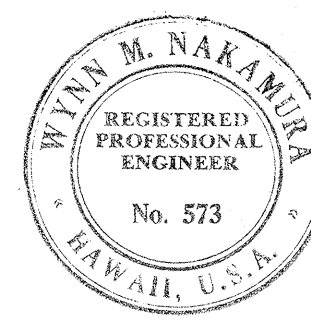
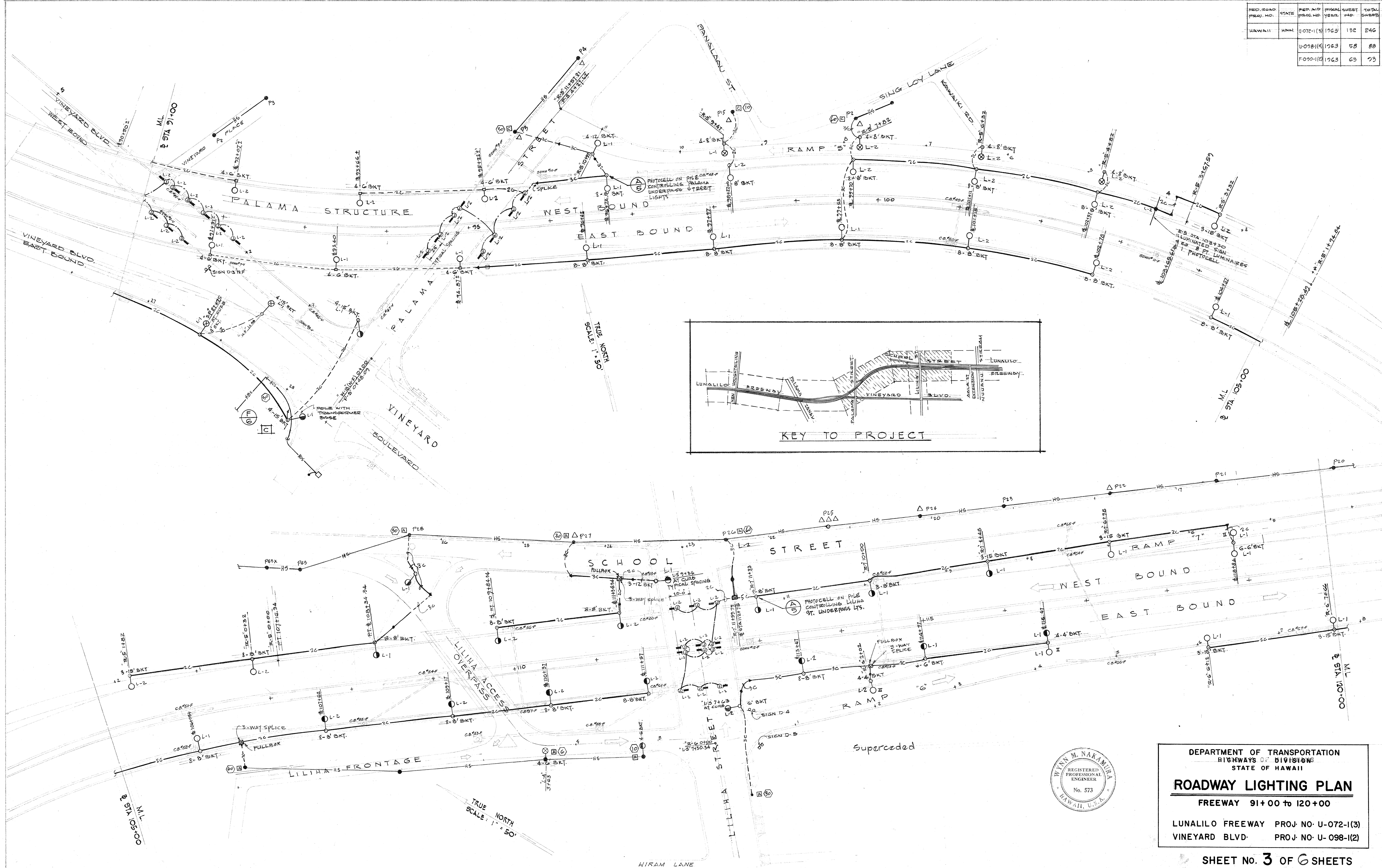


PROJ. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	U-072-1(3)	1963	132	246
		U-078-1(4)	1963	58	88
		F-090-1(12)	1963	63	73



DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STATE OF HAWAII

ROADWAY LIGHTING PLAN

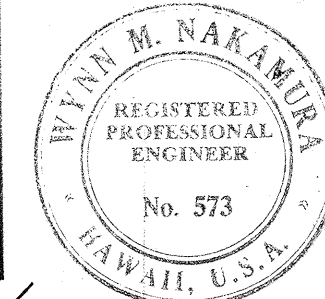
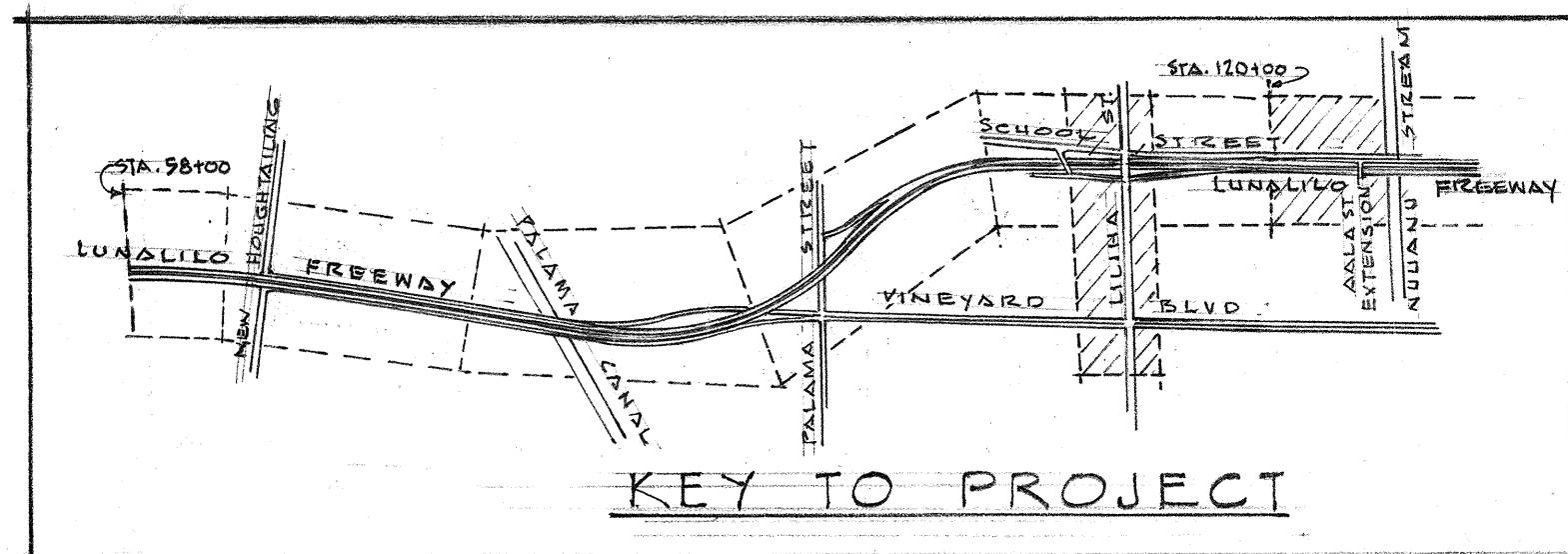
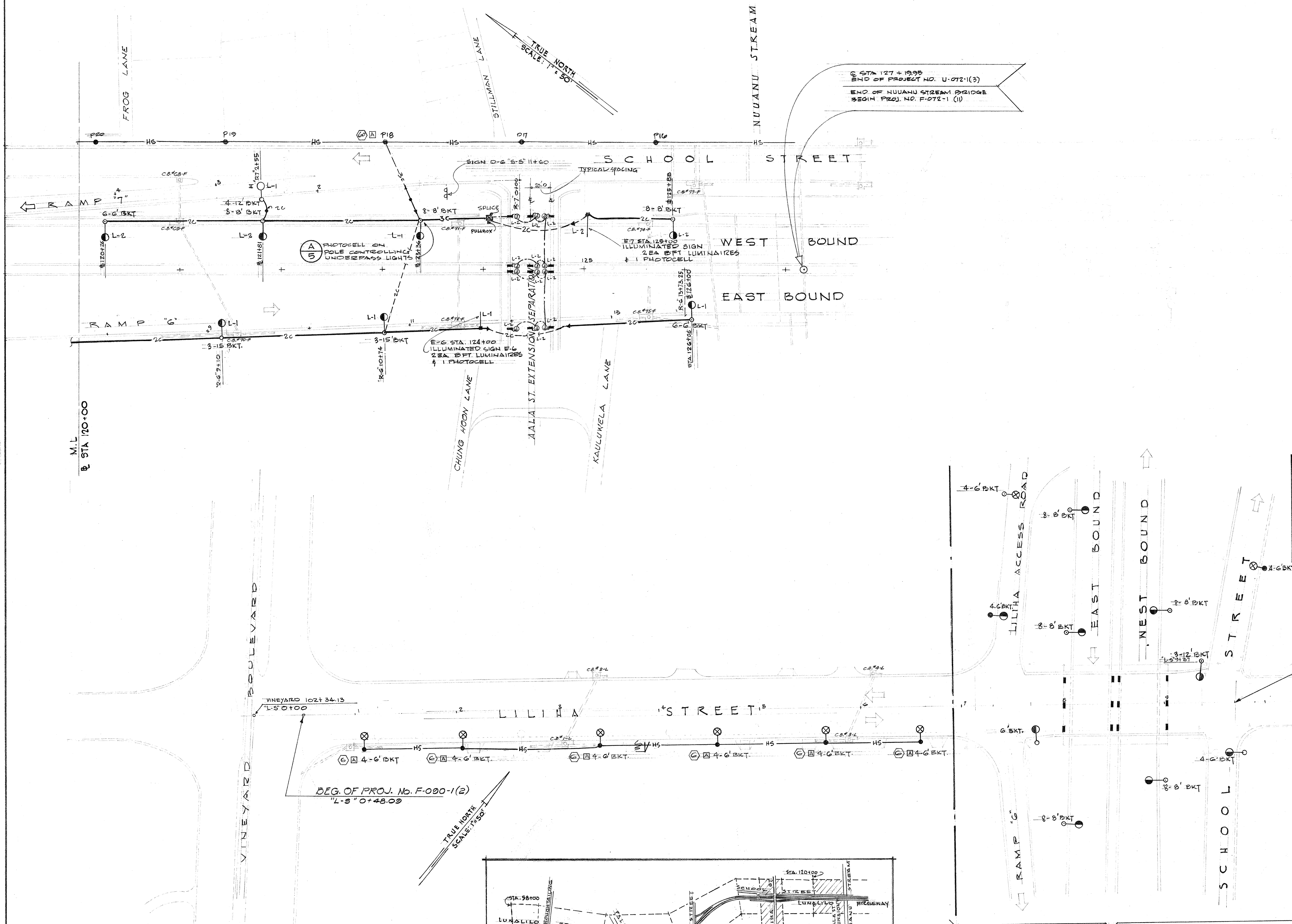
FREWAY 91+00 to 120+00

LUNALILO FREEWAY PROJ. NO. U-072-1(3)
VINEYARD BLVD. PROJ. NO. U-098-1(2)

CHECK PRINT RUN: 01/2/63
BY: WYNNA NAKAMURA, INC.

109010200.63 U09S10400.58 U07210300.132 161

PROJ. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-072-1(3)	1963	155	246
		F-090-1(2)	1963	64	73



DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STATE OF HAWAII

ROADWAY LIGHTING PLAN

FREEWAY 120+00 to 130+00
LILIHA ST. 0+00 to 9+69.90

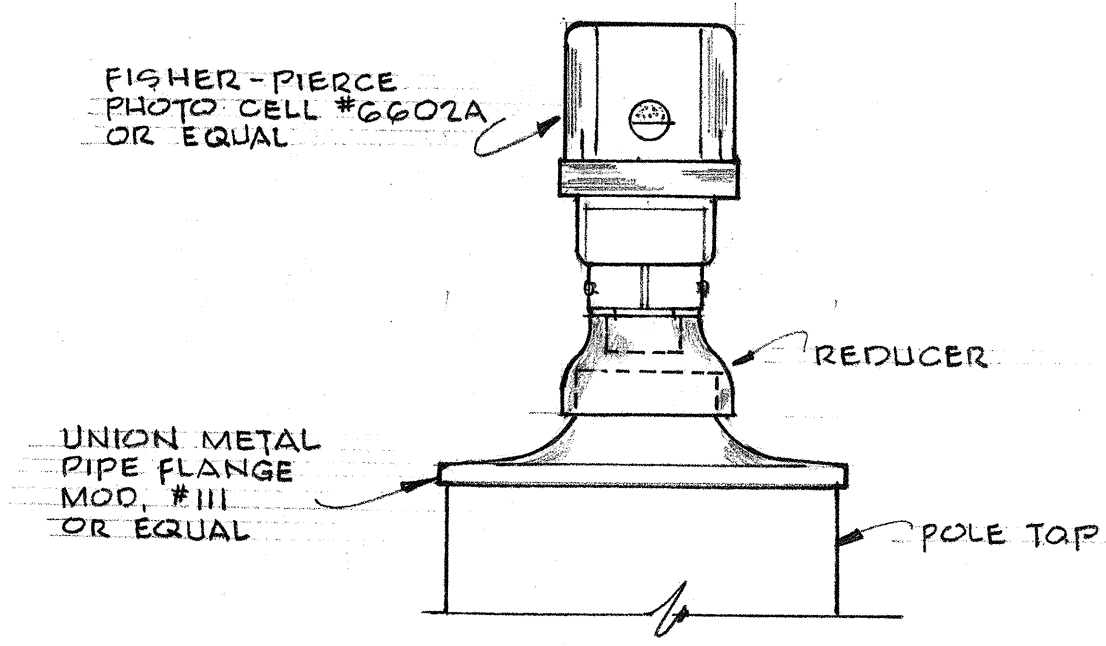
LUNALILO FREEWAY PROJ. NO. U-072-1(3)
LILIHA STREET PROJ. NO. F-090-1(2)

SHEET No. 4 OF 6 SHEETS

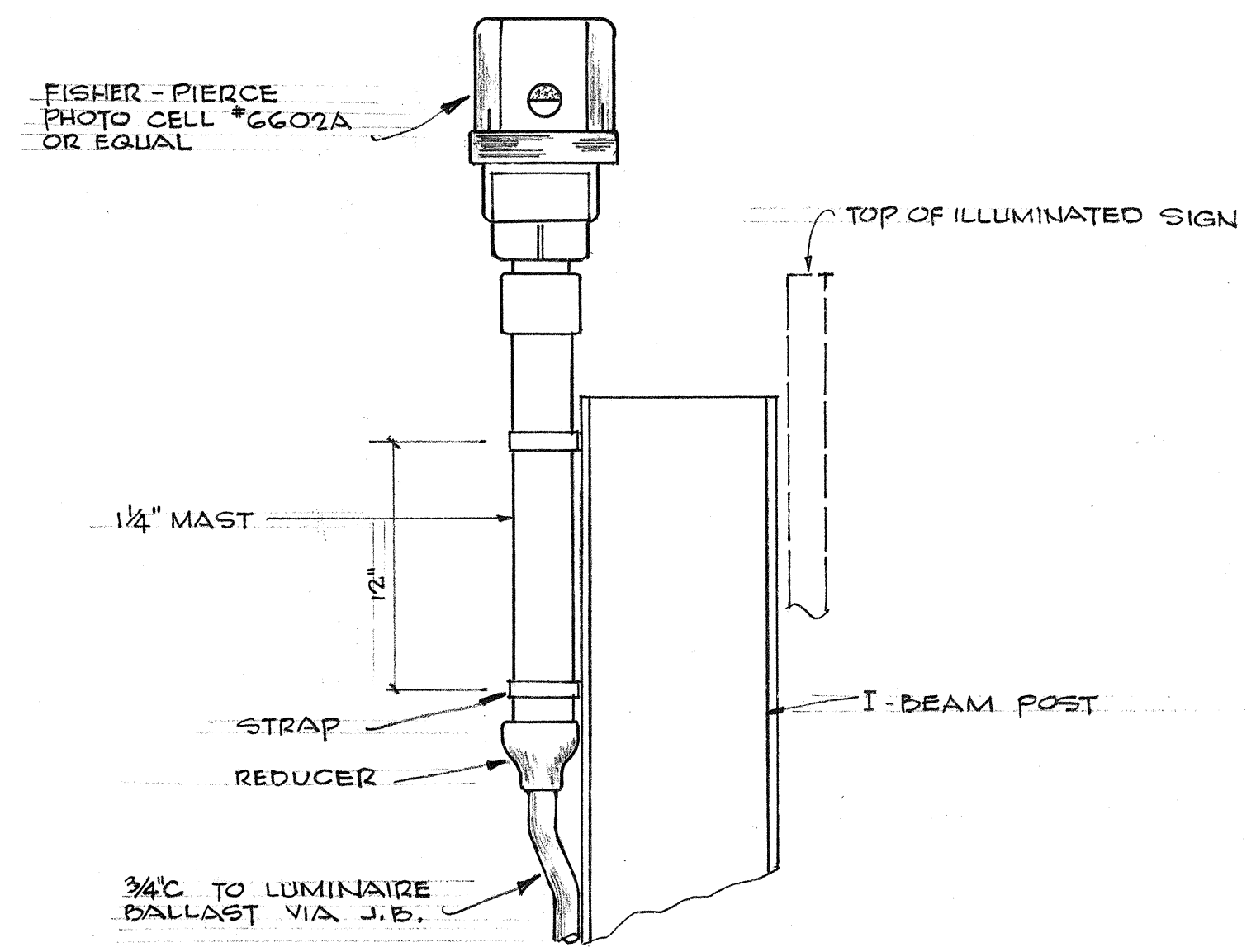
109010200.64

W07210300.133

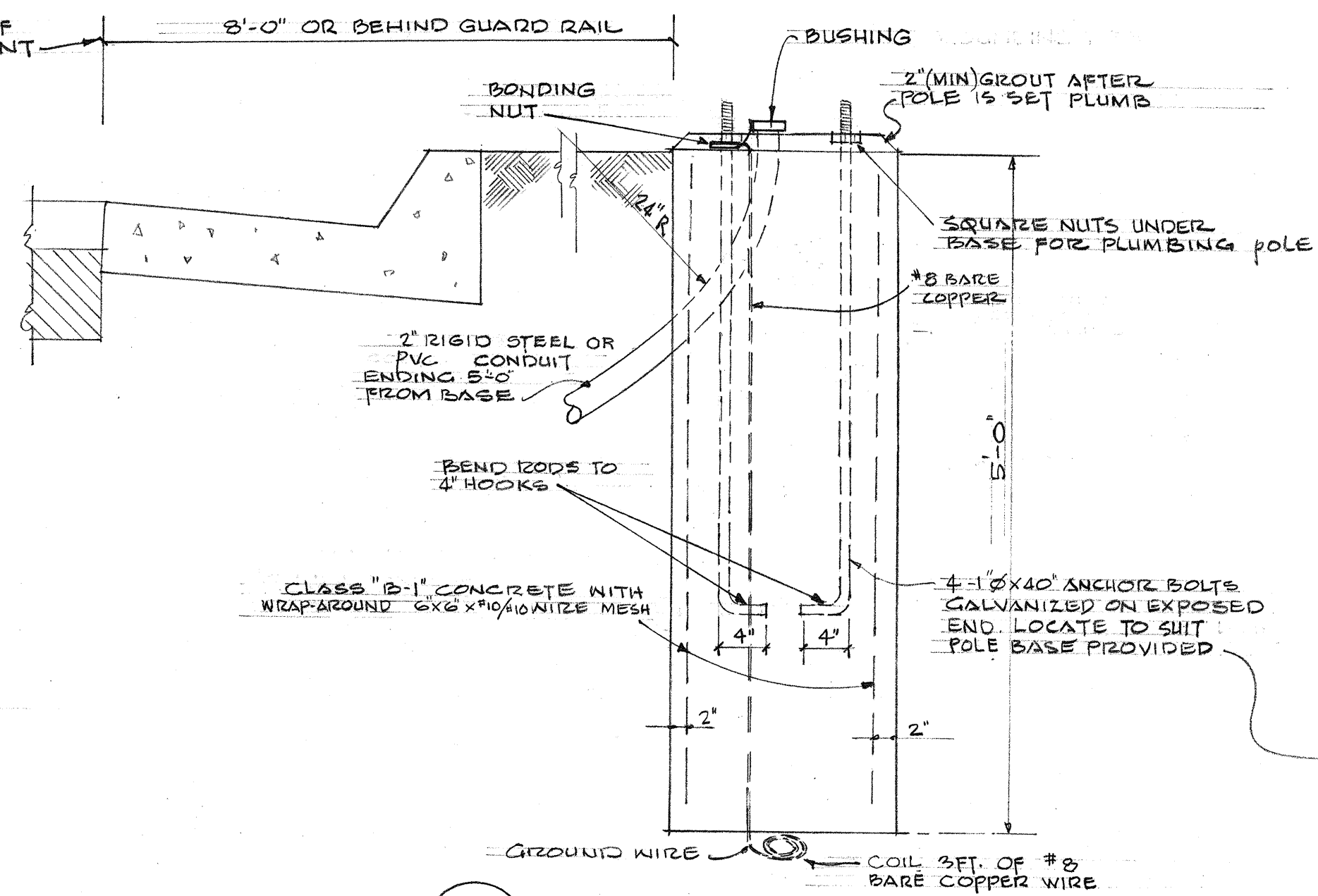
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-072-1(3)	1963	134	246
		U-098-1(4)	1963	59	88
		F-090-1(2)	1963	65	93



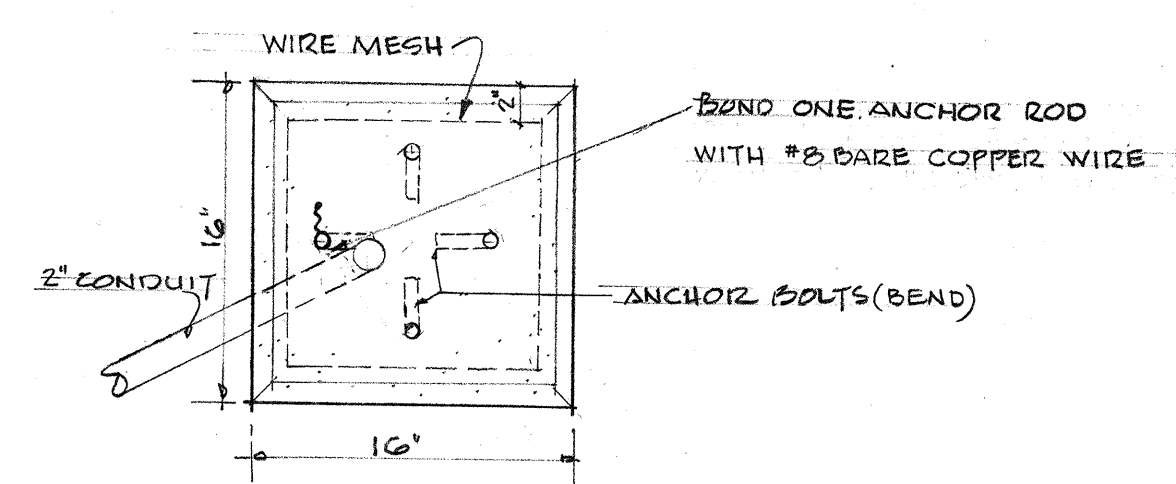
A
5 METAL POLE-TOP DETAIL
OF PHOTOCELL INSTALLATION
NOT TO SCALE



B
5 DETAIL OF PHOTOCELL INSTALLATION
ON I-BEAM POST
NOT TO SCALE

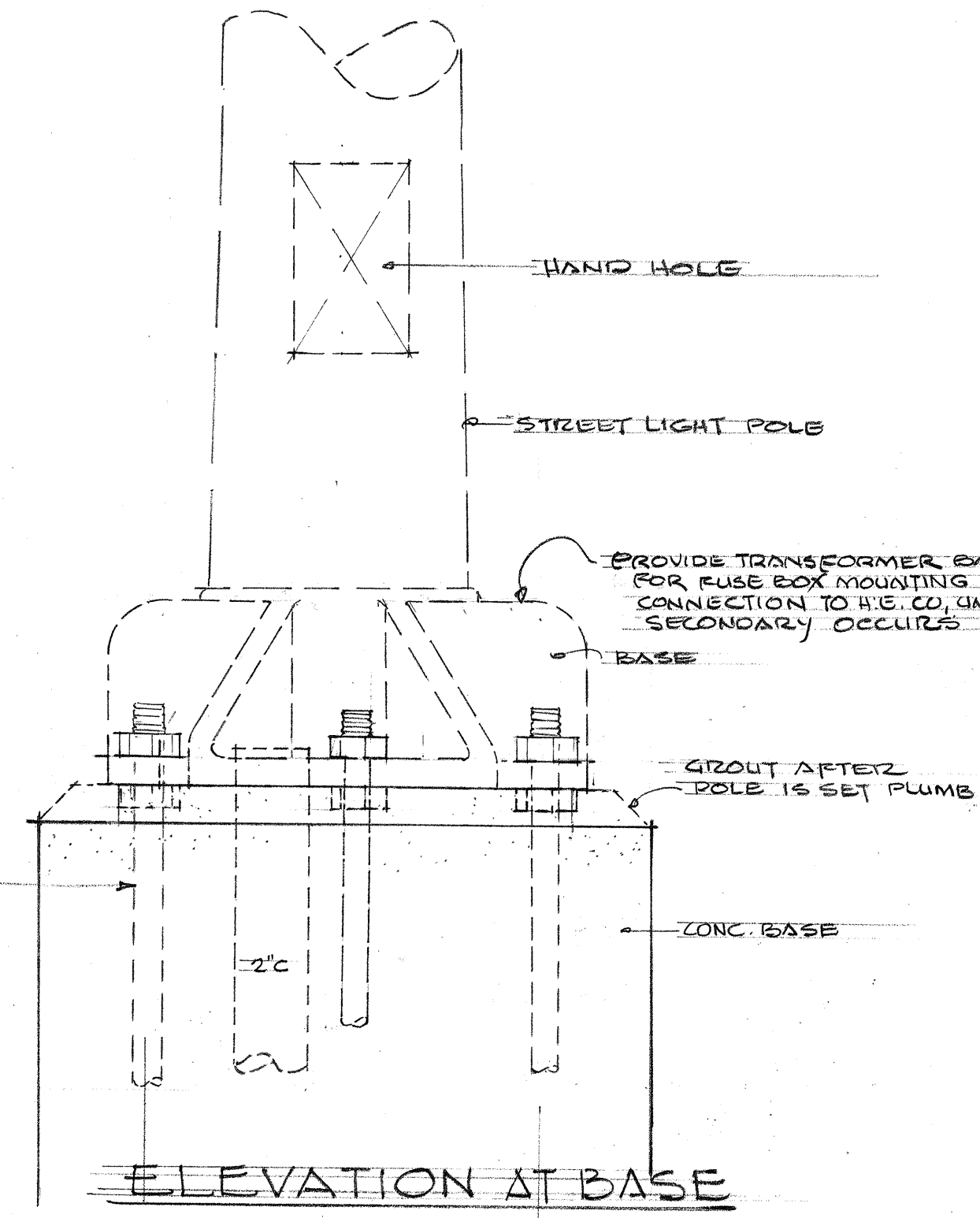


C
5 CONCRETE BASE FOR
METAL STREET LIGHT POLE
NOT TO SCALE

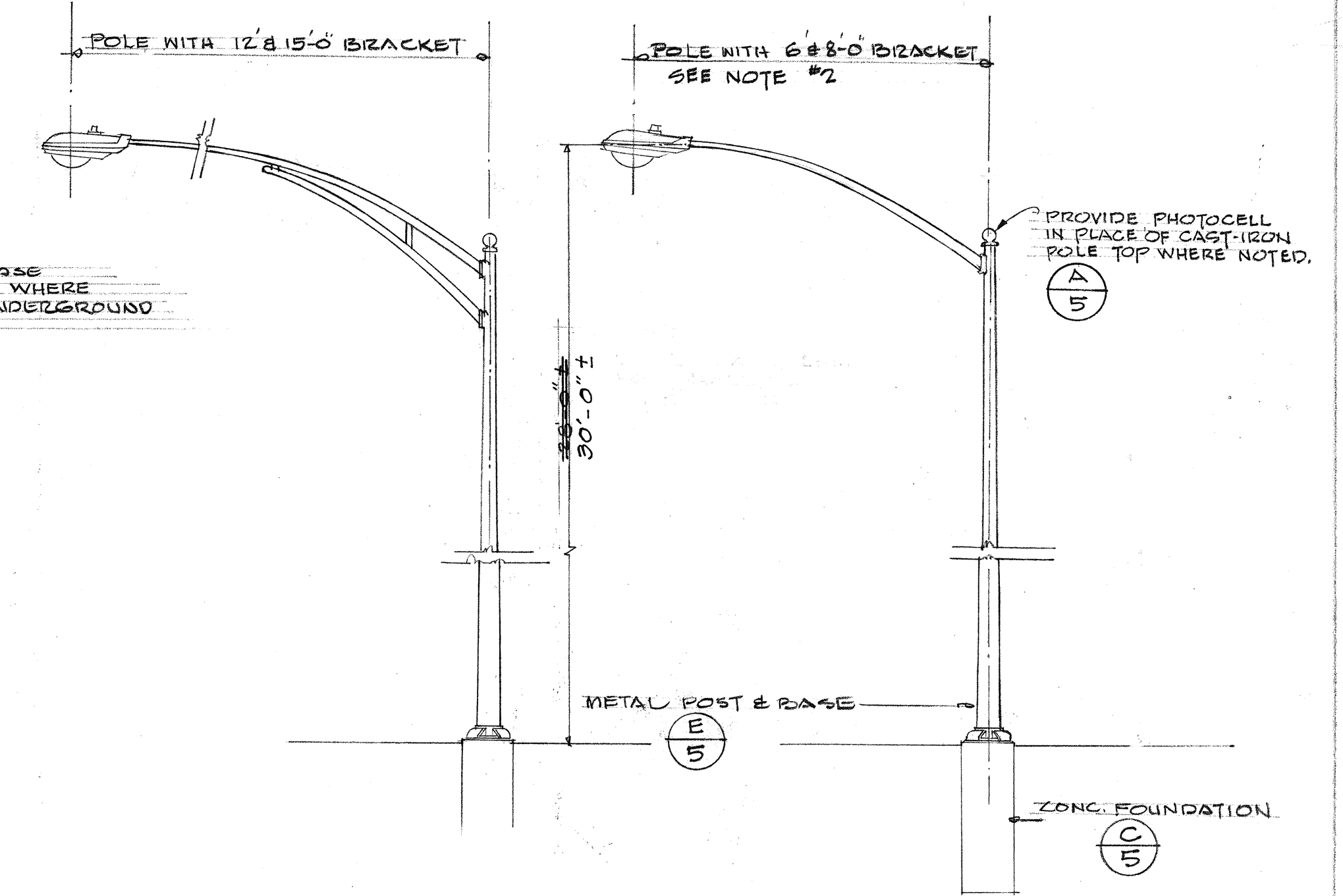


D
5 PLAN OF CONC. BASE
NOT TO SCALE

NOTE:
1. EXACT CONC. BASE DIMENSIONS
MUST BE APPROVED BY METAL
STREET LIGHT POLE SUPPLIER.
2. SEE PLAN FOR AMOUNT OF CONDUITS
ENTERING EACH CONC. BASE



E
5 TYPICAL DETAIL OF BASE
FOR STREET LIGHT POLE
NOT TO SCALE



F
5 TYPICAL SINGLE ARM METAL STREET
LIGHT POLE
NOT TO SCALE

- NOTES:
- (1) DOUBLE ARM STREET LIGHT POLE SHALL BE OF SAME DESIGN
 - (2) COORDINATE UNDER BRACE REQUIREMENT TO SUIT LUMINAIRE WEIGHT AND PROJECTED AREA CLASSIFICATION FOR 8' BRACKET.
 - (3) At poles mounted on parapet of overpass structures, the fixture mounting height above the base of the pole shall be 28'-0" ±
 - (4) Pole shaft height shall be at least 27ft. including anchor base and transformer base height, for poles mounted at grade. Pole shaft height for poles mounted on parapets shall be at least 25'-0".

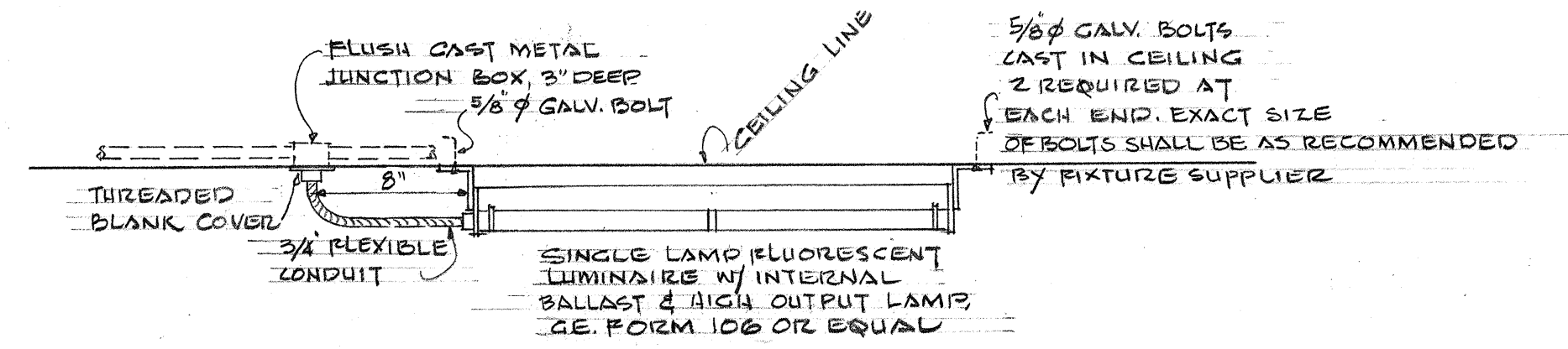
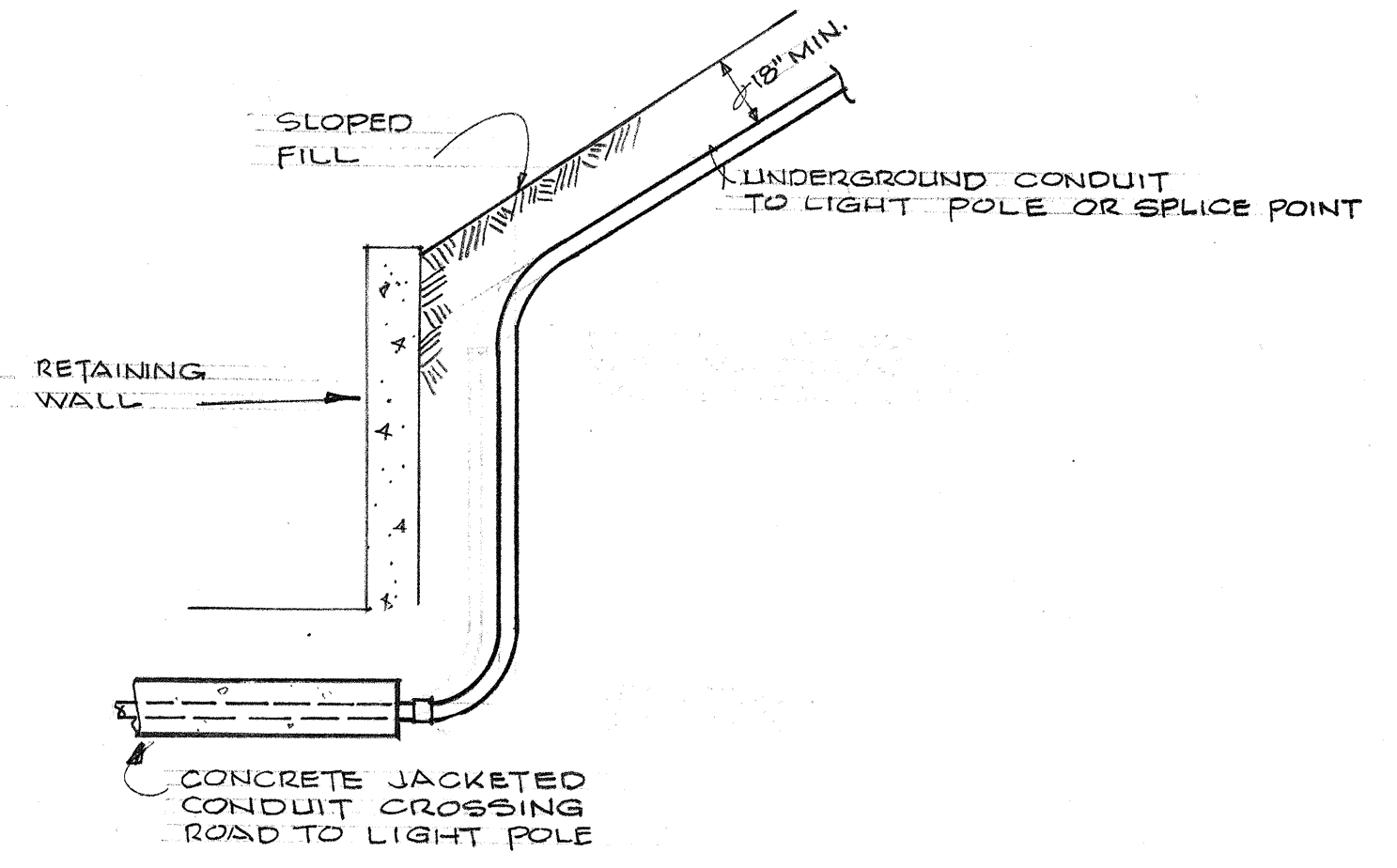
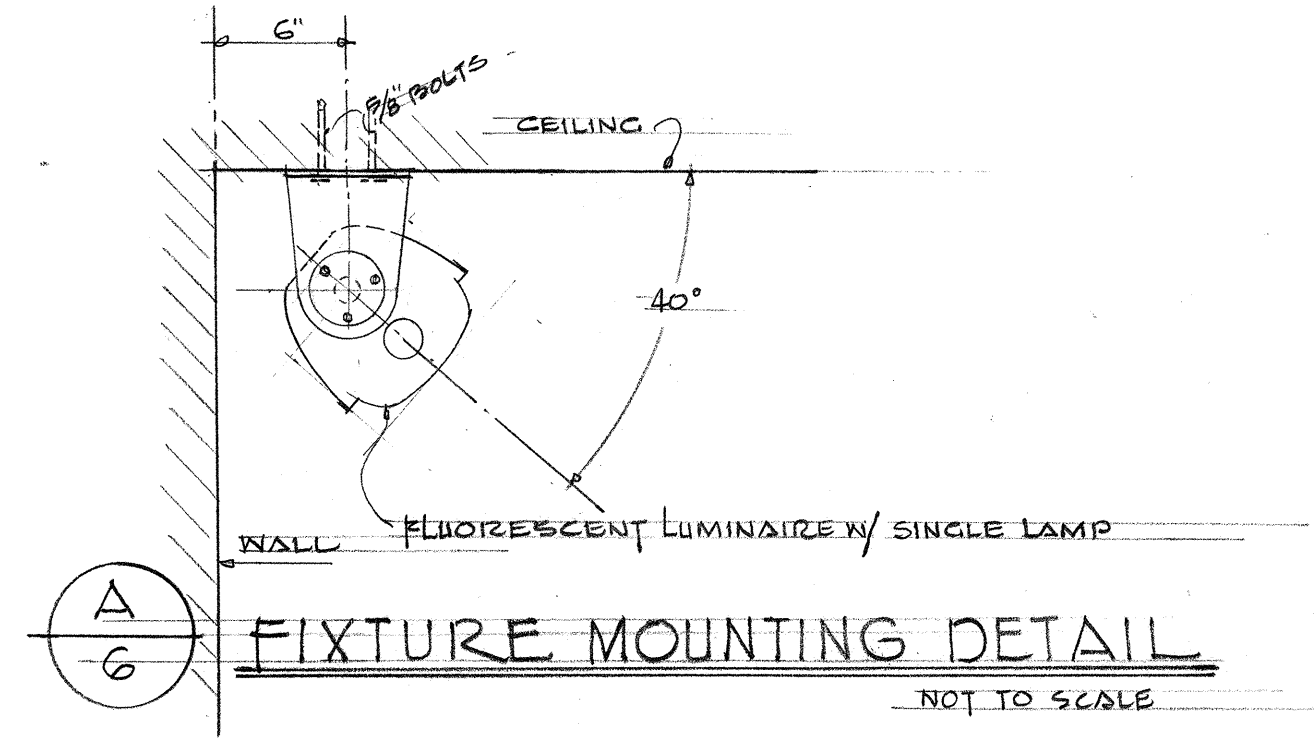


DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STATE OF HAWAII

ELECTRICAL DETAILS

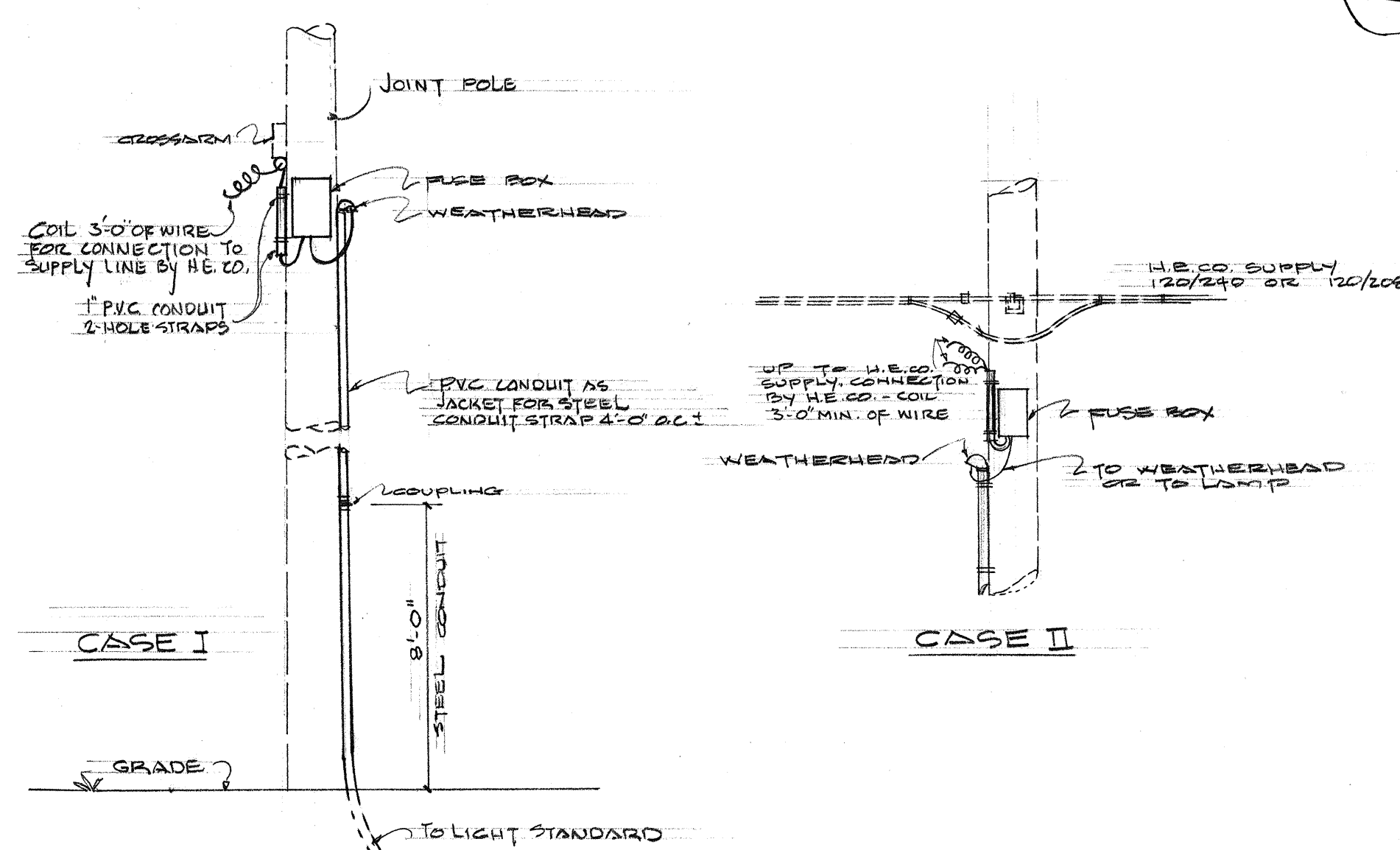
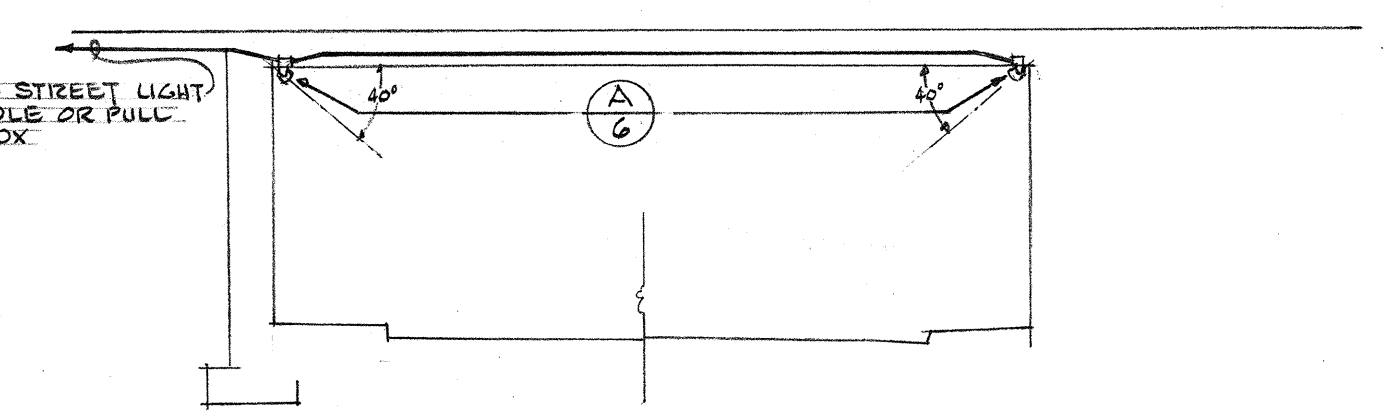
LUNALILO FREEWAY PROJ. NO. U-072-1(3)
VINEYARD BLVD. PROJ. NO. U-098-1(4)
LILIHA STREET PROJ. NO. F-090-1(2)

FED. ROAD DIST. NO.	STATE	FED. AID (FISCAL YEAR)	LOCAL AID (FISCAL YEAR)	SHEET NO.	TOTAL SHEETS
100-101	HI	0-0721(3)	0-0721(3)	135	246
100-101	HI	0-0721(4)	0-0721(4)	60	88
100-101	HI	0-0721(2)	0-0721(2)	68	93



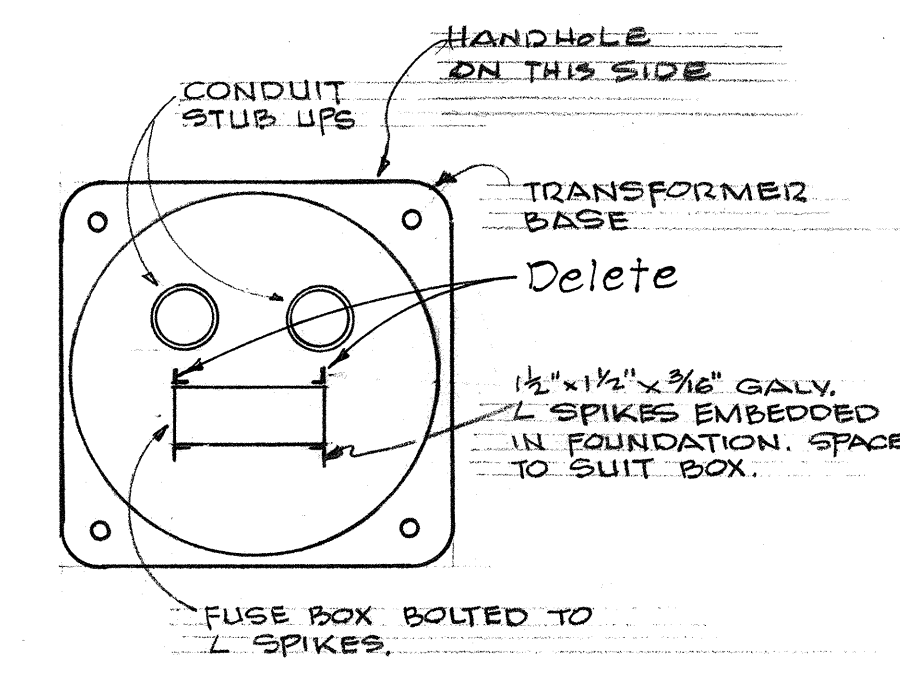
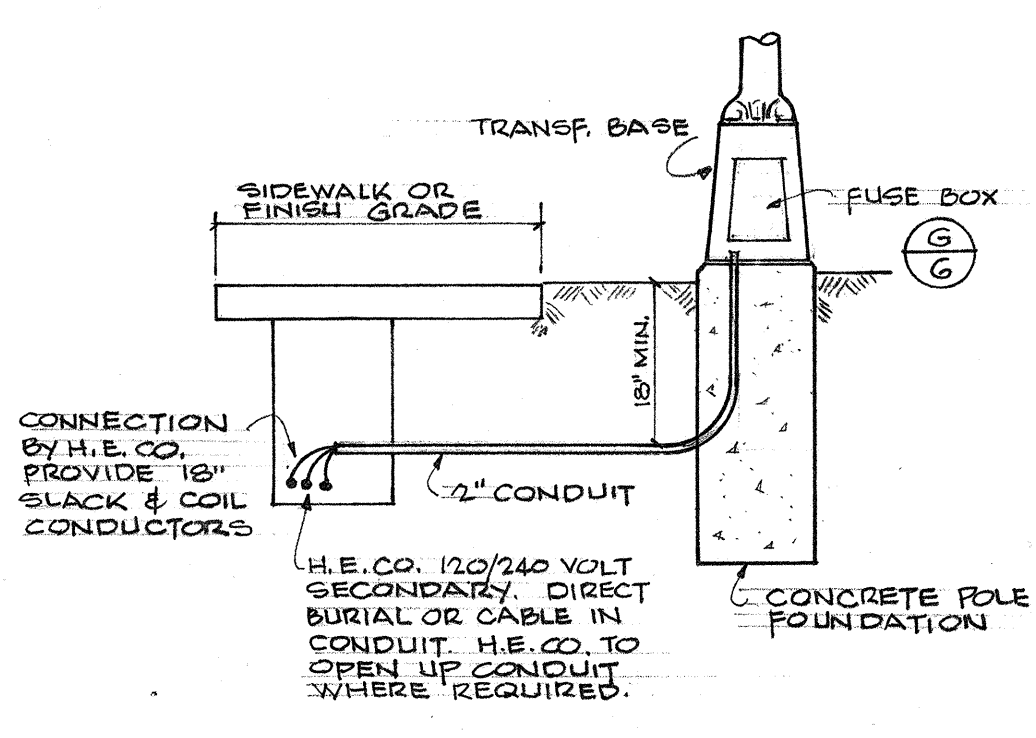
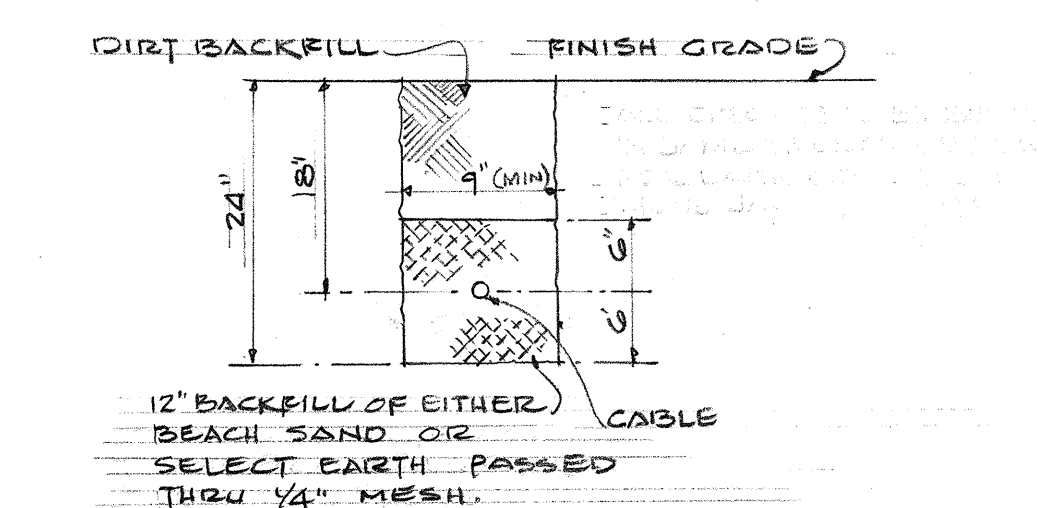
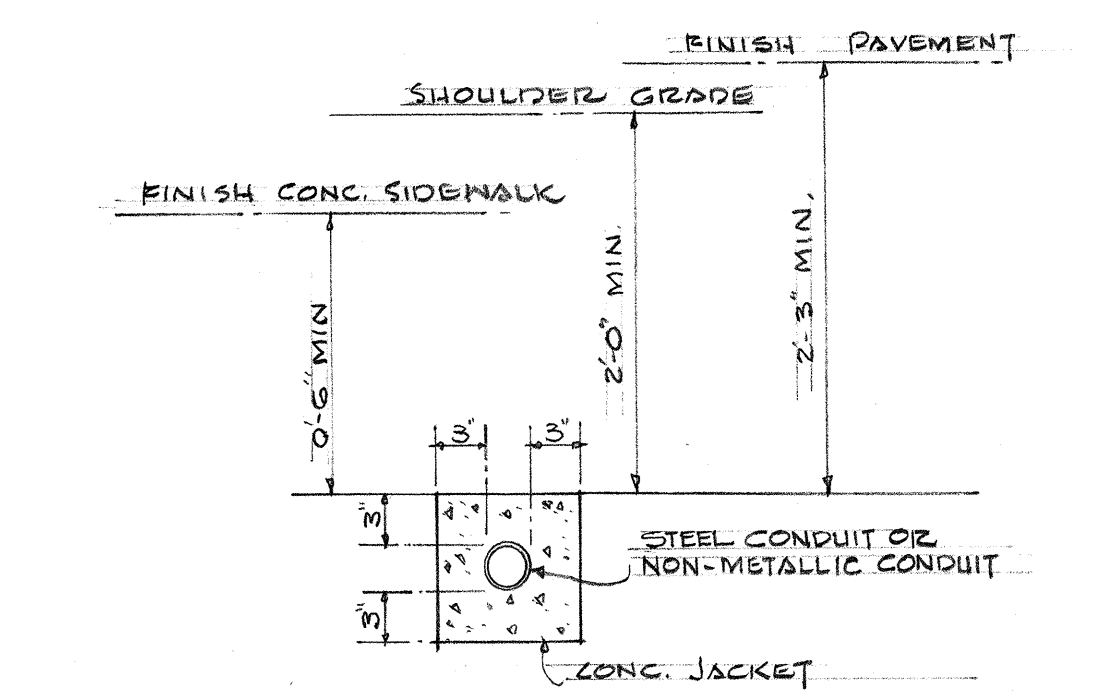
F-6 TYPICAL TRANSITION FROM CONCRETE ENCASED CONDUIT TO DIRECT-BURIAL CONDUIT NOT TO SCALE

B-6 FIXTURE MOUNTING DETAIL NOT TO SCALE



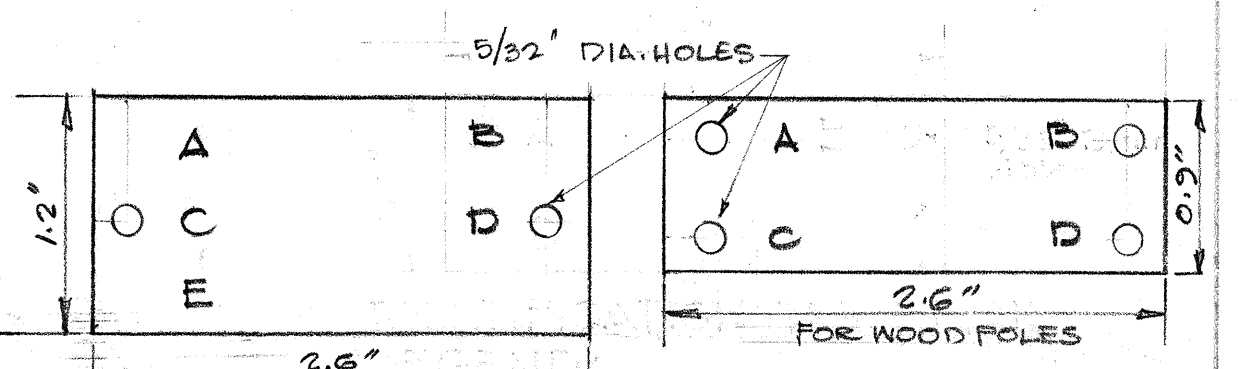
F-6 TYPICAL DETAILS AT UTILITY CO. POLES NOT TO SCALE

C-6 TYPICAL SECTION THRU UNDER PASS

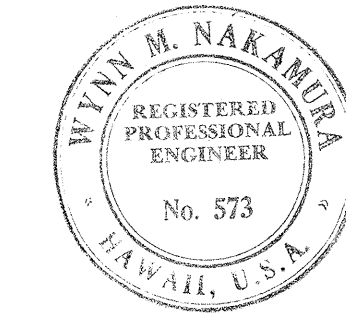


TYPE	SYMBOLS	WATTAGE OR SIZE	DESCRIPTION	MANUFACTURER OR APPROVED EQUAL
A	○	400W	MERCURY-VAPOR LUMINAIRE CAST-ALUMINUM HOUSING, REGULATOR BALLAST WITH 120V PRIMARY INSIDE HOUSING, PHOTOELECTRIC CONTROL AND RECEPTACLE MOUNTED ON HOUSING, HEAT RESISTANT GLASS LENS, BALLAST TO REGULATE LAMP WATTS ± 2% WITH ± 1% VARIATION IN PRIMARY VOLTS, TYPE H1-L5 CLEAR LAMP, 21,000 LUMENS, 1ES TYPE III DISTRIBUTION UNLESS OTHERWISE INDICATED	GENERAL ELECTRIC C704G006 WESTINGHOUSE 464D915 SERIES LINE MATERIAL TYPE 2A2
B	●	400W	SAME AS TYPE 'A', EXCEPT WITH TYPE H1-L5/C COLOR-IMPROVED LAMP, 1ES TYPE III DISTRIBUTION, 20,000 LUMENS	SAME AS TYPE A
C	⊗	250W	SAME AS TYPE 'A', EXCEPT WITH 250-WATT, TYPE H37-5 KC/C COLOR-IMPROVED LAMP, 11,250 LUMENS, 1ES TYPE III DISTRIBUTION	GEN. ELECTRIC #C706G023 WESTINGHOUSE 890D 176G022 LINE MATERIAL-TYPE 2A2
D	■	1 - 72" 1 - 96"	FLUORESCENT WEATHER PROOF ALUM. REFLECTOR CLEAR ACRYLIC PLASTIC COVER, ONE HIGH-OUTPUT 800 MA COOL-WHITE LAMP, REMOTE SINGLE OR TWO-LAMP BALLAST, 120-VOLT MULTIPLE CIRCUIT, IN WEATHERPROOF BALLAST BOX.	GENERAL ELECTRIC "FLUOROFLOOD" TYPES L-104, L-106, L-108 WESTINGHOUSE "ADLINE" TYPE 1-SL-A REVERE FLUORESIGN TYPE 8050
E	■	1 - 72"	FLUORESCENT, WEATHERPROOF, ALUMINUM REFLECTOR, ACRYLIC PLASTIC DIFFUSER, ONE HIGH-OUTPUT 800 MA, OR 1000 MA COOL-WHITE LAMP, INTERNAL SINGLE OR TWO-LAMP 120-VOLT BALLAST.	GENERAL ELECTRIC FORM 106 WESTINGHOUSE TYPE FU-72 CROUSE HINDS 4470 A SERIES

ALL FLUORESCENT LAMP BALLAST TO BE HPF ETL APPROVED TYPE.



LEGEND:
A = CONTRACT NO. OBTAIN FROM STATE OR H.E. CO. LTD.
B = LIGHT NO. OBTAIN FROM CONTRACT DRAWING, STATE OR H.E. CO. LTD.
C = LAMP DATA, SEE BELOW
D = REFRACTOR DATA, USE ROMAN NUMERAL 1ES TYPE AS INDICATED ON DRAWING OR IN SPECIFICATIONS, 2 THROUGH 5
E = POST NO. OBTAIN FROM STATE OR H.E. CO. LTD.
NOTES:
1. MAKE FROM LAMINATED PLASTIC (CORNOFLEX), BLACK ON WHITE
2. ATTACH TO ALUMINUM POSTS WITH NO. 7 ALD DRIVE SCREWS, ATTACH TO STEEL POSTS WITH NO. 7 CAD. PLATED DRIVE SCREWS, NO. 29 DRILL HOLES IN POSTS.
3. ATTACH TO WOOD POLES WITH 4D ALUMINUM NAILS.
4. LETTERS - NO. 5 REDUCTION, 1/8" ENGRAVED OR STENCILED
5. ATTACH TO ALL POSTS WITH STATE MULTIPLE SYSTEM LUMINAIRE AND AS REQUIRED BY THE ENGINEER AND H.E. CO. LTD.
LAMP DATA CODE:
H 2500-250 WATT, STD WHITE
H 400 - 400 WATT, CLEAR
H 400C - 400 WATT, STD WHITE
H 400C - 400 WATT, STD WHITE
IF POST IS DOUBLE BRACKET, CODE SHALL INDICATE NUMBER AND TYPE OF LUMINAIRES, IE. 2-H400 (TWO 400 WATT CLEAR), 1-H250C/1-H400 (ONE 250, STD WHITE AND ONE 400 CLEAR)



DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STATE OF HAWAII
ELECTRICAL DETAILS
LUNALILO FREEWAY PROJ. NO. U-072-1(3)
VINEYARD BLVD. PROJ. NO. U-098-1(4)
LILIHA STREET PROJ. NO. F-090-1(2)

SHEET No. 6 OF 6 SHEETS

109010200.66

U09S10400.60

U07210300.135