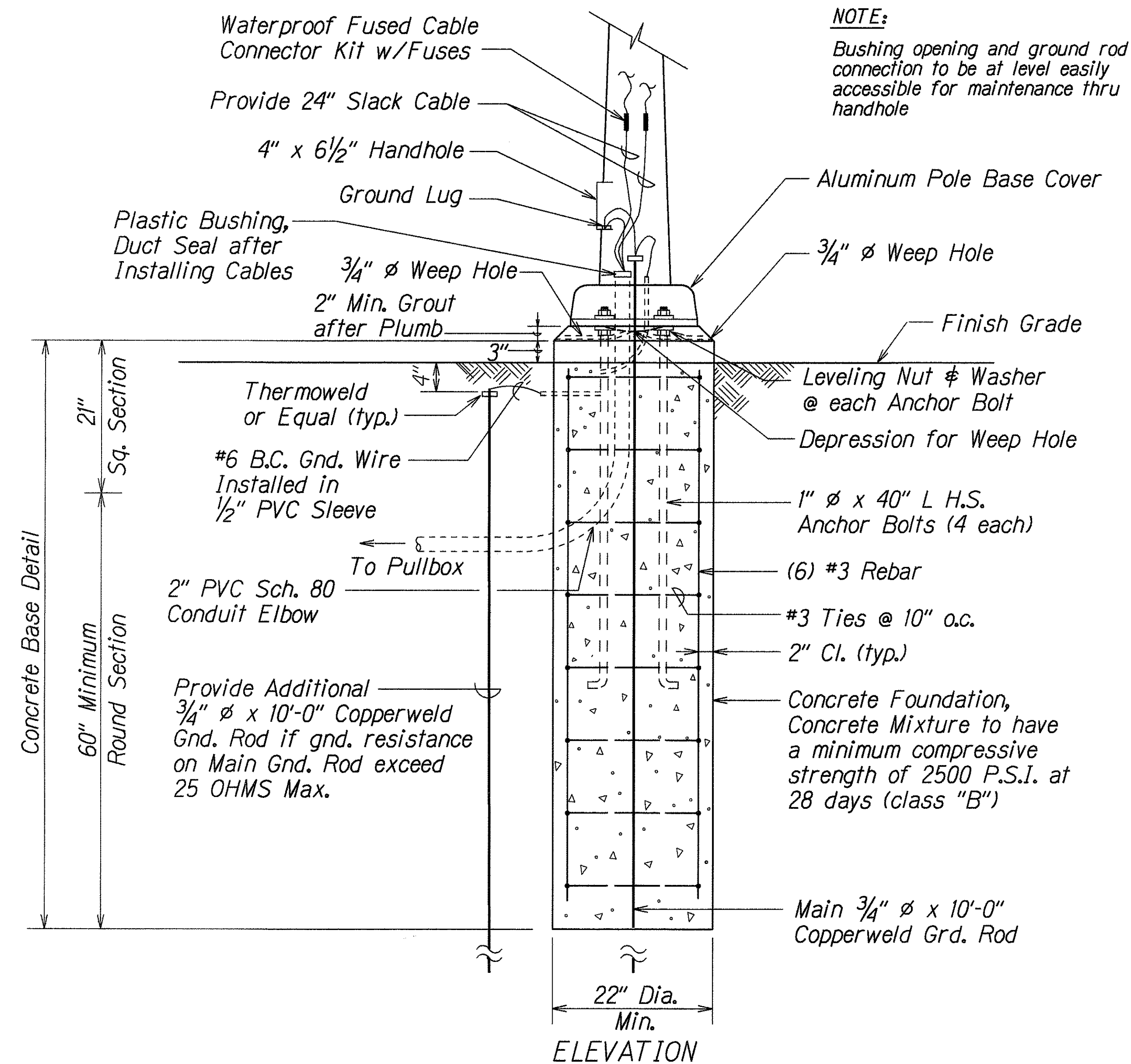
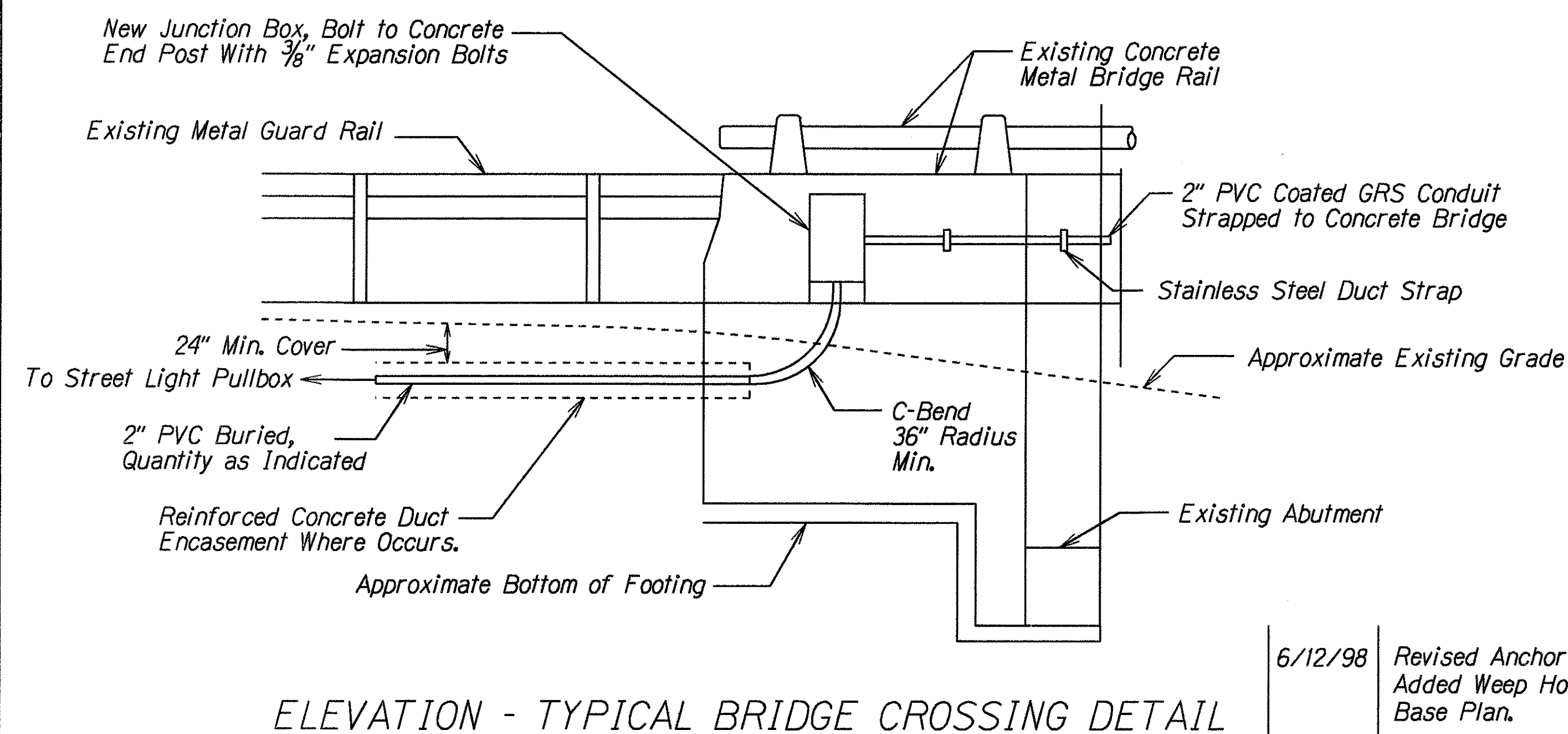


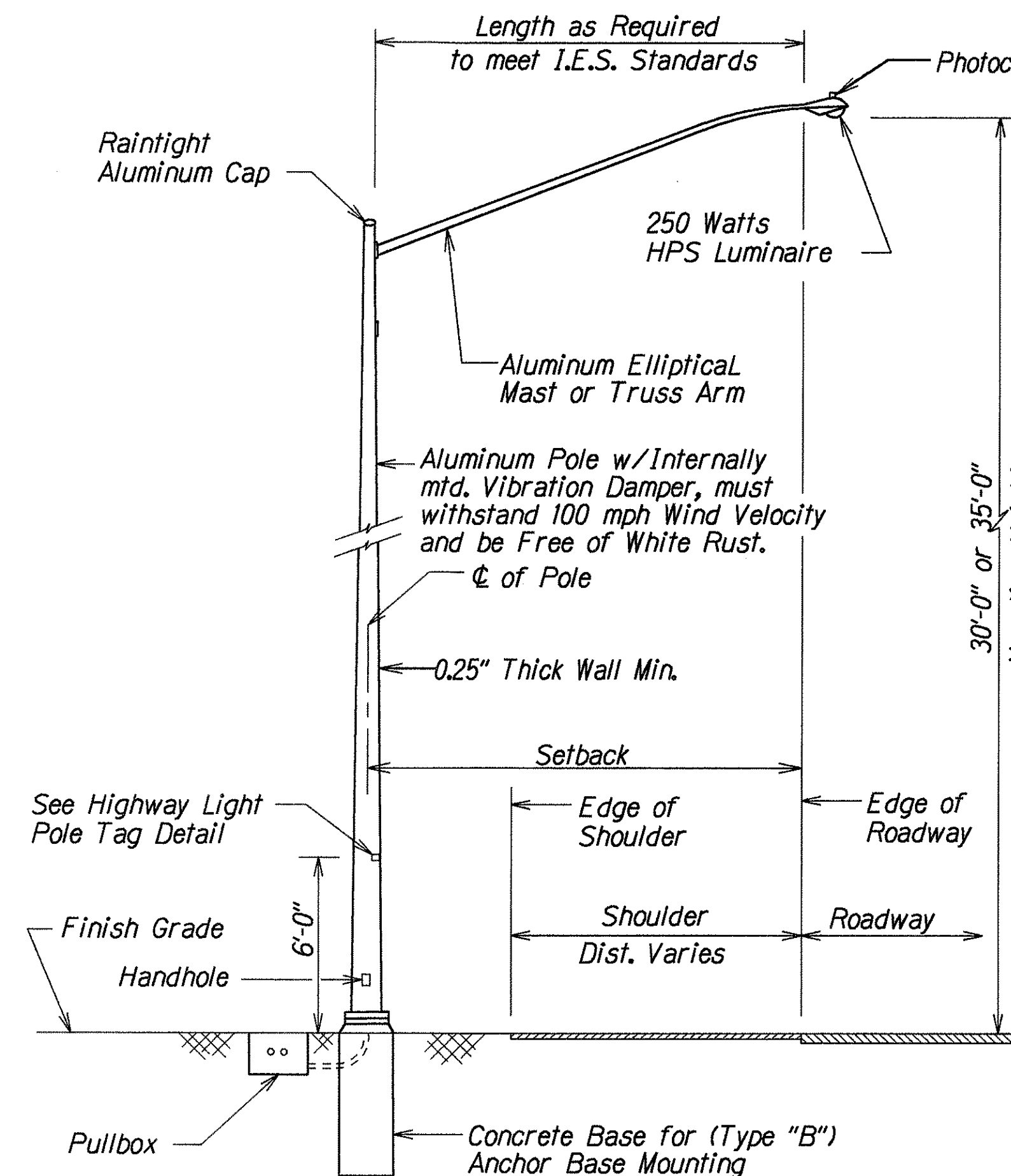
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	ADD. 39	61



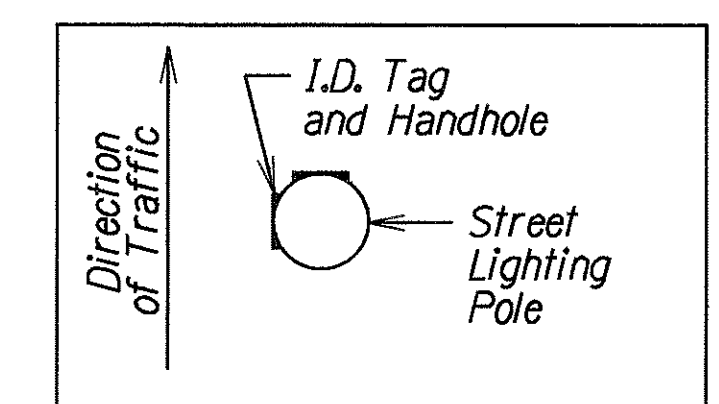
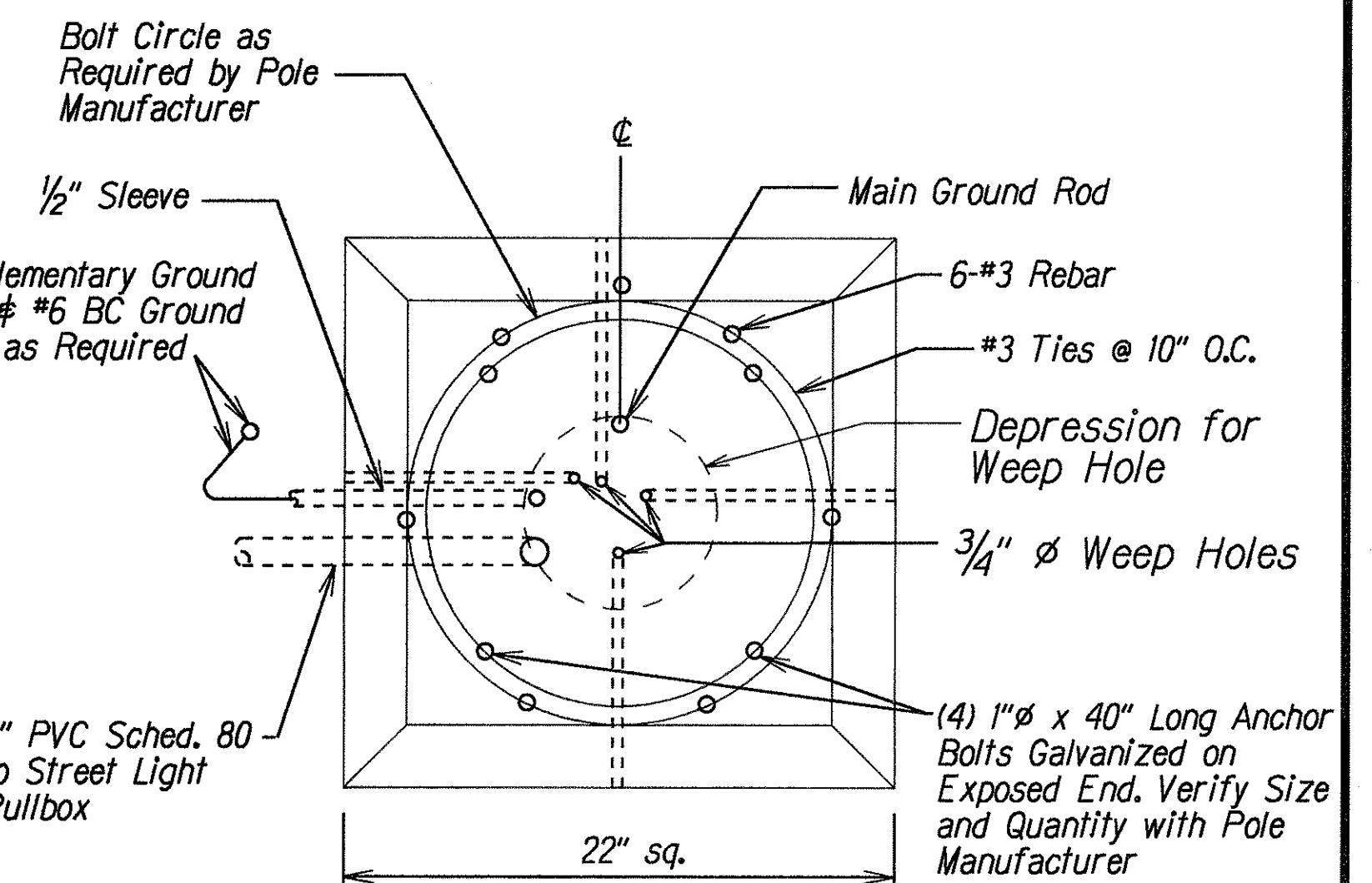
TYPICAL CONCRETE BASE AND POLE MOUNTING DETAIL ANCHOR BASE



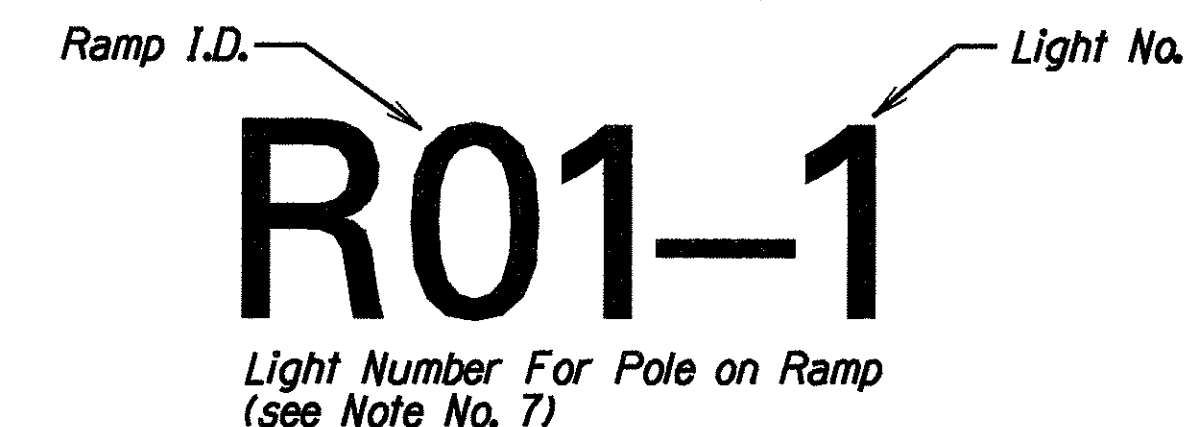
6/12/98	Revised Anchor Base Detail and Added Weep Holes to Concrete Base Plan.
DATE	REVISION



TYPICAL LIGHT STANDARD INSTALLATION ANCHOR BASE



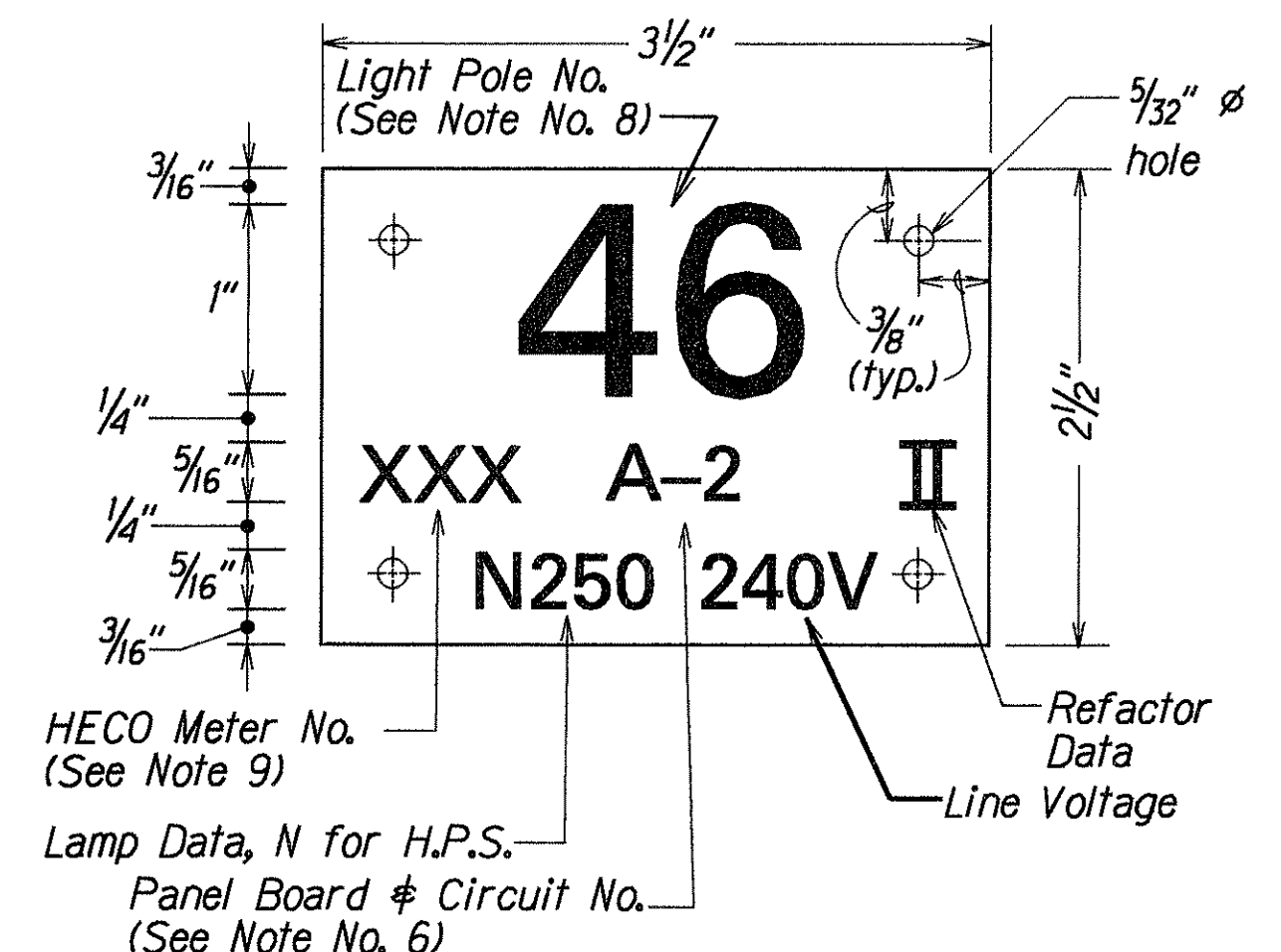
STREET LIGHT POLE: LOCATION OF I.D. TAG AND HANDHOLE



NOTES:

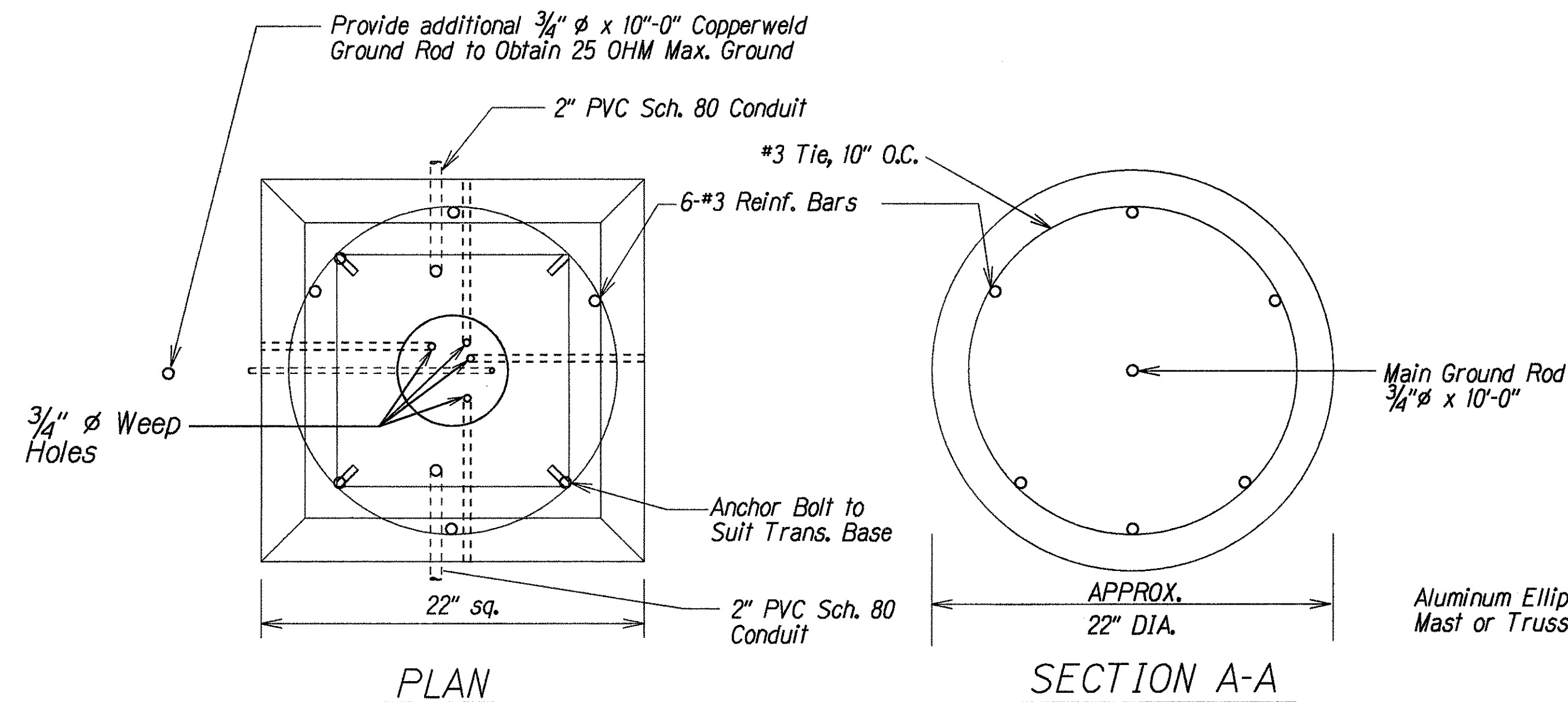
- Use 3 ply laminated flexible plastic black-white-black thickness black cap sheet-0.010", white base sheet-0.052", black base sheet -0.010".
- Light pole number size shall be 1" high and engraved 1/8" wide, white in color (number as required).
- Nomenclature size shall be 5/16" high and engraved 1/32" wide, white in color (HECO vault number panel board and circuit number, line voltage, lamp data and refractor data as required).
- Attach to aluminum and steel post with no. 8 stainless steel, 1/2" long drive screws in 1/8" drill hole. Attach to wood poles with 4D aluminum nails.
- Numbers are inscribed by cutting through "Black Cap Sheet" to expose "White Letters."
- Nomenclature required for systems with two or more circuits (letter indicates panel board, number indicates circuit).
- For light poles installed on ramp, assign numbers to include ramp I.D. and light number. Legend may be less than one (1) inch in height.
- Light numbers shall be obtained from the State. Use an alphabet suffix to designate lights mounted on the same pole (e.g. 123A & 123B).
- For non-metered system, leave this block blank.

HIGHWAY LIGHT POLE TAG DETAIL

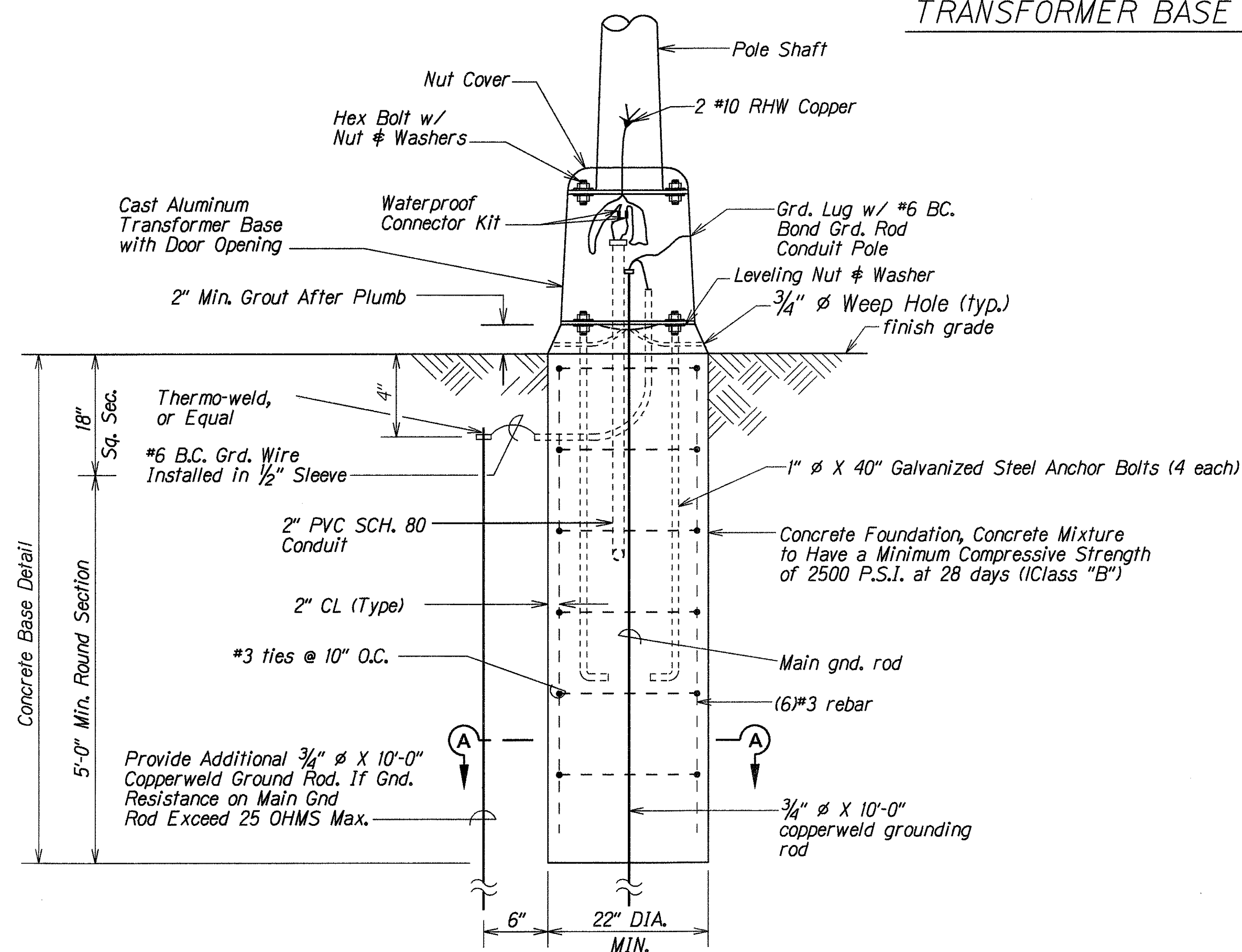


STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
HIGHWAY LIGHTING DETAILS	
HIGHWAY LIGHTING SAFETY IMPROVEMENTS	
Federal Aid Proj. No. STP-0300(66)	
Not to Scale Date: Apr., 1998	
SHEET No. 1 OF 11 SHEETS	

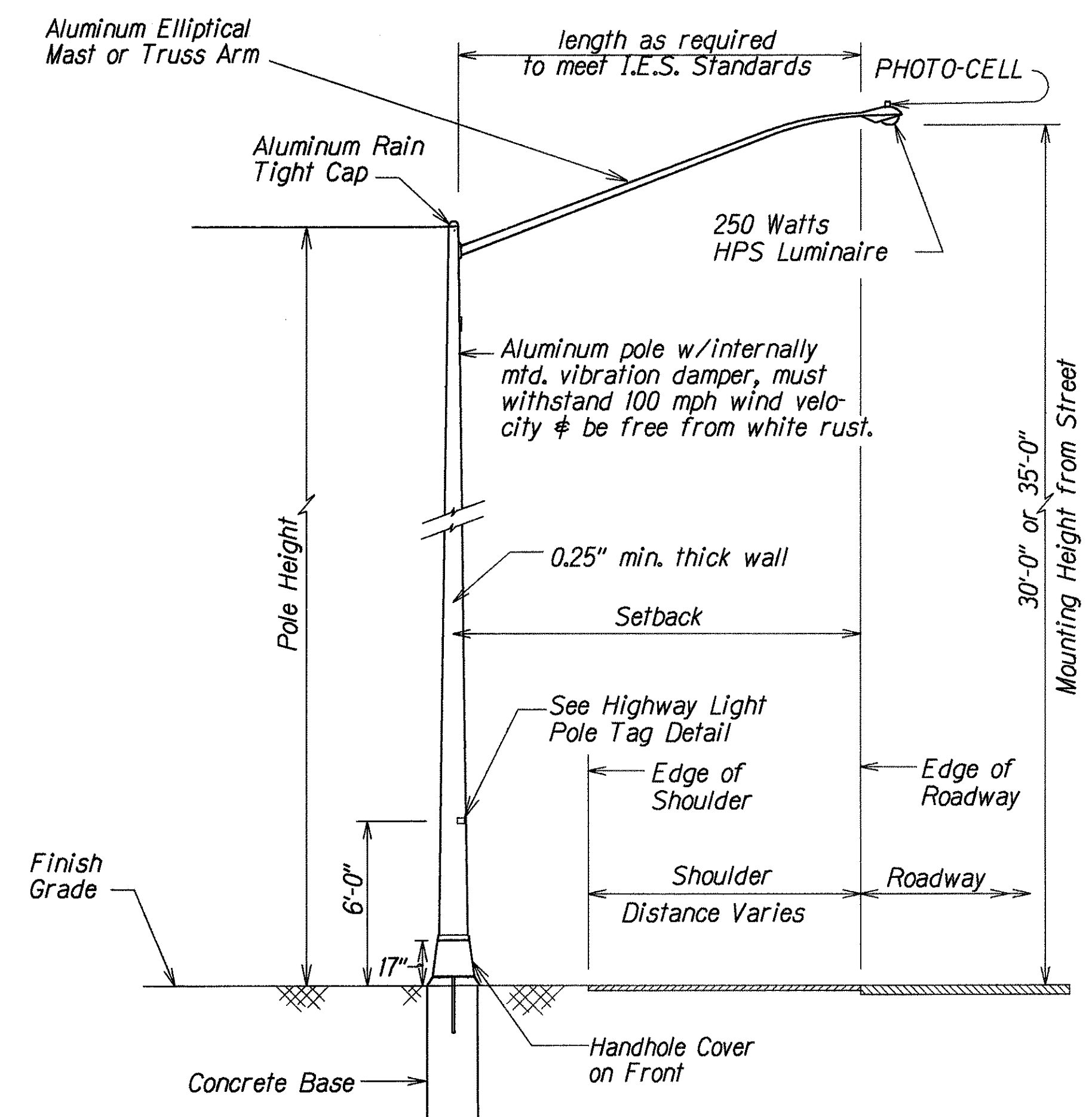
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	ADD. 40	61



TYPICAL CONCRETE FOUNDATION AND
TRANSFORMER BASE DETAIL



TYPICAL CONCRETE BASE AND POLE MOUNTING DETAIL TRANSFORMER BASE



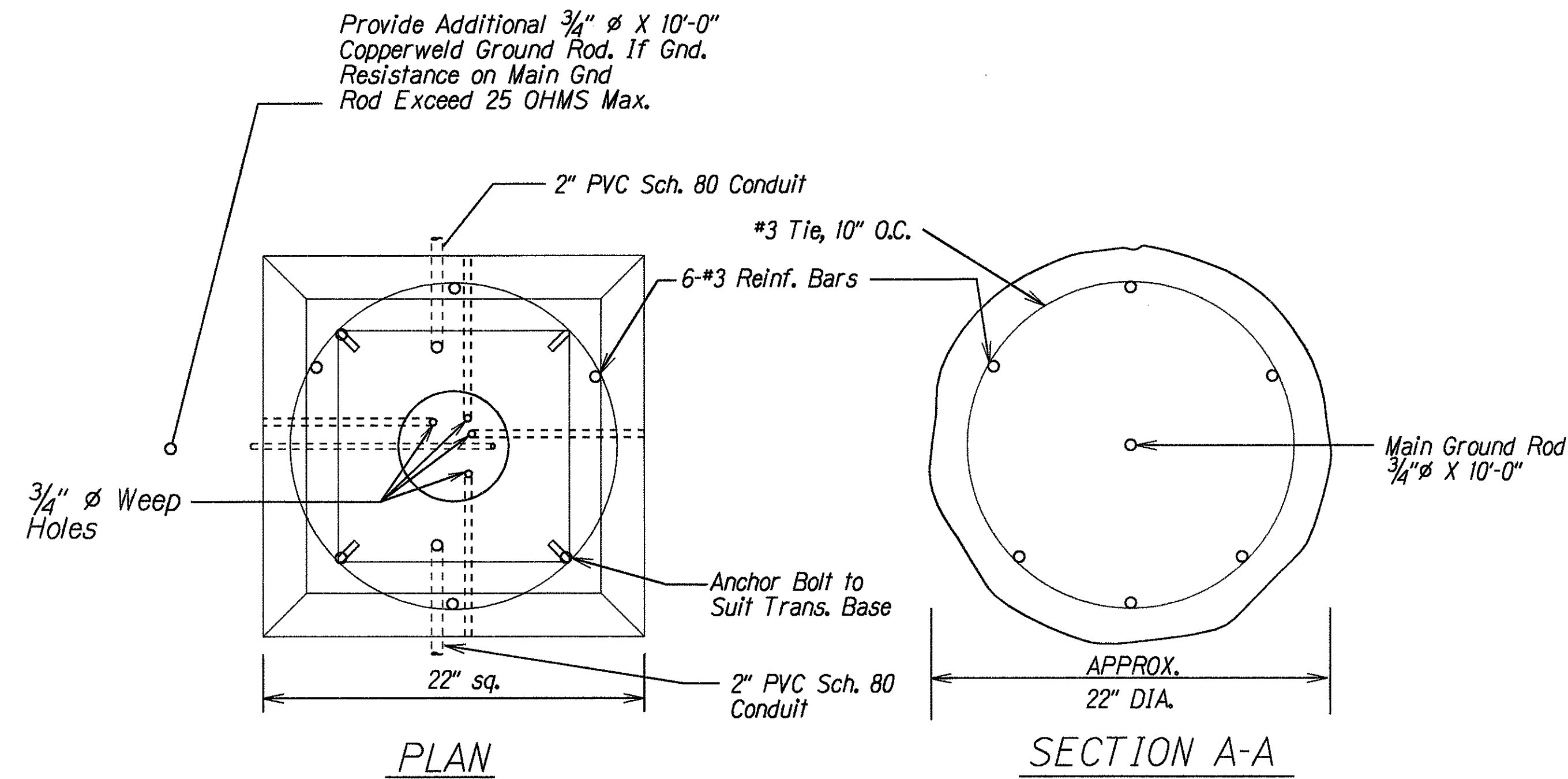
TYPICAL LIGHT STANDARD INSTALLATION
WITH TRANSFORMER BASE

ORIGINAL PLAN	DATE
DESIGNED BY	2/25/98
CHECKED BY	
NOTED BY	
QUANTITIES BY	
REVISIONS BY	

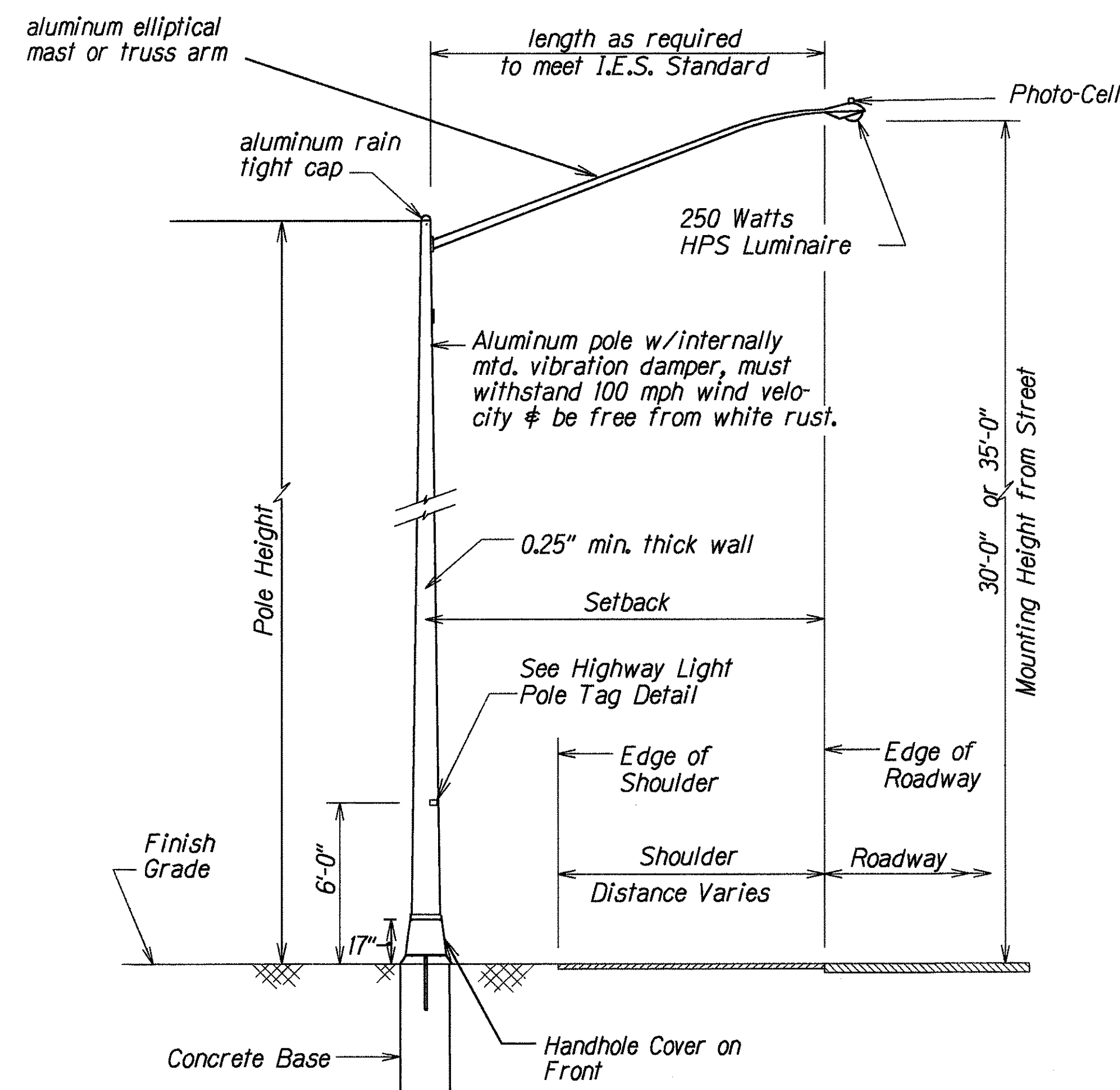
6/12/98	Added Weep Holes to Transformer Base Details.
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION HIGHWAY LIGHTING DETAILS TRANSFORMER BASE POLE HIGHWAY LIGHTING SAFETY IMPROVEMENTS Federal Aid Proj. No. STP-0300(66) Not to Scale Date: Apr., 1998
SHEET NO. 2 OF 11 SHEETS

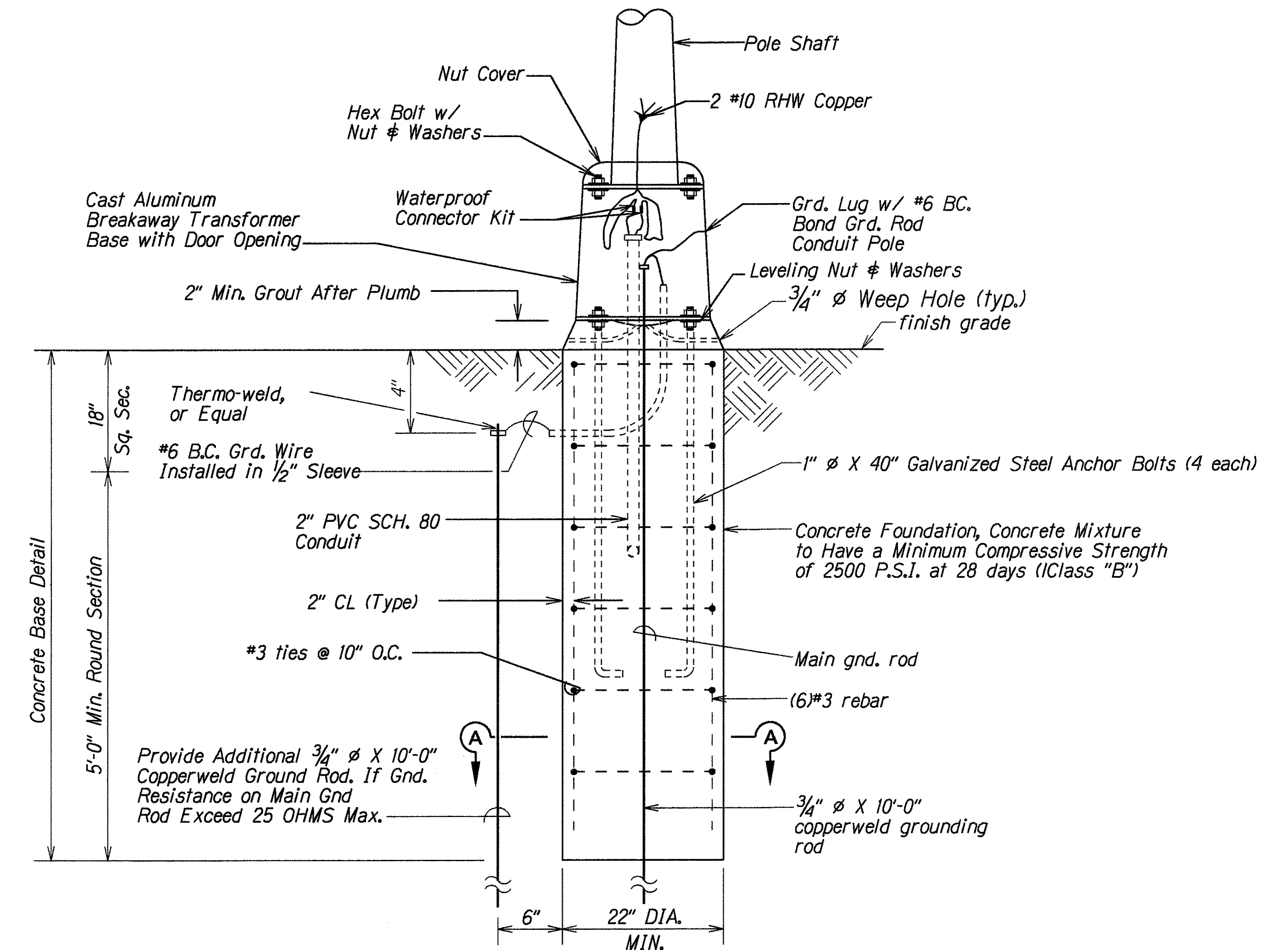
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	ADD. 41	61



TYPICAL CONCRETE FOUNDATION AND BREAKAWAY TRANSFORMER BASE DETAIL



TYPICAL LIGHT STANDARD INSTALLATION WITH BREAKAWAY TRANSFORMER BASE



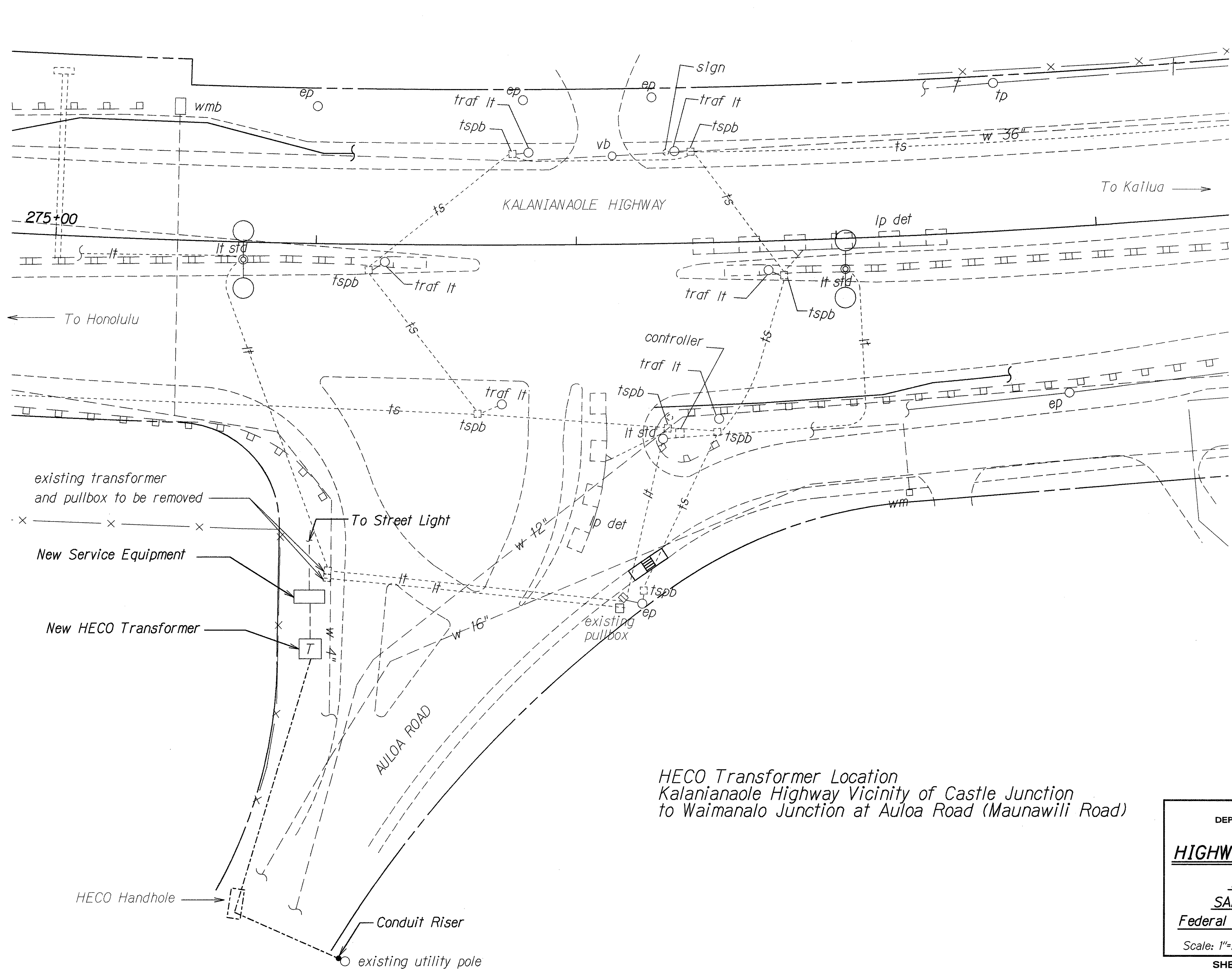
TYPICAL CONCRETE BASE AND POLE MOUNTING DETAIL WITH BREAKAWAY TRANSFORMER BASE

ORIGINAL PLAN	DATE	2/25/98
SURVEY PLOTTED BY		
DRAWN BY		
DESIGNED BY		
CHECKED BY		
NOTED BY		
SCALE		

6/12/98	Added Weep Holes to Breakaway Transformer Base Details.
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
HIGHWAY LIGHTING DETAILS
BREAKAWAY TRANSFORMER BASE POLE
HIGHWAY LIGHTING SAFETY IMPROVEMENTS
Federal Aid Proj. No. STP-0300(66)
Not to Scale Date: Apr., 1998
SHEET No. 3 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	42	61



TRUE NORTH
SCALE: 1" = 20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	3-15-98
DESIGNED BY	DESIGNED BY	
CHECKED BY	CHECKED BY	

HECO Transformer Location
Kalaniana'ole Highway Vicinity of Castle Junction
to Waimanalo Junction at Aulua Road (Maunawili Road)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

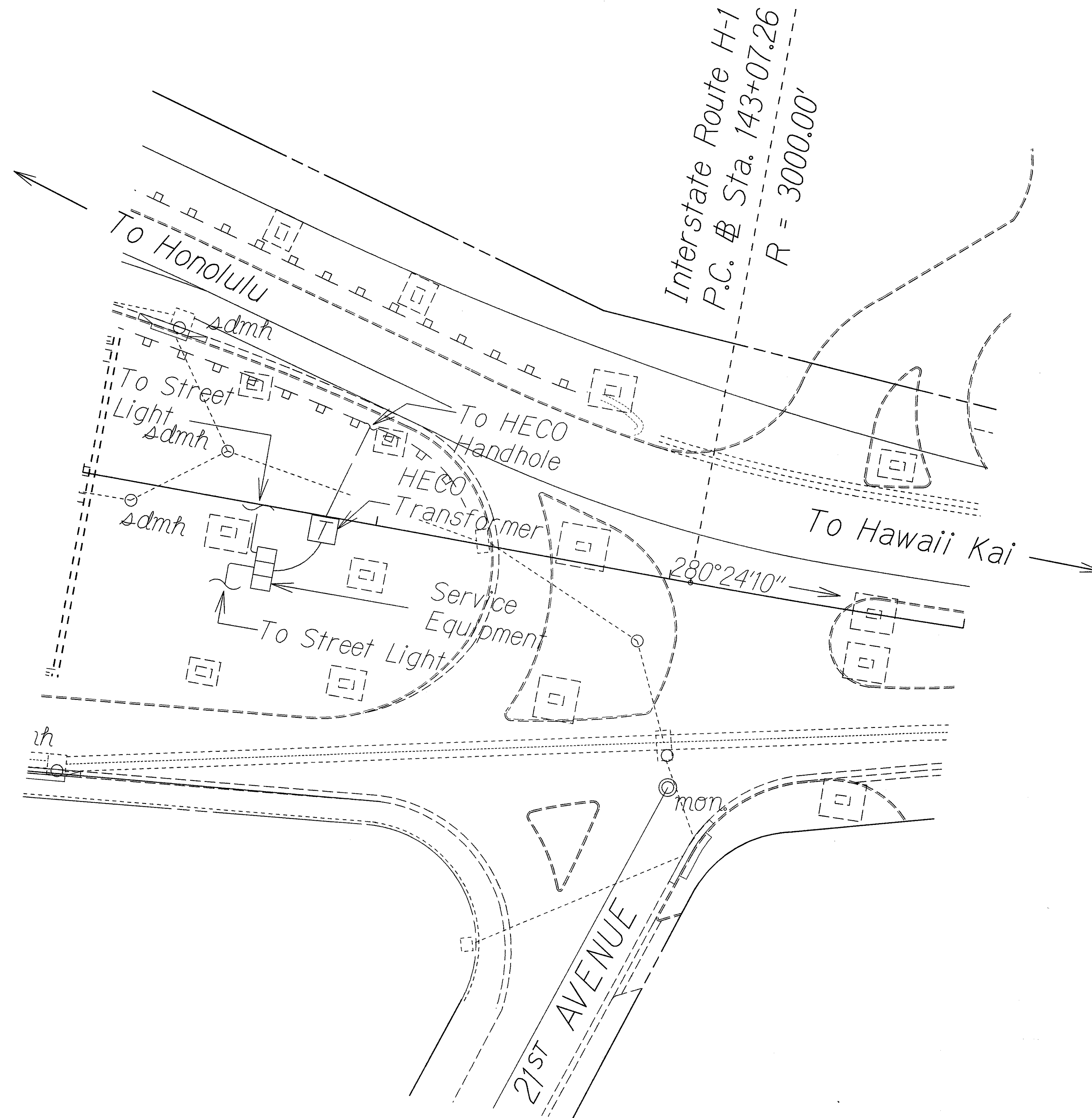
HIGHWAY LIGHTING DETAILS

HIGHWAY LIGHTING
SAFETY IMPROVEMENTS
Federal Aid Project No. STP-0300(66)

Scale: 1"=20' Date: Apr., 1998

SHEET No. 4 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	43	61



TRUE NORTH
SCALE : 1" = 20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	3/22/98
002909	DESIGNED BY	
N. X. 09	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING DETAILS

HIGHWAY LIGHTING SAFETY IMPROVEMENTS

Interstate Route H-1

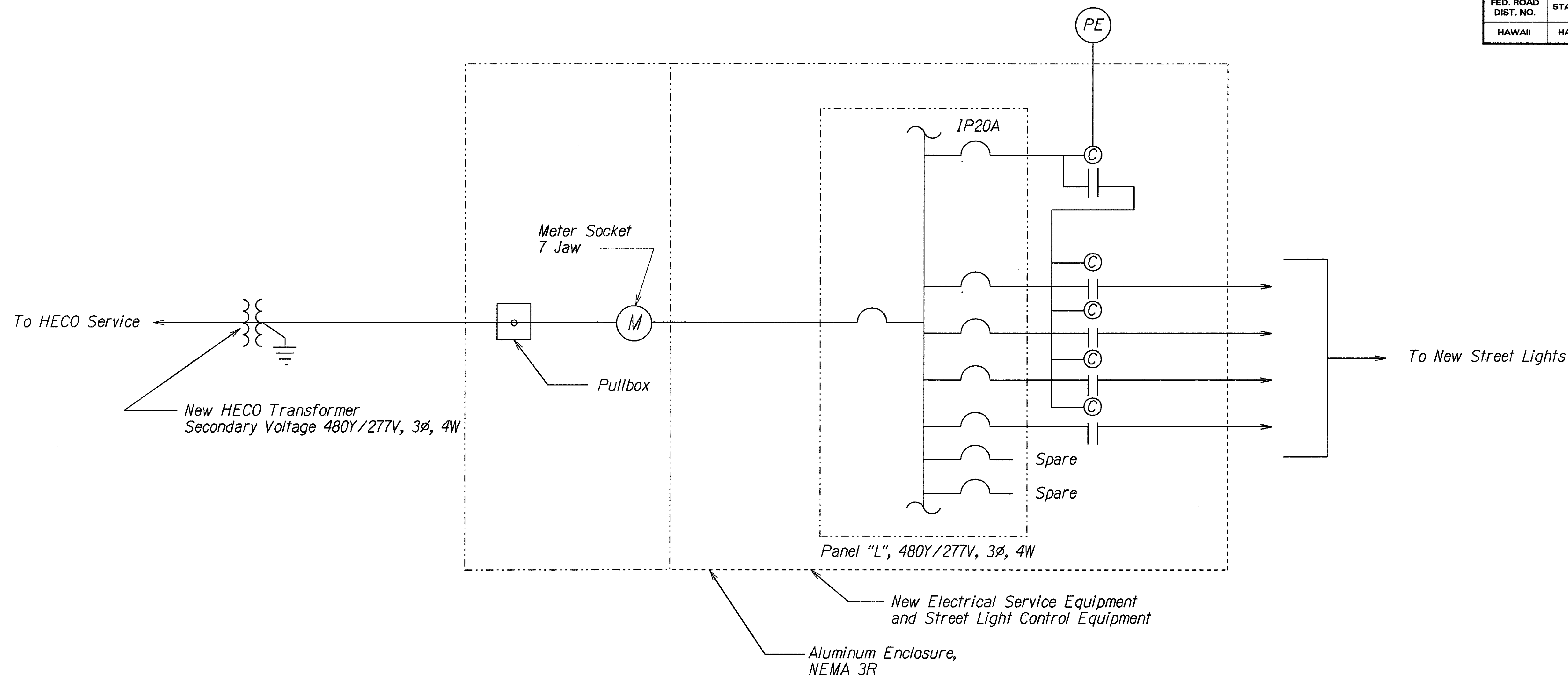
Vicinity of Keeaumoku St. Overpass to Ainakoa Avenue

Federal Aid Proj. No. STP-0300(66)

Scale: 1" = 20' Date: APR, 1998

SHEET No. 5 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	44	61



Notes:

Electrical Load: ≈ 32 KW
Voltage: 480Y/277V
Phase: 3Ø

Number of Street Lights: 100±

On Maunawili Road, existing 25KVA State owned transformer and street light control equipment will be removed. New HECO transformer, new service equipment and new street light control equipment will be installed. See sheet 42.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY R. Atil	5/19/96
10/1/96	TRACED BY C. Abo	
10/1/96	DESIGNED BY	
10/1/96	CHECKED BY	

POWER ONE-LINE DIAGRAM
KALANIANA'OLE HIGHWAY - CASTLE JUNCTION TO WAIMANALO JUNCTION
Not to Scale

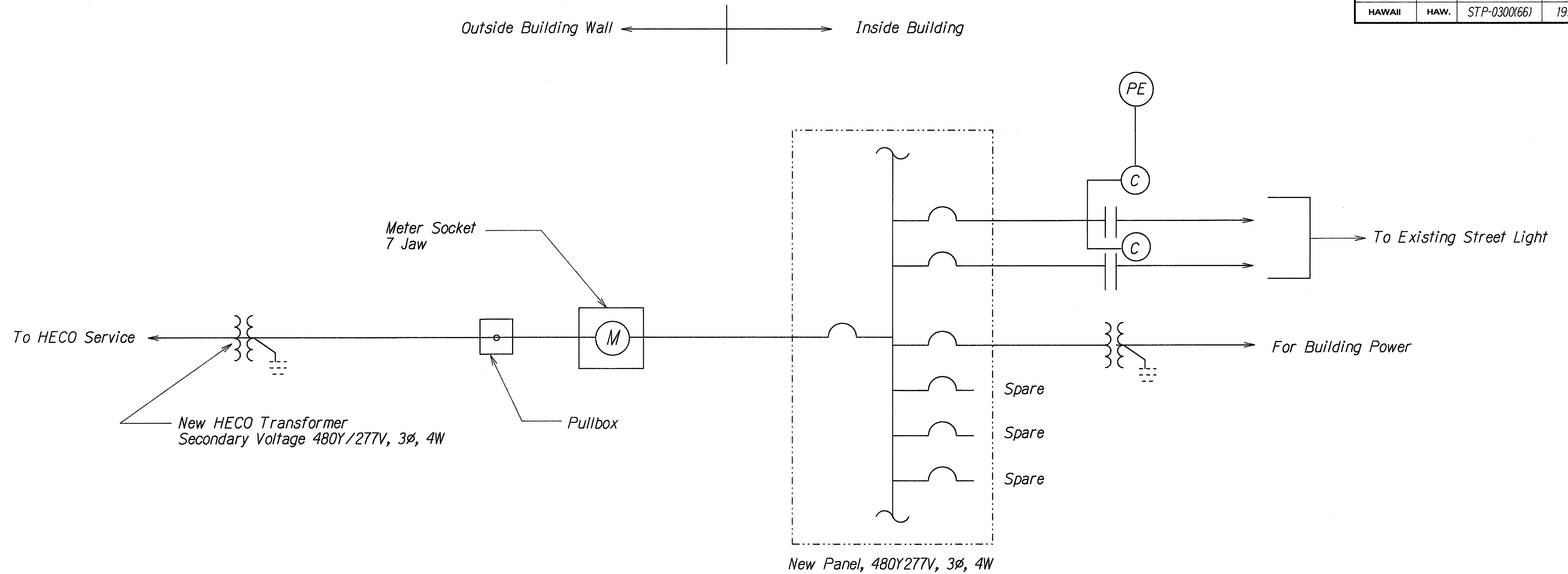
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING DETAILS

HIGHWAY LIGHTING
SAFETY IMPROVEMENTS
Federal Aid Proj. No. STP-0300(66)
Date: Apr., 1998

SHEET No. 6 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	45	61



Notes:

Electrical Load: ≈ 11 KW
Voltage: 480Y/277V
Phase: 3Ø

Number of Street Lights: 20±

Existing State owned transformer and service equipment will be removed. New HECO transformer will be provided. New service equipments will be installed in existing substation building.

POWER ONE-LINE DIAGRAM
(PALI HIGHWAY - WYLLIE INTERCHANGE TO JACK LANE)
Not to Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED BY	DRAWN BY	5/19/96
NOTED BY	DESIGNED BY	
NOTED BY	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

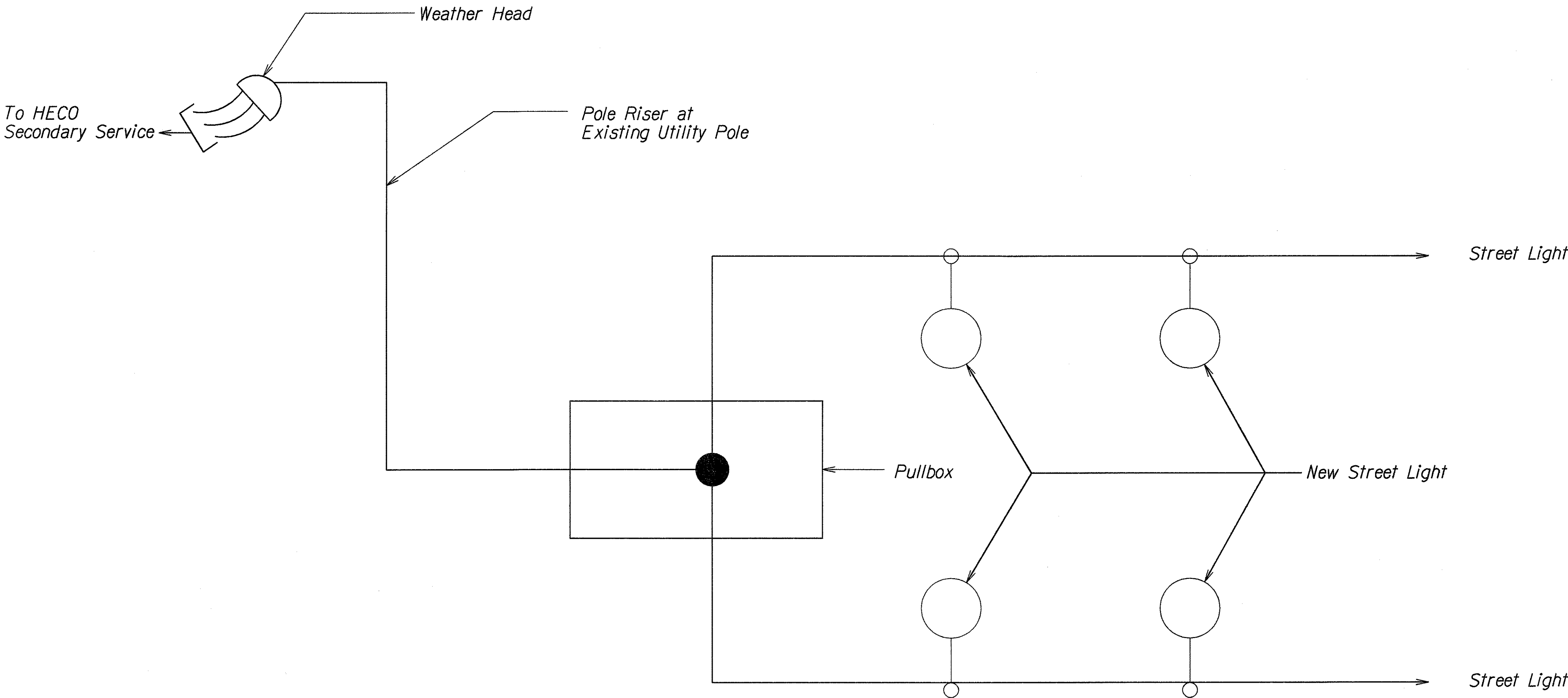
HIGHWAY LIGHTING DETAILS

**HIGHWAY LIGHTING
SAFETY IMPROVEMENTS**

Federal Aid Proj. No. STP-0300(66)
Date: Apr., 1998

SHEET No. 7 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	46	61



Notes:

Electrical Load: ≈ 11 KW
Voltage: 240/120V
Phase: 1 ϕ

HECO service will be connected at two existing utility poles which are located at Huawaina Place and Luluku Road.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY R. Ati	5/19/96
Id. July	DESIGNED BY G. Abg	
K. Camillo	CHECKED BY	

POWER ONE-LINE DIAGRAM
(KANEOME BAY DRIVE AND KAMEHAMEHA HIGHWAY TO UALANI PALCE)
Not to Scale

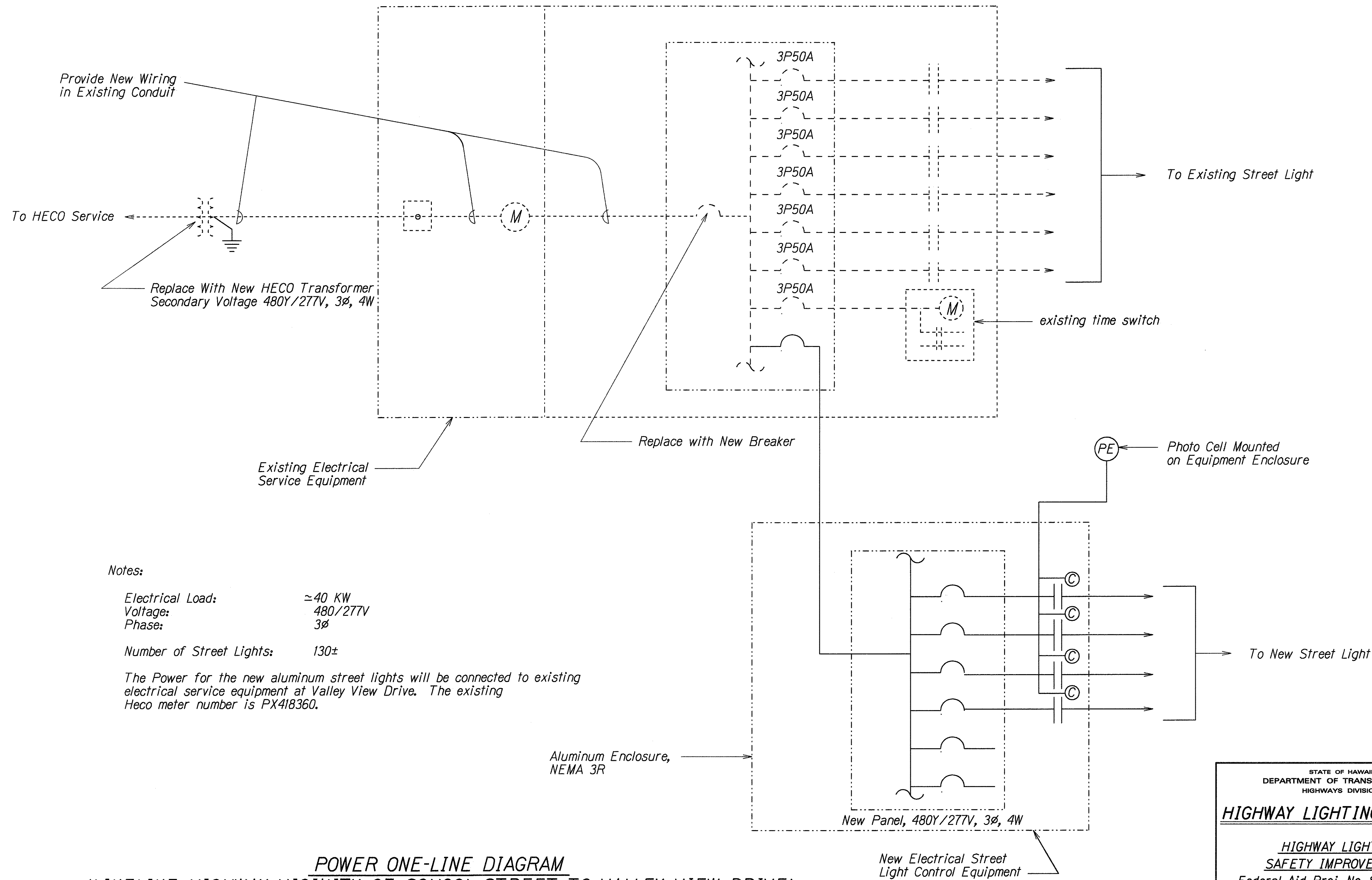
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING DETAILS

HIGHWAY LIGHTING
SAFETY IMPROVEMENTS
Federal Aid Proj. No. STP-0300(66)
Date: Apr., 1998

SHEET No. 8 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	47	61



Notes:

Electrical Load: ≈ 40 KW
Voltage: 480/277V
Phase: 3Ø

Number of Street Lights: 130±

The Power for the new aluminum street lights will be connected to existing electrical service equipment at Valley View Drive. The existing Heco meter number is PX418360.

POWER ONE-LINE DIAGRAM
(LIKELIKE HIGHWAY VICINITY OF SCHOOL STREET TO VALLEY VIEW DRIVE)
Not to Scale

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	3/19/98
DRAWN BY	J. Kawahara
DESIGNED BY	P. Kihimaka / L. Urasaki
CHECKED BY	0020wen
	0010000000

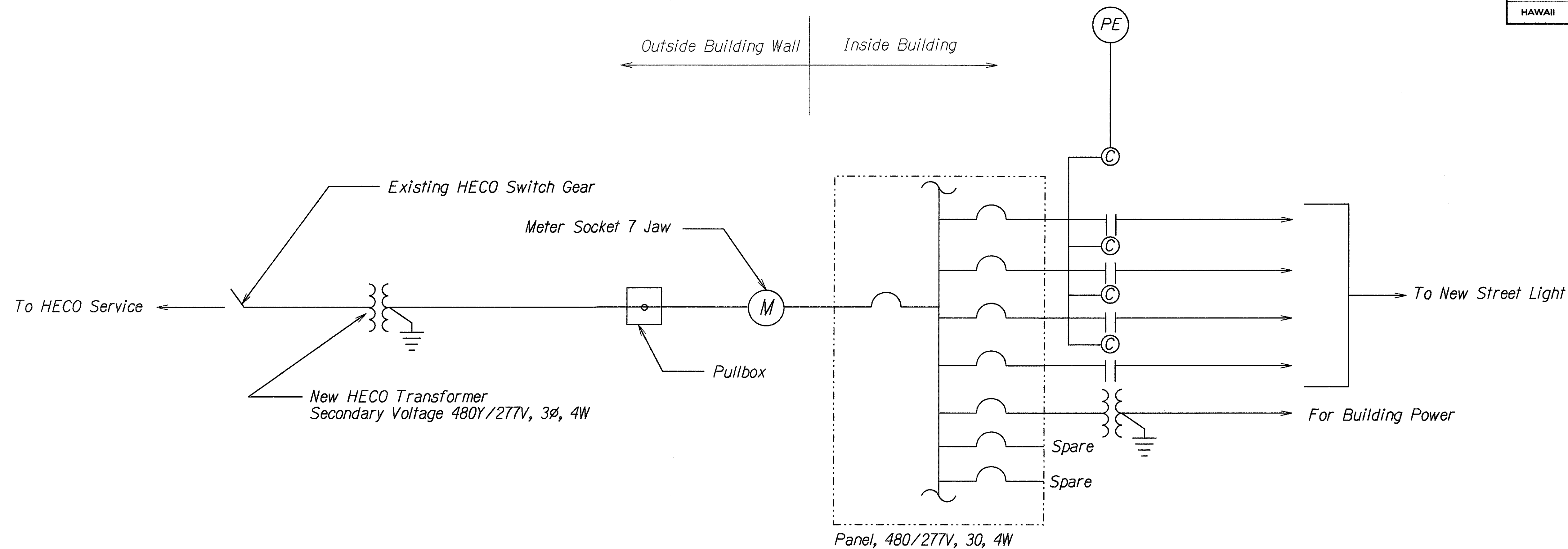
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING DETAILS

HIGHWAY LIGHTING
SAFETY IMPROVEMENTS
Federal Aid Proj. No. STP-0300(66)
Date: Apr., 1998

SHEET No. 9 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	48	61



H-1 - MAKIKI SUBSTATION

Notes:

Electrical Load: ≈40 KW
Voltage: 480Y/277V
Phase: 3Ø

Existing State owned transformer and service equipment will be removed. New HECO transformer will be provided. New equipment will be installed in the existing substation building. This substation will be providing electrical power for street lighting from Keeaumoku Street to McCully Street.

H-1 - UNIVERSITY AVENUE SUBSTATION

Notes:

Electrical Load: ≈60 KW
Voltage: 480Y/277V
Phase: 3Ø

Existing State owned transformer will be replaced by a new HECO transformer. All existing equipments will be removed and new equipments will be installed in existing substation building. This substation will be providing electrical power for street lighting from McCully Street to 6th Avenue.

POWER ONE-LINE DIAGRAM MAIKIKI AND UNIVERSITY SUBSTATION Not to Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY H. A. G.	5/12/96
10/1/96	CHECKED BY	
10/1/96		

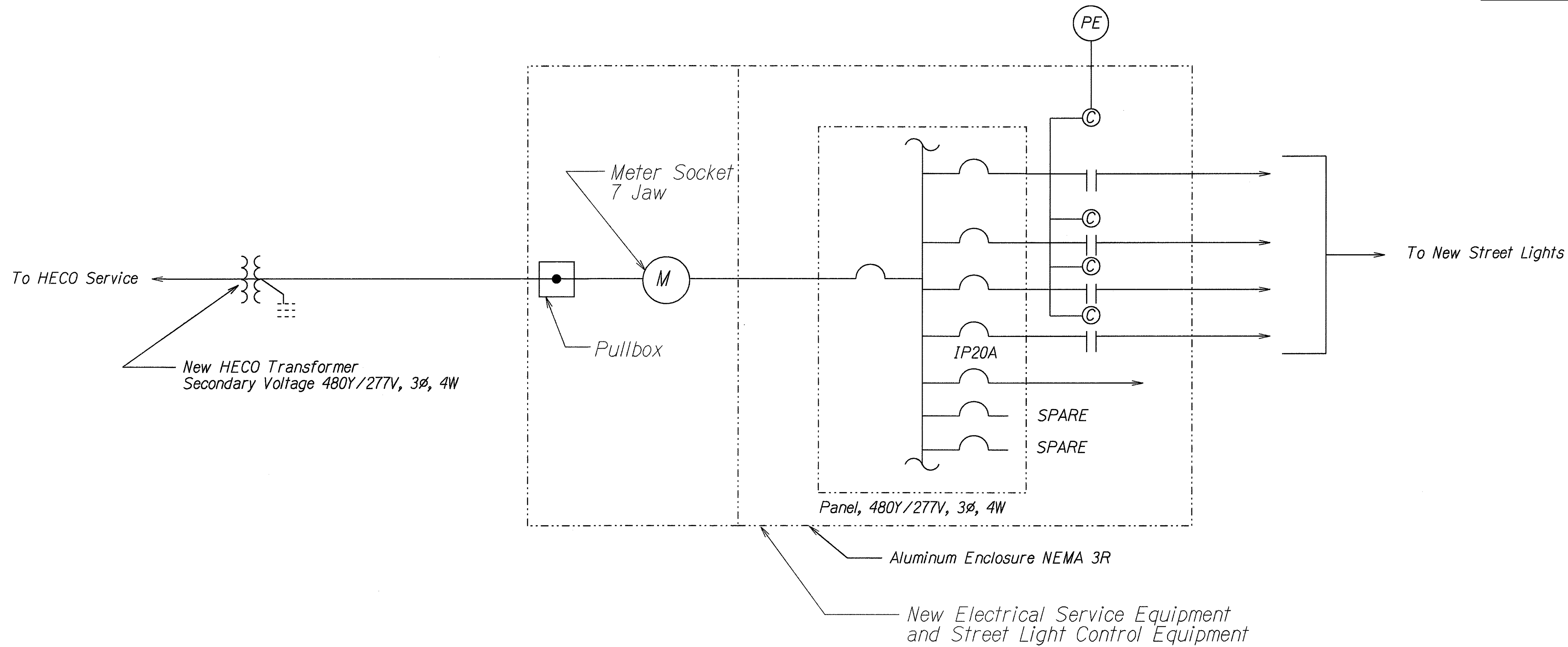
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING DETAILS

HIGHWAY LIGHTING
SAFETY IMPROVEMENTS
Federal Aid Proj. No. STP-0300(66)
Date: Apr., 1998

SHEET No. 10 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(66)	1998	49	61



Notes:

Electrical Load: ≈60 KW
Voltage: 480Y/277V
Phase: 3Ø

Area for a new substation will be provided under the H-1 Freeway at 21st Avenue. Provide new HECO transformers and service equipment in the aluminum enclosure. See on Sheet No. 43 for proposed location of substation.

POWER ONE-LINE DIAGRAM
H-1 AT 21 ST AVENUE
Not to Scale

ORIGINAL PLAN	DATE
DESIGNED BY	5/19/98
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING DETAILS

HIGHWAY LIGHTING
SAFETY IMPROVEMENTS
Federal Aid Proj. No. STP-0300(66)
Date: Apr., 1998