

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION", 1994, STATE OF HAWAII DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, EXCEPT AS MODIFIED HEREIN OR IN THE SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL VERIFY WITH THE RESPECTIVE UTILITY COMPANIES AND GOVERNMENT AGENCIES, THE LOCATIONS OF ALL ELECTRIC, TELEPHONE, TRAFFIC SIGNAL, STREET LIGHT, FIRE ALARM, GAS, WATER, SEWER, DRAIN, AND OTHER LINES CROSSING THE EXCAVATION PATH OR IN EXCAVATION AREAS.
3. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY COMPANIES AND GOVERNMENT AGENCIES OF THEIR INTENT TO BEGIN CONSTRUCTION ON ANY INTERSECTION OR STREET AT LEAST TWO (2) WEEKS PRIOR TO THE START OF SUCH CONSTRUCTION.
4. LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPELINES, CONDUITS, CABLES, ETC., SHOWN ON PLANS ARE APPROXIMATE ONLY. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES WITH THE RESPECTIVE OWNERS. EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN COST.
5. THE CONTRACTOR SHALL COORDINATE WITH THE STATE HANDLING OF ALL SALVAGEABLE MATERIALS INDICATED TO BE REMOVED

ELECTRICAL SYMBOLS

EXISTING	NEW	DESCRIPTION	EXISTING	NEW	DESCRIPTION
		HIGHWAY LIGHT STANDARD, BRACKET ARM, RELOCATED LUMINAIRE, SEE ELEC SHEET 5			TRAFFIC SIGNAL PULLBOX, TYPE "C", SEE ELEC SHEET 20
					TRAFFIC SIGNAL PULLBOX, TYPE "A", SEE ELEC SHEET 20
					TRAFFIC SIGNAL PULLBOX, TYPE "B", SEE ELEC SHEET 20
		STREET LIGHT STANDARD, BRACKET ARM, LUMINAIRE, SEE ELEC SHEET 8			STREET LIGHT PULLBOX
		TRAFFIC SIGNAL STANDARD, TYPE I WITH INDICATED SIGNAL HEADS, SEE ELEC SHEET 16			ELECTRIC/TRAFFIC SIGNAL DUCTLINE AND WIRES, SEE ELEC SHEET 2
		TRAFFIC SIGNAL STANDARD, TYPE II WITH INDICATED SIGNAL HEADS MOUNTED ON MAST ARM (25'-0" LENGTH INDICATED) SEE ELEC SHEET 16			OVERHEAD STREET LIGHT CIRCUIT
		VEHICLE LOOP DETECTOR, FOR DETAILS SEE ELEC SHEET 21			STREET LIGHT STANDARD IDENTIFICATION TAG, SEE ELEC SHEET 9
		VEHICULAR SIGNAL HEAD, RYG, FOR DETAILS SEE ELEC SHEET 18			
		VEHICULAR SIGNAL HEAD, RYG-DIRECTIONAL ARROW, FOR DETAILS SEE ELEC SHEET 18			
		PEDESTRIAN SIGNAL HEAD, FOR DETAILS SEE ELEC SHEET 19			
		TRAFFIC SIGNAL SYSTEM CONTROLLER CABINET, SEE ELEC SHEET 16			
		PEDESTRIAN PUSHBUTTON, FOR DETAILS SEE ELEC SHEET 19			
		EVP DETECTOR, FOR DETAILS SEE ELEC SHEET 22			
		STREET LIGHT STANDARD, BRACKET ARM, LUMINAIRE, SEE ELEC SHEET 8			

HIGHWAY LIGHT STANDARD IDENTIFICATION TAG:

TAG	DESCRIPTION
1 121+93	← STATION NUMBER
2 2, CKT #3	← HIGHWAY LIGHT & POLE NUMBER, CIRCUIT NUMBER (VERIFY LIGHT & POLE NO. WITH D.O.T.)
3 14'	← POLE CENTERLINE SETBACK FROM EDGE OF TRAVELWAY, SEE NOTE NO. 2 BELOW
4 15'	← BRACKET ARM SPAN IN FEET
5 AB	← POLE BASE MOUNTING TYPE, SEE NOTE NO. 3 BELOW
6 35'	← LUMINAIRE MOUNTING HEIGHT ABOVE TRAVELWAY PAVEMENT

SYMBOL NOTES:

1. "X" THROUGH DASHED ITEM INDICATES "EXISTING ITEM TO BE REMOVED OR AS NOTED".
2. "BGR" INDICATES SETBACK IS BEHIND GUARD RAIL; "TRW" INDICATES MOUNTING IS ON TOP OF RETAINING WALL.
3. "AB" INDICATES ANCHOR BASE MOUNTING; "BTB" INDICATES BREAKWAWY TRANSFORMER BASE MOUNTING.

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

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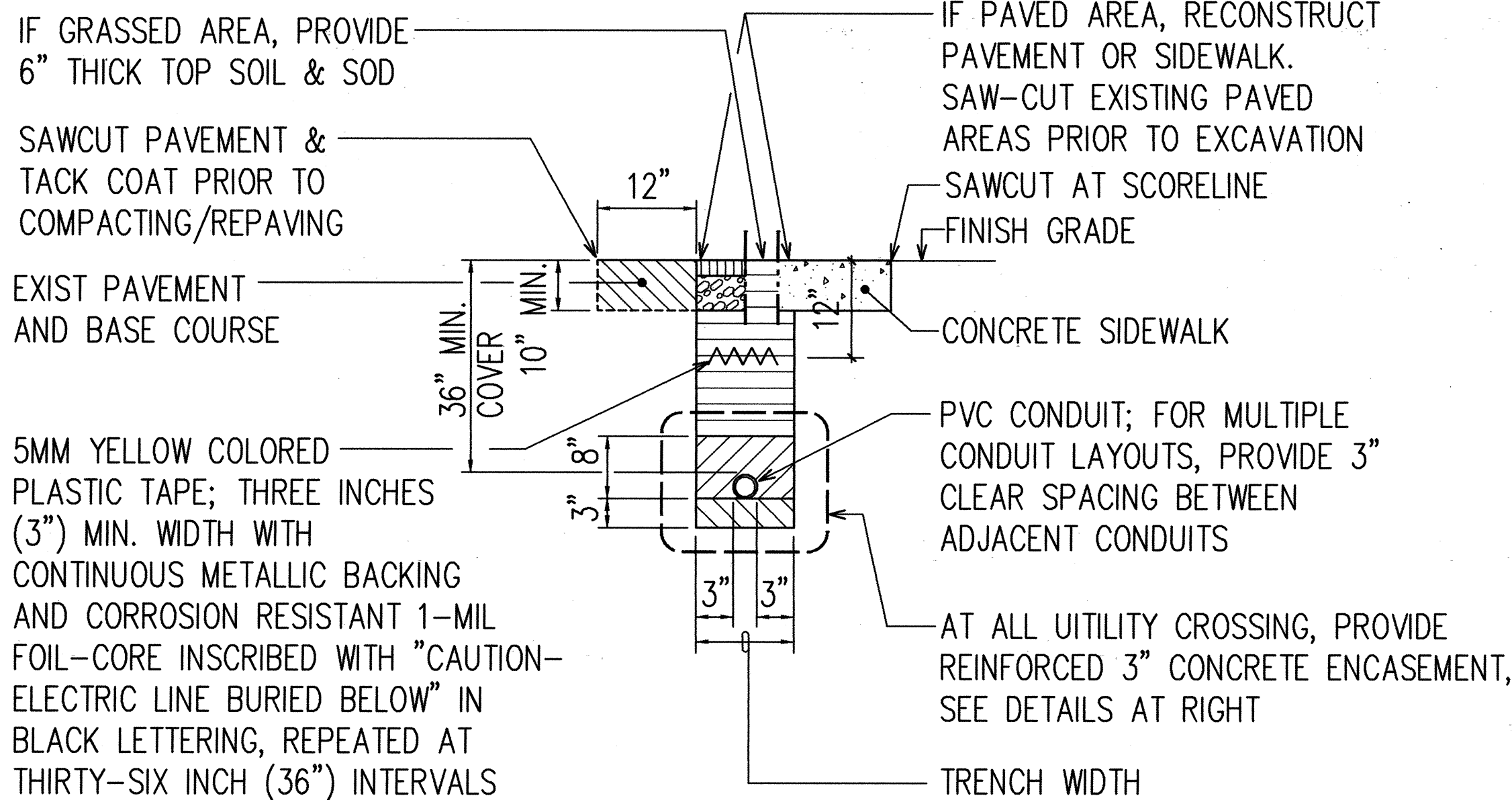
6/1/98
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Andrew I. Miyasato
RONALD N. S. HO & ASSOC., INC.
ELECTRICAL ENGINEERS

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>ELECTRICAL SYMBOLS,</u> <u>GENERAL NOTES</u> <u>LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS</u> <u>VALLEY VIEW DRIVE TO H-1</u> <u>PROJECT NO. 63A-01-97</u> SCALE: AS NOTED DATE: MAY 1998 SHEET No. 1 OF 23 SHEETS

STATE RIGHT-OF-WAY
BACKFILL NOTES

- TRENCH BACKFILL MATERIAL "B"
1. SAND EQUIVALENT ≥ 20
2. 8" MAX. LIFT LOOSE
3. 95% MIN. COMPACTION
- TRENCH BACKFILL MATERIAL "A"
1. SAND EQUIVALENT ≥ 20
2. 8" MAX. LIFT LOOSE
3. 95% MIN. COMPACTION
- IF MATERIAL BELOW DUCT
IS NOT EQUIVALENT TO BACKFILL
MATERIAL "A", EXCAVATE MATERIAL
& PROVIDE 3" BACKFILL MATERIAL
"A". SEE ABOVE
- CONCRETE - 3" ENCASEMENT,
3000 PSI COMPRESSIVE STRENGTH
@ 28 DAYS.

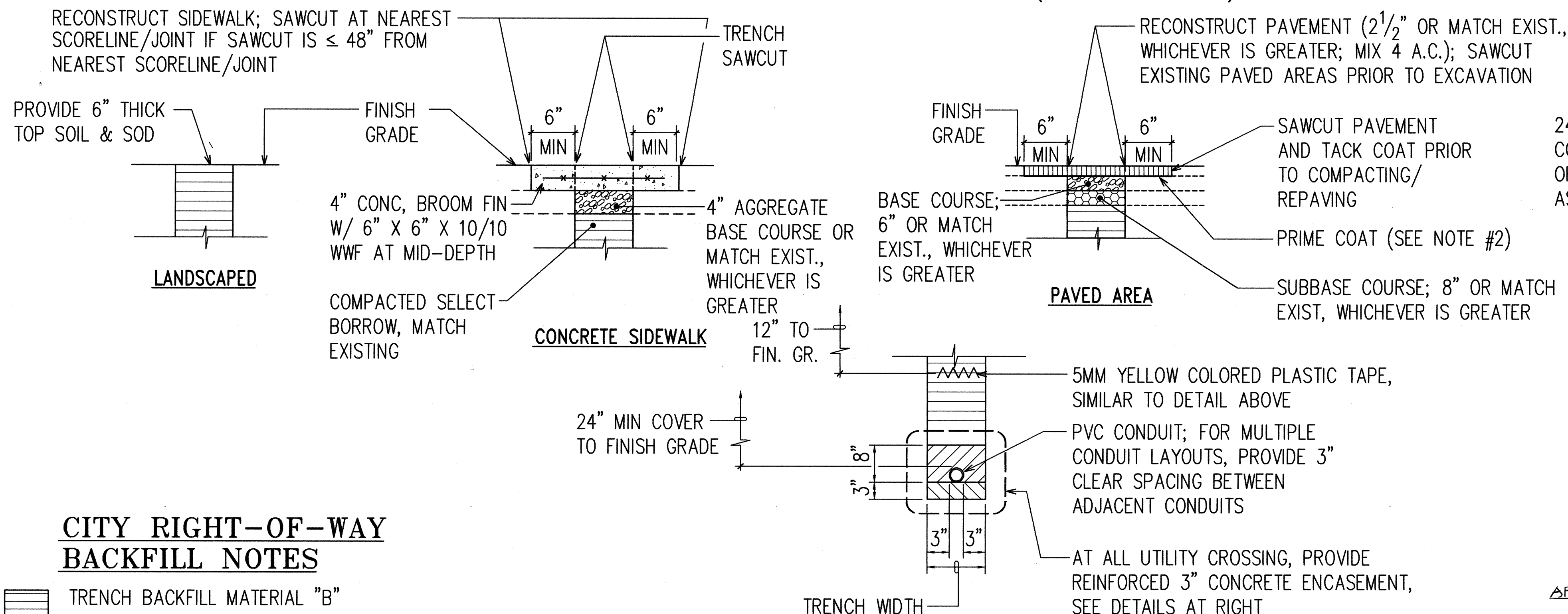
NOTE: BASE COURSE & SUB-BASE COURSE PER
1985 STATE STANDARD SPECIFICATIONS
FOR HIGHWAY CONSTRUCTION.



NOTES:

- ALL CONDUITS UNDER ROADWAYS SHALL BE PVC SCHEDULE 80. ALL OTHERS SHALL BE PVC SCHEDULE 40.
- PAVEMENT AND BASE COURSE TO MATCH EXISTING THICKNESS.

TYPICAL TRENCH SECTION DETAIL
NOT TO SCALE (STATE RIGHT-OF-WAY)



CITY RIGHT-OF-WAY
BACKFILL NOTES

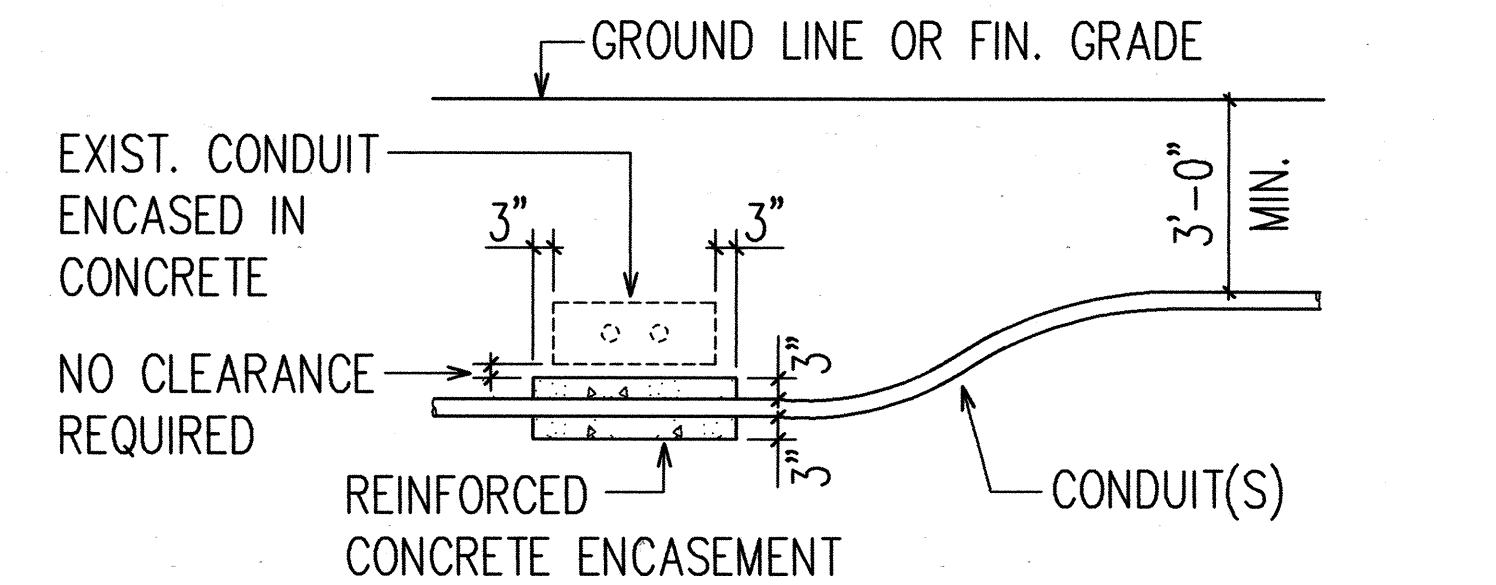
- TRENCH BACKFILL MATERIAL "B"
1. SAND EQUIVALENT ≥ 20
2. 8" MAX. LIFT LOOSE
3. 95% MIN. COMPACTION
- TRENCH BACKFILL MATERIAL "A"
1. SAND EQUIVALENT ≥ 20
2. 8" MAX. LIFT LOOSE
3. 95% MIN. COMPACTION
- IF MATERIAL BELOW DUCT
IS NOT EQUIVALENT TO BACKFILL
MATERIAL "A", EXCAVATE MATERIAL
& PROVIDE 3" MINIMUM BACKFILL
MATERIAL "A".

NOTES:

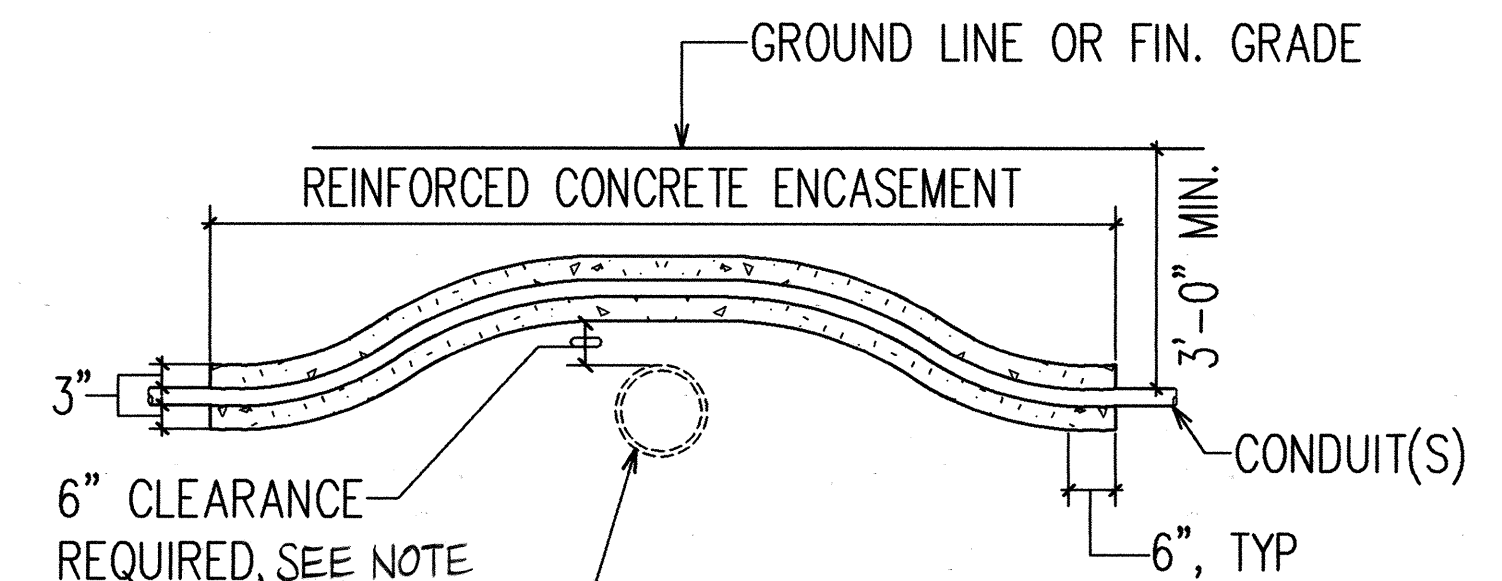
- ALL CONDUITS UNDER ROADWAYS SHALL BE PVC SCHEDULE 80. ALL OTHERS SHALL BE PVC SCHEDULE 40.
- FOR ROAD GRADES $\leq 7.99\%$, PRIME COAT IS NOT REQUIRED IF IT IS NOT AVAILABLE. HOWEVER, PRIME COAT SHALL ALWAYS BE USED WHEN AVAILABLE.

TYPICAL TRENCH SECTION DETAIL
NOT TO SCALE (CITY RIGHT-OF-WAY)

DATE	REVISION	FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9/10/98	ADDED SEWER LINE NOTE IN CONDITION II OF TYPICAL UTILITY CROSSING DETAILS	HAWAII	HAW.	63A-01-97	1998	R31	52

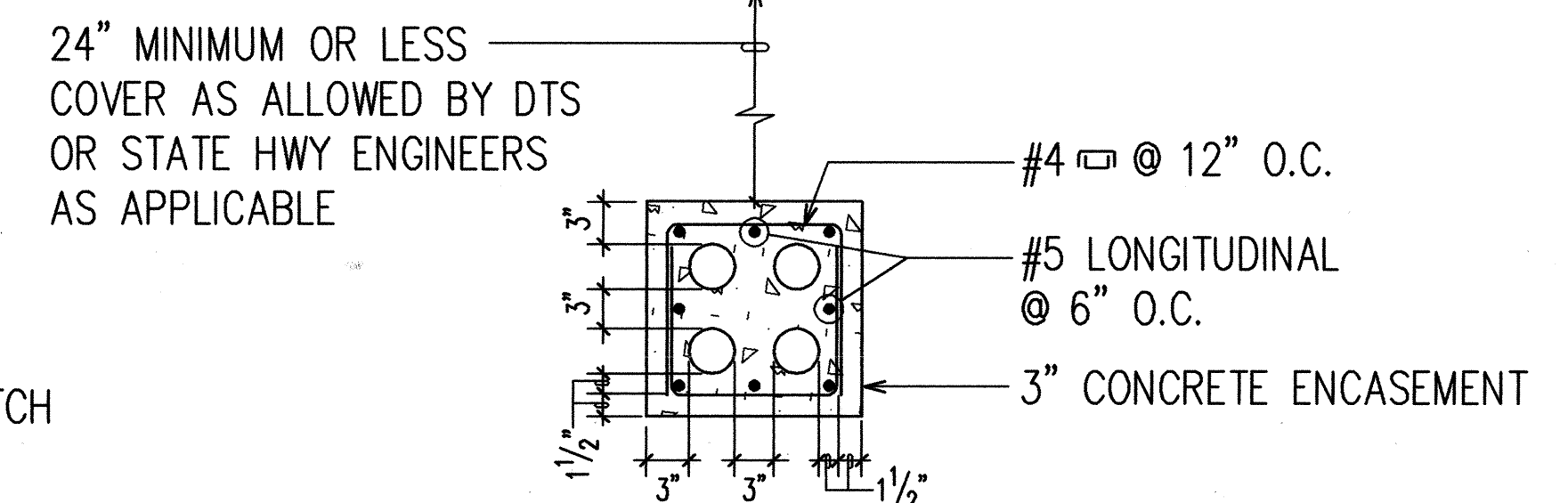


CONDITION "I"



NOTE: 24" CLEARANCE REQUIRED FOR
SEWER LINES OR PROVIDE R.C.
JACKET ON SEWER LINES

CONDITION "II"



TYPICAL REINFORCED DUCT SECTION

TYPICAL UTILITY CROSSING DETAILS
NOT TO SCALE

APPROVED BY:

Dennis M. ... 10/12/98
CHIEF, WASTEWATER BRANCH, D.P.P. DATE

Mark T. ... 8/7/98
CHIEF, CIVIL ENGINEERING BRANCH, D.P.P. DATE

... 6/22/98
CHIEF, ELECTRICAL ENGINEERING DIVISION, D.T.S. DATE
CITY AND COUNTY OF HONOLULU
(FOR CONSTRUCTION WITHIN CITY AND COUNTY R.O.W. ONLY)



6/1/98
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Andrew I. Miyasato
RONALD N. S. HO & ASSOC., INC.
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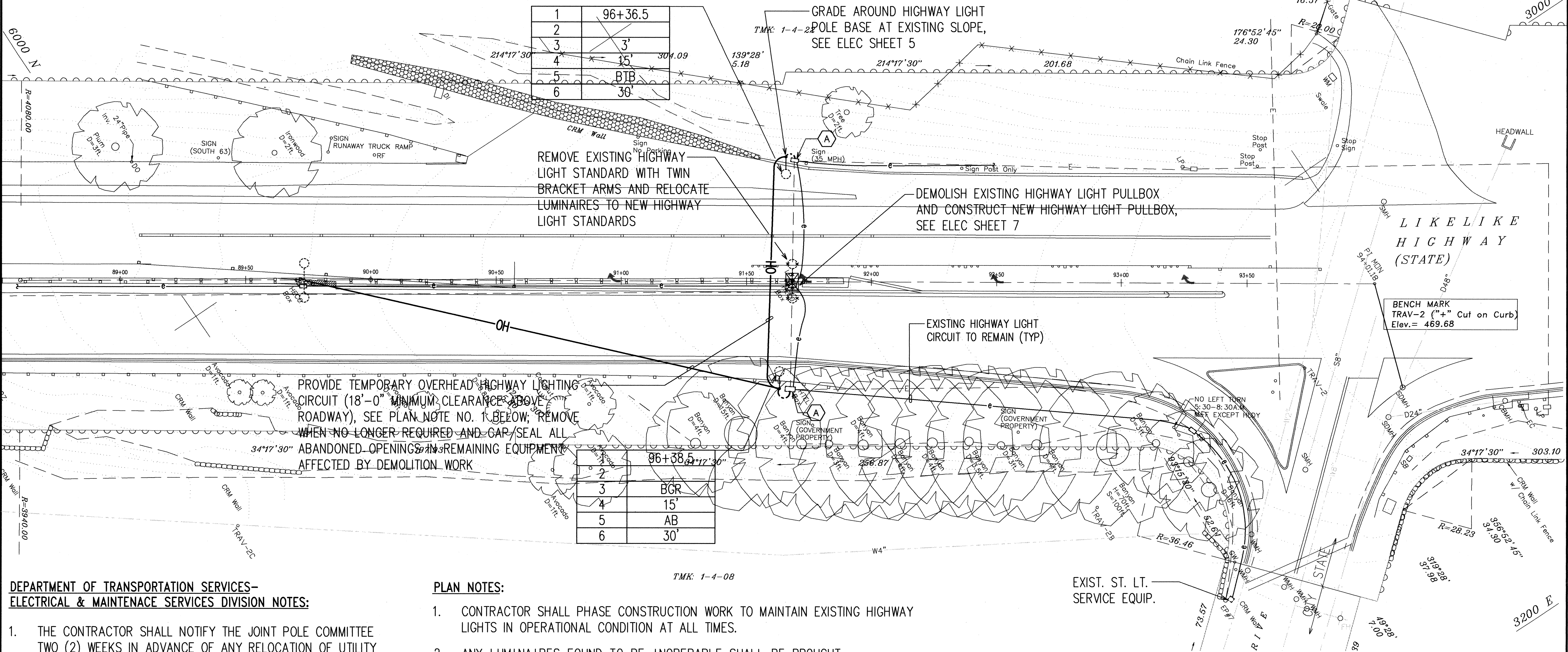
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DUCT SECTIONS

LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS
VALLEY VIEW DRIVE TO H-1

PROJECT NO. 63A-01-97

SCALE: AS NOTED DATE: MAY 1998
SHEET NO. 2 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	32	52

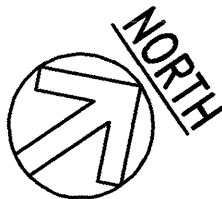


**DEPARTMENT OF TRANSPORTATION SERVICES-
ELECTRICAL & MAINTENANCE SERVICES DIVISION NOTES:**

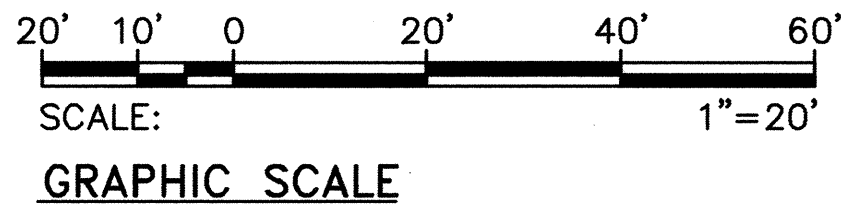
1. THE CONTRACTOR SHALL NOTIFY THE JOINT POLE COMMITTEE TWO (2) WEEKS IN ADVANCE OF ANY RELOCATION OF UTILITY POLE(S) THAT MAY BE NECESSARY.
2. THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE STREET LIGHTING SYSTEM (PHONE: 527-5002).
3. THE STREET LIGHTING SYSTEM SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION OR CHANGEOVER REQUIRED SHALL BE APPROVED BY THE ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, AND PERFORMED AND PAID FOR BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING STREET LIGHTING FACILITIES AND ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.

PLAN NOTES:

1. CONTRACTOR SHALL PHASE CONSTRUCTION WORK TO MAINTAIN EXISTING HIGHWAY LIGHTS IN OPERATIONAL CONDITION AT ALL TIMES.
2. ANY LUMINAIRES FOUND TO BE INOPERABLE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO REMOVAL. UNLESS INFORMED BY THE CONTRACTOR, ANY HIGHWAY LUMINAIRES THAT IS REMOVED SHALL BE CONSIDERED IN OPERABLE CONDITION AND SHALL BE MADE OPERATIONAL AFTER RELOCATION COMPLETED. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE INSTALLATION OF HIGHWAY LIGHT STANDARD.
3. CLEAN AND RELAMP HIGHWAY LIGHTING LUMINAIRES TO BE RELOCATED PRIOR TO REINSTALLATION. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE INSTALLATION OF HIGHWAY LIGHT STANDARD.
4. "A" DENOTES "BREAK INTO EXISTING HIGHWAY LIGHT PULLBOX AS REQUIRED TO INSTALL NEW DUCTS; RESTORE TO MATCH EXISTING". THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE INSTALLATION OF DUCTS.



**HIGHWAY LIGHTING PLAN -
LIKELIKE HWY/VALLEY VIEW DR INTERSECTION**
SCALE: 1"=20'



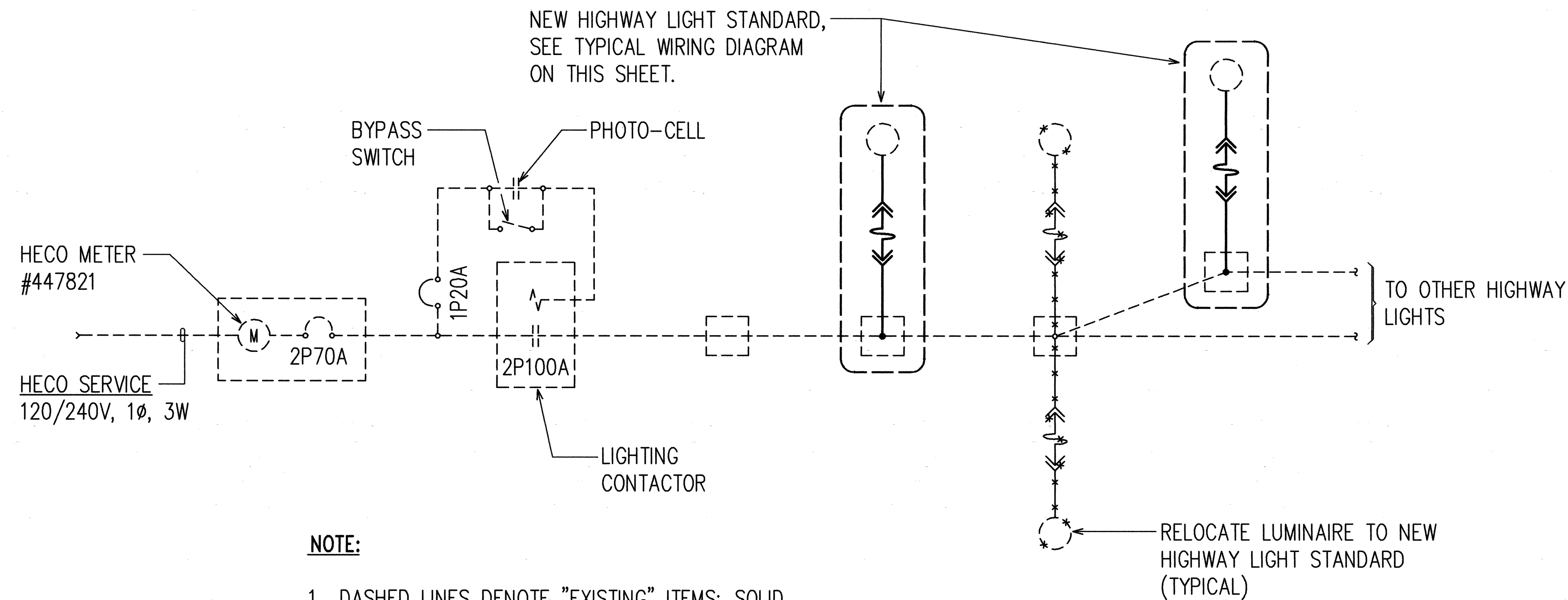
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RONALD N. S. HO & ASSOC., INC.
ELECTRICAL ENGINEERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HIGHWAY LIGHTING PLAN

LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS
VALLEY VIEW DRIVE TO H-1
LIKELIKE HWY/VALLEY VIEW DR INTERSECTION
PROJECT NO. 63A-01-97

SCALE: AS NOTED DATE: MAY 1998
SHEET No. 3 OF 23 SHEETS

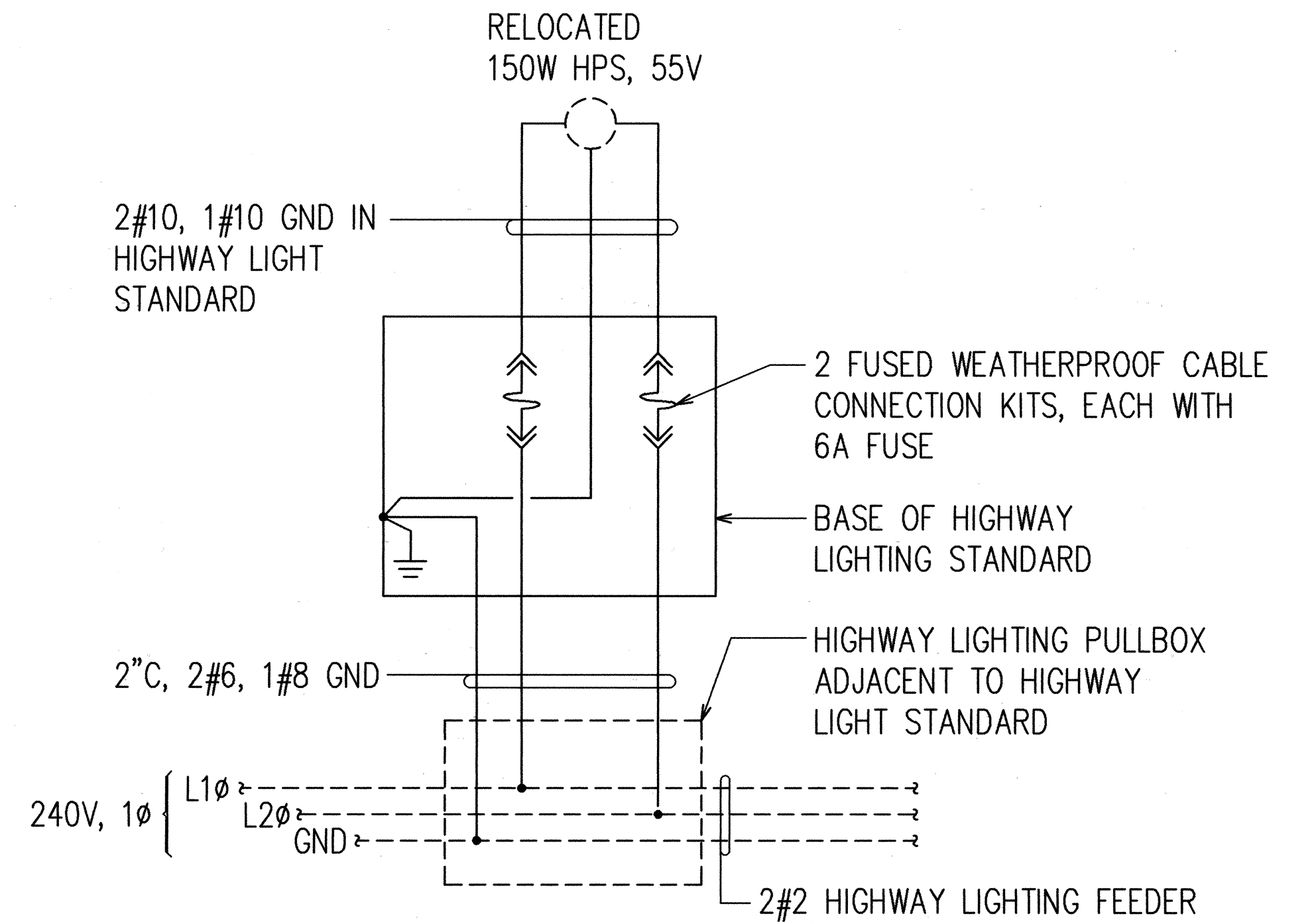
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	33	52



NOTE:

1. DASHED LINES DENOTE "EXISTING" ITEMS; SOLID LINES DENOTE "NEW" ITEMS.
2. "X" THRU ITEM DENOTE "EXISTING ITEM TO BE REMOVED OR AS NOTED".

HIGHWAY LIGHTING CONNECTION ONE-LINE DIAGRAM



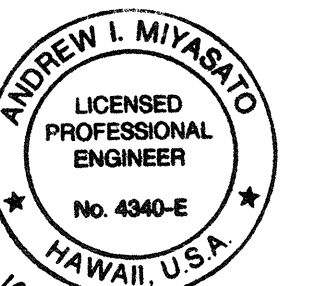
NOTE:

DASHED LINES DENOTE "EXISTING" ITEMS; SOLID LINES DENOTE "NEW" ITEMS

TYPICAL WIRING DIAGRAM FOR HIGHWAY LIGHT STANDARD

SURVEY PLOTTED BY	DATE
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QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
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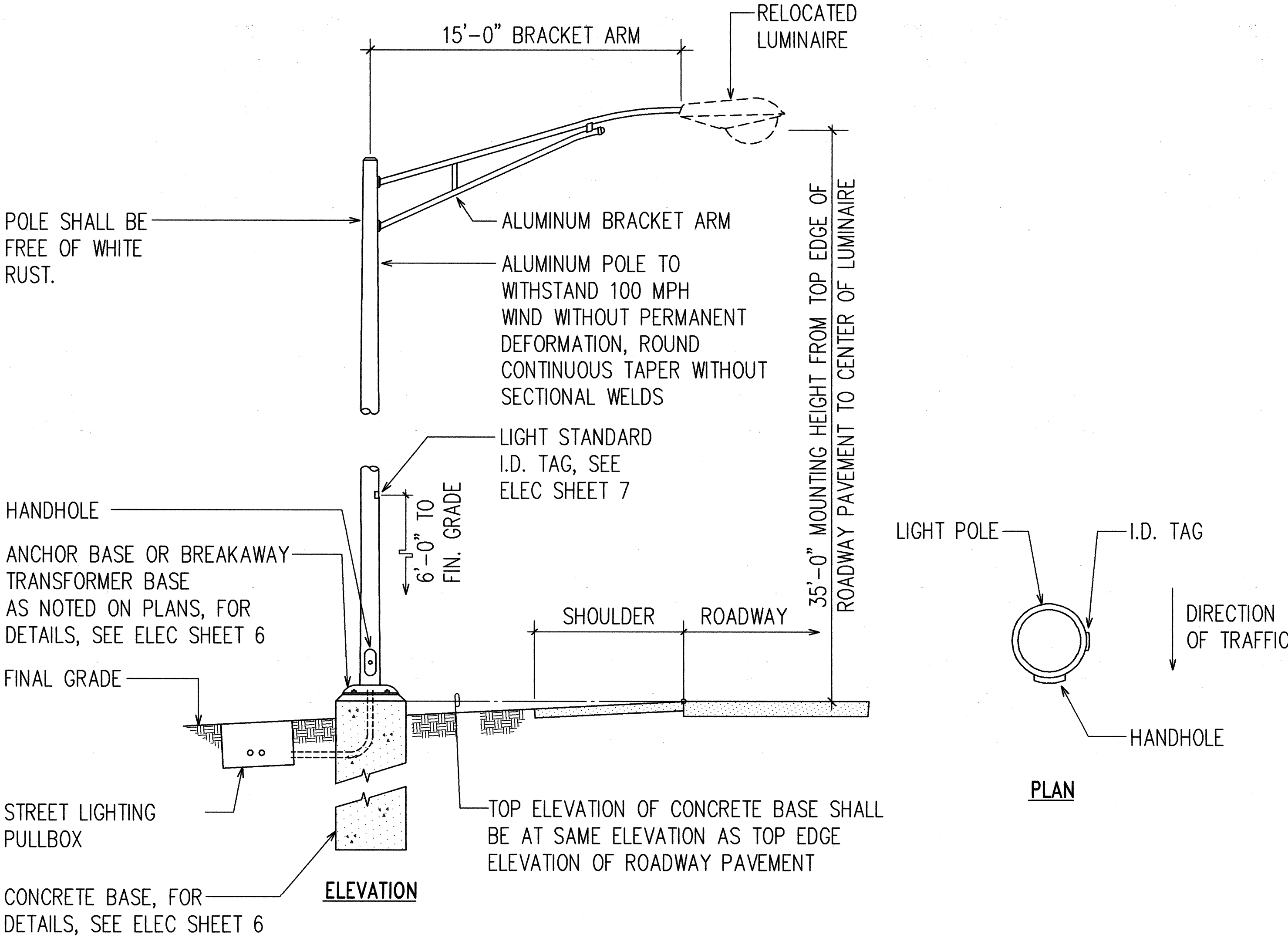
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ELECTRICAL ENGINEERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HIGHWAY LIGHTING DIAGRAMS

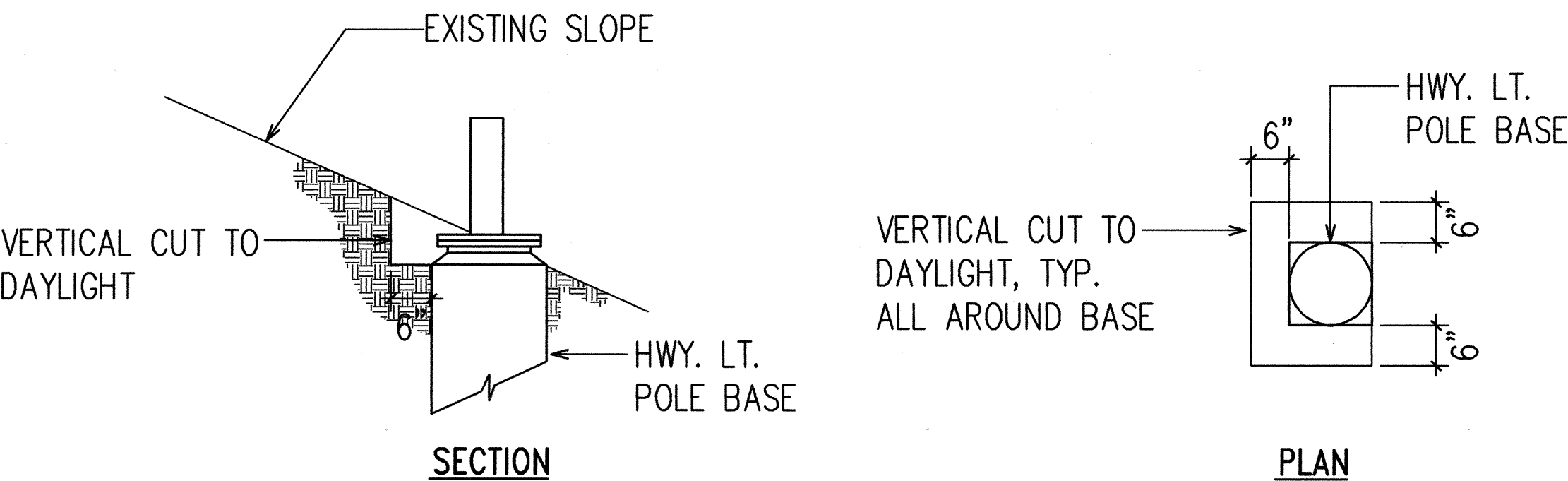
**LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS
VALLEY VIEW DRIVE TO H-1
LIKELIKE HWY/VALLEY VIEW DR INTERSECTION
PROJECT NO. 63A-01-97**

SCALE: AS NOTED DATE: MAY 1998
SHEET No. 4 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	34	52

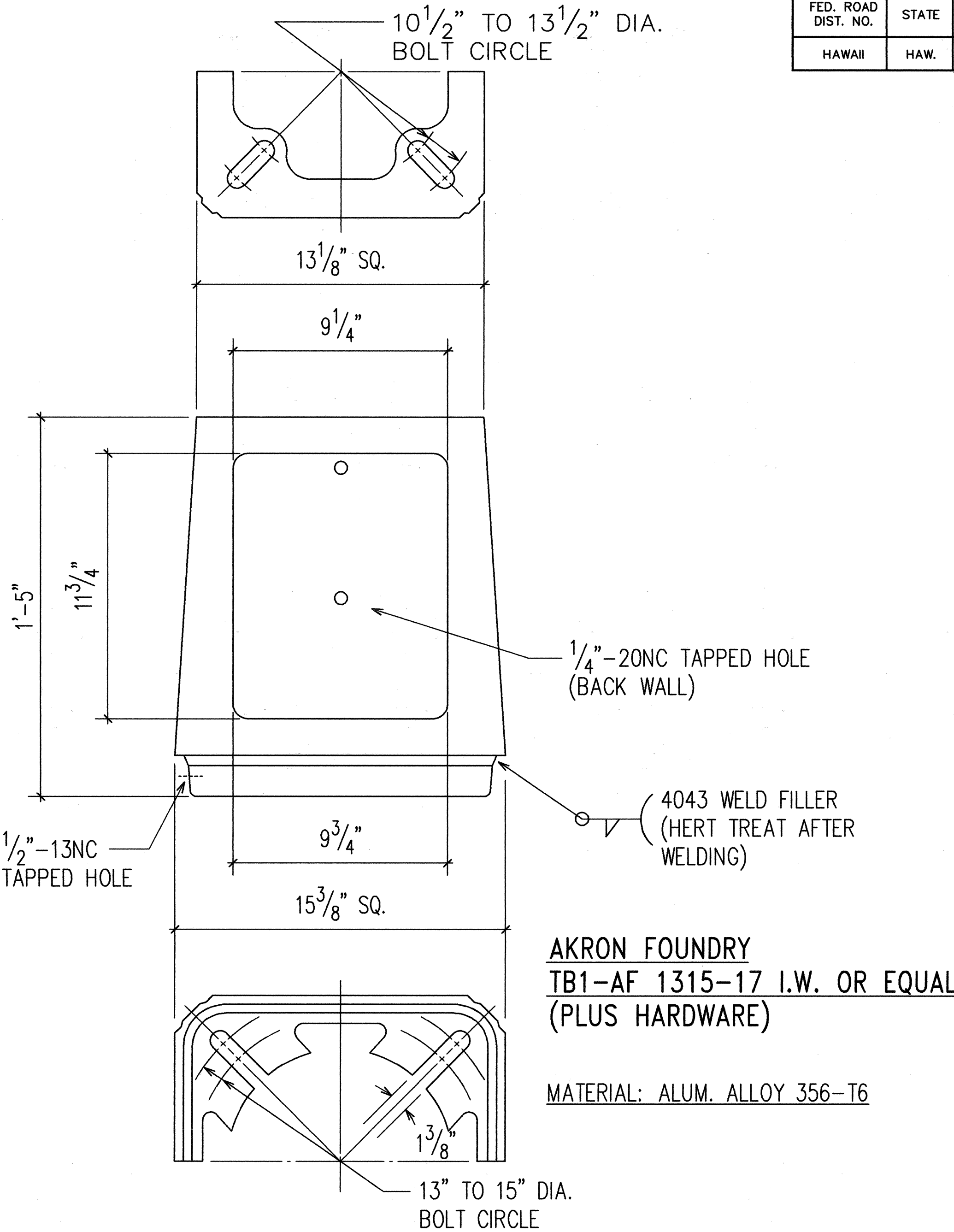


IN-GRADE HIGHWAY LIGHT STANDARD DETAIL
NOT TO SCALE



- NOTES:**
- IF LOOSE MATERIAL IS ENCOUNTERED WITHIN THE STREET LIGHT CUT SLOPE, THE CONTRACTOR SHALL STABILIZE THE AREA OF LOOSE MATERIAL WITH SHOTCRETE OR OTHER APPROVED METHOD.
 - THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE INSTALLATION OF CONCRETE BASE.

TYPICAL GRADING SECTION THRU HIGHWAY LIGHT POLE BASE AT EXISTING SLOPE
NOT TO SCALE



BASE SUPPLIED WITH:

- DOOR AND 1/4"-20NC S.S. SCREW
- EIGHT 1" WASHERS 1/2" THICK X 2 3/4" O.D. (WASHERS MECHANICAL GALVANIZED PER ASTM B454)
- FOUR 1"-8NC X 3 3/4" LONG GALVANIZED STEEL HEX. HD. BOLTS
- FOUR 1"-8NC GALVANIZED STEEL HEX. NUTS
- FOUR 1" GALVANIZED STL. LOCK WASHERS
- FOUR 1" X 2" O.D. GALVANIZED STL FLATWASHERS

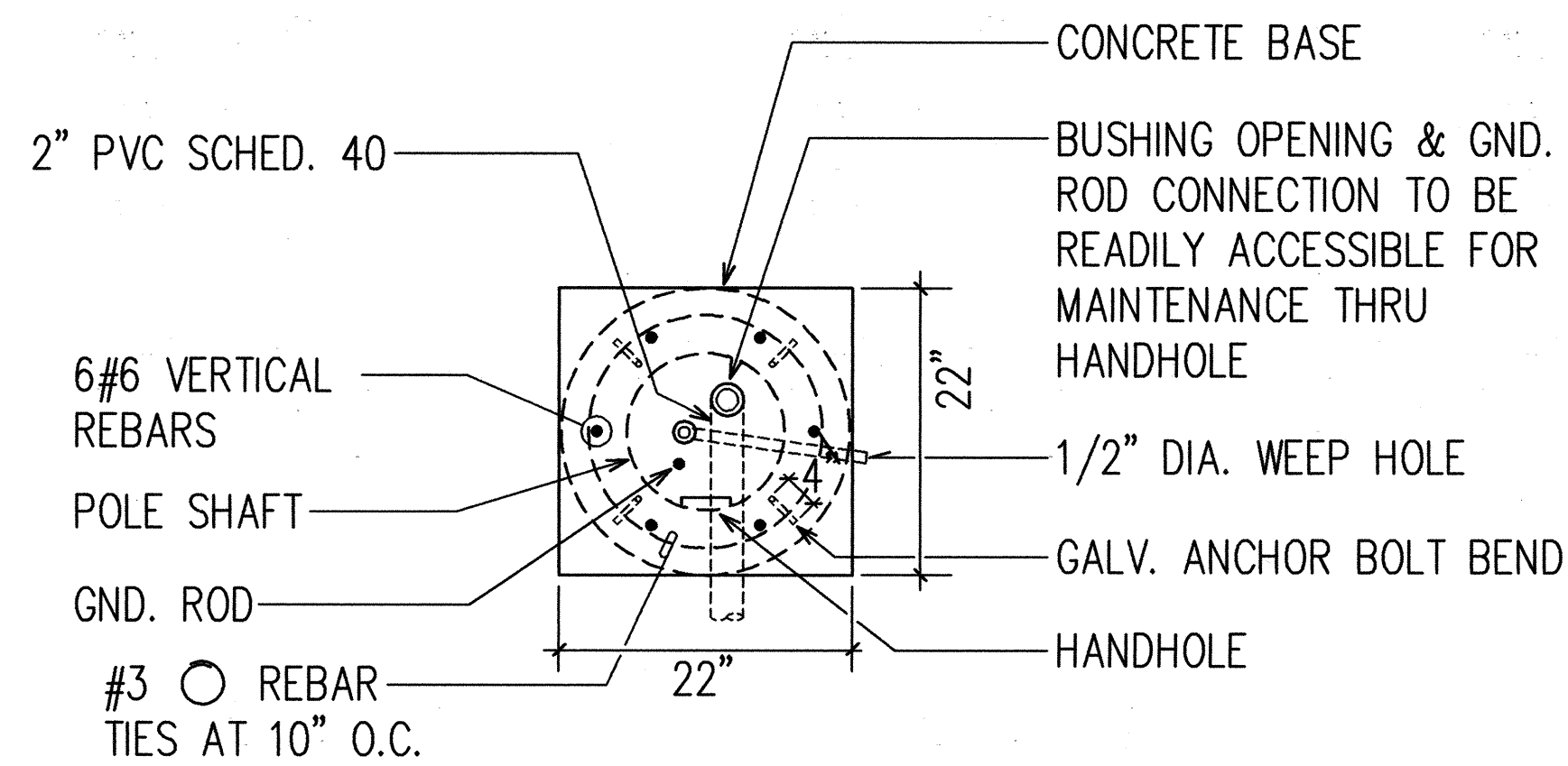
BREAKAWAY TRANSFORMER BASE DETAIL
NOT TO SCALE



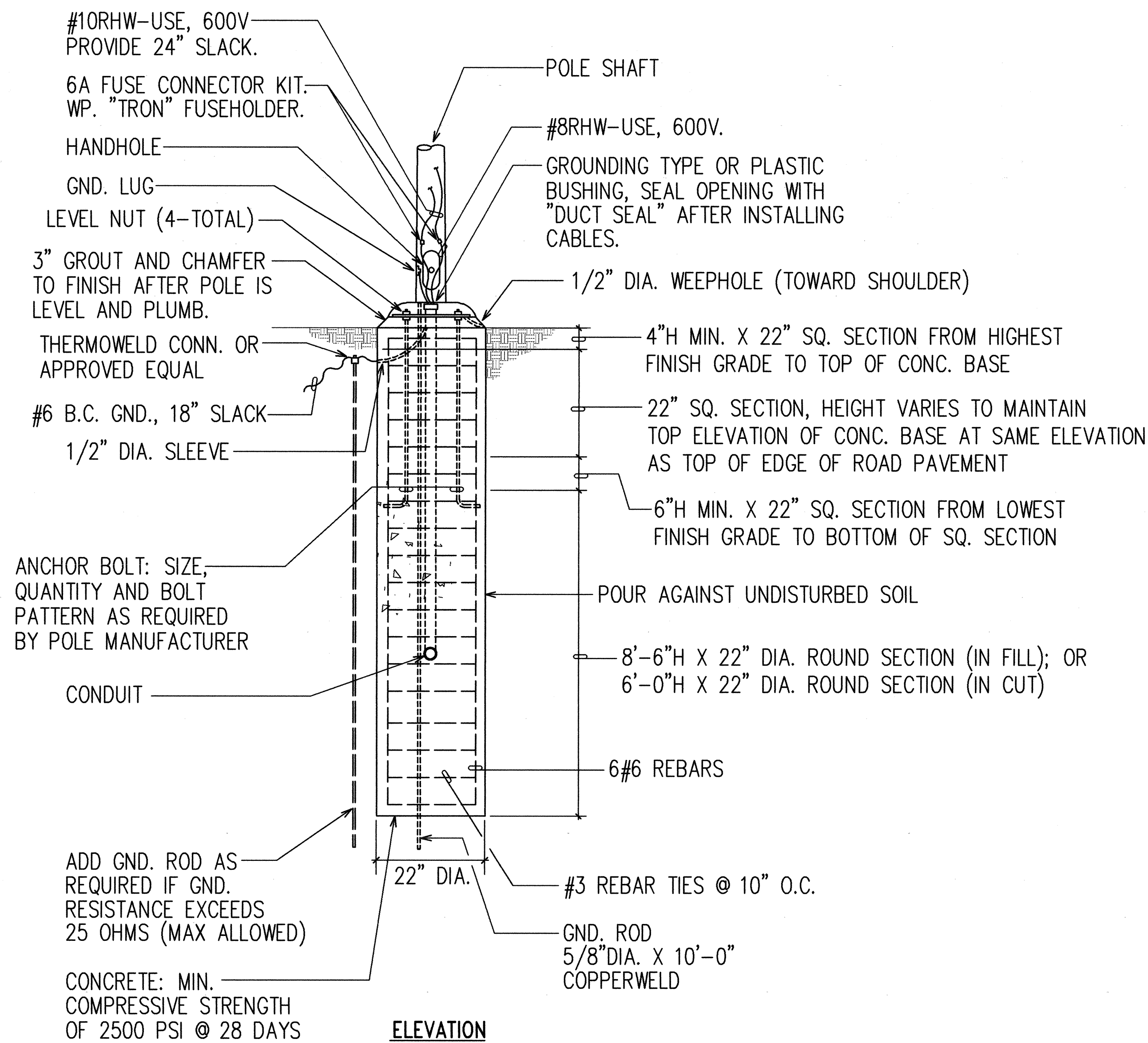
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ELECTRICAL ENGINEERS

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION HIGHWAY LIGHTING DETAILS I LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS VALLEY VIEW DRIVE TO H-1 LIKELIKE HWY/VALLEY VIEW DR INTERSECTION PROJECT NO. 63A-01-97 SCALE: AS NOTED DATE: MAY 1998 SHEET No. 5 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	35	52

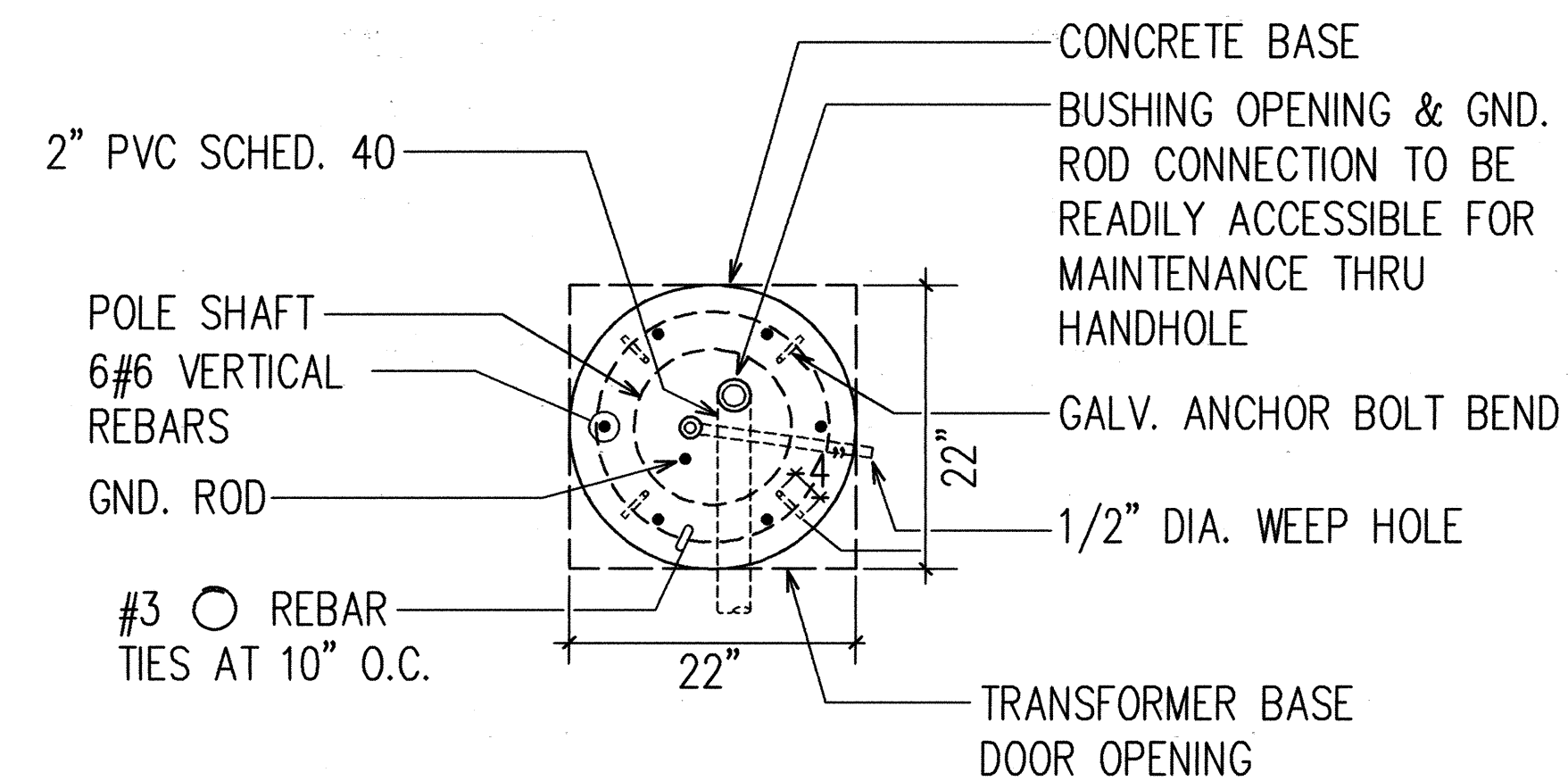


PLAN

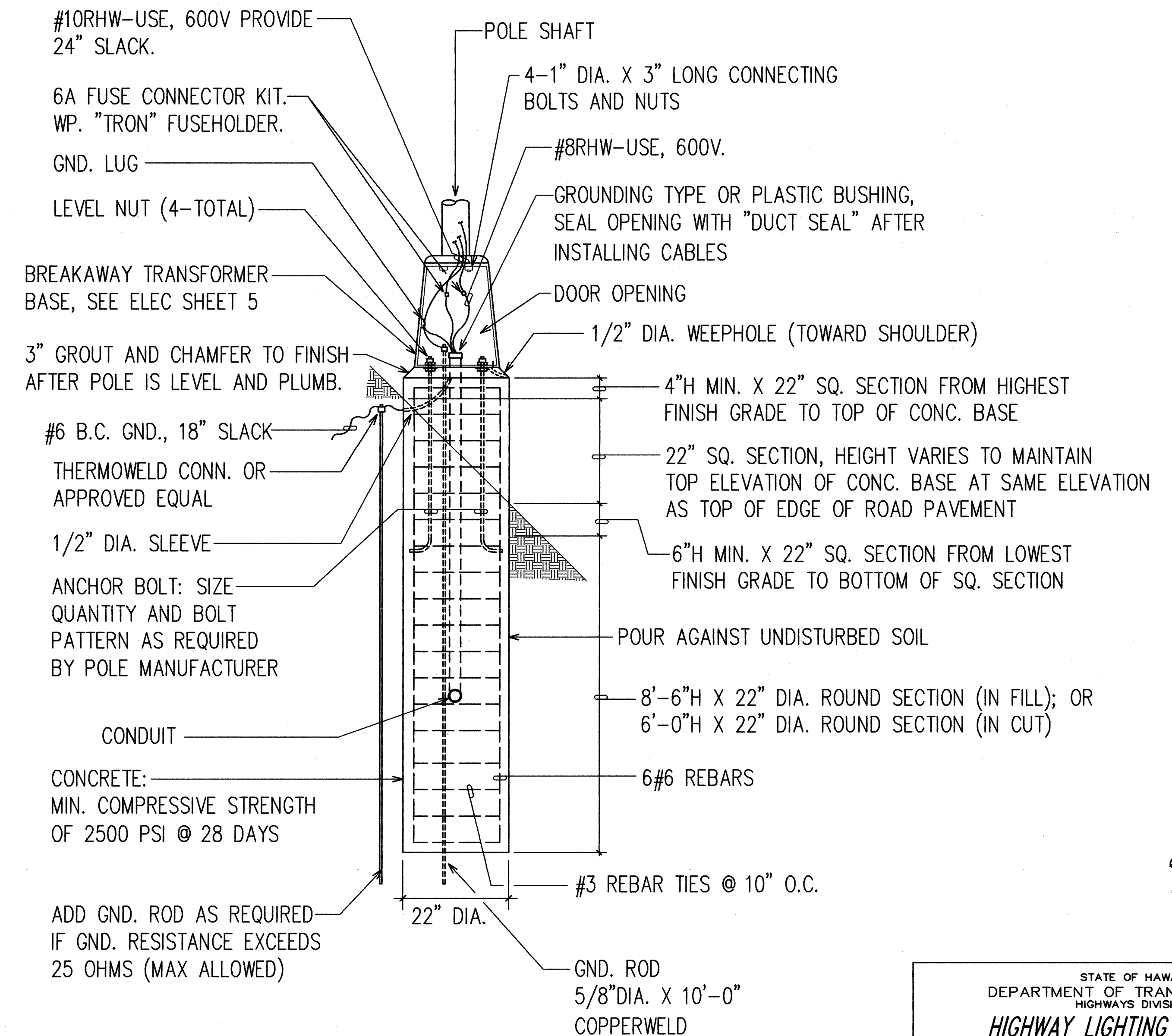


ELEVATION

ANCHOR BASE DETAIL
NOT TO SCALE



PLAN



ELEVATION

BREAKAWAY TRANSFORMER BASE DETAIL
NOT TO SCALE



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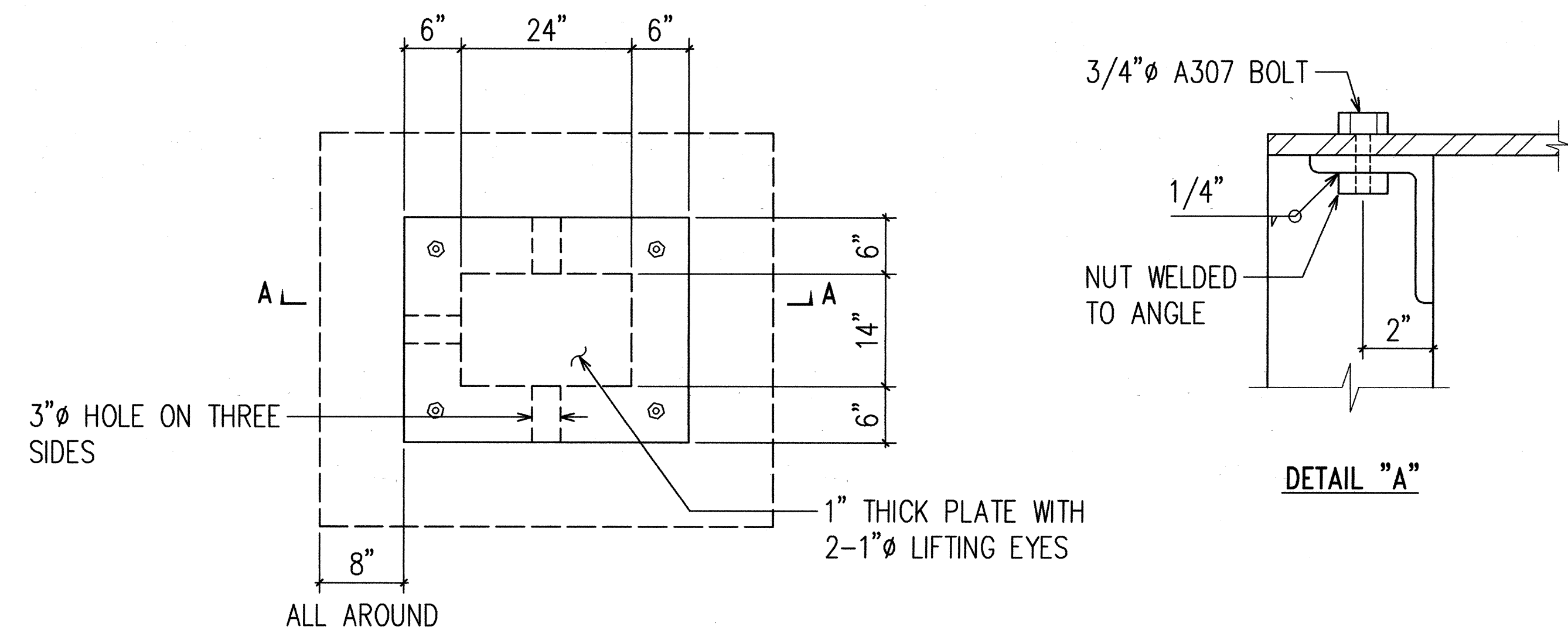
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING DETAILS II

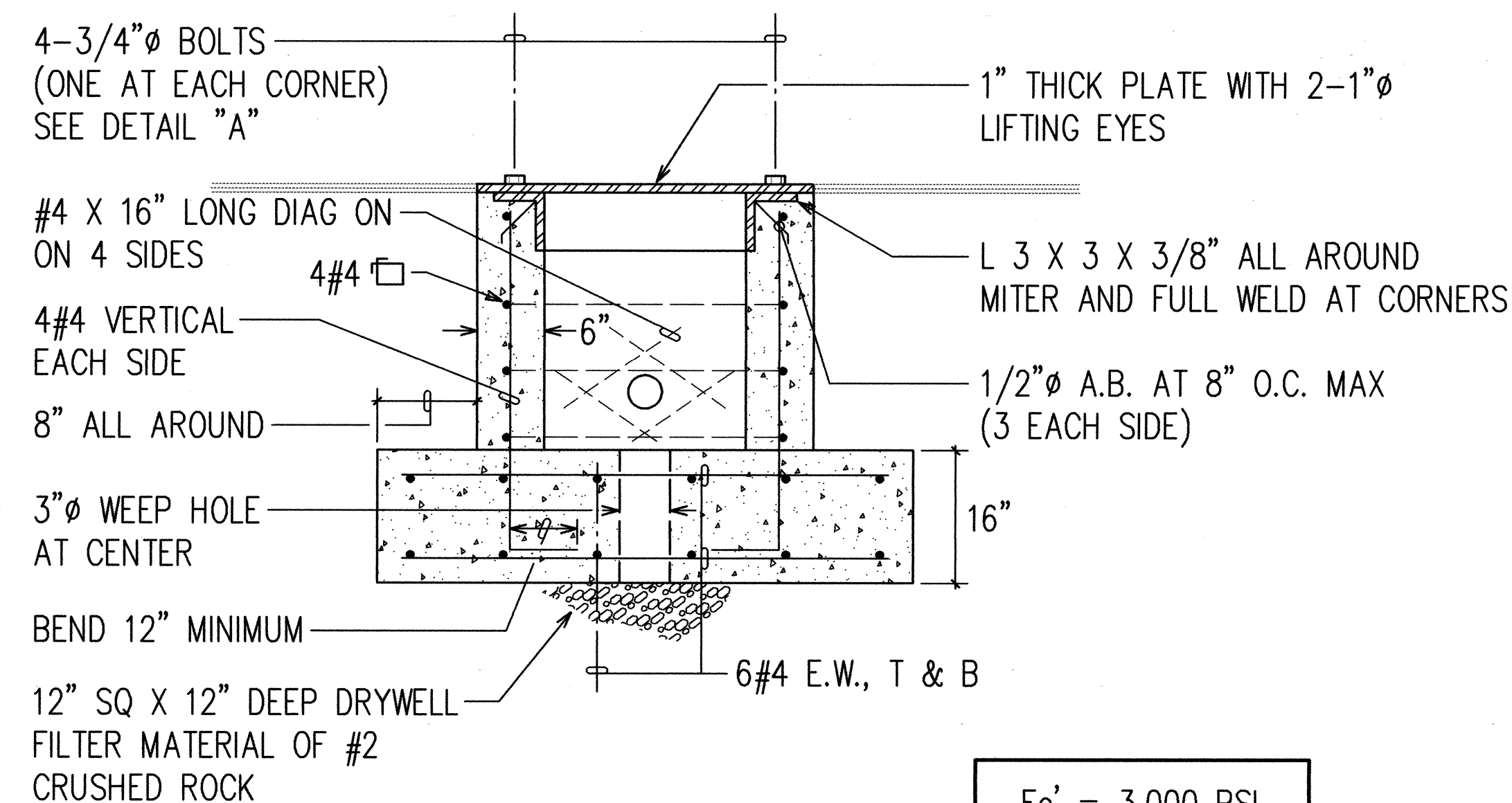
LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS
VALLEY VIEW DRIVE TO H-1
LIKELIKE HWY/VALLEY VIEW DR INTERSECTION
PROJECT NO. 63A-01-97

SCALE: AS NOTED DATE: MAY 1998
SHEET No. 6 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	36	52



PLAN VIEW

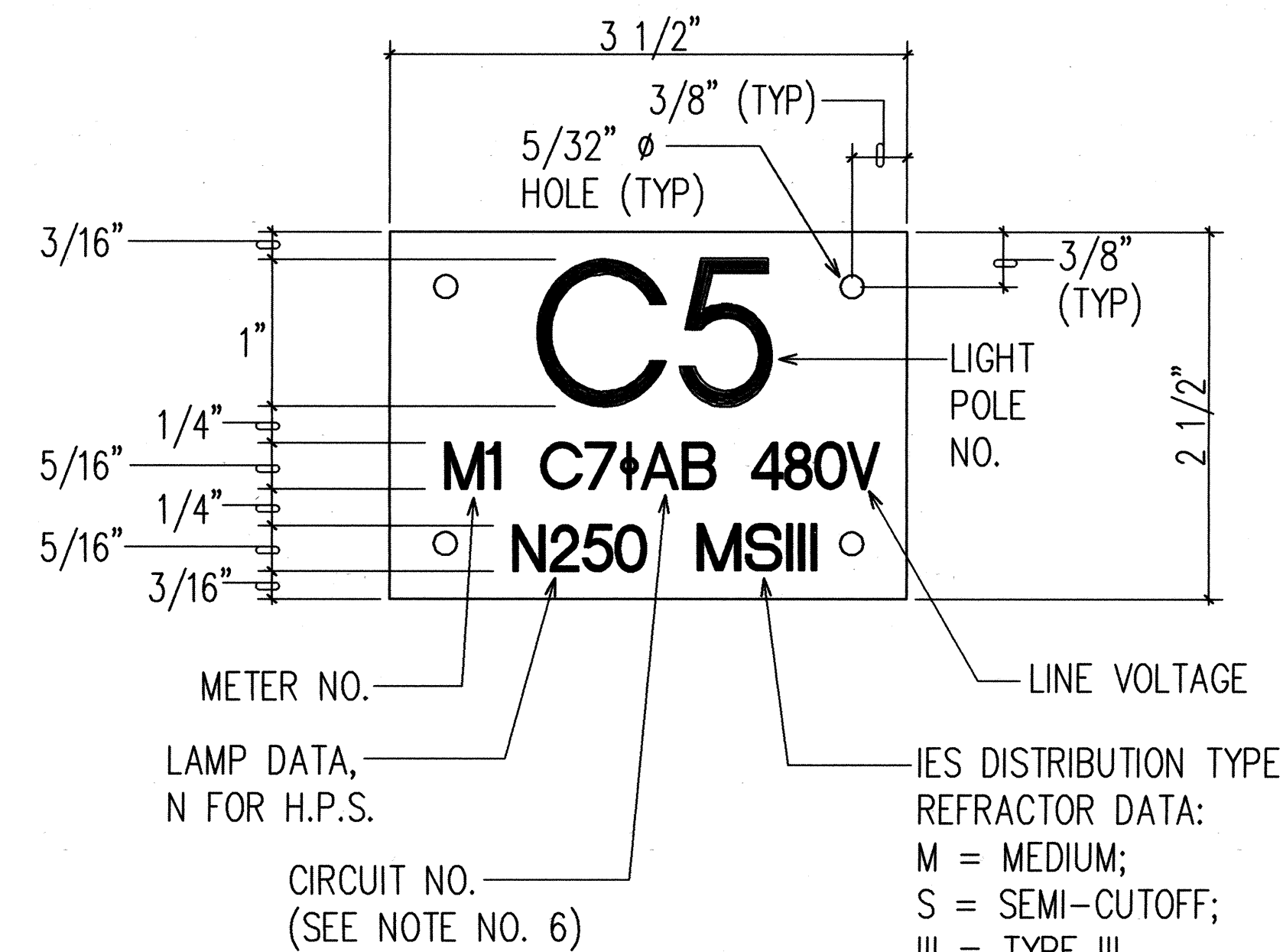
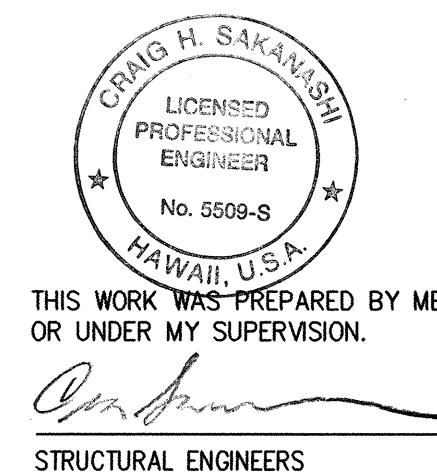


SECTION "A-A"

HIGHWAY LIGHT PULLBOX DETAIL NOT TO SCALE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
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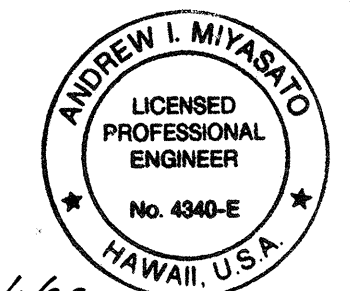
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NOTES:

- 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 (METER NUMBER, CIRCUIT NUMBER, LINE VOLTAGE, LAMP DATA AND REFRACTOR DATA AS REQUIRED).
- ATTACH TO ALUMINUM AND STEEL POLE WITH NO. 8 STAINLESS STEEL, 1/2" LONG DRIVE SCREWS IN 1/8" DRILL HOLE.
- NUMBERS AND LETTERS ARE INSCRIBED BY CUTTING THROUGH "BLACK CAP SHEET" TO EXPOSE "WHITE LETTERS".
- ASSIGN CIRCUIT NUMBER (LETTER INDICATES PANELBOARD, NUMBER INDICATES CIRCUIT). ASSIGN PHASE CONNECTIONS OF THE 3 PHASE CIRCUIT (øAB INDICATES CONNECTION TO PHASES A & B).
- CONTRACTOR TO VERIFY ALL ITEMS OF ID TAG WITH STATE D.O.T. PRIOR TO FABRICATION.

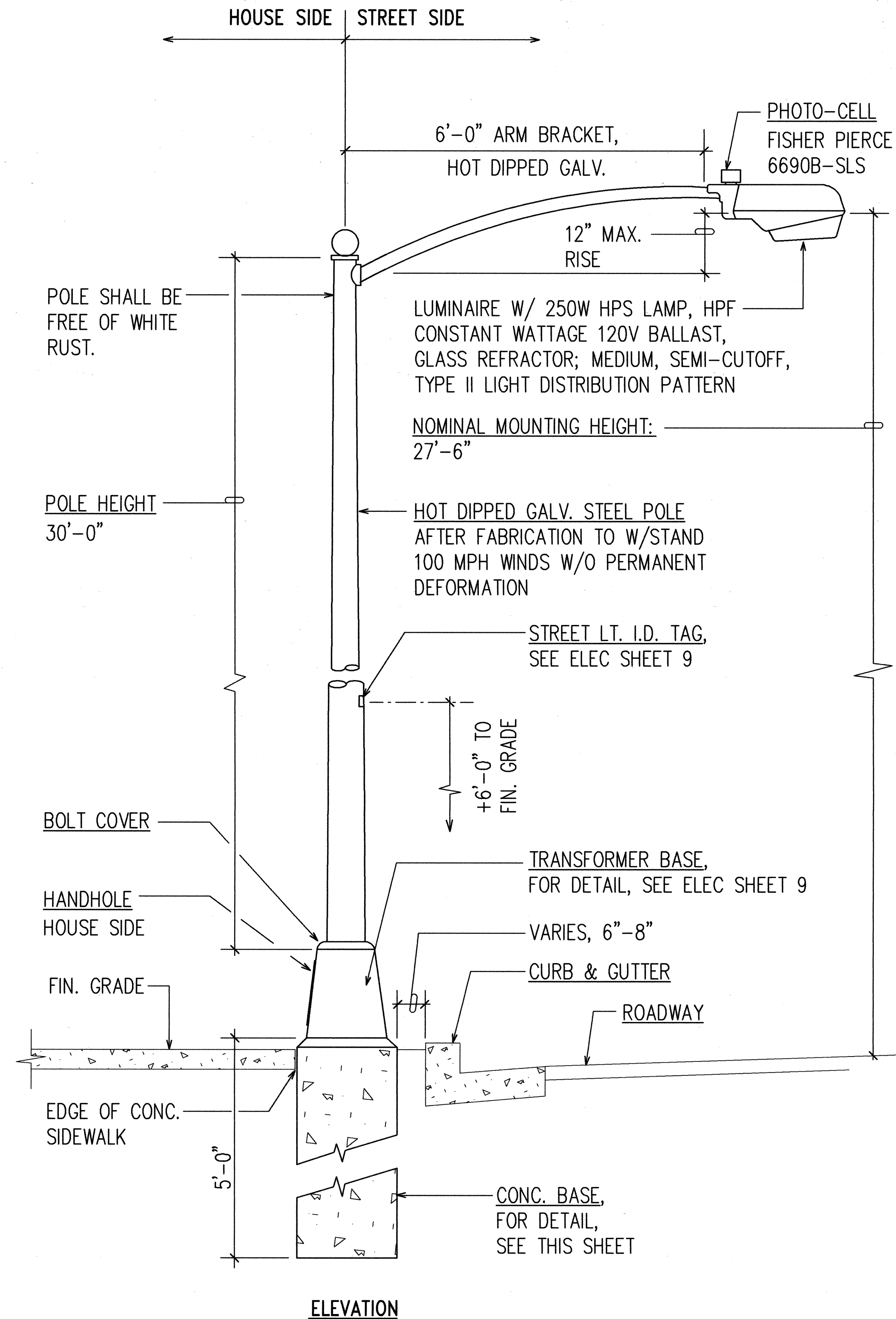
HIGHWAY LIGHT I.D. TAG DETAIL NOT TO SCALE



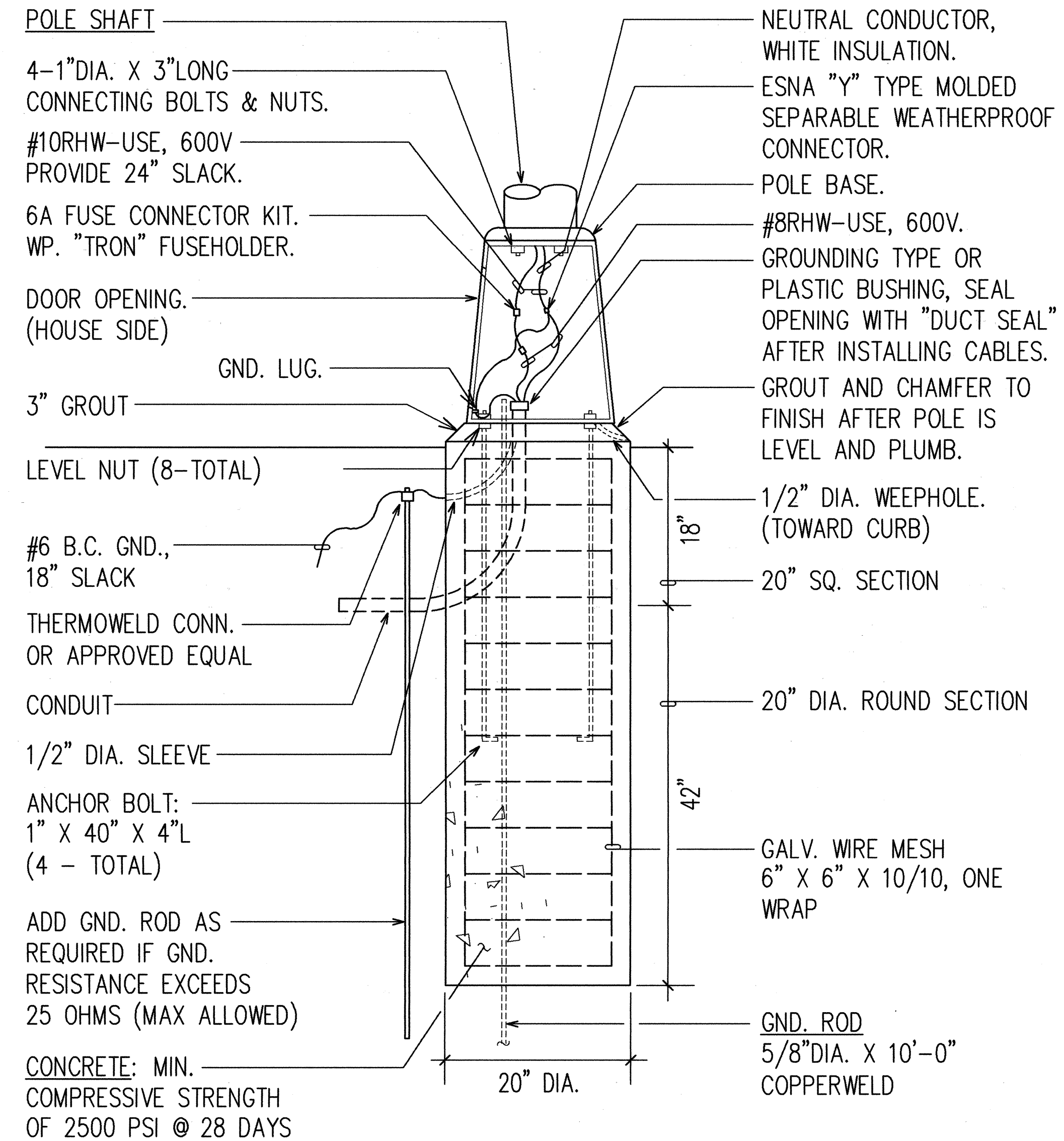
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Andrew I. Miyasato
RONALD N. S. HO & ASSOC., INC.
ELECTRICAL ENGINEERS

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION HIGHWAY LIGHTING DETAILS III LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS VALLEY VIEW DRIVE TO H-1 LIKELIKE HWY/VALLEY VIEW DR INTERSECTION PROJECT NO. 63A-01-97 SCALE: AS NOTED DATE: MAY 1998 SHEET No. 7 OF 23 SHEETS
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	37	52



STREET LIGHT STANDARD
NOT TO SCALE (CITY)



CONCRETE BASE DETAIL
NOT TO SCALE (CITY)

APPROVED BY:

Ronald N. S. Ho
CHIEF, ELECTRICAL ENGINEERING DIVISION, D.T.S.
CITY AND COUNTY OF HONOLULU
(FOR CONSTRUCTION WITHIN CITY AND COUNTY R.O.W. ONLY)

6/22/98
DATE



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Andrew I. Miyamoto
RONALD N. S. HO & ASSOC., INC.
ELECTRICAL ENGINEERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

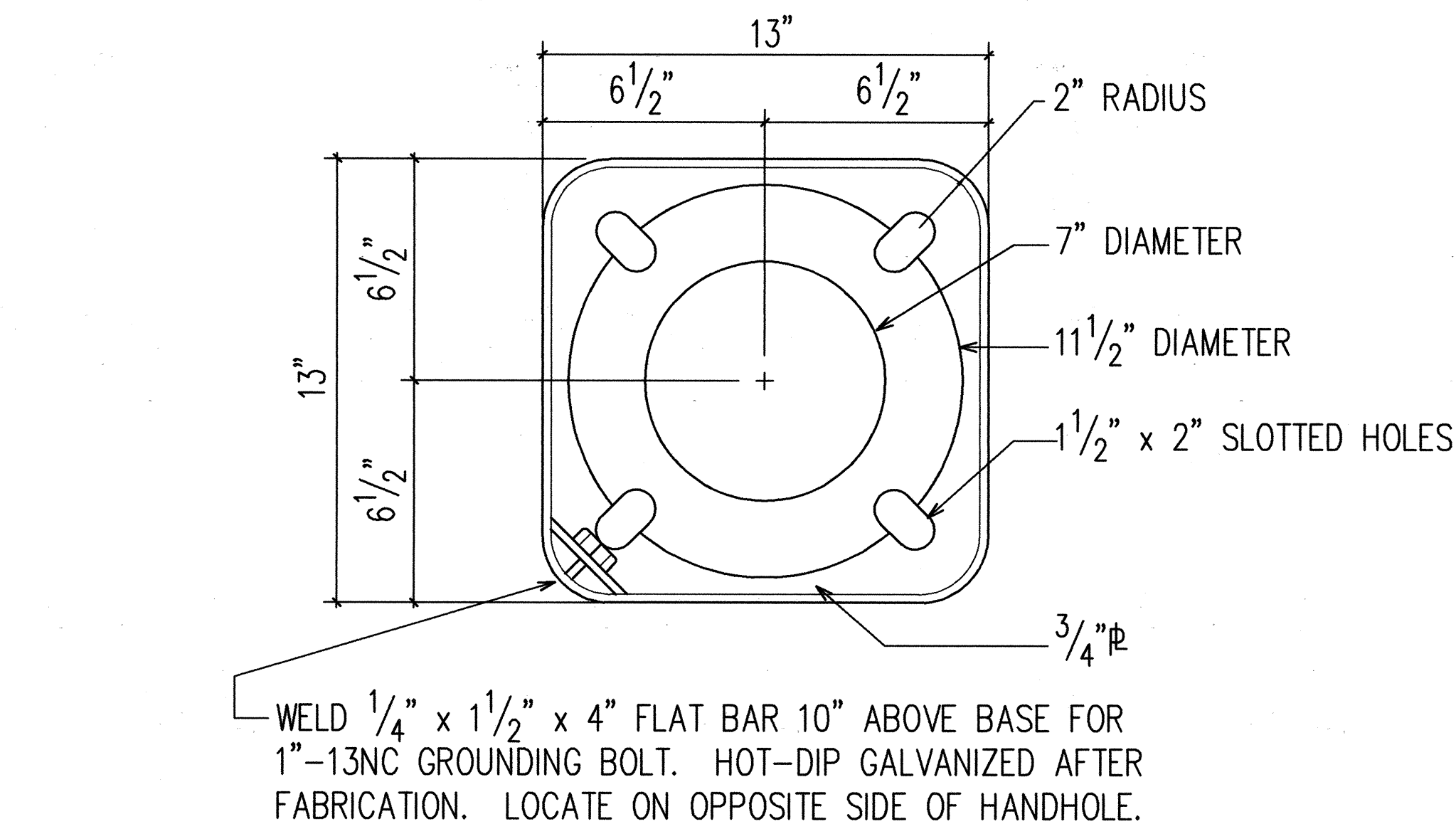
STREET LIGHT DETAILS I

LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS
VALLEY VIEW DRIVE TO H-1
LIKELIKE HWY/MAKUAHINE ST INTERSECTION
PROJECT NO. 63A-01-97

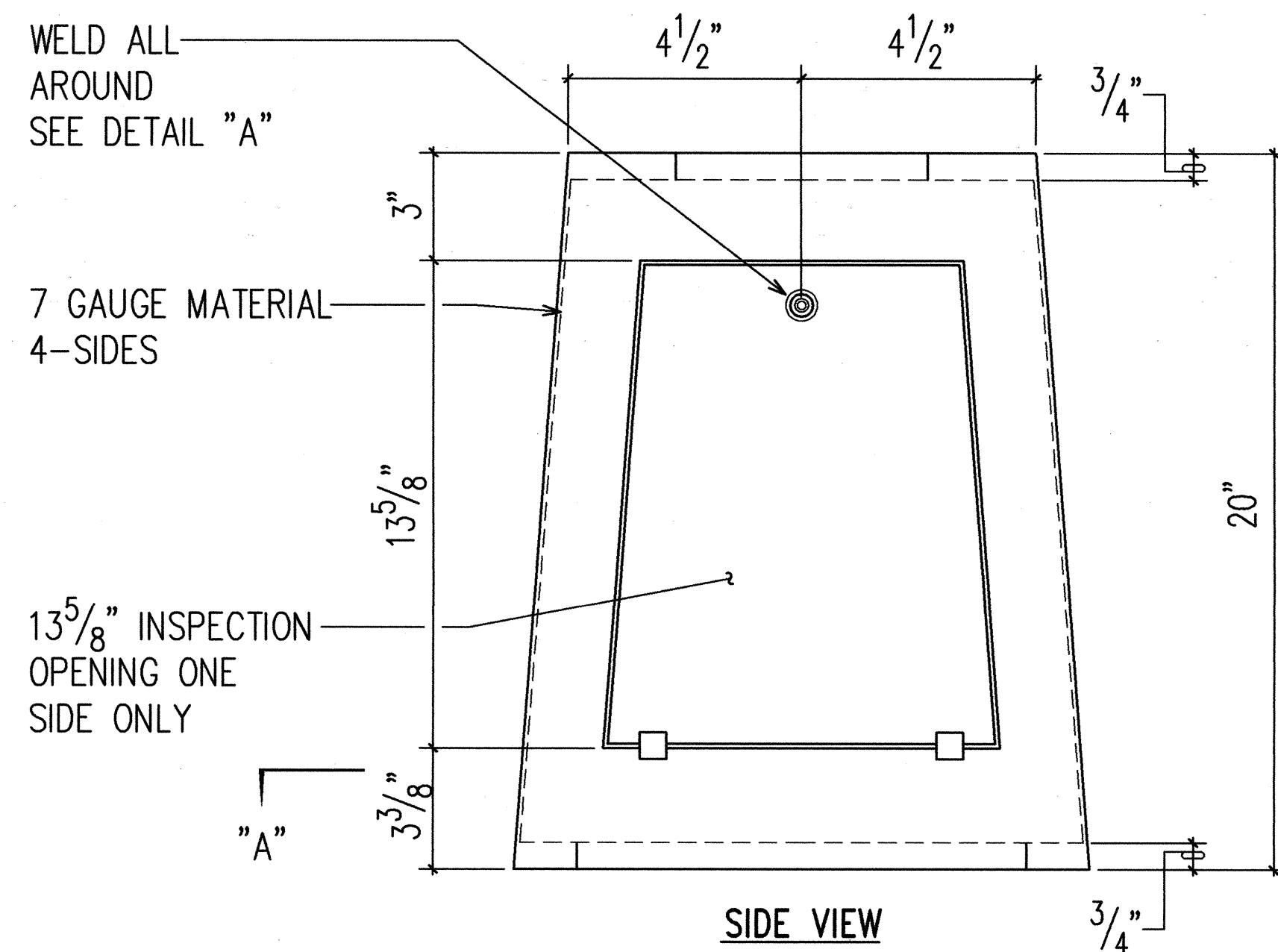
SCALE: AS NOTED DATE: MAY 1998

SHEET No. 8 OF 23 SHEETS

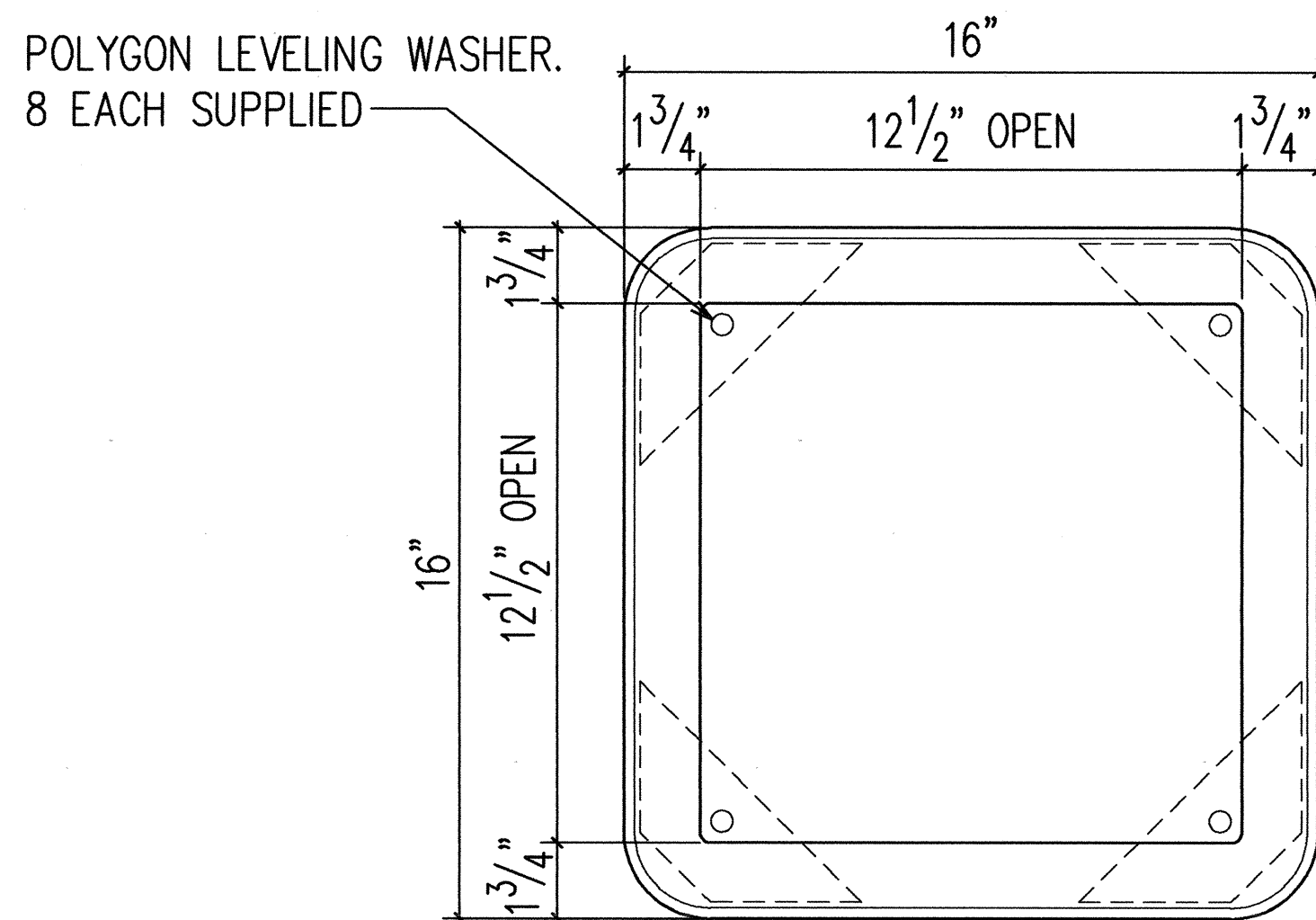
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	38	52



TOP VIEW

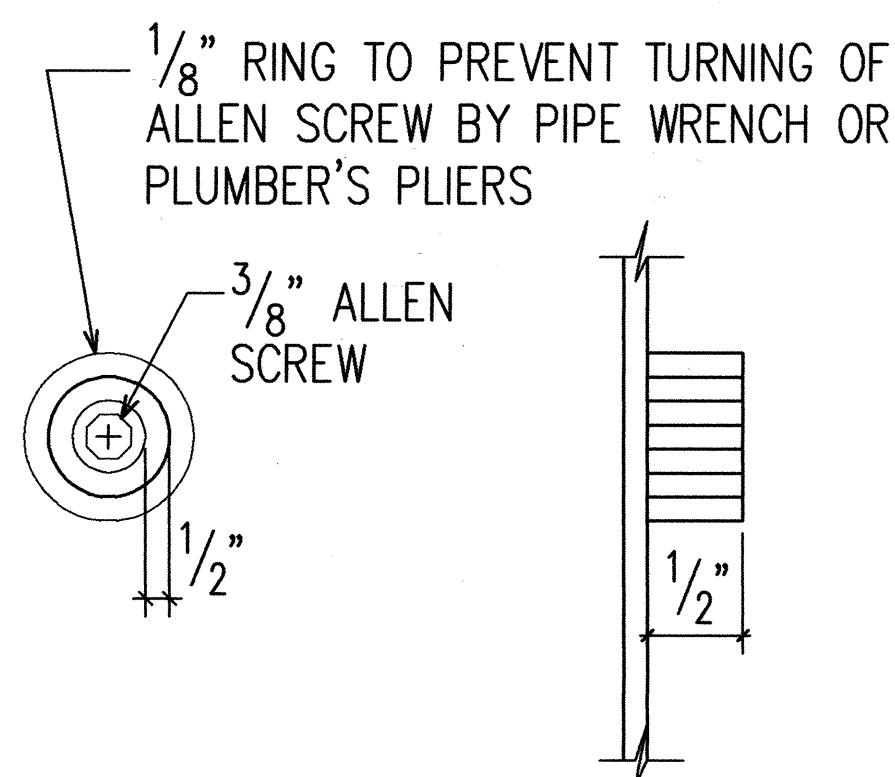


SIDE VIEW



SECTION "A"

STREET LIGHT TRANSFORMER BASE DETAIL
NOT TO SCALE (CITY)



DETAIL "A"

LOCKING DEVICE WITH $\frac{3}{8}$ x 2" LONG ALLEN SCREW (GALVANIZED)

NOTES:

1. ALL STEEL SHALL CONFORM TO REQUIREMENTS OF ASTM A36 STEEL.
2. ALL WELDS SHALL BE PERFORMED BY A CERTIFIED WELDER.
3. BOLTS FOR BOLTING POLE FLANGE INCLUDED 4-1" x 4~8" HEX BOLT WITH NUT AND WASHER.
4. ENTIRE ASSEMBLY SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

LUMINAIRE WITH HIGH PRESSURE SODIUM LAMP AND INTERGRAL CONSTANT WATTAGE BALLAST RATED FOR 120V OPERATION

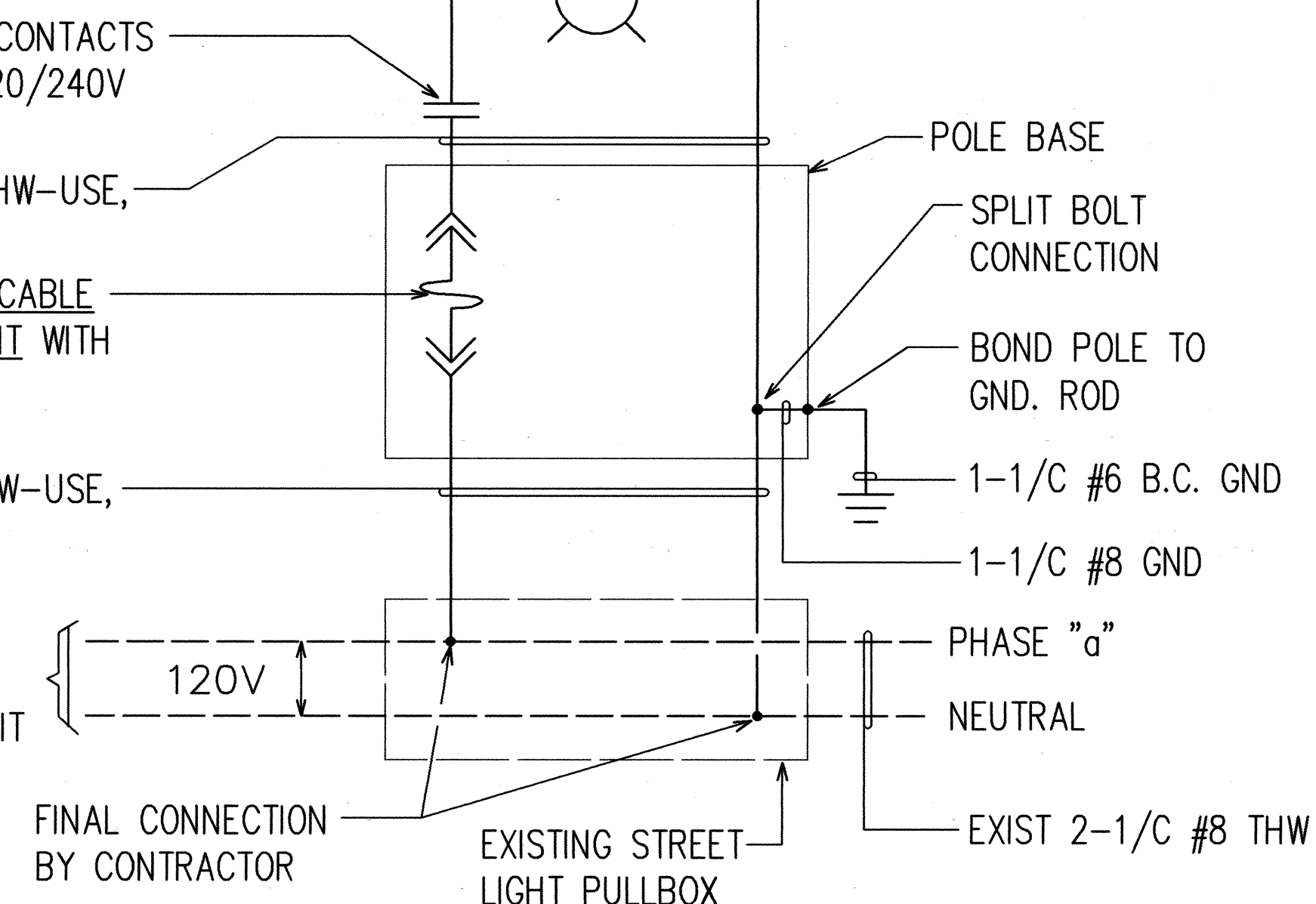
PHOTO-CELL CONTACTS RATED FOR 120/240V OPERATION

2-1/C #10 RHW-USE, 600V

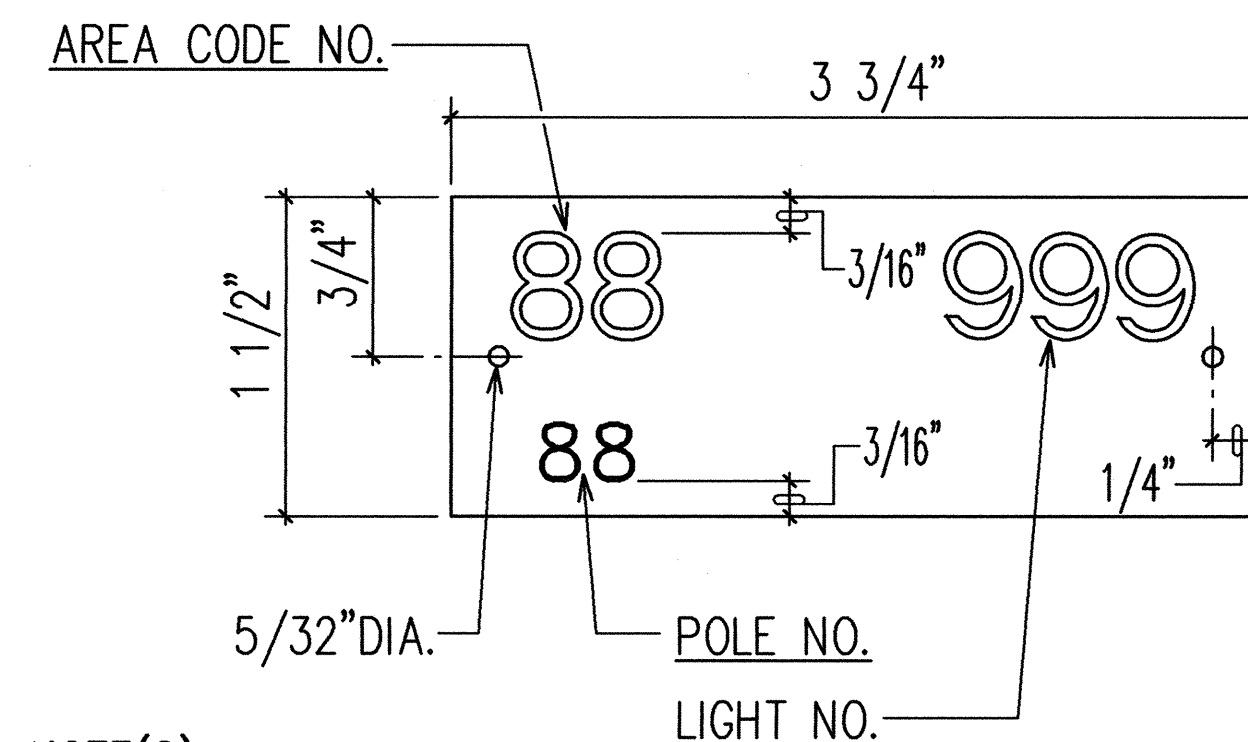
WATERPROOF CABLE CONNECTOR KIT WITH 6A FUSE

2-1/C #8 RHW-USE, 600V

EXISTING CITY STREET LIGHT FEEDER CIRCUIT



SINGLE STREET LIGHT WIRING DIAGRAM
NOT TO SCALE (CITY)



NOTE(S):

1. USE 2 PLY LAMINATED FLEXIBLE PLASTIC, BLACK-WHITE THICKNESS: BLACK CAP SHEET-0.010", WHITE BASE SHEET-0.052".
2. AREA CODE AND LIGHT NUMBER SHALL BE 5/8" HIGH, 1/8" STROKE, WHITE IN COLOR (NUMBER AS REQUIRED).
3. POLE NUMBER SHALL BE 1/4" HIGH, 1/16" STROKE, WHITE IN COLOR (NUMBER AS REQUIRED).
4. ATTACH TO ALUMINUM AND STEEL POLES WITH NO. 8 STAINLESS STEEL, 1/2" LONG DRIVE SCREWS IN 1/8" DRILL HOLE. ATTACH TO WOOD POLES WITH 4D ALUMINUM NAILS.
5. NUMBERS ARE INSCRIBED BY CUTTING THROUGH "BLACK CAP SHEET" TO EXPOSE "WHITE" LETTERS.
6. CONTRACTOR TO VERIFY ALL ITEMS OF ID TAG WITH D.T.S. PRIOR TO FABRICATION

STREET LIGHT I.D. TAG DETAIL
NOT TO SCALE (CITY)

APPROVED BY:

Andrew I. Miyasato
6/22/98
CHIEF, ELECTRICAL ENGINEERING DIVISION, D.T.S.
CITY AND COUNTY OF HONOLULU
(FOR CONSTRUCTION WITHIN CITY AND COUNTY R.O.W. ONLY)



6/1/98
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Andrew I. Miyasato
RONALD N. S. HO & ASSOC., INC.
ELECTRICAL ENGINEERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT DETAILS II

LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS
VALLEY VIEW DRIVE TO H-1
LIKELIKE HWY/MAKUAHINE ST INTERSECTION
PROJECT NO. 63A-01-97

SCALE: AS NOTED DATE: MAY 1998
SHEET No. 9 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-01-97	1998	39	52

CITY STREET LIGHTING NOTES:

1. THE CONTRACTOR SHALL NOTIFY & COORDINATE WORK WITH ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE STREET LIGHTING SYSTEM (PHONE: 527-5002).
2. THE EXISTING STREET LIGHTING SYSTEM SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION OR CHANGEOVER REQUIRED SHALL BE APPROVED BY THE ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, AND PERFORMED AND PAID FOR BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING STREET LIGHTING FACILITIES AND ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.
4. THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, PRIOR TO FINAL CONNECTIONS TO EXISTING CITY STREET LIGHT FEEDER CIRCUIT.
5. TYPICAL CONSTRUCTION DETAILS TO BE PER THIS SHEET & APPLICABLE STANDARD DETAILS OF THE ELECTRICAL & MAINTENANCE SERVICE DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES.
6. ON BOTTOM OF EACH PHOTO-CELL, CONTRACTOR SHALL STENCIL THE DATE OF INSTALLATION.
7. LUMINAIRE & POLE COUNT: POLES: 1
LUMINAIRE: 1
8. AT ALL TIMES DURING CONSTRUCTION PERIOD, CONTRACTOR SHALL MAINTAIN ONE SET OF APPROVED PLANS AT THE PROJECT SITE.
9. CONTRACTOR SHALL ARRANGE TO ENERGIZE STREET LIGHTS A MINIMUM OF SIX HOURS FOR FINAL INSPECTION & ACCEPTANCE. CONTRACTOR TO PAY FOR ALL TESTING COSTS.
10. FINAL ACCEPTANCE INSPECTION WILL BE UNDERTAKEN ONLY AFTER ALL WORK HAS BEEN COMPLETED & THE "AS-BUILT" TRACINGS HAVE BEEN RECEIVED BY THE CITY & COUNTY OF HONOLULU, DEPARTMENT OF TRANSPORTATION SERVICES.
11. THE CONTRACTOR SHALL MEASURE AND RECORD THE GROUND RESISTANCE AT EACH STANDARD WITH NO EXTERNAL GROUND WIRES CONNECTED TO THE GROUND ROD. CONTRACTOR SHALL SCHEDULE GROUND RESISTANCE MEASUREMENTS 48 HOURS IN ADVANCE AND SHALL NOT PROCEED WITH MEASUREMENTS UNTIL APPROVAL HAS BEEN GRANTED. SCHEDULES ARE SUBJECT TO CHANGES DEPENDING UPON WEATHER CONDITIONS. REPORTS SHALL INCLUDE NAME OF PERSONNEL CONDUCTING THE TEST, METER TYPE AND SERIAL NUMBER, DATE OF TEST AND SOIL CONDITIONS. TEST RESULTS SHALL BE CERTIFIED BY THE CONTRACTOR AND SUBMITTED TO THE CITY & COUNTY OF HONOLULU, DEPARTMENT OF TRANSPORTATION SERVICES.
12. THE CONTRACTOR SHALL NOT BACKFILL TRENCHES UNTIL APPROVAL HAS BEEN GRANTED BY STREET LIGHT INSPECTOR.
13. UPON COMPLETION OF FINAL INSPECTION BY ENGINEER & THE CITY & COUNTY, CONTRACTOR SHALL OBTAIN WRITTEN ACCEPTANCE OF THE STREET LIGHT SYSTEM FROM THE ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU.

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

LAST SAVE: 05/15/98 @ 14:56:42 BY: RY RY PLOT SC: 1'-0"=1'
G:\CADD\PROJECTS\63A\63A-01-97.DWG



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

Andrew I. Miyasato

RONALD N. S. HO & ASSOC., INC.
ELECTRICAL ENGINEERS

APPROVED BY:

[Signature]
CHIEF, ELECTRICAL ENGINEERING DIVISION, D.T.S.
CITY AND COUNTY OF HONOLULU
(FOR CONSTRUCTION WITHIN CITY AND COUNTY R.O.W. ONLY)

6/22/98
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT DETAILS III

LIKELIKE HIGHWAY TRAFFIC IMPROVEMENTS
VALLEY VIEW DRIVE TO H-1
LIKELIKE HWY/MAKUAHINE ST INTERSECTION
PROJECT NO. 63A-01-97

SCALE: AS NOTED DATE: MAY 1998

SHEET No. 10 OF 23 SHEETS