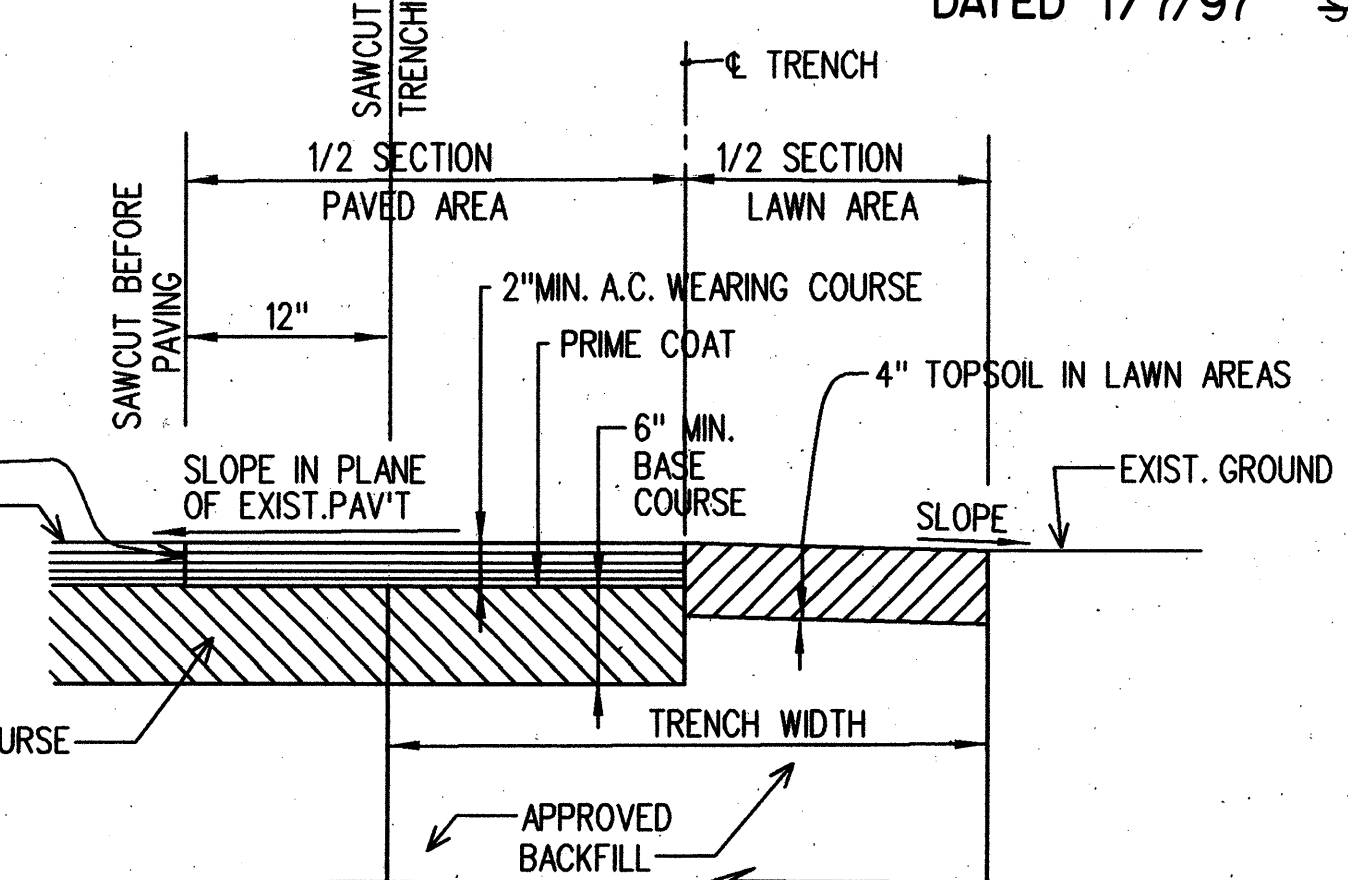
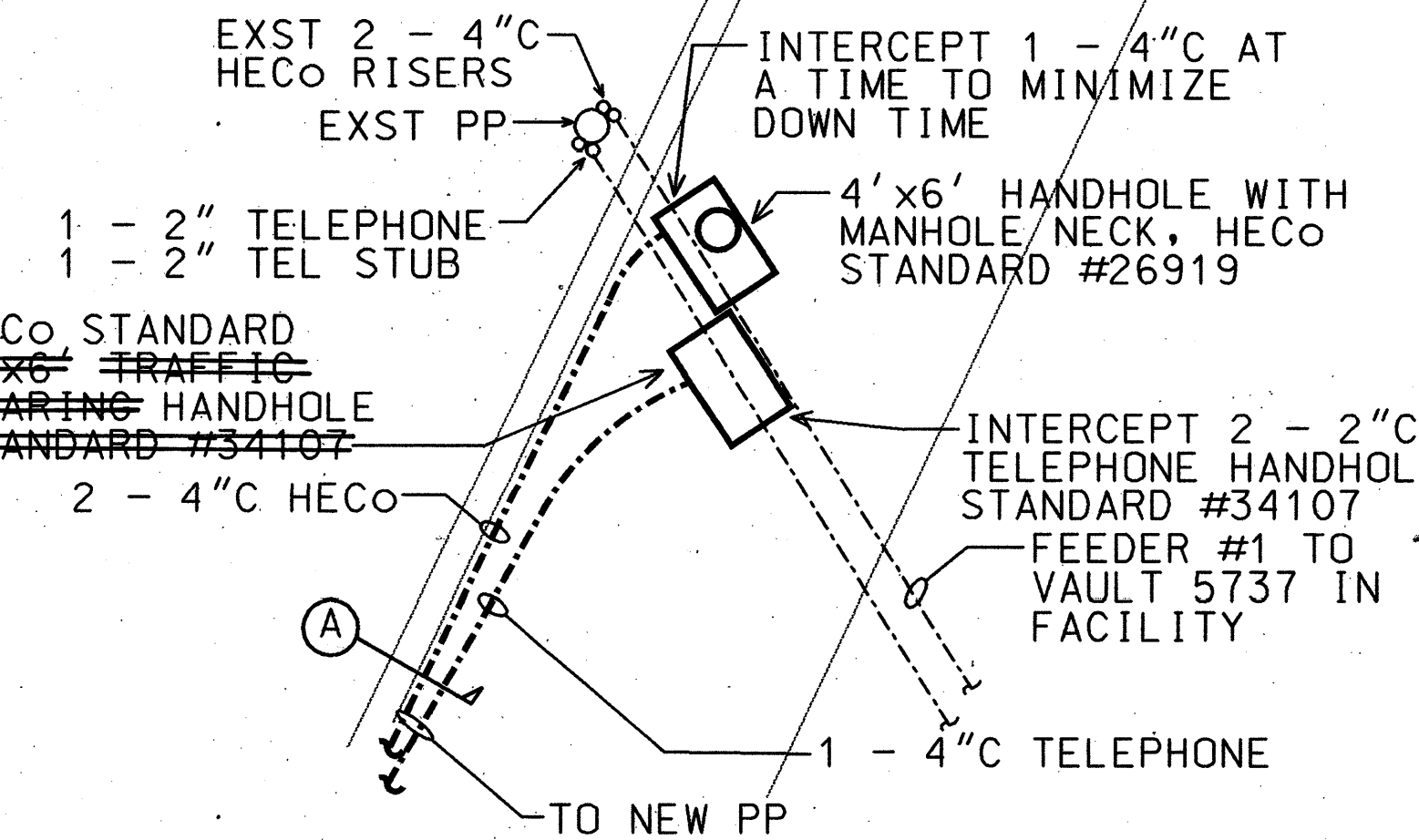
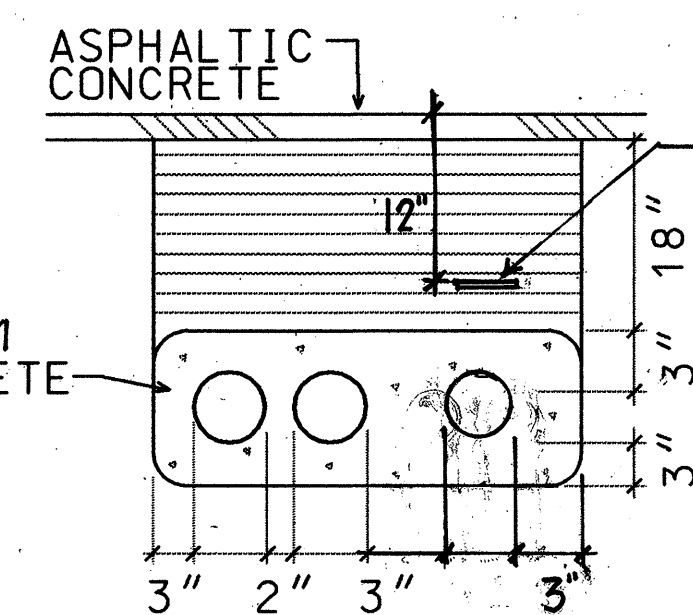
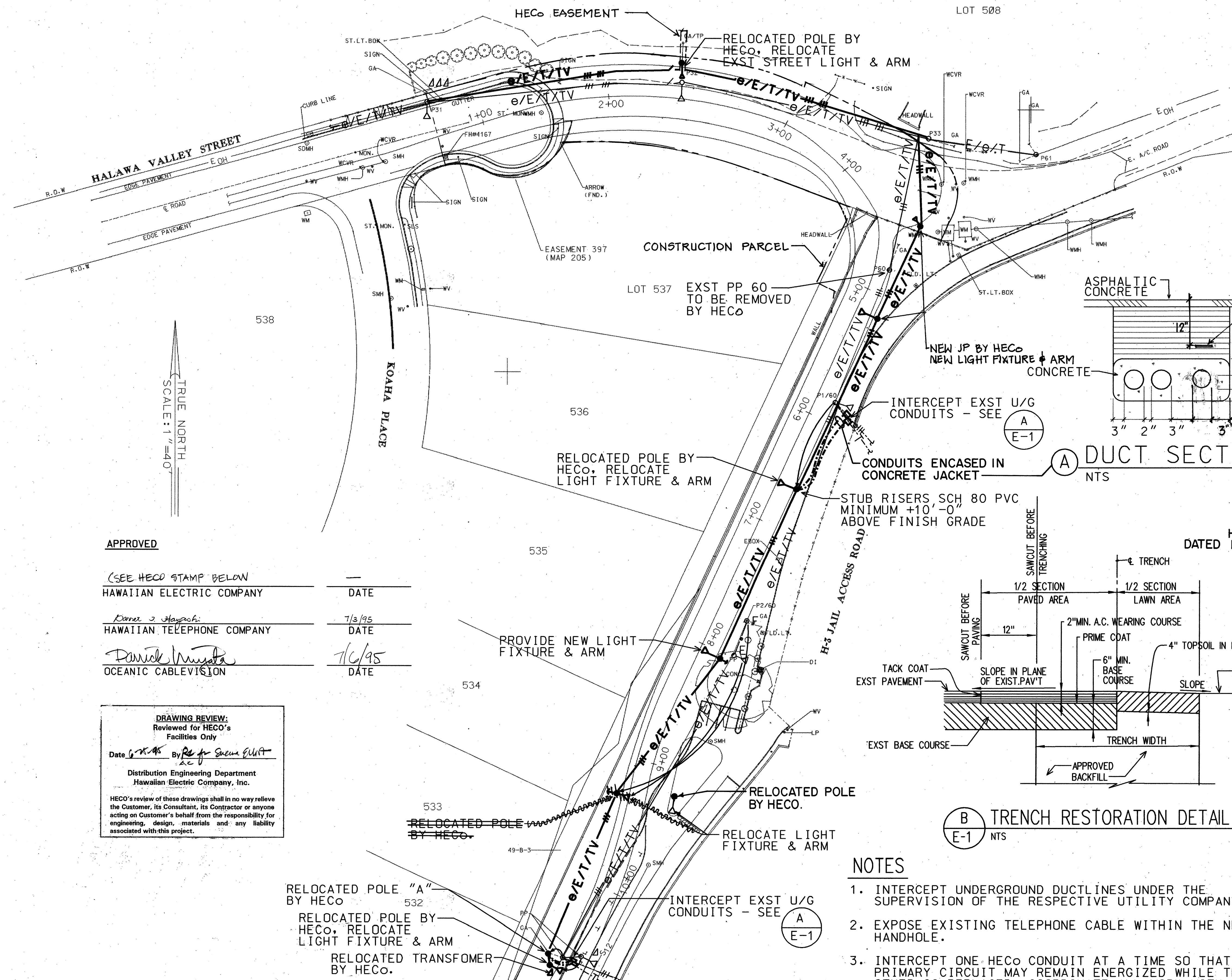


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I- H3-1 (73)	1996	23	42

ELECTRICAL SYMBOLS

EXST	NEW	DESCRIPTION
		STREET LIGHT AND ARM BY CONTRACTOR SEE SHT E-3
		POLE, BY HECO
		POLE MOUNTED TRANSFORMERS, BY HECO
		PRIMARY SWITCH, BY HECO
		OVERHEAD LINE, HASH MARKS DESIGNATE NUMBER OF PRIMARY LINES, BY UTILITY COMPANIES
		UNDERGROUND LINE
OVERHEAD UTILITY DESIGNATIONS (ALL CABLES BY UTILITY COMPANIES)		
e - SECONDARY		
E - PRIMARY		
T - TELEPHONE		
TV - TELEVISION		



APPROVED	
(SEE HECO STAMP BELOW)	
HAWAIIAN ELECTRIC COMPANY	DATE
<i>Daniel J. Hayashi</i>	7/3/95
HAWAIIAN TELEPHONE COMPANY	DATE
<i>Daniel J. Hayashi</i>	7/6/95
OCEANIC CABLEVISION	DATE

DRAWING REVIEW:
Reviewed for HECO's Facilities Only

Date *6/2/95* By *Re for Shaina Elliott*

Distribution Engineering Department
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on Customer's behalf from the responsibility for engineering, design, materials and any liability associated with this project.

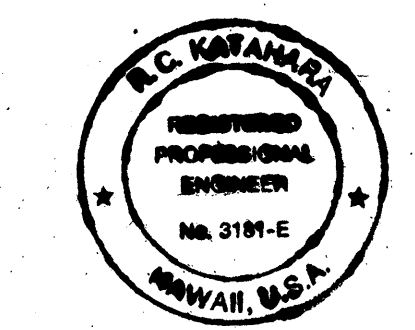
SITE ELECTRICAL PLAN MATCH LINE SHEET E-2

SCALE: 1" = 40'-0"

93093-53

TMK: 9-9-10: POR. 10, 27, 30

- NOTES**
- INTERCEPT UNDERGROUND DUCTLINES UNDER THE SUPERVISION OF THE RESPECTIVE UTILITY COMPANY.
 - EXPOSE EXISTING TELEPHONE CABLE WITHIN THE NEW HANDHOLE.
 - INTERCEPT ONE HECO CONDUIT AT A TIME SO THAT ONE PRIMARY CIRCUIT MAY REMAIN ENERGIZED WHILE THE OTHER IS REPLACED. COORDINATE ALL WORK WITH HECO SO THAT A NEW PRIMARY CIRCUIT IS CONNECTED BEFORE THE SECOND CONDUIT IS INTERCEPTED & ITS CABLE IS REPLACED.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

B.C. KAWAHA 2/11/96

MK ENGINEERS, LTD.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

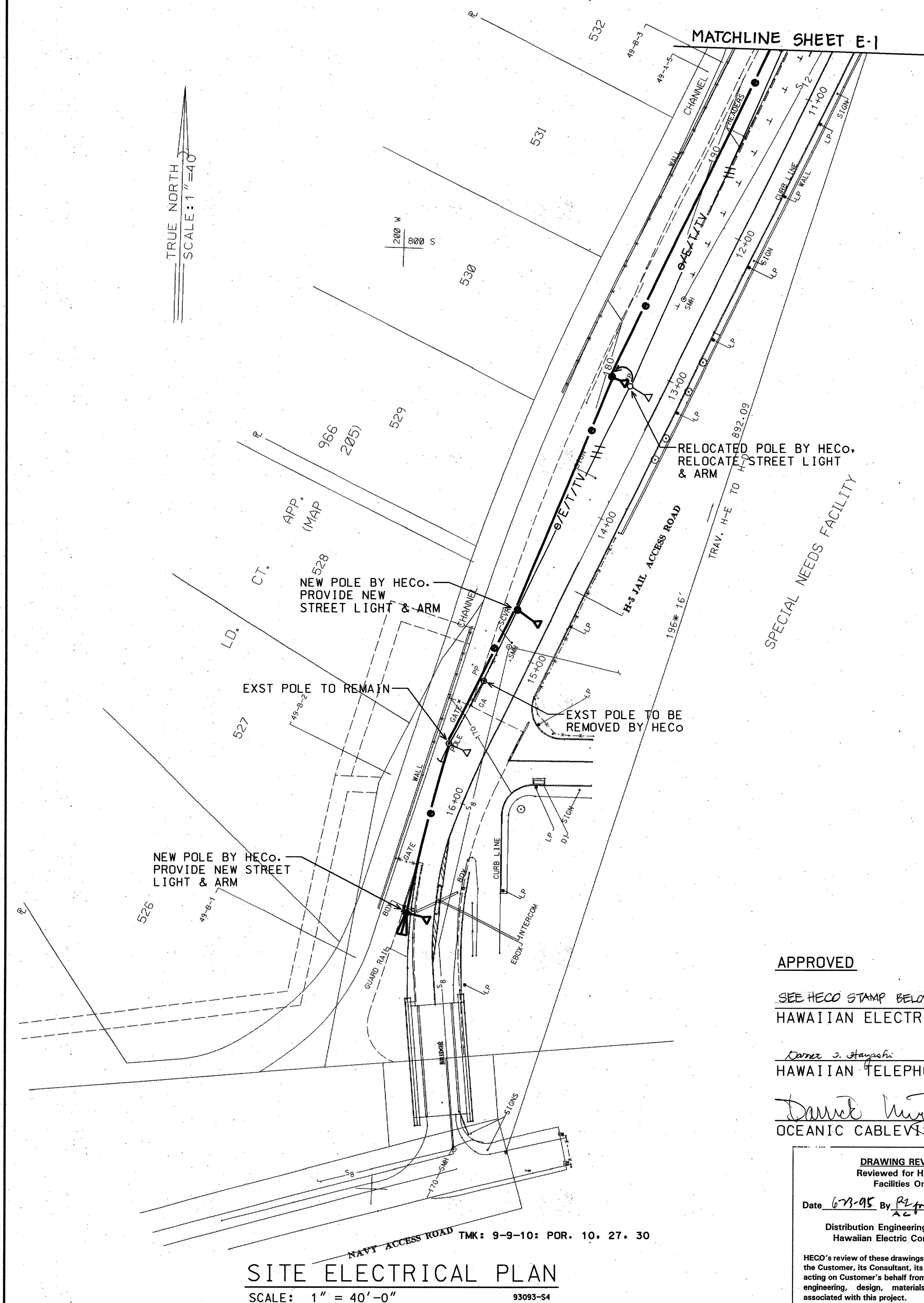
HALAWA JAIL ACCESS ROAD
SITE ELECTRICAL PLAN - A

INTERSTATE ROUTE H-3
F.A.I. PROJECT No. I-H3-1(73)

SCALE: AS NOTED DATE: APR. 1996

SHEET No. E1 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(73)	1996	24	42



APPROVED

SEE HECO STAMP BELOW

HAWAIIAN ELECTRIC COMPANY

DATE

James S. Hayashi
HAWAIIAN TELEPHONE COMPANY

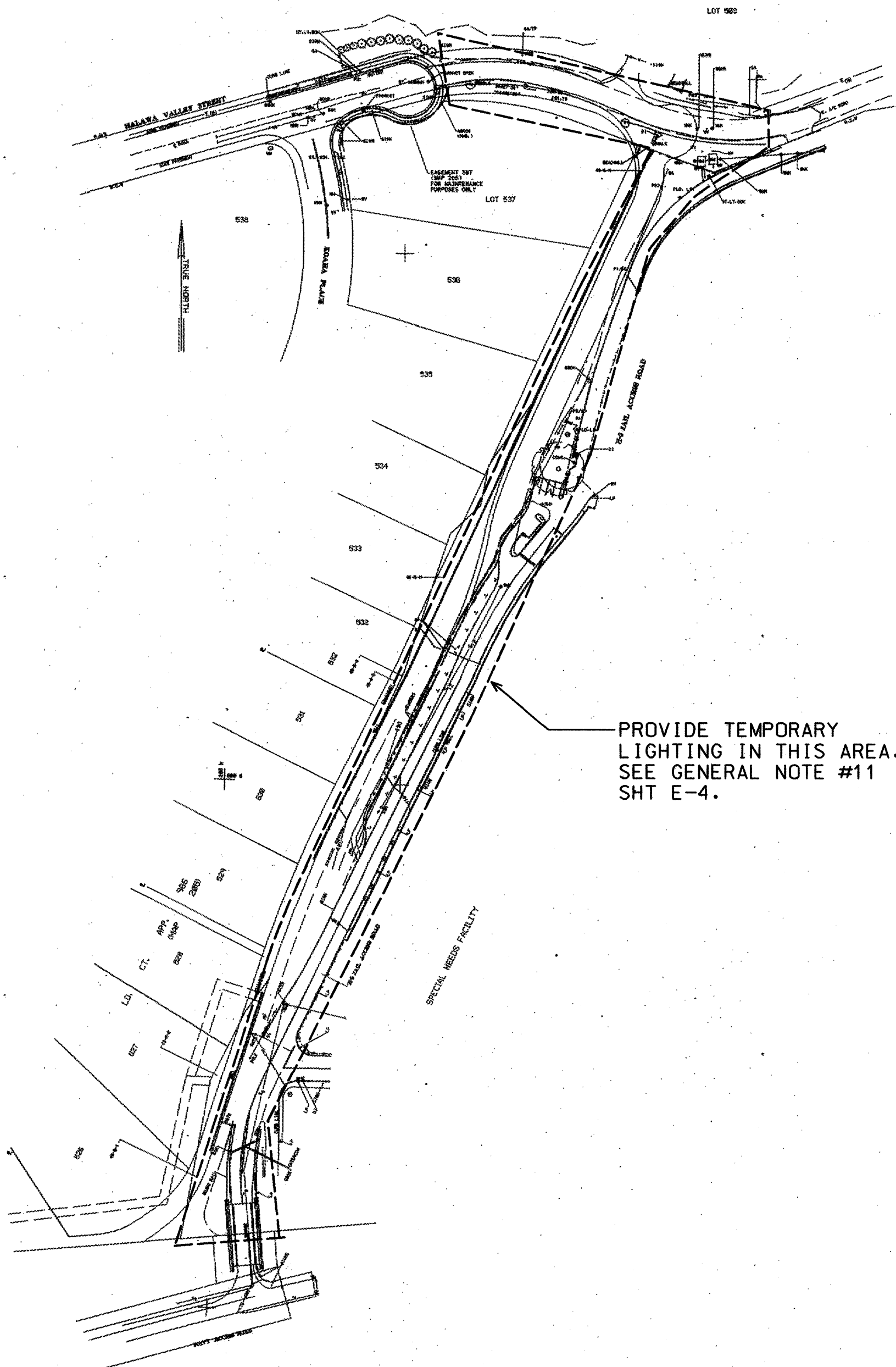
7/3/95
DATE

David Miyata
OCEANIC CABLEVISION

7/6/95
DATE

DRAWING REVIEW:
Reviewed for HECO's
Facilities Only
Date 6-23-95 By *R. J. McLean*
Distribution Engineering Department
Hawaiian Electric Company, Inc.
HECO's review of these drawings shall in no way relieve
the Customer, its Consultant, its Contractor or anyone
acting on Customer's behalf from the responsibility for
engineering, design, materials and any liability
associated with this project.

OVERALL SITE ELECTRICAL PLAN
NO SCALE
93093-05



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OR UNDER MY SUPERVISION.
David Miyata
MK ENGINEERS, LTD.

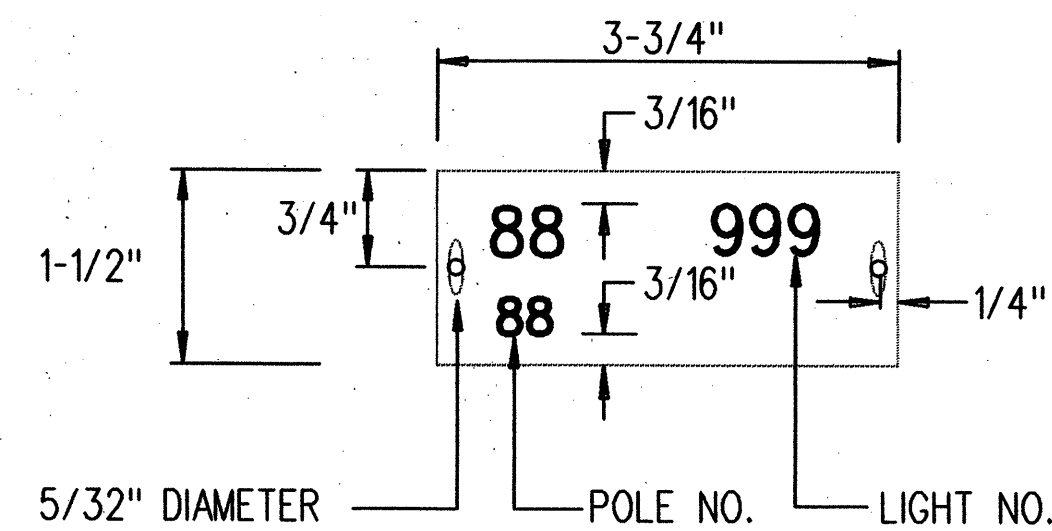
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**HALAWA JAIL ACCESS ROAD
SITE ELECTRICAL PLAN - B**

**INTERSTATE ROUTE H-3
F.A.I. PROJECT No. I-H3-1(73)**

SCALE: AS NOTED DATE: APR. 1996

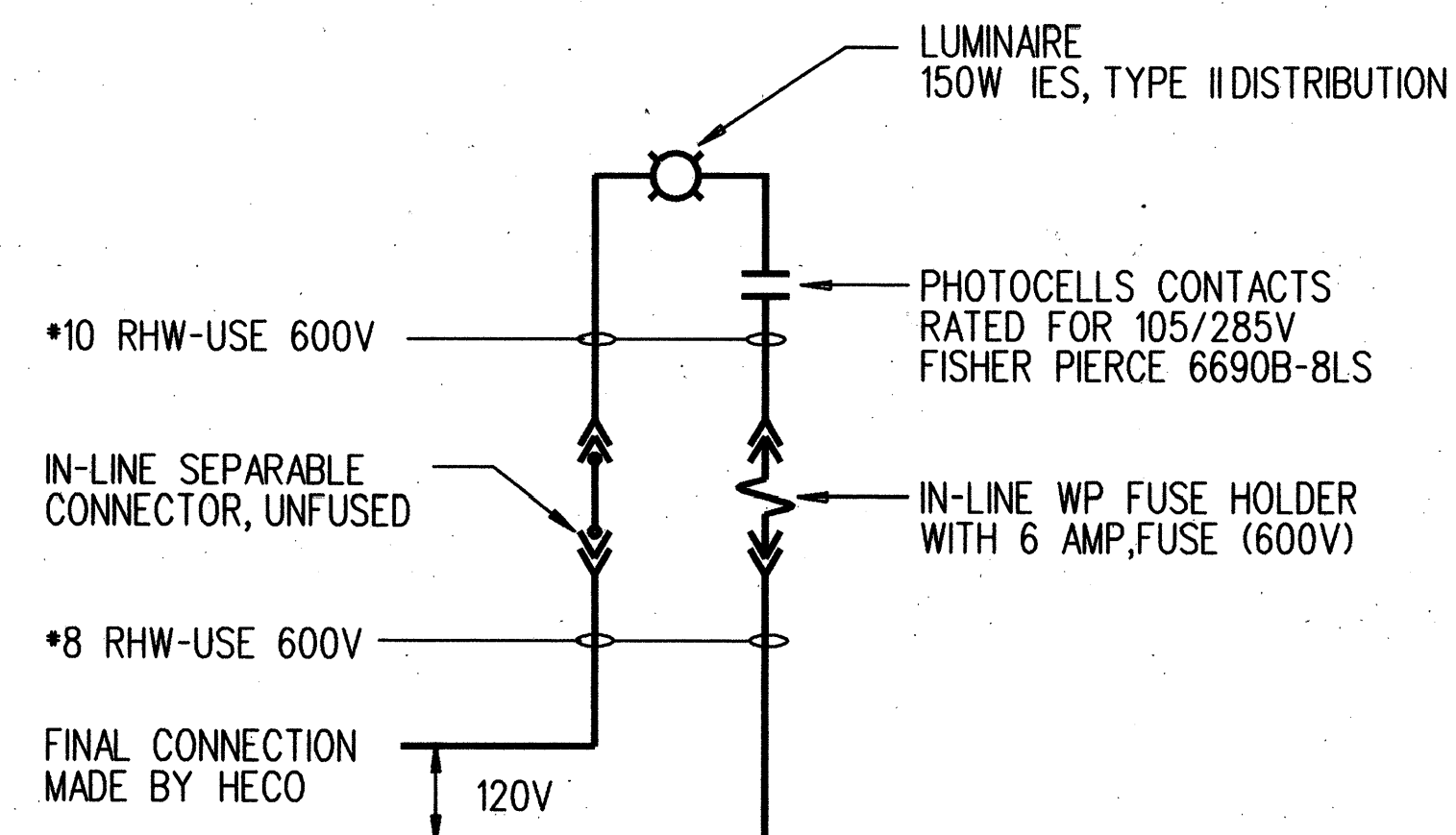
SHEET No. E2 OF 42 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(73)	1996	25	42



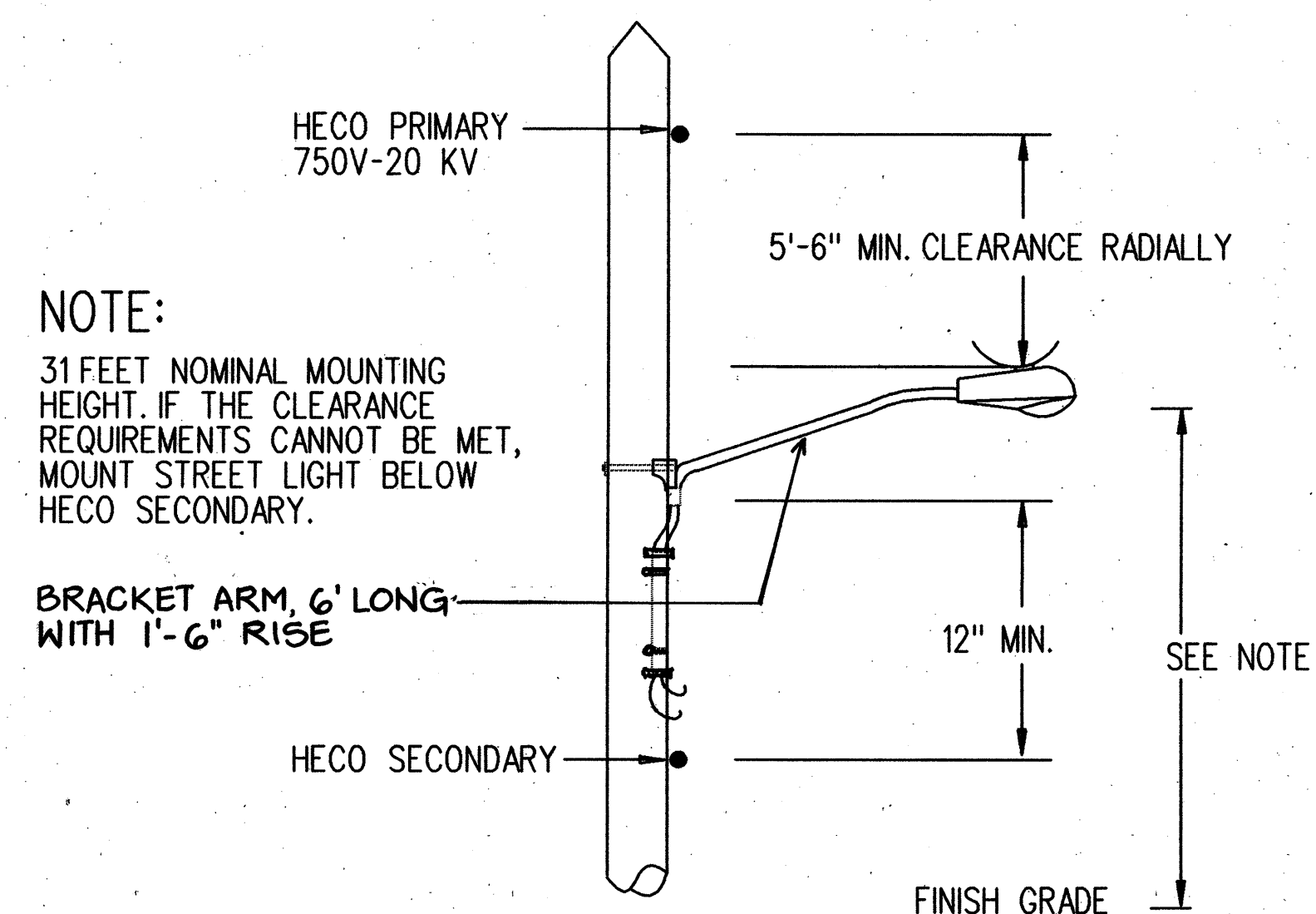
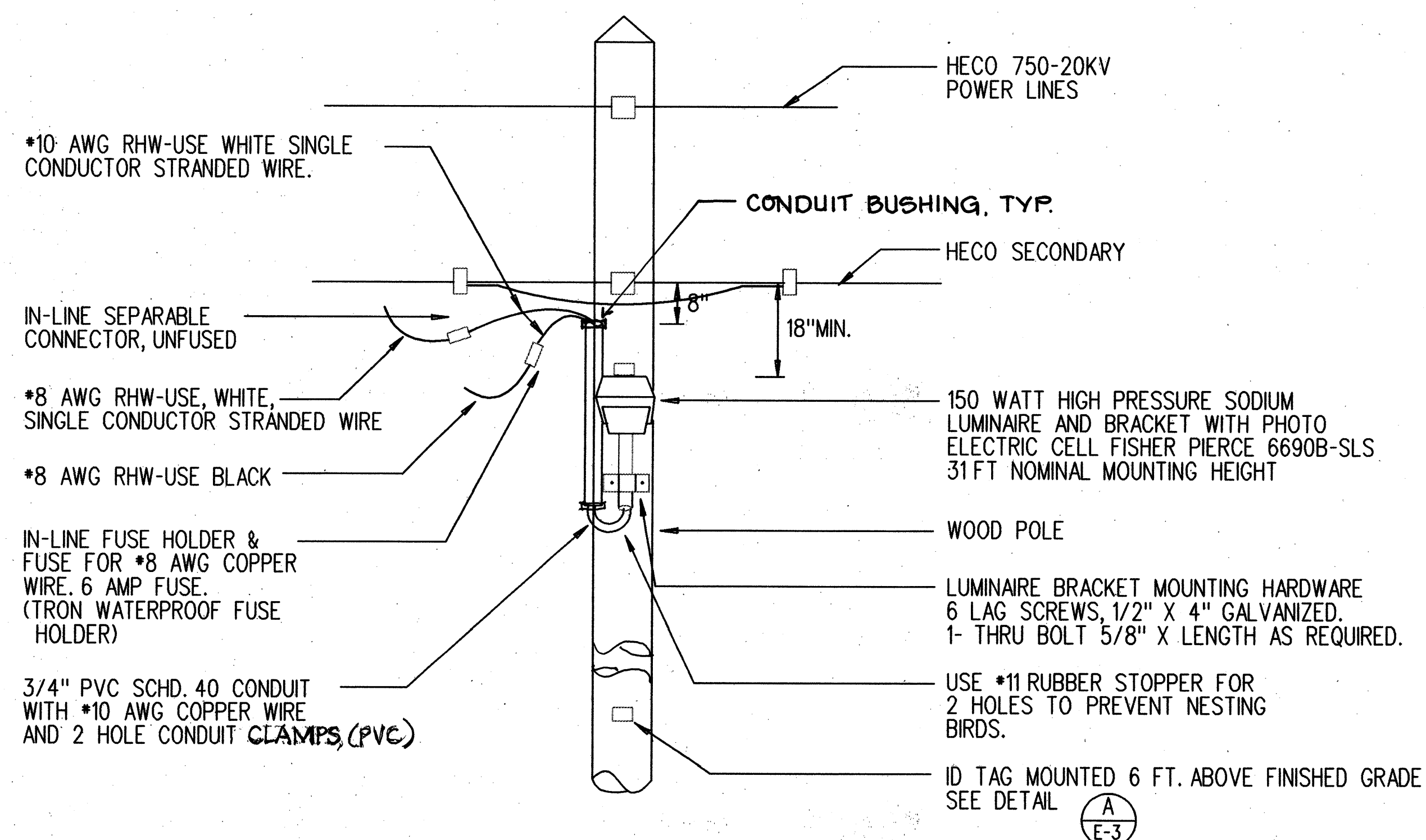
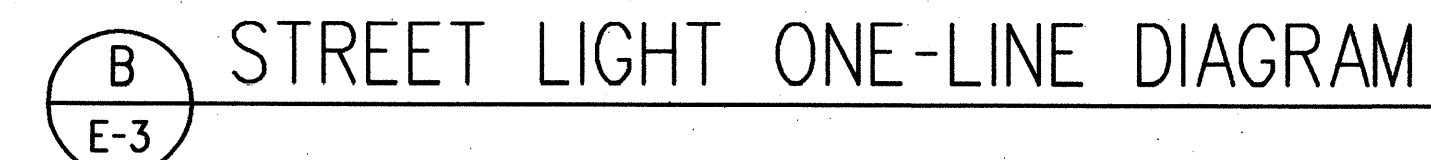
NOTES:

1. USE 2 PLY LAMINATED FLEXIBLE PLASTIC, BLACK-WHITE THICKNESS: BLACK CAP SHEET- 0.010", WHITE BASE SHEET- 0.052".
2. AREA CODE NUMBER AND LIGHT NUMBER SIZE SHALL BE 5/8" HIGH, 1/8" STROKE, WHITE IN COLOR (NUMBER AS REQUIRED).
3. POLE NUMBER SIZE SHALL BE 1/4" HIGH, 1/16" STROKE, WHITE IN COLOR (NUMBER AS REQUIRED).
4. ATTACH TO WOOD POLES WITH 4D HOT DIPPED GALVANIZED NAILS.
5. NUMBERS AREA INSCRIBED BY CUTTING THROUGH "BLACK CAP SHEET" TO EXPOSE "WHITE LETTERS".



NOTE:

ALL NEUTRAL CONDUCTOR MUST HAVE WHITE INSULATION.
ANY OTHER METHOD OF IDENTIFICATION IS UNACCEPTABLE.



NOTE:

31 FEET NOMINAL MOUNTING
HEIGHT IF THE CLEARANCE
REQUIREMENTS CANNOT BE MET,
MOUNT STREET LIGHT BELOW
HECO SECONDARY.

BRACKET ARM, 6' LONG
WITH 1'-6" RISE

ELECTRICAL NOTES:

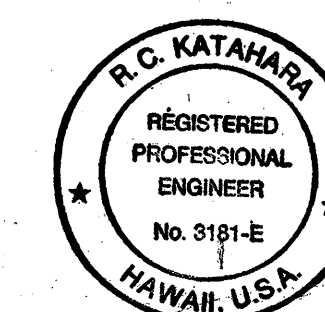
1. THE CONTRACTOR SHALL NOTIFY THE JOINT POLE COMMITTEE TWO (2) WEEKS IN ADVANCE OF ANY RELOCATION OF UTILITY POLE(S) THAT MAY BE NECESSARY.
2. STREET LIGHTING SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE PAID FOR BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING STREET LIGHTING FACILITIES AND DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST WITH NO ADDITIONAL COST TO THE STATE.

DRAWING REVIEW:
Reviewed for HECO's
Facilities Only

Date 6-25-95 By [Signature]

Distribution Engineering Department
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultants, its Contractor or anyone acting on Customer's behalf from the responsibility for engineering, design, materials and any liability associated with this project.



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McClintock 2/11/79
MK ENGINEERS, LTD.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA JAIL ACCESS ROAD
MISCELLANEOUS DETAILS

INTERSTATE ROUTE H-3
F.A.I. PROJECT No. I-H3-1(73)
SCALE: AS NOTED DATE: APR. 1976
SHEET No. E3 OF 42 SHEETS

HAWAIIAN TELEPHONE GENERAL NOTES

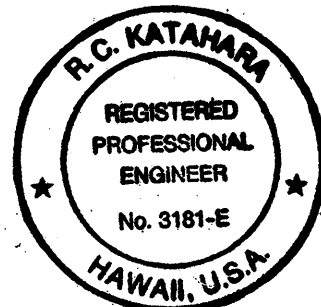
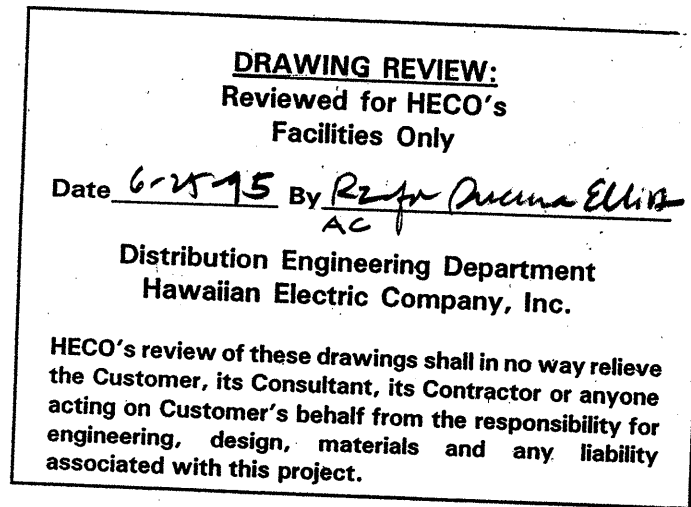
1. Installation of HTCO ductline system shall be in conformance with the requirements of HTCO "Standard Specifications for placing Underground Telecommunications System", June 1989, unless otherwise modified in these plans. Check with HTCO prior to ordering material for the ductline system installation work.
2. The contractor shall provide a 5/8" X 8" copperweld ground rod in each hand hole and/or pull box.
3. All conduits shall enter and leave the hand hole/pull box at 90 degrees to the face of the box.
4. All conduits shall be terminated with a bell end. The bell end shall be flush with the inside face of the pull box wall. No protrusion of the bell end will be permitted.
5. All entrances into the pull box shall be grouted around the conduit. The inside surface shall be finished smooth and flush with the existing wall surface.
6. All conduits shall have an 1800*, POLYESTER MULETAPE (NEPTCO WP1800P, GTE Hawaiian Tel Material Code No. 571154) installed throughout its entire length. All conduits shall be capped with a temporary cap to prevent the entrance of foreign material during construction. The temporary caps shall remain installed on each conduit entering a pull box/hand hole at the completion of installation.
7. All conduit and pull box/hand holes installed by the contractor for use by Hawaiian Telephone shall be subject to inspection. The inspection shall take place prior to backfill or concrete encasement. Call for inspection 3 working days prior to schedule the inspection.
8. After ductline has been completed, a mandrel not less than 12" long and having a diameter of 1/4" less than inside diameter of duct, shall be pulled through each duct after which a brush with stiff bristles shall be pulled through to make certain that no particles of earth, sand, or gravel have been left in the line.
9. A Hawaiian Tel standby man is required to be at the job site any time non-utility Co. personnel will be breaking into or entering any structures that contain communication facilities.
10. THREE WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR ANY INSPECTION OR STANDBY MAN. Five working days advance notice is required for underground cable locating and marking.

ELECTRICAL NOTES

1. Work includes the furnishing and installation of all electrical systems as limited by the intent of the contract documents and shall be satisfactory to the owner.
2. Comply with the ordinances of the County having jurisdiction over this project as well as the latest editions of the National Electric Code (NEC) and National Electric Safety Code. Obtain required permits, pay all fees and arrange for periodic inspections by the authority having jurisdiction.
3. Coordinate all work with the appropriate utility companies. Contact Hawaiian Electric, Hawaiian Telephone, and Cable TV prior to the start of any work involving their systems. Obtain all job site approvals and arrange for periodic inspections by utility inspectors.
4. All materials shall be new and "listed" or "labeled" as defined by the National Electrical Code (NEC).
5. Test street lighting system to demonstrate compliance with the intent of the specifications and drawings. Guarantee all work for one year after final acceptance. Correct all deficiencies arising during this period to the owner's satisfaction at no additional cost.
6. Submit to the engineer any proposed deviations from the project documents as a drawing showing the dimensions, specs, and limits of change. Do not proceed until acceptance has been obtained. Coordinate all work with the other trades; make minor field adjustments to avoid conflicts.
7. Submit shop drawings for all lighting fixtures. Due to the limited construction time, submit shop drawings at the earliest possible date to expedite review. Shop drawings shall include all dimensions, lamp types and colors, ratings, options, finishes, and catalog cuts for fixtures.
8. All pole relocations including the overhead primary, ~~telephone, television~~, and secondary lines shall be done by HECO. The contractor shall coordinate and schedule his work to coincide with the schedule set forth by HECO. The contractor is responsible for contacting and arranging the scheduling with HECO.
9. Coordinate all street light mounting heights with HECO to maintain the minimum required clearances between pole structures.
10. Contact Hawaiian Electric Co. and arrange for temporary service for irrigation controls. Pay all fees.
11. Contractor shall provide temporary area lights around all storage areas and large equipment every night before leaving the site. The purpose is to eliminate any and all dark hiding places for escaping ~~prisoners~~ INMATES to hide. The contractor has the option of providing portable lights or temporary wooden poles with fixtures except at storage areas where poles are required. The design criteria are as follows:
 - A. Floodlights are not acceptable unless aimed downward to prevent glare.
 - B. Provide fixtures to illuminate all storage areas and all large equipment so that all shadows are eliminated.
 - C. All light switches shall be lockable, to prevent unauthorized shutoff.
 - D. Poles shall be a minimum of 20 FT high.
 - E. Contact and coordinate with Hawaiian Electric Company Customer Engineering for temporary power. Provide all meters, service equipment, and wiring means for temporary lighting. Main service breaker shall be secure within a lockable enclosure. Portable generators are not acceptable as the sole source of power for the lights. Pay all fees.

CORRECTION OR INTAKE
 - F. The ~~Prison~~ Warden is the final authority in deciding if the lighting level is adequate or if there is excessive glare.
 - G. All existing street lights shall be returned to working condition at the end of each day. All new fixtures shall be installed and energized prior to the removal of the old lighting fixtures.
 - H. Provide temporary area lighting over construction site as defined in the drawings. Maintain an average footcandle level of 0.5 FC. Average maintained w/ 6:1 avg. min unif ratio. Lighting shall be achieved with wooden poles and area light fixtures. It is the contractor's responsibility to determine fixture wattages and quantities based on pole locations.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(73)	1996	26	42



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OR UNDER MY SUPERVISION
R.C. Katamaru 4/1/94
ENGINEERS, LTD.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA JAIL ACCESS ROAD
GENERAL NOTES. ELEC. NOTES
INTERSTATE ROUTE H-3
F.A.I. PROJECT No. I-H3-1(73)
SCALE: AS NOTED DATE: APR. 1996
SHEET No. E4 OF 42 SHEETS