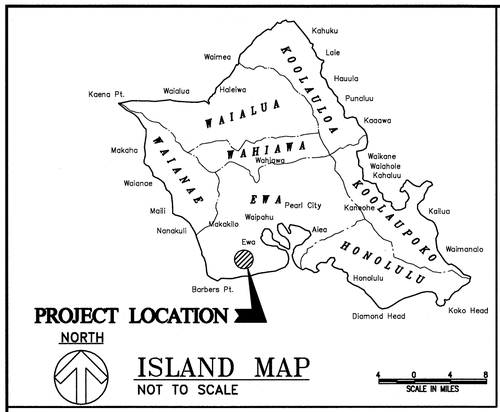

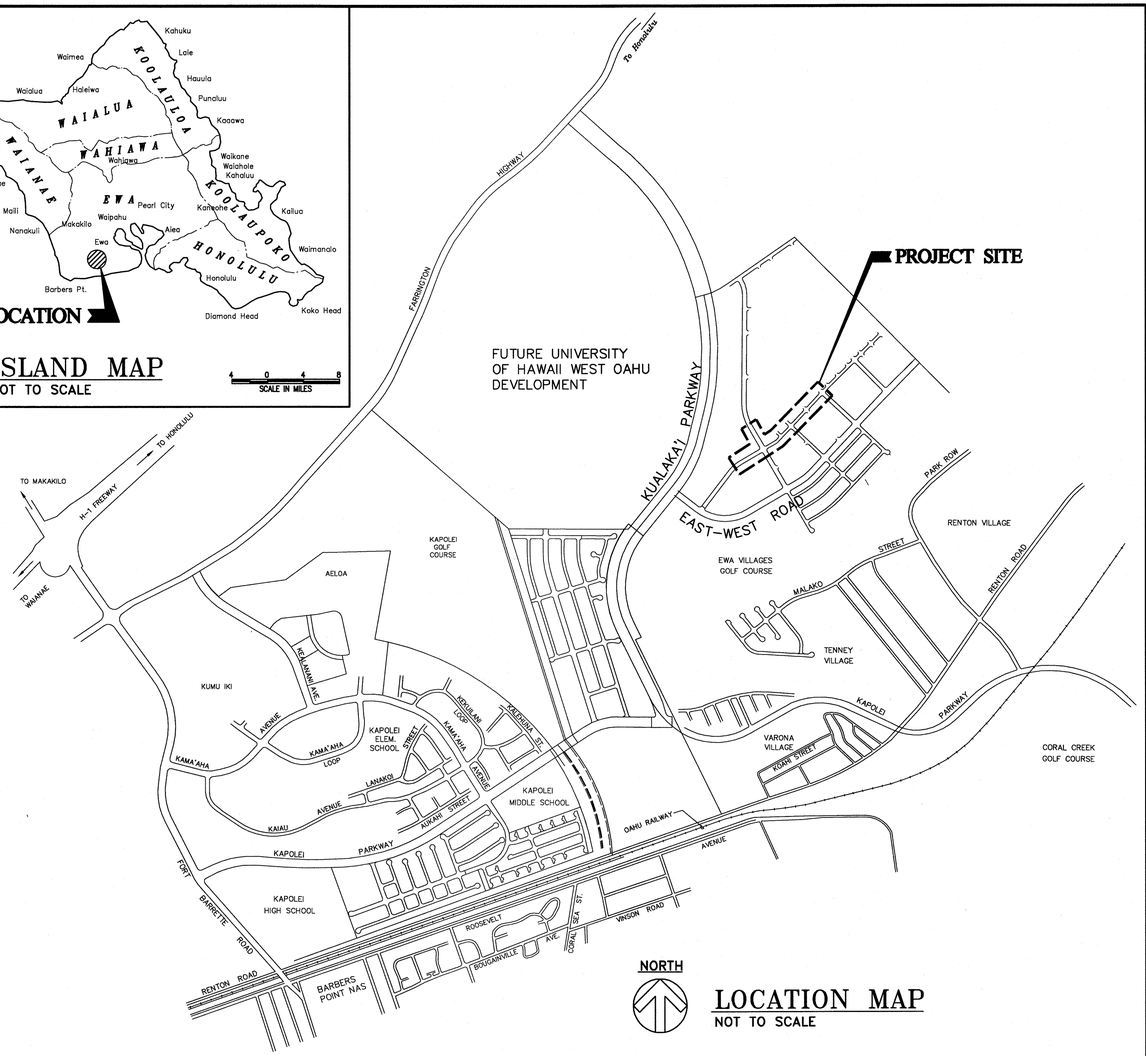

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
	STREET LIGHT, 150W HIGH PRESSURE SODIUM LUMINAIRE, GALVANIZED STEEL POLE, XFMR BASE & BRACKET ARM, SEE DETAIL A/E-18
	STREET LIGHT, 100W HIGH PRESSURE SODIUM LUMINAIRE, GALVANIZED STEEL POLE & BRACKET ARM, SEE DETAIL A/E-19
	STREET LIGHT, 70W HIGH PRESSURE SODIUM LUMINAIRE, GALVANIZED STEEL POLE & BRACKET ARM, SEE DETAIL A/E-19
	EXST. STREET LIGHT, 250W HIGH PRESSURE SODIUM LUMINAIRE
	EXST. STREET LIGHT, 150W HIGH PRESSURE SODIUM LUMINAIRE
	GROUND ROD, 5/8" DIA. X 8'-0" (BMZ)
	BREAKLINE TO BEGIN & END DUCT SECTION TYPE
	ELECTRIC/SIGNAL DUCTLINE WITH DESIGNATORS; INDICATES TYPE "A" DUCT SECTION WITH "2-2E" DUCTS. SEE SHEET E-10, E-11 FOR DUCT SECTIONS AND SHEET E-5 FOR CONDUIT SCHEDULE
	STUB, CAP, & MARK CONDUIT(S) WITH CONCRETE MARKER, SEE DETAIL D/E-13
	SAWCUT EXST. A.C. PAVEMENT, CONC. SIDEWALK, CURB & GUTTER PRIOR TO TRENCH EXCAVATION. RESTORE SUBBASE, BASECOURSE, PAVEMENT, CONC. SIDEWALK, CURB & GUTTER PER CITY REQUIREMENTS, THICKNESS SHALL MATCH EXST ROAD DESIGN
—SL—	STREET LIGHT DUCTS & WIRING
—TS—	TRAFFIC SIGNAL DUCT & PULLWIRE
---e---	EXST. UNDERGROUND DUCTLINE & WIRING
---t---	EXST. UNDERGROUND TEL. CABLES
---st---	EXST. UNDERGROUND STREET LIGHT CABLES & CONDUITS
---ts---	EXST. UNDERGROUND TRAFFIC SIGNAL CONDUITS
---p---	EXST. UNDERGROUND SECONDARY POWER CABLES AND CONDUIT

SYMBOL	DESCRIPTION
	HECO 2' x 4' PULLBOX
	HECO 3' X 5' HANDHOLE
	HECO 5' X 8' HANDHOLE
	HECO 4' X 6' HANDHOLE
	HECO 6' X 11' MANHOLE
	HECO 6' X 14' MANHOLE
	EXST. HECO HANDHOLE
	EXST. HECO MANHOLE
	EXST. HECO MANHOLE
	SIC 3' X 5' HANDHOLE
	SIC 4' X 6' HANDHOLE
	EXST. SIC MANHOLE
	CATV 2' X 4' PULLBOX
	CATV 3' X 5' HANDHOLE
	EXST. CATV HANDHOLE
	EXST. HTCO MANHOLE
	STREET LIGHT TYPE "A" PULLBOX, SEE DETAIL A/E-20
	STREET LIGHT TYPE "SLD-4" PULLBOX SEE DETAIL C/E-20
	TRAFFIC SIGNAL TYPE "A" PULLBOX, SEE DETAIL A/E-21
	TRAFFIC SIGNAL TYPE "B" PULLBOX, SEE DETAIL C/E-21
	TRAFFIC SIGNAL TYPE "C" PULLBOX, SEE DETAIL D/E-21
	HECO TRANSFORMER PAD LOT, SEE DETAIL B/E-13
	HECO SWITCHING EASEMENT PAD LOT, SEE DETAIL A/E-13
	HECO PMH-3 SWITCHGEAR PAD LOT, SEE DETAIL C/E-13
	EXST. HECO XFMR EASEMENT PAD LOT
	EXST. HECO SWITCHING EASEMENT PAD LOT
S	CONCRETE STUB OUT MARKER, SEE DETAIL D/E-13
1	NOTE SYMBOL, SEE PLAN FOR NOTES

GENERAL NOTES

1. PROVIDE 5' MINIMUM CLEAR BETWEEN STREET LIGHT POLES & SEWER LATERALS.
2. PROVIDE 3' MINIMUM CLEAR BETWEEN PULLBOXES & SEWER LATERALS.
3. PROVIDE 6' MINIMUM CLEAR BETWEEN TRANSFORMER PADS & SEWER LATERALS (DO NOT STRADDLE).
4. PROVIDE 3' MINIMUM CLEAR BETWEEN DUCTLINES & SEWER LINES.
5. CONTRACTOR SHALL VERIFY SEWER LATERAL LOCATIONS WITH CIVIL SHEETS.
6. PROVIDE 3' MINIMUM HORIZONTAL CLEAR & 6" VERTICAL CLEAR BETWEEN WATER LINES & ALL ELECTRICAL SYSTEMS.
7. PROVIDE 12" MINIMUM HORIZONTAL CLEAR & 6" VERTICAL CLEAR BETWEEN DRAIN LINES & ALL ELECTRICAL SYSTEMS.
8. CONTRACTOR SHALL BE RESPONSIBLE TO ARRANGE WITH THE GENERAL CONTRACTOR TO IDENTIFY THE LOCATIONS OF CIVIL SITE UTILITIES, DRIVEWAYS, ETC. PRIOR TO ELECTRICAL CONTRACTORS LAYOUT OF ELECTRIC, TELEPHONE, STREET LIGHT, TRAFFIC SIGNAL, AND CATV SYSTEMS.

NOTES FOR CONSTRUCTION

a. THE LOCATION OF OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN PROXIMITY OF UNDERGROUND LINES AND SHALL MAINTAIN ADEQUATE CLEARANCE WHEN OPERATING EQUIPMENT UNDER ANY OVERHEAD LINES.

b. THE CONTRACTOR IS TO COMPLY WITH THE DIRECTIONS OF THE STATE OF HAWAII OCCUPATIONAL SAFETY AND HEALTH LAW (DOSH).

c. WHEN TRENCH EXCAVATION IS ADJACENT TO EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM POSSIBLE SLIDES, CAVE-INS AND SETTLEMENT, AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING TO FULLY PROTECT IT FROM DAMAGE.

d. AS REQUIRED BY THE CITY AND COUNTY OF HONOLULU, THE CONTRACTOR SHALL PROVIDE OFF-DUTY POLICE OFFICERS TO CONTROL THE FLOW OF TRAFFIC.

e. WHERE PEDESTRIAN WALKWAYS EXIST, SUCH WALKWAYS SHALL BE MAINTAINED IN PASSABLE CONDITION OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGE BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED.

f. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THESE RIGHT-OF-WAYS ARE OTHERWISE PROVIDED FOR SATISFACTORILY.

g. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN BY THE ENGINEER TO EXIST FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 5/2/11 By

Customer Installations 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 the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

APPROVED BY:

HAWAIIAN ELECTRIC COMPANY, INC. DATE

GARY I. FUNASAKI
LICENSED PROFESSIONAL ENGINEER
No. 4195-E
HAWAII, U.S.A.

17 MAR 2011

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. LICENSE EXPIRATION DATE: 04/30/12

REVISION DATE	DESCRIPTION	MADE BY	APPROVED

cp&e Community Planning and Engineering, Inc.
Engineering Design | Construction Management | Infrastructure Planning
1100 Alakea Street, Sixth Floor Honolulu, Hawaii

EAST KAPOLEI II DEVELOPMENT
ROAD "E"
HONOULIULI, EWA, OAHU, HAWAII
(DPP SUBD. FILE NO. 2010/SUB-115)
OWNER: DEPARTMENT OF LAND AND NATURAL RESOURCES
DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9-1-17: Portion 110

ELECTRICAL SYMBOLS, MAPS, NOTES

DRAWN BY: RN | ENGINEER: GF | CHECKED BY: GF

APPROVED:

CHIEF, TRAFFIC SIGNALS AND TECHNOLOGY, D.T.S. DATE 5/3/11
CHIEF, TRAFFIC REVIEW BRANCH, D.P.P. DATE
SANDWICH ISLES COMMUNICATIONS, INC. DATE 6-14-11
CHIEF, MECHANICAL/ELECTRICAL DIVISION, D.D.C. DATE 5/12/2011

DWG. NO. E-1 SHEET 33 OF 61 SHEETS

FILE	POCKET	FOLDER	NO.

LAST SAVE: 03/17/11 @ 08:53:31 BY: RN PLOT SC: 12.000000=12.000000
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