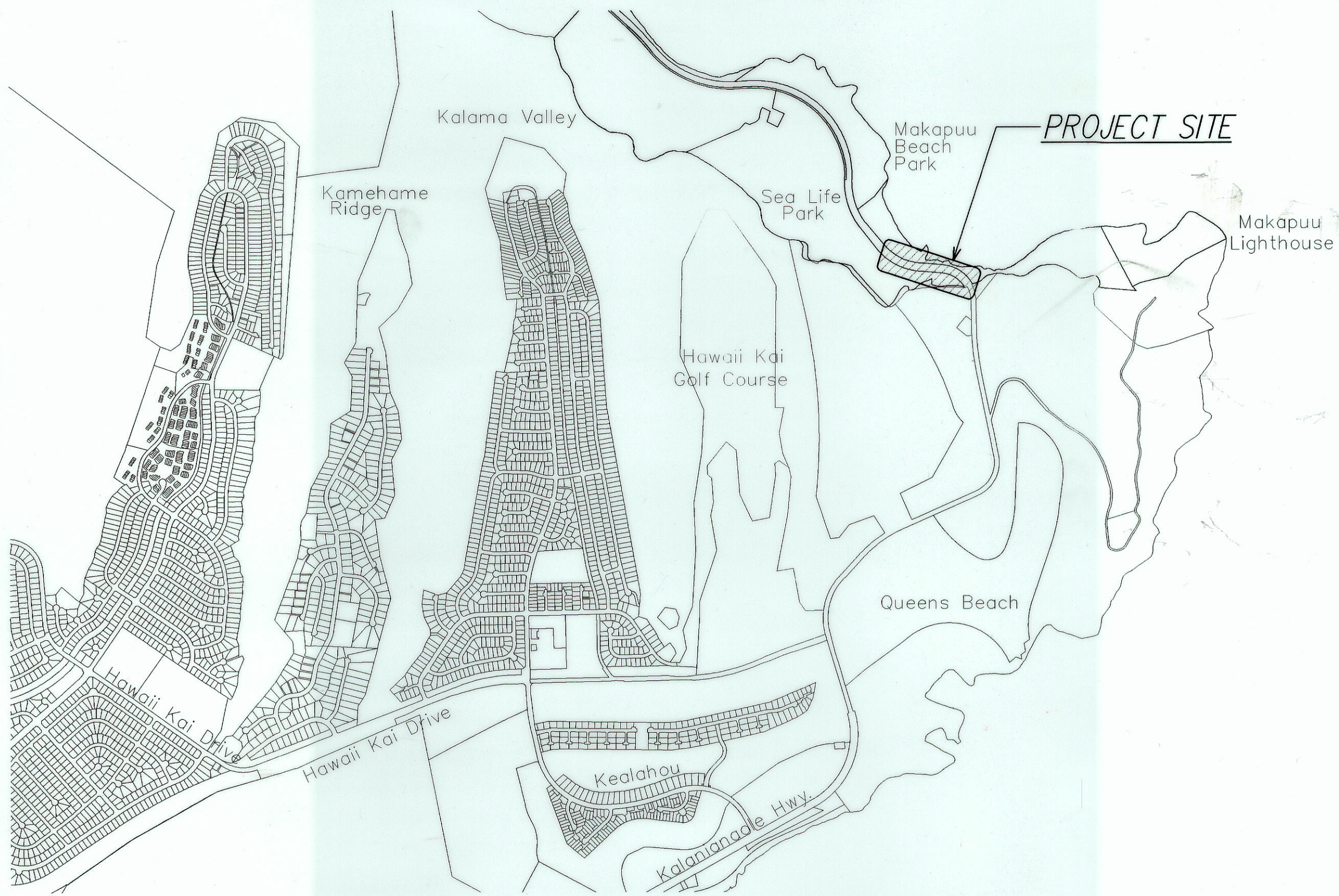


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1 (51)	2007	41	106

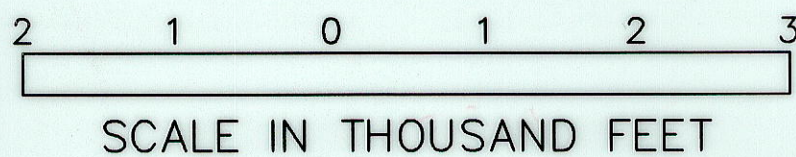
ELECTRICAL SYMBOLS

NEW	EXISTING	DESCRIPTION
●	○	Utility Wood Pole
├───┘	├───┘	Guy & Anchor
	— · — · —	Overhead Utility Lines
	⌵	Utility Wood Pole to be Removed by Utility Company
	— x —	Underground Utility Lines to be Removed by Utility Company
	— z —	Overhead Utility Lines to be Removed by Utility Company
	-----	Underground Utility Ductlines
⊙		6' X 11' HECO Manhole, Equipment Item 1
⊙		4' X 6' HECO Manhole, Equipment Item 2
⊙		4' X 6' OTWC Manhole, Equipment Item 3
⊙		2' X 4' HECO Pullbox, Equipment Item 4
EA 2-4E		Utility System Ductline with Duct Designations, Item In Circle Indicates Duct Section Type, With Duct Complement Noted Below (Type "EA" Duct Indicated with 2-4"E Ducts; E=HECO Ducts; T=HTCO Ducts; V=OTWC); See Sheets E-14 and E-15 for Duct Section Details
1 →		Note Indicator on Plan
JP25	jp24	Indicates Joint Utility Pole Designation
1		Equipment Indicator, See Equipment Schedule Sheet E-5
HECO		Denotes "Hawaiian Electric Company"
HTCO		Denotes "Hawaiian Telcom"
OTWC		Denotes "Oceanic Time Warner Cable"

Note(s): "X" Thru Symbol Denotes to be Removed.



PROJECT LOCATION MAP



- GENERAL CONSTRUCTION NOTES**
- A. Trenching to be by hand digging near and across existing utility lines.
- B. Unless otherwise requested by the Board of Water Supply, minimum clearance between water lines and conduits shall be:
Horizontal = 3 feet
Vertical = 6 inches
- C. Adjust new conduit alignment, if required to provide clearances. If conduit cannot be realigned, adjustments to existing water system shall be performed in accordance with standards of the Board of Water Supply.
- D. Minimum clearance between highway light standards and fire hydrants shall be 3 feet.
- E. Underground utilities shown hereon are for information only. No guarantee is made on the accuracy or completeness of said information.
- F. All new and existing concrete pullbox and handhole covers which are located in new finished sidewalks shall be provided with new exposed aggregate concrete covers to match new exposed aggregate concrete sidewalk finish.
- G. Where necessary, reconstruction of sidewalk, gutter and driveway areas shall conform to the standard details of the governmental agency having jurisdiction over the work.
- H. The Contractor shall be responsible for removal of all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The cost for any necessary remedial action by the Chief Engineer shall be payable by the Contractor.
- I. The Contractor, at his own expense, shall keep the project area free from dust nuisance. The work shall be in conformance with the air pollution control standards and regulations of the State Department of Health.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
APPROVED BY	

LAST SAVE: 04/27/07 @ 17:45:17 BY: AM PROJ SET 1-0-1
PROJECT: 04/27/07 @ 17:45:17 BY: AM PROJ SET 1-0-1

DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date: 4/25/07 By: [Signature]

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

APPROVED BY:

HAWAIIAN ELECTRIC COMPANY (HECO) [Signature] DATE: 8/8/07

HAWAIIAN TELCOM (HTCO) [Signature] DATE: 08-07-07

OCEANIC TIME WARNER CABLE (OTWC) [Signature] DATE: 08-07-07

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

ANDREW I. MIYASATO
LICENSED PROFESSIONAL ENGINEER
No. 4340-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature: [Signature]
Expiration Date of the License: 04-30-08

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL SYMBOLS, PROJECT LOCATION MAP, GENERAL CONSTRUCTION NOTES,

Kalanianaʻole Highway Improvements
Retaining Wall at Makapuu, Oahu
Federal Aid Project No. NH-072-1 (51)

SCALE: AS NOTED DATE: APR. 2007

SHEET No. E-1 OF 18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1 (51)	2007	C.O. 41	106

ELECTRICAL SYMBOLS

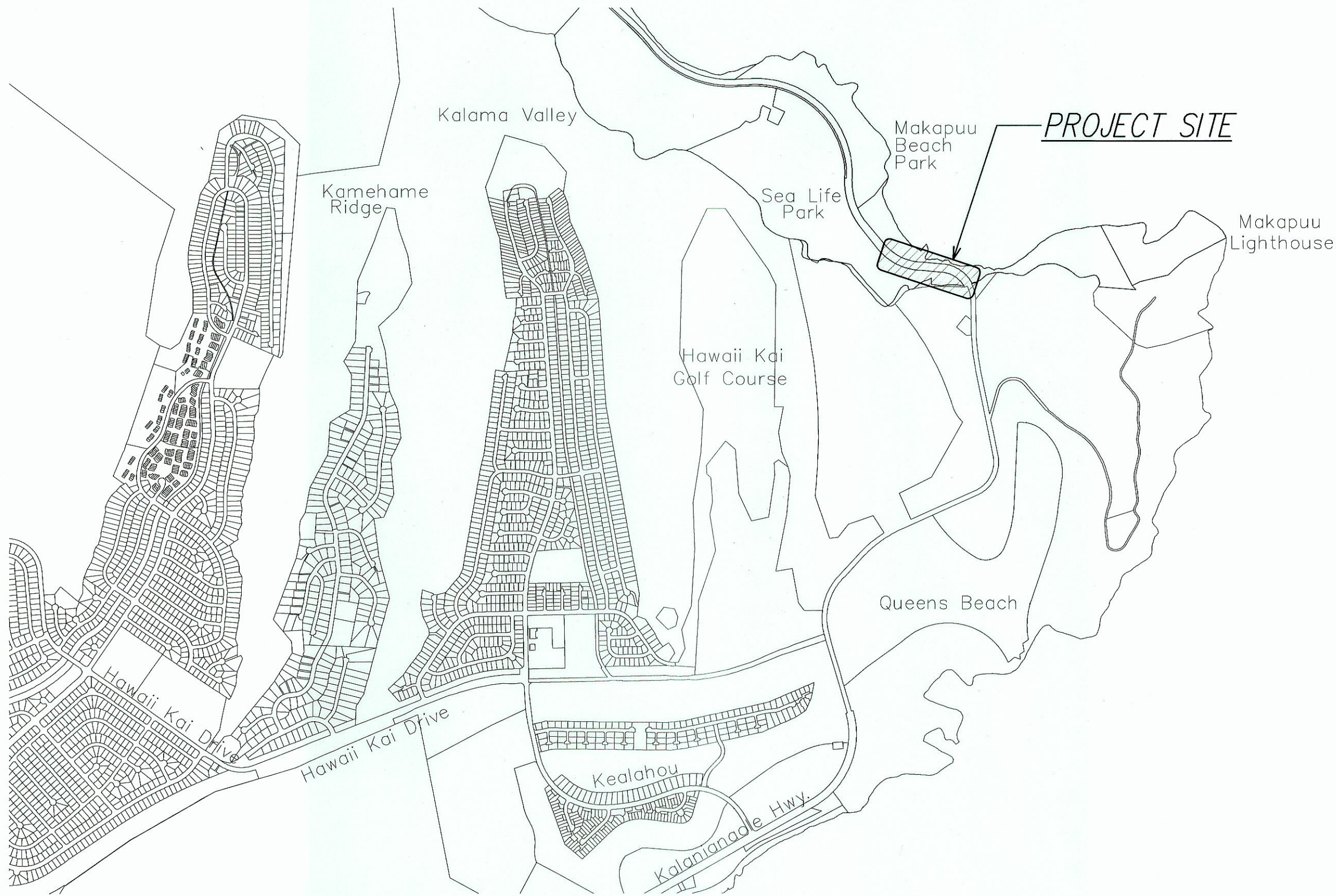
NEW	EXISTING	DESCRIPTION
		Utility Wood Pole
		Guy & Anchor
		Overhead Utility Lines
		Utility Wood Pole to be Removed by Utility Company
		Underground Utility Lines to be Removed by Utility Company
		Overhead Utility Lines to be Removed by Utility Company
		Underground Utility Ductlines
		6' X 11' HEC Co Manhole, Equipment Item 1
		4' X 6' HTCo Manhole, Equipment Item 2
		4' X 6' OTWC Manhole, Equipment Item 3
		2' X 4' HTCo Pullbox, Equipment Item 4
		Utility System Ductline with Duct Designations, Item In Circle Indicates Duct Section Type, With Duct Complement Noted Below (Type "EA" Duct Indicated with 2-4"E Ducts; E=HEC Co Ducts; T=HTCo Ducts; V=OTWC Ducts; S=JTS Ducts); See Sheets E-14 and E-15 for Duct Section Details
		Note Indicator on Plan
		JP25 jp24 Indicates Joint Utility Pole Designation
		Equipment Indicator, See Equipment Schedule Sheet E-5
		HEC Co Denotes "Hawaiian Electric Company"
		HTCo Denotes "Hawaiian Telcom"
		OTWC Denotes "Oceanic Time Warner Cable"
		Note(s): "X" Thru Symbol Denotes to be Removed.

GENERAL CONSTRUCTION NOTES

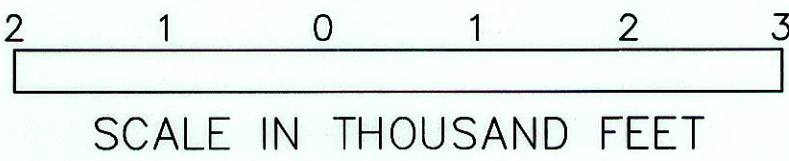
- A. Trenching to be by hand digging near and across existing utility lines.
- B. Unless otherwise requested by the Board of Water Supply, minimum clearance between water lines and conduits shall be:
Horizontal = 3 feet
Vertical = 6 inches
- C. Adjust new conduit alignment, if required to provide clearances. If conduit cannot be realigned, adjustments to existing water system shall be performed in accordance with standards of the Board of Water Supply.
- D. Minimum clearance between highway light standards and fire hydrants shall be 3 feet.
- E. Underground utilities shown hereon are for information only. No guarantee is made on the accuracy or completeness of said information.
- F. All new and existing concrete pullbox and handhole covers which are located in new finished sidewalks shall be provided with new exposed aggregate concrete covers to match new exposed aggregate concrete sidewalk finish.
- G. Where necessary, reconstruction of sidewalk, gutter and driveway areas shall conform to the standard details of the governmental agency having jurisdiction over the work.
- H. The Contractor shall be responsible for removal of all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The cost for any necessary remedial action by the Chief Engineer shall be payable by the Contractor.
- I. The Contractor, at his own expense, shall keep the project area free from dust nuisance. The work shall be in conformance with the air pollution control standards and regulations of the State Department of Health.

ELECTRICAL SYMBOLS (Continued)

NEW	EXISTING	DESCRIPTION
		38Y-4686-TA JTS Splicing Vault Manhole, Equipment Item 6
		BA-1162 JTS Manhole, Equipment Item 5
		2' X 6' OTWC Pullbox, Equipment Item 7



PROJECT LOCATION MAP



SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NO.	

FILE PATH: Z:\CAD\PROJECTS\25068\25068_amb.dwg CAD USER: andy PLOT DATE: 2010.09.29 PLOTS:\locationmap\25068-approved\25068_noted

DATE	REVISION	APPROVED BY:
02/09/2010	Added JTS Items to Symbol List	HAWAIIAN ELECTRIC COMPANY (HEC Co) DATE
		HAWAIIAN TELCOM (HTCo) DATE
		OCEANIC TIME WARNER CABLE (OTWC) DATE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**ELECTRICAL SYMBOLS, PROJECT LOCATION
MAP, GENERAL CONSTRUCTION NOTES.**
*Kalaniana'ole Highway Improvements
Retaining Wall at Makapuu, Oahu
Federal Aid Project No. NH-072-1 (51)*
SCALE: AS NOTED DATE: APR. 2007
SHEET No. E-1 OF 18 SHEETS