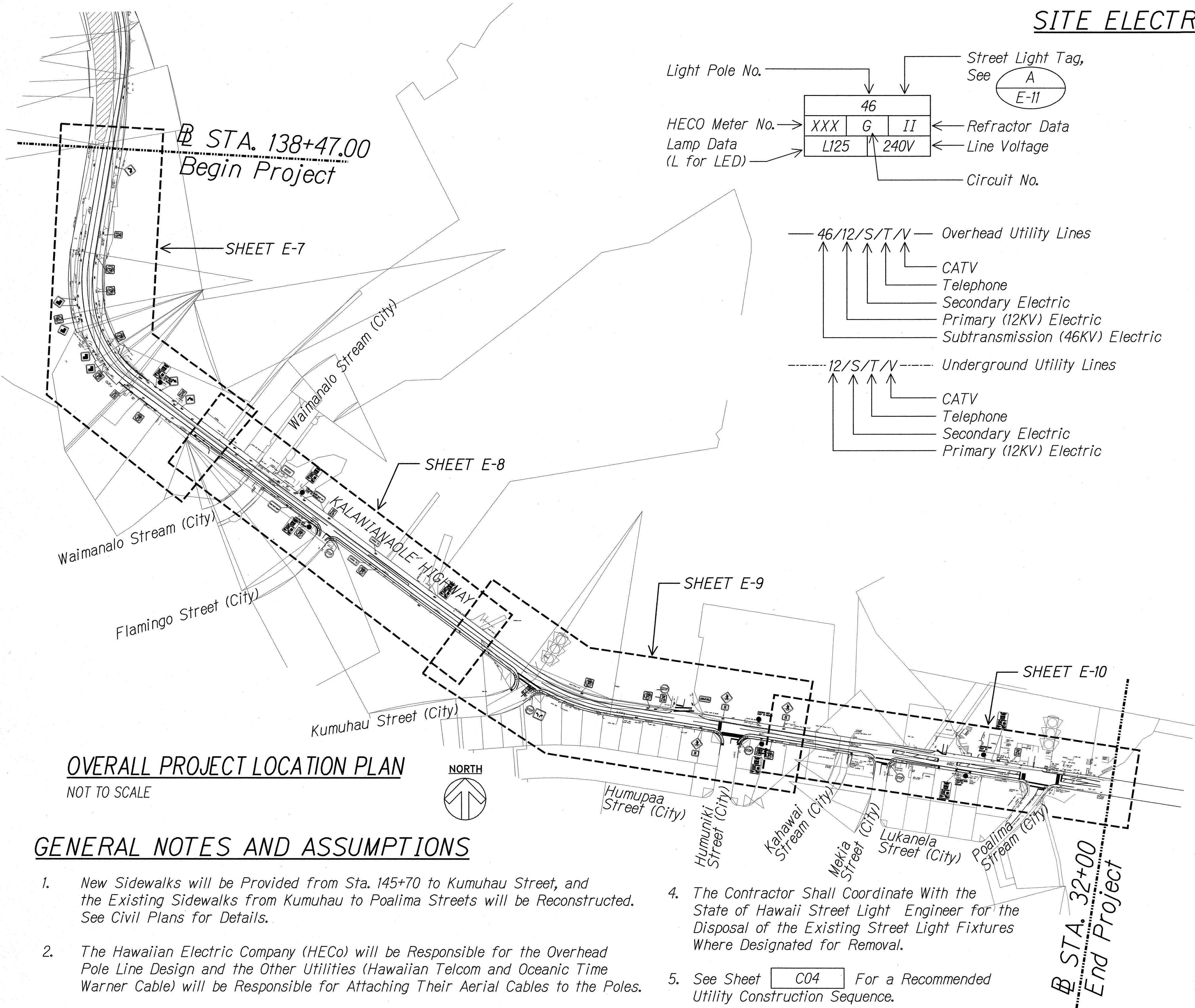


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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SITE ELECTRICAL SYMBOLS

P.71 ○	Existing Wood Utility Pole & Pole No.
(P.71) ●	New Steel Utility Pole by HECO & New Pole No.
⌘	Exist Wood Pole to be Removed by HECO/HTCOM
⦶	New St. Lt. on Bracket Arm & 125 Watt LED Lamp Luminaire, Cut Off, Lt Distribution as Noted on Plans
⊗	Remove St. Lt. Bracket Arm & Luminaire
25 ▲	Single Pole Mount Transformer (25 KVA)
3-25 ▲▲▲	Three Pole Mount Transformers (3-25 KVA)
□	Handhole or Pullbox
1 →	Key Note Indicator
T	Pay Phone
---	Underground Ductline

Light Pole No. →	46	Street Light Tag, See A E-11
HECO Meter No. →	XXX	Refractor Data
Lamp Data (L for LED) →	G II	Line Voltage
	L125	240V
		Circuit No.
46/12/S/T/V	Overhead Utility Lines	
	CATV	
	Telephone	
	Secondary Electric	
	Primary (12KV) Electric	
	Subtransmission (46KV) Electric	
12/S/T/V	Underground Utility Lines	
	CATV	
	Telephone	
	Secondary Electric	
	Primary (12KV) Electric	



OVERALL PROJECT LOCATION PLAN
NOT TO SCALE

GENERAL NOTES AND ASSUMPTIONS

- New Sidewalks will be Provided from Sta. 145+70 to Kumuhau Street, and the Existing Sidewalks from Kumuhau to Poalima Streets will be Reconstructed. See Civil Plans for Details.
- The Hawaiian Electric Company (HECO) will be Responsible for the Overhead Pole Line Design and the Other Utilities (Hawaiian Telcom and Oceanic Time Warner Cable) will be Responsible for Attaching Their Aerial Cables to the Poles.
- The Respective Utilities Will be Responsible for Relocating Existing Underground Services From Old Pole to New Pole.
- The Contractor Shall Coordinate With the State of Hawaii Street Light Engineer for the Disposal of the Existing Street Light Fixtures Where Designated for Removal.
- See Sheet C04 For a Recommended Utility Construction Sequence.
- New Heco Steel Poles Shall Be Staked Out by Contractor Per Heco Pole Stakeout Notes on Sheet E-6 .

DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
IN CHARGE	
NO.	

AARON C. HAMADA
LICENSED PROFESSIONAL ENGINEER
No. 8327-E
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**OVERALL PROJECT LOCATION PLAN,
ELECTRICAL SYMBOLS**

KALANIANAʻOLE HIGHWAY IMPROVEMENTS, PHASE 1
Olomana Golf Course To Vicinity of Poalima St.
Federal Aid Project No. NH-072-1(53)

Scale: As Noted Date: JAN 2015

SHEET No. E-1 OF 13 SHEETS

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10. Relocation of HECo Facilities

Any Work Required to Relocate or Modify HECO Facilities Shall be Done by HECO, or by the Contractor Under HECO's Supervision. The Contractor Shall be Responsible For All Coordination, and Shall Provide Necessary Support For HECO's Work, Which May Include, but Not be Limited to, Staking of Pole/Anchor Locations, Identifying Right of Way and Property Lines, Excavation and Backfill, Permits and Traffic Control, Barricading, and Restoration of Pavement, Sidewalks, and Other Facilities.

11. Conflicts

Any Redesign or Relocation of HECO's Facilities Not Shown on the Plans May be Cause For Lengthy Delays. The Contractor Acknowledges That HECO is Not Responsible For Any Delay or Damage That May Arise as a Result of Any Conflicts Discovered or Identified with Respect to the Location or Construction of HECO's Electrical Facilities in the Field, Regardless of Whether the Contractor Has Met the Requested Minimum Advance Notices. In Order to Minimize Any Delay or Impact Arising From Such Conflicts, HECO Should be Notified Immediately Upon Discovery or Identification of Such Conflict.

12. Damage to HECo Facilities

The Contractor Shall be Responsible For the Protection of All HECo Surface And Subsurface Utilities and Shall be Responsible For Any Damages to HECo's Facilities as a Result of His Operations. The Contractor Shall Immediately Report Such Damages or Any Hazardous Conditions Related to HECo's Lines to HECo's Trouble Dispatcher at 1-800-548-7961. Repair Work Shall be Done by HECo or by the Contractor Under HECo's Supervision. Costs For Damages to HECo's Facilities Shall be Borne by the Contractor.

In Case of Damage or Suspected Damage to HECO's Fuel Pipeline, the Contractor Shall Immediately Notify HECO's Honolulu Power Plant Shift Supervisor at 1-808-533-2102 (a 24-Hour Number) so HECO Personnel Can Secure the Damaged Section and Report Any Oil Spills to the Proper Authorities. In Case of Damage or Suspected Damage to the Waiau or Kahe Fuel Pipelines, the Contractor Shall Also Notify Chevron at 1-808-682-2227. All Costs Associated with the Damage, Repair, and Oil Spill Cleanup Shall be Borne by the Contractor.

8. *Underground Fuel Pipelines*


The Contractor Shall Exercise Extreme Caution Whenever Construction Crosses or is in Close Proximity of HECO's Underground Fuel Oil Pipelines. Special Precautions Are Required When Excavating Near HECO's Underground Fuel Oil Pipelines (See HECO's Specific Fuel Pipeline "Guidelines" to Consultants/Contractors on Excavation Near HECO's Underground Fuel Pipelines For Detailed Requirements).

9. Excavations

When Trench Excavation is Adjacent to or Beneath HECO's Existing Structures or Facilities, the Contractor is Responsible For:

- a) Arranging For HECO Standby Personnel to Observe Work at the Contractor's Cost.
- b) Sheet piling, Bracing, or Otherwise Supporting the Excavation and Stabilizing the Existing Ground to Render It Safe and Secure and to Prevent Possible Slides, Cave-ins, and Settlements.
- c) Properly Supporting Existing Structures or Facilities with Beams, Struts, Under-pinnings, or Other Necessary Methods to Fully Protect it From Damage.
- d) Backfilling with Proper Backfill Material Including Special Thermal Backfill Where Existing (Refer to Engineering Department For Thermal Backfill Specifications).

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

	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</p> <p><u>UTILITY COMPANY NOTES</u></p>
<p> <small> MK ENGINEERS, LTD. LICENSE EXPIRATION DATE: 4/30/16 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. </small> </p>	<p><u>KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1</u></p> <p><u>Olomana Golf Course To Vicinity of Poalima St.</u></p> <p><u>Federal Aid Project No. NH-072-1(53)</u></p> <p>Scale: As Noted Date: JAN 2015</p>
<p>SHEET No. E-2 OF 13 SHEETS</p>	

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The Contractor May Request HECO to Provide an Inspector to Stand-by During Construction Near HECO's Facilities. The Cost of Such Inspection Will be Charged to the Contractor.

14. Clearances


Utility Being Installed	Existing Direct Buried Cable	Existing Direct Buried in Conduit (No Concrete Encasement)	Existing 3" Concrete Encasement	Applicable Notes:
HECo DB Conduits	12"	3"	0"	
HECo 3" Encasement	0"	0"	0"	
Telephone/CATV DB	12"	12"	6"	
Telephone/CATV DB Ducts	12"	12"	6"	
Telephone/CATV 3" Encasement	0"	0"	0"	E
Traffic Signal	12"	12"	12"	
Water DB	36"	36"	36"	A ≠ D
Water Service Laterals	12"	12"	12"	
Water (Concrete Jacketed)	36"	36"	36"	A ≠ D
Gas DB	12"	12"	12"	A
Gas (Concrete Jacketed)	12"	12"	12"	A
Sewer DB	36"	36"	36"	A ≠ B
Sewer (Concrete Jacketed)	36"	36"	36"	A ≠ B
Drain	12"	12"	12"	A
Fuel Pipelines				C

- MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTLINES
VERTICAL (CROSSINGS)

<i>Utility Being Installed</i>	<i>Existing Direct Buried Cable</i>	<i>Existing Direct Buried in Conduit (no concrete encasement)</i>	<i>Existing 3" concrete encasement</i>	<i>Applicable notes:</i>
<i>HECo DB conduits</i>	<i>6"</i>	<i>3"</i>	<i>0"</i>	
<i>HECo 3" encasement</i>	<i>0"</i>	<i>0"</i>	<i>0"</i>	
<i>Telephone/CATV DB</i>	<i>12"</i>	<i>12"</i>	<i>6"</i>	
<i>Telephone/CATV DB ducts</i>	<i>12"</i>	<i>12"</i>	<i>6"</i>	
<i>Telephone/CATV 3" Encasement</i>	<i>0"</i>	<i>0"</i>	<i>0"</i>	<i>E</i>
<i>Traffic signal</i>	<i>12"</i>	<i>12"</i>	<i>6"</i>	
<i>Water DB</i>	<i>6"</i>	<i>6"</i>	<i>6"</i>	<i>B</i>
<i>Water Service Laterals</i>	<i>6"</i>	<i>6"</i>	<i>6"</i>	
<i>Water (concrete jacketed)</i>	<i>6"</i>	<i>6"</i>	<i>6"</i>	<i>B</i>
<i>Gas DB</i>	<i>12"</i>	<i>12"</i>	<i>12"</i>	
<i>Gas (concrete jacketed)</i>	<i>12"</i>	<i>12"</i>	<i>12"</i>	
<i>Sewer DB</i>	<i>24"</i>	<i>24"</i>	<i>24"</i>	<i>A</i>
<i>Sewer (concrete jacketed)</i>	<i>24"</i>	<i>24"</i>	<i>24"</i>	<i>A</i>
<i>Drain</i>	<i>12"</i>	<i>12"</i>	<i>6"</i>	
<i>Fuel pipelines</i>				<i>C</i>

- The Contractor Shall Notify the Construction Manager and HEC of Any Heat Sources (Power Cable Duct Bank, Steamline, Etc.) Encountered That are Not Properly Identified on the Drawing.*

The Contractor Shall Indemnify, Defend and Hold Harmless HECO From and Against All Losses, Damages, Claims, and Actions, Including but Not Limited to Reasonable Attorney's Fees and Costs Based Upon or Arising Out of Damage to Property or Injuries to Persons, or Other Tortious Acts Caused or Contributed to by Contractor or Anyone Acting Under It's Direction or Control or on It's Behalf; Provided Contractor's Indemnity Shall Not be Applicable to Any Liability Based Upon the Sole Negligence of HECO.

	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</p> <p><u>UTILITY COMPANY NOTES</u></p>
<p> <small>ME ENGINEERS, LTD. LICENSE EXPIRATION DATE: 4/30/16 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</small> </p>	<p><u>KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1</u> <u>Olomana Golf Course To Vicinity of Poalima St.</u> <u>Federal Aid Project No. NH-072-1(53)</u></p> <p> <u>Scale: As Noted</u> <u>Date: JAN 2015</u> </p>
<p>SHEET No. E-3 OF 13 SHEETS</p>	

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

HAWAIIAN ELECTRIC COMPANY NOTES (CONT.) HAWAIIAN TELCOM CONSTRUCTION NOTES

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16. Schedule

The Contractor Shall Furnish His Construction Schedule Six (6) Months Prior to Starting Work on HECo Facilities. The Contractor Shall Give HECo, in Writing, Three (3) Months Notice to Proceed With HECo's Portion of Work.

17. Authority

All Construction, Restoration Work, and Inspection Shall be Subject to Whichever Governmental Agency Has Authority Over the Work.

18. Specifications

Construction of HECo's Underground Facilities Shall be Constructed in Accordance With the Latest Revisions of HECo Specifications CS700I, CS7003, CS7202, CS930I, and CS940I and Applicable HECo Standards.

19. Construction

The Contractor Shall Furnish All Labor, Materials, Equipment, and Services to Properly Perform and Fully Complete All Work Shown on the Contract, Drawings, and Specifications. All Materials Shall be New and Manufactured in the United States of America. All Manhole, Handhole, and Ductline Installations Shall be Inspected and Approved by HECo Prior to Excavation and Prior to Placing Concrete. The Contractor Shall Notify HECo's Inspection Division at 543-4329 at Least 48 Hours Prior to Placing Concrete.

The Contractor Shall Coordinate Work to Break Into HECo's Existing Electrical Facilities With HECo's Inspection Division at 543-4329 at Least Ten (10) Working Days in Advance.

20. Stakeout

The Contractor Shall Arrange For Toneouts of All Underground Facilities and Shall Stakeout All Proposed HECo Facilities Within the Project Area so as to Not Conflict With Any Utility (Existing or Proposed) and Any Proposed Construction or Improvement Work For Verification by HECo Before Proceeding With HECo Work.

21. Ductlines

All Ductline Installations Shall be PVC Schedule 40 Encased in Concrete, Unless Otherwise Noted. All Completed Ductlines Shall be Mandrel Tested by the Contractor in the Presence of HECo's Inspector Using HECo's Standard Practice. The Contractor Shall Install a 1/8" Polyolefin Pull Line in All Completed Ductlines After Mandrel Testing is Complete.

22. Joint Pole Removal

The Last Joint Pole Occupant Off the Poles Shall Remove the Poles.

23. As-Built Plans

The Contractor Shall Provide HECo With Two Sets of As-built Reproducible Tracings Showing the Offsets, Stationing, and Vertical Elevation of the Duct Line(s) Constructed.

1. The Contractor Shall Procure and Pay For All Licenses and Permits and Shall Give All Notices Necessary and Incident to the Due and Lawful Prosecution of the Work.

2. The Contractor Shall Obtain An Excavation Permit and Toning Request From Hawaiian Telcom's Excavation Permit Section, Located at 1177 Bishop Street, Two Weeks Prior to the Start of Construction. Hours of Business Are 8:00 a.m. to 11:00 a.m. and 12:00 p.m. to 3:00 p.m. Monday Through Friday, Except Holidays.

3. Prior to the Excavation of the Ductline, the Contractor Shall Request Hawaiian Telcom to Locate Existing Ductline Wherever Required. For Underground Cable Locating and Marking, Five (5) Working Days Advance Notice is Required. Three (3) Working Days Advance Notice is Required For Any Inspection by a Designated Representative.

4. The Locations of Existing Utilities Are Approximate Only. The Contractor Shall Exercise Extreme Caution and Shall Maintain Proper Clearances Whenever Construction Crosses or is in Close Proximity of Hawaiian Telcom Facilities. The Contractor Shall Verify Their Locations and Shall Be Liable For Any Damages to Hawaiian Telcom Facilities. Any Damages Shall be Reported Immediately to Hawaiian Telcom's Repair Section at #611 (24 Hours) or to the Excavation Permit Section at 1-808-546-7746 (Normal Working Hours, Monday Through Friday, Except Holidays). as a Result of His Operations, Adjustments to the New Ductline Alignment, If Required, Shall be Made to Provide the Required Clearances.

5. The Contractor Shall Take Necessary Precaution Not to Damage Existing Cables or Ducts. A Hawaiian Telcom Inspector or Designated Representative is Required to be at Any Job Site Whenever There Will be a Breakage Into or Entry Into Any Structure That Contain Hawaiian Telcom Facilities. Temporary Cable and Duct Supports Shall be Provided Wherever Necessary.

6. The Contractor Shall Notify Hawaiian Telcom's Inspector or Designated Representative a Minimum of 72 Hours Prior to Excavation, Bracing, or Backfilling of Hawaiian Telcom's Structures or Facilities.

7. All Applicable Construction Work Shall be Done in Accordance With the "Hawaiian Telcom Standard Specifications for Placing Telephone Systems" Dated January 2007. All Subsequent Amendments and Additions, and All Other Pertinent Standards For Telephone Construction. Contractor Shall Familiarize His Personnel by Obtaining Applicable Specifications.

8. When Excavation is Adjacent to or Beneath Hawaiian Telcom's Existing Structures of Facilities, the Contractor Shall:

- a. Sheet and/or Brace the Excavation to Prevent Slides, Cave-ins, or Settlements to Ensure No Movement to Hawaiian Telcom's Structures or Facilities.
- b. Protect Existing Structures and/or Facilities With Beams, Struts, or Underpinning While Excavating Beneath Them to Ensure No Movement to Hawaiian Telcom's Structures or Facilities.

9. The Contractor Shall Brace All Poles or Light Standards Near the New Ductline, Manhole, or Handhole During His Operations.

10. The Contractor Shall Saw-cut AC Pavement and Concrete Gutter Wherever New Manholes, Handholes, or Ductlines Are to be Placed and Shall Restore to Existing Condition or Better.

11. The Contractor Shall Comply With the Policy Adopted by the Department of Planning & Permitting, City and County of Honolulu, Concerning the Replacement of Concrete Sidewalks After Excavation Work.

12. The Underground Pipes, Cables, or Ductlines Known to Exist From the Searching of Records are Indicated on the Plans. The Contractor Shall Verify the Locations and Depths of the Facilities and Exercise Proper Care in Excavating in 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 Locations and Depths Prior to Excavation for the New Lines.

13. Wherever Connections to Existing Utilities Are Shown on the Plans, the Contractor Shall Expose the Existing Lines Prior to Excavation of the Main Trenches to Verify Their Locations and Depths.

14. The Contractor, at His Own Expense, Shall Keep the Project and Surrounding Area Free From Dust Nuisance. The Cost For Supplementary Measures, Which Will be Required by the City and County, Shall be Borne by the Contractor.

15. The Contractor Shall Pump All Manholes Dry During Final Inspection.

16. The Contractor Shall Notify Hawaiian Telcom Inspector 24 Hours Prior to the Pouring of Concrete or Backfilling.

17. When Connecting to Manhole Walls, All Existing Reinforcing Bars Shall Be Left Intact. Ducts Shall Be Adjusted in the Field in Order to Clear Reinforcing.

18. The Contractor Shall be Responsible For Laying Out All Required Lines and Grades and Shall Preserve All Bench Marks and Working Points Necessary to Lay Out the Work Correctly. The New Ductline Shall be Adjusted by the Contractor to Suit the Existing Conditions and the Details as Described in the Plans.

19. Minimum Concrete Strength Shall be:
For Ductline 2500 PSI at 28 Days
For Manhole 3000 PSI at 28 Days or as Specified in Design Notes

20. Bends in the Duct Alignment, Due to Changes in Grade Shall Have a Minimum Radius of 25 Feet. All 90 Degree C-bends at a Pole or at the Building Floor Slab Penetration, Shall Have a Bend Radius of Ten Times the Diameter of the Duct or Greater.

21. After Ductline Has Been Completed, a Mandrel with a Square Front Not Less Than 12" Long and Having a Diameter of 1/4" Less Than the Inside Diameter of the 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 Inside. Ducts Shall be Completely Dry and Clean.

22. All Ducts and Conduits Shall Have an 1800# Polyester Mule-tape (NEPTCO, WP1800p, Hawaiian Telcom Material Code No. 571154) Installed Throughout Its Entire Length. All Ducts Shall be Capped to Prevent Entry of Foreign Material During Construction and at the Completion of Installation.

SURVEY PLOTTED BY	DATE
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DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

AARON C. HAMADA
LICENSED PROFESSIONAL ENGINEER
No. 8327-E
HAWAII, USA

MIK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/19
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY COMPANY NOTES

KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1
Olomana Golf Course To Vicinity of Poalima St.
Federal Aid Project No. NH-072-I(53)

Scale: As Noted Date: JAN 2015

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AT&T CONSTRUCTION NOTES

- 1. All Cover Depths Indicated on Drawings are Measured From Grade to Top of Concrete Encasement.
- 2. Minimum Cover for Structure Shall Be 36" Minimum Below Proposed Finished Grade.
- 3. Place Marking Tape Continuously Along the Trench Line at 18" Below Finished Surface.
- 4. Shore Trench as Required by OSHA Standards.
- 5. Contractor Shall Pothole Existing Cable for Location Prior to Construction. AT&T Operations Shall be Notified Before Commencing This Operation.
- 6. The Contractor Shall Furnish a Professional Licensed and Bonded Guard at the Work Site Whenever the Fiber Optic Cable is Left Exposed During Non-working Hours (Overnight, Weekends and Holidays). No Additional Compensation Will be Allowed for this Work.

DEPARTMENT OF DESIGN & CONSTRUCTION
MECHANICAL/ELECTRICAL DIVISION NOTES:

- 1. The Contractor Shall Notify the Mechanical/Electrical Division, Department of Design and Construction Two (2) Weeks in Advance of Any Relocation of Utility Pole(s) That May be Necessary. (1-808-768-8431).
- 2. The Contractor Shall Notify the Mechanical/Electrical Division, Department of Design and Construction, Three (3) Working Days Prior to Commencing Work on the Street Light System. (1-808-768-8431).
- 3. The Street Lighting System Shall be Kept Operational During Construction. Any Relocation Required Shall be Approved by the Mechanical/Electrical Division and Paid for by the Contractor.
- 4. The Locations of the Existing Underground Street Light Facilities Shown on the Plans are From Existing Plans and are Approximate Only. The Contractor Shall Exercise Caution When Construction Crosses or is in Close Proximity to the Existing Street Light Facilities. The Contractor Shall be Responsible for any Damages to the Existing Street Light Facilities. 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.
- 5. The Contractor Shall be responsible for Any Damages to the City's Existing Communications Fiber Optic Cable System. 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.
- 6. Salvage and Deliver Existing Street Light Standard to the Department of Facility Maintenance Baseyard at Manana as Directed by the Street Light Inspector. Contact 1-808-768-5310 a Minimum of Two Days Prior to Delivery.

DEPARTMENT OF TRANSPORTATION
SERVICES TRAFFIC SIGNALS AND
TECHNOLOGY DIVISION NOTES:

- 1. The Contractor Shall Notify the Traffic Signals and Technology Division, Department of Transportation Services, Three (3) Working Days Prior to Commencing Work on the Traffic Signal System (1-808-768-8388).
- 2. The Traffic Signal System Shall be Kept Operational During Construction. Any Relocation Rrequired Shall be Approved by the Traffic Signals and Technology Division, Department of Transportation Services, and Paid for by the Contractor.
- 3. The Contractor Shall be Responsible for any Damages the the Existing Traffic Signal Facilities, Including but Not Limited to the Traffic Signal Fiber Optic Cable System, and Interconnect System. Any and All Damages to the Facilities Shall be Repaired by the Contractor at His Cost in Accordance with the Requirements of the Traffic Signals and Technology Division, Department of Transportation Services.

OCEANIC TIME WARNER CABLE (OTWC)
CONSTRUCTION NOTES

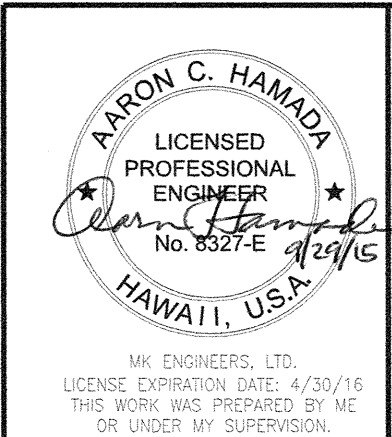
- 1. The Contractor Shall Procure and Pay for All Licenses and Permits and Shall Give All Notices Necessary and Incident to the Due and Lawful Prosecution of the Work.
- 2. The Locations of Existing Utilities are Approximate Only. The Contractor Shall Verify Their Locations and Shall be Responsible for Any Damages to These Utilities as a Result of His Operations. Adjustments to the New Ductline Alignment, if Required, Shall be Made to Provide the Required Clearances.
- 3. The Contractor Shall Brace All Poles or Light Standards Near the New Ductline, Manhole or Handhole During Its Operations.
- 4. The Contractor Shall Saw-cut A.C. Pavement, Concrete Gutter, and Concrete Sidewalk Wherever New Manholes, Handholes, Pullboxes or Ductlines are to be Placed and Shall Restore to Existing Condition or Better.
- 5. The Underground Pipes, Cables, or Ductlines Known to Exist by the Engineer From His Search of Records are Indicated on the Plans. The Contractor Shall Verify the Locations and Depths of the Facilities and Exercise Proper Care in Excavating in the Areas. 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.
- 6. The Contractor, at His Own Expense, Shall Keep the Project and Surrounding Area Free From Dust Nuisance. The Cost For Supplementary Measures, Which Will be Required by the City, shall be Borne by the Contractor.
- 7. Prior to the Excavation of the Ductline, the Contractor Shall Request Oceanic Time Warner Cable (OTWC) to Locate Its Existing Ductline Wherever Required.
- 8. The Contractor Shall Take Necessary Precaution Not to Damage Existing Cables or Ducts. Any Work Involving Existing OTWC Cables or Ducts Shall be Done in the Presence of the OTWC Inspector or His Representative. Temporary Cable and Duct Supports Shall be Provided Wherever Necessary.
- 9. The Contractor Shall Notify the OTWC Inspector 72 Hours Prior to the Pouring of Concrete or Backfilling. Contact Moki Place at 1-808-306-0658.
- 10. Wherever Connections to Existing Utilities are Shown on the Plans, the Contractor Shall Expose the Existing Lines Prior to Excavation of the Main Trenches to Verify Their Locations and Depths.

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OCEANIC TIME WARNER CABLE (OTWC)
CONSTRUCTION NOTES (CONT.)

- 11. The Contractor Shall Provide All Materials and Furnish All Labor and Equipment Necessary to Install the Ductline in Place Complete.
- 12. The Contractor Shall be Responsible for Laying Out All Required Lines and Grades and Shall Preserve All Bench Marks and Working Points Necessary to Lay Out the Work Correctly. The New Ductline Shall be Adjusted by the Contractor to Suit the Existing Conditions and the Details as Described in the Plans.
- 13. 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 of Hawaii, Department of Health.
- 14. The Location of OTWC Facilities Shown on Plans Are From Existing Records with Varying Degrees of Accuracy as to Its Actual Fixed Location. The Contractor Shall Use Extreme Caution When Working in Close Proximity of OTWC Facilities.
- 15. The Contractor Shall Obtain Excavation Permit Clearance From OTWC's Engineering Section Located at 200 Akamainui St., Mililani Tech Park.
- 16. For Verification of OTWC Facilities or Toning, the Contractor Shall Call 1-866-423-7287 (One-call Center).
- 17. Any Work Required to Relocate OTWC Cables Shall be Done by OTWC and the Contractor Shall be Responsible for All Coordination Requirements and Associated Costs.
- 18. Any Damage to OTWC's Facilities Shall be Reported to OTWC's Repair Dispatch Department at 1-808-625-8437.
- 19. The Contractor Shall Tunnel Under Existing Concrete Curb and Gutter as Necessary to Extend Conduit Into Existing OTWC Pullbox and Into the Proposed Power Supply Pullbox.
- 20. All Existing Improvements that are Disturbed During the Construction Phase Shall be Restored to its Original or Better Condition at No Cost to the City in Accordance With Appropriate Standards.
- 21. At Locations Where Existing OTWC Pullbox Replacement is Proposed, the Contractor Shall Take All Necessary Precaution Not to Damage the Existing Cables in the Pullbox. All Damages to Existing Cables Shall be Repaired by OTWC and Paid for by the Contractor.
- 22. The Contractor Shall Coordinate All Penetration of Telephone Pullboxes With the Hawaiian Telcom Inspector.

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



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
UTILITY COMPANY NOTES	
KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1 Olomana Golf Course To Vicinity of Poalima St. Federal Aid Project No. NH-072-1(53)	
Scale: As Noted	Date: JAN 2015
SHEET No. E-5 OF 13 SHEETS	

OCEANIC TIME WARNER CABLE (OTWC)
CONSTRUCTION NOTES (CONT.)

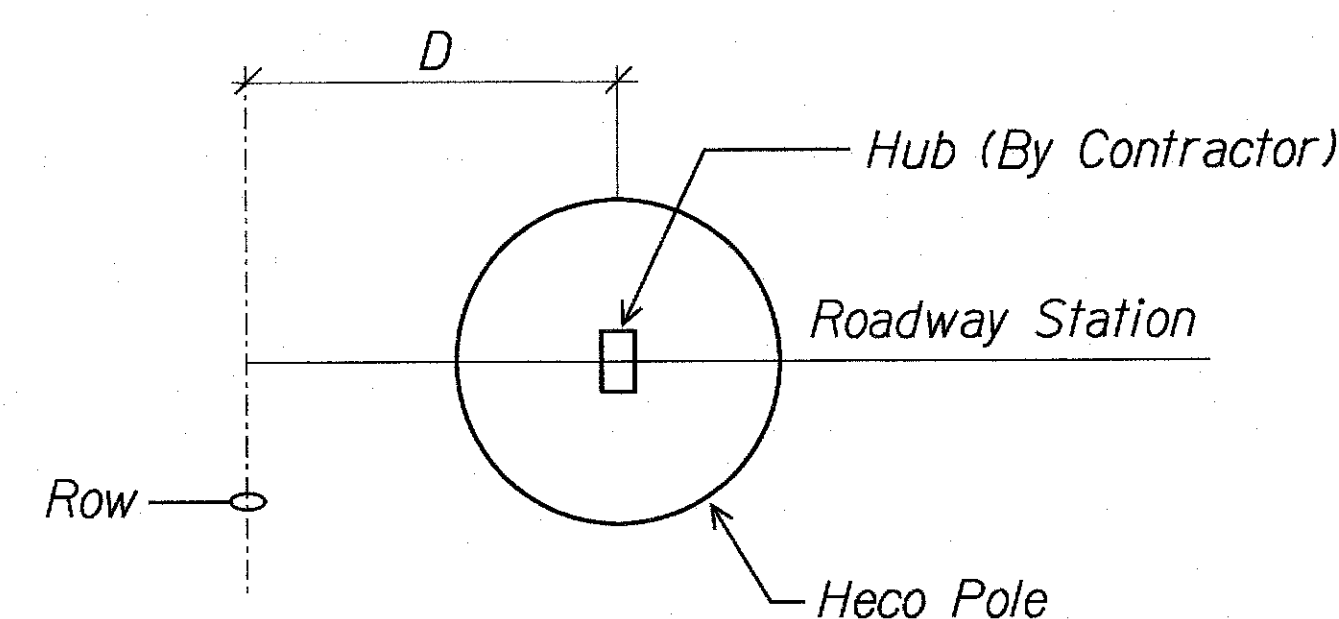
23. The Contractor Shall Smooth Finish Inside Wall of Existing Pullboxes and Handholes to its Original Condition or Better.
24. For 2" Conduits or Larger, the Contractor Shall Install NEPTCO WP1800 Muletape or Approved Equal in All Ductlines, Leave Muletape in Place For Future Use as a Pull or Fish Line, Unless Otherwise Noted. Reference Hawaiian Telcom Material Code No. 571154. All Ducts Shall be Capped to Prevent Entry of Foreign Material During Construction and at Completion of Installation. Endbells are Required For Conduits 2" and Larger.
25. The Contractor Shall Place Poly Cord Throughout Project, and Secure in Manholes, Handholes, and Pullboxes.
26. Penetration Into Pullboxes, if Necessary, to be From Factory Installed Opening or From Bricks Position. Penetration From Pullbox Walls is Not Acceptable.
27. A Minimum of (2) Precast Sections Must be Used on All 2'x4' or 2'x6' Pullboxes.
28. Two Minimum Layers of Bricks to be Used Shall Always be at Least One Layer Lower Than the Lowest Duct Entering the Pullbox. At No Time However, Shall There be Less Than Two Layers of Bricks on Each Installation.
29. At No Time Shall Cement Mortar, Wood, or Any Other Material be Used Between Precast Sections. Leveling or Raising of Boxes to Grade Must be Done at Brickwork Section Using Cement Mortar. The Permanent Installation of Wooden Wedges to Accomplish This Purpose Will Not be Accepted.
30. Concrete Precast Base May be Used as an Alternative to Bricks.
31. The Contractor Shall Provide 5/8" Dia. x 8'-0" Galvanized Ground Rod in All OTWC Pullboxes Except @ HECO Transformer Pad Locations and in 12"x20" Pullboxes. Ground Rod to Extend 4" Above Finish Pullbox Floor and Placed Near Corner.
32. Trenching to be by Hand Digging Near and Across Existing Utility Lines.
33. Minimum Clearance Between Street Light Stand and Fire Hydrants Shall be Three Feet.
34. Underground Utilities Shown Hereon is for Information Only. No Guarantee is Made on the Accuracy or Completeness of Said Installation.
35. For Underground Cable Locating and Marking, Five Working Days Advance Notice is Required. Three Working Days Advance Notice is Required for any Inspection by a Designated Representative. Contractor Shall Take Necessary Precaution Not to Damage Any Existing Cables or Ducts. OTWC's Inspector or Designated Representative is Required to be at Any Job Site Whenever There Will be a Breakage Into or Entry Into Any Structure That Contain OTWC's Facilities.
36. Concrete Strength Shall be 3000 PSI in 28 Days.
37. Bends in the Duct Alignment, Due to Changes in Grade Shall Have a Minimum Radius of 20 Feet. All 90-Degree C-Bends at a Pole or at the Building Floor Slab Penetration Shall Have a Bend Radius of Ten Times the Diameter of the Duct or Greater.

OCEANIC TIME WARNER CABLE (OTWC)
CONSTRUCTION NOTES (CONT.)

38. After Ductline Has Been Completed, a Mandrel With a Square Front Not Less Than 12 Inches Long and Having a Diameter of 1/4-inch Less Than the 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 Inside. Ducts Shall be Completely Dry and Clean.
39. Metallic Entrance Conduits Shall be Grounded.
40. All Conduits Within a Building Shall:
- Be Installed in the Shortest and Straightest Possible Run;
 - Have No Section Longer Than 100 Feet Nor Contain More Than Two 90-Degree Bends (An Approved Sized Junction Box or Gutter Box Shall be Placed if This is Exceeded); and
 - All Bends Shall be Long Sweep-Radius Bends, but the Inside Radius of the Bend Must Never be Less Than Ten Times the Diameter of the Conduit.
41. All Construction Must be Inspected and Approved by OTWC Prior to the Installation of Any of Its Facilities and the Energizing of Its System.
42. The Contractor and/or Customer Shall Provide OTWC with Sufficient Installation Time in Their Occupancy Time Table.
43. The Contractor Shall Install 4-Mil Thick Orange Color Warning Tape 3-inch Wide, Entire Length of Trench When Placing OTWC Conduits. Tape Should Read "CAUTION BURIED CABLE LINE BELOW" and Manufactured by Harris Industries, Inc., Catalog Number UT-43 or Equivalent Tape. Tape to be Installed 12 Inches Below Grade.

HECO POLE STAKEOUT NOTES

1. Contractor Shall Stakeout New Heco Poles in Accordance with Heco Pole Stakeout Diagram and Heco Pole Stakeout Table.
2. All Hub Locations Shall be Approved by the Heco Inspector.



HECO POLE STAKEOUT DIAGRAM

LEGEND FOR
AS-BUILT POSTINGS

- ~~~~~ Squiggly line for as-built deletion
- == Double line for as-built deletion
- Roadway Text for as-built posting

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(53)	2015	74	117

HECO POLE STAKEOUT TABLE

POLE NO.	ROADWAY STATION*	D**	
P.73	142+71 64.00	27.00	
P.72	144+00	2.00	3.00
P.71X	145+22 21.77	13.00	
P.71	146+57 56.85	3.50	
P.70	148+24 23.86	7.50	8.50
P.69X	149+78 77.85	2.50	1.87
P.68X	4+60 59.84	2.50	1.87
P.68	6+22 21.84	2.50	1.78
P.67X	7+71 70.84	2.50	1.86
P.67	9+19 18.84	2.50	1.86
P.66	10+62 61.84	2.50	1.08
P.64	12+30 29.84	2.50	1.90
P.63	13+61 57.79	2.50	1.18
P.62	15+36 39.55	2.50	1.61
P.61	16+61 64.40	2.50	1.51
P.60	18+40 41.16	2.50	1.94
P.59	19+85 79.05	2.50	2.06
P.58	21+50 53.75	2.00	1.42
P.57	22+91 .05	2.50	1.55
P.56X	24+69 67.00	2.50	1.87
P.56	25+93 92.80	2.50	1.975
P.55X	26+72 67.00	2.50	1.47
P.55	27+40.04	2.50	1.57

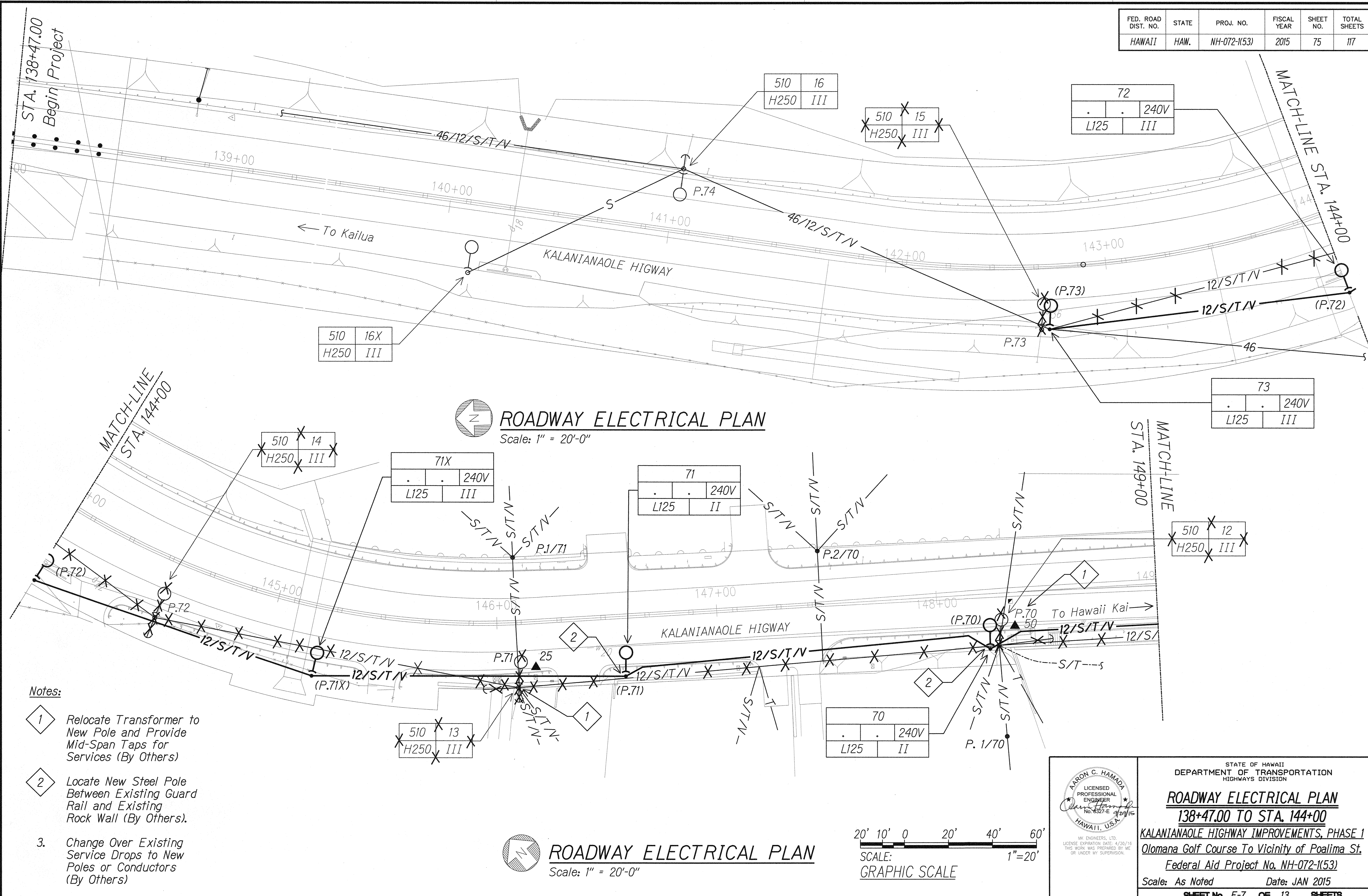
(*) - Roadway Station is + or - one (1) foot

(**) - Distance "D" is from ROW line to centerline of pole in FEET

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>UTILITY COMPANY NOTES</u>	
KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1 Olomana Golf Course To Vicinity of Poalima St. Federal Aid Project No. NH-072-1(53)	
Scale: As Noted	Date: JAN 2015
SHEET No. E-6 OF 13 SHEETS	

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(53)	2015	75	117

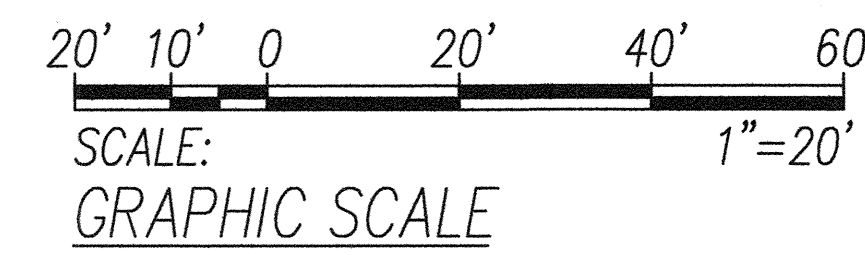


ROADWAY ELECTRICAL PLAN

Scale: 1" = 20'-0"

ROADWAY ELECTRICAL PLAN

Scale: 1" = 20'-0"



AARON C. HAMADA
LICENSED PROFESSIONAL ENGINEER
No. 4327-E
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY ELECTRICAL PLAN
138+47.00 TO STA. 144+00
KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1
Olomana Golf Course To Vicinity of Poalima St.
Federal Aid Project No. NH-072-1(53)

Scale: As Noted Date: JAN 2015

SHEET No. E-7 OF 13 SHEETS

ORIGINAL PLAN
DATE
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
NOTED BY
CHECKED BY
No.

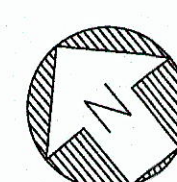
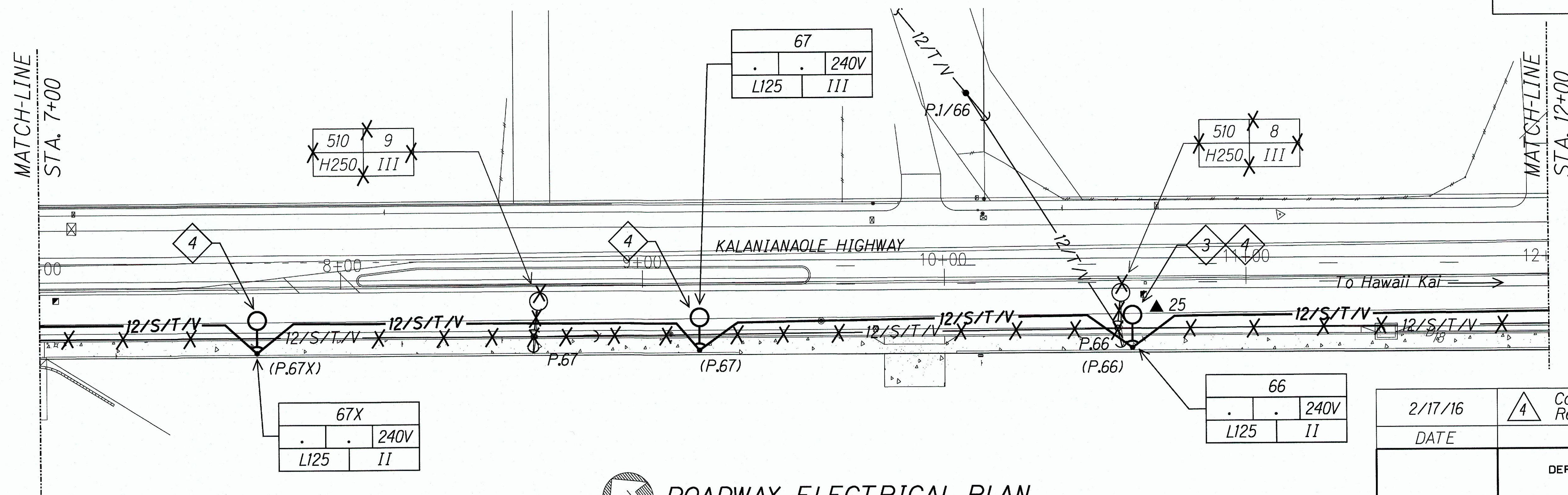
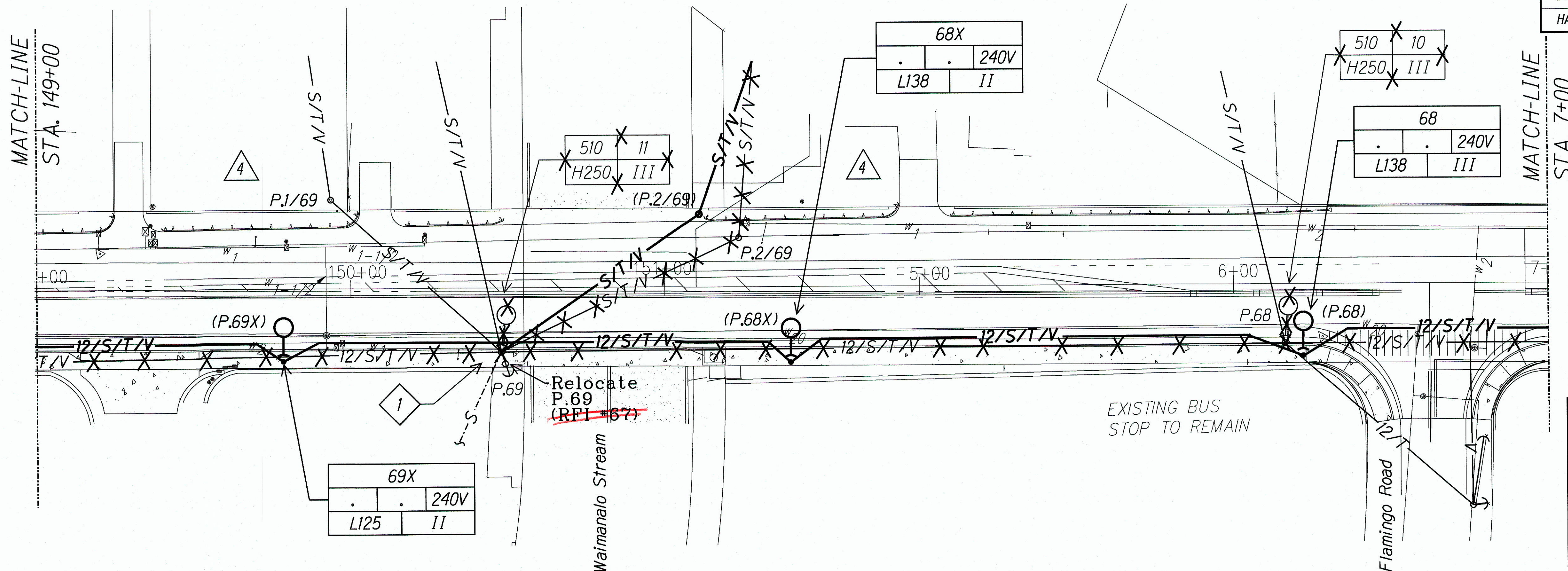
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-11531	2015	CCO.76	117

Notes:

- 1 Top Pole Above Secondary Conductors (By Others).
2. Change Over Existing Service Drops to New Poles or Conductors (By Others)
- 3 Relocate Transformer to Pole (By Others)
- 4 Provide 4' x 4' Blockout in Retaining Wall Foundation. See Structural Sht for Details.

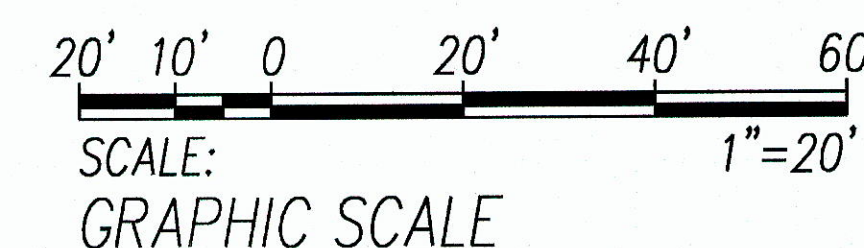
LEGEND FOR AS-BUILT POSTINGS

- ~~~~~ Squiggly line for as-built deletion
- ==== Double line for as-built deletion
- Roadway Text for as-built posting



ROADWAY ELECTRICAL PLAN

Scale: 1" = 20'-0"



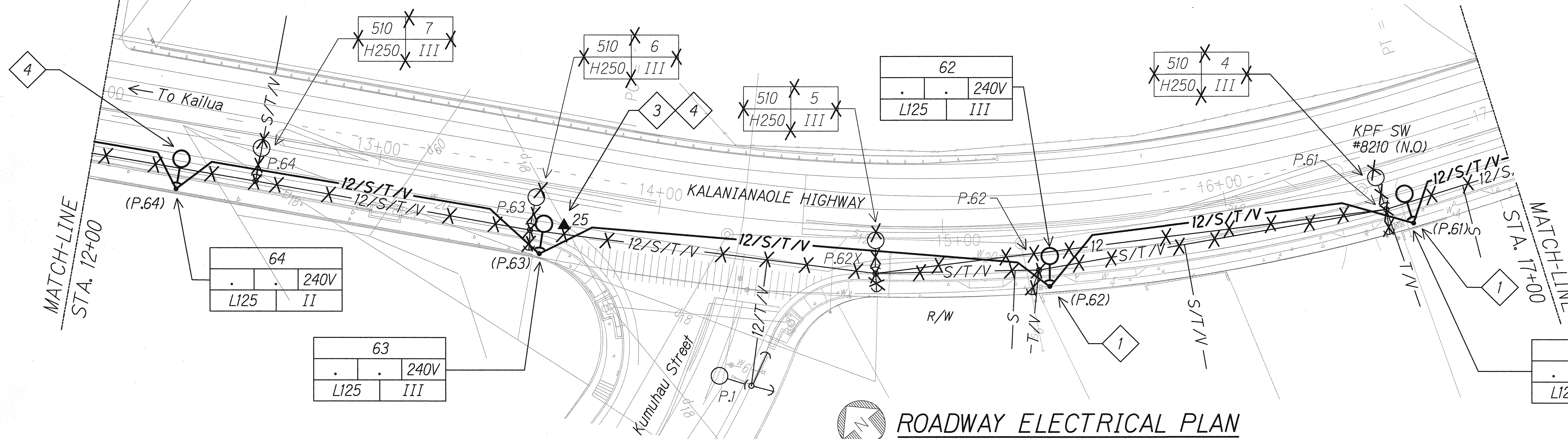
2/17/16	<div>4</div> <div>Corrected Location of P.1/69 and Replaced P.2/69 in New Location</div>
DATE	REVISION
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	<u>ROADWAY ELECTRICAL PLAN</u> <u>STA. 149+00 TO STA. 12+00</u> <u>KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE I</u> <u>Olomana Golf Course To Vicinity of Poalima St.</u> <u>Federal Aid Project No. NH-072-11531</u>
Scale: As Noted	Date: JAN 2015
SHEET No. E-8 OF 13 SHEETS	

"AS-BUILT"

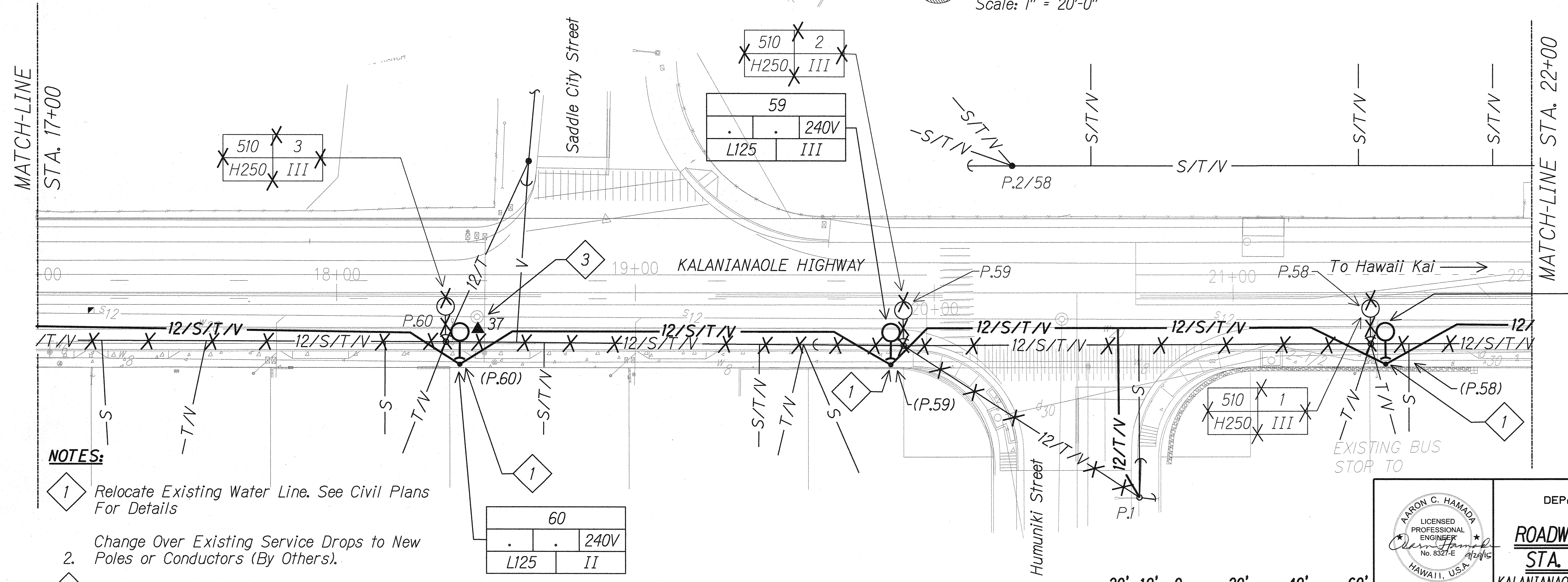
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DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(53)	2015	77	117

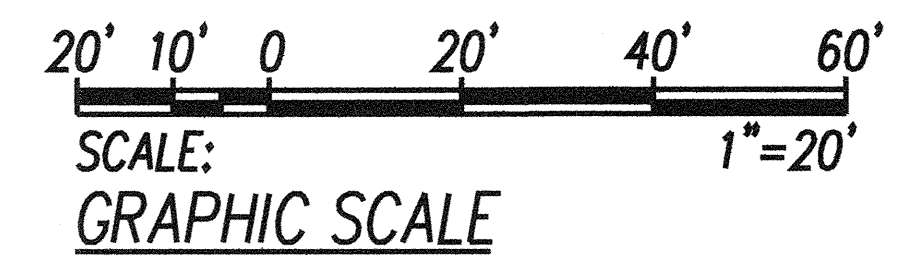


ROADWAY ELECTRICAL PLAN
Scale: 1" = 20'-0"



- NOTES:**
- 1 Relocate Existing Water Line. See Civil Plans For Details
 - 2 Change Over Existing Service Drops to New Poles or Conductors (By Others).
 - 3 Relocate Transformer to New Pole (By Others).
 - 4 Provide 4' x 4' Blockout in Retaining Wall Foundation. See Structural Sheet S09 for Details.

ROADWAY ELECTRICAL PLAN
Scale: 1" = 20'-0"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY ELECTRICAL PLAN
STA. 12+00 TO STA. 22+00

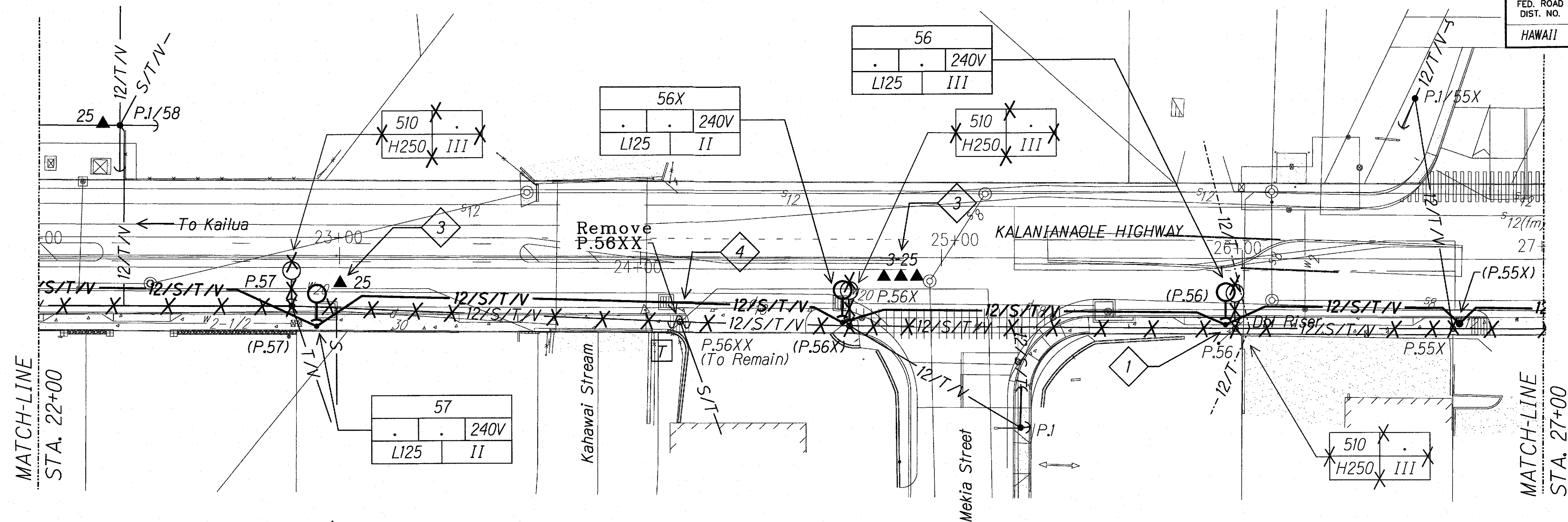
KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1
Olomana Golf Course To Vicinity of Poalima St.
Federal Aid Project No. NH-072-1(53)

Scale: As Noted Date: JAN 2015

SHEET No. E-9 OF 13 SHEETS

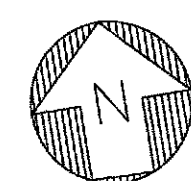
DATE	
SURVEY PLOTTED BY	
ORIGINAL PLAN	
DESIGNED BY	
NOTED BY	
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NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(53)	2015	78	117



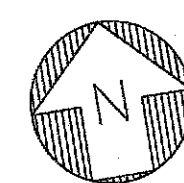
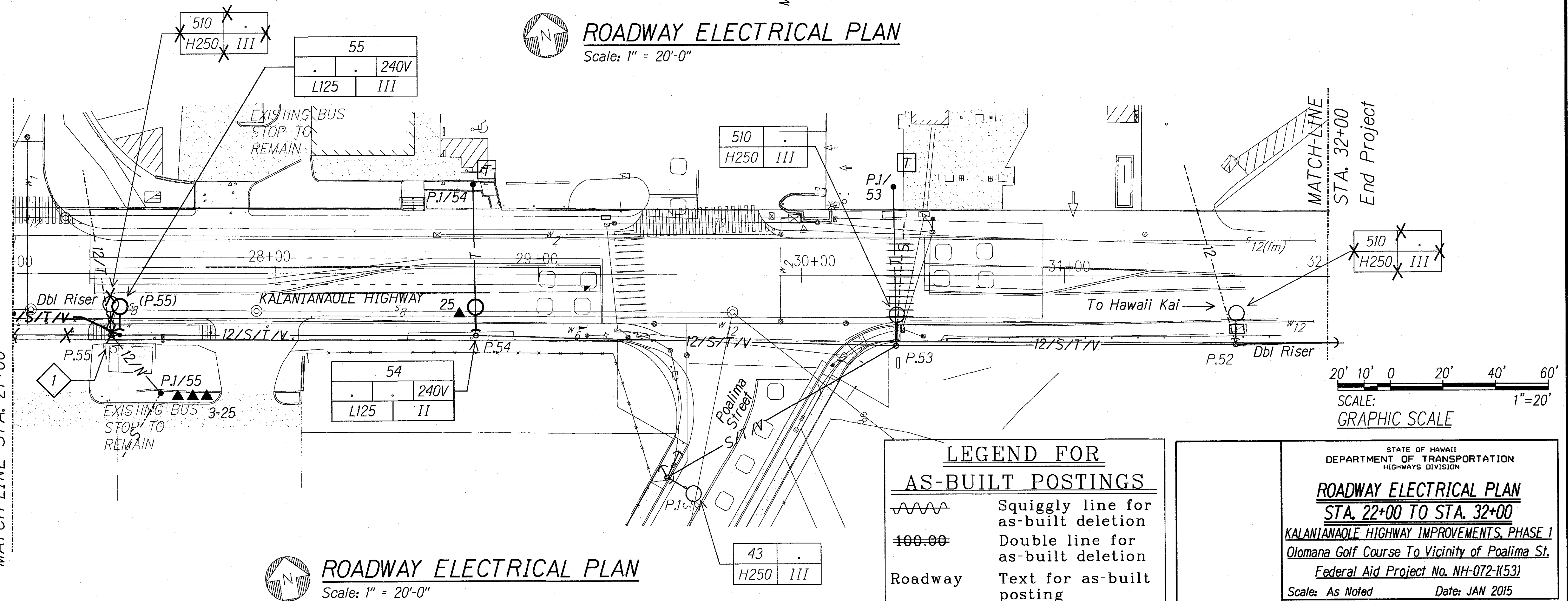
NOTES:

- 1 Change Over Existing Risers to New Pole (By Others).
- 2 Change Over Existing Service Drops to New Poles or Conductors (By Others).
- 3 Relocate Transformer to New Pole (By Others).
- 4 Top Pole Above Secondary Conductors (By Others).



ROADWAY ELECTRICAL PLAN

Scale: 1" = 20'-0"



ROADWAY ELECTRICAL PLAN

Scale: 1" = 20'-0"

LEGEND FOR AS-BUILT POSTINGS

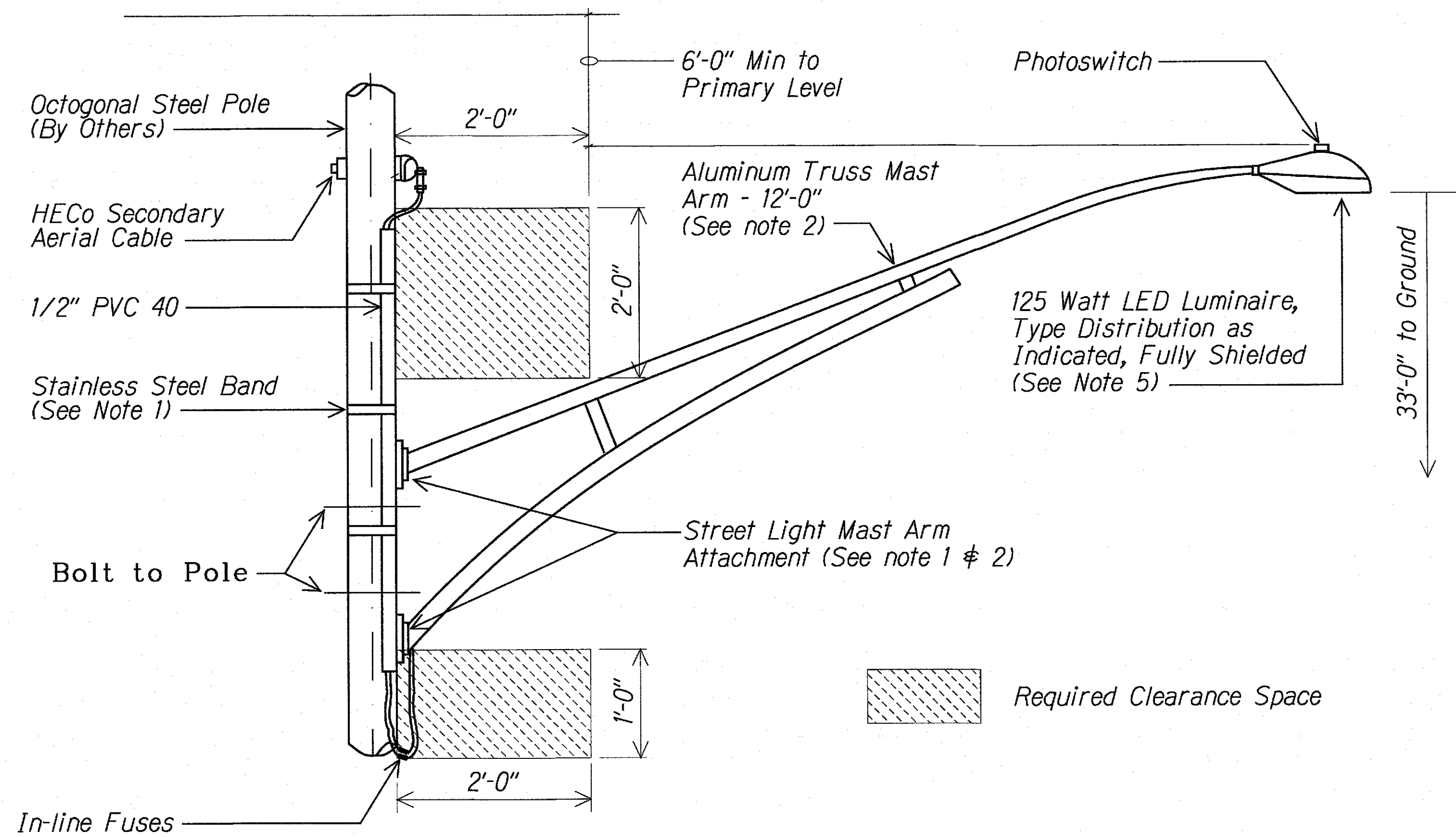
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- Double line for as-built deletion
- Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY ELECTRICAL PLAN
STA. 22+00 TO STA. 32+00
KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE I
Olomana Golf Course To Vicinity of Poalima St.
Federal Aid Project No. NH-072-1(53)
Scale: As Noted Date: JAN 2015
SHEET No. E-10 OF 13 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(53)	2015	CCO.79	117



STREET LIGHT BRACKET MOUNTING ON STEEL POLE

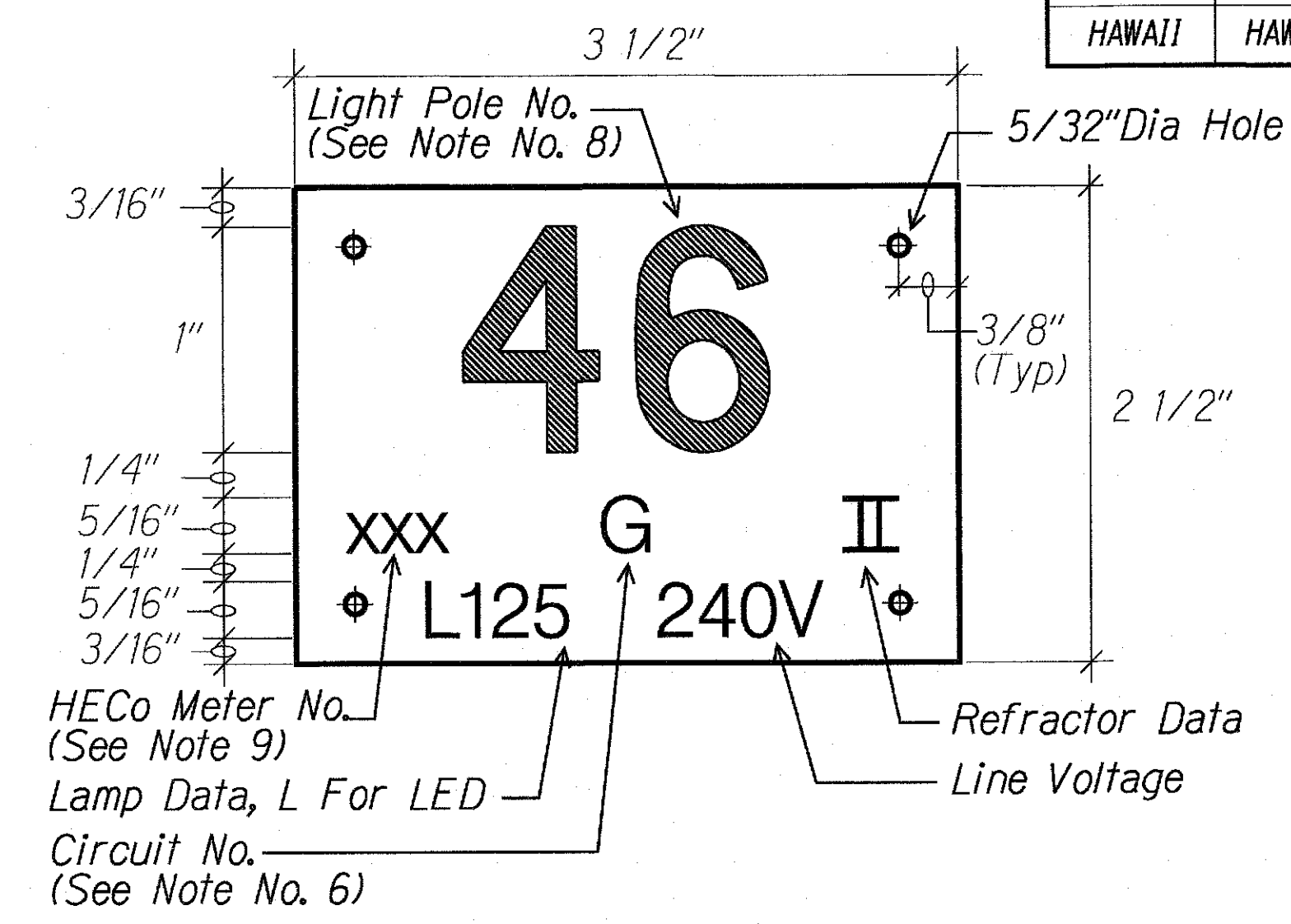
1
E-II

NTS

NOTES:

- All Nuts, Bolts and Washers Shall be Stainless Steel.
- Mast Arms Shall be Designed to Withstand 105 MPH Wind Velocity With 1.14 Gust Factor on Street Light Mast Arm and Luminaire per AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires & Traffic Signal, 6th Edition.
- Determine Height of Attachment of Mast Arms on Pole, and Coordinate with HECO Engineer for Bolt Pattern and Number and Size of Bolt Holes at the Attachment Points.
- Provide ID Tag Per Detail A/E-II at Six (6) Feet Above Finish Grade.
- Luminaire, 125W LED, Die-cast Aluminum with Structured LED Array for Optimized Roadway Type II or Type III Distribution, 525MA Driver, 4000K, 240V, Integral Die-cast Mounting Pipe Stop, Horizontal Slipfitter, Corrosion Resistant Polyester Powder Painted, Minimum 2.0 Mil Thickness, Class A Audible Sound Rating, Power Factor > 90%, Bug Rating B3-U0-G2, 25.9" x 14.5" x 5.4", EPA 0.7 Sq. Ft. The Provided Light Fixture Shall Meet or Exceed the Illumination Criteria Data Indicated on Sheet

E-12



A E-II STREET LIGHT POLE TAG DETAIL

NTS

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 Meter Number Panel Board and Circuit Number, Line Voltage, Lamp Data and Refractor Data as Required).
- 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 Nail.
- 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, Call Out the Contract Number.

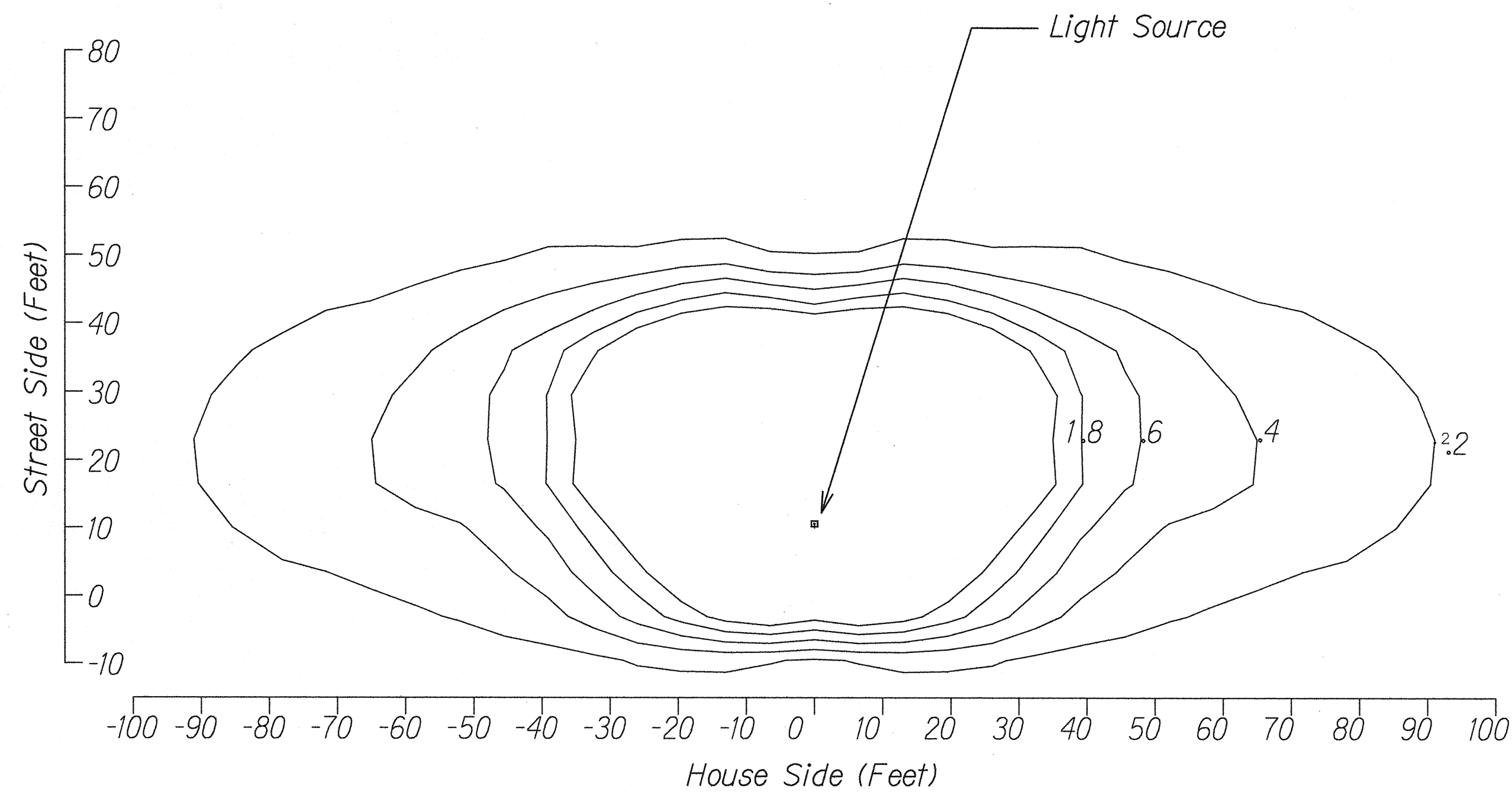
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

DATE	REVISION
2/17/16	Deleted Adjustable Brackets and Revised Notes
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STREET LIGHT STANDARD DETAILS	
KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1 Olomana Golf Course To Vicinity of Poalima St. Federal Aid Project No. NH-072-1(53)	
Scale: As Noted	Date: JAN 2015
SHEET No. E-II OF 13 SHEETS	

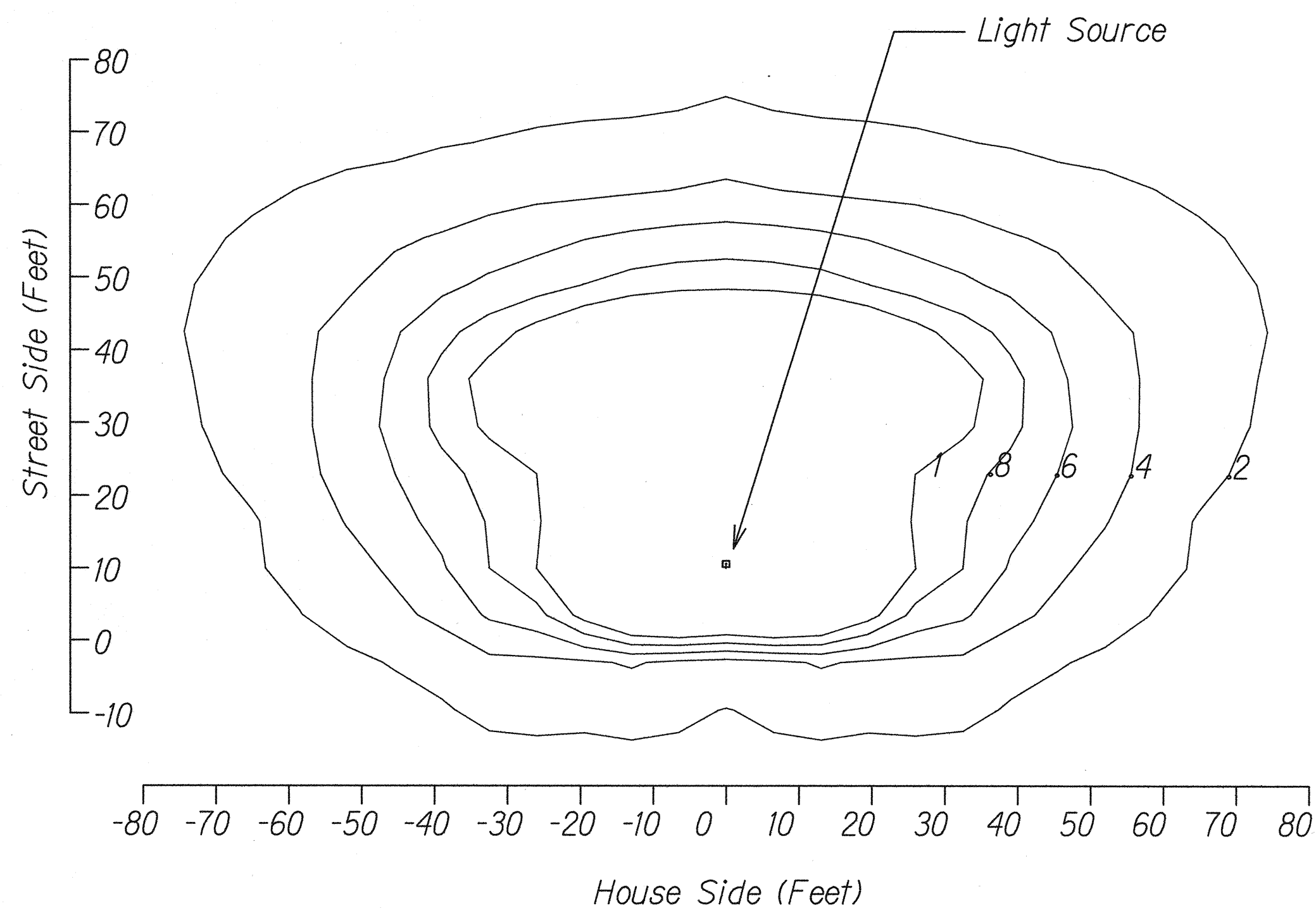
"AS-BUILT"

CCO.79

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(53)	2015	80	117



TYPE II 125W LED LUMINAIRE - ISO FOOT-CANDLE CURVE



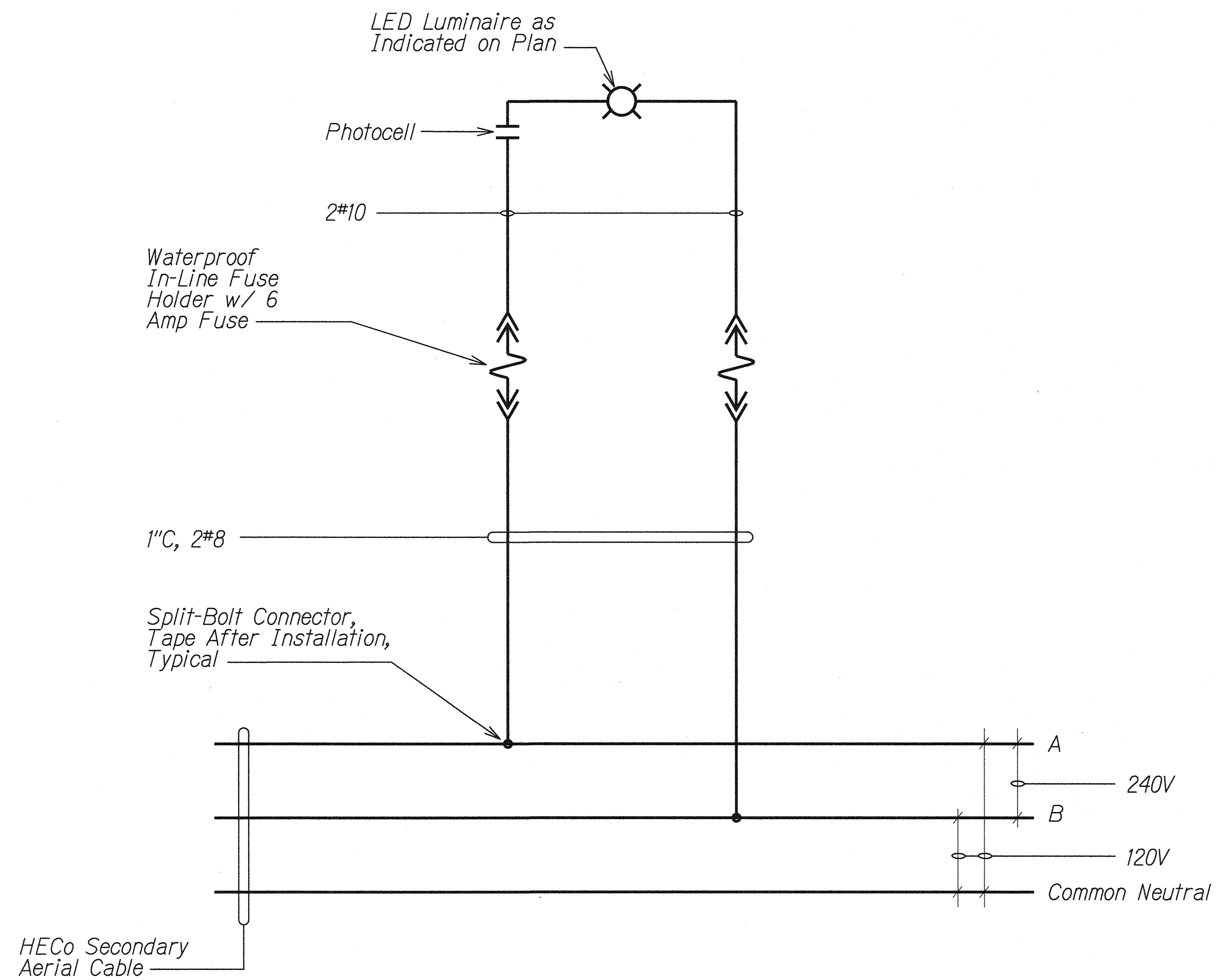
TYPE III 125W LED LUMINAIRE - ISO FOOT-CANDLE CURVE

PHOTOMETRIC DATA

NTS

NOTES:

1. Distance Shown in Feet. Values Shown are Initial Foot-Candle and are Based on the Luminaire Mounted 33'-0" Above Grade.



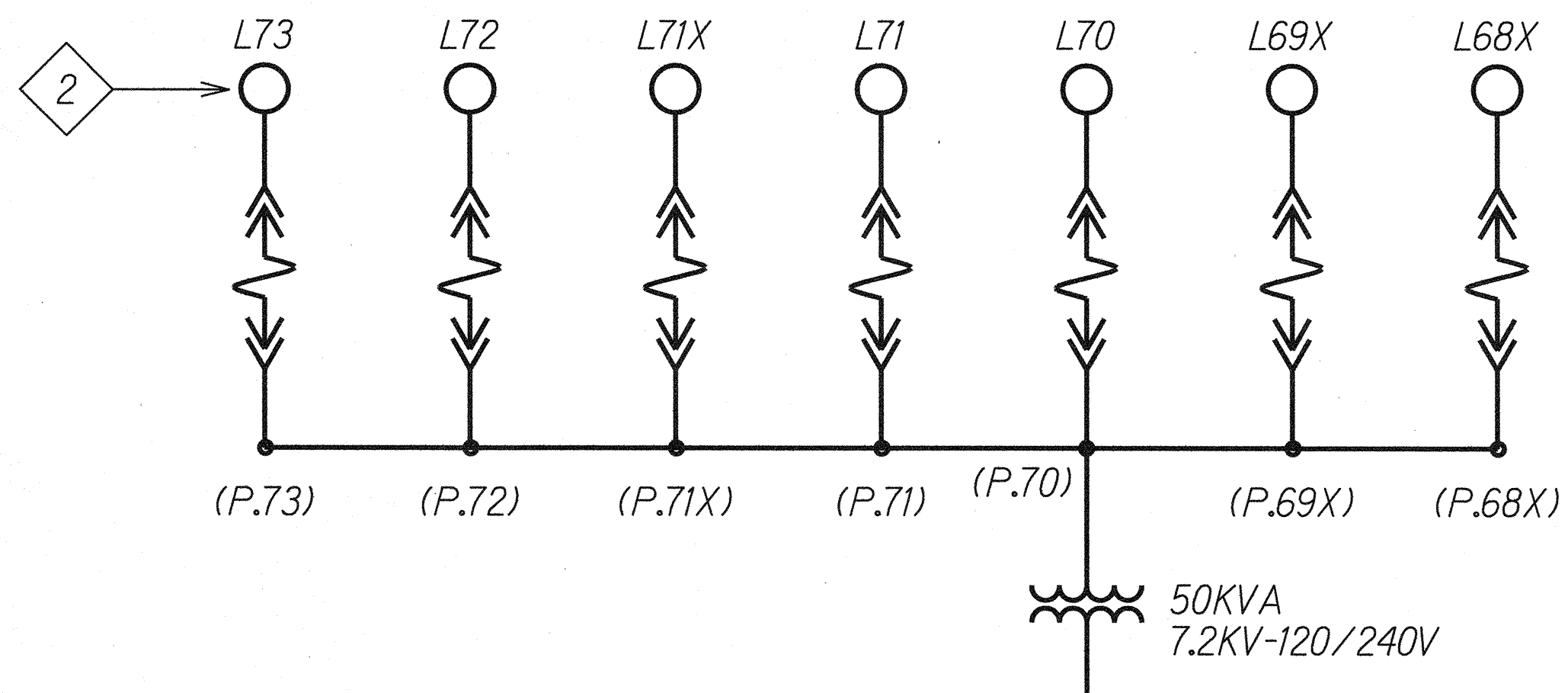
TYPICAL HIGHWAY LIGHT STANDARD WIRING DIAGRAM

NTS

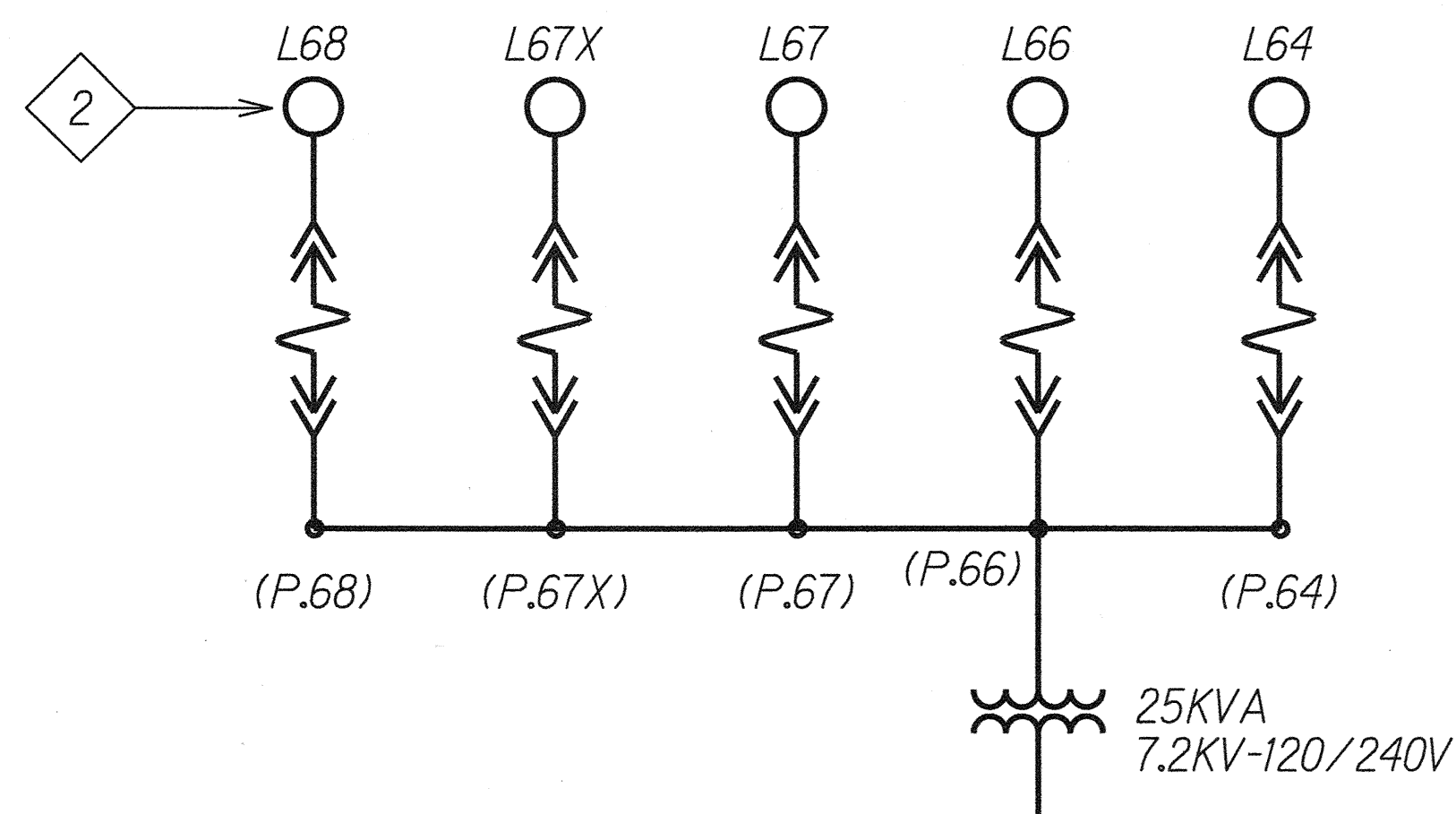
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	TYPICAL HIGHWAY LIGHT STANDARD WIRING DIAGRAM
	KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1 Olomana Golf Course To Vicinity of Poalima St. Federal Aid Project No. NH-072-1(53)
	Scale: As Noted Date: JAN 2015
	SHEET No. E-12 OF 13 SHEETS

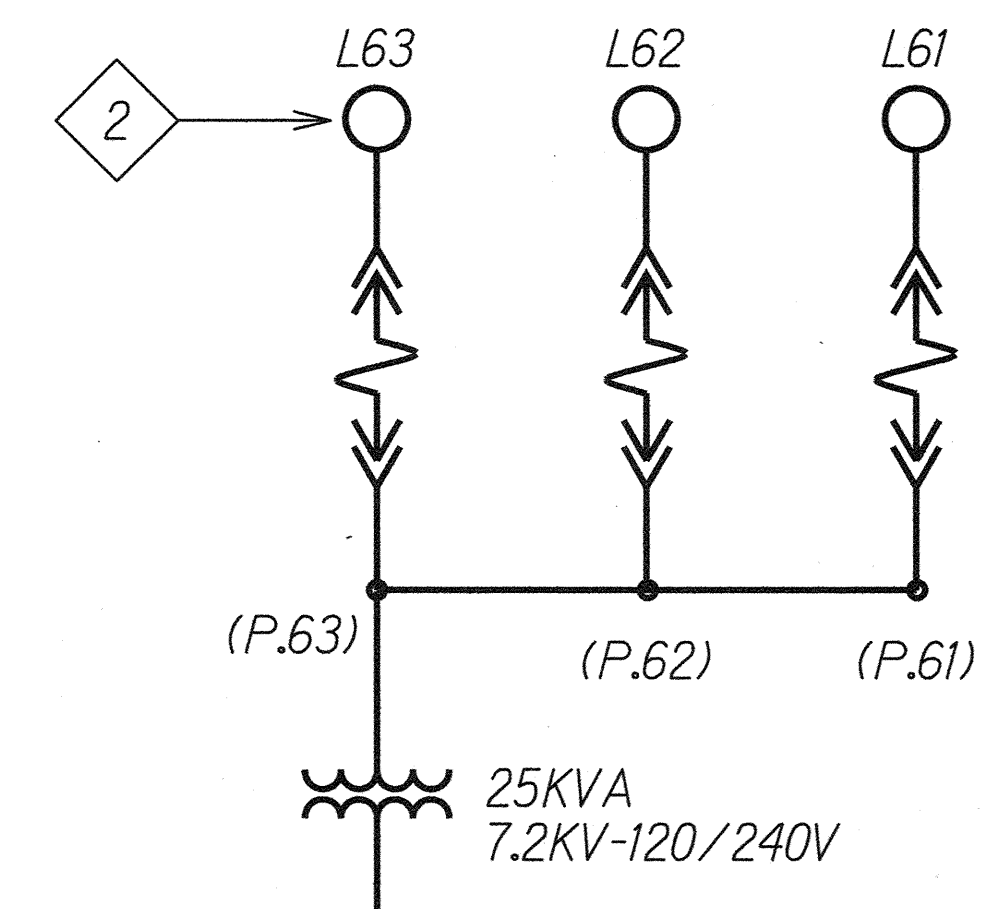
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(53)	2015	81	117



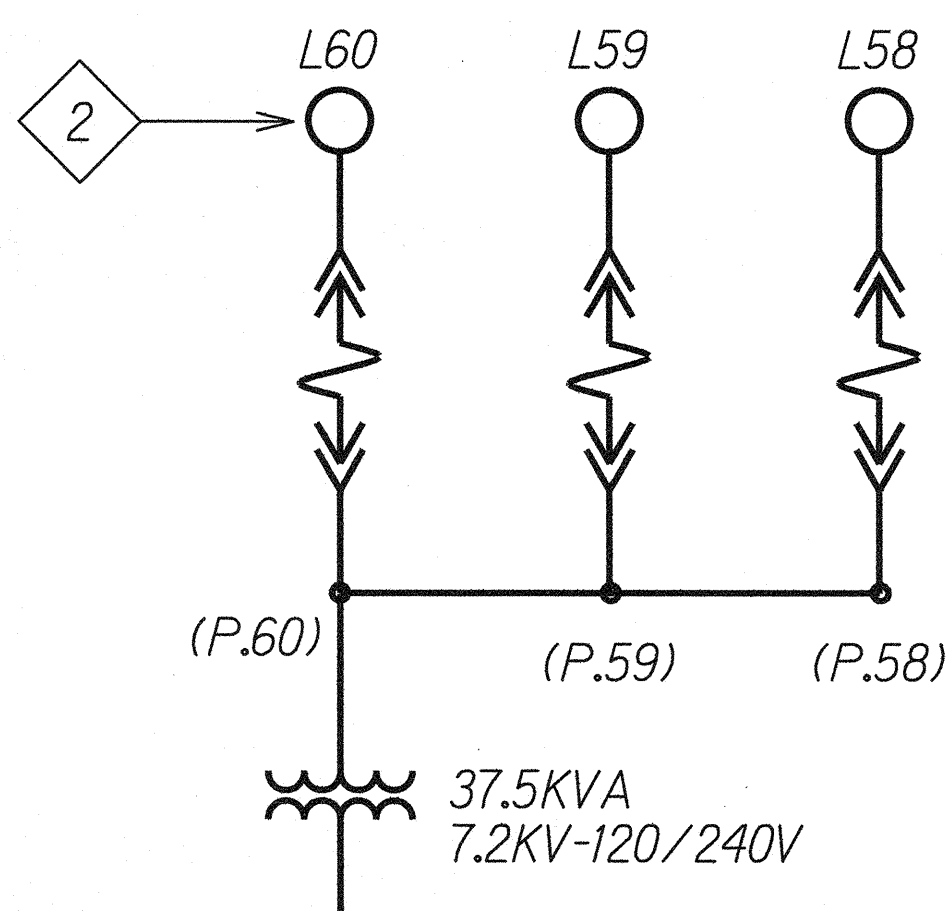
ONE-LINE DIAGRAM "A"
NO SCALE



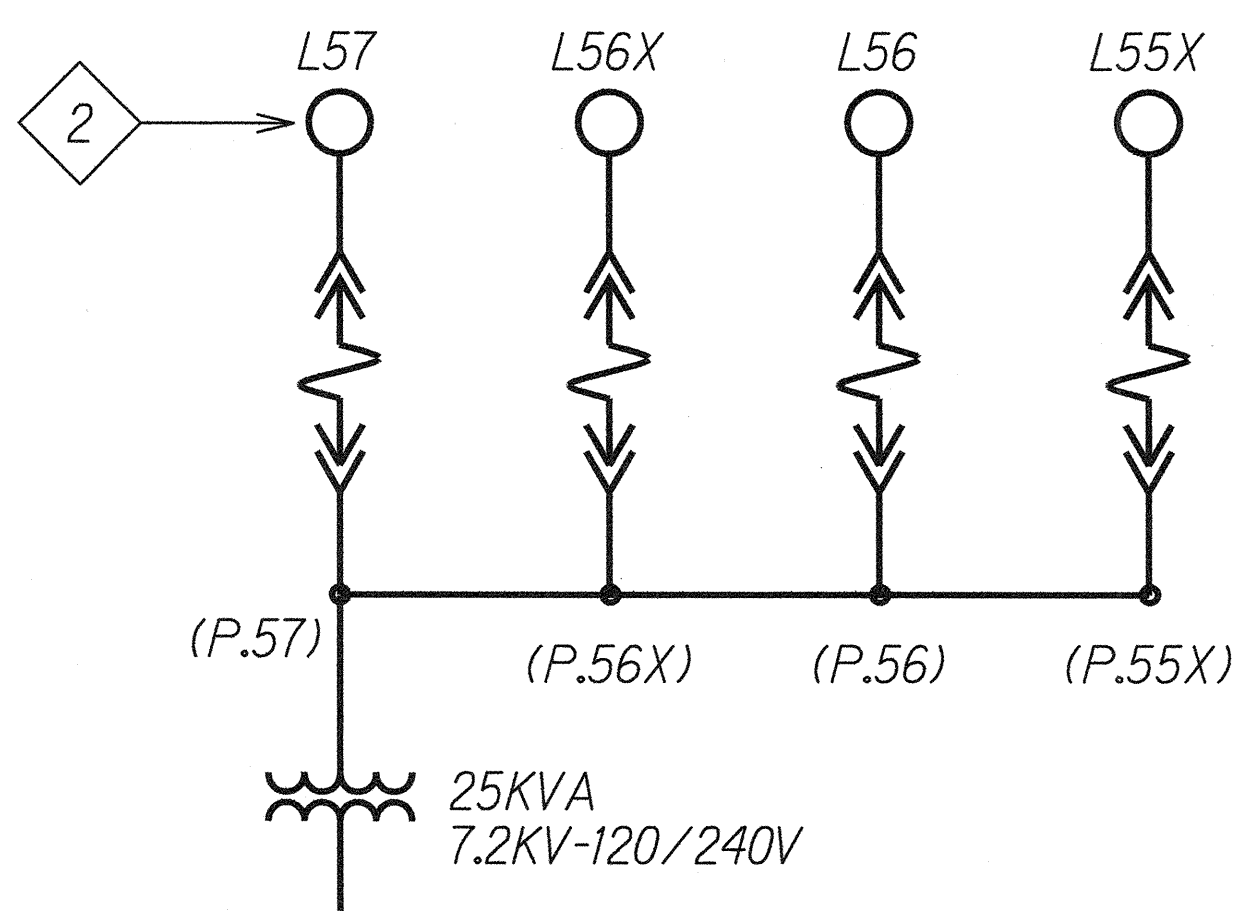
ONE-LINE DIAGRAM "B"
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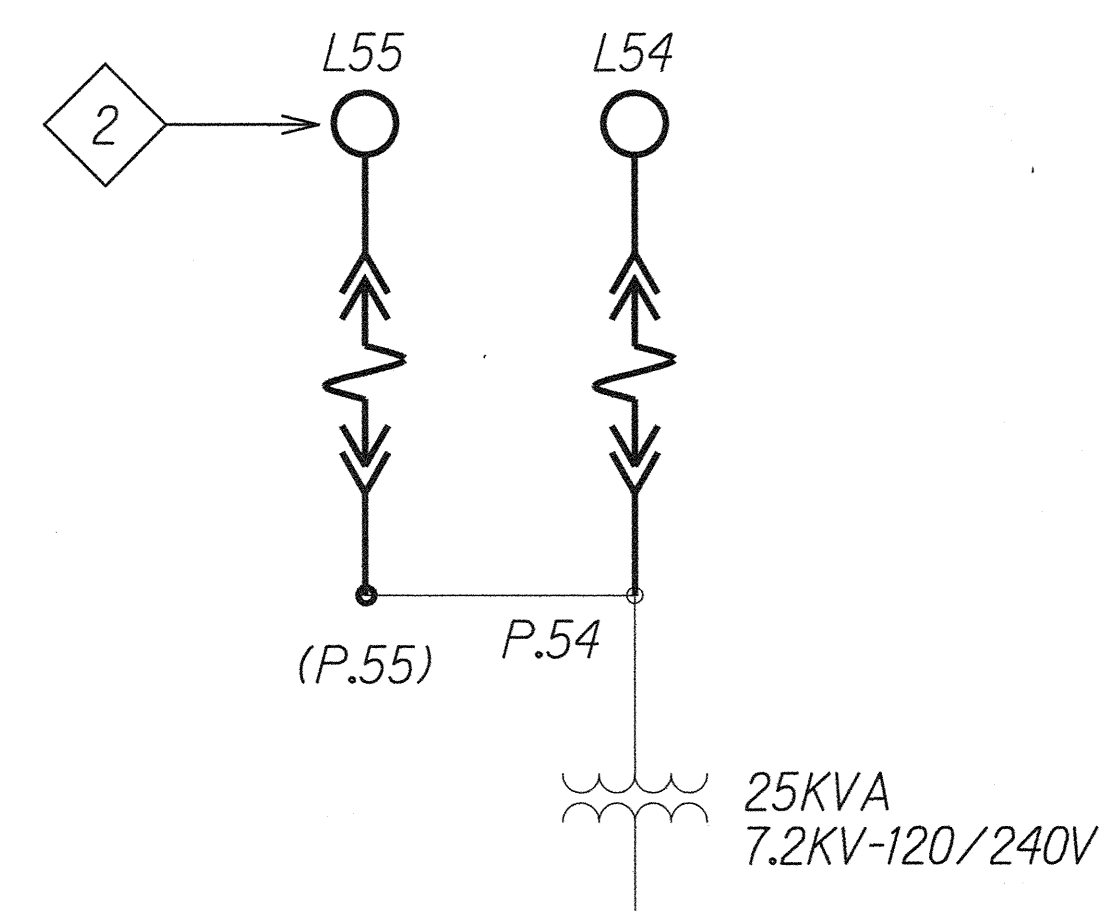
ONE-LINE DIAGRAM "C"
NO SCALE



ONE-LINE DIAGRAM "D"
NO SCALE



ONE-LINE DIAGRAM "E"
NO SCALE



ONE-LINE DIAGRAM "F"
NO SCALE

Notes:

- Light Lines Denote Existing Condition.
Bold Lines Denote New Work.

2 Provide new LED Street Lights and Fixtures as
Noted on Sheet E-11

- New Steel Poles, Secondary Aerial Cables, and
Transformers (By Others).
- Coordinate with HECO Design Plans as to Which
Section of Secondary Aerial Cables are Served by
Which Transformer.

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

AARON C. HAMADA
 LICENSED PROFESSIONAL ENGINEER
 No. 8327-E
 HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STREET LIGHTING
ONE-LINE DIAGRAM**

KALANIANA'OLE HIGHWAY IMPROVEMENTS, PHASE 1
Olomana Golf Course To Vicinity of Poalima St.
Federal Aid Project No. NH-072-1(53)

Scale: As Noted Date: JAN 2015

SHEET No. E-13 OF 13 SHEETS