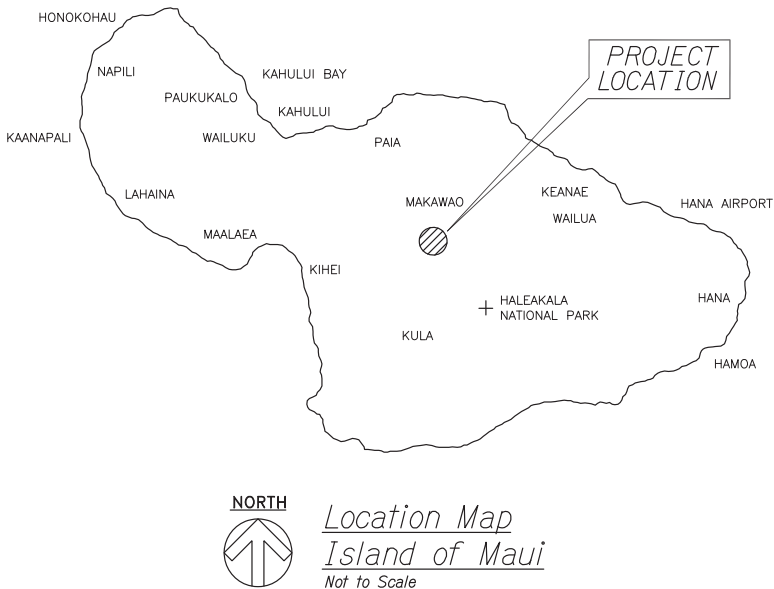


| Electrical Symbols |   |        |   |
|--------------------|---|--------|---|
| Symbol             | Description                               | Symbol | Description   |
|                    | Exist Street Light Mtd on Joint Pole      |        | 108W LED Street Light and 12' Arm Mounted on New Joint Pole                                       |
|                    | Street Light Mtd on Joint Pole            |        | 108W LED Street Light, 12' Arm  |
|                    | Exist Pole                                |        | HECO Standard 2' x 4' Handhole  |
|                    | Demo Exist Pole                           |        | Duct Section Divider  |
|                    | Demo Exist Street Light Mtd on Joint Pole |        | Electrical Ductlines with Designators. Indicates Type "A" Duct Section with "T-3E" Ducts. See E-8 |
|                    | 1φ Pole Mtd Transformer                   |        | For Duct Sections.  |
|                    | Exist Overhead 57KV Electrical Lines      |        | (E-Electrical, T-Telecom, V-CATV, L-Street Lighting, S-Secondary, TS-Traffic Signal)              |
|                    | Exist Overhead 12KV Electrical Lines      |        | Guy Anchor  |
|                    | Exist Overhead Telecom Lines              |        |   |
|                    | Exist Overhead CATV Lines                 |        |   |
|                    | Exist Overhead Secondary Lines            |        |   |
|                    | Demo Exist Overhead 57KV Electrical Lines |        |   |
|                    | Demo Exist Overhead 12KV Electrical Lines |        |   |
|                    | Demo Exist Overhead Telecom Lines         |        |   |
|                    | Demo Exist Overhead CATV Lines            |        |   |
|                    | Demo Exist Overhead Secondary Lines       |        |   |
|                    | Overhead Secondary Lines                  |        |   |
|                    | Overhead 57KV Electrical Lines            |        |   |
|                    | Overhead 12KV Electrical Lines            |        |   |
|                    | Overhead Telecom Lines                    |        |   |
|                    | Overhead CATV Lines                       |        |   |
|                    | Secondary Underground Cables and Conduits |        |   |

Note: Dashed Indicates Existing



Location Map  
Island of Maui  
Not to Scale

| Sheet Index |                                  |
|-------------|----------------------------------|
| Sheet No.   | Description                      |
| E-1         | Symbols, Notes, Location Map     |
| E-2         | HECO Notes                       |
| E-3         | HECO Notes                       |
| E-4         | Electrical Distribution Plan I   |
| E-5         | Electrical Distribution Plan II  |
| E-6         | Electrical Distribution Plan III |
| E-7         | Details & One Line Diagram       |
| E-8         | Street Lighting Details          |

| DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-----------|-------|-----------|-------------|-----------|--------------|
| HAWAII    | HAW.  | 37C-02-23 | 2024        | 61        | 115          |

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 (HIOSH).
- 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 Section 645, the Contractor Shall Provide Two Off-duty Police Officers to Control the Flow of Traffic at Each Location.
- 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, All Shall Be ADA Compliant.
- 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.

EQUIPMENT SCHEDULE

THE HAWAIIAN ELECTRIC Co. (HECO), HAWAIIAN TELCOM (HTCO), CHARTER COMMUNICATIONS (CATV) & PRIVATE AREA LIGHTING PULLBOXES, HANDHOLES AND TRANSFORMER PAD LOTS SHALL BE CONSTRUCTED BY THE CONTRACTOR AS SHOWN IN THESE DRAWINGS & IN ACCORDANCE WITH THE FOLLOWING STANDARD DRAWINGS:

| TYPE                  | DESCRIPTION  |
|-----------------------|--|
| 3' X 5' HECO HANDHOLE | 2' X 4' PRECAST CONCRETE HANDHOLE WITH PRECAST CONCRETE COVER, PROVIDED IN ACCORDANCE WITH HECO STANDARD DRAWING NO. 100930 & 30-2005. |

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

SCOTT N. SHIRASHI  
LICENSED PROFESSIONAL ENGINEER  
No. 14753-E  
HAWAII U.S.A.

Signature: *Scott Shirashi*  
4/30/26  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

Electrical Symbol, Notes  
KULA HIGHWAY,  
INTERSECTION IMPROVEMENTS  
AT OMAOPIO ROAD  
Project No. 37C-02-23

Scale: Date: Mar. 2024





Hawaiian Electric Company (HECO) Notes: (Continued)  
Rev. 10/21/20

| DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-----------|-------|-----------|-------------|-----------|--------------|
| HAWAII    | HAW.  | 37C-02-23 | 2024        | 63        | 115          |

Additional Notes when Work Involves Construction of Hawaiian Electric Facilities

16. Schedule

Contractor Shall Furnish his Construction Schedule Six (6) Months Prior to Starting Work on Hawaiian Electric Facilities. Contractor Shall Give Hawaiian Electric, in Writing, Three (3) Months Notice to Proceed with Hawaiian Electric'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 Hawaiian Electric's Underground Facilities Shall Be Constructed in Accordance with the Latest Revisions of Hawaiian Electric Specifications CS7001, CS7003, CS7202, CS9301, and CS9401 and Applicable Hawaiian Electric Standards.

19. Construction

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 Hawaiian Electric Prior to Excavation and Prior to Placing Concrete. Contractor Shall Notify Hawaiian Electric's Inspection Group at 543-2567 at Least Five (5) Working Days Prior to Installing Facilities or Placing Concrete.

Contractor to Coordinate Work to Break into Hawaiian Electric's Existing Electrical Facilities with Hawaiian Electric's Inspection Group at 543-2567 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 Hawaiian Electric 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 Hawaiian Electric Before Proceeding with Hawaiian Electric 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 Hawaiian Electric's Inspector Using Hawaiian Electric's Standard Practice. The Contractor Shall Install 1800# Tensile Strength Muletape Pull Line in All Completed Ductlines After Mandrel Testing is Complete.

22. Joint Pole Removal

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

23. As-Built Plans

The Contractor Shall Provide Hawaiian Electric with a Set of Electronic and Hard Copy Plans of Each Sheet Showing the Offsets, Stationing, and Vertical Elevation of the Duct Line(s) Constructed.

| Guidelines for Minimum Horizontal (parallel) Clearances Between Hawaiian Electric and Other Underground Utilities   |                                       |   |  |                   |
|---|---------------------------------------|---|--|-------------------|
| Underground Utility   | Hawaiian Electric Direct Buried Cable | Hawaiian Electric Direct Buried in Conduit (No Concrete Encasement) | Hawaiian Electric 3" (Minimum) Concrete Encasement | Applicable Notes: |
| Hawaiian Electric DB Conduits   | 12"                                   | 3"  | 0"   |                   |
| Hawaiian Electric 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"   | 5                 |
| Traffic Signal  | 12"                                   | 12"   | 12"  |                   |
| Water DB (BWS Owned)  | 36"                                   | 36"   | 36"  | 1, 4              |
| Customer Owned Water Service Laterals   | 12"                                   | 12"   | 12"  |                   |
| Water (Concrete Jacketed) (BWS Owned)   | 36"                                   | 36"   | 36"  | 1, 4              |
| Gas DB  | 12"                                   | 12"   | 12"  | 1                 |
| Gas (Concrete Jacketed)   | 12"                                   | 12"   | 12"  | 1                 |
| Sewer DB  | 36"                                   | 36"   | 36"  | 1, 2              |
| Sewer (Concrete Jacketed)   | 36"                                   | 36"   | 36"  | 1, 2              |
| Drain   | 12"                                   | 12"   | 12"  | 1                 |
| Fuel Pipelines  |                                       |   |  | 3                 |
| <b>Notes:</b><br>1. Where Space is Available, Parallel Clearance to Other Utilities, or Foreign Structures Other Than Communication or Traffic Signal Shall Be 36"<br>2. If 36" Clearance Cannot Be Met:<br>- If Clearance is Less Than 12", Jacket Sewer Line with Reinforced Concrete (Per HECO's Std. 30-1030) for a Distance of 5' Plus Pipe Diameter.<br>- If Clearance is Between 12" and 36", Jacket Sewer Line with Plain Concrete.<br>3. All Fuel Pipeline Crossings Shall Be Reviewed and Approved by the Company That Owns and Maintains it.<br>4. 5 Feet Clear to Water Mains 16" or Larger.<br>5. For Situations with 0" Minimum Separation, a 6" Separation is Recommended.<br>6. Clearances Measured from Outer Edges or Diameters of Utilities. Whenever Concrete Jackets are Involved, Clearances Shall Be Total Clear Distance Between the Concrete Jacket and Utility Concerned. |                                       |   |  |                   |

| Guidelines for Minimum Vertical (Crossing) Clearances Hawaiian Electric and Other Underground Utilities   |                                       |   |  |                   |
|---|---------------------------------------|---|--|-------------------|
| Underground Utility   | Hawaiian Electric Direct Buried Cable | Hawaiian Electric Direct Buried In Conduit (No Concrete Encasement) | Hawaiian Electric 3" (Minimum) Concrete Encasement | Applicable Notes: |
| Hawaiian Electric DB Conduits   | 6"                                    | 3"  | 0"   |                   |
| Hawaiian Electric 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"   | 3                 |
| Traffic Signal  | 12"                                   | 12"   | 6"   |                   |
| Water DB (BWS Owned)  | 12"                                   | 12"   | 12"  | 5                 |
| Customer Owned Water Service Laterals   | 6"                                    | 6"  | 6"   |                   |
| Water (Concrete Jacketed) (BWS Owned)   | 12"                                   | 12"   | 12"  | 5                 |
| Gas DB  | 12"                                   | 12"   | 12"  |                   |
| Gas (Concrete Jacketed)   | 12"                                   | 12"   | 12"  |                   |
| Sewer DB  | 24"                                   | 24"   | 24"  | 1                 |
| Sewer (Concrete Jacketed)   | 24"                                   | 24"   | 24"  | 1                 |
| Drain   | 12"                                   | 12"   | 6"   |                   |
| Fuel Pipelines  |                                       |   |  | 2                 |
| <b>Notes:</b><br>1. If Clearance Cannot be Met:<br>- If Clearance is Less Than 12", Jacket Sewer Line with Reinforced Concrete (Per HECO's Std. 30-1030) for a Distance of 5' Plus Pipe Diameter.<br>- If Clearance is Between 12" and 24", Jacket Sewer Line with Plain Concrete.<br>2. All Fuel Pipeline Crossings Shall Be Reviewed and Approved by the Company That Owns and Maintains it.<br>3. For Situations with 0" Minimum Separation, a 6" Separation is Recommended.<br>4. Clearances Measured from Outer Edges or Diameters of Utilities. Whenever Concrete Jackets are Involved, Clearances Shall Be Total Clear Distance Between the Concrete Jacket and Utility Concerned.<br>5. 36" Clearance is Required for Trenchless Installation Work. |                                       |   |  |                   |

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

DRAWING REVIEW

Reviewed for Hawaiian Electric Company Facilities Only

Req# \_\_\_\_\_ By \_\_\_\_\_ Date \_\_\_\_\_

Customer Installations Department  
Hawaiian Electric

Hawaiian Electric'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 including revisions made beyond the reviewed date.

SCOTT N. SHIRASHI

LICENSED PROFESSIONAL ENGINEER

No. 14753-E

HAWAII U.S.A.

Signature

4/30/26

EXPIRATION DATE OF LICENSE

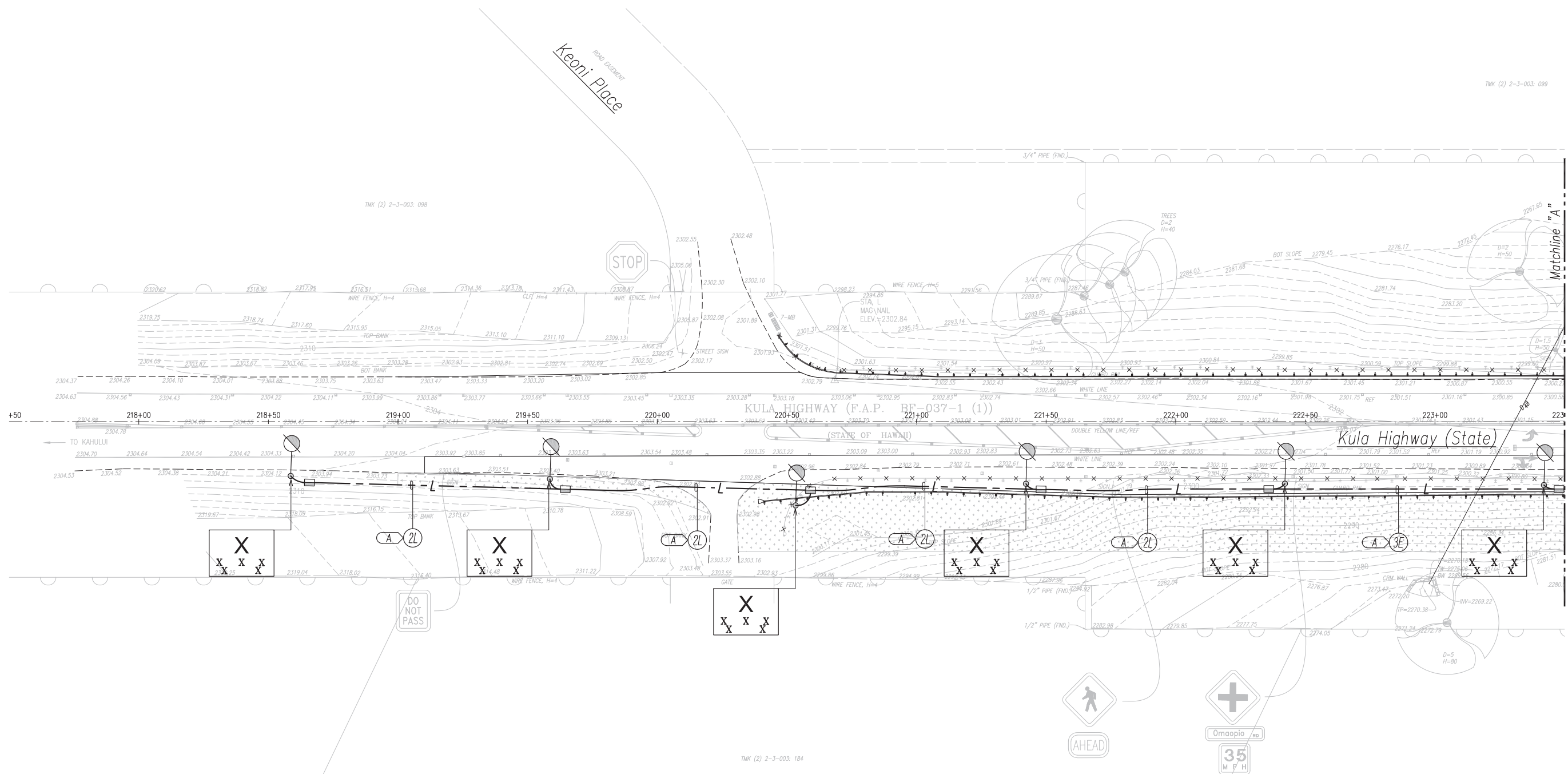
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HIGHWAYS DIVISION

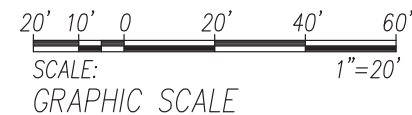
HECO Notes  
KULA HIGHWAY,  
INTERSECTION IMPROVEMENTS  
AT OMAOPIO ROAD  
Project No. 37C-02-23

Scale: \_\_\_\_\_ Date: Mar. 2024

| DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-----------|-------|-----------|-------------|-----------|--------------|
| HAWAII    | HAW.  | 37C-02-23 | 2024        | 64        | 115          |



**Electrical Distribution Plan 1**  
Scale: 1" = 20'-0"



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Signature of Scott N. Shirashi  
4/30/26  
EXPIRATION DATE OF LICENSE

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DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

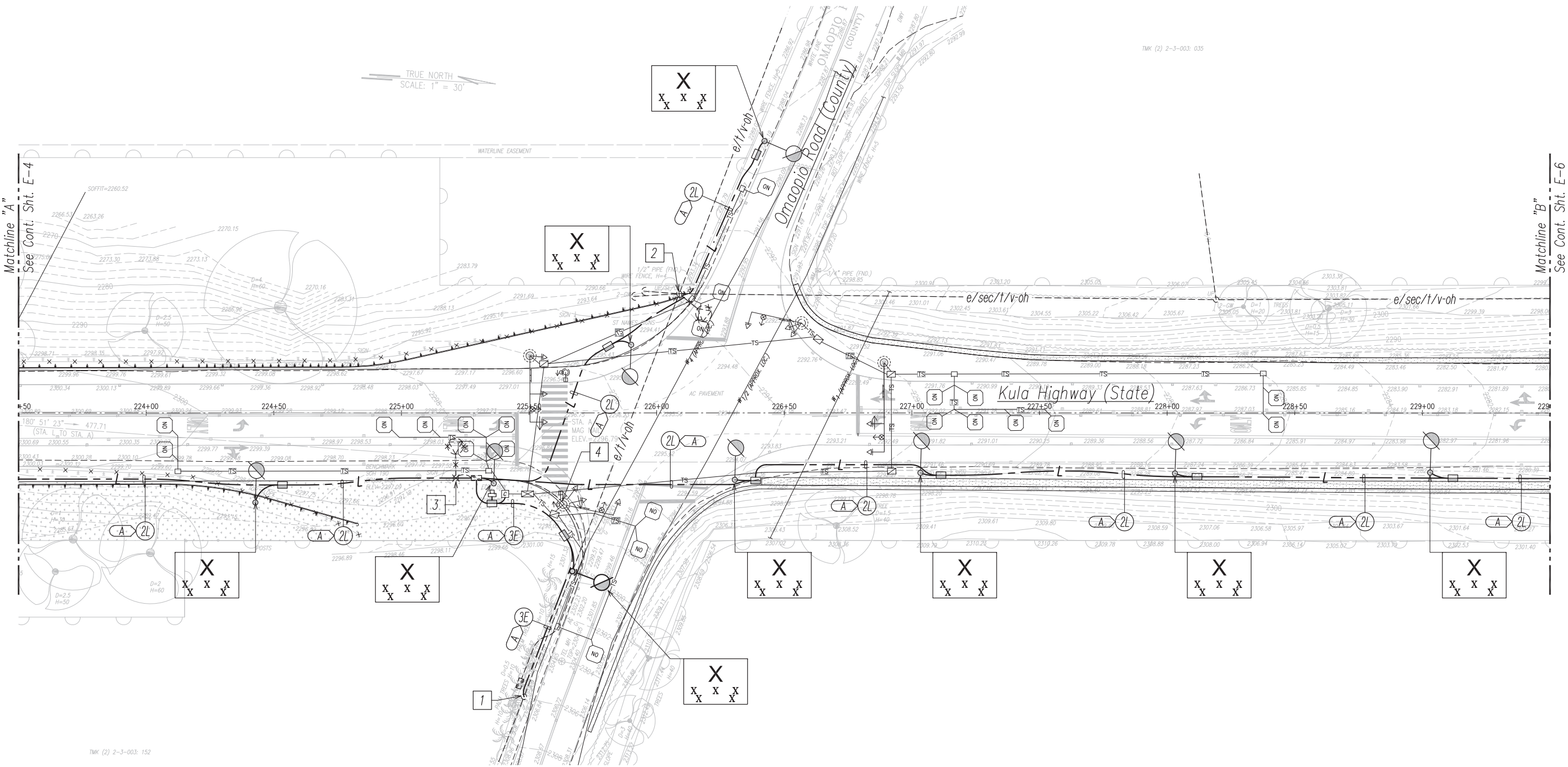
**Electrical Distribution Plan 1**  
**KULA HIGHWAY,**  
**INTERSECTION IMPROVEMENTS**  
**AT OMAPIO ROAD**  
**Project No. 37C-02-23**  
Scale: 1" = 20' Date: Mar. 2024

SHEET No. E-4 OF 8 SHEETS

64



| DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-----------|-------|-----------|-------------|-----------|--------------|
| HAWAII    | HAW.  | 37C-02-23 | 2024        | 65        | 115          |

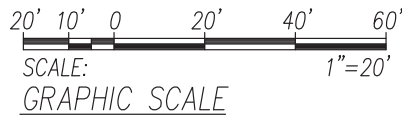


Notes:

- 1 Provide 3" C Riser. Coordinate Work and Outages with HECO.
- 2 Remove Existing Bracket Arm and Luminaire From Wood Pole (By HECO).
- 3 Remove Existing Light Standard (By HECO).
- 4 Remove Existing Street Light Conduit. Coordinate with HECO for Removal of Conductors. Coordinate This Work with Installation of Proposed Traffic Signal and Street Lighting Infrastructure.



Electrical Distribution Plan 2  
Scale: 1" = 20'-0"



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No. 14753-E  
HAWAII U.S.A.

Signature: Scott Shirashi  
Date: 4/30/26

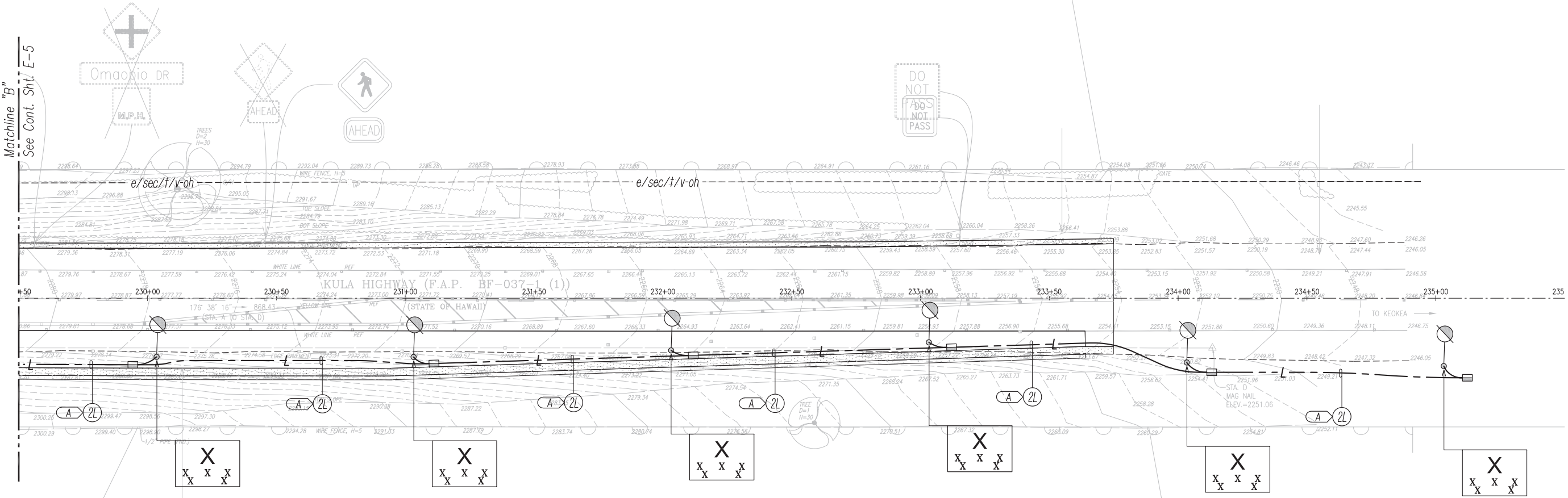
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DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

Electrical Distribution Plan 2  
KULA HIGHWAY,  
INTERSECTION IMPROVEMENTS  
AT OMAPIO ROAD  
Project No. 37C-02-23  
Scale: 1" = 20' Date: Mar. 2024

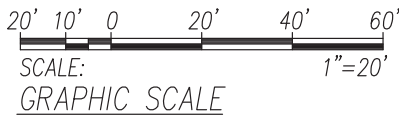
SHEET No. E-5 OF 8 SHEETS

| DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-----------|-------|-----------|-------------|-----------|--------------|
| HAWAII    | HAW.  | 37C-02-23 | 2024        | 66        | 115          |



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

**Electrical Distribution Plan 3**  
Scale: 1" = 20'-0"



SCOTT N. SHIRASHI  
LICENSED PROFESSIONAL ENGINEER  
No. 14753-E  
HAWAII U.S.A.

Signature: Scott Shirashi  
Date: 4/30/26

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DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**Electrical Distribution Plan 3**

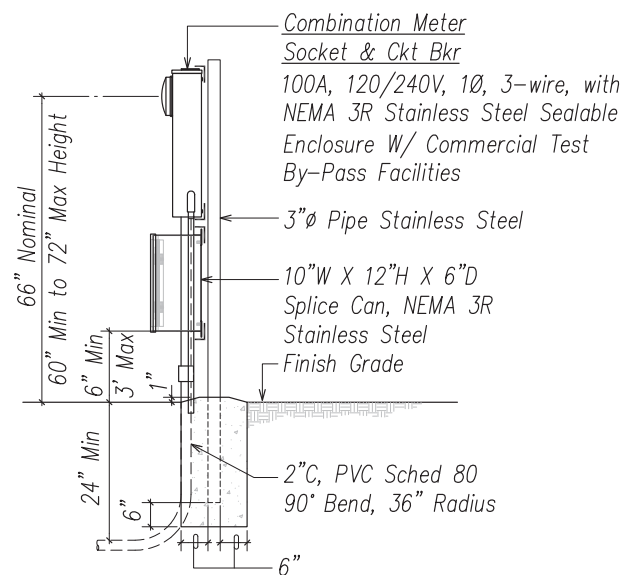
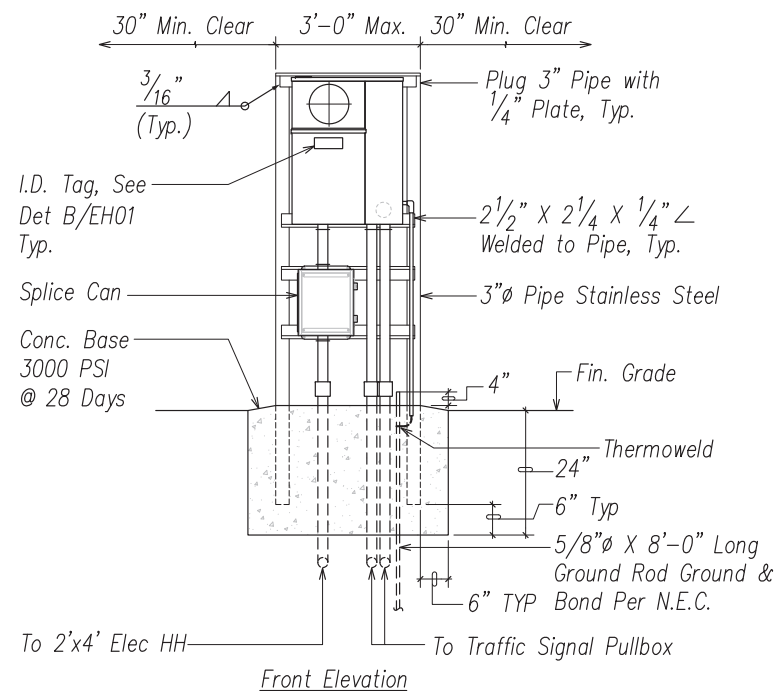
**KULA HIGHWAY,  
INTERSECTION IMPROVEMENTS  
AT OMAPIO ROAD**

**Project No. 37C-02-23**

Scale: 1" = 20' Date: Mar. 2024

SHEET No. E-6 OF 8 SHEETS

| DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-----------|-------|-----------|-------------|-----------|--------------|
| HAWAII    | HAW.  | 37C-02-23 | 2024        | 67        | 115          |

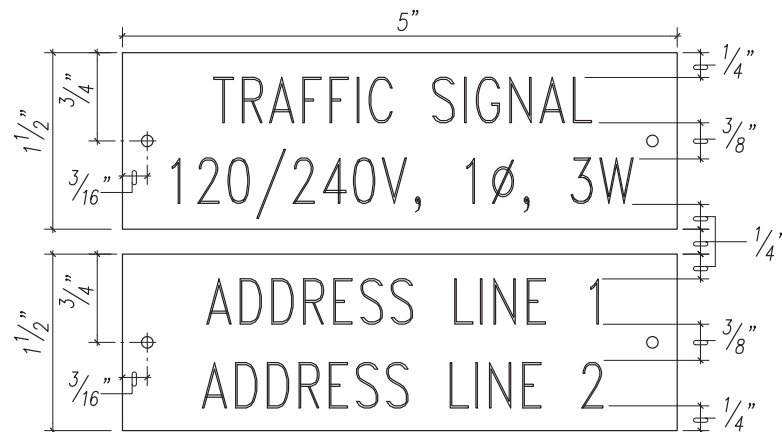


See One-Line Diagram on This Sheet



**Traffic Signal Metering Equipment Elevation**

Not to Scale



**Notes:**

- Use (2) 2 Ply Plastic – Black, White.
- Traffic Signal Letters Shall be 3/8" High, 1/16" Stroke, (White in Color).
- 120/240V, 1Ø, 3W Letters and Numbers Shall Be 1/4" High and Engraved 1/32" Wide (White in Color).
- Attach to Meter Enclosure with No. 7 Stainless Steel Drive Screws.
- Verify Address with HECO

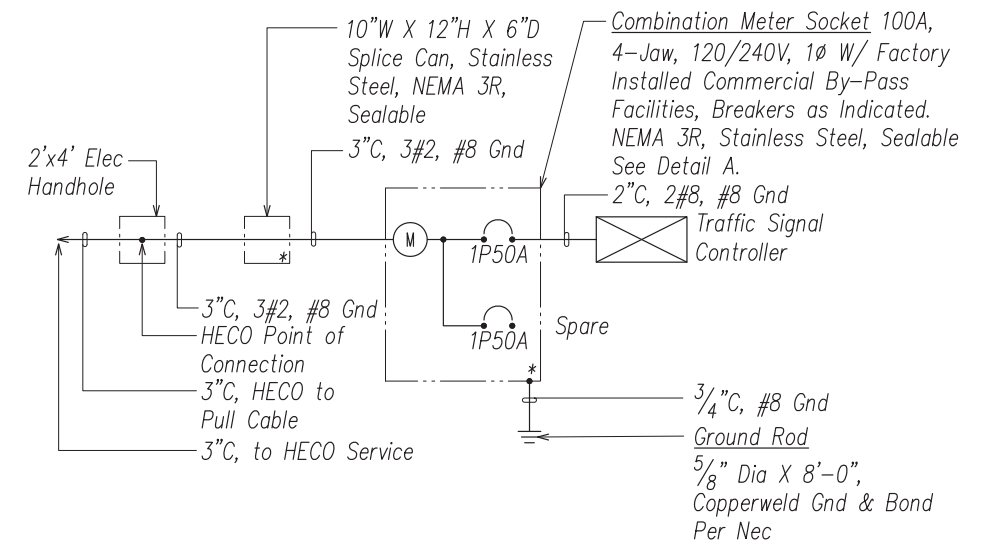


**Meter Socket I.D. Tag Detail**

Not to Scale

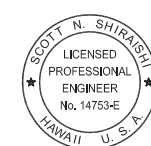
**Notes:**

- Contractor Shall Make All Electrical Connection to Controller, Provide 2-1P50A Breakers, Ground and 2" Conduit.
- All Conduits to Contain a Polyolefin Pull Line. (Jet Line Cat. #232 or Equiv)
- All Metal Parts Shall be Hot-dipped Galvanized After Fabrication or Stainless Steel.
- All Fastening Bolts, Nuts & Washers Shall be Stainless Steel. Provide One Coat Shop Primer & Two Coats of Acrylic Enamel Finish, Color to Match Controller Cabinet.
- Provide 48" Clearance in Front of Meter.
- Provide Glass Meter Socket Cover and Bands for Blank Meter Sockets. Identify Covers for Return.



**Traffic Signal One-Line Diagram**

Not to Scale



Signature: Scott N. Shirashi  
4/30/26  
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DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

Details and  
One-Line Diagram  
KULA HIGHWAY,  
INTERSECTION IMPROVEMENTS  
AT OMAOPIO ROAD  
Project No. 37C-02-23

Scale: As Noted Date: Mar. 2024

SHEET No. E-7 OF 8 SHEETS



