

HECO NOTES: (Rev. 12/04/19)

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|------------------------|-------|--------------------------|----------------|--------------|-----------------|
| FED. ROAD DIST. NO. | STATE | FEDERAL AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| HAWAII | HAW. | I-H3-1(75), UNIT VIIC | 2022 | 7 | 50 |

- Location of HECO Facilities*
The location of HECO's 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 verify in the field the locations of the facilities and shall exercise proper care in excavating and working in the area. Wherever connections of new utilities to existing utilities and utility crossings are shown, the Contractor shall expose the existing lines at the proposed connections and crossings to verify the depths prior to excavation for the new lines. The Contractor shall be responsible for any damages to HECO's facilities whether shown or not shown on the plans.
- Compliance with Hawaii Occupational Safety and Health Laws*
The Contractor shall comply with the State of Hawaii's Occupational Safety and Health laws and regulations, including without limitation, those related to working on or near exposed or energized electrical lines and equipment.
- Excavation Clearance*
The Contractor shall obtain an excavation clearance from HECO's Planning and Design Section of the Customer Installations Department (543-5654) located at 820 Ward Avenue, 4th Floor, a minimum of ten (10) working days prior to starting construction.
- Caution!!! Electrical Hazard!!!*
Existing HECO overhead and underground lines are energized and will remain energized during construction unless prior special arrangements have been made with HECO. Only HECO personnel are to handle these energized lines and erect temporary guards to protect these lines from damage. The Contractor shall work cautiously at all times to avoid accidents and damage to existing HECO facilities, which can result in electrocution.
- Overhead Lines*
State law (OSHA) requires that a worker and the longest object he or she may contact cannot come closer than a specified minimum radial clearance when working close to or under any overhead lines rated 50kV and below. It is the Contractor's responsibility to be informed of and comply with any revisions or amendments to the law.

At ant time should the Contractor anticipate that his work will result in the need to encroach within the minimum required clearance as stated in the law, the Contractor shall notify Hawaiian Electric at least three (3) months prior to the planned encroachment so that, if feasible, the necessary protections (e.g. relocate or de-energize Hawaiian Electric lines) can be investigated. Hawaiian Electric may also be able to blanket its distribution (12kV and below) lines to provide a visual aid in preventing accidental contact. Hawaiian Electric's cost of safeguarding or identifying its lines will be charged to the Contractor.

Contact Hawaiian Electric's Customer Installations Division at 543-7070 for assistance in identifying and safeguarding overhead power lines.

- Pole Bracing*
Contractor shall not excavate within 10 feet from Hawaiiam Electric's utility poles or any anchor system supporting the utility pole. If Contractor must excavate closer than 10 feet from a utility pole or its anchor system, Contractor will be responsible for protecting, supporting, securing and taking all precautions to prevent damage to or leaning of existing poles. Before commencing such excavation, Contractor must submit its bracing calculations and drawings, prepared and stamped by a licensed

Structural Engineer, to Hawaiian Electric's Customer Installations Division (543-7070) for review. Hawaiian Electric requires a minimum of ten (10) working days to conduct the review of Contractor's submittal. Contractor shall be responsible for the design, installation, and removal of the temporary pole bracing system, as well as all costs incurred by Hawaiian Electric to review Contractor's drawings and to repair or straighten poles impacted by Contractor's activities, including response and restoration costs incurred by failure to meet the foregoing requirements. Hawaiian Electric's review and approval of any Contractor submittals including its work procedure shall not relieve Contractor from any liability resulting from Contractor's excavation near or around Hawaiian Electric's utility poles.

- Underground Lines*
The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. HECO's existing electrical cables are energized and will remain energized during construction. Only HECO personnel are to break into existing HECO facilities, handle these cables, and erect temporary guards to protect these cables from damage. The cost of HECO's assistance in providing proper support and protection of its underground lines will be charged to the Contractor. For assistance/coordination in providing proper support and protection of these lines, the Contractor shall call HECO's Customer Installations Division at 543-7070 a minimum of ten (10) working days in advance.

Special precautions are required when excavating near HECO's 138KV or 46KV underground lines (see HECO instructions to Consultants/Contractors on "Excavation near HECO's underground 138KV and or 46KV Lines" for detailed requirements).

For verification of underground lines, the Contractor shall call the Hawaii One Call Center at 866-423-7287 minimum of five (5) working days in advance.

- 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).
- Excavations*
When trench excavation is adjacent to or beneath HECO's existing structures or facilities, the Contractor is responsible for:

 - Arranging for HECO standby personnel to observe work at Contractor's cost.
 - Sheeting, 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.
 - Properly supporting existing structures or facilities with beams, struts, under-pinnings, or other necessary methods to fully protect if from damage.
 - Backfilling with proper backfill material including special thermal backfill where existing (refer to engineering department for thermal backfill specifications).

- 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 location, identifying right of way and property lines, excavation and backfill, permits and traffic control, barricading, and restoration of pavement, sidewalks, and other facilities.

All costs associated with any relocation or modification (either temporary or permanent) for the convenience of the Contractor, or to enable the Contractor to perform his work in a safe and expeditious manner in fulfilling his contract obligations shall be borne by the Contractor.

- 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.

- 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 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.

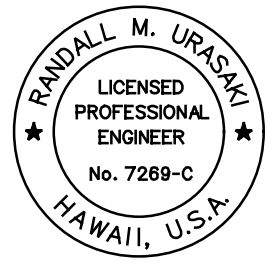
In case of damage or suspected damage to HECO's fuel pipeline, the Contractor shall immediately notify HECO's Security Command Center at 543-7685 (A 24 hour number) so HECO personnel can secure the damaged section and report any oil spills to the proper authorities. All costs associated with the damage, repair, and oil spill cleanup shall be borne by the Contractor.

- HECO Stand-By Personnel*
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.

The Contractor shall call HECO's Customer Installations Division at 543-7070 a minimum of three (3) months in advance to arrange for HECO stand-by personnel.

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

I:\H3REF\MISC\Notes2\4dgn

| | |
|---|--|
|  THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. <i>R. M. Urasaki</i> SIGNATURE 06/30/24 EXPIRATION DATE OF THE LICENSE | STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION UTILITY NOTES <u>INTERSTATE ROUTE H-3</u> <u>H-3 FINISH, UNIT VIIC</u> <u>FAIP NO. I-H3-1(75), UNIT VIIC</u> Scale: None Date: Feb. 2022 |
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| FED. ROAD DIST. NO. | STATE | FEDERAL AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------------------------|-------|-----------------------------|----------------|--------------|-----------------|
| HAWAII | HAW. | <i>I-H3-1(75) UNIT VIIC</i> | <i>2022</i> | <i>8</i> | <i>50</i> |

14. Clearances

The following clearances shall be maintained between HECO's ductline and all adjacent structures (charted and uncharted) in the trench:

| 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 |

Notes:

1. *Where space is available, parallel clearance to other utilities, or foreign structures other than communication or traffic signal shall be 36".*
2. *If 36" clearance cannot be met:*
 - *If clearance is less than 12", jacket sewer line with reinforced concrete (per Hawaiian Electric's std. 30-1030) for a distance of 5' plus pipe diameter.*
 - *If clearance is between 12" and 36", jacket sewer line with plain concrete.*
3. *All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it.*
4. *5 feet clear to water mains 16" and larger.*
5. *For situations with 0" minimum separation, a 6" separation is recommended.*
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.*

| <i>Underground Utility</i> | <i>Hawaiian Electric Direct Buried Cable</i> | <i>Hawaiian Electric Direct Buried in Conduit (no concrete encasement)</i> | <i>Hawaiian Electric 3" (Minimum) Concrete Encasement</i> | <i>Applicable Notes:</i> |
|--|---|---|--|-------------------------------------|
| <i>Hawaiian Electric DB Conduits</i> | <i>6"</i> | <i>3"</i> | <i>0"</i> | |
| <i>Hawaiian Electric 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>3</i> |
| <i>Traffic Signal</i> | <i>12"</i> | <i>12"</i> | <i>6"</i> | |
| <i>Water DB (BWS Owned)</i> | <i>12"</i> | <i>12"</i> | <i>12"</i> | <i>5</i> |
| <i>Customer Owned Water Service Laterals</i> | <i>6"</i> | <i>6"</i> | <i>6"</i> | |
| <i>Water (Concrete Jacketed) (BWS Owned)</i> | <i>12"</i> | <i>12"</i> | <i>12"</i> | <i>5</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>1</i> |
| <i>Sewer (Concrete Jacketed)</i> | <i>24"</i> | <i>24"</i> | <i>24"</i> | <i>1</i> |
| <i>Drain</i> | <i>12"</i> | <i>12"</i> | <i>6"</i> | |
| <i>Fuel Pipelines</i> | | | | <i>2</i> |

Notes:

1. If 36" clearance cannot be met:
 - If clearance is less than 12", jacket sewer line with reinforced concrete (per Hawaiian Electric's std. 30-1030) for a distance of 5' plus pipe diameter.
 - If clearance is between 12" and 24", jacket sewer line with plain concrete.
2. All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it.
3. For situations with 0" minimum separation, a 6" separation is recommended.
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.
5. 36" clearance is required for trenchless installation work.

The Contractor shall notify the Construction Manager and HECO of any heat sources (power cable duct bank, steamline, etc.) encountered that are not properly identified on the drawings.

| | | |
|------------------|-------------------------|------------|
| ORIGINAL PLAN | SURVEY PLOTTED BY _____ | DATE _____ |
| | DRAWN BY _____ | _____ |
| NOTE BOOK | TRACED BY _____ | _____ |
| | DESIGNED BY _____ | _____ |
| | QUANTITIES BY _____ | _____ |
| | CHECKED BY _____ | _____ |
| N. | | |

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

RANDALL M. URASAKI

LICENSED PROFESSIONAL ENGINEER

No. 7269-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

04/30/24

SIGNATURE

EXPIRATION DATE

UTILITY NOTES

INTERSTATE ROUTE H-3

H-3 FINISH, UNIT VIIC

FAIP NO. I-H3-I(75), UNIT VIIC

Scale: None

Date: Feb. 2022

