

GENERAL NOTES

1. The scope of work for this project consists of designing, furnishing and installing new lighting systems running parallel to the existing lighting systems. Upon acceptance by the Engineer, all existing lighting fixtures, transformers and appurtenances shall be removed and disposed of properly by the Contractor at his own expense, including disposal of hazardous materials, if present. All existing ductlines connections to be abandoned shall be plugged with Class B concrete.
2. The Contractor is reminded of the requirements of Subsection 108.01 - Subletting of Contract, which requires him to perform work amounting to not less than 50 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.
3. The Contractor's attention is directed to the following Sections of the Special Provisions : Subsection 107.13 - Public Convenience and Safety; Subsection 107.21 - Contractor's Responsibility For Utility Property And Services; and Section 645 -Traffic Control.
4. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.
5. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
6. Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.
7. The Contractor shall provide for free and safe access to and from all existing side streets at all times.
8. All saw cutting work shall be considered incidental to structural excavation.
9. 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 close proximity of underground lines and shall maintain adequate clearance when operating equipment within or under any overhead lines.
10. The Contractor shall obtain an excavation permit from HECO's Mapping and Records Division located at 820 Ward Avenue, 4th floor, two weeks prior to starting construction.
11. The Contractor shall be liable for any damages to Hawaiian Electric Co.'s Facilities and shall immediately report such damages to Hawaiian Electric Co.'s Trouble Dispatcher at 548-7961.
12. The Contractor shall comply with the directives of the State of Hawaii Occupational Safety And Health Law (DOSHS). Any citation (fine) received by the State for noncompliance by the Contractor shall be deducted from the progress payment.
13. For verifying the location of underground ductlines and for assistance in providing proper support and protection of the underground duct lines, the Contractor is to contact Hawaiian Electric Co. Underground Division at 548-7395 a minimum of 72 hours in advance.

14. The Contractor shall exercise extreme caution when the excavation and construction crosses or is in close proximity of underground telephone and signal cable facilities and shall maintain adequate clearance for his equipment while working close to and/or under overhead facilities. Any damages to the existing underground facilities shall be repaired and paid for by the Contractor.
15. For field location of Hawaiian Telephone Co. Facilities, contact Hawaiian Telephone Outside Plant Engineering Section, a minimum of 72 hours in advance , prior to start of excavation.
16. Should field conditions and construction procedures require that utility poles be braced, the Contractor shall contact the following person for pole bracing instructions a minimum of 72 hours in advance of actual required bracing - Hawaiian Telephone Co. - Calvin Choy - Area Construction Supervisor at 546-3381.
17. 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 facilities with beams, struts, or underpinning to fully protect it from damage. This work shall be considered incidental to various contract items.
18. Location of the new underground ductlines and structures are not shown on the drawings. The Contractor is responsible to procure State of Hawaii licensed civil, structural and electrical engineers to perform required work in providing detailed plans and shop drawings (See items 38 & 39 in this section). The Contractor shall anticipate making provisions for dewatering of trenches below water line. The Contractor shall be responsible for all NPDES permits and discharge to receiving waters (see NPDES General Notes). All trenches shall be dry and free of water before ducts are installed.
19. Layer of gravel bed under underground duct banks, which are at or below the water table, may facilitate dewatering of the trenches during construction/installation of the underground utility system. The gravel material will not be measured and shall be considered incidental to the various contract items.
20. The Contractor shall survey and stake out the State Highway right-of-way and install all appurtenances associated with the project within the State right-of-way.
21. The location of street lights may be adjusted not more than 5 feet parallel with roadway to avoid conflicts.
22. Street light standards and poles shall have a minimum 2 feet clearance from aerial telephone cables and lines.
23. Street light standards and poles shall be installed at least 2-3 feet behind metal barrier rails as per AASHTO Roadside Design Guide. Any exceptions, the Contractor shall consult with the Engineer,
24. All existing facilities shown are approximate only. The Contractor shall verify their locations and shall make adjustments to any new or existing facilities as directed by the Engineer.
25. The term "Engineer for the Utility Companies" shall also mean his delegated Representative and/or the Utilities' Inspectors of Record.
26. The Contractor shall stake out all facilities for verification by the utility involved and/or affected.
27. All ductlines to be installed in concrete shall be inspected and approved by the State inspector and the State electrical maintenance supervisor before placing concrete. Notify the inspector and supervisor 48 hours before placing concrete.
28. The minimum depth of ductlines from finish grade to top of concrete encasement or cover is as follows:
a. Within Roadway 3'-0"
b. Within Sidewalk Area 1'-6"
c. All Others 1'-6"

29. All completed ductlines shall be mandrel tested by the Contractor in the presence of the Inspector.
30. The Contractor shall Give HECO forty (40) working days notice to proceed with it's portion of the work.
31. The Contractor will immediately report damages discovered or caused by his work to :
a. HTCO 611 (24 Hours)
483-8085 (M-F except Holidays)
b. HECO 543-7874
c. Oceanc 625-8437
d. Chronicle Cablevision 395-1847
32. The Contractor is to stake out all temporary and permanent new pole locations so as not to conflict with any existing or proposed utility and obstruct any roadway sign. The Contractor shall be responsible for cost incurred by conflicting utilities.
33. When excavating near utility poles, the Contractor shall protect, support, secure and take all other precautions to prevent damage to or leaning of these poles. The Contractor is responsible for all costs associated to repair and/or straighten pole.
34. Where pedestrian walkways exist, they shall be maintained in a safe and passable condition, or other facilities for pedestrians shall be provided. Passages between walkways at intersections shall likewise be provided at all times.
35. The Contractor shall notify the State Highways' Highway Lighting and Traffic Supervisor (837-8056), three (3) working days prior to commencing work on the Street Lighting System.
36. The Contractor shall notify Oahu Transit Services Inc. (OTS), Ed Sniffen at 848-4571, or Lowell Tom at 848-4578 two weeks prior to commencing any work. The Contractor shall inform OTS of the location and scope of work, proposed closure of any street of traffic lanes, and the need to relocate any bus stop.
37. Concrete buried conduits located outside the edge of travelway shall be constructed and installed 2 feet behind the existing light pole standards as applicable. If the existing grade is too steep to accommodate the new concrete buried conduit, then the Contractor is responsible to make necessary adjustments at no additional cost to the State.
38. The Contractor is responsible for hiring a State of Hawaii licensed electrical engineer to provide a stamped electrical plan of the proposed electrical work prior to the physical start of construction. The plan shall include but not be limited to electrical layouts of the conduit, light pole locations, pull box locations, and transformer locations that conform to the latest requirements of the National Electrical Code "NEC," General Order Nos. 6 and 10 of the Hawaii Public Utilities Commission, The standards of the ASTM, and ANSI, local power company rules, and local ordinances that may apply. Only upon written approval of the electrical plans by the State, shall the Contractor proceed with the proposed construction work. Any delays incurred during this process shall be borne by the Contractor at no additional cost and/or time to the State.
39. The Contractor is responsible for hiring a State of Hawaii licensed civil and structural engineers to provide stamped drawings of a traffic control plan; a NPDES plan and erosion control plan; shop drawing details of the concrete footing foundations, concrete ductline extensions on the concrete parapets, and structural connections of the lighting pole standards and conduits to bridges and parapets, and other structures. Only upon written approval of the shop drawings by the State, shall the Contractor proceed with the proposed construction work. Any delays incurred during this process shall be borne by the Contractor at no additional cost and/or time to the State.

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | STP-0300(66) | 1998 | 4 | 61 |

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| ORIGINAL PLAN | DATE | 2-3-99 |
| NOTED BY | DATE | |
| CHECKED BY | DATE | |
| DESIGNED BY | DATE | |
| DRAWN BY | DATE | |
| IN CHARGE | DATE | |
| APPROVED BY | DATE | |
| DATE | DATE | |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
GENERAL NOTES
AND CONSTRUCTION NOTES
HIGHWAY LIGHTING
SAFETY IMPROVEMENTS
FEDERAL AID PROJ. NO. STP-0300(66)
Date: Apr., 1998
SHEET No. 1 OF 2 SHEETS

GENERAL NOTES - CONT.

40. Design and construction for the replacement and/or modification of the existing guardrail and guardrail endtreatments shall conform to AASHTO Roadside Design Guide 1996 and National Cooperative Highway Research Program (NCHRP) 350 requirements.
41. If trenching through existing wheelchair ramps, the Contractor shall replace the entire wheelchair ramp to conform to ADA requirements. This work shall be considered incidental to various contract items.
42. The Contractor is advised that in addition to other contractors working in the same areas, various utility companies (or their contractors) including Hawaiian Electric Company, Hawaiian Telephone Company, Oceanic Cable, The Gas Company, the City and County's Board of Water Supply, and the City and County's Department of Wastewater Management may be performing work within the project area. The Contractor is to coordinate all work with other contractors in the area. Known projects that may be in progress or may be started while this project is in progress are:

Board of water Supply Projects:

- a. Kahekili, Likelike and Kamehameha Highway installation of 42 inch mains.
- b. Kaneohe to Waihee Line Booster - Phase I. Installation of 42 inch main along Kahekili Highway from Kulukeoe Street to Likelike Highway and along Likelike Highway from Kahekili Highway to Kaneohe Bay Drive and Kamehameha Highway intersection --3,500 linear feet.
- c. Auloa Road -- 16 inch main installation and appurtenances along Auloa Road from Castle Junction to 700 feet west of FH W-757.

City and County of Honolulu Department of Wastewater Management:

- a. Auloa Road - 12 inch force main installation and appurtenances along Auloa Road from Castle Junction to Waimanalo Junction.
- b. Likelike Highway - 24 inch relief sewer line from Kalihi Street to Wilson Place on Likelike Highway.

In case of Unresolvable conflict among contractors regarding access or work sites, the Engineer will make the final determination of priorities.

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY

1. The Contractor shall obtain a Permit to Perform Work Upon State Highway from the Oahu District, State Highways, at 727 Kakoi Street, prior to commencement of work within the State highway right-of-way.
2. Construction and restoration of all existing highway facilities within State right-of-way shall be done in accordance with all applicable sections of the 1994 Standard Specifications for Road, Bridge and Public Works Construction, and the Specifications for Installation of Miscellaneous Improvements within State Highways of the State Highway Division.
3. Work may be performed only between the hours of 9:00 a.m. and 3:00 p.m., Monday through Friday, except holidays, unless otherwise permitted by the Engineer.

During work hours, only one lane of traffic shall be closed in each direction, unless otherwise approved in writing by the Engineer.

4. The Contractor shall provide, install, and maintain all necessary signs, lights, flares , barricades, markers, cones, and other protective facilities, and shall take necessary precautions for the protection, convenience, and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the "Administrative Rules of Hawaii Governing the Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways", adopted by the Director of Transportation, and the current U.S. Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI - Standards and Guides for Traffic Controls for Street and Highway Construction, Maintenance, Utility and Incident Management Operations".
5. No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way, except at locations designated in writing and approved by the Engineer.

6. Compaction test shall be taken in accordance with the Specifications for Installation of Miscellaneous Improvements Within State Highways as follows:

- a. Subbase: One (1) compaction test per lift per 200 lineal feet of roadway or when directed by State Inspector.
- b. Base Course: One (1) compaction test per lift per 200 lineal feet of roadway or when directed by State Inspector.
- c. One (1) compaction test per lift per 300 lineal feet of trench.
- d. A copy of the test results shall be submitted to the Engineer.

7. Typical pavement restoration within the roadway for the installation of the conduits shall be done in accordance to the approved plans. In lieu of Type B backfill, the Contractor shall use controlled low strength material (clsm) per State DOT Standard Special Provisions Section 313 - "Controlled Low Strength Material (CLSM) for Utilities Structures."
8. Prior to commencing trench excavation work, the Contractor shall take a profile along the new centerline of utility trench and that such information shall be used in the verification of restoring the roadway to its original condition. A copy of the profile shall be submitted to the Engineer.
9. The Contractor shall be required to provide adequate , safe, non-skid bridging material over the trench, including shoring, when trenching in pavement areas to handle all types of vehicular traffic. The use of steel plates shall not be used in the freeway travelway.
10. No trench shall be opened more than 200 feet in advance of the installed and tested pipe and/or ductline. No jumps or spaces will be permitted unless approved in writing by the Engineer.
11. Longitudinal drainage along the highway shall be maintained, at all times to allow freeflow.
12. Approval of permit construction plans shall be valid for a period of one year thereof from the date of notification of approval to the applicant. In the event construction does not commence within this one-year period, the applicant will be required to resubmit his construction plans for division's review and approval.
13. All regulatory, guide and construction signs and barricades shall be high intensity reflective sheeting.
14. Stop work and contact the State Historic Site Office, at 587-0014 immediately should any unidentified archaeological site or remains (such as artifacts, shells, bones, charcoal deposits, road or coral alignments, pavings or walls) be encountered during construction.
15. The Contractor shall inform the State Permit Office at 831-6712 at least two (2) working days prior to any lane closure.
16. All signs, pavement markings, striping, etc. removed or damaged by the Contractor shall be replaced by the Contractor at no additional cost to the State.
17. All guardrails removed by the Contractor to install the highway lighting system shall be reinstalled by the Contractor at no additional cost to the State. Existing guardrail that were previously damaged prior to construction shall be replaced and paid for under Section 606. Guardrails damaged by the Contractor shall be replaced by the Contractor at no additional cost to the State.
In areas where guardrail end treatments will be removed, the Contractor shall be responsible for replacing with an approved NCHRP 350 system: Quadguard System,SRT 350 or ET 2000 for guardrail end treatment where appropriate. Costs for replacement shall be considered incidental to the contract. Guardrail end treatments damaged by the Contractor shall be replaced with an approved NCHRP 350 system: Quadguard, SRT 350 or ET 2000 at no additional cost to the State.
18. The Contractor shall restore curb and gutter per State Standard Detail Sheet D-04. This work shall be considered incidental to various contract items.

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NOTES FOR CONSTRUCTION WITHIN CITY RIGHT-OF-WAY

1. The Contractor shall perform all applicable construction work in accordance with the standard details for Public Works Construction, dated September 1986, of the Department of Public Works, City and County of Honolulu, and the Revised Ordinances of Honolulu, 1978, as amended.
2. The Contractor, at his expense shall keep the project and surrounding areas free from dust nuisance. The work shall be in conformance with the Air Pollution Control Standards and Regulations of the State Department of Health. The City may require supplemental measures as necessary.
3. Utilities shall be installed in accordance with Ordinance No's 2875 and 3357 (Underground Utilities).
4. Construction activities will not be permitted on city streets during weekends and holidays without prior approval from the Chief Engineer, City and County of Honolulu.
5. Location of underground utilities and pipes shown on these plans are approximate only. The Contractor shall verify the exact location of the existing utilities that must be removed or otherwise disturbed to accomplish the work called for on these plans and shall reconstruct or restore these utilities to their original conditions at his own expense.
6. The Contractor shall notify the Department of Public Works, Division of Engineering, Construction Branch, seven (7) days prior to commencement of construction. Phone No. 523-4049.
7. The Contractor shall comply with the provisions of Chapter 54, Water Quality Standards, and Chapter 55, Water Pollution Control, of Title II, Administrative Rules of the State Department of Health, during all phases of work. Adequate measures shall be taken to comply with these rules.
8. The Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The cost incurred for any necessary remedial action by the Cheif Engineer, City and County of Honolulu, shall be payable by the Contractor.
9. 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 location and depth of the facilities and exercise proper care in excavating in the area, whenever 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.
10. The Contractor shall restore curb and gutters, and sidewalks per City and County Standard Details. This work shall be considered incidental to various contract items.

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| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION GENERAL NOTES AND CONSTRUCTION NOTES HIGHWAY LIGHTING SAFETY IMPROVEMENTS FEDERAL AID PROJ. NO. STP-0300(66) Date: Apr., 1998 SHEET No. 2 OF 2 SHEETS |
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| ORIGINAL PLAN | DATE: 2-3-98 |
| SURVEY PLOTTED BY | |
| DRAWN BY G. Kawano | |
| DESIGNED BY P. Kihimaka/L. Urashii | |
| CHECKED BY S. Oshida | |
| APPROVED BY | |