

GENERAL NOTES

- The project is on Kanoelehua Avenue from Kawai'ani Street to Kamehameha Avenue. The scope of work for this project consists of installing a new traffic signal system with appurtenances; modernizing existing traffic signal systems by replacing standards, signal heads and mountings; installing emergency optical preemption system; interconnecting existing and new traffic signal systems; installing pavement striping, markings and signing; and reconstructing existing median drain inlets.
- 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.
- The Contractor's action 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

Section 645 – Traffic Control Devices
- 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.
- Contractor shall provide for access to and from all existing driveways and streets at all times.
- All necessary permits shall be obtained by the Contractor at his own cost.
- The Contractor shall comply with the State of Hawaii's Occupational Safety and Health Law (DOSH).
- All lanes shall be opened to traffic during the morning peak hours from 6:30 a.m. to 8:30 a.m., during afternoon peak hours from 3:30 p.m. to 6:00 p.m. and off work hours or as directed by the Engineer. Only one lane of highway shall be closed during work hours.
- No lane closures shall be allowed on the day after Thanksgiving and for the period consisting of ten (10) work days prior to and one (1) work day after Christmas.

CONSTRUCTION NOTES

- Locations of existing underground structures and utilities such as pipelines, conduits, cables, manholes, monuments, and structures shown on the Plans are approximate only. It is not the intent of these Plans to show the exact location of all underground utilities and structures. It is the responsibility of the Contractor to verify the locations of all existing utilities with the respective owners. Existing utilities damaged by the Contractor shall be repaired by the Contractor at his own cost.
- The Contractor shall verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the Engineer for clarification.
- The Contractor shall notify all agencies to verify actual location of all utilities in the project area prior to excavating. The Contractor shall coordinate all work.
- The Contractor shall tone and locate existing utilities prior to excavation.
- The locations of the new traffic signal standards, traffic signal standards with mast-arms, pedestrian push buttons, traffic controller, pullboxes, conduits and loop detectors shall be staked out in the field by the Contractor and approval of the locations shall be obtained from the Engineer prior to construction and installation.
- All traffic signal work shall conform to the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways," Federal Highway Administration (FHWA) dated 1988 and amendments.
- Locations of new pavement striping, markers, and markings (pavement arrow, stop lines, crosswalk, etc.) shown on the plans shall be verified with the Engineer prior to the installation of the traffic signal system.
- Maintenance of traffic through the construction area shall be in accordance with Part VI of the "Manual on Uniform Traffic Control Devices for Streets and Highways," FHWA (1988) and as specified in the Special Provisions. The Contractor shall furnish and maintain adequate barriers, blinkers, construction signs, etc., for the safety of the motoring public.
- The Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways, and other areas on a daily basis. The costs incurred for any necessary remedial action by the Engineer shall be payable by the Contractor.
- The Contractor, at his own expense, shall keep the project area and surrounding area from dust nuisance. The work shall be in conformance with the Air Pollution Control Standards and Regulations of the State Department of Health.
- All saw cutting work shall be considered incidental to other items of work in the Proposal.
- Pedestrian walkways shall be maintained in passable condition or other facilities for pedestrains shall be provided. Passage between walkways at intersections shall likewise be provided.
- No material and/or equipment shall be stockpiled or otherwise stored within roadway right-of-way except at locations designated and approved in writing by the Engineer.

- There may be other contractors working in the project site on other projects. The Contractor shall coordinate his work with these contractors.
- All construction work shall be done in accordance with these plans; all applicable sections of the "Standard Specifications for Road, Bridge and Public Works Construction", dated 1994 as amended, of the State Highways Division, Department of Transportation; and the project's Special Provisions, unless otherwise specified.
- Full compensation for all additional materials and labor, not specifically shown or called for which are necessary to complete the construction of the project, shall be considered incidental to the various contract items in the Proposal and no additional compensation will be allowed therefor.
- Removal of existing signs shall also include the removal of posts & foundations unless otherwise noted. Cost for removal & temporary installation of signs, posts, & foundations shall be considered incidental to other items of work.
- Pavement dropoffs within the roadway clear zone that are 2" or greater shall be mitigated by use of physical barriers or an aggregate taper with a slope of 4:1 or flatter.

MARKING, STRIPING, AND SIGNING NOTES

- Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
- Existing pavement markings and striping not incorporated in the final traffic pattern shall be removed as directed by the Engineer. The removal of the existing pavement markings shall not be paid for separately but shall be considered incidental to the various povement marking items.
- Raised pavement markers shall not be installed within crosswalks.
- Final locations of all signs shall be approved by the Engineer prior to any installation work.
- Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans or directed by the Engineer shall not be paid for and shall be considered incidental to the various signing items.
- Final locations of all stop lines shall be approved by the Engineer prior to installation.
- All pavement striping shall be as noted on the Legend or Plans.
- Removal of existing delineators, signs, and posts as directed by the Engineer shall be considered incidental to the various signing items.
- Existing signs that are to be replaced shall not be removed until new signs are installed as replacements, or the messages are no longer necessary.
- Backing for all new regulatory and warning signs shall not be spliced.
- All sign panels shall conform to Section 621 of Special Provisions and the latest editions and amendments of the following FHWA publications:

a. "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)

b. "Standard Highway Plans"

c. "Standard Alphabets for Highways Signs"
- All new and relocated signs and markers installed on pipe post or light standard are to be mounted with band brackets and steel braces.
- The Contractor shall erect at the beginning of the project and end of the project advance construction warning signs as indicated on the plans or as directed by the Engineer for the duration of the highway project and shall be maintained by the Contractor. These signs shall be placed in addition to the required traffic control signs called for in Section 645-Traffic Control Devices. The advance construction warning signs shall be new and become the property of the State. The Contractor shall remove, clean, and deliver the signs and posts to the Hilo District Baseyard or as directed by the Engineer at the end of the project.
- The Contractor shall point all sign posts with an Engineer's approved yellow reflective paint. Cost shall be incidental to the various signing items.
- The Contractor shall install permanent or temporary pavement markers, striping, and markings as required in accordance with Section 629 of the "Hawaii Standard Specifications for Roadway, Bridge, and Public Works Construction," 1994 edition, as amended. Temporary markers, striping, and marking shall not be measured nor paid for separately but shall be considered incidental to other items in the Proposal.
- All pavement markers, striping, and markings that become inapplicable shall be removed by the Contractor at his own expense.
- All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.
- Stop signs indicated to be removed shall be removed after the traffic signal system is operational.
- All signs shall be installed with square tube posts.

TRAFFIC SIGNAL NOTES

- All traffic signal equipment shall be completely wired in the cabinet and shall control the traffic signals as called for in the Plans.
- The Contractor shall install each meter socket and 60 Amp. breaker on the Meter Pedestal Foundation as shown on plans in accordance with HELCo requirements. Meter shall be mounted between 5 feet and 7 feet above ground. Meter socket shall be 4-prong, complete with a manual circuit closing device.
- Existing traffic signal standards to be replaced shall be removed together with its respective footing. The Contractor may elect to remove only the top portion of the footing. In such cases, the Contractor shall ensure that the remaining footing shall be 12 inches below the existing ground. The Engineer will determine whether the removed standards shall be disposed of or salvaged. Costs shall be considered incidental to the various contract items.
- Existing conduits, cables and pullboxes not to be incorporated in the new traffic signal system shall remain in place unless otherwise noted on plans or directed by the Engineer.
- Locations of all new traffic signal equipment shall be staked out in the field by the Contractor for approval by the Engineer prior to construction and installation.
- All splicing shall be done in the pullboxes.
- The existing traffic signal system shall remain in operation until the new traffic signal system is put into service. The Contractor shall arrange his work accordingly and shall provide temporary relocations and wirings, as necessary. Payment shall be considered incidental to the various contract items.
- Furnishing and installing controller barriers, risers on poles and conduit stubouts (pullboxes to edge of pavement) will not be paid for separately but shall be considered incidental to the various contract items.
- The Contractor shall clean and/or repair the existing traffic signal pullboxes to be used prior to installing conduits and cables. This work will not be paid for separately but shall be considered incidental to the various contract items.
- The existing controller foundation not to be incorporated in the final traffic signal system shall be removed in accordance with Section 202, "Removal of Structures and Obstructions" of the Standard Specifications. Costs shall be considered incidental to the various contract items.
- The Contractor shall notify the Traffic Division, Public Works Department, County of Hawaii, 2 weeks prior to commencing any work on the traffic signal system.
- Interconnect cable shall be one continuous pull (no splicing) from cabinet to cabinet.
- A solid #8 bare copper wire shall be pulled with the traffic signal control cable for equipment ground. Cost shall be incidental to installation of the control cable.
- The Contractor shall maintain a 36" clearance between the Control Ductline and Loop Detectors.
- All conduits shall be encased with Class A concrete unless otherwise directed by the Engineer. All conduits shall be PVC Schedule 80.
- If abandoned in place, existing loop detectors shall be saw cut completely through every 10 feet to prevent inductive coupling.
- Restoration of existing pavements and improvements unavoidably damaged shall be incidental to the various contract items. Restoration shall be to original or better condition.
- The Contractor shall provide special-duty police officer(s) to control the flow of traffic as required by the Engineer.
- Removing and disposing of existing Power Source Equipment (i.e. meter, conduits, cables, etc.) shall not be paid for separately but considered incidental to the various contract items.
- Removing and salvaging existing traffic signal equipment including controllers, cabinets, pedestrian push buttons, etc. shall not be paid for separately but considered incidental to the various contract items.

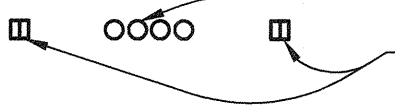
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(32)	1999	3	34

- Signal drop conductors and cables (Type 5) between the signal face and pullbox shall be incidental to the installation of the signal heads. Signal drop conductors and cables include single color coded #14 conductors and multi-conductors (9 Cond. #14 or 26 Cond. #14) color coded feeder signal control cables. Removal and disposal of existing signal drop conductors and cables shall not be paid for separately but considered incidental to the installation of the signal heads.
- Type 2 cables between the pedestrian push button and pullbox shall be furnished and installed in sufficient numbers and lengths, as required. Cost shall be incidental to the installation of pedestrian push buttons.
- Conduits between traffic signal standard and pullbox shall be furnished and installed in sufficient numbers and lengths, as required. Cost shall be incidental to traffic signal foundation.
- Conduits between pedestrian push button pedestals and pullbox shall be furnished and installed in sufficient numbers and lengths, as required. Cost shall be incidental to pedestrian push button pedestal foundation.
- The Contractor shall coordinate and verify electrical service installation requirements with Mr. Wilfred Sibayton of HELCO's Customer Engineering Division at 969-0335.

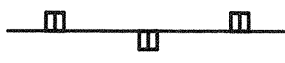
LEGEND

- Existing improvements at the project site are indicated with *slant* lettering.
- New improvements, utility lines, work, etc. for this project are indicated with vertical lettering.
- See sheet 4 for Legend continuation.

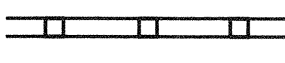
LEGEND – PAVEMENT MARKERS AND SIGNS



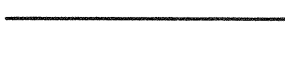
4 each Type A Raised Pavement Markers  
Type C Raised Pavement Markers @ 40'-0" o.c.




8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)




4" Double Solid Yellow Stripes with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)



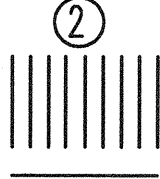
4" White or Yellow Pavement Stripe (Tape, Type III or Thermoplastic Extrusion)




4" White or Yellow Guide Lines (Tape, Type III or Thermoplastic Extrusion)



Transverse Median Marking (Tape, Type II or Thermoplastic Extrusion)




Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)



Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.  
*Harold I. Yoshizaki*  
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**NOTES AND LEGEND**

KANOELEHUA AVENUE  
TRAFFIC SIGNAL MODERNIZATION  
F.A. PROJ. NO. STP-011-2(32)

SCALE: AS SHOWN      DATE: OCT. 1998

**SHEET No. 1 OF 1 SHEETS**