STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ADDENDUM NO. 1

FOR

TRAFFIC SIGNAL MODERNIZATION, OAHU, PHASE 1
FEDERAL-AID PROJECT NO. STP-0300(163)R

DISTRICT OF HONOLULU
ISLAND OF OAHU
FY 2020

Amend the Bid Documents as follows:

A. SPECIAL PROVISIONS

1. Replace Table of Contents pages 1 through 3 dated 10/30/20 with the attached page 1 through 3 dated 12/07/20.

2. Replace Special Provision Section 201 – Clearing and Grubbing dated 7/1/18 with the attached Special Provision Section 201 – Clearing and Grubbing dated 12/07/20.

3. Replace Special Provision Section 680 – Electric and Communication Systems dated 2/27/20 with the attached Special Provision Section 680 – Electric and Communication Systems dated 12/07/20.

B. PROPOSAL

Replace Pages P-8 through P-43 dated 10/28/20 with the attached pages P-8 through P-43 dated 12/07/20.

C. PLANS

Replace sheets. **40, 41, 43, 44, 45, 46, 47, 50, 53, 57, 76, 77, 88, 95, 104, 112,** and **235** with **ADD. 40, ADD. 41, 43R, 44R, 45R, ADD. 46, 47R, 50R, 53R, ADD. 57, ADD. 76, ADD. 77, 88R, 95R, ADD. 104, ADD. 112,** and **235R.**

D. ATTACHMENTS

Attached for your information:

1. Pre-bid Conference minutes and attendance list from December 2, 2020 non-mandatory pre-bid conference.

2. Questions from Bidders with HDOT Responses: HDOT Responses to Bidder Questions received via HIePRO as of December 9, 2020 at 2:00 PM.

Please acknowledge receipt of this Addendum No. 1 by recording the date of its receipt in the space provided on Page P-4 of the Proposal.

JADE T. BUTAY
Director of Transportation

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END OF TABLE OF CONTENTS

SECTION 201 – CLEARING AND GRUBBING

Make the following amendments to said Section:

(I) Amend **201.01 – Description** by adding the following after line 19 to read as follows:

"The Contractor's attention is directed to the following requirements related to the tree protection work:

(A) ISA Certified Arborist. The Contractor shall obtain the services of an ISA Certified Arborist with a minimum of 10 years of continuous licensure and experience to conduct tree branch or root pruning necessary to facilitate construction in order to protect trees during the proposed undertaking and to provide mitigation measures as necessary."

(II) Amend **201.04 – Measurement** by revising lines 167 to 168 to read as follows:

"**201.04 Measurement.** Clearing and grubbing will be paid on a lump sum basis. Measurement for payment will not apply.

The Engineer will measure ISA Certified Arborist services on a force account basis according to Subsection 109.06 – Force Account Provisions and Compensation."

(III) Amend **201.05 – Payment** by revising lines 170 to 179 to read as follows:

"**201.05 Payment.** The Engineer will pay for the accepted clearing and grubbing on a contract lump sum basis. Payment will be full compensation for the work prescribed in the section and the contract documents.

The Engineer will pay for the accepted ISA Certified Arborist services on a force account basis according to Subsection 109.06 Force Account Provisions and Compensation. Payment will be full compensation for the work prescribed in this Section, by the Engineer, and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

Pay Item	**Pay Unit**
Clearing and Grubbing	Lump Sum

ISA Certified Arborist Force Account

An estimated amount for the force account is allocated in the proposal schedule under ISA Certified Arborist. The actual amount to be paid will be the sum shown on the accepted force account records whether this sum be more or less than the estimated amount allocated in the proposal schedule.

The Engineering will not pay for work required that is due to the Contractor's convenience, negligence, carelessness or failure to properly monitor excavation activity."

END OF SECTION 201

This Section shall be made a part of the Standard Specifications:

"**SECTION 680 - ELECTRIC AND COMMUNICATION SYSTEMS**

680.01 Description. This work shall consist of furnishing all labor, materials and equipment to install in place and in operating condition underground structures required for the facilities of Hawaiian Electric Company, herein referred to as HECO, the facilities of Hawaiian Telcom herein referred to as HTCO, and the facilities of Oceanic Time Warner Cable herein referred to as OTWC. Such works shall be performed and tested at the indicated locations in accordance with the requirements herein specified and the indicated details, or as ordered by the Engineer, and includes but is not limited to the following.

(A) Complete HECO handhole demolition and replacement with a new HECO manhole including excavation, backfilling, and concrete work. Work shall also include securing the approval of the HECO Inspector.

(B) Coordinate work and arrange for periodic inspections by HECO and Engineer.

(C) Immediately report and pay for damages to existing equipment.

(D) Obtain and pay for electrical permits, arrange for periodic inspection by local authorities and deliver certificate of final inspection to Engineer.

(E) Contractor shall check and test the installation for completeness and functional operation as described by the drawings and specified herein. Final test shall be in the presence of Engineer and representatives of utility companies. Contractor shall arrange and pay for all testing costs.

(1) Incidental parts which are not shown on the plans or specified herein and which are necessary to complete the underground electric, telephone, and cable television duct systems shall be furnished and installed by the Contractor as though such parts were shown on the plans, or specified herein or in the special provisions.

(2) All electrical equipment shall conform to the NEMA Standards, and all electrical work shall conform to ordinances of City and County of Honolulu; latest edition of National Electrical Code; General Order No. 10, Public Utilities Commission, State of Hawaii; and Regulations and Standard Practices of HECO, HTCO, and OTWC.

(F) Applicable rules, standards and specifications of following associations shall apply to materials and workmanship:

(1) American National Standards Institute (ANSI)

(2) Edison Electric Institute (EEI)

(3) Illumination Engineer Society (IES)

(4) National Board of Fire Underwriters (NBFU)

(5) National Electrical Manufacturer's Association (NEMA)

(6) National Fire Protection Association (NFPA)

(7) Underwriters' Laboratories, Inc. (UL)

680.02 Materials.

(A) Materials shall meet the requirements specified in the following subsections of Division 700 - Materials.

Pullboxes	712.06(B)
Conduits	712.27

(B) Ducts and Conduits shall conform to the requirements of Section 712.27 - Conduits. Ducts and conduits required shall be new and provided by the Contractor in accordance with the construction drawings and specifications.

(1) Polyvinyl Chloride (PVC) Schedule 40 type ducts shall be provided for the HECO, HTCO, and OTWC duct systems. The fittings shall be of the same material as the conduit and duct.

(C) Concrete shall conform to the requirements of Section 601 - Structural Concrete, except that for concrete jackets and concrete caps, the maximum size of coarse aggregate shall be 3/4 inch in lieu of the one-inch to No. 4 specified and the slump shall be 6-inch minimum and 7-inch maximum. Concrete for manholes, handholes, and pullboxes shall be Class A. Concrete for jacketing conduits and ducts shall be Class B except that the cement content shall be 5.6 sacks per cubic yard.

(D) Concrete Bricks shall conform to Subsection 704.02 - Concrete Brick. The use of broken bricks will not be permitted.

(E) Cement Mortar for Setting Bricks shall conform to the requirements of Section 601 - Structural Concrete. Cement mortar shall be a one-to-three volumetric mix of portland cement and a combined fine aggregate. Combined fine aggregate shall conform to Section 703 - Aggregates.

(F) Concrete Covers, Steel Frames and Miscellaneous Metals and Appurtenances for Handholes and Manholes. Steel shapes shall conform to the applicable provisions of Section 713 - Structural Steel and Related Materials. Fabrication of steel frames shall conform to the applicable provisions of Section 501 - Steel Structures. Steel frames shall be hot-dipped galvanized after fabrication. Concrete for covers shall be Class A and shall conform to Section 601 - Structural Concrete. Cast iron frame and cover shall conform to Subsection 712.07 (A) - Frame and Covers.

(G) Reinforcing Steel. Reinforcing Steel for manholes, handholes and pullboxes, and concrete jackets shall conform to the requirements of Section 602 - Reinforcing Steel.

(H) Materials will be subject to inspection at any time. Failure of the Engineer to note faulty material or workmanship during construction will not relieve the Contractor of his responsibility for removing or replacing such materials and dredging the work at his expense.

(I) Conductors. Conductors shall be copper, No. 12 AWG minimum; No. 10 AWG and smaller, solid and round; No. 8 AWG and larger, 7 or 19 strands concentric. All conductors No. 6 and smaller shall be types THW for interior use or RHW for exterior use. All conductors No. 4 AWG and larger shall be type THWN-2 for interior use; or RHW-2 or USE-2 for exterior use. Conductors used for fire alarm, sound system, and control wiring may be sized according to the system manufacturer based on their load and voltage drop calculations and code requirements. Conductors used to serve critical operations power systems (power systems for facilities or parts of facilities that require continuous operations for reasons of public safety, emergency management, national security, or business continuity) including but not limited to emergency power, HVAC, fire alarm, security, telecommunications, and signaling shall be a listed 2-hour electrical circuit protective system. Conductors installed on roof tops and exposed to sunlight shall be derated per NEC Table 310.15(B)(2)(b) or shall be type XHHW-2. Conduit sizes shall be increased as necessary to accommodate derated and type XHHW-2 conductors. Reduce conductor sizes at equipment terminations as required to accommodate maximum allowable conductor size accepted at equipment terminals per manufacturer's recommendations. Provide UL listed in-line reducer splice kit or UL listed cable reducing adapter plugs as required to reduce conductor sizes.

680.03 Construction.

(A) General.

(1) The Contractor shall in performing required excavation and backfill, exercise due care to avoid disturbing existing facilities. He shall remove and dispose of all demolished or excess material from the job site.

(2) Upon completion of the work, the Contractor shall submit an 'As Built' or corrected plan showing in detail thereon all construction changes.

(3) Before bidding, the Contractor shall visit project site, carefully review each section of the Specification and all Drawings of this Contract, and obtain and review the standards, specifications and drawings of the local utility companies.

(a) The Contractor shall report any error, conflicts or omissions to the Engineer at least one week before submission of bids for interpretation or clarification. If errors or omissions are not reported, the Contractor shall provide necessary work at no cost to the State of Hawaii to properly complete intent of Specification and Plans.

(4) The Contractor shall make detailed arrangements for work by utility companies pertaining to this contract. Payment to utility companies for their work shall be by the State.

(5) Electric and telephone utility cables and equipment shall be by respective utility companies. Cable television cables and equipment shall be by the cable television vendor for the area.

(B) Existing Utilities. Existing utilities are shown on the drawings in approximate locations for the convenience of the Contractor. It is not the intention of plans to imply that all existing utilities are drawn and located, and the fact that any utility is not shown on the drawings shall not relieve the Contractor of his responsibility under this Section. It shall be the Contractor's responsibility to ascertain the location of all existing utilities which may be subject to damages by construction under this Contract. The Contractor shall:

(1) Support and protect all HECO, HTCO, and OTWC utilities during construction,

(2) Notify HECO, HTCO, and OTWC immediately of any damage to its system caused by construction under this Contract, and

(3) Reconstruct, at his expense, damaged portions of the utility system in accordance with the requirements and specifications of HECO, HTCO, and OTWC.

(4) The Contractor shall be responsible for and shall pay for all damages to existing utilities of all types.

(C) HECO Facilities. The Contractor shall provide HECO with 24-hour access to all existing HECO facilities that are to remain, or, for facilities that are to be removed, until they are removed and to all new HECO facilities after they are

installed. The Contractor shall be responsible for any delays in utility company work due to his failure to provide access to utility company facilities. All existing HECO facilities shall remain in place until proposed permanent facilities are completed and energized. Any cost for temporary relocations arising during construction shall be borne by the Contractor.

(1) Electrical equipment or conductors, whether electrically energized or not, shall remain in place at all time during construction. Handling and moving of electrical equipment or conductors, when required by the Engineer, shall be done by HECO. Work by the Contractor in areas with energized electrical equipment or conductors shall be performed with extreme caution to prevent accidents and to avoid disturbing or damaging this equipment or conductors or any temporary supports or protective guards that are constructed. Unless otherwise permitted by HECO, all work by the Contractor in areas with energized equipment of conductors shall be performed in the presence of a HECO inspector and/or standby man. The Contractor shall have the sole responsibility for maintaining safe and efficient working conditions and procedures in these areas.

(2) Any existing or new HECO facilities including equipment or conductors damaged by the Contractor during construction shall be replaced by HECO at the Contractor's expense.

(3) The Contractor shall give HECO two weeks advance notice for any work to be done by HECO on its facilities. Unless otherwise indicated on the drawings or otherwise directed by the Engineer, HECO will:

(a) Remove the concrete envelope from existing underground HECO ducts containing electrical cables.

(b) Construct temporary supports and protective barriers for bare duct and electrical cables immediately after removal of the concrete envelope is completed. Material for such supports and barriers shall be furnished by the Contractor as an incidental cost.

(c) Remove temporary supports and protective barriers constructed under item (2) above.

(D) Excavation and Backfill. All excavation and backfill for electric, telephone and cable television underground structures and trenches shall conform to the requirements of Section 206 - Excavation and Backfill for Conduits and Structures, modified as follows:

(1) Excavation.

(a) The width of trenches for concrete encased ducts shall be not less than the width of the encasement nor more than that required to

properly and safely execute the work.

(b) Ducts encased in concrete jackets which are bedded in disturbed (fill) ground shall be installed in the following manner: Embankments shall be built up and thoroughly compacted to the elevation which is three feet above the top-of-jacket elevation, or to the required elevation shown on the plans, whichever is less than five times the width of the jacket. This work shall conform to the requirements of Section 203 - Excavation and Embankment. The trench to accommodate the jacket shall then be excavated through the constructed embankment.

(c) The Contractor shall not excavate for manholes, handholes and duct lines until he has the locations for these structures staked out and verified to be correct, and approved by the respective utility company inspectors.

(d) Trenches shall be excavated at least 50 feet ahead of duct placement so that any obstruction to the duct line can be avoided through gradual alignment. The profile grade may be adjusted by the Engineer to increase or decrease the excavation depth (up to 3 feet) as a result of unforeseen obstruction at no additional cost.

(e) Excavation for each handhole and manhole, plus 50 feet of trenching for all ducts connected to those structures shall be completed, and the locations and depths of the handholes and manholes shall be verified and approved by the respective utility company inspectors prior to construction or installation of the structures. All cuts in excess of depths required shall be filled with concrete, beach sand, or Type A backfill. The lateral limit for handholes and manholes shall be the vertical surfaces two feet outside the neat lines of the structures.

(f) The bottom of the trench excavation shall be flat and smooth. All trenches shall be approved by the Engineer and the utility company inspectors before any ducts or conduits are placed or any structures and foundations are constructed.

(g) The trenches shall be widened at handholes and manholes to permit proper entry of the ducts and conduits.

(h) The Contractor shall provide all sheathing and bracing to support the sides of the excavated trench. Provision and removal of these items are incidental to the trenching work.

(2) Backfill.

(a) No backfilling shall be done until the duct and conduit installations and the handhole and manhole placements have been verified to be correct and approved by the respective utility company inspectors.

(b) Material for use as trench backfill for direct buried cable above select backfill shall be non-expansive and shall conform to Subsection 680.03 (D) (2) (c) below. Backfilling and compaction shall be as specified in Section 206. Backfill material shall be beach sand, earth or earth and gravel mixture. If earth and gravel, mixture must pass 1/2 inch mesh screen and contain not more than 20 percent of rock particles by volume.

(c) Material for use as select backfill for direct buried cables shall be non-expansive and shall conform to the requirements of Subsection 703.04 (B) - Filler.

(d) Backfilling shall be to finished grades indicated on accompanying drawings, and/or matching existing conditions. Backfill material shall be placed in maximum of 8" layers in loose thickness before compacting. Backfill shall be thoroughly compacted with hand or mechanical tampers to 95% of the ASTM D1557 maximum dry density. In no case shall tamping be accomplished by using the wheels or tracks of a vehicle.

(E) Installation of Conduits, Conductors and Duct Banks. All joints shall be water tight and all ducts shall be installed to drain towards pull points unless otherwise shown on the plans.

(1) Plastic Duct Joints.

(a) Field cutting of plastic ducts shall be performed by the Contractor and only with the use of a miter box. Burrs shall be removed by filing before the joint is made. All foreign matter shall be wiped off the sockets of the fittings and the edges of the duct with a clean cloth.

(b) Cement for plastic duct joints shall be obtained from the duct manufacturer. Thinning of the cement will not be permitted. A liberal and uniform coat of cement shall be applied with a natural bristle brush to the inside of the coupling and to the outside of the duct end. Immediately thereafter, the duct shall be slipped into the socket of the fitting with a half-twist, and the excess cement shall be wiped off.

(c) Allow the joined members to cure for at least five minutes before disturbing or applying stress to the joint. After this initial cure,

care must be exercised in handling to prevent twisting or pulling the joint. In damp weather, this interval shall be increased to allow for slower evaporation of the solvent.

(d) Another fitting or section of conduit may be added to the opposite end within 2 or 3 minutes if care is exercised in handling so that strain is not placed on the previous assembly.

(e) Any joint included in a section of conduit to be bent in the trench shall be assembled above ground and allowed to lie undisturbed for at least two hours before installation. In cases where a plastic connection is made with the union under stress due to misalignment or other factors, the union shall be staked out to relieve stress on the joint until the conduit is backfilled or encased.

(2) Plastic Duct Installation.

(a) The Contractor shall provide spacers to maintain proper separation between ducts. The bottom duct spacers shall be placed on the prepared trench bottom, the first tier of ducts placed in the grooves of the spacers, and couplings attached to the duct ends. Spacers shall be 15 inches or more away from any coupling or joint. Successive lengths of ducts shall then be placed and connected to the preceding lengths as specified above. The second tier of duct spacers shall then be placed over the ducts previously placed and followed by installation of couplings. The operation shall be repeated for each successive tier until the top tier is set in place after which the top spacers are placed.

(b) When conduit is assembled above the ground, the spacer shall be supported in a vertical position by use of a No. 4 rebar and smooth black steel wire, No. 14 gage.

(c) Duct alignment shall be as straight as feasible. Such directional changes as are required shall be made by using field made bends or with segments using angle couplings or deflection couplings, except where otherwise indicated. The deflection angle between two adjacent lengths of duct shall not exceed five degrees, unless otherwise indicated.

(d) Horizontal bends for HTCO, and OTWC conduits/ducts shall be constructed with 25-foot minimum radius curves unless indicated otherwise or approved by the respective utility company inspector. Vertical bends for HTCO, and OTWC conduits/ducts shall be constructed with 20-foot minimum radius curves unless indicated otherwise or approved by the respective utility company inspector.

(e) Spacers shall not be located at the centers of a long radius bend. On pre-fabricated bends, the spacer shall be located in the tangent, free of the coupling. On trench formed bend, the spacer shall be located midway between the tangent and center of the bend.

(f) Precaution shall be taken to prevent damage in plastic duct lines from thermal expansion and contraction. All ducts shall be cool when placed in trenches and when the concrete jacket is being poured.

(g) Ducts ending in manholes shall be terminated with junior end bells. End bells, terminators or ducts shall be flush to inside wall surfaces; duct extension into boxes is not acceptable.

(h) The terminated ends of the conduit in an underground structure shall be free of support for a distance of at least 10 feet from the structure. The conduit shall be aligned and supported inside the structure with proper spacing and shall be cut to length after the concrete envelope has cured.

(i) The ends of the conduit shall be sealed with a plastic cap, plug, or approved substitute at the end of each day's work, when work on duct installation has to be interrupted, where ducts may be submerged in water, and in stub outs.

(3) Plastic marking tape. Provide plastic marking tape that is acid and alkali resistant polyethylene film 6 inches wide with minimum thickness of 0.004 inch. Provide tape with minimum strength of 1,750 PSI lengthwise and 1,500 PSI crosswise. Manufacture tape with integral wires, foil backing or other means to enable detection by a metal detector when tape is buried up to 3 feet deep. Manufacture tape specifically for marking and locating underground utilities. Provide the metallic core of the tape encased in a protective jacket or provided with other means to protect it from corrosion. Conform to the following tape color and bear a continuous printed inscription describing the specific utility.

Red: Electric
Orange: Telephone

(4) Conductors.

(a) Mechanical means for pulling shall be torque-limiting type and not used for #2 AWG and smaller wires.

(b) Pulling tension shall not exceed wire manufacturer's recommendations.

(c) Where necessary, powdered soapstone may be used as a lubricant for drawing wires through conduit. No other means of

lubricating will be allowed.

(d) Form neatly in enclosures for minimum of crossovers. Tag all feeders and label all branch circuits in all enclosures and devices. Identify panel name and branch circuit number.

(e) Color code feeder, branch circuit, and grounding conductors. Color for grounding conductors shall be green. Color for neutral conductors shall be white except for where neutrals of more than one branch circuit grouping are installed in the same raceway or enclosure, the other neutral shall be white with a colored stripe (other than green). The color coding for three-phase and single-phase circuits shall be as follows:

208Y/120V, 3-phase, 4-wire:	Black (Phase-A) Red (Phase-B) Blue (Phase-C)
480Y/277V, 3-phase, 4-wire:	Brown (Phase-A) Orange (Phase-B) Yellow (Phase-C)

(5) The Contractor shall apply a thin coat of sealing compound on ducts and conduits at couplings and bells.

(6) Conduits stubbed for future connections shall be plugged and marked.

(7) The Contractor shall securely anchor duct banks prior to pouring concrete encasement to prevent ducts from floating.

(F) Installation of Split Ducts Encased in Concrete Jacket. Split ducts with concrete jacket shall be installed around existing cables to remain in service, where shown on the plans.

(1) Field cutting of plastic ducts longitudinally into two equal halves shall be performed by the Contractor with the use of accepted tools and equipment.

(2) The two equal halves of plastic ducts shall be placed carefully around existing cables and sturdily bound together with wire or tape in order not to dislodge during pouring of concrete. The Contractor shall take necessary precautions not to damage the cables and shall work in an expeditious manner in order to keep uncovered cable exposed for as short a period of time as possible.

(3) Subsequent to binding of the plastic ducts, concrete shall be poured

to fully encase the ducts. The dimensions of the concrete encasement shall be similar to standard duct formation encasement dimensions.

(G) The Contractor shall test the completed ducts by passing a test mandrel through the length of each duct of each duct run. For HECO, and OTWC conduits, the mandrel shall be a bullet shaped, blunt tipped type, unless indicated otherwise, about 14 inches long with a diameter 1/2 inch less than the inside diameter of the ducts through the length of each duct run. Mandrel for HTCO ducts shall be bullet shaped, blunt tipped type about 12 inches long with a diameter 1/4 inch less than the inside diameter of the ducts through the length of each duct run. Scars in the mandrel deeper than 1/32 inch, other than that caused by normal abrasion between the duct line and bottom of mandrel shall be considered an indication of the presence of burrs and/or obstructions in the duct run. The Contractor shall remove such burrs and/or obstructions, after which the test mandrel will be passed through again. All tests shall be conducted in the presence of the Engineer and respective utility company inspectors, and shall be repeated until the results obtained are satisfactory to the Engineer and to the utility company inspectors.

(H) Unless indicated otherwise, the Contractor shall furnish and install a 1/8 inch Polyolefin pull line between pull points in all ducts after testing.

(1) For HTCO ducts, provide duct measuring/cable pulling tape (NEPTCO WP1800P Muletape or approved equal) in each new duct. Using the duct measuring/cable pulling tape, Contractor shall measure the actual lengths for duct runs and for at least one duct of each common duct run. The distances shall be marked on the record prints and submitted to the Owner at the final inspection. A copy of the record prints shall also be submitted to the HTCO inspector for record keeping.

(2) For HECO ducts, provide duct measuring/cable pulling tape (NEPTCO WP1800P Muletape or approved equal) in each new duct.

(I) Concrete. The Contractor shall notify the utility companies inspector a minimum of 72 hours prior to placement of any concrete.

(1) Securely anchor duct banks prior to pouring concrete encasement to prevent ducts from floating.

(2) When pouring concrete, prevent heavy masses of concrete from falling directly on ducts. If unavoidable, protect ducts with plank.

(3) Direct flow of concrete down sides of duct bank to bottom, allowing concrete to rise between ducts, filling all open spaces uniformly.

(4) To insure against voids in concrete, work a long, flat splicing bar or spatula liberally and carefully up and down the vertical rows of ducts. Mechanical vibrators shall be used for stacked duct banks of three ducts or

higher.

(5) Cure concrete for a minimum of 72 hours before permitting traffic and/or backfilling.

(6) Convey concrete from mixer to forms rapidly to prevent segregation. Free drop shall be limited to five feet, unless authorized by inspector.

(7) Placing.

(a) Clean and remove all debris from inside forms and trenches before placing concrete.

(b) Place concrete only on clean damp surfaces, free from water.

(c) Place concrete in forms, in horizontal layers not exceeding 18" thickness.

(d) Place concrete to avoid segregation of materials and displacement of ducts, inserts and reinforcing.

(e) Vibrate structural concrete thoroughly during and immediately after placing to insure dense watertight concrete.

(8) Forming.

(a) Forms shall be of good sound lumber with sufficient strength and conforming to shapes and dimensions indicated on drawings.

(b) Forms shall be treated with non-staining form oil immediately before each use.

(9) Patching: Patch all voids, pour joints and holes before concrete is thoroughly dry. Use mortar of same proportions as original concrete.

(10) Curing: Curing of concrete shall be accomplished by impervious membrane method with liquid membrane compound. Apply two or more coats to obtain a total of one gallon for each 150 square feet of concrete surface.

(J) Reinforcing Steel.

(1) Clean reinforcing of mill or rust scale and form to dimensions indicated.

(2) Install reinforcing in proper locations and secure in place to prevent movement during concrete placing or vibrating.

(K) Concrete Brick.

(1) Concrete brick shall be laid in full bed of mortar, both horizontally and vertically.

(2) Mortar shall be one part cement and three parts sand, thoroughly mixed and used when fresh. Re-tampering will not be allowed.

(3) Setting bed shall be of depth required to bring top of blocks flush with finish line.

(L) Restoration of Existing Streets and Other Improvements. Street, sidewalks, curbs, gutters, traffic detection loops, and other improvements of the State, private owners, or those of the City and County which are maintained by the State, which are damaged by rearrangements to the electric, cable television or telephone system, shall be restored by the Contractor to their original condition. Materials and workmanship shall conform to the applicable sections in these specifications. Payment for all materials and labor required shall be considered as incidental to the various contract items.

(1) Repairing of City streets and other improvements not maintained by the State and where such work is called for on the plans shall conform to the requirements of the City and County of Honolulu.

(2) All disturbed unpaved surfaces shall be backfilled and graded to match the surrounding areas, and sodded areas shall be replanted with the same type of grass. Fences and other improvements shall be restored to their original condition. This work shall be incidental to and included in the appropriate contract item under which the rearranged facility is provided.

680.04 Measurement. The Engineer will measure the meter pedestals, coordination with HECO to extend the overhead service to the existing street light, HECO 17-inch x 30-inch pullbox, HECO 2-feet x 4-feet handhole, and placement of bollards per each in accordance with Hawaiian Electric Company (HECO) standards and contract documents.

The Engineer will measure the secondary electrical ductline up to stub-outs, trenching for HECO secondary electrical ductline, HECO riser conduit per HECO standards, HECO secondary conductors, electrical system trenching for ductline, and concrete encasement for electrical ductlines per linear foot in accordance to contract documents.

680.05 Payment. The engineer will pay for the extension of the overhead service to the existing street light. The work includes coordination with HECO and furnishing equipment, tools, labor, materials, and other incidentals necessary to complete the work.

The Engineer will pay for the HECO pullbox and handhole at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawings; furnishing and installing the pullbox and handhole at the designated location; saw cutting; excavating and backfilling; restoration of concrete sidewalks, asphalt concrete pavement and landscaping; furnishing equipment, tools, labor, materials, HECO standards and other incidentals necessary to complete the work.

The Engineer will pay for the meter pedestal at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawings; assembling the meter pedestal; furnishing and installation of meter pedestal; saw cutting; excavating and backfilling; concrete base foundation; restoration and furnishing equipment, tools, labor, materials, HECo standards and other incidentals necessary to complete the work.

The engineer will pay for the stationary bollards at the contract unit price per each complete in place. The price includes full compensation for submitting the equipment list and drawings; installation of the bollards; saw cutting; excavating and backfilling; concrete base foundation; restoration of concrete sidewalk, asphalt concrete pavement and landscaping; painting the poles and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for the conduits and conductors at the contract unit price linear foot complete in place. The price includes full compensation for submitting the equipment list and drawings; trenching and backfilling; installation of conduits and concrete jacket; and furnishing equipment, tools, labor, materials and other incidentals necessary to complete the work.

The Engineer will pay for each of the following pay items when included in proposal schedule:

Pay Item	**Pay Unit**
Coordinate with HECO To Extend The Overhead Service To The Existing Street Light, Complete	Each
Provide New HECO 17-Inch x 30-Inch Pullbox, Complete	Each
Provide New Meter Pedestals, Complete	Each
Provide Stationary Bollards Per HECO Standards, Complete	Each
Provide New HECO 2-Feet x 4-Feet Handhole, Complete	Each

Provide Conduit, Conductors, Trench Excavation, Trench Backfill, and Concrete Encasement, Complete — Linear Foot

The Engineer will pay for the accepted hauling and stockpiling of salvaged materials and equipment off the right-of-way, as ordered by the Engineer in accordance with Subsection 104.02 – Changes."

END OF SECTION 680

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.0100	Clearing and Grubbing (0.26 acre)	L.S.	L.S.	L.S.	$_____
202.2010	Removal of Existing Asphalt Concrete Pavement	420	S.Y.	$ _____	$_____
202.3010	Removal of Existing Asphalt Concrete Sidewalk, Median, and Island Pavement	295	S.Y.	$ _____	$_____
202.5030	Removal of Existing Asphalt Concrete Curb	25	L.F.	$ _____	$_____
202.5035	Removal of Existing Concrete Curb	80	L.F.	$ _____	$_____
202.5040	Removal of Existing Concrete Curb and Gutter	325	L.F.	$ _____	$_____
202.5050	Removal of Existing Concrete Sidewalk, Driveway, and Curb Ramps	215	S.Y.	$ _____	$_____
202.6030	Removal of Existing Traffic Signal Foundation at Intersection of Farrington Highway with Nanaikeola Street	1	Each	$ _____	$_____
202.6231	Removal of Existing Traffic Signal System at Intersection of Farrington Highway with Nanaikeola Street	L.S.	L.S.	L.S.	$_____
202.6232	Removal of Existing Traffic Signal System at Intersection of Kahuapaani Street with Ulune Street/Ulune Extension	L.S.	L.S.	L.S.	$_____
203.0100	Roadway Excavation	60	C.Y.	$ _____	$_____

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
209.0100	Installation, Maintenance, Monitoring, & Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 50,000.00
219.0100	Determinization and Characterization of Fill Material	L.S.	L.S.	L.S.	$_____
219.0200	Testing for Lead Based Paint	F.A.	F.A.	F.A.	$ 20,000.00
301.0100	Hot Mix Asphalt Base Course	45	Ton	$ _____	$_____
401.0500	HMA Pavement, Mix No. V	25	Ton	$ _____	$_____
511.1001	Furnishing Drilled Shaft Drilling Equipment at Intersection of Farrington Highway with Nanaikeola Street	L.S.	L.S.	L.S.	$_____
511.1002	Furnishing Drilled Shaft Drilling Equipment at Intersection of Kahuapaani Street with Ulune Street / Ulune Extension	L.S.	L.S.	L.S.	$_____
511.2000	Obstruction	40	Hour	$ _____	$_____
511.3024	Drilled Shaft (24-inch Diameter Shafts)	6	L.F.	$ _____	$_____
511.3030	Drilled Shaft (30-inch Diameter Shafts)	22	L.F.	$ _____	$_____
511.3042	Drilled Shaft (42-inch Diameter Shafts)	18	L.F.	$ _____	$_____

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
511.4024	Unclassified Shaft Excavation (24-inch Diameter Shafts)	6	L.F.	$ _____	$_____
511.4030	Unclassified Shaft Excavation (30-inch Diameter Shafts)	22	L.F.	$ _____	$_____
511.4042	Unclassified Shaft Excavation (42-inch Diameter Shafts)	18	L.F.	$ _____	$_____
511.5000	Coring for Integrity Testing for acceptable drilled shaft	60	L.F.	$ _____	$_____
617.0100	Imported Planting Soil (20 S.Y.)	L.S.	L.S.	L.S.	$_____
623.1000	Controller Assembly with Software	1	Each	$ _____	$_____
623.2000	Type I Traffic Signal Standard, H = 10 Feet	2	Each	$ _____	$_____
623.2017	Type II Traffic Signal Standard with 17-Foot Mast Arm	1	Each	$ _____	$_____
623.2024	Type II Traffic Signal Standard with 24-Foot Mast Arm	1	Each	$ _____	$_____
623.2025	Type II Traffic Signal Standard with 25-Foot Mast Arm	1	Each	$ _____	$_____
623.2030	Type II Traffic Signal Standard with 30-Foot Mast Arm	1	Each	$ _____	$_____
623.2050	Type II Traffic Signal Standard with 50-Foot Mast Arm	1	Each	$ _____	$_____
623.2100	Foundation for Type I Traffic Signal Standard, H = 10 Feet	2	Each	$ _____	$_____

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.2102	Foundation for Controller Cabinet	1	Each	$ _____	$_____
623.3001	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type VI Mounting with Retroreflective Backplate)	10	Each	$ _____	$_____
623.3003	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type IV Mounting)	8	Each	$ _____	$_____
623.3008	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type I Mounting)	2	Each	$ _____	$_____
623.3009	Install Retroreflective Backplate on Existing Traffic Signal Assembly	2	Each	$ _____	$_____
623.3080	EVP Optical Receiver with Mast Arm Mounting	6	Each	$ _____	$_____
623.4021	Pedestrian Signal Assembly (1-Way, 12-inch, One Vertical with Type IV Mounting)	8	Each	$ _____	$_____
623.4040	Pedestrian Push Button with Instruction Sign	8	Each	$ _____	$_____
623.5001	Traffic Signal Ductline, One 2-inch Conduit, Schedule 40 PVC, Concrete Encased	32	L.F.	$ _____	$_____
623.5002	Traffic Signal Ductline, Two 2-inch Conduit, Schedule 40 PVC, Concrete Encased	190	L.F.	$ _____	$_____

BASE BID PROPOSAL SCHEDULE					
ITEM NO.	**ITEM**	**APPROX. QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
623.5003	Traffic Signal Ductline, Three 2-inch Conduit, Schedule 40 PVC, Concrete Encased	330	L.F.	$ _____	$_____
623.5004	Traffic Signal Ductline, Four 2-inch Conduit, Schedule 40 PVC, Concrete Encased	87	L.F.	$ _____	$_____
623.5005	Traffic Signal Ductline, Five 2-inch Conduit, Schedule 40 PVC, Concrete Encased	150	L.F.	$ _____	$_____
623.5006	Traffic Signal Ductline, Six 2-inch Conduit, Schedule 40 PVC, Concrete Encased	200	L.F.	$ _____	$_____
623.5008	Traffic Signal Ductline, Eight 2-inch Conduit, Schedule 40 PVC, Concrete Encased	10	L.F.	$ _____	$_____
623.6001	Type A Pullbox	4	Each	$ _____	$_____
623.6002	Type B Pullbox	5	Each	$ _____	$_____
623.6003	Type C Pullbox	4	Each	$ _____	$_____
623.7001	No. 14, 2-Conductor Loop Detector Lead-In Cable	2,320	L.F.	$ _____	$_____
623.7002	No. 14, 26-Conductor Traffic Control Cable	600	L.F.	$ _____	$_____
623.7003	No. 6, 3-Conductor Power Cable	2,310	L.F.	$ _____	$_____

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.7004	No. 14, 4-Conductor Signal Drop Cable	1,050	L.F.	$ _____	$_____
623.7005	No. 19, 24-Conductor Inter-Connect Cable	2,000	L.F.	$ _____	$_____
623.7006	EVP Cable	1,100	L.F.	$ _____	$_____
623.7041	Loop Detector Sensing Unit (6 FT x 6 FT) One Loop	7	Each	$ _____	$_____
623.7043	Loop Detector Sensing Unit (6 FT x 6 FT) Four Loops	6	Each	$ _____	$_____
623.8000	Hawaiian Electric Company Service Connections Fees	F.A.	F.A.	F.A.	$ 36,000.00
623.8010	Coordinate with HECO to have HECO raise existing overhead lines as required to clear new Type II Traffic Signal Standard Mast Arm	1	Each	$ _____	$_____
629.1011	6-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), White	240	L.F.	$ _____	$_____
629.1012	6-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Yellow	630	L.F.	$ _____	$_____
629.1013	4-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Double Yellow	120	L.F.	$ _____	$_____

BASE BID PROPOSAL SCHEDULE					
ITEM NO.	**ITEM**	**APPROX. QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
629.1014	8-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion) White	1,100	L.F.	$ _____	$_____
629.1015	12-Inch Pavement Striping (Tape, Type III or Thermoplastic Extrusion) White	90	L.F.	$ _____	$_____
629.1020	Crosswalk Marking (Tape, Type III or Thermoplastic Extrusion)	21	Lane	$ _____	$_____
629.1021	Yield Marking (Tape, Type III or Thermoplastic Extrusion)	2	Lane	$ _____	$_____
629.1023	Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)	12	Each	$ _____	$_____
629.2030	Type C Raised Pavement Marker	60	Each	$ _____	$_____
629.2040	Type D Raised Pavement Marker	2	Each	$ _____	$_____
629.2070	Type H Raised Pavement Marker	44	Each	$ _____	$_____
629.4000	Curb, Type 6 Markings (Paint)	15	L.F.	$ _____	$_____
630.0100	Street Name Sign on Traffic Signal Mast Arm	6	Each	$ _____	$_____
631.0100	Regulatory Sign (10 Square Feet or Less)	18	Each	$ _____	$_____

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
632.0100	Reflector Marker-2 mounted on Flexstake HD	9	Each	$ _____	$_____
632.0200	Type II Object Marker	8	Each	$ _____	$_____
634.0100	Portland Cement Concrete Sidewalk	285	S.Y.	$ _____	$_____
635.0100	HMA Sidewalk	80	S.Y.	$ _____	$_____
638.0100	Curb, Type 3D	125	L.F.	$ _____	$_____
638.0300	Curb and Gutter, Type 2DG	290	L.F.	$ _____	$_____
639.0100	Curb, Type 6	25	L.F.	$ _____	$_____
641.0100	Hydro-Mulch Seeding (240 S.Y.)	L.S.	L.S.	L.S.	$_____
644.0100	Repair of Existing Sprinkler Systems	F.A.	F.A.	F.A.	$ 5,000.00
645.1000	Traffic Control	L.S.	L.S.	L.S.	$_____
645.2000	Additional Police Officers, Additional Traffic Control Devices, and Advertisement	F.A.	F.A.	F.A.	$ 40,000.00
648.0100	Field-Posted Drawings	L.S.	L.S.	L.S.	$_____

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
650.0100	Curb Ramp (Portland Cement Concrete)	7	Each	$ _____	$_____
650.0200	Curb Ramp (Asphalt Concrete)	3	Each	$ _____	$_____
650.0200	Detectable Warning Mat	12	Each	$ _____	$_____
680.1000	Coordinate with HECO to Extend the Overhead Service to the Existing Street Light, Complete	1	Each	$ _____	$_____
680.2000	Provide New HECO 17-inch x 30-inch Pullbox, Complete	1	Each	$ _____	$_____
680.3000	Provide New Meter Pedestals, Complete	4	Each	$ _____	$_____
680.4000	Provide Stationary Bollards per HECO Standards, Complete	8	Each	$ _____	$_____
680.5000	Provide New HECO 2-Feet x 4-Feet Handhole, Complete	1	Each	$ _____	$_____
680.6000	Provide Conduit, Conductors, Trench Excavation, Trench Backfill, and Concrete Encasement, Complete	270	L.F.	$ _____	$_____
699.0100	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item)	L.S.	L.S.	L.S.	$_____

BASE BID
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT

Sum of All Base Bid Items ……. $_____

Note: Bidders must complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.

BID ADDITIVE ALTERNATE #1
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.0100	Clearing and Grubbing (0.12 acre)	L.S.	L.S.	L.S.	$_____
201.0200	ISA Certified Arborist	F.A.	F.A.	F.A.	$ 10,000.00
202.2010	Removal of Asphalt Concrete Pavement	425	S.Y.	$ _____	$_____
202.2020	Removal of Portland Cement Concrete Pavement	10	S.Y.	$ _____	$_____
202.5035	Removal of Existing Concrete Curb	30	L.F.	$ _____	$_____
202.5040	Removal of Existing Concrete Curb and Gutter	65	L.F.	$ _____	$_____
202.5050	Removal of Existing Concrete Sidewalk and Curb Ramps	160	S.Y.	$ _____	$_____
202.6233	Removal of Existing Traffic Signal System at Intersection of Vineyard Boulevard with Queen Emma Street	L.S.	L.S.	L.S.	$_____
204.3000	HECO Stand-by Inspector for Excavation within 10 feet of 138kV Underground Power Lines	F.A.	F.A.	F.A.	$ 50,000.00
209.0100	Installation, Maintenance, Monitoring, & Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 5,000.00
212.0100	Archaeological Monitoring	F.A.	F.A.	F.A.	$ 100,000.00

BID ADDITIVE ALTERNATE #1
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
219.0100	Determinization and Characterization of Fill Material	L.S.	L.S.	L.S.	$_____
219.0200	Testing for Lead Based Paint	F.A.	F.A.	F.A.	$ 4,000.00
411.0200	14-Inch Concrete Pavement	10	S.Y.	$ _____	$_____
511.1003	Furnishing Drilled Shaft Drilling Equipment at Intersection of Vineyard Boulevard with Queen Emma Street	L.S.	L.S.	L.S.	$_____
511.2000	Obstruction	40	Hour	$ _____	$_____
511.3030	Drilled Shaft (30-inch Diameter Shafts)	36	L.F.	$ _____	$_____
511.4030	Unclassified Shaft Excavation (30-inch Diameter Shafts)	36	L.F.	$ _____	$_____
511.5000	Coring for Integrity Testing for acceptable drilled shaft	60	L.F.	$ _____	$_____
623.1000	Controller Assembly with Software	1	Each	$ _____	$_____
623.2000	Type I Traffic Signal Standard, H = 10 Feet	2	Each	$ _____	$_____
623.2025	Type II Traffic Signal Standard with 25-Foot Mast Arm	1	Each	$ _____	$_____
623.2035	Type II Traffic Signal Standard with 35-Foot Mast Arm	1	Each	$ _____	$_____
623.2036	Type II Traffic Signal Standard with 36-Foot Mast Arm	1	Each	$ _____	$_____

BID ADDITIVE ALTERNATE #1
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.2038	Type II Traffic Signal Standard with 38-Foot Mast Arm	1	Each	$ _____	$_____
623.2050	Type II Traffic Signal Standard with 50-Foot Mast Arm	1	Each	$ _____	$_____
623.2100	Foundation for Type I Traffic Signal Standard, H = 10 Feet	2	Each	$ _____	$_____
623.2102	Foundation for Controller Cabinet	1	Each	$ _____	$_____
623.3001	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type VI Mounting with Retroreflective Backplate)	11	Each	$ _____	$_____
623.3003	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type IV Mounting)	3	Each	$ _____	$_____
623.3008	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type I Mounting)	2	Each	$ _____	$_____
623.3080	EVP Optical Receiver with Mast Arm Mounting	4	Each	$ _____	$_____
623.4021	Pedestrian Signal Assembly (1-Way, 12-inch, One Vertical with Type IV Mounting)	4	Each	$ _____	$_____
623.4040	Pedestrian Push Button with Instruction Sign	4	Each	$ _____	$_____
623.5001	Traffic Signal Ductline, One 2-inch Conduit, Schedule 40 PVC, Concrete Encased	86	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #1
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.5002	Traffic Signal Ductline, Two 2-inch Conduit, Schedule 40 PVC, Concrete Encased	150	L.F.	$ _____	$_____
623.5003	Traffic Signal Ductline, Three 2-inch Conduit, Schedule 40 PVC, Concrete Encased	155	L.F.	$ _____	$_____
623.5004	Traffic Signal Ductline, Four 2-inch Conduit, Schedule 40 PVC, Concrete Encased	264	L.F.	$ _____	$_____
623.5006	Traffic Signal Ductline, Six 2-inch Conduit, Schedule 40 PVC, Concrete Encased	190	L.F.	$ _____	$_____
623.5008	Traffic Signal Ductline, Eight 2-inch Conduit, Schedule 40 PVC, Concrete Encased	12	L.F.	$ _____	$_____
623.6002	Type B Pullbox	8	Each	$ _____	$_____
623.6003	Type C Pullbox	3	Each	$ _____	$_____
623.7001	No. 14, 2-Conductor Loop Detector Lead-In Cable	1,520	L.F.	$ _____	$_____
623.7002	No. 14, 26-Conductor Traffic Control Cable	700	L.F.	$ _____	$_____
623.7003	No. 6, 3-Conductor Power Cable	320	L.F.	$ _____	$_____
623.7004	No. 14, 4-Conductor Signal Drop Cable	1,530	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #1
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.7005	No. 19, 24-Conductor Inter-Connect Cable	1,600	L.F.	$ _____	$_____
623.7006	EVP Cable	930	L.F.	$ _____	$_____
623.7042	Loop Detector Sensing Unit (6 FT x 6 FT) Two Loops	2	Each	$ _____	$_____
623.7043	Loop Detector Sensing Unit (6 FT x 6 FT) Four Loops	2	Each	$ _____	$_____
623.7044	Loop Detector Sensing Unit (6 FT x 6 FT) Six Loops	2	Each	$ _____	$_____
624.0100	Water Lateral Relocation at Vineyard Boulevard	L.S.	L.S.	L.S.	$_____
625.0100	Reinforced Concrete Jacket	31	L.F.	$ _____	$_____
629.1011	6-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), White	10	L.F.	$ _____	$_____
629.1012	6-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Yellow	240	L.F.	$ _____	$_____
629.1013	4-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Double Yellow	100	L.F.	$ _____	$_____
629.1014	8-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion) White	310	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #1
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.1015	12-Inch Pavement Striping (Tape, Type III or Thermoplastic Extrusion) White	170	L.F.	$ _____	$_____
629.1020	Crosswalk Marking (Tape, Type III or Thermoplastic Extrusion)	16	Lane	$ _____	$_____
629.1023	Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)	3	Each	$ _____	$_____
629.1024	Pavement Word (Tape, Type III or Thermoplastic Extrusion)	1	Each	$ _____	$_____
629.2030	Type C Raised Pavement Marker	28	Each	$ _____	$_____
629.2040	Type D Raised Pavement Marker	5	Each	$ _____	$_____
629.2070	Type H Raised Pavement Marker	13	Each	$ _____	$_____
630.0100	Removing, Storing, and Installing Existing Street Name Sign onto Traffic Signal Standard	4	Each	$ _____	$_____
630.0200	Street Name Sign on Traffic Signal Mast Arm	4	Each	$ _____	$_____
631.0100	Regulatory Sign (10 Square Feet or Less)	8	Each	$ _____	$_____
632.0200	Type II Object Marker	9	Each	$ _____	$_____

BID ADDITIVE ALTERNATE #1
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
641.0100	Hydro-Mulch Seeding (45 S.Y.)	L.S.	L.S.	L.S.	$_____
644.0100	Repair of Existing Sprinkler Systems	F.A.	F.A.	F.A.	$ 5,000.00
645.1000	Traffic Control	L.S.	L.S.	L.S.	$_____
645.2000	Additional Police Officers, Additional Traffic Control Devices, and Advertisement	F.A.	F.A.	F.A.	$ 30,000.00
648.0100	Field-Posted Drawings	L.S.	L.S.	L.S.	$_____
650.0100	Curb Ramp (Portland Cement Concrete)	1	Each	$ _____	$_____
650.0200	Detectable Warning Mat	4	Each	$ _____	$_____
699.0100	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item)	L.S.	L.S.	L.S.	$_____

Sum of All Bid Additive Alternate #1 Items ……. $ _____

Note: Bidders must complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.0100	Clearing and Grubbing (0.18 acre)	L.S.	L.S.	L.S.	$_____
201.0200	ISA Certified Arborist	F.A.	F.A.	F.A.	$ 10,000.00
202.2010	Removal of Asphalt Concrete Pavement	610	S.Y.	$ _____	$_____
202.2020	Removal of Portland Cement Concrete Pavement	85	S.Y.	$ _____	$_____
202.5035	Removal of Existing Concrete Curb	275	L.F.	$ _____	$_____
202.5040	Removal of Existing Concrete Curb and Gutter	160	L.F.	$ _____	$_____
202.5050	Removal of Existing Concrete Sidewalk and Curb Ramps	115	S.Y.	$ _____	$_____
202.6060	Removal of Existing Guardrail	380	L.F.	$ _____	$_____
202.6070	Removal of Existing Terminal Impact Attenuators at Kalanianaole Hwy	2	Each	$ _____	$_____
202.6235	Removal of Existing Traffic Signal System at Intersection of Kalanianaole Highway with Kalaniiki Street/Waieli Street	L.S.	L.S.	L.S.	$_____
203.0100	Roadway Excavation	45	C.Y.	$ _____	$_____
209.0100	Installation, Maintenance, Monitoring, & Removal of BMP	L.S.	L.S.	L.S.	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 5,000.00
219.0100	Determinization and Characterization of Fill Material	L.S.	L.S.	L.S.	$_____
219.0200	Testing for Lead Based Paint	F.A.	F.A.	F.A.	$ 4,000.00
301.0100	Hot Mix Asphalt Base Course	15	Ton	$ _____	$_____
304.0100	Aggregate Base	3	C.Y.	$ _____	$_____
401.0500	HMA Pavement Mix No. V	30	Ton	$ _____	$_____
411.0200	14-Inch Concrete Pavement	65	S.Y.	$ _____	$_____
511.1005	Furnishing Drilled Shaft Drilling Equipment at Intersection of Kalanianaole Highway with Kalaniiki St. / Wailei St.	L.S.	L.S.	L.S.	$_____
511.2000	Obstruction	13	Hour	$ _____	$_____
511.3024	Drilled Shaft (24-inch Diameter Shafts)	6	L.F.	$ _____	$_____
511.3030	Drilled Shaft (30-inch Diameter Shafts)	40	L.F.	$ _____	$_____
511.4024	Unclassified Shaft Excavation (24-inch Diameter Shafts)	6	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
511.4030	Unclassified Shaft Excavation (30-inch Diameter Shafts)	40	L.F.	$ _____	$_____
511.5000	Coring for Integrity Testing for acceptable drilled shaft	20	L.F.	$ _____	$_____
606.0100	Guardrail Type 3 – Beam Type Guardrail MASH Compliant	230	L.F.	$ _____	$_____
617.0100	Imported Planting Soil (25 S.Y.)	L.S.	L.S.	L.S.	$_____
623.1000	Controller Assembly with Software	1	Each	$ _____	$_____
623.2000	Type I Traffic Signal Standard, H = 10 Feet	4	Each	$ _____	$_____
623.2020	Type II Traffic Signal Standard with 20-Foot Mast Arm	1	Each	$ _____	$_____
623.2025	Type II Traffic Signal Standard with 25-Foot Mast Arm	1	Each	$ _____	$_____
623.2036	Type II Traffic Signal Standard with 36-Foot Mast Arm	2	Each	$ _____	$_____
623.2037	Type II Traffic Signal Standard with 37-Foot Mast Arm	1	Each	$ _____	$_____
623.2100	Foundation for Type I Traffic Signal Standard, H = 10 Feet	4	Each	$ _____	$_____
623.2102	Foundation for Controller Cabinet	1	Each	$ _____	$_____
623.3001	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type VI Mounting with Retroreflective Backplate)	10	Each	$ _____	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.3002	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Programmable Visibility, Type VI Mounting with Retroreflective Backplate)	2	Each	$ _____	$_____
623.3003	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type IV Mounting)	1	Each	$ _____	$_____
623.3004	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Programmable Visibility, Type IV Mounting)	1	Each	$ _____	$_____
623.3005	Traffic Signal Assembly (3-Way, 12-inch, 1-3 Section Vertical, Programmable Visibility, Type III Mounting)	2	Each	$ _____	$_____
623.3006	Traffic Signal Assembly (3-Way, 12-inch, 1-3 Section Vertical, Type III Mounting)	1	Each	$ _____	$_____
623.3007	Traffic Signal Assembly (2-Way, 12-inch, 1-3 Section Vertical, Type II Mounting)	2	Each	$ _____	$_____
623.3008	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type I Mounting)	2	Each	$ _____	$_____
623.3080	EVP Optical Receiver with Mast Arm Mounting	4	Each	$ _____	$_____
623.4021	Pedestrian Signal Assembly (1-Way, 12-inch, One Vertical with Type IV Mounting)	5	Each	$ _____	$_____
623.4040	Pedestrian Push Button with Instruction Sign	7	Each	$ _____	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.5001	Traffic Signal Ductline, One 2-inch Conduit, Schedule 40 PVC, Concrete Encased	150	L.F.	$ _____	$_____
623.5002	Traffic Signal Ductline, Two 2-inch Conduit, Schedule 40 PVC, Concrete Encased	200	L.F.	$ _____	$_____
623.5003	Traffic Signal Ductline, Three 2-inch Conduit, Schedule 40 PVC, Concrete Encased	70	L.F.	$ _____	$_____
623.5004	Traffic Signal Ductline, Four 2-inch Conduit, Schedule 40 PVC, Concrete Encased	460	L.F.	$ _____	$_____
623.5008	Traffic Signal Ductline, Eight 2-inch Conduit, Schedule 40 PVC, Concrete Encased	20	L.F.	$ _____	$_____
623.6001	Type A Pullbox	7	Each	$ _____	$_____
623.6002	Type B Pullbox	5	Each	$ _____	$_____
623.6003	Type C Pullbox	1	Each	$ _____	$_____
623.7001	No. 14, 2-Conductor Loop Detector Lead-In Cable	1,580	L.F.	$ _____	$_____
623.7002	No. 14, 26-Conductor Traffic Control Cable	800	L.F.	$ _____	$_____
623.7003	No. 6, 3-Conductor Power Cable	100	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.7004	No. 14, 4-Conductor Signal Drop Cable	1,650	L.F.	$ _____	$_____
623.7006	EVP Cable	1,020	L.F.	$ _____	$_____
623.7041	Loop Detector Sensing Unit (6 FT x 6 FT) One Loop	6	Each	$ _____	$_____
623.7042	Loop Detector Sensing Unit (6 FT x 6 FT) Two Loops	6	Each	$ _____	$_____
623.7043	Loop Detector Sensing Unit (6 FT x 6 FT) Four Loops	3	Each	$ _____	$_____
623.7044	Loop Detector Sensing Unit (6 FT x 6 FT) Six Loops	2	Each	$ _____	$_____
623.8000	Hawaiian Electric Company Service Connections Fees	F.A.	F.A.	F.A.	$ 25,000.00
623.9000	Reinforced Concrete Jacket Over Drain Line	2	Each	$ _____	$_____
624.0200	Water Meter Relocation at Kalanianaole Highway	L.S.	L.S.	L.S.	$_____
625.0100	Reinforced Concrete Jacket	22	L.F.	$ _____	$_____
629.1004	4-Inch Profiled Pavement Striping (Thermoplastic Extrusion), White	2,200	L.F.	$ _____	$_____
629.1011	4-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), White	1,000	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.1012	4-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Yellow	1,700	L.F.	$ _____	$_____
629.1013	4-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Double Yellow	800	L.F.	$ _____	$_____
629.1014	8-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion) White	760	L.F.	$ _____	$_____
629.1015	12-Inch Pavement Striping (Tape, Type III or Thermoplastic Extrusion) White or Yellow	170	L.F.	$ _____	$_____
629.1020	Crosswalk Marking (Tape, Type III or Thermoplastic Extrusion)	13	Lane	$ _____	$_____
629.1022	HOV Lane Marking (Tape, Type III or Thermoplastic Extrusion)	2	Each	$ _____	$_____
629.1023	Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)	10	Each	$ _____	$_____
629.1024	Pavement Word (Tape, Type III or Thermoplastic Extrusion)	3	Each	$ _____	$_____
629.2030	Type C Raised Pavement Marker	110	Each	$ _____	$_____
629.2040	Type D Raised Pavement Marker	50	Each	$ _____	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.2070	Type H Raised Pavement Marker	50	Each	$ _____	$_____
629.2080	Type F Raised Pavement Marker	1	Each	$ _____	$_____
630.0100	Removing, Storing, and Installing Existing Street Name Sign onto Traffic Signal Standard	2	Each	$ _____	$_____
630.0200	Street Name Sign on Traffic Signal Mast Arm	4	Each	$ _____	$_____
631.0100	Regulatory Sign (10 Square Feet or Less)	6	Each	$ _____	$_____
632.0200	Type II Object Marker	9	Each	$ _____	$_____
634.0100	Portland Cement Concrete Sidewalk	115	S.Y.	$ _____	$_____
635.0100	HMA Sidewalk	30	S.Y.	$ _____	$_____
638.0200	Curb, Type 2A	260	L.F.	$ _____	$_____
638.0300	Curb and Gutter, Type 2DG	140	L.F.	$ _____	$_____
641.0100	Hydro-Mulch Seeding (60 S.Y.)	L.S.	L.S.	L.S.	$_____
644.0100	Repair of Existing Sprinkler Systems	F.A.	F.A.	F.A.	$ 20,000.00
645.1000	Traffic Control	L.S.	L.S.	L.S.	$_____

BID ADDITIVE ALTERNATE #2
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
645.2000	Additional Police Officers, Additional Traffic Control Devices, and Advertisement	F.A.	F.A.	F.A.	$ 30,000.00
648.0100	Field-Posted Drawings	L.S.	L.S.	L.S.	$_____
650.0100	Curb Ramp (Portland Cement Concrete)	3	Each	$ _____	$_____
650.0200	Curb Ramp (Asphalt Concrete)	1	Each	$ _____	$_____
650.0200	Detectable Warning Mat	8	Each	$ _____	$_____
693.0100	Terminal Impact Attenuator – HDOT Approved MASH Compliant, TL-3	2	Each	$ _____	$_____
699.0100	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item)	L.S.	L.S.	L.S.	$_____

Sum of All Bid Additive Alternate #2 Items ……. $ _____

Note: Bidders must complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.

BID ADDITIVE ALTERNATE #3
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.0100	Clearing and Grubbing (0.03 acre)	L.S.	L.S.	L.S.	$_____
202.2010	Removal of Asphalt Concrete Pavement	210	S.Y.	$ _____	$_____
202.5035	Removal of Existing Concrete Curb	15	L.F.	$ _____	$_____
202.5040	Removal of Existing Concrete Curb and Gutter	35	L.F.	$ _____	$_____
202.5050	Removal of Existing Concrete Sidewalk, Driveway, and Curb Ramps	90	S.Y.	$ _____	$_____
202.6234	Removal of Existing Traffic Signal System at Intersection of H-1 Exit 26A with Koko Head Avenue	L.S.	L.S.	L.S.	$_____
203.0200	Imported Borrow Excavated Material	6	C.Y.	$ _____	$_____
209.0100	Installation, Maintenance, Monitoring, & Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 5,000.00
219.0100	Determinization and Characterization of Fill Material	L.S.	L.S.	L.S.	$_____
219.0200	Testing for Lead Based Paint	F.A.	F.A.	F.A.	$ 4,000.00
511.1004	Furnishing Drilled Shaft Drilling Equipment at Intersection of Route H-1 Exit 26A with Koko Head Avenue	L.S.	L.S.	L.S.	$_____

BID ADDITIVE ALTERNATE #3
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
511.2000	Obstruction	5	Hour	$ _____	$_____
511.3030	Drilled Shaft (30-inch Diameter Shafts)	18	L.F.	$ _____	$_____
511.4030	Unclassified Shaft Excavation (30-inch Diameter Shafts)	18	L.F.	$ _____	$_____
511.5000	Coring for Integrity Testing for acceptable drilled shaft	10	L.F.	$ _____	$_____
623.1000	Controller Assembly with Software	2	Each	$ _____	$_____
623.2000	Type I Traffic Signal Standard, H = 10 Feet	2	Each	$ _____	$_____
623.2027	Type II Traffic Signal Standard with 27-Foot Mast Arm	1	Each	$ _____	$_____
623.2038	Type II Traffic Signal Standard with 38-Foot Mast Arm	2	Each	$ _____	$_____
623.2100	Foundation for Type I Traffic Signal Standard, H = 10 Feet	2	Each	$ _____	$_____
623.2102	Foundation for Controller Cabinet	2	Each	$ _____	$_____
623.3001	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type VI Mounting with Retroreflective Backplate)	4	Each	$ _____	$_____
623.3003	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type IV Mounting)	2	Each	$ _____	$_____

BID ADDITIVE ALTERNATE #3
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.3008	Traffic Signal Assembly (1-Way, 12-inch, 1-3 Section Vertical, Type I Mounting)	1	Each	$ _____	$_____
623.3080	EVP Optical Receiver with Mast Arm Mounting	2	Each	$ _____	$_____
623.3081	EVP Optical Receiver with Top Pole Mounting	1	Each	$ _____	$_____
623.4021	Pedestrian Signal Assembly (1-Way, 12-inch, One Vertical with Type IV Mounting)	1	Each	$ _____	$_____
623.4040	Pedestrian Push Button with Instruction Sign	2	Each	$ _____	$_____
623.5001	Traffic Signal Ductline, One 2-inch Conduit, Schedule 40 PVC, Concrete Encased	22	L.F.	$ _____	$_____
623.5002	Traffic Signal Ductline, Two 2-inch Conduit, Schedule 40 PVC, Concrete Encased	200	L.F.	$ _____	$_____
623.5003	Traffic Signal Ductline, Three 2-inch Conduit, Schedule 40 PVC, Concrete Encased	360	L.F.	$ _____	$_____
623.5004	Traffic Signal Ductline, Four 2-inch Conduit, Schedule 40 PVC, Concrete Encased	107	L.F.	$ _____	$_____
623.5006	Traffic Signal Ductline, Six 2-inch Conduit, Schedule 40 PVC, Concrete Encased	20	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #3
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.5008	Traffic Signal Ductline, Eight 2-inch Conduit, Schedule 40 PVC, Concrete Encased	8	L.F.	$ _____	$_____
623.6002	Type B Pullbox	6	Each	$ _____	$_____
623.6003	Type C Pullbox	2	Each	$ _____	$_____
623.7001	No. 14, 2-Conductor Loop Detector Lead-In Cable	2,580	L.F.	$ _____	$_____
623.7002	No. 14, 26-Conductor Traffic Control Cable	1,000	L.F.	$ _____	$_____
623.7003	No. 6, 3-Conductor Power Cable	70	L.F.	$ _____	$_____
623.7004	No. 14, 4-Conductor Signal Drop Cable	460	L.F.	$ _____	$_____
623.7005	No. 19, 24-Conductor Inter-Connect Cable	1,000	L.F.	$ _____	$_____
623.7006	EVP Cable	350	L.F.	$ _____	$_____
623.7041	Loop Detector Sensing Unit (6 FT x 6 FT) One Loop	4	Each	$ _____	$_____
623.7042	Loop Detector Sensing Unit (6 FT x 6 FT) Two Loops	3	Each	$ _____	$_____
623.7044	Loop Detector Sensing Unit (6 FT x 6 FT) Six Loops	1	Each	$ _____	$_____
623.8000	Hawaiian Electric Company Service Connections Fees	F.A.	F.A.	F.A.	$ 9,000.00

BID ADDITIVE ALTERNATE #3
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.1004	4-inch Profile Pavement Striping (Thermoplastic Extrusion)	400	L.F.	$ _____	$_____
629.1006	6-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), White	1,120	L.F.	$ _____	$_____
629.1011	6-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Yellow	130	L.F.	$ _____	$_____
629.1013	4-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion), Double Yellow	460	L.F.	$ _____	$_____
629.1014	8-Inch Pavement Striping (Tape, Type I or Thermoplastic Extrusion) White	180	L.F.	$ _____	$_____
629.1015	12-Inch Pavement Striping (Tape, Type III or Thermoplastic Extrusion) White	100	L.F.	$ _____	$_____
629.1023	Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)	6	Each	$ _____	$_____
629.1024	Pavement Word (Tape, Type III or Thermoplastic Extrusion)	3	Each	$ _____	$_____
629.1041	6-Inch Pavement Striping with Black Border (Thermoplastic Extrusion), White	155	L.F.	$ _____	$_____
629.1042	8-Inch Pavement Striping with Black Border (Preformed Thermoplastic), White	140	L.F.	$ _____	$_____

BID ADDITIVE ALTERNATE #3
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.1043	12-Inch Pavement Striping with Black Border (Preformed Thermoplastic), White	40	L.F.	$ _____	$_____
629.1044	Pavement Arrow with Black Border (Preformed Thermoplastic)	6	Each	$ _____	$_____
629.2030	Type C Raised Pavement Marker	30	Each	$ _____	$_____
629.2040	Type D Raised Pavement Marker	21	Each	$ _____	$_____
631.0100	Regulatory Sign (10 Square Feet or Less)	4	Each	$ _____	$_____
631.0200	Warning Sign (10 Square Feet or Less)	1	Each	$ _____	$_____
631.0300	Warning Sign (More than 10 Square Feet)	1	Each	$ _____	$_____
632.0100	Reflector Marker-2 mounted on Flexstake HD	19	Each	$ _____	$_____
632.0200	Type II Object Marker	3	Each	$ _____	$_____
641.0100	Hydro-Mulch Seeding (145 S.Y.)	L.S.	L.S.	L.S.	$_____
644.0100	Repair of Existing Sprinkler Systems	F.A.	F.A.	F.A.	$ 5,000.00
645.1000	Traffic Control	L.S.	L.S.	L.S.	$_____

BID ADDITIVE ALTERNATE #3
PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
645.2000	Additional Police Officers, Additional Traffic Control Devices, and Advertisement	F.A.	F.A.	F.A.	$ 30,000.00
648.0100	Field-Posted Drawings	L.S.	L.S.	L.S.	$_____
650.0200	Detectable Warning Mat	2	Each	$ _____	$_____
680.3000	Provide New Meter Pedestals, Complete	1	Each	$ _____	$_____
680.6000	Provide Conduit, Conductors, Trench Excavation, Trench Backfill, and Concrete Encasement, Complete	20	L.F.	$ _____	$_____
699.0100	Mobilization (Not to Exceed 6 Percent of the Sum of All Items Excluding the Bid Price of this Item)	L.S.	L.S.	L.S.	$_____

Sum of All Bid Additive Alternate #3 Items ……. $ _____

Note: Bidders must complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.

BID SUMMARY
PROPOSAL SCHEDULE

Base Bid		$ _____
Additive Alternate #1	$ _____	
Additive Alternate #2	$ _____	
Additive Alternate #3	$ _____	
Total Amount for Comparison of Bids (Sum of Total Limp Sum Base Bid and Additive Alternates #1 - #3)		$ _____

Notes:

1. Bidders must complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.

2. All bidders are required to bid on the BASE BID and ALL BID ADDITIVE ALTERNATE #1 THRU BID ADDITITVE ALTERNATE #3 ITEMS to be considered responsible.

3. Bid shall include all Federal, State, County and other applicable taxes.

4. Evaluation of Bids. The lowest responsive, responsible bid is determined by the following procedures:

    a. Chapter 103D, HRS, which provides for the preferences, shall apply.

    b. Project control budget is established prior to the submission of bids.

    c. If there is more than one alternate for a project, the State will determine the precedence of the alternates for each project prior to the submission of bids.

    d. The project will be evaluated based on the adjusted bid price.

5. Evaluating Bids with Additive Alternates

    a. Prior to opening bids, the State will announce the project control budget. All bids will be evaluated on the basis of the same alternate item.

    b. The ADDITIVE ALTERNATES, in their precedence order, are added to the TOTAL LUMP SUM BASE BID price. If adding another alternate would make the aggregate amount exceed the project control budget for all bidders, that alternate will be skipped and the next alternate will be added, provided an award might be made within the project control budget. This procedure will continue, until adding any remaining alternates will result in the aggregate total amount for all the bidders to exceed the project control budget, or until no additional alternates remain.

    If adding another ADDITIVE ALTERNATE would make the aggregate amount exceed the project control budget for all bidders, that ADDITIVE ALTERNATE and all subsequent numbered alternates will be skipped.

The bidder with the lowest aggregate amount, within the project control budget, for the TOTAL LUMP SUM BASE BID plus ADDITIVE ALTERNATE(S) in their precedence order, is the lowest responsible bidder.

Should the TOTAL LUMP SUM BASE BID price exceed the project control budget, the State reserves the right to negotiate with the lowest responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes, to further reduce the scope of work and award a contract thereafter.

c. The bidder with the lowest aggregate amount, within the project control budget (after application of the various preferences), for the total lump sum base bid plus the alternates in their precedence order, is the “Low Bidder” for that project and is designated for award.

d. Should the Lump Sum Base Bid of all bidders exceed the project control budget, the bidder with the lowest total lump sum base bid after application of the preferences is designated the low bidder for the project.

6. No additional compensation will be made by the State for losses, including overhead and profit, resulting from the deletion of the additive alternate items.

7. Contract time shall remain the same whether or not the scope of work is increased.

PRE-BID CONFERENCE MINUTES

Project: Traffic Signal Modernization, Oahu, Phase 1
Federal-aid Project No. STP-0300(163)R

Subject: Non-mandatory Pre-bid Conference

Date/Time: December 2, 2020 at 9:00 AM

Held: Virtual Meeting via Microsoft Teams

Present: See attached lists of attendees

Discussed:

A. Mr. Yoshida introduced himself and had each meeting participant do the same as well.

B. Steven Yoshida opens meeting at 9:02 A.M. after waiting to see of others will show. The following is to be announced once the meeting began:

1. Pre-bid conference is non-mandatory and is intended for clarification prior to bidding.

2. Announcement: “Anything said at this meeting is for clarification only, the bid documents shall govern over anything said today and discrepancies shall be clarified by addendum.”

3. All requests for information (RFI) shall be received in writing via HIePRO no less than 14 calendar days before bid opening, which is on December 9, 2020 at 2:00 PM. Questions received after the deadline will not be addressed. Verbal requests for information will not receive a response.

4. The minutes to this meeting and the attendance sheet will be distributed by addendum prior to bid opening.

5. Archaeological Monitoring is required for this project, which is Force Account Item No. 212.0100 Archaeological Monitoring. As noted in Section 212.01 of the Special Provisions, “The Contractor shall obtain the services of an Archaeologist or firm with an approved permit from the Department of Land and Natural Resources (DLNR) for conducting archaeological activities in the State of Hawaii.” The Department of Transportation is currently seeking approval of an Archeological Monitoring Plan, which should be approved by DLNR prior to Notice to Proceed.

6. Lane Closure requires are specified in Section 645 of the Special Provisions. Shoulder Closures are only allowed during the day, while nighttime closures are allowed as specified. Also note as specified in Subsection 645.03(F), “At the Engineer’s discretion, with a one week prior notification to the Contractor, work may be suspended to allow traffic to flow freely during major public events, such as concerts, parades, sporting events, etc. The Contractor will not be compensated but the Contractor’s Roadway Completion Time and/or Contract Time will be adjusted accordingly.”

7. Community Noise Control Variances have been secured for two project locations from the Department of Health. Those variances may be found on the HIePRO website.

C. Deadline to submit bids is - Bid Opening Day, until 2:00 P.M. Hawaii Standard Time (HST), December 23, 2020. Bids received after said due date and time shall not be considered.

D. Open discussion with prospective bidder:

1. Question from M. Sakuma Electric, Inc.: Why was the project re-advertised?

   HDOT Response: The bid for the initial solicitation for this project came in higher than the project budget, so the solicitation was cancelled. This solicitation was advertised using the base plus additive alternate bidding method to maximize the budget.

2. HDOT announcements for DBE:

   a. DBE Goal for this project: **3.0%**

   b. Responsible bidder must provide – refer to DBE Requirements

      1) Copies or faxes of all "Confirmation by DBE" forms signed by each DBE listed in the proposal shall be submitted to the Project Manager listed in the proposal five (5) days after bid opening. Information to be provided on the form shall include the name of the DBE, address, project name and number, prime contractor name, appropriate NAICS code and description of the type of work the DBE is certified to perform under this contract.

      2) The dollar amount of each subcontract (both DBE and non-DBE firms) for all subcontractors, manufacturers and suppliers listed in the proposal shall be submitted within five (5) calendar days of bid opening.

      3) If the contract goal is not met, documentation of good faith efforts including quotations for both DBE and non-DBE subcontractors when a non-DBE is selected over a DBE for the project, shall be submitted five (5) calendar days after bid opening.

      4) Refer to DBE Requirements section in the bid documents and pay special attention to VIII. Demonstration of Good Faith Efforts for Contract Award, which summarizes the kinds of efforts that will be considered demonstrative of good faith efforts.

      5) DBE contract goal percentage = Contract Dollar Value of the work to be performed by DBE subcontractors and manufacturers, plus 60% of the contract dollar value of DBE suppliers, divided by the sum of all contract items (sum of all contract items is the total amount for comparison of bids less mobilization, force account items, and allowance items).

6) All federally funded projects awarded after October 1, 2017 are required to use the B2GNow program, an online payment tracking system. This project will be required to use the B2GNow program. HDOT OCR will work with the Project Engineer and selected prime to get the contract information to create a contract record for the project.

7) BIDDER REGISTRATION FORM. All firms bidding or quoting on DOT projects, including vendors, subcontractors, manufacturers, truckers, etc., must register as a bidder. Certified DBEs are automatically registered as a bidder with the HDOT.
    i. Bidder Registration Form can be found at:
    ii. https://hidot.hawaii.gov/administration/files/2019/03/Bidder-Registration-Fillable-Form.pdf

8) Checking the DBE Directory online at: https://hdot.dbesystem.com/or calling Daniel Williams, DBE Program Supervisor at (808) 831-7914 or email: daniel.k.williams@hawaii.gov.

c. Questions regarding HDOT DBE requirements, may be referred to Daniel Williams, DBE Program Supervisor, at (808) 831-7914 or email: daniel.k.williams@hawaii.gov.

Meeting Adjourned at 9:20 A.M.

Prepared by: Steven Yoshida

The following is being added to the conference minutes to supplement item B above:

1. Work shall progress sequentially. For example, substantial completion of work at one traffic signal system before proceeding to the next one.

2. Work at intersection of Farrington Hwy with Nanaikeola St shall be conducted during the night-time to minimize impact to commuter traffic during the daytime. A noise variance has been approved by the State Department of Health. Work shall start in January; the reason for this is a senior citizens apartment located near the work area does not have air conditioning. The only way to dampen the noise is to close their windows which is the only way to cool their apartment units. The senior citizens have requested that the Contractor meet with them prior to beginning work to discuss their concerns during construction.

3. At intersection of Kahuapaani St with Ulune St and Ulune Extension, a signal HECO meter provides power for three separate traffic signal systems at the intersection of Kahuapaani St with Ulune St and Ulune Ext, the intersection of Halawa Valley St with Ulune Extension, and the intersection of Kahuapaani St with H201 Exit 1B. Three new HECO meters will be installed to replace the existing meter. Under a future project, two meters will be relocated to their respective intersections. The signal systems shall remain operational during construction; the Contractor shall provide temporary power as needed to complete this work.

4. Work at intersection of Vineyard Blvd with Queen Emma St requires archaeological monitoring. The monitoring plan has been submitted to the State Historical Preservation Division for review and approval. HECO's 138kV power line runs along the mauka side of Vineyard Blvd. A HECO standby inspector must be on-site for any excavation within 10 feet of the outside face of the fluidized thermal backfill enclosure around the 138kV power line. HECO requires the Contractor to coordinate with HECO for the standby inspector at least 3 months prior to excavation. Please note that there may be existing asbestos-concrete traffic signal conduits running in the sidewalk areas at each corner, which are to be abandoned in place.

5. The traffic signals at the intersections of H1 Exit 26A with Koko Head Ave and Pahoa Ave with Koko Head Ave form ONE system. The controller at Pahoa Ave controls signals at both intersections. The work involves providing separate traffic signal systems at each intersection that are inter-connected. Please note that there may be existing asbestos-concrete traffic signal conduits running in the raised concrete median at Exit 26A, which are to be abandoned in place.

6. Work at the intersection of Kalanianaole Hwy with Kalaniiki St shall be conducted during the night-time to minimize impact to commuter traffic during the daytime. A variance for community noise control has been approved by the State Department of Health and is included in the attachments of the solicitation.

7. Any changes to the horizontal or vertical alignment within City and County of Honolulu right-of-way requires revision approval from the Department of Planning and Permitting.

8. Lane Closure requires are specified in Section 645 of the Special Provisions. Lane closures will be allowed only from 8:00 p.m. to 5:00 a.m., Monday through Saturday, for the following two intersections:
   (1) Farrington Highway with Nanaikeola Street, and
   (2) Kalanianaole Highway with Kalaniiki Street / Waieli Street.

   Lane closures will be allowed only from 8:30 a.m. to 3:00 p.m., Monday through Friday, for the following three intersections:
   (1) Kahuapaani Street with Ulune Street / Ulune Extension,
   (2) Vineyard Boulevard with Queen Emma Street, and
   (3) Route H-1 Exit 26A with Koko Head Avenue.

PRE-BID CONFERENCE ATTENDANCE LIST

PROJECT NO.: STP-0300(163)R PROJECT NAME: TRAFFIC SIGNAL MODERNIZATION, OAHU, PHASE 1

DATE: DECEMBER 2, 2020 TIME: 9:00 AM LOCATION: VIRTUAL VIA MICROSOFT TEAMS

CALLED BY: STEVEN YOSHIDA, HDOT DESIGN PROJECT MANAGER

PLEASE PRINT

PARTICIPANTS	COMPANY / ORGANIZATION
1. Steven Yoshida	State of Hawaii, Department of Transportation
2. Melanie Martin	State of Hawaii, Department of Transportation
3. Daniel Williams	State of Hawaii, Department of Transportation
5. Karen Awana	State of Hawaii, Department of Transportation
2. Conrad Higashionna	Engineering Concepts Inc.
3. Trey Fernandez	Ronald N.S. Ho & Associates, Inc.
6. Maxx Toyama	Nagamine Okawa Engineers Inc.
Brandon Tingkang	M. Sakuma Electric, Inc.

QUESTIONS FROM BIDDERS WITH HDOT RESPONSES

Traffic Signal Modernization, Oahu, Phase 1
Federal-aid Project No. STP-0300(163)R

The following questions were submitted through HIePRO by 2:00 PM, December 9, 2020. HDOT responses are listed with each bidder question.

1. **Bidder Question: Are the bid plans for this bid the same as the previous bid?**
   HDOT Response: No

2. **Bidder Question: For Bid Item 201.0100 - Please indicate on the plans where the clearing and grubbing occurs on the plans for the base bid and alternates.**
   HDOT Response: The extent of the clearing and grubbing is contingent on what is expected to be impacted to facilitate by the construction work. Bid item 201.0100 Clearing and Grubbing has been revised to lump sum.

3. **Bidder Question: Would it be possible for bid items 301.0100 and 401.0500 ATB and AC quantities be separated between civil and electrical trench quantities. Example make it 301.0100 ATB for electrical trench restoration, 301.0100 ATB for civil work restoration. Reason being in the original bid we had a price from the subcontractor for civil ac restoration and we the electrical had a price for our own restoration. Also, if there could be a cold plane pavement restoration item added to the proposal.**
   HDOT Response: Items 301.0100 Hot Mix Asphalt Base Course and 401.0500 HMA Pavement, Mix No. V, are not intended for electrical trench restoration. Pavement work for electrical trench restoration is incidental to traffic signal ductline installation. Items 301.0100 Hot Mix Asphalt Base Course and 401.0500 HMA Pavement, Mix No. V, are intended for areas identified under NEW CONSTRUCTION CALLOUTS.
   Reconstruction Callout R6 calling for Cold Planing has been removed from sheet 40 and 41. Cold planing is not necessary on this project.

4. **Bidder Question: Can you please add on a tab on the HIePRO for interested vendors?**
   HDOT Response: This is not available on HIePRO at this point in the solicitation process.

5. **Bidder Question: On sheet 45 - New Construction Callouts - "N8" - Terminal Impact Attenuator - On Sheet 46 "N8" is noted twice for a length that is longer then the depicted Crash Cushion, first call out is at STA 26+00 to STA 25+35, second call out is at STA 27+12 to no end STA on sheet 47. Can you please clarify?**
   HDOT Response: Revised plan sheets 45, 46, 47, 50, and 53 to clarify requirements. Terminal impact attenuator shall be installed per manufacturer's recommendations. Manufacturer design guide lines require a transition section between the attenuator and the MASH compliant guardrail. That transition section shall be incidental to the Terminal Impact Attenuator and will not be paid for separately.

6. **Bidder Question: On sheet 57 there is a call out for water lines directly under the guardrail posts, can you please clarify this?**
   HDOT Response: We are not clear on Questioner's definition of water line. Therefore, we will respond to potential conflicts between NEW guardrail posts installation and BWS waterline and meter and NEW guardrail posts installation and irrigation lines.
   All the work associated with the relocation of the existing BWS waterline and meter is paid under lump sum Item No. 624.0200 Water Meter Relocation at Kalanianaole Highway. A conflict between NEW guardrail posts and relocated (NEW) BWS waterline and meter should NOT occur providing that the work for the guardrail installation and (NEW) BWS waterline and meter relocation is coordinated appropriately.

All irrigation line relocations for Bid Additive Alternate #2 is paid under force account Item No. 644.0100 Repair of Existing Sprinkler Systems. A conflict between NEW guardrail posts and relocated irrigation lines should NOT occur providing that the work for the guardrail installation and irrigation line relocation is coordinated appropriately.

7. **Bidder Question: On Sheet 88 Note#10 says "The Contractor shall install preformed thermoplastic pavement markings with a black boarder on Portland Cement Concrete (PCC) pavement as shown on sheet 90", but there is no call out for concrete pavement markings on sheet 90. Can you please clarify?**
   HDOT Response: Note #10 on plan sheet 88 has been revised to reference the correct plan sheet numbers.

8. **Bidder Question: On sheet 95 there is an Exit 26A w/ Arrow Sign - but does not have a Key on what to do? To Remain, to Install New, to remove and replace. Can you please clarify?**
   HDOT Response: Plan sheet 95 has been revised to add a Key; the existing Exit 26A with arrow sign is to remain.