STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ADDENDUM NO. 2
for

VOLCANO ROAD
INTERSECTION AND DRAINAGE IMPROVEMENTS
VICINITY OF KULANI ROAD
FEDERAL-AID PROJECT NO. HS-STP-011-2(38)

The following amendments shall be made to the Bid Documents.

A. SPECIFICATIONS

1. Make the following amendments to Section 688 Asbestos Abatement of the Special Provisions:

    a. Amend Section 688.01 Description, line 6 to 11 to read: "688.01 Description. This Section describes furnishing all labor, materials, and equipment necessary to carry out the safe removal and disposal of water lines containing asbestos material in compliance with all applicable laws and regulations, including all incidental and pertinent operations."

    b. Amend Section 688.01 (B) (6) (h), lines 123 to 127 to read: "Water filtration system for all contaminated water. Description of water disposal."

    c. Amend Section 688.03 (C) (1), lines 781 to 785 to read: "(1) Prior to any waste water disposal into the sanitary sewer system, the Contractor shall be responsible for obtaining approval from the County of Hawai'i, Department of Environmental Management."

2. Make the following amendment to Section 770 Traffic Signal Materials of the Special Provisions:

    Replace pages 770-13a through 770-31a dated 9/21/10 with the attached Special Provisions Sheets 770-13a through 770-29a dated r01/21/11.

3. Replace the Federal Wage Rates dated November 26, 2010 with the attached Federal Wage Rates dated December 3, 2010.

B. PROPOSAL

1. Replace pages P-8 through P-13 dated 11/30/10 with the attached pages P-8 through P-13 dated r1/27/2011.

C. PLANS

1. Replace Plan Sheet Nos. 97, 99, 103, 106, 135, and 140 with the attached Plan Sheet Nos. ADD. 97, ADD. 99, ADD. 103, ADD. 106, ADD. 135, and ADD. 140.

2. Plan Sheet 4, General Construction Notes: Revise Note No. 12 to read as follows: "12. 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 2003 and amendments."

3. Plan Sheet 4, General Construction Notes: Revise Note No. 14 to read as follows: "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 (2003) 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."

4. Plan Sheet 29, Roadway Plan: Revise the callout at Baseline Volcano Road Station 732+48 to Station 732+91 o/s 40' Rt. to read: "Replace CRM Wall and 5-Foot Chainlink Fence, See Detail on Sht. 98"

5. Plan Sheet 33, Utility Plan: Adjust existing water manhole frame and cover at Baseline Station 727+97 o/s 18' Lt.

6. Plan Sheet 33, Utility Plan: Adjust existing water manhole frame and cover at Baseline Station 728+03 o/s 18' Lt.

7. Plan Sheet 33, Utility Plan: Adjust existing water valve cover at Baseline Station 728+10 o/s 18' Lt.

8. Plan Sheet 33, Utility Plan: Adjust existing water manhole frame and cover at Baseline Station 728+07 o/s 22' Rt.

9. Plan Sheet 34, Utility Plan: Adjust existing water valve cover at Baseline Station 731+43 o/s 21' Lt.

10. Plan Sheet 34, Utility Plan: Provide opening at bottom of new CRM wall at Baseline Station 731+75 o/s 38' Rt.

11. Plan Sheet 34, Utility Plan: Adjust existing water meter cover at Baseline Station 732+16 o/s 38' Rt.

12. Plan Sheet 34, Utility Plan: Adjust existing water meter cover at Baseline Station 734+92 o/s 27' Rt.

13. Plan Sheet 35, Utility Plan: Adjust existing water meter cover at Baseline Station 735+98 o/s 23' Lt.

14. Plan Sheet 35, Utility Plan: Adjust existing water valve cover at Baseline Station 737+86 o/s 16' Lt.

15. Plan Sheet 91, Add Note No. 23. RM-3s shall be provided on all sign posts and all sign post shall be painted yellow. The Engineer will consider the cost included in the price of the various contract items.

16. Plan Sheet 92, Signage and Pavement Marking Plan: Revise Legend Key Note 1 to read "Remove Exist. Sign(s) with Post and Install New Sign(s) with Post(s)".

17. Plan Sheet 92, Signage and Pavement Marking Plan: Add the following at Baseline Station 726+50 o/s 26' Rt. "Remove existing signs and post and replace with new signs and post, "No Parking" (R8-3A, 24"x24") and "Anytime" (R8-3b (Rt.), 24"x18").

18. Plan Sheet 92, Signage and Pavement Marking Plan: Add the following at Baseline Station 726+13 o/s 23' Lt. "Remove existing signs and replace with new sign for "School" (S5-1, 24"x48"). Existing post and flashing lights to remain in place.

19. Plan Sheet 93, Signage and Pavement Marking Plan: Revise Legend Key Note 1 to read "Remove Exist. Sign(s) with Post and Install New Sign(s) with Post".

20. Plan Sheet 93, Signage and Pavement Marking Plan: Revise dimension for sign R8-3a at Baseline Station 733+00 o/s 25' Lt. to read 24"x24".

21. Plan Sheet 94, Signage and Pavement Marking Plan: Delete callout for new destination sign D-2 and post at Baseline Station 740+59 o/s 30' Lt.

22. Plan Sheet 95, Signage and Pavement Marking Plan: Replace callout to remove existing "Speed Limit 55" sign and post at

Baseline Station 741+88 o/s 24' Rt. with callout to remove existing "Buckle Up It's the Law" and "Click-It or Ticket" signs and post.

23. Plan Sheet 95, Signage and Pavement Marking Plan: Add callout at Baseline Station 741+91 o/s 35' Lt. to remove existing sign and post and install new destination sign D-2 (120"x24") with post.

24. Plan Sheet 95, Signage and Pavement Marking Plan: At Station 742+83, the new W3-3 (48"x48") sign shall be installed at o/s 35' Lt.

25. Plan Sheet 95, Signage and Pavement Marking Plan: Revise Legend Key Note 1 to, "Remove Exist. Sign(s) with Post and Install New Sign(s) with Post(s)".

26. Plan Sheet 121, Note C: Revise reference to Detail 3/E-16 with Detail 1/E-19.

27. Plan Sheet 139, Detail 1/E-24: Revise the callout for "Steel Conduit" to read "Schedule 80 PVC Conduit".

28. Plan Sheet ADD. 97, Traffic Sign Summary: Delete sign R2-1(25) (36"x48") in its entirety. Revise sign S4-3 (24"x8") to read "S5-1 (24"x48")".

D. REQUESTS FOR INFORMATION (RFI)

1. Will the State provide a staging area to stockpile cold planing material? Can the general contractor utilize this staging area to set the site office, store material, etc.? Please advise if there is a proposed location of staging area to be assigned within the project vicinity for the contractor's use during construction.
   Response: Right-of-Way space is limited. There are two possible areas in the vicinity for the field office and to stockpile the cold planed material. Contractor needs to find their own staging area.

2. Sheet 106, Details 1 and 4: Backfill material is not clearly indicated. Will CLSM be an acceptable alternate in lieu of Type A Backfill?
   Response: Type A Structural Backfill is required. CLSM is an acceptable alternative to Type A Backfill. The CLSM must be in accordance with the Standard DOT Specs. Don't use CLSM with aluminum culverts.

3. Sheet 63, Drain Line B Profile: Connection to the existing 6'x4' box culvert under South Kulani Road, is it possible to eliminate the removal of the 14.78' of existing culvert?

Response: No. Need to excavate to relocate the existing 6" waterline which is below this section of existing culvert. Bid according to plans and specs.

4. What type and how many posts will the D-1 and D-2 Destination Signs be mounted on.
   Response: See the 2008 Standard Plans to determine the type and number or posts. Seems like flanged posts may work, depending on what "H" is.

5. Substitution request to use 1) Triton TL-3 Barrier System; 2) Triton CET TL-3 End Treatment; 3) Vulcan Barrier System and 4) ACZ-350 End Treatment.
   Response: These products are approved for use if it conforms to manufacturer's recommendations and there is enough clear space behind the barriers to allow for deflection of the barriers. Submit shop drawings showing the lane and shoulder widths along with the clear space requirements for approval prior to use.

6. Sheet 105: Please clarify that the specified 2" and ¾" Nominal Diameter Steel Pipe is nominal and not the outside diameter.
   Response: We require the nominal size as stated in the plans. (eg. 2" Nominal = 2.375" outside diameter).

7. Sheet 103: Substitution request for Pipe Railing to use ASTM A53 Grade A in lieu of ASTM A53 Grade B. Substitution request to use ¾" HRS solid rod picket in lieu of the ¾" nominal steel pipe.
   Response: ASTM A 53 Grade B shall be used as specified. Note 6E refers to all steel. The ¾" diameter HRS solid rod pickets will be allowed as a substitute. Holes can be drilled in the 2" diameter top and bottom rails where the pickets are to be placed and welded to conceal holes from exposure and also allows venting for galvanizing.

E. PRE-BID MEETING MINUTES

1. Attached are the January 7, 2011 Pre-bid Meeting Minutes and Attendance Sheet for your information.

Please acknowledge receipt of this Addendum No. 2 by recording the date of its receipt in the space provided on Page P-4 of the Proposal.

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

(b) Output Specifications

((1)) Nominal Output Voltage 120VAC, Single Phase
((2)) Power Rating 2000VA (1500 Watts)
((3)) Output Frequency 60 Hz (+/- 5%)
((4)) Voltage Wave Form Sine Wave, THD < 3%
((5)) Efficiency (nominal) 95-97%

(c) Mechanical Size

((1)) Inverter / Charger 17" wide x 5.25" high (3U) x 10" deep
((2)) PTS Assembly 17" wide x 5.25" high (3U) x 7" deep
((3)) Weight Under 50 Lbs

(13) Equivalency Reference. The system shall be Myers Power Model MP2000TM or better as manufactured by Myers Power Products, Inc. located at 725 E. Harrison Street, Corona, CA., 92879 (951-520-1900)."

(III) Amend **Subsection 770.06 Conductors and Cables** by revising lines 746 to 752 to read as follows:

(A) Type 1 - Signal-Loop Cable for Load Circuits from the Cabinet Looped to Field Pullboxes. Polyethylene insulated, stranded, 14 AWG copper; polyethylene jacketed; color-coded; IMSA Specification No. 20-1 certified.

Type 1 - 9/Conductor; Use for pedestrian signal lights.

Type 1 – 26/Conductor; Use one – 26/Conductor cable for five phases or less and use two – 26/Conductor cables for six or more phases.

(IV) Add the following subsections after line 1029 as follows:

"**770.12 CCTV System.** The CCTV and signal control system shall consist of a remotely controlled color camera and an IP communications system.

(A) Single-Camera Site Equipment. The Contractor shall furnish and install, but not limited, the following items:

(1) 1 Ea., Color Camera Package, Y2' Format, Zoom Lens, Auto-Iris/Manual Override, 7.5 to 75mm FL, Video Output 1 volt p-p, 75 ohms, MIL connectorized as described in section 655.03.

(2) 1 Ea., Video/Data IP Encoder meeting the following requirements:

(a) MPEG-4 (ISO/IEC 14496) encoding.
(b) Power Over Ethernet (PoE) capability enables simpler and cost effective installations.
(c) Adjustable IP Packet size streams.
(d) Flash memory
(e) Remote user reset via all modes of interface.
(f) NTSC video format at 30 frames per second capability
(g) Max pixel resolution of 720x480
(h) Less than 200 msec video latency
(i) 75 ohm, unbal BNC (f) connectors
(j) RJ-45 Ethernet connectors, 10/100BaseT-TX
(k) Auto sensing, half/full duplex
(l) One static IP address for the Encoder, Classes A, B or C configurable by the user.
(m) Gateway needs to be user configurable or can be left blank.
(n) User configurable RS232/RS422/RS485 asynchronous port

1. Data rates from 300 bps to 57600 Kbps
2. Stop bits 1
3. Databits 5,6,7,8 or 9
4. None, even odd, parity
5. IP socket to Encoder serial port in both UDP and TCP/IP
6. Encoder serial port to Decoder serial port data stream
7. Local and remote Loopback Test capability

(o) -40 degrees C to +75 degrees C operating temperature

(B) CCTV Camera Assembly. The camera assemblies shall be an integrated camera unit consisting of a receiver, pan & tilt, housing, lens wiper, and cables built as a single assembly having 360 degree of continuous pan rotation, 480 TVL, and 20X zoom. A heavy-duty mount for pole cantilever attachment shall be included with the assembly. Camera assembly shall be furnished with components assembled, complete, and a ready-to-install system.

(1) General Features:
(a) Construction
1. Integrated receiver, pan and tilt, and housing without exposed cables
2. Die-cast extruded Aluminum

3. Stainless steel hardware

(b) Finish

1. Gray polyester powder coat

(c) Viewing window

1. 0.18 inch thick, optically clear impact-resistant coated lexan

(d) Operating temperature

1. –40 to 122 degrees F for sustained operation

(2) Mechanical:

(a) Pan movement

1. 360 degrees continuous pan rotation

(b) Vertical tilt

1. Unobstructed +40 to –90 degrees

(c) Variable pan/tilt speed

1. Pan 0.5 to 40 degrees/sec variable speed operation, 100 degrees/sec turbo

2. Tilt 0.5 to 20 degrees/sec variable-speed operation

(3) Electrical:

(a) Input voltage

1. 120 VAC, 50/60 Hz

(b) Power consumption

1. Maximum 50 vA per system

(c) Camera and lens voltage

1. 24 VAC

(d) Electrical connections

1. Two power source connections made at mount location with wire nut splices and one ground terminal; one BNC receptacle and four terminal on interconnect PCB at mount location

(4) Certifications/Ratings

(a) CD, Class B

(b) UL listed to Standard 2044

(c) FCC, Class B

(d) NEMA 4X

(e) IP66

(5) Enclosure

(a) Aluminum

(b) Dust-tight

(c) Waterproof

(d) Pressurized

(e) Sun shroud

(6) Camera

(a) NTSC high resolution color
(b) Image device: 1/3 inch CCD
(c) Picture element: 768(H) x 494(V)
(d) Scanning system: 525 lines; 2:1 interface
(e) Sync system: AC line lock/internal
(f) Horizontal resolution: 480 TVL
(g) Minimum illumination: 0.9 lux at 30 IRE, f1.2
(h) CCD iris: 1/60 to 1/100,000 sec
(i) CCD iris control: on/off selectable
(j) Signal-to-noise ratio: 52 dB (AGC off)
(k) Automatic gain control: on/off selectable
(l) Phase control: V-phase control (120 degrees)
(m) Backlight compensation: on/off selectable
(n) Video out: 1 Vp-p, 75 ohms, sync negative, BNC type
(o) Power consumption: 5W

(7) Lens

(a) Type: motorized zoom
(b) Format size: 1/3 inch
(c) Focal length: 5.6 – 112 mm
(d) Zoom ratio: 20X
(e) Relative aperture: 1.6-360
(f) Operation
1. Iris: auto iris
2. Focus and zoom: motorized
(g) Minimal object distance: 1.5m
(h) Provide lens wiper

(8) Controls

(a) Shall be controllable or interoperable by a Pelco switcher and control
(b) If necessary translator boards to convert the Burle commands will be installed in the only in the camera assembly

(9) Mount

(a) Outdoor type
(b) Aluminum or stainless steel components
(c) Mounts cantilever style on pole shafts using straps
(d) Constructed of marine grade stainless steel
(e) Has cable feed-through
(f) Supports up to 100 lbs

(g) Painted White
(h) Wall to pole mount adapter

(C) Incidentals: Furnish and install all necessary cables and hardware for power, control data, and video. Local CCTV Power requires Type TC, 3#1 2XHHW, 60OV, PE jacket; Control requires 2 pair, 22AWG, stranded, shielded outdoor PE jacket; Video requires RG59/U outdoor, 20 solid AWG; with required coaxial-cable inline electrical protection and isolation device.

"**770.13 Video Detection System.** The intent of the following specification is to describe the minimum requirements for providing a complete Video Detection System. Initially, the system shall be capable of providing presence vehicle detection at selected intersections. The video system shall be expandable without removing or replacing existing units.

(A) Overview: Acceptable systems include that of any manufacturer, provided such equipment meets all qualifying specifications identified herein. Using standard image sensor optics and in the absence of occlusion, the system shall be able to detect vehicle presence with 98% accuracy under normal conditions (days and nights) and 96% accuracy under adverse conditions. The system shall be able to detect vehicles with 98% volume accuracy and 95% speed (averaged over 20 vehicles) accuracy. All items and materials furnished shall be new, unused, current production models installed and operational in a user environment and shall be items currently in distribution. The detection algorithms shall have a proven record of field use at other installations for at least three (3) years of service i.e., not including prototype field trials prior to installation.

(B) General: These technical specifications describe the minimum physical and functional properties of a video detection system. The system shall be capable of monitoring all licensed vehicles on the roadway, providing video detection for areas outlined in the construction drawings. The entire video detection system shall consist of the following: Video Image Processing unit(s, Video System Communication Module, Video camera(s) with IR filter, enclosure and sunshield, Camera lens, Surge suppressor, All other necessary equipment for operation.

(C) Materials: The entire video vehicle detection system shall consist of Video Detection Module(s); Video System Communication Module; Video Camera(s) with IR filter, lens, enclosure, and sun shield; Luminaire Arm or Signal Mast Arm Sensor Bracket(s); Surge Suppressor; Programming Devices and/or software; Coaxial/Power Cable; All other necessary equipment for operation; Training for installation, operation & maintenance.

(1) Video Detection System.

(a) The Video Image Processor (VIP) shall be modular by design and housed in either a self-contained stand-alone unit or fit directly into NEMA TS1 & TS2 type racks as well as Type 170/179 input files. The VIP shall be interchangeable between a shelf or rack mount installation without replacing or modifying the existing VIP units.

(b) The system shall be designed to operate reliably in the adverse environment of roadside cabinets and shall meet or exceed all NEMA TS1 and TS2, as well as Type 170/179 environmental specifications.

(c) Ambient operating temperature shall be from –34 to +74 degrees Centigrade at 0 to 95% relative humidity non-condensing.

(d) The system shall be powered by 12-40 VDC and draw less than 2 amperes.

(e) The system shall utilize cabinet 24 VDC for rack mount installations or external 24 VDC for stand-alone shelf installations.

(f) Surge ratings shall be set forth in the NEMA TS1 and TS2 specifications.

(g) Serial communications shall be through an RS232 serial port. This port can be used for communications to a laptop to upload/download detector configurations, traffic data, technical events, send software upgrades and do remote setup of detectors. RS485 on the rear edge connector shall facilitate communications to other VIP boards.

(h) Each VIP board shall have 4 opto-isolated open collector outputs. Twenty (20) additional outputs shall be available via the expansion port. The outputs shall be programmed for signaling the presence, the arrival or the departure of vehicles in a minimum of 48 detection zones.

(i) Each VIP board shall allow for 20 digital inputs via the I/O Expansion port.

(j) Each VIP board shall have error detection. An output contact will open if the video signal is bad or the VIP board is not functioning properly. A user defined quality level will automatically put the VIP into a recall state in cases of severe degraded visibility (i.e., fog, blizzard, etc.). Normal detection resumes when visibility improves above the user defined image quality level threshold.

(k) Operator selectable recall shall be available via the VIP front panel. The operator should have the ability to assign selectable outputs for recall.

(l) A video select button on the VIP front panel will switch between camera images of the VIP.

(m) The VIP board shall have 2 video inputs (RS-170 NTSC or CCIR PAL composite video) and one video out.

(n) The VIP board shall have a reset button on the front panel to reset video detectors to "relearn" the roadway image. During "relearn", selectable recall can be enabled or disabled for immediate operation. Learning time of video detectors shall be less than 6 minutes.

(o) External surge suppression, independent of the VIP board shall separate the VIP from the image sensor.

(p) The VIP board shall have separate light emitting diodes (LEDs) that indicate:

1. POWER: Red LED to verify power supply.

2. I/O COMM: Red LED to indicate communications to expansion boards.

3. VIDEO 1 & 2: Red LED to verify the presence of video input 75 Ohm.

4. TX & RX: Red LED to indicate communications via the RS485 communication.

5. OUT1- OUT4: Green LED if the corresponding detection group is active.

The VIP board shall also have 2 separate buttons for:

6. VIDEO SELECT – RECALL: Manually places call or select video on detectors.

7. RESET: Manually reset detectors to "learn" new background.

8. VIDEO OUT: Video out female RCA style connector. SERVICE DB9 female Service port for setup of VIP and for communication with DB9 I/O Expansion port.

(q) The VIP Expansion board shall also have separate LEDs that indicate:

1. POWER: Red LED to verify power supply.

2. COMM: Red LED to indicate communications to VIP board.

3. I/O1- I/O4: Green LED if the corresponding detection group is active.

The VIP Expansion board shall have 8 dip switches that define inputs and outputs used (range: 1-12 or 13-24).

(2) Video System Communication Module.

(a) The Communication board shall be modular by design and housed in either a self-contained stand-alone unit or fit directly into NEMA TS1 & TS2 type racks as well as Type 170/179 input files.

(b) The Communication board shall control from 1 to 6 VIP boards allowing for 1 to 12 image sensors.

(c) The system shall be designed to operate reliably in the adverse environment of roadside cabinets and shall meet or exceed all NEMA TS1 and TS2, as well as Type 170/179 environmental specifications.

(d) Ambient operating temperature shall be from –34 to +74 degrees Centigrade at 0 to 95% relative humidity non-condensing.

(e) The system shall be powered by 12-40 VDC and draw less than 750 milliamps.

(f) Serial and Ethernet (TCP/IP) communications shall be through respectively an RS232 serial port (F DB9 connector) and Ethernet port (RJ-45 connection). These ports can be used for communications to a laptop or modem to upload/download detector configurations, traffic data, technical events, send software upgrades and do remote setup of detectors. RS485 on the rear edge connector shall facilitate communications to VIP boards.

(g) Surge ratings shall be set forth in the NEMA TS1 and TS2 specifications.

(h) The Communication board shall have separate light emitting diodes (LEDs) that indicate:

1. POWER: Red LED to verify power supply.

2. LAN: Red LED to indicate data activity over Ethernet communication.

3. VIDEO OUT: Video out female RCA style connector.

4. RESET: Manual reset to re-initialize communications.

5. SERVICE: DB9 female Service port for setup of communication board and also used for serial/dial-up communication.

(3) Video Detection Modules.

(a) Real Time Detection.

(b) Each VIP board shall be capable of processing the video signal of one camera. The video signal shall be analyzed in real time (30 frames per second for NTSC video format and 25 frames per second for PAL video format).

(c) The system shall be expandable up to 12 cameras that may be connected to different VIP units and programmed independently.
(d) The system shall be capable of displaying detectors on the video image with associated outputs. Outputs/Inputs status will be indicated on the screen. Selectable overlay items will also include the ability to view raw video without any verbiage and/or detectors for surveillance purposes.
(e) Each VIP board will detect within the view of the connected camera the presence of vehicles in user-defined zones. Detectors available shall be presence, queue length, delay, extension, or pulse mode of either arrival or departure of vehicles. Delay and extension shall be defined between 0.1 – 99.9 seconds and pulse mode between 0 - 200ms in 33ms increments if NTSC is used and in 40ms increments if PAL is used.

1. Queue length detector thresholds can be programmed to generate an output when the queue length is exceeded. The system shall delay and/or extend an alarm when the user selected queue length threshold is exceeded for maximum up to 10 seconds. Each VIP board shall also detect and collect within the view of the connected camera traffic data of passing vehicles in user-defined zones. Collected traffic data by direction shall include:

a) Volume (absolute numbers) per length class and per lane
b) Average speed (km/h or mph) per length class and per lane
c) Average gap time (1/10 sec) per length class and per lane
d) Average headway (m or feet) per lane
e) Occupancy (%) per lane
f) Concentration (vehicles/km or mile) per lane
g) Average length (m or feet) per lane
h) Confidence level (0-10) per lane

(f) The VIP board shall be programmed without the use of a supervisor computer. A standard CCTV monitor and keypad plugged into the VIP serial port will facilitate detector programming.
(g) The VIP board shall store up to 4 detector configurations. It shall be possible to switch between detector configurations manually or automatically by time of day.
(h) Via the serial port, detector configurations can be uploaded to a laptop and stored on disk.

(i) Detectors may be linked to 24 outputs and 20 inputs using Boolean Logic features: AND, OR, NOT. It will be possible to generate conditional outputs based upon inputs from a controller in combination with the detector states. Output response time shall be less than 0.5 ms after activation of the detector.

(j) It shall be possible to make a detector directional sensitive. Options will include an omni-directional detector or a detector that only senses movement: from right to left, left to right, up to down or down to up as you look at the monitor.

(k) To facilitate "fine tuning" of detection zones a maximum of 20 lines and a minimum of 4 lines may be adjusted within the confines of the detector.

(l) All detectors and parameters can be changed without interrupting detection. For example: when one detector is modified all existing detectors continue to operate, including the one that is being modified. When the new position is confirmed, the new detector will enter a learning phase. Once the new detector is in function it will take over the job of the old one. In this way, the detector is always fully operational with no interruption on any detector, even during modification. Learning phases for new detectors shall not exceed 6 minutes.

(m) Six detectors per camera may be used as queue length detectors. These detectors will detect and store data at user-defined intervals of 1, 2, 3, 5, 6, 10, 15, 30 & 60 minutes. It shall be possible for each VIP board to store up to 6713 intervals of data in non-volatile memory.

(n) Four data detection zones per camera on a two camera VIP board may be used for collection of vehicle count, speed, classification, occupancy, density, headway and gap time. Eight data detection zones may be used on a single camera VIP board. These detectors will detect and store traffic data at user-defined intervals of 1, 2, 3, 5, 6, 10, 15, 30 & 60 minutes. It shall be possible for each VIP board to store up to 6713 intervals of data in non-volatile memory.

(o) Associated software may be used with a PC to download data and export to a spreadsheet. Software will also be used to upload/download detector configurations, traffic data, technical events, send software versions upgrades and do remote setup of detectors.

(p) The VIP board shall have an internal clock with daylight saving time system, which can be enabled or disabled.

(q) The VIP board shall provide overlaid tool tips for each individual menu- and submenu-items.

(r) The VIP board shall have an optional password implementation. Different user-levels shall be available each having different rights. A minimum of 10 users can be defined for each user-level.

(s) The VIP board shall be able to delay or extend a detector zone output in combination with an input from the controller.

(t) 2.20 The VIP board shall detect wrong-way drivers and shall provide an alarm/event via communication board and/or output.

(u) The VIP board shall provide an alarm and/or output when the user selected queue detection threshold of occupancy is exceeded for more than a user selected time threshold.

(v) The VIP board shall distinguish three classes of detected vehicles based upon user selectable vehicle length thresholds.

(w) The VIP shall be able to emulate loop emulation with user selectable loop dimensions.

(4) Video System Communication Module.

(a) The Video System Communication board shall control from 1 to 6 VIP boards allowing for 1 to 12 image sensors.

(b) The Video System Communication board shall provide a serial or Ethernet interface and communication to provide traffic data and allow remote configuration from the Traffic Operations Center.

(c) The LAN port shall meet IEEE 802.3 with a RJ-45 connector and meet the following specification:

1. Data rates for Ethernet via LAN port: 10Mbit/s TCP/IP based protocol

(d) The serial communications port shall meet EIA-232-E and meet the following specifications:

1. Dial-up data rates for RS232 via Serial port: maximum 57600 bps

2. Direct data rates for RS232 via Serial port: maximum 115200 bps

3. Mode of operation: asynchronous, serial, 8 bit word, 1 stop bit, duplex or half-duplex

4. Parity: none

5. Handshake: RTS - CTS, DCD

6. Configuration: DTE

(e) The communication shall support all functions of the video detection system.

(f) All data transmissions shall be protected by CRC (cyclic redundancy checking) or an equivalent error detection method.

(g) The communication board shall be programmed without the use of a supervisor computer. A standard CCTV monitor and keypad plugged into the communication serial port will facilitate board programming.

(h) The communication shall support streaming video over Ethernet and serial communication.

1. Streaming video frame rate:
   a) Over Ethernet: 10 frames/second
   b) Over serial communication: guarantee of 1 frame/second

(i) Password protected remote setup (configuration upload/download, setup of detectors and detector parameters, setup of communication board parameters, firmware updates for Communication and VIP module) and monitoring of every connected VIP module shall be possible.

(j) Dialup shall be possible through PSTN modems.

(k) The Communication board shall log data and events provided by the VIP module(s) and transmit data and events to the HOST computer.

(l) RS485 communication to every VIP module shall be established via the Edge connector.

(m) The Communication board shall able to store on board pre-post video sequences of alarm triggered upon traffic user defined events. When connected to a HOST computer, the JPEG video sequences shall automatically be downloaded to the HOST computer.

(n) The Communication board shall be able to accept PAL or NTSC video format.

(o) A (via Ethernet) connection with a standard Internet browser shall be possible to communicate with the Communication board for remote set-up, monitoring and real-time data of the VIP modules.

(p) Password protection shall be provided on the Communication board for remote operations.

(5) Image Sensor – Camera.

(a) The unit shall be a high resolution, 1/3" image format CCD camera, designed for professional video surveillance systems.

Incorporating the latest in CCD technology, the video camera shall provide detailed video without lag, image retention or geometric distortion.

1. Temperature range: -20 to + 50 degrees C
2. Humidity: 5% to 95% relative, non-condensing
3. Dimensions: 58mm X 66mm X 122mm
4. Weight: .45 kg
5. Camera mounting slots: 1/4-20, top and bottom
6. Connectors: BNC for video out
7. Lens mount: CS
   Power-in / pressure screw
   Lens / 4-square connector
8. Finish: Off-white semi-gloss polyurethane
9. Construction: All metal housing
10. Rated input voltage: 12VDC or 24VAC +/-10% @60Hz
11. Nominal power: 4 Watts
12. Imager: Interline transfer CCD 1/3" format
13. Imager spectral response: 100% @ 550nm: 30% @ 400nm and 800nm
14. Sync system: EIA RS-170
15. Active picture elements: 768 H X 494 V
16. Horizontal resolution: 380 TVL
17. Sensitivity (3200 K):

		Usable Picture	Full Video
Scene Illumination	fc	0.01	0.048
	lx	0.12	0.48
Imager Illumination	fc	0.0024	0.010
	Lx	0.024	0.10

* F1.2 lens @ 89% highlight

18. Signal to noise ratio: 50 dB minimum
19. AGC: 21 dB, (max)
20. Electronic Shutter: 1/60 to 1/600000 sec. (EIA)
21. Aperture Correction: Horizontal and vertical symmetrical
22. Video out: 1.0 volts peak-to-peak +/- 0.1 volt @ 75 Ohms
23. Programmable Controls: Video level, shutter, AGC, BLC, Auto Black

(6) Image Sensor – Lens.

(a) The camera lens shall be a motorized vari-focal 6.5-39mm with auto iris.

1. Image format: 1/3 inch
2. Focal length: 6X zoom (6.5-39mm)
3. Iris range: f 1.0 – Approx. 1200
4. Back focus distance: 10.05mm (0.4in.) in air
5. Weight: 500g
6. Size: 60mm X 70mm X 89.9mm
7. Lens mount: CS
8. Iris control: DC or Video 4-pin square
9. Focus control: Motorized
10. Zoom: Motorized

(7) Image Sensor – Housing.

(a) The environmental housing shall be an aluminum enclosure designed for outdoor CCD camera installations.

1. Temperature range: -40 to +50 degrees C
2. Dimensions: 449mm x 97mm x 112mm
3. Weight: 1.4kg
4. Housing mounting: Three 1/4-20 tapped holes
5. Camera mounting: Removable cradle assembly
6. Cable entry: Three liquid-tight fittings that will accept cable diameters of:

    a) One fitting - 2 to 7 mm
    b) Two fittings - 3 to 10 mm

7. Finish: Off-white semi-gloss polyurethane
8. Construction: Extruded aluminum housing, Aluminum rear-end cap, Aluminum front cap with glass face plate, and aluminum cradle A sunshield shall be included
9. Window: 3 mm thick glass that includes a Thermostatically-controlled window Heater/defogger strip
10. Rated input voltage: 115 VAC 60 Hertz
11. Voltage range: 108 VAC to 132 VAC
12. Output voltage: 24 VAC 60 Hertz
13. Nominal power: 30 Watts
14. Enclosure protection: Waterproof and dust-tight in a NEMA- 4, IP65, enclosure Type 3

(8) Surge Protection.

(a) A video surge suppressor(s) shall be available for installation inside the traffic signal controller cabinet. The suppressor shall provide coaxial cable connection points to an EDCO CX06-BNCY or approved equal transient suppresser for each image sensor.

1. Peak Surge Current (8 x 20 us): 5KA
2. Technology: Hybrid, Solid State
3. Attenuation: 0.1db @ 10Mhz
4. Response Time: <1 nanosecond
5. Protection: Line to Ground
6. Shield to Ground: (isolated shield modules)
7. Clamp Voltage: 6 volts
8. Connectors: BNC
9. Impedance: 75 Ohms
10. Temperature: -40 to +85 degrees C
11. Humidity: 0-95% non-condensing
12. Dimensions: 4.5" x 1.5" x 1.25"
13. UL Listed: UL 497B

(9) Image Sensor – Mounting Brackets.

(a) Mast arm installations shall be mounted at a sufficient height to prevent occlusion from cross traffic between the stop bar and the mast arm on which the camera is installed. A six- (6) ft. maximum length of internally reinforced tube shall be attached to the mast arm bracket for camera mounting above the mast arm. Camera shall be mounted to the top of the tube with the camera manufacturers recommended bracket. Camera bracket shall provide adjustments for both vertical and horizontal positioning for the camera. Camera attachments shall be designed to securely fasten the camera to prevent the extension tube from falling into the path of vehicles and/or becoming loose. Miscellaneous hardware shall be stainless steel or galvanized steel. The cameras and associated pole/arm attachment unit shall be designed to withstand a wind load of 90 MPH with a 30-second gust factor.

(b) Luminaire arm installations shall be installed on the luminaire arm, with the camera/video manufacturers recommended brackets. Camera luminaire brackets shall provide adjustments for both vertical and horizontal positioning of the camera. Camera attachments shall be designed to securely fasten the camera to the luminaire arm. Miscellaneous hardware shall be stainless steel or

galvanized steel. The cameras and associated pole/arm attachment unit shall be designed to withstand a wind load of 90 MPH with a 30-second gust factor.

(10) Image Sensor – Cable (Coaxial & Power).

(a) Coaxial & Power cable (Siamese) shall be installed in conduits or overhead as indicated in the plans. Coaxial cable shall be suitable for exterior use and in direct sunlight. Power cable will have a minimum of 5 conductors.

(b) Coaxial cable will be terminated in the surge suppressor before being connected directly to VIP boards.

(c) Power cable will be terminated into a fuse panel provided by the manufacturer and connected to 120 VAC in the controller cabinet.

(d) Description of cable: Composite,6 Conductors 2 elements: 18awg 5 conductors 7/26 bare copper ,.016" polyethylene,20awg 1 conductor, solid bare copper,. 056" foam polyethylene jacket black, overall .030" pvc jacket black.

(e)	Element 1	Element 2
CONDUCTORS/PAIR COUNT:	5 CONDUCTORS	1 CONDUCTOR
GUAGE & STRANDING:	18AWG 7/26 BC	20AWG SOLID BC
PRIMARY INSULATION TYPE:	POLYETHYLENE	FOAM PE
INSULATION THICKNESS:	.016"	.056"
COLOR CODE:	WHITE,RED,BLUE, BLACK,BROWN.	NATURAL
SHEILD:	N/A	N/A
TAPE:	N/A	N/A
DRAIN WIRE:	N/A	N/A
BRAID:	N/A	95% BC
CAPACITANCE:	N/A	N/A
PRINT LEGEND:	N/A	N/A
JACKET TYPE:	N/A	POLYETHYLENE
JACKET COLOR:	N/A	BLACK
JACKET THICKNESS:	N/A	.035"
NOMIMAL OD:	N/A	.242"

(f) Overall Assembly of Wire

JACKET THICKNESS:	.030"
JACKET COLOR: BLACK	

1228	JACKET MATERIAL:	PVC
1229	RIPCORD:	YES
1230	NOMINAL OD:	.512"
1231	VOLTAGE RATING:	600V
1232	TEMP. RATING:	75C
1233	UL TYPE OR STYLE:	N/A
1234	PRINT LEGEND:	TBD
1235	PACKAGING:	TBA
1236	COPPER WEIGHT:	39.87 LBS/MFT
1237	SHIPPING WEIGHT:	100 LBS/MFT"

GENERAL DECISION: HI20100001 12/03/2010 HI1

Date: December 3, 2010
General Decision Number: HI20100001 12/03/2010

Superseded General Decision Number: HI20080001

State: Hawaii

Construction Types: Building, Heavy (Heavy and Dredging), Highway and Residential

Counties: Hawaii Statewide.

BUILDING CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories); HEAVY AND HIGHWAY CONSTRUCTION PROJECTS AND DREDGING

Modification Number	Publication Date
0	03/12/2010
1	04/30/2010
2	05/07/2010
3	06/04/2010
4	06/11/2010
5	07/09/2010
6	07/16/2010
7	07/23/2010
8	08/13/2010
9	08/20/2010
10	09/03/2010
11	09/24/2010
12	10/08/2010
13	10/15/2010
14	10/29/2010
15	11/05/2010
16	11/19/2010
17	11/26/2010
18	12/03/2010

ASBE0132-001 08/29/2010

	Rates	Fringes
Asbestos Workers/Insulator Includes application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems. Also the application of firestopping material for wall openings and penetrations in walls, floors, ceilings and curtain walls	$ 36.65	22.24

BOIL0627-005 04/01/2010

	Rates	Fringes
BOILERMAKER	$ 31.92	21.42

BRHI0001-001 10/04/2010

	Rates	Fringes
BRICKLAYER		
Bricklayers and Stonemasons	$ 37.45	17.32
Pointers, Caulkers and Weatherproofers	$ 37.70	17.32

BRHI0001-002 10/04/2010

	Rates	Fringes
Tile, Marble & Terrazzo Worker		
Terrazzo Base Grinders	$ 35.89	17.32
Terrazzo Floor Grinders and Tenders	$ 34.24	17.32
Tile, Marble and Terrazzo Workers	$ 37.70	17.32

CARP0745-001 08/30/2010

	Rates	Fringes
Carpenters:		
Carpenters; Hardwood Floor Layers; Patent Scaffold Erectors (14 ft. and over); Piledrivers; Pneumatic Nailers; Wood Shinglers and Transit and/or Layout Man	$ 36.20	19.42
Millwrights and Machine Erectors	$ 36.45	19.42
Power Saw Operators (2 h.p. and over)	$ 36.35	19.42

CARP0745-002 08/30/2010

	Rates	Fringes
Drywall and Acoustical Workers and Lathers	$ 36.45	19.42

ELEC1186-001 08/22/2010

	Rates	Fringes
Electricians:		
Cable Splicers	$ 43.73	25.78

Electricians	$ 39.75	24.56
Telecommunication worker	$ 23.20	17%+6.35

ELEC1186-002 08/22/2010

	Rates	Fringes
Line Construction:		
Cable Splicers	$ 43.73	25.78
Groundmen/Truck Drivers	$ 29.81	21.52
Heavy Equipment Operators	$ 35.78	23.35
Linemen	$ 39.75	24.56
Telecommunication worker	$ 23.20	17%+$6.35

ELEV0126-001 01/01/2010

	Rates	Fringes
ELEVATOR MECHANIC	$ 48.23	20.035

a. VACATION: Employer contributes 8% of basic hourly rate for 5 years service and 6% of basic hourly rate for 6 months to 5 years service as vacation pay credit.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day and Christmas Day.

ENGI0003-002 08/30/2010

	Rates	Fringes
Diver (Aqua Lung) (Scuba)		
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)	$ 57.75	23.43
Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)	$ 48.38	23.43
Stand-by Diver (Aqua Lung) (Scuba)	$ 39.00	23.43
Diver (Other than Aqua Lung)		
Diver (Other than Aqua Lung)	$ 57.75	23.43
Diver Tender (Other than Aqua Lung)	$ 35.97	23.43
Stand-by Diver (Other than Aqua Lung)	$ 39.00	23.43
Helicopter Work		
Airborne Hoist Operator for Helicopter	$ 37.55	23.43
Co-Pilot of Helicopter	$ 37.69	23.43
Pilot of Helicopter	$ 37.86	23.43
Power equipment operator - tunnel work		
GROUP 1	$ 33.99	23.43
GROUP 2	$ 34.10	23.43
GROUP 3	$ 34.27	23.43
GROUP 4	$ 34.54	23.43

GROUP 5	$ 34.85	23.43
GROUP 6	$ 35.50	23.43
GROUP 7	$ 35.82	23.43
GROUP 8	$ 35.93	23.43
GROUP 9	$ 36.04	23.43
GROUP 9A	$ 36.27	23.43
GROUP 10	$ 36.33	23.43
GROUP 10A	$ 36.48	23.43
GROUP 11	$ 36.63	23.43
GROUP 12	$ 36.99	23.43
GROUP 12A	$ 37.35	23.43
Power equipment operators:		
GROUP 1	$ 33.69	23.43
GROUP 2	$ 33.80	23.43
GROUP 3	$ 33.97	23.43
GROUP 4	$ 34.24	23.43
GROUP 5	$ 34.55	23.43
GROUP 6	$ 35.20	23.43
GROUP 7	$ 35.52	23.43
GROUP 8	$ 35.63	23.43
GROUP 9	$ 35.74	23.43
GROUP 9A	$ 35.97	23.43
GROUP 10	$ 36.03	23.43
GROUP 10A	$ 36.18	23.43
GROUP 11	$ 36.33	23.43
GROUP 12	$ 36.69	23.43
GROUP 12A	$ 37.05	23.43
GROUP 13	$ 33.97	23.43
GROUP 13A	$ 34.24	23.43
GROUP 13B	$ 34.55	23.43
GROUP 13C	$ 35.20	23.43
GROUP 13D	$ 35.52	23.43
GROUP 13E	$ 35.63	23.43

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Fork Lift (up to and including 10 tons); Partsman (heavy duty repair shop parts room when needed).

GROUP 2: Conveyor Operator (Handling building material); Hydraulic Monitor; Mixer Box Operator (Concrete Plant).

GROUP 3: Brakeman; Deckhand; Fireman; Oiler; Oiler/Gradechecker; Signalman; Switchman; Highline Cableway Signalman; Bargeman; Bunkerman; Concrete Curing Machine (self-propelled, automatically applied unit on streets, highways, airports and canals); Leveeman; Roller (5 tons and under); Tugger Hoist.

GROUP 4: Boom Truck or dual purpose "A" Frame Truck (5 tons or less); Concrete Placing Boom (Building Construction); Dinky Operator; Elevator Operator; Hoist and/or Winch (one drum); Straddle Truck (Ross Carrier, Hyster and similar).

GROUP 5: Asphalt Plant Fireman; Compressors, Pumps, Generators and Welding Machines ("Bank" of 9 or more, individually or collectively); Concrete Pumps or Pumpcrete

Guns; Lubrication and Service Engineer (Grease Rack); Screedman.

GROUP 6: Boom Truck or Dual Purpose "A"Frame Truck (over 5 tons); Combination Loader/Backhoe (up to and including 3/4 cu. yd.); Concrete Batch Plants (wet or dry); Concrete Cutter, Groover and/or Grinder (self-propelled unit on streets, highways, airports, and canals); Conveyor or Concrete Pump (Truck or Equipment Mounted); Drilling Machinery (not to apply to waterliners, wagon drills or jack hammers); Fork Lift (over 10 tons); Loader (up to and including 3 and 1/2 cu. yds); Lull High Lift (under 40 feet); Lubrication and Service Engineer (Mobile); Maginnis Internal Full Slab Vibrator (on airports, highways, canals and warehouses); Man or Material Hoist; Mechanical Concrete Finisher (Large Clary, Johnson Bidwell, Bridge Deck and similar); Mobile Truck Crane Driver; Portable Shotblast Concrete Cleaning Machine; Portable Boring Machine (under streets, highways, etc.); Portable Crusher; Power Jumbo Operator (setting slip forms, etc., in tunnels); Rollers (over 5 tons); Self-propelled Compactor (single engine); Self-propelled Pavement Breaker; Skidsteer Loader with attachments; Slip Form Pumps (Power driven by hydraulic, electric, air, gas, etc., lifting device for concrete forms); Small Rubber Tired Tractors; Trencher (up to and including 6 feet); Underbridge Personnel Aerial Platform (50 feet of platform or less).

GROUP 7: Crusher Plant Engineer, Dozer (D-4, Case 450, John Deere 450, and similar); Dual Drum Mixer, Extend Lift; Hoist and/or Winch (2 drums); Loader (over 3 and 1/2 cu. yds. up to and including 6 yards.); Mechanical Finisher or Spreader Machine (asphalt), (Barber Greene and similar) (Screedman required); Mine or Shaft Hoist; Mobile Concrete Mixer (over 5 tons); Pipe Bending Machine (pipelines only); Pipe Cleaning Machine (tractor propelled and supported); Pipe Wrapping Machine (tractor propelled and supported); Roller Operator (Asphalt); Self-Propelled Elevating Grade Plane; Slusher Operator; Tractor (with boom) (D-6, or similar); Trencher (over 6 feet and less than 200 h.p.); Water Tanker (pulled by Euclids, T-Pulls, DW-10, 20 or 21, or similar); Winchman (Stern Winch on Dredge).

GROUP 8: Asphalt Plant Operator; Barge Mate (Seagoing); Cast-in-Place Pipe Laying Machine; Concrete Batch Plant (multiple units); Conveyor Operator (tunnel); Deckmate; Dozer (D-6 and similar); Finishing Machine Operator (airports and highways); Gradesetter; Kolman Loader (and similar); Mucking Machine (Crawler-type); Mucking Machine (Conveyor-type); No-Joint Pipe Laying Machine; Portable Crushing and Screening Plant; Power Blade Operator (under 12); Saurman Type Dragline (up to and including 5 yds.); Stationary Pipe Wrapping, Cleaning and Bending Machine; Surface Heater and Planer Operator, Tractor (D-6 and similar); Tri-Batch Paver; Tunnel Badger; Tunnel Mole and/or Boring Machine Operator Underbridge Personnel Aerial Platform (over 50 feet of platform).

GROUP 9: Combination Mixer and Compressor (gunite); Do-Mor Loaderand Adams Elegrader; Dozer (D-7 or equal); Wheel and/or Ladder Trencher (over 6 feet and 200 to 749 h.p.).

GROUP 9A: Dozer (D-8 and similar); Gradesetter (when required by the Contractor to work from drawings, plans or specifications without the direct supervision of a foreman or superintendent); Push Cat; Scrapers (up to and including 20 cu. yds); Self-propelled Compactor with Dozer; Self-Propelled, Rubber-Tired Earthmoving Equipment (up to and including 20 cu. yds) (621 Band and similar); Sheep's Foot; Tractor (D-8 and similar); Tractors with boom (larger than D-6, and similar).

GROUP 10: Chicago Boom; Cold Planers; Heavy Duty Repairman or Welder; Hoist and/or Winch (3 drums); Hydraulic Skooper (Koehring and similar); Loader (over 6 cu. yds. up to and including 12 cu. yds.); Saurman type Dragline (over 5 cu. yds.); Self-propelled, rubber-tired Earthmoving Equipment (over 20 cu. yds. up to and including 31 cu. yds.) (637D and similar); Soil Stabilizer (P & H or equal); Sub-Grader (Gurries or other automatic type); Tractors (D-9 or equivalent, all attachments); Tractor (Tandem Scraper); Watch Engineer.

GROUP 10A: Boat Operator; Cable-operated Crawler Crane (up to and including 25 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (up to and including 1 cu. yd.); Dozer D9-L; Dozer (D-10, HD41 and similar) (all attachments); Gradall (up to and including 1 cu. yd.); Hydraulic Backhoe (over 3/4 cu. yds. up to and including 2 cu. yds.); Mobile Truck Crane Operator (up to and including 25 tons) (Mobile Truck Crane Driver Required); Self-propelled Boom Type Lifting Device (Center Mount) (up to and including 25 tons) (Grove, Drott, P&H, Pettibone and similar; Trencher (over 6 feet and 750 h.p. or more); Watch Engineer (steam or electric).

GROUP 11: Automatic Slip Form Paver (concrete or asphalt); Band Wagon (in conjunction with Wheel Excavator); Cable-operated Crawler Cranes (over 25 tons but less than 50 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (over 1 cu. yd. up to 7 cu. yds.); Gradall (over 1 cu. yds. up to 7 cu. yds.); DW-10, 20, etc. (Tandem); Earthmoving Machines (multiple propulsion power units and 2 or more Scrapers) (up to and including 35 cu. yds.," struck" m.r.c.); Highline Cableway; Hydraulic Backhoe (over 2 cu. yds. up to and including 4 cu. yds.); Leverman; Lift Slab Machine; Loader (over 12 cu. yds); Master Boat Operator; Mobile Truck Crane Operator (over 25 tons but less than 50 tons); (Mobile Truck Crane Driver required); Pre-stress Wire Wrapping Machine; Self-propelled Boom-type Lifting Device (Center Mount) (over 25 tons m.r.c); Self-propelled Compactor (with multiple-propulsion power units); Single Engine Rubber Tired Earthmoving Machine (with Tandem Scraper); Tandem Cats; Trencher

(pulling attached shield).

GROUP 12: Clamshell or Dipper Operator; Derricks; Drill Rigs; Multi-Propulsion Earthmoving Machines (2 or more Scrapers) (over 35 cu. yds "struck"m.r.c.); Operators (Derricks, Piledrivers and Cranes); Power Shovels and Draglines (7 cu. yds. m.r.c. and over); Self-propelled rubber-tired Earthmoving equipment (over 31 cu. yds.) (657B and similar); Wheel Excavator (up to and including 750 cu. yds. per hour); Wheel Excavator (over 750 cu. yds. per hour).

GROUP 12A: Dozer (D-11 or similar or larger); Hydraulic Excavators (over 4 cu. yds.); Lifting cranes (50 tons and over); Pioneering Dozer/Backhoe (initial clearing and excavation for the purpose of providing access for other equipment where the terrain worked involves 1-to-1 slopes that are 50 feet in height or depth, the scope of this work does not include normal clearing and grubbing on usual hilly terrain nor the excavation work once the access is provided); Power Blade Operator (Cat 12 or equivalent or over); Straddle Lifts (over 50 tons); Tower Crane, Mobile; Traveling Truss Cranes; Universal, Liebher, Linden, and similar types of Tower Cranes (in the erection, dismantling, and moving of equipment there shall be an additional Operating Engineer or Heavy Duty Repairman); Yo-Yo Cat or Dozer.

GROUP 13: Truck Driver (Utility, Flatbed, etc.)

GROUP 13A: Dump Truck, 8 cu.yds. and under (water level); Water Truck (up to and including 2,000 gallons).

GROUP 13B: Water Truck (over 2,000 gallons); Tandem Dump Truck, over 8 cu. yds. (water level).

GROUP 13C: Truck Driver (Semi-trailer. Rock Cans, Semi-Dump or Roll-Offs).

GROUP 13D: Truck Driver (Slip-In or Pup).

GROUP 13E: End Dumps, Unlicensed (Euclid, Mack, Caterpillar or similar); Tractor Trailer (Hauling Equipment); Tandem Trucks hooked up to Trailer (Hauling Equipment)

BOOMS AND/OR LEADS (HOURLY PREMIUMS):

The Operator of a crane (under 50 tons) with a boom of 80 feet or more (including jib), or of a crane (under 50 tons) with leads of 100 feet or more, shall receive a per hour premium for each hour worked on said crane (under 50 tons) in accordance with the following schedule:

Booms of 80 feet up to but not including 130 feet or Leads of 100 feet up to but not including 130 feet	0.50

Booms and/or Leads of 130 feet up to but not including 180 feet	0.75
Booms and/or Leads of 180 feet up to and including 250 feet	1.15
Booms and/or Leads over 250 feet	1.50

The Operator of a crane (50 tons and over) with a boom of 180 feet or more (including jib) shall receive a per hour premium for each hour worked on said crane (50 tons and over) in accordance with the following schedule:

Booms of 180 feet up to and including 250 feet	1.25
Booms over 250 feet	1.75

ENGI0003-004 08/31/2009

	Rates	Fringes
Dredging: (Boat Operators)		
Boat Deckhand	$ 33.02	22.83
Boat Operator	$ 35.23	22.83
Master Boat Operator	$ 35.38	22.83
Dredging: (Clamshell or Dipper Dredging)		
GROUP 1	$ 35.74	22.83
GROUP 2	$ 35.08	22.83
GROUP 3	$ 34.68	22.83
GROUP 4	$ 33.02	22.83
Dredging: (Derricks)		
GROUP 1	$ 35.74	22.83
GROUP 2	$ 35.08	22.83
GROUP 3	$ 34.68	22.83
GROUP 4	$ 33.02	22.83
Dredging: (Hydraulic Suction Dredges)		
GROUP 1	$ 35.38	22.83
GROUP 2	$ 35.23	22.83
GROUP 3	$ 35.08	22.83
GROUP 4	$ 35.02	22.83
GROUP 5	$ 34.68	22.83
GROUP 6	$ 34.57	22.83
GROUP 7	$ 33.02	22.83

CLAMSHELL OR DIPPER DREDGING CLASSIFICATIONS

GROUP 1: Clamshell or Dipper Operator.
GROUP 2: Mechanic or Welder; Watch Engineer.
GROUP 3: Barge Mate; Deckmate.
GROUP 4: Bargeman; Deckhand; Fireman; Oiler.

HYDRAULIC SUCTION DREDGING CLASSIFICATIONS

GROUP 1: Leverman.
GROUP 2: Watch Engineer (steam or electric).
GROUP 3: Mechanic or Welder.
GROUP 4: Dozer Operator.

GROUP 5: Deckmate.
GROUP 6: Winchman (Stern Winch on Dredge)
GROUP 7: Deckhand (can operate anchor scow under direction of Deckmate); Fireman; Leveeman; Oiler.

DERRICK CLASSIFICATIONS

GROUP 1: Operators (Derricks, Piledrivers and Cranes).
GROUP 2: Saurman Type Dragline (over 5 cubic yards).
GROUP 3: Deckmate; Saurman Type Dragline (up to and including 5 yards).
GROUP 4: Deckhand, Fireman, Oiler.

ENGI0003-044 08/30/2010

	Rates	Fringes
Power Equipment Operators (PAVING)		
(10) Cold Planer	$ 36.03	23.43
(10)Loader (2 1/2 cu. yds. and under)	$ 36.03	23.43
(10)Soil Stabilizer	$ 36.03	23.43
(11)Loader (over 2 1/2 cu. yds. to and including 5 cu. yds.)	$ 36.33	23.43
(3)Roller Operator (five tons and under)	$ 33.97	23.43
(5)Screed Person	$ 34.55	23.43
(6)Combination Loader/Backhoe (up to 3/4 cu.yd.)	$ 35.20	23.43
(6)Concrete Saws and/or Grinder (self-propelled unit on streets, highways, airports and canals)	$ 35.20	23.43
(6)Roller Operator (over five tons)	$ 35.20	23.43
(7)Combination Loader/Backhoe (over 3/4 cu.yd.)	$ 35.52	23.43
(8) Asphalt Plant Operator	$ 35.63	23.43
Asphalt Concrete Material Transfer	$ 34.87	23.18
Asphalt Raker	$ 33.91	23.18
Asphalt Spreader Operator	$ 35.39	23.18
Grader	$ 35.70	23.18
Laborer, Hand Roller	$ 31.14	23.18

IRON0625-001 09/01/2009

	Rates	Fringes
Ironworkers:	$ 32.50	26.01

a. Employees will be paid $.50 per hour more while working in tunnels and coffer dams; $1.00 per hour more when required to work under or are covered with water (submerged) and when they

are required to work on the summit of Mauna Kea, Mauna Loa or Haleakala.

LABO0368-001 08/30/2010

	Rates	Fringes
Laborers:		
Driller	$ 30.30	15.91
Final Clean Up	$ 20.70	11.12
Gunite Operator & High Scaler	$ 29.80	15.91
Laborer I	$ 29.30	15.91
Laborer II	$ 26.70	15.91
Powderman	$ 30.30	15.91
Window Washer (bosun chair)	$ 28.80	15.91

LABORERS CLASSIFICATIONS

Laborer I: Asbestos Removal Worker (EPA certified workers); Asphalt Laborer, Ironer, Raker, Luteman, and Handroller, and all types of Asphalt Spreader Boxes; Asphalt Shoveler; Assembly and Installation of Multiplates, Liner Plates, Rings, Mesh, Mats; Batching Plant (portable and temporary); Boring Machine Operator (under streets and sidewalks); Buggymobile; Burning, Welding, Signalling, Choke Setting, and Rigging in connection with Laborers' work (except demolition); Chainsaw, Faller, Logloader, and Bucker; Compactors (Jackson Jumping Jack and similar); Concrete Bucket Dumpman; Concrete Chipping; Concrete Chuteman/Hoseman (pouring concrete) (the handling of the chute from ready-mix trucks for such jobs as walls, slabs, decks, floors, foundations, footings, curbs, gutters, and sidewalks); Concrete Core Cutter (Walls, Floors, and Ceiling); Concrete Grinding or Sanding; Concrete: Hooking on, signaling, dumping of concrete for treme work over water on caissons, pilings, abutments, etc.; Concrete: Mixing, handling, conveying, pouring, vibrating, otherwise placing of concrete or aggregates or by any other process; Concrete: Operation of motorized wheelbarrows or buggies or machines of similar character, whether run by gas, diesel, or electric power; Concrete Placement Machine Operator: operation of Somero Hammerhead, Copperheads, or similar machines; Concrete Pump Machine (laying, coupling, uncoupling of all connections and cleaning of equipment); Concrete and/or Asphalt Saw (Walking or Handtype) (cutting walls or flatwork) (scoring old or new concrete and/or asphalt) (cutting for expansion joints) (streets and ways for laying of pipe, cable or conduit for all purposes); Concrete Shovelers/Laborers (Wet or Dry); Concrete Screeding for Rough Strike-Off: Rodding or striking-off, by hand or mechanical means prior to finishing; Concrete Vibrator Operator; Coring Holes: Walls, footings, piers or other obstructions for passage of pipes or conduits for any purpose and the pouring of concrete to secure the hole; Curbing (Concrete and Asphalt); Curing of Concrete (impervious membrane and form oiler) mortar and other

materials by any mode or method; Cut Granite Curb Setter (setting, leveling and grouting of all precast concrete or stone curbs); Cutting and Burning Torch (demolition); Dri Pak-It Machine; Falling, bucking, yarding, loading or burning of all trees or timber on construction site; Fence and/or Guardrail Erector; Forklift (9 ft. and under); Grating and Grill work for drains or other purposes; Green Cutter of concrete or aggregate in any form, by hand, mechanical means, grindstone or air and/or water; Grout: Spreading for any purpose; Guinea Chaser (Grade Checker) for general utility trenches, sitework, and excavation; Headerboard Man (Asphalt or Concrete); Heat Welder of Plastic (Laborers' AGC certified workers) (when work involves waterproofing for waterponds, artificial lakes and reservoir, or heat welding for sewer pipes); Heavy Highway Laborer (Rigging, signaling, handling, and installation of pre-cast catch basins, manholes, curbs and gutters); High Pressure Nozzleman - Hydraulic Monitor (over 100# pressure); Installation of lightweight backfill; Jackhammer Operator; Jacking of slip forms: All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Lead base paint abatement laborers (EPA certified workers); Magnesite and Mastic Workers (Wet or Dry)(including mixer operator); Mason Tender,Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting): handling, placing and opertion of nozzle; Operation, Manual or Hydraulic jacking of shields and the use of such other mechanical equipment as may be necessary; Pavement Breakers; Paving, curbing and surfacing of streets, ways, courts, under and overpasses, bridges, approaches, slope walls, and all other labor connected therewith; Pilecutters; Pipe Accessment in place, bolting and lining up of sectional metal or other pipe including corrugated pipe; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary-type of tubular device used for conveying of any substance or element, whether water, sewage, solid, gas, air, or other product whatsoever and without regard to the nature of material from which tubular material is fabricated; No-joint pipe and stripping of same, Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, treating Creosote and similar-type materials (6-inch) pipe and over); Piping: resurfacing and paving of all ditches in preparation for laying of all pipes; Pipe laying of lateral sewer pipe from main or side sewer to buildings or structure (except Contactor may direct work be done under proper supervision); Pipe laying, leveling and marking of the joint used for main or side sewers and storm sewers; Laying of all clay, terra cotta, ironstone, vitrified concrete or other pipe for drainage; Placing and setting of water mains, gas mains and all pipe including removal of skids; Plaster Mortar Mixer/Pump; Pneumatic Impact Wrench; Portable Sawmill Operation: Choker

setters, off bearers, and lumber handlers connected with clearing; Posthole Digger (Hand Held, Gas, Air and Electric); Power Broom Sweepers (Small); Preparation and Compaction of roadbeds for railroad track laying, highway construction, and the preparation of trenches, footings, etc., for cross-country transmission by pipelines, electrical transmission or underground lines or cables (by mechanical means); Raising of structure by manual or hydraulic jacks or other methods and resetting of structure in new locations, including all concrete work; Ramming or compaction; Riprap, Stonepaver, and Rock Slinger (includes placement of stacked concrete, wet or dry and loading, unloading, signaling, slinging and setting of other similar materials); Rotary Scarifier (including multiple head concrete chipping Scarifier); Salamander Heater, Drying of plaster, concrete mortar or other aggregate; Scaffold Erector Leadman; Scaffolds: (Swing and hanging) including maintenance thereof; Scaler; Septic Tank/Cesspool and Drain Fields Digger and Installer; Shredder/Chipper (tree branches, brush, etc.); Stripping and Setting Forms; Stripping of Forms: Other than panel forms which are to be re-used in their original form, and stripping of forms on all flat arch work; Tampers (Barko, Wacker, and similar type); Tank Scaler and Cleaners; Tarman; Tree Climbers and Trimmers; Trencher (includes hand-held, Davis T-66 and similar type); Trucks (flatbed up to and including 2 1/2 tons when used in connection with on-site Laborers'work; Trucks (Refuse and Garbage Disposal) (from job site to dump); Vibra-Screed (Bull Float in connection with Laborers' work); Well Points, Installation of or any other dewatering system.

Laborer II: Air Blasting; Appliance Handling (job site) (after delivery and unloading in storage area); Asphalt Plant Laborer; Backfilling, Grading and all other labor connected therewith; Boring Machine; Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Chainman, Rodmen, and Grade Markers; Cleaning and Clearing of all debris; Cleaning, clearing, grading and/or removal for streets, highways, roadways, aprons, runways, sidewalks, parking areas, airports, approaches, and other similar installations; Cleaning or reconditioning of streets, ways, sewers and waterlines, all maintenance work and work of an unskilled and semi-skilled nature; Cleanup of Grounds and Buildings (other than "Light Clean-Up") (Janitorial Laborer); Clean-up of right-of-way; Clearing and slashing of brush or trees by hand or mechanical cutting; Concrete Bucket Tender (Groundman) hooking and unhooking of bucket; Concrete Forms; moving, cleaning, oiling and carrying to the next point of erection of all forms; Concrete Products Plant Laborers; Conveyor Tender (conveying of building materials); Cribbers, Shorer, Lagging, Sheeting, and Trench Jacking and Bracing, Hand-Guided Lagging Hammer Whaling Bracing; Crushed Stone Yards and Gravel and Sand Pit Laborers and all other similar plants; Demolition, Wrecking and Salvage Laborers: Wrecking and dismantling of buildings and all structures,

with use of cutting or wrecking tools, burning or cutting, breaking away, cleaning and removal of all masonry, wood or metal fixtures for salvage or scrap, All hooking, unhooking, signaling of materials for salvage or scrap removed by crane or derrick; Digging under streets, roadways, aprons or other paved surfaces; Chuck Tender, Outside Nipper; Dry-packing of concrete (plugging and filling of she-bolt holes); Excavation, Preparation of street ways and bridges; Fence and/or Guardrail Erector: Dismantling and/or re-installation of all fence; Finegrader; Firewatcher; Flagman (Coning, preparing, stablishing and removing portable roadway barricade devices); Signal Men on all construction work defined herein, including Traffic Control Signal Men at construction site; Garbage and Debris Handlers and Cleaners; Gas, Pneumatic, and Electric Tools, not listed Group 1 (except Rototiller); General Clean-up: sweeeping, cleaning, washdown, wiping of construction facility, and equipment (other than "Light Clean-up" [Janitorial] Laborer); General Excavation and Grading (all labor connected therewith); Digging of trenches, ditches and manholes and the leveling, grading and other preparation prior to laying pipe or conduit for any purpose; Excavations and foundations for buildings, piers, foundations and holes, and all other construction; General Laborer; Ground and Soil Treatment Work (Pest Control); Junk Yard Laborers (same as Salvage Yard); Landscape Nursery Laborers; Laser Beam "Target Man" in connection with Laborers' work; Layout Person for Plastic (when work involves waterproofing for waterponds, artificial lakes and reservoirs); Limbers, Brush Loaders, and Pilers; Loading, Unloading, carrying, distributing and handling of all rods and material for use in reinforcing concrete construction (except when a derrick or outrigger operated by other than hand power is used); Loading, unloading, sorting, stockpiling, handling and distribution of water mains, gas mains and all pipes; Loading and unloading of all materials, fixtures, furnishings and appliances from point of delivery to stockkpile to point of installation; hooking and signalling from truck, conveyance or stockpile; Material Yard Laborers; Pipelayer Tender; Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, Creosote, and similar-type materials (pipe under 6 inches); Plasterer Laborer (including Hod Carrier); Preparation, construction and maintenance of roadbeds and sub-grade for all paving, including excavation, dumping, and spreading of sub-grade material; Prestressed or precast concrete slabs, walls, or sections: all loading, unloading, stockpiling, hooking on of such slabs, walls or sections; Quarry Laborers; Railroad, Streetcar, and Rail Transit Maintenance and Repair; Removal of surplus material; Roustabout; Rubbish Trucks in connection with Building Construction Projects (excluding clearing, grubbing, and excavating); Salvage Yard: All work connected with cutting, cleaning, storing, stockpiling or handling of materials, all cleanup, removal of debris, burning, back-filling and landscaping of the site; Sandblasting (Pot Tender): Hoses

and pots or markers; Scaffolds: Erection, planking and removal of all scaffolds used for support for lathers, plasters, brick layers, masons, and other construction trades crafts; Scaffolds: (Specially designed by carpenters) laborers shall tend said carpenter on erection and dismantling thereof, preparation for foundation or mudsills, maintenance; Scraping of floors; Screeds: Handling of all screeds to be reused; handling, dismantling and conveyance of screeds; Setting, leveling and securing or bracing of metal or other road forms and expansion joints; Sheeting Piling/trench shoring (handling and placing of skip sheet or wood plank trench shoring); Ship Scalers; Sign Erector (subdivision traffic, regulatory, and street-name signs); Sloper; Slurry Seal Crews (Mixer Operator, Applicator, Squeegee Man, Shuttle Man, Top Man); Snapping of wall ties and removal of tie rods; Soil Test operations of semi and unskilled labor such as filling sand bags; Striper (Asphalt, Concrete or other Paved Surfaces); Tagging and Signaling of all building materials into high-rise units; Tool Room Attendant (Job Site); Traffic Delineating Device Applicator; Underpinning, lagging, bracing, propping and shoring, loading, signaling, right-of-way clearance along the route of movement, The clearance of new site, excavation of foundation when moving a house or structure from old site to new site; Utilities employees; Water Man; Waterscape/Hardscape Laborers; Wire Mesh Pulling (all concrete pouring operations); Wrecking, stripping, dismantling and handling concrete forms an false work.

LABO0368-002 09/01/2010

	Rates	Fringes
Landscape & Irrigation		
Laborers		
GROUP 1	$ 21.30	8.25
GROUP 2	$ 21.80	8.25
GROUP 3	$ 17.80	8.25

LABORERS CLASSIFICATIONS

GROUP 1: Installation of non-potable permanent or temporary irrigation water systems performed for the purposes of Landscaping and Irrigation architectural horticultural work; the installation of drinking fountains and permanent or temporary irrigation systems using potable water for Landscaping and Irrigation architectural horticultural purposes only. This work includes (a) the installation of all heads, risers, valves, valve boxes, vacuum breakers (pressure and non-pressure), low voltage electrical lines and, provided such work involves electrical wiring that will carry 24 volts or less, the installation of sensors, master control panels, display boards, junction boxes, conductors, including all other components for controllers, (b) and metallic (copper, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe including all

work incidental thereto, i.e., unloading, handling and distribution of all pipes fittings, tools, materials and equipment, (c) all soldering work in connection with the above whether done by torch, soldering iron, or other means; (d) tie-in to main lines, thrust blocks (both precast and poured in place), pipe hangers and supports incidental to installation of the entire irrigation system, (e) making of pressure tests, start-up testing, flushing, purging, water balancing, placing into operation all irrigation equipment, fixtures and appurtenances installed under this agreement, and (f) the fabrication, replacement, repair and servicing oflandscaping and irrigation systems. Operation of hand-held gas, air, electric, or self-powered tools and equipment used in the performance of Landscape and Irrigation work in connection with architectural horticulture; Choke-setting, signaling, and rigging for equipment operators on job-site in the performance of such Landscaping and Irrigation work; Concrete work (wet or dry) performed in connection with such Landscaping and Irrigation work. This work shall also include the setting of rock, stone, or riprap in connection with such Landscape, Waterscape, Rockscape, and Irrigation work; Grubbing, pick and shovel excavation, and hand rolling or tamping in connection with the performance of such Landscaping and Irrigation work; Sprigging, handseeding, and planting of trees, shrubs, ground covers, and other plantings and the performance of all types of gardening and horticultural work relating to said planting; Operation of flat bed trucks (up to and including 2 1/2 tons).:

GROUP 2. Layout of irrigation and other non-potable irrigation water systems and the layout of drinking fountains and other potable irrigation water systems in connection with such Landscaping and Irrigation work. This includes the layout of all heads, risers, valves, valve boxes, vacuum breakers, low voltage electrical lines, hydraulic and electrical controllers, and metallic (coppers, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe. This work also includes the reading and interpretation of plans and specifications in connection with the layout of Landscaping, Rockscape, Waterscape, and Irrigation work; Operation of Hydro-Mulching machines (sprayman and driver), Drillers, Trenchers (riding type, Davis T-66, and similar) and fork lifts used in connection with the performance of such Landscaping and Irrigation work; Tree climbers and chain saw tree trimmers, Sporadic operation (when used in connection with Landscaping, Rockscape, Waterscape, and Irrigation work) of Skid-Steer Loaders (Bobcat and similar), Cranes (Bantam, Grove, and similar), Hoptos, Backhoes, Loaders, Rollers, and Dozers (Case, John Deere, and similar), Water Trucks, Trucks requiring a State of Hawaii Public Utilities Commission Type 5 and/or type 7 license, sit-down type and "gang" mowers, and other self-propelled, sit-down operated machines not listed under Landscape & Irrigation Maintenance Laborer; Chemical spraying using self-propelled power spraying equipment (200

gallon capacity or more).

GROUP 3: Maintenance of trees, shrubs, ground covers, lawns and other planted areas, including the replanting of trees, shrubs, ground covers, and other plantings that did not "take" or which are damaged; provided, however, that re-planting that requires the use of equipment, machinery, or power tools shall be paid for at the rate of pay specified under Landscape and Irrigation Laborer, Group 1; Raking, mowing, trimming, and runing, including the use of "weed eaters", hedge trimmers, vacuums, blowers, and other hand-held gas, air, electric, or self-powered tools, and the operation of lawn mowers (Note: The operation of sit-down type and "gang" mowers shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer, Group 2); Guywiring, staking, propping, and supporting trees; Fertilizing, Chemical spraying using spray equipment with less than 200 gallon capacity, Maintaining irrigation and sprinkler systems, including the staking, clamping, and adjustment of risers, and the adjustment and/or replacement of sprinkler heads, (Note: the cleaning and gluing of pipe and fittings shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer(Group 1); Watering by hand or sprinkler system and the peformance of other types of gardening, yardman, and horticultural-related work.

LABO0368-003 08/30/2010

	Rates	Fringes
Underground Laborer		
GROUP 1	$ 29.90	15.91
GROUP 2	$ 31.40	15.91
GROUP 3	$ 31.90	15.91
GROUP 4	$ 32.90	15.91
GROUP 5	$ 33.25	15.91
GROUP 6	$ 33.50	15.91
GROUP 7	$ 33.95	15.91

GROUP 1: Watchmen; Change House Attendant.

GROUP 2: Swamper; Brakeman; Bull Gang-Muckers, Trackmen; Dumpmen (any method); Concrete Crew (includes rodding and spreading); Grout Crew; Reboundmen

GROUP 3: Chucktenders and Cabletenders; Powderman (Prime House); Vibratorman, Pavement Breakers

GROUP 4: Miners - Tunnel (including top and bottom man on shaft and raise work); Timberman, Retimberman (wood or steel or substitute materials thereof); Blasters, Drillers, Powderman (in heading); Microtunnel Laborer; Headman; Cherry Pickerman (where car is lifted); Nipper; Grout Gunmen; Grout Pumpman & Potman; Gunite, Shotcrete Gunmen & Potmen; Concrete Finisher (in tunnel); Concrete Screed Man; Bit Grinder; Steel Form Raisers & Setters; High Pressure Nozzleman; Nozzleman (on slick line); Sandblaster-Potman

(combination work assignment interchangeable); Tugger

GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman; Rodman; Groundman

GROUP 6: Shifter

GROUP 7: Shifter (Shaft Work & Raiser)

PAIN1791-001 07/01/2010

	Rates	Fringes
Painters:		
Brush	$ 32.60	24.19
Sandblaster; Spray	$ 32.60	24.19

PAIN1889-001 07/01/2010

	Rates	Fringes
Glaziers	$ 31.05	23.72

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* PAIN1926-001 07/01/2010

	Rates	Fringes
Soft Floor Layers	$ 27.60	20.50

PAIN1944-001 01/01/2010

	Rates	Fringes
Taper	$ 39.00	16.40

PLAS0630-001 10/04/2010

	Rates	Fringes
PLASTERER	$ 38.24	17.32

PLAS0630-002 10/04/2010

	Rates	Fringes
Cement Masons:		
Cement Masons	$ 37.40	17.32
Trowel Machine Operators	$ 37.55	17.32

PLUM0675-001 07/04/2010

	Rates	Fringes
Plumber, Pipefitter, Steamfitter & Sprinkler Fitter	$ 35.60	21.83

ROOF0221-001 09/26/2010

	Rates	Fringes
Roofers (Including Built Up, Composition and Single Ply)	$ 34.85	15.73

SHEE0293-001 08/30/2009

	Rates	Fringes
Sheet metal worker	$ 32.45	24.11

SUHI1997-002 09/15/1997

	Rates	Fringes
Drapery Installer	$ 13.60	1.20
FENCE ERECTOR (Chain Link Fence)	$ 9.33	1.65

RIGGERS; WELDERS - Receive rate prescribed for craft performing operation to which rigging or welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the

Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

PROPOSAL SCHEDULE					
ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
201.0100	Clearing and Grubbing	L.S.	L.S.	L.S.	$
203.0100	Roadway Excavation	L.S.	L.S.	L.S.	$
204.0100	Trench Excavation for Waterline	L.S.	L.S.	L.S.	$
204.0200	Trench Backfill for Waterline	L.S.	L.S.	L.S.	$
205.0100	Structure Excavation for Concrete Channel	L.S.	L.S.	L.S.	$
205.0200	Structure Excavation for Makai Retaining Wall	L.S.	L.S.	L.S.	$
205.0300	Structure Backfill for Concrete Channel	L.S.	L.S.	L.S.	$
205.0400	Structure Backfill for Makai Retaining Wall	L.S.	L.S.	L.S.	$
206.2020	Excavation for Drainage Culverts and Inlets	L.S.	L.S.	L.S.	$
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$
209.0200	Additional Water Pollution, Dust and Erosion Conrtrol	F.A.	F.A.	F.A.	$ 30,000.00
305.1000	Aggregate Subbase	L.S.	L.S.	L.S.	$
312.0100	Hot Mix Glassphalt Base Course	2,000	TONS	$	$
401.0400	HMA Pavement, Mix No. IV	3,700	TONS	$	$

PROPOSAL SCHEDULE					
ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
411.0100	Concrete Pavement for Driveway	L.S.	L.S.	L.S.	$
415.0100	Cold Planing	L.S.	L.S.	L.S.	$
503.1030	Concrete for Channel	L.S.	L.S.	L.S.	$
503.1032	Concrete for 4'x3' Box Culvert	L.S.	L.S.	L.S.	$
503.1033	Concrete for 3'x2' Box Culvert	L.S.	L.S.	L.S.	$
503.1034	Concrete for 3'x3' Box Culvert	L.S.	L.S.	L.S.	$
503.1035	Concrete for 6'x2' Box Culvert	L.S.	L.S.	L.S.	$
503.1036	Concrete for 6'x4' Box Culvert	L.S.	L.S.	L.S.	$
503.1037	Concrete for Typical Headwall Structures	L.S.	L.S.	L.S.	$
503.1038	Concrete for Makai Retaining Wall	L.S.	L.S.	L.S.	$
507.3000	Zinc-Coated Iron Pipe Railing	L.S.	L.S.	L.S.	$
508.0100	Concrete Rubble Masonry	L.S.	L.S.	L.S.	$
603.0100	Bed Course Material for Culvert	L.S.	L.S.	L.S.	$
603.0200	18-Inch Drain Pipe	L.S.	L.S.	L.S.	$
604.1000	Connection to Existing Box Culvert	L.S.	L.S.	L.S.	$

PROPOSAL SCHEDULE					
ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
604.1039	Modified GDI "D1"	L.S.	L.S.	L.S.	$
604.1040	Modified GDI "D2"	L.S.	L.S.	L.S.	$
604.1041	Modified GDI "D3"	L.S.	L.S.	L.S.	$
604.1042	Modified GDI "D4"	L.S.	L.S.	L.S.	$
604.1043	Shallow Drywell Inlet "D5"	L.S.	L.S.	L.S.	$
604.1044	Open Drain Junction Structure "D6"	L.S.	L.S.	L.S.	$
604.1045	Modified GDI "D7"	L.S.	L.S.	L.S.	$
604.1046	Concrete Platform	L.S.	L.S.	L.S.	$
606.0100	Guardrail Type 3 - Single with Steel Post	L.S.	L.S.	L.S.	$
606.7000	Terminal Section Type G, Modified	L.S.	L.S.	L.S.	$
607.0100	5-Feet, Chainlink Fence	L.S.	L.S.	L.S.	$
612.0100	Grouted Rubble Paving	L.S.	L.S.	L.S.	$
617.0100	Imported Planting Soil	L.S.	L.S.	L.S.	$
622.1001	Roadway Lighting System	L.S.	L.S.	L.S.	$
623.1003	Traffic Signal System	L.S.	L.S.	L.S.	$

PROPOSAL SCHEDULE					
ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.1005	HELCO Charges for Electrical Hook-up	F.A.	F.A.	F.A.	$ 3,000.00
624.1000	Water System	L.S.	L.S.	L.S.	$
626.0100	Adjusting Water Manhole Frame and Cover	L.S.	L.S.	L.S.	$
626.0200	Adjusting Water Standard Valve Box	L.S.	L.S.	L.S.	$
626.0300	Adjusting Water Meter Frame and Cover	L.S.	L.S.	L.S.	$
628.0100	Shotcrete for Lining	L.S.	L.S.	L.S.	$
629.1013	4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$
629.1014	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$
629.1021	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$
629.1030	12-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$
629.1060	Crosswalk Marking (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$
629.2000	Pavement Arrows (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$
629.2010	Pavement Words (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$
629.3030	Type C Pavement Markers	L.S.	L.S.	L.S.	$
629.3040	Type D Pavement Markers	L.S.	L.S.	L.S.	$

PROPOSAL SCHEDULE					
ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.3050	Type H Pavement Markers	L.S.	L.S.	L.S.	$
629.3060	Type J Pavement Markers	L.S.	L.S.	L.S.	$
629.3070	Type DB Pavement Markers	L.S.	L.S.	L.S.	$
630.0100	Panel for "Kulani 17" Destination Sign	40	S.F.	$	$
630.0200	Street Name Sign	L.S.	L.S.	L.S.	$
630.0300	Street Name Sign on Traffic Signal Mast Arm	L.S.	L.S.	L.S.	$
631.0100	Regulatory Sign (10 Square Feet or Less)	L.S.	L.S.	L.S.	$
631.0110	Regulatory Sign (10 Square Feet or Less) on Mast Arm	L.S.	L.S.	L.S.	$
631.0200	Regulatory Sign (More Than 10 Square Feet)	L.S.	L.S.	L.S.	$
631.0300	Warning Sign (More Than 10 Square Feet)	L.S.	L.S.	L.S.	$
631.0400	Advisory Sign (10 Square Feet or Less)	L.S.	L.S.	L.S.	$
632.0100	Reflector Marker (RM-3) Bi-Directional with Flexible Posts	L.S.	L.S.	L.S.	$
632.0200	Type II Object Marker (OM2) with Flexible Posts	L.S.	L.S.	L.S.	$
641.0100	Hydro-mulch Seeding	L.S.	L.S.	L.S.	$
645.1000	Traffic Control	L.S.	L.S.	L.S.	$

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.	$ 35,000.00
648.1000	Field-Posted Drawings	L.S.	L.S.	L.S.	$
650.1000	Detectable Warning Mat	L.S.	L.S.	L.S.	$
688.0100	Asbestos Abatement	F.A.	F.A.	F.A.	$ 45,000.00
696.0100	Field Office Trailer (Not to Exceed $100,000.00)	L.S.	L.S.	L.S.	$
696.0200	Maintenance of Trailer	F.A.	F.A.	F.A.	$ 10,000.00
699.1000	Mobilization (Not to Exceed 7 percent of the sum of all items excluding bid price of this item and force account items)	L.S.	L.S.	L.S.	$

a. SUM OF ALL ITEMS $ _____

b. EITHER FURNISH FOREIGN STEEL NOT TO EXCEED MINIMAL AMOUNT (INSERT "0") OR FURNISH FOREIGN STEEL IN EXCESS OF MINIMAL AMOUNT (INSERT "25% X a") * $ _____

c. AMOUNT FOR COMPARISON OF BIDS (a + b) * $ _____

* All bidders must fill in b and complete c

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

DEPARTMENT OF TRANSPORTATION
MEMORANDUM FOR THE RECORD

DATE: January 7, 2011

HIGHWAYS
DIVISION
HAWAII DISTRICT
BRANCH OR SECTION

PURPOSE OF MEETING: **NON-MANDATORY PRE-BID CONFERENCE** for:
VOLCANO ROAD, INTERSECTION AND DRAINAGE IMPROVEMENTS,
VICINITY OF KULANI ROAD
FEDERAL-AID PROJECT NO. HS-STP-011-2(38)

DATE, TIME & PLACE:
January 7, 2011, 9:00 A.M., Hawaii District Office (50 Makaala St., Hilo, HI. 96720)

PARTICIPANTS:
See attached Sign-In Sheet

BRIEF SUMMARY OF MEETING:

Introduction:

Project Manager (Roy Shioji) introduced the representatives from DOT, County of Hawaii, and AECOM (consultant) present at the meeting. He announced there are not announcements for this project and opened the meeting up to questions.

Questions:

1. Sheets E-4 and E-5: Street light installation should have a pay item. Is there an allowance for hook-up by HELCO or the County?

Post Response: Contractor shall install new poles and new fixtures on new and existing poles. Contractor shall coordinate final electric hook-up with HELCO. Pay Item will remain lump sum for all lighting work. Allowance included in Addendum No. 2.

2. Is the General or Electrical Contractor responsible for the UPS Controller foundation? Foundation details are not shown on the electrical sheets.

Response: Foundation work shall be coordinated between the General and Electrical contractors, bid according to plans and specs.
Post Response: Details for the foundations are shown on plan sheets E-11 and E-14.

3. Sheet E-19 indicates a detail for drilled shaft foundation. Is drilled shaft necessary? Has there been consideration of the overhead lines to accommodate the drill rig?

Response: The drilled shaft footing was probably specified due to space limitations. Contractor should bid according to plans and specs. They may submit a request for change to a spread footing prior to construction.

4. Sheet E-20, Detail 3: Conduit installation should be PVC and enter the pull box from the bottom instead of thru the side.

Post Response: See Addendum No. 2

5. Sheet E-24, Detail 1: The callout for 2" steel conduit stub-out should be Schedule 80 PVC.
Response: Agreed. Will be covered by addendum.

6. As the County will take over maintenance of the Traffic Signal System, will the Contractor also need to inform the County of their work?
Response: The electrical sub-contractor should coordinate with the Country Traffic Division as well as the State inspector.

7. Classification of Licenses: Are Type C-62 license required as well as Type C-13?
Response: The State requires the General Contractor to have a General Engineering Contractor's "A" license. The General Contractor should be aware of the necessary licenses they and their sub-contractors need to perform the work. It is their responsibility to ensure that their sub-contractors possess the proper licenses.

8. Does the repaving layer follow the existing pavement thickness?
Response: a) No. For repaving areas in the center of the roadway, the plans call to cold plane 1" minimum and replaced with 2.5" minimum A.C. pavement. Existing grades will be maintained along the baseline and the pavement will be replaced at a 2% cross-slope. b) The widened portion of the roadway will have a new pavement structure. c) Payment for Cold Planing will remain as lump sum.

9. Traffic Control Plans, is the 10 Phases of work required to be followed?
Response: a) No. The traffic control plans provided are just a guideline. The Contractor is required to submit their traffic control plans to DOT for approval prior to starting the work. The traffic control plans are intended to show that the road needs to be kept open during construction. The Contractor is reminded to keep the drainage flow pattern in mind as they plan their work phasing.

10 Which permits are required for this project:
Response: a) NPDES (Contractor to provide site-specific BMPs). b) County Permits to perform work on Kulani Road. c) DOT will assist Contractor in obtaining the State Permit to perform work with-in the State Right-of-Way.

11. Does HELCO and HTCO have a set of plans?
Response: Both HELCO and HTCO have reviewed the plans. DOT will provide plans to both.

12. Sheet 106: The backfill material between the channel and retaining wall is not specified on the plans. Should it be imported backfill or excavated material:
Response: DOT will follow-up.
Post Response: Type A Structural Backfill is required. See Note 3.D. on sheet 103.

13. Would it be possible to do a partial street closure where the drainline crosses Volcano Road?
Response: The Contractor may submit a traffic control plan to show how he would like to phase the work. The Contractor may use skid-resistant steel plates to cover the utility trenches. However, this would require the services of a structural engineer to provide calculations verifying that the steel plate is adequate to support the anticipated wheel loads.

- end -

PRE-BID CONFERENCE (NON-MANDATORY)

Project: VOLCANO ROAD, INTERSECTION AND DRAINAGE IMPROVEMENTS
VICINITY OF KULANI ROAD

Project No.: HS-STP-011-2(38)

Date, Time, Location: January 7, 2011; 9:00 A.M.; Hawaii District Office

NAME (Print)	COMPANY	PHONE NO.	EMAIL ADDRESS
Roy Shioji	HDOT	933-2755	roy.shioji@hawaii.gov
LIZI OLSON	JAS. W. GLOVER LTD	935-0571	lizio@gloverltd.com
LESLIE ISEMOTO	ISEMOTO CONTR.	935-7194	iccles@ilhawaii.net
David Sinclair	Ledcor	540-0777	david.sinclair@ledcor.com
MATT ADAMS	KIEWIT	674-1088	MATT.ADAMS@KIEWIT.COM
Gilbert Aguinaldo	Bigisland Electrical Service LLC	965-5554 Fax 965-5501	Bigislandelectrical@hawaii.rr.com
Jason Tagawa	Isemoto	935-7194	iccjason@ilhawaii.net
GERALD YAMADA	GW CONSTRUCTION	966-9582	gerald@gwconstruction.net
STERLING CHOW	HDOT	933-8866	sterling.chow@hawaii.gov
FRANK OKIMOTO	NAN INC	230-9568	fokimoto@nanhawaii.com
Ed Shukri	Nan Inc	842-4929	eshukri@nanhawaii.com
CHOONKEE LEE	Nan Inc	384-1593	cklee@nanhawaii.com
Barry Muranaka	AECOM	529-7262	barry.muranaka@aecom.com
Jamie Hikiji	AECOM	529-7229	jamie.hikiji@aecom.com
Kent Tsutsui	COH, DPW, TRAFFIC	961-8954	ktsutsui@co.hawaii.hi.us

PRE-BID CONFERENCE (NON-MANDATORY)

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NAME (Print)	COMPANY	PHONE NO.	EMAIL ADDRESS
Scot Oshiro	CTS EARTHMOVING, INC.	331-0600	scot@ctsearthmoving.com
Rick Thompson	Road and Highway Builders	775-771-7705	rthompson18@aol.com
Jim Foss	Goodfellow Bros	808-887-6511	jimf@goodfellowbros.com