STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ADDENDUM NO. 2

FOR

**PUUNENE AVENUE WIDENING,
KUIHELANI HIGHWAY TO HANSEN ROAD
AND
MOKULELE HIGHWAY WIDENING
HANSEN ROAD TO VICINITY OF
CANE HAUL ROAD CROSSING**

FEDERAL-AID PROJECT NO. NH-A311(3)

**DISTRICT OF WAILUKU
ISLAND OF MAUI**

FY 2002

The following Amendments shall be made to the Bid Documents:

1. PLANS

   a. Replace Plan Sheet No. 66 with the attached Plan Sheet ADD.66 revising the Trench Section.

   b. Replace Plan Sheet No. 104 with the attached Plan Sheet ADD.104 adding Interconnect provisions.

   c. Replace Plan Sheet No. 105 with the attached Plan Sheet ADD.105 adding Intertie provisions.

   d. Replace Plan Sheet No. 150 with the attached Plan Sheet ADD.150 revising street lighting, handhole, electrical conduits, Meco 4x6 Handhole and Transformer Pad symbols.

   e. Replace Plan Sheet No. 151 with the attached Plan Sheet ADD.151 revising street lighting, street light foundation relocation, handholes, transformer pad, electrical and traffic control conduits.

f. Replace Plan Sheet No. 158 with the attached Plan Sheet ADD.158 revising backfill notes, and adding transformer pad details.

g. Replace Plan Sheet No. 159 with the attached Plan Sheet ADD.159 adding HC&S Riser details.

2. SPECIFICATIONS

a. Replace the Wage Rate Schedule dated 10/05/01 with the attached Wage Rate Schedule dated 1/04/02

b. Replace pages 622-1a to 622-8a dated r5/07/01 with the attached pages 622-1a to 622-8a dated r1/08/02. The following have been amended:

(1) Revise Section 622.02 - Roadway Lighting System Materials "Precast foundations and handholes shall be according to contract" to read "Precast foundations, handholes and transformer mounting pads shall be according to contract".

(2) Add the following to Section 622.03 Construction Requirements subsection (C) Installation.

(10) Install handholes at location shown in the contract. Install handholes so that covers are flush with finish surface of curb or sidewalk grade or one inch above finish ground.

(11) Install transformer pads at location shown and as specified in the contract.

c. Replace pages 712.37-1a to 712.37-4a dated 9/19/00 with the attached pages 712-37-1a to 712.37-4a dated r1/08/02. The following have been amended:

(1) Revise Section 712.37(A)(2) Items Model 170 Controller Changed Quantity to 1; Model 412C Prom Module Changed Quantity to 1; and Model 400 Modem Changed Quantity to 1. Add "For Interconnect Controller Add" Items Model 170 Controller Quantity 1; Model 412C Prom Module Quantity 1; and Model 400 Modem Quantity 1.

3. PROPOSAL SCHEDULE

a. Replace pages P-9, P-13 to P-20 dated 12/4/01 with the attached pages P-9, P-13 to P-20 dated r1/8/02. The following have been amended:

(1) Item No. 401.0600. Pavement Smoothness Incentive. Changed Allowance to $60,000.00.

(2) Add Item No. 622.2722. 4x6 Meco Handhole. Quantity to read 1 Ea.

(3) Add Item No. 622.2723. Meco Single Phase Transformer Pad. Quantity to read 1 Ea.

(4) Item No. 622.2725. 2x4 Meco Handhole. Changed Quantity to read 8 Ea.

(5) Item No. 622.2731. Relocate Street Light Foundation. Changed Quantity to read 4 Ea.

(6) Item No. 622.2733. Street Light Foundation. Changed Quantity to read 21 Ea.

(7) Item No. 622.3415. #6, 3 wire Circuit with Ground. Change Quantity to read 390 LF.

(8) Item No. 622.3712. 3-Inch PVC Conduit Concrete Encased. Changed Quantity to read 2,436 LF.

(9) Item No. 622.3713. 2-Inch PVC Conduit Concrete Encased. Changed Quantity to read 2,732 LF.

(10) Item No. 623.2001. Revise to read, Controller Assembly with Interconnect Controller (Model 170 Traffic Signal Controller Unit with software, Type 332A Cabinet and Auxiliary Equipment). Changed Quantity to read 1 Ea.

(11) Add Item No. 623.2002. Controller Assembly (Model 170 Traffic Signal Controller Unit with software, Type 332A Cabinet and Auxiliary Equipment). Quantity to read 1 Ea.

(12) Item No. 623.5001. Revise to read, Traffic Signal Ductline, One 2-Inch Conduit (1,890 L.F.).

(13) Item No. 623.5004. Revise to read, Traffic Signal Ductline, Four 2-Inch Conduit (961 L.F.).

(14) Item No. 623.5006. Revise to read, Traffic Signal Ductline, Six 2-Inch Conduit (24 L.F.).

(15) Add Item 623.5007. Traffic Signal Ductline, Seven 2-Inch Conduit (14 L.F.). Quantity, Unit and Unit Price to read L.S.

(16) Item 623.5009. Revise to read, Traffic Signal Ductline, Ten 2-Inch Conduit (10 L.F.). Changed Quantity, Unit and Unit Price to read L.S.

(17) Add Item 623.5020. Concrete Jacket for Ductlines. Quantity to read 85. Unit to read C.Y.

(18) Add Item 623.5030. Riser for Interconnect Cable, 20 Feet Long 2-Inch Steel Conduits, Schedule 40, Galvanized, including Bend and Straps. Quantity to read 2. Unit to read Ea.

(19) Add Item 623.5040. Messenger Cable for Overhead Interconnect Cable including Tying Devices (2,180 L.F.). Quantity, Unit and Unit Price to read L.S.

(20) Item 623.6010. Type B Pullbox. Changed Quantity to read 11 Ea.

(21) Add Item 623.7039. No. 19, 24-Conductor Interconnect Cable in Ductline (910 L.F.). Quantity, Unit and Unit Price to read L.S.

(22) Add Item 623.7040. No. 19, 24-Conductor Interconnect Cable Overhead (2,330 L.F.). Quantity, Unit and Unit Price to read L.S.

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.

Brian K. Minaai
Director of Transportation

General Decision Number HI010001

Superseded General Decision No. HI000001

State: Hawaii

Construction Type:
BUILDING
DREDGING
HEAVY
HIGHWAY
RESIDENTIAL

County(ies):
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	03/02/2001
1	04/13/2001
2	05/04/2001
3	07/06/2001
4	09/07/2001
5	10/05/2001
6	01/04/2002

COUNTY(ies):
STATEWIDE

ASBE0132A 08/30/1998

	Rates	Fringes
ASBESTOS WORKERS/INSULATORS 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.	26.50	14.89

BOIL0204A 10/01/1998

	Rates	Fringes
BOILERMAKERS	26.25	13.76

BRHI0001A 09/03/2001

	Rates	Fringes
BRICKLAYERS; Caulkers; Cement Block Layers; Cleaners; Pointers; and Stonemasons	25.77	15.76

BRHI0001B 09/03/2001

	Rates	Fringes
TERRAZZO WORKERS:		
Terrazzo Workers	25.77	15.76
Terrazzo Base Grinders	23.96	15.76
Terrazzo Floor Grinders and Tenders	22.41	15.76

BRHI0001C 09/03/2001

	Rates	Fringes
MARBLE MASONS	25.77	15.76

BRHI0001D 09/03/2001

	Rates	Fringes
TILE LAYERS (CERAMIC)	25.77	15.76
TILE LAYER FINISHERS (CERAMIC)	22.41	15.76

CARP0745A 09/03/2001

	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	29.90	15.35
Millwrights and Machine Erectors	30.15	15.35
Power Saw Operators (2 H.P. and over)	3o.05	15.35

CARP0745B 09/03/2001

	Rates	Fringes
DRYWALL HANGERS	30.15	15.32
LATHERS	30.15	15.32

ELEC1186A 08/12/2001

	Rates	Fringes
ELECTRICIANS:		
Electricians	31.00	5.97+30.6%
Technicians	31.93	5.97+30.6%
Cable Splicers	34.10	5.97+30.6%

ELEC1186B 02/11/2001

	Rates	Fringes
LINE CONSTRUCTION:		
Linemen	30.60	5.85+30.6%
Technicians	31.52	5.85+30.6%
Heavy Equipment Operators	27.54	5.85+30.6%
Cable Splicers	33.66	5.85+30.6%
Groundmen; Truck Drivers	22.95	5.85+30.6%

ELEV0126A 10/04/1999

	Rates	Fringes
ELEVATOR MECHANICS	34.65	6.935+a+b

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, Thanksgiving Day, Day after Thanksgiving Day and Christmas Day.

ENGI0003I 09/04/2000

	Rates	Fringes
POWER EQUIPMENT OPERATORS (Includes All Types of Paving):		
GROUP 1	26.89	14.18
GROUP 2	27.00	14.18
GROUP 3	27.17	14.18

GROUP 4	27.44	14.18
GROUP 5	27.75	14.18
GROUP 6	28.40	14.18
GROUP 7	28.72	14.18
GROUP 8	28.83	14.18
GROUP 9	28.94	14.18
GROUP 9A	29.17	14.18
GROUP 10	29.23	14.18
GROUP 10A	29.38	14.18
GROUP 11	29.53	14.18
GROUP 12	29.89	14.18
GROUP 12A	30.25	14.18

WAGE RATES FOR TUNNEL WORK:

GROUP 1	27.19	14.18
GROUP 2	27.30	14.18
GROUP 3	27.47	14.18
GROUP 4	27.74	14.18
GROUP 5	28.05	14.18
GROUP 6	28.70	14.18
GROUP 7	29.02	14.18
GROUP 8	29.13	14.18
GROUP 9	29.24	14.18
GROUP 9A	29.47	14.18
GROUP 10	29.53	14.18
GROUP 10A	29.68	14.18
GROUP 11	29.83	14.18
GROUP 12	30.19	14.18
GROUP 12A	30.55	14.18

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 Loader and 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.

HELICOPTER WORK:		
Pilot of Helicopter	31.06	14.18
Co-Pilot of Helicopter	30.89	14.18
Airborne Hoist Operator for Helicopter	30.75	14.18
DIVERS (AQUA LUNG) (SCUBA):		
Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)	41.58	14.18
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)	50.95	14.18
Stand-by Diver (Aqua Lung) (Scuba)	31.06	14.18
DIVERS (OTHER THAN AQUA LUNG):		
Diver (Other than Aqua Lung)	50.95	14.18
Stand-By Diver (Other than Aqua Lung)	32.20	14.18
Diver Tender (Other than Aqua Lung)	29.17	14.18

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	0.35
Booms and/or Leads of 130 feet up to but not including 180 feet	0.50
Booms and/or Leads of 180 feet up to and including 250 feet	0.90
Booms and/or Leads over 250 feet	1.35

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	1.00
Booms over 250 feet	1.50

ENGI0003K 09/04/2000

	Rates	Fringes
TRUCK DRIVERS:		
GROUP 1	27.17	14.18+a
GROUP 2	27.44	14.18+a
GROUP 3	27.75	14.18+a
GROUP 4	28.40	14.18+a
GROUP 5	28.72	14.18+a
GROUP 6	28.83	14.18+a

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Utility, flatbed, or similar.
GROUP 2: Dump, 8 yards, and under (water level); water truck, up to and including 2,000 gallons.
GROUP 3: Tandem Dump, over 8 yards (water level); water truck (over 2,000 gallons).
GROUP 4: Semi-trailer, rock cans, or semi-dump.
GROUP 5: Slip-in or pup.
GROUP 6: End dumps (unlicensed); tractor trailer (hauling equipment).

a. An employee who has completed 1 but less than 2 years service- 1 week's paid vacation; 2 but less than 10 years service - 2 weeks paid vacation 10 but less than 15 years service - 3 weeks paid vacation; and 15 or more years service - 4 weeks paid vacation.

ENGI0003L 09/04/2000

	Rates	Fringes
DREDGING:		
CLAMSHELL OR DIPPER DREDGES:		
GROUP 1	29.89	14.18
GROUP 2	29.23	14.18
GROUP 3	28.83	14.18
GROUP 4	27.17	14.18

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 DREDGES:

GROUP 1	29.53	14.18
GROUP 2	29.38	14.18
GROUP 3	29.23	14.18
GROUP 4	29.17	14.18
GROUP 5	28.83	14.18
GROUP 6	28.72	14.18
GROUP 7	27.17	14.18

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.

DERRICKS:

GROUP 1	29.89	14.18
GROUP 2	29.23	14.18
GROUP 3	28.83	14.18
GROUP 4	27.17	14.18

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.

BOAT OPERATORS:

Master Boat Operator	29.53	14.18
Boat Operator	29.38	14.18
Boat Deckhand	27.17	14.18

IRON0625A 09/03/2001

	Rates	Fringes
IRONWORKERS	26.00+a	20.01

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.

LABO0368A 09/03/2001

LABORERS:	Rates	Fringes
GROUP 1	22.85	11.20
GROUP 2	21.25	11.20
GROUP 3	23.85	11.20
GROUP 4	23.35	11.20
GROUP 5	22.35	11.20
GROUP 6	15.25	6.95
MASON TENDERS	23.10	11.20

LABORERS CLASSIFICATIONS

GROUP 1: Asbestos Removal Worker (EPA certified workers); Asphalt 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 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 Curer (impervious membrane and form oiler); 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 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, Concreting, and Asphalt; Curing of Concrete, 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; Driller (Track, Diamond Core, and Wagon); Driller (Joydrill Model TWM-2A, Gardner Denver DH-143 and similar type drills); Driller (Mechanical) (not

covered elsewhere) (including multiple unit); (Ingersoll-Rand DM45E/DM50E/LM-100/LM-600C, Gardner-Denver SCH2500/SCH3500BV, Furukawa HCR-C300, Tamrock Drilltech CHA800/DHH 850 Tamrock Commando) (similar and replacement equipment thereof); Drilling for blasting; Operation of all rock and concrete drills and Jack Hammers, including handling, carrying, laying out of hose; (Ingersoll-Rand DM45E/DM50E/LM-100/LM-600C), Gardner-Denver SCH2500/SCH3500 BV, Furukawa HCR-C300, Tamrock Drilltech CHA 800/DHH 850/Tamrock Commando) (similar and replacement equipment thereof); Drilling (Mechanical) on the site or along the right-of-way as well as access roads, reservoirs, including areas adjacent or pertinent to construction sites); 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 Gilsulate 500XR; Jackhammer Operator; Jacking of slip forms; All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Magnesite and Mastic Workers (Wet or Dry)(including mixer operator); Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting); 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; Sandblaster (Nozzleman) handling, placing and operation of nozzle; Scaffold Erector; 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.

GROUP 2: Air Blasting; Appliance Handling (job site) (after delivery and unloading in storage area); Asphalt Laborer; Asphalt Plant Laborer; Backfill work connected with the installation of Gilsulate 500XR; Backfilling, Grading and all other labor connected therewith; Boring Machine; Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Cemetary Laborers; 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; Driller, 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, establishing 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; Gunite Operator; 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; Parks and Sports arenas and all recreational center employees; 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 prescast 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; 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 therof, 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; Shipwright; 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.

GROUP 3: Licensed Powdermen.

GROUP 4: Gunnite Operator; High Scaler (working suspended), Pipelaying.

GROUP 5: Window Washer (Outside) (Working from bosun's chair and/or cable-suspended scaffold or work platform).

GROUP 6: Light Clean-Up.

LABO0368B 10/01/2001

	Rates	Fringes
LANDSCAPE AND IRRIGATION LABORERS:		
Group 1	17.36	5.37
Group 2	17.86	5.37
Group 3	14.26	5.37

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 pruning, 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.

LABO0368C 09/04/2000

	Rates	Fringes
UNDERGROUND LABORERS:		
GROUP 1	21.45	10.74
GROUP 2	22.95	10.74
GROUP 3	23.45	10.74
GROUP 4	24.45	10.74
GROUP 5	24.80	10.74
GROUP 6	25.05	10.74
GROUP 7	25.50	10.74

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); 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); Sandblater-Potman (combination work assignment interchangeable); Tugger
GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman

GROUP 6: Shifter
GROUP 7: Shifter (Shaft Work & Raiser)

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* PAIN1791A 01/01/2002

	Rates	Fringes
PAINTERS:		
Brush	25.55	19.35
Sandblaster; Spray	26.05	19.35

PAIN1889A 01/01/2001

	Rates	Fringes
GLAZIERS	23.07	17.30

PAIN1926B 02/25/2001

	Rates	Fringes
SOFT FLOOR LAYERS	22.90	15.50

PAIN1944A 01/01/2000

	Rates	Fringes
TAPERS	31.25	9.85

PLAS0630A 03/01/1999

	Rates	Fringes
PLASTERERS	25.91	12.19

PLAS0630B 09/03/2001

	Rates	Fringes
CEMENT MASONS:		
Cement Masons	25.90	15.51
Trowel Machine Operators	26.05	15.51

PLUM0675A 07/01/2001

	Rates	Fringes
PLUMBERS, PIPEFITTERS, STEAMFITTERS & SPRINKLER FITTERS	29.80	15.60

ROOF0221A 05/02/1999

	Rates	Fringes
ROOFERS	25.00	11.46

SHEE0293A 08/26/2001

	Rates	Fringes
SHEET METAL WORKERS	32.97	13.61

SUHI1001A 09/15/1997

	Rates	Fringes
DRAPERY INSTALLERS	13.60	1.20

SUHI2001A 09/15/1997

	Rates	Fringes
FENCE ERECTORS (Chain Link)	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)(v)).

In the listing above, the "SU" designation means that rates listed under that 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, D. C. 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, D. C. 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, D. C. 20210

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

END OF GENERAL DECISION

Amend **Section 622 - Roadway Lighting System** to read as follows:

"SECTION 622 - ROADWAY LIGHTING SYSTEM

622.01 Description. This work includes furnishing and installing a roadway lighting system and sign lighting system according to the contract.

This work includes furnishing and installing metal lamp posts with brackets, luminaires, breakaway support couplings, slip base inserts lamps, electrical conductors and conduits, fittings, concrete bases, pullboxes, handholes and other materials necessary for operating and controlling the roadway lighting and sign lighting systems and for salvaging and relocating existing roadway lights, and furnishing and installing all materials necessary to connect the relocated lights to the existing light circuits according to the contract.

Furnish and install the incidental parts necessary to complete the roadway lighting and sign lighting systems as though the contract showed such parts.

Electrical equipment shall conform to the NEMA Standards. Material and workmanship shall conform to the latest requirements of the "National Electrical Code," herein referred as the Code; General Order Nos. 6 and 10, of the Hawaii Public Utilities Commission; the standards of the ASTM; the ANSI; Local Joint Pole Agreement; local power company rules; and local ordinances that may apply.

622.02 Materials. Materials shall conform to the following:

Conduits	712.27
Light Poles	712.28
Luminaires	712.29
Mast Arms	712.30
Light Sources	712.32
Cables, Conductors and Wires	712.34
Disconnect and Protective Devices	712.35
Photo Control	712.36
Panelboards	712.48(B)
Metering and Service Equipment	712.48(E)

Precast foundations, handholes and transformer mounting pads shall be according to contract

Concrete shall conform to Section 601 - Structural Concrete and shall be Class B.

Anchor bolts and steel plate covers shall be structural steel conforming to ASTM A 325 and A 36 respectively. Zinc-coat the anchor bolts if exposed.

Crossarms, hardware, and anchoring materials shall be of a type normally stocked and used for similar purpose by local public utility companies.

Materials will be subject to inspection. Failure of the Engineer to note faulty material or workmanship during construction will not relieve the responsibility of the Contractor for removing or replacing such materials and redoing the work at no cost to the State.

622.03 Construction Requirements.

(A) Equipment List and Drawings. Within 10 days following the award of the contract, the Contractor shall submit to the Engineer for acceptance 6 copies of a list of materials and equipment that the Contractor will incorporate in the work. The list shall include the name of the manufacturer, size and catalog number of the unit, detailed scale drawings and wiring diagrams of special equipment, and proposed deviations from the contract. If required, submit for acceptance samples of the material that the Contractor will use at no cost to the State.

Upon completion of the work, submit an 'As Built' plan showing in detail construction changes.

(B) Excavation and Backfill. Excavation and backfill shall conform to Section 206 - Excavation and Backfill for Conduits and Structures.

Excavate carefully to prevent damage to pavements, sidewalks, and other improvements.

(C) Installation.

(1) Foundations. Concrete for foundations of metal lamp posts shall be Class B.

Locations of metal lamp posts shown in the contract are approximate only. The Engineer will decide the exact location in the field.

Forms shall be true to the lines and grades as accepted. Forms shall be rigid and securely braced in place. Place the conduit ends and anchor bolts in proper position, placed in proper height, and held in place by a template until the concrete sets. Cure the concrete for not less than 72 hours.

(2) Metal Lamp Standards. Install each metal lamp standard on a concrete foundation. Set the shaft precisely vertical by adjusting the two nuts on each anchor bolt, while the bracket shall be perpendicular to the roadway centerline.

After the lamp standard is in its proper position, place the grout under the base plate shown in the contract. Form the exposed portions to present a neat appearance.

Grout includes one part by volume of portland cement and three parts of beach sand.

Install metal lamp standards with breakaway design features at the locations shown in the contract. install the standards with breakaway design features according to the manufacturer's recommendations and shown in the contract.

(3) Mast Arms. Install each mast arm on the metal pole shown in the contract. The mast arms shall be in a plane perpendicular to the roadway centerline.

(4) Luminaires. Install the roadway lighting luminaires on lamp posts and mast arms with the vertical axis perpendicular to the roadway and longitudinal axis parallel to the roadway centerline.

Install the luminaires at locations shown in the contract.

(5) Circuits. Encase the cables installed underground in conduits with concrete jacket.

Before installing the wires and cables in conduits, pull a wire brush, swab and mandrel through each conduit for the removal of extraneous matter and verification of the absence of obstructions and debris from the conduit system.

Pull the cables directly from their cores or reels into the conduits. Do not pull off and lay the cable on the ground before installation. Make the pulls in one direction only. Lubricants used shall be as recommended by the cable manufacturer or accepted by the Engineer.

Do not leave wires or cables under tension nor tight against bushings or fittings. Remove damaged ends resulting from the use of pulling grips soon after pulling the cable. Maintain the cable end seals. Do not pull open ended cables through the conduits. Cables shall be continuous from pulling point to pulling point. The Engineer will not permit splices from pulling point to pulling point. Make splices, taps and terminations with pressure-indented connectors or lugs as appropriate or specified in the contract.

When requiring splicing, join the conductors by a 'western union' type splice or by using an accepted connector. Use the connectors for splicing conductors, No. 8 AWG or larger. Solder the "western union" type splice by the pouring or dipping method. Cable splices and termination shall be according to the cable manufacturer's recommendation. Submit the cable manufacturer's splicing instruction sheets for acceptance.

Trim the conductor insulation to a conical shape. Roughen the conductor insulation before applying splice insulation. Splice insulation includes layers of thermoplastic electrical insulating tape not over 0.007 inches thick conforming to Federal Specification MIL-I-7798. Apply the splice insulation a thickness equal to and well lapped over the original insulation. For high voltage and multiple lighting conductor splices, apply two layers of synthetic oil resistant rubber tape conforming to ASTM D 119 over each conductor before placing the thermoplastic tape. Then cover the splice well with at least two layers of asphaltic impregnated open mesh fabric tape and a coating of high grade insulating paint or similar material. Leave at least two feet of slack for each conductor at each splice.

Coil at least five feet of slack neatly near each lamp post foundation at both ends of each cable run.

Wiring on the surface of wood poles shall be in rigid steel conduits from ground level to 8 feet above ground and in PVC Schedule 80 conduits from above 8 feet.

(6) Secondary Connections. Make the connections from the secondary power supply line to fuse boxes with aluminum or copper cable to match the existing secondary cable material. Sizes shall be as specified in the contract.

(7) Bonding and Grounding. Secure the metallic cable sheaths, conduits and lamp posts mechanically and electrically to form a continuous system. Ground them effectively as specified in the Code and in the contract.

(8) Pullboxes. Install pullboxes at the locations shown in the contract.

Install pullboxes so that the covers are level with the curb or sidewalk grade or one inch above the existing ground.

Give frames and covers two coats of asphaltic base paint after installation.

(9) Conduits. Lay the zinc-coated rigid steel and polyvinyl chloride (PVC) conduits carefully in trenches prepared to receive the conduits. Conduits under roadway areas and driveways shall be PVC, Schedule 80 or shown in the contract.

Lay the conduit that will be placed in concrete structure or encased in concrete to the required lines and grades. Support the conduit rigidly in place by masonry material, manufactured conduit spacers, or other accepted means. Wire the conduit so that the Contractor will not dislodge the conduit during the placing and tamping of the concrete. The thickness of the concrete around the conduits shall be shown in the contract. Use only hand shovels in compacting the concrete. Cure the concrete jackets for at least 72 hours before permitting vehicular traffic.

Install the rigid steel conduit according to Article 346 of the Code. Use white and tinted ready-mixed paint on the threads of joints. Repair zinc-coated surfaces according to Subsection 501.03(G)(2) - Repairing of Damaged Zinc-Coated Surfaces.

Install rigid PVC conduit according to Article 347 of the Code. PVC conduit connections shall be of the solvent-weld type. Make solvent-weld joints according to the conduit manufacturer's recommendations and as accepted by the Engineer. The Engineer will permit pre-assemblying sections of conduit.

Make directional changes in non-metallic conduit runs such as bends and changes to clear obstructions with curved segments using accepted deflection couplings or with short lengths of straight ducts and couplings. The deflection angle between two adjacent lengths of duct shall not exceed 6° and the bends shall not have a radius of less than 12 times the nominal size of the conduit unless using factory-made ells.

Thread the fittings for connecting non-metallic conduits to rigid metal conduits on the side that will be connected to the metal conduit. Metal conduits entering pullboxes shall end in insulating grounding bushings. Non-metallic conduits shall end in end bells.

Cap or plug and mark the ends of conduits shown or specified. Provide each conduit run with a No. 10 gage flexible zinc-coated pull wire or one-eight inch polyolefin line extending uninterrupted through handholes for the entire length of run. Double an additional two feet of wire or polyolefin line back into the conduit at both ends of the run.

Ends of conduit runs shall extend at least 24 inches past the face of curb or edge of pavement, unless the ends end in pullboxes. Locate the ends accurately by special markers, markings on curbs or as specified by the Engineer.

Keep the interior of conduits clean during the construction. Plug the ends of conduits temporarily to keep the ends clear during construction. Install the conduits to drain toward a pullbox. The Contractor may consider a single run to drain toward both ends.

(10) Install handholes at location shown in the contract. Install handholes so that covers are flush with finish surface of curb or sidewalk grade or one inch above finish ground.

(11) Install transformer pads at location shown and as specified in the contract.

(D) Painting. Furnish the metal poles and mast arms in natural finish. The metal poles and mast arms require no painting.

(E) Electric Service. Apply for electric service at each location shown in the contract and shall comply with the power company's requirements.

Provide the secondary circuit extensions to the power company's service. The Engineer will pay for permanent service connections made by the power company.

During relocation, reconstruction or other improvements of existing roadway lighting facilities, keep the existing roadway lighting system operational in its entirety during hours of darkness. Schedule the work accordingly and provide a temporary lighting system if necessary, to keep the project area illuminated during the hours of darkness.

(F) Field Test. Before acceptance of the work, make the following tests on lighting circuits, in the presence of the Engineer.

(1) Test for continuity of each circuit.

(2) Test for grounds in each circuit.

(3) A megger test on each circuit between the circuit and round. The insulation resistance shall not be less than the values specified

in Table 622-I when measured with an instrument having a voltage rating of 500 volts.

TABLE 622-I - INSULATION RESISTANCE	
Cable or Circuit	**Minimum Resistance (ohms)**
No.14 - No.12 wire	1,000,000
25 to 50 amperes	250,000
51 to 100 amperes	100,000
101 to 200 amperes	50,000
201 to 400 amperes	25,000
401 to 800 amperes	12,000
over 800 amperes	5,000

(4) A functional test to show that each part of the system functions according to the contract.

Correct the faults in the material or the installation revealed by these tests at no cost to the State. Repeat the tests until no fault appears.

(G) Salvaging Electrical Equipment. The contract directs the Contractor to Section 202 - Removal of Structures and Obstructions, regarding existing highway facilities. When shown in the contract or specified by the Engineer, remove and salvage the existing electrical equipment including luminaires, standards, mast arms, ballasts, transformers, service equipment, and pullboxes, otherwise the existing electrical equipment shall become the property of the Contractor and the Contractor shall remove and dispose of the existing electrical equipment at no cost to the State.

Underground conduits, conductors and foundations not reused in the work shall become the property of the Contractor. Remove them from the highway right-of-way at no cost to the State.

When abandoning a foundation in-place on outside the roadbed area, remove the top of the foundation, anchor bolts and conduits to a depth of 6 inches below the surface of the ground. Backfill the resulting hole with material equivalent to the surrounding material.

When reinstalling salvaged electrical equipment, furnish and install the materials, equipment and incidentals necessary to complete the work.

Clean and relamp the lighting fixtures that will be reinstalled.

When the existing materials and equipment that the Contractor plans to relocate is not according to the contract, replace them with new material and equipment.

Remove the existing equipment and not reused in the work at the work site.

622.04 Method of Measurement. The Engineer will measure:

(A) Risers, handholes, street lights, foundations, framing, socket, and panelboards per each.

(B) Wire circuits with ground and PVC conduits per linear foot.

622.05 Basis of Payment. The Engineer will pay for the accepted pay items listed below at the contract price per pay unit as shown in the proposal. Payment will be full compensation for the work prescribed in this section and Subsection 109.02 - Scope of payment.

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

Pay Item	**Pay Unit**
_____ - Inch _____Riser	Each
_____ x _____ _____Handhole	Each
Relocate _____ _____ x _____ Handhole	Each
Relocate _____	Each
Street Light Foundations	Each
# ____ , _____ Wire Circuit with Ground	Linear Foot
_____ - Inch PVC Conduit Concrete Encased	Linear Foot
_____ Framing and Foundation for Service Equipment	Each
Meter Main Combination Safety Socket	Each
Panelboard	Each"

END OF SECTION

SECTION 712 - MISCELLANEOUS

Make the following amendments to said Section:

(I) Amend **712.37 Controller Equipment** to read as follows:

"712.37 Controller Equipment.

(A) Controller Assembly. Controller Assembly shall consist of a Model 170 Controller, Cabinet, and Auxiliary Equipment. Except where noted, only manufacturers and products listed on the current State of California, 'Qualified Products List (QPL) for Model 170 Controller Assembly,' from the California Department of Transportation (CALTRANS) shall be acceptable. A copy of the latest QPL is available from the City & County of Honolulu, DTS, Phone (808) 527-6988.

The Contractor should review Section 623.03(G)(2)(a) concerning quality control and testing prior to field installation.

For this project, Controller Assemblies are described and supplied as follows:

(1) Type '170' Controller Assembly and Model 332 Controller Cabinet shall mean the latest Model 170 Controller Assembly and Model 332 Controller Cabinet on the most current CALTRANS Qualified Products List (QPL).

(2) Each Controller Assembly shall contain the sufficient amount of items listed below for a full 8 vehicle, 4 pedestrian and 4 preemption phase intersection, even though the plans does not reflect it.

Item	Quantity	For Interconnect Controller Add
Model 170 Controller	1	1
Model 412C Prom Module	1	1
Model 400 Modem	1	1
332A Aluminum Cabinet	1	
Model 200 Load Switches	12	
Model 204 Flasher	All	
Model 242 Isolators	2	
Model FS/ST Isolator	All	
Flash Transfer Relays	All	
Model 210 Conflict Monitor	1	
Model 262C Detector Amplifiers (Rotary Sw Type)	8	
Model M752 Preempt. Car (Non-QPL)	2	
Model UTS (Non-QPL)	1	

(B) Model 170 Controller. Each Model 170 Controller shall meet the following additional requirements:

(1) Model 412C Prom Module includes a 27256 EPROM Chip

(2) A Supercap replaces the battery as the standby power supply to keep the DTA and RAM on the CPU board powered for at least 8 hours during ac power loss.

(3) Dual ACIAs, C2 and C20, serial communication ports.

(4) All Controller Boards mounted vertically.

(5) One Manual with each controller.

(6) Documented Validation Testing according to CALTRANS test specifications.

(C) Cabinet. Each 332A Cabinet shall meet the following additional requirements:

(1) Minimum Wired for 8 vehicle phases, 4 pedestrian phases, and 4 preemption phases.

(2) Cabinets fabricated from 0.125 anodized Aluminum.

(3) Cabinet's Main Breakers shall be rated as 50 amps.

(4) Entire Output File copper hard-wire of sufficient gauge to withstand current surges before circuit breakers or surge protectors trip.

(5) A LED Display for Modem Transmit, Receive, and Carrier Detect status will be clearly visible after opening the cabinet's front door. Attach indicators mounted on a 0.75 Inch by 2.0 Inch aluminum assembly to the top center of the cabinet's rack. Indicators will derive their signals from the C2 ACIA. Bundle the wire with a protective jacket.

(6) C2 Terminal Blocks protected from current surges by EDCO PC642 or equal.

(7) Input File and Field Terminal Blocks wired for 3M M752 Opticom Priority Module EVA, EVB, EVC, and EVD.

(8) Front and back fluorescent lights activated upon opening any door.

(9) Convenience GFI Receptacles.

(10) Door locks of solid brass rim Best Lock Series 516RL3XA7559-606 and include 2 keys.

(11) Labeling by Silk-Screening only.

(12) Output File Terminal Blocks labeled in reference to its assigned phase and signal indications.

(13) Attach One Each 24.0 inch by 36.0 inch Cabinet Print in a weatherproof plastic jacket to front and back cabinet doors.

(14) Documented validation testing of cabinet and conflict monitor iaccording to CALTRANS test specifications.

(D) Auxiliary Equipment. The Contractor shall deliver the controller unit supplied with the following auxiliary equipment:

Auxiliary equipment not on the QPL shall meet the following pertinent requirements:

(1) Model M752 Optical Preemption Module. The M752 will be card-type and will interface with the Model 170 cabinet preemption slots of the input file. Each M752 Module will have 2 channels of preemption. The M752 will include firmware to discriminate between the two valid priority signals, to prioritize valid same priority signals on a first come basis, and to override the low priority signal if a high priority is received. The M752 Module will receive input signals (9.639 and 14.035 hz) to permit priority preemption operation within the 170 local intersection program. M752 will optically isolate output signals and will trigger an active low signal to the controller for high priority and a pulsed active low signal for low priority. Since Honolulu's preemption system already employs the 3M Opticom System, all new preemption equipment will be by this manufacturer.

(2) Universal Time Standard (UTS) Module. The UTS Module will be a stand alone precision clock located in the Controller Cabinet which shall update the internal clock of the Model 170 controller by decoding Five Broadcast Frequencies (2.5, 5, 10, 15, 20 Mhz) transmitted by WWVH of the U.S. National Institute of Standards and Technology. All hardware and software of the UTS equipment will be compatible without any modification to the Model 170 Hardware or

Software. The UTS Module shall have the following specifications:

1.5 ms Time Accuracy; 2 - 4 Minutes Time to Acquire; Minimum 5 - Frequency, AM, Crystal-Controllered, Dual Conversion, Superheterodyne Receiver; Automatic Scan 5 Frequencies; Data Output RS-232C, 1200 & 2400 Baud rate, No Parity, 8 Data Bits, 1 Stop Bit; One Hour Selectable Time Zones: Daylight Saving Time Option; 24 Hour Time Format; Month, Day, and Year Date; DB25-RS232 and BNC Antenna Connector; DB25 to Model 170 C2 cable and Connectors; 2-foot outdoor Whip Antenna with Pole Adapter Bracket; 100 linear feet of RG-58 Coaxial Cable with Connectors; Approximate Size 1.5 Inch H x 8 Inch W x 9 Inch D and Weight 1.5 Lbs.; 24 VDC; Traconex / Multisonics UTS Model 1010 or equal. All UTS equipment and antennas will be installed by the Contractor and included in the controller assembly bid."

END OF SECTION

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
206.2025	Structural Excavation for Drainage Culverts, Including Headwalls (713 C.Y.)	L.S.	L.S.	L.S.	$_____
209.0000	Water Pollution and Erosion Control	F.A.	F.A.	F.A.	$160,000.00
304.1110	Aggregate Base Course	880	C.Y.	$_____	$_____
305.1110	Aggregate Subbase	11,449	C.Y.	$_____	$_____
306.1001	Untreated Permeable Base Course	11,449	C.Y.	$_____	$_____
312.0100	Plant Mix Glassphalt Concrete Base Course	33,308	TON	$_____	$_____
401.0400	Asphalt Concrete Pavement, Mix IV	14,239	TON	$_____	$_____
401.0600	Pavement Smoothness Incentive	Allowance	Allow.	Allowance	$60,000.00
411.1220	16-1/2 inch Reinforced Concrete Pavement	1,025	S.Y.	$_____	$_____
503.0022	Concrete Headwall for 24-Inch Drainline	6	EA.	$_____	$_____
503.0023	Concrete Headwall for Dual 30-Inch Drainline	2	EA.	$_____	$_____
503.0024	Concrete Headwall for 36-Inch Drainline	3	EA.	$_____	$_____
603.0010	Bed Course Material for Drainage Culvert	135	C.Y.	$_____	$_____
603.6550	18-inch Reinforced Concrete Pipe, Class III or High Density Polyethylene Pipe, Type S	1,028	L.F.	$_____	$_____
603.6552	24-inch Reinforced Concrete Pipe, Class III or High Density Polyethylene Pipe, Type S	605	L.F.	$_____	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
621.7100	Construction Sign with Two Post	10	EA.	$_____	$_____
621.7500	Relocate Milepost	1	EA.	$_____	$_____
621.7600	Milepost Marker and Supplemental Route Number Plate (Bi-Directional) with Post	2	EA.	$_____	$_____
621.8000	Mast Arm Street Name sign including brackets	8	EA.	$_____	$_____
622.2711	3-Inch C Meco Riser	1	EA.	$_____	$_____
622.2712	3-Inch C HC&S Riser	1	EA.	$_____	$_____
622.2713	4-Inch C Htco Riser	12	EA.	$_____	$_____
622.2714	3-Inch Hatv Riser	1	EA.	$_____	$_____
622.2722	4x6 Meco Handhole	1	EA.	$_____	$_____
622.2723	Meco Single Phase Transformer Pad	1	EA.	$_____	$_____
622.2724	2x4 Hatv Handhole	1	EA.	$_____	$_____
622.2725	2x4 Meco Handhole	8	EA.	$_____	$_____
622.2726	2x4"Electric" Handhole	2	EA.	$_____	$_____
622.2727	4x6 Htco Handhole	3	EA.	$_____	$_____
622.2728	Demolish Htco 4x6 Handhole	1	EA.	$_____	$_____
622.2729	Demolish Hatv 2x4 Handhole	1	EA.	$_____	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
622.2730	Relocate "Electric" Handhole	1	EA.	$_____	$_____
622.2731	Relocate Street Light foundations	4	EA.	$_____	$_____
622.2732	Relocate Street Lights	2	EA.	$_____	$_____
622.2733	Street light Foundations	21	EA.	$_____	$_____
622.3414	#4, 3 wire Circuit with Ground	120	LF.	$_____	$_____
622.3415	#6, 3 wire Circuit with Ground	390	LF.	$_____	$_____
622.3417	#10, 2 wire Circuit with Ground	620	LF.	$_____	$_____
622.3711	4-Inch PVC Conduit Concrete Encased	2,770	LF.	$_____	$_____
622.3712	3-Inch PVC Conduit Concrete Encased	2,436	LF.	$_____	$_____
622.3713	2-Inch PVC Conduit Concrete Encased	2,732	LF.	$_____	$_____
622.4812	Galvanized Steel Framing and Foundation for Service Equipment	2	EA.	$_____	$_____
622.4813	Meter Main Combination Safety Socket & Pullbox	2	EA.	$_____	$_____
622.4814	Panelboard	1	EA.	$_____	$_____
622.4815	Street lighting pole fixture	6	EA.	$_____	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
622.5000	Installation of Underground Electrical Line Extensions	F.A.	F.A.	F.A.	$12,702.00
623.1001	Removal of Existing Traffic Signal System (1 each)	L.S.	L.S.	L.S.	$_____
623.2001	Controller Assembly with Interconnect Controller (Model 170 Traffic Signal Controller Unit with software, Type 332A Cabinet and Auxiliary Equipment)	1	EA.	$_____	$_____
623.2002	Controller Assembly (Model 170 Traffic Signal Controller Unit with software, Type 332A Cabinet and Auxiliary Equipment)	1	EA.	$_____	$_____
623.2010	Type I Traffic Signal Standard, H=10 feet	3	EA.	$_____	$_____
623.2021	Type II Traffic Signal Standard with 20-foot Mast Arm	1	EA.	$_____	$_____
623.2022	Type II Traffic Signal Standard with 25-foot Mast Arm	1	EA.	$_____	$_____
623.2023	Type II Traffic Signal Standard with 35-foot Mast Arm	1	EA.	$_____	$_____
623.2025	Type II Traffic Signal Standard with 40-foot Mast Arm	3	EA.	$_____	$_____
623.2028	Type III Traffic Signal Standard with 35-foot Mast Arm	1	EA.	$_____	$_____
623.2030	Foundation for Type I Signal Standard	3	EA.	$_____	$_____
623.2040	Foundation for Type II & Type III Signal Standard	6	EA.	$_____	$_____
623.2050	Foundation for Controller Cabinet	2	EA.	$_____	$_____
623.2060	Foundation for Pedestrian Push Button Pedestal	3	EA.	$_____	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.3001	Traffic Signal Assembly (1-Way, 12-Inch, 1-3 Section Vertical with Type I Mounting)	2	EA.	$_____	$_____
623.3011	Traffic Signal Assembly (2-Way, 12-Inch, 2-3 Section Vertical with Type II Mounting)	1	EA.	$_____	$_____
623.3031	Traffic Signal Assembly (1-Way, 12-Inch, 1-3 Section Vertical with Type IV Mounting)	5	EA.	$_____	$_____
623.3041	Traffic Signal Assembly (2-Way, 12-Inch, 2-3 Section Vertical with Type V Mounting)	4	EA.	$_____	$_____
623.3061	Traffic Signal Assembly (1-Way, 12-Inch, 1-3 Section Vertical with Type VI Mounting)	13	EA.	$_____	$_____
623.3062	Traffic Signal Assembly, Programmable, (1-Way, 12-Inch, 1-3 Section Vertical with Type VI Mounting)	3	EA.	$_____	$_____
623.3071	Retrofit existing 12-Inch, 3 Section incandescent traffic signal assemblies with LED Assemblies	23	EA.	$_____	$_____
623.4020	Pedestrian Signal Assembly (1-Way, 12-Inch, One Vertical with Bracket Mounting)	5	EA.	$_____	$_____
623.4030	Pedestrian Push Button Pedestal	3	EA.	$_____	$_____
623.4040	Pedestrian Push Button with Instruction Sign	5	EA.	$_____	$_____
623.4050	Opticom Detector Assembly on Mast Arm	7	EA.	$_____	$_____
623.5001	Traffic Signal Ductline, One 2-Inch Conduit (1890 L.F.)	L.S.	L.S.	L.S.	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.5002	Traffic Signal Ductline, Two 2-Inch Conduit (225 L.F.)	L.S.	L.S.	L.S.	$_____
623.5003	Traffic Signal Ductline, Three 2-Inch Conduit (280 L.F.)	L.S.	L.S.	L.S.	$_____
623.5004	Traffic Signal Ductline, Four 2-Inch Conduit (961 L.F.)	L.S.	L.S.	L.S.	$_____
623.5006	Traffic Signal Ductline, Six 2-Inch Conduit (24 L.F.)	L.S.	L.S.	L.S.	$_____
623.5007	Traffic Signal Ductline, Seven 2-Inch Conduit (14 L.F.)	L.S.	L.S.	L.S.	$_____
623.5008	Traffic Signal Ductline, Eight 2-Inch Conduit (55 L.F.)	L.S.	L.S.	L.S.	$_____
623.5009	Traffic Signal Ductline, Ten 2-Inch Conduit (10 L.F.)	L.S.	L.S.	L.S.	$_____
623.5020	Concrete Jacket for Ductlines	85	C.Y.	$_____	$_____
623.5030	Traffic Signal Riser, 20 ft long 2" steel conduits, Schedule 40, galvanized, including bend and straps	2	EA.	$_____	$_____
623.5040	Messenger Cable for Overhead Interconnect Cable Including Tying Devices (2180 L.F.)	L.S.	L.S.	L.S.	$_____
623.6000	Type A Pullbox	12	EA.	$_____	$_____
623.6010	Type B Pullbox	11	EA.	$_____	$_____
623.6020	Type C Pullbox	3	EA.	$_____	$_____
623.7002	No. 14, 2-Conductor Sheilded Loop Detector and Pedestrian PB Cable (4160 L.F.)	L.S.	L.S.	L.S.	$_____
623.7026	No. 14, 26-Conductor Traffic Control Cable (1900 L.F.)	L.S.	L.S.	L.S.	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
623.7038	No. 20, 3 Conductor Opticom Detector Cable (920 L.F.)	L.S.	L.S.	L.S.	$_____
623.7039	No. 19, 24 Conductor Interconnect Cable in Ductlines (910 L.F.)	L.S.	L.S.	L.S.	$_____
623.7040	No. 19, 24 Conductor Interconnect Cable, Overhead (2330 L.F.)	L.S.	L.S.	L.S.	$_____
623.7041	Loop Detector Sensing Unit (6 ft x 6 ft), One Loop	30	EA.	$_____	$_____
623.7043	Loop Detector Sensing Unit (6 ft x 6 ft), Three Loops	3	EA.	$_____	$_____
623.7046	Loop Detector Sensing Unit (6 ft x 6 ft), Six Loops	5	EA.	$_____	$_____
624.1121	18-inch PVC Pipe (Class 150)	210	L.F.	$_____	$_____
629.1012	4-Inch White Pavement Striping (Thermoplastic Extrusion) - 24,109 L.F.	L.S.	L.S.	L.S.	$_____
629.1013	4-Inch Yellow Pavement Striping (Thermoplastic Extrusion) - 11,261 L.F.	L.S.	L.S.	L.S.	$_____
629.1014	4-Inch Double Yellow Pavement Striping (Thermoplastic Extrusion) - 6046 L.F.	L.S.	L.S.	L.S.	$_____
629.1015	8-Inch White Pavement Striping (Thermoplastic Extrusion) - 3291 L.F.	L.S.	L.S.	L.S.	$_____
629.1016	12-Inch White Pavement Striping (Thermoplastic Extrusion) - 362 L.F.	L.S.	L.S.	L.S.	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.1017	12-Inch Yellow Pavement Striping (Thermoplastic Extrusion) - 2380 L.F.	L.S.	L.S.	L.S.	$_____
629.1018	12-Inch White Stop Bar (Thermoplastic Extrusion) - 652 L.F.	L.S.	L.S.	L.S.	$_____
629.1019	Crosswalk Marking (Thermoplastic Extrusion)	33	LANE	$_____	$_____
629.1020	Pavement Arrows (Thermoplastic Extrusion)	81	EA.	$_____	$_____
629.1021	Bikeway Marking (Thermoplastic Extrusion)	30	EA.	$_____	$_____
629.1040	Pavement Words (Thermoplastic Extrusion)	36	EA.	$_____	$_____
629.2011	Type "A" Pavement Markers (2292 each)	L.S.	L.S.	L.S.	$_____
629.2031	Type "C" Pavement Markers (1120 each)	L.S.	L.S.	L.S.	$_____
629.2041	Type "D" Pavement Markers (50 each)	L.S.	L.S.	L.S.	$_____
629.2071	Type "H" Pavement Markers (542 each)	L.S.	L.S.	L.S.	$_____
636.0100	Plain Paper Facsimile (Not to Exceed $1,500.00)	L.S.	L.S.	L.S.	$_____
636.0200	Printer (Not to Exceed $1,500.00)	L.S.	L.S.	L.S.	$_____
636.0300	Copy Machine (Not to Exceed $8,000.00)	L.S.	L.S.	L.S.	$_____
636.1000	Field Office (Not to Exceed $35,000.00)	L.S.	L.S.	L.S.	$_____
636.2000	Project Site Laboratory (Not to Exceed $25,000.00)	L.S.	L.S.	L.S.	$_____

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
636.6000	Maintenance of Field Office and Project Site Laboratory (Not to Exceed $20,000.00)	F.A.	F.A.	F.A.	$20,000.00
636.6100	Removal and Transporting of Field Office and Project Site Laboratory (Not to Exceed $10,000.00)	L.S.	L.S.	L.S.	$_____
645.2000	Additional Police Officers and/or Additional Traffic Control Devices	F.A.	F.A.	F.A.	$100,000.00
698.1000	Trainee (2 Trainees)	2,000	HOUR	$0.80	$1,600.00
699.1000	Mobilization (Not to Exceed 10% of the Sum of All Items Excluding this Item, All Items in Section 636, Field Office and Project Site Laboratory, and All 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 "O") or
Furnish Foreign Steel in Excess of Minimal Amount (Insert 25% x a) $_____

c. Amount for Comparision 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.