

2. AMENDMENT/MODIFICATION NO. 0003	3. EFFECTIVE DATE 7/18/01	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. <i>(If applicable)</i>
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6. ISSUED BY U. S. Army Engineer District, Honolulu Attn: CEPOH-CT-C Building 230 Fort Shafter, Hawaii 96858-5440	7. ADMINISTERED BY <i>(If other than Item 6)</i>
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8. NAME AND ADDRESS OF CONTRACTOR <i>(No., street, county, State and ZIP Code)</i>	(✓)	9A. AMENDMENT OF SOLICITATION NO. DACA83-01-R-0017
	(X)	9B. DATED <i>(SEE ITEM 11)</i> 5/11/01
		10A. MODIFICATION OF CONTRACTS/ORDER NO.
		10B. DATED <i>(SEE ITEM 13)</i>

CODE	FACILITY CODE	11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS
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The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(✓)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: <i>(Specify authority)</i> THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES <i>(such as changes in paying office, appropriation date, etc.)</i> SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER <i>(Specify type of modification and authority)</i>

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

Design-Build FY01 MCA PN 52265 and BUP PN 52266 , Whole Barracks Renewal, Phase 4A, Renovation of Quad F, Schofield Barracks, Oahu, Hawaii

See attached pages.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER <i>(Type or print)</i>	16A. NAME AND TITLE OF CONTRACTING OFFICER <i>(Type or print)</i>
15B. CONTRACTOR/OFFEROR _____ <i>(Signature of person authorized to sign)</i>	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA BY _____ <i>(Signature of Contracting Officer)</i>	16C. DATE SIGNED

1. Attached hereto are revised and new pages to Sections 00700 and 01010. The revision mark "(AM-0003)" is shown on each page.

a. REVISED PAGES. The following are revised pages to the solicitation. Changes are indicated in bold.

Section 01010: The following are revised paragraphs to the specifications. Changes are indicated in bold.

7. GENERAL DESIGN - ELECTRICAL, paragraphs: 7.2.3, 7.4.20, 7.5.2, 7.5.6.2, 7.5.6.4, 7.6.7.2, and 7.6.7.4

b. NEW PAGES. The following pages are added to the solicitation.

Section 00700: Appendix A
State of Hawaii General Decision Number HI010001

Section 00900:
Table of Contents
Attachment 26, Pages 11-13, Questions 40-47 are added
Attachment 29

c. DELETED PAGES. The following pages are deleted from the solicitation.

Section 00700: Appendix A
State of Hawaii General Decision Number HI010001

Section 00900:
Table of Contents

2. ATTACHMENT 27: The header of pages 2 through 5 have been revised from "Attachment 25" to "Attachment 27".

3. The hour and date specified for receipt of Offers is not extended. Offers are due July 31, 2001, 2:00 p.m. (Hawaii Standard Time).

General Decision Number HI010001

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 PROJECT
(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

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 09/04/2000

	Rates	Fringes
BRICKLAYERS; Caulkers; Cement Block Layers; Cleaners; Pointers; and Stonemasons	25.77	14.83

* BRHI0001B 09/04/2000

	Rates	Fringes
TERRAZZO WORKERS: Terrazzo Workers	25.77	14.83
Terrazzo Base Grinders	23.96	14.83
Terrazzo Floor Grinders and Tenders	22.41	14.83

* BRHI0001C 09/04/2000

	Rates	Fringes
MARBLE MASONS	25.77	14.83

BRHI0001D	03/01/1999	
	Rates	Fringes
TILE LAYERS (CERAMIC)	25.37	12.19
TILE LAYER FINISHERS (CERAMIC)	22.01	12.19

CARP0745A	02/26/2001	
	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		
	29.10	15.35
Millwrights and Machine Erectors	29.35	15.35
Power Saw Operators (2 H.P. and over)	29.25	15.35

CARP0745B	02/26/2001	
	Rates	Fringes
DRYWALL HANGERS	29.35	15.32
LATHERS	29.35	15.32

* ELEC1186A	02/11/2001	
	Rates	Fringes
ELECTRICIANS:		
Electricians	30.60	5.85+30.6%
Technicians	31.52	5.85+30.6%
Cable Splicers	33.66	5.85+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, Liebherr, 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 09/04/2000

	Rates	Fringes
IRONWORKERS	25.50+a	18.66

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 09/04/2000

	Rates	Fringes
LABORERS:		
GROUP 1	22.45	10.74
GROUP 2	20.85	10.74
GROUP 3	23.45	10.74
GROUP 4	22.95	10.74
GROUP 5	21.95	10.74
GROUP 6	14.85	6.49
MASON TENDERS	22.70	10.74

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: sweeping, 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; Guniting 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 waterpools, 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 stockpile 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 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; 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; 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; Stripper (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 10/02/2000

	Rates	Fringes
LANDSCAPE AND IRRIGATION LABORERS:		
Group 1	17.01	5.37
Group 2	17.51	5.37
Group 3	14.01	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 of landscaping 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 performance 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 Cabetenders; 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)

PAIN1791A 01/01/2001

	Rates	Fringes
PAINTERS:		
Brush	25.55	17.85
Sandblaster; Spray	26.05	17.85

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 09/04/2000

	Rates	Fringes
CEMENT MASONS:		
Cement Masons	25.47	14.83
Trowel Machine Operators	25.62	14.83

* 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 08/27/2000

	Rates	Fringes
SHEET METAL WORKERS	32.47	13.11

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:

0 Administrative Review Board
1 U. S. Department of Labor

2 200 Constitution Avenue, N. W.
3 Washington, D. C. 20210

4
5 4.) All decisions by the Administrative Review Board are final.
6 END OF GENERAL DECISION

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A-1 A-lectrician, Inc., Jul 11:

Q40. Can you obtain some general guidelines on what DOIM is expecting the Contractor to provide in the Quad F project?

a. Administrative spaces are contained only in Buildings 649 & 650. How many empty ducts do you need entering these buildings, as a minimum? What size cables should we anticipate being landed at the 110 terminal blocks for AT&T HITS? (i.e. how many pairs?)

A40a. A four-way duct system will enter all buildings. Cable size is provided as follows: Bldg 649 (400 pair copper); Bldg 650 (300 pair copper); Bldg 651 (50 pair copper); and, Bldg 652 (50 pair copper).

b. How many ducts [for copper cables] are to be run from Building 255 to Quad F along Foote Ave.?

A40b. We are unable to provide a response at this time. The contractor needs to coordinate this with DOIM after award.

c. How many ducts [for FO cable] are to be run from Building 550 to Quad F along Foote Ave.?

A40c. Building 550 will connect to the new manhole numbered MHC8 with a four-way duct system.

d. Please confirm that Building 651 & 652 will not require any ducts from either Buildings 550 or 255, since the phone within the soldiers' living quarters are NOT connected to the AT&T HITS system.

A40d. Buildings 651 and 652 should each have four-way duct systems from MHC8. A 50 pair copper cable is being installed to accommodate weatherproof phones, cable television and possibly CCTV.

Dick Pacific Construction, Jul 11:

Q41. RFP Reference Paragraph/Page: 01011, 3.3.2

Requirements for ADA compliance have been relaxed under the military exclusion clause. Are provisions for the life safety also waived as they apply to the differences in elevation between the exterior corridors of Building 651 and 652. The 5" difference in elevation is still non conforming under the life safety provisions of the RFP requiring all of the exterior corridors to be raised to within 1" if the interior elevations.

A41. Life safety provisions will not be waived for this project.

Q42. RFP Reference Paragraph/Page: Drawing Sheet C-1

Please indicate if existing gas service is available off of the street or if LPG tanks are required. If gas service is available, what is the extent of piping that will be provided by the gas company?

A42. LPG as a source for heating hot water specifically not addressed because primary energy source for domestic hot water heating is desuperheater off of the existing Trane Chiller.

However, proposer would have to provide a back up source for heating hot water.

Per discussion with Mike Kumabe of DPW, gas service is available. Proposers will have to contact Mr. Lee Strunk of GasCo at (808) 594-5511 for specific information.

Q43. RFP Reference Paragraph/Page: 01010, 7.7 Special Utilities and Supplementary Construction

This section indicates connections to utilities possibly outside of project boundary.

7.5.1 The points of connection listed are maintenance Hole C7, Fiber Optic Cables:

Building 550, AND, and Copper cables: Bldg 255 Main distribution Frame

The above sentence is confusing and it refers to locations outside of the project area.

During informal conversations with knowledgeable personnel, there are no available pathways from Bldg 255 to the Quad F area.

a.1. Who determines the path from the Quad F project to the locations outlined above?

a.2. Is it the intent of the project to provide new underground ducts from the Quad F project area, along Foote Avenue and down into Bldg 255?

b. The Calculated Connected electrical load for all 4 building is approximately 2700 KVA. Does the point of connection listed in the RFP (7.4.8) have the capacity at the existing 7.2 kV voltage level (approximately 200A)?

A43. . We are unable to provide a response at this time. The contractor needs to coordinate this with DOIM and DPW after award.

Q44. RFP Reference Paragraph/Page: Amendment 0002 attachment 28 Seismic Evaluation & Anti-Terrorism/Force Protection

a. Can the location of the shear walls indicated in attachment 28 be altered to accommodate the contractors room layout for the various areas in the building?

b. Dictating location of interior walls required at this stage of the bid will require a complete redesign for some of the floors. The floor layouts and space allocations have been in continuous development from the beginning of the bid proposal stage in early May, and it would not be practical at this point to re-arrange the spaces to accommodate the shear walls.

c. Will the government allow the contractor to dictate the locations of the shear walls with supporting structural calculations?

A44. Yes. RFP Section 01010, Para. 4.15, states, "...the design proposal need not follow the report exactly, provided the seismic forces specified in the report are accounted for in a rational analysis developed by a licensed structural engineer, and load path requirements are met." The seismic forces were inadvertently left out of the report. However, they are:

Base Shear	$V = 1.32W$ (per TI 809-05)
Building 649:	$V = 21,800$ kips
Buildings 650 thru 652:	$V = 16,00$ kips

Applicable design criteria, in accordance with the RFP, are included in TI 809-05.

Q45. RFP Reference Paragraph/Page: Amendment 0002, Attachment 27

Paragraph 1.4.5 Table 1 Standard Design Package for Enlisted Personnel Dining Facility (300 PN) DEF 722-10-01, Feb 1996

The original RFP states that the design for the dining facility shall be based on 501-800 Enlisted Personnel (paragraph 1.3.2.2). Please verify that the dining facility will be for 300 persons and not 501-800 as previously indicated.

A45. The Enlisted Personnel Dining Facility will be based on the "501-800" standard drawings.

Moss Engineering, Jul 16:

Q46. Please provide information on the type of light post required for this project.

A46. The specification for the light poles luminaires are provided as an attachment.

Ocean House Builders, Jul 16:

Q47. Regarding the above solicitation/project, in the event that there are unassigned spaces while allocating floor areas for the various usages, as defined by the RFP, do we allow for a "finished space" or "unfinished loft spaces"? Please advise.

A47. Unassigned spaces will be "finished space": floors, walls and ceilings will match adjacent spaces. Unassigned spaces are not foreseen. Assigned spaces will "expand" to encompass the floor area.

ATTACHMENT 29

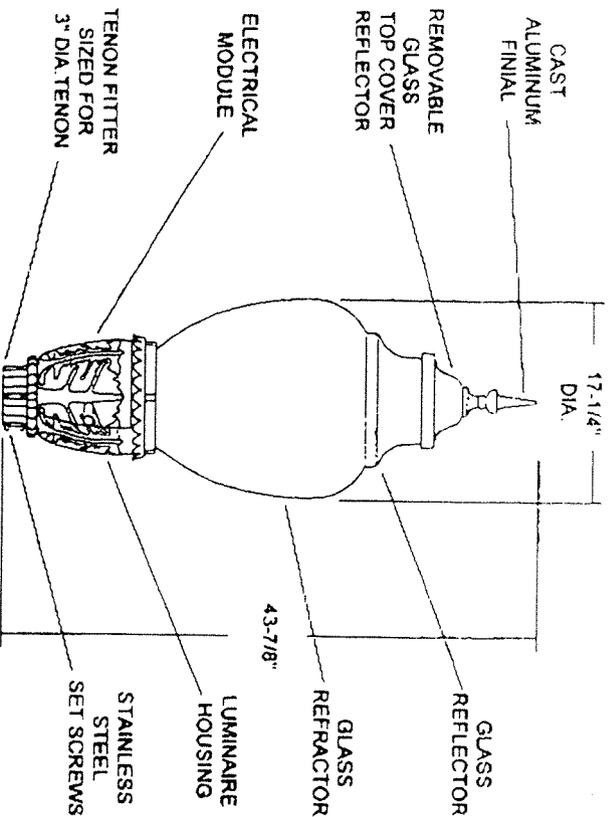
ROADWAY LIGHT FIXTURE

Washington Postite Luminaire

Acorn Style with Finial

Maximum weight - 80 lbs

Maximum effective projected area - 2.25 sq. ft.



ORDERING INFORMATION

WA	070HP	12	B	3	K
BALLAST TYPE (NOGUL BASE)					
070HP = 70W HPS	12 = 120 VOLT	B = BLACK	FINISH		
100HP = 100W HPS	20 = 208 VOLT	Z = BRONZE	OPTICS		
154HP = 150W 55V HPS	24 = 240 VOLT	N = GREEN	3 = ASYMMETRIC REFRACTOR FOR IES TYPE III DISTRIBUTION		
250HP = 250W HPS	27 = 277 VOLT	A = AS SPECIFIED	4 = ASYMMETRIC REFRACTOR FOR IES TYPE IV DISTRIBUTION		
400HP = 400W HPS	48 = 480 VOLT		5 = SYMMETRIC REFRACTOR FOR IES TYPE V DISTRIBUTION		
175MH = 175W METAL HALIDE			DECORATIVE TRIM		
OR			K = BLACK FINIAL		
175W MERCURY			R = BRONZE FINIAL		
250MH = 250W METAL HALIDE			L = GREEN FINIAL		
OR			A = AS SPECIFIED		
250W MERCURY					
400MH = 400W METAL HALIDE					
OR					
400W MERCURY					
BALLAST TYPE (MEDIUM BASE)					
70DHP = 70W HPS					
10DHP = 100W HPS					
15DHP = 150W 55V HPS					
70DMH = 70W METAL HALIDE					
(NOT AVAIL. 480V)					
10DMH = 100W METAL HALIDE					
(NOT AVAIL. 480V)					
17DMH = 175W METAL HALIDE					
30DIN = 300W INCANDESCENT					
(AVAIL. 120V ONLY)					

OPTIONS

PS = PROTECTED STARTER FOR HPS UNITS ONLY
 PR = BUTTON STYLE PHOTOCONTROL AVAILABLE ON 120, 208, 240, 277 VOLT ONLY.

UNIQUE SOLUTIONS ORDER NO: US101224

TYPE:

DRAWING NO: US-1452

THIS DRAWING WHEN APPROVED SHALL BECOME THE COMPLETE SPECIFICATION FOR THE MATERIAL TO BE FURNISHED BY UNIQUE SOLUTIONS ON THE ORDER NOTED ABOVE. A LIMITED NUMBER OF FINIAL DESIGNS MAY BE SUPPLIED, BUT ONLY AFTER APPROVAL BY THE CUSTOMER IN WRITING. ON POLE ORDERS AN ANCHOR BOLT TEMPLATE PRINT WILL BE SUPPLIED WITH EACH ANCHOR BOLT ORDER TO MATCH POLE PROVIDED.

THIS PRINT IS THE PROPERTY OF UNIQUE SOLUTIONS AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS CONDITION THAT IT WILL NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO OUR INTERESTS, AND ONLY IN CONNECTION WITH MATERIAL FURNISHED BY UNIQUE SOLUTIONS.

Specifications

DESCRIPTION

The Washington Postite Luminaire is styled to replicate the acorn luminaires that lighted streets in the first half of the 20th century. Designed for superior light control, ease of installation, and maintenance, the Washington Postite has a precision prismatic glass optical system for true street lighting performance as well as beauty.

OPTICAL ASSEMBLY

The optical assembly is a precisely molded thermal resistant borosilicate glass reflector and refractor. The upper portion of this system incorporates a series of reflecting prisms that redirect over 50% of the upward light into the controlling refractor while allowing a soft uplight component to define the traditional acorn shape. The lower portion uses precisely molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and luminaire spacing. The very top of this assembly is a removable spring loaded prismatic glass cover with decorative finial for toolless entry into the lamp chamber. Three unique optical assemblies are available, designed for IES type III, type IV, and type V distribution.

LUMINAIRE HOUSING

A decorative cast aluminum luminaire housing, cradles the optical assembly and provides an enclosure for the plug-in electrical module. The nickel plated lamp grip socket and the three station incoming line terminal block are provided to a five conductor receptacle for ease in connecting the electrical module. A slipfitter will accept a 3 inch high by 2-7/8 inch to 3-1/8 inch O.D. pipe tenon.

ELECTRICAL MODULE / LUMINAIRE HOUSING DOOR

The decorative cast aluminum housing door contains the ballast components and is held in place by two captive 1/4-20 stainless steel screws. A matching six conductor plug connects to the receptacle in the luminaire housing to complete the wiring. The door has a hook which, when engaged over a retaining bar in the luminaire housing, allows both hands to be free while making or breaking connections.

BALLAST

(Refer to Ballast Data Sheet for specific operating characteristics)

150 watt and below 120 volt High Pressure Sodium (HPS) ballasts are High Power Factor Reactor type. All other 150 watt and below are High Power Factor Autotransformer type. 250 and 400 watt HPS ballasts are Lead type.

All Metal Halide (MH) ballasts are Peak Lead Autotransformer type.

FINISH / MATERIAL

The luminaire is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability. All castings utilize alloy #356 copper free aluminum for maximum corrosion resistance and all exposed hardware is stainless steel.

UL

The luminaire is UL listed as suitable for wet locations at a maximum of 40 degrees C ambient temperature.

WHEELER AFB HONOLULU, HI

WASH TN.DWG



UNIQUE SOLUTIONS

A DIVISION OF HOLOPHANE

515 MCKINLEY AVENUE

P.O. BOX 3009

NEWARK, OHIO 43055

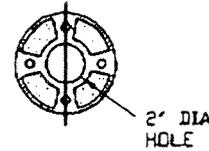
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DRAWN: RAF

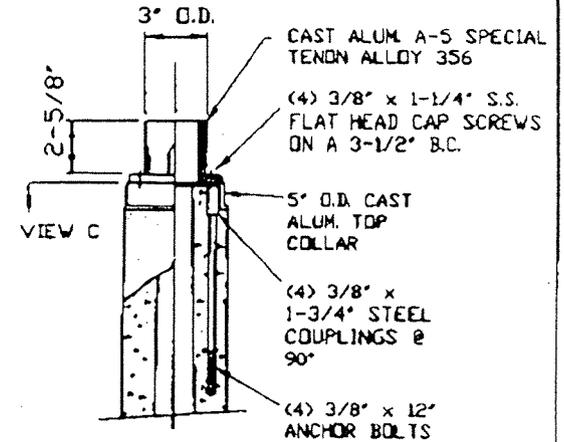
APP'D:

DATE: 02-01-96

WHEELER A.F.B., HONOLULU, HI
 SPECIAL CONCRETE POST
 ORDER NUMBER US10124



VIEW C



TOP MOUNT DETAIL

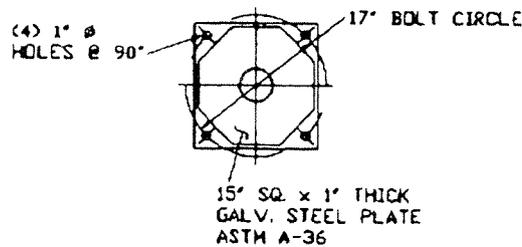
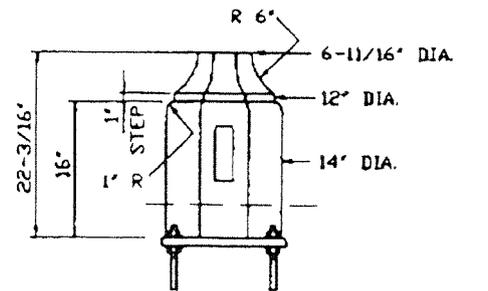
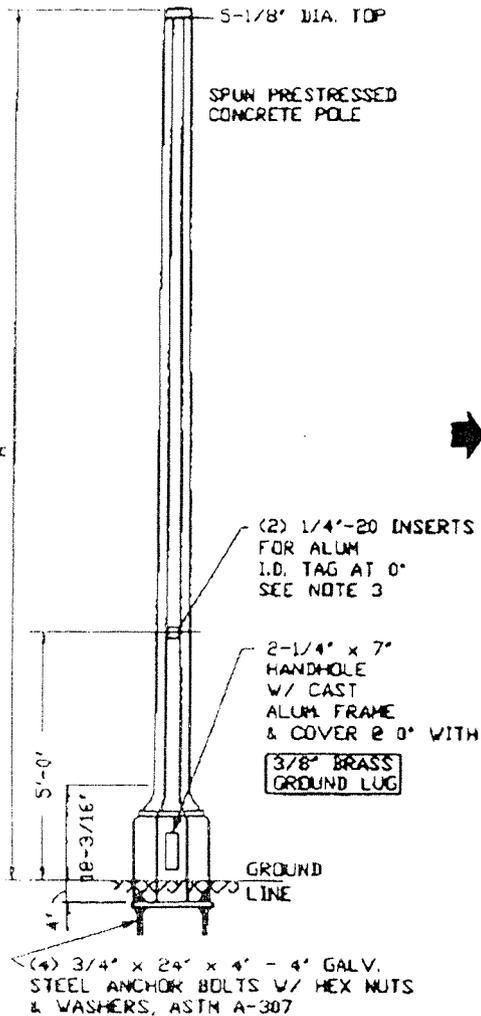
VBS BASE PLATE VICTORIAN OCTAGONAL
 STEP BASE POLE SPECIAL

POLE DESIGNATION	A POLE HEIGHT A.G.	BOLT CIRCLE DIA.	ULTIMATE G.L. MOMENT (ft. lbs.)	WEIGHT (lbs.)
VBS-4.0	12'	17'	9,900	500

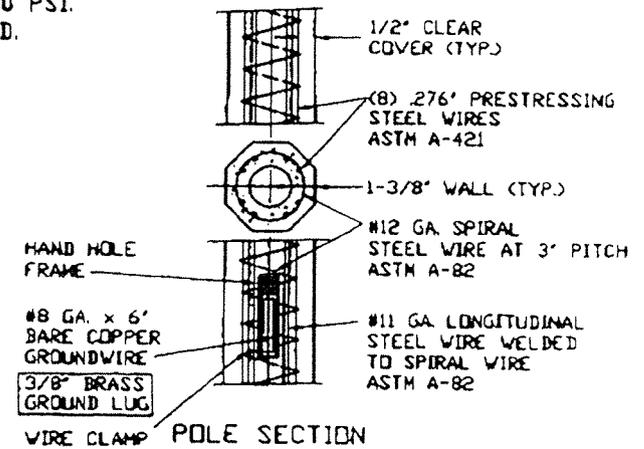
(156) POLES REQ'D W/A-S SPECIAL TENON (3"OD X 2-5/8" HIGH) AND 3/8" GROUNDING LUG

NOTES:

1. FINISH - #335 BUFF CEMENT SONDRRA GOLD LIGHT EXPOSED FINISH.
2. ASTM C-150 TYPE 3 GRAY CEMENT, f'c @ 28 DAYS=7,000 PSI.
3. I.D. TAG AT 5'-0" ABOVE GRADE AT 0" FIELD INSTALLED.
 I.D. TAG AND 1/4"-20X1/2" SST SCREWS PROVIDED.



BASE PLATE



POLE SECTION

TYPE:

UNIQUE SOLUTIONS

A DIVISION OF HOLOPHANE
 515 MCKINLEY AVENUE
 P.O. BOX 3009
 NEWARK, OHIO 43055

DRAWING NO.: US-1510
 CAD DRWG: US1510.DWG

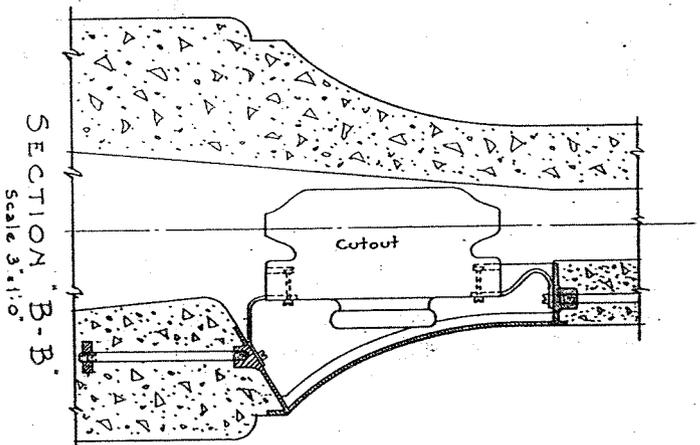
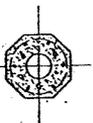
SCALE: NONE

DRAWN: RAF

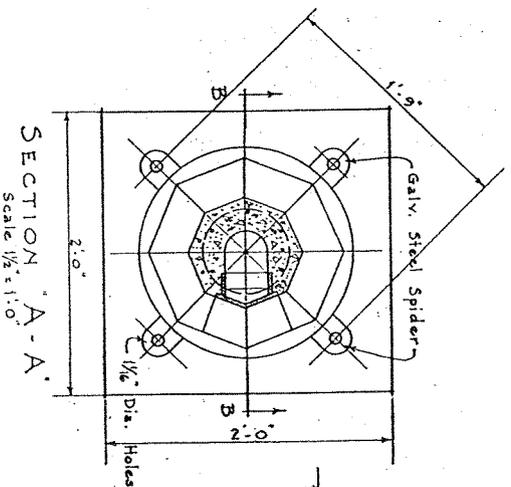
APP'D:

DATE: 03-06-96

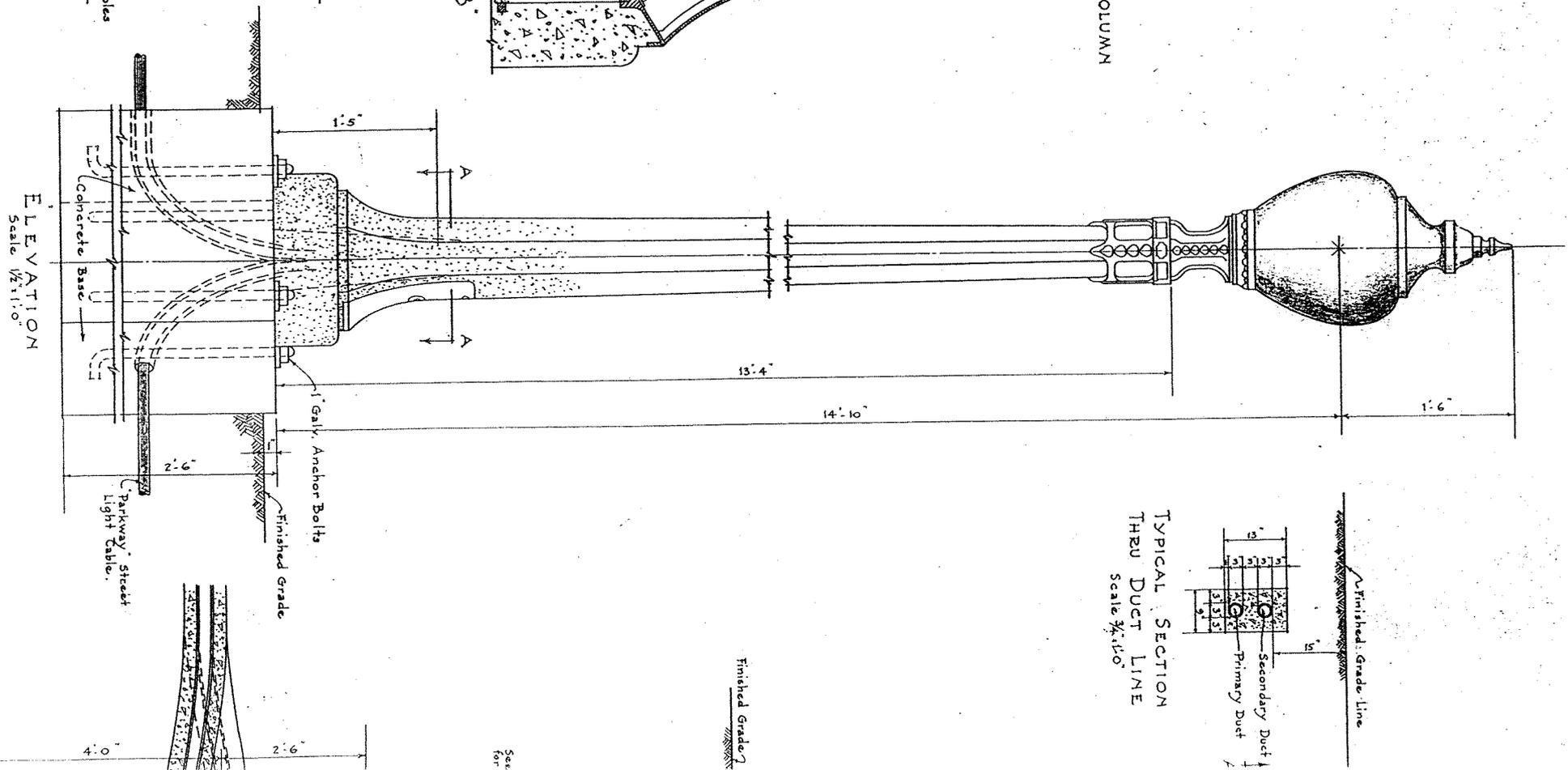
PLAN AT TOP OF COLUMN
Scale 1/2" = 1'-0"



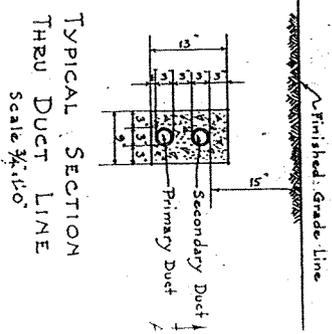
SECTION "B-B"
Scale 3/4" = 1'-0"



SECTION "A-A"
Scale 1/2" = 1'-0"



ELEVATION
Scale 1/2" = 1'-0"



TYPICAL SECTION
THROUGH DUCT LINE
Scale 3/4" = 1'-0"

Finished Gravel

See
for

CONCRETE LAMP STANDARD FOR STREET LIGHTING

NOTE: Base of Lamp Standard to be flush with inside edge of sidewalk.

7. GENERAL DESIGN - ELECTRICAL.

7.1 Interior Electrical System

7.1.1. Conformance to Code: The electrical system shall be designed in compliance with the rules and recommendations of ANSI C2, National Electrical Safety Code (NESC) 1997 edition, and NFPA 70, National Electrical Code (NEC) 1999 edition, TI 800-01 Design Criteria, and TI 811-16 Lighting Design.

7.1.2. Electrical Service: Electrical system characteristics for building services shall be 277/480 volts, three-phase, 4-wire, 60 Hertz, grounded neutral.

7.1.3. Overcurrent Protection: Overcurrent protection shall be provided for each feeder. Service entrance equipment for each building shall be grouped together and located in the electrical room. The service entrance equipment shall include sockets for electric watt-hour meters. Provide locking seal on meter socket covers. Meter socket shall be located in an area readily accessible by service personnel. Manual by-pass jumper plates for each socket shall be provided. Meter sockets within a building shall be grouped at one location at the building. Meter sockets shall have a cover plate lock on the locking ring to prevent removal of the locking ring by unauthorized personnel. Service entrance conductors shall be sized in accordance with the National Electrical Code. Service feeders shall be underground.

7.1.4. Loadcenters/Panelboards: Loadcenters/panelboards shall be rated not less than 150 amperes, mounted in the interior walls, and readily accessible. Offset a minimum of 400 mm (16 inches) horizontally back-to-back loadcenters/panelboards. No recessed loadcenters/panelboards are to be located in fire walls. Loadcenters shall have separate neutral and ground buses. Loadcenters/panelboards shall be circuit breaker type installed in painted galvanized steel recessed, dead-front enclosures. Provide at least 25% spare spaces in each loadcenter/panelboard. The Amps Interrupting Current (AIC) rating of loadcenters/panelboards shall be as calculated in the short circuit analysis but shall not be, in any case, less than 10,000 AIC.

7.1.5. Outlet Circuits: Lighting and convenience outlets shall be on separate circuits. Convenience outlets shall be grounded, duplex type, 2 pole, 3 wire, rated 15 amperes at 125 volts, except that outlets provided for specified appliances or equipment shall be of the appropriate type and rating. Receptacles shall be grounded and flush mounted in walls and partitions. All receptacles requiring ground fault protection shall be integral with the receptacle. Outlets on party walls shall be offset 610 mm (24 inches) to maintain integrity of the fire wall and sound deadening rating of the wall. Outlets in Telecommunication Rooms (TR) or closets shall be 2P3W, 20 ampere rated with at least two 20 amp, dedicated circuits.

7.1.6. Conduit and Wiring: Conduit and wiring shall not be run in concrete slabs-on-grade. Where runs are below concrete slabs-on-grade and in direct contact with earth or fill, conduit shall be of the coated rigid steel thickwall conduit, coated intermediate metal conduit or Schedule 40 polyvinyl chloride (PVC) type. Elsewhere, conduit where required shall be either of the galvanized thick-wall conduit, intermediate metal conduit, or electrical metallic tubing (EMT) type, except that EMT shall not be installed in concrete, exposed to the weather or in other wet locations.

7.1.7. Calculations and Drawings: Complete single line diagrams shall be provided with calculations of available short circuits and voltage drops on branch circuits. Lighting calculations shall also be provided. Load calculations for each building shall be provided and conform to Article 220 of the NEC. Illumination levels shall conform to IES standards.

7.1.8. Building Security Lights: Outdoor 70-watt high pressure sodium luminaires shall be provided on the sides of each building to illuminate the perimeter of the building. Quantity and location of fixtures shall be situated to eliminate shadow areas where intruders could remain undetected, yet be coordinated with the architectural features of the structure to minimize spill light into an adjacent building. Luminaires shall be photocell controlled. All luminaires shall be grounded to conform with Article 410 of the NEC and

shall be rated for the environment to which the luminaires are exposed. Selection of luminaires shall be based on energy-savings and aesthetics. Outdoor luminaires shall be UL listed as suitable for wet locations and shall have vandal-proof polycarbonate type lens or otherwise impact resistant plastic lens. All luminaires shall be complete with lamps.

7.1.9. Interior Lighting: The design of interior lighting shall be in accordance with the fundamentals and recommendations of the IES Lighting Handbook, TI 811-16 Lighting Design, and TI 800-01 Design Criteria.

7.1.9.1 Lighting Intensities: Lighting intensities shall conform to those required by the IES and TI 800-01, Chapter 12, table 12-4. The IES intensities were published as minimums for specific tasks. However, the IES intensities shall be considered target design levels not to be changed significantly. The upper lighting levels shall be considered as maximum design levels.

7.1.9.2 Controls: Lighting controls shall be time clock or photoelectric, or both, for general indoor and outdoor lighting. Automatic dimming to supplement day lighting or occupancy sensors may be considered. Dimming systems may be used to reduce voltage and increase lamp life.

7.1.9.3 Efficiency: Interior lighting will be both efficient and color corrected. Color Rendering Index (CRI) of 85 or better and a standard lighting color of 3500 K are required. Fluorescent luminaires shall have rapid start, energy saving, electronic ballasts with sound rating "A". Lamps shall be of low mercury type that meets EPA's TCLP (Toxic Characteristic Leaching Procedure) tests and are classified as non-hazardous waste. For 1220 mm (4 ft) fluorescent light fixtures, provide T8, 32 watt lamps. Polystyrene lens is not acceptable. Acrylic diffusers shall be provided. Recessed fluorescent luminaires shall have 0.026-inch minimum thickness for metal housing. Surface mounted fluorescent luminaires shall have 0.032-inch minimum thickness for metal housing. Luminaires on ceilings less than 2250 mm (7 feet-6 inches) above the floor shall be recessed flush type.

7.1.9.4 Arms Vaults Lighting: Ceiling mounted fluorescent light fixtures shall be provided for the Arms Vaults. The illumination level required for the Arms Vault shall be 75 footcandles (750 Lux).

7.1.10. Smoke Detectors: See section 8. Smoke detectors shall not be located in close vicinity of the bathroom entrance to preclude false alarms. Detectors shall be of the ionization or photo-electric type conforming to the requirements of Underwriters Laboratories Standards No. 217. Detectors shall bear labels, indicating compliance with standards, by a recognized independent laboratory that maintains periodic inspection of production and testing of the detectors provided.

7.1.11. Door Chimes: Push buttons shall be provided at front entrances to each living unit. The system shall include wiring, push buttons, transformer and chimes. System shall be designed for operation at less than 50 volts. Splices in wiring shall be made only where they will be accessible upon completion of the building.

7.1.12. Branch Circuits and Convenience Outlets: Provide a minimum of one general purpose 120 volt, 20 ampere receptacle outlet in each room. In rooms where walls exceed 3 meters, provide an additional duplex outlet for each additional 3 meters of wall or fraction thereof. Receptacle spacing shall not exceed 3 meters. The general purpose receptacles are in addition to the special purpose and dedicated for special equipment. Each LAN workstation shall be provided with an additional well-defined adjacent duplex receptacle on an independent single phase (20 amp, 120 volt) circuit having not more than four duplex receptacles and a non-shared neutral. Where a 20 ampere, 120 volt receptacle is incorporated in the same metal box with a television, or LAN outlet, a partitioned metal box with separate power and signal conduits shall be provided. Provide independent receptacle circuits for FAX and copy machine equipment and laser printers and coordinate the locations with the users. Ground fault circuit interrupter (GFCI) receptacles shall be 15A, 120V w/test and reset button integral with the receptacle. GFCI receptacles shall not be used in "feed thru" applications to protect downstream receptacles on the same branch circuit.

7.1.12.1. Bathrooms: A duplex, ground fault circuit interrupter (GFCI) receptacle shall be provided adjacent to the lavatory. Bathroom receptacle outlets shall be supplied by at least one 20-ampere branch circuit. Such circuit shall not have other outlets.

7.1.12.2. Hallway outside bedrooms. For hallways of 3000 mm (10 feet) or more in length, at least one duplex receptacle shall be provided.

7.1.12.3. Entrance. A weatherproof, duplex, ground fault circuit interrupter (GFCI) receptacle shall be provided near each entrance to each building.

7.1.13. Non-Linear Loads: In all areas where nonlinear load type equipment predominates such as computers, printers, uninterruptible power supply (UPS), motors with variable speed drives, electronic ballasts and dimmers and other similar loads, ETL 1110-3-403, "Electrical Power Systems for Nonlinear Loads" dated 30 June 1989; IEEE Std 1100 "Powering and Grounding Sensitive Electronic Equipment", IEEE Std. 519, "Practices and Requirements for Harmonic Control in Electrical Power Systems" shall be used as design guides. Additionally, the use of 75 or 90 degree C (minimum) terminals and insulated conductors is required and shall be so stated in the project and identified in the RFP documents. Use 75 degree C conductors on circuits with protective device terminals rated for 60 degree C is inappropriate. National Electrical Code (NEC) and Underwriter's Laboratory (UL) rules and instructions shall be followed in applying the ampacity tables in the NEC beginning with Table 31-6. Since virtually all electrical equipment that meets the approval required by article 110-2 of the NEC is UL listed, the equipment must be installed in accordance with UL instructions. The basic rule of the UL Electrical Construction Materials Directory states that, in general, "the termination provisions are based on the use of 60 degree C ampacities for wire sizes No. 14-1 AWG and, 75 degree C ampacities for wire sizes Nos. 1/0 AWG and larger, as specified in Table 310-16 of the National Electrical Code." Higher rated conductors than specified may be used if the size is based upon the previous statements. Panelboards and loadcenters serving nonlinear loads shall have double-rated neutral busses. Motors connected to the same power source as nonlinear loads shall be upgraded in size similarly. True RMS sensing meters, relays, and circuit breaker trip elements shall be used with nonlinear loads.

7.1.14. Transformers: Transformers and dielectrics shall be selected and applied in accordance with ETL 1110-3-412 "Transformer Application Guide". For those areas with high nonlinear loads, "K" factor rated transformers are required. Provide a schedule identifying the "K" factor rating for each area. Ratings shall be based upon type of load served. Interior transformers having a primary voltage less than 600 volts shall be of the ventilated-dry-type and shall not exceed 500 kva capacity. Heat load calculation shall be provided to ensure temperature rise is acceptable.

7.1.15. Wiring: Conductors shall be copper. Aluminum conductors are not allowed. Conductors No. 10 AWG and smaller shall be solid, and those No. 8 AWG and larger shall be stranded. Unless indicated otherwise, all wiring, installed in galvanized rigid steel conduit (GRS), intermediate metal conduit (IMC) or electrical metallic tubing (EMT), shall be 600 volts, type THW, THWN, XHHW or RHW, except that grounding wires may be type TW. The wiring methods in the various parts of the facility must be clearly identified on the contract drawings. Underfloor ducts or raceways or raised floors may be used in electronic data processing (EDP) or automated data processing (ADP) rooms or other similar areas when anticipated changes or large equipment requirements justify their use. Underfloor ducts or overhead raceways for electrical wiring and information systems cabling may be provided in administrative areas with requirement too extensive to be served by wall outlets. Remote-control and signal circuits shall be type TW, THW or TF, No. 14 AWG minimum. Service entrance cables shall comply with UL 854. All wiring shall be concealed.

7.1.16. Motors: Motors having a starting current that will cause a 30% transient voltage dip shall have reduced-voltage or current-limiting controllers. The selection of motors and motor controls shall be done in a systematic manner with consideration of the overall efficiency of the system. Motor efficiencies shall meet or exceed the minimum requirements set forth by the Department of Energy where non-proprietary products are available.

7.1.17. Prewired Work Stations: Coordinate early in the design process with the User and the architect concerning the necessary electrical characteristics of the work station wiring systems. In order to facilitate a non-proprietary work station, it may be necessary to provide alternate electrical distribution schemes to match the various methods used in potential supplier's manufactured products. See telecommunications section for telecommunications requirements.

7.1.18. Coordinated Power System Protection: The electrical interior distribution system requires short circuit calculations to ensure proper coordination of the protective devices. This analysis shall be performed in accordance with TM 5-811-14 Coordinated Power Systems Protection. The envelope of coordination for which the proposer is to be responsible must be shown on the drawings and in the design analysis. Special coordination requirements shall be noted on the drawings. Also, situations where complete coordination is not achievable due to device limitations shall also be noted on the drawings and design analysis.

7.1.19. Electronic Security Systems: Electronic security systems shall be designed in accordance with TM 5-853-4 Electronic Security Systems Technical Manual. Arms vaults shall be properly designed for Joint Service Interior Intrusion Detection System (JSIIDS). This limited system is used for interior intrusion detection system (IDS) and consists of a control unit, DTM (a data transmission link such as wire line, fiber optics, coaxial cables, or radio frequency transmission), balanced magnetic switch, capacitance proximity sensor, grid wire sensor, passive ultrasonic sensor, ultrasonic motion sensor, and a duress sensor. Telecommunications entrance facilities shall have JSIIDS on their doors.

7.2. Telecommunications Premises Distribution Systems. (Interior Telecommunication System)

7.2.1 Telecommunications Premises Distribution Systems Design: The premises distribution system (PDS) design shall be in accordance with the Department of Army's Installation Information Infrastructure Architecture (I3A), Design and Implementation Guide, dated 19 May 2000 and the local addendum's to the I3A. Technical criteria to be used for design and construction shall be taken from the most current references at the date of issue of the Request for Proposals (RFP) and shall only be modified as described herein. Codes and standards specifically referred to and those listed below shall be the minimum acceptable criteria.

STANDARD NUMBER	DESCRIPTION (STANDARDS ARE ADOPTED FEDERAL GOVERNMENT AND DOD)
ANSI/TIA/EIA-568-B	Commercial Building Telecommunications Cabling Standard
ANSI/TIA/EIA-569-A	Commercial Building Standards for Telecommunications Pathways and Spaces
ANSI/TIA/EIA-570-A	Residential Telecommunications Cabling Standard
ANSI/TIA/EIA-598-A	Optical Fiber Cable Color Coding
ANSI/TIA/EIA-606-A	Administration Standards for the Telecommunications Infrastructure of Commercial Buildings
ANSI/TIA/EIA-607-A	Commercial Building Grounding and Bonding Requirements for Telecommunications
ANSI/TIA/EIA-758-1	Customer-Owned Outside Plant Telecommunications Cabling Standard
TIA/EIA-TSB67	Transmission Performance Specifications for Field testing of Unshielded Twisted-Pair Cabling Systems
TIA/EIA-TSB72	Centralized Optical Fiber Cabling Guidelines
TIA/EIA-TSB75	Additional Horizontal Cabling Practices for Open Offices
TIA/EIA-TSB95	Additional Transmission Performance Guidelines for 4-Pair 100 Ω Category 5 Cabling
* TSB = Telecommunications Systems Bulletin	

7.2.1.1 Features of the premise wiring system are as follows:

a. Prewiring of the building in accordance with Federal and National Standards i.e. Telecommunications Industry Association (TIA) and Electronic Industries Association (EIA) documents.

- b. Use of 4 pair, 24 AWG, solid conductor, 100 ohm, unshielded twisted-pair (UTP), thermoplastic jacketed, category 5e or better rated copper cables that meet ANSI/ICEA S-80-576 is required for horizontal cabling except where fiber optic cables (FOC) are used or required. All terminations shall be wired in accordance with EIA/TIA T568A.
- c. Use of distribution devices, such as patch panels or 110 Blocks shall be installed with wire management devices. RJ21X or 66 Blocks shall not be used.
- d. Star wiring architecture from the distribution device is required.
- e. A minimum of one horizontal category 5e cable shall be installed into each barracks room. Service will be provided by others.
- f. A minimum of two horizontal cables shall be installed at every outlet. At least one blue sheath/outlet and one green sheath/outlet shall be placed.
- g. Category 5e telecommunication outlets shall be configured in the 586A configuration.
- h. Use of an auxiliary disconnect outlet if necessary
- i. Grounding shall be in accordance with ANSI/TIA/EIA 607 or 758.

7.2.2. Telecommunications Outlets: Telecommunications outlets shall be 8 position, Category 5e flush mounted type, wired in the T568A configuration. Each outlet shall have the designated number of 8 conductor, Category 5e cables in a concealed 1" or larger EMT conduit. Cabling methods shall comply with the appropriate ANSI/EIA Standard. Cabling and jacks shall be Category 5e and of high quality. All telecommunications outlets shall have a factory made color identification device so that all users can easily identify voice (blue), data (green), or special circuits (yellow).

7.2.3. Telecommunications Rooms: A telecommunications entrance facility will be placed in each building on the ground floor and with an external door. Besides the main entrance, a telecommunications room shall be placed for every 10,000 sf or thereof. All telecommunications rooms or entrance facilities shall be keyed differently and with high security locks, and shall have "Telecommunications" permanently labeled on the door. Telecommunications entrance facilities shall have JSIIDS on their doors. The minimum TR size shall be in accordance with I3A, ANSI/TIA/EIA-569-A, and the local telecommunications requirements. Four 103 mm (4-inch) conduits with MuleTape shall be extended from the telecommunications entrance facility into the underground telecommunications distribution system and tied off at the first maintenance hole or handhole. Those conduits supporting fiber optic cabling will utilize **MaxCell flexible inner duct and not** require MuleTape. The number and size of the telecommunications rooms and entrance facilities shall be coordinated with DOIM's Infrastructure Management Group.

7.2.4. Conduit and Cabling: Contractor shall provide minimum 25 mm (1") conduits, complete with telecommunications cables and standard T568A modular jack outlets for telecommunications service. Provide each outlet with a cable in conduit routed directly to the telecommunications room. No section of conduit shall contain more than two 90 degree bends between pull points or pull boxes. During cable installation, the rated cable pulling tension shall not be exceeded and cable shall not be stressed such that twisting, stretching, or kinking occurs. Conduit and wiring shall not be run in concrete slabs-on-grade. Where runs are below concrete slabs-on-grade and in direct contact with earth or fill, conduit shall be of the coated rigid steel thickwall conduit, coated intermediate metal conduit or Schedule 40 polyvinyl chloride (PVC) type. Elsewhere, conduit where required shall be either of the galvanized thickwall conduit, intermediate metal conduit, or electrical metallic tubing (EMT) type, except that EMT shall not be installed in concrete, exposed to the weather or in other wet locations. Use of flexible plastic or metallic conduit is prohibited.

7.3. Interior Cable Television System.

7.3.1. Television Outlets: Flush mounted Television (TV) outlets shall be located as required by the user. Outlets shall be Type F female plugs. The outlets shall be prewired and pretested. For RG-11 outlets, use 4" x 4" x 2 1/4" D outlet box w/ 1/2" minimum rise.

7.3.2. Cabinet: A television terminal cabinet for each building shall be provided and installed in the Telecommunications Room. Coordinate minimum size of cabinet and the type of termination requirements with Oceanic Cable and Verizon Media Ventures. Each terminal cabinet shall be provided with a 19 mm (3/4-inch) termite treated plywood backboard and an insulated #6 AWG copper ground conductor with 900 mm (3 ft) slack in each cabinet. The cable in conduit shall terminate to a common terminal board in the television terminal cabinet or as mutually agreed by Oceanic Cable and Verizon Media Ventures. The cover for the cabinet shall be provided with means for padlocking, and shall be permanently labeled "Television." Final location of the television terminal cabinet shall be coordinated and mutually approved by Oceanic Cable and Verizon Media Ventures. For each building, provide a conduit from the cabinet to the roof of the building as a provision for cable installation from antenna to cabinet by Verizon Media Ventures to preclude Verizon Media Ventures from routing exposed cable. Conduit shall be routed from cabinet concealed in wall up to roof line where it may be routed exposed by penetration of the roof. Coordinate with Verizon Media Ventures and provide appropriate weatherproof transition fitting from conduit to cable.

7.3.3. Conduit and Wiring: For each building, all CATV cable shall be installed in a conduit. For Oceanic Cable and Verizon Media Ventures, 75 ohm, RG-6/U, black, non-messenger, tri-shield, 80% aluminum braid, PVC jacketed coaxial cable shall be used for cable lengths under 200 ft. For cable lengths greater than 200 ft, the CATV cable shall be 75 ohm RG-11/U, bonded foil, shielded type which includes an inner layer of laminated tape of aluminum foil bonded to the conductors insulation with a layer of adhesive plus 60% aluminum braid, PVC jacketed coaxial cable. Conduit and wiring shall not be run in concrete slabs-on-grade. Where runs are below concrete slabs-on-grade and in direct contact with earth or fill, conduit shall be of the coated rigid steel thick-wall conduit, coated intermediate metal conduit or Schedule 40 polyvinyl chloride (PVC) type. Elsewhere, conduit shall be either of the galvanized thick-wall conduit, intermediate metal conduit, or electrical metallic tubing (EMT) type, except that EMT shall not be installed in concrete, exposed to the weather or in other wet locations. Use of flexible plastic or metal conduits are prohibited. All CATV conduit shall be concealed. Type of cable, type of tap-offs or splitters, and outlet boxes shall be coordinated with Oceanic Cable and Verizon Media Ventures. The following is Oceanic Cable conduit capacity guidelines: 3/4"C = 1 to 2 each RG-6 w/pullwire, 1-1/4"C = 1 to 4 each RG-6 w/pullwire, 1-1/2"C = 1 to 5 each RG-6 w/pullwire.

7.3.4. All inside wiring shall be identified and tagged with the building number, room, and outlet designation. All inside wiring shall be homerun from the backboard/TV cabinet in the Telecommunication Room to the TV outlet in the room. Refer to RFP drawings for Typical Riser Diagram.

7.3.5 The proposer is advised that if the CATV equipment is located in a room accessible to the building occupants, Oceanic requires CATV cabinets. Oceanic will provide CATV cabinets to the proposer and the proposer shall install. If the CATV equipment is to be located in a secured locked room not accessible to the building occupants, Oceanic will place the necessary CATV equipment on the proposer provided backboard and CATV cabinets will not be required in this case. Also note that duplex 4" square receptacles are required at the CATV cabinet or backboard. The number of receptacles is to be determined by Oceanic upon reviewing the plans. If multiple receptacles are needed, space receptacles 6" to 8" apart. Refer to Attachment "Exist CATV Equipment for Bldg 649" and "Exist CATV Equipment for Bldg 650, 651, and 652".

7.3.6. Coordination with Oceanic Cable and Verizon Media Ventures: The Contractor is advised that both Oceanic Cable and Verizon Media Ventures require drawings to be submitted for approval which show at a minimum, locations of outlets and boxes, routes, types and sizes of supporting facilities. The Contractor is also advised that these companies may decline to review drawings which they consider inadequate in detail. The Contractor shall be responsible for coordinating with Oceanic Cable and

Verizon Media Ventures to ensure what is proposed meets all their requirements. If any of Oceanic Cable and Verizon Media Ventures requirements are not met, the Contractor shall provide what is required at no cost increase to Oceanic Cable, Verizon Media Ventures, and/or the Government. The Contractor shall provide one week notice before conduit installation begins. Oceanic Cable point of contact is Mr. Dean Yonezawa, (808) 625-8456; Verizon Media Ventures point of contact is Mr. Richard Filanc, (808) 832-6590.

7.4 Exterior Electrical Distribution System

7.4.1. General: TM 5-811-1, Electrical Power Supply and Distribution provides baseline design criteria, standards, policy and guidance for the design of the electrical power supply and distribution systems. Designs shall be compatible with existing construction provided this does not conflict with criteria, standards and policy in TM 5-811-1.

7.4.2. Codes: Electrical systems and installation requirements shall adhere to the current editions of ANSI C2, National Electrical Safety Code, NFPA 70, National Electric Code, and TM 5-811-1 Electrical Power Supply Distribution. In addition, transformers shall be installed in accordance with the guidance provided in MIL-HDBK 1008C, Fire Protection for Facilities Engineering, Design, and Construction.

7.4.3. Standards: All equipment, materials and appurtenances provided under this contract shall be suitable for the intended application and shall conform to the current edition of applicable standards of one or more of the following:

National Electrical Manufacturer's Association
American National Standards Institute
Insulated Power Cable Engineers Association
American Society for Testing and Materials
Institute of Electrical and Electronics Engineers.
Underwriters' Laboratories, Inc.

Where no such standards exist for any product provided under this contract, the Contractor shall demonstrate the suitability of the product, for the application intended, to the satisfaction of the Contracting Officer.

7.4.4. Grounding: All exposed non-current carrying metallic parts of electrical equipment, metallic raceway systems, grounding conductors and the neutral conductor of the wiring system shall be grounded, except where specifically indicated otherwise. The ground connection shall be made as required by Article 250 of the NEC. Where ground rods are required, they shall be 19 mm (3/4-inch) by 3000 mm (10-foot) copper-clad steel driven so the top is 150 mm (6 inches) below grade. Rods shall be tested for compliance with NEC ground resistance requirements prior to connection.

7.4.4. Locks: All enclosed electrical equipment shall be equipped with padlocks and furnished with two keys with each lock. All locks shall be master keyed.

7.4.5. Ducts: A minimum of one spare duct shall be provided for each duct line. Duct lines shall not pass beneath any building structures. Similarly, building structures shall not be constructed over any duct line. Primary conductors shall be in concrete encased thin-wall PVC ducts, routed through manholes. Electrical secondary, telecommunication, and cable television cables or conductors shall be non-encased direct burial ducts, except those ducts installed under roads or concrete driveways or other paved areas exceeding 1524mm (5 feet) in width which shall be encased with a minimum of 76 mm (3 inches) of concrete around each duct. Such encasement shall extend a minimum of 1524 mm (5 feet) beyond the edge of the road or paved area. Provide duct seal for where cable enters ducts and covers on spare duct openings. Field cuts requiring tapers shall be made with proper tools and match factory tapers. After an electrical duct line is completed, a standard flexible mandrel shall be used for cleaning followed by a brush with stiff bristles. Mandrels shall be at least 12 inches long and have diameters ¼

inch less than the inside diameter of the duct being cleaned. For telecommunication ducts, the size of the mandrel shall be as DOIM specifies. For cable television ducts, a rigid 12 inch mandrel with diameter $\frac{1}{4}$ inch less than the inside diameter of conduit shall be used for ducts larger than 53 mm (2 inch). A flexible mandrel with a diameter $\frac{1}{4}$ inch less than the inside diameter of conduit shall be used only for 53 mm (2 inch) ducts. Mandrels shall be provided by Oceanic Cablevision only for final testing of CATV ducts. A coupling recommended by the duct manufacturer shall be used whenever an existing duct is connected to a duct of different material or shape. If burrs or obstructions are encountered in electrical, telecommunication, or cable television ducts, that section of the duct shall be replaced.

7.4.5.1. Concrete Encased Ducts: The encasement shall be a minimum of 76 mm (3 inches) of concrete around each duct. Separators or spacing blocks shall be made of steel, concrete, plastic, or a combination of these materials placed not further apart than 1219 mm (4 feet) on centers. Ducts shall be securely anchored to prevent movement during the placement of concrete and joints shall be staggered at least 152 mm (6 inches) vertically.

7.4.5.2. Nonencased Direct Burial Ducts: Where bottoms of trenches comprise materials other than sand or stone-free earth, 76 mm (3-inch) layers of sand or stone-free earth shall be laid first and compacted to approximate densities of surrounding firm soil before installing ducts in direct-contact tiered fashion. Joints in adjacent tiers of duct shall be vertically staggered at least 152 mm (6 inches). The first 102 mm (4-inch) layer of backfill cover shall be sand or stone-free earth compacted as previously specified. High-tiered duct banks shall use a wooden frame or equivalent form to hold ducts in alignment prior to backfilling. Selected earth at duct banks shall be thoroughly tamped in 102 mm to 152 mm (4- to 6-inch) layers. Burial depth of non-encased ducts for cables with a rating of 600 volts or less and for telephone/television cables shall be a minimum of 610 mm (24 inches). Where non-encased ducts for telephone/television cables share the same trench with ducts for secondary cables with a rating of 600 volts or less, the ducts shall be separated not less than 305 mm (12 inches).

7.4.5.3. Duct Line Markers/Plastic Marking Tapes: Duct line markers shall be provided at the ends of long duct line stub-outs or for other ducts whose locations are indeterminate because of duct curvature or terminations at completely below-grade structures. A 5-mil brightly colored plastic marking tape not less than 152 mm (6 inches) in width and suitably inscribed at not more than 3048 mm (10 feet) on centers with a continuous metallic backing and a corrosion resistant 1-mil metallic foil core to permit easy location of the duct line, shall be placed approximately 305 mm (12 inches) below finished grade levels of such lines.

7.4.6. Conductors: All conductors shall be copper.

7.4.7. Nameplates: Each primary circuit breaker, secondary switchboard or switchgear, and secondary circuit breaker panel shall be identified with a laminated phenolic plastic nameplate. Each primary and secondary feeder shall be identified with a fiber or a non-ferrous metal tag.

7.4.8. Point of Connection: The electrical point of connection for Quad F shall be an existing manhole located at the corner of Waianae Avenue and Lewis Street. Please refer to RFP drawings for exact location.

7.4.9. Outages: The Contractor shall initiate requests for outages no less than 45 calendar days prior to any interruption of service in the existing electrical system. Written requests shall be forwarded to DPW via the contracting Officer. Switching shall be performed by DPW authorized personnel.

7.4.10. System Design: Provide new electrical distribution system as necessary and connect to the existing primary electrical system. The distribution system shall be underground for both primary and secondary conductors. The primary system shall be a radial feed and shall be compatible with the system of which it becomes an extension. Loads on the primary system shall be distributed evenly on the three electrical phases. A multiple grounded neutral conductor shall be routed with the phase conductors. Tag all cables to identify phases. All electrical materials and equipment shall be rated for future operation at 12.47 kV, although the current operation shall be at 6.8 kV line-to-line. The existing

nominal system is 7.2 kV, 3-phase, delta with grounding transformers at the Base substation. New distribution systems and extensions of existing system shall provide for proper coordination of protective devices. Coordination studies shall be part of the design analysis. Refer to TM 5-811-14, Coordinated Power Systems Protection for guidance on protective coordination studies and the selection of protective devices.

7.4.11. Calculations and Diagrams: Complete single line diagrams shall be provided with calculations of available short circuit currents at each transformer and circuit breaker panel; loads on all transformers and feeders; and voltage drops on primary lines and secondary services. Illumination and uniformity calculations for multipurpose courts shall also be provided. Diagrams, calculations, and drawings shall be prepared under the supervision of a United States registered professional electrical engineer.

7.4.12. Voltage Drops: The length of secondary distribution service laterals from the unit substation to the building service entrances shall be minimized. The voltage drop from the unit substation to each building's service entrance equipment shall not exceed 3%. The voltage drop from the service entrance equipment to the farthest outlet of lighting, power, or combination of such loads shall not exceed 5%.

7.4.13. Demand Loads: A separate demand load calculation shall be provided for each building. Include catalog cuts of the electrical data for the HVAC equipment that was selected by the mechanical engineer.

7.4.14. Primary Cable: Primary cable shall be ethylene propylene rubber insulated, polyvinyl chloride jacketed, 25% copper tape shield overlap. Conductors shall be copper; sizes larger than no. 8 AWG shall be stranded. Cables shall have a voltage rating of at least 15 kV with 133 percent insulation level. Cable shall be #2, #4/0, or 250 kcmil standard sizes. Deviations from these sizes shall be coordinated and approved by Mr. Roger Grace, DPW, phone no. 655-2942, ext. 3011.

7.4.15. Underground Splices: Splices shall be in self-draining, rodent-resistant manholes with traffic rated covers. Primary cable shall be installed without splice in runs of 152 meters (500 ft) or less. "Y" and "T" splices shall not be used. The maximum spacing between manholes shall be 91 meters (300 ft). Primary cables shall be fire-proofed for their entire length within a manhole on an individual cable basis. Fireproofing shall extend at least 25 mm (1 in) into the ducts. Systems shall be listed as a fire protective coating for grouped electrical conductors and shall be suitable for application on the type of medium voltage cables provided. After fully cured, the installation shall be suitable for use where exposed to oil, water, gases, salt water, sewage, and fungus whereby no resulting damage to cable or insulation shall occur.

7.4.16. Secondary Conductors: Secondary underground cables shall conform to UL 854 and shall be copper, type RHH-RHW-USE insulation, cross-linked polyethylene or ethylene-propylene-rubber outer covering. Conductors shall be installed in non-encased PVC thick wall ducts and where practical, located below sidewalks. Secondary cable splices shall be made in splice boxes approved for the purpose and in accordance with the manufacturer's recommendations.

7.4.17. Service Entrance: Only one service entrance per building shall be provided.

7.4.18. Secondary Unit Substation: The unit substation shall be of the outdoor type having the ratings and arrangements that are compatible and suitable for proper operation of the facility. Medium voltage ratings of cable terminations shall be 15 kv between phases for 133 percent insulation level. Provide two primary feeders to the unit substation for back-up or maintenance purposes. Where secondary feeders exit the unit substation, provide tags to indicate building numbers. Pad for the unit substation shall be concrete. The unit substation shall have "Danger High Voltage" signs affixed to all four sides of the enclosure. The new unit substation shall be located in the same location as the existing and shall be accessible to service personnel for maintenance operations. Area surrounding the unit substation shall be appropriately landscaped to aesthetically blend the unit substation into the neighborhood. When necessary, architectural screening may be used to provide a pleasing appearance but the screening must assure no loss in equipment efficiency. Secondary unit substations shall comply with ANSI C37.121 and

shall be of the radial type. The new substation shall be sub-assembled and coordinated by one manufacturer and shall be shipped in complete sections ready for connection at the site. Complete sections shall include incoming, transformer, and outgoing sections and, where practicable, shall be shipped as one unit. Enclosures shall be corrosion resistant stainless steel construction with a factory applied Norwood Brown color, Federal Color No. 10045.

7.4.18.1. Incoming Section: Metal-enclosed interrupter switchgear consisting of fused, air-insulated interrupters in series with automatic, visible blade disconnects shall be provided for protection of incoming circuits. Metal-enclosed interrupter switchgear shall comply with IEEE ANSI/IEEE C37.30 for load-interrupter switches, NEMA SG-2 for power fuses and shall be of the outdoor no aisle type that meets or exceeds the requirements of the applicable publications listed. Switch construction shall be of the manually-operated, "OPEN-CLOSED" air insulated load interrupter type equipped with a stored energy operator for quick-make quick-break to make operating speeds independent of manual switch operations. Suitable bus or lug connections shall be provided to mount slip-on medium voltage cable terminations for cable entering via conduit from below. Fuses shall be of the current limiting type. Fuses shall be sized approximately 150 percent of the transformer full load current rating. Three sets of spare fuses shall be provided to DPW. Identify the following switch ratings in the design and specifications:

- a). nominal voltage,
- b). rated maximum voltage,
- c). maximum symmetrical interrupting capacity,
- d). maximum asymmetrical interrupting capacity,
- e). 3-second short time current carrying capacity,
- f). rated continuous current, and
- g). BIL.

Unless otherwise approved by DPW, manufacturer's standard devices shall be provided and shall include but not limited to the following:

- a). A switch-operating handle with provisions for locking in the open or closed position.
- b). A switch mechanical position indicator
- c). A key interlock if required.
- d). An interface terminal block wired for required exterior connections.

7.4.18.2. Transformer Section: Transformers shall have two separate windings per phase and shall be of the mineral oil-insulated type with high molecular-weight hydrocarbon liquid. Transformers shall be suitable for outdoor use. Liquid-insulated transformers shall comply with IEEE ANSI/IEEE C57.12.00, ANSI C57.12.13 and ANSI C57.12.27 and shall have two 2-1/2 percent full capacity taps above and two 2-1/2 percent full capacity taps below rated voltage. Transformers shall be of the sealed tank type construction with weld-on cover. Accessories shall include a pressure-vacuum gauge, dial type thermometer with alarm contacts, provisions for jacking, lifting, and towing. Transformers shall be sized larger than 10-25% more than the calculated loads.

7.4.18.3. Integral Outgoing Section: Integral outgoing section shall be of the dead-front distribution panelboard/switchboard type or metal-enclosed switchgear type. Each circuit breaker and auxiliary compartment shall have a suitable metal or laminated plastic nameplate with white cut letters at least ¼ inch high on contrasting backgrounds. The panelboard/switchboard type shall be mounted integrally with the transformer and shall consist of metering devices and main and branch circuit breakers mounted in panelboard/switchboard enclosures. Panelboards shall comply with NEMA PB 1. Switchboards shall comply with NEMA PB 2. The metal-enclosed switchgear type shall be of the metal-enclosed drawout circuit breaker type in accordance with IEEE ANSI/IEEE C 37.20.1 and NEMA SG 5. The main secondary bus of each outgoing section assembly shall include a watt-hour demand meter with the necessary instrument transformers and VT and CT test blocks.

7.4.19. Area Lighting: Area lighting shall be provided at intervals not exceeding 52 m (170 ft) along area walkways not otherwise illuminated, common area walks connecting picnic areas, and at all steps in area

walkways. Area lighting shall be provided with HPS lights. Illumination levels and uniformity ratios shall be in accordance with the IES Lighting Handbook. Luminaries shall be actuated by photoelectric control, one photocell per circuit, and supplied from multiple circuits. Light fixtures shall have vandal-resistant polycarbonate type lens and shall be mounted on seamless aluminum poles. Lights, poles, and anchoring shall be designed to withstand a wind loading of 100 MPH.

7.4.20. Roadway Lighting: Existing roadway lighting shall be removed and new roadway lighting shall be provided when Foote Avenue is realigned between Glennan Street and Meigs Street. 250 watt HPS fixtures shall be provided at each roadway intersection and 100 watt HPS lights at intervals not exceeding 170 ft between intersections. For roadway light fixture type, see Attachment "Roadway Light Fixture".

7.4.21. Parking Lot Lighting Adjacent to Bldg 651 - Existing parking lot lighting shall be reused and reconnected to the new electrical distribution system for Quad F. Refer to RFP drawings for location.

7.4.22. Parking Lot Lighting Across Bldg 650 and along Foot Avenue - Provide new parking lot lighting and connect to the new electrical distribution system for Quad F. Lighting levels and uniformity ratios shall be in accordance with the IES Lighting Handbook. Luminaries shall be actuated by photoelectric control, one photocell per circuit, and supplied from multiple circuits. Light fixtures shall have vandal-resistant polycarbonate type lens and shall be mounted on seamless aluminum poles. Lights, poles, and anchoring shall be designed to withstand a wind loading of 100 MPH. Refer to RFP drawings for location.

7.4.23. Gear Wash/Recreational Facility: Provide general lighting and electrical power for the facility.

7.4.24. Multipurpose Court Lighting: Illumination levels and uniformity ratios shall be in accordance with IES Lighting Handbook for recreational (outdoor) classification. Lamps shall be metal halide for better color rendition. Luminaries shall be actuated by a permissive switch and supplied from a three phase circuit. Light fixtures shall have vandal-resistant polycarbonate type lens and shall be mounted on seamless aluminum poles. Lights, poles, and anchoring shall be designed to withstand a wind loading of 100 MPH.

7.4.25. Metering: Enclosed meter sockets shall be provided for each building having a connected load of 250 kva or more to permit check metering. Enclosures shall be corrosion resistant stainless steel construction with a factory applied Norwood Brown color, Federal Color No. 10045.

7.4.26. Operation and Maintenance (O & M) Manuals: Operation and Maintenance manuals shall be provided for the secondary unit substation. Manuals shall include instructions for assembly, installation, operation and maintenance, and spare parts data which provides supplier name, current cost, catalog order number, and a recommended list of spare parts to be stocked. Manuals shall also include data outlining detailed procedures for system startup and operation, and a troubleshooting guide which lists possible operational problems and corrective action to be taken. A brief description of all equipment, basic operating features, and routine maintenance requirements shall be included. Documents shall be bound in a binder marked or identified on the spine and front cover. A table of contents page shall be included and marked with pertinent contract information and contents of the manual. Tabs shall be provided to separate different types of documents, such as catalog ordering information, drawings, instructions, and spare parts data. Index sheets shall be provided for each section of the manual when warranted by the quantity of documents included under separate tabs or dividers. Six copies of these O & M manuals shall be submitted within 7 calendar days following the completion of tests.

7.5 Telecommunications Outside Plant.

7.5.1. Point of connection: Infrastructure: Maintenance Hole C7, Fiber Optic Cables: Bldg 550, ADN, and Copper Cables: Bldg 255, Main Distribution Frame.

7.5.2. The telecommunications cable and duct distribution shall be underground within the project site. The telecommunications distribution system shall be physically separated from the electrical power distribution system in accordance with the NESC. Exterior telecommunication cables shall be furnished and installed by others. **After award of the contract**, the Contractor shall coordinate with DOIM, through Mr. Edmund Takeya at 438-0189, Infrastructure management Group and Mr. Marion F. Robinson, Jr. at 438-8071 or Mr. James W. Arrowood, **438-8070** to ensure all proposals, designs, and installation requirements **meets Federal and local telecommunication** standards at the sole expense of the contractor. In addition, the Contractor shall coordinate with Mr. William Aiu, AT&T HITS, to ensure existing telecommunications cables are properly attended to prior to starting building renovation. This coordination shall be required again toward the end of the project to ensure telecommunications services are available at facility turn over.

7.5.3. The Contractor shall be responsible for coordinating with DOIM to ensure what is proposed meets Federal and local PUC requirements. If any requirements are not met, the Contractor shall provide what is required at no increase to the Contract price or time of performance.

7.5.4. The Contractor is cautioned that DOIM requires drawings to be submitted which show, at a minimum, locations, routes, types, and sizes of the supporting facilities for the telecommunications system. The Contractor is also advised that DOIM and the commercial vendor may decline to review drawings which it considers inadequate in detail.

7.5.5. ANSI/TIA/EIA 569A Commercial Building Standard for Telecommunications Pathways and Spaces shall be used for maintenance hole, handhole and conduit design. The underground telecommunication system design must also conform to HITS outside plant practices. Refer to Attachment "Hawaii Information Transfer System-Outside Plant Practices. Federal standards or local practices shall be the minimum requirement. Commercial vendor products may be used, if they meet or exceed the Federal Standards.

7.5.6. In addition to the requirements stated above, the following shall be provided as a minimum:

7.5.6.1. Details of conduit termination to telecommunications lines on an existing pole or maintenance hole at the point of connection (aerial to underground or underground to underground).

7.5.6.2. Sizes, quantities, type, and locations of handholes, maintenance holes and ducts with MuleTape or **MaxCell flexible inner duct**.

7.5.6.3. Termite treated, fire retardant, $\frac{3}{4}$ " void-free plywood backboards and insulated copper, #6 AWG, ground conductors shall be provided in each telecommunications room. Plywoods shall be painted with two coats of white colored, fire retardant paint on all sides and shall cover two walls. The ground conductor shall be connected to an ANSI/TIA/EIA compliant busbar in each room. Telecommunications grounding shall meet TIA/EIA-607-1995.

7.5.6.4. Minimum outside plant duct size shall be 103 mm (4 inches). Conduits shall be PVC, Schedule 40, encased in 2500 psi concrete. Burial depth shall be, at a minimum, 600 mm (24 inches) measured from the top of the duct. At least one spare 103 mm conduit shall be provided for each distribution pathway. A minimum of two spare 103 mm conduits shall be provided for each trunking pathway. All 103 mm conduits shall have **MuleTape** installed except for those conduits supporting fiber optic cabling. These conduits shall utilize **MaxCell flexible inner ducts**. The number and thread color shall be coordinated with DOIM's Infrastructure Management Group, Fiber Optic Manager, (808) 438-8056.

7.5.6.5. Maintenance holes shall be equipped with two pulling-in iron and cable racks with arms. Maximum spacing for maintenance holes shall be 152 m (500 feet). Maximum spacing between handholes and between handholes and buildings shall be 45.5 m (150 feet). All maintenance holes, and

handholes shall be provided with 2400 mm (8 foot) ground rods. All handholes shall be located in sidewalks and all maintenance holes shall be located in roadways.

7.5.6.6. All inside and outside cabling shall be identified and tagged at the terminal, outlet, and at each termination and maintenance hole in accordance with ANSI/TIA/EIA 606-1994, and local numbering conventions, with the following minimum information: a) building and floor number, b). room and outlet designation, and c) cable pair, pair count, AWG.

7.5.6.7. The Contractor is required to follow Federal, Army and Hawaii PUC technical guidance as part of this project. Any deviations shall be coordinated through the DOIM's subject matter experts who will coordinate with local service providers. Point of contact at DOIM is Mr. Edmund Takeya at 438-0189. Subject matter experts in the Infrastructure Management Group are Mr. Marion F. Robinson, Jr. at 438-8071 or Mr. James W. Arrowood at 438-8070.

7.6 Exterior Cable Television System

7.6.1. Point of connection: For Bldgs 650 and 651, the point of connection shall be an existing telecommunication handhole adjacent to Bldg 651. From this handhole, the proposer shall run new underground ducts to Bldg 650 and remove the existing aerial service. Reuse existing ducts to Bldg 651. For Bldgs 649 and 652, the point of connection shall be an existing telecommunication handhole adjacent to Bldg 649. From this handhole, the proposer shall run new underground ducts to Bldg 652 and remove the existing aerial service. Reuse existing ducts to Bldg 649. Refer to Attachment, "CATV Point of Connection".

7.6.2. Space provisions (empty conduits) shall be made, for installation of an underground television cable system. Cables will be furnished and installed by others. Mule tape shall be provided in all empty conduits to facilitate pulling of cables by others. The underground cable television distribution system shall be physically separated from the electrical distribution system in accordance with NESC (ANSI C2). All design and installation requirements shall be coordinated with Oceanic Cable at the sole expense of the Contractor. The cable television system shall reside in the official telecommunications pathways and spaces except where power is required. Pathways and spaces include maintenance holes, handholes, conduits, and telecommunication rooms.

7.6.3. The Contractor is cautioned that Oceanic Cable requires drawings to be submitted which show, at a minimum, locations, routes, types, and sizes of the supporting facilities for the television system. The Contractor is also advised that Oceanic Cable may decline to review drawings which it considers inadequate in detail.

7.6.4. The Contractor is advised that Oceanic Cable has standard drawings for the pull boxes, handholes, and ductlines. The Contractor may contact Oceanic Cable regarding their standard specifications. The point of contact is Mr. Dean Yonezawa, Oceanic Cable, phone number (808) 625-8456.

7.6.5. The Contractor shall coordinate with Oceanic Cable to ensure what is proposed meets all of that company's requirements. If any requirements are not met, the Contractor shall provide what is required at no increase to the Contract price or time of performance.

7.6.6. The Contractor must provide 1 week notice before conduit installation begins. Point of contact shall be Mr. Moki Place, Oceanic Cable, phone number (808) 625-8378.

7.6.7. In addition to the requirements stated above, the following shall be provided for Oceanic Cable's approval.

7.6.7.1. Details of conduit termination to Oceanic Cable lines on an existing pole or manhole at the point of connection (aerial to underground or underground to underground).

7.6.7.2. Sizes, quantities, type, and locations of pullboxes, handholes, manholes, and ducts with **MuleTape**. May include power supply with secondary as needed.

7.6.7.3. Sizes and types of terminal cabinets required at each building. A termite treated backboard and insulated copper, #6 AWG, ground conductor shall be provided in each cabinet. The ground conductor, with 900mm (3-feet) excess length in each cabinet, shall be connected to the building grounding system. Cabinet enclosures shall be rated NEMA 3R.

7.6.7.4. Minimum duct size for distribution lines shall be 102 mm (4 inches). Ducts shall be PVC schedule 40 when concrete encased and when direct buried. If practicable, locate below the sidewalks. Burial depth shall be 600 mm (24 inches). **MuleTape** shall be provided in each duct. See other paragraphs for burial depth and concrete encasement requirements.

7.6.7.5. Maximum spacing of pullboxes/handholes shall be 108m (350 feet). All handholes/pullboxes shall be located in sidewalks and/or planter strips. Maximum distance for CATV service drop cables shall not exceed 150 ft from the Building's terminal cabinet to the pullbox containing the main CATV distribution cables. Exceptions to this requirement will require approval from Oceanic Cable.

7.6.7.6. Minimum duct size to the building shall be 53 mm (2 inches). Ducts shall be PVC Schedule 40 when concrete encased and when direct buried. Mule tape shall be provided in each empty duct.

7.6.7.7. Where applicable, sizes and locations of power supply pullbox shall be as recommended by Oceanic Cable. Power supply, box, pad, and pedestal shall be provided by Oceanic Cable.

7.6.8. Pullboxes: A 600 mm (24 inch) by 1200 mm (48 inch) CATV pullboxes shall be used for this project if necessary. See RFP drawing "24 IN x 48 IN PULLBOX DETAIL". Pullboxes shall be precast concrete with polymer non-skid surfaced two piece covers inscribed with "TV". A minimum of two precast concrete pullbox sections shall be required at each pullbox.

7.6.9. Terminal Cabinets. Terminal cabinets shall be provided. Incoming ducts to the building main terminal cabinet shall be 53 mm (2-inch) PVC schedule 40 when concrete encased and when direct buried.

7.7. Special Utilities and Supplementary Construction. Required connections to the existing utilities shall be completed by the Contractor at no increase to the Contract price even if they are beyond the indicated project boundaries. The Contractor shall coordinate the installation of telephone and cable TV feeders from the points of connection to the buildings with DOIM, Oceanic Cable, Verizon and Verizon Media Ventures, respectively. Connection, pulling, and installation of wire will be done by the respective utility company. The cost of pulling, installation, and connection shall be included in the Contractor's proposal.

7.7.1 Electronic Security Systems. Electronic security systems shall be designed in accordance with TM 5-853-4, Electronic Security Systems Technical Manual. Arms Rooms shall be properly designed for Joint Service Interior Intrusion Detection Systems (JSIIDS). This limited system is used for interior intrusion detection systems (IDS) and consists of a control unit, DTM (a data transmission link such as a voice telecommunications circuit, fiber optics, coaxial cables, or radio frequency transmission), balanced magnetic switch, capacitance proximity sensor, grid wire sensor, passive ultrasonic, ultrasonic motion sensor, and a duress sensor. Telecommunications Entrance Facilities shall have JSIIDS on their doors.

7.8 Cathodic Protection System: Cathodic Protection (CP) is mandatory on buried ferrous metallic structures as described below:

7.8.1. CP systems must be designed to provide protective potential to meet the requirements of the National Association of Corrosion Engineers (NACE) Standard RP-0169, Control of External Corrosion on Underground or Submerged Metallic Piping Systems, or NACE Standard RP-0185, Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems as appropriate.

7.8.2. CP and protective coatings shall be provided for the following buried/submerged ferrous metallic structures regardless of soil or water resistivity:

7.8.2.1. Natural gas and propane piping

7.8.2.2. Fire protection piping.

7.8.2.3. Other structures with hazardous products as identified by the user.

7.8.3. Cast iron pipe shall be treated as follows:

7.8.3.1. For soil resistivity below 10,000 ohm-cm at pipeline installation depth, provide CP, bonded joints, and protective coatings.

7.8.3.2. For soil resistivity between 10,000 and 30,000 ohm-cm at pipeline installation depth, provide bonded joints only.

7.8.4. Copper water service lines will be dielectrically isolated from ferrous pipe. Dielectric isolation shall conform with NACE RP-0286.

7.8.5. For ductile iron piping systems (except for ductile iron piping under floor in soil) conduct an analysis to determine if CP and/or bonded or unbonded coatings are required. Unbonded coatings are defined in ANSI/AWWA C105/A21.5.

7.8.6. The Contractor shall conduct and provide an economic analysis to determine if CP and protective coatings should be provided for gravity sewer lines and the following structures in soil resistivity conditions above 10,000 ohm-cm:

7.8.6.1. Potable water lines

7.8.6.2. Concentric neutral cable

7.8.6.3. Other buried/submerged ferrous metallic structures not covered above.

7.8.6.4. Ferrous metallic piping passing through concrete shall not be in contact with the concrete.