

GOVERNMENT OF THE DISTRICT OF COLUMBIA TASK ORDER/DELIVERY ORDER FOR SERVICES OFFEROR TO COMPLETE BLOCKS 18 & 29				1. REQUISITION NUMBER -----		PAGE 1 of 4	
2. TASK ORDER AGREEMENT NO. CW82657		3. Award/Effective Date See Block 30c.	4. CONTRACT NUMBER 47QTCK18D0001	5. SOLICITATION NUMBER -----		6. SOLICITATION ISSUE DATE -----	
7. FOR SOLICITATION INFORMATION CONTACT Email: georgette.johnson@dc.gov		A. NAME Georgette Johnson		B. TELEPHONE (No Collect Calls) 202-727-1104		8. OFFER DUE DATE: -----	
9. ISSUED BY Office of Contracting and Procurement Information Technology Group 441 4 TH Street, N.W., Suite 330 South Washington, D.C. 20001			10. THIS ACQUISITION IS <input type="checkbox"/> EMERGENCY <input type="checkbox"/> SET ASIDE %FOR <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> SMALL DISADV. BUS. <input type="checkbox"/> DCSS SIC: SIZE STANDARD:	11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input checked="" type="checkbox"/> N/A <input type="checkbox"/> 13. RESERVED		12. PAYMENT DISCOUNT TERMS Net 30 days	
5. CONTRACTOR / OFFEROR Science Applications International Corporation 12010 Sunset Hills Road Reston, VA 20190			16. PAYMENT WILL BE MADE BY CODE Office of the Chief Technology Officer/ Accounts Payable 200 I Street, S.E., Washington, D.C. 20003 www.vendorportal.dc.gov				
15A DUNS NO.		15B TAX ID NO.		17. DELIVER TO Office of the Chief Technology Officer 200 I Street, S.E., 5th Floor Washington, D.C. 20003			
18A. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER <input type="checkbox"/>				18B. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 16 UNLESS BLOCK BELOW IS CHECKED <input type="checkbox"/> SEE ADDENDUM			
19 ITEM NO.	20 SCHEDULE OF SUPPLIES/SERVICES			21 QUANTITY	22 UNIT	23 UNIT PRICE	24 AMOUNT
0001	Man Based Telephony Services			1	lot	-----	\$13,000,000.00
25. ACCOUNTING AND APPROPRIATION DATA PURCHASE ORDER NO.				26. TOAL AWARD (FOR GOVT. USE ONLY) Not-to-Exceed (NTE) \$13,000,000.00			
27. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN ONE COPY TO THE ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL PAGES SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN. THIS ORDER IS ISSUED SUBJECT TO THE TERMS AND CONDITIONS OF THE DC SUPPLY SCHEDULE CONTRACT, FEDERAL SUPPLY SCHEDULE CONTRACT OR COOPERATIVE ARGEEMENT IDENTIFIED IN BLOCK 4.				28. THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE INTO THIS TASK ORDER IN THE FOLLOWING PRIORITY: (1) CONTRACTOR'S Technical proposal THIS ORDER IS ISSUED SUBJECT TO THE TERMS AND CONDITIONS OF THE DC SUPPLY SCHEDULE CONTRACT, FEDERAL SUPPLY SCHEDULE CONTRACT OR COOPERATIVE ARGEEMENT IDENTIFIED IN BLOCK 4.			
29A. SIGNATURE OF OFFEROR /CONTRACTOR Ramona L Wilson Digitally signed by Ramona L Wilson Date: 2020.06.24 15:41:50 -04'00'				30A. DISTRICT OF COLUMBIA (SIGNATURE OF CONTRACTING OFFICER)			
29B. NAME AND TITLE OF SIGNER (TYPE OR PRINT) Ramona L. Wilson, Contracts Principal		29C. DATE SIGNED June 24, 2020		30B. NAME OF CONTRACTING OFFICER (TYPE OR PRINT) Chris Yi Contracting Officer		30C DATE SIGNED	

1. SERVICE REQUIRED

This contract is for the use of the Office of the Chief Technology Officer (OCTO), an office within the Government of the District of Columbia (“the District”). The District seeks a contractor to complete tasks related to the construction, installation, maintenance, repair, and improvement and expansion of OCTO’s extensive citywide fiber optic network.

The District seeks a contractor with competencies, either directly or through partnership with teaming companies/subcontractors, in core Information and Communications Technologies (ICT) infrastructure and related trade areas. The technical scope of this contract includes the following categories:

- A. Equipment: Addresses the District’s need for equipment to support ICT infrastructure.
- B. Managed Plant Services: Addresses the District’s need for Outside Plant (OSP) services to include OSP construction, mechanical work, maintenance, and engineering design supporting telecommunications environment infrastructure.
- C. HVAC Services: Including maintenance and repair services, and design and build capabilities.
- D. Personnel Services: Management personnel and staffing
- E. Turnkey Solutions: HVAC personnel

2. CONTRACT NUMBER

47QTCK18D0001

3. TASK ORDER NUMBER

CW82657

4. TERM OF CONTRACT

The period of performance shall be one year from the date of Award.

4.1 OPTION TO EXTEND THE TERM OF THE CONTRACT

4.1.1 The District may extend the term of this contract for a period of four (4) one-year option periods, or successive fractions thereof, by written notice to the Contractor before the expiration of the contract; provided that the District will give the Contractor preliminary written notice of its intent to extend at least thirty (30) days before the contract expires. The preliminary notice does not commit the District to an extension. The exercise of this option is subject to the availability of funds at the time of the exercise of this option. The Contractor may waive the thirty (30) day preliminary notice requirement by providing a written waiver to the Contracting Officer prior to expiration of the contract.

- 4.1.2 If the District exercises this option, the extended contract shall be considered to include this option provision.
- 4.1.3 The price for the option period(s) shall be as specified in the Attachment B of the contract.
- 4.1.4 The total duration of this contract, including the exercise of any options under this clause, shall not exceed five (5) years.

5. CONTRACTING OFFICER (CO)

Contracts may be entered into and signed on behalf of the District Government only by Contracting Officers. The name, address and telephone number of the Contracting Officer for this task order is:

Chris Yi
Office of Contracting and Procurement
441 4th Street N.W., Washington, D.C. 20001
Telephone: 202.724.5069
E-mail: Chris.Yi@dc.gov

- 5.1 The CO is the only person authorized to approve changes in any of the requirements of this contract.
- 5.2 The Contractor shall not comply with any order, directive or request that changes or modifies the requirements of this contract, unless issued in writing and signed by the CO.
- 5.3 In the event the Contractor effects any change at the instruction or request of any person other than the CO, the change will be considered to have been made without authority and no adjustment

6. CONTRACT ADMINISTRATOR (CA)

The CA is responsible for the technical administration of the contract and advising the Contracting Officer as to the Contractor's compliance or noncompliance with the contract. In addition, the CA is responsible for the day-to-day monitoring and supervision of the contract, of ensuring that the work conforms to the requirements of this contract and such other responsibilities and authorities as may be specified in writing by the Contracting Officer. The CA for this task order is:

Tige Johnson
Office of the Chief Technology Officer
200 I Street S.E., Washington, D.C. 20003
Telephone: 202.715. 3753
E-mail: Tige.Johnson@dc.gov

- 6.1 It is understood and agreed that the CA shall not have the authority to make changes in the specifications/scope of work or terms and conditions of the contract.
- 6.2 Contractor shall be held fully responsible for any changes not authorized in advance, in writing, by the Contracting Officer, may be denied compensation or other relief for any additional work performed that is not so authorized, and may also be required, at no additional cost to the District, to take all corrective action necessitated by reason of the unauthorized changes.

7. INVOICE PAYMENT

The District will make payments to the Contractor, upon the submission of proper invoices, at the prices stipulated in this contract, for supplies delivered and accepted or services performed and accepted, less any discounts, allowances or adjustments provided for in this contract.

- 7.1 The District will pay the Contractor on or before the 30th day after receiving a proper invoice from the Contractor.

8. INVOICE SUBMITTAL

The Contractor shall submit proper invoices on a monthly basis or as otherwise specified in the contract.

- 8.1 The Contractor shall submit payment requests in electronic format through the DC Vendor Portal www.vendorportal.dc.gov by selecting the applicable purchase order number which is listed on the Contractor 's profile.
- 8.2 To constitute a proper invoice, the Contractor shall attach to all payment requests the invoice and all supporting documentation or information.

9. ORDERING

- 9.1 Any supplies and services to be furnished under this contract must be ordered by issuance of delivery orders or task orders by the CO or designee. Such orders may be issued during the term of this contract.
- 9.2 All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of a conflict between a delivery order or task order and this contract, the contract shall control.

10. ORDER OF PRECEDENCE

A conflict in language shall be resolved by giving precedence to the document in the highest order of priority that contains language addressing the issue in question. The following documents are incorporated into the contract by reference and made a part of the contract in the following order of precedence:

CW82657 Man-Based Telephony Services

- a) An applicable Court Order, if any
- b) Contract document
- c) Contract attachments other than the Standard Contract Provisions
- d) RFTOP, as amended
- e) Proposal
- f) GSA Contract 47QTCK18D0001

11. ATTACHMENTS

- a) Price Schedule (Attachment B)
- b) Statement of Work (Attachment C)
- c) GSA Contract 47QTCK18D0001 (Incorporated by reference)

Attachment B-Price Schedule

B.1 The Office of Contracting and Procurement, on behalf, of the Office of the Chief Technology Officer (OCTO) as referenced within this document as the “District”, seeks a contractor to provide services related to the construction, installation, maintenance, repair, improvement and expansion of OCTO’s extensive citywide fiber optic network.

B.2 This task order contract is a requirements contract with time and materials and fixed price componetns.

B.3 The District will purchase its requirements of the articles or services included herein from the Contractor. The estimated quantities stated herein reflect the best estimates available. The estimate shall not be construed as a representation that the estimated quantity will be required or ordered, or that conditions affecting requirements will be stable. The estimated quantities shall not be construed to limit the quantities which may be ordered from the Contractor by the District or to relieve the Contractor of its obligation to fill all such orders.

1. Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering Clause, section 9. The Contractor shall furnish to the District, when and if ordered, the supplies or services specified in the Attachment B up to the not-to-exceed amount of \$13,000,000.00. Orders shall not be limited to the supplies or services specified in section B.5 and shall be captured via an issuance of a Purchase Order and shall not warrant any modifications to the contract.
2. There is no limit on the number of orders that may be issued. The District may issue orders requiring delivery to multiple destinations or performance at multiple locations.
3. Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and District's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided that the Contractor shall not be required to make any deliveries under this contract after expiration

B.4 Price Schedule

B.4.1 Base Year

Contract Line Item No.	Item Description	Total Estimated Price
0001	MAN Based Telephony Services See section B.5	\$13,000,000.00

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B.4.2 Option Year One

Contract Line Item No.	Item Description	Total Estimated Price
1001	MAN Based Telephony Services See section B.6	\$13,000,000.00

B.4.3 Option Year Two

Contract Line Item No.	Item Description	Total Estimated Price
2001	MAN Based Telephony Services See section B.7	\$13,000,000.00

B.4.4 Option Year Three

Contract Line Item No.	Item Description	Total Estimated Price
3001	MAN Based Telephony Services See section B.8	\$13,000,000.00

B.4.5 Option Year Four

Contract Line Item No.	Item Description	Total Estimated Price
4001	MAN Based Telephony Services See section B.9	\$13,000,000.00

B.5 Price List-Base Year

B.5.1 Optical Fiber Cable Maintenance

Item Number	Description	Quantity	Unit	Total Price
001	OFC001 Maintenance Cost	1	Year	\$462,502.42

Item Number	Description	Price
002	OFC050 Supplemental Crew/ 8 hour day, 40 hours/week	\$1,708.56
003	OFC002 2 cable splicer crew, equipment, tools, 4 hours OT	\$2,248.33

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004	OFC003 2 cable splicer crew, equipment, tools, 8 hours OT	\$2,788.10
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B.5.2 Heating, Ventilation and Air Conditioning (HVAC) Services

B.5.2.1 Primary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
001	1	OCTO, One Judiciary Square (OJS)	Airflow	\$439.27	\$5,271.28
002	3	DDOT, Dept. of Public Works, Reeves Center	Carrier	\$788.18	\$9,458.18

B.5.2.2 Secondary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
003	406	655 15th Street NW	OCTO DC-Net HQ	\$244.30	\$2,931.58
004	8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials	\$244.30	\$2,931.58
005	9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health	\$244.30	\$2,931.58
006	18	1350 Penn Ave	City Hall	1,201.58	\$14,418.92

B.5.3 Personnel

Item Number	Description	Labor Category	Alliant ID #	Description	Estimated Quantity	Unit	Unit Price	Total Price
001	LAB001	Senior Computer and Information Systems Manager	123	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$132.76	\$254,899.20
002	LAB002	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information	1920	Hour	\$200.08	\$384,153.60

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				systems, systems analysis, and computer programming.				
003	LAB003	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$200.08	\$384,153.60
004	LAB004	SME - Computer Systems Engineer/Architect	194	Computer Systems Engineer/Architect - Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	1920	Hour	\$169.71	\$325,843.20
005	LAB005	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$139.34	\$267,532.80
006	LAB007	SME - Computer Network Architect	144	Computer Network Architect - Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.	1920	Hour	\$156.19	\$299,884.80
007	LAB008	Senior Database Administrator	223	Database Administrator - Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement	1920	Hour	\$99.97	\$191,942.40

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				security measures to safeguard computer databases.				
008	LAB009	Journeyman Information Technology Project Manager	282	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$86.04	\$165,196.80
009	LAB010	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$139.34	\$267,532.80
010	LAB011	Journeyman Management Analyst	292	Management Analyst - Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants.	1920	Hour	\$81.94	\$157,324.80

B.5.4 Turnkey Solutions

Item Number	Description	Estimated Quantity	Unit	Unit Price	Total Price
001	HVAC Mechanic Journeyman	15	Hours	\$163.35	\$2,450.25
002	HVAC Mechanic Journeyman OT	15	Hours	\$245.03	\$3,675.45
003	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$147.02	\$2,205.30
004	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$220.52	\$3,307.80

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005	Electrician/Foreman/QA/QC	60	Hours	\$73.29	\$4,397.40
006	Lineman	60	Hours	\$58.93	\$3,535.80
007	Laborer	60	Hours	\$38.68	\$2,320.80

B.5.5 Fiber and Cable Installation Services

Item Number	Description	Estimated Quantity	Unit	Unit Price	Extended Price
001	Standard wall penetration hole 2½" w/fire stop - not a core drill	37	Ft	\$50.92	\$1,884.00
002	Place pull box - all sizes	1	Ea	\$299.86	\$299.86
003	Place Inner Duct - All Sizes	7506	Ea	\$1.36	\$10,191.96
004	Conduit placement excavation set-up - under 50'	2	Ea	\$3,055.14	\$6,110.29
005	Saw-cutting - asphalt and concrete	132	Ea	\$16.41	\$2,165.76
006	Asphalt and/or concrete removal	16	Ea	\$469.59	\$7,513.39
007	Dig/fill straight access pit 4' x 4' x 4'	10	Ea	\$1,810.45	\$18,104.55
008	Excavation - 0' to 10' depth	1	Ea	\$15.28	\$15.28
009	Hand trench and place conduit 36" deep	85	Ea	\$25.74	\$2,188.10
010	Rock removal	10	Ea	\$113.15	\$1,131.53
011	Concrete protective cover over conduit - 6" minimum	198	Ea	\$50.92	\$10,081.97
012	Core bore vault / manhole / handhole up to 6" diameter core	6	Ea	\$1,057.98	\$6,347.91
013	Install 4' x 4' x 4' pre-cast manhole	1	Ea	\$3,196.58	\$3,196.58
014	Install pre-cast handhole w/pea rock - 24" x 36" x 36"	3	Ea	\$831.68	\$2,495.03
015	Install quartzite handhole with pea rock – 30"x48"x36"deep	3	Ea	\$831.68	\$2,495.03
016	Install quartzite handhole with pea rock – 36"x60"x36"deep	3	Ea	\$831.68	\$2,495.03
017	Install 1- 4" PVC conduit	337	Ea	\$26.87	\$9,056.52
018	Install inner duct in conduit	43950	Ea	\$1.37	\$60,224.61
019	Install multiple inner duct in conduit	1	Ea	\$0.74	\$0.74
020	Install riser w/U-guard	5	Ea	\$44.13	\$220.65
021	Temporary cold patch	55	Ea	\$5.94	\$326.73
022	Temporary hot patch	1	Ea	\$9.62	\$9.62
023	Concrete placement	16	Ea	\$305.51	\$4,888.23
024	Restoration of Decorative Stone	66	Ea	\$10.18	\$672.13
025	Install fiber optic cable in outside conduit or inner duct	50023	Ea	\$1.37	\$68,546.43
026	Install additional fiber optic cable in outside conduit or inner duct	74	Ea	\$1.36	\$100.48

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Item Number	Description	Estimated Quantity	Unit	Unit Price	Extended Price
027	Install fiber optic cable in inside conduit or inner duct	12432	Ea	\$1.37	\$17,035.55
028	Place slack coil in inside or outside environment	23326	Ea	\$1.31	\$30,631.76
029	Remove underground fiber optic cable or inner duct	6503	Ea	\$0.96	\$6,254.61
030	Rodding existing conduit - 3/8" fiberglass rod	7873	Ea	\$1.19	\$9,354.00
031	Rodding existing conduit - 3/4" stick rod	48131	Ea	\$2.04	\$98,031.38
032	Remove and dispose lead cable from underground conduit	911	Ea	\$2.66	\$2,422.45
033	Regular tree trimming	6108	Ea	\$4.28	\$26,155.57
034	Install vertical ground with rod	1	Ea	\$66.76	\$66.76
035	Reframe pole	37	Ea	\$639.32	\$23,654.72
036	Install strand and hardware	871	Ea	\$1.19	\$1,034.84
037	Install/remove dead-end	1	Ea	\$69.59	\$69.59
038	Resag strand	3303	Ea	\$0.57	\$1,868.73
039	Install screw anchor normal soil w/guy and guard	1	Ft	\$170.86	\$170.86
040	Install anchor, eye rod -any type except screw	1	Ea	\$183.31	\$183.31
041	Remove anchor w/guy & eye rod - any type	1	Ea	\$183.31	\$183.31
042	Install/remove down guy w/guy guard and/or sidewalk guy arm	1	Ea	\$88.26	\$88.26
043	Install/remove overhead guy	1	Ea	\$73.55	\$73.55
044	Install/remove pole-to-pole guy	1	Ea	\$73.55	\$73.55
045	Install/remove cable extension arm	2	Ea	\$63.37	\$126.73
046	Resag/retention down guy	6	Ea	\$52.05	\$312.30
047	Aerial cable setup 500' or less	28	Ea	\$1,141.92	\$31,973.62
048	Place aerial fiber optic cable with single overlash	5797	Ea	\$1.30	\$7,543.43
049	Place aerial fiber optic cable with dual overlash	54602	Ea	\$1.66	\$90,408.73
050	Place aerial Fiber Optic Cable including de-lashing and dual over-lashing.	7798	Ea	\$2.04	\$15,882.67
051	Dual lash cable - first cable	929	Ea	\$1.64	\$1,524.23
052	Place additional cable	1	Ea	\$1.24	\$1.24
053	Cleat cable to exterior of building	1073	Ea	\$2.49	\$2,671.10
054	Place aerial fiber single loop -for storage or slack	6	Ea	\$175.39	\$1,052.33
055	Place aerial fiber dual loop for storage or slack	50	Ea	\$260.25	\$13,012.64
056	U-guard installation/removal - any type	26	Ea	\$84.87	\$2,206.49

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Item Number	Description	Estimated Quantity	Unit	Unit Price	Extended Price
057	Install tree guard	79	Ea	\$56.58	\$4,469.56
058	Building attachment - includes hardware, as specified	11	Ea	\$226.31	\$2,489.38
059	Install hand trench 1.25" innerduct	11	Ea	\$17.43	\$191.68
060	Install machine trench 1.25" innerduct	237	Ea	\$10.75	\$2,547.65
061	Hand trench/place cable 36" linear foot	1	Ea	\$17.48	\$17.48
062	Trench one (1) - 4" HDPE using machinery - using machinery	1	Ea	\$12.96	\$12.96
063	Hand trench/place one (1) - 4" HDPE (Trenching in excess of 36" depth using machinery - each 6" in excess	1	Ea	\$23.31	\$23.31
Personal					
064	Manhole survey crew; 2 techs, including butterfly	0	Ea	\$1,892.80	\$0.00
065	Manhole survey crew; 1 tech	0	Ea	\$1,181.60	\$0.00
066	Manhole survey crew; 2 techs, no butterfly	145	Ea	\$1,512.00	\$219,240.00
067	Three (3)-man line crew	101	Ea	\$156.80	\$15,836.80
068	Laborer / Flagger	1,119	Ea	\$41.44	\$46,371.36
069	Truck driver	0	Ea	\$58.24	\$0.00
070	2 Man Fully Equipped Splicing Crew	0	Ea	\$218.40	\$0.00
071	Cable Locator with Truck, Tools, and Paint	63	Ea	\$101.92	\$6,420.96
072	Material Pickup - When required	1	Ea	\$11,239.93	\$11,239.93
073	Obstruction dig, new unit -Unit rate per dig	1	Ea	\$10,571.54	\$10,571.54
074	ISP crew - unit daily rate for fully equipped truck and two (2) technicians	1	Ea	\$127,328.71	\$127,328.71
075	Cable Removal Extension Hourly Crew	87	Ea	\$235.20	\$20,462.40
076	Conduit Wash	0	Ea	\$347.20	\$0.00
077	Core Drill for Aerial Entrance up to 6" hole	1	Ea	\$1,103.25	\$1,103.25
078	Core Drill for Underground Entrance up to 6" hole; Includes access pit	1	Ea	\$2,828.84	\$2,828.84
079	Design Engineer	101	Ea	\$168.00	\$16,968.00
080	Emergency call out- Mobilization Fee	1	Ea	\$1,131.53	\$1,131.53
081	Place 19" or 23" relay rack into concrete floor. Del & Labor	1	Ea	\$848.65	\$848.65
082	Place 10' section of ladder rack	1	Ea	\$848.65	\$848.65

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B.5.6 Wireless Installations and Support Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
001	Bucket Truck (3 Hours Minimum)	3	Hours	\$285.36	\$856.08
002	Generator Mechanic	15	Hours	\$123.10	\$1,846.50
003	Voice / Data / Video Technician	15	Hours	\$111.90	\$1,678.50
004	VDCE (Discounted)	4500	Hours	\$89.60	\$403,200.00
005	Project Manager 128G	300	Hours	\$139.34	\$41,802.00

B.5.7 Electrical Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
001	Electrician	3550	Hours	\$103.40	\$367,070.00
002	Electrician Helper	1550	Hours	\$74.69	\$115,769.50
003	Technician	250	Hours	\$103.40	\$25,850.00
004	Technician Helper	250	Hours	\$74.69	\$18,672.50
005	All Apprentices	15	Hours	\$74.69	\$1,120.35
006	Service Mechanic	15	Hours	\$103.40	\$1,551.00
007	Technical Mechanic	15	Hours	\$106.15	\$1,592.25

B.5.8 Telecommunications Services

Item Number	Description	Estimated Quantity	Unit	Total Price
001	Project: HVAC Upgrade at DC-Net HQ	1	Job	\$169,577.09

B.5.9 General Equipment

Item Number	Description	Part Number	Unit	Estimated Qty	Unit Price	Extended Price
001	CHATSWORTH-EVOLUTION G2 DOUBLE-SIDED VERTICAL CABLE MANAGER, 84 IN. H (2133 MM) 8IN. W (200MM) X 24.5 IN. D (622MM), BLACK	35522-703	ea	2	\$982.10	\$1,964.21
002	RACK MOUNT FIBER ENCLOSURES - 4U RACK MOUNT TERM ONLY ENCLOSURE, DOVE GRAY LOADED WITH: (12) 6 POSITION LC DUPLEX	RW-57-144P-LC-150F	ea	60	\$2,764.58	\$165,874.60

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	ADAPTER PLATES WITH ADAPTERS VERTICAL MOUNT (1) 150 FOOT LC 144 PLENUM RATED RIBBON CABLE					
003	SMART UPS SRT 1500VA RM 120V NTWK CARD	SRT1500RMLA-NC	ea	17	\$1,687.20	\$28,682.35
004	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET 24F/RIBBON, GEL-FREE TUBE 288 FIBER SINGLE MODE	F-RCD1JKT-24-HB-288-E3	ft	100000	\$1.88	\$188,416.00
005	PRYSMIAN 432 FIBER, SM, RIBBON, CENTRAL TUBE, OUTDOOR, ALL DIELEC ALL DRY	F-RCD1JKT-24-HB-432-E3	ft	25000	\$2.70	\$67,609.17
006	STEEL CBL MGMT 84"H X 6"W DOUBLE SIDE TELCO GRAY	NSCM08460030	ea	30	\$441.52	\$13,245.74
007	COYD622U Splice Enclosures	800013685	ea	30	\$418.46	\$12,553.92
008	MULTI-FIBER RIBBON CONSTRUCTION	80610617880	ea	1	\$1,567.70	\$1,567.70
009	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET	F-RCD1JKT-24-HB-288-E3	ft	150000	\$1.88	\$282,624.00
010	3930/3932/5142/3926M,DC PLUGGABLE POWER SUPPLY,WIDE RANGE 24/48V	170-0013-900	ea	20	\$305.51	\$6,110.29
011	3930/3932/5142/3926M,AC PLUGGABLE POWER SUPPLY,WIDE RANGE 120/240V	170-0014-900	ea	40	\$229.14	\$9,165.43
012	SAOS ADVANCED SECURITY PERPETUAL SOFTWARE LICENSE FOR USE WITH SAOS 6.X	170-0204-900	ea	20	\$48.37	\$967.46
013	3930,(4)100M/1000M SFP,(4)100/1000M SFP/RJ-45,(2)1G/10G SFP+,EXT.TEMP,(2)SLOTS AC/DC PWR SUP	170-3930-900	ea	20	\$1,120.22	\$22,404.38
014	AC POWER CORD, IEC C13, NORTH AMERICA,TYPE B	CABL-PW01NA	ea	40	\$3.56	\$142.57
015	10/100/1000M, SFP TRANSCEIVER,RJ45 CONNECTOR,SGMII,100	XCVR-B00CRJ	ea	30	\$78.92	\$2,367.74

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	METERS, RX LOS,EXTENDED TEMPERATURE					
016	10 GIG, MM SFP+,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-S00Z85	ea	20	\$349.02	\$6,980.43
017	10 GIG, SM SFP+,LC CONNECTOR,10 KM,1310NM,EXTENDED TEMPERATURE	XCVR-S10V31	ea	20	\$559.49	\$11,189.74
018	SAOS ADVANCED ETHERNET PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-900	ea	20	\$165.49	\$3,309.74
019	SAOS ADVANCED OAM PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-901	ea	20	\$109.48	\$2,189.52
020	SAOS ADVANCED PBB-TE APPLICATION PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-902	ea	20	\$203.68	\$4,073.52
021	SAOS ADVANCED 10G PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-904	ea	20	\$504.10	\$10,081.97
022	10 GIG, MM XFP OPTIC,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-A00Z85	ea	20	\$543.70	\$10,874.04
023	10GIG, SM XFP,LC CONNECTOR,10KM,1310 NM,EXTENDED TEMPERATURE	XCVR-A10V31	ea	20	\$859.40	\$17,188.01
024	HARDWARE REPAIR SERVICE 10 DAY MAINTENANCE,Â 3930, 2 YEARS	80M-3930-HW2	ea	20	\$96.75	\$1,934.92
025	NBD SHIPMENT MANAGED SPARES SERVICE, CN 3930, 3 YEARS	80M-3930-NA3	ea	20	\$106.93	\$2,138.60
026	SMARTSUPPORT,Â 3930, 3 YEARS	80M-3930-SM3	ea	20	\$336.07	\$6,721.31
027	MERAKI MS225-24P L2 STCK CLD-MNGD 24X GIGE 370W POE SWITCH	MS225-24P-HW	ea	5	\$2,444.38	\$12,221.92
028	MERAKI MS225-24P ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-24P- 5YR	ea	5	\$414.52	\$2,072.58

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029	MERAKI MR52 CLOUD MANAGED AP	MR52-HW	ea	60	\$902.62	\$54,156.93
030	MERAKI MR ENTERPRISE LICENSE, 5YR	LIC-ENT-5YR	ea	60	\$290.33	\$17,419.92
031	CISCO WEBEX BOARD 70 FLOOR STAND – SPARE	CS-BOARD70-FS=	ea	2	\$2,779.31	\$5,558.61
032	MERAKI MS225-48FP L2 STCK CLD-MNGD 48X GIGE 740W POE SWITCH	MS225-48FP-HW	ea	2	\$5,013.06	\$10,026.13
033	MERAKI MS225-48FP ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-48FP-5YR	ea	2	\$851.64	\$1,703.28
034	MERAKI 1000BASE SX MULTI-MODE	MA-SFP-1GB-SX	ea	4	\$322.59	\$1,290.36
035	PANDUIT NET-DIRECT CABINET AIR INLET DUCT	DIRBB2007S21W	ea	16	\$957.04	\$15,312.65
036	VS 20FT BLU SNAGLESS C6 CM BULK PK 25	576-110-020BP25	ea	80	\$134.73	\$10,778.54
037	ORTRONICS C14/C15 15A 14-3 SJT RED POWER CORDS 8-FT	2306-7703-08	ea	100	\$14.13	\$1,413.29
038	ORTRONICS C14/C15 15A 14-3 SJT BLUE POWER CORDS 8-FT	2306-7704-08	ea	100	\$14.13	\$1,413.29

B.6 Price List-Option Year One

B.6.1 Optical Fiber Cable Maintenance

Item Number	Description	Quantity	Unit	Total Price
101	OFC001 Maintenance Cost	1	Year	\$471,289.96

Item Number	Description	Price
102	OFC050 Supplemental Crew/ 8 hour day, 40 hours/week	\$1,734.19
103	OFC002 2 cable splicer crew, equipment, tools, 4 hours OT	\$2,248.33
104	OFC003 2 cable splicer crew, equipment, tools, 8 hours OT	\$2,788.10

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B.6.2 Heating, Ventilation and Air Conditioning (HVAC) Services

B.6.2.1 Primary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
001	1	OCTO, One Judiciary Square (OJS)	Airflow	\$447.62	\$5,371.43
002	3	DDOT, Dept. of Public Works, Reeves Center	Carrier	\$803.16	\$9,637.88

B.6.2.2 Secondary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
003	406	655 15th Street NW	OCTO DC-Net HQ	\$248.94	\$2,987.28
004	8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials	\$248.94	\$2,987.28
005	9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health	\$248.94	\$2,987.28
006	18	1350 Penn Ave	City Hall	1,224.41	\$14,692.87

B.6.3 Personnel

Item Number	Description	Labor Category	Alliant ID #	Description	Estimated Quantity	Unit	Unit Price	Total Price
101	LAB001	Senior Computer and Information Systems Manager	123	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$135.32	\$259,814.40
102	LAB002	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$203.94	\$391,564.80
103	LAB003	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data	1920	Hour	\$203.94	\$391,564.80

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				processing, information systems, systems analysis, and computer programming.				
104	LAB004	SME - Computer Systems Engineer/Architect	194	Computer Systems Engineer/Architect - Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	1920	Hour	\$172.99	\$332,140.80
105	LAB005	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$142.03	\$272,697.60
106	LAB007	SME - Computer Network Architect	144	Computer Network Architect - Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.	1920	Hour	\$159.20	\$305,664.00
107	LAB008	Senior Database Administrator	223	Database Administrator - Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases.	1920	Hour	\$101.90	\$195,648.00
108	LAB009	Journeyman Information Technology Project Manager	282	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical	1920	Hour	\$87.70	\$168,384.00

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				staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.				
109	LAB010	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$142.03	\$272,697.60
110	LAB011	Journeyman Management Analyst	292	Management Analyst - Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants.	1920	Hour	\$83.53	\$160,377.60

B.6.4 Turnkey Solutions

Item Number	Description	Estimated Quantity	Unit	Unit Price	Total Price
001	HVAC Mechanic Journeyman	15	Hours	\$168.25	\$2,523.75
002	HVAC Mechanic Journeyman OT	15	Hours	\$252.38	\$3,785.70
003	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$151.43	\$2,271.45
004	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$227.14	\$3,407.10
005	Electrician/Foreman/QA/QC	60	Hours	\$74.39	\$4,463.40
006	Lineman	60	Hours	\$59.81	\$3,588.60
007	Laborer	60	Hours	\$39.26	\$2,355.60

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B.6.5 Fiber and Cable Installation Services

Item Number	Description	Unit	Unit Price	Extended Price
001	Standard wall penetration hole 2½" w/fire stop - not a core drill	Ft	\$51.89	\$1,919.80
002	Place pull box - all sizes	Ea	\$305.55	\$305.55
003	Place Inner Duct - All Sizes	Ea	\$1.38	\$10,385.60
004	Conduit placement excavation set-up - under 50'	Ea	\$3,113.19	\$6,226.38
005	Saw-cutting - asphalt and concrete	Ea	\$16.72	\$2,206.91
006	Asphalt and/or concrete removal	Ea	\$478.51	\$7,656.14
007	Dig/fill straight access pit 4' x 4' x 4'	Ea	\$1,844.85	\$18,448.53
008	Excavation - 0' to 10' depth	Ea	\$15.57	\$15.57
009	Hand trench and place conduit 36" deep	Ea	\$26.23	\$2,229.68
010	Rock removal	Ea	\$115.30	\$1,153.03
011	Concrete protective cover over conduit - 6" minimum	Ea	\$51.89	\$10,273.53
012	Core bore vault / manhole / handhole up to 6" diameter core	Ea	\$1,078.09	\$6,468.52
013	Install 4' x 4' x 4' pre-cast manhole	Ea	\$3,257.32	\$3,257.32
014	Install pre-cast handhole w/pea rock - 24" x 36" x 36"	Ea	\$847.48	\$2,542.44
015	Install quartzite handhole with pea rock – 30"x48"x36"deep	Ea	\$847.48	\$2,542.44
016	Install quartzite handhole with pea rock – 36"x60"x36"deep	Ea	\$847.48	\$2,542.44
017	Install 1- 4" PVC conduit	Ea	\$27.38	\$9,228.59
018	Install inner duct in conduit	Ea	\$1.40	\$61,368.87
019	Install multiple inner duct in conduit	Ea	\$0.75	\$0.75
020	Install riser w/U-guard	Ea	\$44.97	\$224.84
021	Temporary cold patch	Ea	\$6.05	\$332.94
022	Temporary hot patch	Ea	\$9.80	\$9.80
023	Concrete placement	Ea	\$311.32	\$4,981.10
024	Restoration of Decorative Stone	Ea	\$10.38	\$684.90
025	Install fiber optic cable in outside conduit or inner duct	Ea	\$1.40	\$69,848.81
026	Install additional fiber optic cable in outside conduit or inner duct	Ea	\$1.38	\$102.39
027	Install fiber optic cable in inside conduit or inner duct	Ea	\$1.40	\$17,359.22
028	Place slack coil in inside or outside environment	Ea	\$1.34	\$31,213.76
029	Remove underground fiber optic cable or inner duct	Ea	\$0.98	\$6,373.45
030	Rodding existing conduit - 3/8" fiberglass rod	Ea	\$1.21	\$9,531.72
031	Rodding existing conduit - 3/4" stick rod	Ea	\$2.08	\$99,893.97

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032	Remove and dispose lead cable from underground conduit	Ea	\$2.71	\$2,468.47
033	Regular tree trimming	Ea	\$4.36	\$26,652.52
034	Install vertical ground with rod	Ea	\$68.03	\$68.03
035	Reframe pole	Ea	\$651.46	\$24,104.16
036	Install strand and hardware	Ea	\$1.21	\$1,054.51
037	Install/remove dead-end	Ea	\$70.91	\$70.91
038	Resag strand	Ea	\$0.58	\$1,904.23
039	Install screw anchor normal soil w/guy and guard	Ft	\$174.11	\$174.11
040	Install anchor, eye rod -any type except screw	Ea	\$186.79	\$186.79
041	Remove anchor w/guy & eye rod - any type	Ea	\$186.79	\$186.79
042	Install/remove down guy w/guy guard and/or sidewalk guy arm	Ea	\$89.94	\$89.94
043	Install/remove overhead guy	Ea	\$74.95	\$74.95
044	Install/remove pole-to-pole guy	Ea	\$74.95	\$74.95
045	Install/remove cable extension arm	Ea	\$64.57	\$129.14
046	Resag/retention down guy	Ea	\$53.04	\$318.24
047	Aerial cable setup 500' or less	Ea	\$1,163.61	\$32,581.12
048	Place aerial fiber optic cable with single overlash	Ea	\$1.33	\$7,686.76
049	Place aerial fiber optic cable with dual overlash	Ea	\$1.69	\$92,126.50
050	Place aerial Fiber Optic Cable including de-lashing and dual over-lashing.	Ea	\$2.08	\$16,184.44
051	Dual lash cable - first cable	Ea	\$1.67	\$1,553.19
052	Place additional cable	Ea	\$1.27	\$1.27
053	Cleat cable to exterior of building	Ea	\$2.54	\$2,721.85
054	Place aerial fiber single loop -for storage or slack	Ea	\$178.72	\$1,072.32
055	Place aerial fiber dual loop for storage or slack	Ea	\$265.20	\$13,259.88
056	U-guard installation/removal - any type	Ea	\$86.48	\$2,248.42
057	Install tree guard	Ea	\$57.65	\$4,554.48
058	Building attachment - includes hardware, as specified	Ea	\$230.61	\$2,536.67
059	Install hand trench 1.25" innerduct	Ea	\$17.76	\$195.32
060	Install machine trench 1.25" innerduct	Ea	\$10.95	\$2,596.05
061	Hand trench/place cable 36" linear foot	Ea	\$17.81	\$17.81
062	Trench one (1) - 4" HDPE using machinery - using machinery	Ea	\$13.20	\$13.20
063	Hand trench/place one (1) - 4" HDPE (Trenching in excess of 36" depth using machinery - each 6" in excess	Ea	\$23.75	\$23.75
Personal				
064	Manhole survey crew; 2 techs, including butterfly	Ea	\$1,921.19	\$-
065	Manhole survey crew; 1 tech	Ea	\$1,199.32	\$-
066	Manhole survey crew; 2 techs, no butterfly	Ea	\$1,534.68	\$222,528.60
067	Three (3)-man line crew	Ea	\$159.15	\$16,074.15

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068	Laborer / Flagger	Ea	\$42.06	\$47,065.14
069	Truck driver	Ea	\$59.11	\$-
070	2 Man Fully Equipped Splicing Crew	Ea	\$221.68	\$-
071	Cable Locator with Truck, Tools, and Paint	Ea	\$103.45	\$6,517.35
072	Material Pickup - When required	Ea	\$11,453.49	\$11,453.49
073	Obstruction dig, new unit -Unit rate per dig	Ea	\$10,772.40	\$10,772.40
074	ISP crew - unit daily rate for fully equipped truck and two (2) technicians	Ea	\$127,994.64	\$127,994.64
075	Cable Removal Extension Hourly Crew	Ea	\$238.73	\$20,769.51
076	Conduit Wash	Ea	\$352.41	\$-
077	Core Drill for Aerial Entrance up to 6" hole	Ea	\$1,124.21	\$1,124.21
078	Core Drill for Underground Entrance up to 6" hole; Includes access pit	Ea	\$2,882.58	\$2,882.58
079	Design Engineer	Ea	\$170.52	\$17,222.52
080	Emergency call out- Mobilization Fee	Ea	\$1,153.03	\$1,153.03
081	Place 19" or 23" relay rack into concrete floor. Del & Labor	Ea	\$864.78	\$864.78
082	Place 10' section of ladder rack	Ea	\$864.78	\$864.78

B.6.6 Wireless Installations and Support Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
001	Bucket Truck (3 Hours Minimum)	3	Hours	\$289.64	\$868.92
002	Generator Mechanic	15	Hours	\$124.95	\$1,874.25
003	Voice / Data / Video Technician	15	Hours	\$113.58	\$1,703.70
004	VDCE (Discounted)	4500	Hours	\$90.94	\$409,230.00
005	Project Manager 128G	300	Hours	\$100.49	\$30,147.00

B.6.7 Electrical Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
001	Electrician	3550	Hours	\$105.47	\$374,418.50
002	Electrician Helper	1550	Hours	\$76.19	\$118,094.50
003	Technician	250	Hours	\$105.47	\$26,367.50
004	Technician Helper	250	Hours	\$76.19	\$19,047.50
005	All Apprentices	15	Hours	\$76.19	\$1,142.85
006	Service Mechanic	15	Hours	\$105.47	\$1,582.05
007	Technical Mechanic	15	Hours	\$108.27	\$1,624.05

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B.6.8 Telecommunications Services

Item Number	Description	Estimated Quantity	Unit	Total Price
001	Project: HVAC Upgrade at DC-Net HQ	1	Job	\$169,577.09

B.6.9 General Equipment

Item Number	Description	Part Number	Unit	Estimated Qty	Unit Price	Extended Price
101	CHATSWORTH-EVOLUTION G2 DOUBLE-SIDED VERTICAL CABLE MANAGER, 84 IN. H (2133 MM) 8IN. W (200MM) X 24.5 IN. D (622MM), BLACK	35522-703	ea	2	\$1,000.76	\$2,001.53
102	RACK MOUNT FIBER ENCLOSURES - 4U RACK MOUNT TERM ONLY ENCLOSURE, DOVE GRAY LOADED WITH: (12) 6 POSITION LC DUPLEX ADAPTER PLATES WITH ADAPTERS VERTICAL MOUNT (1) 150 FOOT LC 144 PLENUM RATED RIBBON CABLE	RW-57-144P-LC-150F	ea	60	\$2,791.49	\$167,489.64
103	SMART UPS SRT 1500VA RM 120V NTKW CARD	SRT1500RMLA-NC	ea	17	\$1,719.25	\$29,227.31
104	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET 24F/RIBBON, GEL-FREE TUBE 288 FIBER SINGLE MODE	F-RCD1JKT-24-HB-288-E3	ft	10000	\$1.90	\$190,250.52
105	PRYSMIAN 432 FIBER, SM, RIBBON, CENTRAL TUBE, OUTDOOR, ALL DIELEC ALL DRY	F-RCD1JKT-24-HB-432-E3	ft	25000	\$2.76	\$68,893.75
106	STEEL CBL MGMT 84"H X 6"W DOUBLE SIDE TELCO GRAY	NSCM08460030	ea	30	\$449.91	\$13,497.41
107	COYD622U Splice Enclosures	800013685	ea	30	\$426.41	\$12,792.44
108	MULTI-FIBER RIBBON CONSTRUCTION	80610617880	ea	1	\$1,597.48	\$1,597.48
109	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE,	F-RCD1JKT-24-HB-288-E3	ft	15000	\$1.90	\$285,375.77

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	NON-ARMOR, SINGLE JACKET					
110	3930/3932/5142/3926M,DC PLUGGABLE POWER SUPPLY,WIDE RANGE 24/48V	170-0013-900	ea	20	\$311.32	\$6,226.38
111	3930/3932/5142/3926M,AC PLUGGABLE POWER SUPPLY,WIDE RANGE 120/240V	170-0014-900	ea	40	\$233.49	\$9,339.57
112	SAOS ADVANCED SECURITY PERPETUAL SOFTWARE LICENSE FOR USE WITH SAOS 6.X	170-0204-900	ea	20	\$49.29	\$985.84
113	3930,(4)100M/1000M SFP,(4)100/1000M SFP/RJ-45,(2)1G/10G SFP+,EXT.TEMP,(2)SLOTS AC/DC PWR SUP	170-3930-900	ea	20	\$1,141.50	\$22,830.06
114	AC POWER CORD, IEC C13, NORTH AMERICA,TYPE B	CABL-PW01NA	ea	40	\$3.63	\$145.28
115	10/100/1000M, SFP TRANSCEIVER,RJ45 CONNECTOR,SGMII,100 METERS, RX LOS,EXTENDED TEMPERATURE	XCVR-B00CRJ	ea	30	\$80.42	\$2,412.72
116	10 GIG, MM SFP+,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-S00Z85	ea	20	\$355.65	\$7,113.06
117	10 GIG, SM SFP+,LC CONNECTOR,10 KM,1310NM,EXTENDED TEMPERATURE	XCVR-S10V31	ea	20	\$570.12	\$11,402.35
118	SAOS ADVANCED ETHERNET PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-900	ea	20	\$168.63	\$3,372.62
119	SAOS ADVANCED OAM PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-901	ea	20	\$111.56	\$2,231.12
120	SAOS ADVANCED PBB-TE APPLICATION PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-902	ea	20	\$207.55	\$4,150.92
121	SAOS ADVANCED 10G PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-904	ea	20	\$513.68	\$10,273.53

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122	10 GIG, MM XFP OPTIC,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-A00Z85	ea	20	\$554.03	\$11,080.65
123	10GIG, SM XFP,LC CONNECTOR,10KM,1310 NM,EXTENDED TEMPERATURE	XCVR-A10V31	ea	20	\$875.73	\$17,514.58
124	HARDWARE REPAIR SERVICE 10 DAY MAINTENANCE,Â 3930, 2 YEARS	80M-3930-HW2	ea	20	\$98.58	\$1,971.69
125	NBD SHIPMENT MANAGED SPARES SERVICE, CN 3930, 3 YEARS	80M-3930-NA3	ea	20	\$108.96	\$2,179.23
126	SMARTSUPPORT,Â 3930, 3 YEARS	80M-3930-SM3	ea	20	\$342.45	\$6,849.02
127	MERAKI MS225-24P L2 STCK CLD-MNGD 24X GIGE 370W POE SWITCH	MS225-24P-HW	ea	5	\$2,468.18	\$12,340.92
128	MERAKI MS225-24P ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-24P-5YR	ea	5	\$418.55	\$2,092.76
129	MERAKI MR52 CLOUD MANAGED AP	MR52-HW	ea	60	\$911.40	\$54,684.22
130	MERAKI MR ENTERPRISE LICENSE, 5YR	LIC-ENT-5YR	ea	60	\$293.16	\$17,589.52
131	CISCO WEBEX BOARD 70 FLOOR STAND – SPARE	CS-BOARD70-FS=	ea	2	\$2,806.37	\$5,612.74
132	MERAKI MS225-48FP L2 STCK CLD-MNGD 48X GIGE 740W POE SWITCH	MS225-48FP-HW	ea	2	\$5,061.87	\$10,123.75
133	MERAKI MS225-48FP ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-48FP-5YR	ea	2	\$859.93	\$1,719.86
134	MERAKI 1000BASE SX MULTI-MODE	MA-SFP-1GB-SX	ea	4	\$325.73	\$1,302.93
135	PANDUIT NET-DIRECT CABINET AIR INLET DUCT	DIRBB2007S21W	ea	16	\$975.22	\$15,603.59
136	VS 20FT BLU SNAGLESS C6 CM BULK PK 25	576-110-020BP25	ea	80	\$137.29	\$10,983.34
137	ORTRONICS C14/C15 15A 14-3 SJT RED POWER CORDS 8-FT	2306-7703-08	ea	100	\$14.40	\$1,440.14
138	ORTRONICS C14/C15 15A 14-3 SJT BLUE POWER CORDS 8-FT	2306-7704-08	ea	100	\$14.40	\$1,440.14

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B.7 Price List-Option Year Two

B.7.1 Optical Fiber Cable Maintenance

Item Number	Description	Quantity	Unit	Total Price
201	OFC001 Maintenance Cost	1	Year	\$480,244.47

Item Number	Description	Price
202	OFC050 Supplemental Crew/ 8 hour day, 40 hours/week	\$1,734.19
203	OFC002 2 cable splicer crew, equipment, tools, 4 hours OT	\$2,248.33
204	OFC003 2 cable splicer crew, equipment, tools, 8 hours OT	\$2,788.10

B.7.2 Heating, Ventilation and Air Conditioning (HVAC) Services

B.7.2.1 Primary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
201	1	OCTO, One Judiciary Square (OJS)	Airflow	\$456.12	\$5,473.49
202	3	DDOT, Dept. of Public Works, Reeves Center	Carrier	\$818.42	\$9,821.00

B.7.2.2 Secondary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
203	406	655 15th Street NW	OCTO DC-Net HQ	\$253.67	\$3,044.04
204	8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials	\$253.67	\$3,044.04
205	9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health	\$253.67	\$3,044.04
206	18	1350 Penn Ave	City Hall	\$1,247.67	\$14,972.04

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B.7.3 Personnel

Item Number	Description	Labor Category	Alliant ID #	Description	Estimated Quantity	Unit	Unit Price	Total Price
201	LAB001	Senior Computer and Information Systems Manager	123	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$137.93	\$264,825.60
202	LAB002	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$207.88	\$399,129.60
203	LAB003	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$207.88	\$399,129.60
204	LAB004	SME - Computer Systems Engineer/Architect	194	Computer Systems Engineer/Architect - Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	1920	Hour	\$176.33	\$338,553.60
205	LAB005	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$144.77	\$277,958.40
206	LAB007	SME - Computer Network Architect	144	Computer Network Architect - Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data	1920	Hour	\$162.27	\$311,558.40

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				communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.				
207	LAB008	Senior Database Administrator	223	Database Administrator - Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases.	1920	Hour	\$10.87	\$199,430.40
208	LAB009	Journeyman Information Technology Project Manager	282	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$89.39	\$171,628.80
209	LAB010	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$144.77	\$277,958.40
210	LAB011	Journeyman Management Analyst	292	Management Analyst - Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively.	1920	Hour	\$85.14	\$163,468.80

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				Includes program analysts and management consultants.				
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B.7.4 Turnkey Solutions

Item Number	Description	Estimated Quantity	Unit	Unit Price	Extended Total
201	HVAC Mechanic Journeyman	15	Hours	\$173.30	\$2,599.50
202	HVAC Mechanic Journeyman OT	15	Hours	\$259.96	\$3,899.40
203	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$155.98	\$2,339.70
204	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$233.96	\$3,509.40
205	Electrician/Foreman/QA/QC	60	Hours	\$75.51	\$4,530.60
206	Lineman	60	Hours	\$60.71	\$3,642.60
207	Laborer	60	Hours	\$39.84	\$2,390.40

B.5.5 Fiber and Cable Installation Services

Item Number	Description	Unit	Unit Price	Extended Price
201	Standard wall penetration hole 2½” w/fire stop - not a core drill	Ft	\$52.82	\$1,954.28
202	Place pull box - all sizes	Ea	\$311.04	\$311.04
203	Place Inner Duct - All Sizes	Ea	\$1.41	\$10,572.14
204	Conduit placement excavation set-up - under 50’	Ea	\$3,169.11	\$6,338.21
205	Saw-cutting - asphalt and concrete	Ea	\$17.02	\$2,246.54
206	Asphalt and/or concrete removal	Ea	\$487.10	\$7,793.65
207	Dig/fill straight access pit 4’ x 4’ x 4’	Ea	\$1,877.99	\$18,779.89
208	Excavation - 0’ to 10’ depth	Ea	\$15.85	\$15.85
209	Hand trench and place conduit 36” deep	Ea	\$26.70	\$2,269.73
210	Rock removal	Ea	\$117.37	\$1,173.74
211	Concrete protective cover over conduit - 6” minimum	Ea	\$52.82	\$10,458.05
212	Core bore vault / manhole / handhole up to 6” diameter core	Ea	\$1,097.45	\$6,584.70
213	Install 4’ x 4’ x 4’ pre-cast manhole	Ea	\$3,315.82	\$3,315.82
214	Install pre-cast handhole w/pea rock - 24” x 36” x 36”	Ea	\$862.70	\$2,588.10
215	Install quartzite handhole with pea rock – 30”x48”x36”deep	Ea	\$862.70	\$2,588.10
216	Install quartzite handhole with pea rock – 36”x60”x36”deep	Ea	\$862.70	\$2,588.10
217	Install 1- 4” PVC conduit	Ea	\$27.88	\$9,394.35

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218	Install inner duct in conduit	Ea	\$1.42	\$62,471.12
219	Install multiple inner duct in conduit	Ea	\$0.76	\$0.76
220	Install riser w/U-guard	Ea	\$45.78	\$228.88
221	Temporary cold patch	Ea	\$6.16	\$338.92
222	Temporary hot patch	Ea	\$9.98	\$9.98
223	Concrete placement	Ea	\$316.91	\$5,070.57
224	Restoration of Decorative Stone	Ea	\$10.56	\$697.20
225	Install fiber optic cable in outside conduit or inner duct	Ea	\$1.42	\$71,103.36
226	Install additional fiber optic cable in outside conduit or inner duct	Ea	\$1.41	\$104.23
227	Install fiber optic cable in inside conduit or inner duct	Ea	\$1.42	\$17,671.01
228	Place slack coil in inside or outside environment	Ea	\$1.36	\$31,774.39
229	Remove underground fiber optic cable or inner duct	Ea	\$1.00	\$6,487.92
230	Rodding existing conduit - 3/8" fiberglass rod	Ea	\$1.23	\$9,702.92
231	Rodding existing conduit - 3/4" stick rod	Ea	\$2.11	\$101,688.17
232	Remove and dispose lead cable from underground conduit	Ea	\$2.76	\$2,512.81
233	Regular tree trimming	Ea	\$4.44	\$27,131.23
234	Install vertical ground with rod	Ea	\$69.25	\$69.25
235	Reframe pole	Ea	\$663.16	\$24,537.10
236	Install strand and hardware	Ea	\$1.23	\$1,073.45
237	Install/remove dead-end	Ea	\$72.19	\$72.19
238	Resag strand	Ea	\$0.59	\$1,938.44
239	Install screw anchor normal soil w/guy and guard	Ft	\$177.24	\$177.24
240	Install anchor, eye rod -any type except screw	Ea	\$190.15	\$190.15
241	Remove anchor w/guy & eye rod - any type	Ea	\$190.15	\$190.15
242	Install/remove down guy w/guy guard and/or sidewalk guy arm	Ea	\$91.55	\$91.55
243	Install/remove overhead guy	Ea	\$76.29	\$76.29
244	Install/remove pole-to-pole guy	Ea	\$76.29	\$76.29
245	Install/remove cable extension arm	Ea	\$65.73	\$131.46
246	Resag/retention down guy	Ea	\$53.99	\$323.95
247	Aerial cable setup 500' or less	Ea	\$1,184.51	\$33,166.31
248	Place aerial fiber optic cable with single overlash	Ea	\$1.35	\$7,824.82
249	Place aerial fiber optic cable with dual overlash	Ea	\$1.72	\$93,781.19
250	Place aerial Fiber Optic Cable including de-lashing and dual over-lashing.	Ea	\$2.11	\$16,475.13
251	Dual lash cable - first cable	Ea	\$1.70	\$1,581.09
252	Place additional cable	Ea	\$1.29	\$1.29
253	Cleat cable to exterior of building	Ea	\$2.58	\$2,770.74

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254	Place aerial fiber single loop -for storage or slack	Ea	\$181.93	\$1,091.58
255	Place aerial fiber dual loop for storage or slack	Ea	\$269.96	\$13,498.05
256	U-guard installation/removal - any type	Ea	\$88.03	\$2,288.80
257	Install tree guard	Ea	\$58.69	\$4,636.29
258	Building attachment - includes hardware, as specified	Ea	\$234.75	\$2,582.23
259	Install hand trench 1.25" innerduct	Ea	\$18.08	\$198.83
260	Install machine trench 1.25" innerduct	Ea	\$11.15	\$2,642.68
261	Hand trench/place cable 36" linear foot	Ea	\$18.13	\$18.13
262	Trench one (1) - 4" HDPE using machinery - using machinery	Ea	\$13.44	\$13.44
263	Hand trench/place one (1) - 4" HDPE (Trenching in excess of 36" depth using machinery - each 6" in excess	Ea	\$24.18	\$24.18
Personal				
264	Manhole survey crew; 2 techs, including butterfly	Ea	\$1,950.01	\$-
265	Manhole survey crew; 1 tech	Ea	\$1,217.31	\$-
266	Manhole survey crew; 2 techs, no butterfly	Ea	\$1,557.70	\$225,866.50
267	Three (3)-man line crew	Ea	\$161.54	\$16,315.54
268	Laborer / Flagger	Ea	\$42.69	\$47,770.11
269	Truck driver	Ea	\$60.00	\$-
270	2 Man Fully Equipped Splicing Crew	Ea	\$225.00	\$-
271	Cable Locator with Truck, Tools, and Paint	Ea	\$105.00	\$6,615.00
272	Material Pickup - When required	Ea	\$11,659.21	\$11,659.21
273	Obstruction dig, new unit -Unit rate per dig	Ea	\$10,965.88	\$10,965.88
274	ISP crew - unit daily rate for fully equipped truck and two (2) technicians	Ea	\$130,293.55	\$130,293.55
275	Cable Removal Extension Hourly Crew	Ea	\$242.31	\$21,080.97
276	Conduit Wash	Ea	\$357.69	\$-
277	Core Drill for Aerial Entrance up to 6" hole	Ea	\$1,144.40	\$1,144.40
278	Core Drill for Underground Entrance up to 6" hole; Includes access pit	Ea	\$2,934.36	\$2,934.36
279	Design Engineer	Ea	\$173.08	\$17,481.08
280	Emergency call out- Mobilization Fee	Ea	\$1,173.74	\$1,173.74
281	Place 19" or 23" relay rack into concrete floor. Del & Labor	Ea	\$880.31	\$880.31
282	Place 10' section of ladder rack	Ea	\$880.31	\$880.31

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B.7.6 Wireless Installations and Support Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
201	Bucket Truck (3 Hours Minimum)	3	Hours	\$293.99	\$881.97
202	Generator Mechanic	15	Hours	\$126.82	\$1,902.30
203	Voice / Data / Video Technician	15	Hours	\$115.29	\$1,729.35
204	VDCE (Discounted)	4500	Hours	\$92.31	\$415,395.00
205	Project Manager 128G	300	Hours	\$101.99	\$30,597.00

B.7.7 Electrical Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
201	Electrician	3550	Hours	\$107.58	\$381,909.00
202	Electrician Helper	1550	Hours	\$77.72	\$120,466.00
203	Technician	250	Hours	\$107.58	\$26,895.00
204	Technician Helper	250	Hours	\$77.72	\$19,430.00
205	All Apprentices	15	Hours	\$77.72	\$1,165.80
206	Service Mechanic	15	Hours	\$107.58	\$1,613.70
207	Technical Mechanic	15	Hours	\$110.44	\$1,656.60

B.7.8 Telecommunications Services

Item Number	Description	Estimated Quantity	Unit	Total Price
201	Project: HVAC Upgrade at DC-Net HQ	1	Job	\$0.00

B.7.9 General Equipment

Item Number	Description	Part Number	Unit	Estimated Qty	Unit Price	Extended Price
201	CHATSWORTH-EVOLUTION G2 DOUBLE-SIDED VERTICAL CABLE MANAGER, 84 IN. H (2133 MM) 8IN. W (200MM) X 24.5 IN. D (622MM), BLACK	35522-703	ea	2	\$1,018.74	\$2,037.48
202	RACK MOUNT FIBER ENCLOSURES - 4U RACK MOUNT TERM ONLY ENCLOSURE, DOVE GRAY LOADED WITH: (12) 6 POSITION LC DUPLEX	RW-57-144P-LC-150F	ea	60	\$2,841.63	\$170,497.92

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	ADAPTER PLATES WITH ADAPTERS VERTICAL MOUNT (1) 150 FOOT LC 144 PLENUM RATED RIBBON CABLE					
203	SMART UPS SRT 1500VA RM 120V NTWK CARD	SRT1500RMLA-NC	ea	17	\$1,750.13	\$29,752.26
204	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET 24F/RIBBON, GEL-FREE TUBE 288 FIBER SINGLE MODE	F-RCD1JKT-24-HB-288-E3	ft	100000	\$1.94	\$193,667.61
205	PRYSMIAN 432 FIBER, SM, RIBBON, CENTRAL TUBE, OUTDOOR, ALL DIELEC ALL DRY	F-RCD1JKT-24-HB-432-E3	ft	25000	\$2.81	\$70,131.15
206	STEEL CBL MGMT 84"H X 6"W DOUBLE SIDE TELCO GRAY	NSCM08460030	ea	30	\$457.99	\$13,739.84
207	COYD622U Splice Enclosures	800013685	ea	30	\$434.07	\$13,022.21
208	MULTI-FIBER RIBBON CONSTRUCTION	80610617880	ea	1	\$1,626.17	\$1,626.17
209	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET	F-RCD1JKT-24-HB-288-E3	ft	150000	\$1.94	\$290,501.41
210	3930/3932/5142/3926M,DC PLUGGABLE POWER SUPPLY,WIDE RANGE 24/48V	170-0013-900	ea	20	\$316.91	\$6,338.21
211	3930/3932/5142/3926M,AC PLUGGABLE POWER SUPPLY,WIDE RANGE 120/240V	170-0014-900	ea	40	\$237.68	\$9,507.32
212	SAOS ADVANCED SECURITY PERPETUAL SOFTWARE LICENSE FOR USE WITH SAOS 6.X	170-0204-900	ea	20	\$50.18	\$1,003.55
213	3930,(4)100M/1000M SFP,(4)100/1000M SFP/RJ-45,(2)1G/10G SFP+,EXT.TEMP,(2)SLOTS AC/DC PWR SUP	170-3930-900	ea	20	\$1,162.01	\$23,240.11
214	AC POWER CORD, IEC C13, NORTH AMERICA,TYPE B	CABL-PW01NA	ea	40	\$3.70	\$147.89
215	10/100/1000M, SFP TRANSCEIVER,RJ45 CONNECTOR,SGMII,100	XCVR-B00CRJ	ea	30	\$81.87	\$2,456.06

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	METERS, RX LOS,EXTENDED TEMPERATURE					
216	10 GIG, MM SFP+,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-S00Z85	ea	20	\$362.04	\$7,240.82
217	10 GIG, SM SFP+,LC CONNECTOR,10 KM,1310NM,EXTENDED TEMPERATURE	XCVR-S10V31	ea	20	\$580.36	\$11,607.15
218	SAOS ADVANCED ETHERNET PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-900	ea	20	\$171.66	\$3,433.20
219	SAOS ADVANCED OAM PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-901	ea	20	\$113.56	\$2,271.19
220	SAOS ADVANCED PBB-TE APPLICATION PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-902	ea	20	\$211.27	\$4,225.48
221	SAOS ADVANCED 10G PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-904	ea	20	\$522.90	\$10,458.05
222	10 GIG, MM XFP OPTIC,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-A00Z85	ea	20	\$563.98	\$11,279.67
223	10GIG, SM XFP,LC CONNECTOR,10KM,1310 NM,EXTENDED TEMPERATURE	XCVR-A10V31	ea	20	\$891.46	\$17,829.16
224	HARDWARE REPAIR SERVICE 10 DAY MAINTENANCE,Â 3930, 2 YEARS	80M-3930-HW2	ea	20	\$100.36	\$2,007.10
225	NBD SHIPMENT MANAGED SPARES SERVICE, CN 3930, 3 YEARS	80M-3930-NA3	ea	20	\$110.92	\$2,218.37
226	SMARTSUPPORT,Â 3930, 3 YEARS	80M-3930-SM3	ea	20	\$348.60	\$6,972.03
227	MERAKI MS225-24P L2 STCK CLD-MNGD 24X GIGE 370W POE SWITCH	MS225-24P-HW	ea	5	\$2,512.51	\$12,562.57
228	MERAKI MS225-24P ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-24P- 5YR	ea	5	\$426.07	\$2,130.34

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229	MERAKI MR52 CLOUD MANAGED AP	MR52-HW	ea	60	\$927.77	\$55,666.41
230	MERAKI MR ENTERPRISE LICENSE, 5YR	LIC-ENT-5YR	ea	60	\$298.42	\$17,905.45
231	CISCO WEBEX BOARD 70 FLOOR STAND – SPARE	CS-BOARD70-FS=	ea	2	\$2,856.77	\$5,713.55
232	MERAKI MS225-48FP L2 STCK CLD-MNGD 48X GIGE 740W POE SWITCH	MS225-48FP-HW	ea	2	\$5,152.79	\$10,305.58
233	MERAKI MS225-48FP ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-48FP-5YR	ea	2	\$875.38	\$1,750.76
234	MERAKI 1000BASE SX MULTI-MODE	MA-SFP-1GB-SX	ea	4	\$331.58	\$1,326.33
235	PANDUIT NET-DIRECT CABINET AIR INLET DUCT	DIRBB2007S21W	ea	16	\$992.74	\$15,883.84
236	VS 20FT BLU SNAGLESS C6 CM BULK PK 25	576-110-020BP25	ea	80	\$139.76	\$11,180.61
237	ORTRONICS C14/C15 15A 14-3 SJT RED POWER CORDS 8-FT	2306-7703-08	ea	100	\$14.66	\$1,466.01
238	ORTRONICS C14/C15 15A 14-3 SJT BLUE POWER CORDS 8-FT	2306-7704-08	ea	100	\$14.66	\$1,466.01

B.8 Price List-Option Year Three

B.8.1 Optical Fiber Cable Maintenance

Item Number	Description	Quantity	Unit	Total Price
301	OFC001 Maintenance Cost	1	Year	\$489,369.11

Item Number	Description	Price
302	OFC050 Supplemental Crew/ 8 hour day, 40 hours/week	\$1,760.20
303	OFC002 2 cable splicer crew, equipment, tools, 4 hours OT	\$2,282.06
304	OFC003 2 cable splicer crew, equipment, tools, 8 hours OT	\$2,829.92

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B.8.2 Heating, Ventilation and Air Conditioning (HVAC) Services

B.8.2.1 Primary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
301	1	OCTO, One Judiciary Square (OJS)	Airflow	\$464.79	\$5,577.48
302	3	DDOT, Dept. of Public Works, Reeves Center	Carrier	\$833.97	\$10,007.60

B.8.2.2 Secondary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
303	406	655 15th Street NW	OCTO DC-Net HQ	\$258.49	\$3,101.87
304	8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials	\$258.49	\$3,101.87
305	9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health	\$258.49	\$3,101.87
306	18	1350 Penn Ave	City Hall	\$1,271.38	\$15,256.51

B.8.3 Personnel

Item Number	Description	Labor Category	Alliant ID #	Description	Estimated Quantity	Unit	Unit Price	Total Price
301	LAB001	Senior Computer and Information Systems Manager	123	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	140.60	269,952.00
302	LAB002	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information	1920	Hour	211.89	406,828.80

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				systems, systems analysis, and computer programming.				
303	LAB003	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	211.89	406,828.80
304	LAB004	SME - Computer Systems Engineer/Architect	194	Computer Systems Engineer/Architect - Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	1920	Hour	179.73	345,081.60
305	LAB005	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	147.56	283,315.20
306	LAB007	SME - Computer Network Architect	144	Computer Network Architect - Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.	1920	Hour	165.41	317,587.20
307	LAB008	Senior Database Administrator	223	Database Administrator - Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement	1920	Hour	105.87	203,270.40

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				security measures to safeguard computer databases.				
308	LAB009	Journeyman Information Technology Project Manager	282	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$91.12	174,950.40
309	LAB010	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$147.56	\$283,315.20
310	LAB011	Journeyman Management Analyst	292	Management Analyst - Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants.	1920	Hour	\$86.78	\$166,617.60

B.8.4 Turnkey Solutions

Item Number	Description	Estimated Quantity	Unit	Unit Price	Extended Price
301	HVAC Mechanic Journeyman	15	Hours	\$178.51	\$2,677.65
302	HVAC Mechanic Journeyman OT	15	Hours	\$267.76	\$4,016.40
303	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$160.66	\$2,409.90
304	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$240.98	\$3,614.70

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305	Electrician/Foreman/QA/QC	60	Hours	\$76.64	\$4,598.40
306	Lineman	60	Hours	\$61.62	\$3,697.20
307	Laborer	60	Hours	\$40.44	\$2,426.40

B.8.5 Fiber and Cable Installation Services

Item Number	Description	Unit	Unit Price	Extended Price
301	Standard wall penetration hole 2½" w/fire stop - not a core drill	Ft	\$53.77	\$1,989.32
302	Place pull box - all sizes	Ea	\$316.62	\$316.62
303	Place Inner Duct - All Sizes	Ea	\$1.43	\$10,761.66
304	Conduit placement excavation set-up - under 50'	Ea	\$3,225.92	\$6,451.83
305	Saw-cutting - asphalt and concrete	Ea	\$17.32	\$2,286.82
306	Asphalt and/or concrete removal	Ea	\$495.84	\$7,933.37
307	Dig/fill straight access pit 4' x 4' x 4'	Ea	\$1,911.65	\$19,116.55
308	Excavation - 0' to 10' depth	Ea	\$16.13	\$16.13
309	Hand trench and place conduit 36" deep	Ea	\$27.18	\$2,310.41
310	Rock removal	Ea	\$119.48	\$1,194.78
311	Concrete protective cover over conduit - 6" minimum	Ea	\$53.77	\$10,645.53
312	Core bore vault / manhole / handhole up to 6" diameter core	Ea	\$1,117.12	\$6,702.74
313	Install 4' x 4' x 4' pre-cast manhole	Ea	\$3,375.27	\$3,375.27
314	Install pre-cast handhole w/pea rock - 24" x 36" x 36"	Ea	\$878.17	\$2,634.50
315	Install quartzite handhole with pea rock – 30"x48"x36" deep	Ea	\$878.17	\$2,634.50
316	Install quartzite handhole with pea rock – 36"x60"x36" deep	Ea	\$878.17	\$2,634.50
317	Install 1- 4" PVC conduit	Ea	\$28.38	\$9,562.75
318	Install inner duct in conduit	Ea	\$1.45	\$63,591.01
319	Install multiple inner duct in conduit	Ea	\$0.78	\$0.78
320	Install riser w/U-guard	Ea	\$46.60	\$232.98
321	Temporary cold patch	Ea	\$6.27	\$344.99
322	Temporary hot patch	Ea	\$10.16	\$10.16
323	Concrete placement	Ea	\$322.59	\$5,161.47
324	Restoration of Decorative Stone	Ea	\$10.75	\$709.70
325	Install fiber optic cable in outside conduit or inner duct	Ea	\$1.45	\$72,378.00
326	Install additional fiber optic cable in outside conduit or inner duct	Ea	\$1.43	\$106.10
327	Install fiber optic cable in inside conduit or inner duct	Ea	\$1.45	\$17,987.79
328	Place slack coil in inside or outside environment	Ea	\$1.39	\$32,344.00

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329	Remove underground fiber optic cable or inner duct	Ea	\$1.02	\$6,604.23
330	Rodding existing conduit - 3/8" fiberglass rod	Ea	\$1.25	\$9,876.86
331	Rodding existing conduit - 3/4" stick rod	Ea	\$2.15	\$103,511.09
332	Remove and dispose lead cable from underground conduit	Ea	\$2.81	\$2,557.85
333	Regular tree trimming	Ea	\$4.52	\$27,617.60
334	Install vertical ground with rod	Ea	\$70.49	\$70.49
335	Reframe pole	Ea	\$675.05	\$24,976.96
336	Install strand and hardware	Ea	\$1.25	\$1,092.69
337	Install/remove dead-end	Ea	\$73.48	\$73.48
338	Resag strand	Ea	\$0.60	\$1,973.19
339	Install screw anchor normal soil w/guy and guard	Ft	\$180.41	\$180.41
340	Install anchor, eye rod -any type except screw	Ea	\$193.56	\$193.56
341	Remove anchor w/guy & eye rod - any type	Ea	\$193.56	\$193.56
342	Install/remove down guy w/guy guard and/or sidewalk guy arm	Ea	\$93.19	\$93.19
343	Install/remove overhead guy	Ea	\$77.66	\$77.66
344	Install/remove pole-to-pole guy	Ea	\$77.66	\$77.66
345	Install/remove cable extension arm	Ea	\$66.91	\$133.82
346	Resag/retention down guy	Ea	\$54.96	\$329.76
347	Aerial cable setup 500' or less	Ea	\$1,205.75	\$33,760.87
348	Place aerial fiber optic cable with single overlash	Ea	\$1.37	\$7,965.09
349	Place aerial fiber optic cable with dual overlash	Ea	\$1.75	\$95,462.36
350	Place aerial Fiber Optic Cable including de-lashing and dual over-lashing.	Ea	\$2.15	\$16,770.47
351	Dual lash cable - first cable	Ea	\$1.73	\$1,609.43
352	Place additional cable	Ea	\$1.31	\$1.31
353	Cleat cable to exterior of building	Ea	\$2.63	\$2,820.41
354	Place aerial fiber single loop -for storage or slack	Ea	\$185.19	\$1,111.15
355	Place aerial fiber dual loop for storage or slack	Ea	\$274.80	\$13,740.02
356	U-guard installation/removal - any type	Ea	\$89.61	\$2,329.83
357	Install tree guard	Ea	\$59.74	\$4,719.40
358	Building attachment - includes hardware, as specified	Ea	\$238.96	\$2,628.53
359	Install hand trench 1.25" innerduct	Ea	\$18.40	\$202.40
360	Install machine trench 1.25" innerduct	Ea	\$11.35	\$2,690.06
361	Hand trench/place cable 36" linear foot	Ea	\$18.46	\$18.46
362	Trench one (1) - 4" HDPE using machinery - using machinery	Ea	\$13.68	\$13.68
363	Hand trench/place one (1) - 4" HDPE (Trenching in excess of 36" depth using machinery - each 6" in excess	Ea	\$24.61	\$24.61

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Personal				
364	Manhole survey crew; 2 techs, including butterfly	Ea	\$1,979.26	\$-
365	Manhole survey crew; 1 tech	Ea	\$1,235.57	\$-
366	Manhole survey crew; 2 techs, no butterfly	Ea	\$1,581.07	\$229,255.15
367	Three (3)-man line crew	Ea	\$163.96	\$16,559.96
368	Laborer / Flagger	Ea	\$43.33	\$48,486.27
369	Truck driver	Ea	\$60.90	\$-
370	2 Man Fully Equipped Splicing Crew	Ea	\$228.38	\$-
371	Cable Locator with Truck, Tools, and Paint	Ea	\$106.58	\$6,714.54
372	Material Pickup - When required	Ea	\$11,868.22	\$11,868.22
373	Obstruction dig, new unit -Unit rate per dig	Ea	\$11,162.46	\$11,162.46
374	ISP crew - unit daily rate for fully equipped truck and two (2) technicians	Ea	\$132,629.26	\$132,629.26
375	Cable Removal Extension Hourly Crew	Ea	\$245.94	\$21,396.78
376	Conduit Wash	Ea	\$363.06	\$-
377	Core Drill for Aerial Entrance up to 6" hole	Ea	\$1,164.91	\$1,164.91
378	Core Drill for Underground Entrance up to 6" hole; Includes access pit	Ea	\$2,986.96	\$2,986.96
379	Design Engineer	Ea	\$175.67	\$17,742.67
380	Emergency call out- Mobilization Fee	Ea	\$1,194.78	\$1,194.78
381	Place 19" or 23" relay rack into concrete floor. Del & Labor	Ea	\$896.09	\$896.09
382	Place 10' section of ladder rack	Ea	\$896.09	\$896.09

B.8.6 Wireless Installations and Support Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
301	Bucket Truck (3 Hours Minimum)	3	Hours	\$298.40	\$895.20
302	Generator Mechanic	15	Hours	\$128.72	\$1,930.80
303	Voice / Data / Video Technician	15	Hours	\$117.01	\$1,755.15
304	VDCE (Discounted)	4500	Hours	\$93.69	\$421,605.00
305	Project Manager 128G	300	Hours	\$103.52	\$31,056.00

B.8.7 Electrical Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
301	Electrician	3550	Hours	\$109.74	\$389,577.00
302	Electrician Helper	1550	Hours	\$79.28	\$122,884.00
303	Technician	250	Hours	\$109.74	\$27,435.00
304	Technician Helper	250	Hours	\$79.28	\$19,820.00

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305	All Apprentices	15	Hours	\$79.28	\$1,189.20
306	Service Mechanic	15	Hours	\$109.74	\$1,646.10
307	Technical Mechanic	15	Hours	\$112.65	\$1,689.75

B.8.8 Telecommunications Services

Item Number	Description	Estimated Quantity	Unit	Total Price
301	Project: HVAC Upgrade at DC-Net HQ	1	Job	\$0.00

B.8.9 General Equipment

Item Number	Description	Part Number	Unit	Estimated Qty	Unit Price	Extended Price
301	CHATSWORTH-EVOLUTION G2 DOUBLE-SIDED VERTICAL CABLE MANAGER, 84 IN. H (2133 MM) 8IN. W (200MM) X 24.5 IN. D (622MM), BLACK	35522-703	ea	2	\$1,037.00	\$2,074.00
302	RACK MOUNT FIBER ENCLOSURES - 4U RACK MOUNT TERM ONLY ENCLOSURE, DOVE GRAY LOADED WITH: (12) 6 POSITION LC DUPLEX ADAPTER PLATES WITH ADAPTERS VERTICAL MOUNT (1) 150 FOOT LC 144 PLENUM RATED RIBBON CABLE	RW-57-144P-LC-150F	ea	60	\$2,892.57	\$173,554.36
303	SMART UPS SRT 1500VA RM 120V NTKW CARD	SRT1500RMLA-NC	ea	17	\$1,781.51	\$30,285.62
304	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET 24F/RIBBON, GEL-FREE TUBE 288 FIBER SINGLE MODE	F-RCD1JKT-24-HB-288-E3	ft	100000	\$1.97	\$197,139.40
305	PRYSMIAN 432 FIBER, SM, RIBBON, CENTRAL TUBE, OUTDOOR, ALL DIELEC ALL DRY	F-RCD1JKT-24-HB-432-E3	ft	25000	\$2.86	\$71,388.36
306	STEEL CBL MGMT 84"H X 6"W DOUBLE SIDE TELCO GRAY	NSCM08460030	ea	30	\$466.20	\$13,986.14
307	COYD622U Splice Enclosures	800013685	ea	30	\$441.86	\$13,255.65

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308	MULTI-FIBER RIBBON CONSTRUCTION	80610617880	ea	1	\$1,655.33	\$1,655.33
309	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET	F-RCD1JKT-24-HB-288-E3	ft	150000	\$1.97	\$295,709.10
310	3930/3932/5142/3926M,DC PLUGGABLE POWER SUPPLY,WIDE RANGE 24/48V	170-0013-900	ea	20	\$322.59	\$6,451.83
311	3930/3932/5142/3926M,AC PLUGGABLE POWER SUPPLY,WIDE RANGE 120/240V	170-0014-900	ea	40	\$241.94	\$9,677.75
312	SAOS ADVANCED SECURITY PERPETUAL SOFTWARE LICENSE FOR USE WITH SAOS 6.X	170-0204-900	ea	20	\$51.08	\$1,021.54
313	3930,(4)100M/1000M SFP,(4)100/1000M SFP/RJ-45,(2)1G/10G SFP+,EXT.TEMP,(2)SLOTS AC/DC PWR SUP	170-3930-900	ea	20	\$1,182.84	\$23,656.73
314	AC POWER CORD, IEC C13, NORTH AMERICA,TYPE B	CABL-PW01NA	ea	40	\$3.76	\$150.54
315	10/100/1000M, SFP TRANSCEIVER,RJ45 CONNECTOR,SGMII,100 METERS, RX LOS,EXTENDED TEMPERATURE	XCVR-B00CRJ	ea	30	\$83.34	\$2,500.09
316	10 GIG, MM SFP+,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-S00Z85	ea	20	\$368.53	\$7,370.62
317	10 GIG, SM SFP+,LC CONNECTOR,10 KM,1310NM,EXTENDED TEMPERATURE	XCVR-S10V31	ea	20	\$590.76	\$11,815.22
318	SAOS ADVANCED ETHERNET PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-900	ea	20	\$174.74	\$3,494.74
319	SAOS ADVANCED OAM PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-901	ea	20	\$115.60	\$2,311.91
320	SAOS ADVANCED PBB-TE APPLICATION PERPETUAL	S70-0001-902	ea	20	\$215.06	\$4,301.22

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	SOFTWARE LICENSE FOR 3930					
321	SAOS ADVANCED 10G PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-904	ea	20	\$532.28	\$10,645.53
322	10 GIG, MM XFP OPTIC,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-A00Z85	ea	20	\$574.09	\$11,481.88
323	10GIG, SM XFP,LC CONNECTOR,10KM,1310 NM,EXTENDED TEMPERATURE	XCVR-A10V31	ea	20	\$907.44	\$18,148.77
324	HARDWARE REPAIR SERVICE 10 DAY MAINTENANCE,Â 3930, 2 YEARS	80M-3930-HW2	ea	20	\$102.15	\$2,043.08
325	NBD SHIPMENT MANAGED SPARES SERVICE, CN 3930, 3 YEARS	80M-3930-NA3	ea	20	\$112.91	\$2,258.14
326	SMARTSUPPORT,Â 3930, 3 YEARS	80M-3930-SM3	ea	20	\$354.85	\$7,097.02
327	MERAKI MS225-24P L2 STCK CLD-MNGD 24X GIGE 370W POE SWITCH	MS225-24P-HW	ea	5	\$2,557.56	\$12,787.78
328	MERAKI MS225-24P ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-24P-5YR	ea	5	\$433.71	\$2,168.53
329	MERAKI MR52 CLOUD MANAGED AP	MR52-HW	ea	60	\$944.41	\$56,664.31
330	MERAKI MR ENTERPRISE LICENSE, 5YR	LIC-ENT-5YR	ea	60	\$303.77	\$18,226.43
331	CISCO WEBEX BOARD 70 FLOOR STAND – SPARE	CS-BOARD70-FS=	ea	2	\$2,907.99	\$5,815.97
332	MERAKI MS225-48FP L2 STCK CLD-MNGD 48X GIGE 740W POE SWITCH	MS225-48FP-HW	ea	2	\$5,245.16	\$10,490.33
333	MERAKI MS225-48FP ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-48FP-5YR	ea	2	\$891.07	\$1,782.14
334	MERAKI 1000BASE SX MULTI-MODE	MA-SFP-1GB-SX	ea	4	\$337.53	\$1,350.11
335	PANDUIT NET-DIRECT CABINET AIR INLET DUCT	DIRBB2007S21W	ea	16	\$1,010.54	\$16,168.58
336	VS 20FT BLU SNAGLESS C6 CM BULK PK 25	576-110-020BP25	ea	80	\$142.26	\$11,381.04
337	ORTHONICS C14/C15 15A 14-3 SJT RED POWER CORDS 8-FT	2306-7703-08	ea	100	\$14.92	\$1,492.29

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338	ORTRONICS C14/C15 15A 14-3 SJT BLUE POWER CORDS 8-FT	2306-7704-08	ea	100	\$14.92	\$1,492.29
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B.9 Price List-Option Year Four

B.9.1 Optical Fiber Cable Maintenance

Item Number	Description	Quantity	Unit	Total Price
401	OFC001 Maintenance Cost	1	Year	\$498,667.13

Item Number	Description	Price
402	OFC050 Supplemental Crew/ 8 hour day, 40 hours/week	\$1,786.60
403	OFC002 2 cable splicer crew, equipment, tools, 4 hours OT	\$2,316.29
404	OFC003 2 cable splicer crew, equipment, tools, 8 hours OT	\$2,872.37

B.9.2 Heating, Ventilation and Air Conditioning (HVAC) Services

B.9.2.1 Primary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
401	1	OCTO, One Judiciary Square (OJS)	Airflow	\$473.62	\$5,683.45
402	3	DDOT, Dept. of Public Works, Reeves Center	Carrier	\$849.81	\$10,197.75

B.9.2.2 Secondary Nodes:

Item Number	Site	Occupants	HVAC Unit	Monthly	Annual Maintenance Price
403	406	655 15th Street NW	OCTO DC-Net HQ	\$263.40	\$3,160.81
404	8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials	\$263.40	\$3,160.81

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405	9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health	\$263.40	\$3,160.81
406	18	1350 Penn Ave	City Hall	\$1,295.53	\$15,546.38

B.9.3 Personnel

Item Number	Description	Labor Category	Alliant ID #	Description	Estimated Quantity	Unit	Unit Price	Total Price
401	LAB001	Senior Computer and Information Systems Manager	123	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$143.31	\$275,155.20
402	LAB002	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$215.98	\$414,681.60
403	LAB003	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	1920	Hour	\$215.98	\$414,681.60
404	LAB004	SME - Computer Systems Engineer/Architect	194	Computer Systems Engineer/Architect - Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	1920	Hour	\$183.20	\$351,744.00
405	LAB005	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$150.41	\$288,787.20
406	LAB007	SME - Computer Network Architect	144	Computer Network Architect - Design and implement	1920	Hour	\$168.60	\$323,712.00

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				computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.				
407	LAB008	Senior Database Administrator	223	Database Administrator - Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases.	1920	Hour	\$107.92	\$207,206.40
408	LAB009	Journeyman Information Technology Project Manager	282	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$92.88	\$178,329.60
409	LAB010	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.	1920	Hour	\$150.41	\$288,787.20
410	LAB011	Journeyman Management Analyst	292	Management Analyst - Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and	1920	Hour	\$88.46	\$169,843.20

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				measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants.				
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B.9.4 Turnkey Solutions

Item Number	Description	Estimated Quantity	Unit	Unit Price	Extended Price
401	HVAC Mechanic Journeyman	15	Hours	\$183.87	\$2,758.05
402	HVAC Mechanic Journeyman OT	15	Hours	\$275.80	\$4,137.00
403	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$165.48	\$2,482.20
404	HVAC Mechanic Jrnymn OT Incr	15	Hours	\$248.22	\$3,723.30
405	Electrician/Foreman/QA/QC	60	Hours	\$77.79	\$4,667.40
406	Lineman	60	Hours	\$62.54	\$3,752.40
407	Laborer	60	Hours	\$41.05	\$2,463.00

B.9.5 Fiber and Cable Installation Services

Item Number	Description	Unit	Unit Price	Extended Price
401	Standard wall penetration hole 2½” w/fire stop - not a core drill	Ft	\$183.87	\$2,758.05
402	Place pull box - all sizes	Ea	\$275.80	\$4,137.00
403	Place Inner Duct - All Sizes	Ea	\$165.48	\$2,482.20
404	Conduit placement excavation set-up - under 50’	Ea	\$248.22	\$3,723.30
405	Saw-cutting - asphalt and concrete	Ea	\$77.79	\$4,667.40
406	Asphalt and/or concrete removal	Ea	\$62.54	\$3,752.40
407	Dig/fill straight access pit 4’ x 4’ x 4’	Ea	\$41.05	\$2,463.00
408	Excavation - 0’ to 10’ depth	Ea	\$183.87	\$2,758.05
409	Hand trench and place conduit 36” deep	Ea	\$275.80	\$4,137.00
410	Rock removal	Ea	\$165.48	\$2,482.20
411	Concrete protective cover over conduit - 6” minimum	Ea	\$248.22	\$3,723.30
412	Core bore vault / manhole / handhole up to 6” diameter core	Ea	\$77.79	\$4,667.40
413	Install 4’ x 4’ x 4’ pre-cast manhole	Ea	\$62.54	\$3,752.40
414	Install pre-cast handhole w/pea rock - 24” x 36” x 36”	Ea	\$41.05	\$2,463.00

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415	Install quartzite handhole with pea rock – 30"x48"x36"deep	Ea	\$183.87	\$2,758.05
416	Install quartzite handhole with pea rock – 36"x60"x36"deep	Ea	\$275.80	\$4,137.00
417	Install 1- 4" PVC conduit	Ea	\$165.48	\$2,482.20
418	Install inner duct in conduit	Ea	\$248.22	\$3,723.30
419	Install multiple inner duct in conduit	Ea	\$77.79	\$4,667.40
420	Install riser w/U-guard	Ea	\$62.54	\$3,752.40
421	Temporary cold patch	Ea	\$41.05	\$2,463.00
422	Temporary hot patch	Ea	\$183.87	\$2,758.05
423	Concrete placement	Ea	\$275.80	\$4,137.00
424	Restoration of Decorative Stone	Ea	\$165.48	\$2,482.20
425	Install fiber optic cable in outside conduit or inner duct	Ea	\$248.22	\$3,723.30
426	Install additional fiber optic cable in outside conduit or inner duct	Ea	\$77.79	\$4,667.40
427	Install fiber optic cable in inside conduit or inner duct	Ea	\$62.54	\$3,752.40
428	Place slack coil in inside or outside environment	Ea	\$41.05	\$2,463.00
429	Remove underground fiber optic cable or inner duct	Ea	\$183.87	\$2,758.05
430	Rodding existing conduit - 3/8" fiberglass rod	Ea	\$275.80	\$4,137.00
431	Rodding existing conduit - 3/4" stick rod	Ea	\$165.48	\$2,482.20
432	Remove and dispose lead cable from underground conduit	Ea	\$248.22	\$3,723.30
433	Regular tree trimming	Ea	\$77.79	\$4,667.40
434	Install vertical ground with rod	Ea	\$62.54	\$3,752.40
435	Reframe pole	Ea	\$41.05	\$2,463.00
436	Install strand and hardware	Ea	\$183.87	\$2,758.05
437	Install/remove dead-end	Ea	\$275.80	\$4,137.00
438	Resag strand	Ea	\$165.48	\$2,482.20
439	Install screw anchor normal soil w/guy and guard	Ft	\$248.22	\$3,723.30
440	Install anchor, eye rod -any type except screw	Ea	\$77.79	\$4,667.40
441	Remove anchor w/guy & eye rod - any type	Ea	\$62.54	\$3,752.40
442	Install/remove down guy w/guy guard and/or sidewalk guy arm	Ea	\$41.05	\$2,463.00
443	Install/remove overhead guy	Ea	\$183.87	\$2,758.05
444	Install/remove pole-to-pole guy	Ea	\$275.80	\$4,137.00
445	Install/remove cable extension arm	Ea	\$165.48	\$2,482.20
446	Resag/retention down guy	Ea	\$248.22	\$3,723.30
447	Aerial cable setup 500' or less	Ea	\$77.79	\$4,667.40
448	Place aerial fiber optic cable with single overlash	Ea	\$62.54	\$3,752.40
449	Place aerial fiber optic cable with dual overlash	Ea	\$41.05	\$2,463.00

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450	Place aerial Fiber Optic Cable including de-lashing and dual over-lashing.	Ea	\$183.87	\$2,758.05
451	Dual lash cable - first cable	Ea	\$275.80	\$4,137.00
452	Place additional cable	Ea	\$165.48	\$2,482.20
453	Cleat cable to exterior of building	Ea	\$248.22	\$3,723.30
454	Place aerial fiber single loop -for storage or slack	Ea	\$77.79	\$4,667.40
455	Place aerial fiber dual loop for storage or slack	Ea	\$62.54	\$3,752.40
456	U-guard installation/removal - any type	Ea	\$41.05	\$2,463.00
457	Install tree guard	Ea	\$183.87	\$2,758.05
458	Building attachment - includes hardware, as specified	Ea	\$275.80	\$4,137.00
459	Install hand trench 1.25" innerduct	Ea	\$165.48	\$2,482.20
460	Install machine trench 1.25" innerduct	Ea	\$248.22	\$3,723.30
461	Hand trench/place cable 36" linear foot	Ea	\$77.79	\$4,667.40
462	Trench one (1) - 4" HDPE using machinery - using machinery	Ea	\$62.54	\$3,752.40
463	Hand trench/place one (1) - 4" HDPE (Trenching in excess of 36" depth using machinery - each 6" in excess	Ea	\$41.05	\$2,463.00
Personal				
464	Manhole survey crew; 2 techs, including butterfly	Ea	\$275.80	\$4,137.00
465	Manhole survey crew; 1 tech	Ea	\$165.48	\$2,482.20
466	Manhole survey crew; 2 techs, no butterfly	Ea	\$248.22	\$3,723.30
467	Three (3)-man line crew	Ea	\$77.79	\$4,667.40
468	Laborer / Flagger	Ea	\$62.54	\$3,752.40
469	Truck driver	Ea	\$41.05	\$2,463.00
470	2 Man Fully Equipped Splicing Crew	Ea	\$183.87	\$2,758.05
471	Cable Locator with Truck, Tools, and Paint	Ea	\$275.80	\$4,137.00
472	Material Pickup - When required	Ea	\$165.48	\$2,482.20
473	Obstruction dig, new unit -Unit rate per dig	Ea	\$248.22	\$3,723.30
474	ISP crew - unit daily rate for fully equipped truck and two (2) technicians	Ea	\$77.79	\$4,667.40
475	Cable Removal Extension Hourly Crew	Ea	\$62.54	\$3,752.40
476	Conduit Wash	Ea	\$41.05	\$2,463.00
477	Core Drill for Aerial Entrance up to 6" hole	Ea	\$183.87	\$2,758.05
478	Core Drill for Underground Entrance up to 6" hole; Includes access pit	Ea	\$275.80	\$4,137.00
479	Design Engineer	Ea	\$165.48	\$2,482.20
480	Emergency call out- Mobilization Fee	Ea	\$248.22	\$3,723.30
481	Place 19" or 23" relay rack into concrete floor. Del & Labor	Ea	\$77.79	\$4,667.40
482	Place 10' section of ladder rack	Ea	\$62.54	\$3,752.40

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B.9.6 Wireless Installations and Support Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
401	Bucket Truck (3 Hours Minimum)	3	Hours	\$302.87	\$908.61
402	Generator Mechanic	15	Hours	\$130.65	\$1,959.75
403	Voice / Data / Video Technician	15	Hours	\$118.77	\$1,781.55
404	VDCE (Discounted)	4500	Hours	\$95.10	\$427,950.00
405	Project Manager 128G	300	Hours	\$105.07	\$31,521.00

B.9.7 Electrical Services

Item Number	Description	Estimated Quantity	Unit	Hourly Rate	Total Price
401	Electrician	3550	Hours	\$111.94	\$397,387.00
402	Electrician Helper	1550	Hours	\$80.87	\$125,348.50
403	Technician	250	Hours	\$111.94	\$27,985.00
404	Technician Helper	250	Hours	\$80.87	\$20,217.50
405	All Apprentices	15	Hours	\$80.87	\$1,213.05
406	Service Mechanic	15	Hours	\$111.94	\$1,679.10
407	Technical Mechanic	15	Hours	\$114.91	\$1,723.65

B.9.8 Telecommunications Services

Item Number	Description	Estimated Quantity	Unit	Total Price
401	Project: HVAC Upgrade at DC-Net HQ	1	Job	\$0.00

B.9.9 General Equipment

Item Number	Description	Part Number	Unit	Estimated Qty	Unit Price	Extended Price
401	CHATSWORTH-EVOLUTION G2 DOUBLE-SIDED VERTICAL CABLE MANAGER, 84 IN. H (2133 MM) 8IN. W (200MM) X 24.5 IN. D (622MM), BLACK	35522-703	ea	2	\$1,056.70	\$2,113.41
402	RACK MOUNT FIBER ENCLOSURES - 4U RACK MOUNT TERM ONLY ENCLOSURE, DOVE GRAY LOADED WITH: (12) 6 POSITION LC DUPLEX	RW-57-144P-LC-150F	ea	60	\$2,947.53	\$176,851.89

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	ADAPTER PLATES WITH ADAPTERS VERTICAL MOUNT (1) 150 FOOT LC 144 PLENUM RATED RIBBON CABLE					
403	SMART UPS SRT 1500VA RM 120V NTWK CARD	SRT1500RMLA-NC	ea	17	\$1,815.36	\$30,861.04
404	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET 24F/RIBBON, GEL-FREE TUBE 288 FIBER SINGLE MODE	F-RCD1JKT-24-HB-288-E3	ft	100000	\$2.01	\$200,885.05
405	PRYSMIAN 432 FIBER, SM, RIBBON, CENTRAL TUBE, OUTDOOR, ALL DIELEC ALL DRY	F-RCD1JKT-24-HB-432-E3	ft	25000	\$2.91	\$72,744.74
406	STEEL CBL MGMT 84"H X 6"W DOUBLE SIDE TELCO GRAY	NSCM08460030	ea	30	\$475.06	\$14,251.88
407	COYD622U Splice Enclosures	800013685	ea	30	\$450.25	\$13,507.51
408	MULTI-FIBER RIBBON CONSTRUCTION	80610617880	ea	1	\$1,686.78	\$1,686.78
409	DRY FUSIONLINK(TM) (RICT) RIBBON CABLE, NON-ARMOR, SINGLE JACKET	F-RCD1JKT-24-HB-288-E3	ft	150000	\$2.01	\$301,327.57
410	3930/3932/5142/3926M,DC PLUGGABLE POWER SUPPLY,WIDE RANGE 24/48V	170-0013-900	ea	20	\$328.72	\$6,574.42
411	3930/3932/5142/3926M,AC PLUGGABLE POWER SUPPLY,WIDE RANGE 120/240V	170-0014-900	ea	40	\$246.54	\$9,861.63
412	SAOS ADVANCED SECURITY PERPETUAL SOFTWARE LICENSE FOR USE WITH SAOS 6.X	170-0204-900	ea	20	\$52.05	\$1,040.95
413	3930,(4)100M/1000M SFP,(4)100/1000M SFP/RJ-45,(2)1G/10G SFP+,EXT.TEMP,(2)SLOTS AC/DC PWR SUP	170-3930-900	ea	20	\$1,205.31	\$24,106.21
414	AC POWER CORD, IEC C13, NORTH AMERICA,TYPE B	CABL-PW01NA	ea	40	\$3.84	\$153.40
415	10/100/1000M, SFP TRANSCEIVER,RJ45 CONNECTOR,SGMII,100	XCVR-B00CRJ	ea	30	\$84.92	\$2,547.59

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	METERS, RX LOS,EXTENDED TEMPERATURE					
416	10 GIG, MM SFP+,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-S00Z85	ea	20	\$375.53	\$7,510.67
417	10 GIG, SM SFP+,LC CONNECTOR,10 KM,1310NM,EXTENDED TEMPERATURE	XCVR-S10V31	ea	20	\$601.99	\$12,039.71
418	SAOS ADVANCED ETHERNET PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-900	ea	20	\$178.06	\$3,561.14
419	SAOS ADVANCED OAM PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-901	ea	20	\$117.79	\$2,355.83
420	SAOS ADVANCED PBB-TE APPLICATION PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-902	ea	20	\$219.15	\$4,382.95
421	SAOS ADVANCED 10G PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-904	ea	20	\$542.39	\$10,847.79
422	10 GIG, MM XFP OPTIC,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-A00Z85	ea	20	\$585.00	\$11,700.03
423	10GIG, SM XFP,LC CONNECTOR,10KM,1310 NM,EXTENDED TEMPERATURE	XCVR-A10V31	ea	20	\$924.68	\$18,493.60
424	HARDWARE REPAIR SERVICE 10 DAY MAINTENANCE,Â 3930, 2 YEARS	80M-3930-HW2	ea	20	\$104.09	\$2,081.90
425	NBD SHIPMENT MANAGED SPARES SERVICE, CN 3930, 3 YEARS	80M-3930-NA3	ea	20	\$115.05	\$2,301.05
426	SMARTSUPPORT,Â 3930, 3 YEARS	80M-3930-SM3	ea	20	\$361.59	\$7,231.86
427	MERAKI MS225-24P L2 STCK CLD-MNGD 24X GIGE 370W POE SWITCH	MS225-24P-HW	ea	5	\$2,606.15	\$13,030.74
428	MERAKI MS225-24P ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225-24P- 5YR	ea	5	\$441.95	\$2,209.74

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429	MERAKI MR52 CLOUD MANAGED AP	MR52-HW	ea	60	\$962.35	\$57,740.94
430	MERAKI MR ENTERPRISE LICENSE, 5YR	LIC-ENT-5YR	ea	60	\$309.55	\$18,572.74
431	CISCO WEBEX BOARD 70 FLOOR STAND – SPARE	CS-BOARD70- FS=	ea	2	\$2,963.24	\$5,926.47
432	MERAKI MS225-48FP L2 STCK CLD-MNGD 48X GIGE 740W POE SWITCH	MS225-48FP-HW	ea	2	\$5,344.82	\$10,689.64
433	MERAKI MS225-48FP ENTERPRISE LICENSE AND SUPPORT, 5YR	LIC-MS225- 48FP-5YR	ea	2	\$908.00	\$1,816.00
434	MERAKI 1000BASE SX MULTI-MODE	MA-SFP-1GB-SX	ea	4	\$343.94	\$1,375.76
435	PANDUIT NET-DIRECT CABINET AIR INLET DUCT	DIRBB2007S21W	ea	16	\$1,029.74	\$16,475.79
436	VS 20FT BLU SNAGLESS C6 CM BULK PK 25	576-110-020BP25	ea	80	\$144.97	\$11,597.28
437	ORTRONICS C14/C15 15A 14-3 SJT RED POWER CORDS 8-FT	2306-7703-08	ea	100	\$15.21	\$1,520.64
438	ORTRONICS C14/C15 15A 14-3 SJT BLUE POWER CORDS 8-FT	2306-7704-08	ea	100	\$15.21	\$1,520.64

Attachment C: Statement of Work

C.1 SCOPE

This contract is for the use of the Office of the Chief Technology Officer (OCTO), an office within the Government of the District of Columbia (“the District”). The District seeks a contractor to complete tasks related to the construction, installation, maintenance, repair, and improvement and expansion of OCTO’s extensive citywide fiber optic network.

The District seeks a contractor with competencies, either directly or through partnership with teaming companies/subcontractors, in core Information and Communications Technologies (ICT) infrastructure and related trade areas. The technical scope of this contract includes the following categories:

1. **Equipment:** Addresses the District’s need for equipment to support ICT infrastructure.
2. **Managed Plant Services:** Addresses the District’s need for Outside Plant (OSP) services to include OSP construction, mechanical work, maintenance, and engineering design supporting telecommunications environment infrastructure.
3. **HVAC Services:** Including maintenance and repair services, and design and build capabilities.
4. **Personnel Services:** Management personnel and staffing
5. **Turnkey Solutions:** HVAC personnel

C.2 APPLICABLE DOCUMENTS

The following documents and standards which they reference are applicable to this procurement and are hereby incorporated.

Item No.	Document Type	Title	Date
1	Regulations / Codes	DC Municipal Regulations (https://codes.iccsafe.org/content/chapter/9172/?site_type=public)	2014
2	Regulations / Codes	National Electrical Code (https://catalog.nfpa.org/NFPA-70-National-Electrical-Code-NEC-2011-Edition-P16597.aspx)	2011
3	Standards and Best Practices	OCTO-DC-Net Standards and Practices for Communications Environments (https://dcnet.dc.gov/publication/dc-net-structured-cabling-standards)	2019
4	Standards and Best Practices	BICSI IT Systems Installation Methods Manual (ITSIMM) (https://www.bicsi.org/education-certification/education-@-bicsi-learning-	2019

		academy/technical-publications/information-technology-systems-installation-methods)	
5	Standards and Best Practices	BICSI Telecommunications Distribution Methods Manual (TDMM) (https://www.bicsi.org/education-certification/education-@-bicsi-learning-academy/technical-publications/telecommunications-distribution-methods-manual)	2019
6	Standards and Best Practices	BICSI Outside Plant Design Reference Manual (https://www.bicsi.org/education-certification/education-@-bicsi-learning-academy/technical-publications/outside-plant-design)	2019
7	Standards and Best Practices	ANSI/BICSI Wireless Local Area Network (WLAN) Systems Design and Implementation Best Practices (https://www.bicsi.org/standards/available-standards-store/single-purchase/ansi-bicsi-008-2018)	2018
8	Standards and Best Practices	ANSI/BICSI Information and Communication Technology Systems Design and Implementation Best Practices for Educational Institutions and Facilities (https://www.bicsi.org/standards/available-standards-store/single-purchase/ansi-bicsi-001-2017)	2017

C.3 DEFINITIONS

C.3.1 Catastrophic Incident – Incident that causes failure of DC-Net data, voice, and/or Wireless LAN service at multiple high priority sites (key public safety and core network sites) and/or multiple fiber loops. These may result from severe weather, natural disaster, or human precipitated events.

C.3.2 Emergency Incident – Incident that causes failure of DC-Net data, voice, and/or Wireless LAN service at one or more priority sites.

C.3.3 Standard Business Hours / Business Day – Monday to Friday 8:00 AM to 5:00 PM, excluding District holidays and administrative closings.

C.3.4 Acronyms:

- a) AHJ - Authority Having Jurisdiction
- b) ANSI - American National Standards Institute
- c) ASA - American Standards Association
- d) ASTM - American Society for Testing Materials
- e) BICSI - Building Industry Consulting Service International
- f) CA – Contract Administrator
- g) EIA - Electronic Industries Alliance
- h) EMI - Electromagnetic Interference

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- i) EMT - Electrical Metallic Tubing
- j) ER – Equipment Room, also called Main Distribution Frame (MDF)
- k) HVAC - Heating Ventilation and Air Conditioning
- l) IEEE - Institute of Electrical and Electronic Engineers
- m) LAN – Local Area Network
- n) NEC - National Electrical Code
- o) NEMA - National Electrical Manufacturers Association
- p) NESC - National Electrical Safety Code
- q) OSHA - Occupational Safety and Health Act
- r) OTDR - Optical Time Domain Reflectometry
- s) RCDD - Registered Communications Distribution Designer
- t) TDMM - BISCII Telecommunications Distribution Methods Manual
- u) TIA - Telecommunications Industry Association
- v) TC – Telecommunications Closet
- w) TR – Telecommunications Room, also called Intermediate Distribution Frame (IDF)
- x) UL – Underwriters Laboratory
- y) UPS – Uninterrupted Power Source
- z) WAO – Work Area Outlet
- aa) WAP – Work Area Protection or Wi-Fi/Wireless Access Point

C.4 BACKGROUND

DC-Net, a network program managed by OCTO, provides wired and wireless voice, data, and video services to all government entities utilizing a secure, redundant, high capacity fiber optic platform spanning over 700 miles of aerial and underground fiber infrastructure. This state-of-the-art telecommunications network lays the foundation for all next generation government, education, and public safety access to information and communications throughout the nation’s capital.

C.5 REQUIREMENTS

C.5.1 General Equipment

The Contractor shall provide the following equipment to support the District’s telecommunications infrastructure.

Line #	Description	Part Number	Unit	Estimated Qty/ Year
1	Chatsworth- Evolution g2 Double-Sided Vertical Cable Manager, 84 in. H (2133 mm) 8in. W (200mm) x 24.5 in. D (622mm), Black	35522-703	ea	2

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2	RACK MOUNT FIBER ENCLOSURES - 4U RACK MOUNT TERM ONLY ENCLOSURE, DOVE GRAY LOADED WITH: (12) 6 POSITION LC DUPLEX ADAPTER PLATES WITH ADAPTERS VERTICAL MOUNT (1) 150 FOOT LC 144 PLENUM RATED RIBBON CABLE	RW-57-144P-LC-150F	ea	60
3	SMART UPS SRT 1500VA RM 120V NTWK CARD	SRT1500RMLA-NC	ea	17
4	Dry FusionLink(TM) (RICT) Ribbon Cable, Non-Armor, Single Jacket 24F/Ribbon, Gel-Free Tube 288 Fiber Single Mode	F-RCD1JKT-24-HB-288-E3	ft	100000
5	PRYSMIAN 432 FIBER, SM, RIBBON, CENTRAL TUBE, OUTDOOR, ALL DIELEC ALL DRY	F-RCD1JKT-24-HB-432-E3	ft	25000
6	STEEL CBL MGMT 84"H X 6"W DOUBLE SIDE TELCO GRAY	NSCM08460030	ea	30
7	COYD622U Splice Enclosures	800013685	ea	30
8	MULTI-FIBER RIBBON CONSTRUCTION	80610617880	ea	1
9	Dry FusionLink(TM) (RICT) Ribbon Cable, Non-Armor, Single Jacket	F-RCD1JKT-24-HB-288-E3	ft	150000
10	3930/3932/5142/3926M,DC PLUGGABLE POWER SUPPLY,WIDE RANGE 24/48V	170-0013-900	ea	20
11	3930/3932/5142/3926M,AC PLUGGABLE POWER SUPPLY,WIDE RANGE 120/240V	170-0014-900	ea	40
12	SAOS ADVANCED SECURITY PERPETUAL SOFTWARE LICENSE FOR USE WITH SAOS 6.X	170-0204-900	ea	20
13	3930,(4)100M/1000M SFP,(4)100/1000M SFP/RJ-45,(2)1G/10G SFP+,EXT.TEMP,(2)SLOTS AC/DC PWR SUP	170-3930-900	ea	20
14	AC POWER CORD, IEC C13, NORTH AMERICA,TYPE B	CABL-PW01NA	ea	40
15	10/100/1000M, SFP TRANSCEIVER,RJ45 CONNECTOR,SGMII,100 METERS, RX LOS,EXTENDED TEMPERATURE	XCVR-B00CRJ	ea	30
16	10 GIG, MM SFP+,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-S00Z85	ea	20

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17	10 GIG, SM SFP+,LC CONNECTOR,10 KM,1310NM,EXTENDED TEMPERATURE	XCVR-S10V31	ea	20
18	SAOS ADVANCED ETHERNET PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-900	ea	20
19	SAOS ADVANCED OAM PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-901	ea	20
20	SAOS ADVANCED PBB-TE APPLICATION PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-902	ea	20
21	SAOS ADVANCED 10G PERPETUAL SOFTWARE LICENSE FOR 3930	S70-0001-904	ea	20
22	10 GIG, MM XFP OPTIC,LC CONNECTOR,300 METERS,850NM,EXTENDED TEMPERATURE	XCVR-A00Z85	ea	20
23	10GIG, SM XFP,LC CONNECTOR,10KM,1310 NM,EXTENDED TEMPERATURE	XCVR-A10V31	ea	20
24	HARDWARE REPAIR SERVICE 10 DAY MAINTENANCE,Â 3930, 2 YEARS	80M-3930-HW2	ea	20
25	NBD SHIPMENT MANAGED SPARES SERVICE, CN 3930, 3 YEARS	80M-3930-NA3	ea	20
26	SMARTSUPPORT,Â 3930, 3 YEARS	80M-3930-SM3	ea	20
27	Meraki MS225-24P L2 Stck Cld-Mngd 24x GigE 370W PoE Switch	MS225-24P-HW	ea	5
28	Meraki MS225-24P Enterprise License and Support, 5YR	LIC-MS225-24P-5YR	ea	5
29	Meraki MR52 Cloud Managed AP	MR52-HW	ea	60
30	Meraki MR Enterprise License, 5YR	LIC-ENT-5YR	ea	60
31	Cisco Webex Board 70 Floor Stand – Spare	CS-BOARD70-FS=	ea	2
32	Meraki MS225-48FP L2 Stck Cld-Mngd 48x GigE 740W PoE Switch	MS225-48FP-HW	ea	2
33	Meraki MS225-48FP Enterprise License and Support, 5YR	LIC-MS225-48FP-5YR	ea	2
34	Meraki 1000Base SX Multi-Mode	MA-SFP-1GB-SX	ea	4
35	Panduit Net-direct cabinet air inlet duct	DIRBB2007S21 W	ea	16
36	VS 20FT BLU SNAGLESS C6 CM BULK PK 25	576-110-020BP25	ea	80

37	Orthronics C14/C15 15A 14-3 SJT RED power cords 8-ft	2306-7703-08	ea	100
38	Orthronics C14/C15 15A 14-3 SJT BLUE power cords 8-ft	2306-7704-08	ea	100

C.5.1.1 Material Quality and Delivery - The Contractor shall provide materials on either a scheduled or emergent based interval. All materials shall be delivered within 30 days from the date the order is placed. The Contractor shall provide only the most current models, components, and accessories in new, fully operational, factory sealed condition, fully warranted by the manufacturer, with all applicable licenses. Any equipment lookalikes, resold items, or "gray market" classifications are unacceptable. The Contractor shall label and track specifically identified capital items carrying an associated amortization schedule.

C.5.2 Fiber and Cable Installation Services (Firm Fixed Price)

C.5.2.1 The District has approximately 700 Points of Presence (POPs) and more than 700 total miles of optical fiber cable, including the core rings and laterals to sites throughout the District. Fiber is a combination of dedicated District optical fiber (approximately 95%) and leased fiber. Fiber is both underground and aerial. Fiber cable is up to 432 strands, and less than 1% is armored. 85% of fiber is loose tube, and the rest is ribbon. The Contractor shall be capable of installing and extending District’s optical fiber network, which includes the core fiber structure, node sites, and physical, transport, optical and switching layer devices. Contractor shall provide all staff and equipment (vehicles, tools, safety systems, test equipment, etc.) necessary to continue the installation of District’s Fiber Optic Communications Network. All work shall be to BICSI standards. The Contractor shall be equipped with all necessary tools and devices to properly identify and remove both underground and aerial legacy lead and copper cabling and replace with protective inner duct and fiber cabling of various sizes and sheath counts. Installers will be fully versed in duct “washes”, obstruction removals, any and all aspects of splicing technologies, and required testing to ensure connectivity is within loss tolerance performance levels.

C.5.2.2 The Contractor shall install and extend the District’s optical fiber network, which includes the core fiber structure, node sites, and physical, transport, optical and switching layer devices. The Contractor shall provide all staff and equipment (vehicles, tools, safety systems, test equipment, etc.) necessary to continue installation of the District’s Fiber Optic Communications Network. The Contractor shall perform all work in accordance with BICSI standards.

C.5.2.3 The Contractor shall utilize historical construction information, documented within the pricing table presented herein, as a benchmark for anticipated aerial and

underground expansion/growth to the District's fiber construction program connecting government and non-profit voice, data, video, and wireless end users.

C.5.2.4 Existing inventory already on-hand consists of the following:

- a) Sumitomo Pure band "0" water peak single mode fiber is used – Max Attenuation .35dB/km at 1310nm and .25dB/km at 1550nm
- b) Armored cable is less than 1% of the total fiber
- c) Predominantly all cables are dielectric
- d) Current fiber deployment by cable size (approximate):
 - i. 288 – 5%
 - ii. 144 - 10%
 - iii. 96 - 30%
 - iv. 48 - 45%
 - v. 24- 5%
 - vi. 12-5%
- e) 85% loose tube/15% Ribbon
- f) DWDM is used on a portion of the system
- g) Approximately 40% is underground, and
- h) Approximately 60% is aerial fiber;
- i) Armored cable is less than 1% of the total fiber
- j) Predominantly all cables are dielectric

C.5.2.4 The Contractor shall perform the following associated functions and provide the following detailed items reference below:

- a) ISP
- b) Manhole Survey
- c) Aerial Placement
- d) New Conduit Installation
- e) New Underground Placement
- f) Obstruction Digs
- g) Manhole Duct Washes

C.5.2.5 Construction

C.5.2.5.1 The Contractor shall perform and provide documentation in accordance with the following Construction-related requirements.

- a) The Contractor shall only perform work which the District authorizes and issues via Job Order that describes work to be performed in accordance with the contract.
- b) The Contractor shall notify the Contract Administrator (CA) or assigned Construction Manager immediately upon determining any

work to be performed that differs in scope or nature from that indicated in the approved Engineering Work Order.

- c) The Contractor shall provide transportation of all required labor, vehicles, trailers, tools, and job materials, set-up of traffic control plan, set-up of Work Area Protection, set-up and maintenance of job site, placing of silt fencing or other retaining barriers, shoring, personnel protective equipment, manhole escape equipment, required manhole pumping and disposal of pumped waste, manhole testing and ventilation, and site tear-down and clean-up.
- d) The Contractor shall perform Construction Traffic Control, which includes provisioning of signs, stands, cones, arrow boards, and Variable Message Sign (VMS) boards.
- e) All construction shall conform to applicable specifications as referenced in Section C.2.
- f) The Contractor shall place conduit/inner duct to include proofing and placement of a pull line in each conduit/inner duct and seal all conduit/inner duct ends with duct plugs or other approved sealing materials when placing fiber.
- g) The Contractor shall provide footage of cable for payment purposes taken from the sheath markings on each end of the cable placed. The Contractor shall record the actual installed footage of cable and its location on the red-lined and as-built drawings.
- h) The Contractor shall create and submit accurate redline drawings at the time of construction with a separate as-built quantity list, for District approval.

C.5.2.6 Unit Descriptions - OSP & ISP Engineering

Refer to Attachment A, Price Proposal Data, Special Terms, and Response Sheet, Section 3.

C.5.2.6.1 Aerial Design

- a) The District will provide all aerial engineering and design work.
- b) The Contractor shall install aerial work in accordance with designs provided by the District.

C.5.2.6.2 Underground Design

- a) The District will provide all underground plant engineering and design work.
- b) The Contractor shall install underground work in accordance with designs provided by District.

C.5.2.6.3 Inside Site Design

- a) The District shall provide all inside plant design work.
- b) Contractor shall install inside plant work in accordance with designs provided by District.

C.5.2.6.4 Inside Plant Construction: The Contractor shall provide the following support services. Specific work to be performed will be based on each individual Job Order. Typical Job Orders shall be organized in the following groups of related effort. These are typical but are not limited on any individual Job Order.

- a) Standard Wall Penetration Hole 2½” w/ Fire Stop - Not a core drill
 - i. Installation of water sealant inside hole before placement of conduit or cable,
 - ii. Sealing between hole and conduit,
 - iii. Finishing of inside wall or floor to match surrounding area.
- b) Place Pull Box - All Sizes
 - i. Measurement, cutting, placing, connecting, and attaching of conduit.
- c) Place Inner Duct - All Sizes
 - i. Measurement, cutting, routing, placing, connecting, attaching of inner duct from end to end.

C.5.2.6.5 Conduit Construction: The Contractor shall provide the following support services. Specific work to be performed will be based on each individual Job Order. Typical Job Orders shall be organized in the following groups of related effort. These are typical but are not limited on any individual Job Order.

- a) Conduit placement excavation set-up - under 50’
 - i. Unit 5300 applies when conduit is being placed less than 50 feet in trench feet.
- b) Saw cutting - asphalt and concrete
 - i. This applies to the saw cutting of either asphalt and/or concrete and is computed using the linear footage cut.
 - ii. EXAMPLES of methods of calculation:
 - a) If cutting a square for a manhole placement, the measurement is the perimeter measurement of the hole opening (4 sides) less the width of any trenches leaving the manhole excavation.
 - b) If cutting a trench, the measurement is the cumulative length of each side of the trench.
- c) Asphalt and/or concrete removal

- i. Removal of asphalt and/or concrete and is calculated by cubic feet.
Removal, loading, and hauling of the removed material and debris from the construction site to a disposal site.
 - ii. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.
 - d) Dig/fill straight access pit - 4' x 4' x 4'
 - i. Removal of material other than asphalt and concrete.
 - ii. Removal, loading, and hauling, if necessary, of the removed material and debris from the construction site to a disposal site.
 - iii. The placing of necessary barricades, reflective tape, safety lights, and any shoring required to meet OSHA or other relevant government agency codes.
 - iv. Soil must be compacted to meet City specifications as listed in the referenced specifications.
 - v. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.
 - vi. Soil must be compacted to meet City specifications as listed in the referenced specifications.
 - e) Excavation - 0' to 10' depth
 - i. Removal of material other than asphalt and concrete and is calculated by cubic yards.
 - ii. Removal, loading, and hauling, if necessary, of the removed material and debris from the construction site to a disposal site.
 - iii. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.
 - iv. The placing of necessary barricades, reflective tape, safety lights, and any shoring required to meet OSHA or other relevant government agency codes.
 - v. Backfill excavation.
 - vi. Soil must be compacted to meet City specifications as listed in the referenced specifications.
 - f) Hand trench and place conduit 36" deep
 - i. Removal of material other than asphalt and concrete and is calculated by trench feet.
 - ii. Removal, loading, and hauling, if necessary, of the removed material and debris from the construction site to a disposal site.
 - iii. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.

- iv. The placing of necessary barricades, reflective tape, safety lights, and any shoring required to meet OSHA or other relevant government agency codes.
 - v. Backfill excavation.
 - vi. Soil must be compacted to meet City specifications as listed in the referenced specifications.
- g) Rock removal
- i. When trencher or backhoe is significantly hindered by the presence of solid rock or large boulders
 - ii. When agreed to and District provides written approval.
 - iii. Contractor shall stringently adhere to safety codes and obtain all necessary special permits.
 - a) UNIT 5317 IS NOT AN ADDER:
 - i. When authorized, this unit replaces the affected unit, e.g. excavation, trenching, hand digging, etc.
 - b) UNIT 5317 REPLACES:
 - i. The portion of the affected unit which cannot be performed.
 - ii. EXAMPLE: If trenching 100' at 36" depth and 18" wide, and 10 feet of trench cannot be dug due to rock, the invoice would include 90' of trench and 10' x 3' x 1.5' cubic feet of rock removal.
- h) Concrete protective cover over conduit - 6" minimum
- i. The placement of a minimum of 6" of concrete over a conduit runs to provide physical protection of the conduit and cables during future excavation work.
 - ii. Concrete shall also extend at least 6" on either side of the conduit also.
- i) Core bore vault/manhole/handhole - up to 6" diameter core
- i. The core drilling of a hole up to 6" in diameter,
 - ii. Installation of water sealant inside the core before placement of conduit,
 - iii. Sealing the opening between the concrete and the conduit,
 - iv. Restoration of finishing of inside wall or floor to match surrounding area, and
 - v. Clean up of area both inside and out.
 - vi. The excavation of a pit on the outside for access may be charged under another unit but may also be included in one of the excavation units.
- j) Install 4' x 4' x 4' pre-cast manhole
- i. Transportation of manhole and other materials to the job site,
 - i. Excavation,
 - ii. Placement of fill and leveling material,
 - iii. Placement of the manhole,
 - iv. Leveling, placement of collars and lid,
 - v. Back filling and compacting of soil to specification,

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- vi. Cleanup, and
- vii. Restoration of site.
- k) Install pre-cast handhole with pea rock - 24" x 36" x 36"
 - i. Transportation of handhole and other materials to the job site,
 - ii. Excavation,
 - iii. Placement of fill and leveling material,
 - iv. Placement of the handhole,
 - v. Leveling,
 - vi. Placement of collars and lid,
 - vii. Back filling and compacting of soil to specification,
 - viii. Work Area Cleanup
 - ix. Restoration of site.
- l) Install quartzite handhole with pea rock – 30"x48"x36"deep
 - i. Transportation of handhole and other materials to the job site,
 - ii. Excavation,
 - iii. Placement of fill and leveling material,
 - iv. Placement of the handhole,
 - v. Leveling,
 - vi. Placement of collars and lid,
 - vii. Back filling and compacting of soil to specification,
 - viii. Work Area Cleanup
 - ix. Restoration of site.
- m) Install quartzite handhole with pea rock – 36"x60"x36"deep
 - i. Transportation of handhole and other materials to the job site,
 - ii. Excavation,
 - iii. Placement of fill and leveling material,
 - iv. Placement of the handhole,
 - v. Leveling,
 - vi. Placement of collars and lid,
 - vii. Back filling and compacting of soil to specification,
 - viii. Work Area Cleanup
 - ix. Restoration of site.
- n) Install 1"- 4" PVC conduit
 - i. Transportation of all associated materials to the job site,
 - ii. Excavation,
 - iii. Placement of fill,
 - iv. Placement of the first conduit,
 - v. Placement of spacers,
 - vi. Connecting conduit,
 - vii. Back filling and compacting of soil to specification,
 - viii. Cleanup, and
 - ix. Restoration of site
 - x. Placement of duct plugs in all conduit openings
 - xi. When connecting the conduit to a manhole, handhole, building, pedestal, or other housing:
 - a) The removal of knockouts,

- b) Placement into manhole, handhole, building, pedestal, or other housing, and
- c) Proper sealing of opening.
- d) Placement of a pull line in the conduit and
- e) Placement of duct plugs in all conduit openings
- f) Concrete encasement.
- o) Install inner duct in conduit
 - i. Transportation of the inner duct to and from the job site,
 - ii. Placement of pull line, if necessary, and
 - iii. Placement of one inner duct into any size conduit.
 - iv. Placement of a pull line in the inner duct and
 - v. Placement of duct plugs in all openings.
- p) Install multiple inner ducts in conduit
 - i. Transportation of the inner duct to and from the job site,
 - ii. Placement of pull line, if necessary, and
 - iii. Placement of two or three inner ducts into any size conduit.
 - iv. Placement of a pull line in each placed inner duct and
 - v. Placement of duct plugs in all openings.
- q) Install riser w/U-Guard
 - i. Unit 5390 applies to the placement of a U-Guard on a, building or other structure where a cable transitions from/to the underground. Construction manager notification required ANYTIME used with a footage estimate
- r) Temporary cold patch
 - i. Unit 5411 does not apply to areas where the Roadway Repair units apply.
 - ii. Placement of a temporary cold patch will comply with City specifications. All material is included in the unit.
- s) Temporary hot patch
 - i. Unit 5412 does not apply to areas where the Roadway Repair units apply.
 - ii. UNIT 5412 INCLUDES: Placement of a temporary hot patch and will comply with City specifications. All material is included in the unit.
- t) Concrete placement
 - i. Unit 5430 does not apply to areas where the Roadway Repair units apply.
 - i. Forming of site
 - ii. Provision of concrete, forms, and other materials,
 - iii. Pouring of concrete,
 - iv. Surface finishing as specified by District and to match surrounding areas, Removal of forms,
 - v. Removal and disposal of all waste material, and
 - vi. Area cleanup and restoration.

- u) Restoration of Decorative Stone
 - i. Transportation of materials
 - ii. Spreading of the stone up to 6" in depth
 - iii. Removal and disposal of all waste
 - iv. The area to be covered should be only that which is necessary to restore the job site to its original status.
- v) Place Fiber Cable or Conduit Or Building:
 - i. Install Fiber Cable in Outside Conduit or Inner duct
 - a) Transportation of the cable to and from the job site,
 - b) All setup cost,
 - c) Blowing a pull line if necessary, and
 - d) Pulling of cable into any size conduit or inner duct as specified in construction documents.
 - e) Placing a Trace Wire with the cable in the same duct or inner duct and grounding the trace wire on each end including inside a building.
 - f) Placement of cable tags as specified by District.
 - g) Footage markers from the cable must be recorded on the redlined drawings.
- w) Install Additional Fiber Optic Cable in Outside Conduit or Inner Duct
 - i. Transportation of the cable to and from the job site,
 - ii. All setup costs,
 - iii. Blowing a pull line if necessary, and
 - iv. Pulling of cable into any size conduit or inner duct as specified in construction documents.
 - v. Placement of cable tags as specified by District.
 - vi. Footage markers from the cable must be recorded on the redlined drawings.
- x) Install Fiber Cable in Inside Conduit or Inner duct
 - i. Transportation of the cable to and from the job site,
 - ii. All setup costs,
 - iii. Blowing a pull line if necessary, and
 - iv. Pulling of cable into any size conduit or inner duct as specified in construction documents.
 - v. Placement of cable tags as specified by District.
 - vi. Footage markers from the cable must be recorded on the redlined drawings.
- y) Place Slack Coil in Inside or Outside Environment
 - i. Placement of a slack, maintenance, or splicing coil in a manhole, building, or other location specified by District other than on aerial strand.
 - ii. Placement of cable tags as specified by District.
 - iii. The unit of payment is per foot for the length of the cable that is being coiled.
 - iv. Footage markers from the cable must be recorded on the redlined drawings.

- z) Remove Underground Fiber Optic Cable or Inner Duct
 - i. Removal of a cable of any size from existing conduit,
 - ii. Chopping of the cable into transportable lengths or placing on a reel, and delivery to a disposal site.
- aa) Rodding Existing Conduit – 3/8” fiberglass rod - UOM –LF
 - i. Hand/push rod an empty or partially full cell using a 3/8 “ fiberglass rod
 - ii. Placement of mule tape
 - iii. Do Not Stick Rod Without Prior Approval
- ab) Rodding Existing Conduit – 3/4” stick rod - UOM –LF
 - i. Hand/push rod an empty or partially full cell using a 3/4 “ stick rod
 - ii. Place mule tape in the cell
 - iii. Hand/push rod an empty or partially full cell using a 3/4 “ stick rod
 - iv. This unit requires District approval prior to starting work
- ac) Remove and dispose Lead Cable from underground conduit
 - i. Unit 6400 covers removing and disposing of lead cable, has been tagged with a DC Govt. tag and has been cut and ready for removal.

30. Aerial Construction

- a) Regular Tree Trimming
 - i. The linear feet of the path that is trimmed.
 - ii. This unit requires prior written direction from District.
 - iii. This unit is not applicable to the incidental trimming of a few branches.
- b) Install Vertical Ground with Rod
 - i. Placement of a vertical ground and rod when placing strand, and necessary to comply with the National Electric Code.
 - ii. All materials except those listed in the “Approved Material List.”
- c) Reframe Pole
 - i. Applies when it is necessary to “re-frame” a pull to facilitate the attachment of strand.
 - ii. Applies to all materials except those listed in the “Approved Material List.”
 - iii. Does not apply when framing a pole, associated with the unit below titled “Install Strand and Hardware”.
- d) Install Strand and Hardware

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- i. Placement of new strand and associated hardware necessary to frame the pole.
 - ii. Splicing and bonding to existing strand and grounding system.
 - iii. All materials except those listed in the “Approved Material List”
- e) Install/Remove Dead-end
 - i. Installation and/or removal of a dead-end strand or guy.
 - ii. Splicing and bonding to existing strand and grounding system.
 - iii. All materials except those listed in the “Approved Material List”
- f) Re-Sag Strand
 - i. Activities necessary to re-sag an existing strand.
 - ii. Any incidental tree trimming.
- g) Install Screw Anchor Normal Soil w/ Guy and Guard
 - i. Installation of a screw type anchor, in normal soil, with a guy and guard. Backfilling of the hole,
 - ii. Proper compaction, and
 - iii. Cleanup of the work site.
 - iv. All materials except those listed in the “Approved Material List.”
- h) Install Anchor, Eye, and Rod Any Type except Screw
 - i. Placing of an anchor including the excavation of the hole,
 - ii. Installation of anchor including rod and eye,
 - iii. Backfilling of the hole,
 - iv. Proper compaction, and
 - v. Cleanup of the work site.
 - vi. All materials except those listed in the “Approved Material List.”
- i) Remove Anchor w/Guy, Eye, and Rod - any type
 1. Removal of an anchor, rod, and guy of any type.
 2. Filling the hole with proper material,
 3. Proper compaction, and
 4. Site restoration.
 5. The rod shall be cut off 18” below ground level.

j) Install/Remove Down Guy w/Guy Guard and/or Sidewalk Guy Arm

- i. Placement and/or removal of a guy, sidewalk guy, guard, or guy arm.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”
- iv. All sizes of strand/guys and includes the placement of tags.

k) Install/Remove Overhead Guy

- i. Placement and/or removal of an overhead guy.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”
- iv. All sizes of strand/guys and includes the placement of tags.

l) Install/Remove Pole-to-Pole Guy

- i. Placement and/or removal of a pole-to-pole guy.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”
- iv. All sizes of strand/guys and includes the placement of tags.

m) Install/Remove Cable Extension Arm

- i. Placement and/or removal of a cable extension arm.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”
- iv. All sizes of arms strand/guys and include the placement of tags.

n) Resag/Retention Down Guy

- i. Re-tensioning or re-sagging of a down guy.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List”
- iv. All sizes of strand/guys and includes the placement of tags.

o) Aerial Cable Setup 500ft or Less

- i. Unless entire job order includes less than 500’ of cable or
- ii. Written permission is granted from District.
- iii. Its intent is to help offset the mobilization and setup cost of a small job.

p) Place aerial fiber optic cable with existing cable with single overlash

- i. All materials except those listed in the “Approve Material List”
- ii. Placing cable risers down poles

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- iii. Riser footage in the aerial placing unit
 - iv. Transportation of the cable to and from the job site
 - v. Cable pull set up, placing of the cable, tensioning, and all other associated work
 - vi. Placement of cable tags at all pole locations
 - vii. Provisioning of all tools, e.g. rollers and j-hooks, necessary to perform this task
- q) Place aerial fiber optic cable with existing cable with dual overlash
- i. All materials except those listed in the “Approve Material List”
 - ii. Placing cable risers down poles
 - iii. Riser footage in the aerial placing unit
 - iv. Transportation of the cable to and from the job site
 - v. Cable pull set up, placing of the cable, tensioning, and all other associated work
 - vi. Placement of cable tags at all pole locations
 - vii. Provisioning of all tools, e.g. rollers and j-hooks, necessary to perform this task
- r) Place Aerial Fiber Optic Cable Including De-lashing and Dual Over-lashing.
- i. All materials except those listed in the “Approved Material List”
 - ii. Placing cable risers down poles.
 - iii. Riser footage in the aerial placing unit.
 - iv. Transportation of the cable to and from job site,
 - v. Cable pull setup, placing of cable, tensioning, and all other associated work.
 - vi. Placement of cable tags at all pole locations.
 - vii. Provisioning of all tools, e.g. rollers and j-hooks, necessary to perform this task.
 - viii. The existing plant will be de-lashed and re-lashed with a dual lasher.
- s) Dual Lash Cable - First Cable
- i. This unit is used to lash one non self-supporting cable to a strand.
 - ii. Transportation of the cable to and from job site,
 - iii. Cable pull setup, placing of cable, tensioning, and all other associated work.
 - iv. Placement of cable tags at all pole locations.
 - v. All materials except those listed in the “Approved Material List”
- t) Place Each Addition Cable

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- i. Unit 7505 is used in conjunction with the unit titled “Dual Lash Cable -First Cable”.
 - ii. Transportation of the cable to and from job site,
 - iii. Cable pull setup, placing of cable, tensioning, and all other associated work.
 - iv. Placement of cable tags at all pole locations.
 - v. All materials except those listed in the “Approved Material List”
- u) Cleat Cable to exterior of Building
- i. Unit 7510 covers attaching a cable, e.g. 48 fiber cables at 0.48” in diameter, to an exterior wall including the installation of all necessary support attachments.
 - ii. All bends in the cable will be a minimum of 6” radius.
 - iii. All materials except those listed in the “Approved Material List” are included in the unit.
- v) Place Aerial Fiber Single Loop - for Storage or Slack
- i. The placing on strand of a single slack coil, storage loop, maintenance loop, or splicing loop.
 - ii. It includes placing snowshoes and all lashing and zip tie activities.
 - iii. All materials except those listed in the “Approved Material List”
- w)Place Aerial Fiber Dual Loop - for storage or slack
- i. The placing on strand of a dual slack coil, storage loop, maintenance loop, or splicing loop.
 - ii. Placing snowshoes and all lashing and zip tie activities.
 - iii. All materials except those listed in the “Approved Material List”
- x) U-Guard Installation or Removal - any type
- i. All materials except those listed in the “Approved Material List”
- y) Install Tree Guard
- i. All materials except those listed in the “Approved Material List”
- z) Building Attachment - includes hardware, as specified
- i. All materials except those listed in the “Approved Material List”

31. Trenching Construction:

- a) Install hand trenched 1.25” innerduct – linear foot

- i. Trenching
- ii. Removal of any waste
- iii. Backfill
- iv. Placement of inner duct at 36” depth
- v. Placement of locate wire
- vi. Transportation of inner duct to and from job site
- vii. Inner duct set up placement
- viii. Any other actions necessary for inner duct placement

b) Install machine trenched 1.25” innerduct – linear foot

- i. Trenching
- ii. Removal of any waste
- iii. Backfill
- iv. Placement of inner duct at 36” depth
- v. Placement of locate wire
- vi. Transportation of inner duct to and from job site
- vii. Inner duct set up placement
- viii. Any other actions necessary for inner duct

placement c) Hand Trench/Place Cable 36” linear foot

- i. Hand trenching,
- ii. Removal of any waste material,
- iii. Backfill,
- iv. Placement of the cable,
- v. Placement of a specified locate wire,
- vi. Transportation of the cable to and from the job site,
- vii. Cable placement setup and any other actions necessary for cable placement.
- viii. All materials except those listed in the “Approved Material List”
- ix. All hand trenching must be approved in writing by District prior to the work being performed.

d) Trench one (1) 4” HDPE - using machinery

- i. The placement of one (1) 4” HDPE by trenching with machinery with a minimum cover of 36”.
- ii. Transportation of the conduit to and from the job site,
- iii. Placement setup,
- iv. Trenching,
- v. Removal of any waste material,
- vi. Placement of the conduit,
- vii. Backfill,

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- viii. Proper compaction of the soil,
 - ix. Proper surface restoration,
 - x. Proofing of conduit,
 - xi. Placing of pull line in conduit,
 - xii. Placing duct plugs in all conduit ends, and any other actions necessary for conduit placement -
 - xiii. All materials except those listed in the “Approved Material List”
- e) Hand trench/place one (1) - 4” HDPE /Trenching in excess of 36” depth using machinery - each 6” in excess
- i. Unit 8310 is used when conduit placement is required in excess of 36” using machinery.
 - ii. To each 6” of depth.
 - iii. All materials except those listed in the “Approved Material List”

32. Personnel must be pre-authorized

- a) Manhole Survey (including Butterfly)
- i. Two (2) technicians with truck, tools, WAP, and traffic control setup.
 - ii. Creating a butterfly diagram, which indicates all cables in the manhole and specifically the DC Cables
 - iii. Includes identifying, tagging, and cutting the DC Cables in preparation for removal.
 - iv. Use of this item unit has a minimum of 4 hours when used.
- b) Manhole Survey Crew
- i. One technician with truck, tools, WAP, and traffic control setups. Shift will begin at the first work site and end at the last work site. This crew will only escort a District representative who will perform and document the survey.
 - ii. The Contractor requires no CAD work.
 - iii. Use of this item unit has a minimum of 4 hours when used.
- c) Manhole Survey Crew
- i. Two (2) technicians with truck, tools, WAP, and traffic control setup. Shift will begin at the first work site and end at the last work site. This crew will only escort a District representative who will perform and document the survey.
 - ii. The Contractor requires no butterfly or CAD work.
 - iii. Use of this item unit has a minimum of 4 hours when used.
- d) Man Line Crew

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- i. Use of this item unit has a minimum of 4 hours when used.

33. Miscellaneous:

a) Laborer / Flagger

- i. Use of this item unit has a minimum of 4 hours when used.

b) Truck Driver

- i. Use of this item unit has a minimum of 4 hours when used.

c) 2-Man Fully Equipped Splicing Crew

- i. Underground or aerial vehicle equipped with all work area protection
- ii. Required Equipment:

1. OTDR
2. Fusion Splicer
3. Power Meter Test Equipment
4. Fiber Protection Sleeves.

d) Cable Locator with Truck, Tools, and Paint

e) Material Pick-Up - when required

- i. If Contractor is required to pick up material: This will be per mile from pick-up location to destination job site as measured by "Microsoft Streets and Trips 2001" or later version.
- ii. Prior approval of District is required.
- iii. The intent is unique events not "standard stocking".

f) Obstruction Dig - Unit Rate: - hourly rate

- i. Providing all appropriate WAP and traffic control including arrow board.
- ii. This unit includes digging a pit 6' x 4' x 4',
- iii. Exposing the existing duct bank,
- iv. Identifying and repairing the damaged conduit and
- v. Closing up the pit.
- vi. Removal of asphalt, concrete and dirt and
- vii. Placement of 6" dry mix around repaired conduit,
- viii. Back filling the hole and placing a hot patch on the street.
- ix. Placing a 1" rope or 1¼" inner duct in the repaired conduit.
- x. Use of this item unit has a minimum of 4 hours when used.

g) ISP Crew - Unit Rate: - hourly rate for fully equipped truck and two (2) technicians

- i. Contractor will provide all tools

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- ii. District will provide all material
- iii. Placing, cuffing, bending metal conduit up to 2" in diameter
- iv. Placing pull boxes
- v. Placing inner duct
- vi. Placing and securing relay racks
- vii. Placing and securing ladder racks
- viii. Placing backboards
- ix. Installing ground wire
- x. Placing copper cable up to 100 pair
- xi. Placing fiber cable
- xii. Drilling holes in walls up to 2½"
- xiii. Place and secure cabinets Use of this item unit has a minimum of 4 hours when used.

h) Cable Removal Extension Hourly Crew - Rate:

- i. Extending a cable removal crew's time on site in the event removal of a cable cannot be accomplished by the initial pulling effort, as certified by District Construction Manager, as described below.
- ii. This fixed rate will be applied within the regular 8 hour work day and is designed to reimburse additional Contractor effort for "stuck" cables that require effort beyond the initial pull to remove. District Construction Manager or properly delegated Inspector shall be required to authorize this exception, which, in the professional judgment of District, does NOT constitute an OBSTRUCTION, covered above, but where the cable can be cleared from the duct with additional effort.
- iii. The cable removal supervisor from the Contractor shall make the above recommendation to the District Construction Manager with sufficient notice that on-site inspection shall occur during the same daily set-up.

i) Conduit Wash

- i. Providing all appropriate WAP and traffic control including arrow board. Washing a conduit section between two (2) manholes or a manhole to a pole and pumping out the excess water into the closest storm drain.
- ii. Place mule tape or equivalent
- iii. Use of this item unit has a minimum of 4 hours when used.

34: Core Drill for Aerial Entrance up to 6" hole - This unit includes:

- a. Installation of water sealant inside core before placing conduit
- b. Sealing between core wall and conduit
- c. Finishing of inside and outside walls to match surrounding areas

35: Core Drill for Underground Entrance up to 6” hole - This unit includes:

- a. Installation of water sealant inside core before placing conduit
- b. Sealing between core wall and conduit
- c. Finishing of inside and outside walls to match surrounding areas
- d. Excavation of pit, if required, up to 5’ depth

36: Design Engineer - This function will design underground conduit permitting jobs for submittal to DDOT with professional engineer’s approval and stamp.

37: Emergency Call-Out Mobilization Fee - Contractor to provide 4 men and fully equipped aerial or underground truck.

38: Place either a 19” or a 23” relay rack into a concrete floor. The unit includes delivery of the rack and bolting it to the floor. DC Net will purchase the relay rack and it will be stored at the DC Net warehouse.

39: Place a 10 foot section of ladder rack 12” wide rack. This unit includes delivery of the ladder rack and all associated hardware. Cutting and bolting all ladder rack to either a wall, other ladder rack and to the relay rack. . Drawings will be provided to show the layout. DC Net will purchase the ladder rack and hardware and it will be stored at the DC Net warehouse.

SOW	ITEM	UOM	Estimated Annual	Estimated Quarterly
C.5.2.6.4 (a)	Standard wall penetration hole 2½” w/fire stop - not a core drill	EA	37	10
C.5.2.6.4 (b)	Place pull box - all sizes	EA	0	0
C.5.2.6.4 (c)	Place Inner Duct - All Sizes	LF	7506	1877
C.5.2.6.5 (1)	Conduit placement excavation set-up - under 50’	EA	2	1
C.5.2.6.5(2)	Saw-cutting - asphalt and concrete	LF	132	33
C.5.2.6.5 (3)	Asphalt and/or concrete removal	CYd	16	4
C.5.2.6.5 (4)	Dig/fill straight access pit 4’ x 4’ x 4’	EA	10	3
C.5.2.6.5 (5)	Excavation - 0’ to 10’ depth	LF	0	0
C.5.2.6.5 (6)	Hand trench and place conduit 36” deep	LF	85	22

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C.5.2.6.5 (7)	Rock removal	CYd	10	3
C.5.2.6.5 (8)	Concrete protective cover over conduit - 6" minimum	LF	198	50
C.5.2.6.5 (9)	Core bore vault / manhole / handhole up to 6" diameter core	EA	6	2
C.5.2.6.5 (10)	Install 4' x 4' x 4' pre-cast manhole	EA	0	0
C.5.2.6.5 (11)	Install pre-cast handhole w/pea rock - 24" x 36" x 36"	EA	3	1
C.5.2.6.5 (12)	Install quartzite handhole with pea rock – 30"x48"x36"deep	EA	3	1
C.5.2.6.5 (13)	Install quartzite handhole with pea rock – 36"x60"x36"deep	EA	3	1
C.5.2.6.5 (14)	Install 1- 4" PVC conduit	LF	337	85
C.5.2.6.5 (15)	Install inner duct in conduit	LF	43950	10988
C.5.2.6.5 (16)	Install multiple inner duct in conduit	LF	0	0
C.5.2.6.5 (17)	Install riser w/U-guard	LF	5	2
C.5.2.6.5 (18)	Temporary cold patch	SF	55	14
C.5.2.6.5 (19)	Temporary hot patch	SF	0	0
C.5.2.6.5 (20)	Concrete placement	CYd	16	4
C.5.2.6.5 (21)	Restoration of Decorative Stone	SF	66	17
C.5.2.6.5 (22)	Install fiber optic cable in outside conduit or inner duct	LF	50023	12506
C.5.2.6.5 (23)	Install additional fiber optic cable in outside conduit or inner duct	LF	74	19
C.5.2.6.5 (24)	Install fiber optic cable in inside conduit or inner duct	LF	12432	3108
C.5.2.6.5 (25)	Place slack coil in inside or outside environment	EA	23326	5832
C.5.2.6.5 (26)	Remove underground fiber optic cable or inner duct	LF	6503	1626
C.5.2.6.5 (27)	Rodding existing conduit - 3/8" fiberglass rod	LF	7873	1969
C.5.2.6.5 (28)	Rodding existing conduit - 3/4" stick rod	LF	48131	12033

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C.5.2.6.5 (29)	Remove and dispose lead cable from underground conduit	LF	911	228
C.5.2.6.5 (30a)	Regular tree trimming	LF	6108	1527
C.5.2.6.5 (30b)	Install vertical ground with rod	EA	0	0
C.5.2.6.5 (30c)	Reframe pole	EA	37	10
C.5.2.6.5 (30d)	Install strand and hardware	FT	871	218
C.5.2.6.5 (30e)	Install/remove dead-end	EA	0	0
C.5.2.6.5 (30f)	Resag strand	EA	3303	826
C.5.2.6.5 (30g)	Install screw anchor normal soil w/guy and guard	EA	0	0
C.5.2.6.5 (30h)	Install anchor, eye rod -any type except screw	EA	0	0
C.5.2.6.5 (30i4)	Remove anchor w/guy & eye rod - any type	EA	0	0
C.5.2.6.5 (30k)	Install/remove down guy w/guy guard and/or sidewalk guy arm	EA	0	0
C.5.2.6.5 (30k)	Install/remove overhead guy	EA	0	0
C.5.2.6.5 (30l)	Install/remove pole-to-pole guy	EA	0	0
C.5.2.6.5 (30m)	Install/remove cable extension arm	EA	2	1
C.5.2.6.5 (30n)	Resag/retention down guy	EA	6	2
C.5.2.6.5 (30o)	Aerial cable setup 500' or less	EA	28	7
C.5.2.6.5 (30p)	Place aerial fiber optic cable with single overlash	LF	5797	1450
C.5.2.6.5 (30q)	Place aerial fiber optic cable with dual overlash	LF	54602	13651
C.5.2.6.5 (30r)	Place aerial Fiber Optic Cable including de-lashing and dual over-lashing.	LF	7798	1950
C.5.2.6.5 (30s)	Dual lash cable - first cable	LF	929	233
C.5.2.6.5 (30t)	Place additional cable	LF	0	0
C.5.2.6.5 (30u)	Cleat cable to exterior of building	EA	1073	269

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C.5.2.6.5 (30v)	Place aerial fiber single loop -for storage or slack	EA	6	2
C.5.2.6.5 (30w)	Place aerial fiber dual loop for storage or slack	EA	50	13
C.5.2.6.5 (30x)	U-guard installation/removal - any type	EA	26	7
C.5.2.6.5 (30y)	Install tree guard	EA	79	20
C.5.2.6.5 (30z)	Building attachment - includes hardware, as specified	EA	11	3
C.5.2.6.5 (31a)	Install hand trench 1.25" innerduct	LF	11	3
C.5.2.6.5 (31b)	Install machine trench 1.25" innerduct	LF	237	60
C.5.2.6.5 (31c)	Hand trench/place cable 36" linear foot	LF	0	0
C.5.2.6.5 (31d)	Trench one (1) - 4" HDPE using machinery - using machinery	LF	0	0
C.5.2.6.5 (31e)	Hand trench/place one (1) - 4" HDPE (Trenching in excess of 36" depth using machinery - each 6" in excess	LF	0	0
	Personnel			
C.5.2.6.5 (32a)	Manhole survey crew; 2 techs, including butterfly	HR	0	0
C.5.2.6.5 (32b)	Manhole survey crew; 1 tech	HR	0	0
C.5.2.6.5 (32c)	Manhole survey crew; 2 techs, no butterfly	HR	145	37
C.5.2.6.5 (32d)	Three (3)-man line crew	HR	101	26
C.5.2.6.5 (33a)	Laborer / Flagger	HR	1119	280
C.5.2.6.5 (33b)	Truck driver	HR	0	0
C.5.2.6.5 (33c)	2 Man Fully Equipped Splicing Crew	HR	0	0
C.5.2.6.5 (33d)	Cable Locator with Truck, Tools, and Paint	HR	63	16
C.5.2.6.5 (33e)	Material Pickup - When required	MIL E	103	26
C.5.2.6.5 (33f)	Obstruction dig, new unit -Unit rate per dig	Unit	3	1
C.5.2.6.5 (33g)	ISP crew - unit daily rate for fully equipped truck and two (2) technicians	Dail y	68	17

C.5.2.6.5 (33h)	Cable Removal Extension Hourly Crew	HR	87	22
C.5.2.6.5 (33i)	Conduit Wash	HR	0	0
C.5.2.6.5 (34)	Core Drill for Aerial Entrance up to 6" hole	EA	0	0
C.5.2.6.5 (35)	Core Drill for Underground Entrance up to 6" hole; Includes access pit	EA	0	0
C.5.2.6.5 (36)	Design Engineer	HR	101	26
C.5.2.6.5 (37)	Emergency call out- Mobilization Fee	EA	2	1
C.5.2.6.5 (38)	Place 19" or 23" relay rack into concrete floor. Del & Labor	EA	0	0
C.5.2.6.5 (39)	Place 10' section of ladder rack	EA	0	0

C.5.3 Optical Fiber Cable Maintenance

C.5.3.1 The District seeks a Contractor to maintain its optical fiber network. This network consists of node sites within the core structure; these nodes having combinations of physical, transport and switching layer devices interconnected by optical fiber cable. The optical fiber cable is a combination of dedicated District optical fiber, leased fiber, and fiber provided by local cable and internet service providers under provisions of their District of Columbia franchise agreements. The Contractor is not obligated to enter non-District fiber splices.

The Contractor shall provide maintenance of the District’s optical fiber cable plant, which consists of the following (quantities below are estimated and subject to change):

700+ sites have a point of presence (POP)

- a) The network has sites added or removed over time.
 - a. The District presently serves more than 30,000 employees with combinations of voice, data and video.
 - b. POP sites with local service in buildings belonging to or affiliated with the DC Government clients; some are primary (have voice and/or data services for the building and surrounding facilities)
 - c. Pass through sites exist with fiber in the building with splice points (but no local service in the building);
 - d. Approximately 250 designated splice points.
- b) 700+ total miles of optical fiber cable, of which;
 - a. Sumitomo Pureband “0” waterpeak single mode fiber is used – Max Attenuation .35db/km at 1310nm and .25db/km at 1550nm
 - b. Splices require a loss of .05db or less

- c. Bidirectional testing is required at 1310nm & 1550nm
- d. DWDM is used on a portion of the system
- e. Approximately 40% is underground, and 60% aerial
- f. Armored cable is less than 1% of the total fiber
- g. Predominantly all cables are dielectric.
- h. Current fiber deployment by cable size – approximate
 - i. 288 – 15%
 - ii. 144-15%
 - iii. 96-30%
 - iv. 48-30%
 - v. 24-5%
 - vi. 12-5%
- i. 70% loose tube/30% Ribbon
- j. District-owned Fiber 90% and 3rd party is 10%

C.5.3.2 The Contractor shall provide all staff and equipment (e.g. Vehicles, tools, safety systems, and test equipment) for this maintenance or new splicing effort. The Contractor shall provide all staff and equipment necessary to restore and correct District network service by repairing cable at splices for aerial, building and underground optical fiber and copper cables to affect restoration (repairs) and correction, Contractor shall be capable of replacing:

- a) Optical fiber cable by pulling in new underground, and lashing new aerial optical fiber cable on existing routes and alternate routes;
- b) Copper cable interconnecting District facilities by pulling in new underground and installing new aerial copper cable on existing routes and alternate routes to BICSI standards.

C.5.3.3 Categories of Maintenance: There are two (2) categories of maintenance integral District maintenance operations.

C.5.3.3.1 Planned Maintenance

C.5.3.3.1.1 The Contractor shall provide dead work splicing in existing splice cases and new splice work during the 40-hour work week. This includes “Dead Work” splicing, interpreted as New Lateral prep & Cut-in at existing Splice Points, and redirecting of network fibers to accommodate turn-up of new Demarks and new or existing backbone fiber splicing. This also includes “new work” splicing, interpreted as prep and splicing of existing un-prepped Buffer tubes at existing splice points, and the prep and splicing of newly constructed splice points.

C.5.3.3.1.2 The Contractor shall provide the following three types of Planned Maintenance.

- a. **Scheduled:** This type of maintenance shall be restoration or correction work where there has not been a service-affecting outage of either voice or data services.

- i. NOTE: When this restoration or corrective work extends beyond the normal workday the Contractor shall obtain prior approval from District management (the intent shall be to maintain an average of 40 hours a week per by reducing hours worked on another day).
- b. **Preventive:** This type of maintenance shall be inspection and correction work to overcome optical fiber installation conditions that do not meet industry standards for installation, and that threaten to become service affecting outages
- c. **Planned Maintenance Response to Service Affecting Outages:** This type of maintenance response shall be to a service affecting outage that occurs during the planned maintenance period and requires other planned maintenance be set aside for outage restoration or corrective work. This is not covered under item below.
 - i. NOTE: When this restoration or corrective work extends beyond the normal workday the Contractor shall obtain prior approval from District management (the intent shall be to maintain an average of 40 hours a week per by reducing hours worked on another day).
 - ii. Planned maintenance shall be scheduled (based upon access to fiber splice locations and client needs) between the limits of 6AM Monday to 6PM Friday (excepting DC Government holidays), for a total Not-to-exceed 8 hours in a workday, and Not-to-exceed 40 hours in a calendar work week (without District management approval).

C.5.3.3.2 Unplanned Maintenance: This type of maintenance shall be response to an outside plant failure that causes a service-affecting outage that occurs outside the planned maintenance period.

C.5.3.3.2.1 The Contractor shall be on-call for emergency maintenance situations which may occur between the hours of 6pm to 6am nightly Monday through Thursday, from 6PM Friday to 6AM Monday (weekend), and 6AM to 6PM on DC Government holidays. As described earlier and in compliance with Service Level Agreement (SLA) 1 & 2. This work is part of the 40-hour work week. The average number of times per year for this is (but is not limited to) 6. Emergency maintenance response shall be bound by District Fiber Optic Corrective Maintenance SLA, otherwise entitled SLA #1 and SLA #2. The Contractor shall provide sufficient resources to restore both underground and aerial faults in the cable network; to include faults where simultaneous restoration work shall be accomplished at two ends of a span; of which shall be a combination of:

- a. Both underground; or
- b. One aerial and the other underground; or
- c. Both aerial; or
- d. An ISP site and associated aerial or one underground splice locations

C.5.3.3.2.2 Catastrophic - The Contractor shall commit resources for multi-site and multi-loop ("catastrophic") failures in the event of severe weather, natural disaster, or human precipitated events. This SLA shall specify the additional teams/crews, vehicles, and

other resources the Contractor will commit/prioritize to the District for continuous recovery and service restoral, above and beyond the service capabilities of the principal group of resources ("team") performing daily scheduled proactive and reactive maintenance assignments. The Contractor proposal shall state the terms upon which an authorized District manager may direct such response to be activated, and the associated costs for that additional SLA commitment. Failure to meet SLA response and restoration requirements shall result in monetary penalties as stated in subsequent sections of this document.

C.5.3.4 Response Period

- a. The Contractor shall furnish maintenance services 24 hours per day, 7 days per week, for the period of performance of this task, including all weekends and holidays.
- b. The Contractor shall schedule planned maintenance. The District will provide notification for then need for such services by aural notification to the Contractor's point of contact in advance, followed up via a Maintenance Tracking Request transmitted by electronic media.
- c. Unplanned maintenance shall respond 24x7x365 to meet SLA requirements, as directed by authorized District maintenance operations staff.

C.5.3.5 Supporting Services

C.5.3.5.1 The Contractor shall provide the following support services.

- a. All staff and equipment necessary to perform scheduled and emergency assessment, fault locating, fiber splicing services, and all fiber testing required.
- b. All staff and equipment necessary to inspect outside plant cable routes on a preventive maintenance schedule directed by authorized District manager to identify environmental conditions detrimental operation of optical network transport.
- c. Where required for restoration, additional services directly associated with optical fiber cable restoration shall be provided, to include:
 - i. Boring/pushing optical fiber right of way (e.g. Innerduct) for distances not greater than 300 feet
 - ii. Hand digging
 - iii. Manhole alteration and restoration
 - iv. Aerial span replacement (including overlashing)
 - v. All required splicing and test equipment, and consumables when placing cable into a building a plug or foam sealant will be used at the time of placement.

C.5.3.6 Point of Presence (POP) Inspection and Clean-Up

The Contractor shall provide all staff and equipment necessary to enter and visually inspect as directed the POP sites to identify environmental conditions detrimental to operation of the POP optical fiber transport equipment. This inspection shall include correction (cleaning) of unsatisfactory equipment room. Cleaning shall not extend

beyond four hours without specific approval of authorized District maintenance manager.

C.5.3.7 Special Equipment, Tools, and Techniques

C.5.3.7.1 The Contractor shall provide 2 trailers and a bucket truck dedicated to this effort, available 24/7/365, with adequate environmental, electric, and workspace.

- a. The trailers and bucket truck will be used by the Contractor when location and space allow.
- b. The District reserves the option to use the trailer and bucket truck as needed, which may require the Contractor to deliver, setup and provide protection, then return to pick-up the trailer.
- c. The Contractor shall be prepared to remain with the trailer (pending insurance requirements) as requested by District.

C.5.3.7.2 The Contractor shall be equipped with (but not limited to) the following equipment for access to confined space entry (manhole):

- a. Emergency extraction tripod
- b. Explosive gas detector/oxygen analyzer
- c. Submersible pump
- d. Blower and duct
- e. Approved guard railing

C.5.3.8 The Contractor shall conduct all required testing and certification required for access to enclosed spaces including pump out and ventilation. This equipment shall be in addition to aerial and underground splicing equipment, vehicles, and tools previously identified.

C.5.3.9 Materials

- a. Unless otherwise identified in a District Maintenance Tracking Request, the Contractor shall furnish no materials under this contract except consumables (e.g. Cable ties, fuses, nuts, bolts, screws, etc.).
- b. The Contractor shall retain on-hand sufficient District approved materials to complete all maintenance requirements and shall maintain accurate inventory of these materials.
- c. Upon removal of any stock item, the Contractor shall supply a list of materials used during maintenance and a request for replenishment of this stock with the completed Contractor portion of the Maintenance Tracking Request. District materials shall be unencumbered by any other service agreement, available for District always and neither committed nor made available to any other District.

C.5.3.11 Call-Out - The Contractor shall provide a local point-of-contact for first response notification of emergent call-out requirements. Failure to arrive within previously

stipulated service level agreement timeframes and/or non-continuous productive work effort until full restoration or release by District OSP supervisor will result in monetary penalties equivalent to loss of OCTO/DC-Net monthly recurring revenue. Overall duration of outage or impaired/limited network availability will be additional governing factors used to evaluate Contractor performance. Contractor is recommended to possess insurance protection not to exceed \$2M per event.

C.5.3.12 Staffing - The Contractor shall provide staff that meets the Labor Qualification as required to ensure the staffing that shall be able to meet the District maintenance service requirements to provide the level of service described above. At a minimum one senior splicer and one non-senior splicer will be the team, working 40 hours per week, from 8:30am to 5:30pm, M-F.

C.5.3.13 Key Personnel

- a. The Contractor shall provide a Senior Splicer (Key Person) and a Non-Senior Splicer when responding to an SLA requirement. The Contractor may submit more than one Senior Splicer for instances when 24 x7 coverage is shared amongst their staff.
- b. The Contractor shall request approval with 2 weeks' notice to replace staff assigned to District maintenance services; which approval District will not unreasonably withhold, in the event a qualified replacement is offered. The District has the absolute right to reject a replacement based upon resume and interview.

C.5.3.14 Failure to Perform - Failure to perform satisfactorily for 10 consecutive working days is unacceptable and may be grounds for the Contractor to provide a replacement resource capable of meeting the standard. Should the Program require a replacement resource, the Contractor shall furnish a replacement within 5 business days from the date of notification.

C.5.3.15 ISP & OSP Specifications - The District reserves the right to change any of these standards during the contract period. The District reserves the right to exclude any of these specifications on a case by case basis. If an email is not provided by the District noting the exception, the Contractor shall email a simple confirmation of the verbal direction to the District Network Implementation Manager, the District field supervisor, and the District Program Manager. The same policy applies to any verbal direction from the District that conflicts with any other part of the contract agreement.

C.5.3.15.1 ISP Fiber Standards

C.5.3.15.1.1 The Contractor shall adhere to the following ISP Fiber Standards and shall perform as follows:

- a. Fiber distribution panels shall be labeled, P-Touch ½ inch label, with loop identification, site number, panel number and destination information.

- b. All patch cords shall be labeled with a circuit ID for example if a circuit originates at site 007 and the destination is site 493 than the circuit ID will be 007-493.
- c. All fiber identification cards that are supplied with each fiber distribution panel shall be labeled with the circuit ID in the corresponding square.
- d. All fiber distribution panels shall be secured properly inside relay racks, Hoffman boxes and cabinets with proper hardware conforming to standard EIA rack panel placing spacing.
- e. All cables shall be attached to the strain relief bracket inside the fiber distribution panels.
- f. All ISP cables attached to fiber distribution panels shall be tagged with loop, site number, destination, size and type of cable.
- g. All OSP cables shall be tagged at the fiber distribution panel and point of entry with loop, site number, destination, size and type of cable.
- h. All cables and maintenance loops shall be secured properly to wall, ladder rack, inside Hoffman box or cabinets.
- i. All maintenance loops shall be tagged with a District warning tag.
- j. All splice trays with 250um fiber shall have a minimum of 2 wraps not to exceed 3 wraps. Fiber shall be cleaned properly with D-Gel solvent and alcohol.
- k. All splice trays with 900um fiber shall have a minimum of 1 wrap not to exceed 2 wraps.
- l. All splice trays shall be numbered in numerical sequence and the lids taped when splicing is completed.
- m. All splice trays shall be dressed neatly, labeled with correct sheath count and splicing information.
- n. Heat sleeves shall be 60mm.
- o. Spiral wrap shall be utilized when using SPS9 splicing shelf or any other splicing shelf.
- p. Sheath butts shall be taped and spiral wrap shall be utilized to transition from sheath butt into fiber distribution panel.
- q. Contractor/personnel shall make sure not to exceed the bend radius of OSP cables or cables within fiber distribution panels and splice enclosures.
- r. Contractor shall provide DISTRICT with proper as built documentation to include the following; post test results bidirectional OTDR 1310nm/1550nm, bidirectional power meter 1310nm/1550 nm, pictures of installation/splicing work, footage markings at fiber distribution panels and splice enclosures. Contractors work will not be accepted until Contractor completes as-built documentation and inspections.

C.5.3.15.2 OSP Fiber Standards

C.5.3.15.2.1 The Contractor shall adhere to the following OSP Fiber Standards and shall perform as follows:

- a. All District cables/inner duct in manholes, pull boxes, vaults or any other confined space shall be tagged at the point of entry and the point of exit.

- b. All conduits and inner ducts being utilized by District shall be sealed with an appropriate sealing compound.
- c. Innerduct at the point of entry shall not protrude more than 4 inches unless, a job order requires inner duct to be placed to the termination point.
- d. All District cables/inner duct, slack coils and splice enclosures in confined spaces shall be properly secured.
- e. Aerial slack coils shall be placed in snowshoes lashed or secured with Deltec buckle straps to strand. If lashed, lashing wire clamps will be utilized to secure lashing wire to strand.
- f. All splice enclosures and patch panels shall be installed and prepped in accordance with manufactures recommendations.
- g. All splice enclosures cables shall be tagged with loop, splice point ID, destination, size and type of cable.
- h. If armored cable is used, cables shall be bonded inside splice enclosures and splice enclosures will be grounded in manhole or on strand.
- i. Aerial splices shall be secured to strand with appropriate lashing supports or brackets.
- j. OSP Contractor shall provide District with as built documentation to include the following; manhole logs, red lines if route changes or if duct selection changes, pole ID and any other information deemed necessary by Barry Silverman.
- k. All standards are subject to change. Contractors will be advised if changes occur.

C.5.3.16 Service Level Agreement (SLA) # 1 - Corrective OSP Maintenance Response: The Contractor shall adhere to the following SLA requirements for Fiber Optic Cable Corrective Maintenance guaranteed time-to-respond and recovery effort levels.

a) Response Time

- 1. Contractor shall have qualified technician(s) at the site of a fiber optic cable failure within two (2) hours of notification of failure to the Contractor's Point of Contact.
- 2. Contractor shall have a qualified technician continually at the site of a fiber optic cable failure until temporary or permanent restoration of service is completed and verified by the District.

C.5.3.17 Service Level Agreement (SLA) # 2 – Catastrophic OSP Maintenance Response: The Contractor shall adhere to the following SLA requirements for unplanned maintenance restoration of “catastrophic” failures of the District’s optical fiber plant.

C.5.3.17.1 Specific Requirements

- a. Contract Maintenance Service for 365 x 24 dedicated unplanned OSP maintenance will be provided by Contractor crew identified as Crew 1.
- b. Supplemental Crews are comprised as follows:
 - i. Each Supplemental Crew shall consist of one (1) qualified optical fiber splicing technician plus assistant / helper with aerial equipped, enclosed splicing vehicle; HDCM fusion splicer; OTDR; global positioning system

- (GPS); and all ancillary equipment to locate damage and repair fiber optic cable.
- ii. The Contractor shall provide 2 Crews under this SLA: Crew 2 and Crew 3
 - iii. The Contractor shall make “best efforts” to field additional aerial equipped splicing crews in the event Crews 2 and 3 are insufficient for the magnitude of the particular task, as judged by the District OSP Maintenance POC; but for purposes of this SLA, the need for additional aerial equipped splicing crews beyond Crews 2 and 3 cannot be foreseen and/or guaranteed.
- c. Contractor standard operating procedures for crew operations are described.
 - d. Crew(s) shall mobilize and be in “standby” status at a location within ten (10) road miles of Washington, DC.
 - e. Upon notification of cable damage location(s) by the District OSP Maintenance POC, the assigned crew(s) shall meet District Maintenance Operations POC on-site within two (2) hours.
 - f. Crew(s) shall maintain a continued presence on-site until repairs are completed or DC-Net Maintenance Operations POC releases the crew(s), and provide hourly updates of the restoration progress.
 - g. Crew(s) shall immediately report completion of the assigned repair, and their availability for additional assignment to the District OSP Maintenance POC.
 - h. Response intervals identified hereafter shall be required regardless of the day of week, or holiday, that notification is provided by the District OSP Maintenance POC.

C.5.3.17.2 Response Time for Unforeseen Disaster with No Prior Notice - Contractor response shall be measured against the following criteria. Within eight (8) hours of notification of required escalation, Contractor will notify District Maintenance Operations POC of the exact location where Supplementary Crew 2 (and Crew 3, as required) are staged and in “standby” status, awaiting direction to a cable damage location.

C.5.3.17.3 Response Time for Forecast (e.g. – adverse weather) condition with notice

- a. Within twenty-four (24) hours of notification by the District Maintenance Operations POC of required escalation, and the specific date and hour of the day for Supplemental Crew(s) to report, Contractor shall notify the District Maintenance Operations POC of the exact location and date and time where Supplementary Crew 2 (and Crew 3, as requested by the District) will be staged and in “standby” status, awaiting direction to a cable damage location..

C.5.4 Wireless Installs and Support Services

C.5.4.1 Services

C.5.4.1.1 The Contractor shall procure equipment and install the following items:

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- C.5.4.1.1.1** Contractor shall have completed three projects of similar scope and complexity; preferably with DCPS. Provide names of references and project values.
- C.5.4.1.1.2** Contractor shall attend site walkthrough. Contractor shall submit a revised proposal after the site walkthrough to include estimated hours and material quantities.
- C.5.4.1.1.3** Contractor shall perform work outside of normal school hours. Typical schedule will be 3-11PM. In cases where school is not in session, the Contractor may schedule work during normal business hours.
- C.5.4.1.1.4** Contractor shall provide, install, and test cat 6 wiring terminations from designated WAO to nearest data closet wiring termination panel.
- C.5.4.1.1.4.1** Data Dual Drop – Two (2) Category 6e UTP Cables. Each outlet shall contain two (2) Category 6 cables terminated onto Category 6 jacks at the work area outlet and terminate onto Category 6 patch panels.
- C.5.4.1.1.4.2** Wireless (AP) Single Drop - One (1) Category 6e UTP Cables. Each outlet shall contain one (1) Category 6 cables terminated onto Category 6 jacks at the work area outlet and terminate onto Category 6 patch panels.
- C.5.4.1.1.5** All horizontal cabling shall utilize existing cable pathways where applicable. The Contractor shall have additional pathways and penetrations reviewed and approved by DCNet Subject Matter Expert (SME).
- C.5.4.1.1.6** All ancillary components shall be Cat. 6 certified. DC-Net SME will provide exact instruction as to appropriate mounting brackets to be deployed.
- C.5.4.1.1.7** All Cat. 6 cables in designated locations shall be terminated on Cat. 6 Keystone style Jack (RJ45 is not acceptable).
- C.5.4.1.1.8** If the termination is in the area where there is a drop-down ceiling of not more than 12 ft. high, the jack does not need to be mounted in a wall but requires a surface mount box (examples-Panduit CBX2WH-AY, Hellermann Tyton SMBDUAL-W or similar product line).
- C.5.4.1.1.9** If termination is in the area where there is no dropdown ceiling or if the height of the ceiling is more than 12 ft., the WAP termination point shall be mounted on a wall (exact location per design specifics).
- C.5.4.1.1.10** Surface mount box with Cat 6 Keystone style jacks with printed label and a written label. The Surface mount box shall be mounted 8 ft. above ground.
- C.5.4.1.1.11** The Surface mount box shall be around the following dimensions (4.9"H x 3.25"W x 1.8"D).

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C.5.4.1.1.12 Each drop shall be labeled at both ends in accordance with internal labeling schema.

C.5.4.1.1.13 Upon completion, as-built drawings and test results shall be required in PDF format.

C.5.4.1.1.14 A post completion walkthrough shall also be required.

C.5.4.2 Cabling Labor Categories

- a. Project Manager
- b. Voice Data Technician

C.5.5 Electrical Installs and Support Services

C.5.5.1 The Subcontractor shall provide an electrical team for emergency response during “normal business hours”: 8:30 AM to 5:30 PM, with a one-hour lunch. The Subcontractor shall provide 8 hours of a team response outside normal business hours. Out-of-town travel will not be required. The Subcontractor shall follow all District/PMO standards. The Subcontractor shall provide timely, necessary information to allow the District to calculate “earned value”. Non-US holidays are not valid on timesheets. No paid holidays are included in this package.

C.5.5.2 The Subcontractor shall provide electrical services as needed for District equipment at multiple locations as needed. The Subcontractor shall provide and install a complete electrical system or only the required components including, but not limited to, service, lighting, power, devices, panels, circuit breakers conduit, outlets, equipment, and wiring as needed.

C.5.5.3 Standards, Codes, Regulations and Permitting

C.5.5.3.1 The Subcontractor shall provide systems, equipment, and electrical installations that comply with applicable standards, requirements, statutes, laws, ordinances, regulations, of Local, County, and State codes, Health department, Owner’s Insurance Company, Local Electric Utility, Labor Regulations, IEEE, ANSI, TIA, B.O.C.A., and OSHA. When required the Local Inspector and Architect shall approve work. If none is required, a Customer representative will approve and accept the work. When available the drawings and specifications constitute minimum acceptable requirements.

C.5.5.3.2 The Subcontractor shall conduct all installations with regard to dimensional requirements of stated standards, statutes, laws, ordinances, regulations, codes, etc., even if these dimensions are not on plans. The Subcontractor shall make corrections after installation to meet said requirements as directed.

C.5.5.3.3 The Subcontractor shall provide fire stop and weather sealant, as required.

C.5.5.3.4 If a permit is a requirement by Customer or the electrician, the Subcontractor shall obtain a permit.

C.5.5.3.5 The Subcontractor shall comply with all equipment, hardware and component specifications and recommendations for any installation or repair. Additional requirements identified by building owners or management must be approved by the SAIC Program Management before payment can be processed.

C.5.5.4 Engineering Drawings & Field direction by Customer Representative - Should work specified or shown on drawings (when available) or direction by a Customer Representative be contrary to said applicable requirements, laws, ordinances, statutes, or regulations, the Subcontractor shall perform accordance with said laws, ordinances, statutes, or regulations; but not until points in question have been referred to Owner's representative and/or Architect for approval. The Subcontractor shall perform tests in accordance with the above laws, requirements, ordinances, statutes, regulations, or as directed by the Local Inspector. When a drawing is available, it is to get redline changes. The Subcontractor shall then send it directly to the client, mailed, or scanned/emailed.

C.5.5.5 Specifications - The Subcontractor shall perform installations that comply with manufacturer installation recommendations and applicable sections of all other specifications.

C.5.5.6 Reporting - When work is in progress, the Subcontractor shall provide daily work reports to the SAIC Program Management electronically via email or if requested by fax or hard copy. This report will note the requirement, the actions taken, and the anticipated completion date, as well as any unanticipated circumstances to be considered.

C.5.5.7 Electrical: This Section specifies the basic requirements for electrical installation

- a) Subcontractor Supplied Material - Provide products that are compatible within systems and other connected items.
- b) Site surveys will determine new or upgrade electrical requirements

C.5.6 Heating, Ventilation and Air Conditioning (HVAC) Services

C.5.6.1 The Contractor or its subcontractor shall provide maintenance, repairs, emergency service and new installations of HVAC equipment. The HVAC units service the rooms containing the electronics for a fiber optic and copper IT network. The contract requires service to legacy equipment and new installations. The Subcontractor shall provide all labor and expertise required to provide ongoing preventive maintenance and repair service to each HVAC system in the network.

C.5.6.2 The Subcontractor shall provide a fully certified HVAC team to perform both preventive and corrective functions at pre-designated sites to ensure complete, continuous operability of all HVAC equipment. This team shall be available for normally scheduled system testing or emergent requirements.

C.5.6.3 Because this is a 24/7/365 operation, the workload is constant, and the HVAC units are operating year-round, the units are of different longevity and reliability and will not have the same lifespan. The Subcontractor shall make repairs in addition to the Preventive Maintenance Program.

C.5.6.4 The Subcontractor shall perform a Major Preventive Maintenance Service immediately upon award. The HVACs at Agency will require Regular Preventive Maintenance Visit immediately upon award. These installations are typical of the sites to be encountered during the duration of the maintenance contract.

C.5.6.5 The Subcontractor shall add approximately 8 HVAC units to the maintenance schedule.

C.5.6.6 Types of Nodes

C.5.6.6.1 Primary Nodes

C.5.6.6.1.1 Two sites (Site ID 001 and Site ID 003) - Preventive Maintenance (PM) Inspection requires 3 (three) visits in 6 months: 1 (one) major inspection and 2 (two) minor inspections, equally spaced.

Site #	Address	Occupants
1	441 4th Street NW	OCTO, One Judiciary Square (OJS)
3	2000 14th Street NW	DDOT, Dept. of Public Works, Reeves Center

C.5.6.6.2 Secondary Nodes

C.5.6.6.2.1 Four sites (Site ID's - 8, 9, 30, 354) – Quarterly PM Inspection: (1) major inspection and (1) minor inspection, equally spaced.

Site #	Address	Occupants
406	655 15th Street NW	OCTO DC-Net HQ
8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials
9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health
18	1350 Penn Ave	City Hall

C.5.6.7 Levels of Service

C.5.6.7.1 Major Preventive Maintenance (PM) HVAC Inspection

C.5.6.7.1.1 The Subcontractor shall perform the following duties and provide for the following requirements:

- a) Provide notification of a site visit 48 hours in advance to the District Representative. If the building representative requests advance notice do so as directed. If there are special access requirements through the client, confirm access is available before the visit.
- b) Visual inspection of the room noting anything obvious that District should be made aware of: e.g., water on floor, vandalism, hazards of any kind, doors open, odd odors, trash, etc.
- c) Note outdoor ambient temperature and room temperature.
- d) Perform a thorough and comprehensive inspection of the HVAC equipment and controls systems to include: Checking for proper voltage, proper amperage, refrigerant pressures, tighten all connections, all required lubrication as applicable, obtain delta across the evaporator coil, checking compressor and all components as applicable, check evaporator coil and condenser coils, check blower, check superheat, check contactors, check all controls, check and calibrate thermostat as needed, check and clear condensate pump / drain, secure all caps / covers / doors. Make all necessary adjustments to maintain equipment within operating specifications.
- e) Replace all filters. Replace belts if needed. Contractor supplied.
- f) Thoroughly clean the evaporator coil, evaporator coil drain pan, and the condenser coil. Contractor at his expense to supply whatever coil cleaners, hoses, water, as applicable. Complete and submit a written Preventive Maintenance Worksheet.
- g) Ensure that the unit functions properly, and is properly adjusted.
- h) Perform an Inspection of the HVAC unit and supply a written Preventive Maintenance Worksheet and Operating Report within three days of completion. Delivery is to be a scanned document by email. A fax or hard copy may be requested.
- i) Promptly report any emergency by phone to the District. If there is no response to the phone calls leave a voice message and follow-up immediately by a distribution email with any emergency maintenance issues found during the inspection.

- j) All parts to be equal or better than factory OEM parts.
- k) No additional repairs are to be done without prior authorization unless it is an emergency.
- l) The Subcontractor shall provide a schedule for maintaining the existing sites with updates as new sites are brought online. The Subcontractor shall provide the updated schedule in an excel spreadsheet upon completion of each maintenance to the District, indicating the sites covered and dates of the scheduled visits. The Subcontractor be given access and contact information for sites where maintenance will be performed.

C.5.6.7.2 Minor Preventive Maintenance (PM) HVAC Inspection

C.5.6.7.2 The Subcontractor shall provide the following:

- a) Visual inspection of the room noting anything obvious that District should be made aware of: e.g., water on floor, vandalism, hazards of any kind, doors open, odd odors, trash, etc.
- b) Note outdoor ambient temperature and room temperature – also note delta between evaporator air inlet and outlet.
- c) Replace all filters. Replace belts if needed. Vendor supplied.
- d) Ensure that the unit functions properly and is properly adjusted.
- e) Promptly report any emergency by phone to the District. If there is no response to the phone calls leave a voice message and follow-up immediately by a distribution email with any emergency maintenance issues found during the inspection.
- f) Use all parts to be equal or better than factory OEM parts.
- g) Perform an Inspection of the HVAC unit and supply a written Preventive Maintenance Worksheet and Operating Report within three days of completion. Delivery is to be a scanned document by email. A fax or hard copy may be requested.
- h) Obtain advance authorization prior to making any repairs that are over and above the scheduled Preventive Maintenance Service, except as in the event of an emergency, where the Subcontractor can make an emergency repair, so long as the problem is reported and documented within 12 hours of the emergency occurrence.
- i) Provide documentation of each visit on the Preventive Maintenance Worksheet and Operating Report, as applicable, to ensure that the proper inspection was

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completed. Supply a written Preventive Maintenance Worksheet and Operating Report within three days of completion. Delivery is to be a scanned document by email. A fax or hard copy may be requested.

- j) Guarantee and perform all work in a satisfactory, timely, and workmanlike manner.
- k) Have employee(s) that possess a minimum 10 years of commercial experience in the Installation and Servicing of HVAC Equipment similar/equivalent to the equipment listed herein.
- l) Maintain full utilization of CFC certified in-house technicians with proof of said certification required on demand.
- m) Maintain an office footprint within 40-mile radius of Washington, DC.
- n) Maximum time frame for on-site availability following emergency call-out not to exceed 4 hours.
- o) Provide 24/7/365 availability of “Live” answering service for emergent needs.
- p) Regular hours: 7:00 AM to 6:00 PM

C.5.6.8 Existing Site Listing

C.5.6.8.1 Primary Nodes - Two sites (Site ID 001 and Site ID 003) - Preventive Maintenance (PM) Inspection requires 3 (three) visits in 6 months: 1 (one) major inspection and 2 (two) minor inspections, equally spaced.

Site #	Address	Occupants
1	441 4th Street NW	OCTO, One Judiciary Square (OJS)
3	2000 14th Street NW	DDOT, Dept. of Public Works, Reeves Center

C.5.6.8.2 Secondary Nodes - Four sites (Site ID's - 8, 9, 354) – Quarterly PM Inspection: (1) major inspection and (1) minor inspection, equally spaced.

Site #	Address	Occupants
406	655 15th Street NW	OCTO DC-Net HQ
8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials
9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health
18	1350 Penn Ave	City Hall

C.5.7 Personnel Services and Job Descriptions

C.5.7.1 Services

C.5.7.1.1 The Contractor shall provide managed services and subject matter expert personnel.

C.5.7.1.2 Contractor shall provide management supervision for managed services personnel. The Contractor shall provide a project management presence at a location to be specified by the District during the following core hours of operation and to extend through the lifetime of the managed services contract: 8:30 AM thru 5:30 PM, Monday thru Friday, excluding holidays.

C.5.7.1.3 The Contractor's Project Manager shall provide daily/weekly time sheet(s) to the CA by 3 PM Friday for each temporary support staff employed stating the total number of hours worked. The CA will assign work to the designated Project Manager for each assigned Aggregate Group.

C.5.7.1.4 The Contractor shall ensure that the managed services staff shall maintain professional attire for a business environment.

C.5.7.1.5 Upon request of the CA and as necessary, the Contractor shall submit resumes of qualified employees ("personnel"). Within five (5) days of the CA's request for resumes, the Contractor shall submit to the COTR the resumes of qualified employees. After receipt of resumes, the District may interview each candidate to verify if the candidate is qualified to successfully perform the SOW requirements. Within fifteen (15) working days after the District's acceptance of an employee, the Contractor shall make that individual available for work in keeping with District's schedule.

C.5.7.1.6 Managed services staff shall not supervise a District government employee. The District will not administratively supervise the managed services staff. If the District is not satisfied with certain staff members, the Contractor, at the District's request, shall immediately remove the individual and replace with a fully qualified candidate per the District's statement of work expectations.

C.5.7.2 Labor Category Descriptions

C.5.7.2.1 The Contractor shall maintain the following labor categories in order to successfully perform the SOW requirements.

C.5.7.2.2 Introduction

C.5.7.2.2.1 All positions are in the OCTO/DC-Net division. The Contractor shall provide a variety of duties supporting ICT needs of assigned district government agencies. The Contractor shall perform complex assignments in the areas of design and planning,

deployment, operations and technical support for communication systems that support data, voice, and video networks. The Contractor shall conduct thorough and detailed system studies of existing functions and methods of operations and develops IT communication systems to refine, elaborate upon, and obtain further benefit for IT support. From these studies, the incumbent analyzes systems and creates detailed technical documents to define logical, workable systems. From these analyses, detailed plans are developed to build, implement, and maintain IT telecommunications systems.

C.5.7.2.2.2

Item No.	Labor Category	Alliant ID	Description
LAB001	Senior Computer and Information Systems Manager	123	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.
LAB002	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.
LAB003	SME - Computer and Information Systems Manager	124	Computer and Information Systems Manager - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.
LAB004	SME - Computer Systems Engineer/Architect	194	Computer Systems Engineer/Architect - Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.
LAB005	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.
LAB007	SME - Computer Network Architect	144	Computer Network Architect - Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and

			planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.
LAB008	Senior Database Administrator	223	Database Administrator - Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases.
LAB009	Journeyman Information Technology Project Manager	282	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.
LAB010	SME - Information Technology Project Manager	284	Information Technology Project Manager - Plan, initiate, and manage information technology (IT) projects. Lead and guide the work of technical staff. Serve as liaison between business and technical aspects of projects. Plan project stages and assess business implications for each stage. Monitor progress to assure deadlines, standards, and cost targets are met.
LAB011	Journeyman Management Analyst	292	Management Analyst - Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants.

C.5.8 Turnkey Solution Requirements

C.5.8.1 HVAC Repair Services - Contractor shall provide time and material transactions in accordance with established labor rates for emergency HVAC repairs while performing monthly preventative maintenance calls (C.5.2), in addition, to be available for on/off hours emergency calls. Contractor shall provide work order tickets with each service call, including advanced communications and approvals for all issues found during the preventative maintenance requirements.

C.5.81.1 HVAC Repair Labor Categories

HVAC Mechanic Journeyman
HVAC Mechanic Journeyman Off-Hours
HVAC Mechanic Journeyman Incremental (already deployed)
HVAC Mechanic Journeyman Off-Hours Incremental (already deployed)

C.5.9 Telecommunications Services

C.5.9.1 HVAC Upgrade at DC-Net HQ

The Subcontractor shall assess the current heating, ventilation and air conditioning (HVAC) environment within the DC-Net HQ Lab located at 655 15th St, NW, Washington DC and install additional cooling capacity to support future networking equipment. The Subcontractor shall:

- a. Conduct a walk through with OCTO DC-Net staff and Metropolitan Plaza building engineer to collect requirements and assess the current HVAC capacity.
 - a. Combined BTU requirements for room 4325 and 4315 is 175,564 BTU
 - b. Two HVAC units shall be installed in the optimal locations in room 4325 and one in room 4315
 - c. HVAC units must accommodate the BTU requirements identified above
 - d. HVAC Units must utilize the buildings existing cooling water
 - e. Identify, coordinate with and meet building engineering departments building specific requirements.
 - f. Select a HVAC unit that has monitoring that works with the buildings current Siemens system
- b. Engineering, Design and Permitting:
 - a. Prepare all engineering documents, specifications and requirements for this job
 - b. Identify what is required in the quote.
 - c. Prepare all permitting paperwork and coordination to see this work through completion
 - d. Coordinate with the building engineer on activating the HVAC alarm monitoring system
 - e. Coordinate with the building engineer on any required acceptance testing.
- c. The Subcontractor shall mobilize on the jobsite.
- d. Condenser water will be isolated on the 4th floor by others.
- e. The Subcontractor shall disconnect existing mobile A/C Unit and return to Owner.
- f. Existing CRAC Unit will be powered down and readied for the Subcontractor by Others.
- g. The Subcontractor shall demo 1" Copper from CRAC unit existing unit to remain to the condenser mains.
- h. The Subcontractor shall demo all Mains shown on drawing to point of connect provided.
- i. The Subcontractor shall dis-assemble and re-assemble units to get into space.

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- j. The Subcontractor shall furnish and install (2) Liebert Units per the Equipment schedule on drawings.
- k. The Subcontractor shall furnish and install (1) Safety drain pan under each new Liebert Unit.
- l. The Subcontractor shall test all condenser mains and branch lines installed per the drawings.
- m. The Subcontractor shall furnish and install all new pipe/ fitting and valves to each Liebert Unit per the drawing.
- n. The Subcontractor shall re-pipe existing CRAC unit and test to point of connection.
- o. The Subcontractor shall test all new piping provided to install (2) new Liebert Units.
- p. Insulation Contractor shall then insulate all condenser water mains and branch lines to the specs provided.
- q. Control Contractor shall then complete the install of the Thermostats and interlock with Liebert Units.
- r. Startup on existing CRAC Unit is by others.
- s. The Subcontractor shall provide startup of the (NEW) Liebert Units and put into service.
- t. Independent air balancing: Contractor shall balance both water and air per Design.
- u. Two (2) Liebert Model VS035KDA000151S, Liebert DS Precision Cooling Systems: Nominal 035 kW (10-Ton) Glycol Cooled Up Flow System with cleanable Para-denser TM heat exchanger, 460 Volts, 60Hz, 3 Phase, 65,000 Amps RMS Short Circuit Current Rating.
 - a. Electrical Requirement: 24.8 FLA, 27.3 WSA, 35.0 OPD
 - b. Unit Dimension: 87" Width x 35" depth x 76" Tall
 - c. Unit Dry Weights: 1,980 lbs.
 - d. Per Note # 2_ Glycool system with econ-o-coil,3-way econ-o-coil valve
 - e. Per Note # 2_3-way Para-denser regulating valve
 - f. 350 psi (2413 kPa) system
 - g. 14-gauge, welded frame, with Autophoretic coating. Frame can be field separated into three sections for transport through small areas.
 - h. Front Service Access
 - i. Supply air exits top of cabinet, front throw.
 - j. Return air enters unit from the front of cabinet through factory installed black grilles.
 - k. Exterior panels insulated & powder coated.
 - l. 4" filters, MERV 8 rating.
 - m. No Reheat Required
 - n. No Humidifier Required
 - o. Dual fixed-pitch motor sheaves, dual fixed-pitch fan pulleys, dual belts and automatic belt-tensioning system. 5-year parts warranty on belts, sheaves, pulleys, and fan bearings.
 - p. Open Drip Proof NEMA Premium Efficiency Motor
 - q. Per Note # 16_ Variable speed drive (VSD) CT M200 inverter and Motor with bearing current protection

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- r. Dual refrigeration circuits with liquid line filter driers, refrigerant sight glasses, expansion valves, and liquid line solenoid valves.
- s. Two (2) independent Digital Scroll Compressors provide variable capacity, increased part-load energy efficiency, and reduced compressor cycling.
- t. A-frame Evaporator coil with stainless steel drain pan.
- u. Liebert ICOM Control with High Definition Display
- v. ICOM based communication
- w. Base Comms & Connectivity includes one Ethernet port and one RS-485 port on ICOM controller, dedicated to supporting BACnet IP, Modbus TCP/IP, BACnet 485, Modbus 485 and SNMP v1/v2c/v3
- v. External 24 VAC Transformer – Quantity 1 (One) per unit
- w. Unit Color: ZP-7021A (Black Gray Textured)
- x. Services Include:
 - a. Standard One Year Warranty Covering Parts and Workmanship.
 - b. Factory Supervised Warranty Inspection/ Start-Up and Basic Operator Training (at time of start-up only).
- y. Electrical scope of work:
 - a. Provide power to new CRAC units utilizing existing panel CPHV located on the 5th floor
 - b. Feeder conduits will transition from the 5th to 4th floor via new core drill holes located in the 5th floor Tenant Electric Closet.
 - c. Utilizing EMT and compression fittings
 - d. Furnish and install fusible disconnect switches and fuses
 - e. Provide ¾” conduit from CRAC units to Liebert wall stat
- z. Electrical permits:
 - a. Scheduled Overtime as required for power utility outages and core drilling only
 - b. Firestop and seals as required
- aa. One Year warranty on all work

C.6 DELIVERABLES

The Contractor shall provide the following required to successfully complete the District’s requirements and submit each deliverable to the COTR identified in section G.9 in accordance with the following:

CLIN	Deliverable	Quantity	Format/Method of Delivery	Due Date
C.5.1	General Equipment	As requested	As agreed, upon with the District	As agreed, upon with the District