

**ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT
2100 CLARENDON BOULEVARD, SUITE 500
ARLINGTON, VIRGINIA 22201**

NOTICE OF CONTRACT AWARD

N to N Fiber, Inc 8661 Virginia Meadows Drive, Manassas VA	DATE ISSUED:	January 11, 2019
	CURRENT REFERENCE NO:	18-227-ITB-2
	CONTRACT TITLE:	Construction, maintenance, and repair of fiber-optic communications network

**THIS IS A NOTICE OF AWARD OF CONTRACT AND NOT AN ORDER. NO WORK IS AUTHORIZED UNTIL THE
VENDOR RECEIVES A VALID COUNTY PURCHASE ORDER ENCUMBERING CONTRACT FUNDS.**

The contract documents consist of the terms and conditions of AGREEMENT No. 18-227-ITB-2 including any attachments or amendments thereto. **N2N Fiber is designated as the Primary for Category II (Emergency repair work) and Secondary for Category I (Non-Emergency repair work).**

EFFECTIVE DATE: January 7, 2019

EXPIRES: January 6, 2021

RENEWALS: THREE (3) ONE (1) YEAR RENEWAL OPTIONS FROM JANUARY 7, 2021

COMMODITY CODE(S): 92037, 96218, 83829

LIVING WAGE: N

PROFESSIONAL SERVICES: N

ATTACHMENTS:

AGREEMENT No. 18-227-ITB-2

ATTACHMENT A - CONTRACTOR'S BID

EMPLOYEES NOT TO BENEFIT:

NO COUNTY EMPLOYEE SHALL RECEIVE ANY SHARE OR BENEFIT OF THIS CONTRACT NOT AVAILABLE TO THE GENERAL PUBLIC.

VENDOR CONTACT: Stephen M Noone

VENDOR TEL. NO.:

703.331.3884

EMAIL ADDRESS: smnoone@ntonfiber.com

COUNTY CONTACT: DAVID DOULONG

COUNTY TEL. NO.:

(703) 228-7585

COUNTY CONTACT EMAIL: Ddoulong@arlingtonva.us

**ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT
SUITE 500, 2100 CLARENDON BOULEVARD
ARLINGTON, VA 22201**

AGREEMENT NO. 18-227-ITB-2

THIS AGREEMENT is made, on the date of execution by the County, between N to N Fiber, Inc ("Contractor") a Virginia corporation with a place of business 8661 Virginia Meadows Drive, Manassas VA 20109, authorized to do business in the Commonwealth of Virginia, and the County Board of Arlington County, Virginia. The County and the Contractor, for the consideration hereinafter specified, agree as follows:

1. CONTRACT DOCUMENTS

The Contract Documents consist of:

- Agreement No. 18-227-ITB-2, and all modifications properly incorporated into the Agreement
- Attachment A – Arlington County Invitation to Bid No. 18-227-ITB-2, including DES FD&C General Conditions
- Attachment B – Special Conditions of Arlington County
- Attachment C – Specifications, Drawings and Construction Notes
- Attachment D – Arlington County Department of Environmental Services Construction and Standards and Specifications, Current Edition
- Attachment E – Arlington County Department of Environmental Services Infrastructure Design Standards, Current Edition
- Attachment F – Price Bid of Contractor

Where the terms and provisions of this Agreement vary from the terms and provisions of the other Contract Documents, the order of precedence of the Contract Documents shall be as follows:

Attachments A, B, C, D and E are considered complementary documents, what is in one shall be considered as in all; where the terms of these Contract Documents vary the most stringent shall apply; and Attachments A, B, C, D, and E shall prevail over Attachment F.

The Contract Documents set forth the entire agreement between the County and the Contractor. The County and the Contractor agree that no representative or agent of either party has made any representation or promise with respect to the parties' agreement that is not contained in the Contract Documents. The Contract Documents may be referred to below as the "Contract" or the "Agreement".

2. PROJECT OFFICER

The performance of the Contractor is subject to the review and approval of the County Project Officer who will be appointed by the Director of the Arlington County department or agency requesting the work under the Contract.

3. SCOPE OF WORK

The Contractor will furnish all labor, materials, and equipment for the construction, maintenance, and repair of fiber-optic communications network (the "Project") and all other work shown, described, and required by the Contract Documents (hereinafter "the Work").

Contractor is designated as the Primary for Category II (Emergency repair work) and Secondary for Category I (Non-Emergency repair work).

The Work shall be performed according to the standards established by the Contract Documents read together as a single specification. It shall be the Contractor's responsibility, at solely the Contractor's cost, to provide sufficient services to fulfill the purposes of the Work. Nothing in the Contract Documents shall be construed to limit the Contractor's responsibility to manage the details and execution of its Work.

4. CONTRACT TERM

Time is of the essence. The Work will commence on the date of the execution of the Agreement by the County and must be completed no later than twenty-four (24) consecutive months thereafter ("Initial Contract Term"), subject to any modifications provided in the Contract Documents. Upon satisfactory performance by the Contractor the County may, through issuance of a unilateral Notice of Award, authorize continuation of the Agreement under the same contract prices for not more than three (3) additional 12-month periods (each a "Subsequent Contract Term"). The Initial Contract Term and any Subsequent Contract Term(s) are together the "Contract Term".

5. TIME FOR COMPLETION

County will assign new construction work will be through issuance of Task Orders as described in Scope of Work section 1.3 "Project Assignment Procedure". Prior to each Task Order being issued, County and Contractor will discuss the scope of the Task Order and determine a mutually agreeable Final Completion date for that Task Order. Project Officer will indicate such date in the Notice to Proceed. Contractor shall complete each Task Order by the milestone date on which the Final Completion condition is accomplished as determined by the County.

Unless otherwise provided, no claims for early completion are allowed.

6. CONTRACT PRICING WITH OPTIONAL PRICE ADJUSTMENTS

The Contract Amount/unit price(s) will remain firm until the end of Initial Contract Term ("Price Adjustment Date"). To request a price adjustment, the Contractor or the County must submit a written request to the other party not less than 60 days before the Price Adjustment Date.

Adjustments to the Contract Amount/unit price(s) will not exceed the percentage of change in the U.S. Department of Labor Producer Price Index for Industry: "Electrical contractors, nonresidential building work" (NAICS-based PPI Code: 23821X – Series ID PCU23821X23821X) for the 12-month period ending in December of each year of the Contract. The base price date for PPI adjustments to this contract shall be December 2018. Adjustments shall be made using the Simple percentage method as described in the Price Adjustment Guide for Contracting Parties as of September 1, 2018. (<https://www.bls.gov/ppi/ppiescalation.htm>)

Any Contract Amount/unit price(s) that result from this provision will become effective the day after the Price Adjustment Date and will be binding for 12 months. The new Price Adjustment Date will be 12 months after the price adjustment.

If the Contractor and the County have not agreed on a requested adjustment by 30 days before the Price Adjustment Date, the County may terminate the Contract, whether or not the County has previously elected to extend the Contract's term.

6. CONTRACT AMOUNT

The County will pay the Contractor in accordance with the terms of the Progress Payments and Retainage and Payment Terms sections below and at the prices shown in Attachment F for the Contractor's completion of the Work as required by the Contract Documents provided the Work is performed to the satisfaction of and is accepted by the Project Officer. The Contractor will complete the Work for the total amount specified in this section ("Contract Amount") unless such amount is modified as provided in this Agreement. The Contract Amount includes all of the Contractor's costs and fees (profit).

7. PROGRESS PAYMENTS AND RETAINAGE

The County will make monthly progress or partial payments to the Contractor on the basis of an estimate, provided by the Contractor and approved by the Project Officer, of all work performed during the preceding calendar month to the satisfaction of the Project Officer. However, 5% of each progress payment will be retained by the County until Final Completion and acceptance of all Work covered by the Agreement.

All material and work covered by partial payments will become the property solely of the County at the time the partial payment is made. However, the Contractor will have the sole responsibility, care and custody for all materials and work upon which payments have been made until Final Acceptance.

When calculating payment for materials on-site, the County shall not pay for materials which are not scheduled for incorporation into the Work within sixty (60) days from the date of application for payment.

8. PAYMENT TERMS

The Contractor must submit invoices to the County's Project Officer, who will either approve the invoice or require corrections. The County will pay the Contractor within thirty (30) days after approval of an invoice for completed work which is reasonable and allocable to the Contract. The number of the County Purchase Order pursuant to work has been performed must appear on all invoices. Unless otherwise specified herein, payment shall not be made prior to delivery and acceptance of the entire Work by the County.

9. PAYMENT OF SUBCONTRACTORS

The Contractor is obligated to take one of the two following actions within seven days after receipt of payment by the County for work performed by any subcontractor under this Contract:

- a. Pay the subcontractor for the proportionate share of the total payment received from the County attributable to the work performed by the subcontractor under this Contract; or
- b. Notify the County and the subcontractor, in writing, of the Contractor's intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment.

The Contractor is obligated to pay interest to the subcontractor on all amounts owed by the Contractor to the subcontractor that remain unpaid after seven days following receipt by the Contractor of payment from the County for work performed by the subcontractor under this Contract, except for amounts

withheld as allowed in subsection b., above. Unless otherwise provided under the terms of this Contract, interest will accrue at the rate of 1% per month.

The Contractor must include in each of its subcontracts, if any are permitted, a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier subcontractor.

The Contractor's obligation to pay an interest charge to a subcontractor pursuant to this section may not be construed to be an obligation of the County. A Contract modification may not be made for the purpose of providing reimbursement for such interest charge. A cost reimbursement claim may not include any amount for reimbursement for such interest charge.

10. RELEASE AND REQUEST FOR FINAL PAYMENT

In order to receive final payment upon Final Completion of the Project and before Final Acceptance, the Contractor must submit to the Project Officer a signed original notarized copy of the Arlington County Release and Request for Final Payment form per the General Conditions.

11. LIQUIDATED DAMAGES

Time is of the essence under this Contract. Each Task Order must be completed within the Time for Completion as set by the pre-agreed upon schedule indicated in the Notice to Proceed. The County and the Contractor also agree that damages for failure to achieve Final Completion of the Work by the date specified under Time for Completion are not susceptible to exact determination but that three hundred and fifty (\$350.00) per calendar day is in proportion to the loss the County would suffer from such delay. Therefore, the Contractor will pay the County as liquidated damages three hundred and fifty (\$350.00) per day for each and every day beyond the time for Final Completion until Final Completion is achieved. The County will be entitled to deduct liquidated damages against any sums owed by the County to the Contractor under this Contract. The Contractor hereby waives any defense as to the validity of any liquidated damages on grounds that such liquidated damages are void as penalties or are not reasonably related to actual damages.

12. BACKGROUND CHECK

All employees or subcontractors whom the Contractor assigns to work on this Contract must pass the County's standard background check. The background check will include fingerprinting by the County Sheriff's Office and a credit check.

13. NON-APPROPRIATION

All payments by the County to the Contractor pursuant to this Contract are subject to the availability of an annual appropriation for this purpose by the County Board of Arlington County, Virginia ("Board"). In the event that the Board does not appropriate funds for the goods or services provided under this Contract, the County will terminate the Contract, without termination charge or other liability to the County, on the last day of the fiscal year or when the previous appropriation has been spent, whichever occurs first.

14. ESTIMATED QUANTITIES/NON-EXCLUSIVITY OF CONTRACTOR

This Contract does not obligate the County to purchase a specific quantity of items or services during Contract Term. Any quantities that are included in the Contract Documents are the present expectations of the County for the period of the Contract; and the County is under no obligation to buy that or any amount as a result of having provided this estimate or of having had any normal or otherwise measurable

requirement in the past. The County may require more goods and/or services than the estimated annual quantities, and any such additional quantities will not give rise to any claim for compensation other than at the unit prices and/or rates in the Contract.

The County does not guarantee that the Contractor will be the exclusive provider of the goods or services covered by this Contract. The items or services covered by this Contract may be or become available under other County contract(s), and the County may determine that it is in its best interest to procure the items or services through those contract(s).

15. COUNTY PURCHASE ORDER REQUIREMENT

County purchases are authorized only if the County issues a Purchase Order in advance of the transaction, indicating that the ordering County agency has sufficient funds available to pay for the purchase. If the Contractor provides goods or services without a signed County Purchase Order, it does so at its own risk and expense. The County will not be liable for payment for any purchases made by its employees that are not authorized by the County Purchasing Agent.

16. LIEN

It is expressly agreed that after any payment has been made by the County either to the Contractor for work done, or labor or material supplied under the Contract, the County will have a lien upon all material delivered to the site either by the Contractor, or for the Contractor, which is to be used in the performance of the Contract.

17. EMPLOYMENT DISCRIMINATION BY CONTRACTOR PROHIBITED

During the performance of its work pursuant to this Contract:

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age or disability or on any other basis prohibited by state law. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- B. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation will be deemed sufficient for meeting the requirements of this section.
- C. The Contractor will state in all solicitations or advertisements for employees that it places or causes to be placed that such Contractor is an Equal Opportunity Employer.
- D. The Contractor will comply with the provisions of the Americans with Disabilities Act of 1990 ("ADA"), which prohibits discrimination against individuals with disabilities in employment and mandates that disabled individuals be provided access to publicly and privately provided services and activities.
- E. The Contractor must include the provisions of the foregoing paragraphs in every subcontract or purchase order of more than \$10,000.00 relating to this Contract so that the provisions will be binding upon each subcontractor or vendor.

18. EMPLOYMENT OF UNAUTHORIZED ALIENS PROHIBITED

In accordance with §2.2-4311.1 of the Code of Virginia, as amended, the Contractor must not during the performance of this Contract knowingly employ an unauthorized alien, as that term is defined in the federal Immigration Reform and Control Act of 1986.

19. DRUG-FREE WORKPLACE TO BE MAINTAINED BY CONTRACTOR

During the performance of this Contract, the Contractor must: (i) provide a drug-free workplace for its employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violating such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of more than \$10,000.00 relating to this Contract so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "workplace" means the site(s) for the performance of the work required by this Contract.

20. PROJECT STAFF

The County has the right to reasonably reject staff or subcontractors whom the Contractor assigns to the Project. The Contractor must then provide replacement staff or subcontractors satisfactory to the County in a timely manner and at no additional cost to the County. The day-to-day supervision and control of the Contractor's employees and its subcontractors is the sole responsibility of the Contractor.

21. FAILURE TO DELIVER

If the Contractor fails to deliver goods or services in accordance with the Contract terms and conditions, the County, after notice to the Contractor, may procure the goods or services from other sources and hold the Contractor responsible for any resulting additional purchase and administrative costs. The County shall be entitled to offset such costs against any sums owed by the County to the Contractor. However, if public necessity requires the use of nonconforming materials or supplies, they may be accepted at a reduction in price to be determined solely by the County.

22. UNSATISFACTORY WORK

If any of the work done, or material, goods, or equipment provided by the Contractor, is unsatisfactory to the County the Contractor must, upon notice from the County, immediately remove at the Contractor's expense such unsatisfactory work, material, goods, or equipment and replace the same with work, material, goods, or equipment satisfactory to the County. If the Contractor fails to do so after fifteen (15) days the County shall have the right to remove or replace the rejected work, material, goods, or equipment at the expense of the Contractor and offset the expense and administrative costs against any sums owed to the Contractor. This provision applies during the Contract term and during any warranty or guarantee period. At the Project Officer's discretion, rather than correction or replacement of the work, an appropriate adjustment to the Contract Amount may be made.

23. TERMINATION FOR CAUSE, INCLUDING BREACH AND DEFAULT; CURE

The County may terminate this Contract at any time as follows: (1) for cause, if, as determined by the County, the Contractor is in breach or default or has failed to perform the Work satisfactorily; or (2) for the convenience of the County.

Upon receipt of a notice of termination, the Contractor must not place any further orders or subcontracts for materials, services or facilities; must terminate all vendors and subcontracts, except as are necessary for the completion of any portion of the Work that the County did not terminate; and must immediately deliver all documents related to the terminated Work to the County.

Any purchases that the Contractor makes after the notice of termination will be the sole responsibility of the Contractor, unless the County has approved the purchases in writing as necessary for completion of any portion of the Work that the County did not terminate.

If any court of competent jurisdiction finds a termination for cause by the County to be improper, then the termination will be deemed a termination for convenience.

A. TERMINATION FOR CAUSE, INCLUDING BREACH AND DEFAULT; CURE

1. Termination for Unsatisfactory Performance. If the County determines that the Contractor has failed to perform satisfactorily, then the County will give the Contractor written notice of such failure(s) and the opportunity to cure them within 15 days or any other period specified by the County ("Cure Period"). If the Contractor fails to cure within the Cure Period, the County may terminate the Contract for failure to provide satisfactory performance by providing written notice with a termination date. The Contractor must submit any request for termination costs, with all supporting documentation, to the County Project Officer within 30 days after the expiration of the Cure Period. The County may accept or reject the request for termination costs, in whole or in part, and may notify the Contractor of its decision within a reasonable time.

In the event of termination by the County for failure to perform satisfactorily, the Contractor must continue to provide its services as previously scheduled through the termination date, and the County must continue to pay all fees and charges incurred through the termination date.

2. Termination for Breach or Default. If the County terminates the Contract for default or breach of any Contract provision or condition, then the termination will be immediate after notice of termination to the Contractor (unless the County provides for an opportunity to cure), and the Contractor will not be permitted to seek termination costs.

Upon any termination pursuant to this section, the Contractor will be liable to the County for costs that the County must expend to complete the Work, including costs resulting from any related delays and from unsatisfactory or non-compliant work performed by the Contractor or its subcontractors. The County will deduct such costs from any amount due to the Contractor; or if the County does not owe the Contractor, the Contractor must promptly pay the costs within 15 days of a demand by the County. This section does not limit the County's recovery of any other damages to which it is entitled by law.

Except as otherwise directed by the County, the Contractor must stop work on the date of receipt the notice of the termination.

B. TERMINATION FOR THE CONVENIENCE OF THE COUNTY

The County may terminate this Contract in whole or in part whenever the Purchasing Agent determines that termination is in the County's best interest. The County will give the Contractor at least 15 days' notice in writing. The notice must specify the extent to which the Contract is terminated and the effective termination date. The Contractor will be entitled to termination costs, plus any other reasonable amounts that the parties might negotiate; but no amount will be allowed for anticipatory profits.

Except as otherwise directed by the County, the Contractor must stop work on the date of receipt of the notice of the termination.

24. INDEMNIFICATION

The Contractor covenants for itself, its employees and its subcontractors to save, defend, hold harmless and indemnify the County and all of its elected and appointed officials, officers, current and former employees, agents, departments, agencies, boards and commissions (collectively the "County Indemnitees") from and against any and all claims made by third parties for any and all losses, damages, injuries, fines, penalties, costs (including court costs and attorneys' fees), charges, liability, demands or exposure resulting from, arising out of or in any way connected with the Contractor's acts or omissions, including the acts or omissions of its employees, vendors, delivery drivers and/or subcontractors, in performance or nonperformance of the Contract. This duty to save, defend, hold harmless and indemnify will survive the termination of this Contract. If the Contractor fails or refuses to fulfill its obligations contained in this section, the Contractor must reimburse the County for any and all resulting payments and expenses, including reasonable attorneys' fees. The Contractor must pay such expenses upon demand by the County, and failure to do so may result in the County withholding such amounts from any payments to the Contractor under this Contract.

25. INTELLECTUAL PROPERTY INDEMNIFICATION

The Contractor warrants and guarantees that in providing services under this Contract neither the Contractor nor any subcontractor is infringing on the intellectual property rights (including, but not limited to, copyright, patent, mask and trademark) of third parties.

If the Contractor or any of its employees or subcontractors uses any design, device, work or material that is covered by patent or copyright, it is understood that the Contract Amount includes all royalties, licensing fees, and any other costs arising from such use in connection with the Work under this Contract.

The Contractor covenants for itself, its employees and its subcontractors to save, defend, hold harmless, and indemnify the County Indemnitees, as defined above, from and against any and all claims, losses, damages, injuries, fines, penalties, costs (including court costs and attorneys' fees), charges, liability or exposure for infringement of or on account of any trademark, copyright, patented or unpatented invention, process or article manufactured or used in the performance of this Contract. This duty to save, defend, hold harmless and indemnify will survive the termination of this Contract. If the Contractor fails or refuses to fulfill its obligations contained in this section, the Contractor must reimburse the County for any and all resulting payments and expenses, including reasonable attorneys' fees. The Contractor must pay such expenses upon demand by the County, and failure to do so may result in the County withholding such amounts from any payments to the Contractor under this Contract.

26. COPYRIGHT

By this Contract, the Contractor irrevocably transfers, assigns, sets over and conveys to the County all rights, title and interest, including the sole exclusive and complete copyright interest, in any and all

copyrightable works created pursuant to this Contract. The Contractor will execute any documents that the County requests to formalize such transfer or assignment.

The rights granted to the County by this section are irrevocable and may not be rescinded or modified, including in connection with or as a result of the termination of or a dispute concerning this Contract.

The Contractor may not use subcontractors or third parties to develop or provide input into any copyrightable materials produced pursuant to this Contract without the County's advance written approval and unless the Contractor includes this Copyright provision in any contract or agreement with such subcontractors or third parties related to this Contract.

27. OWNERSHIP OF WORK PRODUCT

This Contract does not confer on the Contractor any ownership rights or rights to use or disclose the County's data or inputs.

All work product, in any form, that results from this Contract is the property of the County and must be provided or returned to the County upon completion, termination, or cancellation of this Contract. The Contractor will not use or allow others to use the work product for any purpose other than performance of this Contract without the written consent of the County.

The work product is confidential, and the Contractor may neither release the work product nor share its contents. The Contractor will refer all inquiries regarding the status of any work product to the Project Officer or to his or her designee. At the County's request, the Contractor will deliver all work product, including hard copies of electronic files, to the Project Officer and will destroy all electronic files.

The Contractor must include the provisions of this section as part of any contract or agreement related to this Contract into which it enters with subcontractors or other third parties.

The provisions of this section will survive any termination or cancellation of this Contract.

28. CONFIDENTIAL INFORMATION

The Contractor and its employees, agents and subcontractors will hold as confidential all County information obtained under this Contract. Confidential information includes, but is not limited to, nonpublic personal information; personal health information (PHI); social security numbers; addresses; dates of birth; other contact information or medical information about a person; and information pertaining to products, operations, systems, customers, prospective customers, techniques, intentions, processes, plans and expertise. The Contractor must take reasonable measures to ensure that all of its employees, agents and subcontractors are informed of and abide by this requirement.

29. COUNTY EMPLOYEES

No Arlington County employee may share in any part of this Contract or receive any benefit from the Contract that is not available to the general public.

30. FORCE MAJEURE

Neither party will be held responsible for failure to perform the duties and responsibilities imposed by this Contract if such failure is due to a fire, riot, rebellion, natural disaster, war, act of terrorism or act of God that is beyond the control of the party and that makes performance impossible or illegal, unless otherwise specified in the Contract.

31. AUTHORITY TO TRANSACT BUSINESS

The Contractor must, pursuant to Code of Virginia § 2.2-4311.2, be and remain authorized to transact business in the Commonwealth of Virginia during the entire term of this Contract. Otherwise, the Contract is voidable at the sole option of and with no expense to the County.

32. RELATION TO THE COUNTY

The Contractor is an independent contractor, and neither the Contractor nor its employees or subcontractors will be considered employees, servants or agents of the County. The County will not be responsible for any negligence or other wrongdoing by the Contractor or its employees, servants or agents. The County will not withhold payments to the Contractor for any federal or state unemployment taxes, federal or state income taxes or Social Security tax or for any other benefits. The County will not provide to the Contractor any insurance coverage or other benefits, including workers' compensation.

33. ANTITRUST

The Contractor conveys, sells, assigns and transfers to the County all rights, title and interest in and to all causes of action under state or federal antitrust laws that the Contractor may have relating to this Contract.

34. REPORT STANDARDS

The Contractor must submit all written reports required by this Contract for advance review in a format approved by the Project Officer. Reports must be accurate and grammatically correct and should not contain spelling errors. The Contractor will bear the cost of correcting grammatical or spelling errors and inaccurate report data and of other revisions that are required to bring the report(s) into compliance with this section.

Whenever possible, proposals must comply with the following guidelines:

- printed double-sided on at least 30% recycled-content and/or tree-free paper
- recyclable and/or easily removable covers or binders made from recycled materials (proposals with glued bindings that meet all other requirements are acceptable)
- avoid use of plastic covers or dividers
- avoid unnecessary attachments or documents or superfluous use of paper (e.g. separate title sheets or chapter dividers)

35. AUDIT

The Contractor must retain all books, records and other documents related to this Contract for at least five years, or such period of time required by the County's funding partner(s), if any, whichever is greater, after the final payment and must allow the County or its authorized agents to examine the documents during this period and during the Contract Term. The Contractor must provide any requested documents to the County for examination within 15 days of the request, at the Contractor's expense. Should the County's examination reveal any overcharging by the Contractor, the Contractor must, within 30 days of County's request, reimburse the County for the overcharges and for the reasonable costs of the County's examination, including, but not limited to, the services of external audit firm and attorney's fees; or the County may deduct the overcharges and examination costs from any amount that the County owes to the Contractor. If the Contractor wishes to destroy or dispose of any records related to this Contract (including confidential records to which the County does not have ready access) within five years after the final payment, or such period of time required by the County's funding partner(s), if any, whichever is greater,

the Contractor must give the County at least 30 days' notice and must not dispose of the documents if the County objects.

36. ASSIGNMENT

The Contractor may not assign, transfer, convey or otherwise dispose of any award or any of its rights, obligations or interests under this Contract without the prior written consent of the County.

37. AMENDMENTS

This Contract may not be modified except by written amendment executed by persons duly authorized to bind the Contractor and the County.

38. ARLINGTON COUNTY PURCHASING RESOLUTION AND COUNTY POLICIES

Nothing in this Contract waives any provision of the Arlington County Purchasing Resolution, which is incorporated herein by reference, or any applicable County policy.

39. DISPUTE RESOLUTION

All disputes arising under this Agreement or concerning its interpretation, whether involving law or fact and including but not limited to claims for additional work, compensation or time, and all claims for alleged breach of contract must be submitted in writing to the Project Officer as soon as the basis for the claim arises. In accordance with the Arlington County Purchasing Resolution, claims denied by the Project Officer may be submitted to the County Manager in writing no later than 60 days after the final payment. The time limit for a final written decision by the County Manager is 30 days. Procedures concerning contractual claims, disputes, administrative appeals and protests are contained in the Arlington County Purchasing Resolution. The Contractor must continue to work as scheduled pending a decision of the Project Officer, County Manager, County Board or a court of law.

40. APPLICABLE LAW, FORUM, VENUE, AND JURISDICTION

This Contract is governed in all respects by the laws of the Commonwealth of Virginia; and the jurisdiction, forum and venue for any litigation concerning the Contract or the Work is in the Circuit Court for Arlington County, Virginia, and in no other court.

41. ARBITRATION

No claim arising under or related to this Contract may be subject to arbitration.

42. NONEXCLUSIVITY OF REMEDIES

All remedies available to the County under this Contract are cumulative, and no remedy will be exclusive of any other at law or in equity.

43. NO WAIVER

The failure to exercise a right provided for in this Contract will not be a subsequent waiver of the same right or of any other right.

44. SEVERABILITY

The sections, paragraphs, clauses, sentences, and phrases of this Contract are severable; and if any section, paragraph, clause, sentence or phrase of this Contract is declared invalid by a court of competent jurisdiction, the rest of the Contract will remain in effect.

45. ATTORNEY'S FEES

In the event that the County prevails in any legal action or proceeding brought by the County to enforce any provision of this Contract, the Contractor will pay the County's reasonable attorney's fees and expenses.

46. SURVIVAL OF TERMS

In addition to any statement that a specific term or paragraph survives the expiration or termination of this Contract, the following sections also survive: INDEMNIFICATION; INTELLECTUAL PROPERTY INDEMNIFICATION; RELATION TO COUNTY; OWNERSHIP OF WORK PRODUCT; AUDIT; COPYRIGHT; DISPUTE RESOLUTION; APPLICABLE LAW AND JURISDICTION; ATTORNEY'S FEES, AND CONFIDENTIAL INFORMATION or DATA SECURITY AND PROTECTION.

47. HEADINGS

The section headings in this Contract are inserted only for convenience and do not affect the substance of the Contract or limit the sections' scope.

48. AMBIGUITIES

The parties and their counsel have participated fully in the drafting of this Agreement; and any rule that ambiguities are to be resolved against the drafting party does not apply. The language in this Agreement is to be interpreted as to its plain meaning and not strictly for or against any party.

49. NOTICES

Unless otherwise provided in writing, all legal notices and other communications required by this Contract are deemed to have been given when either (a) delivered in person; (b) delivered by an agent, such as a delivery service; or (c) deposited in the United States mail, postage prepaid, certified or registered and addressed as follows:

TO THE CONTRACTOR:

Stephen M Noone, President
8661 Virginia Meadows Drive,
Manassas VA 20109

TO THE COUNTY:

David Doulong, Project Officer
Arlington County Government
Department of Technology Service
2100 Clarendon Blvd, Suite 610
Arlington, VA 22201

AND

Sharon Lewis
Arlington County, Virginia
2100 Clarendon Boulevard, Suite 500
Arlington, Virginia 22201

50. ARLINGTON COUNTY BUSINESS LICENSES

The Contractor must comply with the provisions of Chapter 11 ("Licenses") of the Arlington County Code, if applicable. For information on the provisions of that Chapter and its applicability to this Contract, the Contractor must contact the Arlington County Business License Division, Office of the Commissioner of the Revenue, 2100 Clarendon Blvd., Suite 200, Arlington, Virginia, 22201, telephone number (703) 228-3060.

51. NON-DISCRIMINATION NOTICE

Arlington County does not discriminate against faith-based organizations.

52. INSURANCE, PAYMENT AND PERFORMANCE BONDS

The Contractor shall maintain the required insurance coverage and payment and performance bonds through completion of the Contract, including all warranty and guarantee periods.

53. COUNTERPARTS

This Agreement may be executed in one or more counterparts and all of such counterparts shall together constitute one and the same instrument. Original signatures transmitted and received via facsimile or other electronic transmission, (e.g., PDF or similar format) are true and valid signatures for all purposes hereunder and shall be effective as delivery of a manually executed original counterpart.

WITNESS these signatures:

THE COUNTY BOARD OF ARLINGTON
COUNTY, VIRGINIA

N TO N FIBER, INC

AUTHORIZED
SIGNATURE:



AUTHORIZED
SIGNATURE:



NAME AND
TITLE: IGOR SCHERBAKOV
PROCUREMENT OFFICER

NAME AND
TITLE: PRESIDENT

DATE: 1/7/2019

DATE: 1/04/2019

ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT

INVITATION TO BID NO. 18-227-ITB

BID FORM

ORIGINAL

SUBMIT TWO (2) FULLY-COMPLETED AND SIGNED BID FORMS TO THE OFFICE OF THE BID CLERK, SUITE 511, 2100 CLARENDON BLVD., ARLINGTON, VIRGINIA 22201 (ONE FORM SHALL CONTAIN AN ORIGINAL LONGHAND SIGNATURE; THE OTHER SHALL BE A PHOTOCOPY OF THE SIGNED ORIGINAL)

BIDS WILL BE OPENED AT 3:00 P.M., ON SEPTEMBER 6, 2018

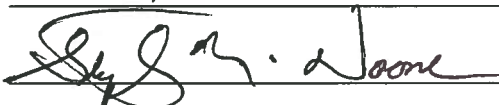
FOR PROVIDING CONSTRUCTION SERVICES IDENTIFIED HEREIN IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS, TERMS AND CONDITIONS OF THIS SOLICITATION

SUBMITTED BY:

(legal name of entity)

N to N Fiber, Inc.

AUTHORIZED SIGNATURE:



PRINT NAME AND TITLE:

Stephen M. Noone, President

ADDRESS:

8661 Virginia Meadows Drive

CITY/STATE/ZIP:

Manassas / VA / 20109

TELEPHONE NO.:

703-331-3884

E-MAIL

ADDRESS:

smnoone@ntonfiber.com

THIS ENTITY IS INCORPORATED

IN:

VIRGINIA

THIS ENTITY IS A:

(check the applicable option)

CORPORATION

LIMITED PARTNERSHIP

GENERAL PARTNERSHIP

UNINCORPORATED ASSOCIATION

LIMITED LIABILITY COMPANY

SOLE PROPRIETORSHIP

IS BIDDER AUTHORIZED TO TRANSACT BUSINESS IN THE COMMONWEALTH OF VIRGINIA?

YES NO

IDENTIFICATION NO. ISSUED TO THE ENTITY BY THE

SCC:

0457074-3

Any Bidder exempt from Virginia State Corporation Commission (SCC) authorization requirement must include a statement with its bid explaining why it is not required to be so authorized.

BIDDER FIRM NAME N to N Fiber, Inc.

Arlington County Solicitation No. 18-227-ITB

Bid Form Page 1

VIRGINIA CONTRACTOR'S LICENSE NUMBER:

2705047348

ENTITY'S DUN & BRADSTREET D-U-N-S NUMBER: (if available)

12-982-3316

IS YOUR FIRM OR ANY OF ITS PRINCIPALS CURRENTLY DEBARRED FROM SUBMITTING BIDS TO ARLINGTON COUNTY, VIRGINIA, OR ANY OTHER STATE OR POLITICAL SUBDIVISION?

YES NO

BIDDER STATUS: MINORITY OWNED: WOMAN OWNED: NEITHER:

The undersigned certifies that (Bidder Name) N to N Fiber, Inc. is currently registered with the Virginia State Board of Contractors as required by the Code of Virginia. Certificate Number 2705047348 for a Class A License was issued on the 31st day of December, 2017. The undersigned further certifies that the registration fee and all renewal fees required under law have been paid.

LIQUIDATED DAMAGES: \$350.00 PER DAY

COMPLETE THE PRICING SHEET PROVIDED WITH THE BID DOCUMENTS AS ATTACHMENT A TO ITB NO. 18-227-ITB AND SUBMIT IT WITH YOUR BID.

FAILURE TO SUBMIT THE PRICING SHEET WITH THE BID WILL DEEM THE BIDDER NONRESPONSIVE.

MINIMUM QUALIFICATION REQUIREMENTS:

1. A. Has the contractor been contracted to perform fiber optic emergency restoration for other companies or government entities within the last two (2) years?

X YES NO

A. How many fiber optic emergency restoration contracts are currently held? 4

For each company for which emergency restoration services are provided, on a separate sheet, provide all of the following information:

- Company name, location and area density.
- Project owner, if different.
- Name, phone number, email to the owner's Project Officer.
- Contract start date, the anticipated project completion date and the actual project completion date.
- Miles of plant responsibility (aerial/underground).
- SLA response time from time of notice to time on-scene.

BIDDER FIRM NAME N to N Fiber, Inc.

Arlington County Solicitation No. 18-227-ITB

Bid Form Page 2

- Number of instances of damage to underground utilities, dates of occurrence(s), name of operator and foreman at the time of utility damage, name of utility.
- Similarities between the referenced project and scope of work of this solicitation.

2. Has the Contractor completed either:

- a) a minimum of five (5) outside plant construction projects of \$250,000 initial project value in a dense urban environment with conflicting utilities similar to Arlington County in the last three (3) years? (at least two (2) of the referenced projects must include directional drilling);

or

- b) three (3) miles of directional drilling in a dense urban environment with conflicting utilities similar to Arlington County in the last five (5) years?

(completion of only one of these criteria is necessary for qualification)

YES NO

For each project, on a separate sheet, provide all of the following information:

- Project name, location and area density
- Project owner
- Name, phone number, email to the owner's Project Officer
- Project start date, the anticipated project completion date and the actual project completion date
- Initial project budget and final project cost
- Miles of construction (aerial/underground)
- Project scope
- Number of instances of damage to underground utilities, dates of occurrence(s), name of operator and foreman at the time of utility damage, name of utility
- Similarities between the referenced project and scope of work of this solicitation

3. Has the Contractor's current splicing employees completed a minimum of 2400 singlemode splices within the last five (5) years?

YES NO

On a separate sheet, provide the following information about the splicing employees for which the sum of splices performed totals 2400.

(if subcontractor is used for splicing, provide the information on projects completed by subcontractor, instead of the prime firm):

- Name of employee, total years of splicing experience, number of splices within last five years.
 - o When listing individual employees, list the proportion by listing attributable splices in one project over the total splices by all splicers working on the project. Show as attributable splices over total project splices: (288/576).
- Project name and location.
- Project owner.
- Name, phone number, email to the owner's Project Officer.
- Project scope – specify number of splices performed for this project.
 - o If multiple splicing techs on same project, list their names and total of combined splices performed. If other employees also splice but are no longer with the company include

BIDDER FIRM NAME N to N Fiber, Inc.

Arlington County Solicitation No. 18-227-ITB

Bid Form Page 3

their names followed by "(gone)". The proportional number will be reduced from the count by the County. Bidder should NOT reduce the count themselves.

- For new construction projects, list the maximum allowable average splice loss measured bi-directionally – or uni-directionally if the contract does not require bi-directional measurement.
- Similarities between the referenced project and scope of work of this solicitation, commenting on experience complying with very low loss splicing requirements.

If a subcontractor will be used for splicing, that subcontractor must complete all of the questions in the qualification questionnaire. If awarded the contract, the subcontractor must co-sign contracts with the County and meet all performance and insurance requirements independent of its co-signee. If a subcontractor will be used for splicing, please indicate the name of the subcontracting firm, its address and phone number:

4. Does the Contractor possess and keep in calibration and in good working order, at least two (2) separate OTDRs, two (2) separate 12F ribbon fusion splicing machines, and two (2) single fiber (loose tube) fusion splicing machines, and maintain more than (2) fiber splicing-testing crews for each OTDR-fusion splicing machines?

YES NO

On a separate sheet, provide the following information about projects for which the sum of splices performed totals 2400 (if subcontractor is used for splicing, provide the information on projects completed by subcontractor, instead of the prime firm):

- List all fusion splicing machine make and model numbers and quantities
- List all OTDR instrument make and model numbers and Serial Numbers
- List power meter instrument make and model numbers and Serial Numbers
- Similarities between the referenced project and scope of work of this solicitation, commenting on experience complying with very low loss splicing requirements

If a subcontractor will be used for splicing, that subcontractor must complete all of the questions in the qualification questionnaire. If awarded the contract, the subcontractor must co-sign contracts with the County and meet all performance and insurance requirements independent of its co-signee. If a subcontractor will be used for splicing, please indicate the name of the subcontracting firm, its address and phone number:

5. Has the Contractor's construction foreman accrued either:
- a) seven (7) years of experience as a foreman in a dense urban environment with conflicting utilities, similar to Arlington County;

or

BIDDER FIRM NAME N to N Fiber, Inc.

Arlington County Solicitation No. 18-227-ITB

- b) two (2) years of experience as a foreman on directional drilling projects in a dense urban environment with conflicting utilities, similar to Arlington County? (For this question, a foreman is a trained worker who directs and supervises a crew for underground construction, aerial construction and/or cable installation.)

(completion of only one of these criteria is necessary for qualification)

YES NO

On a separate sheet, please provide the following information for each foreman that will be utilized for any portion of work under this solicitation:

- foreman's name
- type of work he will supervise
- training, and any applicable certifications
- for cable installation foreman list projects that demonstrate that the foreman supervised the placing of at least two (2) miles of underground and one (1) mile of aerial cable, providing project details as required in question 2
- for underground and aerial construction foremen, indicate in which projects listed in question 1 the foreman was the lead supervisor. If one (1), provide one (1) additional project listing details as required in question 1. If none, provide two (2) additional projects listing details as required in question 1

6. Has the Contractor's lead splicer completed 1200 singlemode splices within the last three (3) years?

YES NO

On a separate sheet, please provide the following information for each lead splicer(s) that will be utilized for any portion of work under this solicitation:

- lead splicer's name
- training, and any applicable certifications
- indicate how many splices listed in projects in question 2 were done by the lead splicer. If less than 1200, provide information about additional projects listing details as required in question 2 that will total the number of referenced splices to 1200

7. Please indicate if your Company is opting out of the maintenance/ installation and emergency restoration services portion of this bid.

YES NO

THE UNDERSIGNED UNDERSTANDS AND ACKNOWLEDGES THE FOLLOWING:

THE OFFICIAL COPY OF THE SOLICITATION DOCUMENTS, WHICH INCLUDES ANY ADDENDA, IS THE ELECTRONIC COPY THAT IS AVAILABLE FROM THE COMMONWEALTH OF VIRGINIA'S eVA WEBSITE AT: [HTTP://EVA.VIRGINIA.GOV/](http://eva.virginia.gov/).

POTENTIAL BIDDERS ARE RESPONSIBLE FOR DETERMINING THE ACCURACY AND COMPLETENESS OF ALL SOLICITATION DOCUMENTS THEY RECEIVE FROM ANY SOURCE, INCLUDING THE COUNTY.

The undersigned acknowledges receipt of the following Addenda:

ADDENDUM NO. 1	DATE: <u>9/12/2018</u>	INITIAL: <u>JNW</u>
ADDENDUM NO. 2	DATE: _____	INITIAL: _____
ADDENDUM NO. 3	DATE: _____	INITIAL: _____

TRADE SECRETS OR PROPRIETARY INFORMATION:

Trade secrets or proprietary information submitted by a Bidder in connection with a procurement transaction will not be subject to public disclosure under the Virginia Freedom of Information Act. Pursuant to Section 4-111 of the Arlington County Purchasing Resolution, however, a Bidder seeking to protect submitted data or materials from disclosure must, before or upon submission of the data or materials, identify the data or materials to be protected and state the reasons why protection is necessary.

Please mark one:

- No, the bid that I have submitted does not contain any trade secrets and/or proprietary information.
- Yes, the bid that I have submitted does contain trade secrets and/or proprietary information.

If Yes, you must clearly identify below the exact data or materials to be protected and list all applicable page numbers of the bid that contain such data or materials:

BIDDER NAME: N to N Fiber, Inc.

BIDDER FIRM NAME N to N Fiber, Inc.
Arlington County Solicitation No. 18-227-ITB

State the specific reason(s) why protection is necessary:

If you fail above to identify the data or materials to be protected or to state the reason(s) why protection is necessary, you will not have invoked the protection of Section 4-111 of the Purchasing Resolution. Accordingly, upon the award of a contract, the bid will be open for public inspection consistent with applicable law.

CERTIFICATION OF NON-COLLUSION: The undersigned certifies that this bid is not the result of or affected by (1) any act of collusion with another person engaged in the same line of business or commerce (as defined in Virginia Code §§ 59.1-68.6 *et seq.*) or (2) any act of fraud punishable under the Virginia Governmental Frauds Act (Virginia Code §§ 18.2-498.1 *et seq.*).

CONTACT PERSON AND MAILING ADDRESS FOR DELIVERY OF NOTICES

Provide the name and address of the person who is designated to receive notices and other communications regarding this solicitation. Refer to the "Notices" section in the draft Contract Terms and Conditions for information regarding delivery of notices.

NAME: Stephen M. Noone

ADDRESS: N to N Fiber, Inc.
8661 Virginia Meadows Dr., Manassas VA 20109

E-MAIL: smnoone@ntonfiber.com

18-227-ITB		PROJECT AND MAINTENANCE UNIT PRICE SCHEDULE	BIDDER:			
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
		AERIAL MAKE-READY				
1	C	RAISE OR LOWER SPAN and RELOCATE O.H. GUY	EA	10	\$350.00	\$3,500.00
2	C	TRANSFER EXISTING ATTACHMENT - OLD TO NEW POLE	EA	50	\$225.00	\$11,250.00
3	C	REMOVAL OF AERIAL CABLE SPAN	EA	75	\$350.00	\$26,250.00
4	C	REMOVAL OF CONDUIT FROM POLE	EA	5	\$125.00	\$625.00
5	C	RELOCATION OF DOWN GUY	EA	2	\$100.00	\$200.00
6	C	REMOVAL OF DOWN GUY AND ANCHOR	EA	8	\$200.00	\$1,600.00
7	C	REMOVAL OF EXISTING ATTACHMENT	EA	75	\$65.00	\$4,875.00
8	C	REMOVAL OF OVERHEAD GUY	EA	2	\$150.00	\$300.00
9	C	PLACE GUY OR SIDEWALK GUY AND ANCHOR	EA	2	\$350.00	\$700.00
10	C	TREE TRIMMING	LF	200	\$2.50	\$500.00
11	C	REMOVAL OF CABLE FROM AERIAL STRAND	LF	250	\$1.40	\$350.00
12	M	SUPPLY RISER - U-GUARD, PLASTIC, 10FT, 2.0 INCH	EA	6	\$47.00	\$282.00
13	L	PLACEMENT OF RISER - U-GUARD, PLASTIC, 20FT	EA	3	\$200.00	\$600.00
14	M	SUPPLY RISER - U-GUARD, STEEL, 8FT, 2.0 INCH	EA	6	\$17.70	\$106.20
15	L	PLACEMENT OF RISER - U-GUARD, STEEL 20FT	EA	2	\$200.00	\$400.00
16	M	SUPPLY RISER - 2.0" GALVANIZED RMC	EA	4	\$21.58	\$86.32
17	L	PLACEMENT OF RISER - 2.0" GALV. RMC	EA	4	\$200.00	\$800.00
18	M	SUPPLY EHS GALV. 6M GUY / MESSENGER STRAND	LF	750	\$0.16	\$120.00
19	L	PLACE OVERHEAD SPAN WIRE (GUY OR MSGR) 6M	LF	750	\$0.65	\$487.50
20	M	SUPPLY EHS GALV. 10M GUY / MESSENGER STRAND	LF	150	\$0.34	\$51.00
21	L	PLACE OVERHEAD SPAN WIRE (GUY OR MSGR) 10M	LF	150	\$0.85	\$127.50
22	M	SUPPLY EHS GALV. 14M GUY / MESSENGER STRAND	LF	150	\$0.63	\$94.50
23	L	PLACE OVERHEAD SPAN WIRE (GUY OR MSGR) 14M	LF	150	\$0.65	\$97.50
		AERIAL CABLE PLACEMENT				
25	L	AERIAL PLACEMENT OF 12-FIBER ADSS DROP CABLE	LF	4000	\$1.95	\$7,800.00
26	L	AERIAL PLACEMENT OF 24- or 48-FIBER ADSS CABLE	LF	2000	\$1.95	\$3,900.00
27	L	AERIAL LASH UP OF 72-COUNT OR SMALLER FIBER	LF	500	\$1.05	\$525.00
28	L	AERIAL LASH-UP OF 144-COUNT FIBER	LF	500	\$1.05	\$525.00
29	L	AERIAL LASH-UP OF 864-COUNT FIBER	LF	500	\$1.05	\$525.00
30	C	PLACE AERIAL SLACK STORAGE SNOW SHOES	EA	6	\$225.00	\$1,350.00
		INSIDE PLANT (ISP)				
32	M	SUPPLY 1.25-INCH EMT CONDUIT	LF	200	\$4.59	\$918.00
33	L	PLACE 1.25-INCH EMT CONDUIT IN BLDG	LF	200	\$6.00	\$1,200.00
34	M	SUPPLY 2.0-INCH EMT CONDUIT	LF	200	\$6.57	\$1,314.00
35	L	PLACE 2.0-INCH EMT CONDUIT IN BLDG	LF	200	\$6.25	\$1,250.00
36	M	SUPPLY 4.0-INCH EMT CONDUIT	LF	300	\$17.09	\$5,127.00
37	L	PLACE 4.0-INCH EMT CONDUIT IN BLDG	LF	300	\$8.50	\$2,550.00
38	M	SUPPLY 2.0-INCH RIGID METAL CONDUIT	LF	300	\$14.61	\$4,383.00
39	L	PLACE 2.0-INCH GAVL RMC IN BUILDING	LF	300	\$10.00	\$3,000.00
40	M	SUPPLY GALV. PULLBOX 4"x 4"x36"	EA	4	\$267.31	\$1,069.24
41	M	SUPPLY GALV. PULLBOX 6"x 6"x36"	EA	4	\$273.64	\$1,094.56
42	M	SUPPLY GALV. PULLBOX 8"x 8"x48"	EA	4	\$461.12	\$1,844.48
43	M	SUPPLY GALV. PULLBOX 8"x18"x18"	EA	4	\$342.47	\$1,369.88
44	M	SUPPLY GALV. PULLBOX 12"x24"x24"	EA	4	\$573.42	\$2,293.68
45	M	SUPPLY GALV. PULLBOX 18"x36"x36"	EA	4	\$829.91	\$3,319.64
46	L	PULLBOX PLACEMENT IS INCIDENTAL TO CONDUIT INSTALLATION				
47	C	PLACE WALL RACK MOUNT - MIDDLE ATLANTIC WRS-6	EA	1	\$1,250.00	\$1,250.00
48	C	PLACE/ FIT 4'x8'x3/4" CLASS A FIRE RATED PLYWOOD	EA	1	\$250.00	\$250.00

18-227-ITB		PROJECT AND MAINTENANCE UNIT PRICE SCHEDULE	BIDDER:			
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
SPLICING AND TERMINATION						
50	C	PLACEMENT OF MID-SHEATH SPLICE AND ENCLOSURE	EA	20	\$1,480.00	\$29,600.00
51	M	SUPPLY SPLICE ENCLOSURE - PLP RUNT	EA	10	\$480.00	\$4,800.00
52	M	SUPPLY SPLICE ENCLOSURE - 6.5"x22"	EA	4	\$680.00	\$2,720.00
53	M	SUPPLY SPLICE ENCLOSURE - TE 600D	EA	4	\$980.00	\$3,920.00
54	L	PLACEMENT OF SPLICE ENCLOSURE	EA	8	\$1,000.00	\$8,000.00
55	L	REENTRY OF SPLICE ENCLOSURE	EA	20	\$400.00	\$8,000.00
56	M	SUPPLY WRAP AROUND CABLE MARKER	EA	40	\$5.00	\$200.00
57	C	FIBER OPTIC TESTING <u>PER FIBER</u> , UNI-DIR TEST	EA	288	\$10.00	\$2,880.00
58	C	FIBER OPTIC TESTING <u>PER FIBER</u> , BI-DIR TEST	EA	1200	\$20.00	\$24,000.00
59	C	A - SINGLE FUSION SPLICE, LESS THAN 13	EA	200	\$80.00	\$16,000.00
59	C	B - SINGLE FUSION SPLICE, 13 TO 24.	EA	24	\$70.00	\$1,680.00
59	C	C - SINGLE FUSION SPLICE, 25 TO 72.	EA	48	\$40.00	\$1,920.00
59	C	X - SINGLE FUSION SPLICE, MORE THAN 72.	EA	576	\$25.00	\$14,400.00
60	C	A - MASS FUSN SPLC, 12F RIBBON, LESS THAN 3 RBN	RB	4	\$960.00	\$3,840.00
60	C	B - MASS FUSN SPLC, 12F RIBBON, LESS THAN 7 RBN	RB	2	\$840.00	\$1,680.00
60	C	C - MASS FUSN SPLC, 12F RIBBON, LESS THAN 13 RBN	RB	2	\$240.00	\$480.00
60	C	X - MASS FUSN SPLC, 12F RIBBON, 13 OR MORE RBN	RB	288	\$160.00	\$46,080.00
FIBER PATCH PANELS						
61	M	SUPPLY SLIM PATCH DROP PANEL - 200FT 7" (LC-UPC)	EA	12	\$1,000.00	\$12,000.00
62	M	SUPPLY 12-COUNT PATCH PANEL W/ SC-APC PIGTAIL	EA	1	\$496.00	\$496.00
63	M	SUPPLY 12-COUNT PATCH PANEL W/ LC-UPC PIGTAIL	EA	2	\$485.00	\$970.00
64	L	PLACE 12-COUNT PATCH PANEL (INCL PLACE SPH-01P)	EA	13	\$350.00	\$4,550.00
65	M	SUPPLY 24-COUNT PATCH PANEL (LC Connector)	EA	1	\$733.00	\$733.00
66	L	PLACE 24-COUNT PATCH PANEL (LC Connector)	EA	1	\$350.00	\$350.00
67	M	SUPPLY CORNING SPH-01U (PLACE WITH CLIN 64)	EA	1	\$435.00	\$435.00
68	M	SUPPLY CORNING PCH-01U	EA	1	\$779.45	\$779.45
69	L	PLACE CORNING PCH-01U	EA	1	\$350.00	\$350.00
70	M	SUPPLY CORNING PCH-02U	EA	5	\$877.45	\$4,387.25
71	L	PLACE CORNING PCH-02U	EA	5	\$350.00	\$1,750.00
72	M	SUPPLY CORNING PCH-04U	EA	1	\$957.25	\$957.25
73	L	PLACE CORNING PCH-04U	EA	1	\$350.00	\$350.00
74	M	SUPPLY CORNING PWH-04P	EA	1	\$682.85	\$682.85
75	L	PLACE CORNING PWH-04P	EA	1	\$350.00	\$350.00
76	M	SUPPLY CORNING PWH-02P	EA	1	\$591.87	\$591.87
77	L	PLACE CORNING PWH-02P	EA	1	\$350.00	\$350.00
GENERAL CONDUIT						
80	C	REMOVAL OF CABLE FROM CONDUIT	LF	1000	\$0.95	\$950.00
81	M	SUPPLY PULL TAPE	LF	3000	\$0.15	\$450.00
82	C	PLACEMENT OF PULL TAPE IN EXISTING CONDUIT	LF	3000	\$0.60	\$1,800.00
83	C	ROD EXISTING CONDUIT	LF	1500	\$1.05	\$1,575.00
84	C	PLACEMENT OF FIBER IN DUCT OR CONDUIT	LF	1500	\$1.15	\$1,725.00
85	M	TRACER WIRE, 14 AWG, GREEN INSULATED (EX. CONDUIT)	LF	750	\$1.00	\$750.00
86	L	TRACER WIRE, 14 AWG, GREEN INSULATED (EX. CONDUIT)	LF	750	\$1.00	\$750.00
CONDUIT IS INCIDENTAL TO CONDUIT CONSTRUCTION						
INNERDUCT						
87		INSTALLATION OF 1.0" or 1.25" INNER DUCT				
87	L	A - AERIAL INNERDUCT (ON STRAND W/ DOUBLE LASHI	LF	250	\$2.10	\$525.00
87	L	B - INNERDUCT IN BUILDING, NOT IN CONDUIT	LF	150	\$2.50	\$375.00
87	L	C - INNERDUCT, THREE IN ONE 4-INCH CONDUIT	LF	60	\$4.18	\$250.80
88	M	SUPPLY INNER DUCT 1-INCH DUCT (CONVENTIONAL)	LF	430	\$0.44	\$189.20
89	M	SUPPLY INNER DUCT 1-INCH DUCT (PLENUM RATED)	LF	75	\$1.80	\$135.00

18-227-ITB		PROJECT AND MAINTENANCE UNIT PRICE SCHEDULE	BIDDER:			
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
90	M	SUPPLY INNER DUCT FABRIC DUCT, 2 POCKET	LF	100	\$1.97	\$197.00
		PERMITS				
99	L	PERMIT, ELECTRICAL, (PLUS PERMIT FEE)	LS	2	\$750.00	\$1,500.00
100		EXCAVATION WORK - EXCLUDING J-BOX				
101	C	OPEN CUT PAVEMENT FOUR (4) 2-INCH CONDUIT add TRENCH	LF	400	\$115.00	\$46,000.00
102	C	OPEN CUT PAVEMENT ONE (1) 2-INCH CONDUIT add TRENCH	LF	150	\$110.00	\$16,500.00
103	C	TRENCHING FOR ONE (1) 2-INCH CONDUIT	LF	150	\$20.00	\$3,000.00
104	C	TRENCHING FOR FOUR (4) 2-INCH CONDUIT	LF	400	\$22.50	\$9,000.00
105	C	TRENCHING FOR ONE (1) 4-INCH CONDUIT	LF	250	\$21.50	\$5,375.00
106	C	TRENCHING FOR TWO (2) 4-INCH CONDUIT	LF	250	\$23.50	\$5,875.00
107	C	HAND TRENCH FOR ONE (1) CONDUIT, 2- OR 4-INCH	LF	400	\$35.00	\$14,000.00
108	C	HAND TRENCH FOUR (4) 2-INCH CONDUIT	LF	400	\$38.00	\$15,200.00
109	C	HAND TRENCH TWO (2) 4-INCH CONDUIT	LF	400	\$45.00	\$18,000.00
110	C	PLACE ADD'L 2-INCH CONDUIT IN TRENCH	LF	400	\$2.10	\$840.00
111	C	DIRECTIONAL BORE ONE (1) 2-INCH CONDUIT	LF	4000	\$47.00	\$188,000.00
112	C	DIRECTIONAL BORE TWO (2) 2-INCH CONDUIT	LF	9000	\$48.00	\$432,000.00
113	C	DIRECTIONAL BORE ONE (1) 4-INCH CONDUIT	LF	250	\$52.50	\$13,125.00
114	C	DIRECTIONAL BORE FOUR (4) 2-INCH CONDUIT	LF	1500	\$55.00	\$82,500.00
		MARKING - UNDERGROUND				
115	M	SUPPLY DOME MARKER	EA	5	\$19.66	\$98.30
116	L	PLACE DOME MARKER	EA	5	\$90.00	\$450.00
117	M	SUPPLY SOIL DISK MARKER	EA	5	\$12.47	\$62.35
118	L	PLACE SOIL DISK MARKER	EA	5	\$65.00	\$325.00
		GENERAL LABOR				
119	L	SUPPLY LABORER	HR	200	\$54.00	\$10,800.00
120	L	SUPPLY FOREMAN	HR	200	\$110.00	\$22,000.00
121	L	SUPPLY ASSISTANT	HR	200	\$80.00	\$16,000.00
122	L	SUPPLY FIBER OPTIC TECH - T-SHOOT/SPLICE/TEST	HR	400	\$175.00	\$70,000.00
123	L	SUPPLY TECHNICIAN - OTHER	HR	200	\$175.00	\$35,000.00
		MATERIALS ONLY				
124	M	SUPPLY 12-COUNT FIBER, ADSS	LF	2000	\$0.86	\$1,720.00
125	M	SUPPLY 24-COUNT FIBER, ADSS	LF	1000	\$1.21	\$1,210.00
126	M	SUPPLY 48-COUNT FIBER, AD	LF	1000	\$0.86	\$860.00
127	M	SUPPLY 72-COUNT FIBER, AD	LF	2000	\$0.99	\$1,980.00
128	M	SUPPLY 144-COUNT FIBER, AD	LF	2000	\$1.49	\$2,980.00
129	M	SUPPLY ONE (1) J-HOOK & CLAMP FOR 12-CT DROP CABL	EA	25	\$50.00	\$1,250.00
130	M	SUPPLY 24-COUNT ADSS FIBER MOUNTS	EA	15	\$125.00	\$1,875.00
131	M	SUPPLY 48-COUNT ADSS FIBER MOUNTS	EA	15	\$130.00	\$1,950.00
132	M	SUPPLY 72-COUNT ADSS FIBER MOUNTS	EA	15	\$140.00	\$2,100.00
133	M	SUPPLY 2-INCH CONDUIT, HDPE	LF	1000	\$1.22	\$1,220.00
134	M	SUPPLY 4-INCH CONDUIT, HDPE	LF	1000	\$3.83	\$3,830.00
135	C	SUPPLY ADD'L 2-INCH CONDUIT - DIRECTIONAL BORING	LF	1000	\$1.22	\$1,220.00

18-227-ITB		PROJECT AND MAINTENANCE UNIT PRICE SCHEDULE	BIDDER:			
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
		EQUIPMENT				
136	M	SUPPLY AIR COMPRESSOR	DAY	1	\$180.00	\$180.00
137	M	SUPPLY GENERATOR	DAY	1	\$160.00	\$160.00
138	M	SUPPLY BUCKET TRUCK, AND CREW	HR	16	\$285.00	\$4,560.00
139	M	SUPPLY AIR EXCAVATION TRUCK, AND CREW	HR	80	\$320.00	\$25,600.00
140	M	SUPPLY BACKHOE - SKID LOADER AND OPERATOR	HR	8	\$285.00	\$2,280.00
141	M	SUPPLY MINI-EXCAVATOR AND OPERATOR	HR	24	\$245.00	\$5,880.00
142	M	SHORING BOX AND DELIVERY	DAY		PROVIDE	INVOICE
143	M	SPEED SHORING - TWO SHEETS & JACKS	DAY		PROVIDE	INVOICE
144		LABOR AND MATERIALS				
145	C	CONSTRUCTION TRAFFIC CONTROL	HR	40	\$120.00	\$4,800.00
146	C	TRUCK MOUNTED CRASH ATTENUATOR	HR	16	\$110.00	\$1,760.00
147	-	ANNUAL MAINTENANCE RETAINER	YR	3	\$0.00	\$0.00
150		JUNCTION BOX / HANDHOLE				
151	M	SUPPLY GROUND ROD AND BRONZE NUT	EA	72	\$36.75	\$2,646.00
152	L	PLACEMENT OF GROUND ROD AND BRONZE NUT	EA	72	\$65.00	\$4,680.00
153	C	RELOCATION OF VAULT (Reuse Existing Vault)	EA	4	\$1,450.00	\$5,800.00
154	C	SUPPLY/ INSTALL TYPE 2R VAULT (ROAD-RATED)	EA	2	\$1,636.50	\$3,273.00
155	C	SUPPLY/ INSTALL TYPE 3R VAULT (ROAD-RATED)	EA	2	\$3,600.00	\$7,200.00
156	M	SUPPLY TYPE 1, 18"x30"x30", TIER 15	EA	2	\$269.12	\$538.24
157	L	A - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$3,380.00	\$3,380.00
157	L	B - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$3,180.00	\$3,180.00
157	L	C - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$3,780.00	\$3,780.00
157	L	D - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$2,380.00	\$2,380.00
158	M	SUPPLY TYPE 3, 24"x36"x36", TIER 15	EA	20	\$551.00	\$11,020.00
159	L	A - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	1	\$3,730.00	\$3,730.00
159	L	B - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	2	\$3,630.00	\$7,260.00
159	L	C - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	12	\$4,230.00	\$50,760.00
159	L	D - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	5	\$1,830.00	\$9,150.00
160	M	SUPPLY TYPE 4, 30"x48"x36", TIER 15	EA	20	\$832.88	\$16,657.60
161	L	A - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	1	\$3,880.00	\$3,880.00
161	L	B - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	2	\$3,780.00	\$7,560.00
161	L	C - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	14	\$4,380.00	\$61,320.00
161	L	D - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	3	\$2,780.00	\$8,340.00
162	M	SUPPLY TYPE 5, 36"x60"x36", TIER 15	EA	6	\$1,160.00	\$6,960.00
163	L	A - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	1	\$3,980.00	\$3,980.00
163	L	B - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	2	\$3,880.00	\$7,760.00
163	L	C - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	2	\$5,480.00	\$10,960.00
163	L	D - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	1	\$2,880.00	\$2,880.00
		Continued on Next Page				

18-227-ITB		PROJECT AND MAINTENANCE UNIT PRICE SCHEDULE	BIDDER:			
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
164	M	SUPPLY TYPE 1, 18"x30"x30", TIER 22	EA	2	\$346.50	\$693.00
165	L	A - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$3,380.00	\$3,380.00
165	L	B - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$3,180.00	\$3,180.00
165	L	C - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$3,780.00	\$3,780.00
165	L	D - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$2,380.00	\$2,380.00
166	M	SUPPLY TYPE 3, 24"x36"x36", TIER 22	EA	20	\$609.00	\$12,180.00
167	L	A - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	1	\$3,730.00	\$3,730.00
167	L	B - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	2	\$3,630.00	\$7,260.00
167	L	C - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	12	\$4,230.00	\$50,760.00
167	L	D - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	5	\$1,830.00	\$9,150.00
168	M	SUPPLY TYPE 4, 30"x48"x36", TIER 22	EA	20	\$951.20	\$19,024.00
169	L	A - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	1	\$3,880.00	\$3,880.00
169	L	B - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	2	\$3,780.00	\$7,560.00
169	L	C - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	14	\$4,380.00	\$61,320.00
169	L	D - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	3	\$2,780.00	\$8,340.00
170	M	SUPPLY TYPE 5, 36"x60"x36", TIER 22	EA	6	\$1,334.00	\$8,004.00
171	L	A - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	1	\$3,980.00	\$3,980.00
171	L	B - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	2	\$3,880.00	\$7,760.00
171	L	C - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	2	\$5,480.00	\$10,960.00
171	L	D - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	1	\$2,880.00	\$2,880.00
172		REMOVE EX. JBOX AND REPLACE WITH TYPE 1				
172	L	A - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Ashpault	EA	1	\$3,580.00	\$3,580.00
172	L	B - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Pavers)	EA	1	\$3,380.00	\$3,380.00
172	L	C - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Cement)	EA	1	\$3,980.00	\$3,980.00
172	L	D - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Dirt)	EA	1	\$2,580.00	\$2,580.00
173		REMOVE EX. JBOX AND REPLACE WITH TYPE 3				
173	L	A - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Ashpault	EA	1	\$3,980.00	\$3,980.00
173	L	B - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Pavers)	EA	1	\$3,880.00	\$3,880.00
173	L	C - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Cement)	EA	1	\$4,480.00	\$4,480.00
173	L	D - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Dirt)	EA	1	\$2,080.00	\$2,080.00
173	L	E - Place Add'l 24"x36"x36" DBL Stack Jbox	EA	1	\$2,080.00	\$2,080.00
174		REMOVE EX. JBOX AND REPLACE WITH TYPE 4				
174	L	A - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Ashpault	EA	4	\$4,180.00	\$16,720.00
174	L	B - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Pavers)	EA	20	\$4,080.00	\$81,600.00
174	L	C - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Cement)	EA	40	\$4,680.00	\$187,200.00
174	L	D - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Dirt)	EA	20	\$3,080.00	\$61,600.00
174	L	E - Place Add'l 30"x48"x36" DBL Stack Jbox	EA	2	\$3,080.00	\$6,160.00
175		REMOVE EX. JBOX AND REPLACE WITH TYPE 5				
175	L	A - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Ashpault	EA	1	\$4,380.00	\$4,380.00
175	L	B - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Pavers)	EA	2	\$4,280.00	\$8,560.00
175	L	C - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Cement)	EA	4	\$5,880.00	\$23,520.00
175	L	D - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Dirt)	EA	2	\$3,280.00	\$6,560.00
					Category I Total	\$2,288,877.16

DESCRIPTION (Combined / Labor / Materials)

C = Combined/Complete comprising both Labor and all needed Materials combined.

L = Labor Only, See description for details. All materials other than listed major components are included.

M = Material only, no labor.

18-227-ITB		EMERGENCY RESTORATION UNIT PRICE SCHEDULE			BIDDER:	
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
		AERIAL MAKE-READY				
1	C	RAISE OR LOWER SPAN and RELOCATE O.H. GUY	EA	10	\$175.00	\$1,750.00
2	C	TRANSFER EX. ATTACHMENT FROM OLD TO NEW POLE	EA	50	\$125.00	\$6,250.00
3	C	REMOVAL OF AERIAL CABLE SPAN	EA	75	\$175.00	\$13,125.00
4	C	REMOVAL OF CONDUIT FROM POLE	EA	5	\$75.00	\$375.00
5	C	RELOCATION OF DOWN GUY	EA	2	\$50.00	\$100.00
6	C	REMOVAL OF DOWN GUY AND ANCHOR	EA	8	\$100.00	\$800.00
7	C	REMOVAL OF EXISTING ATTACHMENT	EA	75	\$50.00	\$3,750.00
8	C	REMOVAL OF OVERHEAD GUY	EA	2	\$100.00	\$200.00
9	C	PLACE GUY OR SIDEWALK GUY AND ANCHOR	EA	2	\$100.00	\$200.00
10	C	TREE TRIMMING	LF	200	\$250.00	\$50,000.00
11	C	REMOVAL OF CABLE FROM AERIAL STRAND	LF	250	\$1.00	\$250.00
12	M	SUPPLY RISER - U-GUARD, PLASTIC, 10FT, 2.0 INCH	EA	6	\$51.70	\$310.20
13	L	PLACEMENT OF RISER - U-GUARD, PLASTIC, 20FT	EA	3	\$100.00	\$300.00
14	M	SUPPLY RISER - U-GUARD, STEEL, 8FT, 2.0 INCH	EA	6	\$19.47	\$116.82
15	L	PLACEMENT OF RISER - U-GUARD, STEEL 20FT	EA	2	\$100.00	\$200.00
16	M	SUPPLY RISER - 2.0" GALVANIZED RMC	EA	4	\$23.74	\$94.96
17	L	PLACEMENT OF RISER - 2.0" GALV. RMC	EA	4	\$100.00	\$400.00
18	M	SUPPLY EHS GALV. 6M GUY / MESSENGER STRAND	LF	750	\$0.18	\$135.00
19	L	PLACE OVERHEAD SPAN WIRE (GUY OR MSGR) 6M	LF	750	\$0.65	\$487.50
20	M	SUPPLY EHS GALV. 10M GUY / MESSENGER STRAND	LF	150	\$0.37	\$55.50
21	L	PLACE OVERHEAD SPAN WIRE (GUY OR MSGR) 10M	LF	150	\$0.85	\$127.50
22	M	SUPPLY EHS GALV. 14M GUY / MESSENGER STRAND	LF	150	\$0.69	\$103.50
23	L	PLACE OVERHEAD SPAN WIRE (GUY OR MSGR) 14M	LF	150	\$0.50	\$75.00
		AERIAL CABLE PLACEMENT				
25	L	AERIAL PLACEMENT OF 12-FIBER ADSS DROP CABLE	LF	4000	\$1.73	\$6,920.00
26	L	AERIAL PLACEMENT OF 24- or 48-FIBER ADSS CABLE	LF	2000	\$1.73	\$3,460.00
27	L	AERIAL LASH UP OF 72-COUNT OR SMALLER FIBER	LF	500	\$0.50	\$250.00
28	L	AERIAL LASH-UP OF 144-COUNT FIBER	LF	500	\$0.50	\$250.00
29	L	AERIAL LASH-UP OF 864-COUNT FIBER	LF	500	\$0.50	\$250.00
30	C	PLACE AERIAL SLACK STORAGE SNOW SHOES	EA	6	\$100.00	\$600.00
		INSIDE PLANT (ISP)				
32	M	SUPPLY 1.25-INCH EMT CONDUIT	LF	200	\$5.05	\$1,010.00
33	L	PLACE 1.25-INCH EMT CONDUIT IN BLDG	LF	200	\$5.00	\$1,000.00
34	M	SUPPLY 2.0-INCH EMT CONDUIT	LF	200	\$7.23	\$1,446.00
35	L	PLACE 2.0-INCH EMT CONDUIT IN BLDG	LF	200	\$5.00	\$1,000.00
36	M	SUPPLY 4.0-INCH EMT CONDUIT	LF	300	\$6.88	\$2,064.00
37	L	PLACE 4.0-INCH EMT CONDUIT IN BLDG	LF	300	\$6.00	\$1,800.00
38	M	SUPPLY 2.0-INCH RIGID METAL CONDUIT	LF	300	\$9.35	\$2,805.00
39	L	PLACE 2.0-INCH GAVL RMC IN BUILDING	LF	300	\$7.00	\$2,100.00
40	M	SUPPLY GALV. PULLBOX 4"x 4"x36"	EA	2	\$294.31	\$588.62
41	M	SUPPLY GALV. PULLBOX 6"x 6"x36"	EA	2	\$301.00	\$602.00
42	M	SUPPLY GALV. PULLBOX 8"x 8"x48"	EA	2	\$507.23	\$1,014.46
43	M	SUPPLY GALV. PULLBOX 8"x18"x18"	EA	2	\$376.72	\$753.44
44	M	SUPPLY GALV. PULLBOX 12"x24"x24"	EA	2	\$630.76	\$1,261.52
45	M	SUPPLY GALV. PULLBOX 18"x36"x36"	EA	2	\$912.90	\$1,825.80
46	L	PULLBOX PLACEMENT IS INCIDENTAL TO CONDUIT INSTALLATION				
47	C	PLACE WALL RACK MOUNT - MIDDLE ATLANTIC WRS-6	EA	1	\$1,250.00	\$1,250.00
48	C	PLACE/ FIT 4'x8'x3/4" CLASS A FIRE RATED PLYWOOD	EA	1	\$275.00	\$275.00

18-227-ITB		EMERGENCY RESTORATION UNIT PRICE SCHEDULE			BIDDER:	
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
		SPLICING AND TERMINATION				
50	C	PLACEMENT OF MID-SHEATH SPLICE AND ENCLOSURE	EA	20	\$1,480.00	\$29,600.00
51	M	SUPPLY SPLICE ENCLOSURE - PLP RUNT	EA	10	\$500.00	\$5,000.00
52	M	SUPPLY SPLICE ENCLOSURE - 6.5"x22"	EA	4	\$700.00	\$2,800.00
53	M	SUPPLY SPLICE ENCLOSURE - TE 600D	EA	4	\$1,000.00	\$4,000.00
54	L	PLACEMENT OF SPLICE ENCLOSURE	EA	8	\$1,000.00	\$8,000.00
55	L	REENTRY OF SPLICE ENCLOSURE	EA	20	\$400.00	\$8,000.00
56	M	SUPPLY WRAP AROUND CABLE MARKER	EA	40	\$5.00	\$200.00
57	C	FIBER OPTIC TESTING <u>PER FIBER</u> , UNI-DIR TEST	EA	288	\$10.00	\$2,880.00
58	C	FIBER OPTIC TESTING <u>PER FIBER</u> , BI-DIR TEST	EA	1200	\$20.00	\$24,000.00
59	C	A - SINGLE FUSION SPLICE, LESS THAN 13	EA	24	\$80.00	\$1,920.00
59	C	B - SINGLE FUSION SPLICE, 13 TO 24.	EA	24	\$70.00	\$1,680.00
59	C	C - SINGLE FUSION SPLICE, 25 TO 72.	EA	72	\$40.00	\$2,880.00
59	C	X - SINGLE FUSION SPLICE, MORE THAN 72.	EA	576	\$25.00	\$14,400.00
60	C	A - MASS FUSN SPLC, 12F RIBBON, LESS THAN 3 RBN	RB	4	\$960.00	\$3,840.00
60	C	B - MASS FUSN SPLC, 12F RIBBON, LESS THAN 7 RBN	RB	2	\$840.00	\$1,680.00
60	C	C - MASS FUSN SPLC, 12F RIBBON, LESS THAN 13 RBN	RB	2	\$240.00	\$480.00
60	C	X - MASS FUSN SPLC, 12F RIBBON, 13 OR MORE RBN	RB	288	\$160.00	\$46,080.00
		FIBER PATCH PANELS				
61	M	SUPPLY SLIM PATCH DROP PANEL - 200FT 7" (LC-UPC)	EA	12	\$1,050.00	\$12,600.00
62	M	SUPPLY 12-COUNT PATCH PANEL W/ SC-APC PIGTAIL	EA	1	\$546.00	\$546.00
63	M	SUPPLY 12-COUNT PATCH PANEL W/ LC-UPC PIGTAIL	EA	2	\$535.00	\$1,070.00
64	L	PLACE 12-COUNT PATCH PANEL (INCL PLACE SPH-01P)	EA	13	\$350.00	\$4,550.00
65	M	SUPPLY 24-COUNT PATCH PANEL (LC Connector)	EA	1	\$783.00	\$783.00
66	L	PLACE 24-COUNT PATCH PANEL (LC Connector)	EA	1	\$350.00	\$350.00
67	M	SUPPLY CORNING SPH-01U (PLACE WITH CLIN 64)	EA	1	\$485.00	\$485.00
68	M	SUPPLY CORNING PCH-01U	EA	1	\$927.45	\$927.45
69	L	PLACE CORNING PCH-01U	EA	1	\$350.00	\$350.00
70	M	SUPPLY CORNING PCH-02U	EA	5	\$1,007.25	\$5,036.25
71	L	PLACE CORNING PCH-02U	EA	5	\$350.00	\$1,750.00
72	M	SUPPLY CORNING PCH-04U	EA	1	\$732.85	\$732.85
73	L	PLACE CORNING PCH-04U	EA	1	\$350.00	\$350.00
74	M	SUPPLY CORNING PWH-04P	EA	1	\$641.87	\$641.87
75	L	PLACE CORNING PWH-04P	EA	1	\$350.00	\$350.00
76	M	SUPPLY CORNING PWH-02P	EA	1	\$641.87	\$641.87
77	L	PLACE CORNING PWH-02P	EA	1	\$350.00	\$350.00
		GENERAL CONDUIT				
80	C	REMOVAL OF CABLE FROM CONDUIT	LF	1000	\$95.00	\$95,000.00
81	M	SUPPLY PULL TAPE	LF	3000	\$0.17	\$510.00
82	C	PLACEMENT OF PULL TAPE IN EXISTING CONDUIT	LF	3000	\$60.00	\$180,000.00
83	C	ROD EXISTING CONDUIT	LF	1500	\$1.05	\$1,575.00
84	C	PLACEMENT OF FIBER IN DUCT OR CONDUIT	LF	1500	\$1.15	\$1,725.00
85	M	TRACER WIRE, 14 AWG, GREEN INSULATED (EX. CONDUIT)	LF	750	\$1.10	\$825.00
86	L	TRACER WIRE, 14 AWG, GREEN INSULATED (EX. CONDUIT)	LF	750	\$1.10	\$825.00
		CONDUIT IS INCIDENTAL TO CONDUIT CONSTRUCTION				
		INNERDUCT				
87		INSTALLATION OF 1.0" or 1.25" INNER DUCT				
87	L	A - AERIAL INNERDUCT (ON STRAND W/ DOUBLE LASHING)	LF	250	\$2.31	\$577.50
87	L	B - INNERDUCT IN BUILDING, NOT IN CONDUIT	LF	150	\$2.75	\$412.50
87	L	C - INNERDUCT, THREE IN ONE 4-INCH CONDUIT	LF	60	\$4.60	\$276.00
88	M	SUPPLY INNER DUCT 1-INCH DUCT (CONVENTIONAL)	LF	430	\$0.48	\$206.40
89	M	SUPPLY INNER DUCT 1-INCH DUCT (PLENUM RATED)	LF	75	\$1.98	\$148.50

18-227-ITB		EMERGENCY RESTORATION UNIT PRICE SCHEDULE			BIDDER:		
CLIN	C/L/M	ITEM DESCRIPTION		UNIT	QTY	UNIT PRICE	TOTAL PRICE
90	M	SUPPLY INNER DUCT FABRIC DUCT, 2 POCKET		LF	100	\$2.17	\$217.00
		PERMITS					
99	L	PERMIT, ELECTRICAL, (PLUS PERMIT FEE)		LS	2	\$1.00	\$2.00
100		EXCAVATION WORK - EXCLUDING J-BOX					
101	C	OPEN CUT PAVEMENT FOUR (4) 2-INCH CONDUIT add TRENCH		LF	400	\$75.00	\$30,000.00
102	C	OPEN CUT PAVEMENT ONE (1) 2-INCH CONDUIT add TRENCH		LF	150	\$75.00	\$11,250.00
103	C	TRENCHING FOR ONE (1) 2-INCH CONDUIT		LF	150	\$15.00	\$2,250.00
104	C	TRENCHING FOR FOUR (4) 2-INCH CONDUIT		LF	400	\$17.50	\$7,000.00
105	C	TRENCHING FOR ONE (1) 4-INCH CONDUIT		LF	250	\$18.00	\$4,500.00
106	C	TRENCHING FOR TWO (2) 4-INCH CONDUIT		LF	250	\$19.00	\$4,750.00
107	C	HAND TRENCH FOR ONE (1) CONDUIT, 2- OR 4-INCH		LF	400	\$35.00	\$14,000.00
108	C	HAND TRENCH FOUR (4) 2-INCH CONDUIT		LF	400	\$38.00	\$15,200.00
109	C	HAND TRENCH TWO (2) 4-INCH CONDUIT		LF	400	\$45.00	\$18,000.00
110	C	PLACE ADD'L 2-INCH CONDUIT IN TRENCH		LF	400	\$0.50	\$200.00
111	C	DIRECTIONAL BORE ONE (1) 2-INCH CONDUIT		LF	4000	\$25.00	\$100,000.00
112	C	DIRECTIONAL BORE TWO (2) 2-INCH CONDUIT		LF	9000	\$26.00	\$234,000.00
113	C	DIRECTIONAL BORE ONE (1) 4-INCH CONDUIT		LF	250	\$30.00	\$7,500.00
114	C	DIRECTIONAL BORE FOUR (4) 2-INCH CONDUIT		LF	1500	\$35.00	\$52,500.00
		MARKING - UNDERGROUND					
115	M	SUPPLY DOME MARKER		EA	5	\$21.63	\$108.15
116	L	PLACE DOME MARKER		EA	5	\$50.00	\$250.00
117	M	SUPPLY SOIL DISK MARKER		EA	5	\$12.50	\$62.50
118	L	PLACE SOIL DISK MARKER		EA	5	\$65.00	\$325.00
		GENERAL LABOR					
119	L	SUPPLY LABORER		HR	200	\$117.00	\$23,400.00
120	L	SUPPLY FOREMAN		HR	200	\$165.00	\$33,000.00
121	L	SUPPLY ASSISTANT		HR	200	\$125.00	\$25,000.00
122	L	SUPPLY FIBER OPTIC TECH - T-SHOOT/SPLICE/TEST		HR	400	\$325.00	\$130,000.00
123	L	SUPPLY TECHNICIAN - OTHER		HR	200	\$325.00	\$65,000.00
		MATERIALS ONLY					
124	M	SUPPLY 12-COUNT FIBER, ADSS		LF	2000	\$0.86	\$1,720.00
125	M	SUPPLY 24-COUNT FIBER, ADSS		LF	1000	\$1.21	\$1,210.00
126	M	SUPPLY 48-COUNT FIBER, AD		LF	1000	\$0.86	\$860.00
127	M	SUPPLY 72-COUNT FIBER, AD		LF	2000	\$0.99	\$1,980.00
128	M	SUPPLY 144-COUNT FIBER, AD		LF	2000	\$1.49	\$2,980.00
129	M	SUPPLY ONE (1) J-HOOK & CLAMP FOR 12-CT DROP CABL		EA	25	\$50.00	\$1,250.00
130	M	SUPPLY 24-COUNT ADSS FIBER MOUNTS		EA	15	\$125.00	\$1,875.00
131	M	SUPPLY 48-COUNT ADSS FIBER MOUNTS		EA	15	\$130.00	\$1,950.00
132	M	SUPPLY 72-COUNT ADSS FIBER MOUNTS		EA	15	\$140.00	\$2,100.00
133	M	SUPPLY 2-INCH CONDUIT, HDPE		LF	1000	\$1.34	\$1,340.00
134	M	SUPPLY 4-INCH CONDUIT, HDPE		LF	1000	\$4.21	\$4,210.00
135	C	SUPPLY ADD'L 2-INCH CONDUIT - DIRECTIONAL BORING		LF	1000	\$1.34	\$1,340.00

18-227-ITB EMERGENCY RESTORATION UNIT PRICE SCHEDULE			BIDDER:			
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
		EQUIPMENT				
136	M	SUPPLY AIR COMPRESSOR	DAY	1	\$270.00	\$270.00
137	M	SUPPLY GENERATOR	DAY	1	\$240.00	\$240.00
138	M	SUPPLY BUCKET TRUCK, AND CREW	HR	16	\$350.00	\$5,600.00
139	M	SUPPLY AIR EXCAVATION TRUCK, AND CREW	HR	80	\$400.00	\$32,000.00
140	M	SUPPLY BACKHOE - SKID LOADER AND OPERATOR	HR	8	\$325.00	\$2,600.00
141	M	SUPPLY MINI-EXCAVATOR AND OPERATOR	HR	24	\$285.00	\$6,840.00
142	M	SHORING BOX AND DELIVERY	DAY		PROVIDE	INVOICE
143	M	SPEED SHORING - TWO SHEETS & JACKS	DAY		PROVIDE	INVOICE
144		LABOR AND MATERIALS				
145	C	CONSTRUCTION TRAFFIC CONTROL	HR	40	\$150.00	\$6,000.00
146	C	TRUCK MOUNTED CRASH ATTENUATOR	HR	16	\$160.00	\$2,560.00
147	-	ANNUAL MAINTENANCE RETAINER	YR	3	\$42,000.00	\$126,000.00
150		JUNCTION BOX / HANDHOLE				
151	M	SUPPLY GROUND ROD AND BRONZE NUT	EA	5	\$40.43	\$202.15
152	L	PLACEMENT OF GROUND ROD AND BRONZE NUT	EA	5	\$65.00	\$325.00
153	C	RELOCATION OF VAULT (Reuse Existing Vault)	EA	4	\$1,450.00	\$5,800.00
154	C	SUPPLY/ INSTALL TYPE 2R VAULT (ROAD-RATED)	EA	2	\$1,800.14	\$3,600.28
155	C	SUPPLY/ INSTALL TYPE 3R VAULT (ROAD-RATED)	EA	2	\$3,960.00	\$7,920.00
156	M	SUPPLY TYPE 1, 18"x30"x30", TIER 15	EA	2	\$296.03	\$592.06
157	L	A - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$2,500.00	\$2,500.00
157	L	B - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$2,200.00	\$2,200.00
157	L	C - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$2,600.00	\$2,600.00
157	L	D - NEW PLACEMENT OF TYPE 1 VAULT TIER 15	EA	1	\$2,000.00	\$2,000.00
158	M	SUPPLY TYPE 3, 24"x36"x36", TIER 15	EA	20	\$606.10	\$12,122.00
159	L	A - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	1	\$3,000.00	\$3,000.00
159	L	B - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	2	\$3,000.00	\$6,000.00
159	L	C - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	12	\$2,000.00	\$24,000.00
159	L	D - NEW PLACEMENT OF TYPE 3 VAULT TIER 15	EA	5	\$1,000.00	\$5,000.00
160	M	SUPPLY TYPE 4, 30"x48"x36", TIER 15	EA	20	\$916.17	\$18,323.40
161	L	A - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	1	\$3,200.00	\$3,200.00
161	L	B - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	2	\$3,200.00	\$6,400.00
161	L	C - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	14	\$1,800.00	\$25,200.00
161	L	D - NEW PLACEMENT OF TYPE 4 VAULT TIER 15	EA	3	\$2,000.00	\$6,000.00
162	M	SUPPLY TYPE 5, 36"x60"x36", TIER 15	EA	6	\$1,276.00	\$7,656.00
163	L	A - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	1	\$3,500.00	\$3,500.00
163	L	B - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	2	\$3,400.00	\$6,800.00
163	L	C - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	2	\$4,800.00	\$9,600.00
163	L	D - NEW PLACEMENT OF TYPE 5 VAULT TIER 15	EA	1	\$2,500.00	\$2,500.00
		Continued on Next Page				

18-227-ITB		EMERGENCY RESTORATION UNIT PRICE SCHEDULE		BIDDER:		
CLIN	C/L/M	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
164	M	SUPPLY TYPE 1, 18"x30"x30", TIER 22	EA	2	\$381.15	\$762.30
165	L	A - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$3,380.00	\$3,380.00
165	L	B - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$3,180.00	\$3,180.00
165	L	C - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$3,780.00	\$3,780.00
165	L	D - NEW PLACEMENT OF TYPE 1 VAULT TIER 22	EA	1	\$2,380.00	\$2,380.00
166	M	SUPPLY TYPE 3, 24"x36"x36", TIER 22	EA	20	\$669.90	\$13,398.00
167	L	A - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	1	\$3,730.00	\$3,730.00
167	L	B - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	2	\$3,630.00	\$7,260.00
167	L	C - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	12	\$2,000.00	\$24,000.00
167	L	D - NEW PLACEMENT OF TYPE 3 VAULT TIER 22	EA	5	\$1,830.00	\$9,150.00
168	M	SUPPLY TYPE 4, 30"x48"x36", TIER 22	EA	20	\$1,046.32	\$20,926.40
169	L	A - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	1	\$3,880.00	\$3,880.00
169	L	B - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	2	\$3,780.00	\$7,560.00
169	L	C - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	14	\$2,000.00	\$28,000.00
169	L	D - NEW PLACEMENT OF TYPE 4 VAULT TIER 22	EA	3	\$2,780.00	\$8,340.00
170	M	SUPPLY TYPE 5, 36"x60"x36", TIER 22	EA	6	\$1,467.40	\$8,804.40
171	L	A - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	1	\$3,980.00	\$3,980.00
171	L	B - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	2	\$3,880.00	\$7,760.00
171	L	C - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	2	\$5,480.00	\$10,960.00
171	L	D - NEW PLACEMENT OF TYPE 5 VAULT TIER 22	EA	1	\$2,880.00	\$2,880.00
172		REMOVE EX. JBOX AND REPLACE WITH TYPE 1				
172	L	A - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Ashpault)	EA	1	\$3,580.00	\$3,580.00
172	L	B - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Pavers)	EA	1	\$3,380.00	\$3,380.00
172	L	C - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Cement)	EA	1	\$3,980.00	\$3,980.00
172	L	D - R/R JB w/ 18"x30"x30" TYPE 1 JBOX (Dirt)	EA	1	\$2,580.00	\$2,580.00
173		REMOVE EX. JBOX AND REPLACE WITH TYPE 3				
173	L	A - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Ashpault)	EA	1	\$3,980.00	\$3,980.00
173	L	B - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Pavers)	EA	1	\$3,880.00	\$3,880.00
173	L	C - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Cement)	EA	1	\$4,480.00	\$4,480.00
173	L	D - R/R JB w/ 24"x36"x36" TYPE 3 JBOX (Dirt)	EA	1	\$2,080.00	\$2,080.00
173	L	E - Place Add'l 24"x36"x36" DBL Stack Jbox	EA	1	\$2,080.00	\$2,080.00
174		REMOVE EX. JBOX AND REPLACE WITH TYPE 4				
174	L	A - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Ashpault)	EA	4	\$3,000.00	\$12,000.00
174	L	B - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Pavers)	EA	20	\$2,000.00	\$40,000.00
174	L	C - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Cement)	EA	40	\$2,000.00	\$80,000.00
174	L	D - R/R JB w/ 30"x48"x36" TYPE 4 JBOX (Dirt)	EA	20	\$2,000.00	\$40,000.00
174	L	E - Place Add'l 30"x48"x36" DBL Stack Jbox	EA	2	\$3,080.00	\$6,160.00
175		REMOVE EX. JBOX AND REPLACE WITH TYPE 5				
175	L	A - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Ashpault)	EA	1	\$4,380.00	\$4,380.00
175	L	B - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Pavers)	EA	2	\$4,280.00	\$8,560.00
175	L	C - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Cement)	EA	4	\$5,880.00	\$23,520.00
175	L	D - R/R JB w/ 36"x60"x36" TYPE 5 JBOX (Dirt)	EA	2	\$3,280.00	\$6,560.00
					Category II Total	\$2,158,558.65

DESCRIPTION (Combined / Labor / Materials)

- C = Combined/Complete comprising both Labor and all needed Materials combined.
- L = Labor Only, See description for details. All materials other than listed major components are included.
- M = Material only, no labor.

**ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT**

INVITATION TO BID NO. 18-227-ITB

ADDENDUM NO. A

Arlington County Invitation to Bid No. 18-227-ITB for Fiber-Optic Network Maintenance is amended as follows:

- I. Bid due date has been postponed until 3:00 PM on Wednesday, September 12, 2018.
- II. Attached are the notes from the Pre-bid Meeting that was held at 10 a.m. on August 21, 2018 and the meeting's sign-in sheet.
- III. The following provision was added to Agreement Terms and Conditions:

4. CONTRACT TERM

Time is of the essence. The Work will commence on the date of the execution of the Agreement by the County and must be completed no later than twenty-four (24) consecutive months thereafter ("Initial Contract Term"), subject to any modifications provided in the Contract Documents. Upon satisfactory performance by the Contractor the County may, through issuance of a unilateral Notice of Award, authorize continuation of the Agreement under the same contract prices for not more than three (3) additional 12-month periods (each a "Subsequent Contract Term"). The Initial Contract Term and any Subsequent Contract Term(s) are together the "Contract Term".

6. CONTRACT PRICING WITH OPTIONAL PRICE ADJUSTMENTS

The Contract Amount/unit price(s) will remain firm until the end of Initial Contract Term ("Price Adjustment Date"). To request a price adjustment, the Contractor or the County must submit a written request to the other party not less than 60 days before the Price Adjustment Date.

Adjustments to the Contract Amount/unit price(s) will not exceed the percentage of change in the U.S. Department of Labor Producer Price Index for Industry: "Electrical contractors, nonresidential building work" (NAICS-based PPI Code: 23821X – Series ID PCU23821X23821X) for the 12-month period ending in December of each year of the Contract. The base price date for PPI adjustments to this contract shall be December 2018. Adjustments shall be made using the Simple percentage method as described in the Price Adjustment Guide for Contracting Parties as of September 1, 2018. (<https://www.bls.gov/ppi/ppiescalation.htm>)

Any Contract Amount/unit price(s) that result from this provision will become effective the day after the Price Adjustment Date and will be binding for 12 months. The new Price Adjustment Date will be 12 months after the price adjustment.

If the Contractor and the County have not agreed on a requested adjustment by 30 days before the Price Adjustment Date, the County may terminate the Contract, whether or not the County has previously elected to extend the Contract's term.

- IV. The following provision in to Agreement Terms and Conditions has been modified as indicated below:

4. TIME FOR COMPLETION

~~Time is of the essence. The Work will commence on the date of the execution of the Agreement by the County and must be completed no later than 730 Calendar days thereafter ("Initial Contract Term"), subject to any modifications provided in the Contract Documents. Upon satisfactory performance by the Contractor the County may, through issuance of a unilateral Notice of Award, authorize continuation of the Agreement under the same contract prices for not more than three (3) additional 12-month periods (each a "Subsequent Contract Term"). The Initial Contract Term and any Subsequent Contract Term(s) are together the "Contract Term".~~

County will assign new construction work will be through issuance of Task Orders. Prior to each Task Order being issued, County and Contractor will discuss the scope of the Task Order and determine a mutually agreeable Final Completion date for that Task Order. Project Officer will indicate such date in the Notice to Proceed. Contractor shall complete each Task Order by the milestone date on which the Final Completion condition is accomplished as determined by the County.

Unless otherwise provided, no claims for early completion are allowed.

5. The following are responses to the questions received:

1. CLIN 11: How many fibers are to be tested with the OTDR? Can we get a set number for bidding purposes? Will the county provide an empty reel for cable return to the county?

County response:

All of the fibers will be tested with an OTDR unless directed otherwise. The test will be a simple, unidirectional OTDR test. Assume 48 fibers for bidding purposes. Contractor will provide the empty reel.

Background:

The purpose of this CLIN is the have the cable removed in such a way that it can be reused. This is not an item that will be frequently used. That said, in the last six (6) years we have removed four cables from one aerial span over a stream crossing in one event. They were immediately placed back over the span after correcting a placement foul (entanglement) cause by a pole replacement. Each of the four cables had to cut apart and spliced back together. Every fiber that could be tested was tested as part of the splice work.

On two occasions, we retrieved long runs of unused fiber cable (both 48 fiber). These were immediately placed back into service at another location. These were 1,600 ft and 3,900 feet. The testing was part of the new installation.

2. When supplying material only, will the item be shipped directly to the County warehouse?

County response:

Not normally, but occasionally.

Background:

Normally, both Supply and Place lines items are used together. And in that case the supplied material is staged by the Contractor (Bidder). Used in conjunction with a specific project, where (for example) the handhole will be acquired (Supplied) and

placed by the Contractor (Bidder), they are delivered to the Contractor's yard – not the County's.

The County has currently about 14 of the 30x48x36" handholes in its yard. The use of these will require the Contractor to retrieve these handholes from the County's yard. That is, picked up from the ground, loaded onto a truck, and moved to the job site and there off-loaded.

On the rare occasion where the County asks for material only, independent of a project, it has then gone to the County's yard (currently 3201 S Eads Street). This has only happened one time in six years.

3. Will there be a Cost of Living adjustment for the out-years of the contract?

County response:

See Amendment item II. "6. CONTRACT PRICING WITH OPTIONAL PRICE ADJUSTMENTS" above.

4. How is milling and paving restoration handled? Sometimes we are required to mill and pave the entire street. Crystal Dr. is an example of when the County required this of us.

County response:

Pavement restoration shall be to the County Standards and Specifications Manual – current edition. This is can be found at the URL:

<https://topics.arlingtonva.us/building/construction-standards-specifications/>. There are two (2) applicable standards: M-6.0 Standard Pavement Patching for Utility Cuts, and M-6.1 Modified Pavement Patching for Cuts on Newly Paved Street. M-6.0 requires full restoration of the trench width plus a 12 inch overlap of each side of the trench with the finish layer. M-6.1 requires a width of 12 feet, plus up to 3 additional feet if that will reach the curb/gutter, to be repaved as part of the restoration.

For the purposes of this bid, the Contractor should assume M-6.0 will be used for restoration.

If the County requires restoration based on M-6.1, the Project Officer must be made aware and have approved or this action in the event a change order is required, and Contractor shall submit a copy of an acceptable invoice from the paving subcontractor's for payment provided that payment does not exceed the cost of paving by the County's on-call paving contractor.

5. How is restoration of line striping handled?

County response:

Best efforts should be made to avoid damaging the thermoplastic paint used for roadway lines. Failing that, the Project Officer must be made aware in advance of the need to damage the paint and have approved or this action in the event a change order is required, and Contractor shall submit a copy of an acceptable invoice from the striping subcontractor for payment provided that payment does not exceed the cost of paving by the County's on-call striping contractor.

6. How is ADA Ramp restoration handled?

County response:

The County will work with the Contractor to avoid the need to damage an existing ADA Ramp. Should this prove unavoidable and an ADA ramp must be excavated in order to place a fiber optic conduit, the Project Officer must be made aware and have approved or this action in the event a change order is required, and Contractor shall submit a copy of an acceptable invoice from the cement work subcontractor for payment provided

that payment does not exceed the cost of paving by the County's on-call cement work contractor.

The balance of the solicitation remains unchanged.

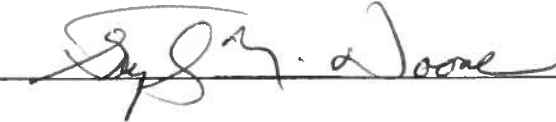
Arlington County, Virginia

Igor Scherbakov
Procurement Officer
ischerbakov@arlingtonva.us

RETURN THIS PAGE, FULLY COMPLETED AND SIGNED, WITH YOUR BID:

RECEIPT OF ADDENDUM A IS ACKNOWLEDGED.

FIRM NAME: N TO N FIBER, INC

AUTHORIZED SIGNATURE:  DATE: 9/05/18

NOTES FROM PRE-BID MEETING

ITB Number: 18-227-ITB
Title: Fiber-Optic Network Maintenance
Date/Time: 10 a.m. on August 21, 2018

Overview of the solicitation by County Staff

- Instructions to bidders:
 - For access to the ITB, Bidders can check the Virginia eVA website.
 - Summarized important dates outlined in the ITB.
 - Submission of bids to be fully detailed including all documents, addendums, and signed statements.
 - Bids shall be submitted in hard copy to the Arlington County Bid Clerk's office.
 - Questions to be solicited by email not by phone. All questions will be answered in an Addendum.
 - Described the method of award and multi-award provisions
 - Discussed bid bond and performance bond requirements
 - Discussed Minimum Bidder qualification requirements, and solicited feedback ro the attendees to ensure those requirements are reasonable.
- Brief project overview that included the scope of the project with highlights focused in on the special project requirements.
 - Sole brand, "No-Substitute" items as listed onpp 1-2 of the solicitation
 - Background check for installers will be performed at County's expense
 - Discussed differences between emergency restoration work and non-emergency work, as well as construction vs maintenance.
 - Discussed project assignment procedure and scheduling.
 - Discussed upcoming work and volume of work expected throughout contract duration.
- The pre-bid meeting was for informational purposes only, and it did not cover the entire extent of the work to be performed under this Solicitation. Bids must be submitted for the work as described in the Invitation to Bid.

Following the discussion the floor was opened to attendees to ask questions. Answers to those questions are found in Addendum A.

INSURANCE CHECKLIST

CERTIFICATE OF INSURANCE MUST SHOW ALL COVERAGE AND ENDORSEMENTS MARKED "X".

COVERAGES REQUIRED

COVERAGE MINIMUM(S)

- X_1. Workers' Compensation Statutory limits of Virginia
- X_2. Employer's Liability \$100,000 accident, \$100,000 disease, \$500,000 disease policy limit
- X_3. Commercial General Liability \$1,000,000 CSL BI/PD each occurrence, \$2 Million annual aggregate
- X_4. Premises/Operations \$500,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- X_5. Automobile Liability \$1 Million BI/PD each accident, Uninsured Motorist
- X_6. Owned/Hirad/Non-Owned Vehicles \$1 Million BI/PD each accident, Uninsured Motorist
- X_7. Independent Contractors \$500,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- X_8. Products Liability \$500,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- X_9. Completed Operations \$500,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- X_10. Contractual Liability (Must be shown on Certificate) \$500,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- X_11. Personal and Advertising Injury Liability \$1 Million each offense, \$1 Million annual aggregate
- X_12. Umbrella Liability \$1 Million Bodily Injury, Property Damage and Personal Injury
- X_13. Per Project Aggregate
- X_14. Professional Liability
 - a. Architects and Engineers \$1 Million per occurrence/claim
 - b. Asbestos Removal Liability \$2 Million per occurrence/claim
 - c. Medical Malpractice \$1 Million per occurrence/claim
 - d. Medical Professional Liability \$ Limits as set forth in Virginia Code 8.01.581.15
- X_15. Miscellaneous E&O \$1 Million per occurrence/claim
- X_16. Motor Carrier Act End, (MCS-90) \$1 Million BI/PD each accident, Uninsured Motorist
- X_17. Motor Cargo Insurance
- X_18. Garage Liability \$1 Million Bodily Injury, Property Damage per occurrence
- X_19. Garagekeepers Liability \$500,000 Comprehensive, \$500,000 Collision
- X_20. Inland Marine-Bailee's Insurance \$ _____
- X_21. Moving and Rigging Floater Endorsement to CGL
- X_22. Crime and Employee Dishonesty Coverage \$ _____
- X_23. Builder's Risk Provide Coverage in the full amount of Contract, including any amendments
- X_24. XCU Coverage Endorsement to CGL
- X_25. USL&H Federal Statutory Limits
- X_26. Carrier Rating shall be A.M. Best Co.'s Rating of A-VII or better or equivalent
- X_27. Notice of Cancellation, nonrenewal or material change in coverage shall be provided to County at least 30 days prior to action.
- X_28. The County shall be an Additional Insured on all policies except Workers Compensation and Auto and Professional Liability.
- X_29. Certificate of Insurance shall show Bid Number and Bid Title.
- X_30. OTHER INSURANCE REQUIRED: _____

INSURANCE AGENT'S STATEMENT:

I have reviewed the above requirements with the bidder named below and have advised the bidder of required coverages not provided through this agency.

AGENCY NAME: McGriff Insurance Services AUTH. SIGNATURE: [Signature]

BIDDER'S STATEMENT:

if awarded the Contract, I will comply with all Contract insurance requirements.

BIDDER NAME: N to N Fiber, Inc. AUTH. SIGNATURE: [Signature]

BIDDER FIRM NAME N to N Fiber, Inc.
Arlington County Solicitation No. 18-227-ITB



**ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT
2100 CLARENDON BOULEVARD, SUITE 500
ARLINGTON, VA 22201
(703) 228-3410**

INVITATION TO BID NO. 18-227-ITB

SEALED BIDS WILL BE RECEIVED IN HAND IN THE OFFICE OF THE BID CLERK, SUITE 511, 2100 CLARENDON BOULEVARD, ARLINGTON, VIRGINIA 22201, UNTIL 3:00 P.M. ON THE 6TH DAY OF SEPTEMBER 2018 FOR:

PROVISION OF EMERGENCY RESTORATION AND MAINTENANCE/INSTALLATION SERVICES FOR CONNECTARLINGTON, ARLINGTON COUNTY'S FIBER OPTIC COMMUNICATIONS NETWORK, WHICH CONSISTS OF APPROXIMATELY 400 LOCATIONS PLUS ANY FUTURE SITES ADDED AND CONSTRUCTION OF FUTURE PLANNED PROJECTS, WHICH WILL INCLUDE INSTALLATION OF ALL-DIELECTRIC SELF-SUPPORTING (ADSS) FIBER OPTIC CABLE TO ANY NEWLY REQUESTED COUNTY LATERAL LOCATIONS. SERVICES SHALL INCLUDE, BUT NOT BE LIMITED TO, INSTALLING OF CONDUIT WITH TRACER WIRE, AERIAL FIBER INSTALLATION, VAULT CONSTRUCTION, FIBER PLACEMENT, SPlicing, AND FIBER TESTING, MAKE-READY WORK, AND OTHER WORKS INCIDENTAL TO COMPLETION OF THE WORK.

At the time, date and place stated above, bids will be publicly opened.

Bid Surety in the amount of \$15,000.00 of the bid must be submitted with the bid. Performance and Payment Bonds in the amount of \$300,000.00 of the award will be required of the successful bidder.

NOTE: THIS INVITATION TO BID REQUIRES PROVISION OF BRAND NAME ITEMS. SUBSTITUTIONS WILL NOT BE ALLOWED FOR THE FOLLOWING ITEMS:

1. Preformed Line Products (PLP) 8006877 Coyote Dome Closure 6.5" x 22" splice case and associated hardware including either LGSTS72 or LGSTS40 as in items 2. Or 3., below.
2. Preformed Line Products (PLP) LGSTS72 (new#) Lite-Grip® Long Tray, 80 splice count (Single Fusion Double Stack) splice and associated hardware.
3. Preformed Line Products (PLP) LGSTS40 (old#) Lite-Grip® Long Tray, Deep Profile 80 splice count (Single Fusion Double Stack) splice tray plus LGSBS8-5 Splice Block Kit and other associated hardware.
4. Preformed Line Products (PLP) 8006692 Coyote Runt Closure 3.7" x 10" x 18.7" splice case and associated hardware.
5. Preformed Line Products (PLP) 80806033, 12 splice count (Single Fusion) splice tray and associated hardware.
6. COMMSCOPE (was TE COMM) FOSC 600D Splice Enclosure and associated hardware.
7. COMMSCOPE (was TE COMM) FOSC-ACC-D-TRAY-72 Tray with 72 Fusion Splice Holder, Plate, Tie Wrap and Velcro.
8. COMMSCOPE (was TE COMM) FOSC-ACC-D-TRAY-RIBN-24, Mass Fusion Ribbon Splice Tray for D SIZE Closure which holds 24 Mass Fusion Ribbon Splices (288 splices).
9. Prysmian Group (Draka) ezDROptm Flat:
PN: F-DFS1JKT-12-BB-012-E3 (12 fibers)
10. Prysmian Group (Draka) ezPREptm Gel-Free Loose Tube:
PN: F-EDH-1JKT-12-ES-144-E3 (144 fibers)
11. Prysmian Group (Draka) ezPREptm Gel-Free Loose Tube:
PN: F-EDH-1JKT-12-ES-072-E3 (72 fibers)



12. Prysmian Group (Draka) ezPREPtm Gel-Free Loose Tube:
PN: F-EDH-1JKT-12-ES-048-E3 (48 fibers)
13. Prysmian Group (Draka) ezPREPtm Gel-Free Loose Tube:
PN: F-EDH-1JKT-12-ES-024-E3 (24 fibers)
14. Prysmian Group (Draka) ezSPANtm ADSS Short Span:
PN: F-ADED-1031-12-ES-144-ES (144 fibers)
15. Prysmian Group (Draka) ezSPANtm ADSS Short Span:
PN: F-ADED-1031-12-ES-072-ES (72 fibers)
16. Prysmian Group (Draka) ezSPANtm ADSS Short Span:
PN: F-ADED-1031-12-ES-048-ES (48 fibers)
17. Prysmian Group (Draka) ezSPANtm ADSS Short Span:
PN: F-ADED-1031-12-ES-024-ES (24 fibers)
18. Prysmian Group (Draka) 864 fiber MassLink™ RILT with Singlemode
Low Water Peak: PN: F-RLG1A1J-12-HB-864-E3
19. Prysmian Group (Draka) 144 fiber FusionLink™ RCLT with Singlemode
Low Water Peak: PN: F-RCG1JKT-12-HB-144-E3
20. Tii Technologies - Slim Patch Drop Part No. WMS1BF12RLCCxxxF where xxx is the length of the preterminated cable in feet if ends in "F" as shown.
21. Corning Pretium product line for the following patch panel items:
PWH-04P, PWH-02P, SPH-01P, PCH-04U, PCH-02U, PCH-01U, CCH-CP12-6C, CCH-CP24-A9, M67-112, M67-110, and related accessories as described in section "IV. MATERIALS AND TESTING SPECIFICATIONS", "CONTRACTOR-SUPPLIED MATERIALS".

PRE-BID CONFERENCE

A pre-bid conference will be held at 10.00 a.m. on August 21, 2018 at the Cherry-Dogwood conference room of Arlington County Government building located at 2100 Clarendon Boulevard, Arlington VA 22209 to allow potential bidders an opportunity to obtain clarification of the specifications and requirements of the solicitation. ATTENDANCE IS OPTIONAL but recommended. Minutes of the pre-bid conference will be recorded by the County and will be incorporated into the solicitation documents through an Addendum. Interested bidders are, however, urged to attend.

Arlington County reserves the right to reject any and all bids, cancel this solicitation, and waive any informalities or irregularities as defined in the Arlington County Purchasing Resolution.

NOTICE: ANY BIDDER ORGANIZED AS A STOCK OR NONSTOCK CORPORATION, LIMITED LIABILITY COMPANY, BUSINESS TRUST OR LIMITED PARTNERSHIP, OR REGISTERED AS A LIMITED LIABILITY PARTNERSHIP, MUST BE AUTHORIZED TO TRANSACT BUSINESS IN THE COMMONWEALTH OF VIRGINIA PRIOR TO SUBMITTING A BID (REFER TO AUTHORITY TO TRANSACT BUSINESS SECTION IN THE SOLICITATION FOR FURTHER INFORMATION).

Arlington County, Virginia
Office of the Purchasing Agent

Igor Scherbakov
Procurement Officer
ischerbakov@arlingtonva.us

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ATTACHMENT A – PRICING SHEET

I. INFORMATION FOR BIDDERS

1. QUESTIONS AND ADDENDA

All communications relating to this solicitation must be e-mailed to **Igor Scherbakov** in the Office of the Purchasing Agent, at **ischerbakov@arlingtonva.us**. For a question to be considered, the subject line of the e-mail must state the following: **ITB No. 18-227-ITB Questions**. Questions should be succinct and must include the submitter's name, title, company name, company address, and telephone number. Prior to the award of a contract resulting from this solicitation, bidders are prohibited from contacting any County staff other than those assigned to the Office of the Purchasing Agent.

NO QUESTIONS WILL BE CONSIDERED IF THEY ARE SUBMITTED WITHIN THE TEN (10) CALENDAR DAYS IMMEDIATELY PRECEDING THE DEADLINE FOR RECEIPT OF BIDS.

If any questions or responses require revisions to this solicitation, such revisions will be by formal Addendum only. Bidders are cautioned not to rely on any written, electronic, or oral representations made by any County representative or other person, including the County's technical contact, that appear to change any portion of the solicitation unless the change is subsequently ratified by a written Addendum to this solicitation issued by the Office of the Purchasing Agent.

2. INTEREST IN MORE THAN ONE BID AND COLLUSION

Reasonable grounds for believing that a Bidder is interested in more than one bid for a solicitation, including both as a Bidder and as a subcontractor for another Bidder, or that collusion exists between two or more Bidders, will result in rejection of all affected bids. However, an individual or entity acting only as a subcontractor may be included as a subcontractor on bids of two or more different Bidders. Bidders rejected under the above provision will also be disqualified if they respond to a re-solicitation for the same work.

3. TRADE SECRETS OR PROPRIETARY INFORMATION

Trade secrets or proprietary information that a bidder or contractor submits in connection with a procurement transaction may be exempted from public disclosure under the Virginia Freedom of Information Act ("VFOIA"). However, the bidder or contractor must invoke VFOIA protection clearly and in writing on the Bid Form for County review. The Bid Form must include at least the following: (1) the data or other materials sought to be protected and (2) specific reasons why the material is confidential or proprietary. It is the bidder's sole responsibility to defend such exemptions if challenged in a court of competent jurisdiction.

4. DEBARMENT STATUS

The Bidder must indicate on the Bid Form whether it or any of its principals is currently debarred from submitting bids to the County or to any other state or political subdivision and whether the Bidder is an agent of any person or entity that is currently debarred from submitting bids to the County or to any other state or political subdivision. An affirmative response may be considered grounds for rejection of the bid.

5. AUTHORITY TO TRANSACT BUSINESS

Any Bidder organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership must be authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia, or as otherwise required by law. The proper and full legal

name of the entity and the identification number issued to the Bidder by the Virginia State Corporation Commission must be included on the Bid Form. Any Bidder that is not required to be authorized to transact business in the Commonwealth must include in its bid a statement describing why the Bidder is not required to be so authorized. The County may require a Bidder to provide documentation that 1) clearly identifies the complete name and legal form of the entity and 2) establishes that the entity is authorized by the State Corporation Commission to transact business in the Commonwealth of Virginia. Failure of a Bidder to provide such documentation will be a ground for rejection of the bid or cancellation of any award. For further information refer to the Commonwealth of Virginia State Corporation Commission website at: www.scc.virginia.gov.

6. ARLINGTON COUNTY BUSINESS LICENSES

The successful Bidder must comply with the provisions of Chapter 11 ("Licenses") of the Arlington County Code, if applicable. For information on the provisions of that Chapter and its applicability to this solicitation, contact the Arlington County Business License Division, Office of the Commissioner of the Revenue, at 2100 Clarendon Blvd., Suite 200, Arlington, Virginia, 22201, tel. (703) 228-3060, or e-mail mailto: business@arlingtonva.us.

7. VIRGINIA CONTRACTOR LICENSE

For all work that is classified as being performed by "Contractors" as defined by the Virginia State Board for Contractors, a Class A, B, or C License is required.

If a contract for performing or managing construction, removal, repair or improvements is for \$120,000 or more, or if the total value of all such construction, removal, repair, or improvements undertaken by the bidder within any twelve month period is \$750,000 or more, the bidder is required under Title 54.1, Chapter 11, Code of Virginia, as amended, to be licensed as a "CLASS A CONTRACTOR."

If a contract for performing or managing construction, removal, repair or improvements is for \$10,000 or more, but less than \$120,000, or if the total value of all such construction, removal, repair, or improvements undertaken by the bidder within any twelve month period is \$150,000 or more, but less than \$750,000, the bidder is required under Title 54.1, Chapter 11, Code of Virginia, as amended, to be licensed as a "CLASS B CONTRACTOR."

If a contract for performing construction, removal, repair or improvements is for \$1,000 or more, but no more than \$10,000 or if the total value of all such construction, removal, repair, or improvements undertaken by the bidder within any twelve month period is less than \$150,000, the bidder is required under Title 54.1, Chapter 11, Code of Virginia, as amended, to be licensed as a "CLASS C CONTRACTOR." Class C contractors shall not include electrical, plumbing, and heating, ventilation and air conditioning contractors.

For further information, contact the State Board for Contractors, 2 South Ninth Street, Richmond, VA 23219, (804) 367-8511.

8. ESTIMATED QUANTITIES/NON-EXCLUSIVITY OF CONTRACTOR

The contract that will result from this solicitation will not obligate the County to purchase a specific quantity of items or services during the Contract Term. Any quantities that are included in the contract documents are the present expectations the County for the period of the contract, and the County is under no obligation to buy that, or any, amount as a result of having provided this estimate or of having

had any normal or otherwise measurable requirement in the past. The County may require more goods and/or services than the estimated annual amount, and any such additional quantities will not give rise to any claim for compensation other than at the unit prices and/or rates specified in the contract.

The items or services covered by this contract may be or become available under other County contract(s), and the County may determine that it is in its best interest to procure the items or services through such other contract(s). The County does not guarantee that the selected contractor will be the exclusive provider of the goods or services covered by the resulting contract.

9. BID FORM SUBMISSION

The bidder must submit its bid on the form provided in this solicitation. One copy of the Bid Form, marked "ORIGINAL" must contain an original longhand signature. The bidder must also submit a photocopy of the signed Bid Form. Both copies must be submitted by hand in a sealed envelope or package no later than the date and time deadline specified in this solicitation to:

Arlington County Government
Office of the Bid Clerk
Suite 511
2100 Clarendon Boulevard,
Arlington, Virginia, 22201

The exterior of the envelope or package must indicate the name of the bidder, the scheduled bid opening date and time, and the number of the Invitation to Bid. Bids submitted by facsimile or electronically will not be accepted.

Timely submission is solely the responsibility of the bidder. The County will reject bids received after the deadline. A bid will also be rejected if the Bid Form is not signed in the designated space by a person authorized to legally bind the bidder.

Modification of or additions to the Bid Form may be cause for rejection of the bid; however, Arlington County reserves the right to decide in its sole discretion whether or not to reject such a bid as nonresponsive. As a precondition to bid acceptance, Arlington County may request that a bidder withdraw or modify any such modifications or additions which do not affect quality, quantity, price, or delivery.

Bids and all documents submitted to Arlington County by a bidder become the property of the County upon receipt.

10. ERRORS IN EXTENSION

Where the unit price and the extension price are at variance, the unit price will prevail.

11. EXCEPTIONS

Bidders taking exception to any part or section of this solicitation shall indicate such exceptions on the Bid Form. Failure to indicate any exceptions indicates the bidder's intent to fully comply with the solicitation as written. However, conditional or qualified bids with such exceptions, unless specifically allowed in the solicitation, are subject to rejection in whole or in part as nonresponsive.

12. NONCONFORMING TERMS AND CONDITIONS

If a bid contains alternate terms and conditions that do not conform to the terms and conditions in this solicitation, the bid will be subject to rejection for nonresponsiveness. The County reserves the right to permit a bidder to withdraw nonconforming terms and conditions from its bid prior to the County's determination of nonresponsiveness.

13. BIDDERS' RESPONSIBILITY TO INVESTIGATE

Before submitting a bid, each bidder must make all investigations necessary to ascertain all conditions and requirements affecting the full performance of the contract and to verify any representations made by the County upon which the bidder will rely. No pleas of ignorance of such conditions and requirements will relieve the successful bidder from its obligation to comply in every detail with all provisions and requirements of the contract or will be accepted as a basis for any claim for any monetary consideration on the part of the successful bidder.

14. SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

Each bidder is responsible for ascertaining the nature and locations of the Work of the solicitation, and for investigating the general and local conditions and factors which can affect the work or its cost, including but not limited to:

- a. conditions bearing upon transportation, disposal, handling, and storage of materials;
- b. the availability of labor, water, electric power, and roads;
- c. uncertainties of weather, river stage, tides, or similar physical conditions at the site;
- d. the conformation and conditions of the ground; and
- e. the character of equipment and facilities needed before and during work performance.

Each bidder is responsible for investigating the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work publicly or otherwise available, as well as from the drawings and specifications made a part of this solicitation.

The locations of existing utilities, including underground utilities, which may affect the work are indicated on the drawings or in the specifications insofar as their existence and location were known at the time of preparation of the drawings. However, nothing in these drawings or specifications shall be construed as a guarantee that such utilities are in the location indicated or that they actually exist, or that other utilities are not within the area of operations. The bidder shall make all necessary investigations to determine the existence and locations of such utilities.

The County assumes no responsibility for any conclusions or interpretations made by the bidder based on the information made available by the County. The County assumes no responsibility for any understanding reached or representation made concerning conditions which could affect the work by any of its officers or agents before the execution of the contract, unless that understanding or representation is expressly stated in the Contract.

15. INCOMPLETE DOCUMENTS

Each bidder is responsible for having determined the accuracy and/or completeness of the solicitation documents upon which it relied in making its bid, and has an affirmative obligation to notify the Arlington County Purchasing Agent immediately upon discovery of an apparent or suspected inaccuracy, error in,

or omission of any pages, drawings, sections, or addenda whose omission from the documents was apparent from a reference or page numbering or other indication in the solicitation documents.

If a bidder downloads an electronic version of the solicitation documents, that potential bidder is responsible for determining the accuracy and/or completeness of the electronic documents, and ensuring that the electronic documents used in preparing the bid are the most current version of solicitation documents issued by the County.

If the successful bidder proceeds with any activity that may be affected by an inaccuracy, error in, or omission in the solicitation documents of which it is aware but has not notified the Arlington County Purchasing Agent, the bidder hereby agrees to perform any activity described in the missing or incomplete documents at bidder's sole expense and at no additional cost to Arlington County.

16. ERRONEOUS OR INFEASIBLE REQUIREMENTS

Each bidder is responsible for having determined the feasibility of the work required, and shall notify the County Purchasing Agent immediately upon discovery of any apparent erroneous, contradictory, incomplete, or infeasible requirements or directions contained in the Solicitation Documents. If a bidder fails to notify the County of such conditions immediately upon discovery, the bidder assumes all responsibility for any and all work required to satisfy the contract requirements at no additional cost to the County and within the Time for Completion.

17. QUALIFICATION OF BIDDERS

The Purchasing Agent may require a bidder to demonstrate that it has the necessary facilities, ability, and financial resources to comply with the contract and furnish the service, material or goods specified herein in a satisfactory manner before the award of any contract. A bidder may also be required to provide past history and references. Failure to qualify according to the foregoing requirements will result in bid rejection.

18. ALTERNATE BID

Bidders who have other items they wish to offer in lieu of, or in addition to, what is required by this solicitation shall submit a separate bid clearly marked "ALTERNATE BID". Alternate bids will be automatically deemed nonresponsive. Such bids will, however, be examined and may result in either cancellation of all bids in order to permit rewriting of the solicitation to include the alternate item in a rebid or the alternate item may be considered for future requirements.

19. INFORMALITIES

The County reserves the right to waive minor defects or variations from the exact requirements of the solicitation in a bid insofar as those defects or variations do not affect the price, quality, quantity, or delivery schedule of the services being procured. If insufficient information is submitted for Arlington County to properly evaluate a bid or a bidder; the County may request such additional information after bid opening, provided that the information requested does not change the price, quality, quantity, or delivery schedule for the services being procured.

20. USE OF BRAND NAMES/SUBSTITUTES

Unless identified as a "No Substitute" item in the solicitation, the name of a certain brand, make or manufacturer does not restrict bidders to that specific brand, make or manufacturer. The use of the brand, make or manufacturer's identification is intended to convey the general type, style, character, and

quality of the article described. When a brand name is specified and followed by the phrase “or approved equal,” the brand name product may be substituted if a suitable equivalent considering quality, workmanship, economy of operation, and suitability for the intended use, is accepted by the County Purchasing Agent.

For those items not identified as “No Substitute”, and followed by the phrase “or approved equal,” the County has established the following procedure for determining the equivalency of a particular item:

Bidder Submission of Proposed Equivalent Item(s):

- 1) Bidder shall submit to the County its proposed item(s) for determination of their equivalency to the Brand Name(s) specified.
- 2) Each proposed item must be described on a separate page, indicating the appropriate specification section number, product or fabrication or installation method to be replaced, and specifics of the proposed item. Attach any technical information, photographs, brochures and the relevant data listed below that supports the proposed item and will permit the County to fairly determine acceptability of the item proposed:
 - a. Reasons why the specified product cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the product specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of Architects and owners, if requested.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Statement of impact on the construction schedule. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - i. Cost information.
 - j. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
- 3) The County will consider factors such as relative costs, equivalency of features, serviceability, the design of the item proposed, and/or pertinent performance factors as provided in the project technical specifications.
- 4) All pages of the submission shall be marked with the name, address and contact information of the bidder, and sent to the Office of the Purchasing Agent to arrive prior to the question deadline established in Section I., paragraph I. ADDITIONAL INFORMATION. E-mail transmittals will be accepted at jscherbakov@arlingtonva.us.

County Review of Proposed Equivalent Item(s):

- 1) Approved item(s) will be added to the solicitation, in the form of an Addendum to the solicitation, and forwarded to all bidders of record.
- 2) Bidders whose item(s) have not been approved will be so advised in writing simultaneously with the issuance of the Addendum.

21. NEW MATERIAL

Unless otherwise provided for in this solicitation, all goods, materials, supplies, or components offered to the County under this bid solicitation must be new, not used or reconditioned, and are not of such age or so deteriorated as to impair their usefulness or safety and that the goods, materials, supplies, or components offered are current production models of the respective manufacturer. If a bidder believes that furnishing used or reconditioned goods, materials, supplies or components will be in the County's interest, the bidder shall notify the County Purchasing Agent in writing no later than fifteen (15) calendar days prior to the date set for opening of bids. The notice shall include the reasons for the request and any benefits which may accrue to the County if the Purchasing Agent authorizes the bidding of used or reconditioned goods, materials, supplies or components.

22. BID WITHDRAWAL PRIOR TO BID OPENING

No bid can be withdrawn after it is filed with the Bid Clerk unless the bidder makes a request in writing to the Purchasing Agent prior to the time set for the opening of bids.

23. WITHDRAWAL OF BID FROM CONSIDERATION AFTER BID OPENING

After the opening of a bid, a bidder may withdraw its bid from consideration if the price of the bid is substantially lower than other bids due solely to a mistake therein, provided the bid is submitted in good faith, the mistake is a clerical mistake as opposed to a judgment mistake, and is actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of the bid, which unintentional error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn. No partial withdrawals of bids will be permitted after the time and date set for the bid opening. The bidder must give notice in writing to the Arlington County Purchasing Agent of a claim of right to withdraw a bid and provide all original work papers, documents and other materials used in the preparation of the bid sought to be withdrawn, within two (2) business days after the date of bid opening. A bid may also be withdrawn if the County fails to award or issue a notice of intent to award the bid within ninety (90) days after the date fixed for opening bids.

24. METHOD OF AWARD

All submitted bids will be evaluated to determine whether the bidders fulfill the minimum requirements specified in this solicitation, outlined as questions 1-6 of the Bid Form (Step 1). Only pricing sheet envelopes of the bidders who meet the mandatory requirements will be opened (Step 2).

The County will award multiple contracts in two categories:

- **In Category I: Fiber Optic Network Construction and Maintenance**, County will award contracts to up to three (3) lowest responsive and responsible bidders. Lowest bidder qualifying as the primary, next lowest bidder qualifying as the secondary/back up contractor and remaining lowest bidder qualifying as the tertiary/back up contractor respectively. The lowest bidder will be determined by the **Category I Total** as calculated the on Pricing Sheet.

- **In Category II: Emergency Restoration Services**, County will award the Contract to up to two lowest bidders, with the lowest bidder being primary and second designated as a backup/secondary services provider. Lowest bidder will be determined by **Category II Total** as calculated on the pricing sheet.

25. NOTICE OF DECISION TO AWARD

When the County has made a decision to award a contract(s), the County will send a Notice of Decision to Award to all Bidders using the e-mail addresses provided on the Bid Form.

26. INSURANCE REQUIREMENTS

Each bidder must be able to demonstrate proof of the specific coverage requirements and limits applicable to this solicitation. If the bidder is not able to do so, it may propose alternate insurance coverage for consideration by the County. Written requests for consideration of alternate coverage must be received by the County Purchasing Agent at least 10 working days prior to bid due date. If the County permits alternate coverage, an amendment to the Insurance Checklist will be issued prior to the time and date set for receipt of bids.

27. SURETY REQUIRED

A. BID SURETY:

A fully completed and properly executed original Bid Bond, cashier's check, certified check, money order, or cash escrow in the amount of fifteen thousand dollars (\$15,000.00) made payable to the Treasurer of Arlington County shall accompany each bid. The Bid Surety will be retained until after the award to the successful bidder. The Bid Surety of the successful bidder will be retained until completion of the Contract or the posting of a Performance Bond, whichever occurs sooner. A bid submitted without a proper bid surety will be rejected.

B. FAILURE TO EXECUTE:

The failure of a bidder to accept an award and file acceptable Performance and Payment Bonds within fifteen (15) days after notice of intent to award will cause cancellation of the award and the forfeiture of the Bid Surety to the County.

C. PERFORMANCE SURETY:

A fully completed and properly executed original Performance Bond in the amount of three hundred thousand dollars (\$300,000.00) will be required of the successful bidder to ensure satisfactory completion of the work. The bond shall be a corporate surety bond issued by a surety company authorized to do business in the Commonwealth of Virginia and acceptable to the County. Where applicable, the Performance Bond shall be renewable annually in the original amount through the completion of the Contract, including all warranty and guarantee periods.

D. PAYMENT BOND:

A fully completed and properly executed original Payment Bond in the amount of three hundred thousand dollars three hundred thousand dollars \$300,000.00, will be required of the successful bidder to ensure payment of all persons who have and fulfill contracts for the Contractor for performing labor, providing equipment, or providing material in the performance of the work provided for in the Contract. The Bond shall be a corporate surety bond issued by a surety company authorized to do business in the Commonwealth of Virginia and acceptable to the County. Where applicable, the Payment Bond shall be renewable annually in the original amount for the duration of the Contract.

28. EXECUTION OF CONTRACT

Within fifteen days after the Contract is presented to the successful Bidder for signature, the Contractor must deliver to the County Purchasing Agent three (3) copies of the executed Agreement and executed performance and payment bonds and required certificate of insurance. Failure to do so shall constitute a default, and the County may award the Contract to the next lowest responsive and responsible bidder or solicit new bids. The County may then charge against the Contractor the difference between the amount of the Contract award and the amount for which a Contract is subsequently executed, up to the total amount of the Contractor's bid security.

29. EXPENSES INCURRED IN PREPARING BID

All expenses related to a bid are the sole responsibility of the bidder.

30. MINIMUM BIDDER QUALIFICATIONS

Bidders shall meet the following qualifications in order to be considered responsible:

1. Bidder shall have been contracted to perform fiber optic emergency restoration for other companies or government entities within the last two (2) years.
2. Bidder shall have met one of the following two requirements:
 - a) a minimum of five (5) outside plant construction projects of \$250,000 initial project value in a dense urban environment with conflicting utilities similar to Arlington County in the last three (3) years (at least two (2) of the referenced projects must include directional drilling);
 - or
 - b) three (3) miles of directional drilling in a dense urban environment with conflicting utilities similar to Arlington County in the last five (5) years.
3. Bidder's current splicing employees must have cumulatively completed a minimum of 2400 singlemode splices within the last five (5) years.
4. Bidder shall possess and keep in calibration and in good working order, at least two (2) separate OTDRs, two (2) separate 12F ribbon fusion splicing machines, and two (2) single fiber (loose tube) fusion splicing machines, and maintain more than (2) fiber splicing-testing crews for each OTDR-fusion splicing machines.
5. Bidder's construction foreman must have accrued either:
 - a) seven (7) years of experience as a foreman in a dense urban environment with conflicting utilities, similar to Arlington County;
 - or
 - b) two (2) years of experience as a foreman on directional drilling projects in a dense urban environment with conflicting utilities, similar to Arlington County? (For this question, a foreman is a trained worker who directs and supervises a crew for underground construction, aerial construction and/or cable installation.)
6. Bidder's lead splicer must have completed 3,500 singlemode splices with very low loss, within the last three (3) years. The splice loss specification for 1310 nm and 1550 nm shall be listed for each project listed.

II. SUPPLEMENTARY SPECIFICATIONS

1. SCOPE OF WORK

1.1. GENERAL

Contractor shall provide maintenance, new construction, and emergency restoration work for the County's existing fiber optic network which currently consists of a fiber backbone comprised of four two inch conduits of roughly 56 miles in length, containing two (2) 144-count loose tube fiber cables, and approximately 400 lateral connections which extend off of the backbone. A smaller section (currently 10 miles) also holds one (1) 864-count ribbon cable. Additionally, County fiber optic cable is attached to approximately 350 poles on 34 separate runs.

The lateral connections comprise over 300 traffic signals and currently less than 100 County Facilities and Schools. The emergency restoration work will require the contractor to be on call and available to respond 24x7x365 for any required emergency restoration and repair requests and have available accessibility to fiber required for repair.

Maintenance, installation, and emergency restoration services will include underground construction in new conduit, pulling fiber in existing and new conduit, aerial construction or adjustments in the communication space on existing utility poles, make-ready work, fiber splicing and testing, and placement of fiber cable to new and existing demarcation locations in Arlington County and APS institutions, as well as any other work necessary to maintain the fiber optic network in good working condition.

The scope of work also includes construction of future lateral connections to the network backbone. This effort will include underground construction in new conduit, pulling fiber in existing and new conduit, aerial construction in the communication space on existing utility poles, aerial make-ready work, fiber splicing and testing, and placement of fiber cable to new and existing demarcation locations in Arlington County and Arlington County Public Schools (APS) institutions and other County project designated locations. The preferred means of placing new conduit is by horizontal directional drilling in order to minimized surface disturbance.

1.2. EMERGENCY RESTORATION SERVICES (Category II)

Emergency Restoration Services for purposes of this Contract are defined as services required to be performed immediately to restore service interrupted as a result of any type of failure due to human or natural causes.

Contractor shall provide 24x7x365 emergency contact number(s) and names of employees responsible for responding to an emergency declared by the County Project Officer. Once emergency restoration services have begun, the Contractor shall not withdraw its work force until the service is restored without approval of the County Project Officer.

If the County Project Officer determines the Contractor failed to be onsite and in sufficient force to be effective in performance of their duties to identify the point of failure and begin restoration within the time requirement, the Contractor shall only be entitled to charge the non-emergency pricing unless extenuating circumstances are deemed to exist by the County Project Officer.

The Contractor shall respond to the declared Emergency within a maximum of one (1) hour, and be on site no later than three (3) hours after declaration of emergency with fiber splicing equipment, Optical Time Domain Reflectometer, optical power meter, and any other required equipment and qualified

personnel to locate and repair the fiber failure. The County may attempt to locate the failure prior to contacting the Contractor, however, the Contractor shall be ultimately responsible for locating and/or confirming the failure location.

The Contractor shall attempt to determine cause of fiber failure, obtain pictures of the fiber failure, and the names and addresses of the party(s) that caused the fiber failure, if applicable. If the failure has been caused by underground construction, the Contractor shall document with pictures the utility markings. The Contractor shall track the hours and materials required to repair the fiber and provide the County with this information at the time of submitting an invoice for work performed.

The primary Contractor awarded the emergency restoration services contract will be contacted for all work requested in relation to the emergency restoration services (Category II work). The secondary Contractor will be assigned work only in the following situations, at the discretion of Arlington County Project Officer:

- When the County is unable to reach the primary Contractor at the contact phone number within a timeframe that ensures that work will be started within the time limits specified above;
- When the primary Contractor is unable to respond to work request and begin work within the time limits specified above; and
- During emergency events where multiple sites require restoration work that the primary Contractor does not have enough capacity to complete in a timely manner.

When the County Project Officer determines a need for emergency restoration services, the Contractor will be contacted at the contact phone number(s) provided. The Contractor shall respond in accordance with this contract and shall start work immediately, prior to receiving a Purchase Order. Cost Estimates and PO shall be started and run concurrently to the work.

1.3. PROJECT ASSIGNMENT PROCEDURE (Category I)

Any Category I work (Construction and Maintenance), and also cable, conduit, and handhole relocation will be considered a project under this Contract, and will be assigned in the order of priority with the primary contractor being considered first, secondary next, and tertiary following.

Work on newly planned lateral build/site shall be considered projects under this Contract, and will be assigned to the primary contractor, unless the work requires additional resources, in which case it will be assigned to both contractors. If the primary contractor cannot perform the work, it will go to the secondary contractor, as described in the Contract Award Method from [Section I paragraph 24](#), as the plans for particular projects are approved.

1.4. FIBER OPTIC NETWORK CONSTRUCTION (Category I)

When a need arises for maintenance/installation services, the County Project Officer will contact the Contractor at the contact phone number(s) provided. The Contractor shall respond with a cost estimate of the work to be performed within a maximum of five (5) business days, and be ready to begin work no later than twenty (20) business days after a Purchase Order is approved and a Notice to Proceed is issued by the County, depending on the availability of the required fiber optic cable.

Work may be passed to the second Contractor if the first Contractor does not adhere to the assignment schedule as outlined in the previous paragraph, or if the projects currently assigned to this Contractor are not at least eighty percent (80%) complete and as such may hinder the start of a new project. In such event the new project will be assigned to the next Contractor. Completion percentage will be

measured based on the agreed upon project schedule and Notice to Proceed date. Completion percentage will be determined by dividing the number of task days completed by the number of task days elapsed in the project plan for each individual project task from the start of the project to the current date. For each project, the County Notice to Proceed will list a date that will constitute an 80% mark for that project.

1.5. FIBER OPTIC COMMUNICATIONS CABLE CONSTRUCTION

The work under this contract consists mostly of maintenance/ installation and emergency repair with the addition of construction projects requested as required. Site lists for the existing network are included in Exhibit A. Arlington County reserves the right to adjust the list of sites and projects (add or remove sites and projects) depending on the County’s needs.

1.5.1 SCHEDULE OF PROJECT WORK

The County may assign multiple projects to each Contractor with staggered start dates so that many projects can be performed simultaneously. Each Contractor may be assigned anywhere from one (1) project up to three (3) active projects at a time, staged in such way that the work on one project begins as soon as the longitudinal outdoor and longitudinal indoor construction (not including cable placement and splicing on the previous project) is completed. The project schedule for a typical 12-fiber cable and termination is planned as follows, where one week is considered to be five (5) working days (M-F), as specified in the “Work Hours” section below.

The individual project schedules will become known at time of project assignment. The above schedule is presented as an example only; Arlington County reserves the right to adjust schedules depending on each project’s demands. The Notice to Proceed for each assigned project will contain the time for completion of that project.

1.5.2 MAINTENANCE/INSTALLATION AND EMERGENCY RESTORATION SERVICES

The first most qualified responsive and responsible lowest bidders will be designated as the primary on this contract, and the second lowest qualified bidder will be designated as the secondary.

Within thirty (30) calendar days after the Contract award, the primary Contractor providing maintenance/installation and emergency restoration services under this contract shall establish one or more offices within twenty-five (25) miles of the County borders with adequate personnel and equipment to ensure that the Contractor is capable of serving emergency requests. Multiple Contractor crews may be required to be deployed to perform work at multiple sites throughout the County simultaneously.

1.5.3 MAINTENANCE/INSTALLATION

Maintenance/installation services for purposes of this Contract are defined as any non-emergency services required to maintain the fiber optic network in good working condition, modify an existing configuration to better suit the needs of the County or APS, and/or repair any non-emergency failures.

The Contractor shall provide contact number(s) and names of employees responsible for responding to service requests by the County. In the event of a service request made by the County, the Contractor shall respond with a cost estimate of the work to be performed within a maximum of five (5) business days, and be ready to begin work no later than twenty (20) business days after a Purchase Order is approved and a Notice to Proceed is issued by the County, depending on the availability of the required fiber optic cable.

The Contractor shall obtain good quality digital pictures of the fiber failure, and the names and addresses of the party(s) that caused the fiber failure (if applicable). If the failure has been caused by underground construction, the Contractor shall document with pictures the utility markings. For each assignment, the Contractor shall provide the County Project Officer with updated as-built drawings and an incident report.

The Contractor shall track the hours and materials required to repair the fiber and provide the County with this information at the time of submitting an invoice for work performed.

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2. GENERAL PROVISIONS

Unless specified otherwise, all provisions in this section are applicable both to the maintenance/ installation and emergency restoration services portions of the contract and the new construction.

2.1 INVOICING

Contractor shall submit invoices on monthly basis. Invoice shall use the unit rates included in the Pricing Sheet and list hours, materials and tasks performed during each billing period.

For fiber maintenance and emergency restoration services, the Contractor may, with Project Officer approval, submit one monthly invoice for all work performed during each billing period. Otherwise, the Contractor shall submit a separate monthly invoice for each project/site/event as required by the Project Officer.

For fiber optic network construction projects, the Contractor shall submit a separate monthly invoice for each project/site, as required by the Project Officer.

2.2 WORK HOURS

2.2.1 Construction and Maintenance/Installation Services

Except for work occurring on Arlington County Public Schools property that would require workers to disrupt the instructional program, regular working hours are Monday – Friday from 7:00am to 5:00pm.

Other than splicing, work on APS property during the school day when students are present may be restricted to non-class hours, from 4:00pm until 10:00pm, or to Saturdays, subject to decision of the school Principal. Splicing work shall be coordinated with the School's principal. Generally splicing may be performed anytime the building is open EXCEPT for periods when students are arriving at or departing from the premise.

All work will be paid at the hourly rates provided in the pricing sheet. No overtime pay will be approved for work performed under these sections of the contract.

2.2.2 Emergency restoration services

Except for work occurring on Arlington County Public Schools property that would require workers to disrupt the instructional program, regular working hours are Monday – Friday from 7:00am to 5:00pm.

Other than splicing, work on APS property during the school day when students are present may be restricted to non-class hours, from 4:00pm until 9:00pm, or to Saturdays, subject to decision of the school Principal.

All work will be paid at the hourly rates provided in the pricing sheet, plus a flat fee paid per assignment regardless of the number of hours or the equipment used during that assignment. No overtime pay will be approved for work performed under these sections of the contract.

2.3 PERMITS

In many cases, the County will obtain the required permits to perform the work. However, the County reserves the right to provide the permit drawings for the Contractor to submit to the County, VDOT, and WMATA (Metro), as appropriate. In this case, the Contractor shall be responsible for completing and submitting all required permit documents and paying all applicable permit fees. The County will waive any Right-of-Way (ROW) and Maintenance of Traffic (MOT) permit fees due to the County, but will NOT waive any low voltage permits needed to penetrate any fire rated structures or install in any plenum space. The low voltage permit fees, and other permit fees other than County ROW and County MOT permit fees shall be paid by the Contractor.

Pole permit applications from Dominion Virginia Power and Verizon will be completed and permits obtained by the County.

2.4 CONTRACTOR PARKING/STAGING AREAS

The Contractors are responsible for providing lay-down yards, staging areas, and vehicle parking for each project. Unless specifically designated in the individual project design plans, no additional space for these purposes will be provided by the County.

2.5 LOCATING AND MARKING UNDERGROUND FACILITIES

The Contractor, at its expense, will provide locating and marking services for the conduit installed as part of an assigned project until the respective installation is accepted by the County. All markings will conform to American Public Works Association (APWA) marking standards.

2.6 EQUIPMENT AND MATERIALS

2.6.1 The detailed information regarding materials is included in the technical specifications for this solicitation.

2.6.2 The Contractor shall be responsible for acquiring all communication equipment and related installation materials described in the technical specifications to be installed as part of this project, with the exception of the fiber optic cable. The description of equipment required to complete each project will be included in the project design plans that will be provided to the Contractor at the time of assignment of projects.

The fiber optic cable will be preordered and paid for by the County at a selected vendor. The Contractor shall be responsible for picking up the preordered cable for projects assigned. Arlington County, however, may require the Contractor to supply the fiber optic cable for some portion of the work. In such cases, the fiber optic cable will be paid for using the unit price items included in the bid form.

2.6.3 Contractors shall review the design and verify quantities of materials and verify that all necessary materials are included in the design plans. The Contractor is to store and issue all material.

2.6.4 The Contractor shall be responsible for replacing any equipment damaged or determined non-operational prior to the County's final acceptance of each project at no cost to the County.

2.6.5 The Contractor shall adequately mark/label the equipment installed according to the following guidelines:

Each port on each patch panel:
Indicate the termination point of the opposite end of the fiber.

Cable at each utility pole attachment:
Install County Provided cable marker to indicate cable owner, "ARL149".

2.7 MAINTENANCE OF TRAFFIC

The County will provide the Maintenance of Traffic (MOT) plans in accordance with the current editions of Virginia Work Area Protection Manual and FHWA Manual of Uniform Traffic Control Devices (MUTCD). The Contractor shall be responsible for obtaining the required MOT permits, as described in the "Permits" section below. During construction, the Contractor shall comply with the MOT permit requirements.

The Contractor shall conduct its operations in a manner that will ensure that all modes of traffic will be uninterrupted, except as approved by the County in advance of the work. At the close of each work day, the area of work shall be confined to the smallest area possible, but in no event larger than the area designated in the Construction Documents, and secured appropriately so that the maximum use of the street and sidewalk will be restored and the hazard to traffic reduced to the minimum. No excavation shall remain open to traffic without a prior approval of the County except when the excavation can be safely bridged with the use of steel plates or other materials acceptable to the County. When areas of excavation outside of the roadway do remain open, the area shall be barricaded and warning signs shall be posted. Approved safety barriers may be required.

The Contractor shall use the personnel and traffic control signs and devices necessary to comply with Part VI of the "National Manual on Uniform Traffic Control Devices" at all times. During the progress of the work when the street may be obstructed to any extent by construction equipment or construction operations, in addition to the signs and barricades, workers, equipped with VDOT required "STOP\SLOW" double sided traffic control paddles, shall be designated by the Contractor to direct traffic. These workers shall not be assigned to any other duties while engaged in directing traffic. The Contractor has sole responsibility for ensuring that its operations are conducted in a safe manner and notwithstanding any other provision to the contrary, shall fully indemnify Arlington County, its officers, agents and employees for any damage or injury related to traffic operations which is caused by negligent or otherwise improper or deficient performance under the Contract or nonperformance of the terms of the Contract. All personnel, signs, barricades and any other items necessary for the maintenance of traffic and safety shall be provided by the Contractor. No separate payment shall be made by the County for Maintenance of Traffic.

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2.8 WEATHER CONDITIONS

Refer to Section [VI. Arlington County DES Engineering Project General Conditions, subsection G. Measurement and Payment, Paragraph 9. Extensions of Project Completion Dates – Weather Delays for provisions related to weather conditions.](#)

2.9 ARLINGTON COUNTY BOARD & VERIZON LLC LICENSE AGREEMENT REQUIREMENTS

Arlington County and Verizon LLC (“Verizon”) entered into an agreement granting the County a nonexclusive license authorizing the attachment of County-owned fiber to Verizon-owned poles and the placement of County-owned fiber in Verizon-owned conduits and rights of way. The terms and conditions of the license agreement govern many aspects of the work herein. Further, the Contractor is required to cooperate with and, to the extent requested, coordinate its work with Verizon.

The Contractor must schedule all aerial construction work with Verizon. Schedule conflicts that have not been independently confirmed by the County as well as any work stoppages required or ordered by Verizon will not be grounds for a claim to extend project completion date or waive the liquidated damages.

The Contractor shall be responsible for correcting all safety violations per terms and conditions of the (pole attachment) license agreement immediately upon Verizon’s notice. The Contractor shall correct all other non-standard conditions within fifteen (15) calendar days from receipt of written notice from Verizon. If the Contractor does not correct any violations or non-standard conditions as determined by Verizon within those time limits, Verizon may, at its option, perform the work. All costs incurred by Verizon for performing the work shall be borne by the Contractor. Further any costs incurred as a result of Verizon directives are at the sole expense of the Contractor.

The Contractor shall ensure that Verizon has unrestricted access to their poles, ducts, conduits and right of way that are located within County facilities (all facilities including, but not limited to cables, wires, equipment and associated hardware, owned and utilized by the County, which are attached to a pole, or occupy a conduit or right of way), and are able to conduct work on those facilities throughout the duration of the project work.

The Contractor shall ensure that the work herein is complete and all maintenance work is performed in accordance with the requirements and specifications of the current editions of the Manual of Construction Procedures (Blue Book), the National Electrical Code (NEC), and the National Electrical Safety Code (NESC), as well as the rules and regulations of the Occupational Safety and Health Act (OSHA). Where a difference in requirements or specifications exists, the more stringent shall apply.

Through the license agreement, Verizon reserves the right to make periodic inspections of the County facilities that are attached to Verizon’s poles, or occupying Verizon’s conduits or right of way. If more frequent inspections are necessary due to material non-conformances as determined by Verizon in its sole discretion, the Contractor shall be responsible for any cost incurred for such inspections by Verizon. If the County and Verizon determine that remediation is necessary, the Contractor shall have fifteen (15) calendar days to correct the non-conformance **at its own expense.**

You may download a copy of this agreement from the following link:

<https://egov.arlingtonva.us/ProcureDocs/702-12/VZAgreement.pdf>

2.10 CRIMINAL BACKGROUND CHECK AND APS CRIMINAL CONVICTION DOCUMENTATION

The Contractor shall submit the completed APS criminal conviction documentation, the criminal background check forms with a copy of a valid photo identification, and the ID badge request form for all personnel and subcontractors that are anticipated to perform work covered by this solicitation in order to be granted access to County facilities. The applications must be submitted within ten (10) business days of the contract award notice. The County will conduct a background investigation and issue temporary badges to all Contractor's personnel and subcontractors who have successfully completed the background investigation. The Contractor shall ensure that its personnel and subcontractors display the identification badge issued by the County at all times while on the project site.

The Contractor must submit completed APS criminal conviction documentation and criminal background check forms for any new or additional employees or subcontractors that are scheduled to perform any work onsite under this Contract by the time a Notice to Proceed for a particular project is issued, or, in case of maintenance/installation and emergency services, at least ten (10) business days before the employee is scheduled to begin the work onsite.

In the event that the Contractor uses an employee or subcontractor without prior criminal background check and APS criminal conviction verification, such employee or subcontractor shall be immediately removed from the worksite. The Contractor shall not be allowed to request payments from the County for any work completed or time worked by that employee/subcontractor prior to their background and APS checks are complete, or request that project completion date is extended and liquidated damages are waived if scheduling such employee/subcontractor results in delays in project completion.

The required forms will be provided by the Project Officer.

3. CONTRACT LINE ITEM DESCRIPTION

All provisions in this section are applicable both to the construction and to the maintenance/ installation and emergency restoration services portions of the contract.

All work performed under this contract shall be paid for using the labor, materials, or combined labor and materials rates included in the pricing sheet. For required items that are not addressed in these specifications, such as boring through a 2 foot cement wall, appropriate labor line items shall be used to perform that work. The core boring tool and other tools are incidental to the work paid for by labor hours. Other items such as GPR (ground penetrating radar) or X-ray determinations of embedded structures shall be invoiced by submission of a subcontractors invoice.

All labor hourly rates shall constitute full compensation for wages, transportation to and from the work site, Contractor's overhead, and any necessary incidentals.

All unit prices for material shall include all shipping, handling, and storage costs.

All work performed under this contract shall comply with all applicable National Electrical Code, National Electrical Safety Code, and Telcordia (Bellcore) standards. Construction methods and techniques used

by the contractor shall be in accordance with the recommended practices and procedures published by leading industry manufacturers and trade associations.

Site restoration work shall not constitute a separate pay item, shall be incidental to the work performed, and shall be completed to the satisfaction of the Project Officer or their designee.

Below are descriptions clarifying certain categories listed in the pricing sheet. With these descriptions are the Contract Line Item Number (CLIN) for the corresponding numbered line in the pricing sheet.

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3.1. AERIAL AND MAKE-READY LABOR AND MATERIALS

Raise or Lower Telecommunication Cable Span (CLIN 1)

This item consists of moving an existing span of telecommunications cable. The item includes moving the stranded steel messenger cable (also known as suspension strand) and communications cable. The cable shall be supported in a manner as not to damage the cable. Existing holes should be reused wherever possible. Where new holes are needed, properly size hole shall be drilled through the pole at the height specified by the make-ready engineering. A machine bolt of appropriate length shall be passed through the center bolt hole of the clamp, through the guy hook, through the pole, through the 3" x 3" x 1/4" washer and properly tightened with the nut. A second nut shall be installed to act as a lock nut. No more than 1/2 inch of bolt shall remain exposed after tightening the second nut.

Materials may include galvanized cable suspension clamp or a galvanized guy clamp (depending on the size of the messenger wire) and a galvanized machine bolt with a rod diameter of 5/8" and a length to suit the use intended with a galvanized nut.

Relocation of Overhead Guy (CLIN 1)

This item shall consist of moving the location of an overhead guy. The guy shall remain associated with the same pole, but the location of the attachment shall change. The work shall be performed in accordance with applicable standards. The contractor shall salvage as much of the existing guy as possible. The level of effort for this work is considered to be the same as that for Raise or Lower Telecommunication Cable Span and so the price shall be the same as CLIN 1.

Transfer of Existing Messenger Attachment (CLIN 2)

This item shall include the relocation of messenger wire and attached cable(s) from one pole to another. The cable shall be supported in a manner as not to damage the cable. The new pole shall be drilled at the location pre-determined by the make-ready survey, the cable and attachment moved to the new pole and installed using the same hardware from the original pole. If additional hardware is required to attach to the new pole, it shall be supplied as part of this work at no additional cost.

Removal of Messenger Wire, Cable and Hardware (CLIN 3)

This item consists of the removal of a messenger wire with cable(s) attached or of a cable with a built-in messenger wire in place between poles. This item is not applicable to the removal of cable from a messenger wire that remains in place or the removal of a messenger wire which has no cable attached or built-in.

A tensioning device shall be used to remove the tension from the clamps before their release. Under no circumstances shall the messenger wire be cut while under tension. The messenger wire shall be lowered to the ground by hand or hand line after removing the clamps and backing off all the tension. The cable attached to the messenger wire by lashing or tape (not built-in) shall be detached from the messenger wire. Any fiber optic cable owned or supplied by the County shall be rolled up separately and returned to the County or disposed of as directed by the Project Officer.

Removal of Conduit from Wood Pole (CLIN 4)

This item consists of removing trade sized rigid galvanized or PVC conduit and fittings from a wood pole. The existing conduit may be galvanized, aluminum, or the PVC type in a wide range of sizes. The conduit and all straps, nails, and/or lag screws shall be removed in a manner so as not to damage or disturb the pole, or surrounding conduits.

Relocation of Down Guy (CLIN 5)

This item shall consist of moving the location of a down guy or sidewalk guy. The guy shall remain associated with the same pole, but the location of the anchor shall change. The contractor shall salvage as much of the existing guy as possible. Any additional materials shall be supplied as required to install a new anchor.

Removal of Down Guy and Anchor (CLIN 6)

This item consists of removing anchors, down guys or sidewalk guys, and guy wire protectors. The method of removal of the down guy is left to the discretion of the contractor. All salvaged material shall be coiled up and/or taped as appropriate and returned to the County. Materials required as necessary to properly remove screw or expanding anchors and guys.

Removal of Overhead Guy (CLIN 8)

This item consists of removing overhead guys. The method of removal of the overhead guy is left to the discretion of the contractor. All salvaged material shall be coiled up and/or taped as appropriate and returned to the County.

Installation of Guy and Anchor (CLIN 9)

This item consists of the installation of an anchor and a down guy or sidewalk guy between the screw anchor and a pole. This item shall include a down guy protector. The installation of the anchor will consist of driving the anchor into firm and undisturbed ground to a point whereby no more than six inches of the rod including the eye is exposed above ground level. The down guy wire shall be attached to the pole at the appropriate location on the pole to provide guying for the cable installed for the County's use. The guy shall be installed according to all applicable electrical and safety codes. A guy wire protector will be installed with the bottom at ground level and properly anchored to the guy wire. The location of the anchor shall be in accordance with the appropriate cable installation practices and make-ready requirements.

Materials may include screw anchors, swamp anchors or expanding anchors with forged-eye anchor rods. Rod diameter and length shall be selected based on strand weight to be guyed. Contractor shall install appropriate anchor for each installation. Additional materials include guy clamps suitable for 1/4" or 7/16" stranded guy wire, three six-inch long 5/8" bolts, sidewalk guy fittings, and pipe for sidewalk guys.

Tree Trimming (CLIN 10)

This item shall consist of the trimming of all trees and natural growth along a span between poles. The trimming shall clear the entire communications space of the pole span of all tree branches and natural growth. It shall be performed only at the direction or authorization of the County Project Officer. The contractor shall comply with all safety codes and standards when performing this work. A pole span shall be defined as the area between two adjacent poles. The contractor shall ensure that all other cables in the communications space are protected and preserved from damage. Additionally, all removed branches and foliage shall be removed from the area and properly disposed of.

Removal of Fiber Optic Cable from Strand (CLIN 11)

This item consists of removing fiber optic or copper cable from strand wire. The location of the fiber optic cable to be removed will be designated by the Project Officer. All tape or tie wraps holding cable to strand must be removed and disposed of properly. All lashing wire holding cable to strand must be

removed and disposed of properly. The fiber optic cable must be completely removed from the strand and shall not be cut in shorter lengths as it is being removed unless specifically approved by the County's Fiber Manager. The removed fiber cable shall be coiled, OTDR-tested, and returned to the County.

Installation of Overhead Guy (CLIN 18-23 – SAME PRICE AS INSTALL STRAND)

This item shall provide for the installation of a pole-to-pole overhead guy. The guy wire shall be attached to the pole at the appropriate location on the pole to provide guying for the cable installed for the County's use. The guy shall be installed according to all applicable electrical and safety codes. Materials include Extra High Strength messenger strand, pole attachment hardware, thimble eye bolts or machine bolts, thimble eye nuts, square washers, and square nuts. Labor includes the use of bucket truck and crew as necessary to install the item.

Installation of Aerial Strand (CLIN 18-23 - SAME PRICE AS OVERHEAD GUY)

This item shall provide for the installation of a pole-to-pole overhead messenger strand for the attachment of communications cable. The strand shall be attached to the pole at the appropriate location on the pole for the County's use. The overhead messenger strand shall be installed according to all applicable electrical and safety codes. Materials include Extra High Strength messenger strand, pole attachment hardware, thimble eye bolts or machine bolts, thimble eye nuts, square washers, and square nuts. Labor includes the use of bucket truck and crew as necessary to install the item.

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3.2. AERIAL CABLE INSTALLATION

MEASUREMENT AND PAYMENT

General Use Communications Cable shall be measured and paid for at the contract price for actual linear feet of fiber optic cable of each fiber count supplied and installed by the Contractor and accepted by the Project Officer. Measurement shall be made by calculating the difference in length markings located on the outer jacket of the fiber optic cable from the start of the fiber run to the end of the fiber run for each fiber run. Fibers shall be terminated before determining the length of the cable run.

Upon acceptance by the Project Officer of the cable installation, 75% of the payment for the cables as described above shall be made. The remaining 25% of the payment for the cables as described above shall be made upon acceptance by the Project Officer of the completed system to include splicing and termination of cable runs and acceptance of the final testing results.

ADSS Fiber Optic Cable Installation (CLIN 25-26)

SEE GENERAL PROVISIONS ON THE HANDLING OF CABLE DESCRIBED IN PREVIOUS SECTIONS ("Cable Installation in Conduit").

This item consists of installing fiber optic cable to aerial poles. The cable shall be attached to the poles in accordance with cable manufacturer and industry standards. The end points shall be installed so that the fiber remains tensioned. At fiber splice locations and slack storage locations, the fiber shall be attached with dead-end attachments. Materials include approved mounting hardware and County-supplied fiber optic cable. County supplied tag "ARL-149" must be installed at each pole.

Each pole requires a mount for the fiber to attach to the pole. ADSS attachments shall consist of tangent mounts and false dead end mounts for the selected ADSS fiber optic cable. For poles with a line offset of 0° to 20° (horizontal or vertical), a fiber optic tangent assembly is used. For poles where the line offset is greater than 20°, false dead end shall be installed. False dead ends are also required at each splice location and snowshoe excess fiber locations. County supplied tag "ARL-149" must be installed at each pole.

Non-ADSS Cable Installation (CLIN 27-29)

SEE GENERAL PROVISIONS ON THE HANDLING OF CABLE DESCRIBED IN PREVIOUS SECTIONS ("Cable Installation in Conduit").

This item consists of installing fiber optic cable on span wire or messenger wire (also referred to as strand). The cable shall be lashed to the strand in accordance with industry standards. At each pole a wrap-around fiber marker that identifies the County as the owner must be installed. The lashing wire shall start and terminate on each span between poles. The end points shall be installed so that the lashing wire remains tensioned. Materials include galvanized lashing wire, a wrap-around fiber marker, and fiber optic cable.

Installation of Fiber Optic Aerial Cable Storage Loop (CLIN 30)

This item consists of installation of a double cable loop for storage of an extra length of fiber cable on poles for ADSS fiber with or without a splice. If the fiber cable is strand-mounted, it will be installed on the support strand of aerial plant. Installation shall be in accordance with manufacturer recommendations.

Materials include hardware and fiber optic strand storage loop (snowshoes). Storage loops shall be placed as shown on plans or as approved by the County Project Officer.

Installation of Cable up/down Pole with U-Guard Riser (CLIN 12-15)

Where cables transition from underground to aerial at a wooden utility pole, the cable shall first be attached to the pole with cable straps, sometimes called “cleating the cable to the pole”. The cable clamp or straps shall be applied every four (4) feet.

In the case of the 144 fiber cables, each of the two cables shall be clamped to the pole. Additional cables, if any, may be tied to the clamped cables with the permission of the County’s Fiber Manager using the means he so directs.

Over the cleated cables, U-Guard riser shall be installed for the entire length of the riser portion of the cable. The riser U-guard shall be attached to the pole with lag bolts. Boots shall be installed to cover the U-Guard and the top of the conduit. Provisioning of the boot is incidental to the placement of the U-Guard.

Materials include the U-guard and boot measured in linear feet.

The cable placement shall be the same as placing cable in conduit. The use of cable clamps and boots are included as incidental to the work.

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3.3. CONDUIT INSTALLATION

Installation of Conduit - General

These Outside Plant Items consist of installing rolled duct (conduit) with all necessary fittings, under existing pavement, in unpaved trench, or on a wood pole (or removing same from a wood pole).

On or inside a building, conduit shall be installed by drilling anchors into concrete, brick, stone, steel, or wood and mounting the conduit with the proper clamps or hangers. The contractor shall be responsible for correcting any existing conduit disturbed during installation.

Conduit installed on wood poles shall be Rigid Metal Conduit and installed in a straight vertical line. Conduit installed in the ground shall be installed in a straight line between terminal points.

If bends or turns in the conduit are required during installation, they must be sweeping bends. The Project Officer shall be consulted before any bends are installed to ensure that the proper arc is provided. Provisioning and installation of sweeping turn sections of conduit of any material or installation location are incidental to provisioning and placement of conduit. They shall be paid for only on the stated linear foot cost for the installation type.

The County has the right to reject any installation method proposed for a given work site.

Underground conduit shall be placed with a minimum cover of 36 inches as measured from the finished grade. Conduit placed in trench shall generally have a minimum cover 36 inches but with Project Officer approval may have 30 inches of cover. The trench opening shall be back filled in one foot lifts with the cover material tamped down firmly before proceeding with filling the next lift. A fiber optic warning tape shall be installed at 12 inches below grade and the remainder of the fill shall be added, tamping down the top layer.

Underground conduit not terminated to a base or in a vault shall be terminated one foot beyond the edge of the pavement unless otherwise directed by the County Project Officer. Conduit shall not extend more than three inches inside a vault or junction well. All conduit joints shall be sealed with the appropriate cement to ensure that the two conduit pieces bond to one another to form a solid waterproof link.

If not already pre-installed by the manufacturer, a sequentially marked polyester or polypropylene pulling tape with a minimum rated strength of 1250 pounds shall be installed in each new conduit for future use. The contractor shall be responsible for correcting any existing conduits disturbed during installation.

All fiber or conduit in trench shall be marked in the ground with a bright orange (preferably "ULCC" orange) or yellow warning tape at least 3 inches wide. The tape shall have integrated metallic mesh or cable to allow for easy detection. The marking tape shall be buried directly above the conduit run at a depth of approximately 12 inches below existing grade. The tape shall read "WARNING - OPTICAL CABLE" or other wording approved by the Project Officer that conveys the same message.

Installation under Existing Pavement - Open Cut (CLIN 101-102)

All open cutting of roadways must first be approved by the County. Open cutting shall be performed after locates have been cleared and before any power equipment is put in the ground. The conduit shall be installed by cutting a slot in the pavement with a masonry saw and trenching in the soil below. The

contractor shall be responsible for the removal of all cut pavement and the replacement and correction of any damaged pavement once the conduit(s) are installed. Once the pavement cut is complete and subsurface is exposed, then machine or hand trenching may occur. The OPEN CUT line item DOES NOT include the trenching work. The trenching line item shall be used in conjunction with the Open Cut line item.

Installation in Trench (CLIN 103-106)

The conduit may be installed by trenching if approved. In straight runs, vault spacing shall be as shown on the system design (typically 500 feet) or as directed by the County Project Officer. All trenching shall be performed after locates have been cleared and before any power equipment is put in the ground.

Hand Trenching (CLIN 107-109)

All hand trenching shall be performed after locates have been cleared and before any power equipment is put in the ground. All trenching shall be performed with proper hand held safety tools, personal protection equipment, and work area protection.

Hand trenching of less than four (4) feet performed in conjunction with setting a new, or tying into an existing handhole, or turning up at a pole or building is incidental to the method of conduit placement or handhole replacement/repair.

Similarly, hand trenching of less than four (4) feet performed in conjunction with horizontal directional boring to cross another utility or obstacle without damage (test pitting) is incidental to that boring line item.

Hand trenching is done in soil. If removal of asphalt or concrete is involved, this aspect of trenching is provided under the "Open Cut Trench" provisions and line items of this contract.

Directional Boring (CLIN 111-114)

Directional boring is the required underground placement technique unless approved otherwise by the County Project Officer. Conduit must be at least 36" below pavement surface. The size of a bore shall not exceed the two-inch outside diameter of the conduit by more than one (1) inch. If it does, cement grout shall be pumped into the void. In straight runs, vault spacing shall be as shown on the system design (typically 500 feet) or as directed by plans or the Project Officer.

Installation of Additional Conduit – Directional Bore (CLIN 110)

The contractor shall install additional conduits in excess of four (4) 2-inch conduits at the same time as the initial installation if requested by the County Project Officer. The County shall indicate the quantity of conduits to be installed during a build.

Concrete, Short Yard, Portland Cement Air-Entrained Class A3 (3,000 psi)

Restoration of cement must be in accordance with Arlington County Department of Environmental Services Construction Standards & Specifications standards (Current Edition) (Sept 2013) and DES Standard Details (Current Edition) (Sept 2013) Section 02611 and 03100. If the restoration is under a VDOT Permit, must also comply with VDOT standards.

This item shall be invoiced to Arlington County by the Contractor by submission of the invoice of the cement providing company that can be clearly identified as being for the work for Arlington County. An invoice from the cement company that is confusing or may be for work for other customers may be

rejected. The vendor material slip (pink slip) must be submitted. If in a VDOT ROW, the VDOT Form TL-28 shall also be submitted.

This item shall NOT be used for restoration associated with removal and installation of handhole in cement in which line item the use of the specified cement is included. Nor for the restoration associated with trenching/ open cut trench. Open cut trench includes restoration for either asphalt or cement.

Installation of 2.0-inch Conduit on Pole (Riser) (CLIN 16-17)

The conduit shall be attached to the wood pole with two hole straps spaced not more than 48" apart, with the top strap being six (6) inches from the higher location, and the lower being six (6) inches from the ground.

Installation of Additional Conduit in Trench (CLIN 110)

In the case of slotted or trenched installations, the contractor shall install additional conduits at the same time as the initial installation if requested by the County Project Officer. The County shall indicate the quantity of conduits to be installed during a build. Additional conduits may be stacked one on top of the other, side by side, or in a matrix. The orientation shall be at the contractor's discretion, but conduits shall not twist around one another or be allowed to deviate from straight-line paths, except in the case of bend installations. Conduits installed at the same time in the same trench or slot shall remain oriented the same in relation to one another throughout the conduit run.

Installation of Innerduct (CLIN 87 with Sub-CLINs and 88-90)

If requested by the County Project Officer, inner duct shall be installed in the conduit. This item consists of installing various sizes of inner duct in new or existing conduits. If a pull line is not already pre-installed in the conduit, Contractor shall jet in a pull line in new conduit prior to pulling inner duct. Contractor shall rod existing conduit to ensure that it is free of any obstructions before installing a pull line and pulling inner duct. If a pull line is not already pre-installed in the inner duct, Contractor shall jet in a pull line in each inner duct after installing the inner duct. Materials include inner duct as necessary. The material and labor costs are separate line items.

Placement of Tracer Wire (CLIN 85-86)

All outside plant conduit runs must be equipped with one (1) 14 AWG solid copper, green insulated tracer wire to aid in locating county fiber facilities. These wires shall be terminated to the ground rods within each handhole using the bronze nut. The tracer wire shall not be spliced inside any conduit. It shall be whole and one continuous run of wire with a continuous insulation without any breaks or openings or clamps holding it together.

Inside the junction box, the tracer wire shall be long enough to run closely against the outside surface of the conduit it comes out of and closely against the ground and sides of the handhole until it runs along the ground to the (preferred) grounding bus attached on the side of the handhole six inches below the lid, or up the ground rod to the bronze nut – this second option is allowed only when no grounding bus is present.

Maintenance or Repair:

In the event a conduit run is found to be missing tracer wire (and not part of new construction) or a break resulting in damage to the existing tracer wire, all damage must be restored so a complete

useable pathway through the damaged area has been restored. New tracer wire shall be placed in the repaired section and terminated on the ground rods in affected handholes as above.

The placement of this *Maintenance or Repair* new tracer wire shall be paid for by the Place 14 AWG Solid Tracer Wire line item, materials by the Supply 14 AWG Solid Tracer Wire line item.

If tracer wire is found to be missing when new cable is being place, the Project Officer shall be immediately notified prior to placing the cable. The Project Officer will authorize the placement of new tracer wire. The material cost of the tracer wire shall be paid, but the cost of placing the tracer wire is incidental to placing the cable.

New Conduit Construction:

Provision and placement of tracer wire shall be incidental to the construction of new conduit. No additional payment for material or labor shall be made when the conduit is new construction by the same contractor.

Installation of Conduit Inside a Building (CLIN 32-45)

Only metal conduit shall be installed inside a building. All metal conduit, whether Rigid Metal Conduit (RMC), Intermediate Metal Conduit (IMC), or Thin-wall EMT conduit shall have a galvanized finish.

All interior conduits shall be attached to the ceiling or joist. If metal joist, ceiling joist hanger may be used to support the conduit. Conduit shall be supported no less than every four feet. The ceiling may be either open or behind drop ceiling grid. Ceiling attached conduit may not attach to drop ceiling grid, nor to drop ceiling grid support wires. If supported by drop-ceiling-like hangers, then must be installed separately from the ceiling grid support to comply with the County code.

EMT with compressing fitting is the preferred interior conduit, due to its ability to hold non-plenum cabling in a plenum ceiling. Under no circumstances may non-plenum cable be installed in a plenum ceiling without being installed in RMC, IMC, or EMT conduit with compression fitting. Plenum-rated innerduct may only contain plenum-rated cable if installed in a plenum space.

The material and labor costs of conduit are separate line items. When combined they include all the costs of installation including all attachment hardware and pull "mule" tape.

Pullbox material costs are a separate line item, however, installation of a pullbox shall be incidental to the installation of the conduit. Pullboxes shall have a galvanized finish. Pullboxes should be installed every 150 feet of conduit and have not more than 180 degrees of turns between them. Standards dictate interior pullboxes shall not be installed to change direction when practical, but shall be an in-line trough to facilitate cable pulling.

Installation of Plywood Inside a Building (CLIN 48)

Supply a 48"x84"x3/4" sheet of fire-rated plywood and cut to fit the largest possible piece into the space provided. The outward face shall be Class A. The sheet shall be attached to the wall using best choice of anchors such as molly bolt, toggle bolt, or concrete anchor, etc.

3.4. HANDHOLE OR JUNCTION BOX (“JBOX”) WORK (CLIN 150-174)

All work shall follow the **Arlington County Department of Environmental Services Construction Standards & Specifications**.

The Contractor shall be responsible for all movement of the Junction Box (“Jbox”) including pickup of County provided Jbox from the storage yard. Once the Jbox is picked up or delivered, the Contractor is responsible for any subsequent movement requirements.

The Contractor shall provide all labor, materials, equipment, signage, traffic control, and other ancillary services as part of the “Labor Only” pricing to:

1. establish and maintain a safe working environment including all requirements from the current Virginia Work Area Protection Manual,
2. seal all conduit ends within the existing Jbox from water and debris intrusion prior to performing any other work below grade using a duct plug, and secure the pull tape and tracer wire within each conduit to ensure that tape nor wire will not be lost into the conduit due to this work,
3. remove and dispose of the existing Jbox, whether cement or composite,
4. remove and dispose of the existing Jbox lid, whether steel or composite,
5. create or enlarge the hole for the new Jbox and the specified compacted gravel foundation,
6. set the new junction box, tie-in, and purge the conduits into the Jbox and install the supplied bolts,
7. trim back the existing conduits to the length specified in the County Fiber Optic Standard (1.5”-3.0” inside Jbox),
8. reseal the conduits against debris intrusion and secure the pull tape and tracer wire,
9. reseal (purge) the conduit entry into the Jbox, and
10. install a ground buss plate to the interior of the Jbox, six (6) inches below the lid, centered on the long side of the Jbox, on the side away from the street. Use 14 AWG solid copper wire with green insulation (price included) to attach this ground buss to the ground (earthing) rod.
11. adjust the height of the ground (earthing) rod by not more than 6-inches, if necessary to prevent damage to cables or splice enclosures, or for personnel safety, and
12. compact soil with hand tools in 12-inch lifts replaced around the sides of the Jbox prior to surface restoration.
13. restore surface conditions to equal or better than original conditions, as required under the existing contract by following the **Arlington County Department of Environmental Services Construction Standards & Specifications** including but not limited to:
 - a. When restoration is in cement sidewalk, cement plant materials shall be used to restore the sidewalk. Sections 02611 and 03100 apply.
 - b. Cement shall be Portland Cement air-entrained Class A3 (General Use 3,000 psi) conforming with Section 03100.
 - c. Joint filler, if needed, shall be 1/2-inch preformed asphalt expansion joint material conforming to ASTM D994 or ASTM D1751.

For the **double stacked handhole lower box (Sub-CLIN “E”)**:

14. enlarge the hole to the extra depth needed for the new double stacked Jboxes, and the specified gravel foundation,

15. adjust the depth of the existing ground rod appropriately and/or install a new ground rod, this cost is included in this Sub-CLIN E. No extra charge to Place new ground rod, however, if a new ground rod is needed, Contract Line Item Number for Supply Ground Rod shall be used.
16. bring the conduits into the box at the base of the upper box. Do not cut the lower box for conduit entry.
17. secure the upper box to the lower box using appropriate fastening hardware and PARGE the seam as well as conduit entry points.
18. install a stainless steel eye bolt with a 1-inch opening, six (6) inches below the lid, and six (6) inches from the ground buss, centered on the long side of the Jbox, on the side away from the street.

All excavation, debris removal, disposal, recycling and restoration is incidental to the work. All labor, including foreman, supervision, and traffic control for Handhole (but not in-road Manhole) in VDOT or County Right-of-Way, is incidental to the work.

The Sub-CLIN “E” shall only include those costs specific to the placing the lower box at depth and as specified above.

Should a new ground rod be required during a handhole replacement, the material cost for that ground rod shall be charged using that contract line item. Traffic Control to place TYPE 6 Manholes in roadways is NOT incidental to that work. Only the material cost of provisioning the Jbox is separate from these line items. Even though it is under the ‘Labor Only’ category, all the needed materials, other than the Jbox itself, such as but not limited to grounding buss, tracer wire, eye bolt, and grout is included in this ‘Labor Only’ Contract Line Item.

Handhole/Manhole Contract Line Item Number (CLIN) and Sub-categories

Handhole and Manhole contract line items are for Supplying and Placing conduit vaults or junction wells. The County uses two basic types: handholes and manholes. The handholes shall be made of polymer concrete. Handholes and Manholes must be submitted to the County Project Manager for approval. Handholes shall be placed in sidewalks and other areas of little to no motor vehicle traffic. Manholes shall be made of steel reinforced cement and Heavy Duty Steel lids and comply with VDOT and County standards for utilities place in major roadways. SEE THE FOLLOWING SECTION “[IV. MATERIALS AND TESTING SPECIFICATIONS](#)” and specifically : [HANDHOLES AND VAULTS](#).

The County understands the cost of restoration varies with the cost of the location of the Jbox (re)placement. Rather than having all junction box work be bid anticipating the highest cost of restoration, a breakdown of the cost based on the type of restoration is provided for. Four sub-contract line items (A – D) (**sub-categories**) will be established to aid in organizing the cost of junction boxes with respect to restoration. They are as follows:

SUB-CLIN

A – Asphalt, i.e., in street or path – this will seldom be used.

B – Brick pavers in sidewalk.

C – Cement (sidewalk)

D – grass (mnemonic = Dirt). Sub-CLIN “D” shall include a formed 12-inch collar of white Portland cement that shall be 6-inches thick as per the VDOT standard.

E – (mnemonic = Extra) place a second box below the first, that is, stack two boxes at the same location bringing the conduit into the bottom of the upper J-box. This line item is the incremental cost for specification items 14–18 and is **charged in addition to A–D** when needed.

HANDHOLE/ MANHOLE/ VAULT INSTALLATION

Installation of Vaults (CLIN 154-175 – SEE ALSO PREVIOUS TWO PAGES)

This items consists of supplying and installing conduit vaults or junction wells. The County uses two basic types: handholes and manholes. The handholes shall be made of polymer concrete. Handholes and Manholes must be submitted to the County Project Manager for approval. Handholes shall be placed in sidewalks and other areas of little to no motor vehicle traffic. Manholes shall be made of steel reinforced cement and Heavy Duty Steel lids and comply with VDOT and County standards for utilities place in major roadways. SEE THE FOLLOWING SECTION “[IV. MATERIALS AND TESTING SPECIFICATIONS](#)” and specifically : [HANDHOLES AND VAULTS](#).

The conduit junction vault shall conform to the dimensions shown in the system design and this contract document’s Section “IV. MATERIALS AND TESTING SPECIFICATIONS”. Several conduits may extend into the vault. Vaults other than TYPE 1 and TYPE 2 will have a minimum 36” depth below surface that may be obtained by stacking vaults. All vaults and vault lids must be appropriate for the required loading. Iron/steel vault lids are required for any locations in roadways. The County has standard 22” and 36” steel lids produced to its specification available from East Jordan Iron Works. The base of the vault shall be set upon a compacted gravel base with a depth of ten inches or as specified by the Project Officer to promote drainage of water. The gravel base shall extend 6 inches in all directions around the base of the vault. All conduit ends shall be sealed with duct plugs (not tape) to minimize water ingress. Materials include vaults, lids, and gravel.

Relocation of Existing Vault (CLIN 153)

This item consists of relocating an existing vault or junction well to provide clearance from existing utilities or other construction work. This item may consist of moving a vault or junction well from a few inches to several feet. The maximum relocation shall be six feet in any direction from the existing vault or junction well location. The vault or junction well shall be relocated in a manner so as not to damage the junction well, lid, or frame.

If the conduit that is connected needs to be moved with the vault or junction well, the conduit is to be exposed to the distance necessary to move the facility. Caution shall be used to not place excessive stress on the conduit or its couplings. The entire work area where the junction well and conduits are relocated shall be backfilled and tamped as directed by the County Project Officer. Any extra fill needed to complete the backfill is incidental to the work. Traffic control for Handhole (not Manhole) relocation is incidental to the work.

Supply and Installation of Ground Rod (CLIN 151-152)

These two items shall provide for installation of a grounding rod as well as a length of copper wire to bond to the item to be grounded. A minimum of 8 feet of the ground rods must be driven into undisturbed soil. The contractor shall supply up to 30 feet of 14 AWG solid copper grounding wire and shall cut the wire to the length as necessary to run the wire flat against all surfaces between the ground rod and the connected item. The grounding wire shall be properly bonded to the grounding rod. Materials include RUS approved copper clad ground rod, 5/8” x 1-1/2” Bronze Hex Bolts, 5/8” bronze acorn type ground clamp, and up to 30 feet of copper grounding wire.

3.5. NON-AERIAL CABLE INSTALLATION

MEASUREMENT AND PAYMENT

All Communications Cable, armored or all-dielectric, general use or plenum or riser rated, shall be measured and paid for at the contract price for actual linear feet of fiber optic cable of each fiber count supplied and installed by the Contractor and accepted by the Project Officer. Measurement shall be made by calculating the difference in length markings located on the outer jacket of the fiber optic cable from the start of the fiber run to the end of the fiber run for each fiber run. Fibers shall be terminated before determining the length of the cable run.

Cable size shall be delineated in the line item bid sheet. All cable of 144 fiber or less shall be placed at the same cost per foot. Fiber ribbon cables larger than 144 and up to 864 fibers shall be called out for separate pricing in the bid sheets. Upon acceptance by the Project Officer of the cable installation, 75% of the payment for the cables as described above shall be made. The remaining 25% of the payment for the cables as described above shall be made upon acceptance by the Project Officer of the completed system to include splicing and termination of cable runs and acceptance of the final testing results.

Cable Installation in Conduit (CLIN 84)

This item consists of installing fiber optic cable in existing conduits that may or may not contain an existing communications cable or electrical wire or cable(s). Hand pulling methods are required. Prior written approval by the Project Officer is required for the use of any power assisted method of pulling fiber optic cable(s) into conduit. A short piece of material that will part if the strain exceeds 300 lb for 12-count fiber and 600 lb for more than 12-count shall be used for outdoor fiber optic cable between the pulling grip and the pulling medium.

Any and all cable(s) pulled into any conduit without the use of an acceptable pulling grip, kellems or equal, or without the use of a strain release element, or by using methods which may have or did result in pulling forces in excess of strain release material, or using methods which may have or did result in pulling forces in excess of those set forth herein or prescribed by industry standards are unacceptable.

Any and all unacceptable cable(s) shall be removed and replaced with new cable(s) using correct methods at no cost to the County. The number of communications cables to be pulled through each conduit are shown on the plans or may be changed if directed by the Project Officer. Materials will include fiber optic cable and inner duct.

Prior written approval by the Project Officer is required for the use of any power assisted method of pulling fiber optic cable(s) into conduit. A short piece of material that will part if the strain exceeds 300 lb for 12-count fiber and 600 lb for more than 12-count shall be used for outdoor fiber optic cable between the pulling grip and the pulling medium.

Any and all cable(s) pulled into any conduit without the use of an acceptable pulling grip, kellems or equal, or without the use of a strain release element, or by using methods which may have or did result in pulling forces in excess of strain release material, or using methods which may have or did result in pulling forces in excess of those set forth herein or prescribed by industry standards are unacceptable.

Any and all unacceptable cable(s) shall be removed and replaced with new cable(s) using correct methods at no cost to the County. The number of communications cables to be pulled through each

conduit are shown on the plans or may be changed if directed by the Project Officer. Materials will include fiber optic cable and inner duct.

Removal of Cable from Conduit (CLIN 80)

This item consists of removing one or more fiber optic cable(s) from existing conduits. All may be removed, or one or more cable(s) may remain. Hand pulling methods are required. Prior written approval by the Project Officer is required for the use of any power assisted method of pulling wire or cable(s) from conduit. A short piece of material that will part if the strain exceeds 600 lbs shall be used between the pulling grip and the pulling medium. Fiber optic cable shall be coiled, OTDR tested, and returned to the County.

Placement of Pull Tape in Existing Conduit (CLIN 82)

This item is to place a pull tape in a conduit not built by this project. The tape is to facilitate cable placement when no pull tape exists and/or to determine the length of the conduit. The conduit may or may not have cable already in it. Means and methods for placing the pull tape is up to the contractor.

Rod Existing Conduit (CLIN 83)

This item is to be used to proof a conduit or to as part of placing a fiber cable when two or more cables are already in the existing conduit. This line item may NOT be used in combination with Placement of Pull Tape (CLIN 82) but may be used with Supply Pull Tape (CLIN 81).

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3.6. FIBER SPLICING AND TERMINATION WORK

All County splice enclosures shall be waterproof. Any case found with water in it shall be resealed by the last Contractor to work in that case at NO COST TO THE COUNTY provided the water was not found as part of new work in that case. Where fiber damage can be attributed to water entering the splice case, the cost of that repair will be passed to the last Contractor to work in that case.

Splice enclosures models and trays are items that are standard within the County and are sole-sourced to a specific manufacturer and model as listed in the Invitation to Bid and Material and Testing Specifications Section.

The County Fiber Manager will provide splicing information including Cable IDs and direction-destinations. All cables shall be identified with labels inside the splice case as to its Cable ID and direction. Similarly, the outside of the cable shall be permanently marked with its Cable ID and direction.

Supply New Splice Enclosure (CLIN 51-53)

Supply of a new splice enclosure shall include all gaskets and sealing materials, tie-downs, and labelling customary and necessary to install a new splice case.

A new splice case shall be provided equipped with one (1) splice tray of the largest capacity for that case/tray combination.

Subsequent trays of the same maximum size shall be provided as needed to perform new additional splices. The provision of these trays is incidental to the splicing and therefore no additional payment shall be made for additional trays.

Place New Splice Enclosure (CLIN 54)

This item consists of preparing the cable ends for splicing, performing splicing, and installing the splice enclosure on aerial strand or for ADSS on poles or in an underground pull box or vault. Splice enclosures shall be installed in accordance with applicable standards. Materials include splice case, splice trays, and all hardware. This line item may also be used when placing a used splice case at a new splice location.

Reentry of Non-Encapsulated, Gasketed Splice Enclosure (CLIN 55)

All County splice enclosures shall be water proof. Any case found with water in it shall be resealed by the last Contractor to work in that case at NO COST TO THE COUNTY provided no emergency work is being performed.

Reentry of Splice Enclosure shall include all gaskets and sealing materials, tie-downs and labelling necessary to properly do so and retain water tight integrity.

Subsequent trays of the same maximum size shall be provided as needed to perform new additional splices. The provision of these trays is incidental to the splicing and therefore no additional payment shall be made for additional trays.

Reentry of an existing splice case shall assume a new cable is being added for the purposes of pricing. Unless a new ring cut cable is added to a splice enclosure, no additional payment for adding a cable to an enclosure.

Reentry line item shall NOT be used for rework of the current Contractor's new unaccepted splicing work. It may only be used when modifying or adding a new cable to an existing, accepted splice enclosure, or by specific authorization of the County Fiber Manager as part of a sequence of work.

Installation of Mid Sheath Splice (Ring Cut) (CLIN 50)

This item allows access to one or more fibers for splicing without cutting the entire cable. It consists of cutting away a section of cable jacketing to expose the buffer tubes, cutting or splitting open a buffer tube (depending on whether or not there are active fibers in that tube), preparing the designated fibers for splicing, splicing, and installing a splice enclosure to house the exposed section of cable. It typically will be performed on the County's backbone fiber constructed as part of another project. Care shall be taken not to cut any fibers that are in active use. The work includes installing a splice enclosure on poles, or, if strand-mounted, on aerial strand. If underground, the splice will be in an underground pull box or vault. Material includes splice case, splice trays and all hardware.

Fiber Optic Patch Panels (CLINs 61-76)

These patch panels are County standard items and shall be provided without substitution. The Tii Slim Patch panel is ordered preterminated and may be called for with varying length of fiber cable tail. The placement of the fiber tail longer than 200 feet through conduit shall be charged using CLIN 84 – Placement of Fiber in Duct or Conduit. Placement of a tell of 200 feet or less is incidental to Place 12-Count Patch Panel (CLIN 64).

The Corning 12- and 24- count patch panels shall be provided with factory terminated pigtailed that shall be spliced onto the ends of the fiber from the fiber optic cable. The splices are housed in the back of the connector housing panels. The cost of these pigtailed shall be included with the cost of the connector panel itself. The connector panels may be specified as LC or SC and either UPC or APC.

Each Corning Pretium connector housing shall be provided with locking hardware, cable strain relief hardware, and splice tray holder as specified in the Materials and Testing Specification section. Material includes splice trays and all necessary or specified hardware.

Splicing of Fiber (CLIN 59-60 plus sub-CLINs)

All splicing must meet Arlington County Standards for Fiber Optic Splicing and Testing. A summary can be found under section IV. MATERIALS AND TESTING SPECIFICATIONS – 2. [FIBER OPTIC TESTING SPECIFICATIONS](#). Testing results must be accepted by Arlington County prior to payment for any cable placement and/or splice work.

Payment for splicing shall be based on the quantities and type of splices ordered. Where a single fusion fiber is spliced to a ribbon fiber, the single fusion pricing applies. Splice trays and all other materials are incidental to Splice Enclosures or ReEntry of Splice Enclosure or to Fusion Splicing. All fiber preparation or splicing material needed to properly perform a fusion splice is incidental to the work.

Payment to provide and test splices shall be based on a "per splice" or "per ribbon" basis on the following cost schedule:

SINGLE FUSION SPLICES per case or terminal location

- A. Small – Single Fusion less than 13 fibers. (Commonly 4 or 8 or 12)
- B. Medium – 13 or more but less than 25 splices.
- C. Large – 25 or more but less than 72 splices.
- X. Extra Large – more than 72 splices.

R. New Ring Cut of cable where no ring cut has existed.

MASS FUSION SPLICES per case or terminal (Ribbon to Ribbon ONLY)

- A. One (1) to two (2) 12 fiber ribbons.
- B. Three (3) to six (6) 12 fiber ribbons.
- C. Seven (7) to twelve (12) 12 fiber ribbons.
- X. More than twelve (12) fiber ribbons.

3.7. EQUIPMENT HOURLY RATES

Supply of Air Compressor (CLIN 136)

This item shall consist of providing an Air Compressor with a minimum CFM rating of 150. The use and payment of this item at any location shall be subject to the approval of the County Project Officer.

Supply of Generator (CLIN 137)

This item shall consist of providing a Generator with a minimum capacity of 6,500 watts. The use and payment of this item at any location shall be subject to approval of the County Project Officer. The use of a smaller portable generator to support splicing and other similar functions is incidental to those line item functions, such as splicing.

Supply of Bucket Truck - Short (Reach Up To 40 Feet) (CLIN 138)

This line item shall supply the machinery, driver/operator, and an assistant operator. Payment for this equipment and operator shall be based on an hourly rate. This is a Labor and Material item.

This line item shall be used for work that is **NOT** covered by an existing line item. For example, this line item shall not be used to place, relocate, or adjust overhead guys or down guys. Those line items are existing and describe a specific type of work that inherently include the use of a bucket truck.

Air Excavation Truck and Crew (CLIN 139)

This line item shall supply the machinery, driver/operator, and one assistant operator, plus any and all other equipment or services necessary to operate the air excavation truck exclusive of traffic control which shall be paid under its separate line item. Payment for this equipment and operators shall be based on an hourly rate.

This line item shall be used for work that is **NOT** covered by an existing line item. For example, this line item shall not be used to trench for new conduit. Those line items are existing and describe a specific type of work that should not require the use of this equipment. This equipment may be used as part of those other existing line items at the contractor's choice but may not be billed under this line item without the expressed advance permission of the County's Fiber Manager.

Backhoe – Skid Loader (CLIN 140)

This line item shall supply the machinery and driver/operator and shall include the trailer and all equipment necessary to transport the equipment to and from the work site. Payment for this equipment and operator shall be based on an hourly rate. This is a Labor and Material item.

This line item shall be used for work that is **NOT** covered by an existing line item. For example, this line item shall not be used to place, relocate, or adjust handholes or trench for new conduit. Those line items are existing and describe a specific type of work that inherently include the use of this equipment.

Mini-excavator (CLIN 141)

This line item shall supply the machinery and driver operator and shall include the trailer and all equipment necessary to transport the equipment to and from the work site. Payment for this equipment and operator shall be based on an hourly rate. This is a Labor and Material item.

This line item shall be used for work that is **NOT** covered by an existing line item. For example, this line item shall not be used to place, relocate, or adjust handholes or trench for new conduit. Those line items are existing and describe a specific type of work that inherently include the use of this equipment.

Supply Shoring Box (CLIN 142)

When required, a shoring box shall be paid for by the submission of an invoice from the shoring box rental company. If the shoring box is not rented and is owned by the CONTRACTOR, the shoring box cost shall be based on the rental cost of an equivalent sized shoring box.

Supply Speed Shoring (CLIN 143)

When conditions allow and shoring is required, a speed shoring shall be paid for by the submission of an invoice from the shoring rental company. If the shoring is not rented and is owned by the CONTRACTOR, the shoring cost shall be based on the rental cost of an equivalent shoring.

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III. MATERIALS AND TESTING SPECIFICATIONS

1. CONTRACTOR-SUPPLIED MATERIALS

Unless specified otherwise, all materials listed in this section allow submission of equivalent products for County approval, as specified in Section I. Instruction to Bidders, paragraph 16. Use of Brand Names.

The materials shall be supplied by the contractor and used as needed to complete work under this solicitation. All materials supplied shall be new and unused and, where applicable, all materials and equipment supplied shall be UL-approved. The materials supplied by the contractor for use under this contract shall conform to the indicated sections of the standard specifications unless otherwise noted.

FIBER OPTIC CABLE

All Dielectric Self Support (ADSS) single mode loose-tube fiber optic cable, in 12-, 24-, 48-, 72- and 144-count sheaths.

- Conforms to international standards ITU-T G.652.C & D and Telcordia G-20 (unless otherwise noted).
- Comprised of All Dielectric (AD) materials.
- Made of a dry, gel-free cable design.
- Incorporates dry, water-blocking elements.
- Loose tube fiber, 12 fibers per tube.

Marked, in permanent white characters, with:

Cable Identifier: Arlington County ITS (703) 558-2222

Cable Identifier: Arlington County DTS (703) 558-2222 (WITH RED STRIPE)

Manufacturer name

Month and year of manufacture

Number of optical fibers and type (SMF)

Sequential length markings, minimum of every two feet, in feet

Prysmian Group (Draka) ezDROP™ | Flat:

12-count PN: F-DFT-NATJ-12-BB-012-E3 **(NO SUBSTITUTES)**

Prysmian Group (Draka) ezSPAN® ADSS | Short Span:

144-count PN: F-ADED-1031-12-ES-144-E3 **(NO SUBSTITUTES)**

72-count PN: F-ADED-1031-12-ES-072-E3 **(NO SUBSTITUTES)**

48-count PN: F-ADED-1031-12-ES-048-E3 **(NO SUBSTITUTES)**

24-count PN: F-ADED-1031-12-ES-024-E3 **(NO SUBSTITUTES)**

Prysmian Group (Draka) ezPREP™ | Gel-Free Loose Tube:

144-count PN: F-EDH-1JKT-12-ES-144-E3 **(NO SUBSTITUTES)**

72-count PN: F-EDH-1JKT-12-ES-072-E3 **(NO SUBSTITUTES)**

48-count PN: F-EDH-1JKT-12-ES-048-E3 **(NO SUBSTITUTES)**

24-count PN: F-EDH-1JKT-12-ES-024-E3 **(NO SUBSTITUTES)**

FIBER MOUNTS

This item consists of supplying fiber mounts suitable for the fiber cable.

Mount for 12-count fiber is Belden 23-96651 stainless steel drop wire clamp or equivalent (Prysmian Group recommended for ezDROP™ | Flat cable).

Dead-End Mount for 24-, 48-, and 72-count fiber is PLP 28720051E1 or equivalent.

Tangent mount for 24-, 48-, and 72-count fiber is PLP 440200S or equivalent.

Dead-end mount for 144-count fiber is PLP 2872012C1E1 or equivalent.

Tangent mount for 144-count fiber is PLP 4470205S or equivalent.

CONDUIT

HDPE Roll Duct, meeting ASTM D-3350 specifications, smooth inner wall, smooth outer wall, **pre-lubricated** duct, pre-installed 1100 lbs. polyester pull tape:

Two-inch (2"), SDR 11 (2.375" NomOD, 1.943" NomID, 0.216" Min.Wall), Carlon #A13C6D1JNNB or approved equivalent.

PVC Conduit, Rigid, Schedule 40, 10 foot section, listed to U.L. Std 651 specifications

2-inch nominal diameter, Carlon P/N 49011-010 or approved equivalent

PVC Conduit, Rigid, Schedule 80, 10 foot section, listed to U.L. Std 651 specifications

2-inch nominal diameter, Carlon P/N 49411-010 or approved equivalent

INNERDUCT

The innerduct shall be supplied in the color(s) specified by Arlington County at the time of the project assignment.

HDPE Innerduct, Orange, with pre-installed 1100 lb (minimum) pull tape, in 72 inch reel:

1-inch corrugated duct — I.D. greater than 1.0 inch, O.D. less than 1.35 inch. Carlon A5D2S1JJNB7000 (7000 ft reel length), or approved equivalent.

1-inch smooth outer walled, **ribbed** interior wall duct, **pre-lubricated** — I.D. greater than 1.00 inch, O.D. less than 1.27 inch. A-D Technologies (Lamson Pipe P/N) A5B9D1JNNB7000 (7000 ft reel length), or approved equivalent.

Plenum-rated, with pre-installed 600 lb (minimum) pull tape, 1-inch corrugated duct.

MaxCell Fabric Innerduct, with pull tape in each cell, standard product. (non-plenum, non-riser, non-detectable)

1.25" duct, 2 cell, 1000', MCMX3302XX1000 (Micro MaxCell), 0.40" dia. Cable

HANDHOLES AND VAULTS

All handholes and vaults shall have ANSI/SCTE 77 2013 tier designation/load rating embedded in a surface that will be visible after installation, and "ARLINGTON" in 1.5-inch high letters in one line or "ARLINGTON COUNTY TRANSPORTATION" in 1.0-inch high letters on two lines permanently placed into the lid.

Handhole, Tier 15 Rated (15,000 lb design load, 22,500 lb test load), polymer concrete composite construction (not fiberglass), UL listed to ANSI/SCTE 77 2013, (WxLxD), RUS listed, straight-walled, open bottom.

Type 1 – 17"(18") X 30" X 30"

Type 3 – 24" X 36" X 36" (Note: this is deeper than VDOT's JB-S3)

Type 4 – 30" X 48" X 36"

Type 5 – 36" X 60" X 36"

Handhole, Tier 22 Rated (22,500 lb design load, 33,750 lb test load), polymer concrete composite construction (with no fiberglass), UL listed to ANSI/SCTE 77 2013, (WxLxD), RUS listed, straight-walled, open bottom.

Type 1 – 17"(18") X 30" X 30"

Type 3 – 24" X 36" X 36" (Note: this is deeper than VDOT's JB-S3)

Type 4 – 30" X 48" X 36"

Type 5 – 36" X 60" X 36"

Manhole, Precast Concrete, steel re-enforced, Heavy Duty, AASHTO Road Rated, for placement in heavy traffic roadways. Round opening for a 36-inch frame and cover. (East Jordan Iron Works part number(s) TBD)

Type 2R – 22" Diameter X 32"D (approx.) Precast Concrete. (20" Round Opening)

Type 3R – 36" Diameter X 36"D (approx.) Precast Concrete. (36" Round Opening)

Type 6 – 48"W X 72"L X 48"D (approximate) Precast Concrete.

FIBER OPTIC CABLE STORAGE LOOP (SNOW SHOE)

Fiber optic cable storage loop support frames (snowshoe), polypropylene frame, stainless steel mounting hardware, UV stabilized, stackable for multi-wrap installation. (L x O.D. x vertical depth)

17.6" X 13.1" X 0.75", OptiLoop FOSP-12-TMK, or approved equivalent.

25.0" X 19.0" X 0.95", OptiLoop FOSP-17-TMK, or approved equivalent.

ALF Fiber Storage Units for ADSS Fiber Optic Cable:

Min Bend Dia (Inch) = 12" FOS ADSS Kit: FA000049 FOSDA12ADSS

Min Bend Dia (Inch) = 17.5" FOS ADSS Kit: FA000050 FOS17ADSS

SPLICE ENCLOSURES AND MOUNTING HARDWARE

This item consists of supplying fiber optic splice cases, aerial hanger kits, spare gaskets to replace damaged or weathered gaskets after a case has been re-entered, and cable addition kits to provide additional cable ports.

- 1) Fiber Optic Splice Enclosure, 144 count fiber with all required hardware, accessories, and splice trays for underground vault or aerial ADSS fiber locations for 12-count loose tube fusion splices.

- a) Preformed Line Products (PLP) 8006877 Coyote Dome Closure 6.5" x 22" splice case and associated hardware (**NO SUBSTITUTES**) and with
 - b) Preformed Line Products (PLP) LGSTS72 Lite-Grip® Long Tray, Deep Profile 80 splice count (Single Fusion Double Stack) splice tray (**NO SUBSTITUTES**).
- 2) Fiber Optic Splice Enclosure, 48 count fiber with all required hardware, accessories, and splice trays for underground vault or aerial ADSS fiber locations for 12-count up to 48-count loose tube fusion splices.
- a) Preformed Line Products (PLP) 8006692 Coyote Runt Closure 3.7" x 10" x 18.7" RUS Listed splice case and associated hardware (**NO SUBSTITUTES**), and with
 - b) Preformed Line Products (PLP) 80809958 Lite-Grip® Short Tray, Low Profile 24 splice count (Single Fusion) splice tray and associated hardware. (**NO SUBSTITUTES**).
 - c) Preformed Line Products (PLP) 80808945 Lite-Grip® Short Tray, Deep Profile 40 splice count (Single Fusion Double Stack) splice tray and associated hardware. (**NO SUBSTITUTES**).

If any contractor observes the materials provided herein are not compliant with applicable codes or are incompatible with other provided materials, the contractor shall immediately inform the Project Officer Representative of the discrepancy along with proposed solutions, if any.

HARDWARE

Hardware shall be compatible with the materials specified below by the County and procured by the Contractor. If any contractor observes the materials provided herein are not compliant with applicable codes or are incompatible with other provided materials, the contractor shall immediately inform the Project Officer or designee of the discrepancy along with proposed solutions, if any.

This item consists of supplying commonly used ground rods and wire, and rod attachment clamps, fiber optic cable marking, identification and labeling hardware.

Underground plant conduit and marking tape shall be bid on a per foot basis. Handholes, vaults, and grounding materials shall be bid on a per unit basis.

Grounding Hardware, UL Listed, RUS Listed (13 mil cladding)

1. Rod, 10 mil copper-clad steel, 5/8" diameter, 8' length, Southern Grounding C58813, or Erico 615880 or approved equivalent.
2. Driving Stud, 5/8", high strength carbon steel. Withstands hammer impact while driving sectional rods. (same manufacturer as rod) or approved equivalent
3. Ground Rod Clamp, 5/8", high strength bronze alloy, corrosion resistant, accommodates #12—1/0 AWG, suitable for direct burial. Electric Motion EM 2DB-01 or approved equivalent.

4. Ground Buss Plate, suitable for attaching multiple 14 AWG copper wires.
5. 14 AWG solid copper ground wire, green insulation.

Fiber Optic Cable Location/ Markers

1. Aerial Cable ID Marker. Black 1.0 inch high letters on yellow background showing "ARL149" to be attached to the cable or the strand at the utility pole.
2. Wrap-Around Cable Marker Labels, Day-Glow Green (option Orange), 4" X 4", William Frick P/N WFS-ES-0004, or approved equivalent.
Custom Label: "ARLINGTON COUNTY FIBER OPTIC CABLE" (two lines)
3. Warning Tape (for trenching applications), Bright (Day-Glow) Orange, 3-inch (or 75 mm) wide, to allow for easy visual detection with wording "WARNING – OPTICAL CABLE" or similar message approved in advance, repeated on tape at least every 3 feet or 1 meter.
4. Markers, Soil Disk (for frequently cut grass areas), Orange Disk, 6-8 inch diameter, with 13 inch Stainless Steel Stake, Disk labeled with "WARNING – BURIED FIBER OPTIC CABLE" "Call 811 Before Digging" "ARLINGTON COUNTY" in UV stabilized black lettering.
5. Markers, Domed Post Marker (Roadside/Highway use). Orange Domed Cap Labeled with "WARNING – BURIED FIBER OPTIC CABLE" "Call 811 Before Digging" "ARLINGTON COUNTY" in UV Stabilized Black Lettering. With 6 foot 3.5 inch diameter white post and anchor bar for ground attachment.

INSIDE PLANT TERMINATION MATERIALS

Cabinets and Racks; Standard

Fiber Entrance Cabinet, Tyco Electronics (ADC) FEC-144, Wall Mountable, or approved equivalent, with six (6) integrated splicing trays.

Rack, Wall Mounted, Low-Profile, **Vertical**, 19-inch rails, 6 rack units deep. Middle Atlantic Products (middleatlantic.com) P/N WRS-6 or approved equivalent.

Rack, Equipment, 19 inch, 38 rack units (minimum), 78 inches high (maximum), open sided, with floor plate enabling bolt mounting to the floor. 10x32 tapped rails equipped with screws.

Rack, Equipment Enclosure, 19 inch, 43 rack units, 84 in. tall (max), NEMA 1 rated enclosure with locking doors, removable sides and doors, vented top, floor mounted. 10x32 tapped rails equipped with screws.

Fiber Termination (Patch) Panels

Fiber Termination (Patch) Panels each equipped with the appropriate number of bulkhead connector panels, fusion splicing trays, strain relief accessories, rack-mounting hardware, with space and accessories for managing splicing to inside of outside plant cable in the space behind the patch panel. Panels with greater than 48 fibers may have the splicing storage and handling space provided in a separate cabinet. Contractor proposing patch panel with separate cabinet shall call out and price that cabinet in a separate line item making note to refer to it in the quoted panel.

- 1) Corning **PCH-01U** – Pretium Connector Housing Patch Panel, Rack-mounted, one (1) rack unit high (1.75 inch) or approved equivalent. Accepts up to 24 fiber connectors using 2 CCH connector panels or modules. See CCH Module options below. Order with PC1-SPLC-04R - Splice Tray Bracket for PCH-01U, locking hardware, strain relief brackets, and splice trays.
 - a) Corning PC1-SPLC-04R or approved equivalent – Splice Tray Bracket for PCH-01U; accepts up to (4) 0.2 inch Type 2R or (2) 0.4 inch Type 4R reduced-length splice trays; includes slack storage spools.

- 2) Corning **PCH-02U** – Pretium Connector Housing Patch Panel, Rack-mounted, two (2) rack units high or approved equivalent. Accepts up to 4 CCH connector panels or modules (48 fiber connectors); (See CCH Module options below.) Order with PC2-SPLC-6SR - Splice Tray Bracket for PCH-02U, locking hardware, strain relief brackets, and splice trays.
 - a) Corning PC2-SPLC-6SR – Splice Tray Bracket for PCH-02U; accepts up to (6) 0.2 inch Type 2S, Type 2S Long or Type 2R splice trays; or accepts up to (3) 0.4 inch Type 4S or Type 4R splice trays.

- 3) Corning **PCH-04U** – Pretium Connector Housing Patch Panel, Rack-mounted, four (4) rack units high or approved equivalent. Accepts up to 12 CCH connector panels or modules (288 fiber connectors); (See CCH Module options below.) **Order with PC4-SPLC-12SR** - Splice Tray Bracket for PCH-04U, locking hardware, strain relief brackets, and splice trays.
 - a) Corning PC2-SPLC-6SR – Splice Tray Bracket for PCH-02U; accepts up to (6) 0.2 inch Type 2S, Type 2S Long or Type 2R splice trays; or accepts up to (3) 0.4 inch Type 4S or Type 4R splice trays.

- 4) Corning **PWH-04P** –Pretium Wall-Mountable Connector Housing that will accept up to 4 CCH panels or modules (14.4 x 21.0 x 5.3” closed) plus add Lock Kit HDWR-LOCK-KIT. Order with PWH-SPLC-04-12P, locking hardware, strain relief brackets, and splice trays.
 - a) PWH-SPLC-04-12P Splice Tray Bracket for PWH-04P holds (8) Type 2R or (4) Type 4R splice trays.

- 5) Corning **PWH-02P** –Pretium Wall-Mountable Connector Housing that will accept up to 2 CCH panels or modules (14.4 x 21.0 x 5.3” closed) plus add Lock Kit HDWR-LOCK-KIT. Order with PWH-SPLC-02P, locking hardware, strain relief brackets, and splice trays.
 - a) PWH-SPLC-02P Splice Tray Bracket for PWH-04P holds (4) Type 2R or (2) Type 4R splice trays.

- 6) Corning **SPH-01P** –Single-Panel Housing, Wall-Mountable holds 1 CCH connector panels. Includes a 6-slot splice holder to accommodate up to 12 heat-shrink single splices.

- 7) CCH-CP12-6C (Corning) 12-port, simplex, single-mode, **SC-APC** connectors.

- 8) CCH-CP24-A9 (Corning) 24-port, duplex, single-mode, **LC-UPC** connectors.

- 9) M67-112 Type 2S-Long splice tray (**for use with PCH-02U**)

- 10) M67-110 Type 4R splice tray (for 12 mass ribbon or 12 heat shrink fusion splices)

11) FOR USE IN TRAFFIC SIGNAL CABINETS:

Tii Technologies-Slim Patch Drop Part No. **WMS1BF12RLCCxxxF** where xxx is the length of the preterminated cable in feet (if ends in "F" as shown). A typical length is 200 feet. Example: WMS1BF12RLCC200F. The body length of the standard Slim Patch Drop is seven (7) inches and shall have LC-UPC connectors in three (3) rows of four (4).

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2. FIBER OPTIC TESTING SPECIFICATIONS

INTRODUCTION

The Contractors will be responsible for end-to-end testing of each fiber from the site to the respective hub site. This section of the ITB provides the test plan to determine acceptable optical performance of the fiber links.

TESTING PHILOSOPHY

This test procedure is designed to ensure that the fiber optic plant meets general industry standards, and is suitable to support connectivity to a range of potential fiber interface equipment. Testing shall be performed after construction is completed for each site. Each link shall be tested for continuity and to ensure that there are no unacceptable anomalies in the fiber optic cable. An optical time-domain reflectometer (OTDR) shall be used to measure and document splice and connector locations, and an optical power meter test set shall be used to determine end-to-end optical losses and fiber continuity. The OTDR equipment used must record the results of the testing for one day to be downloaded at day's end.

TESTING CRITERIA

The test shall be successfully completed and shall be conducted in the presence of Arlington County's designated observer. The test shall be deemed successfully completed if:

- (1) maximum end-to-end fiber losses do not exceed 0.385 dB/km at 1310 nm, and 0.285 dB/km at 1550 nm, and
- (2) each individual splice loss must be less than 0.25 dB when measured uni-directionally from either direction, and
- (3) individual bi-directionally averaged splice losses must be less than 0.125 dB at 1310 nm, and 0.100 dB at 1550 nm. Additionally, the 1550 nm OTDR bi-directionally averaged splice losses measurement must be less than the 1310 nm OTDR bi-directionally averaged splice losses measurement, and
- (4) maximum mated connector losses do not exceed 0.50 dB at either wavelength. The average connector loss for one cable segment (144 fibers from one patch panel if backbone installation or 12 fibers from one edge site patch panel installation) shall not exceed 0.30 dB at 1550 nm.

Testing will be performed by Contractor personnel. Arlington County personnel may request and perform additional testing. The County Project Officer has the authority to approve higher losses on a case-by-case basis.

OTDR TESTING PROCEDURE

An OTDR shall be used to measure and document splice losses and connector losses. To correctly identify abnormalities at a short range, a 500-meter or 1.0 km launch cable shall be used between the OTDR and the fiber under test. Bi-directional traces shall be acquired for each fiber. If the connection of the launch cable to the patch panel requires optimization by the operator, sampling acquisition will commence upon completion of the optimization.

Each fiber will be identified, and the results of the test for each fiber will be recorded as indicated below in the section "Test Data File Names." The test will be repeated for each of the fibers linking a particular site. All tests will be made at 1310 nm and 1550 nm.

Settings on the OTDR shall be:

- The Refractive Index shall be set for the actual fiber type under test (commonly-used Corning SMF-28 single mode fiber has a refractive index of 1.4677 at 1310 nm);
- Pulse width no greater than 100 ns (10m) for all fiber lengths;
- Event threshold: 0.010 dB.
- Scattering coefficient specified by the fiber manufacturer for each wavelength tested;
- A minimum of 10,000 sampling acquisitions (Averages);
- Maximum range setting shall be no more than 10 km for all fiber length less than 10 km;
- Maximum range setting shall be no more than 25% higher than the fiber lengths under test for the fibers in the segment from the remote site to the hub patch panel; and

Test Data File Names

A uniform file-naming scheme for recorded data shall be used, complying with the following conventions or alternative approved by the County Project Officer:

Fiber Source and Destination	Naming Scheme
Hub Site to Edge Site	AAABBBxxx
Edge Site to Hub Site	BBBAAAxxx

Where:

- A = 3-Character Site Number (Hub)
- B = 3-Character Source/Destination Site (Edge)
- x = 3-digit Fiber Number (use backbone fiber number if involved)

Example, F02WLS001 would be the file name for the test of Fiber #1 from the Hub Site at Fire Station #2 to the Washington-Lee HS edge site. Alternately, WLSF02001 would be the file name for the test of Fiber #1 from the Washington-Lee HS edge site to the hub site in Fire Station #2. Alternative nomenclature may only be used if the County Project Officer agrees that the system makes the identification of the fiber more clear and it suits the needs of the project.

Test Documentation

Installed optical fiber OTDR test documentation shall include:

- Total fiber length;
- Individual fiber traces for complete fiber length;
- Paper and/or computer disk records of all traces;
- Losses of individual splices and connectors;
- Losses of other anomalies;
- Wavelength tested and measurement directions;
- Manufacturer, model and serial number of the test equipment; and
- Name, signature, and company of the engineer performing the tests.

All data collected at each location during the tests shall be recorded at the time of the tests using electronic means.

OPTICAL POWER METER TEST PROCEDURE

Optical power meter measurements shall be made at the same time as the OTDR tests to determine overall fiber loss and to ensure that fibers have appropriate end-to-end continuity (fibers not crossed). Calibration readings shall be taken at the beginning of testing from a particular site, and after each four hour period of use:

1. Power on both fiber optic power meter and laser light source;
2. Allow each instrument a minimum 10-minute warm-up period;
3. Clean all connectors, in-line adapters, and the source and meter connections with alcohol, lint-free wipes, and compressed air;
4. Connect a jumper to the light source, and a second jumper to the meter. Connect the jumpers using a bulkhead;
5. Ensure that the wavelength setting on the light source and the power meter is 1310nm;
6. Set the power meter to record absolute (ABS) readings;
7. To ensure that the jumpers are functional and that a proper connection has been established, observe the power reference reading on the meter's main display;
8. Record the measurement on the display, ensuring that the meter is set to display absolute measurements (ABS);
9. Power down the light source and the power meter. Disconnect the light source jumper at the bulkhead ONLY. Cap the free connectors on both jumpers; If inconsistent/erroneous readings are observed, re-clean the jumpers and fiber termination points and test again before recording final dB value;
10. Change the light source and power meter to 1550 nm and repeat tests;
11. Disconnect the jumpers from the fiber under test. To test additional fibers, be sure to clean each connector and termination point with both alcohol and compressed air. This should be done before testing all fibers;
12. Connect the jumpers to the ends of the next fiber to be tested and observe the measurement on the main display;
13. The meter and light source should only be powered off when traveling to a new test site. At each new site, the meter and source must both be allowed a ten-minute warm up period. Follow steps 1-11 at each new site; and
14. Recalibrate the light source and meter after each day's testing is completed, following the calibration procedure.

V. ARLINGTON COUNTY DES FACILITIES DESIGN AND CONSTRUCTION GENERAL CONDITIONS

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A. INTRODUCTION TO TERMS

- 1) The term "Agreement" means the completed and signed Form of Contract Agreement.
- 2) The term "Award Date" means the date of execution of the Agreement by the Purchasing Agent.
- 3) The term "Business Day" shall refer to any day that the County is open for general business.
- 4) The term "Calendar Day" means any day of twenty-four hours measured from midnight to the next midnight. Included are weekends and holidays. When the term "Day" is used it shall be assumed to refer to a Calendar Day unless otherwise specified.
- 5) The term "Change Order" means a written order to the Contractor, signed by the Project Officer and the Contractor, which authorizes a change in the Work, and/or adjustment to the Contract Amount and/or an adjustment to the Time for Completion. A Change Order once signed by all the parties is incorporated into and becomes part of the Contract.
- 6) The term "Construction Change Directive" means a written order issued by the County directing a change in the Work prior to agreement on adjustment, if any, in the Contract Amount or Contract Time, or both.
- 7) The term "Contract Documents" means the Agreement and all the documents and Attachments identified therein which shall include the Drawings and the Specifications, and all modifications including amendments and subsequent Change Orders thereto properly incorporated in the Contract.
- 8) The terms "County" and "Contractor" shall mean the respective parties to the Contract. They shall be treated throughout the Contract Documents as though each were of the singular number and masculine gender. Only one Contractor is recognized as a party to this Contract.
- 9) The term "Critical Path Method or CPM" means a step-by-step project management technique for process planning that defines critical and non-critical tasks with the goal of preventing time-frame problems and process bottlenecks. An activity on the critical path cannot be started until its predecessor activity has been completed. is delayed then the entire project is delayed.
- 10) The term "Delay" means an event or condition that results in a work activity starting or being completed later than originally planned.
- 11) The term "Drawings" means all drawings pertaining to the Contract, including the Contract Drawings and Construction Notes which show and describe the locations, character, dimensions, and details of the Work to be performed under the contract.
- 12) The term "Final Acceptance" shall mean the date on which the County issues the final payment for the Work.

- 13) The term "Float" shall represent the amount of time that a task in a project network or sequence can be delayed without causing a delay to: subsequent tasks ("free float") or project completion date ("total float").
Float shall belong to the County and shall be used for the successful completion of the Project within the Time for Completion.
- 14) The term "Final Completion" shall mean the condition when the County agrees that all the Work has been fully completed in accordance with the Contract Documents and is acceptable. The date of the Final Completion of the Work under the Contract is the date on which Final Completion is accomplished.
- 15) The term "Notice to Proceed" shall mean a written notice issued by the County to the Contractor stating the Commencement Date, the date on which the Contract time will commence for the Contractor to begin the prosecution of the Work required under the Contract. The Notice to Proceed will specify the Time for Completion of the Contract.
- 16) The term "Project" means the entire proposed construction to be executed as stipulated in the Contract Documents
- 17) The term "Project Officer" means the County Project Officer assigned by the Director of the County Department responsible for the project, or the Director's designee. When a designee to act on behalf of the Project Officer is used by the County, the name of the designee and the duties and authority of such designee will be identified in the Contract Documents or in a written notice to the Contractor from the Project Officer responsible for the project. The designee may be a professional architect or engineer or other person employed by the County to perform construction services administration, design services, or project oversight.
- 18) The term "Punch List" means unfinished items of the construction of the Project, which unfinished items of construction are minor or insubstantial details of construction, mechanical adjustment or decoration remaining to be performed, the non-completion of which would not materially affect use of the Project, and which are capable of being completed within the time specified for Final Completion after Substantial Completion has been achieved.
- 19) The term "Request for Information" (RFI) means a request originated by the Contractor requesting clarification or additional information from the Project Officer and/or Architect/Engineer concerning information in the construction documents where the Contractor believes there is insufficient information or a conflict in the documents. RFI's shall be submitted by the Contractor sufficiently in advance of the Work to provide time for assessment and response without delay of the Work.
- 20) The term "Schedule of Values" means a listing of the Contractor's total contract value by Construction Specifications Institute (CSI) divisions, including Division 1, Contractor's General Conditions.

- 21) The term "Site" refers to that portion of the property on which the Work is to be performed or which has otherwise been set aside for use by the Contractor.
- 22) The terms "Special Conditions" mean the written statements modifying or supplementing the Technical Specifications or General Conditions for requirements or conditions peculiar to the Contract.
- 23) The term "Specifications" means and shall include the Technical Specifications, the Special Conditions and all written agreements and instructions pertaining to the performance of the Work.
- 24) The term "Subcontractor", shall include only those having a direct contract with the Contractor, and it shall include those who furnish material worked to a special design according to the plans and specifications for this Work but shall not include those who merely furnish material not so worked.
- 25) The term "Substantial Completion" shall mean the condition when the County agrees that the Work, or a specific portion thereof, is sufficiently complete, in accordance with the Contract Documents, so that it can be utilized by the County for the purposes for The date of Substantial Completion of the Work under the Contract is the milestone date on which Substantial Completion condition is accomplished.
- 26) The term "Technical Specifications" means that part of the Contract Documents that describe the quality of materials, method of installation, standard of workmanship, and the administrative and procedural requirements for the performance of the Work under the contract.
- 27) The term "Time for Completion" shall mean the time period set forth in the Agreement.
- 28) The term "Work" shall mean the services performed under this Contract including, but not limited to, furnishing labor, and furnishing and installing materials and equipment required to complete the Project specified in the Contract Documents.

B. DRAWINGS, SPECIFICATIONS, RELATED DATA AND RECORDS KEEPING

1. INTENT OF THE DRAWINGS AND SPECIFICATIONS

- a. It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, water haulage, light power, transportation, superintendence, temporary construction of all kinds, and other services and facilities of every nature whatsoever that are necessary to execute and deliver the Work, complete and usable within the scope of the Contract with all parts in working order, and all connections properly made.
- b. The general character and scope of the Work are illustrated by the Drawings and listed in the Specifications. Any additional drawings and or other instructions

deemed necessary by the Project Officer or designee will be furnished to the Contractor when required for the Work and shall be incorporated into the Contract Documents.

- c. Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that direction, requirements, permission, or review of Project Officer or designee is intended unless stated otherwise. As used herein, "provide" shall be understood to mean "provide complete in place", that is, "furnish and install."
- d. Unless otherwise specifically noted, the word "similar" where it occurs in the Drawings, shall be interpreted in its general sense and not as meaning identical, and all details shall be worked out in relation to their locations and their connection with other parts of the Work.
- e. Materials or work described in words which, so applied, have a well-known technical, construction industry, or trade meaning, shall be held to refer to the recognized technical or trade meaning.
- f. The Contract Documents are complementary, and what is called for by any one document shall be as binding as if called for by all documents. In case of conflicting variance between the Contract Documents, the Order of Precedence stated in the Agreement shall govern. Figured dimensions on the plans shall be used; drawings shall not be scaled.

2. DISCREPANCIES AND ERRORS

If the Contractor discovers any discrepancies between the Drawings and Specifications and the site conditions or any errors or omissions in the Drawings or Specifications, the Contractor shall at once, but in no event later than three calendar days after discovery of the discrepancy or error, report them in writing to the Project Officer or designee. If the Contractor proceeds with any work that may be affected by such discrepancies, errors, or omissions, after their discovery, but before a clarification is provided, such work shall be at the Contractor's risk and expense. Issues affecting critical path activities shall be made known to the Project Officer or designee within one business day after discovery.

3. DIFFERING SITE CONDITIONS

The Contractor shall, within twenty-four hours after becoming aware of differing site conditions, and before the conditions are disturbed, give a written notice to the Project Officer of subsurface or latent physical conditions at the site which differ materially from those indicated in the Contract Documents, or previously unknown physical conditions discovered at the site of an unusual nature and which differ materially from those ordinarily expected to be encountered at the site.

The Project Officer will investigate the site conditions within twenty-four (24) hours after receiving the notice. If the conditions do materially differ to the extent that an increase or decrease would result in the Contractor's cost of the Work, or the time required for performing any part of the Work under the contract, an equitable adjustment may be made under this clause and the Contract modified in writing accordingly.

No request by the Contractor for an adjustment to the Contract under this clause shall be allowed, unless the Contractor has given the written notice required. If the Contractor proceeds with any work that may be affected by such differing site conditions before giving notice to the Project Officer as set forth herein, such work shall be at the Contractor's sole risk and expense.

No request by the Contractor for an adjustment to the contract for differing site conditions shall be allowed if made after Final Payment under the Contract.

4. COPIES FURNISHED

Except as provided for otherwise, copies of the Drawings and Specifications reasonably necessary for the execution of the Work will be furnished to the Contractor. One electronic copy of the Contract Drawings and Specifications will be provided by the Project Officer or designee to the Contractor.

5. DOCUMENTS ON THE JOBSITE

The Contractor shall keep on the site of the Project a copy of the Drawings and Specifications updated to include all authorized revisions and RFI responses, and shall at all times give the County and its authorized representatives access thereto. The Contractor shall mark up the Drawings on a daily basis in red. The drawings shall be submitted to the County at Substantial Completion as the Record marked up set.

6. OWNERSHIP OF DRAWINGS AND SPECIFICATIONS

All Drawings and Specifications and copies thereof furnished by the County are the property of the County and shall not be used on other projects. All copies of the Drawings and Specifications except the signed Contract sets shall be returned to the Project Officer or designee at Final Completion as the Record Drawing Set.

7. SUBMITTALS

a. The term "submittals", as used herein, shall include fabrications, erection and setting drawings, manufacturers' standard drawings, schedules, descriptive literature, catalogs, brochures, performance and test data, wiring and control diagrams, and other descriptive data pertaining to the materials and equipment as required to demonstrate compliance with the Contract requirements.

b. The Contractor shall submit for the review of the Project Officer or designee all submittals required by the specifications or requested by the Project Officer or designee, in one package. A listing of all such submissions shall be made within fifteen (15) calendar days after receipt of the Notice to Proceed. All submittals shall be submitted within sixty (60) calendar days after receipt of the Notice to Proceed. Submittals that will require more than 60 days to compile shall be brought to the attention of the Project Officer within 15 days of NTP. However, any delays associated with submittals received beyond the 60 days will be at Contractor's risk.

- c. Submittals shall be submitted in such number of copies that three (3) copies may be retained by the Project Officer or designee after review and acceptance. Each submission shall be accompanied by a letter of transmittal in duplicate, listing the contents of the submission and identifying each item by reference to specification section or drawing. All submittals shall be clearly labeled with the name of the project and such information as may be necessary to enable their complete review by the Project Officer or designee. Catalog plates and other similar material that cannot be so labeled conveniently shall be bound in suitable covers bearing the identifying data.
- d. Submittals shall be accompanied by all required certifications and other such supporting material, and shall be submitted in sequence or groups that all related items can be checked together. When submittals cannot be checked because a submission is not complete, or because submittals on related items have not been received by the Project Officer or designee, then such submittals will be returned without action or will be held, not checked, until the missing material is received. Incomplete or defective submittals shall not be considered to have been submitted. Failure to deliver submittals within the specified time will not be grounds for additional time or compensation.
- e. Submittals shall have been reviewed by the Contractor and coordinated with all other related or affected work before they are submitted for review and acceptance and shall bear the Contractor's certification that the Contractor has checked and approved them as complying with all relevant information in the Contract Documents. Submittals submitted without such certification and coordination will be returned to the Contractor without action and will not be considered as a formal submission.
- f. If shop drawings show variations from the Drawings and Specifications because of standard shop practice or other reasons, the Contractor shall make specific mention of such variation in the Contractor's letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment; otherwise the Contractor will not be relieved of the responsibility for executing the work in accordance with the Drawings and Specifications even though shop drawings have been accepted.
- g. The Project Officer or designee shall review the shop drawings with reasonable promptness. Review and/or acceptance of shop drawings will be general for conformance with the design concept of the Project and compliance with the information given in the Contract Documents, and will not include quantities, detailed dimensions, nor adjustments of dimensions to actual field conditions. Acceptance shall not be construed as permitting any departure from Contract requirements, as authorization of any increase in price nor as relieving the Contractor of the responsibility for any error in details, dimensions or otherwise that may exist. Review is not intended to relieve the contractor of full responsibility for the accuracy and completeness of the plans and calculations, or for the complete compliance with the contract documents. Contractor is solely

responsible for the means and methods of the construction, including temporary items proposed for use.

8. SAMPLES

The Contractor shall submit to the Project Officer or designee, all samples required by the specifications or requested by the Project Officer or designee. Samples shall be submitted in single units only, unless the Contractor desires additional units for the Contractor's own use. Each sample shall bear a label indicating what the material represented, the name of the producer and the title of the Project. Acceptance of a sample shall be only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents, and only for the characteristics or use named in such acceptance. Such acceptance shall not be construed to change or modify any Contract requirements or the Contract Price. Materials and equipment incorporated in the Work shall match the accepted samples. The Contractor shall be responsible for researching the availability of the specified product in the dimensions and colors specified at no additional cost to the County. Failure of the contractor to identify specified products that are not commercially produced within the sixty (60) day submittal time period shall not be entitled to additional time or compensation.

9. TESTS

Any specified laboratory tests of materials and finished articles shall be made by bureaus, laboratories or agencies approved by the Project Officer or designee and the certified reports of such tests shall be submitted to the Project Officer or designee. All costs in connection with the testing and test failures shall be borne by the Contractor. Failure of any material to pass the specified tests or any test performed by the Project Officer or designee, will be sufficient cause for refusal to consider, under this Contract, any further materials of the same brand or make of that material. Samples of various materials delivered on the site or in place may be taken by the Project Officer or designee for testing. Samples failing to meet the Contract requirements will automatically void previous acceptance of the items tested. The Contractor will not be compensated for additional time and/or cost incurred in finding an acceptable replacement or the removal and replacement of the defective item.

10. MATERIALS AND EQUIPMENT LIST

- a. Within thirty (30) days of the Commencement Date the Contractor shall submit to the Project Officer or designee a complete list of materials and equipment proposed for use in connection with the project. Partial lists submitted from time to time will not be considered unless specifically approved by the Project Officer or designee.
- b. After any material or piece of equipment has been approved through submittal process, no change in brand or make will be permitted unless satisfactory written evidence is presented to prove that the manufacturer cannot make scheduled delivery of the accepted material, or that material delivered has been rejected and the substitution of a suitable material is an urgent necessity, or that other conditions have become apparent which indicate that acceptance of such other

material is in the best interest of the County. The Contractor is solely responsible for the cost and time required to obtain and install a suitable replacement.

11. STANDARDS, SUBSTITUTIONS

- a. Any material specified by reference to the number, symbol or title of a specific standard, such as a Commercial Standard, a Federal Specification, a Trade Association Standard, or other similar standard, shall comply with the requirements in the latest revision of the standards or specification and any amendment or supplement, except as limited to type, class or grade, or as modified in such reference. The standard referred to, except as modified in the Specifications, shall have full force and effect as though printed in the Specifications.
- b. Reference in the Specifications or on the Drawings to any article, device, product, material, fixture, form or type of construction by name, make or catalog number shall be interpreted as establishing a standard of quality and shall not be construed as eliminating from competition other products of equal or better quality by other approved manufacturers. Otherwise, applications for acceptance of substitutions for the specified items will be considered only upon request of the Contractor, not of individuals, trades or suppliers, and only for a specific purpose; no blanket acceptance will be granted. No acceptance of a substitution shall be valid unless it is in written form and signed by the Project Officer or designee.
- c. If any proposed substitution will affect a correlated function, adjacent construction or the work of other contractors, then the necessary changes and modifications to the affected work shall be considered as an essential part of the proposed substitution, to be accomplished by the Contractor without additional expense to the County or an extension of the contract time, if and when accepted. Detail drawings and other information necessary to show and explain the proposed modifications shall be submitted with the request for acceptance of the substitution.

12. SURVEYS AND CONTROLS

Unless otherwise specified, the Contractor shall establish all baselines for the location of the principal component parts of the Work, establish a suitable number of benchmarks adjacent to the Work, and develop all detail surveys necessary for construction. The Contractor shall carefully preserve benchmarks, reference points and stakes, and in the case of destruction thereof by the Contractor or due to the Contractor's negligence or the negligence of any subcontractor or supplier, the Contractor shall be responsible for expense and damage resulting therefrom and shall be responsible for any mistakes that may be caused by the loss or disturbance of such benchmarks, reference points and stakes. The Contractor shall within 30 days of NTP perform a full site survey to verify all control points shown on the drawings against existing conditions within the site limits. Any discrepancies found during this effort shall be made known immediately to the Project Officer. Failure to perform this survey and provide proof and acceptance of

Project datum, control points, and existing benchmarks will not give rise to any extensions to contract time or amount.

13. RECORD DRAWINGS

Record drawings shall be the responsibility of the Contractor. The Contractor shall maintain and mark up one set of prints of the applicable Contract Drawings to portray record construction. The prints shall be neatly and clearly marked in red to show all variations between the Work actually provided and that indicated on the Contract Drawings, and all utilities encountered in the Work. All drafting shall conform to good drafting practice and shall include such supplementary notes, legends and details as may be necessary for legibility and clear portrayal of the record construction. These drawings shall be marked promptly upon any approved change to the Work or discovery of any undocumented utility or obstruction and shall be submitted to the Project Officer or designee in sufficient time to be approved no later than thirty (30) calendar days after the Substantial Completion Date. The final record drawings approved by the Project Officer shall be submitted in paper copy and .pdf format electronic files or designee prior to Final Completion.

14. RECORD KEEPING AND PROJECT DOCUMENT FILES

Unless instructed otherwise, the Contractor shall provide a web based construction management tool such as Constructware by Autodesk, Prolog, Procore, Ebuilder, or another tool approved by the Project Officer that will allow, but not limited to, record keeping and document storage of all construction files including, approved shop drawings, change orders, construction progress meeting minutes, warranties, equipment specifications and brochures, record drawings, automated alerts and reminders for all functions, and Operation and Maintenance (O&M) Manuals. The Contractor shall provide at least six (6) hours of training of use of the construction management tool to Project Officer as well as the architect and sub-consultants. Before Final Payment is made, the Contractor shall provide the Project Officer a CD of all the files in the web based construction management tool. The Project Officer and the architect shall have unlimited access to the construction management tool, during the construction period and up to one (1) year after completion of the Project or after Final Payment is made.

C. COUNTY, COUNTY PROJECT OFFICER, AND CONTRACTOR RELATIONS

1. STATUS OF COUNTY PROJECT OFFICER OR DESIGNEE

The Project Officer or designee shall be the County's representative during the construction period. The Project Officer or designee shall have authority to suspend the Work whenever such suspension may be necessary in the responsible opinion of the Project Officer or designee to ensure the proper execution of the Contract. The Project Officer or designee shall also have authority to reject all work and materials that do not conform to the Contract and to decide questions that arise in the execution of the Work. The County Project Officer or designee will, within a reasonable time, make decisions on all matters relating to the execution and progress of the Work.

2. LIMITATION ON COUNTY'S RESPONSIBILITIES

The County shall not supervise, direct, or have control or authority over, nor be responsible for: The Contractor's means, methods, techniques, sequences or procedures of construction; the safety precautions and programs related to safety, or the Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

3. INSPECTION OF WORK

The Project Officer or designee and representatives of any public authority having jurisdiction shall, at all times, have access to the Work while in progress. The Contractor shall provide suitable facilities for such access and for proper observation of the Work and shall conduct all special tests required by the specifications, the Project Officer or designee's instructions, and any laws, ordinances or the regulations of any public authority applicable to the work. Nothing in this section shall abrogate or otherwise limit or relieve the Contractor's independent duty to inspect the Work.

4. INSPECTION OF MATERIALS

All articles, materials, and supplies purchased by the Contractor for the Work are subject to inspection upon delivery to the site and during manufacturing or fabrication. The County reserves the right to return for full credit, at the risk and expense of the Contractor, all or part of the articles, materials, or supplies furnished contrary to specifications and instructions. Nothing in this section shall abrogate or otherwise limit or relieve the Contractor's independent duty to inspect materials.

5. EXAMINATION OF COMPLETED WORK

If the Project Officer or designee requests it, the Contractor, at any time before acceptance of the Work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the Specifications. Should the work thus exposed or examined prove acceptable, then the uncovering or removing, and the replacing of the covering or making good of the parts removed shall be paid for as extra work, but should the work so exposed or examined prove unacceptable, then the uncovering, removing and replacing shall be at the Contractor's expense.

6. RIGHT TO SUSPEND WORK

The County shall have the authority to suspend the Work, in whole or in part, for such periods and such reasons as the County may deem necessary or desirable. Any such suspension shall be in writing to the Contractor and the Contractor shall obey such order immediately and not resume the Work until so ordered in writing by the County. No such suspension of the Work shall be the basis for a claim by the Contractor for any increase in the Contract Amount provided that the suspension is for a reasonable time under the circumstances then existing. If the suspension of Work is caused by the County's belief that non-conforming work is being installed, and subsequent investigation proves that the Work was non-conforming, the Contractor shall not be awarded additional time or costs.

7. RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a 10-day period after receipt of written notice from

the County or such shorter time as may be reasonable under the circumstances, to commence and continue correction of such default or neglect with diligence and promptness, the County may, without prejudice to other remedies the County may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including the County's expenses, and any additional architect or engineering costs necessary by Contractor's default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the County upon demand.

8. SUPERINTENDENCE BY CONTRACTOR

The Contractor shall keep a competent superintendent and any necessary assistants on the Site at all times during progress of the Work and such persons shall be satisfactory to the Project Officer or designee. The superintendent shall not be changed except on the Project Officer or designee's determination that the superintendent is no longer satisfactory or except with the consent of the Project Officer or designee where the superintendent proves to be unsatisfactory to the Contractor or ceases to be in the Contractor's employment. If requested by the County, the superintendent must be replaced with 15 days of the Project Officer's written notice. The superintendent shall represent the Contractor and all directions given to him shall be as binding as if given to the Contractor. The Contractor shall at all times enforce strict discipline and good order among the workers performing under this Contract, and shall not employ on the Work any person not reasonably proficient in the Work assigned. Persons permitted to perform Work under Contractor, or any subcontractor, or sub-subcontractor, shall meet all employment eligibility, safety training, security or drug/alcohol testing requirements required by law or by the County. Any person not complying with all such requirements shall be immediately removed from the Site.

9. DRUG-FREE POLICY

The Contractor is responsible for ensuring that the Site remains a drug-free site. Contractor will require that employees undergo random drug/alcohol screening on a quarterly interval. Any employee who fails the test must be removed from the Site immediately. Random screening shall be performed by a third party licensed to do so in the Commonwealth of Virginia. The Contractor must provide proof that the quarterly drug testing is performed to the Project Officer on a quarterly basis. The Contractor shall provide its random testing schedule to the Project Officer within 30 days of NTP. The Contractor will include this provision in every subcontract relating to this Contract. Any infraction by an employee of the Drug-Free policy shall be reported to the Project Officer within 24 hours.

10. PERFORMANCE OF WORK BY THE CONTRACTOR

The Contractor shall perform on site, and with its own organization, at least eighty percent (80%) of the total direct labor and at least eighty percent (80%) of the total work in place to be performed under the Contract. Prior to award, the Contractor must demonstrate to the Project Officer's satisfaction that both of these standards will be met during contract performance. Labor and work to be counted when determining whether the Contractor has met the self-performance requirement shall not include any work that the Contractor performs under the supervision of a subcontractor.

The self-performance percentage may be reduced by an Amendment to the Contract, if during performance of the Work, the Contractor requests a reduction and the Project Officer determines that the reduction would be to the advantage of the County.

11. LANDS BY COUNTY

The County shall provide access to the lands shown on the Drawings upon which the Work under the Contract is to be performed and to be used for rights of way and for access. In case all the lands, rights-of-way or easements have not been obtained as herein contemplated before construction begins, then the Contractor shall begin its work on such lands and rights-of-way that the County has acquired access to. No additional time or compensation shall be awarded to the Contractor for modifying work location provided other locations are available for work.

12. LANDS BY CONTRACTOR

If the Contractor requires additional land or lands for temporary construction facilities and for storage of materials and equipment other than the areas available on the site or right-of-way, or as otherwise furnished by the County, then the Contractor shall provide such other lands and access thereto entirely at the Contractor's own expense and without liability to the County. The Contractor shall not enter upon private property for any purpose without prior written permission of all of the persons and entities who own the property. The Contractor shall provide copies of all agreements to the County and shall include language in the agreement indemnifying and holding the County harmless for any damages, repairs, restoration or fees associated with the use of the property. Upon termination of the agreement, the Contractor shall provide to the County a fully executed release from the property owner.

13. PROTECTION OF WORK AND PROPERTY

- a. The Contractor shall continuously maintain protection of all its work from damage and shall protect the County's property from damage or loss arising in connection with this Contract. The Contractor shall make good any such damage or loss, except such as may be caused by agents or employees of the County.
- b. The Contractor shall not place upon the Work, or any part thereof, any loads which are not consistent with the design strength of that portion of the Work.
- c. The Contractor shall be responsible for the preservation of all public and private property, trees, monuments, etc., along and adjacent to the street and/or right-of-way, and shall use every precaution to prevent damage to pipes, conduits and other underground structures, curbs, pavements, etc., except those to be removed or abandoned in place and shall protect carefully from disturbance or damage all monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed. Any damage which occurs by reason of the operations under this Contract, whether shown or not on the approved construction plans, shall be completely repaired by the Contractor at the Contractor's expense.

- d. The Contractor shall shore, brace, underpin, secure, and protect, as may be necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site that may be affected in any way by excavations or other operations connected with the work required under this Contract. The Contractor shall be responsible for giving any and all required notices to owners or occupants of any adjoining or adjacent property or other relevant parties before commencement of any work. Contractor shall provide all engineering (signed and sealed) for items listed in this section per the Specifications. The Contractor shall indemnify and hold the County harmless from any damages on account of settlements or loss of all damages for which the County may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
- e. In an emergency affecting the safety of life or of the Work, or of adjoining property, the Contractor, without special instruction or authorization from the Project Officer or designee, or the County, is hereby permitted to act, at the Contractor's discretion, to prevent such threatened loss or injury, and the Contractor shall so act without appeal, if so instructed or authorized.

14. SEPARATE CONTRACTS

- a. The County reserves the right to let other contracts in connection with this Project. The Contractor shall afford other contractors reasonable access to the Project including storage of their materials and the execution of their work, and shall properly connect and coordinate its work with the work of other such contractors.
- b. If any part of the Contractor's work depends, for proper execution or results, upon the work of any other contractor, the Contractor shall inspect and promptly report to the Project Officer or designee any defects in such work that renders it unsuitable for such proper execution and results. The Contractor's failure to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of the Contractor's work, except as to defects which may develop in other contractor's work after its execution.
- c. If the Contractor or any of the Contractor's subcontractors or employees cause loss or damage to any separate contractor on the Work, the Contractor agrees to settle or make every effort to settle or compromise with such separate contractor. If such separate contractor sues the County on account of any loss so sustained, the County shall notify the Contractor, who shall indemnify and save the County harmless against any expense, claim or judgment arising therefrom, including reasonable attorney's fees.

15. SUBCONTRACTS

- a. Unless otherwise specified, the Contractor shall, within fifteen (15) calendar days after the execution of the Contract by the County, provide to the Project Officer or designee, in writing, the names of all subcontractors proposed for the principal

parts of the Work and for such others as requested by the Project Officer or designee, and shall not employ any subcontractors that the Project Officer or designee may object to as incompetent or unfit after an appropriate determination of the subcontractor's ability. No proposed subcontractor will be disapproved except for cause.

- b. The Contractor shall make no substitutions for any subcontractor previously selected/approved unless first submitted to the County for approval.
- c. The Contractor shall be as fully responsible to the County for the acts and omissions of the Contractor's subcontractors as the Contractor is for the acts and omissions of persons directly employed by the Contractor.
- d. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind subcontractors to the Contractor by the terms of the General Conditions of the Contract, Special Provisions and other Contract Documents comprising the Contract insofar as such documents are applicable to the work of subcontractors.
- e. Nothing contained in the Contract shall be construed to create any contractual relation between any subcontractor and the County, nor shall it establish any obligation on the part of the County to pay to, or see to the payment of any sums to any subcontractor. The County will not discuss, negotiate or otherwise engage in any contractual disputes with any subcontractor.
- f. If requested by the County, the Contractor shall replace any subcontractor at no cost to the County within 30 days of the Project Officers written notice or as otherwise specified. No additional time or compensation will be provided in the event a subcontractor is removed due to non-compliance of the requirements outlined within the Contract.

16. ELIMINATED ITEMS

If any item(s) in the Contract are determined to be unnecessary for the proper completion of the Work contracted, the Project Officer or designee may, upon written notice to the Contractor, eliminate such item(s) from the Contract. Payment will not be made for such item(s) so eliminated; except that the Contractor will be compensated for the actual cost of any work performed and the net cost of materials purchased before the item(s) was eliminated from the Contract, including freight and tax costs, as evidenced by invoice. No additional compensation will be made for overhead or anticipated profit. The County will receive the full unit price credit for work eliminated prior to production or installation.

D. MATERIALS AND WORKMANSHIP

1. MATERIALS FURNISHED BY THE CONTRACTOR

Unless otherwise specified, all materials and equipment incorporated in the Work under the Contract shall be new. All work shall be accomplished by persons qualified in the respective trades.

2. IBC AND VUSBC REQUIREMENTS

The Contractor certifies that all material supplied or used under this Contract meets all current International Building Code (IBC) requirements and the requirements of the Virginia Uniform Statewide Building Code (VUSBC); and further certifies that, if the material delivered or used in the performance of the work is found to be deficient in any of the applicable state or national code requirements, all costs necessary to bring the material into compliance with the requirements shall be borne by the Contractor. The County shall be entitled to offset such costs against any sums owed by the County to the Contractor under this Contract.

3. ADA COMPLIANCE

The Contractor shall ensure that all Work performed under this Agreement is completed in accordance with the Contract Documents, including Work intended to meet the accessibility requirements of the Americans with Disabilities Act (ADA).

The Contractor is not required to ascertain whether the Contract Documents meet ADA design standards and guidelines. However, should the Contractor discover any non-conformity with such requirements, the Contractor shall immediately inform the County and its design consultant, if applicable, to allow for corrective action.

The Contractor shall defend and hold the County harmless from any expense or liability arising from the Contractor's non-compliance in meeting its obligations herein. The Contractor shall be responsible for all costs related to permitting delays, redesign, corrective Work, and litigation relating to such non-compliance.

4. MANUFACTURER'S DIRECTIONS

Manufactured articles, material, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's directions as accepted by the Project Officer or designee, unless herein specified to the contrary.

5. WARRANTY

All material provided to the County shall be fully guaranteed by the Contractor against manufacturing defects within the period of the manufacturer's standard warranty. Such defects shall be corrected by the Contractor at no expense to the County. The Contractor shall provide all manufacturers' warranties to the Project Officer by the date of Final Completion.

All Work is guaranteed by the Contractor against defects resulting from the use of inferior or faulty materials. The Contractor warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects or inferior or faulty workmanship, or work not in accordance with the Contract Documents for one (1) year from the date of Substantial Completion or as set forth in the Specifications of the work by the County in addition to and irrespective of any manufacturer's or supplier's warranty, except the warranty term of the following elements of the Work are as stated herein.

- a. Roof and all elements of waterproof membrane: The warranty period shall be twenty (20) years at a wind speed of 74 mph, including labor and materials.

- b. Glazing, including all elements of windows, curtain walls and other fenestration shown in the Contract Documents, including the joining between the glazing assemblies and the building shell: The warranty period shall be three (3) years, including labor and materials.

No date other than Substantial Completion or as set forth in the Specifications shall govern the effective date of the Warranty, unless that date is agreed upon by the County and the Contractor in advance and in a signed writing.

The Contractor shall promptly correct any defective work or materials after receipt of a written notice from the County to do so. If the Contractor fails to proceed promptly or use its best efforts and due diligence to complete such compliance as quickly as possible, the County may have the materials or work corrected and the Contractor and its Sureties shall be liable for all expenses and costs incurred by the County.

Nothing contained in this section shall be construed to establish a period of limitations with respect to other obligations the Contractor may have under this Contract.

6. INSPECTION, ACCEPTANCE AND TITLE OF MATERIALS

Inspection and acceptance by the County will be at the work site in Arlington County, Virginia and within ten (10) calendar days of delivery unless otherwise provided for in the Contract Documents. The County will not inspect, accept, or pay for any materials stored or delivered off-site by the Contractor. Title of materials and work covered by partial payments shall pass to the County; however, risk of loss or damage to all items and the sole responsibility, care, and custody shall be the responsibility of the Contractor until Final Acceptance by the County. The County's right of inspection shall not be deemed to relieve the Contractor of its obligation to ensure that all articles, materials and supplies are consistent with specifications and instructions and are fit for their intended use. The County reserves the right to conduct any tests or inspections it may deem appropriate before acceptance. The Contractor shall be responsible for maintaining all materials and supplies in the condition in which they were accepted until they are used in the work.

The Contractor is to coordinate its work and request inspections in such a manner as to minimize the cost to the County without impacting the overall schedule of the Project within reason. All costs associated with re-inspection shall be borne by the Contractor.

7. CONTRACTOR'S TITLE TO MATERIALS

No materials or supplies for the work shall be purchased by the Contractor or any subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that it has good title to, and that it will require all subcontractors to warrant that they have good title to, all materials and supplies for which the Contractor invoices for payment. The County may request proof of title or payment prior to acceptance of the Contractor's invoice.

8. TITLE TO MATERIALS AND WORK COVERED BY PARTIAL PAYMENTS

All material and work covered by partial payments made by the County will become the property solely of the County at the time the partial payment is made. However, risk of loss or damage to all items shall be the responsibility of the Contractor until Final Acceptance by the County. This provision will not be construed as relieving the Contractor from having sole responsibility for all materials and work upon which payments have been made and for the restoration of any damaged work or replacement or repair at the County's option of any damaged materials. This provision will not be construed as a waiver of the County's right to require fulfillment of all terms of the Agreement, including full rights under the terms of the Warranty provisions of the Agreement, nor shall payment indicate acceptance of the materials or work.

9. MAINTENANCE OF NEWLY CONSTRUCTED WORK

Prior to Final Acceptance the Contractor is solely responsible for protecting and maintaining all the Work and materials installed on the Project. Failure to adequately protect the Work and materials shall not be grounds for additional compensation for any maintenance and/or repairs to such Work or materials.

10. CUTTING, PATCHING, AND DIGGING

The Contractor shall do all cutting, patching, or digging of the Contractor's work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors as shown upon or reasonably implied by the Drawings and Specifications for the completed project and shall make good after them as the Project Officer or designee may direct. This work will be performed in a workmanlike manner utilizing proper care and equipment to achieve proper line and grade. The Contractor shall not endanger any work by cutting, patching, or digging, or otherwise, and shall not cut or alter the work of any other contract except with the prior written consent of the Project Officer or designee.

11. REJECTED WORK AND MATERIALS

- a. Any of the Work or materials, goods, or equipment which do not conform to the requirements of the Contract Documents, or are not equal to samples accepted by the Project Officer or designee, or are in any way unsatisfactory or unsuited to the purpose for which they are intended, shall be rejected and replaced immediately so as not to cause delay to the project or work by others. Any defective work, whether the result of poor workmanship, use of defective materials, damage through carelessness or any other cause, shall be removed and the work shall be re-executed by the Contractor. The fact that the Project Officer or designee may have previously overlooked such defective work shall not constitute acceptance of any part of it.
- b. If the Contractor fails to proceed at once with the replacement of rejected material and/or the correction of defective workmanship when notified to do so by the Project Officer or designee, the County may, by contract or otherwise, replace such material or correct such workmanship and charge the cost to the Contractor. This clause applies during the Contract and during any warranty or guarantee period.

- c. The Contractor shall be responsible for managing, addressing within a timely manner, and formally closing out all non-compliances issued by the inspector of record, Arlington County Inspection Services, or the Design Team. The Contractor shall be solely liable for any costs or time associated with the corrective action to address any non-compliances. The Contractor must work directly with the entity issuing the non-compliance.
- d. If the Project Officer or designee deems it expedient not to require correction of work which has been damaged or not done in accordance with the Contract, an appropriate adjustment to the Contract Price may be made.

12. OSHA REQUIREMENTS

The Contractor certifies that all material supplied or used under this Contract meets all Occupational Safety and Health Administration (O.S.H.A.) requirements, both Federal and those of the Commonwealth of Virginia; and further certifies that, if the material delivered or used in the performance of the work is found to be deficient in any of the applicable state or federal occupational safety and health requirements, all costs necessary to bring the material or work into compliance with the requirements shall be borne by the Contractor.

13. HAZARDOUS MATERIALS

Arlington County is subject to the Hazard Communication Standard, 29 CFR §1910.1200 (Standard). The Contractor agrees that it will provide or cause to be provided Safety Data Sheets (SDS) required under the Standard for all hazardous materials supplied to the County or used in the performance of the work. Such SDS shall be delivered to the County no later than the time of actual delivery of any hazardous materials to the County or use of such material in the performance of work under the Contract by the Contractor or its subcontractors, whichever occurs first. Container labeling meeting the requirements of the Standard shall be appropriately affixed to the shipping or internal containers. The County reserves the right to refuse shipments of hazardous materials not appropriately labeled, or when SDS have not been received prior to or at the time of receipt of the shipment for use by the County or for use by the Contractor in the performance of the Contract, or whenever the material is delivered in a manner inconsistent with any applicable law or regulation. Any expenses incurred due to the refusal or rejection of SDS are the responsibility of the Contractor. The Contractor shall comply with all federal, state, and local laws governing the storage, transportation, and use of toxic and hazardous materials. The Contractor shall maintain onsite an up to date SDS binder for all material used and delivered to the Project. The County Project Officer or his designee shall be allowed access to the SDS book at all times.

14. HAZARDOUS WASTE

Hazardous Waste Generator/Hazardous Waste Disposal: The County Board of Arlington County, Virginia and the Contractor shall be listed as Co-generators. The Contractor shall assume all the duties pertaining to the Waste Generator, including signing the Waste Shipment Record ("WSR") and manifest. The Contractor shall supply the County Project Officer with the executed original Owner's Copy of the WSR, as required by applicable regulatory agencies within 35 days from the time the waste was accepted by the initial

waste transporter, and prior to request for final payment. A separate WSR shall be submitted for each shipment to the disposal site.

Delayed Waste Shipment Records: The Contractor shall report in writing to the EPA Region III office within 45 days if an executed copy of the WSR is not received from the operator of the disposal site. The report to the EPA regional office shall include a copy of the original WSR and a cover letter signed by the Contractor stating the efforts taken to locate the hazardous waste shipment and the results of those efforts.

Temporary Hazardous Waste Storage Prohibited: The Contractor shall not temporarily store hazardous waste unless pre-approved by the County in writing. If so approved, hazardous waste stored off-site in a temporary facility shall be monitored and records shall be kept on the number of containers, size, and weight. The Contractor shall inform the County when the hazardous waste is to be transported to the final disposal site. The County has the right to inspect the temporary site at any time. The Contractor shall submit copies of all relevant manifests, Waste Shipment Record(s), and landfill receipts to the County Project Officer prior to the request for final payment. All paperwork shall be signed by the Contractor and disposal site operator as required.

15. ASBESTOS

Whenever and wherever during the course of performing any work under this Contract the Contractor discovers the presence of asbestos or suspects that asbestos is present, the Contractor shall stop work immediately, secure the area, notify the County Project Officer immediately and await positive identification of the suspect material. During the downtime in such a case, the Contractor shall not disturb any surrounding surfaces but shall protect the area with suitable dust covers. Work shall not proceed without an Asbestos-Related Work Authorization executed by the County Asbestos Program Manager.

16. PROHIBITION AGAINST ASBESTOS CONTAINING MATERIALS

No goods or equipment provided to the County or construction material installed shall contain asbestos. If a Contractor or supplier provides or installs any goods, equipment, supplies, or materials that contain asbestos in violation of this prohibition, the Contractor shall be responsible for all costs related to the immediate removal and legal disposal of the goods, equipment or materials containing asbestos and replacement with County-approved alternate. The Contractor shall be responsible for all goods, equipment, supplies or materials installed or provided by any of its employees, agents or subcontractors in connection with the work under this contract. The Contractor shall also reimburse to the County all costs of such goods, equipment, supplies or materials installed if not corrected by the Contractor.

The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the County, as well as from the drawings and specifications made a part of this Contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for

estimating properly the difficulty and cost of successfully performing the Work without additional expense to the County.

The locations of existing utilities, including underground utilities, which may affect the Work, are indicated on the drawings or in the specifications insofar as their existence and location were known at the time of preparation of the drawings. However, nothing in these drawings or specifications shall be construed as a guarantee that such utilities are in the location indicated or that they actually exist, or that other utilities are not within the area of the operations. The Contractor shall make all necessary investigations to determine the existence and locations of such utilities. The Contractor will be held responsible for any damage to and maintenance and protection of existing utilities and structures, of both public and private ownership. However, if it is determined that such existing utility lines or structures require relocation or reconstruction or any other work beyond normal protection, then such additional work will be ordered under the terms of the clause entitled "Changes in Work".

The County assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the County. The County assumes no responsibility for any understanding reached or representation made concerning conditions which can affect the Work by any of its officers or agents before the execution of this Contract, unless that understanding or representation is expressly stated in this Contract.

E. LEGAL RESPONSIBILITY AND PUBLIC SAFETY

1. SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and locations of the work of the Contract, and that it has investigated and satisfied itself as to the general and local conditions and factors which can affect the Work or its cost, including but not limited to:

- a. conditions bearing upon transportation, disposal, handling, and storage of materials;
- b. the availability of labor, water, electric power, and roads;
- c. uncertainties of weather, river stages, tides, or similar physical conditions at the site;
- d. the information and conditions of the ground; and
- e. the character of equipment and facilities needed before and during work performance.

The Contractor, by executing the Contract, represents that it has reviewed and understands the Contract Documents and has notified the County of and obtained clarification of any discrepancies which have become apparent during the bidding period. During the Contract, the Contractor must promptly notify the County in writing of any apparent errors, inconsistencies, omissions, ambiguities, construction impracticalities or code violations discovered as a result of the Contractor's review of the Contract Documents including any differences between actual and indicated dimensions, locations

and descriptions, and must give the County timely notice in writing of same and of any corrections, clarifications, additional Drawings or Specifications, or other information required to define the Work in greater detail or to permit the proper progress of the Work. The Contractor must provide similar notice with respect to any variance between its review of the Site and physical data and Site conditions observed. If the Contractor performs any Work involving an apparent error, inconsistency, ambiguity, construction impracticality, omission or code violation in the Contract Documents of which the Contractor is aware, or which could reasonably have been discovered, without prompt written notice to the County and request for correction, clarification or additional information, as appropriate, the Contractor does so at its own risk and expense and all related claims are specifically waived.

The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the County, as well as from the drawings and specifications made a part of this Contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the Work without additional expense to the County.

The locations of existing utilities, including underground utilities, which may affect the Work, are indicated on the drawings or in the specifications insofar as their existence and location were known at the time of preparation of the drawings. However, nothing in these drawings or specifications shall be construed as a guarantee that such utilities are in the location indicated or that they actually exist, or that other utilities are not within the area of the operations. The Contractor shall make all necessary investigations to determine the existence and locations of such utilities. The Contractor will be held responsible for any damage to and maintenance and protection of existing utilities and structures, of both public and private ownership. However, if it is determined that such existing utility lines or structures require relocation or reconstruction or any other work beyond normal protection, then such additional work will be ordered under the terms of the clause entitled "Changes in Work"

The County assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the County. The County assumes no responsibility for any understanding reached or representation made concerning conditions which can affect the Work by any of its officers or agents before the execution of this Contract, unless that understanding or representation is expressly stated in this Contract.

2. PUBLIC CONVENIENCE

The Contractor shall at all times so conduct its Work as to ensure the least possible obstruction to traffic (vehicular, bicycle and pedestrian) and inconvenience to the general public, County employees, and the residents in the vicinity of the Work. Traffic shall be maintained in accordance with the approved MOT plan. No road, street or sidewalk shall be closed to the public except with the permission of the Project Officer or designee and or proper governmental authority. Fire hydrants on or adjacent to the Work shall be kept

accessible to firefighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks and the proper functioning of all gutters, drainage inlets, drainage ditches, and irrigation ditches, which shall not be obstructed except as approved by the Project Officer or designee.

3. SAFETY AND ACCIDENT PREVENTION

The Contractor shall comply with, and ensure that the Contractor's employees and subcontractors comply with, all current applicable local, state and federal policies, regulations and standards relating to safety and health, including, by way of illustration and not limitation, the U.S. Department of Labor's Occupational Safety and Hazard Administration (OSHA) Construction Industry Regulations, the standards of the Virginia Occupational Safety and Health program of the Department of Labor and Industry for General Industry and for the Construction Industry, the Federal Environmental Protection Agency Standards and the applicable standards of the Virginia Department of Environmental Quality.

The Contractor shall provide, or cause to be provided, all technical expertise, qualified personnel, equipment, tools and material to safely accomplish the Work specified to be performed by the Contractor and subcontractor(s).

The Contractor shall identify to the County Project Officer at least one on-site person who is the Contractor's competent, qualified, and authorized safety officer on the worksite and who is, by training or experience, familiar with and trained in policies, regulations and standards applicable to the work being performed. The competent, qualified and authorized person must be capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, shall be capable of ensuring that applicable safety regulations are complied with, and shall have the authority and responsibility to take prompt corrective measures, which may include removal of the Contractor's personnel from the work site.

The Contractor shall provide to the County, within 7 days of issuance of the Notice to Proceed, a copy of the Contractor's written safety policies and safety procedures applicable to the scope of work. Failure to provide this information within may result in cancellation of the Contract.

The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all injury to persons and damage to property either on or off the site, which occur as a result of the Contractor's prosecution of the Work.

The Contractor shall take or cause to be taken such additional safety and health measures as the County may determine to be reasonably necessary. Machinery, equipment, and all hazards shall be guarded in accordance with the safety provisions of the current version of "Manual of Accident Prevention" published by the Associated General Contractors of America, Inc., to the extent that such provisions are not in conflict with applicable local laws. The Contractor is directed to the "Rules and Regulations Governing Construction, Demolition and All Excavation" and adopted by the Safety Codes Commission of Virginia,

1966, or latest edition, covering requirements for shoring, bracing, and sheet piling of trench excavations.

4. CROSSING UTILITIES

When construction crosses highways, railroads, streets, or utilities under the jurisdiction of State, County, City, or other public agency, public utility, or private entity, the Contractor shall secure written permission where necessary from the proper authority before executing such new construction. A copy of such written permission must be filed with the County before any work is started. The Contractor shall be required to furnish a release from the proper authority before Final Acceptance of the Work.

5. OVERHEAD HIGH VOLTAGE LINES SAFETY ACT

If any work required herein will be performed within ten feet of an overhead high voltage line, the provisions of Virginia Statute 59.1-406, et. seq., "Overhead High Voltage Line Safety Act" (Act) shall apply. The "person or contractor responsible for the work to be done", as that term is used in the Act, will be interpreted to mean the Contractor. The Contractor shall notify the owner or operator of the high voltage line in the manner prescribed in Section 59.1-411 of the Act in sufficient time prior to the time work is to be commenced to avoid any delays in the work. The County will not pay for lost time, profits, or permit any extension of the work for any delays caused by the failure of the Contractor to make such arrangements in a timely manner. All costs for the work shall be paid by the Contractor. The County shall reimburse the Contractor for the actual reasonable cost paid to the owner or operator of the high voltage line by the Contractor on presentation to the County by the Contractor of original invoices from the owner or operator of the high voltage line in the same manner as for other Contractor invoices submitted for work performed. Retention, if applicable to the Contract, shall not be withheld from the payment to the Contractor by the County for this work. No processing, administrative, or other charges above the actual amount charged by the owner or operator of the high voltage line shall be paid to the Contractor by the County.

6. SANITARY PROVISIONS

The Contractor shall provide and maintain such sanitary accommodations for the use of the Contractor's employees and those of its subcontractors as may be necessary to comply with the requirements and regulations of OSHA and of the local and State departments of health.

7. WORK SITE DAMAGES

Any damage to finished surfaces resulting from work performed under this Contract shall be repaired to the County's satisfaction at the Contractor's expense.

8. CLEANING UP

The Contractor shall remove and legally dispose of, as frequently as necessary, all refuse, rubbish, scrap materials and debris from the site to the extent they are the result of the Contractor's operations to the end that the site of the work shall present a neat, orderly, and workmanlike appearance at all times. The Contractor shall isolate the trash cans and recycling bins installed during construction related to the Project from public use until Final Acceptance. However, failure to adequately restrict public access shall not relieve the Contractor from maintenance of the cans and bins. At completion of the Work, but

before Final Acceptance, the Contractor shall remove and legally dispose of all surplus material, falsework, temporary structures including foundations thereof, and debris of every nature resulting from the Contractor's operations or resulting from any activity on the site related to the Contractor's operations and put the site in a neat, orderly condition; if the Contractor fails to do so, the County shall have the right to remove and legally dispose of the surplus material, falsework, temporary structures including foundations thereof, and debris, put the site in a neat, orderly condition, and charge the cost to the Contractor.

F. PROGRESS AND COMPLETION OF THE WORK

1. NOTICE TO PROCEED

Within thirty (30) days of the Award Date, the Contractor shall be given written Notice to Proceed with the Work. Such Notice to Proceed shall state the date on which the Work is to be commenced, and every calendar day thereafter shall be counted in computing the actual Time for Completion.

2. TIME FOR COMPLETION

It is hereby understood and mutually agreed by and between the Contractor and the County that the Commencement Date, the rate of progress, and the Time for Completion of the Work to be done hereunder are essential conditions of the Contract. The Contractor agrees that the Work shall be started promptly upon receipt of a written Notice to Proceed in accordance with the accepted schedule. The Work shall be prosecuted regularly, diligently, and uninterruptedly at a rate of progress that will ensure full completion of the project within the Time for Completion specified in the Contract Documents.

3. CONDITIONS FOR COMPLETION

a. **SUBSTANTIAL COMPLETION:** The Work will be considered Substantially Complete when all of the following conditions have been met and accepted by the Project Officer:

1. The Project Officer has agreed that the condition of the Work warrants Substantial Completion;
2. The Contractor has provided a Punch List and that list has been reviewed and approved by the Project Officer. Failure to include an item on the Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents;
3. Final test reports as required by the Contract and certificates of inspection and approval required for use and occupancy;
4. Fire Marshal's report, if applicable;
5. Approval forms and transfer documents for all utilities;

6. All life safety systems, including fire alarms, visual and audios alarms, fire detectors and fire alarm annunciator system, sprinkler systems, and all mechanical and electrical systems are complete and working in an automatic mode, and the County has been adequately trained in the operation of the systems;
 7. The HVAC system Testing and Balancing Report and build air quality test results as required for LEED certification have been accepted by the Project Officer;
 8. Operation and Maintenance Manuals have been submitted for review;
 9. All documents and verification of training required in accordance with any Commissioning Plan;
 10. Mark-ups of construction drawings showing the Record or "Record" condition have been submitted for review and approval by the Project Officer;
 12. Entrances and egress pathways have been constructed and can remain clear of construction activities;
 13. A Certificate of Occupancy has been issued for the space by the County's Inspection Services Division;
 14. All Commissioning has performed and completed to the satisfaction of the Project Officer; and
 15. Schedule to complete the Punch List and value of Work not yet complete.
- b. FINAL COMPLETION: The Work will be considered Finally Complete when all of the following conditions have been met and accepted by the Project Officer:
1. The Project Officer has agreed that the condition of the Work warrants Final Completion;
 2. All construction deficiencies and punch list items have been closed and all construction deficiencies corrected and accepted by the Project Officer;
 3. All spare parts and attic stock have been delivered, stored in an orderly manner in a space designated by the Project Officer and a complete inventory list has been verified and accepted by the Project Officer;
 2. All warranty certificates and contact information for parties providing warranties have been delivered and accepted by the Project Officer;

3. All final Operating and Maintenance manuals have been delivered and approved and accepted by the Project Officer;
4. All final Record Drawings in .pdf format on a CD delivered and accepted by the Project Officer;
5. All commissioning has been completed and any open construction items in the commissioning agent's report have been closed and accepted by the Project Officer; and
6. All LEED documents and submittals, if applicable, to be provided by the Contractor or sub-contractors have been submitted and accepted by the Project Officer.

4. CONSTRUCTION SCHEDULE, CASH FLOW AND PROGRESS CURVE

a. CONSTRUCTION SCHEDULE

The Contractor shall within thirty (30) calendar days following receipt of the Notice to Proceed submit a cost and resource loaded schedule which shall show the sequence of events and activities in which the Contractor proposes to carry on the Work, with dates for starting and completing the various events and activities of the Work ("Construction Schedule"). The Construction Schedule shall be logic based and show the Critical Path. Review and acceptance by the County of the Contractor's Construction Schedule and the critical path schedule of completion of work shall in no way relieve the Contractor of its responsibility to complete the Work within the contract time limit. The Contractor shall submit an updated progress schedule monthly with each monthly request for partial payment.

The schedule shall include, in addition to the elements set forth in this Section of the Contract, the following elements:

- (1) A listing of all long lead time items and a schedule for the Contractor acquisition and delivery of such long lead items;
- (2) A schedule for the processing of shop drawings and submittals, providing for appropriate periods of review, which periods should not be more than 21 calendar days, or longer where appropriate or required by the Project Specifications;
- (3) Itemization of work provided by the County, or others, for the Contractor's incorporation into the Work;
- (4) Preparation of a punch list, and completion of the punch list, delivery of record drawings, Operation and Maintenance Manuals, commissioning, and completion of all close out requirements.

The Construction Schedule shall be in calendar days and shall include weekends and all federal and local holidays. The Construction Schedule shall be used by the Project Officer to monitor the progress of the Project. The Contractor shall update the schedule monthly for review and acceptance by the Project Officer, and without extending the construction period beyond the Time for Completion. The Contractor shall give specific notice of any change in the logic of the schedule or any part thereof, or the removal of any restraints, or the deduction of any duration. The review and acceptance by the Project Officer shall in no way relieve the Contractor of its responsibility to complete the Work within the Time for Completion. Time is of the essence. As necessary, adjustments to the sequence of work must be made due to availability of permits, easements, and other administrative items. These adjustments to the sequence of work shall not entitle the Contractor to additional compensation or time.

The schedule shall include anticipated time lost to adverse weather. The number of lost days anticipated shall be clearly shown on the Construction Schedule. The Contractor will use the number of weather days derived in accordance with the Time Extension for Weather paragraph of these General Conditions. The schedule updates shall include changes in events and activities that will show how the Contractor intends to recover from delays.

The Contractor shall provide the Project Officer with the electronic files for initial schedule, final schedule and all monthly schedule updates, in a format acceptable to the Project Officer. The electronic file shall include a PDF copy of the schedule and an accessible/working electronic file.

The preparation of the Construction Schedule in Primavera P6 utilizing the critical path method or other program accepted by the Project Officer shall be a subsidiary obligation of the Contractor and no additional payment shall be made to the Contractor for providing the schedule and monthly updates.

b. CASH FLOW FORECAST

Concurrent with the Construction Schedule, the Contractor shall provide a forecast of cash flow or expected progress payments, including the retention amount, to be paid within the 30-day period following each month's requested progress payment. The report shall be prepared in an Excel spreadsheet format and indicate both the current and cumulative payment amounts through the scheduled Final Payment date.

c. PROGRESS CURVE FORECAST

Concurrently with the Construction Schedule, the Contractor shall provide a forecast progress or project completion curve. The curve shall indicate the forecast total project completion percent planned for each month in the construction schedule, both as a monthly increment and a cumulative total or "S Curve" format. The Contractor shall provide the basis for determining the forecast completion percentages in each schedule month.

At the Project Officer's request, the Contractor shall provide an updated curve forecast if the schedule or sequence of the Project changes for any reason.

d. PROGRESS DELAY

When the Work is 30 calendar days or more behind the schedule and/or more than 10% behind the projected progress curve, the County may require the Contractor to prepare and submit, at no extra cost to the County, a recovery schedule indicating by what means the Contractor intends to regain compliance with the schedule. The recovery schedule must be submitted to the County for review within seven (7) days of the County's notice of unsatisfactory progress. The schedule shall be reviewed and must be acceptable to the Project Officer.

5. USE OF COMPLETED PORTIONS

The County shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired; but taking such possession and use shall not be deemed an acceptance of any work not done in accordance with the Contract Documents. If the Contractor claims that such prior use increases the cost or delays, the completion of remaining work, or causes refinishing of completed work, the Contractor may submit a claim for compensation or extension of time, or both.

G. PAYMENT, CHANGES, CLAIMS, DELAYS

1. PAYMENTS TO CONTRACTOR

The County will make monthly partial payments, less retainage, to the Contractor on the basis of the Contractor's written estimate of the work performed during the preceding calendar month as reviewed and accepted by the Project Officer or designee. The accepted Schedule of Values shall be used as the basis for preparing the estimates, and each partial payment shall represent the value, proportionate to the amount stated in the approved schedule of values less the aggregate of previous payments. The Contractor shall submit a monthly payment application using AIA Form G-702 "Application and Certification for Payment" or equivalent form acceptable to the Project Officer or designee. The application for payment will not be reviewed or processed by the County unless an updated Construction Schedule, Cash Flow Forecast, Progress Curve Forecast and a release of liens are also attached. The application shall also contain a certification by Contractor that due and payable amounts and bills have been paid by the Contractor, including payments to subcontractors and suppliers, for work for which previous payment was received by Contractor from the County. Partial waivers from subcontractors and suppliers shall also be provided if requested by the Project Officer.

When calculating payment for materials on-site, the County shall not pay for materials which are not scheduled for incorporation into the Work within sixty (60) days from the application for payment.

The Contractor shall provide photographs of materials stored offsite, certificates of insurance for the stored material shall be included with the application for payment.

2. PAYMENTS WITHHELD

The Project Officer or designee may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate for payment to the extent necessary to protect the County from loss on account of defective work not remedied or withhold payment for violation of any contract term or condition not remedied after sufficient notice given to the Contractor.

Any such withholding shall not result in any liability to the Contractor for damages.

3. COUNTY ORDERED CHANGES IN WORK

The County, without invalidating the Contract, may order extra Work or make changes by addition, deletion or revision in the Work, with the total Contract Amount being adjusted accordingly if applicable. Any change that will increase the Contract Amount more than 10% will require notice to sureties and require that Performance and Payment Bonds be increased by the Contractor. The increased Performance and Payment Bonds must be sent to the County's Office of the Purchasing Agent within 15 calendar days of the County's approval of such change. All such work shall be executed under the conditions of the original Contract, except that modification of the Time for Completion caused thereby shall be made at the time of approving such change.

- a. The Project Officer or designee shall have authority to make minor changes in the Work by verbal order when such changes do not involve extra cost and are not inconsistent with the purpose of the project. Otherwise, except in an emergency endangering life or property, no extra Work or change shall be made unless in pursuance of a written Construction Change Directive or Change Order and no claim for an addition to the Contract Amount or Contract Time shall be valid unless so ordered.
- b. The Contractor shall review any County requested or directed change and shall respond in writing within 14 days after receipt of the proposed change stating the effect of the proposed change upon Contractor's work, including any increase or decrease in Contract time and price. The Contractor shall furnish the County an itemized breakdown of the quantities and prices used in computing the proposed change. The Contractor shall also furnish any sketches, drawings, and or pictures to properly explain the change or impact to the Project Officer. It is the sole responsibility of the Contractor to provide adequate change order backup to satisfy the Project Officer.
- c. The value of any such extra work or change shall be proposed by the Contractor in one or more of the following ways: (a) by estimate in a lump sum; (b) by cost and fixed fee; (c) by unit price additions or deletions of quantities stated in the unit price contract; or (d) by any other method permitted under the Arlington County Purchasing Resolution. The Project Officer will determine the method appropriate based on the nature of the changes.
- d. If none of the aforementioned methods is agreed upon the Contractor shall proceed with the work without delay provided the Contractor receives a Construction Change Directive. In such case, the Contractor shall keep and

present in such form as the Project Officer or designee may direct, a correct account of the cost, together with vouchers. The Project Officer or designee shall be permitted to verify such records on a daily basis and may require such additional records as are necessary to determine the cost of the change to the Work. The Project Officer or designee shall certify to the amount due to the Contractor, including a reasonable lump sum allowance for overhead and profit. A complete accounting of the extra cost shall be made within 14 days after completion of the work involved in the claim.

- e. A cost proposal for a change in the Work shall provide a complete breakdown itemizing the estimated quantities and costs of labor, materials, and equipment (base cost) required in addition to any markup used. The allowable percentage markups for overhead and profit for a change to the Work performed by the Contractor's own forces or performed by the Subcontractor shall be negotiated based on the nature, size, and complexity of the Work involved but shall not exceed the percentages for each category listed below.
 - (1) Subcontractor's markup for overhead and profit for the work it performs in a change to the Work shall be a maximum of fifteen (15%).
 - (2) Contractor's markup for overhead and profit on the Subcontractor's base cost in a change to the Work shall be a maximum of ten percent (10%).
 - (3) Contractor's markup for overhead and profit (including bonds and insurance) for work it performs in a change to the Work shall be a maximum of fifteen percent 15%.
 - (4) The markup for overhead and profit of a sub-subcontractor at any tier on a change to the Work it performs shall be a maximum of fifteen percent (15%). The Contractor and all intervening tiers of subcontractors' markup on such sub-subcontractor's base cost in the change to the Work shall not exceed a total of ten percent (10%).
- f. Base Cost is defined as the total of labor, material, and equipment costs, it does not include markup for overhead and profit. The labor costs include only the costs of employees directly constructing or installing the change in the Work and exclude the costs of employees coordinating or managing the work.
- g. The allowable percentage markups for overhead and profit stated above shall compensate the Contractor, subcontractor, and sub-subcontractor for all other costs associated with or relating to the change to the Work including by way of illustration and not limitation, general conditions, supervision, field engineering, coordination, insurance, bond(s), use of small tools, incidental job costs, and all other general and administrative home and field office expenses.
- h. Allowable costs for changes in the Work shall not include home office expenses including payroll costs for the Contractor's officers, executives, administrators, project managers, estimators, clerks timekeepers, and other administrative

personnel employed by the Contractor, whether at the Site or in the Contractor's principal or branch office for general administration of the Work. These costs are deemed overhead included in the percentage markups in Subsection (e) above.

- i. If the change to the Work also changes the Time for Completion by adding days to perform the Work, an itemized accounting of the following Site direct overhead expenses for the change to the time may be considered as allowable costs for compensation in addition to the base cost indicated above:

- (1) site superintendent's pro-rata salary
- (2) temporary site office trailer expense
- (3) temporary site utilities including basic Telephone service, electricity, heat, water, and sanitary/toilet facilities.

All other direct and indirect overhead expenses are considered covered by and included in Subsection (e) markups above. In no case shall subcontractor extended overhead be submitted or considered. The County does not have a direct contractual relationship with any subcontractor or supplier and therefore will not direct, discuss or negotiate with subcontractors employed by the Contractor.

- j. If Contractor requests an extension to the Time for Completion due to changes in the Work it must provide to the Project Officer adequate documentation substantiating its entitlement for the time extension. The documentation must demonstrate an anticipated actual increase in the time required to complete the Work beyond that allowed by the Contract as adjusted by prior changes to the Work, not just an increase or decrease in the time needed to complete a portion of the total Work. In the event a Critical Path Method (CPM) schedule is required by the Contract, no extension to the Time for Completion shall be granted unless the additional or change to the Work increases the length of the critical path beyond the Time for Completion as demonstrated on the approved CPM schedule or bar chart schedule. Any Float belongs the Arlington County. A written statement in addition to a CPM analysis shall be prepared explaining how no other sequence of work activities could have been performed to decrease the impact or eliminate the impact altogether. If requested by the Project Officer the Contractor must provide alternate documentation detailing the claim to the County's satisfaction.

4. CLAIMS FOR EXTRA COST

If the Contractor claims that any event will give rise to a claim for an increase in the Contract Amount or that any instructions from the Project Officer, by drawings or otherwise, will incur him extra cost under the Contract, then, except in emergencies endangering life or property, it shall give the Project Officer written notice thereof no later than three (3) days of the event or instruction. The Contractor thereafter must provide to the Project Officer a full cost proposal within 14 days detailing the amount of additional compensation claimed, together with the basis therefore and documentation supporting the claimed amount. No such claims shall be valid unless so made. If the Project Officer agrees that such event or instructions involve extra cost to the Contractor,

any additional compensation will be determined by one of the methods provided in the Changes in Work paragraph of these General Conditions as selected by the Project Officer. Except as otherwise specifically provided, no claims for extra cost shall be allowed unless timely notice, as required by this Section, is given by the Contractor.

5. DAMAGES FOR DELAY; EXTENSION OF TIME OTHER THAN FOR WEATHER

The Contractor's relief for any claim for delay which is unreasonable, or caused by the acts and omissions of the County, or due to causes within the County's control, shall be an extension of the Time for Completion and/or the Contractor's direct costs which result from the delay, but only to the extent any damages for delay were actually caused by the County. The Contractor must give the Project Officer written notice of such delay and damages at the time they were incurred but in no event later than three (3) calendar days following the perceived onset of the delay. The Contractor's written notice shall specify the nature the delay claimed by the Contractor, the cause of the delay, and the anticipated impact of the delay on the Contractor's work schedule. The Contractor thereafter must provide to the Project Officer a full claim within 14 days detailing the amount of additional contract time or compensation claimed, together with the basis therefor and documentation supporting the claim.

If the Contractor is entitled to compensation for delay which is unreasonable, or caused by the acts and omissions of the County, or due to causes within the County's control, and where there is no change in the Work, an itemized accounting of the following direct site overhead expenses will be considered as allowable costs to be used in determining the compensation due the Contractor: site superintendent prorata salary, temporary site office expense, temporary site facilities, and temporary site utilities including basic telephone service, electricity, heat, water, and sanitary/toilets. A fifteen percent (15%) markup of these expenses will be allowed to compensate the Contractor for home office and other direct or indirect overhead expenses.

If the Contractor submits a claim for damages pursuant to this Section, the Contractor shall be liable to the County for a percentage of all costs incurred by the County in investigating, analyzing, negotiating and litigating the claim, which percentage shall be equal to the percentage of the Contractor's total delay claim that is determined through litigation to be false or to have no basis in law or fact (Virginia Code §2.2-4335).

The Contractor's sole relief on any claims for delay which is reasonable, or not caused by the acts or omissions of the County, or due to causes not within the County's control, or Force Majeure, shall be an extension of the Time for Completion provided the Contractor gave the Project Officer timely written notice at the inception of such delay.

No extension of the Time for Completion or additional compensation, if applicable, will be granted for any delay unless the Contractor demonstrates the claimed delay directly impacts the Critical Path of the accepted CPM schedule or bar chart schedule, whichever is applicable, and any float has been consumed. Claims for compensation for direct costs which result from delay must be substantiated by adequate documentation clearly showing that the Work delayed was on the critical path of the approved CPM schedule or on the sequence of Work on the approved bar chart schedule, as modified, and that the

additional costs incurred by the Contractor are directly attributable to the delay in the Work claimed.

6. TIME EXTENSIONS FOR WEATHER

The Time for Completion will not be extended due to inclement weather conditions that are normal to the general locality of the Work site.

The Contractor's sole relief on any claims for delay which is caused by abnormal weather shall be an extension of the Time for Completion provided the Contractor gave the Project Officer timely written notice at the inception of such delay and provided the weather affected the Critical Path. A fully-documented claim for a time extension under this Section must be submitted no later than thirty (30) calendar days after the cessation of the delay. It shall be the Contractor's responsibility to provide the necessary documentation to satisfy the Project Officer that the weather conditions claimed were encountered, which may include daily reports by the Contractor, copies of notification of weather days to the Project Officer, NOAA backup, and pictures from each day claimed.

The Time for Completion will not be extended due to inclement weather conditions which are normal, as defined below, for Arlington County. The Time for Completion includes an allowance for workdays (based on five (5) day workweek) which according to historical data may not be suitable for construction work. The Contractor may request extension to the Time for Completion if it can demonstrate unusual and disruptive weather conditions per the requirements below:

- a. That one or more of the Weather Conditions listed below was encountered; and,
- b. The occurrence of the Weather Condition(s) resulted in an inability to prosecute work which would have otherwise been performed on the day(s) the Weather Condition(s) occurred; and,
- c. The work which was not able to be completed was on the Critical Path and could not be completed **only** due to the Weather Condition(s) claimed.

The Contractor must provide notice of delay to the Project Officer no later than five (5) calendar days after the onset of the delay which satisfies the criteria listed above. A fully documented claim for a time extension under this section shall be submitted no later than thirty (30) calendar days after the cessation of the delay. It shall be the Contractor's responsibility solely to provide the necessary documentation to satisfy the Project Officer that the Weather Condition(s) claimed were encountered.

The Project Officer will determine the Contractor's entitlement to an extension of the Time for Completion. A time extension of no more than one (1) day will be granted for one (1) day of lost work which satisfies the requirements above, regardless of the number of Weather Conditions encountered. The Contractor's sole relief shall be an extension of the Time for Completion and no claim for an increase in Contract Amount will be allowed.

The Weather Conditions listed below will be the only basis for consideration by the County, based upon the requirements listed above, as an extension of the Time for Completion due to inclement weather or weather-related site conditions.

Weather Condition #1: Unusually Heavy Precipitation - Figure 1 illustrates the anticipated monthly inclement weather due to precipitation (Rain Days). If the number of days with precipitation in excess of 0.10", as recorded at Washington Reagan National Airport, exceeds the anticipated Rain Days, the Contractor will be entitled to an extension of one (1) day on the Time for Completion for every day in excess of the Rain Days illustrated in Figure 1. The anticipated value of Rain Days for partial months at the beginning and end of the Contract shall be evaluated on a pro-rated basis.

FIGURE 1

Average days with precipitation of 0.1" or more

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	6	7	6	8	6	7	6	6	5	6	6

Weather days are not exclusive to the individual months that they represent in Figure 1. If weather days are not used in a previous month(s) they can be used to offset weather delays in subsequent months. This will be reviewed on a case by case basis and is subject to reconciliation at the end of the Project.

Condition #2: Temperature – The Contractor may be entitled to an additional day for every day that the recorded high temperature at Washington Reagan National Airport is 32 degrees Fahrenheit or less, that has not already been incurred under Weather Condition #1 above. This condition does not apply to vertical construction as defined by the Arlington County Vertical Construction Standards.

7. RELEASE OF LIENS

The County, before making any payment, shall require the Contractor to furnish a complete release of all liens arising out of this Contract. The Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the County, to indemnify him against any lien. If any lien remains unsatisfied after all payments have been made, the Contractor shall refund to the County all money that the latter may be compelled to pay in discharging such lien. However, the County may make payments in part or in full to the Contractor without requiring the releases or receipts, and the payments so made shall not impair the obligations of any Surety or Sureties on any bond or bonds furnished under this Contract.

8. FINAL PAYMENT

After the Contractor has completed all work and corrections to the satisfaction of the Project Officer or designee and delivered all maintenance and operating instructions, schedules, quantities, bonds, certificates of inspection maintenance record documents, and other items required as final payment submittal documents, the Contractor may make application for final payment following the procedure for progress payments. The Final Application for Payment shall be accompanied by all documents required in the Contract, including a complete and signed and notarized copy of the Final Payment Release Form as follows:

RELEASE AND REQUEST FOR FINAL PAYMENT

CONTRACT NUMBER: _____ CONTRACTOR NAME: _____

FINAL PAYMENT AMOUNT: _____

The Contractor hereby requests final payment in the amount indicated on the above referenced Contract. The Contractor agrees that its acceptance of final payment releases and forever discharges Arlington County and its officers, employees, servants and agents from any and all actions, claims, demands and liability of whatever nature now existing or which may hereafter arise as a result of or in connection with the above referenced Contract.

The Contractor certifies that all of the debts for labor, materials, and equipment incurred in connection with the above referenced Contract have been fully paid.

AUTHORIZED SIGNATURE DATE: _____

The date of Final Acceptance is the date on which the County issues the final payment for the work performed.

COMMONWEALTH OF VIRGINIA

COUNTY OF ARLINGTON

On this the ____ day of _____, 20____, before me, personally appeared _____, who acknowledged himself/herself to be _____ in the above instrument, and that he/she, as such _____, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing his/her name by himself/herself as _____.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public

My Commission Expires: _____

VI. INSURANCE REQUIREMENTS

Review this section carefully with your insurance agent or broker prior to submitting a bid or proposal. See the Insurance Checklist (part of the Bid or Proposal Forms) for specific coverages applicable to this Contract. The term "Contract," as used in this section, shall mean the fully executed Agreement covering the work entered into between the County and the Contractor.

1. General

- 1.1 The Contractor shall provide insurance as specified in the Insurance Checklist found on the last page of the bid or proposal form.
- 1.2 The Contract with the Contractor will not be executed by the County until the Contractor has obtained, at its own expense, all of the insurance called for hereunder and such insurance has been approved by the County; additionally, the Contractor shall not allow any subcontractor to start work on any subcontract until all insurance required of the subcontractor has been so obtained and approved by the Contractor. The Contractor shall submit to the County Purchasing Agent copies of all required endorsements and documentation of coverage consistent with the requirements herein or, alternately, at the County's request, certified copies of the required insurance policies in compliance with the insurance requirements. All endorsements and documentation shall state this Contract's number and title.
- 1.3 The Contractor shall require all subcontractors to maintain during the term of this Agreement, Commercial General Liability insurance, Business Automobile Liability insurance, and Workers' Compensation, Employers' Liability insurance, or any other insurance required by the Contract in the same manner and form as specified for the Contractor. The Contractor shall furnish subcontractors' evidence of insurance and copies of endorsements to the County Purchasing Agent immediately upon request by the County and/or prior to the subcontractor's performance of work related to this Contract.
- 1.4 If there is a material change or reduction in coverage, nonrenewal of any insurance coverage or cancellation of any insurance coverage required by this contract, the Contractor shall notify the Purchasing Agent immediately. It is the Contractor's responsibility to notify the County upon receipt of a notice indicating that the policy will not be renewed or will be materially changed. Any policy on which the Contractor has received notification from an insurer that the policy has or will be cancelled or materially changed or reduced must be immediately replaced with another policy consistent with the terms of this Contract and in such a manner that there is no lapse in coverage, and the County immediately notified of the replacement. Not having the required insurance throughout the Contract is considered a material breach of this Contract and grounds for termination. The Contractor shall also obtain an endorsement providing to the County thirty (30) days advance notice of cancellation or nonrenewal (ten days for nonpayment of premium. A copy of that endorsement shall be provided to the County Purchasing Agent prior to the execution of this Contract or any Contract extension thereafter.
- 1.5 No acceptance and/or approval of any insurance by the County shall be construed as relieving or excusing the Contractor, any surety, or any bond, from any liability or obligation imposed under this Agreement.

1.6 Arlington County, and its officers, elected and appointed officials, employees, and agents are to be named as additional insureds under all coverages except Workers' Compensation, Professional Liability, and Automobile Liability, and the endorsement must clearly identify the County as an additional insured permitted to enjoy all the benefits under the applicable policy of insurance. The certified policy, if requested, must so state coverage afforded under this paragraph shall be primary as respects the County, its officers, elected and appointed officials, agents and employees. The following definition of the term "County" applies to all policies issued under the Contract and to all applicable endorsements:

"The County Board of Arlington County and any affiliated or subsidiary Board, Authority, Committee, or Independent Agency (including those newly constituted), provided that such affiliated or subsidiary Board, Authority, Committee, or Independent Agency is either a Body Politic created by the County Board of Arlington County, Virginia, or one in which controlling interest is vested in Arlington County; and Arlington County Constitutional Officers."

1.7 The Contractor shall be responsible for the work performed under the Contract Documents and every part thereof, and for all materials, tools, equipment, appliances, and property of any description used in connection with the work. The Contractor assumes all risks for direct and indirect damage or injury to the property or persons used or employed on or in connection with the Work contracted for, and of all damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the Contract, or in connection in any way whatsoever with the contracted work.

1.8 The insurance coverage required shall remain in force throughout the Contract or as otherwise stated in the Contract Documents or these Insurance Requirements. If the Contractor fails to provide acceptable evidence of current insurance within seven (7) days of written notice at any time during the Contract, the County shall have the absolute right to terminate the Contract without any further obligation to the Contractor.

1.9 Contractual and other liability insurance provided under this Contract shall not contain a supervision, inspection or engineering services exclusion that would preclude the County from supervising or inspecting the work as to the end result. The Contractor shall assume all on-the-job responsibilities as to the control of persons directly employed by it and of the subcontractors and any persons employed by the subcontractor and/or carriers delivering and receiving materials from the Project.

1.10 If any policy contains a warranty stating that coverage is null and void (or words to that effect) if the Contractor does not comply with the most stringent regulations governing the work, such policy shall be modified so that coverage shall be afforded in all cases except for the Contractor's willful or intentional noncompliance with applicable government regulations.

1.11 All policies shall include the following language: "The insolvency or bankruptcy of the insured or of the insured's estate will not relieve the insurance company of its obligations under this policy."

1.12 All policy forms must "Pay on behalf of" rather than "Indemnify" the insured.

- 1.13 Nothing contained in these Insurance Requirements or the Contract Documents shall be construed as creating any contractual relationship between any subcontractor and the County. The Contractor shall be as fully responsible to the County for the acts and omissions of its subcontractors and of persons employed by them as it is for acts and omissions of persons directly employed by it.
- 1.14 Precaution shall be exercised by the Contractor at all times for the protection of persons, (including employees) and property. All existing structures, utilities, roads, services, trees and shrubbery shall be protected against damage or interruption of service at all times by the Contractor and its subcontractors during the term of the Contract, and the Contractor shall be held responsible for any damage to property occurring by reason of its work under the Contract whether identified on the Contract Documents or not.
- 1.15 For any claims related to this work, The Contractor's insurance shall be deemed primary and non-contributory to all other applicable coverage and in particular with respect to Arlington County, its representatives, officials, employees, and agents. Any insurance or self-insurance maintained by Arlington County shall be excess and noncontributory of the Contractor's insurance. The Contractor shall waive its right of subrogation for all insurance claims.
- 1.16 If the Contractor does not meet the insurance requirements set forth by the Contract Documents, alternate insurance coverage or self-insurance, satisfactory to the Purchasing Agent, may be considered. Written requests for consideration of alternate coverages including the Contractor's most recent actuarial report and a copy of its self-insurance resolution to determine the adequacy of the insurance funding must be received by the County Purchasing Agent at least ten (10) working days prior to the date set for receipt of bids or proposals. If the County denies the request for alternate coverages, the specified coverages will be required to be submitted. If the County permits alternate coverage, an Addendum to the Insurance Requirements will be prepared and distributed prior to the time and date set for receipt of bids or proposals.
- 1.17 All required insurance coverages must be acquired from insurers authorized to do business in the Commonwealth of Virginia and acceptable to the County. The insurers must also have a policyholders' with a rating of "A-VII" in the latest edition of the A.M. Best Co.'s Insurance Reports, unless the County grants specific approval for an exception, in the same manner as described in 1.16 above.
- 1.18 The Contractor shall be responsible for payment of any deductibles applicable to the coverages.
- 1.19 The Contractor must disclose the amount of any deductible or self-insurance component applicable to the General Liability, Automobile Liability, Professional Liability, Intellectual Property or any other policies, if any. The County reserves the right to request additional information to determine if the Contractor has the financial capacity to meet its obligations under a deductible. Thereafter, at its option, the County may require a lower deductible, funds equal to the deductible be placed in escrow, a certificate of self-insurance, collateral, or other mechanism in the amount of the deductible to ensure additional protection for the County.

2. Contractor's Insurance:

2.1 The Contractor shall purchase the following insurance coverages, including the terms, provisions and limits shown in the Insurance Checklist.

2.1.1 Commercial General Liability - Such Commercial General Liability policy shall include any or all of the following as indicated on the Checklist:

- i. General aggregate limit is to apply per project;
- ii. Premises/Operations;
- iii. Actions of Independent Contractors;
- iv. Products/Completed Operations to be maintained for five (5) years after completion of the Work;
- v. Contractual Liability, including protection for the Contractor from claims arising out of liability assumed under this Contract;
- vi. Personal Injury Liability including, including but not limited to, coverage for offenses related to employment and copyright infringement;
- vii. Explosion, Collapse, or Underground (XCU) hazards.

2.1.2 Business Automobile Liability, including coverage for any owned, hired, or non-owned motor vehicles, Uninsured Motorists coverage, and automobile contractual liability.

2.1.3 Workers' Compensation - statutory benefits as required by Virginia law or the U.S. Longshoremen's and Harbor Workers' Compensation Act, or other laws as required by labor union agreements, including standard Other States coverage; Employers' Liability coverage. The policy shall not contain any provision or definition which would serve to eliminate third party action over claims, including exclusion for bodily injury to an employee of the insured, employees of the premises owner, or employees of the general contractor to which the insured is subcontracted; or employees of the insured's subcontractor.

3. Commercial General or other Liability Insurance - Claims-made Basis:

3.1 If Commercial General or other liability insurance purchased by the Contractor has been issued on a claims-made basis, the Contractor must comply with the following additional conditions. The limits of liability and the extensions to be included as described in the Insurance Checklist remain the same. The Contractor must either:

- i. Agree to provide insurance, copies of the endorsement and certified documentation evidencing the above coverages and naming the County as an additional insured for a period of five (5) years after final payment under the Contract. Such documentation shall evidence a retroactive date, no later than the beginning of the Contractors or subcontractors' work under this Contract, or

- ii. Purchase an extended (minimum five [5] years) reporting period endorsement for the policy or policies in force during the term of this Contract and evidence the purchase of this extended reporting period endorsement by means of a copy of the endorsement itself. The extended reporting period will begin upon final payment under the Contract.