

INVITATION TO BID

Bid Invitation Number: #142-2012

Date of Issue: 09/20/2012

Sealed bids will be received in the office of the Division of Central Purchasing, 200 East Main Street, Lexington, Kentucky, until **2:00 PM**, prevailing local time on 10/4/2012. Bids must be received by the above-mentioned date and time. Mailed bids should be sent to:

Division of Central Purchasing  
200 East Main Street, Rm 338  
Lexington, KY 40507, (859) 258-3320

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

All bids must have the company name and address, bid invitation number, and the commodity/service on the outside of the envelope.

Bids are to include all shipping costs to the point of delivery located at: 1515 Old Frankfort Pike, Lexington KY

Bid Security Required: \_\_\_ Yes **XXX** No      Performance Bond Required: \_\_\_ Yes **XXX** No  
*Cashier Check, Certified Check, Bid Bond (Personal checks and company checks will not be acceptable).*

QTY	Commodity/Service
PCT	Fiber Optic Cable & Control Equipment
See specifications	

<p style="text-align: center;"><u>Check One:</u></p> <p><input checked="" type="checkbox"/> Bid Specifications Met</p> <p><input type="checkbox"/> Exceptions to Bid Specifications. <i>Exceptions shall be itemized and attached to bid proposal submitted.</i></p>	<p style="text-align: center;"><u>Proposed Delivery:</u></p> <p><u>7-15</u> days after acceptance of bid.</p>
<p><u>Procurement Card Usage</u></p> <p><input checked="" type="checkbox"/> Yes    The Lexington-Fayette Urban County Government will be using Procurement Cards to purchase goods and services and also to make payments. Will you accept Procurement Cards?</p> <p><input type="checkbox"/> No</p>	

Submitted by: ANEXTER

Firm \_\_\_\_\_

2700 STANLEY GAULT PKWY, STE 139

Address \_\_\_\_\_

Louisville, Ky 40223

City, State & Zip \_\_\_\_\_

Hamilton Kemper

Signature of Authorized Company Representative – Title \_\_\_\_\_

HAMILTON KEMPER

Representative's Name (Typed or printed) \_\_\_\_\_

502-245-8443      502-245-3677

Area Code - Phone - Extension      Fax # \_\_\_\_\_

Hamilton.kemper@ANEXTER.com

E-Mail Address \_\_\_\_\_

**Bid must be signed:**  
**(original signature)**

AFFIDAVIT

Comes the Affiant, HAMILTON KEMPER, and after being first duly sworn under penalty of perjury as follows:

1. His/her name is HAMILTON KEMPER and he/she is the individual submitting the bid or is the authorized representative of

ANIXTER

the entity submitting the bid (hereinafter referred to as "Bidder").

2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.

3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.

6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.

Hamilton Kemper

STATE OF Kentucky

COUNTY OF Jefferson

The foregoing instrument was subscribed, sworn to and acknowledged before me by Linda K. Sutherland on this the 2nd day of October, 2012.

My Commission expires: September 11, 2014

Linda K. Sutherland  
NOTARY PUBLIC, STATE AT LARGE

*Please refer to Section II. Bid Conditions, Item "U" prior to completing this form.*

## **I. GREEN PROCUREMENT**

### **A. ENERGY**

The Lexington-Fayette Urban County Government is committed to protecting our environment and being fiscally responsible to our citizens.

The Lexington-Fayette Urban County Government mandates the use of Energy Star compliant products if they are available in the marketplace (go to [www.Energystar.gov](http://www.Energystar.gov)). If these products are available, but not submitted in your pricing, your bid will be rejected as non-compliant.

ENERGY STAR is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

#### Key Benefits

These products use 25 to 50% less energy  
Reduced energy costs without compromising quality or performance  
Reduced air pollution because fewer fossil fuels are burned  
Significant return on investment  
Extended product life and decreased maintenance

### **B. GREEN SEAL CERTIFIED PRODUCTS**

The Lexington-Fayette Urban County Government is also committed to using other environmentally friendly products that do not negatively impact our environment. Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education.

Go to [www.Greenseal.org](http://www.Greenseal.org) to find available certified products. These products will have a reduced impact on the environment and on human health. The products to be used must be pre-approved by the LFUCG prior to commencement of any work in any LFUCG facility. If a Green Seal product is not available, the LFUCG must provide a signed waiver to use an alternate product. Please provide information on the Green Seal products being used with your bid response.

### **C. GREEN COMMUNITY**

The Lexington-Fayette Urban County Government (LFUCG) serves as a principal, along with the University of Kentucky and Fayette County Public Schools, in the Bluegrass Partnership for a Green Community. The Purchasing Team component of the Partnership collaborates on economy of scale purchasing that promotes and enhances environmental initiatives. Specifically, when applicable, each principal is interested in obtaining best value products and/or services which promote environment initiatives via solicitations and awards from the other principals.

If your company is the successful bidder on this Invitation For Bid, do you agree to extend the same product/service pricing to the other principals of the Bluegrass Partnership for a Green Community (i.e. University of Kentucky and Fayette County Schools) if requested?

Yes X No \_\_\_\_\_

## II. Bid Conditions

- A. No bid may be withdrawn for a period of sixty (60) days after the date and time set for opening.
- B. No bid may be altered after the date and time set for opening. In the case of obvious errors, the Division of Central Purchasing may permit the withdrawal of a bid. The decision as to whether a bid may be withdrawn shall be that of the Division of Central Purchasing.
- C. Acceptance of this proposal shall be enactment of an Ordinance by the Urban County Council.
- D. The bidder agrees that the Urban County Government reserves the right to reject any and all bids for either fiscal or technical reasons, and to award each part of the bid separately or all parts to one vendor.
- E. Minor exceptions may not eliminate the bidder. The decision as to whether any exception is minor shall be entirely that of the head of the requisitioning Department or Division and the Director of the Division of Central Purchasing. The Urban County Government may waive technicalities and informalities where such waiver would best serve the interests of the Urban County Government.
- F. Manufacturer's catalogue numbers, trade names, etc., where shown herein are for descriptive purposes and are to guide the bidder in interpreting the standard of quality, design, and performance desired, and shall not be construed to exclude proposals based on furnishing other types of materials and/or services. However, any substitution or departure proposed by the bidder must be clearly noted and described; otherwise, it will be assumed that the bidder intends to supply items specifically mentioned in this Invitation for Bids.
- G. The Urban County Government may require demonstrations of the materials proposed herein prior to acceptance of this proposal.
- H. Bids must be submitted on this form and must be signed by the bidder or his authorized representative. Unsigned bids will not be considered.
- I. Bids must be submitted prior to the date and time indicated for opening. Bids submitted after this time will not be considered.
- J. All bids mailed must be marked on the face of the envelope:  
  

**"Bid on #142-2012 Fiber Optic Cable & Control Equipment"**

and addressed to:      Division of Central Purchasing  
   200 East Main Street, Room 338  
   Lexington, Kentucky 40507

**The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.**
- K. Bidder is requested to show both unit prices and lot prices. In the event of error, the unit price shall prevail.
- L. A certified check or Bid Bond in the amount of XX percent of the bid price must be attached hereto. This check must be made payable to the Lexington-Fayette Urban County Government, and will be returned when the material and/or services specified herein have been delivered in accordance with specifications. In the event of failure to perform within the time period set forth

in this bid, it is agreed the certified check may be cashed and the funds retained by the Lexington-Fayette Urban County Government as liquidated damages. Checks of unsuccessful bidders will be returned when the bid has been awarded.

- M. The delivery dates specified by bidder may be a factor in the determination of the successful bidder.
- N. Tabulations of bids received may be mailed to bidders. Bidders requesting tabulations must enclose a stamped, self-addressed envelope with the bid.
- O. The Lexington-Fayette Urban County Government is exempt from Kentucky Sales Tax and Federal Excise Tax on materials purchased from this bid invitation. Materials purchased by the bidder for construction projects are not tax exempt and are the sole responsibility of the bidder.
- P. All material furnished hereunder must be in full compliance with OSHA regulations.
- Q. If more than one bid is offered by one party, or by any person or persons representing a party, all such bids shall be rejected.
- R. Signature on the face of this bid by the Bidder or his authorized representative shall be construed as acceptance of and compliance with all terms and conditions contained herein.
- S. The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.
- T. The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities - Information required

- (1) For the length of the contract, each contractor shall hire minorities from other sources*

within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.

- (2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.

KRS 45.620. Action against contractor - Hiring of minority contractor or subcontractor

- (1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.
- (2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.
- (3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.

KRS 45.630 Termination of existing employee not required, when

*Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.*

KRS 45.640 Minimum skills

*Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.*

It is recommended that all of the provisions above quoted to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

- U. Any party, firm or individual submitting a proposal pursuant to this invitation must be in compliance with the requirements of the Lexington-Fayette Urban County Government regarding taxes and fees before they can be considered for award of this invitation and must maintain a "current" status with regard to those taxes and fees throughout the term of the contract. The contractor must be in compliance with Chapter 13 from the Code of Ordinances

of the Lexington-Fayette Urban County Government. The contractor must be in compliance with Ordinance 35-2000 pursuant to contractor registration with the Division of Building Inspection. If applicable, said business must have a Fayette County business license.

Pursuant to KRS 45A.343 and KRS 45A.345, the contractor shall

- (1) *Reveal any final determination of a violation by the contractor within the previous five year period pursuant to KRS Chapters 136 (corporation and utility taxes), 139 (sales and use taxes), 141 (income taxes), 337 (wages and hours), 338 (occupational safety and health of employees), 341 (unemployment and compensation) and 342 (labor and human rights) that apply to the contractor; and*
- (2) *Be in continuous compliance with the above-mentioned KRS provisions that apply to the contractor for the duration of the contract.*

A contractor's failure to reveal the above or to comply with such provisions for the duration of the contract shall be grounds for cancellation of the contract and disqualification of the contractor from eligibility for future contracts for a period of two (2) years.

- V. Vendors who respond to this invitation have the right to file a notice of contention associated with the bid process or to file a notice of appeal of the recommendation made by the Director of Central Purchasing resulting from this invitation.

Notice of contention with the bid process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his/her contention with the bid process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Central Purchasing shall promptly respond in writing findings as to the compliance with bid processes. If, based on this review, a bid process irregularity is deemed to have occurred the Director of Central Purchasing will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a bid recommendation must be filed within 3 business days of the bid recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Central Purchasing shall in writing, affirm or withdraw the recommendation.

### III. Procurement Contract Bid Conditions

- A. The terms of this agreement shall be for 1 year from the date of acceptance of this contract by the Lexington-Fayette Urban County Government. This agreement may be extended for an additional 1 year renewal upon the written agreement of the bidder and the Lexington-Fayette Urban County Government. Said agreement must be in writing and must be executed prior to the expiration of the current agreement.
  
- B. Price Changes (**Space Checked Applies**)
  - (XXX) 1. Prices quoted in response to the Invitation shall be firm prices for the first 90 days of the Procurement Contract. After 90 days, prices may be subject to revision and such changes shall be based on general industry changes. Revision may be either increases or decreases and may be requested by either party. There will be no more than one (1) price adjustment per quarter. Requests for price changes shall be received in writing at least twenty (20) days prior to the effective date and are subject to written acceptance before becoming effective. Proof of the validity of a request for revision shall be responsibility of the requesting party. The Lexington-Fayette Urban County Government shall receive the benefit of any decline that the seller shall offer his other accounts.
  
  - () 2. No provision for price change is made herein. Prices are to be firm for the term of this contract.
  
  - () 3. Procurement Level Contract
  
  - C. If any contract item is not available from the vendor, the Lexington-Fayette Urban County Government, at its option, may permit the item to be back-ordered or may procure the item on the open market.
  
  - D. All invoices must bear reference to the Lexington-Fayette Urban County Government Purchasing document numbers which are being billed.
  
  - E. This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.
  
  - F. This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.
  
  - G. No substitutions for articles specified herein may be made without prior approval of the Division of Central Purchasing.



EQUAL OPPORTUNITY AGREEMENT

The Law

Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.

Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.

Section 503 of the Rehabilitation Act of 1973 states:

*The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.*

Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.

Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

*The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*

\*\*\*\*\*

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

*I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.*

Hamilton Kemper  
Signature

ANEXTER  
Name of Business

Anixter Inc. exceptions to bid #142-2012

Section	Reason	Exception
III (H)	Anixter Inc. proposes a new subsection H to provide its commercial warranty policy.	<p>Bidder hereby transfers and assigns any and all warranties and any intellectual property indemnity, from the manufacturer of the products being sold hereunder to the Lexington-Fayette Urban County Government. Separate and apart from the manufacturer's warranty, Bidder warrants that products will be materially in accordance with any written specifications provided by the manufacturer of the product to Bidder. This warranty shall remain in effect for a period of one (1) year from the date of shipment, unless otherwise specified in the manufacturer's warranty. This warranty does not cover wear and tear and shall be ineffective and shall not apply to products that have been subjected to misuse or abuse, neglect, accident, damage, or improper installation, or maintenance. No agent, employee or representative of Bidder has any authority to bind Bidder to any representation, affirmation or warranty concerning the products and any such representation, affirmation or warranty shall not be deemed to have become part of the basis of this contract and shall be unenforceable. Lexington-Fayette Urban County Government will inspect the products upon delivery and will promptly notify Bidder in writing of any defect in the products. Lexington-Fayette Urban County Government's sole and exclusive remedy under these warranties will be limited to, at Bidder's sole option and expense, refund of the purchase price of, or the repair or replacement for of, the products or parts thereof which Bidder reasonably determines do not conform with these warranties. All transportation costs of and in-transit risk of loss and damage to products or parts thereof returned for warranty repair, and to such repaired or replacement products or parts thereof returned to Lexington-Fayette Urban County Government, will be borne by Bidder.</p> <p><b><u>DISCLAIMER OF WARRANTIES.</u></b> THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF, AND BIDDER DISCLAIMS AND LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT WAIVES, ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED, ARISING BY LAW (STATUTORY OR OTHERWISE).</p>
III (I)	Anixter Inc. proposes a new subsection I to set forth a mutual limitation of liability.	<p>IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, OR CONSEQUENTIAL DAMAGES, HOWEVER ARISING, INCLUDING ANY DAMAGES OCCASIONED BY NEGLIGENCE. IN ADDITION, EITHER PARTY'S LIABILITY ON ANY CLAIMS FOR DAMAGES OR CHARGES ARISING OUT OF OR CONNECTED WITH THIS AGREEMENT OR THE MANUFACTURE, SALE, DELIVERY OR USE OF THE PRODUCTS SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCTS AND/OR SERVICES GIVING RISE TO THE CLAIM.</p>

Lexington-Fayette Urban County Government  
Division of Traffic Engineering  
Fiber Optic Cable and Control Equipment

---

The Lexington-Fayette Urban County Government is accepting bids to establish a price contract for Fiber Optic Cable and Control Equipment for the Division of Traffic Engineering, at 1515 Old Frankfort Pike, Lexington, Kentucky, 40504, as per the following specifications:

---

Notes to bidders:

- Pricing for the following shall be good for 365 days from acceptance of bid.
  - Special Requirements (Fiber Optic Cable Bids):
    - All Fiber Optic Cable shall have a 10-year warranty on the Fiber & Cable.
    - All bid prices for Fiber Optic cable shall be per linear foot.
    - It is anticipated that separate contracts for gel filled and non-gel filled loose buffer tube Fiber Optic Cable will be awarded. Bids for both gel filled and non-gel filled loose buffer tube Fiber Optic Cable will be accepted and evaluated independently.
    - All Fiber Optic Cable shipments shall be on wooden reels (coils will not be accepted).
  - For technical questions, contact Walter Hall at 859-258-3493 or at [walterh@lexingtonky.gov](mailto:walterh@lexingtonky.gov). For bidding questions, contact Theresa Maynard at 859-258-3320 or [theresam@lexingtonky.gov](mailto:theresam@lexingtonky.gov).
- 

Item #1. CATV 80 Channel Fiber Optic Video Link

Equivalent to Communications Supply Corporation #2804TD-SCAP-07

Item #2. CATV 880 Channel Video Link Receiver w/PF170

Equivalent to Communications Supply Corporation #2804RC-SFAP PS170-1

Item #3. External Single-Mode Fiber Modem Multi-Drop

Equivalent to Traffic Fiber Systems #FO 600SMST

Item #4. Internal Single-Mode Fiber Modem Multi Drop (Must have ST Type Connectors)

Equivalent to Traffic Fiber Systems #FO400SMST

Item #5. 12-Slot Rack for FO-400SMST, Modems/Power Supply, Note Rack is (10) slot free

Equivalent to Traffic Fiber Systems #R400/12

Item #6. Pre-loaded Rack Distribution Closet Housing

The above shall include one (1) Corning #CCH-04-U Closet Housing,  
with twelve (12) Corning CCH-CP12-59 (6-port panel SC Duplex Single Mode)

Item #7. Fiber Cleave Tool

Equivalent to Communications Supply Corporation #CL-310-VL

Item #8. Wall Mount Enclosure, 12-Port

Equivalent to Communications Supply Corporation #WIC-012

Item #9. Micro Fusion Splicer

OptiSplice M90e Fusion Splicer shall include carrying case with wheels, fast heat shrink oven, splice tray holder, AC power supply with US cord, li-Ion battery with external charger, 1-year limited warranty, operators manual on CD, USB worklight, maintenance tool kit (Corning Cable #M90e-XSM-T-H, no substitutes)

Item #10. Splice Protectors for Fusion Splices

Equivalent to Communications Supply Corporation #FT-1

Item #11. Breakaway Swivel, 5/8-inch x 4-inch

Equivalent to Communications Supply Corporation #MASV5

Item #12. Innerduct, 1-inch, Orange

Equivalent to Communications Supply Corporation #CE 100

Item #13. Innerduct, 2-inch, Orange

Equivalent to Communications Supply Corporation #CE 200

Item #14. Innerduct, 1-inch, Direct Bury, Orange

Equivalent to Communications Supply Corporation #IDE 131, innerduct shall have a minimum crush strength of 950-pounds per foot and a minimum tensile strength of 1,500-pounds

Item #15. Innerduct, 2-inch, Direct Bury, Orange

Equivalent to Communications Supply Corporation #IDE 237, innerduct shall have a minimum crush strength of 1,700-pounds per foot and a minimum tensile strength of 4,850-pounds.

Item #16. Junction Box Lid

for Pen cell #PE-30-HD Junction Box

Item #17. Cable Tie

Panduit PLT3H-TL-100 (No Substitute)

Item #18. Pole Washer Joslyn J1075 (No Substitute)

Item #19. Eye Bolt, 16-inch Joslyn J9416 (No Substitute)

Item #20. Messenger Cable, 1/4-inch, Galvanized 2,000-ft. on a wooden reel

Item #21. Messenger Cable, 1/4-inch, Galvanized 5,000-ft on a wooden reel

Item #22. Double Arming Bolt, 24-inch

Equivalent to Joslyn #J8874

Item #23. Pole Bolt, 18-inch

Equivalent to Joslyn #J8818

Item #24. Eye Bolt, 18-inch

Equivalent to Joslyn #J9418

Item #25. Oval Eye Nut

Equivalent to Joslyn #J1092

Item #26. Suspension Clamp

Equivalent to #PA296X

Item #27. Strand Vise, ¼-inch  
Reliable 5150 (No Substitute)

Item #28. Strand Link, ¼-inch  
Reliable 5000 (No Substitute)

Item #29. C Cable Lasher Equivalent to GMP #P/N 71420

Item #30. Lash Wire, .045 SS, 6 x 1200-ft per box  
Equivalent to GMP #71530

Item #31. D Lashing Clamp  
Equivalent to GMP #07886 (No Substitute)

Item #32. Junction Box w/Lid (Fiber), Traffic Bearing, Quazite with Traffic LOGO on Lid  
Box Quazite #PG1730BA12 (No Substitutes)  
Lid Quazite #PG1730HH0044 (No Substitutes)

Item #33. OTDR (Micro), Model Noyes M200-K-Quad, No Substitutes

Item #34. Condux Fiber Optic Cable Puller Package 1, no substitutes, including

- Hydraulic Cable Puller
- Foot control/hydraulic control assembly
- Hoses and cords to connect to the puller
- Portable hydraulic power pack, gas 9-hp
- Remote Mounting Stand

Item #35. Condux Fiber Optic Cable, Capstan, No substitutes

- Capstan shall be 30-inch diameter, 4-inches wide

Item #36. Closet Splice Housing Kit for Master Splice Cabinet

Kit shall include

- (1) Corning CSH-05u 19-inch Rack Mount Housing
- (22) Corning M67-112 Type 2S Trays, for 24 Fusion splices per Tray
- (No Substitutes)
- Each kit shall have all items listed shipped in one box, per bid item number

Item #37. Duplex Jumpers

Fiber Optic Duplex Jumper shall be, 10-meter long,  
Equivalent to Fiber Instrument Sales # D38YS10FISA, SM ST to SC.

Item #38. Fiber Optic Jumpers

Fiber Optic Jumpers shall be Duplex SM 9/125, ST to ST, 3-meters long  
Equivalent to Fiber Instrument Sales #VDX988S3FISA

Item #39. Attenuator #1

ST Male-ST Female 10db SM 1310/1550 Atten UPC,  
Equivalent to Fiber Instrument Sales Inc. #F19622

Item #40. Attenuator #2

ST Male-ST Female 15db SM 1310/1550 Atten UPC,  
Equivalent to Fiber Instrument Sales Inc. #F19623

SPECIFICATIONS FOR LOOSE TUBE OPTICAL FIBER  
CABLES FOR OUTDOOR APPLICATIONS  
Corning Altos, No Substitutes

1.0 General Considerations

The cable shall meet all requirements stated in this specification. The cable shall meet the requirements of ANSI/ICEA Standard for Fiber Optic Outside Plant Communications Cable, ANSI/ICEA S-87-640-1999.

2.0 Fiber Characteristics

2.1 Detailed information on the fiber types available for this cable design can be found in the following documents

Dispersion Un-shifted and Non-zero Dispersion Shifted Single-mode Fiber Generic Specification F1, "Generic Specification for Single-mode Optical Fiber in Loose Tube and Ribbon Cables."

50/125  $\mu\text{m}$  and 62.5/125  $\mu\text{m}$  Multimode Fiber Generic Specification F2, "Generic Specification for Multimode Optical Fiber in Loose Tube and Ribbon Cables."

2.2 Optical Requirements

- 2.2.1 The optical fiber shall consist of a step index, germanium doped silica core within a concentric layer of silica cladding covered by concentric dual layers of UV cured acrylate coatings.
- 2.2.2 The product shall comply with the Characteristics of a Single-Mode Optical Fiber Cable (ITU-T G.652d).
- 2.2.3 Attenuation -Loose tube cabled fiber attenuation shall not exceed 0.35 dB/km at 1310 nm and 0.25 dB/km at 1550 nm. Attenuation measurements shall be made in accordance with either EIA-455-78 (Spectral Attenuation Cutback Measurement for Single-Mode Optical Fibers) or with EIA-455-59 (Generic Description of Optical Time Domain Reflectometry).
- 2.2.4 Attenuation Variation - The attenuation variation shall be less than 0.03 dB/km for wavelengths between 1285 nm and 1330 nm compared to the attenuation at 1310 nm. The attenuation variation shall be less than 0.05 dB/km for wavelengths between 1525 nm and 1575 nm compared to the attenuation at 1550 nm. Attenuation variation measurements shall be made in accordance with EIA-455-78 (Spectral Attenuation Cutback Measurement for Single-Mode Optical Fibers).
- 2.2.5 Attenuation at Water Peak - The initial attenuation at water peak shall not exceed 0.35 dB/Km at 1385 nm throughout the life of the fiber. Attenuation measurements shall be made in accordance with EIA-455-78 (Spectral Attenuation Cutback Measurement for Single-Mode Optical Fibers).
- 2.2.6 Attenuation Point Discontinuity - The attenuation point discontinuity shall not exceed 0.1 dB at 1310 nm or 1550 nm throughout the cable length. Attenuation discontinuity measurements shall be made in accordance with EIA-455-59 (Generic Description of Optical Time Domain Reflectometry).

- 2.2.7 Macrobending Attenuation - The maximum induced attenuation shall be less than or equal 0.1 dB at 1550 when wound 100 turns around a 50mm mandrel and 0.10 dB at 1550 nm when wound 1 turn on a 32 mm diameter mandrel.
  - 2.2.8 Chromatic Dispersion - The zero dispersion wavelength shall be between 1300 to 1322 nm, and the nominal zero dispersion wavelength shall be 1310 nm. The maximum value of the dispersion slope shall not be greater than 0.092 ps/(km\*nm<sup>2</sup>) at the zero dispersion wavelength. The dispersion measurements shall be made in accordance with EIA-455-168 (Chromatic Dispersion Measurement of Multimode Graded-Index and Single-Mode Optical Fibers by Phase-Shift Method) or EIA-455-175 (Chromatic Dispersion Measurement of Optical Fibers by the Differential Phase Shift Method).
  - 2.2.9 Cut-off Wavelength -The cut-off wavelength shall be less than or equal to 1260 nm for the cabled fiber. Measurement shall be made on a routine basis according to EIA-455-170 (Cut-off Wavelength of Single-Mode Fiber Cable by Transmitted Power) or EIA-455-80 (Cut-off Wavelength of Uncabled Single-Mode Fiber by Transmitted Power).
  - 2.2.10 Mode Field Diameter  
The nominal mode field diameter shall be 9.2 +/- 0.3 (0.4) um at 1310nm and 10.4 +/- 0.5 um at 1550nm.
  - 2.2.11 Polarization Mode Dispersion - The fiber PMD shall be less than or equal to 0.08 ps/km<sup>0.5</sup>.
- 2.3 Geometrical Requirements
- 2.3.1 Cladding Diameter - The cladding outside diameter shall be 125 +/- 0.7 um. The cladding diameter shall be measured in accordance with EIA-455-45A (Microscopic Method for Measuring Fiber Geometry of Optical Waveguide Fibers).
  - 2.3.2 Cladding Non-circularity - The cladding non-circularity shall be less than or equal to 1%. Measurement shall be in accordance with EIA-455-45A (Microscopic Method for Measuring Fiber Geometry of Optical Waveguide Fibers).
  - 2.3.3 Core/Cladding Concentricity Error - The offset between the center of the core and the center of the cladding shall be less than 0.5 um.
  - 2.3.4 Coating - The coating shall be a UV curable acrylate and shall be 245 ± 10 µm in diameter. The coating shall be readily removable with commercially available stripping tools. Measurements shall be in accordance with either EIA-455-55A (Methods for Measuring the Coating Geometry of Optical Fibers) or EIA-455-48A (On-Line Diameter Measurement of Optical Waveguides).
  - 2.3.5 Coating/Cladding Concentricity Error - The offset between the coating and the cladding shall be less than or equal to 12 um.
- 2.4 Environmental Requirements
- 2.4.1 Operating Temperature - The operating temperature for the fiber shall be -60C to +85C
  - 2.4.2 Temperature Dependence - The induced attenuation at 1310 and 1550 nm over the operating temperature range shall be less than or equal to 0.05 dB/km.

- 2.4.3 Temperature / Humidity Cycling - The induced attenuation at 1310 and 1550 nm at -10C to +85C and 95% humidity shall be less than or equal to 0.05 dB/km.
- 2.4.4 Water Immersion - The induced attenuation at 1310 and 1550 nm due to water immersion at 23C +/- 2C shall be less than or equal to 0.05 dB/km.
- 2.4.5 Accelerated Heat Aging - The induced attenuation at 1310 and 1550 nm due to heat aging at 85C +/- 2C shall be less than or equal to 0.05 dB/km.

## 2.5 Mechanical Requirements

- 2.5.1 Fiber Tensile Proof Test - The individual fibers shall be subjected to minimum proof stress of 0.69 GN/m<sup>2</sup> (100 kpsi). Testing shall be in accordance with EIA-455-31A (Fiber Tensile Proof Test Method).
- 2.5.2 Dynamic Fatigue Parameter - The Dynamic Fatigue Parameter (Nd) shall be less than or equal to 18.
- 2.5.3 Tensile Strength - The median tensile strength of unaged fibers is greater than or equal to 550 kpsi, using a 0.5 meter gauge length.
- 2.5.4 Coating Strip Force - The maximum force required to mechanically strip off the coating shall be between 1.3N and 8.9N.
- 2.5.5 Fiber Curl - The fiber shall have a radius of curvature greater than or equal to 4 meters.

## 3.0 Specifications for Outdoor Cable Construction

- 3.1 Optical Fibers shall be placed inside a loose buffer tube. The nominal outer diameter of the buffer tube shall be 3.0 mm.
- 3.2 Each buffer tube shall contain up to 12 fibers.
- 3.3 The fibers shall not adhere to the inside of the buffer tube.
- 3.4 Each fiber shall be distinguishable by means of color-coding in accordance with TIA/EIA-598-B, "Optical Fiber Cable Color Coding."
- 3.5 The fibers shall be colored with ultraviolet (UV) curable inks.
- 3.6 Buffer tubes containing fibers shall be color-coded with distinct and recognizable colors in accordance with TIA/EIA-598-B, "Optical Fiber Cable Color Coding."
  - 3.6.1 Buffer tube colored stripes shall be inlaid in the tube by means of co-extrusion when required. The nominal stripe width shall be 1 mm.
- 3.7 For cables containing more than 12 buffer tubes, standard colors are used for tubes 1 through 12 and stripes are used to denote tubes 13 through 24. The color sequence applies to tubes containing fibers only, and shall begin with the first tube. The tube color sequence shall start from the inside layer and progress outward.



- 3.8 In buffer tubes containing multiple fibers, the colors shall be stable across the specified storage and operating temperature range and shall not be subject to fading or smearing onto each other. Colors shall not cause fibers to stick together.
- 3.9 The buffer tubes shall be resistant to external forces and shall meet the buffer tube cold bend and shrinkback requirement of 7 CFR 1755.900.
- 3.10 Fillers may be included in the cable core to lend symmetry to the cable cross-section where needed. Fillers shall be placed so that they do not interrupt the consecutive positioning of the buffer tubes.
- 3.11 The central member shall consist of dielectric, glass reinforced plastic (GRP) rod (steel central member). The purpose of the central member is to provide tensile strength and prevent buckling. The central member shall be overcoated with a thermoplastic to achieve dimensional sizing to accommodate buffer tubes/fillers.
- 3.12 Each buffer tube shall contain a water-swellaible yarn or water-blocking gel for protection against water migration. The water-swellaible yarn or water-blocking gel shall be non-nutritive to fungus, electrically non-conductive, and homogeneous. It shall also be free from dirt or foreign matter.
- 3.13 Buffer tubes shall be stranded around the dielectric central member using the reverse oscillation, or "S-Z", stranding process.
- 3.14 Water swellaible yarn(s) or water swellaible coatings shall be applied longitudinally along the central member.
- 3.15 A minimum of two polyester yarn binders shall be applied contrahelically with sufficient tension to secure each buffer tube layer to the dielectric central member without crushing the buffer tubes. The binders shall be non-hygroscopic, non-wicking, and dielectric with low shrinkage.
- 3.16 A water swellaible tape shall be applied longitudinally around the outside of the stranded tubes/fillers. The water swellaible tape shall be non-nutritive to fungus, electrically non-conductive, and homogenous. It shall also be free from dirt and foreign matter.
- 3.17 Non-armored cables shall contain one ripcord under the sheath for easy sheath removal. Armored cables shall contain two ripcords under the steel armor for easy armor removal. Additionally, armored cables that have an inner sheath will also contain one ripcord under the inner sheath.
- 3.18 Tensile strength shall be provided by the central member, and additional dielectric yarns as required.
- 3.19 The dielectric yarns shall be helically stranded evenly around the cable core.
- 3.20 Non-armored cables shall be sheathed with medium density polyethylene (MDPE). The minimum nominal jacket thickness shall be 1.4 mm. Jacketing material shall be applied directly over the tensile strength members (as required) and water swellaible tape. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.
- 3.21 Armored cables without an inner jacket shall have an armor layer applied directly over the dielectric strength members. The armor shall be a corrugated steel tape, plastic-coated on both sides for corrosion resistance, and shall be applied around the outside of the dielectric strength

members with an overlapping seam with corrugations in register. The outer jacket shall be applied over the corrugated steel tape armor. The outer jacket shall be a MDPE with a minimum nominal jacket thickness of 1.4 mm. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.

- 3.22 Armored cables with an inner jacket shall have an inner sheath of MDPE. The minimum nominal jacket thickness of the inner sheath shall be 1.0 mm. The inner jacket shall be applied directly over the tensile strength members (as required) and water swellable tape. A water swellable tape shall be applied longitudinally around the outside of the inner jacket. The armor shall be a corrugated steel tape, plastic-coated on both sides for corrosion resistance, and shall be applied around the outside of the water blocking tape with an overlapping seam with the corrugations in register. The outer jacket shall be applied over the corrugated steel tape armor. The outer jacket shall be a MDPE with a minimum nominal jacket thickness of 1.4 mm. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.
- 3.23 The MDPE jacket material shall be as defined by ASTM D1248, Type II, Class C, Category 4 and Grades J4, E7 and E8.
- 3.24 The jacket or sheath shall be free of holes, splits, and blisters.
- 3.25 The cable jacket shall contain no metal elements and shall be of a consistent thickness.
- 3.26 Cable jackets shall be marked with the manufacturer's name, month and year of manufacture, sequential meter or foot markings, a telecommunications handset symbol as required by Section 350G of the National Electrical Safety Code® (NESC®), fiber count, and fiber type. The actual length of the cable shall be within  $-0/+1\%$  of the length markings. The print color shall be white. Optionally, cable jackets containing one or more coextruded white stripes, which may be printed in light blue. The height of the marking shall be a minimum of 2.5 mm.
- 3.27 If the initial marking fails to meet the specified requirements (i.e., improper text statement, color, legibility, or print interval), the cable may be remarked using a contrasting alternate color. The number sequence will differ from the previous numbering sequence, and a tag will be attached to both the outside end of the cable and to the reel to indicate the sequence of remarking. The preferred remarking color will be yellow. (We do not reprint in yellow.)
- 3.28 The maximum pulling tension shall be 2700 N (608 lbf) during installation (short term) and 890 N (220 lbf) long term installed.
- 3.29 The shipping, storage, and operating temperature range of the cable shall be  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ . The installation temperature range of the cable shall be  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ .

#### 4.0 General Cable Performance Specifications

- 4.1 When tested in accordance with FOTP-3, "Procedure to Measure Temperature Cycling Effects on Optical Fibers, Optical Cable, and Other Passive Fiber Optic Components," the change in attenuation at extreme operational temperatures ( $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ ) shall not exceed 0.15 dB/km at 1550 nm for single-mode fiber.
- 4.2 When tested in accordance with FOTP-82, "Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable," a one-meter length of unaged cable shall withstand a one-meter static head or equivalent continuous pressure of water for one hour without leakage through the open cable end.

- 4.3 When tested in accordance with FOTP-81, "Compound Flow (Drip) Test for Filled Fiber Optic Cable," the cable shall exhibit no flow (drip or leak) of filling and/or flooding material at 70°C.
- 4.4 When tested in accordance with FOTP-41, "Compressive Loading Resistance of Fiber Optic Cables," the cable shall withstand a minimum compressive load of 220 N/cm (125 lbf/in) applied uniformly over the length of the sample. The 220 N/cm (125 lbf/in) load shall be applied at a rate of 2.5 mm (0.1 in) per minute. The load shall be maintained for a period of 1 minute. The load shall then be decreased to 110 N/cm (63 lbf/in). Alternatively, it is acceptable to remove the 220N/cm (125 lbf/in) load entirely and apply the 110 N/cm (63 lbf/in) load within five minutes at a rate of 2.5 mm (0.1 in) per minute. The 110 N/cm (63 lbf/in) load shall be maintained for a period of 10 minutes. Attenuation measurements shall be performed before release of the 110 N/cm (63 lbf/in) load. The change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fibers.
- 4.5 When tested in accordance with FOTP-104, "Fiber Optic Cable Cyclic Flexing Test," the cable shall withstand 25 mechanical flexing cycles around a sheave diameter not greater than 20 times the cable diameter. The change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fiber.
- 4.6 When tested in accordance with FOTP-25, "Repeated Impact Testing of Fiber Optic Cables and Cable Assemblies," except that the number of cycles shall be two at three locations along a one meter cable length and the impact energy shall be at least 4.4 Nm (in accordance with ICEA S-87-640)", the change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fiber.
- 4.7 When tested in accordance with FOTP-33, "Fiber Optic Cable Tensile Loading and Bending Test," using a maximum mandrel and sheave diameter of 560 mm, the cable shall withstand a rated tensile load of 2670N (601 lbf) and residual load of 30% of the rated installation load. The axial fiber strain shall be  $\leq 60\%$  of the fiber proof level after completion of 60 minute conditioning and while the cable is under the rated installation load. The axial fiber strain shall be  $\leq 20\%$  of the fiber proof level after completion of 10 minute conditioning and while the cable is under the residual load. The change in attenuation at residual load and after load removal shall not exceed 0.15 dB at 1550 nm for single-mode fiber.
- 4.8 When tested in accordance with FOTP-85, "Fiber Optic Cable Twist Test," a length of cable no greater than 2 meters shall withstand 10 cycles of mechanical twisting. The change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fiber.
- 4.9 When tested in accordance with FOTP-181, "Lighting Damage Susceptibility Test for Optic Cables with Metallic Components," the cable shall withstand a simulated lightning strike with a peak value of the current pulse equal to 80 kA without loss of fiber continuity. A damped oscillatory test current shall be used with a maximum time-to-peak value of 15  $\mu$ s (which corresponds to a minimum frequency of 16.7 kHz) and a maximum frequency of 30 kHz. The time to half-value of the waveform envelope shall be from 40 to 70  $\mu$ s.
- 4.10 When tested in accordance with FOTP-37, "Low or High Temperature Bend Test for Fiber Optic Cable", the cable shall withstand four full turns around a mandrel of  $\leq 20$  times the cable diameter after conditioning for four hours at test temperatures of -30°C and +60°C. Neither the inner or outer surfaces of the jacket shall exhibit visible cracks, splits, tears, or other openings. The change in attenuation shall not exceed 0.30 dB at 1550 nm for single mode fiber.

5.0 Quality Assurance Provision

- 5.1 All cabled optical fibers > 1000 meters in length shall be 100% attenuation tested. Attenuation of each fiber shall be provided with each cable reel.
- 5.2 The cable manufacturer shall be TL 9000 or ISO 9000 registered.

6.0 Packaging

- 6.1 The completed cable shall be packaged for shipment on non-returnable wooden reels. Required cable lengths shall be stated in the purchase order.
- 6.2 Top and bottom ends of the cable shall be available for testing.
- 6.3 Both ends of the cable shall be sealed to prevent the ingress of moisture.
- 6.4 Each reel shall have a weather resistant reel tag or a packing list enclosed in a weather resistant pouch attached identifying the reel and cable.
- 6.5 The reel tag or packing list shall include the following information

<b>Cable Number</b>	<b>Gross Weight</b>
<b>Shipped Cable Length in Meters</b>	<b>Job Order Number</b>
<b>Manufacturer's Product Number</b>	<b>Customer Order Number</b>
<b>Date Cable was Tested</b>	<b>Manufacturer's Order Number</b>
<b>Cable Length Markings</b>	<b>Item Number</b>
a Top (inside end of cable)	
b Bottom (outside end of cable)	

- 6.6 The reel (one flange) marking shall include

Manufacturer's Name  
Country of origin (e.g. USA)  
An arrow indicating proper direction of roll when handling  
Fork lift-handling instructions  
"DO NOT SHIP REEL ON SIDE" or  
"DO NOT LAY REEL ON ITS SIDE" or  
"Pick up This Side Only"  
    ↓  
    ↓  
"Do Not Remove from Cradle"  
"Must Remain Upright"

- 6.7 Each cable shall be accompanied by a cable data sheet.
- 6.8 The cable data sheet shall include the following information

Manufacturer's Cable Number  
Manufacturer's Product Number  
Manufacturer's Factory Order Number  
Alternate Code  
Actual Shipped Length  
Measured Attenuation of Each Fiber  
(for lengths > 1000 m)

7.0 Miscellaneous

- 7.1 At the request of the customer, the cable manufacturer shall provide installation procedures and technical support concerning the items contained in this specification.
- 7.2 All prospective bidders must provide off-site, hands-on training for two (2) LFUCG technicians at the prospective bidder's expense. The off-site, hands-on training should be a minimum of 24 contact hours per technician.

---

**Loose Tube Type Fiber Optic Cable**

Item #41. 6-fiber Cable, Non-Gel

Item #42. 12-fiber Cable, Non-Gel

Item #43. 24-fiber Cable, Non-Gel

Item #44. 36-fiber Cable, Non-Gel

Item #45. 48-fiber Cable, Non-Gel

Item #46. 72-fiber Cable, Non-Gel

Item #47. 96-fiber Cable, Non-Gel

Item #48. 120-fiber Cable, Non-Gel

Item #49. 144-fiber Cable, Non-Gel

Item #50. 156-fiber Cable, Non-Gel

Item #51. 288-fiber Cable, Non-Gel

Item #52. Detectable 5/16-inch Duct Rod with Cart and Accessories

Duct rod with cart shall be DCD 5/16-inch with the following accessories Splice Connector, Flexible Guide Head, Pulling Eye, Swivel Rod End (attached), Female Rod End (attached), Roller Guide, Clevis End, Glue, Rod Gripper, Accessory Pouch. Detectable Duct Rod with cart shall be equivalent to MGT Diversified Solutions, LLC part #53700-400

Item #53. Detectable Fiber Optic Cable Pulling Tape

Pulling tape shall be Tensile Strength 1,800-pounds, Width 5/8-inch, Construction Woven, Pre-Lubrication Yes, Foot-Markings Yes, priced in 1,000-foot lengths. Detectable Fiber Optic Cable Pulling Tape shall be equivalent to MGT Diversified Solutions, LLC part #P1800T

Item #54. Multilink 16-inch Sno Shoe w/Tap

Equivalent to Core [Data Com] part # 2116-SSPTB

Item #55. Stackable Cable Spacer

Panduit # SACS 50-T100, No Substitutes

Item #56. Fiber Optic Duplex Jumper, 10-meter Duplex SM 9/125, ST to ST  
Equivalent to Fiber Instrument Sales #DX988S10FIS

Item #57. Fiber Optic Duplex Jumper, 3-meter, SC to SC  
Equivalent to Fiber Instrument Sales #VDX9YY53FIS

Item #58. Lasher/Overlasher w/chest, GMP 70400 Apollo  
#GMP 70400 Apollo, No Substitutes

Item #59. Fiber Termination Kit (Controller Cabinet) Each kit shall contain the following

- One (1) Velcro wrap, Black, (1" x 8") w/screw mount cut out, Part #CT3108
- Four (4) Duplex ST to ST 3-meter jumpers, SM, Part #VDX988S3FIS (FIS part #)
- One (1) #313351 Corning-C, SPH-01P, 12-F, Wall Mount Enclosure Single Panel Housing
- One (1) #180699, Corning-C, CCH-CP06-19T, 6-port panel ST SM loaded
- No Substitutes
- Each kit shall have all items listed shipped in one box, per bid item number

Item #60. Fiber Installation Kit (Novice) Each kit shall contain the following

- One (1) indoor/outdoor 6-fiber single-mode cable, ST connector to pigtail, 100-meter/1 meter breakout, Part #138-S100FIS/6.
- One (1) Velcro wrap, Black, (1" x 8") w/screw mount cut out, Part #CT3108
- Two (2) Duplex ST to ST 3-meter, SM jumper, Part #VDX988S3FIS (FIS part #)
- One (1) #313351 Corning-C, SPH-01P, 12-F, Wall Mount Enclosure Single Panel Housing
- One (1) #180699, Corning-C, CCH-CP06-19T, 6-port panel ST SM loaded
- No Substitutes
- Each kit shall have all items listed shipped in one box, per bid item number

Item #61. Precision Optical Fiber Cleaver  
Equivalent to Fitel #S323

Item #62. Fiber Optic Shackle  
GMP #70045

Item #63. Fiber Optic Conduit Checker  
DCD Design #08500-200

Item #64. Fiber Optic Duct entry Guide, 2-inch  
DCD Design #32500-200

Item #65. Fiber Optic Duct Entry Guide, 4-inch  
DCD Design #32500-400

Item #66. Fiber Optic Spool Frame  
DCD Design #58540-010

Item #67. Fiber Optic Quadrant, Black  
GMP Tools #15316

Item #68. Fiber Optic Reel Trailer  
Wheeler Reeler Model 35 (Slaback Enterprises Equivalent)

Item #69. Fiber Optic Equipment Trailer  
Tractor Supply #0191160 Equivalent

Item #70. Pull Rope, ½-inch x 1200-feet

IDEAL #31-851, ½-inch x 1200-feet, No Substitutes

Item #71. Optical Fiber Access Tool

for mid-span Buffer Tube Splits, Corning-C #OFT-000 (No Substitutes)

Item #72. Fiber Lube Applicator Kit

DCD Design #35100-000 (No Substitutes)

Item #73. Fiber Lube, 5-gallon

DCD Design #35000-050 (No Substitutes)

Item #74. Starfighter Fiber Optic Dome Splice Closure Kit, Kit shall contain

- One (1) 4048D Starfighter dome splice closure (Multilink #10-8365)
- One (1) 4000/4048D Starfighter Aerial Hanger Kit (Multilink #10-8362)
- One (1) 4048-SSTP splice tray 24 single/48 ribbon splice capacity (Multilink #10-8007)
- Each kit shall have all items listed shipped in one box, per bid item number

Item #75. Aerial Cable Puller

Condux #18108000, No Substitutes

Item #76. 21-foot Lay Up Stick

Condux #18143621, No Substitutes

Item #77. Wire Raising Tool

Condux #18110812, No Substitutes

Item #78. Cable Block Lifter

Condux #18110834, No Substitutes

Item #79. Cable Block Pusher

Condux #18109240, No Substitutes

Item #80. Cable Block

Condux #18001270, No Substitutes

Item #81. Overlash Aerial Puller Cable

Condux #18308000, No Substitutes

Item #82. Camsplice Assembly Fixture

FIS #2104040-01 (No Substitutes)

Item #83. Jumper Clamp

N/S Electric M EM 0800, No Substitutes

Item #84. 4000D Dome Kit for 288 Total Splices. Kit shall contain

- One (1) #10-8146 (4000d Dome w/1 tray)
- Seven (7) #065-001-10 (36 ct trays)
- Three (3) #10-6028 (Cable Addition Kits)
- One (1) #10-5324 (Aerially Hanging Bracket)
- All items in kit shall be shipped in one (1) box.

Item #85. HP Procurve 6200yl-24G-mGBIC Switch

Hewlett-Packard #J8992A#ABA, No Substitutes

Item #86. HP Procurve Gigabit-LX-LC Mini-GBIC Transceiver Module  
Hewlett-Packard #J4859C, No Substitutes

Item #87. HP Procurve Gigabit Ethernet SFP Mini-GBIC  
Hewlett-Packard #J8177C, No Substitutes

Item #88. Rugged Switch RS900G (RuggedComm #RS900G-24-P-2SC10)

Item #89. Rugged Switch RS900G (RuggedComm #RS900G-24-P-2SC25)

Item #90. Digi Port Server TS 2 MEI  
Digi North America Part #70001806

Item #91. Conduit Inspection Camera  
General Pipe Cleaners Gen-Eye SD Part #CMSDC with standard color camera and 200-ft. rod,  
No Substitutes

Item #92. Non-Metallic Pole Riser  
Extra Heavy Duty Schedule 80 Carlon PV Mold #59411N, No Substitutes

Item #93. Non-Metallic Pole Riser Adaptor  
2-inch – 4-inch adaptor for Carlon PV Mold Carlon #E939JN, No Substitutes

Item #94. Fiber Optic Duplex Jumper, 3-meter, SC to ST  
Fiber Optic Jumpers shall be Duplex SM 9/125, SC to ST, 3-meters long,  
Equivalent to Fiber Instrument Sales #D38YS3FISC

Item #95. 64-gigabit IPOD Touch Diagnostic/Data Collection Tool



Bid #141-2010		
Fiber-Optic Cable and Control Equipment		
<b>PRICING:</b>		
	<u>Item</u>	<u>Price each:</u>
1	CATV 80 Channel Fiber-Optic Video Link	\$ 4766. <sup>00</sup>
2	CATV 880 Channel Video Link Receiver w/PF170	\$ 1162. <sup>00</sup>
3	External Single-Mode Fiber Modem Multi-Drop	\$ No Bid
4	Internal Single-Mode Fiber Modem Multi Drop (Must have ST Type Connectors)	\$ No Bid
5	Item #5. 12-Slot Rack for FO-400SMST, Modems/Power Supply, Note Rack is (10) slot free	\$ No Bid
6	Pre-loaded Rack Distribution Closet Housing	\$ 942. <sup>00</sup>
7	Fiber Cleave Tool	\$ 335. <sup>00</sup>
8	Wall Mount Enclosure, 12-Port	\$ 37.99
9	Micro Fusion Splicer	\$ 19,380. <sup>00</sup>
10	Splice Protectors for Fusion Splices	\$ 7.53
11	Breakaway Swivel, 5/8-inch x 4-inch	\$ No Bid
12	Innerduct, 1-inch, Orange	\$ .41
13	Innerduct, 2-inch, Orange	\$ .80
14	Innerduct, 1-inch, Direct Bury, Orange	\$ .70
15	Innerduct, 2-inch, Direct Bury, Orange	\$ 1.10
16	Junction Box Lid	\$ 131. <sup>00</sup>
17	Cable Tie	\$ .40
18	Pole Washer Joslyn J1075 (No Substitute)	\$ .38
19	Eye Bolt, 16-inch Joslyn J9416 (No Substitute)	\$ 4.80
20	Messenger Cable, 1/4-inch, Galvanized 2,000-ft. on a wooden reel	\$ No Bid
21	Messenger Cable, 1/4-inch, Galvanized 5,000-ft on a wooden reel	\$ No Bid
22	Double Arming Bolt, 24-inch	\$ 4.08
23	Pole Bolt, 18-inch	\$ 2.48
24	Eye Bolt, 18-inch	\$ 5.05
25	Oval Eye Nut	\$ 2.30
26	Suspension Clamp	\$ 11.82
27	Strand Vise, 1/4-inch	\$ 13.25
28	Strand Link, 1/4-inch	\$ 10.25
29	C Cable Lasher Equivalent to GMP #P/N 71420	\$ 3185. <sup>00</sup>

30	Lash Wire, .045 SS, 6 x 1200-ft per box	\$ 151.85
31	D Lashing Clamp	\$ .83
32	Junction Box w/Lid (Fiber), Traffic Bearing, Quazite with Traffic LOGO on Lid	\$ 388.00
33	OTDR (Micro), Model Noyes M200-K-Quad, No Substitutes	\$ 8359.00
34	Condux Fiber Optic Cable Puller Package 1, no substitutes, including	\$ 7446.00
35	Condux Fiber Optic Cable, Capstan, No substitutes	\$ 1485.00
36	Closet Splice Housing Kit for Master Splice Cabinet	\$ 845.00
37	Duplex Jumpers	\$ 11.35
38	Fiber Optic Jumpers	\$ 9.60
39	Attenuator #1	\$ 17.65
40	Attenuator #2	\$ 17.65
41	6-fiber Cable, Non-Gel	\$ .21
42	12-fiber Cable, Non-Gel	\$ .32
43	24-fiber Cable, Non-Gel	\$ .33
44	36-fiber Cable, Non-Gel	\$ .38
45	48-fiber Cable, Non-Gel	\$ .45
46	72-fiber Cable, Non-Gel	\$ .62
47	96-fiber Cable, Non-Gel	\$ .79
48	120-fiber Cable, Non-Gel	\$ 1.03
49	144-fiber Cable, Non-Gel	\$ 1.17
50	156-fiber Cable, Non-Gel	\$ 1.26
51	288-fiber Cable, Non-Gel	\$ 2.18
52	Detectable 5/16-inch Duct Rod with Cart and Accessories	\$ No Bid
53	Detectable Fiber Optic Cable Pulling Tape	\$ 79.50
54	Multilink 16-inch Sno Shoe w/Tap	\$ 18.53
55	Stackable Cable Spacer	\$ .29
56	Fiber Optic Duplex Jumper, 10-meter Duplex SM 9/125, ST to ST	\$ 13.25
57	Fiber Optic Duplex Jumper, 3-meter, SC to SC	\$ 9.60
58	Lasher/Overlasher w/chest, GMP 70400 Apollo	\$ 5568.25
59	Fiber Termination Kit (Controller Cabinet)	\$ 158.00
60	Fiber Installation Kit (Novice)	\$ 299.75
61	Precision Optical Fiber Cleaver	\$ No Bid

62	Fiber Optic Shackle	\$ 565.00
63	Fiber Optic Conduit Checker	\$ No Bid
64	Fiber Optic Duct entry Guide, 2-inch	\$ No Bid
65	Fiber Optic Duct Entry Guide, 4-inch	\$ No Bid
66	Fiber Optic Spool Frame	\$ No Bid
67	Fiber Optic Quadrant, Black	\$ 960.00
68	Fiber Optic Reel Trailer	\$ No Bid
69	Fiber Optic Equipment Trailer	\$ No Bid
70	Pull Rope, 1/2-inch x 1200-feet	\$ 367.15
71	Optical Fiber Access Tool	\$ 206.00
72	Fiber Lube Applicator Kit	\$ No Bid
73	Fiber Lube, 5-gallon	\$ No Bid
74	Starfighter Fiber Optic Dome Splice Closure Kit	\$ 193.15
75	Aerial Cable Puller	\$ 206.00
76	21-foot Lay Up Stick	\$ 173.50
77	Wire Raising Tool	\$ 62.25
78	Cable Block Lifter	\$ 88.50
79	Cable Block Pusher	\$ 73.25
80	Cable Block	\$ 88.15
81	Overlash Aerial Puller Cable	\$ 408.98
82	Campsplice Assembly Fixture	\$ 301.15
83	Jumper Clamp	\$ 255.00
84	4000D Dome Kit for 288 Total Splices	\$ 404.00
85	HP Procurve 6200yl-24G-mGBIC Switch	\$ 5625.00
86	HP Procurve Gigabit-LX-LC Mini-GBIC Transceiver Module	\$ 673.75
87	HP Procurve Gigabit Ethernet SFP Mini-GBIC	\$ 218.75
88	Rugged Switch RS900G (RuggedComm #RS900G-24-P-2SC10)	\$ No Bid
89	Rugged Switch RS900G (RuggedComm #RS900G-24-P-2SC25)	\$ No Bid
90	Digi Port Server TS 2 MEI	\$ 375.00
91	Conduit Inspection Camera	\$ 8149.00
92	Non-Metallic Pole Riser	\$ No Bid
93	Non-Metallic Pole Riser Adaptor	\$ No bid

94	Fiber Optic Duplex Jumper, 3-meter, SC to ST	\$ 8.50
95	64-gigabit IPOD Touch Diagnostic/Data Collection Tool	\$ No Bid

**RISK MANAGEMENT PROVISIONS  
INSURANCE AND INDEMNIFICATION**

---

**INDEMNIFICATION AND HOLD HARMLESS PROVISION**

- (1) It is understood and agreed by the parties that Vendor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Vendor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "Vendor") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) Vendor shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by Vendor's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the Vendor; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, Vendor shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.

**FINANCIAL RESPONSIBILITY**

Vendor understands and agrees that it shall, prior to final acceptance of its bid and the commencement of any work, demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions.

**INSURANCE REQUIREMENTS**

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

**Required Insurance Coverage**

Vendor shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work or provision of goods hereunder by Vendor. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky. LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products Liability endorsement unless it is deemed not to apply by LFUCG.
- d. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- e. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

#### Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

#### Deductibles and Self-Insured Programs

**IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE.** Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon

review of evidence of Vendor's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If Vendor satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, Vendor agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. Latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

#### Verification of Coverage

Vendor agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

#### Right to Review, Audit and Inspect

Vendor understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

#### DEFAULT

Vendor understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging Vendor for any such insurance premiums purchased, or suspending or terminating the work.

00361695