DEPARTMENT OF PURCHASING & CONTRACT COMPLIANCE

Winner 2000- 2008 Achievement of Excellence in Procurement Award
National Purchasing Institute

Felicia Strong-Whitaker, Director

April 11, 2016

Re: 16ITB102199B-TR, E-RATE CATEGORY II CABLING, TELECOM, AND INFRASTRUCTURE FOR LIBRARIES

Dear Bidders:

Attached is one (1) copy of Addendum 2, hereby made a part of the above referenced Bid ITB.

Except as provided herein, all terms and conditions in the ***Bid*** referenced above remain unchanged and in full force and effect.

Sincerely,

Terrence Reese

Terrence Reese, CPPB
Assistant Purchasing Agent

This Addendum forms a part of the contract documents and **modifies** the original ITB documents as noted below:

SECTION 3 - Scope of Work and Technical Specifications has been revised and attached to this Addendum.

ACKNOWLEDGEMENT OF ADDENDUM No. 2

The undersigned proposer acknowledges receipt of this addendum by returning one (1) copy of this form with the proposal package to the Purchasing Department, Fulton County Public Safety Building, 130 Peachtree Street, Suite 1168, Atlanta, Georgia 30303 by the ITB due date and time ***Tuesday, May 10*****, 2016 at 11:00 A.M.**

This is to acknowledge receipt of Addendum No. 2, _____ day of _____, 2016.

_____
Legal Name of Bidder

_____
Signature of Authorized Representative

_____
Title

REVISED APRIL 11, 2016

E-RATE CATEGORY II
CABLING AND WIRING
SCOPE OF WORK

1.0 GENERAL REQUIREMENTS

Fulton County in conjunction with the Atlanta Fulton Public Library System (AFPLS) has standardized on various components and products to obtain and maintain a consistency in its infrastructure. Many of those components and products which are related to cabling and interconnection are listed within this ITB. Vendor agrees to install, test and configure the items listed in the pricing sections of the ITB.

The Vendor shall provide the AFPL and Fulton County with comprehensive documentation on any supplied product and/or service when requested. All wiring services shall be performed in accordance with the current industry standards and governing building construction and electrical codes. For the purposes of this specification, the terms "wiring" and "cabling" are used interchangeably. Cabling services may include, but are not limited to, installation, termination, and validation of wiring for new systems, repair and modifications to existing wiring systems, and installation and maintenance of any related ancillary materials, accessories, or equipment. Cabling services also include any necessary modifications to building walls, ceilings, floors, or other structures which are required in order to complete an installation. All services must be performed with a high degree of quality in workmanship and physical appearance. Any facility or structure which is disturbed or modified by the vendor must be returned by the vendor to original or better condition.

2.0 QUALIFICATIONS

A. Vendor

The Vendor shall be certified by the product manufacturer in all aspects of design, installation and testing of the products described herein. The Vendor shall have a minimum of five (5) years' experience on similar SCS cabling. The Vendor shall own and maintain tools and equipment necessary for successful installation, testing, and certification of Category 6 premise distribution systems as well as inter-building and intra-building fiber optic distribution systems. All vendor provided personnel must be adequately trained in the use of such tools and equipment.

Vendor shall hold a Low Voltage Telecommunications or Unrestricted license issued by the State of Georgia or by a state with reciprocity with Georgia and listed as such.

Print name as it appears on the license: _____

List issuing state and license number: _____

Fulton County requires that the vendor shall employ a Building Industry Consulting Service International (BICSI) Registered Communications Distribution Designers (RCDD) as a Fulton County Project Manager to ensure that standards based on the BICSI Telecommunications Distribution Methods Manuals are followed.

Vendor state employment of a BICSI RCDD: Yes ___ No ___
Print name of BICSI RCDD as it appears on the certificate: _____

How many BICSI certified technicians are employed by your firm and will be working under this Agreement? (Attach Documentation) _____

With Fulton County MDFs and IDFs Closet comprising of an Uninterrupted Power Supply (UPS) and Extended battery packs, it is required that the Contractor possesses a GA Unrestricted Electrical License to perform electrical work in conjunction with the cabling work.

Vendor shall hold an Electrical Unrestricted license issued by the State of Georgia or by a state with reciprocity with Georgia and listed as such.

Print name as it appears on the license: _____

List issuing state and license number: _____

The vendor will be required to perform MDF and IDF closet remediation and APC UPS battery examination/replacements as required. It is therefore required that the vendor be an APC Authorized Reliability Provider Partner.

2.1 CABLING BASIC REQUIREMENTS

A. Hardware
Required hardware includes, but is not limited to, termination blocks or patch panel, cable, fiber, fastening devices, cable management devices, face plate (including that required for wall mounted equipment), data outlets, telecommunications outlets, patch cords and all required accessories to comply with this specification.

2.2 GROUNDING AND BONDING
All grounding and bonding shall meet the National Electrical Code (NEC®) as well as local codes, which may specify additional grounding and/or bonding requirements. Local codes may or may not be more restrictive; at all times the more restrictive codes shall apply and be adhered to. Minimum 6 AWG [4.1 mm (0.16 in)] insulated copper bonding conductors (part of the Telecommunications Bonding Backbone [TBB]) are installed through every major telecommunications pathway (backbone pathway) and directly bonded to a Telecommunications Grounding Bus bar (TGB) in each telecommunications equipment location. According to ANSI/TIA/EIA-607, consideration should be given to sizing conductors as large as 3/0 AWG [10 mm (0.39 in)].

2.3 SPECIAL REQUIREMENTS FOR CABLE ROUTING AND INSTALLATION

A. Cabling
All communications cabling used throughout this contract shall comply with the requirements as outlined in the National Electric Code (NEC®) Articles 725, 760, 770, and 800 and the appropriate local codes. All cabling shall bear CMP (Plenum Rated), CM/CMR (Riser Rated) and/or appropriate markings for the environment in which it is installed.

B. Cable Pathway

In suspended ceiling and raised floor areas where duct, cable trays or conduit are not available, the Vendor shall bundle, in bundles of 50 or less, station wiring with plastic cable ties snug, but not deforming the cable geometry. The cable bundling shall be supported via "J", hooks attached to the existing building structure and framework at a maximum of five (5) foot intervals. Plenum rated cable will be used in all areas. The Vendor shall adhere to the manufacturers' requirements for bending radius and pulling tension of all data and telecommunications cables.

C. Fire Stopping

Sealing of openings between floors, through rated fire and smoke walls, existing or created by the Vendor for cable pass through, shall be the responsibility of the Vendor. Sealing material and application of this material shall be accomplished in such a manner which is acceptable to the local fire and building authorities having jurisdiction over this work. Creation of such openings as are necessary for cable passage between locations as shown on the drawings will be the responsibility of the Vendor. Any openings created by or for the Vendor and left unused shall also be sealed as part of this work.

D. Inside and Outside Plant Installations

The vendor shall be responsible to provide both Inside and Outside plant work. The outside plant work shall be for inter-building connectivity that may include trenching, placing of conduit, as well as installation of copper or fiber cabling. Vendor shall assure that trenching and other similar tasks are performed by valid Georgia Utility Contractor licensee as mandated by code.

Does Vendor (or trenching sub-contractor) possess Georgia Utility Contractors License : Yes___ No___

Due to possible aerial outside plant projects does vendor own or lease a bucket/boom truck: Yes _____ NO _____

E. Vendor Responsibility

The Vendor will be responsible for damage to any surfaces or work disrupted as a result of his work. Repair of surfaces, including painting, will be included as necessary.

2.4 EQUIPMENT RACKS

The Equipment Rack (ER) shall be equipped with a system to house owner-provided equipment and Vendor provided termination bays for the multiple cable types. The equipment rack shall be designed to meet the requirements of cabling and equipment distribution systems. The racks shall be made of lightweight steel, and include the flexibility to mount various types of hardware to the frame, (i.e. vertical and horizontal wire ways)

A. Space and Usage of Existing Racks

Where sufficient rack space is available on an existing EIA approved rack, the connections may be installed on the existing rack. The minimum rack size shall be a standard 19 inch rack with sufficient rack space to allow the Fiber Distribution Center (FDC) to be placed at the top of rack.

B. Mounting
Racks shall be mounted on an isolation pad and utilize non-conductive washers to secure the rack to the floor. Floor mounted open racks shall be secured from the top rail to the backboard in the room with a length of cable runway to prevent movement. All racks should be grounded to the isolated ground bus bar within the equipment room using a standard ground lug and a minimum 6 AWG [4.1 mm (0.16 in)] insulated copper bonding conductors. According to ANSI/TIA/EIA-607, consideration should be given to sizing conductors as large as 3/0 AWG [10 mm (0.39 in)].

C. Fiber Communications Circuits
Fiber Communications TC locations shall be equipped with patch panels for termination of fiber optic cable strands.

1. All fibers will be run in inner-duct and terminated in the TC's with ST, SC, or LC type connectors in rack mounted fiber distribution shelves equipped or cabinets with sufficient panels, couplers and jumper storage shelves to terminate and secure all fibers.

2. One (12-Strand, 62.5/125, 50/125 MM) fiber cable (1000 ft length), sufficient connectors, and couplers. To support and protect fiber install in plenum rated 1" inner-duct.

3. All fiber patch panels shall be securely fastened to the equipment racks.

4. Vendor shall provide all required cable management, D-rings, or other approved guides as required to make a neat installation.

5. All optical fiber cables shall be 100% tested with an optical power meter and light source for attenuation and length. The length shall be recorded using an OTDR, optical length test measurement device or sequential cable measurement markings.

6. Attenuation shall be tested at 850 nm and at 1300 nm for multimode fiber cable. Each strand shall not exceed a level of: 3.5 db/km of attenuation for 850 nm 1.5 db/km of attenuation for 1300 nm.

7. Each strand test results shall be turned over to the owner, with the following information required:
a. Test from point to point
b. Fiber I.D. label number
c. Fiber length
d. RX level
e. Attenuation total
f. ____. ____ db/km of attenuation for 850 nm
g. ____. ____ db/km of attenuation for 1300 nm
h. Wave length
i. Reference level

3.0 EXECUTION

3.1 WORKMANSHIP
Components of the system shall be installed in a neat, workmanlike manner. Wiring color codes shall be strictly observed and terminations shall be uniform throughout the

system. Identification markings and systems shall be uniform. TIA/EIA 568A5 wiring codes shall standardize all SCS wiring. Any facility or structure which is disturbed or modified by the vendor must be returned by the vendor to the original or better condition.

3.2 INSTALLATION

All installations shall be done in conformance with EIA/TIA 568A standards. The Vendor shall ensure that the maximum pulling tensions of the specified distribution cables **are not** exceeded and cable bends maintain the proper radius during the placement of the facilities. Failure to follow the appropriate guidelines will require the Vendor to provide, in a timely fashion, the additional material and labor necessary to properly rectify the situation. This will also apply to any and all damages sustained to the cables by the Vendor during the installation.

A. Bonding and Grounding

The Vendor shall be responsible for providing an approved ground at all newly installed distribution frames, and/or insuring proper bonding to any existing facilities. The Vendor shall also be responsible for ensuring ground continuity by properly bonding all appropriate cabling, closures, cabinets, service boxes, and framework. All grounds shall consist of #6 AWG copper wire and shall be supplied from an approved building ground and bonded to the main electrical ground. Grounding shall be in accordance with the NEC, NFPA and all local codes and practices.

B. Power Separation

The Vendor shall NOT place any distribution cabling alongside power lines, or share the same conduit, channel or sleeve with electrical apparatus.

C. Miscellaneous Materials

The Vendor shall provide any necessary tie wraps, straps, clamps, mounting screws, anchors, D-rings, J hooks, wire surface mount molding (MC/MDF & TC/IDF locations), labels, miscellaneous grounding and support hardware, etc., necessary to facilitate the installation of the System, and labor to install horizontal and patch cables, dress, test, certify, and label these completed cable drops. This includes cable management (i.e. routing and dressing of cables) on the port side as well as the punch down side of the patch panel and/or punch down block (110).

D. Special Equipment and Tools
It shall be the responsibility of the Vendor to furnish any special installation equipment or tools necessary to properly complete the System. This may include, but is not limited to, tools for terminating cables, testing devices, ladders, lifts, splicing equipment, etc.

E. Labeling
The Vendor shall be responsible for printed labels for all cables and cords, distribution frames, and outlet locations, according to the County's specifications. No labels are to be written by hand. The standard labeling method that shall be enforced is as follows: Building ID, Floor, Closet, Voice/Data, Line or Cable Drop Number (Example for 395 Pryor Street, Third floor(3), South closet, Voice line, cable drop number 122; 395-3-S-V-122).

F. Cable Storage
The Vendor shall not roll or store cable reels without an appropriate underlay and the prior approval of the County or its General Contractor.

3.3 DAMAGES
The Vendor will be held responsible for any and all damages to portions of the building caused by it, its employees or subcontractors, including, but not limited to:

A. Building
Damage to any portion of the building caused by the movement of tools, materials or equipment

B. Work Spaces
Damage to any component of the construction of spaces “turned over” to the Vendor

C. Electrical Distribution
Damage to the electrical distribution system and/or other space “turned over” to the Vendor

D. Systems
Damage to the electrical, mechanical and/or life safety or other systems caused by inappropriate operation or connections made by the Vendor or other actions of Vendor

E. Other
Other damage to the materials, tools and/or equipment of the County, its consultants, General Contractor, subcontractors, Architect, other vendors, agents and lessees

3.4 PENETRATIONS OF WALLS, FLOORS AND CEILINGS

A. Creating Penetrations
The Vendor shall make no penetration of floors, walls or ceiling without the prior consent of the County. When requested, the vendor will create penetrations through fire-rated, acoustical or other walls for cableways such penetrations shall be sleeved and sealed, by the Vendor, in compliance with applicable code requirements and as directed by the County. This could/would include X-ray of floor or wall.

B. Penetration Utilization and Requirements: Non Fire-Rated
Where penetrations through acoustical walls or other walls for cableways have been provided for the Vendor, such penetrations shall be sealed by the Vendor in compliance with applicable code requirements and as directed by the County.

C. Penetration Utilization and Requirements: Fire-Rated
Where penetrations through fire-rated walls for cableways have been provided for the Vendor, such penetrations shall be sealed by the Vendor as required by code and as directed by the County.

3.5 TESTING
Testing of all copper wiring shall be performed prior to system cut over. 100 percent of the horizontal and riser wiring pairs shall be tested for opens, shorts, polarity reversals, transposition and presence of AC voltage. Telecommunications and data horizontal wiring pairs shall be tested from the information outlet (jack) to the TC. Category 5e cable runs shall be tested for conformance to the specifications of EIA/TIA 568A5 Category 5e. Category 6 cable runs shall be tested for conformance to the specifications of EIA/TIA 568A5 Category 6. Testing shall be done with a TIA/EIA TSB-67/95 UL Certified Level 2 test set. Test shall include length, mutual capacitance, characteristic impedance, attenuation, and near-end and far end crosstalk. Any pairs not meeting the requirements of the standard shall be brought into compliance by the Vendor at no charge to the County. Complete, end to end test results shall be submitted to the County prior to payment for the installation.

3.6 COMPLETION OF WORK and SERVICE LEVEL AGREEMENTS

A. Site
At the completion of the Work, the Vendor shall restore to its former condition, all aspects of the project site, and shall remove all waste and excess materials, rubbish, debris, tools and equipment resulting from or used in the services provided under this Contract. All clean-up, restoration, and removal noted above will be by the Vendor and at no additional cost to the County. If the Vendor fails in its duties under this paragraph, the County may, upon notice to the Vendor, perform the necessary clean up and deduct the costs thereof from any amounts due or to become due to the Vendor. The County is not responsible for any materials or equipment left on County property.

3.7 REFERENCES
In order for consideration in support of the County contract, the Vendor must supply a minimum of three references for projects of similar scope and magnitude. For each reference, vendor must supply customer name, customer contact information, project description, dollar value of contract, and dates of contract.

Reference 1) _____

Reference 2) _____

Reference 3) _____

NETWORKING AND TELECOM
SCOPE OF WORK

The County's standard for network equipment is CISCO products.

Vendor must be a Cisco Certified Gold Partner with a minimum of five (5) years of experience in providing Cisco products and services.

Vendor must have qualified Cisco Certified Expert Level technical personnel on staff that are available to the County for support services. These personnel must be physically located within the metropolitan Atlanta area, so as to be available for onsite services when required with a minimum of advance notice.

All equipment pricing must include a three year warranty.

Switches installed at the branches must have the following capabilities:

- 60W Universal Power Over Ethernet (UPOE)
- Multigigabit access –
- StackPower
- Converged Access
- Future proofing through upgradeable ASICs –
- Flexible Netflow

COMPLETION OF WORK and SERVICE LEVEL AGREEMENTS

A. SITE REQUREMENTS
At the completion of the Work, the Vendor shall restore to its former condition, all aspects of the project site, and shall remove all waste and excess materials, rubbish, debris, tools and equipment resulting from or used in the services provided under this Contract. All clean-up, restoration, and removal noted above will be by the Vendor and at no additional cost to the County. If the Vendor fails in its duties under this paragraph, the County may, upon notice to the Vendor, perform the necessary clean up and deduct the costs thereof from any amounts due or to become due to the Vendor. The County is not responsible for any materials or equipment left on County property.

C. REFERENCES
In order for consideration in support of the County contract, the Vendor must supply a minimum of four references for projects of similar scope and magnitude. For each reference, vendor must supply customer name, customer contact information, project description, dollar value of contract, and dates of contract.

Reference 1) _____

Reference 2) _____

Reference 3) _____