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<b>ADDENDUM NO:</b>	1
<b>IFB/RFP No:</b>	NS-09-13
<b>Commodity:</b>	Cabling Services
<b>Date:</b>	10-10-2012
<b>Open Date:</b>	10-23-2012 @ 2pm

***BIDDER/RESPONDER SHALL CONFORM TO THE FOLLOWING CHANGES AS SAME SHALL BECOME BINDING UPON THE CONTRACT TO BE ISSUED IN RESPONSE TO THIS INVITATION FOR BID/REQUEST FOR PROPOSAL.***

The following address questions regarding this Invitation for Bid/Request for Proposal.

**Specifications**

This section – 1.5 Materials list should be replaced with :

**1.5 MATERIALS LIST**

**Items are not substitutable. Contractors should present quotes based on the following materials list:**

**1.5.A.**

**Workstation Outlet - New work:**

**NKU prefers to utilize modular faceplates that allow for a variety of modules such as fiber, copper, USB, and audio/visual connections in both flat and sloped configuration. NKU would also like to flexibility to use keyed modules for both copper and fiber to enhance physical security in certain areas.**

Single Gang Angled Wall Plate, Fog White. Panduit PN CFPSL2IWY (2-port), CFPSL4IWY (4-port), CFPSL6IWY (6-port) –or- Ortronics PN: OR-40300664 plus (1) OR-40300749 plus (1) OR-40300023(2-port), (2) OR-40300749 (4-port).

Keystone Jack, 10 Gigabit, RJ45, T568A/B, Snap-In Module, Fog White. Panduit PN CJ6X88TGIW –or- Ortronics PN OR-TJ610 used for voice outlets

Keystone Jack, 10 Gigabit, RJ45, T568A/B, Snap-In Module, Blue. Panduit PN CJ6X88TGBU –or- Ortronics PN OR-TJ610-36 used for data outlets

Keystone Jack, 10 Gigabit, RJ45, T568A/B, Snap-In Module, Orange. Panduit PN CJ6X88TGOR –or- Ortronics PN OR-TJ610-42 used for video conferencing outlets

Keystone Jack, 10 Gigabit, RJ45, T568A/B, Snap-In Module, Black. Panduit PN CJ6X88TGBL –or- Ortronics PN OR-TJ610-00 used for non-NKU services outlets

Blank Module, Fog White. Panduit PN CMBIW-X –or- Ortronics PN OR-42100002

In areas where fiber to the desktop will be deployed:

Keystone Fiber Optic Adapter, Single Mode, Duplex, SC. Panduit PN CMDBUSCZBU –or- Ortronics PN OR-63700067

Keystone Fiber Optic Adapter, Single Mode, Duplex, LC. Panduit PN CMDJLCZBU –or- Ortronics PN OR-63700076

**1.5.A.1.**

**Patch Cordage – Copper:**

**Maximum length of Cat6a patch cords is 15 feet. As such, design and implementations shall consider same by ensuring outlet locations are no more than 15 ft from devices to be network connected.**

Panduit Cat6A Patch Cord, PN: UTP6ALLCC where “LL” equals length in feet and “CC” denotes the color. Standard lengths are 3, 5, 7, 10, 14, 20 and 25 feet. Standard colors are gray, black, blue, green, red, yellow, orange and violet.

Ortronics Cat6A Patch Cord, PN: OR-MC610LL-CC where “LL” equals length in feet and “CC” denotes the color. Standard lengths are 3, 5, 7, 9, 15, 20 and 25 feet. Standard colors are white, red, orange, yellow, green, blue and gray.

Cat6A Patch Cord, 50ft, blue. Panduit PN UTP6A50BU –or- Ortronics PN OR-MC61050-06

Cat6A Patch Cord, 75ft, yellow. Panduit PN UTP6A75YL/N –or- Ortronics PN OR-MC61075-04

Cat6A Patch Cord, 100ft, yellow. Panduit PN UTP6A100YL/N –or- Ortronics PN OR-MC610100-04

## **Patch Cordage – Fiber:**

### **Single Mode: Utilized in backbone & workstation applications**

Single mode Fiber Optic Jumpers SC-SC (Panduit PN: F9D3-3MXY where “X” equals length in meters – or- Ortronics PN: OR-P1DC2IRRZRXXXXM where “XXX” equals length in meters)

Single mode Fiber Optic Jumpers SC-LC (Panduit PN: F9E3-10MXY where “X” equals length in meters – or- Ortronics PN: OR-P1DC2IRRSZXXXXM where “XXX” equals length in meters)

Single mode Fiber Optic Jumpers LC-LC (Panduit PN: F9E10-10MXY where “X” equals Length in meters –or- Ortronics PN: OR-P1DC2IRSZSZXXXXM where “XXX” equals length in meters)

### **1.5.B.**

#### **Station Cable- (Horizontal)**

Augmented Category 6, 4 twisted pair, 24 AWG, CMP Plenum, Blue Station Wire for Data. General Cable PN: 7131819 –or- Panduit PN: PUP6A04BU-UG –or- BerkTek PN: 10130484

Augmented Category 6, 4 twisted pair, 24 AWG, CMP Plenum, White Station Wire for Voice. General Cable PN: 7131820 –or- Panduit PN: PUP6A04WH-UG –or- BerkTek PN: 10137384

Augmented Category 6, 4 twisted pair, 23 AWG, Mosaic Crossblock Tape, CMP Plenum, Blue Station Wire for Data. General Cable PN: 7131849

Augmented Category 6, 4 twisted pair, 23 AWG, Mosaic Crossblock Tape, CMP Plenum, White Station Wire for Voice. General Cable PN: 7131850

Fiber to the desk cable, 6 strand armored plenum indoor single mode. (General Cable PN: AP0061PNU-ILPA –or- Panduit PN: FSPP906Y –or- Corning PN: 006E88-31131-A3A –or- Berk-Tek PN: PDPK006AB0707)

### **1.5.C.**

#### **Riser Cable-**

Category 3 copper cable, 25 twisted pair, 24 AWG, PVC, CMR non-plenum Riser Cable. (General Cable PN: 2133033 –or- BerkTek PN: 10032396)

Category 3 copper cable, 25 twisted pair, 24 AWG, CMP Plenum Cable. (General Cable PN: 2131505 –or- BerkTek PN: 10032111)

Indoor only fiber optic installations will utilize plenum-rated single mode 12 strand premise distribution cable (General Cable PN: AP0121PNU –or- Panduit PN: FSDP912Y –or- Corning PN: 012E88-33131-29 –or- Berk-Tek PN: PDP012AB0707)

Outdoor or indoor/outdoor fiber optic installations will utilize plenum-rated single mode 12 strand armored indoor/outdoor plenum-rated cable (General Cable PN: AP0121ANU-ILPA 3 –or- Panduit PN: FSGP912Y –or- Corning PN: 012E8P-31131-A3 –or- Berk-Tek PN: LTPK012AB0403)

Fiber optic cable construction, glass type and manufacturer shall remain constant through any variation of fiber optic strand count.

### **1.5.D. TR/ICR/MCR Data station cable termination and equipment:**

By default, all data cabling media shall be terminated in equipment racks with adequately sized cable management. Minimum 6” wire management is required but will utilize higher capacity (12” and 15”) managers in high density situations. The goal is to not exceed a 40% fill rate at installation. The Contractor should review all racks and bring any that will exceed this rate to the attention of the University project manager.

NKU prefers to utilize 110 punchdown style panels for most situations, but will require modular panels for high density applications. All panels shall be offered in both flat and angled versions. The high density panels shall be angled to eliminate the need for horizontal cable managers and shall support up to 48 ports in 1RU. Each patch panel port shall be 100% tested to ensure NEXT and RL performance.

Patch Panel, 48-port, 10 Gigabit, T568A/B Wired, Category 6 Augmented. Panduit PN: DP486X88TGY – or- Ortronics PN: OR-PHD610U48

Patch Panel, Angled, 48-port, 10 Gigabit, T568A/B Wired, Category 6 Augmented. Panduit PN: DPA486X88TGY –or- Ortronics PN: OR-PHA610U48

Patch Panel, 24-port, 10 Gigabit, T568A/B Wired, Category 6 Augmented. Panduit PN: DP246X88TGY – or- Ortronics PN: OR-PHD610U24

Patch Panel, Angled, 24-port, 10 Gigabit, T568A/B Wired, Category 6 Augmented. Panduit PN: DPA246X88TGY –or- Ortronics PN: OR-PHA610U24

Rack, EIA, 7ft, 19” mounting, aluminum. Panduit PN: CMR19X84

Rack, 7ft, 19” mounting, 16.25” channel depth. Ortronics PN: OR-MM6716

Wire Management as specified in section 1.5.H.

#### **1.5.E.**

##### **TR/ICR/MCR Voice station cable & Voice riser cable termination and equipment:**

By default, all voice cabling media shall be terminated on wall mounted backboards.

Category 6 96-pair 110 IDC type punch down blocks with mounting legs. Panduit GPKBW24Y –or- Ortronics PN: OR-110ABC6100

#### **1.5.F.**

##### **TR/ICR/MCR, Fiber Optic entrance cable, Copper entrance cable termination and equipment:**

Indoor only fiber optic installations will utilize plenum-rated armored single mode 12 strand premise distribution cable (General Cable PN: AP0121PNU-ILPA –or- Panduit PN: FSPP912Y –or- Corning PN: 012E88-33131-A3 –or- Berk-Tek PN: PDPK012AB0707)

Outdoor or indoor/outdoor fiber optic installations will utilize plenum-rated single mode 12 strand armored indoor/outdoor plenum-rated cable (General Cable PN: AP0121ANU-ILPA –or- Panduit PN: FSGP912Y – or- Corning PN: 012E8P-31131-A3 –or- Berk-Tek PN: LTPK012AB0403)

Fiber optic cable construction, glass type, and manufacturer shall remain constant through any variation of fiber optic strand count.

Fiber Distribution Center termination cabinet, 4 rack units with capacity of 12 adapter panels (Panduit PN: FRME4 –or- Ortronics PN: OR-FC04U-P)

Fiber Distribution Center termination cabinet, 3 rack units with capacity of 9 adapter panels (Panduit PN: FRME3 –or- Ortronics PN: OR-FC03U-P)

Fiber Distribution Center termination cabinet, 2 rack units with capacity of 6 adapter panels (Panduit PN: FRME2U –or- Ortronics PN: OR-FC02U-P)

Fiber Distribution Center termination cabinet, 1 rack unit with capacity of 3 adapter panels (Panduit PN: FRME1U –or- Ortronics PN: OR-FC01U-P)

Single mode SC connector 6 strand (3 duplex) pre-loaded panel (Panduit PN: FAP3WBUDSCZ –or- Ortronics PN: OR-OFP-SCD06AC)

Single mode SC connector 12 strand (6 duplex) pre-loaded panel (Panduit PN: FAP6WBUDSCZ –or- Ortronics PN: OR-OFP-SCD12AC)

Single mode LC connector 12 strand (6 duplex) pre-loaded panel (Panduit FAP6WBUDLCZ –or- Ortronics PN: OR-OFP-LCD12AC)

Single mode Fiber Connectors shall be Anaerobic SC or LC:

SC individual - Panduit PN: FSCSBUY –or- Corning PN: 95-201-41-SP -or- Ortronics PN: OR-205KAN9FA-SM

LC individual – Panduit PN: FLCSSBUY –or- Corning PN: 95-201-98-SP –or- Ortronics PN: OR-205KAN9GA-SM

Fan Out Kit (6 fiber) – Panduit PN: FO6CB –or- Corning PN: FAN-BT25-06 –or- Ortronics PN: OR-61500858

Fan Out Kit (12 fiber) – Panduit FO12CB –or- Corning PN: FAN-BT25-12 –or- Ortronics PN: OR-61500868

24AWG, PE-89 Type REA, direct bury cable with foam skin/filled core, gopher proof sheath, polyethylene jacket, outside plant copper cable – numerous manufacturers.

Circa BET Building Entrance terminal – (110 type) 100 pair increments. Circa PN: 1880ECA1-100 or equivalent.

Circa 5-pin plug in protector units, Digital/Solid State. Circa PN: 4B1FS-240 or equivalent.

#### **1.5.G.**

##### **Grounding and Bonding:**

Telecommunications Main Grounding Busbars (TMGB) Panduit PN: GB4B0612TPI-1 –or- Ortronics PN: OR-GB4X12TMGB

Telecommunications Grounding Busbars (TGB) Panduit PN: GB2B0306TPI-1 –or- Ortronics PN: OR-GB2X12TGB

#### **1.5.H.**

##### **Wire management:**

For use with Panduit CMR19X84 rack:

For end racks, Vertical Cable Management 83.9”H x 6”W x 16.4”D. Panduit PN: PRV6

Door for Panduit PRV6 above. Panduit PN: PRD6

For adjoining racks, Vertical Cable Management 83.9”H x 10”W x 16.4”D. Panduit PN: PRV10

Door for Panduit PRV10 above. Panduit PN: PRD10

For use with Ortronics OR-MM6716 rack:

For end racks, Vertical Cable Management 84”H x 6”W x 8”D w/Door. Ortronics PN: OR-MM6VMD706

For adjoining racks, Vertical Cable Management 84”H x 10”W x 13”D w/Door. Ortronics PN: OR-MM6VMD710

##### **Other:**

Underground duct application: MaxCell, 3 inch, 3 cell, inner duct. Maxcell PN: MXC3456XX5001 (last four characters vary based on needed length) or equivalent

Indoor application: FEP orange Eastern corrugated inner duct. Eastern PN: PDPU1000 or equivalent (plenum rated as required by code).

Ortronics Tubular Runway 12”W Black. Ortronics PN: OR-TRT10-12B or equivalent

Ortronics Cable Runway to rack mounting brackets. Ortronics PN: OR-MM6CRB16 or equivalent

Ortronics overhead cable pathway rack kit. Ortronics PN: OR-604010010 or equivalent

Ortronics overhead runway cable drop out. Ortronics PN: TRP11-CM or equivalent

Ortronics Transition Pan for 12” runway. Ortronics PN: OR-TRP11-CM or equivalent

Panduit Hook & Loop Cable Ties-continuous roll. Panduit PN: HLS15R0 or HIS75R0

Cable Tray (basket style) shall be Cablofil or equivalent

#### **1.5.I.**

##### **Summary:**

The spreadsheet below summarizes the entire list of NKU approved materials:

##### **Attachments**

NKU approved materials (Attachment 1)

Sign In Sheet (Attachment 2)

**T H E E N D**

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