



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

January 6, 2021

SUBJECT: FAP Route 592 (IL 157)
Project CMAQ-ZIGE(773)
Section 117TS-ITS-1
Madison County
Contract No. 76N40
Item No. 55, January 15, 2021 Letting
Addendum B

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised the Table of Contents to the Special Provisions.
2. Added pages 44-46 to the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Jack A. Elston'.

Jack A. Elston, P.E.
Bureau Chief, Design and Environment

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ETHERNET DROP AND REPEAT SWITCH

The Contractor shall furnish an ethernet switch complete with power supply and SFP modules and install it inside a proposed traffic signal cabinet.

The contractor shall install a 10-inch section of DIN rail inside each cabinet to be used to install the proposed ethernet switch and power supply. The DIN rail shall be installed to the cabinet rails using spring nuts.

The Contractor shall wire the power supply with a NEMA 5-15P three-prong plug and the power supply shall be plugged into a non-GFI equipment receptacle located inside each traffic signal cabinet (the equipment receptacle is included in the cost of the proposed traffic signal cabinet).

The Contractor shall ground the power supply and Ethernet switch in accordance with the manufacturer's recommendations and NEC requirements.

The ethernet switch shall meet or exceed the following minimum specifications:

Approved Models: Antaira Technologies Model LNX-0702G-SFP-T (7-Port (5-port 10/100/1000T + 2 10/100/1000T SFP ports Industrial Ethernet Switch, Wide Operating Temperature) or approved equal.

Features:

- 5-Port 10/100/1000Tx and 2*100/1000 SFP Slots
- Supports Auto MDI/MDI-X Function
- Store-and-Forward Switching Architecture
- 14.0Gbps Back-Plane (Switching Fabric)
- 8K MAC Address Table
- 9.6Kbytes Jumbo Frame Support
- Surge Protection: 2,000 VDC Support
- ESD Protection: 6,000 VDC Support
- Redundant Power Input Design: 48~55VDC
- Built-in 1 Relay Output for Power Failure Warning
- IP30 Rugged Metal Case Design
- DIN-Rail and Wall Mount Support
- Operating Temperature Range - STD: -10° to 70°C,
EOT: -40° to 75°C
- 5-Year Warranty

Standards:

- IEEE 802.3 10BaseTx Ethernet
- IEEE 802.3u 100BaseTx Fast Ethernet
- IEEE 802.3ab 1000BaseTx
- IEEE 802.3az Gigabit Fiber

Processing Type:

- Store and Forward

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- Protocol:
- CSMA/CD
- Flow Control:
- IEEE 802.3x back pressure flow control
- Switch Architecture:
- Back-Plane (Switching Fabric): 14.0Gbps
- Transfer Rate:
- 14,880pps for Ethernet Port
 - 148,800pps for Fast Ethernet Port
 - 1,488,000pps for Gigabit Fiber Ethernet Port
- Broadcast Storm Rate Limit
- CSMA/CD
- MAC Address:
- 8K MAC Address Table
- Memory Buffer:
- 7,926 pps (default)
- Jumbo Frame:
- 9.6Kbytes
- Ethernet Port:
- 5*RJ45 Ports w/10/100/1000Tx
- Fiber Port:
- 2*100/1000 SFP Slot
- LED:
- Unit: Power 1, Power 2, Fault
 - 10/100/1000 TX: Link/Activity, Full Duplex/Collision
 - Gigabit Copper: Link/Activity, Speed
 - SFP: Link/Activity
- Network Cable:
- 10Base Tx: 2-pair UTP/STP Cat. 3,4,5
 - 100Base Tx: 2-pair UTP/STP Cat. 5
 - 1000Base Tx: 2-pair UTP/STP Cat. 5/5E
- Power Supply:
- DC 12 ~ 48V, Redundant Power with Polarity Reverse Protect Function and Removable Terminal Block
- Power Consumption:
- 9.1 Watts
- Reverse Polarity Protection:
- Yes
- Overload Current Protection:
- Yes
- Mechanical:
- Casing: IP30 Metal Case
 - Dimension (W x H x D): 30 x 99 x 142 mm
 - Installation: DIN-Rail Mountable

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- Weight:
- Unit Weight: 1.0 lbs.
 - Shipping Weight: 1.5 lbs.
- Operation Temperature:
- Wide Operating Temperature: -40° C to 75° C (-40° F to 176° F)
- Operation Humidity:
- 5% to 95% (Non-condensing)
- Storage Temperature:
- -40° C to 85° C
- EMI:
- FCC Class A
- EMS:
- EN6100-4-2,3,4,5,6,8,11,12
 - EN6100-6-2,4
- Stability Testing:
- Shock: IEC60068-2-27
 - Free Fall: IEC60068-2-32
 - Vibration: IEC60068-2-6
- Green:
- RoHS Compliant
- Certifications:
- FCC, CE, UL 61010-1,
 - UL 61010-2-201,
 - UL Class 1 Division 2, ISA 12.12.01
- Warranty:
- 5-Year Warranty

The following items shall also be included with each switch:

- SFP Fiber Optic Module – Qty. 2 (Antaira SFP-S20-T, 1.0 Gbps Ethernet SFP Transceiver, Single Mode 20KM / LC / 1310nm, -40°C~85°C or Approved Equal)
- DIN Rail Mounted Power Supply – Qty. 1 (Antaira DR-45-12, 45-Watt Series Industrial, Single Output, DIN Rail Power Supply, 12V DC, 3.5 Amps or Approved Equal)

Basis of Payment: This work will be paid for at the contract unit price per EACH for ETHERNET SWITCH which price shall be payment in full for all labor, materials, and equipment required to furnish the ethernet switch and associated equipment described above and install it inside a proposed traffic signal controller cabinet.

EQUIPMENT RECEPTACLES

The proposed traffic signal controller cabinets shall be equipped with two non GFCI duplex NEMA 5-15R receptacles to be used to provide power to auxiliary equipment.

Basis of Payment: This work will be not be paid for separately but shall be included in the pay item for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET.

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