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06/21/2024 07:55 AM

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 5881

CODE: (SP)

DATE: 6/20/2024

SUBJECT: ITS Equipment Cabinet Modifications

PROJECT: STBG-7334-00(013) / 104422-303000 – Rankin County  
SP-7334-00(013) / 104422-303100 – Rankin County

Bidders are hereby advised that the following additional requirements for Cabinet Modifications shall be required on this project. Work and materials not paid for under other pay items shall be included in the price bid for Pay Item Number 660-B.

### Cabinet Modifications:

Furnish, install, configure, test and integrate all proposed ITS communication, network, video and associated equipment as shown in the plans into the proposed and existing traffic signal controller and ITS cabinets. This may include work to replace or upgrade the existing traffic controllers, as directed by the Project Engineer. This shall be paid for under the associated pay items of: Electric Cable (636-B), On Street Video Equipment (SP 907-650-A), Fiber Optic Cable (SP 907-661-A), Radio Interconnect System (662), and Networking Equipment and CAT- 6 (SP 907-663-A & D). Install all incidentals, cabling and materials necessary to provide communications, power, and surge protection to the equipment cabinet, ITS devices, networking equipment, traffic signal controllers, cameras, and detector units.

This shall include the existing Type B ITS cabinets on U.S. Highway 80 at U.S. Highway 49 (Sta. 121+31) and State Route 477 (West Rankin Pkwy) at Lakeland Dr. (via Treetops Blvd) (Sta. 136+80) and the following existing Traffic Signal Cabinets at the intersections of:

- U.S. Highway 49 with
  - o I-20 ramps (Sta. 523+30),
- N. Pearson Rd. with
  - o Old Brandon Rd. (Sta. 88+65),
- U.S. Highway 80 with
  - o U.S. Highway 49 (Sta. 121+31),
  - o Bass Pro Dr. (Sta. 135+37), and
  - o Childre Rd./Old Brandon Rd. (Sta. 154+87)
- State Route 477 (West Rankin Pkwy) with
  - o Lakeland Dr. (via Treetops Blvd) (Sta. 136+80).

Work will also include installing and connecting a fiber trunk cable and drop cable as shown on the plans. All labor, equipment and materials necessary to provide the physical entrance for fiber into the cabinet, whether via existing spare conduit or with a new and separate conduit entrance, shall be included in the bid price for Pay Item Number 660-B, unless specifically identified for separate payment in the Plans. Materials and construction methods for all cabinet entrances shall conform to details shown in the Plans and all other requirements set forth in the Plans and specifications. At locations where new fiber is being installed and new drops being spliced where communications currently exist, the contractor shall make every effort to limit communication down-time to existing ITS and Traffic Signal devices. The Contractor

shall submit a change-over plan which details the proposed cut-over and anticipated down time to MDOT for approval prior to disrupting current equipment communications.

In addition, the existing cabinets shall be modified so that the existing and proposed ITS devices will be connected to the existing and proposed equipment, as set forth in the Plans and specifications, and configured to communicate from the existing fiber backbone along Lakeland Dr. and to the existing Communications Node located at the I-20 off-ramps on U.S. Highway 49. Connections of the proposed equipment to the existing communications equipment on both ends of State Route 477 will connect the new ITS devices and existing cabinets along the route to the Statewide Traffic Management Center.

**Installation and Configuration:** The Contractor shall install the drop cable, network switches, and devices as shown on the plans, shall provide and connect the fiber patch cables, connect communication cables as necessary to the devices and traffic signal controller, and shall configure the traffic signal controller to communicate with the existing traffic signal controller management software in the Statewide TMC.

All work, equipment, cords, configuration, and incidental cabling to modify the traffic signal controller to communicate and be integrated with the existing traffic signal controller management software in the TMC equipment room will be considered incidental and shall be included in the cost of Pay Item Number 907-659-A.

All work, equipment, cords, configuration, and incidental cabling required to connect the new fiber to equipment at existing locations, not covered under other pay items, shall be considered incidental and shall be included in the cost of Pay Item Number 660-B. All existing equipment that is removed shall be delivered to the MDOT Statewide Traffic Management Center.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 6046

CODE: (SP)

DATE: 6/20/2024

SUBJECT: Location & Configuration of Communication Nodes

PROJECT: STBG-7334-00(013) / 104422-303000 – Rankin County  
SP-7334-00(013) / 104422-303100 – Rankin County

## Communications Node

Bidders are hereby advised that:

- MDOT is to provide the network switch that is to be installed in the Communications Node Hut.
- Modifications to existing equipment at the MDOT Statewide TMC shall be paid under TMC Modifications Pay Item 907-659-A.

All ancillary components to comprise a fully functional and operable final system shall be provided by the Contractor. The Contractor shall coordinate with MDOT to determine the necessary components. This may include, but is not limited to, network management / maintenance software licensing, optical transceivers, node chassis and power supplies. Any part substitutions due to revision or version changes must be approved by the MDOT Project Manager. All required components shall be included in the price bid for Item No. 907-661.

## Communications Node Installation, Configuration

- All Parts, components, installation, configuration, and cabling of the Communications Node and ITS equipment located in the existing Communications Node Hut, except the MDOT provided Network Switch itself and switch configuration as covered in the Networking Equipment NTB, shall be paid under Pay Item 907-661-B.
- The Network Switch will be connected by the Contractor in the Hut as follows:
  - The contractor is responsible to mount the Network Switch in the Contractor provided 19 inch racks at the Communications Node Huts. The existing rack may be used if approved by the ITS Engineer.
  - The contractor shall provide fiber optic patch cords at least 6 ft in length, as needed. In addition, the contractor shall provide 10 spare fiber optic patch cords in the existing Communication Node Hut.
  - The Contractor shall submit to the ITS Engineer for approval, a cable connection diagram done in Visio and an excel spreadsheet with port connections one week prior to connecting the Network Switch in the HUT building.
  - Communications Node Hut
    - At the existing Communications Hut on U.S. Highway 49 at the Interstate 20 ramps, the contractor shall terminate all 72 proposed FO trunk fibers.
    - The ports, as listed in the table below, from each of the appropriate 72 fiber

termination panels will connect in pairs to the SFP (Optical ports) of the Network Switch via appropriate single mode fiber optic patch cords, unless otherwise directed and/or approved by the ITS Engineer or his/her designee.

Trunk	Buffer Tube		
	BL	OR	SL
US 49 North, US 80 East, SR 477 North	1-4	13-24	
Ex. I-20 to the West*	5-8		

\* Maintain all other existing connections



## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 6047**

**CODE: (SP)**

**DATE: 6/20/2024**

**SUBJECT: Networking Equipment**

**PROJECT: STBG-7334-00(013) / 104422-303000 – Rankin County  
SP-7334-00(013) / 104422-303100 – Rankin County**

Bidders are hereby advised that the following additional requirements for Networking Equipment shall be required on this project. Work and materials not paid for under other pay items shall be included in the price bid for Pay Item Number 907-663-A.

### **Networking Equipment:**

The Contractor shall provide Type A and B switches with additional optional SFP modules which will allow for 20km of optical range. Contractor is also still responsible for providing proper attenuation to protect this and other SFP modules.

The Contractor is responsible for registering the switches with the switch manufacturer in MDOT's specified account name. As such, following receipt of project submittal approval, and prior to ordering switches, the Contractor shall be required to contact MDOT Information Systems (IS) so that the Networking equipment to be ordered is established in MDOT's name for maintenance and support purposes.

The Contractor shall also ship all C, D, E and F switches to MDOT IS at least two (2) months before desired installation. Switches shall be shipped to:

MDOT Information Systems Division  
Attn: Kerby McFarland  
MDOT Administration Building  
401 North West Street  
Jackson, MS 39201

MDOT IS will be responsible for configuring C, D, E and F switches and delivering back to the Contractor for installation.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 6048

CODE: (SP)

DATE: 6/20/2024

SUBJECT: Traffic Management Center (TMC) Modifications

PROJECT: STBG-7334-00(013) / 104422-303000 – Rankin County  
SP-7334-00(013) / 104422-303100 – Rankin County

Bidders are hereby advised that the following Traffic Management Center (TMC) Modifications will be required for this project.

## **MDOT TMC Modifications**

**Site 1: The MDOT Statewide TMC is located at 2567 North West Street, Jackson, MS, 39216. The center is in the MDOT Shop Complex, Building A, on the 3rd Floor.**

### **SITE #1:**

**Software:** The Contractor shall initially use vendor supplied software to test the Traffic Signal Controllers, Bluetooth Detection Systems (BDS), Radio Interconnect Systems, and Closed Circuit Television Camera (CCTV) systems installed, interfaced or configured on this project and demonstrate full compliance with the contract requirements. A minimum of Two (2) licensed copies of each system of the vendor supplied software must be provided to MDOT upon completion of the testing for each component.

**MDOT ATMS Software:** The Contractor shall update the licenses and license keys for the existing MDOT ATMS software to include all ITS devices, existing and provided by the Contractor under this project, that the existing ATMS has modules and device drivers for. The Contractor is required to fully configure the existing ATMS software for operation, status monitoring, configuring, and control of any of the BDS sensors and CCTV systems installed, interfaced or configured on this project. At a minimum, this shall include:

- Update and configure the existing map to show the locations of all ITS devices existing and provided by the Contractor that the existing ATMS has modules and device drivers for, including but not limited to: the BDS and CCTV with dynamic icons.
- Install and configure all ITS devices existing and provided by the Contractor that the existing ATMS has modules and device drivers for, including but not limited to: BDS and CCTV systems into the software's database.
- Configure Speed Map for new Blue Tooth Devices and travel time segments as directed by the MDOT Statewide TMC Manager.
- Provide configurations, licenses, and software required for BDS data (raw, reports, and XML feeds) integration to ATMS and reporting software.
- Install and configure network systems to pass network data and video between field site devices and the MDOT Statewide TMC.

The Contractor is required to arrange for the ATMS vendor to be on-site to complete this configuration and provide the required testing to show that the software is fully functioning for each BDS and CCTV.

**Equipment:**

Layout of the equipment shall be as directed and approved by the MDOT Project Engineer. Contractor must coordinate with the MDOT IT representative prior to installation of equipment.

- **Video Systems:**

The Contractor shall provide, install, and integrate any equipment needed to support displaying and monitoring new video from this project in the MDOT Statewide TMC VDMS systems.

- **Network Switch Connections:**

The ports, as listed in the table below, from each of the appropriate fiber termination panels will connect in pairs to the SFP (Optical ports) of the Network Switch via appropriate single mode fiber optic patch cords, unless otherwise directed and/or approved by the ITS Engineer or his/her designee. Whether existing or proposed, the Contractor shall configure these connections to provide proper communications for the proposed project.

Trunk	Buffer Tube		SL
	BL	OR	
Ex. 36-Count Trunk to Lakeland at I-55		9,10	
Ex. I-20 to the East	5-8		

- **Splicing Existing Fiber:**

The Contractor shall provide the following splices to reconfigure the existing communications network. The purpose of this reconfiguration is to provide a redundant path, or local loop, between the Statewide TMC and the Communication Hut at U.S. Highway 49 and the Interstate 20 Ramps.

- T-Splice - The splice referred to as the "T-Splice" in the plans will provide a connection from the Communication Hut at U.S. Highway 49 and the Interstate 20 Ramps to the existing fiber trunk along Lakeland Dr. (Cable A) via the proposed fiber trunk along S.R. 477/West Rankin Pkwy. (Cable B). The splice is to be placed on the existing fiber trunk on Lakeland Dr. on the western portion coming out of the existing splice at Lakeland Dr. and S.R. 477/West Rankin Pkwy. (Treetops Blvd). Fibers 9 and 10 of Cable A (the GR and BR fibers in the OR buffer tube) shall be cut. The cut fibers that head to the west will be spliced to fibers 1 and 2 of Cable B (the BL and OR fibers of the BL buffer tube). The cut fibers that head to the east (and into the existing splice) will be spliced to fibers 3 and 4 of Cable B (the GR and BR fibers of the BL buffer tube).
- Butt-Splice - The splice referred to as the "Butt-Splice" in the plans will provide a connection from the Communication Hut at U.S. Highway 49 and the Interstate 20 Ramps to the Statewide TMC via the existing fiber trunk along Interstate 55. The Contractor shall provide a reel-end splice between the two portions of the existing 72 count fiber optic cable running along Interstate 55 at Fortification Dr.

**Testing:** The Contractor shall submit a proposed test plan for review and approval by MDOT. The Test Plan shall demonstrate full compliance with all requirements in the plans and specifications.

**Training:** 6 hours of training and assistance for a maximum of 12 people shall be provided for operations, testing, and maintenance of the TMC Systems provided on this contract.

All work, materials, equipment and related items described in this NTB shall be included in the lump sum pay item for Traffic Management Center Modifications, and Traffic Management Center Modifications - Training, 907-659-A and 907-659-C.