

February 27, 2025

SUBJECT: FAU 6713 (Camp Street) Section 19-00171-00-RP (East Peoria) Tazewell County Contract No. 89818 Item 169 March 7, 2025 Letting Addendum (A)

NOTICE TO PROSPECTIVE BIDDERS:

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

- 1. Revised the Schedule of Prices
- 2. Revised Plan Sheets 4-6, 11, 18, 20, 21, 24, 27, 65 & 68
- 3. Revised page ii of the Special Provision Index
- 4. Revised pages 19, 20, 25-29 & 110 of the Special Provisions
- 5. Added pages 29A & 29B 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,

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

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- 1. The manufacturer's standard written warranty for each piece of electrical equipment or apparatus furnished under the contract.
- 2. The Contractor's written guarantee that, for a period of six (6) months after the date of final inspection of the project, all necessary repairs to or replacement of said warranted equipment, or apparatus shall be made by the Contractor at no cost to the Department.
- 3. The Contractor's written guarantee for satisfactory operation of all electrical systems furnished and constructed under the contract for a period of 6 months after final inspection of the project.

ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR NO.6 1C

This work shall be in accordance with the applicable Articles of Sections 801, 806, 873, 1076, and 1088 of the Standard Specifications with the following modifications:

This work shall consist of furnishing and installing a grounding wire to bond all traffic signal handholes (lids and rings), mast arm assemblies, posts, light poles, cabinets, and exposed metallic conduits.

The Contractor shall attach the proposed ground wire to the proposed traffic structures to ground and safety bond them in accordance with NEC requirements. All labor, materials, and equipment required to bond the proposed structures (wire, clamps, hardware, etc.) shall be included in the bid price for this pay item.

The Contractor shall also be responsible for locating all handholes and uncovering them as required to facilitate the work.

The proposed ground wire shall be an insulated #6 XLP copper conductor with green insulation.

Basis of payment. This work will be paid for at the contract unit price per Foot for ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C which price shall be payment in full for all labor, materials, and equipment required to provide the grounding cable described above.

EMERGENCY VEHICLE PRIORITY SYSTEM

This work shall be in accordance with Sections 887 and 1072 of the Standard Specifications except as modified herein.

The emergency vehicle preemption system shall be compatible with the existing 3M Opticom and Tomar Strobecom systems that are installed at multiple intersections in the city of East Peoria.

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The emergency vehicle preemption system shall include a two direction detector (or two single direction detectors), a two channel amplifier, rack cage (if required), LED confirmation beacons, cables, brackets, mounting hardware, and all necessary components for a complete and fully functional system. The system shall be fully tested by the contractor at the time of installation.

The Contractor shall test the equipment described above.

<u>Basis of Payment</u>: This work will be paid for at the contract unit price each for EMERGENCY VEHICLE PRIORITY SYSTEM and shall be payment in full for all labor, materials, and equipment required to provide, install, and test the equipment described above, complete.

FIBER OPTIC SPLICE

<u>Description</u>. The Contractor will remove existing fiber optic cables that are affected by construction, protect and store the cables during construction, re-install the existing fiber optic cables inside the proposed conduits, re-terminate the fiber optic cables, and test the fiber and terminated connections.

The Contractor shall furnish and install all items required for the fiber termination and splices, including but not limited to, splice closures, splice sleeves, connectors, and all other items required to terminate and splice the fibers.

Construction Requirements.

Using a fusion splicer, the Contractor shall optimize the alignment of the fibers and splice fuse them together. The Contractor shall recoat the fused fibers and install mechanical protection over them.

Upon completing all splicing operations for a cable span, the Contractor shall measure the mean bi-directional loss at each splice using an Optical Time Domain Reflectometer. This loss shall not exceed 0.1 dB.

The Contractor shall measure the end-to-end attenuation of each fiber optic link, from connector to connector, using an optical power meter and source. This loss shall be measured from both directions and shall not exceed 0.5 dB per installed kilometer of single mode cable.

Measurements shall be made at both 1300 and 1550 nm for single mode cable. For multimode cable, power meter measurements shall be made at 850 and 1300 nm. The end-to-end attenuation shall not exceed 3.8 dB/installed kilometers at 850nm or 1.8 dB per installed kilometer at 1300nm for multimode fibers.

As directed by the Engineer, the Contractor at no additional cost to the Department shall replace any cable splice not satisfying the required objectives.

The Contractor shall secure the Splice Closure to the side of the fiber optic interconnect center. All cables shall be properly dressed and secured to rails or racks within the handhole or traffic signal cabinet. No cables or enclosures will be permitted to lie on the floor of the splice facility.

C	SPECIAL PROVISIONS
	<u>Terminations in Traffic Signal Cabinets</u> The proposed traffic signal cabinet is equipped with a 24 fiber interconnect center installed inside the cabinet. The Contractor shall terminate fibers ends by splicing pre-formed connectorized pig tails to the fibers together using a fiber protection sleeve to protect and support the fusion splice point.
ξ	A splice holder shall be used to secure the fiber protection tube to prevent damage to the splice.
	Any work that is required to prepare the existing and proposed fibers for splicing will not be paid for separately, but shall be included in the unit bid price for this pay item.
* * * * *	<u>Fiber Termination Splices</u> The Contractor will terminate 12 multimode fibers from each cable end by fusion splicing a factory-formed fiber optic pig tail that has an ST connector (severed fiber optic patch cable) onto a field fiber.
× × ×	The Contractor shall be responsible for ensuring that the pre-formed ST connector fiber is compatible with the field fiber that it will be fusion splice to.
* * *	The splice shall be protected with a standard protection sleeve/enclosure that will secure both cables and prevent cable movement.
* * *	The Contractor shall submit a shop drawing of all proposed components to the Engineer for approval prior to commencing construction.
	<u>Method of Measurement.</u> Fiber optic splice of the type specified will be measured as a unit, completely installed and tested with all necessary splices completed within the closure, and the closure secured to the wall of the splice facility.
	Basis of Payment: This work will be paid for at the contract lump sum price for FIBER OPTIC SPLICE.
	ACCESSIBLE PEDESTRIAN SIGNALS (APS) <u>Description.</u> This work shall consist of furnishing and installing accessible pedestrian signals (APS). Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid-state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.
-	Add the following to Article 888.03 of the Standard Specifications:
-	The Contractor is not allowed to install a push-button assembly with the sign below the push- button to meet mounting requirements.

Add the following to Article 1074.02(e) of the Standard Specifications:

Stations shall be designed to be mounted to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e, 9" x 15" sign (Type ZZ Sheeting) with arrow(s) for a count-down pedestrian signal. Stations shall be powder coated black with a black pushbutton and stainless-steel arrow on pushbutton.

Electrical Requirements. The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29°F to +160°F (-34°C to +70°C).

<u>The APS shall be designed for two wire operation to allow APS stations to operate using existing 2/C pushbutton wires</u>. The 2/C pushbutton wires shall be used to provide power and communications (placing pedestrian phase calls) from the APS station to the central control unit in the traffic signal cabinet. Wireless communications between the APS station and the central control unit shall only be used for programming, firmware updates, and APS station management, not for placing pedestrian phase calls.

The APS stations shall be equipped with a shelf mounted central control unit that is located inside the traffic signal controller cabinet and connects to each APS pushbutton station. The central control unit shall be equipped with an Ethernet port that can be used for remote system monitoring, configuration, and administration. A total of one central control unit shall be furnished for each traffic signal cabinet.

The AC power input for the system shall be disconnected in the event that the intersection goes into flash.

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications. A pushbutton locator tone shall sound at each pushbutton and shall be deactivated during the associated walk indication and when associated traffic signals are in flashing mode. Pushbutton locator tones shall have a duration of 0.15 seconds or less and shall repeat at 1-second intervals. Each actuation of the pushbutton shall be accompanied by the speech message "Wait". Locator tones shall be audible 6 to 12 ft. from pushbutton.

If two accessible pedestrian pushbuttons are placed less than 10 ft. (3 m) apart or placed on the same pole, the audible walk and don't walk indication shall be a speech message. This speech a message shall sound throughout the WALK interval only. Common street name shall be used and not the route number of the street unless there is no common street name. The street name used in programming shall reflect the street name mast arm mounted sign panel. Locations without street name (ex. private benefit driveways, shopping plaza entrance, etc.) shall use a general term "Commercial Driveway" as a street name for that leg. The speech message shall be modeled after: "<u>Street Name</u>.' Walk Sign is on to cross "<u>Street Name</u>'." For signalized for all crossings". In addition, a speech pushbutton information message shall be provided by actuating the APS pushbutton when the WALK interval is not timing. This verbal message shall be modeled after: "Wait. Wait to cross <u>Street Name</u>' at <u>Street Name</u>".

<u>Railroad Preemption</u>. At locations with railroad interconnection APS pushbutton shall be capable of receiving a railroad preemption similar to a traffic signal controller and shall be hard wired to

the railroad preemption relay inside the traffic signal cabinet. A shelf mount control unit shall be provided and installed inside the cabinet capable of receiving and transmitting the railroad preemption to all the push buttons.

At railroad intersections all APS pushbuttons shall use the speech message and shall follow the below speech models.

<u>During Don't Walk</u>: "Wait to cross 'Street Name' at 'Street Name', Caution, Walk time shortened when train approaches'" – this does not repeat, plays only once with every push button press.

<u>During Walk</u>: "Walk sign is on to cross 'Street Name", – this repeats as many times as possible during Walk interval only.

<u>During Railroad preemption</u>: All push buttons at same time "Train Approaching" – this message shall be repeated two times.

At locations with emergency vehicle preemption, NO additional speech message shall be provided.

Locations with Corner Islands or Center Medians. At locations with corner islands pushbuttons shall follow the requirement of the 10 ft. as specified herein regarding the percussive tone versus a speech message. When push buttons are closer than 10 ft. apart the speech message shall follow the format specified herein for the main street crossing. The speech message shall follow the below speech models for the unusual configurations.

<u>Crossing of the right turn lane from or to Corner Island</u>: "Wait to cross right turn lane for 'Street Name' at 'Street Name' crosswalks" and "Walk sign is on to cross right turn lane for 'Street Name' at 'Street Name' crosswalks".

<u>Crossing from Corner Island to Corner Island where second pushbutton actuation is required</u>: "Wait to cross 'Street Name' at 'Street Name' to median with second pushbutton" and "Walk sign is on to cross 'Street Name' to median with second pushbutton."

Center Medians on a divided highways with push buttons will require pushbutton to have a dual arrow on the pushbutton.

Where two accessible pedestrian pushbuttons are separated by at least 10 ft. (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

<u>Pedestrian Pushbutton</u>. Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb. (15.5 N).

A red LED shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street.

APS pushbutton systems that utilize any wireless technology including Bluetooth technology to place calls or communicate with controller will not be allowed. A central master control unit shall be provided and installed in the traffic signal cabinet. Push button shall be connected directly to the master control unit in the traffic signal cabinet using only two (2) wires. All pushbuttons shall be capable of placing a pedestrian call request into the controller and shall be hard wired. APS pushbuttons shall be a direct replacement of existing standard push buttons and shall be weather resistant with a minimum warranty of three (3) years.

All APS pushbuttons shall come with the messages pre-programmed for each particular intersection regardless of the location or the 10 ft. separation. Final field adjustments including percussive tone vs speech message use shall be completed once push buttons are installed in the final location. All push buttons shall be programmed with the appropriate parameters and settings as directed by the Engineer. These settings shall be standard for all pushbuttons and will vary based on the manufacturer. Access to pushbutton settings shall be provided through an app either through wired, wireless, or Bluetooth connection. Pushbutton information, settings, and access instructions shall all be provided in a weatherproof pouch and safely stored inside each traffic signal cabinet.

Contractor shall remove any existing pedestrian isolation boards, field wire terminals, and any wires to the board when easily accessible. If the pedestrian isolation board has been installed from the factory on the back panel of the cabinet, contractor is to disconnect the power to the isolation board and any wires while leaving the board mounted. This work shall be included in the cost of Accessible Pedestrian Signals and will not be paid for separately.

<u>Signage</u>. A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall conform to the following standard -MUTCD design: R10-3e.

R10-e



<u>Tactile Arrow</u>. A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided on the pushbutton.

<u>Vibrotactile Feature</u>. The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Hardware: All hardware shall be stainless steel. The Contractor shall apply anti-seize compound on all stainless steel threads during installation. APS station hardware that is accessible from outside the unit shall be tamperproof.

<u>Redline Prints</u>: <u>The Contractor shall furnish three copies of red-lined prints inside the controller</u> <u>cabinet and a PDF copy of the modified cabinet prints</u>.

The Contractor shall re-arrange traffic signal cabinet components as required to facilitate installation of the APS system components.

All cables shall have cable connectors that are locked or secured into place to prevent accidental disconnection. The central controller unit power cord shall be direct wired or utilize a NEMA plug. If the power cable utilizes a NEMA plug, the Contractor shall install a duplex non-GFCI equipment outlet inside the cabinet for power.

The Contractor shall be responsible for programming the APS units with IDOT approved settings, street names, speech/tone configurations, etc. in accordance with MUTCD requirements.

The Contractor shall furnish and install one pedestrian pushbutton sign (R10-3e) per APS unit. The sign shall be constructed using Type ZZ retroreflective sheeting in accordance with Article 1091.03. The sign shall have the correct arrow orientation and shall not be modified in any way.

Method of Measurement. This work will be measured for payment as Each, per pushbutton.

<u>Basis of Payment</u>. This work will be paid for at the contract unit price per Each for ACCESSIBLE PEDESTRIAN SIGNALS and shall include all labor, equipment and materials required to furnish, install, and program the APS pushbuttons and install the associated brackets, hardware, and accessories as described above.

HANDHOLE, PORTLAND CEMENT CONCRETE

This work shall consist of furnishing the materials and constructing a handhole in accordance with the applicable Articles of Section 814 and 1088 of the Standard Specifications with the following modifications:

The lift ring for the cover shall consist of a solid closed ring of stainless steel at least 3/8 inch in diameter. The lift ring shall be attached to the cover by a loop of stainless steel at least 3/8 inch in diameter. The lift ring and loop shall be recessed in the cover.

The Contractor shall install heavy-duty, fully-galvanized hooks, with a minimum diameter of 1/2" in the proposed handhole. The Contractor shall submit this material to the Engineer prior to construction of the handholes.

The lid shall be marked with the legend "Traffic Signals".

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within 70 working days.

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