Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

April 19, 2024

SUBJECT: FAU 380 (143rd Street)
Section 06-00040-00-FP (Plainfield)
Will County
Contract No. 61H34
Item 205
April 26, 2024 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 2, 16-18, 27, 30, 175-177, 183, 194, 200, 204, 212, 221-225, 229, 233, 237, 243-245, 256, 258-260, 262, 266, 270, 275, 286, 291, 294, 298, 404, 608, 641, & 678**
3. **Added Plan Sheet 792A**
4. **Revised the Recurring Special Provision Index**
5. **Revised pages v-vi of the Special Provision Index**
6. **Revised pages 12, 135, 149, 171, 172, 173, & 208-211 of the Special Provisions**
7. **Added pages 171A and 211L-211S 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,

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

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Table of Contents

PERMITS

Revised 04/10/2024

PUBLIC CONVENIENCE AND SAFETY (D1)
Effective: May 1, 2012
Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

"If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply."

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

"The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After"

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

"On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical."

COMPLETION DATE PLUS WORKING DAYS
Effective: September 30, 1985
Revised: January 1, 2007

Revise Article 108.05 (b) of the Standard Specifications as follows:

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on July 17th, 2026 except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within 10 working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

The completion date for all improvements to US Route 30, Illinois Route 59, and Illinois Route 126 including all utilities, drainage, and roadway improvements such that these routes are open to traffic shall be on or before 11:59pm August 25th, 2025.

The completion date for all improvements to 143rd St and Naperville Road, including all utilities, drainage, and roadway improvements such that these routes are open to traffic shall be on or before 11:59 PM November 25, 2025.

Article 108.09 or the Special Provision for "Failure to Complete the Work on Time", if included in this contract, shall apply to both the completion date and the number of working days.

STORM WATER TREATMENT SYSTEM

Description: This work shall consist of the complete design, preparation, and submittal of shop drawings, furnishing all materials, equipment, and labor necessary to provide a hydrodynamic storm water treatment system as in accordance with Section 602 of the Standard Specifications and as specified herein

The hydrodynamic separator shall be circular and constructed from pre-cast concrete circular riser and slab components. The internal fiberglass insert shall be bolted and sealed watertight inside the reinforced concrete component. The fiberglass portion of the hydrodynamic separator shall be constructed in accordance with ASTM D-4097: Contact Molded Glass Fiber Reinforced Chemical Resistant Tanks. The hydrodynamic separator shall have the proper modifications to function in a submerged condition.

Performance: The hydrodynamic separator shall remove oil and sediment from stormwater during frequent wet weather events and retain these pollutants within the device for later removal.

TOTAL SUSPENDED SOLIDS: The hydrodynamic separator shall be capable of removing 75 percent of the average annual total suspended solids (TSS) load without scouring previously captured pollutants, with a peak flowrate of 30 cubic feet per second. Design methodologies shall provide calculations substantiating removal efficiencies and correlation to field monitoring results using both particle size and TSS removal efficiency. All manufactures shall provide performance data that the hydrodynamic separator does not scour previously captured pollutants based on the particle size distribution specified. Performance data should be laboratory tested with an initial sediment load of 50 percent of the unit's sediment capacity at an operating rate of 125% or greater. Particle size distribution (PSD) for the initial sediment load shall conform to the Particle Size Distribution table.

The treatment rate shall be 16 cubic feet per second.

FREE OIL: The hydrodynamic separator must be capable of removing 90 percent of the floatable free oil. The first 16 inches of hydrocarbon storage shall be lined with fiberglass to provide a double wall containment of the hydrocarbon materials.

PARTICLE SIZE: The hydrodynamic separator must be capable of trapping fine sand, silt, clay, and organic particles in addition to larger sand, gravel particles and small floatables. The SWTS shall be sized to a specific particle size distribution that is clearly identified in both diameter and specific gravity. The table below is a Fine Particle Size that is a common PSD used in design to ensure proper design for capturing smaller particles and the high load of associated pollutants.

Particle Size Distribution Table		
Amount	Diameter	Specific Gravity
0.1%	0.2 micron	2.65
9.9%	22 micron	2.65
40.0%	100 micron	2.65
40.0%	340 micron	2.65
9.9%	1000 micron	2.65
0.1%	2000 micron	2.65

Submittals: Prior to the start of work, the Contractor shall submit shop drawings/ catalog cuts to the Engineer for consideration in accordance with Article 105.04.

Revised 04/18/2024

and contraction devices shall be as designed by the Contractor and reviewed by the Engineer.

(e) The fence shall be designed to safely support any construction loads, wind loads, and any other temporary or permanent loads. Bearing loads shall be accounted for during all aspects of the fence service life, including but not limited to, fabrication, storage, transportation, placement, and final location.

Aesthetics

The fence shall be designed with due consideration of the aesthetic environment in which the wall is located.

The aesthetics of both front and back of each type of fence option shall be as follows:

The fence shall be capped with a smooth finish detail as shown above. The fence shall be Brown Granite color and pattern as produced by Vinyl Fence Wholesaler, Brown Granite color as produced by CertainTeed, or Brown color as produced by SimRock Fence.

Materials: All materials used in the fence system shall be impervious to road salt and calcium chloride.

Provide Linear Low Density Polyethylene Plastic (LLDPE) containing UV-12 inhibitors, which shall comply with the following requirements:

Commercial Grade Style - Simulated Stone Panels provided bywww.vinylfenceanddeck.com, www.certainteed.com, or www.simrockfence.com

(1) Single panel height: 4 feet minimum
(2) Stacked panel height: 12 feet
(3) Panel width: 8 feet maximum
(4) Color: Brown Granite or Brown

Foundation Concrete

See Special Provisions for Concrete Foundations (Special).

Revised 04/18/2024

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the District One Bureau of Traffic at least 72 hours in advance of beginning work.

STANDARDS:

701001-02	Off-Rd Operations, 2L, 2W, More Than 15' Away
701006-05	Off-Rd Operations, 2L, 2W, 15' to 24" from Pavement Edge
701011-04	Off-Rd Moving Operations, 2L, 2W, Day Only
701101-05	Off-Rd Operations, Multilane, 15' To 24" from Pavement Edge
701106-02	Off-Rd Operations, Multilane, More Than 15' Away
701201-05	Lane Closure, 2L, 2W, Day Only, for Speeds ≥ 45 mph
701301-04	Lane Closure, 2L, 2W, Short Time Operation
701306-04	Lane Closure, 2L, 2W, Slow Moving Operations Day Only, for Speeds ≥ 45 mph
701311-03	Lane Closure, 2L, 2W Moving Operations – Day Only
701316-13	Lane Closure, 2L, 2W, Bridge Repair, for Speeds ≥ 45 mph
701321-18	Lane Closure, 2L, 2W, Bridge Repair with Barrier
701326-04	Lane Closure, 2L, 2W Pavement Widening, for Speeds ≥ 45 mph
701336-07	Lane Closure, 2L, 2W Work Areas in Series, for Speeds ≥ 45 mph
701422-10	Lane Closure, Multilane, for Speeds ≥ 45 mph to 55 mph
701426-09	Lane Closure, Multilane, Intermittent or moving Operation, for Speeds ≥ 45 mph
701427-05	Lane Closure, Multilane, Intermittent or moving Operation for Speeds ≤ 40 mph
701501-06	Urban Lane Closure, 2L, 2W, Undivided
701502-09	Urban Lane Closure, 2L, 2W, with Bidirectional Left Turn Lane
701601-09	Urban Lane Closure, Multilane, 1W or 2W with Nontraversable Median
701602-10	Urban Lane Closure, Multilane , 2W with Bidirectional Left Turn Lane
701701-10	Urban Lane Closure, Multilane Intersection
701801-06	Sidewalk, Corner or Crosswalk Closure
701901-09	Traffic Control Devices
704001-08	Temporary Concrete Barrier
720001-01	Sign Panel Mounting Details
720006-04	Sign Panel Erection Details

DETAILS:

TC-10	Traffic control and protection for side roads, intersections, and driveways
TC-13	District one typical pavement markings
TC-14	Traffic control and protection at turn bays (to remain open to traffic)
TC-16	Temporary pavement markings letters and symbols for traffic staging
TC-21	Detour Signing for Closing State Highways
TC-22	Arterial Road information sign
TC-26	Driveway entrance signing

SPECIAL PROVISIONS:
BDE Special Provisions:
BDE 80427 Work Zone Traffic Control Devices
BDE 80439 Vehicle and Equipment Warning Lights
BDE 80457 Short Term and Temporary Pavement Markings

D1 Special Provisions:
Maintenance of Roadways
Keeping Arterial Roadways Open to Traffic (Lane Closures Only)
Traffic Control and Protection (Arterials)
Public Convenience and Safety
Raised Reflective Pavement marker, Reflector Removal
Raised Reflective Pavement marker, Reflector Replacement
Temporary Traffic Signal Installation
Temporary Traffic Signal Timing

SIGN REMOVAL

Description: This work shall consist of the removal and disposal of an existing commercial sign at the CubeSmart property, including any sign foundations and electrical items. Existing electrical connections feeding the sign shall be removed and any existing conduits shall be capped below finished grade to a satisfactory depth as determined by the Engineer. Any remaining conduit or cables shall be disconnected at the source and abandoned in place. Sign foundation removal shall be in accordance with Article 737.02, except that the foundation shall be removed in its entirety. All removed items are to be disposed of in accordance with Article 202.03 of the Standard Specifications.

Restoration of the work area, including backfilling any required excavation shall be in accordance with Article 737.02 of the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per each for SIGN REMOVAL, and will include the removal, disposal, and restoration of the work are as described herein.

REMOVE ELECTRIC SERVICE

Description: This work shall consist of the removal and satisfactory disposal of the wood pole and weatherhead or underground pedestal, grounding electrode, meter base, disconnect, conduit, wiring, and other miscellaneous items associated with an electrical service installation.

General: No removal work shall be permitted without approval from the Engineer. Abandoned underground electric cables shall be removed with conduit and duct to a depth of 1ft (300mm) below ground level and the hole backfilled. Cables in unit duct may be removed from the duct and become property of the contractor.

Any removal work involving facilities owned by the electric utility shall be coordinated by the contractor to ensure the utility is properly notified and (if necessary) present while the removal work is being done. The contractor shall ensure that the removal work is disconnected from the utility's service equipment in a manner which is in compliance with the requirements of the utility.

Method of Measurement: Measurement for this work will be per each.

Basis of Payment: Removal of electric service installations will be paid for at the contract unit price per each for REMOVE ELECTRICAL SERVICE.

JUNCTION BOX (SPECIAL)

Description: This work shall consist of furnishing and installing stainless steel junction boxes as shown in the plans and as directed by the Engineer.

General: This work shall be in accordance with the Section 813 and Article 1088.04 of the Standard Specifications, the details in the plans, and as specified herein.

Junction boxes shall be 30" W × 36" L × 12" D and rated NEMA 4X. Junction box shall be mounted to the underside of the bridge deck as shown in the plans.

Method of Measurement: This work shall be measured for payment per each junction box installed.

Basis of Payment: This work will be paid for at the contract unit price per each for JUNCTION BOX (SPECIAL). Payment shall be including all labor, materials, equipment, tools, transportation, and appurtenances necessary to complete this work as detailed in the plans and specified herein.

TEMPORARY LUMINAIRE, LED, ROADWAY (D1)

Effective: November 1, 2023

Description:

This work shall consist of furnishing and installing a temporary roadway LED luminaire as shown on the plans, as specified herein.

General:

In order to expedite the roadway work, the luminaire may be new or previously used. **The luminaire shall be of the output designation specified and the distribution pattern specified in the plans**.

The luminaire shall remain the property of the Contractor.

The luminaire shall be listed for wet locations by an NRTL and shall meet the requirements of UL 1598 and UL 8750

Used luminaires shall be no older than five years old. Documentation shall be submitted to verify compliance with this requirement.

Submittal Requirements:

The Contractor shall submit manufacturer's product data for each type of luminaire including descriptive literature and catalogue cuts.

AERATION SYSTEM REMOVAL AND SALVAGE

Description: This work shall consist of the maintenance, modification, and relocation of existing aeration systems and/or system components to maintain aeration to Fletcher Lake, and the ultimate removal and salvage of existing lake aeration systems including transportation and delivery of the salvaged unit to the owner as shown in the plans and specified herein. Temporary aeration systems or system components may also be required to maintain aeration throughout the duration of construction, including temporary electrical connections.

Existing Aeration Unit: The existing aeration unit is a Vertex Aeration System Air 3 XL2, ½ hp with three diffusers and 0.58" ID air lines (230 Volt, 3.9 Amps).

Owner: Bass and Gill Club, 23011 West Main Street, Plainfield, IL 60544

Maintenance of Lake Fletcher Aeration: Aeration of Fletcher Lake shall be maintained throughout the duration of construction activities, and removal of the existing system shall not take place until such a time that a temporary aeration system can be implemented, or the new system can be installed and become fully operational. Modification of the existing aeration system, or relocation of the components of the existing aeration system may be necessary to maintain aeration during construction activities in and around Fletcher Lake. Interruptions to lake aeration should be limited to the time required to relocate or modify existing aeration components to work around construction activities, and to install and implement any temporary components and electrical connections necessary for relocated equipment.

Items to be Salvaged: At a minimum, the contractor shall salvage the existing compressor unit, cabinet, base, connections, electrical wiring, and all appurtenances operation of the existing compressor unit.

General: The contractor shall carefully remove, transport, and potentially store items to be salvaged. If the material for salvage is unfit, through no fault of the Contractor, then the material shall be disposed of according to Article 202.03. When the contractor damages or destroys such material, the Contractor shall repair or replace the material to the satisfaction of the Engineer at no cost to the contract. The Engineer shall bear the sole judgement if the Contractor has damaged salvage material through fault or no fault of their operations. Salvaged items shall be placed on the Owner's property at a specific location of the Owner's choosing. All items that are not to be salvaged including, but not limited to, existing air lines, diffusers, and electrical cable shall be removed and disposed of in accordance with Article 202.03.

Method of Measurement: This work will be measured for payment per each entire complete aeration system removed and salvaged.

Basis of Payment: This work shall be paid for at the contract unit price per each AERATION SYSTEM REMOVAL AND SALVAGE. Payment shall be including all labor, materials, equipment, tools, disposal, and appurtenances necessary to complete this work as detailed in the plans and specified herein. The work and materials required to maintain aeration to Fletcher Lake as described herein shall not be paid for separately but shall be included in this pay item.

Revised 04/10/2024

AERATION SYSTEM, COMPLETE

Description: This work shall consist of the furnishing and installing of a complete aeration system for Fletcher Lake at the location shown on the plans and as described herein.

Fletcher Lake Owner:	Bass and Gill Club, 23011 West Main Street, Plainfield, IL 60544
Fletcher Lake Manager:	Rick Pach (773) 987-8605 rick.f.pach@rrd.com

System Requirements: Fletcher Lake has an existing aeration system being salvaged as part of this contract. To maintain consistency and familiarity with the aeration system, and to facilitate future maintenance on the part of the owner, the new aeration system shall be as follows:

Aeration System and Components

Manufacturer: Vertex® Aquatic Solutions
Model: Vertex Air3 XL2™

- Diffuser Assembly: Airstation XL2™, with 3 diffuser assemblies
- Compressor: Brockwood™ Compressor, ½ HP 230V
- Quietair™ Cabinet with sound reduction kit
- Supply Tubing: Bottomline™ Tubing
- Supply Tubing Connectors: Vertex® Aeration Tubing Connector Kit
    - 0.50” x 4” long barbed connector
    - 0.5” – 1.25” stainless steel adjustable hose clamps (2 each per kit)

(a) Compressor Unit: It is the intent of the project to have one main compressor unit located adjacent to the property owners access roadway. Alternate locations may be proposed by the Contractor for consideration by the Engineer; however, acceptance of an alternate location may not be provided.

(b) Tubing and Tubing Connectors: 100-foot rolls with tubing connector kits. For estimating purposes, the minimum length of tubing required to implement the aeration system as shown on the plans is 4,200 feet. This length may vary depending on field conditions.

(c) Diffusers: It is the intent of the project to provide a minimum of three diffusers in Fletcher Lake spread evenly in the expanded southern portion of the lake as depicted in the plans.

(d) Miscellaneous: Any other ancillary components included but not limited to fasteners, hardware, etc. required to complete the installation are the responsibility of the Contractor.

Submittals: Prior to the start of work, the Contractor shall submit product cut sheets to the Engineer for approval in accordance with Article 105.04. The Contractor shall submit shop drawings of their proposed system layout to the Engineer for approval if it varies from the schematic shown on the plans. The Contractor shall also submit their plan for maintaining lake aeration throughout the duration of construction.

Revised 04/10/2024

General: The final location of the diffusers shall be determined in the field prior to installation. The Contractor shall coordinate with the Engineer and the Bass and Gill Club on the final location of the diffusers, compressor, and all other lake aeration system components.
The Contractor shall notify the Bass and Gill Club when they are installing any portion of the lake aeration system.

The Contractor shall set up electrical service to be billed to the property owner in accordance with the Electrical Service Installation specification. The contractor shall coordinate with ComEd and the owner on the electrical service installation and billing.

Installation and Schedule: The installation of the new lake aeration system will need to be coordinated with the construction operations in and around Fletcher Lake. The Contractor is required to maintain aeration to Fletcher Lake throughout the duration of construction (see Special Provision for AERATION SYSTEM REMOVAL AND SALVAGE). In the event that the new aeration system needs to be installed prior to completion of lake fill and excavation operations, diffuser locations shall be marked with temporary buoys. Buoys shall be removed at the conclusion of in water work.

All installation shall be in accordance with the manufacturer's requirements and recommendations. Electrical equipment shall be installed in accordance with Article 682 of the NEC and meeting all local coded.

Maintenance and Acceptance: The Contractor shall be responsible for all work of the contract in accordance with Article 107.30. Should the aeration unit or any part thereof be damaged prior to final inspection, the Contractor shall assume sole responsibility for risk of loss to the work from or by any cause whatsoever and shall bear all expenses and costs associated with the associated remediation.

The lake aeration system shall be fully installed and operational in the final condition and location before acceptance is granted. The Contractor shall notify the Engineer and the Bass and Gill Club prior to the initial start-up of the lake aeration system.

Method of Measurement: This work will be measured for payment on a lump sum basis.

Electric service installation and associated cable and conduit shall not be measured separately but shall be considered included in the lump sum unit cost of Aeration System, Complete.

Basis of Payment: This work shall be paid for at the contract unit price per lump sum for AERATION SYSTEM, COMPLETE. Payment shall be including all labor, materials, equipment, tools, electrical service, hookup, and appurtenances necessary to complete this work as detailed on the plans and specified herein.

Extra work required by the Engineer to complete the system that exceeds the scope as described herein and that meets the requirements of Article 104.02(d) will be paid for according to Article 109.04. All excess materials left after installation shall become property of the Bass and Gill Club.

Revised 04/10/2024

AQUATIC CRIBS

Description: This work shall consist of furnishing and installing log type fish crib structures as shown in the plans and specified herein.

Materials: Tree materials shall consist of hardwood tree species. Trees shall be "green" and having been cut down no longer than 6 months in advance of incorporation into the project. It is acceptable to source the trees from the site if the Contractor elects to do so.

Stone shall be in accordance with Article 1005.01 (recycled material shall not be permitted)

Reinforcement bars shall be in accordance with Article 1006.10

Steel cable shall be in accordance with Article 1006.26

Preparation: The Contractor shall construct a log style fish crib constructed with four-to-six-inch diameter logs as shown in the plans. Logs shall be secured at the corners utilizing #5 rebar. The crib shall be constructed to provide a one-foot clearance from the lake bottom to the base of the crib for fish access.

Once constructed, the bottom of the crib shall be filled with a single layer of RR1. Atop of the aggregate the remainder of the crib space shall be filled with saplings (one-to-two-inch diameter) and brush. The saplings and bush should be packed enough that most light will be blocked out within the crib structure. Long branches should extend from the crib on all sides and through all the slats. The intent is to create as thick and complex structure for fish habitat. Cinderblocks shall be attached as required to ensure that the crib sinks to the lake bottom and prevent lateral movement of the crib.

Placement: Fish cribs shall be placed such that there is a minimum of five feet of water above the structure in normal conditions. Cribs shall not be placed on slopes steeper than 1:4 (H:V).

Fish cribs shall be placed in advance of shoreline restoration planting so as not to damage shoreline restoration. It is not acceptable to delay shoreline restoration to place fish cribs. Should the shoreline restoration be implemented in advance of fish crib placement, the Contractor shall be liable for any and all damage to the restoration and it shall be restored to the contract provisions at no additional cost to the contract.

Method of Measurement: This work shall be measured for payment as a complete crib structure and the unit of measure will be each.

Basis of Payment: This work shall be paid for at the contract unit price per each for AQUATIC CRIBS. Payment shall be including all labor, materials, equipment, tools, transportation, and appurtenances necessary to complete this work as detailed in the plans and specified herein.

RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL

Effective: August 1, 2023
Revised:

Description: This work shall be completed in accordance with Section 783 of the Standard Specifications for Road and Bridge Construction. This work shall consist of removing the reflector unit from existing raised reflector pavement markers that will remain in place at the end of construction activities. Existing reflectors that conflict with revised traffic patterns shall be removed immediately to facilitate a change in lane assignment. If darkness or inclement weather prohibits the removal operations, such operation shall be resumed the next morning of when weather permits.

The base casting shall remain in place in areas where no pavement rehabilitation is required, therefore only the reflector shall be removed. Debris from the removal operations shall be removed from the pavement prior to opening the roadway to traffic.

Basis of Payment: This work will be measured for payment at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL. Payment shall be full compensation for materials, labor and equipment required to complete this work.

ADDED 4/10/2024

RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REPLACEMENT

Effective: August 1, 2023
Revised:

Description: This work shall be completed in accordance with Section 781 of the Standard Specifications for Road and Bridge Construction. This work shall consist of reinstallation of reflectors into the raised pavement marker castings upon completion of staging in which the markers were in conflict with temporary lane usage.

Basis of Payment: This work will be measured for payment at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REPLACEMENT. Payment shall be full compensation for materials, labor and equipment required to complete this work.

ADDED 4/10/2024

TEMPORARY TRAFFIC SIGNAL INSTALLATION
Effective: May 22, 2002
Revised: March 1, 2024
890.01TS

Revise Section 890 of the Standard Specifications to read:

Description.
This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptable power supply, and signing. When temporary traffic signals will be operating within a traffic signal system, the equipment shall be compatible with the current operating requirements of the system. For integration into an Advanced Traffic Management System (ATMS) such as Centracs, Tactics, or TransSuite, the controller shall have the latest version of approved NTCIP software installed.

General.
Only an approved controller Vendor will be allowed to assemble a temporary traffic signal and railroad traffic signal cabinet. Traffic signal inspection and TURN-ON shall be according to 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

Construction Requirements.
(a) Controllers. Only controllers supplied by one of the District approved Vendors will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two-way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 250 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption. All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications and as modified herein. On projects with multiple temporary traffic signal installations, all controllers shall be the same Manufacturer brand and model number with the latest version software installed at the time of the signal TURN-ON, or as specified in the Contract.

(b) Cabinets. Only control equipment, including controller cabinet and peripheral equipment, supplied by one of the District approved Vendors will be approved for use at temporary traffic signal locations. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the Contract. All temporary traffic signal cabinets shall have a closed bottom. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust, animal, and insect-proof seal. The bottom shall provide a minimum of two (2) 4 in. (100 mm) diameter holes to run the electric cables through. The 4 in. (100 mm) diameter holes

shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

(c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 806 of the Standard Specifications and shall meet the requirements of the "Grounding of Traffic Signal Systems" section of 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

(d) Traffic Signal Heads. All traffic signal sections shall be 12 in. (300 mm). Pedestrian signal sections shall be 16 in. (406mm) x 18 in. (457mm). All signal heads shall be furnished with tunnel visors unless otherwise specified in the contract. Traffic signal sections shall be Light Emitting Diode (LED) with expandable view, unless otherwise approved by the Engineer. Pedestrian signal heads shall be LED Pedestrian Countdown Signal Heads. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. If no traffic staging is in place or will not be staged on the day of the turn on, the temporary traffic signal shall have the signal head displays, signal head placements and controller phasing match the existing traffic signal or shall be as directed by the Engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.

(e) Interconnect.

(1) Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the Contract. If the Contract specifies fiber optic cable to be used for temporary interconnect, the Contractor may request, in writing, to substitute the fiber optic temporary interconnect with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the Engineer it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the Contract.

(2) The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. If the existing traffic signal has a cellular modem, the modem shall be temporarily relocated to the temporary signal. The temporary signal cabinet shall have an antenna supplied by the Contractor. Any existing network switches shall be temporarily relocated to the temporary signal. Any existing pan-tilt-zoom (PTZ) cameras shall be temporarily relocated to the temporary signal. The interconnect, including any required fiber splices and terminations, shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the cost of TEMPORARY TRAFFIC

SIGNAL INSTALLATION. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project.

(3) Temporary wireless interconnect for closed-loop systems. The radio interconnect system shall be compatible with Eagle/Yunex or Econolite controller closed loop systems. This work shall include all temporary wireless interconnect components at the adjacent existing traffic signal(s) to provide a completely operational closed loop system. This work shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:

a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio

b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)

c. Antennas (Omni Directional or Yagi Directional)

d. Antenna Cables, LMR400, Low Loss. Maximum 100 ft from controller cabinet to antenna

e. Brackets, Mounting Hardware, and Accessories Required for Installation

f. RS232 Data Cable for Connection from the radio to the local or master controller

g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

The proposed or existing master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance with the Vendor's recommendations.

Temporary wireless interconnect for Advanced Traffic Management Systems. The radio interconnect system shall be compatible with an ATMS.

(f) Emergency Vehicle Preemption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand

of emergency vehicle preemption equipment to be installed prior to the Contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz ±0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item TEMPORARY TRAFFIC SIGNAL INSTALLATION.

(g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed at all approaches of the intersection and as directed by the Engineer. Video vehicle detection systems shall be approved by IDOT prior to the Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the video vehicle detection system in accordance to the Manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. The Vendor shall be present and assist the contractor in setting up the video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item TEMPORARY TRAFFIC SIGNAL INSTALLATION.

(h) Pedestrian push-buttons. Pedestrian push-buttons shall be provided for all pedestrian signal heads/phases or as directed by the Engineer. Accessible Pedestrian Signal (APS) buttons shall be installed at any location where they currently exist. All push-buttons shall be latching and have MUTCD R10-3e signs with proper arrows.

(i) Uninterruptable Power Supply. All temporary traffic signal installations shall have an Uninterruptable Power Supply (UPS). The UPS cabinet shall be mounted to the temporary traffic signal cabinet and shall be according to the applicable portions of Section 862 of the Standard Specifications and as modified in the current District One Traffic Signal Special Provision 862.01TS UNITERRUPTABLE POWER SUPPLY, SPECIAL.

0) Signs. All existing signs shall be removed from existing poles and relocated to the temporary signal. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost. Any signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer. If Illuminated Street Name Signs exist, they shall be taken down and stored by the Contractor, and the Contractor shall furnish reflectorized street name signs on the temporary traffic signal installation.

(k) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise, charges shall be paid for under 109.05 of the Standard Specifications.

(l) Maintenance.

ADDED 4/10/2024

(1) Maintenance shall meet the requirements of the Standard Specifications and the "Maintenance and Responsibility of Traffic Signal and Flashing Beacon Installations" section of the current District One Traffic Signal Special Provision 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS.

(2) Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as they begin any physical work on the Contract or any portion thereof.

(3) The temporary signal responsibility shall begin at the start of temporary signal construction and shall end with the removal of the signal as directed by the Engineer.

(m) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, Special Provisions and any plans for Bridge Temporary Traffic Signals included in the Contract. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition, all electric cable shall be aerially suspended at a minimum height of 18 ft (5.5m) on temporary wood poles (Class 5 or better) of 45 ft (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. A video vehicle detection system may be used in place of detector loops as approved by the Engineer or as shown in the Contract.

(n) Temporary Portable Traffic Signal for Bridge Projects.

(1) The controller and cabinet shall be NEMA type designed for NEMA TS2 Type 1 operation. Controller and LED signal displays shall meet the applicable Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION special provision.

(2) Work shall be according to Article 701.1 B(b) of the Standard Specifications except as noted herein.

(3) General.

a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of twelve (12) days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.

ADDED 4/10/2024

b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 ft (5 m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 ft (2.5 m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.

c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.

d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with other approved methods of vehicle detection and traffic actuation.

e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.

f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30°F (-34°C) and 120°F (48°C). When not being utilized to inform and direct traffic, portable signals shall be treated as non-operating equipment according to Article 701.11.

Basis of Payment.

This work shall be paid for at the Contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, the price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, video vehicle detection systems, any maintenance or adjustment to the video vehicle detection system, the temporary wireless interconnect system, temporary fiber optic interconnect system, all material required, the installation and complete removal of the temporary traffic signal, and any changes required by the Engineer. Each location will be paid for separately.

ADDED 4/10/2024