SP- 150142
(New)

SPECIAL PROVISIONS
FOR
TEMPORARY TRAFFIC SIGNALIZATION

Polk County
NHSX-141-7(49)--3H-77

Effective Date
October 18, 2016

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

150142.01 GENERAL.
This Special Provision consists of the general requirements necessary when furnishing a temporary traffic signal installation complete, in place and operative as described in these Special Provisions.

A. Scope of Work.
The work shall consist of furnishing labor, materials and performing all work necessary to install, maintain, operate and remove temporary traffic control signals at locations shown in the Plans and as specified in these Special Provisions and contract documents, as directed by the Engineer, and in those sections of the Standard Specifications, that are either directly or by reference included herewith to result in a complete and finished job.

B. Temporary Traffic Signal Operation and Maintenance.

1. The Contractor shall be solely responsible for the operation, maintenance, repair (if necessary) and removal of the temporary traffic signal installation during the time period the temporary traffic signal is activated and is operating. This shall include the temporary traffic signal's controller programming and all costs to maintain, operate and repair (if necessary) the temporary traffic signal installation. The Contractor's responsibilities to operate, maintain and repair (if necessary) the temporary traffic signals, shall cease at such time the temporary traffic signals are deactivated and removed from the intersection. The installation will become the property of the Contractor at the completion of the Contractor's operation and maintenance period.

2. The Contractor's traffic engineer or applicable manufacturer's representative shall be responsible for initial traffic signal controller programming and for performing turn-ons of each temporary traffic signal. The Contractor shall provide at least 5 working days' notice to the City that a temporary signal will be ready for turn-on. At initial signal turn-on, the Contractor's traffic engineer or applicable manufacturer's representative shall utilize the timing as determined by the Contractor's staging plan.

3. After initial signal activation and turn-on and during the operation of the temporary traffic signal, if it's determined by the Engineer that subsequent signal timing modifications are necessary; the City will provide to the Contractor a signal timing report with modified signal timings. The Contractor shall program the controller to modify the existing signal timings based on this report.

4. During the operation of the temporary traffic signals, any failures or malfunctions of the temporary traffic signal materials or equipment that occur, regardless of cause, shall be immediately corrected at the Contractor's expense, including all labor, materials and associated cost.

5. While the temporary traffic signals are installed, any damages to signal equipment or materials that occur regardless of cause shall be immediately repaired, corrected, or removed and replaced with materials and equipment of like kind at the Contractor's expense, including all labor, materials and associated cost. Typical damages that might be expected include damage from storms or weather events, or impacts that might result from moving vehicles. The Engineer shall approve the repair of all damaged equipment or materials. If deemed necessary by the Engineer, damaged equipment and materials will be replaced by the Contractor with new stock. All approved repairs to damaged equipment or materials must restore the temporary traffic signal to a like new condition.

6. At all times during the operation of the temporary traffic signal, the Contractor shall be able to provide at least one qualified service technician to respond to signal complaints received from the Engineer, the City, the Iowa DOT, or emergency service providers. This shall include, but not be limited to, the following complaints: signal timing phasing and coordination, equipment or material failures or malfunctions, and equipment or material damage. Response time shall be 1 hour for complaints received between 6 AM and 7 PM on non-holiday weekdays, and 2 hours for all other times. For some cases (due to travel times or other extenuating circumstances) additional time may be acceptable within reason, but must be approved by the Engineer.

C. Signal Downtime.

1. The existing traffic signals shall remain in operation during this project until temporary signals are turned on. Any signal downtime shall not occur during peak hours. The peak hours are Monday - Friday, 6:00 A.M to 10:00 A.M and 2:00 P.M to 8:00 P.M. Signal down time shall not occur on the weekends (Saturday & Sunday) between 9:00 A.M to 4:00 P.M.

2. In the event any part of the temporary traffic signal system malfunctions or a continuous red flash mode is encountered, furnish flaggers on a 24 hour/7 day a week basis until repairs are made and the signals are fully functional. For temporary traffic signals at intersections, install stop signs on all approaches until the signals are fully operational, at no additional cost to the Contracting Authority.

D. Traffic Control.

1. The Contractor at all times shall conduct the operation in such a manner as to insure the safety of the motorist, the pedestrian, and its own employees. The Contractor shall perform work in such a manner and sequence as to maintain vehicular and pedestrian traffic at all times and to maintain access to adjacent private properties, unless otherwise specified in the plans.

2. The Contractor shall furnish, install, and maintain all devices for directing, warning and rerouting traffic flow, including warning lights, barricades, and other devices necessary to adequately inform the motorist of unusual or unsafe conditions and guide them safely through the Project work area. A traffic control layout shall be submitted by the Contractor and

approved by the Engineer prior to any field operations.

3. All required barricades and signs shall be in accordance with Part VI of the MUTCD and applicable Iowa DOT Standard Plans for traffic control.

E. Intersection Lighting.

1. The Contractor shall continuously maintain current illumination levels at the 37th, 19th, and 11th Street intersections throughout the duration of the construction period, as specified in the Plans. Illumination may consist of any combination of temporary light poles and existing and proposed combination light/signal poles. Contractor shall be responsible for identifying need and locations of temporary light poles and the associated power supplies and controls.

2. Electrical circuits to intersection lighting shall be relocated and repaired throughout the duration of the construction period to maintain continuity of electrical power.

3. Temporary light poles shall be installed and operational prior to removal of existing light poles.

F. Utilities.

Utility information of existing underground obstructions known to the Engineer is indicated on the Plans. The locations are from the most recent survey information. The Contractor shall notify owning utilities of the approach to any of their facilities and conform to their requirements. The Contractor shall perform exploratory operations as necessary to verify the location, elevation, and dimensions of all known or suspected underground obstructions ahead of any work affected thereby, and shall use care to avoid damage to them. The Contractor shall also ascertain whether any additional facilities other than those shown on the plans may be present.

150142.02 MATERIALS.

This part of the Special Provisions consists of the material requirements necessary for the construction of a traffic signal installation complete, in place, and operative as described in the project plans and these Special Provisions.

A. General Material Requirements.

1. Section 2525 of the Standard Specifications is hereby modified by the following, which consists of the material requirements necessary for the construction of temporary traffic signal installation(s) complete, in place, and operative.

2. Equipment and materials shall be of new stock unless the Plans provide for the relocation or reinstallation of existing equipment. New equipment and materials shall be the product of reputable manufacturers of electrical equipment, and shall meet the approval of the Engineer.

3. Materials delivered to the project shall be stored at a secure site and shall be protected from damage due to inclement weather prior to installation.

B. Wireless Interconnect System.

1. A wireless interconnect system shall provide communication between two or more traffic signal controllers which are part of an interconnected traffic signal system by the use of radio. The wireless interconnect system shall include a gateway radio, which will be connected to the interconnected traffic signal system at either a local or a master controller, and one or more local radios, each connected to a local controller. Each local radio shall communicate two-way directly to the gateway radio. Each radio shall be mounted with as much height as possible in order to provide an unobstructed radio signal to the other radio of the two-way connection. Mounting hardware shall be provided by the manufacturer for each radio. Each

radio shall be mounted inside a weatherproof enclosure.

2. The Contractor shall be responsible for designing a fully functional wireless interconnect system. The wireless interconnect system shall include all items necessary to make a complete working system, which shall installed in accordance with the manufacturer's instructions.

C. Temporary Vehicle Detection.

1. This specification sets forth the minimum requirements for a system that monitors vehicles on a roadway. The temporary vehicle detection system shall provide for both presence and advanced detection.

2. The presence detectors shall have the following detectable area characteristics
- **a.** Shall be able to detect and report presence in lanes with boundaries as close as 6 feet from the base of the pole on which the detector is mounted.
- **b.** Shall be able to detect and report presence in lanes located within 140 feet from the base of the pole on which the detector is mounted
- **c.** Shall be able to detect are report presence in curved lanes and areas with island and medians.
- **d.** Shall be able to resent real-time presence data in ten lanes, with a minimum of 16 zones.

3. The advanced detectors shall have the following detectable area characteristics
- **a.** Shall be able to detect and report vehicle information in lanes with boundaries as close as 50 feet from the base of the pole on which the detector is mounted.
- **b.** Shall be able to detect and report presence in lanes located within 600 feet from the base of the pole on which the detector is mounted
- **c.** Shall be able to detect are report presence in curved lanes and areas with island and medians.
- **d.** Shall be able to resent real-time presence data in ten lanes, with a minimum of 16 zones.

4. Vehicle Detection shall be maintained on all intersection approaches at all times. Temporary vehicle detection shall be utilized when existing loop detectors become non-functional due to construction activities.

5. The temporary vehicle detectors shall include all cables, connectors, and mounting hardware recommended by the manufacturer for proper operation of the system. This includes any necessary cabinet components, surge protection, and terminal blocks for cable landing.

6. The Contractor shall be responsible for providing and installing a fully functional temporary vehicle detection system. The temporary vehicle detection system shall include all items necessary to make a complete working system, which shall be installed in accordance with the manufacturer's instructions. These detection shall work well in any environment and not be affected by normal weather and conditions such as rain, wind, snow, dust, etc.

D. Signal Head Covers.

During construction all signal heads on existing signals not in use and those specified in the Plans shall be covered with black vinyl covers specifically designed for this purpose. The covers shall be fastened to the heads with nylon straps utilizing a cam lock mechanism to secure the straps. Plastic bags, cardboard, burlap and other similar materials are not acceptable covers.

150142.03 CONSTRUCTION.

Installation shall be in accordance with requirements of Sections 2525 and 2528 of the Standard Specifications and per manufacturer's recommendations.

150142.04 METHOD OF MEASUREMENT.

By count for each group installation of temporary traffic signals operated by a common control unit. A

group installation accounts for all signals required at the same traffic conflict area.

150142.05 BASIS PAYMENT.

The Temporary Traffic Signals measured as provided above will be paid for at the contract price bid per each intersection installed and maintained. Payment shall be full compensation for furnishing all equipment, materials, labor and all other work necessary or incidental to the construction of the complete temporary traffic signal installation, and for all materials, equipment, and labor necessary to maintain, operate and remove the temporary traffic signal installation. No payment shall be made for moving or bagging signal heads for stage construction.