Wisconsin Department of Transportation

## NOTICE TO ALL CONTRACTORS:

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## Proposal \#11: 5990-01-20/21, WISC 2015121 <br> City of Janesville, Main Street <br> St. Lawrence Avenue to Centerway <br> Local Street <br> Rock County

## Letting of March 10, 2015

This is Addendum No. 1, which provides for the following:

## Special Provisions

| Revised Special Provisions |  |
| :---: | :---: |
| Article <br> No. | Description |
| 45 | Decorative Luminaire, Item SPV.0060.07 |
| 65 | Rectangular Rapid Flashing Beacon (RRFB) With Pedestrian Activation, Item SPV.0105.01 |

## Schedule of Items

| Deleted Bid Item Quantities |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bid Item | Item Description | Unit | Old <br> Quantity | Revised <br> Quantity | Proposal <br> Total |
| 637.2230 | Signs Type II Reflective F | SF | 33 | 0 | 0 |

## Plan Sheets

| Revised Plan Sheets |  |
| :---: | :--- |
| Plan <br> Sheet | Plan Sheet Title (brief description of changes to sheet) |
| 89 | Signing and Pavement Markings (Revised notes for signs) |
| 126 | Miscellaneous Quantities (Updated Permanent Signing Table) |
| 127 | Miscellaneous Quantities (Updated Permanent Signing Table) |

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

## Wike Coleman

Proposal Development Specialist Proposal Management Section

## ADDENDUM NO. 1

5990-01-20/21
February 27, 2015

## Special Provisions

## 45. Decorative Luminaire, Item SPV.0060.07.

Replace Section B Materials with the following:

## B Materials

Furnish the following luminaire: Sternberg Libertyville \#1914LED/A/RLM431/HS-H/40L45T3MDL10/R1/BKT with multi-tap ballast, borosilicate glass, and photocell. Finish shall be black.

## 65. Rectangular Rapid Flashing Beacon (RRFB) With Pedestrian Activation SPV.0105.01.

Replace Section B Materials with the following:

## B Materials

1.0 General Requirements

RRFB-XL ${ }^{\top M}$ shall be in conformance with all applicable MUTCD standards and guidelines, and shall exceed the minimum requirements specified in FHWA Memorandum IA-11, Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons. It shall consist of rapidly and alternately flashed rectangular yellow indications having LED-array based pulsing light sources, and shall be designed, located, and operated in accordance with the detailed requirements specified in Memorandum IA-11,

Interim Approval for Optional Use of RRFB and subsequent amendments as detailed herein.
1.1 Each RRFB-XL ${ }^{\top M}$ shall be a complete assembly consisting of but not limited to controller and electrical components (wiring), LED indications in a light bar, signage, sign mounting and pushbuttons.
1.2 An RRFB-XL™ assembly will have two (2) light bars (mounted back-to-back facing dual directions) per pole.
1.3 Each Light Bar shall house two rapidly and alternately flashing rectangular yellow indications and two yellow side-mounted pedestrian indications, one on each end as shown in the plans. Each side-mounted pedestrian indication shall have an LED-array based light source. The LED-based pulsing light arrays shall be designed, located and operated in accordance with the detailed requirements as specified on the plans. Active vehicle indications shall be visible at distances over 1000 feet during the day and over 1 mile at night.
1.4 Individual components shall be replaceable independently of other components, equipped with approved terminal strips or wire-end molded connectors.

### 2.0 Functional Requirements

Per FHWA guidelines, RRFB shall be normally dark, shall initiate operation only upon pedestrian actuation, and shall cease operation at a predetermined time after the pedestrian actuation. The flash cycle duration should be based on the MUTCD procedures for timing of pedestrian clearance times for pedestrian signals: refer to MUTCD 2009 Section 4E. 06 and any State-specified regulations.

As a specific exception to requirements for the flash rate of beacons as stated in 2009 MUTCD Section 4K.01, RRFBs shall use a much faster flash rate. Each of the two yellow vehicle indications of an RRFB shall have 70 to 80 periods of flashing per minute and shall have alternating, but approximately equal, periods of rapid flashing light emissions and dark operation. During each of its 70 to 80 flashing periods per minute, one of the yellow indications shall emit two medium rapid pulses of light and the other yellow indication shall emit four short rapid pulses of light followed by a long pulse.

The outside edges of the RRFB indications, including the Light Bar, shall not project beyond the outside edges of the W11-2, The flash rate of each individual yellow indication, as applied over the full on-off sequence of a flashing period of the indication, shall not be between 5 and 30 flashes per second, to avoid frequencies that might cause seizures.

### 2.1 Each RRFB-XLTM ${ }^{\text {TM }}$ shall require 110 VAC

2.2 Upon activation by ADA-compliant pushbutton, the two yellow indications in each RRFB-XLTM shall flash in a rapidly alternating "wig-wag" flashing sequence (left indication on, then right indication on).
2.3 The light intensity of the vehicle indications shall meet the minimum specifications of Society of Automotive Engineers (SAE) standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated November 2008. Manufacturer Certification of Compliance shall be provided upon request.
2.4 When activated, all indications associated with a given crosswalk (including those with an advance crossing sign, if used) shall simultaneously commence operation of their alternating rapid flashing within 120 msec , and shall cease operation at a predetermined time after the pedestrian actuation.
2.5 The duration of the flash cycle shall be programmable from 1 second to 24 hours, in increments of seconds, minutes and hours.
2.6 The Pedestrian indications shall be directed at and visible to pedestrians both waiting to cross and within the crosswalk, and it shall flash concurrently with the vehicle indications to give confirmation that the RRFB-XL'${ }^{\text {TM }}$ is in operation.
2.7 The system shall include an actuation counter providing data that can be downloaded on-site to a laptop computer using DB9 or USB type cables.

### 3.0 Material Specification

The Manufacturer shall provide a complete RRFB-XL ${ }^{\text {TM }}$ assembly, consisting of but not limited to the controller and electrical components (including wiring and solid-state circuit boards), LED indications in a light bar, signage, sign mounting and pushbuttons.
3.1 Light Bar Housing and Indications
a. The Light Bar housing shall be constructed of durable, corrosion-resistant powdercoated aluminum with stainless steel fasteners.
b. Enclosed components shall be modular in design whereby any component can be easily replaced using common hand tools, without having to remove the housing from the pole.
c. All mounting hardware required for mounting the Light Bar housing shall be provided, and shall be powder coated black (RAL 9017).
d. Each of the two vehicle RRFB-XL' ${ }^{\text {TM }}$ LED indications shall be approximately $7.25{ }^{\prime \prime}$ wide $\times 3$ " high.
e. A pedestrian LED indication, approximately $0.5^{\prime \prime}$ wide $\times 2.5^{\prime \prime}$ high, shall be sidemounted on both sides in the Light Bar housing, as shown in the plans, to be directed at and visible to pedestrians both waiting to cross and within the crosswalk.
f. The LEDs used shall be rated for a minimum 15-year life span.
3.2 Controller
a. The Controller shall be housed in a NEMA 4X rated aluminum enclosure, metal black (RAL 9017) in color, intended for indoor or outdoor use, primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose-directed water, and damage from ice formation.
b. The LED light outputs and flash pattern shall be completely programmable, with the capability to actuate RRFB-XL, RRFB, round LED signal beacons and LEDenhanced signs.
c. The flashing output shall have 70 to 80 periods of flashing per minute, during which one of the yellow indications shall emit two medium pulses of light and the other yellow indication shall emit four short rapid pulses of light followed by a long pulse. The output current shall be maintained as programmed for the duration of the pulse. The flashing output shall be programmable.
d. The Controller shall be reconfigurable if future MUTCD or State guidelines specify a different flash pattern.
e. The Controller shall be capable of storing input count data in preset intervals, with downloadable capabilities using optional Windows-based PC software program and standard RS232 programming cable.
f. The Controller shall be, in the unlikely event of failure, replaceable independently of other components.

### 3.3 Power Supply

a. The input voltage ranges from 100 to 240 volts and is between $50-60 \mathrm{~Hz}$.
b. The maximum total output from this supply is 30 watts.

### 3.4 Pedestal Shaft

a. Must mount on standard 4.5: OD aluminum pedestal pole with breakaway base.
3.5 Signs and Plaques
a. All signs shall conform to MUTCD standards.
b. All sign blanks and plaques shall be Federally specified .080 gauge, 5052 aluminum.
c. Unless specified otherwise, sign sheeting shall be Fluorescent Yellow 3M ${ }^{\text {TM }}$ DG3 diamond grade cubed or equivalent prismatic sheeting, with anti-graffiti overlay.
d. All sign assemblies shall use provided anti-vandal fasteners and tools to mount components to sign, and sign to fixture.
e. Crossing signs shall be W11-2 per MUTCD (4 signs).
f. Crossing plaques W16-7P shall also accompany the crossing signs (4 signs).
g. Pedestrian pushbutton instruction signs shall be furnished, at a minimum size of 5 " $x$ 7 ", to be mounted adjacent to or integral with each pedestrian pushbutton (2 signs).
3.6 Bulldog Pushbutton
a. The Push Button shall be capable of continuous operation within a temperature range of $-30^{\circ}$ to $165^{\circ} \mathrm{F}\left(-34^{\circ}\right.$ to $\left.74^{\circ} \mathrm{C}\right)$.
b. The Push Button shall be ADA compliant, and shall operate as a normally open (n/o) circuit.
c. Shall be Polara Bulldog 3 model (Black)

### 4.0 Warranty

The system shall be supported by a three-year warranty.

## Schedule of Items

Attached, dated February 27, 2015, are the revised Schedule of Items Pages 10 and 11.
Plan Sheets
The following $81 / 2 \times 11$-inch sheets are attached and made part of the plans for this proposal:
Revised: 89, 126, and 127.

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