801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

(Revised 05-25-17)

The Standard Specifications are revised as follows:

SECTION 801, BEGIN LINE 11, INSERT AS FOLLOWS:

801.02 Materials

Materials shall be in accordance with the following:

Automated Flagger Assistance Devices.....923.08

SECTION 801, AFTER LINE 824, INSERT AS FOLLOWS:

(e) Automated Flagger Assistance Devices

An Automated Flagger Assistance Device, AFAD, may be used to control a single lane of approaching traffic on a two-lane highway for flagging operations.

Only qualified flaggers who have been trained on the operation of the AFAD shall operate the AFAD. AFAD operators shall be able to provide written proof that they have been trained by the AFAD manufacturer. Two trained flaggers shall be available on-site to provide flagging in case of an AFAD malfunction. The flagger operating the AFAD shall be positioned to have unobstructed line of sight to approaching traffic and the AFAD. A single flagger may be used to control both approaches to the work site if adequate, unobstructed sight distance exists between the AFAD operator and both approaching directions of traffic and both AFADs.

The flagger operating the AFAD shall not leave the device unattended at any time while the AFAD is in use. The operating flagger shall be positioned at such point to be in full view of oncoming traffic and the AFAD at all times the AFAD is in use. The flagger operator shall keep a back up hand held remote readily available at all times when the device is being operated.

The AFAD shall be positioned so that the end of the gate arm, if used, shall extend at least to the center of the lane being controlled but shy of the roadway centerline.

A drum shall be placed immediately in front of the AFAD trailer at both corners for delineation.

SECTION 801, BEGIN LINE 1177, INSERT AS FOLLOWS:

The cost of necessary flaggers; *automated flagger assistance devices*; protection of traffic at structure foundations; and furnishing, erecting, placing, maintaining, relocating, and removing lights, cones, flexible channelizers, tubular markers, drums, delineators, or other devices as directed shall be included in the cost of maintaining traffic.

SECTION 923, AFTER LINE 229, INSERT AS FOLLOWS:

923.08 Automated Flagger Assistance Device

The Automated Flagger Assistance Device, AFAD, shall alternately display a STOP sign and a SLOW sign to control traffic while being operated by a hand held remote control. AFADs shall meet the requirements of the Indiana Manual on Uniform

Traffic Control Devices, Chapter 6E. Each AFAD shall be equipped with two hand held remote controls. Trailer mounted AFAD's shall be equipped with a gate arm.

Only automated flagger assistance devices from the List of Approved Solar Powered Traffic Control Devices shall be used. Automated flagger assistance devices will be placed and maintained on the list of approved Solar Powered Traffic Control Devices in accordance with ITM 955.

(a) Signs

The STOP and SLOW signs shall have a minimum width of 24 in. with lettering that is at least 8 in. in height. The WAIT ON STOP sign shall be visible along the same line of view of the STOP sign face.

(b) Supplemental Conspicuity Devices

The STOP sign face shall be supplemented by a circular, red stop beacon. The SLOW sign face shall be supplemented by either: a circular, yellow warning beacon, or Type B warning lights with a minimum viewing distance of 1000 ft.

(c) Gate Arm

Gate arms shall be made of reinforced thermoplastic or tubular aluminum. When in the horizontal positions the arm shall have a 2 ft to 4 ft mounting height above the pavement surface

(d) Cabinets and Controller

The battery and controller cabinets shall be in accordance with NEMA Standard 250 Enclosure 3R requirements and be provided with a hasp and lock. The AFAD shall include a manual override of the hand held remote at the device. The AFAD shall not have any means by which it can operate on a pre-set or pre-timed basis.

(e) Remote Control Device

Two hand held, cordless remote controls shall be provided with each AFAD. The remote control shall be waterproof and display signal receipt confirmation. The remote shall use a frequency hopping, spread spectrum radio signal with frequencies outside the 700MHz band, 698 MHz to 806 MHz. The remote control device shall be programmable to control either one unit or two units simultaneously and shall control the units over a one-mile range. Remote control batteries shall be rechargeable. A recharging device shall be provided with each remote.

(f) Batteries and Charging System

Batteries shall be deep cycle type and be capable of operating the AFAD continuously for-two days, 24 hrs per day without a need of re-charging. An audible low battery voltage alarm sound system shall be provided. The battery charging system shall consist of a solar panel. Solar panels shall be UL 1703 certified.

(g) Trailer

The trailer, if used, shall be designed to withstand a 60 mph wind loading with a 1.3 gust factor when the AFAD is set up in operating position. The trailer shall be painted safety orange, Federal Standard 595, color No. 12300. The trailer shall be

provided with a minimum of two leveling jacks, each operated by a crank which locks in place.

923.08~~8~~*9* Acceptance of Temporary Traffic Control Devices

Temporary traffic control devices will be accepted by visual inspection unless otherwise indicated.