Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JIM BOXOLD
SECRETARY

December 28, 2015

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section **695**
Proposed Specification: **6950205 Traffic Monitoring Site Equipment and Materials.**

Dear Mr. Nguyen:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Amy Tootle of the State Construction Office to require all construction-related documentation to be submitted by electronic means for consistency with the State Construction Office e-Construction initiative.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to daniel.scheer@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Signature on file

Daniel Scheer, P.E.
State Specifications Engineer

DS/dt
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

TRAFFIC MONITORING SITE EQUIPMENT AND MATERIALS.
(REV ~~10-26-15~~12-28-15)

SUBARTICLE 695-2.5 is deleted and the following substituted:

695-2.5 Manufacturer's Warranty Provisions:

695-2.5.1 General: Secure all warranties provided by the equipment manufacturer for the specific equipment included in the Contract. Ensure that all warranties are fully transferable from the Contractor to the Department. Transfer warranties upon final acceptance in accordance with 5-11. Document all warranties and warranty transfers and submit~~provide a copy~~ to the Engineer. The Engineer will submit warranty forms received from the Contractor to the Transportation Statistics Office (TranStat) TMS Manager.

695-2.5.2 Terms and Conditions: Ensure that the terms and conditions of warranties are documented by the manufacturer when submitting a request to the Department for certification and for equipment submittal for construction projects. Include terms for a specified service performance with provisions for repair parts and labor, or for replacement.

Ensure the terms and conditions define the equipment installation date as the date for such warranty to be in effect. The installation date for construction projects is the day the site is accepted by the TranStat TMS Manager. For warehouse purchases, the installation date is the date of visual inspection approval, not to exceed ten days after delivery date.

~~When warranty is available, ensure that a written warranty accompanies the manufacturer's billing invoice.~~ Ensure warranties require the manufacturer to furnish replacements within 10 calendar days of notification for any part or equipment found to be defective during the manufacturer's warranty period at no cost to the Department.

Leave a copy of the warranty in the cabinet once it is installed~~.~~ and ~~S~~submit the warranty ~~Provide an original copy~~ to the Engineer. The Engineer will submit warranty forms received from the Contractor to the TranStat TMS Manager. Comply with the terms of the warranty. The Department may suspend the certification for non-compliance.

SUBARTICLE 695-3.2.1 is deleted and the following substituted:

695-3.2.1 Installation: Install sensors in accordance with the requirements of this Section and Design Standards, Index No. 17900. Ensure axle sensors are installed in the roadway and secured using an adhesive bonding material listed on the APL.

Install axle sensors in the right-hand wheel-path midway between the leading and trailing loops as detailed in Design Standards, Index 17900. Install axles sensors in the left-hand wheel-path when no paved shoulder exists and sensor lead exit windows are installed at the right-hand edge of the roadway surface or in a lane which is to the left of and adjacent to an open lane of traffic.

Install the axle sensor such that the cable end is closest to the pull box to which the sensor lead cable will be routed. Install the end of the sensor mid-way into the edge line stripe or lane line stripe. Ensure that the axle sensor being installed has lead-in cables of sufficient length to reach the cabinet without splicing. Do not splice axle sensor lead-in cables.

Route the sensor lead to the pull box then to the TMS cabinet. Mark the sensor lead at the pull box and at termination in the cabinet. Submit~~Provide~~ lane numbering information as specified in Design Standards, Index No. 17900.

Allow newly applied asphalt to cure for a minimum of 30 days prior to the installation of in-road sensors. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots.

Ensure saw cuts do not deviate more than 0.5 inches from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor slot at full width in a single pass. Cutting two slots and chipping out roadway material between them is not allowed.

Cut the slot the length of the sensor plus an additional 3 to 4 inches. Ensure the depth and width of the slot is installed as recommended by the sensor manufacturer, typically 0.75 inches wide by 1.5 to 2 inches deep.

Use clips or jigs provided by the manufacturer to suspend the sensor at a uniform depth in the slot. Mix and apply the bonding agent ensuring the slot is completely full with no voids beneath the sensor.

SUBARTICLE 695-3.3.3 is deleted and the following substituted:

695-3.3.3 Test Requirements: Conduct a visual test to determine that all detection zones are being counted accurately.

Connect a personal computer (PC) to the electronics unit and observe traffic in every lane, verifying that each vehicle is displayed on-screen. A minimum of 20 vehicles should be observed for each lane of traffic with all vehicles counted; assuming a clear line of sight between the sensor and the vehicle being observed is maintained.

If any vehicles are not counted, reconfigure the wireless vehicle sensor and repeat the visual observation test until all lanes count correctly. If the sensor fails to provide accurate counts after three test attempts, it must be replaced with a new unit at no expense to the Department.

Provide a time synchronized video of testing, if requested. Submit~~Provide~~ a 48 hour verification (class, speed and volume) report for all TMS to the Engineer. The Engineer will submit video received from the Contractor to the TranStat TMS Manager. Submit ~~Leave~~ all documents to the Engineer and leave ~~in the cabinet with~~ a copy in the cabinet ~~sent to the Engineer~~.

SUBARTICLE 695-4.2.2 is deleted and the following substituted:

695-4.2.2 Vehicle Speed/Classification Unit Requirements: Provide an electronics unit that outputs data compatible with the Department's polling computer system or furnish a software module that converts the data into a format compatible with the Department's polling computer system.

The electronics unit operates in an unattended mode, accumulating data for later retrieval by downloading via the polling computer system. Ensure that the electronics unit is capable of downloading data through direct connection with a PC, without deleting or marking the files.

Submit~~Provide~~ complete operating procedures with all software.

TRAFFIC MONITORING SITE EQUIPMENT AND MATERIALS.
(REV 12-28-15)

SUBARTICLE 695-2.5 is deleted and the following substituted:

695-2.5 Manufacturer's Warranty Provisions:

695-2.5.1 General: Secure all warranties provided by the equipment manufacturer for the specific equipment included in the Contract. Ensure that all warranties are fully transferable from the Contractor to the Department. Transfer warranties upon final acceptance in accordance with 5-11. Document all warranties and warranty transfers and submit to the Engineer. The Engineer will submit warranty forms received from the Contractor to the Transportation Statistics Office (TranStat) TMS Manager.

695-2.5.2 Terms and Conditions: Ensure that the terms and conditions of warranties are documented by the manufacturer when submitting a request to the Department for certification and for equipment submittal for construction projects. Include terms for a specified service performance with provisions for repair parts and labor, or for replacement.

Ensure the terms and conditions define the equipment installation date as the date for such warranty to be in effect. The installation date for construction projects is the day the site is accepted by the TranStat TMS Manager. For warehouse purchases, the installation date is the date of visual inspection approval, not to exceed ten days after delivery date.

Ensure warranties require the manufacturer to furnish replacements within 10 calendar days of notification for any part or equipment found to be defective during the manufacturer's warranty period at no cost to the Department.

Leave a copy of the warranty in the cabinet once it is installed and submit the warranty to the Engineer. The Engineer will submit warranty forms received from the Contractor to the TranStat TMS Manager. Comply with the terms of the warranty. The Department may suspend the certification for non-compliance.

SUBARTICLE 695-3.2.1 is deleted and the following substituted:

695-3.2.1 Installation: Install sensors in accordance with the requirements of this Section and Design Standards, Index No. 17900. Ensure axle sensors are installed in the roadway and secured using an adhesive bonding material listed on the APL.

Install axle sensors in the right-hand wheel-path midway between the leading and trailing loops as detailed in Design Standards, Index 17900. Install axles sensors in the left-hand wheel-path when no paved shoulder exists and sensor lead exit windows are installed at the right-hand edge of the roadway surface or in a lane which is to the left of and adjacent to an open lane of traffic.

Install the axle sensor such that the cable end is closest to the pull box to which the sensor lead cable will be routed. Install the end of the sensor mid-way into the edge line stripe or lane line stripe. Ensure that the axle sensor being installed has lead-in cables of sufficient length to reach the cabinet without splicing. Do not splice axle sensor lead-in cables.

Route the sensor lead to the pull box then to the TMS cabinet. Mark the sensor lead at the pull box and at termination in the cabinet. Submit lane numbering information as specified in Design Standards, Index No. 17900.

Allow newly applied asphalt to cure for a minimum of 30 days prior to the installation of in-road sensors. Use a chalk line or string and paint to layout the position of the sensor and lead-in cable slots.

Ensure saw cuts do not deviate more than 0.5 inches from the chalk line. Use a single blade or ganged blade saw wide enough to cut the axle sensor slot at full width in a single pass. Cutting two slots and chipping out roadway material between them is not allowed.

Cut the slot the length of the sensor plus an additional 3 to 4 inches. Ensure the depth and width of the slot is installed as recommended by the sensor manufacturer, typically 0.75 inches wide by 1.5 to 2 inches deep.

Use clips or jigs provided by the manufacturer to suspend the sensor at a uniform depth in the slot. Mix and apply the bonding agent ensuring the slot is completely full with no voids beneath the sensor.

SUBARTICLE 695-3.3.3 is deleted and the following substituted:

695-3.3.3 Test Requirements: Conduct a visual test to determine that all detection zones are being counted accurately.

Connect a personal computer (PC) to the electronics unit and observe traffic in every lane, verifying that each vehicle is displayed on-screen. A minimum of 20 vehicles should be observed for each lane of traffic with all vehicles counted; assuming a clear line of sight between the sensor and the vehicle being observed is maintained.

If any vehicles are not counted, reconfigure the wireless vehicle sensor and repeat the visual observation test until all lanes count correctly. If the sensor fails to provide accurate counts after three test attempts, it must be replaced with a new unit at no expense to the Department.

Provide a time synchronized video of testing, if requested. Submit a 48 hour verification (class, speed and volume) report for all TMS to the Engineer. The Engineer will submit video received from the Contractor to the TranStat TMS Manager. Submit all documents to the Engineer and leave a copy in the cabinet.

SUBARTICLE 695-4.2.2 is deleted and the following substituted:

695-4.2.2 Vehicle Speed/Classification Unit Requirements: Provide an electronics unit that outputs data compatible with the Department’s polling computer system or furnish a software module that converts the data into a format compatible with the Department’s polling computer system.

The electronics unit operates in an unattended mode, accumulating data for later retrieval by downloading via the polling computer system. Ensure that the electronics unit is capable of downloading data through direct connection with a PC, without deleting or marking the files.

Submit complete operating procedures with all software.