Special Specification 6368
Solar Powered Vehicle Detection Activated LED Embedded Sign

1. DESCRIPTION
Fabricate, furnish and install solar powered vehicle detection activated light emitting diode (LED) embedded signs; consisting of embedded LED lights placed along the border of the sign, solar panels, vehicle detection and batteries for each sign. This solar LED embedded lights function is to flash in order to enhance the sign to draw the motorist's attention to the message of the roadway sign.

2. MATERIALS
Furnish and construct materials in accordance with the following:

- Item 618, “Conduit”
- Item 624, “Ground Boxes,”
- Item 636, “Signs,”
- Item 643, “Sign Identification Decals,” and
- Item 644, “Small Roadside Sign Supports and Assemblies.”

Provide signs that meet the TMUTCD. Provide sign substrate that meets Department Material Specification DMS-7110. Provide sign reflective sheeting as shown on the plans and in accordance with Traffic Safety Division’s Typical Sign Requirements (TSR) standard sheets. Provide sign with LED lights embedded along the border of the sign. Provide high powered 1 W LEDs wired in a manner that all LEDs continue to flash in the event of failure of an individual LED. Sign must output 550 candelas at daytime peak ensuring sign is daylight visible.

Provide LEDs that have dimming capabilities and automatically adjust flash brightness to varying light conditions. LEDs will be rated to operate at least 100,000 hr. Provide solar panels and batteries sized to allow the system to work 24 hours a day, 7 days a week. The embedded LED lights must be capable of flashing only when a vehicle is detected. The detection type may include radar, thermal, infrared, microwave or other technologies approved by the Engineer. Loops cuts in the pavement are not permitted. Batteries must have a 5 yr. lifespan if operating 24 hr. per day. Batteries must be installed in a ground box, or a cabinet mounted on a pole underneath the solar panel as per manufacturer’s recommendations.

3. CONSTRUCTION
Install signs in accordance to Item 644, “Small Roadside Sign Assemblies.”

4. WARRANTY
The LED lighting system as a whole will have a minimum 2 yr. warranty from the time of installation and acceptance of the system. Manufacturer will ship replacement parts at no cost as required during 2 yr. warranty period, except when installation has been damaged by outside forces.

5. MEASUREMENT
This Item will be measured by each solar powered vehicle detection activated LED Embedded sign.
6. **PAYMENT**

The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid for “Solar Powered Vehicle Detection Activated LED Embedded Sign.”

This price is full compensation for furnishing and installing complete solar powered LED signs including sign connections, plaques if required or shown in plans, and all hardware; attaching signs to the supports; washing and cleaning the signs; testing of the LED sign and making adjustments as needed; installing solar panels to ensure optimal recharging of batteries, solar powered batteries, ground boxes or pole mounted cabinet, and approved detection system to the satisfaction of the Engineer; and all equipment, materials, labor, tools, and incidentals.

The roadside sign assembly (excluding the solar powered LED sign) and foundation will be paid for under Item 644, “Small Roadside Sign Assemblies.”