



**DEVELOPMENTAL SPECIFICATIONS  
FOR  
PORTABLE TEMPORARY TRAFFIC SIGNALS**

Effective Date  
March 15, 2005

**THE STANDARD SPECIFICATIONS, SERIES 2001, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.**

**01058.01 DESCRIPTION**

This work shall be according to the MUTCD, and Articles 2528.07 and 2528.11 of the Standard Specifications except as modified herein.

Unless otherwise specified in the contract documents, the Contractor may shall provide a portable temporary traffic signal system for a one lane/two way temporary traffic signal operation.

**01058.02 EQUIPMENT**

The system shall consist of two or more self-contained trailer mounted units each consisting of two signal heads. One signal head shall be mounted on a mast arm capable of extending over the center of the travel lane. The system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV of the MUTCD. Signal heads shall have 12 inch (300 mm) lenses and conform to ITE Specification "Vehicle Traffic Control Signal Heads" and NEMA Standards TS1 and TS2. All signal heads shall be equipped with visors and back plates.

The system shall include a solid state digital traffic signal controller capable of operating the signals in accordance with MUTCD requirements and NEMA Standard TS1. (A certificate of compliance may be required). All portable traffic signal systems shall have conflict monitor that conforms to NEMA TS1 standards. The conflict monitor shall detect the presence of conflicting signal indications, the absence of proper voltages, and the proper operation of the controller. Upon detection of a conflict or loss of communication, all signals will enter into flashing red mode.

The operating temperature range of the signal system shall be at least -30°F to 120°F (-35°C to 50°C).

Each portable unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 20 hours backup reserve battery supply and the units shall be capable of operating with a 120 volt power supply from a generator or electrical service.

**01058.03 CONSTRUCTION**

**A. OPERATIONAL REQUIREMENTS**

The Contractor shall notify the Engineer 48 hours prior to turn on for timing approval and verification. A qualified vendor representative shall be on site to perform the initial set up and enter the timing parameters.

The installation shall be as shown in the contract documents except that there shall be no detector loops installed in the pavement. The exact location of the signals, stop bars, and signs shall be as identified in the contract documents. The portable traffic signal installations shall be set up securely and leveled in a manner approved by the Engineer.

All portable traffic signals shall be programmed for red flash upon startup, conflict, or power failure. The portable traffic signal system shall be programmed to dwell in all-red.

There shall be a minimum of two traffic signal heads per each approach. All signal heads mounted over the road surface shall be mounted at a minimum height of 15 feet (4.6 m) from the bottom of the signal head to the top of the road surface. All far right signal heads shall be mounted at a minimum height of 8 feet (2.45 m) from the bottom of the signal head to the top of the ground surface.

All portable traffic signals shall be equipped with microwave sensors for vehicle detection and traffic actuation.

The system shall be capable of providing control for up to eight separate traffic phases. When an additional phase is used for a side road movement, only one long all red interval shall be used between active phases on each side of the work area. The all red clearance time shall be programmable from 1 to 250 seconds in one-second increments.

In the event of a traffic signal malfunction or a continuous red flash mode, flaggers shall be required on a 24 hour, 7 day a week basis until repairs are made and the traffic signals are fully functional.

**B. LIST OF APPROVED MANUFACTURERS**

The following portable temporary traffic signals are approved for use in Iowa.

Horizon Signal Technologies	Model: SQ3TS
OMJC Signal, Inc.	Model: Pop-Up 17-15 IA

Other portable temporary traffic signals may be approved by contacting the State Traffic Engineer at 515.239.1513.

**01058.04 METHOD OF MEASUREMENT**

The item Temporary Traffic Signals will be measured according to Article 2528.12, A, 4, of the Standard Specifications.

**01058.05 BASIS OF PAYMENT**

The item Temporary Traffic Signals will be paid according to Article 2528.13, A, 4, of the Standard Specifications.