



# Iowa Department of Transportation

## DEVELOPMENTAL SPECIFICATION FOR PORTABLE CHANGEABLE MESSAGE SIGNS

Effective Date  
January 18, 2006

**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.**

### **01072.01 GENERAL**

This work consists of furnishing, placing, operating, and maintaining portable changeable message signs (CMS) at the locations shown on the plans.

### **01072.02 SIGN DESIGN**

The signs shall be trailer mounted. The message panel shall be mounted at a height of at least 7 feet (2.2 m), measured from the bottom of the sign to the near edge of the pavement; present a level appearance; and be capable of displaying three lines of up to eight characters at one time. Character height shall be 18 inch (450 mm) and configured using a 7 pixel tall by 5 pixel wide font.

The message panel shall be visible from 1/2 mile (800 m) under both day and night conditions. The letters shall be legible from 750 ft (225 m). The message sign shall include automatic dimming for nighttime operation and a power supply capable of providing continuous 7 days (24 hours per day) service.

### **01072.03 OPERATION OF SIGNS**

The Contractor shall provide preventive maintenance efforts necessary to achieve uninterrupted service. If service is interrupted and not restored within 24 hours, the Engineer will cause such work to be performed as may be necessary to provide this service. The cost of such work shall be borne by the Contractor.

The Engineer may request the Contractor to operate portable CMS for advance traffic notification and warning. Authority to operate portable CMS will be under the direction of the Engineer. The Contractor may only operate the portable CMS to display messages authorized by the Engineer.

The message panel shall be a line matrix or full matrix design controlled by an onboard computer capable of storing a minimum of 99 programmed messages for instant recall. The computer shall also be capable of being programmed to accept messages created by the operator via an alpha-numeric keyboard and have remote programming capability. The Contractor shall promptly program and/or reprogram the computer to provide the messages as directed by the Engineer.

Physical access to the onboard computer shall be protected by a padlock (using a key). Electronic access to the onboard computer shall be protected by a username and password. The username and password and two keys shall be given to the Engineer.

**01072.04 INTERNET OPERATION FOR LONG TERM DURATION**

This section describes Internet operations for use of portable CMS for long term duration. Portable CMS hardware and software that are required for Internet operation under this article will be considered as extra work in accordance with Article 1109.03, B, of the Standard Specifications.

Communication equipment at the sign, a web server at a central communications hub, and communications from the sign to the Internet is required.

An Internet web page shall be required as the method to control the sign by the Engineer from the office. Special software to control the signs shall not be required to be installed on the Engineer's computer. The Internet web page shall perform the following functions:

- Display the name of the sign.
- Show the current display on the message board.
- Put up a message using free text.
- Put up a message by calling the onboard library of stored messages.
- Remove the current message.
- Display the current voltage of the sign's batteries (if solar).

**01072.05 METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

The furnishing, placing, operation, and maintenance of Portable Changeable Message Signs will be paid for per calendar day for each portable CMS that is required to be in a location to display potential messages to the traveling public. The price bid for Portable CMS shall include the cost of communication, software, hardware, power supply, and furnishing placing, operating, and maintaining all portable CMS.

The Contractor shall maintain possession of the portable CMS upon completion of the project.