

**Mn/DOT PORTABLE TRAFFIC CONTROL SIGNAL SPECIFICATION**

**Note: This specification is the minimum requirements for Portable Traffic Signals to be used on state highways. Models/manufacturers listed on the Temporary Traffic Control (TTC) Portable Traffic Signal Approved Product List (APL) have only been reviewed for this minimum specification. The Contractor is responsible to insure that the Portable Traffic Signals also meets any special provision needs required by a Mn/DOT project.**

**February 22, 2011**

Portable Traffic Control Signals shall be in accordance with the following specifications.

**GENERAL:**

Portable Traffic Control Signals in this document refers to Trailer Mounted and Pedestal Mounted Portable Traffic Control Signals.

Shall meet the applicable standards and specifications prescribed in Part 4 of the current Minnesota Manual on Uniform Traffic Control Devices and the applicable provisions of Minnesota Department of Transportation (Mn/DOT) 2565, Mn/DOT 3834 and Mn/DOT Light Emitting Diode (LED) 12 and 8 Inch Ball Traffic Control Signal Indication Specification, except as specifically provided otherwise in this document.

Shall meet Institute of Transportation Engineers (ITE) LED requirements for:

- Photometric
- Colorimetric
- Environmental

Shall meet the physical display requirements of conventional traffic signals as specified in Part 4 of the current Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD), and Mn/DOT specifications 2565 and 3834. Signal Heads shall be cast aluminum or Polycarbonate. All PTCS heads shall have three 12 inch LED indications conforming to Mn/DOT LED 12 and 8 Inch Ball Traffic Control Signal Indication Specification. If Polycarbonate Signal heads are used, they shall conform to MN/DOT Polycarbonate Signal Head Specification Without Indications as specified in Mn/DOT Approved Product List.

The Signal Indications shall be vertically arranged.

Shall have background shields and visors.

Shall be equipped with operating system having the NEMA TS1 or TS2 Standard capabilities. It shall have the capabilities of being operated in a fixed time, actuated and/or manual mode.

Shall be capable of operating independently in the fixed time mode (Each PTCS by itself).

Shall communicate between signals via hardwire connection and/or wireless radio link communication when operated in the actuation or manual mode. If the hardwire communication is utilized the communication cable shall be deployed in a manner that will not intrude in the direct work area of the project or obstruct vehicular and pedestrian traffic. If the radio link communication option is utilized, the radio system shall conform to Federal Communication Commission requirements and all applicable State and Local requirements.

Shall be capable of accommodating a pre-emption request which provides a priority green phase in the direction

of approaching emergency vehicles.

Shall be equipped with diagnostic capabilities in the event of a system default.

Shall have a self contained primary power source. The primary source of power shall have sufficient capacity to operate the unit for at least 10 days continuously without external recharge and shall be continuously operational as needed for a project.

Shall be constructed or equipped for legal transport on public highway system.

The Portable Traffic Signal shall be structurally stable, and all connections shall conform with current AISC (American Institute of Steel Construction) standard.

Shall be equipped with stabilizing and leveling devices.

### **Trailer Mounted Portable Traffic Control Signals:**

Trailer Mounted Portable Traffic Control Signal in this document is defined as those Portable Traffic Control Signals (PTCS) that have a mast arm with one signal head mounted vertically on the upright and with one or more signal head(s) mounted vertically on the mast arm.

Shall meet all the requirements listed in the “General” section, as well as requirements listed in this section of this specification.

Shall be mounted with the centers of the signal heads at least 8 feet apart. The bottom of the signal housing (including brackets) of a signal face not located over a roadway shall be at least 8 feet but not more than 19 feet above the sidewalk or if there is no sidewalk, above the pavement grade at the center of the roadway. The bottom of the signal housing and any related attachments to signal face located over a roadway shall be at least 17 feet and no more than 19 feet above the pavement. The top of the signal housing of a signal face located over a roadway shall not be more than 25.6ft above the pavement.

Shall be able to withstand a 90mph wind speed in operating mode per AASHTO (2001) Standard Specification for Highway Signs, Luminaries and Traffic Signals. A proof of conformance shall be provided to Mn/DOT.

Shall have four (4) 2” X 72” long sections of Reflective Vehicle Conspicuity Tape located on the trailer, such that it is completely visible from all four directions.

### **Pedestal Mounted Portable Traffic Control Signal:**

Pedestal Mounted Portable Traffic Control Signal in this document is defined as those Portable Traffic Control Signals (PTCS) with pedestal and vertical upright mounted signal head.

Shall meet all the requirements listed in the “General” section, as well as requirements listed in this section of this specification.

The bottom of the signal housing (including brackets) of a signal face not located over a roadway shall be at least 8 feet but not more than 19 feet above the sidewalk or if there is no sidewalk, above the pavement grade at the center of the roadway. Any part of the device located over a roadway shall be at least 17 feet above the pavement.

Shall be able to withstand a 60mph wind speed in operating mode. A proof of conformance shall be provided to Mn/DOT.

