SPECIAL SPECIFICATION
6834
Portable Changeable Message Sign

1. **Description.** Furnish, operate, and maintain portable trailer mounted changeable message sign (PCMS) units.

2. **Materials.** Furnish new or used material in accordance with the requirements of this Item and the details shown on the plans. Provide a self-contained PCMS unit with the following:
   - Sign controller
   - Changeable Message Sign
   - Trailer
   - Power source

Paint the exterior surfaces of the power supply housing, supports, trailer, and sign with Federal Orange No. 22246 or Federal Yellow No. 13538 of Federal Standard 595b, except paint the sign face assembly flat black.

A. **Minimum Luminance Requirements.** All PCMS units shall meet the following luminance requirements measured at the character level in candela as is published in Report 4940-2, “Photometric Requirements for Portable Changeable Message Signs,” conducted by the Texas Transportation Institute. Luminance will be tested in accordance with Tex-880.
   - Minimum Daytime Character Luminance of 4000cd/m² with a contrast ratio of 5.
   - Minimum Nighttime Character Luminance of 30/cd/m².

B. **Sign Controller.** Provide a controller with permanent storage of a minimum of 75 pre-programmed messages. Provide an external input device for random programming and storage of a minimum of 75 additional messages. Provide a controller capable of displaying up to 3 messages sequentially. Provide a controller with adjustable display rates. Enclose sign controller equipment in a lockable enclosure.

C. **Changeable Message Sign.** Provide a sign capable of being elevated to at least 7 ft. above the roadway surface from the bottom of the sign. Provide a sign capable of being rotated 360° and secured against movement in any position.

Provide a sign with 3 separate lines of text and 8 characters per line minimum. Provide a minimum 78 in. high x 126 in. wide sign housing. Provide a minimum 18 in. character height. Provide a 5 x 7 character pixel matrix. Provide a message visibility distance of 750 ft. Provide for manual and automatic dimming light sources.

The following are descriptions for 3 screen types of PCMS:
• **Character Modular Matrix.** This screen type comprises of character blocks.

• **Continuous Line Matrix.** This screen type uses proportionally spaced fonts for each line of text.

• **Full Matrix.** This screen type uses proportionally spaced fonts, varies the height of characters, and displays simple graphics on the entire sign.

**D. Trailer.** Provide a 2 wheel trailer with square top fenders, 4 leveling jacks, and trailer lights. Do not exceed an overall trailer width of 96 in. Shock mount the electronics and sign assembly.

**E. Power Source.** Provide a diesel generator, solar powered power source, or both. Provide a backup power source as necessary.

**F. Cellular Telephone.** When shown on the plans, provide a cellular telephone connection to communicate with the PCMS unit remotely.

**3. Construction.** Place or relocate PCMS units as shown on the plans or as directed. The plans will show the number of PCMS units needed, for how many days, and for which construction phases.

Maintain the PCMS units in good working condition. Repair damaged or malfunctioning PCMS units as soon as possible. PCMS units will remain the property of the Contractor.

**4. Measurement.** This Item will be measured by each PCMS or by the day used. All PCMS units shall be set up on a work area and operational before a calendar day can be considered measurable. When measurement by the day is specified, a day shall be measured for each PCMS set up and operational on the worksite.

**5. 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 “Portable Changeable Message Sign.” This price is full compensation for PCMS units; set up; relocating; removing; replacement parts; batteries (when required); fuel, oil, and oil filters (when required); cellular telephone charges (when required); software; and equipment, materials, tools, labor, and incidentals.