SPECIAL SPECIFICATION

6062

Portable Changeable Message Signs

1. **Description.** Provide during construction operations, portable changeable message signs meeting the requirements of this specification for use in traffic control during the work and maintain and operate the units during the work. The units provided remain the property of the Contractor during and after completion of the project.

2. **Materials.** Provide self-contained units, in a new-like and acceptable condition as determined by the Engineer, including message board, power supply and trailer.

   Provide a message board capable of providing 3 lines of legend with each line containing at least 50 columns of 7 lamps. Use matrix lamps providing a minimum service life of 10,000 hours.

   Provide a lamp matrix capable of selecting from at least 31 pre-stored messages with the capability to alternately show or sequentially flash up to 3 of the stored messages. Keyboard programmable message capabilities are not permitted. Ensure the messages displayed are readily legible from a distance of 750 ft. in bright sunlight. Use solid state sign electronics with appropriate controls for selecting messages, varying the message on time, and manual and automatic dimming of lamps for nighttime operation, all without the use of special tools. Enclose controls in a lockable fixture to prevent unauthorized manipulation. Provide suitable cooling fans for heat dissipation from any thermally-sensitive areas of the unit. Ensure the rear of the message board has a left and right chevron and arrow indication interconnected with the sign's variable message electronics.

   **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.

   Equip trailers with heavy duty axles and hitches, safety chains, 12 volt running lights (stop and clearance), leveling jacks, and four ply rated tires specially designed to adequately support the message board and generator in either fixed position or travel position. Use a sign panel support capable of positioning the sign to a height of 7 ft. from the ground to the bottom of the sign panel, and capable of rotating the panel 180 degrees about the vertical axis. Design the trailer to provide an adequate vandalproof and weatherproof housing for the generator and whatever additional power supply and electronic equipment is needed for operating the sign panel.
Provide a power supply consisting of a heavy duty diesel driven generator capable of supplying continuous power for the sign operation over extended time periods. Ensure the fuel supply is adequate to permit operation for at least 24 hours without refueling.

Provide the entire sign housing with a heavy duty wire guard cage or other approved protective material which can be removed for sign maintenance. Shock mount the sign assembly and electronics to reduce the transmission of vibration to these items from the power supply. For all exterior metal surfaces of the trailer, power supply housing, supports and signs, clean, prime with zinc chromate, and finish with 2 coats of federal yellow enamel paint except use flat black for the sign face assembly.

Unless otherwise specified on the plans, pre-program the sign electronics to display the following messages:

1. Ramp Closed Ahead
2. Shoulder Drop-Off
3. Detour Ahead
4. Two-Way Traffic Ahead
5. Form One Line Left
6. Form One Line Right
7. Form Two Lines Right
8. Form Two Lines Left
9. Center Lane Closed Ahead
10. Left Lane Closed Ahead
11. Right Lane Closed Ahead
12. Caution-Vehicles Crossing
13. Max. Speed XX MPH
14. Merge Right
15. Merge Left
16. Freeway Closed Ahead
17. Road Closed Ahead
18. Shoulder Use OK
19. Left 2 Lanes Closed
20. Right 2 Lanes Closed
21. All Traffic Exit
22. Caution Slow Traffic
23. Road Repairs Ahead
24. Detour Next 2 Exits
25. Detour Next Exit
26. End Shoulder Use
27. Right lanes Must Exit
28. Left Lanes Must Exit
29. Left 3 Lanes Closed
30. Right 3 Lanes Closed
31. Center Lane Closed

3. Construction.

A. General. Use the portable changeable message sign units designated under this Item in conjunction with handling traffic through work areas. Locate these units for the various stages of construction as indicated under the provisions for traffic handling provided in the contract, shown by plan details or as directed.

B. Maintaining Sign Units. Store the traffic control devices described in this specification, when not in use, in an approved secure storage area.

Assumer responsibility for maintenance operations required to keep the unit in proper working order.

Keep the unit in good repair at all times. Expedite any repairs necessitated by malfunction of or damage to the unit. Maintenance includes periodically cleaning the units and repairing damage to the protective coating of the units.

4. Measurement and Payment. The work performed and equipment furnished in accordance with this Item will not be measured or paid for directly, but is considered subsidiary to Item 502, "Barricades, Signs and Traffic Handling."