MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**SURFACE MOUNTED REFLECTORIZED CURB SYSTEM**

PMK:MKB 1 of 2 APPR:MWB:CT:04-25-22

**a. Description.** This work consists of furnishing and installing a prefabricated surface mounted reflectorized curb system as specified in this special provision.

**b. Materials.** The surface mounted reflectorized curb system consists of two main components: A series of raised separator units and profile reflectors. Ensure the system is a *MASH* compliant device. Furnish a letter from the FHWA confirming the selected system is eligible for federal aid reimbursement as a *MASH* compliant device.

1. Raised Separator Units. The raised separator consists of one or both basic units: a separator unit and an end unit. The separator cross section must provide minimal resistance to vehicle tires and be designed to direct the vehicle back onto the intended path. In addition, ensure the separator units are designed to withstand traffic impacts.

A. Ensure raised separator units are a size and weight such that they are individually portable without requiring mechanical means. Ensure the sections are a maximum of 12 inches in width, and a maximum of 4 inches in height.

B. To increase target value in daylight hours, ensure the entire surface of the separators are colored to conform to the pavement markings that they supplement unless otherwise approved by the Engineer.

C. Ensure the raised separator units can receive a minimum of one reflecting element that conforms flush to the shape of the separator and color of the pavement markings it supplements.

D. Design the raised separator units to allow drainage through the surface mounted curb system installation. This may be accomplished by features on the unit itself, or by the recommended spacing of the units on the roadway.

The raised separator units may be interconnecting or free standing depending on the type of system furnished. Install free standing units at 2-inch spacing measured end to end. Do not intermix different types of raised separator systems on the same project.

2. Profile Reflecting Elements. Furnish amber or crystal reflecting elements that match the color of the raised separator unit and markings to delineate the profile of the raised separator units at night. Design reflecting elements to adhere to the top and/or sides of the separator units or utilize snap-in arcs with at least seven reflecting elements on each side. Ensure all raised separator units are equipped with reflecting profile elements visible to all directions of oncoming traffic. The reflective elements must meet reflectivity requirements in *ASTM D4280* for Raised Pavement Markers or meet the photometric performance data in Table 1 in millicandela per lux (mcd/lux) for the inclinationangle of 0 degrees:

**Table1: Photometric Performance Data**

|  |  |  |  |
| --- | --- | --- | --- |
| Angle of Observation -α | Entrance  Angle -β | Amber  (mcd/lux) | Crystal (white)  (mcd/lux) |
| 0.3 degrees | 5 degrees | 70 | 140 |
| 0.5 degrees | 10 degrees | 45 | 90 |
| 1.0 degrees | 10 degrees | 18 | 36 |
| 2.0 degrees | 15 degrees | 2.3 | 4.6 |

**c. Construction.** Install the surface mounted reflectorized curb system in accordance with the manufacturer’s recommendations at the locations detailed on the plans, or as directed by the Engineer.

1. Surface Preparation. Install the surface mounted reflectorized curb system on a smooth continuous paved surface. Repair defects such as potholes, uneven joints etc. prior to installation. Do not install the surface mounted reflectorized curb over centerline corrugations, shoulder corrugations, or manhole covers. Remove all conflicting pavement markings, raised pavement markers and delineator posts in the location where the lane separator system is to be installed.

2. Raised Separator Units. Begin and end each run of the surface mounted reflectorized curb system with a tapered end unit if tapered end units are an option for the system. Interconnect and secure all raised separator units and end units prior to anchoring the system to the roadway. If the raised separator units are not required to be interconnected, install the units at 2-inch spacing measured end to end.

Use the anchoring option specified in accordance with the manufacturer’s recommended installation procedures or as directed by the Engineer. Use only anchors, hardware and other installation materials recommended by the manufacturer. Install each raised separator unit with the manufacturer recommended number of anchors. Field conditions may require the installation of additional anchors as directed by the Engineer. When installing the system on a bridge deck, the installation method may utilize adhesive and must meet manufacturer’s recommendations and be approved by the Engineer prior to installation.

3. Separator Unit Reflectors. Install reflecting profile elements on each raised separator unit. Ensure the reflecting profile elements are the same color as the pavement markings the curb system is installed to supplement.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit prices using the following pay item:

**Pay Item Pay Unit**

Surface Mtd Reflectorized Curb System, (color) Foot

**Surface Mtd Reflectorized Curb System, (color)** will be measured along and parallel to the centerline of the curb system, and includes all materials (i.e., raised separator unit and reflectors) costs for furnishing and installing. The specified color refers to the color of the raised separator units, and the reflectors installed on the raised separator units.