705   OBJECT MARKERS AND DELINEATORS.
(REV 11-18-21) (FA 1-27-22) (7-22)

SECTION 705 is deleted and the following substituted:

SECTION 705
OBJECT MARKERS AND DELINEATORS

705-1 Description.
　　Furnish and install object markers to mark obstructions within or adjacent to the roadway of the types and at the locations called for in the Standard Plans or in the Plans.
　　Furnish and install delineators along the side of the roadway to indicate the alignment of the roadway as indicated in the Standard Plans or in the Plans.

705-2 Materials.
　　705-2.1 General: Meet the following requirements:
　　　　Flexible Post Delineators*...................................Section 993
　　　　Barrier Delineators* ....Section 993
　　　　Retroreflective Sign Sheeting*............................Section 700
　　　　 *Use products listed on the Department's Approved Product List (APL).
　　705-2.2 Flanged U-Channel Posts: Meet the mechanical requirements of ASTM A499, Grade 60. Galvanize after fabrication in accordance with ASTM A123, to produce a smooth uniform finish free from defects affecting strength, durability, and appearance. Punch or drill 3/8-inch diameter holes on 1-inch centers through the center of the post, starting approximately 1 inch from the top and extending the full length of the post. Punching or drilling operations shall be completed prior to galvanization. The weight per foot of a manufacturer's U-channel size shall not vary more than plus or minus 3.5% of its specified weight per foot. Machine-straighten the U-channel to a tolerance of 0.4% of the length.
　　705-2.3 Round Aluminum Posts: Meet the requirements of Standard Plans, Index 700-010.
　　705-2.4 Retroreflective Sheeting: Use Types IV, V or XI sheeting. The retroreflective area shall be in accordance with the MUTCD.
　　705-2.5 Aluminum Panel: For Object Markers and Nonflexible Delineators, adhere retroreflective sheeting to 6061 T6 aluminum meeting ASTM B209. Use 0.040-inch sheet aluminum for Type 2 markers and nonflexible delineators. Use 0.080-inch sheet aluminum for Type 1, Type 3, and Type 4 markers. Prepare aluminum in accordance with recommendations of the sheeting manufacturer.

705-3 Installation Requirements.
　　Install delineators and object markers in accordance with the MUTCD, Standard Plans and Plans.
　　705-3.1 Object Markers: For uniformity, all Type 1 markers shall be OM1-3 style markers, all Type 2 markers shall be OM2-2V style markers, and all Type 4 (end of

road) markers shall be OM4-3 style markers. Install object markers at a mounting height of 4 feet measured in accordance with Standard Plans, Index 700-101.

Attach Type 1 and Type 4 object markers to round aluminum posts in accordance with Standard Plans, Index 700-010. Install Type 2 and Type 3 object markers directly to 3 lb/ft flanged U-Channel posts using two 1/4-inch bolts spaced to fit holes on the post.

Use attachment hardware (nuts, bolts, clamps, brackets, braces, etc.) of aluminum or galvanized steel.

705-3.2 Flexible Post Delineators: Install in accordance with the manufacturer's instructions.

705-3.3 Nonflexible Post Delineators: Install nonflexible post delineators on 1.1 lb/ft flanged U-Channel. The retroreflective sheeting shall have a minimum width of 4 inches and have a minimum area of 32 square inches.

705-3.4 Barrier Delineators: Install barrier delineators by adhesive or mechanical means as per the manufacturer's recommendations and in accordance with the details shown in the Plans and the Standard Plans. Install barrier delineators at a spacing of 25 feet for the first 100 feet of barrier and at 100 feet spacing thereafter. For installations with guardrail, install barrier delineators in accordance with Standard Plans, Index 536-001. Orient barrier delineators as detailed in the manufacturer's instructions.

705-4 Method of Measurement.

The quantity to be paid will be the number of delineators or object markers furnished, installed and accepted, with the exception of barrier delineators on new barriers, which are included in the cost of the barrier.

705-5 Basis of Payment.

Prices and payments will be full compensation for work specified in this Section, including the cost of labor, materials, and incidental items required to complete the work.

Payment will be made under:

Item No. 705- 10   Object Marker - each.
Item No. 705- 11   Delineator - each.