

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**GUARDRAIL APPROACH TERMINAL, TYPE 2M AND GUARDRAIL APPROACH
TERMINAL, TYPE 2M, TEMPORARY**

GCB:CT

1 of 3

APPR:WKP:DBP:03-14-24
FHWA:APPR:03-18-24

a. Description. This work consists of furnishing and delivering a tangent MASH, Test Level 3 (TL-3) compliant guardrail approach terminal (Type 2M), selected from those listed herein, to the job site; submitting detailed drawings and installation manuals for the selected terminal(s) to the Engineer; and installing the device(s) as shown on the plans or as directed by the Engineer. Complete this work in accordance with manufacturer's details and specifications, and this special provision.

b. Materials. Select from the following guardrail approach terminals.

1. MSKT, manufactured by Road Systems, Inc.
2. Soft-Stop, manufactured by Valtir, LLC.
3. MAX-Tension, manufactured by Lindsay Transportation Solutions, LLC.

Ensure all posts within the terminal limits are made of steel. Furnish materials for the selected terminal(s) meeting manufacturer's specifications and the requirements of this special provision. Ensure the selected guardrail terminal meets MASH, TL-3 criteria and has an FHWA federal aid eligibility letter.

Furnish detailed drawings of the selected guardrail approach terminal(s) prepared by the respective guardrail approach terminal manufacturer(s). The drawings must contain details depicting the terminal attached to MDOT Type MGS-8 guardrail, detailed in Standard Plan R-60-Series.

Furnish materials meeting the requirements of subsection 807.02 of the Standard Specifications for Construction for transitions required for connecting Guardrail Approach Terminal, Type 2M to Type B or Type T guardrail, as depicted in Standard Plan R-60-Series.

Furnish installation and maintenance manuals for the selected guardrail approach terminal(s) prepared by the respective guardrail approach terminal manufacturer(s).

Furnish high intensity adhesive reflective sheeting for placement on the terminal's impact head. The reflective sheeting must meet the stripe dimensions, colors, and pattern, based on traffic conditions, as shown on Standard Plan R-62-Series. The three-inch stripes, alternating black and yellow, on the reflective sheeting must slope downward at an angle of 45 degrees toward the roadway. The yellow stripes on the reflective sheeting must meet *ASTM D4956* specifications for Type XI retroreflective sheeting and must meet the requirements of *Section 2C.64 and 2C.65 of the MMUTCD*.

c. Construction. At least 14 days prior to terminal installation, furnish the Engineer one electronic copy of the detailed drawings, installation manuals, and maintenance manuals for the selected guardrail approach terminal(s). Before terminal installation commences, ensure all questions, comments, or concerns raised by the Engineer concerning the detailed drawings, installation manuals, and/or maintenance manuals are addressed.

Ensure the guardrail terminal manufacturer is available to consult, by telephone or e-mail, with the Engineer, the Engineer's designated representative, at no additional cost to the contract. Consultation will encompass the installation of guardrail terminals. Furnish the manufacturer's name, telephone number, and e-mail address to the Engineer prior to terminal installation. Furnish responses from the manufacturer to any telephone or e-mail inquiries from the Engineer, the Engineer's designated representative, within 2 working days.

Furnish staff that have been trained by the respective guardrail terminal manufacturer to install the guardrail terminals utilized on the project. Training materials and course content for guardrail installation crew training will be as determined by the respective manufacturer. Furnish manufacturer issued and dated training certificates for all staff on the guardrail installation crew. Training must have occurred within the previous 3 years. Ensure training certificates are provided to the Engineer 14 days before guardrail installation work commences. Furnish updated training certificates no later than 48 hours after personnel changes occur.

Construct guardrail terminals in accordance with section 807 of the Standard Specifications for Construction, the manufacturer's installation manual(s), and the detailed drawings furnished by the manufacturer.

Construct transitions for connecting Guardrail Approach Terminal, Type 2M to Type B or Type T guardrail in accordance with the appropriate details on Standard Plan R-60-Series and section 807 of the Standard Specifications for Construction.

Do not attach reflectors or other attachments within the limits of the guardrail approach terminal. Attach guardrail reflectors within the limits of transition sections, detailed on Standard Plan R-60-Series, when connecting Guardrail Approach Terminal, Type 2M to guardrail Type B or Type T.

Unless otherwise specified by the Engineer, install guardrail approach terminal with a 1 foot-0 inch offset, in relation to the rear of the terminal, measured at the nose (front) of the terminal.

Completely cover the portion of the impact head assembly facing traffic with high intensity adhesive reflective sheeting meeting the requirements of this special provision.

Furnish the guardrail terminal manufacturer's installation checklist, completed and signed by the Contractor, for each individual guardrail terminal installed. Upon completion of guardrail work, furnish written certification from the Contractor that all guardrail terminal installations have been installed per the contract and the manufacturers' specifications and guidelines.

Remove temporary guardrail approach terminals when no longer required in accordance with subsection 807.03.I of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the pay items defined in section 807 of the Standard Specifications for Construction. Payment for guardrail approach terminal installation includes

constructing a guardrail approach terminal of specified length per Standard Plan R-62 Series and, when required, a transition section per Standard Plan R-60 Series for connecting guardrail approach terminal to guardrail Type B or Type T.