

SPECIAL PROVISION
SECTION 510
SPECIAL DETOURS

This specification is amended as follows:

510.03 Vehicular and Pedestrian Traffic Not Separated

The second paragraph is replaced with the following:

The Special Detour, including the temporary structure and approaches, shall be designed and sealed by Professional Engineers, licensed in accordance with the laws of the State of Maine. Temporary approaches shall be designed to achieve minimum acceptable factors of safety for slope stability. The embankment design shall be conducted by a geotechnical consulting firm from the *MaineDOT Prequalified Consultants* List (Service #804.10 – Geotechnical Investigations and Engineering Services) retained by the Contractor. The Contractor shall submit the design computations, supporting analyses, and detailed plans of the temporary structure and approaches that will serve as the Special Detour to the Resident. Construction shall not begin on the temporary approach embankments prior to review and acceptance of the submittal by the Department.

510.31 Structure Design

The first paragraph is replaced with the following:

Temporary structures shall be designed in accordance with the current edition of the *AASHTO LRFD Bridge Design Specifications*, except as noted herein, and meet live load requirements of HL-93, Maine Modified. Overstress will not be permitted for any structural or foundation element. Structural elements considered as bracing shall be proven by calculation to meet strength and stiffness requirements.

Item “c” is replaced with the following:

c. Bridge Railing Loads Bridge railing shall be designed in accordance with the current edition of the *AASHTO LRFD Bridge Design Specifications* meeting the geometry and load demands of Test Level 3.

Item “e” is replaced with the following:

e. Foundations Temporary foundations, embankment foundations and earth retaining structures shall be designed in accordance with the current edition of the *AASHTO LRFD Bridge Design Specifications* and *AASHTO LRFD Bridge Construction Specifications*, except as noted herein. The Contractor is responsible for determining the ultimate load carrying capacity of the foundation materials and foundation elements for the Special Detour. The determination of the ultimate load carrying capacity may require characterization of the subsurface conditions by the Contractor by means of subsurface investigation.

Foundations shall be designed for all applicable loads, forces, and load combinations. Load and force assumptions as well as load and resistance factors used for each foundation design shall be clearly stated in the submitted calculations.

The Special Detour design shall include calculations for transverse and longitudinal global stability of the bridge and approach embankments. If the contractor performs additional borings within the alignment of the Special Detour and at its abutments, a resistance factor, ϕ , of 0.75 may be used in the Strength I Load Combination, correlating to a minimum factor of safety of 1.3. If additional borings are not performed within the alignment of the Special Detour and at its abutments, a resistance factor, ϕ , of 0.65 shall be used, correlating to a minimum factor of safety of 1.5. Compensation for borings drilled will be incidental to this item.

510.32 Geometric and Approach Design

The last sentence of item “a” Horizontal Alignment, describing the design tables to use, is replaced with the following:

The roadway width shall be increased on curved portions of the Special Detour to account for the off tracking characteristics of a WB-62 vehicle in accordance with the AASHTO publication *A Policy On Geometric Design of Highways and Streets*, Chapter 3 tables entitled “Derived Traveled Way Widths for Turning Roadways for Different Design Vehicles” and “Design Widths of the Traveled Way for Turning Roadways.”

510.032(c) Approach Road Guardrail

This subsection is replaced with the following:

The Special Detour approaches shall have guardrail or concrete barrier where side slopes are steeper than 3 horizontal to 1 vertical, or as specified on the Plans. Approach guardrail shall be Type 3 guardrail or an approved equal and shall be attached to the bridge rail in a manner that develops the guardrail in tension. Approach barrier shall be attached to the bridge rail with a rigid connection with a similar strength capacity to the bridge rail. If the Plans specify a type of rail or barrier, that type shall be used.

The termination of approach guardrail or barrier and the end treatment of the rail shall be in accordance with the current AASHTO Roadside Design Guide.

510.09 Basis of Payment

This subsection is amended as follows:

The following sentence is inserted in the first paragraph after the second sentence:

All guardrail or concrete barrier required solely for the Special Detour shall be incidental to this item.

The second paragraph is replaced with the following:

Traffic control devices, work zone crash cushions, temporary erosion control, pavement, and dust control will be paid for in accordance with the applicable Contract items.