

SECTION 606 - GUARDRAIL

606.01 Description. This section describes furnishing and installing guardrails, including assembly and erection of component parts, designated as follows:
Type 3 - Beam Type Guardrail; Type 4 - Rigid Barrier Type Guardrail.

606.02 Materials.

Structural Concrete	601
Joint Filler	705.01
Reinforcing Steel	709.01
Wire Rope or Wire Cable	709.02
Metal Beam Rails	710.04
Guardrail Posts	710.07
Guardrail Hardware	710.08

606.03 Construction. Assemble and erect guardrails in accordance with the contract documents. At end of each workday, protect openings, terminals, and other portions of uncompleted sections in guardrail system with barriers that comply with requirements for temporary traffic control prescribed by MUTCD and AASHTO *Roadside Design Guide* and accepted by the Engineer prior to installation. Barrier is defined as a longitudinal shielding device used to protect motorists from hazards located along either side of a traveled way.

Preserve and protect existing facilities to remain. Replace guardrails and appurtenances, damaged by the Contractor's operation.

(A) Beam Type Guardrail. Repair zinc-coated base metal surfaces damaged during installation and assembly, in accordance with Subsection 501.03(G)(2) - Repairing Damaged Zinc-Coated Surfaces.

(1) Posts. Steel posts shall be installed using post-driving machine. Use suitable cushioning material to protect posts from damage during driving.

Backfill excavated holes and voids formed between soil and post resulting from driving, with selected material free of rock and accepted by the Engineer. Place backfill in layers and compact each layer as accepted by the Engineer. Repair damaged pavement.

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Adjust guardrail post locations to avoid existing underground facilities and to produce smooth transitions. Install terminal section posts in locations required by the contract documents or manufacturer's recommendations, or both. For guardrail and terminal section posts, variance from required locations will be allowed only if the Contractor submits written variance request and the Engineer accepts variance in writing.

Where the contract documents require additional bolts and holes on posts, furnish additional bolts and drill additional bolt holes, as necessary for proper guardrail installation.

(2) Rail Elements. Install rail elements with laps in direction of traffic flow. Provide smooth, continuous rail alignment. Tighten all bolts installed during the workday, except adjustment bolt, before end of workday. Provide bolts of sufficient length to extend 3/8 inch beyond nut.

Where the contract documents require setting of guardrail posts at non-standard spacing, drill additional bolt holes as necessary for proper guardrail installation.

(3) Reset Guardrail. Remove, store, and reset existing guardrail. Do not remove more than 500 linear feet of existing guardrail per day.

After removing existing guardrail, backfill post holes with selected material free of rock and accepted by the Engineer. Place backfill in layers and compact each layer as accepted by the Engineer. Grade and compact area before resetting existing posts and installing new posts to replace damaged posts.

Reset existing guardrail posts or install replacement posts, or both to heights indicated in the contract documents.

(B) Rigid Barrier Type Guardrail.

(1) Preparation. Shape and compact foundation to firm, even surface in accordance with Subsection 203.03(D) - Subgrade Preparation and the contract documents. If unsuitable material is encountered in subgrade, remove in accordance with Subsection 203.03(A)(4) - Subexcavation and replace with material conforming to Subsection 703.17 - Aggregate for Subbase.

(2) Forms. Design, construct, and maintain forms in accordance with Subsection 503.03(C) - Forms.

94 **(3) Concrete Placement.** Place concrete in accordance with
95 Subsection 503.03(F) - Placing Concrete.

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97 On new and existing concrete bridge decks, dowel barrier into
98 decks in accordance with Section 656 - Drilling Holes and Installing
99 Dowel Reinforcing Bars and the contract documents.

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101 **(4) Concrete Finish.** Finish concrete surfaces in accordance with
102 Subsection 503.03(M)(2) - Class 2 Rubbed Finish.

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104 **(5) Joints.** Construct guardrail expansion joints at existing
105 structure expansion joints and at intervals indicated in the contract
106 documents. Provide 1/2-inch preformed joint filler at expansion joints.

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108 At intervals indicated in the contract documents, provide control
109 joints and construction joints with keys. Joint filler will not be required
110 at control and construction joints.

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112 **(6) Transition Sections.** Construct transition sections to connect
113 ends of new barrier with existing guardrail in accordance with the
114 contract documents.

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116 **606.04 Measurement.** Guardrail, end anchorage, terminal section, transition
117 section, and reset guardrail will be paid on a lump sum basis. Measurement for
118 payment will not apply.

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120 **606.05 Payment.** The Engineer will pay for the accepted pay items listed below
121 at the contract lump sum price, as shown in the proposal schedule. Payment will be
122 full compensation for the work prescribed in this section and the contract
123 documents.

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125 The Engineer will pay for each of the following pay items when included in the
126 proposal schedule:

127 Pay Item	128 Pay Unit
129 Guardrail Type _____	130 Lump Sum
131 End Anchorage Type _____	132 Lump Sum
133 Terminal Section Type _____	134 Lump Sum
135 Transition Section Type _____	136 Lump Sum
137 Reset Guardrail	138 Lump Sum

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141 **END OF SECTION 606**