

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
  
SPECIAL PROVISION  
FOR  
**BRIDGE RAILING, CONCRETE BLOCK RETROFIT**

GCB:CT

1 of 2

APPR:JAB:SCK:04-28-21  
FHWA:APPR:04-28-21

**a. Description.** This work consists of constructing bridge railing, concrete block retrofit concrete barriers per the requirements in section 711 of the Standard Specifications for Construction and as specified in this special provision.

**b. Materials.** Use materials as specified in subsection 711.02 of the Standard Specifications for Construction, with the following exception:

1. Provide Grade 4500HP concrete meeting the requirements specified in section 1004 of the Standard Specifications for Construction, with the following exception:

A. Ensure the minimum 28-day compressive strength is at least 5,000 psi.

Provide a non-shrink grout adhesive selected from the Adhesive Systems for Structural Anchor and Lane Ties QPL (712.03.J), with a minimum 28-day compressive strength of 5,000 psi.

Provide Grade 60, epoxy-coated steel reinforcement.

**c. Construction.** Construct bridge railing, concrete block retrofit in accordance with Standard Plan B-50-Series and with the concrete parapet railing requirements of section 711 of the Standard Specifications for Construction.

Drill 1-inch diameter holes in curb/brush block for setting vertical reinforcing bars. Do not drill completely through the deck. Locate potential conflicts with existing steel reinforcement using a pachometer, or other Department approved method. Anchor vertical steel reinforcement in curb/brush block with non-shrink grout adhesive.

1. Requirements when existing rail is to be removed. Any anchor bolts/reinforcement that will have at least 2 inches of concrete cover when encompassed by the concrete block retrofit may be left in place at the Contractor's option subject to approval by the Engineer. Ensure any anchor bolts/reinforcement not having the 2-inch minimum cover is cut off flush with or slightly below the top of curb/brush block surface and exposed steel surfaces painted with two coats of zinc-rich epoxy primer.

Ensure anchor bolts/reinforcement located outside of the area of new concrete block retrofit construction is cut off flush with or slightly below top of curb/brush block surface and exposed steel surfaces painted with two coats of zinc-rich epoxy primer.

Attach permanent barrier reflective markers to the concrete block retrofit bridge railing in accordance with subsection 711.03.F 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 following pay item:

**Pay Item****Pay Unit**

Bridge Railing, Conc Block Retrofit.....Foot

**Bridge Railing, Conc Block Retrofit** includes constructing bridge railing, concrete block retrofit. Additional payment will not be provided for furnishing Grade 4500HP concrete, as specified in this special provision.

Installing permanent barrier reflective markers on the concrete block retrofit bridge railing will be paid for separately.

Removal of existing bridge railing, when required, will be paid for separately. Cutting off anchor bolts/reinforcement and applying zinc-rich epoxy primer to exposed steel surfaces, as described in this special provision, will be included as part of **Bridge Railing, Conc Block Retrofit** and will not be paid for separately.