



**DEVELOPMENTAL SPECIFICATIONS  
FOR  
BRIDGE FLOOR OVER-DEPTH REPAIR AND OVERLAY**

**Effective Date  
January 16, 2008**

**THE STANDARD SPECIFICATIONS, SERIES 2001, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.**

This specification is intended for bridge floor repair and overlay contracts on non-primary and non-interstate route bridges where the Contractor is required to remove existing floor concrete to within a target of 1/4 inch (5 mm) of the top of the top mat of reinforcing steel rather than removing only the top 1/4 inch (5 mm) of the existing floor concrete. The following changes are made to the Section 2413 of the Standard Specifications:

**2413.01, Description.**

**Add new articles:**

**D. Class A Bridge Floor Repair, Special.**

Class A Bridge Floor Repair, Special, consists of: 1) removing existing floor concrete from a target of 1/4 inch (5 mm) above the top of the top mat of reinforcing steel, but less than full depth of the existing bridge deck; 2) transporting the existing concrete removed from the project; and 3) replacing the excavated volume with concrete to a level bounding the Bridge Floor Over-Depth Overlay classification. Lower limit for Class A Bridge Floor Repair, Special shall be to suitable existing concrete, as determined by the Engineer. Removal of floor concrete above the top of the top mat of reinforcing steel is included in Bridge Floor Over-Depth Overlay.

**E. Bridge Floor Over-Depth Overlay.**

~~Bridge Floor Over-Depth Overlay consists of: 1) removing existing floor concrete to within 1/4 inch (5 mm) of the top of the top mat of reinforcing steel; 2) transporting the existing concrete removed from the project; and 3) overlaying with a concrete course of a depth designated.~~

Bridge Floor Over-Depth Overlay consists of: 1) determining the concrete cover thickness over the top mat of reinforcing steel at locations spaced 10 foot (3 m) apart for the overall width of the bridge with a minimum of 2 per placement transversely and every 20 feet (6 m) longitudinally for the overall length of the bridge; 2) removing existing floor concrete to within a target of 1/4 inch +/- 1/4 inch (5 mm +/- 5 mm) above the top of the top mat of reinforcing steel; 3) acceptance of concrete surface removal will be based on the grid system described in Item 1) listed above; 4) transporting the existing concrete removed from the project; and 5) overlaying with a concrete course of a depth designated. Removal may be accomplished using equipment listed in Article 2413.03 or with scarification equipment. The process shall be accomplished in a manner that does NOT damage or loosen the concrete bond around the

reinforcing steel. The overlay may include a raise of the existing roadway surface elevation as shown in the project plans.

#### **2413.04, Preparation of Surface for Bridge Floor Surfacing and Bridge Floor Overlays.**

**Replace** the third sentence of the first paragraph:

On bridge floor overlays, Class A bridge floor repair and Class A bridge floor repair, special, removal areas may be used as test wells provided they meet the nominal dimensions and are located in the testing frequency areas.

**Replace** the first sentence of the second paragraph:

For bridge floor overlays, the entire existing concrete floor area shall be uniformly scarified or prepared to a depth of 1/4 inch (5 mm), or to a uniform depth to within a target of 1/4 inch (5 mm) of the top of the top mat of reinforcing steel for bridge floor over-depth overlay ~~except over. In areas of Class A, Class A Special, and Class B repair this surface preparation where the overlay removal~~ may be coincidental with operations for repair removal.

#### **2413.05, A, Class A Bridge Floor Repair.**

**Replace** the second sentence of the first paragraph:

Class A repair removal shall be considered to start 1/4 inch (5 mm) below the existing surface for Class A and ~~at from a target of 1/4 inch (5 mm) above~~ the top of the top mat of reinforcing steel for Class A, Special, but this shall not preclude removal coincidental with preparation for overlay.

#### **2413.05, A, Class A Bridge Floor Repair.**

**Replace** the first sentence of the third paragraph:

For Class A and Class A, Special repair and in preparation for bridge deck overlay, the surface may also be prepared or partially prepared using a high pressure water system, at the Contractor's option.

#### **2413.05, B, Class B Bridge Floor Repair.**

**Replace** the first paragraph:

Within all areas designated for Class B repair, and any designated areas of Class A or Class A, Special, repair in which the depth of the remaining sound concrete is less than 50% of the original depth of the bridge floor, all concrete shall be removed. Designated Class A and Class A, Special, repair areas shall be measured as Class B Bridge Floor Repair when full depth removal is required. At the direction of the Engineer, limited areas of removal greater than 50% of the floor thickness, such as beneath reinforcing, may be allowed; these limited areas of excess depth will be measured as Class A Bridge Floor Repair or Class A Bridge Floor Repair, Special. Concrete shall be removed by jack hammer, chipping hammer, or by a combination of scarifying and chipping hammer, except that the final removal at the periphery of Class B repair areas shall be accomplished by 15 pound (7 kg) jack hammer, chipping hammer, or hand tools. Class B repair removal shall be considered to start 1/4 inch (5 mm) below the existing surface for Bridge Floor Overlay, ~~Class A,~~ and at a target of 1/4 inch (5 mm) above the top of the top mat of reinforcing steel for Bridge Floor Over-Depth Overlay, ~~Class A, Special,~~ but this shall not preclude removal coincidental with preparation for overlay.

#### **2413.07, A, Repairs.**

**Replace** the first sentence of the second paragraph:

Although repair classes are considered to begin 1/4 inch (5 mm) below the original concrete surface for Class A and ~~the top of the top mat~~ from the target of 1/4 inch (5 mm) above the

top mat of reinforcing steel for Class A, Special, repair concrete shall be placed monolithically with the overlay course, except as described for larger areas of Class B repair.

#### 2413.11 METHOD OF MEASUREMENT.

**Replace** the second paragraph:

Class A Bridge Floor Repair, Class A Bridge Floor Repair, Special; Class B Bridge Floor Repair, Bridge Floor Overlay (Class O PCC), Bridge Floor Overlay (Class HPC-O), Bridge Floor Over-Depth Overlay (Class O PCC), and Bridge Floor Over-Depth Overlay (Class HPC-O) will be computed by the Engineer in square yards (square meters) from measurements of the areas repaired or overlaid.

**Add** as the third paragraph:

Concrete removal for Class O PCC test wells may be required by the Engineer. This removal will not be measured for payment.

#### 2413.12 BASIS OF PAYMENT.

**Replace** the first sentence of the first third indented paragraph:

For the number of square yards (square meters) of Class A Bridge Floor Repair, Class A Bridge Floor Repair, Special; Class B Bridge Floor Repair, Bridge Floor Overlay (Class O PCC), and Bridge Floor Overlay (Class HPC-O), Bridge Floor Over-Depth Overlay (Class O PCC), and Bridge Floor Over-Depth Overlay (Class HPC-O) constructed, the Contractor will be paid the respective contract unit price per square yard (square meters).

**Replace** the first sentence of the fourth indented paragraph:

When there is no item for Class B Bridge Floor Repair, but such work is required, payment for each square yard (square meter) for 5 square yards (square meter for 4 m<sup>2</sup>) or less will be at three times the contract unit price per square yard (square meter) for Class A Bridge Floor Repair or Class A Bridge Floor Repair, Special.

**Replace** the fifth indented paragraph:

The cost of sealing as required in Article 2413.09 shall be included in the contract unit price for Bridge Floor Overlay (Class O PCC), Bridge Floor Overlay (Class HPC-O), Bridge Floor Over-Depth Overlay (Class O PCC), or Bridge Floor Over-Depth Overlay (Class HPC-O).