

**KANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION TO THE
STANDARD SPECIFICATIONS, 1990 EDITION**

NOTE: This special provision is generally written in the imperative mood. The subject, "the *Contractor*" is implied. Also implied in this language are "*shall*", "*shall be*", or similar words and phrases. The word "*will*" generally pertains to decisions or actions of the Kansas Department of Transportation.

Add a new Section to Division 500:

PORTLAND CEMENT CONCRETE BONDED INLAY OR OVERLAY

1.0 DESCRIPTION.

Construct a Portland cement concrete bonded inlay or overlay at the locations designated in the Contract Documents.

BID ITEM	UNIT
Milling	Square Yard
Surface Preparation	Square Yard
Concrete Placement	Square Yard
Concrete for Bonded Concrete Pavement (* Uniform)(AE)(**)	Cubic Yard
Saw Cuts	Linear Foot

*Thickness
**Plain or Fibers

2.0 MATERIALS.

Provide the specified class of concrete that complies with the requirements of **Section 402** of the **Standard Specifications**.

Provide concrete curing materials that comply with the requirements of **Section 1400** of the **Standard Specifications**.

Provide hot pour joint sealant that complies with the requirements of **Special Provision 90M-192** (latest version).

If specified, provide fibrous concrete reinforcement that complies with the requirements of **Special Provision 90P-264** (latest version).

3.0 CONSTRUCTION REQUIREMENTS.

a. Saw Cuts.

(1) Concrete Pavement.

(a) Longitudinal Saw Cuts. If required for inlay projects, saw cut the existing concrete pavement to the depth shown in the Contract Documents. Make the saw cuts approximately 4 inches in from each longitudinal joint for the length of the project. This saw cut may be adjusted transversely to fit the Contractor's method of operation, provided no damage to the adjacent lane or shoulder occurs. Repair any damage to the adjacent concrete that is caused by the sawing operations.

(b) Transverse Saw Cuts: The Engineer may require transverse saw cuts to prevent excessive spalling of the concrete below the depth of removal, and to prevent damage to or work stoppage of the removal equipment caused by the reinforcing steel in the pavement that is encountered. If shown in the Contract Documents, cut the pavement in the transverse direction to the specified depth. Space the saw cuts 6 feet, or greater, apart.

(2) Bituminous Pavement. If required for inlay projects, saw cut the existing bituminous pavement to the depth shown in the Contract Documents.

b. Milling.

(1) Concrete Pavement. Mill (to the specified depth) the areas designated in the Contract Documents for the bonded concrete inlay or overlay. When milling in areas that have saw cuts, do not disturb or damage the reinforcing mesh and pavement that is deeper than the depth of the saw cut. Remove debris left by the milling machine by brooming and high pressure air blasting the milled surfaces. Dispose of all waste materials.

(2) Bituminous Pavement. Mill (to the specified depth) the areas designated in the Contract Documents for the bonded concrete inlay or overlay. Remove debris left by the milling machine by brooming and high pressure air blasting the milled surfaces. Dispose of all waste materials.

c. Surface Preparation.

(1) Concrete Pavement. Shotblast the area with equipment that has a self-contained removal/cleaning system equipped with a recovery system to remove the pellets and surface contaminants.

(a) If the surface is not milled before the shotblasting, produce a surface relief equal to the International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) level 6 to 7, or ASTM E 965 Pavement MacroTexture Depth of 0.06 to 0.08 inch.

(b) The Engineer will accept the surface when all contaminants are removed so that the original paste, fine and coarse aggregate, and air voids are visible.

(2) Bituminous Pavement. Broom and use high pressure air blast to remove loose millings.

d. Bonded Concrete Inlay or Overlay.

(1) Concrete Pavement. Place the concrete inlay or overlay within 72 hours after shotblasting. Before placing the inlay or overlay, prepare a grout consisting of 1 portion by weight of Portland cement and 3 portions by weight of water. Apply the grout to all existing pavement

surfaces, including vertical surfaces that will receive the inlay or overlay. Use a pressurized sprayer with a minimum nozzle pressure of 60 psi to apply the grout. Do not use brushes or rollers to apply the grout. Apply a thin, uniform coat of grout that does not run or puddle in low spots. Place the concrete inlay or overlay before the grout dries.

(2) Bituminous Pavement. Before placing the inlay or overlay, cool the bituminous surface temperature to 100°F or less. If water is used to cool the surface, remove pooled water and allow the surface to dry to a saturated surface condition before the concrete is placed.

Construct the concrete inlay or overlay according to the requirements of Section 502 of the Standard Specifications, with these additions and exceptions:

Page 279, subsection 502.03(h)(7.1) & (7.2). Delete these subsections and replace with this:

(7.1) Concrete over Concrete.

First Stage Transverse Cuts. Locate the transverse joints directly above the existing transverse joints. Cut the full lane width $\frac{1}{8}$ inch wide and $\frac{1}{2}$ inch deeper than the thickness of the bonded concrete inlay or overlay.

Longitudinal Joints. Locate the longitudinal joint directly above the existing joint. Cut the depth of the longitudinal joint one-half the thickness of the bonded concrete inlay or overlay and $\frac{1}{4}$ inch wide. Saw the longitudinal joints after sawing the first stage transverse joints.

Second Stage Transverse Cut. Widen the first stage transverse cut and extend the cut into the adjacent lane joints to a depth of 2 inches and a width of $\frac{3}{8}$ inch.

(7.2) Concrete over Bituminous.

Layout the transverse and longitudinal joints according to the details in the Contract Documents. Cut the joints $\frac{1}{8}$ inch wide by 1 inch deep.

Page 280, subsection 502.03(h)(8.3). Delete this subsection and add this, for Concrete over Concrete only:

(8.3) Installing Backup Material for Transverse Joints only. Install the backup material in a manner that will produce the shape factor specified. Use compatible backup material with the hot pour sealant as recommended by the sealant manufacturer.

Page 280, subsection 502.03(h)(8.5). Delete this subsection and add this, for Concrete over Concrete only:

(8.5) Filling the Joint. Seal the joint once the pavement is at least 4 days old, thoroughly clean, and dry. Do not apply the sealant to wet or damp concrete or installed during inclement weather. Place the sealant to reasonably close conformity with dimensions shown in the Contract Documents. Any unreasonable deviation will be cause for rejection of the joint until satisfactory corrective measures are taken. Joint sealant application will not be permitted when the air temperature near the joint is less than 40°F or is 40°F and falling.

Page 280, subsection 502.03(h)(8.6). Delete this subsection and add this, for Concrete over Concrete only:

(8.6) Equipment. Install the backer rod only in the transverse joints utilizing a device that will place the rod uniformly at the depth shown in the Contract Documents. Apply the joint sealant

by an approved mechanical device from inside the joint in such a manner that causes it to wet the joint surfaces. Any failure of the joint material in either adhesion or cohesion will be cause for rejection, and the joint repaired at the Contractor's expense.

Page 283, subsection 502.03(j)(2). Change the application rate from 1 gal. per 150 sq. ft. to 1.5 gal. per 150 sq. ft..

Determine the pavement smoothness according to the requirements of Special Provisions 90M-111 or 90M-225 (latest versions).

4.0 MEASUREMENT AND PAYMENT.

The Engineer will measure each completed and accepted item of milling, surface preparation, and concrete placement by the square yard (measured to the nearest 0.1 ft., computed to the nearest 0.1 sq. yd., paid to the sq. yd.).

The Engineer will measure the completed and accepted saw cuts by the linear foot (measured to the nearest 0.1 ft., paid to the ft.).

The Engineer will measure the placed and accepted concrete for bonded concrete pavement by the cubic yard (measured to the nearest 0.1 cu. yd., paid to the 0.1 cu. yd.).

Payment for " Milling," "Surface Preparation," "Concrete Placement," "Concrete for Bonded Concrete Pavement," and "Saw Cuts" at the Contract unit prices is full compensation for the specified work.

03-07-02 M&R(SP) (AG/RB)
typographical correction 12-30-02