

SECTION 518—CONTINUOUSLY REINFORCED CONCRETE PAVEMENT PATCHING

518.1 DESCRIPTION—This work is the construction of one course, full-depth, continuously reinforced cement concrete pavement patches. Do not patch less than one lane width.

(a) **Patching Joint.** Provide partial depth saw-cuts at the existing pavement/patch interface, construct a sealant reservoir, and seal the joint.

(b) **Continuously Reinforced Concrete Pavement Patching, Type A.** Construct patches between 1.80 m and 6.00 m (6 feet and 20 feet) long if using tied splices and between 1.20 m and 6.00 m (4 feet and 20 feet) long if using welded splices.

(c) **Continuously Reinforced Concrete Pavement Patching, Type B.** Construct patches between 6.01 m and 20.00 m (20.1 feet and 65 feet) long.

(d) **Continuously Reinforced Concrete Pavement Patching, Type C.** Construct patches between 20.01 m and 150 m (65.1 feet and 500 feet) long.

518.2 MATERIAL—

(a) **Cement Concrete.** Class AA or Class HES, [Section 704](#).

(b) **Reinforcement Bars.** [Section 1002.2](#)

(c) **Concrete Curing Materials.** [Section 711.1\(a\)](#), [\(b\)](#), [\(c\)](#), [\(d\)](#), and [\(e\)](#).

(d) **Concrete Admixtures.** [Section 711.3](#)

(e) **Bondbreaker.** Use polyethylene sheeting, clear or opaque, minimum 150 µm (6-mil) thickness, or a double application of Type 2, white pigmented, wax-based curing compound as specified in [Section 711.1\(a\)](#) and [Section 711.2\(a\)](#) respectively.

(f) **Subbase.** [Section 350.2](#)

(g) **Joint Sealing Material.** [Section 705.4\(b\)](#) or [\(c\)](#)

(h) **Tape Bond Breaker.** An acceptable self-adhesive tape the width of the sealant reservoir.

(i) **Preformed Cellular Polystyrene.** [Section 516.2\(m\)](#)

(j) **Welding Material.** [Section 1105.02\(t\)](#)

(k) **Anchoring Material.** [Section 516.2\(k\)](#)

518.3 CONSTRUCTION—As specified in [Section 516.3](#), modified as follows:

(b) **Saw Cutting.** Replace the second paragraph of [Section 516.3\(b\)](#) with the following:

Make initial, full-depth, transverse saw-cuts from the outside edge of the pavement toward the longitudinal saw-cut. Make a second, 25 mm (1-inch) minimum depth, transverse saw-cut at each end of the patch area, parallel to and outside the initial saw-cut the distance shown on the [Standard Drawings](#) for the type of rebar splices to be used. Do not saw cut across an existing crack. Do not locate saw-cuts within 610 mm (24 inches) of an existing

crack. Do not cut reinforcement bars when making the partial depth saw-cuts. If any of the reinforcement bars are cut, take corrective action by making the partial depth saw-cut a full-depth cut and making another partial depth (25 mm (1-inch) minimum) saw-cut located as specified above. Place the additional length of patch at no expense to the Department.

(c) **Removal of Existing Pavement.** Replace [Section 516.3\(c\)](#), with the following:

(c) **Removal of Existing Pavement.** Remove concrete between the two full-depth, transverse saw-cuts, before making the 25 mm (1-inch) minimum depth saw-cuts. A wheel saw having carbide steel tips may be used, while making the full-depth transverse saw-cuts, to provide a trench across the slab to relieve compression in pavement before lifting out failed area. Limit penetration of wheel into the subbase to a maximum of 13 mm (1/2 inch). Do not allow the wheel to cut into pavement that is remaining in place. Discontinue use of the wheel saw if unsatisfactory results are obtained as determined by the Representative.

Install lifting devices and lift out the concrete in the area enclosed by the full-depth saw-cuts, in one or more pieces, without disturbing existing subbase.

Remove the concrete strips at each end of the patch area with jackhammers and hand tools. Limit jackhammer size to 67 N (15 pounds) maximum. Do not damage existing reinforcement bars within the concrete strips. Do not break back the underside of the existing pavement. If break back greater than 50 mm (2 inches) occurs, make a new full-depth, transverse saw-cut beyond the area of break back. Saw cut a new outside edge, maintaining the appropriate bar length at the edge of patch. Place the additional length of patch at no cost to the Department.

If the existing pavement was constructed on top of a bond breaker, remove the bond breaker from the top of pavement base. Place new bond breaker, of the existing type and thickness, before placing concrete. If polyethylene sheeting is used, cut to the surface dimensions of the patch.

If the surface of the subbase is disturbed by the removal procedure, recompact the surface using small vibratory compactors. If subbase material is disturbed to a depth greater than 25 mm (1 inch), remove the disturbed material with hand tools and replace with concrete during paving at no cost to the Department.

(e) **Transverse Joints.** Replace [Section 516.3\(e\)](#), with the following:

(e) **Reinforcement.** Place reinforcement in the patch area as specified in [Section 1002.3](#) and as shown on the [Standard Drawings](#). Firmly support and tie bars at every intersection to re-establish the continuous reinforcing. Use tied or welded splices. Lap the new reinforcement bars with the existing bars as shown on the [Standard Drawings](#) for the type of rebar splices to be used. Weld splice as specified in [Section 1105.03\(m\)](#) and as shown on the [Standard Drawings](#). When weld splicing, lap tie bars at the center of the patch, as shown on the [Standard Drawings](#), to allow for expansion.

518.4 MEASUREMENT AND PAYMENT—

(a) **Patching Joint.** Meter (Linear Foot)

(b) **Continuously Reinforced Concrete Pavement Patching.** Square Meter (Square Yard)

For type indicated. The unit price includes removal of the existing pavement and repairs or corrections specified in [Section 516.3](#) that are needed as a result of patching operations.

(c) **Subbase Material.** Cubic Meter (Cubic Yard)

The unit price includes excavation.