

506 REPAIR OF PCC PAVEMENT, BASE, ALLEY, DRIVEWAY AND ALLEY ENTRANCES

506.01 DESCRIPTION

Work consists of making repairs to PCC pavement, base, alley and driveway and alley entrances and includes the cutting, removal and disposal of the old material from cuts or openings for underground work to a depth equal to that of the surrounding concrete, or as directed by the Chief Engineer. Unless otherwise mentioned in Section 506 or in the contract documents, materials, construction and methods and measure and payment shall meet the requirements specified for new construction of a similar type.

Work also includes replacing adjacent areas of defective pavement in a manner described above.

506.02 MATERIALS

Portland Cement Concrete – [817, Class E](#)

Welded wire fabric – [812.01](#)

Tie rod assemblies and tie rods – [807.04](#)

Load transfer assemblies – [807.03](#)

Preformed expansion joint filler – [807.01](#)

Joint-sealing materials – [807.02\(A\)](#) or [\(B\)](#)

Impervious sub grade materials – [822.14](#)

Concrete Curing materials – [814](#)

Fly ash – [801.05](#)

506.03 PROPORTIONING

The proportions of materials for concrete shall meet the requirements of [817](#). Adjustments may be made as provided in [501.13](#).

506.04 CONSTRUCTION REQUIREMENTS

The Contractor shall not make pavement excavation or openings to a greater extent than can be replaced and repaved during the same working day, unless otherwise approved by the Chief Engineer.

PCC repair shall conform to the requirements of the specifications of new construction of a type similar to that on which the repairs are to be made, with the following exceptions, changes, or additions.

- (A) PREPARATION FOR CONCRETE REPAIRS.** The areas to be repaired shall be prepared by removing all materials as directed by the Chief Engineer. The area shall be graded to the depth necessary to construct the repair so that it will meet the requirements of the specifications for new construction of a similar type. If unsuitable materials are discovered in the base course, it shall be removed and replaced with material conforming

to [804.04](#) and measured and paid for under [209](#). The area of repair will be such as to provide on each side of the cut a minimum 6-inch shoulder on undisturbed base course.

The concrete adjoining the section to be replaced shall be left with reasonably straight edges. Repair sections shall be in accordance with the standard drawings. If it is necessary to make replacement closer than 2 feet to a joint or to an existing repair, the replacement shall be extended to the joint and/or the existing repair as directed by the Chief Engineer.

All costs of cutting back, removal, and disposal of the excavated material to the depth of pavement which is to be placed shall be included in the contract unit price for Repair PCC Pavement, base, alley, driveway and alley repair. Material to be removed above or below the pavement will be paid for at the contract unit price under [202](#).

When directed by the Chief Engineer, the asphalt binder course shall be omitted from the repair area and replaced with base concrete. This is intended for small repairs where it is impractical to compact the binder course with a roller. The elevation of the finished concrete base shall be sufficiently below the pavement surface to allow placing and proper compaction of the specified thickness of the asphalt surface course.

(B) CUTTING TO A NEAT LINE. The perimeter of all repair areas that become part of the permanent roadway surface shall be cut to a neat line by means of a power saw.

(C) PLACING CONCRETE. The edges of the concrete adjoining the repair shall be thoroughly cleaned and wetted just prior to depositing fresh concrete against them. Wire fabric reinforcement meeting the requirements of [812.01](#) for the type pavement being repaired shall be used in the repair of pavement, base and alley, if such pavement, base, or alley is reinforced or if directed by the Chief Engineer. Any damaged expansion joint material in the area to be repaired shall be replaced with new material and shall conform in all respects as to type, quality, and method of installation to that of new construction. Sufficient carbon powder shall be used in the repair of pavement, alley and sidewalk so that the repaired area will closely match the color of the existing concrete. The cost of furnishing carbon powder for pavement and alley repair will be paid for at the contract unit price per pound for carbon powder for PCC pavement and alley repair.

If sufficient concrete is not available to completely fill the repair section, bulkhead timber of the depth of the repair shall be placed to receive the concrete. Tie rods shall be placed in the concrete at approximately 1/2 the depth of the repair and shall be embedded 1/2 the length of the rod.

Tie rods for this purpose shall meet the requirements of [807.04](#) except that a length of only 20 inches will be required.

When truck-mixed concrete is used for repair, re-tempering the concrete and placing of concrete that has attained initial set will not be permitted. However, in lieu of the time interval requirements of [501.09](#), the interval between the admission of cement to the batch and final discharge shall not exceed 2 hours.

It is important that all locations at which concrete is to be used are fully prepared prior to delivery of the concrete and that only sufficient concrete is ordered to permit its use within the time limit specified for hauling concrete. Due to the difficulty of placing concrete in irregular and small repairs, and the importance of attaining the best possible

results, the Contractor shall proceed with the utmost diligence in the prosecution of all phases of work.

- (D) PROTECTION.** In lieu of the provisions specified in [501.20](#) and [501.21](#) the following shall apply: All classes of traffic shall be excluded from pavements by the erection and maintenance of suitable barricades for a period of 24 hours after placing the concrete. This curing period will be increased to 48 hours in the case of roadway and alley construction during the period classified as Cold Weather Construction.

On heavily traveled streets, a steel protection plate, per [616.19](#), extending out onto the adjoining pavement at least 6 inches on all sides may be required over concrete base repair areas. The plates shall be securely anchored to prevent displacement under traffic. When steel protection plates are used, barricades will not be required.

The Contractor shall be responsible for the cuts and their condition from the initiation of excavation to the removal of barricades from completed repair.

- (E) TREE SAFEGUARDS.** Tree safeguards shall conform to the requirements of [611.07](#) and [611.08](#).

506.05 CLEANING UP

The Contractor shall remove from the roadway all excavated pavement, debris, and dirt as rapidly as the completion of the repair work permits, and in no case will it be permissible for this material to remain on the project overnight.

506.06 MEASURE AND PAYMENT

- (A) PORTLAND CEMENT CONCRETE PAVEMENT, AND ALLEY REPAIR.** The unit of measure for Portland Cement Concrete Pavement, Base and Alley Repair will be the cubic yard. The actual number of cubic yards measured complete in place will be paid for at the contract unit price per cubic yard, which payment will include sawing, removal and disposal of excavated materials, backfill, joint materials, load transfer devices, placement of dowels, tie rods and tie bars, curing, protection, joint sealing and all labor, materials, tools, equipment and incidentals necessary to complete the work as specified herein.
- (B) WIRE FABRIC REINFORCEMENT FOR PORTLAND CEMENT CONCRETE PAVEMENT, BASE AND ALLEY REPAIR.** Measure and payment for Wire Fabric Reinforcement for Portland Cement Concrete Pavement, Base and Alley Repair will be made in accordance with [505.05\(B\)](#).
- (C) ADDITIONAL STANDARD PORTLAND CEMENT.** The unit of measure for Additional Standard Portland Cement will be the bag. The actual number of additional bags added to the mix, as directed by the Chief Engineer per [501.22](#), will be paid for at the contract unit price per bag, which payment will include all labor, materials, tools, equipment and incidentals necessary to complete the work as specified herein.
- (D) CARBON POWDER.** The unit of measure for Carbon Powder will be the pound. The actual number of pounds added to the mix will be paid for at the contract unit price per pound, which payment will include all labor, materials, tools, equipment and incidentals necessary to complete the work as specified herein.