18502.03M CEMENT TREATED PERMEABLE BASE COURSE

The requirements of Section 502 - Portland Cement Concrete Pavement shall apply except as modified below:

DESCRIPTION

This work shall consist of constructing a Portland Cement Treated Permeable Base (CTPB) course on a prepared subbase course in accordance with these specifications and in reasonably close conformity with the lines, grades, thicknesses, and typical cross-sections shown on the plans or established by the Engineer.

MATERIALS

Delete Section 502-2 Materials, and replace with the following:

Materials shall meet the requirements of the following unless otherwise specified on the plans or proposal:

1. **Aggregate:** Use aggregate meeting the requirements of Section 703-02 Coarse Aggregate, of the Standard Specifications. The gradation will be Type CA2 as specified in Table 1, Aggregate Gradation.

TABLE I
AGGREGATE GRADATION

Sieve Size	General Limits % Passing
37.5 mm	100
25.0 mm	93-100
12.5 mm	27-58
6.3 mm	0-8

2. **Cement:** Use Portland Cement Type 1, 2 or 3 meeting the requirements of Section 701-01 Portland Cement, of the Standard Specifications. When high sulphate resistance is required, use Type 5 cement. The quantity of cement will be 3800 kg per cubic meter.

3. **Water:** Use water for mixing the CTPB meeting the requirements of Section 712-01 Water, of the Standard Specifications.

4. **Pozzolans:** Do not substitute cement with pozzolans.

5. **Admixture:** Admixtures will not be required for this item.
6. **Water/Cement:** Use a water/cement ratio of 0.37.

CONSTRUCTION DETAILS

The Construction Details as specified in Section 502-3 shall apply except as modified below:

The equipment used to place the CTPB shall conform to the requirements of Subsection 502-3.02 Equipment, except the use of internal type vibrators with either immersed tube or multiple spuds will not be permitted for consolidating the CTPB.

Add the following to the end of Subsection 502-3.02 Equipment:

D. Hot Mix Asphalt Pavers. Hot Mix Asphalt pavers meeting the requirements of Subsection 401-3.05 Bituminous Pavers, may be used to place CTPB.

E. Roller. A dual steel-wheel static roller meeting the requirement of Subsection 401-3.06, Rollers, weighing between 6 and 10 metric tons will be optional for compaction of the CTPB.

The Deputy Chief Engineer, Construction Division may approve alternate types of equipment to place this material if field tests or other data demonstrate that satisfactory results can be achieved.

The placing and spreading of the CTPB shall conform to the requirements of Subsection 502-3.06 Placing and Spreading.

Add the following to the end of Subsection 502-3.06 Placing and Spreading:

Consolidate the mixture within one-half hour after the spreading operation using one of the following methods:

1). A vibrating screed attached to the Hot Mix Asphalt paver, or

2). a dual steel-wheel roller making two machine passes, or as ordered by the Engineer, with the roller operating in static mode. Do not compact the material to a point that the aggregate is crushed or it is not a free draining system.

Complete the compaction process within two hours of the addition of water to the dry mixed material.

Delete Section 502-3.09 Finishing and Texturing.

Delete Section 502-3.10 Curing, and replace with the following:

Cure the completed CTPB for minimum of three days before placing the subsequent layer.

Delete Section 502-3.13 Surface Test, and replace with the following:

Test the completed CTPB surface with a 3 meter straight edge prior to the initial set. If the surface irregularities exceed 12 mm in 3 meters, repair the area according to the requirements of Subsection 502-3.15, Defective or Damaged Concrete.

Delete Section 502-3.14 Sealing Joints.

Delete Section 502-3.15 Defective or Damaged Concrete, and replace with the following:

Repair or replace all of the damaged CTPB prior to the placement of the subsequent layer at your expense. The type of damage requiring repair or replacement will include but is not limited to imperfections caused by construction traffic and operations. Repair the CTPB using the methods described in these specifications unless otherwise approved by the Engineer. Replace any CTPB, as determined by the Engineer, with CTPB originally called for in the plans and proposal. The types of repair and replacement will be subject to approval by the Engineer.

Add the following to the end of Section 502-3 Construction Details:

502-3.17 Contamination. To prevent the contamination of the CTPB the following precautions will be exercised:

1) Construction traffic will not be permitted on the CTPB except for the equipment required to place the subsequent layer.

2) Foot traffic should be minimized on the completed CTPB, to prevent the intrusion of earth and foreign substances, prior to overlay.

METHOD OF MEASUREMENT

Delete Section 502-4 Method of Measurement, and replace with the following:

The quantity of CTPB will be the number of cubic meters computed from payment lines shown on the plans or where the revised payment lines are established by the Engineer prior to performing work. Deductions will not be made for catch basins, man-holes, or other similar obstructions in the CTPB.

BASIS OF PAYMENT

Delete Section 502-5 Basis of Payment, and replace with the following:

The unit price bid per cubic meter for CTPB will include all materials, equipment, and labor necessary to complete the work. Progress payments will be made after CTPB has been properly placed. Payments will be made, at the unit price bid, for 90% of the quantity. The balance of the quantity will be paid for upon completion of any necessary repairs.