

SECTION B1

BITUMINOUS CONCRETE PAVING

GENERAL

This section covers the restoration of roadways and sidewalks, in whole or in part, with bituminous concrete paving.

WITHIN 4 DAYS OF BACKFILLING IN AREAS TO BE PAVED, THE CONTRACTOR SHALL COMMENCE PAVING, UNLESS DIRECTED OTHERWISE IN WRITING BY THE ENGINEER.

THE CONTRACTOR SHALL NOT LEAVE EXCAVATED AREAS UNPAVED OVER WEEKENDS UNLESS THROUGH WRITTEN APPROVAL OF THE ENGINEER.

MAJOR ARTERIAL STREETS AS DEFINED BY THE CITY OF BOSTON TRANSPORTATION DEPARTMENT, AS WELL AS MBTA BUS ROUTES, WILL BE PAVED AT THE END OF EACH WORKDAY.

Except as otherwise specified herein, all work performed under this section in City of Boston streets shall conform to the Standard.

Specifications of the City of Boston, Public Works Department, latest version, and it's Special Provisions, and shall apply to materials and workmanship for bituminous concrete paving.

Except as otherwise specified herein, all work performed under this section in DCR Streets shall conform to the current DCR specifications in effect at the time of bidding on this contract.

Cold patch may be used when hot mix is not available. This is only for the Contractor's convenience and is not considered temporary paving. Where the Contractor has used cold patch he will repave the area with acceptable temporary paving as soon as it is available. The Contractor will be required to maintain cold patched areas according to the specifications for temporary paving. There will not be payment for setting of cold patch.

MATERIALS

Bituminous Concrete

Bituminous concrete pavement placed in all City of Boston and DCR Streets shall conform to Commonwealth of Massachusetts's standards and specifications for M3.11.00 Class I, Bituminous Concrete.

Tack Coat

Tack coat shall consist of emulsified asphalt, Grade RS-1, conforming to Section M.3.03.0 of the Commonwealth of Massachusetts Department of Public Works Standard Specifications for Highways and Bridges latest version.

CONSTRUCTION METHODS

GENERAL

1. All pavement thickness referred to in these specifications are compacted thickness. The Contractor shall place sufficient bituminous concrete mix to insure the specified thickness of pavement occurs after compaction.
2. All areas to be patched shall be prepared as specified in Section A1, Excavation and Backfill.
3. All frames, grates, covers, street boxes, manhole rings and other castings within the limits of the area to be paved shall be reset, if required, immediately prior to paving.
4. Prior to patching an area, the trimmed edges of existing pavement shall be stable and unyielding, free of loose or broken pieces, and all edges shall be thoroughly broomed and coated with an asphalt tack coat. See General Conditions, paragraph GC.23 for maximum payment limits and deductions for excess width.
5. All contact surfaces of curbing, existing pavement, castings and other structures shall be coated with an asphalt tack coat.
6. When the air temperature falls below fifty (50) degrees F, extra precautions shall be taken in drying the aggregates, controlling the temperatures of the materials and placing and compacting the mixtures.
7. No mixtures shall be placed when the air temperature is below forty (40) degrees F, nor when the material on which the mixtures are to be placed contains frost or has a surface temperature not suitable to the Inspector.
8. Each layer of bituminous concrete paving material shall be thoroughly compacted with a roller weighing a minimum of two hundred and eighty-five (285) pounds per inch of width.
9. Along curbing, structures, and all places not accessible to the roller, the mixture shall be thoroughly compacted by tampers. Such tampers shall not weigh less than twenty-five (25) pounds and shall have a tamping face of not more than fifty (50) square inches.
10. No vehicular traffic loads shall be permitted on the newly paved area until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines.
11. All Excavation, whether temporary or permanent, are to be marked with utility repair tags as detailed in the Boston Public Works Rules and Specifications for Excavation Activity within the City of Boston, last revised April 6th, 2015. Markers for BWSC excavations will be provided to the Contractor by the Commission.

TEMPORARY PAVEMENT IN CITY OF BOSTON STREETS

1. Temporary pavement shall conform to City of Boston Standard specifications for Bituminous Concrete Paving.
2. Temporary pavement shall be placed in two (2) separate layers.
3. Each layer shall be one and one-half (1-1/2) inches thick.
4. The first course shall be thoroughly compacted before placing the second course.
5. The finished surface of the mixture, after compaction, shall be true to the established line and grade of the existing pavement.

TEMPORARY PAVEMENT IN DCR STREETS

Bituminous temporary pavement in DCR streets shall consist of a 2" binder course followed by a 2" surface course over well-compacted gravel.

PERMANENT TRENCH REPAIR IN DCR STREETS AND WALKWAYS

All permanent trench repair in DCR streets shall be done according to the following DCR Specifications:

The permanent bituminous concrete patch shall have a minimum cutback of 24-inches on each side of the trench when installing the permanent patch. The trench shall be saw cut.

All bituminous concrete and existing vertical pavement edges shall be tack coated prior to placement of new bituminous concrete.

After the temporary pavement has been in place for an entire winter season, a permanent pavement shall be placed consisting of:

Bituminous permanent pavement:	1-3/4" surface course
	2" binder course
	4" base course

Bituminous Pavement	1-1/4" surface course
walk Repair, with driveway	2" binder course
	3" base course

Bituminous Pavement	1-1/4" surface course
Walk repair, no driveway	2" binder course

Cement concrete sidewalks - shall be constructed using 6-inches of 4000 psi cement concrete with 3/4-inch aggregate. Place 6"x6" No. 10 gauge welded wire steel mesh. Mesh shall be placed on concrete bricks at the 3" level. Rolled mesh is not permitted. Concrete to be placed on 12-inches of gravel.

The finished surface of the mixture, after compaction, shall be true to the established line and grade of the existing pavement.

PERMANENT TRENCH REPAIR IN BOSTON STREETS

1. No Permanent Trench Repair shall be placed until patched area has been subject to traffic for a minimum of ninety (90) days.
2. All areas to be restored with Permanent Trench Repair shall be saw cut to produce strong, even, unyielding edges. All corners shall be 90-degree angles.
3. All trenches shall be repaved to 6-inches beyond the trench line on both sides of the trench. If the edge of the final trench is within two feet of the curbline; the trench repair shall extend to the curb.
4. A 5-inch binder course shall be placed in two (2) separate layers consisting of 2-1/2 inches per layer.
6. A 1-1/2 inch wearing course shall be placed in one (1) layer and shall be true to the established line and grade of the existing pavement.

PERMANENT TRENCH REPAIR IN BOSTON STREETS - ARTERIAL ROADWAYS

An arterial street shall be defined as a primary street that may be functionally classified under the Federal-aid Classification System (Fed-Aid) or National Highway System (NHS) as facilitating the movement of the highest traffic volumes in the City of Boston.

1. Items 1-3 as defined in the above section for Boston Streets shall also apply to Arterial Roadways.
4. A 5-1/2 inch minimum binder course shall be placed in three (3) evenly compacted lifts.
5. A 2-inch wearing course shall be placed in one (1) layer and shall be true to the established line and grade of the existing pavement.
6. The resulting minimum depth of 7-1/2 inches must meet the material requirements for BPWD asphalt.

Payment for permanent paving of trenches in arterial roadways will be made under pay item B1-2, Permanent Trench Repair - Boston **AND** under pay item B1-5, Bituminous Concrete Overlay Paving - for the wearing course, over the width of the final trench as approved by the Engineer prior to performing the work.

BITUMINOUS CONCRETE OVERLAY PAVING IN THE CITY OF BOSTON IN
DCR ROADWAYS

1. Before any full width overlay paving is begun:
 - a. The Contractor shall cut back all loose or broken pavement.
 - b. The Contractor shall prepare all excavated area (including those cut back in (a) above) in accordance with Section A1, Excavation and Backfill.
 - c. The Contractor shall patch all areas of existing roadway, where necessary, according to sub-sections above, whichever is applicable.
 - d. The Contractor shall fill in any previously patched areas that have settled more than one half (1/2) inch with bituminous concrete leveling course, after coating such areas with tack coat.
2. Unless otherwise approved by the Engineer, no overlay pavement shall be placed until patched areas have been subject to traffic for a minimum of sixty (60) days.
3. At existing catch basins, the Contractor shall cut back and remove existing pavement for a minimum of six (6) inches so that the overlay pavement will taper down to the catch basin.
4. The Contractor shall contact all utility companies having castings in the area to be paved, and shall arrange for them to raise all their castings to grade prior to paving. In the event the castings of other agencies are not raised, the Contractor, at the discretion of the Inspector, may taper down the overlay to meet existing rim.
5. The Contractor shall adjust all B.W.S.C castings, in accordance with the specifications contained herein and under the appropriate bid items. In the event the overlay is placed as part of the trench repair than no separate payment will be made for castings included in the trench repair.
6. The Contractor shall thoroughly sweep the roadway to receive overlay paving in order to remove all loose material and debris.
7. A tack coat shall be applied to the entire trench surface and edges, and to all castings, curbing, and other structures that will be in contact with the overlay pavement.
8. The Contractor shall spread the bituminous concrete material

by a continuous mechanical method approved by the Engineer.

9. The Contractor shall spread enough mixture so that the finished compacted thickness, at the center of the roadway, is one and one-half (1-1/2) inches. The pavement shall taper slightly to a thickness of one (1) inch at the roadway edge.
10. The Contractor shall have enough manpower on the site to ensure that all areas to be raked, smoothed or tamped shall be done before any initial set-up of the material occurs.

PERMANENT TRENCH REPAIR IN STATE ROADWAYS

The permanent paving of trenches on state roadways requires the milling and paving of all travel lanes impacted from the beginning station of the trench to the end station of the trench. In certain instances, where required by MassDOT permits; full width milling and overlay may be required. The trench area shall have 5-1/2 inches binder placed in two (2) lifts prior to the overlay of 1-1/2 inches of super pave surface.

Payment for the installation of the binder shall be made under pay item B1-4, Permanent Pavement State Highway. The milling and overlay of the state roadway shall be paid under the appropriate pay items.

MAINTENANCE PERIOD OF ROADWAY SURFACE

The Contractor shall be responsible for maintaining the surface of any excavated area in accordance with the latest version of the City of Boston Public Works Department specifications for Excavation Activity Within the City of Boston.

In the event that any resurfacing work done under this contract is located in a roadway under the jurisdiction of another state or municipal agency (i.e. DCR, Commonwealth of Massachusetts DPW, etc.), the surface shall be maintained in accordance with the agency's specifications.

The Contractor shall be responsible to maintain trenches and patching at his expense for a period of one year after the backfilling and patching of the trench and shall promptly refill and repair areas, which have settled or are otherwise unsatisfactory for pedestrian and vehicular traffic.

The Contractor shall be responsible and indemnify and hold the Commission harmless for any damages sustained to persons or property as a result of any accident that may occur on account of the defective condition of the street or sidewalk surface.

Final payment or acceptance by the Commission of the completed contract shall have no effect on the Contractor's obligation as

indicated in the above paragraphs.

MEASUREMENT AND PAYMENT

ITEM	B1-1 Temporary Paving Boston Streets	S.Y.
	B1-2 Permanent Trench Repair in Boston Streets	S.Y.
	B1-3 Permanent Paving in DCR Streets	S.Y.
	B1-3A Temporary Pavement DCR Streets	S.Y.
	B1-4 Permanent Paving in State Highway	S.Y.
	B1-5 Bituminous Concrete Overlay Paving	S.Y.

The quantity of pavement to be paid for under the above listed items shall be the actual number of square yards after compaction measured in place by the Commission Engineer or Inspector.

Contractor's special attention is called to the EXCESS PAVING DEDUCTION explanation set forth in the General Conditions. The maximum allowable paving width for payment under item B1-1 shall be the allowable trench width plus twelve (12) inches. The maximum allowable paving width for payment under items B1-2 and B1-4 shall be the allowable trench width plus twenty-four (24) inches. The maximum allowable paving width for payment under item B1-3 shall be the allowable trench width plus forty eight (48) inches.

Payment under the above listed items shall be full compensation for furnishing, handling, placing, compacting and maintaining all paved surfaces as set forth in this specification.

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