

SECTION 02607  
NEW AND REPLACEMENT PAVING AND SIDEWALKS

PART 1 - GENERAL

1.01 SCOPE

The work to be performed under this section shall include replacing existing sidewalks and pavement in paved streets, driveways, and parking areas where such sidewalks and pavement have been removed for constructing water pipelines, fire hydrants, sewers, manholes, and all other water and sewer appurtenances and structures. It shall also include temporary paving, and new sidewalks and pavements where applicable.

PART 2 - PRODUCTS

2.01 TYPES OF PAVEMENT

A. All existing pavement in streets, driveways, or parking areas which is removed, destroyed, or damaged by construction of sewage or water works shall be replaced as specified below, as shown on the Drawings, or as called for in the Bid Schedule. Unless otherwise shown or specified, all paved surfaces shall be replaced using the applicable pavement replacement Type 1 thru 5 as shown on the Drawings. Pavement shown or specified to be replaced for the full width of the street shall be types 6, 7 or 8 as applicable and as shown on the Drawings. Materials, equipment, and construction methods used for paving work shall conform to the Specifications applicable to the particular type required for replacement, repair, or new pavements.

1. Type 1 portland cement concrete pavement shall be Class "A" concrete conforming to the section entitled "Cast-In-Place Concrete" of these Specifications, having minimum compressive strength of 3500 psi. The surface shall conform to the grade and elevation of the surrounding pavement. The slab shall be of a depth of eight (8) inches as shown on the drawings.
2. Type 2 - not used.
3. Type 3 asphaltic concrete pavement for heavy-duty use shall have a maximum thickness of three (3") inches placed in two equal layers. Type 3 pavement shall be composed of plant mix, asphaltic concrete Grading E conforming to "Asphaltic Concrete Surface (Hot Mix)," Section 411, Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition. The pavement mixture shall not be spread until the designated surface has been previously cleaned and prepared, is intact, firm, properly cured, dry, and the tack coat has been applied.

4. Type 4 - not used.
  5. Type 5 bituminous penetration pavement shall conform to Section 404, "Double Bituminous Surface Treatment," Tennessee Department of Transportation, Standard Specification for Road and Bridge Construction, latest edition.
  6. Replacement of portland cement concrete driveways shall be Class "A" concrete conforming to the section entitled "Cast-In-Place Concrete" of these Specifications. The surface finish of the concrete pavement shall conform to that of the existing pavement. The slab shall be of depth equivalent to the existing concrete pavement, but in no case less than six (6) inches thick. Expansion joints removed shall be replaced.
  7. Replacement of portland cement concrete sidewalks shall be Class "A" concrete conforming to the section entitled "Cast-In-Place Concrete" of these Specifications. The surface finish of the concrete sidewalk shall conform to that of the existing sidewalk. The slab shall be of depth equivalent to the existing concrete sidewalk but in no case less than four (4) inches thick. Expansion joints removed shall be replaced.
  8. Where sewerage or water lines and appurtenances are constructed in or across unpaved, chert, or crushed stone surfaced streets, roadways, driveways, or parking areas, the surface removed or damaged shall be repaired or replaced with a minimum of six (6) inches of crushed stone in accordance with Section 401, "Mineral Aggregate Surface," of the Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition.
  9. Unless permanent replacement can be made on the same day as the removal of the surface, and traffic is to be reinstated, temporary pavement repairs shall be made with two inches (2") of cold mix or hot bituminous seal coat. Permanent repair **MUST** be made within ten (10) working days from date of pavement cut.
- B. In no case shall paving repair be commenced without prior approval of the Engineer of the type pavement, the equipment to be used, and the method or procedure to be used.

## PART 3 - EXECUTION

### 3.01 REPLACING PAVEMENT

- A. Pavements removed or damaged shall be replaced in accordance with the following procedures:
1. The existing street pavement or surface shall be removed along the line of the work for the allowable width specified for the trench or structure. All edges of the existing pavement shall be cut to a straight, vertical edge and care shall be used to get a smooth joint between the old and new pavement and to produce an even surface on the completed street. Cement concrete slabs, cement concrete base slabs and crushed stone bases, if required, shall be placed and the concrete allowed to cure for three (3) days before asphaltic concrete surface courses are applied. Expansion joints where applicable shall be replaced in a manner equal to the original joint.
  2. After the installation of the sewer or water lines, the trench shall be backfilled with thoroughly compacted crushed stone from the top of bedding to finished grade unless otherwise specified on the Drawings. Backfill shall be placed as specified in the section entitled "Earthwork," Paragraph 2.05, of these Specifications.
  3. Trench backfill along streets shall be covered with permanent paving or with a temporary paving as specified above. The temporary paving shall be applied level with the existing paved surface at a time directed by the engineer. Prior to the application of the temporary paving the crushed stone backfill shall be maintained carefully at grade and dust free. Additionally, immediately prior to application of permanent paving by Contractor or acceptance by the City, Contractor shall again compact the top of all trench backfill in the streets with a hydrotamper and add sufficient crushed stone to bring surface back to bottom of permanent paving as shown on Drawings.
  4. Unless otherwise shown or specified, all paved surfaces shall be replaced with pavement of like kind as specified in Paragraph 2.01. The pavement shall be either specified trench width or the full width of the street as shown in the Bid Schedule.
  5. Where pavement is specified for trench width only, the temporary surface or sub-base for permanent paving shall be compacted and finished to the base grade compatible with the type of pavement to be applied before pavement is placed. Additional width of pavement to be removed, if any, as shown on the drawings shall be done immediately prior to replacing the pavement. Any additional pavement or street surface removed or damaged beyond the limits shown on the Drawings shall be replaced or repaired by the Contractor at the Contractor's expense.

6. Where the pavement is for the complete width of the street, the following procedures shall be used;
  - a. After the crushed stone backfill and temporary surface have settled thoroughly, the entire width of the street to be paved shall be cleaned of loose materials as specified in Section 407, "Bituminous Plant Mix Pavements," Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition. All areas which have settled shall be filled and leveled as described above in Paragraph 3. Manholes shall be raised to match finished grade using precast concrete rings. Before paving a tack coat shall be applied to the full width of the street, as specified in Section 403 "Tack Coat," Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition.
  - b. During the time that the full width of the street is being paved, the Contractor shall extend the paving from the street into existing paved driveways in order to provide a smooth transition from the street to the existing driveway grade. This work shall be completed to the satisfaction of the Engineer with no separate payment being allowed.
7. Wherever sewer or water lines are constructed across state highways, the Contractor shall comply with all requirements and provisions of the Standard Method of the Tennessee Department of Transportation for opening trenches through highways and replacing pavements as shown on the Drawings and specified herein. All such work shall be subject to inspection and approval by the Tennessee Department of Transportation.
8. Contractor shall remove all surplus excavation materials and debris from the street surfaces and rights-of-way and shall restore street, roadway or sidewalk surfacing to its original condition. This work shall be considered as cleanup and no separate payment will be made for this item.

### 302. NEW PAVEMENTS

- A. Access roads, parking areas, and other roadways shall be surfaced as shown on the Contract Drawings. The material shall be placed sufficiently thick to produce, after compaction, a uniform surface with a minimum thickness as shown on the drawings and shall be shaped to the required line and grade. Materials, equipment and construction methods used for paving work shall conform to the Specifications for the particular surface required.
- B. Bituminous penetration pavement, Portland Cement Concrete base course or pavement and bituminous concrete pavement shall include a base course constructed in accordance with the requirements of Section 303, "Mineral Aggregate Base," Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition. The completed

crushed stone road base shall be maintained by the Contractor in a smooth, first-class condition to required line, grade and cross section until the entire surface area has become stabilized and compacted. Roadway materials shall not be placed on soft, wet or frozen sub-grade.

- C. After the base has become stabilized, the entire surface shall be covered with the surface course called for on the Drawings. The surface course shall not be placed until all other items of work are completed.
- D. Portland Cement Concrete base course or pavement shall be placed as herein specified in this Section. Asphaltic concrete pavement shall be placed as herein specified in Paragraph 2.01. Bituminous penetration surface shall be constructed in accordance with Section 404, "Double Bituminous Surface Treatment," Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition.
- E. Crushed stone surface shall be placed as herein specified in this section, Paragraph 2.01.

### 3.03 MAINTENANCE

The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the project. Maintenance shall include such dragging, reshaping, refilling, wetting, rerolling, and reapplication of the temporary paving surface as are necessary to prevent raveling of the road material, the preservation of reasonably smooth surface and repair of damaged or unsatisfactory surfaces to the satisfaction of the Engineer. Maintenance shall also include sprinkling as may be necessary to abate dust.

### 3.04 SIDEWALK REPLACEMENT

#### A. MATERIALS

- 1. All concrete sidewalks shall be built and/or replaced with Class "A" concrete which shall conform with requirements of the section entitled "Cast-in-Place Concrete" of these Specifications.
- 2. Preformed joints shall be 1/2-inch thick conforming to the latest edition of AASHTO Standard Specifications, M59, for preformed bituminous fiber joints.
- 3. Concrete forms shall be of wood or metal, shall be straight and free from warp, and shall be of sufficient strength when in place to hold the concrete true to line and grade without springing or distortion.

- B. When a section of sidewalk is removed, the existing sidewalk shall be cut to a neat line perpendicular to both the centerline and the surface of the concrete slab. Existing concrete shall be cut along the nearest existing contraction joints unless such joints do not exist in which case the cut shall be made at minimum distances shown on the Drawings.
- C. Existing concrete sidewalks that have been cut and removed for construction purposes shall be replaced with sidewalks of the same width and surface as the portion removed and shall have a minimum uniform thickness of four (4") inches. The new work shall be neatly joined to the old concrete so that the surface of the new work shall form an even unbroken plane with the old sidewalk.
- D. The subgrade for concrete sidewalks shall be formed by excavating to a depth equal to the thickness of the concrete plus two (2) inches. Subgrade shall be of such width as to permit the proper installation and bracing of the forms. Subgrade shall be compacted by hand tamping, or rolling. Soft, yielding, or unstable material shall be removed and backfilled with satisfactory material. Two (2") inches of porous compacted crushed stone shall be placed and shall be compacted thoroughly and finished to a smooth, unyielding surface at proper line, grade, and cross section.
- E. Expansion joints shall be required to replace any existing expansion joints that are removed with the sidewalk or in new construction wherever shown on the Drawings. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within one-half (1/2") inch of the top of finished concrete surface.
- F. Concrete shall be suitably protected from freezing and excessive heat. It shall be kept covered with burlap or other suitable material and kept wet until cured.

### 3.05 REPLACING CURBS

- A. All existing curbs which are removed, damaged, or destroyed during construction of sewerage or water works shall be replaced in accordance with the following:
  - 1. Asphaltic concrete curbs shall be constructed with the same dimensions as the existing curb using asphaltic concrete pavement Grading E, conforming to the section entitled "Asphaltic Concrete Pavement." Prior to constructing curbs on pavement, the pavement shall be dry and cleaned of loose material and a tack coat of RS-2 asphalt shall be applied to the curb area of the pavement at the rate of 0.08 to 0.20 gallons per 15 linear feet of curb area
  - 2. Portland Cement Concrete curbs shall be constructed with the same dimensions as the existing curb using Class A concrete in accordance with the sections entitled "Cast-In-Place Concrete" and with Section 702, "Cement Concrete Curb," Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition.