

**SECTION 02575  
REMOVING AND REPLACING PAVEMENT**

**PART 1 GENERAL**

**1.01 SCOPE**

The work to be performed under this Section shall consist of removing and replacing existing pavement, sidewalks and curbs in paved areas where such have been removed for construction of water mains, fire hydrants and all other water, sewer and utility appurtenances and structures.

**1.02 SUBMITTALS**

Provide certificates stating that materials supplied comply with Specifications. Certificates shall be signed by the asphalt producer and the Contractor.

**1.03 CONDITIONS**

A. Weather Limitations

1. Do not conduct paving operations when surface is wet or contains excess of moisture which would prevent uniform distribution and required penetration.
2. Construct prime and tack coats, and asphaltic courses only when atmospheric temperature in the shade is above 50 degrees F, when the underlying base is dry and when weather is not rainy.
3. Place base course when air temperature is above 35 degrees F and rising.

B. Grade Control: Establish and maintain the required lines and grades for each course during construction operations.

**PART 2 PRODUCTS**

**2.01 MATERIALS AND CONSTRUCTION**

A. Graded Aggregate Base Course: Graded aggregate base course shall be of uniform quality throughout and shall meet the requirements of Section 815.01 of the Georgia Department of Transportation Standard Specifications.

B. Surface Course: The surface course for all pavement, including prime or tack coat when required by the City, shall conform to the requirements of Section 402, Recycled Asphaltic Concrete, 12.5 mm Superpave, of the Georgia Department of Transportation Standard Specifications.

C. Concrete: Provide concrete and reinforcing for concrete pavement or base courses in accordance with the requirements of the Georgia Department of Transportation Standard Specifications, Section 430. Concrete shall be of the strength classifications shown on the

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Drawings.

- D. **Special Surfaces:** Where driveways or roadways are disturbed or damaged which are constructed of specialty type surfaces, e.g., brick or stone, these driveways and roadways shall be restored utilizing similar, if not original, materials. Where the nature of these surfaces dictate, a specialty contractor shall be used to restore the surfaces to their previous or better condition. Special surfaces shall be removed and replaced to the limits to which they were disturbed.

### 2.02 TYPES OF PAVEMENTS

- A. **General:** All existing pavement removed, destroyed or damaged by construction shall be replaced with the same type and thickness of pavement as that existing prior to construction, unless otherwise directed by the City. Materials, equipment and construction methods used for paving work shall conform to the Georgia Department of Transportation specifications applicable to the particular type required for replacement, repair or new pavements.
- B. **Aggregate Base:** Aggregate base shall be constructed in accordance with the requirements of Section 310 of the Georgia Department of Transportation Standard Specifications. The maximum thickness to be laid in a single course shall be 6-inches compacted. If the design thickness of the base is more than 6-inches, it shall be constructed in two or more courses of approximate equal thickness. After the material placed has been shaped to line, grade and cross-section, it shall be rolled until the course has been uniformly compacted to at least 100 percent of the maximum dry density when Group 2 aggregate is used, or to at least 98 percent of maximum dry density when Group 1 aggregate is used.
- C. **Concrete Pavement:** Concrete pavement or base courses shall be replaced with concrete. The surface finish of the replaced concrete pavement shall conform to that of the existing pavement. The surface of the replaced concrete base course shall be left rough. The slab depth shall be equivalent to the existing concrete pavement or base course, but in no case less than 6-inches thick. Transverse and longitudinal joints removed from concrete pavement shall be replaced at the same locations and to the same types and dimensions as those removed. Concrete pavements or concrete base courses shall be reinforced.
- D. **Asphaltic Concrete Surface Course:** Asphaltic concrete surface course construction shall conform to Georgia Department of Transportation Standard Specifications, Section 402. 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. Apply and compact the base in maximum layer thickness by asphalt spreader equipment of design and operation approved by the City. Apply and compact the surface course in a manner approved by the City. Immediately correct any high, low or defective areas by cutting out the course, replacing with fresh hot mix, and immediately compacting to conform and thoroughly bond to the surrounding area.
- E. **Surface Treatment Pavement:** Bituminous penetration surface treatment pavement shall be replaced with a minimum thickness of 1-inch conforming to Section 424, Georgia Department of Transportation Standard Specifications.
- F. **Gravel Surfaces:** Existing gravel road, drive and parking area replacement shall meet the requirements of graded aggregate base course. This surfacing may be authorized by the City as

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a temporary surface for paved streets until replacement of hard surfaced pavement is authorized.

- G. Temporary Measures: During the time period between pavement removal and complete replacement of permanent pavement, maintain highways, streets and roadways by the use of steel running plates anchored to prevent movement. The backfill above the pipe shall be compacted, as specified in Section 02225 of these Specifications, up to the existing pavement surface to provide support for the steel running plates. All pavement shall be replaced within seven calendar days of its removal.

### **PART 3 EXECUTION**

#### **3.01 REMOVING PAVEMENT**

- A. General: Remove existing pavement as necessary for installing the pipe line and appurtenances.
- B. Marking: Before removing any pavement, mark the pavement neatly paralleling pipe lines and existing street lines. Space the marks the width of the trench.
- C. Breaking: Break asphalt pavement along the marks using pavement shearing equipment, jack hammers or other suitable tools. Break concrete pavement along the marks by scoring with a rotary saw and breaking below the score by the use of jack hammers or other suitable tools.
- D. Machine Pulling: Do not pull pavement with machines until the pavement is completely broken and separated from pavement to remain.
- E. Damage to Adjacent Pavement: Do not disturb or damage the adjacent pavement. If the adjacent pavement is disturbed or damaged, remove and replace the damaged pavement.
- F. Damage to Traffic Signal Loops: Any pavement removal which will include removal of traffic signal loops embedded in the pavement shall be coordinated with Technical Services five days prior to pavement removal. Damaged traffic signal loops shall be replaced at the Contractor's expense.
- G. Damage to existing valves and valve boxes: Do not disturb or damage any existing valves or valve boxes during pavement removal process. If damage does occur, the contractor shall remove and replace the damaged item at the Contractor's expense.
- H. Sidewalk: Remove and replace any sidewalks disturbed by construction for their full width and to the nearest undisturbed joint.
- I. Curbs: Tunnel under or remove and replace any curb disturbed by construction to the nearest undisturbed joint.

#### **3.02 REPLACING PAVEMENT**

- A. Pavement shall be replaced no later than seven days after the original surface was cut.

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- B. Preparation of Subgrade: During backfilling and compaction of the backfill, arrange to have the compaction tested by an independent testing laboratory. After compaction testing has been satisfactorily completed, replace all pavements, sidewalks and curbs removed.
1. The existing street pavement or surface shall be removed along the lines of the work for the allowable width specified for the trench or structure. After the installation of the sewerage or water works facilities and after the backfill has been compacted suitably, the additional width of pavement to be removed, as shown on the Standard Detail Drawings, shall be done immediately prior to replacing the pavement.
  2. Trench backfill shall be compacted for the full depth of the trench as specified in Section 02225 of these Specifications.
  3. Temporary trench backfill along streets and driveways shall include 6-inches of crushed stone or cherty clay as a temporary surfacing of the trenches or asphalt as directed by the City. This temporary surface shall be maintained carefully at grade and dust-free by the Contractor until the backfill of the trench has thoroughly compacted in the opinion of the City and permission is granted to replace the street pavement.
  4. When temporary crushed stone or chert surface is considered by the City to be sufficient surface for gravel pavement, the surface shall be graded smooth and to an elevation that will make the final permanent surfacing level with the adjacent surfacing that was undisturbed.
- C. Pavement Replacement
1. Prior to replacing pavement, make a final cut in pavement 12-inches back from the edge of the damaged pavement with a concrete saw. Remove asphalt pavement 12-inches back from the edge of the damaged pavement using pavement shearing equipment, jack hammers or other suitable tools.
  2. Replace all street and roadway pavement as shown on the Drawings. Replace driveways, sidewalks and curbs with the same material, to nearest existing undisturbed construction joint and to the same dimensions as those existing.
  3. If the temporary crushed stone or chert surface is to be replaced, the top 6-inches shall be removed and the crushed stone surfacing for unpaved streets or the base for the bituminous surface shall be placed.
  4. Following this preparation, the chert or crushed stone base shall be primed with a suitable bituminous material and surfaced with the proper type of bituminous surface treatment.
  5. Where the paved surface is to be replaced with asphaltic concrete pavement, concrete pavement or with a concrete base and a surface course, the temporary chert or crushed stone surface and any necessary backfill material, additional existing paving and new excavation shall be removed to the depth and width shown on the Standard Detail Drawings. All edges of the existing pavement shall be cut to a straight, vertical edge. 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. Concrete base slabs and crushed stone

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bases, if required, shall be placed and allowed to cure for three days before bituminous concrete surface courses are applied. Expansion joints, where applicable, shall be replaced in a manner equal to the original joint.

6. Where driveways or roadways, constructed of specialty type surfaces, e.g. brick or stone are disturbed or damaged, these driveways and roadways shall be restored utilizing similar materials. Where the nature of these surfaces dictate, a specialty contractor shall be used to restore the surfaces to their previous or better condition. Special surfaces shall be removed and replaced to the limits to which they were disturbed.

### D. Pavement Resurfacing

1. Certain areas to be resurfaced may be specified or noted on the Drawings. Where pavement to be resurfaced has been damaged with potholes, the Contractor shall remove all existing loose pavement material and fill the hole with Bituminous Plant Mix Base, as specified, to the level of the existing pavement. After all pipe line installations are complete and existing pavement has been removed and replaced along the trench route, apply tack coat and surface course as specified.
2. Resurfacing limits shall be perpendicular to the road centerline. The limits of resurfacing shall be 10 feet beyond the edge of the pavement replacement on the main road being resurfaced, and to the point of tangency of the pavement on the side streets.

E. Pavement Striping: Pavement striping removed or paved over shall be replaced with the same type, dimension and material as original unless directed otherwise by the City.

F. Traffic Signal Loops: The replacement or repair of all traffic signal loops removed or damaged during the removal and replacement of pavement shall be coordinated by the Contractor with the Traffic Engineering Department having jurisdiction over each traffic signal. The Contractor shall be responsible for payment of all fees associated with replacement or repair of traffic signal loops.

G. Valve Boxes: Valve boxes located within the area of pavement removal shall be raised to the new pavement grade and made accessible for the operation of the valve. All costs associated with the raising of the valve boxes to grade shall be included in the cost for the removal and replacement of the pavement.

### 3.03 SIDEWALK AND CURB REPLACEMENT

#### A. Construction

1. All concrete sidewalks and curbs shall be replaced with concrete.
2. Preformed joints shall be 1/2-inch thick, conforming to the latest edition of AASHTO M 59 for sidewalks and AASHTO M 123 for curbs.
3. Forms for sidewalks 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

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without springing or distorting.

4. Forms for curbs shall be metal and of an approved section. They shall be straight and free from distortions, showing no vertical variation greater than 1/8-inch in 10 feet and no lateral variation greater than 1/4-inch in 10 feet from the true plain surface on the vertical face of the form. Forms shall be of the full depth of the structure and constructed such to permit the inside forms to be securely fastened to the outside forms.
  5. Securely hold forms in place true to the lines and grades to match existing.
  6. Wood forms may be used on sharp turns and for special sections, as approved by the City. Where wooden forms are used, they shall be free from warp and shall be the nominal depth of the structure.
  7. All mortar and dirt shall be removed from forms and all forms shall be thoroughly oiled or wetted before any concrete is deposited.
- B. When a section is removed, the existing sidewalk or curb 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 construction joints; if such joints do not exist, the cut shall be made at minimum distances to match existing.
- C. Existing concrete sidewalks and curbs that have been cut and removed for construction purposes shall be replaced with the same width and surface as the portion removed. Sidewalks shall have a minimum uniform thickness of 4-inches. The new work shall be neatly jointed to the existing concrete so that the surface of the new work shall form an even, unbroken plane with the existing surfaces.
- D. The subgrade shall be formed by excavating to a depth equal to the thickness of the concrete, plus 2-inches. Subgrade shall be of such width as to permit the proper installation and bracing of the forms. Subgrades shall be compacted by hand tamping or rolling. Soft, yielding or unstable material shall be removed and backfilled with satisfactory material. Place 2-inches of porous crushed stone under all sidewalks and curbs and compact thoroughly, then finish to a smooth, unyielding surface at proper line, grade and cross section.
- E. Joint for Curbs
1. Joints shall be constructed to match existing and as specified. Construct joints true to line with their faces perpendicular to the surface of the structure and within 1/4-inch of their designated position.
  2. Thoroughly spade and compact the concrete at the faces of all joints filling all voids.
  3. Install expansion joint materials at the point of curve at all street returns. Install expansion joint material behind the curb at abutment to sidewalks and adjacent structures.
  4. Place contraction joints every 10 feet along the length of the curbs and gutters. Form contraction joints using steel templates or division plates which conform to the cross section of the structure. Leave the templates in place until the concrete has set

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sufficiently to hold its shape, but remove them while the forms are still in place. Contraction joint templates or plates shall not extend below the top of the steel reinforcement or they shall be notched to permit the reinforcement to be continuous through the joint. Contraction joints shall be a minimum of 1-1/2-inches deep.

- F. Expansion joints shall be required to replace any removed expansion joints. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within 1/2-inch of the top of finished concrete surface.
- G. Finishing
  - 1. Strike off the surface with a template and finish the surface with a wood float using heavy pressure, after which, contraction joints shall be made and the surface finished with a wood float or steel trowel.
  - 2. Finish the face of the curbs at the top and bottom with an approved finishing tool of the radius to match existing.
  - 3. Finish edges with an approved finishing tool having a 1/4-inch radius.
  - 4. Provide a final broom finish by lightly combing with a stiff broom after troweling is complete.
  - 5. The finished surface shall not vary more than 1/8-inch in 10 feet from the established grade.
- H. Driveway and Sidewalk Ramp Openings
  - 1. Provide driveway openings of the widths and at the locations to match existing and as directed by the City.
  - 2. Provide sidewalk ramp openings to match existing, in conformance with the applicable regulations and as directed by the City.
- I. 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. Provide necessary barricades to protect the work. All damage caused by people, vehicles, animals, rain, the Contractor's operations and the like shall be repaired by the Contractor, at no additional expense to the City.

### 3.04 MAINTENANCE

The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the Project. Maintenance shall include replacement, scraping, reshaping, wetting and rerolling as necessary to prevent raveling of the road material, the preservation of reasonably smooth surfaces and the repair of damaged or unsatisfactory surfaces, to the satisfaction of the City. Maintenance shall include sprinkling as may be necessary to abate dust from the gravel surfaces.

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### 3.05 SUPERVISION AND APPROVAL

- A. Pavement restoration shall meet the requirements of the regulatory agency responsible for the pavement. Obtain agency approval of pavement restorations before requesting final payment.
- B. Obtain the City's approval of restoration of pavement, such as private roads and drives, that are not the responsibility of a regulatory agency.
- C. Complete pavement restoration as soon as possible after backfilling.
- D. Failure of Pavement: Should any pavement restoration or repairs fail or settle during the life of the Contract, including the bonded period, promptly restore or repair defects.

### 3.06 CLEANING

The 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.

**END OF SECTION**