

SECTION 02575

PAVING AND RESURFACING

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this section includes, but is not limited to:
 - 1. Temporary Paving
 - 2. Permanent Paving
 - 3. Shoulder Restoration
 - 4. Curb and Sidewalk Restoration
- B. Related work specified elsewhere:
 - 1. Trenching, Backfilling and Compacting: Section 02221
 - 2. Concrete for Utility Construction: Section 03300
- C. The Contractor and Owner shall, prior to construction, make a visual reconnaissance, of all paved areas, determining the actual condition of the paving. Notes, photographs, etc., shall be made and kept on file at the Owner's office for possible future reference. Contractor shall not disturb areas prior to the existing conditions being documented.
- D. All work shall be in accordance with applicable Borough, Township and/or PennDOT Specification.

1.02 QUALITY ASSURANCE

- A. Referenced Standards:
 - 1. Pennsylvania Department of Transportation:
 - a. Publication 408 Specifications, Latest Edition
 - b. Publication 27 - Specification for Bituminous Mixtures (Bulletin 27)
 - c. Publication 37 - Specification for Bituminous Materials (Bulletin 25)
 - d. Publication 203 - Work Zone Traffic Control

1.03 SUBMITTALS

- A. Certificates:
 - 1. Submit certification from bituminous and aggregate suppliers attesting that materials conform to the State specifications.

SECTION 02575

PAVING AND RESURFACING

1.04 JOB CONDITIONS

A. Control of Traffic:

1. Take measures to control traffic during repaving operations. Do not allow traffic on repaved areas until authorized by the Owner.
2. Employ traffic control measures in accordance with Publication 203 - "Work Zone Traffic Control" and the Contract Drawings.
 - a. Unless otherwise noted on the plans, Contractor shall submit details of all traffic control measures to be utilized. No traffic control measures may be used until Contractor receives approval from the Owner in writing.

- ##### B. Restore existing paving outside the limits of the work that is damaged by the Contractor's operations, to its original condition at the expense of the Contractor.

PART 2 PRODUCTS

2.01 CONCRETE

- ##### A. The concrete materials for streets shall conform to the applicable provisions of Section 704, CEMENT CONCRETE AND READY MIX CEMENT CONCRETE, in Commonwealth of Pennsylvania, Department of Transportation Specifications, Form 408.
- ##### B. The concrete materials for walks, curbing and driveways shall be Class A, 3300 psi Concrete and shall conform to the specifications of Section 03300.

2.02 CRUSHED STONE BASE COURSE

- ##### A. Crushed stone base course shall be 2A Crushed Stone or shall be in accordance with Section 350 - Subbase of PennDOT Specifications, Publication No. 408, 2000.
- ##### B. Crushed slag and/or any other pozzolan with expansive/shrinkage properties shall not be used for this material.

2.03 BITUMINOUS CONCRETE BASE COURSE

- ##### A. Bituminous concrete base course shall conform to Section 305 of PennDOT Specifications, Publication No. 408, Latest Edition.

SECTION 02575

PAVING AND RESURFACING

2.04 BITUMINOUS BINDER COURSE SUPERPAVE

- A. Bituminous binder course superpave shall conform to Section 421 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.05 BITUMINOUS TACK COAT

- A. Bituminous tack coat shall conform to Section 460 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.06 BITUMINOUS WEARING COURSE SUPERPAVE

- A. Bituminous wearing course superpave shall conform to Section 420 of PennDOT Specifications, Publication 408, Latest Edition.

2.07 MILLING OF BITUMINOUS PAVEMENT SURFACE

- A. Milling of bituminous pavement surface shall conform to Section 491 of PennDOT Specifications, Publication 408, Latest Edition.

2.08 JOINT SEALING

- A. Joint sealing shall conform to Section 401 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.09 CRACK FILLING AND SEALING

- A. Crack filling and sealing shall conform to Section 469 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.10 BITUMINOUS PAVED SHOULDERS TYPE 6 and TYPE 6I

- A. Paved shoulders Type 6 and Type 6I shall conform to Section 656 of PennDOT Specifications, Publication 408, Latest Edition.

2.11 CONCRETE SHOULDERS

- A. Concrete shoulders shall conform to Section 658 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.12 CEMENT CONCRETE SIDEWALKS

- A. Cement concrete sidewalks shall conform to Section 676 of PennDOT Specifications, Publication No. 408, Latest Edition.

SECTION 02575

PAVING AND RESURFACING

2.13 EXPANSION JOINT MATERIAL

- A. Expansion joint material shall conform to Section 705 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.14 WELD WIRE FABRIC

- A. Weld wire fabric shall conform to Section 709 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.15 CONCRETE

- A. Concrete shall conform to Section 704 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.16 LINE PAINTING

- A. Line painting shall conform to Section 962 of PennDOT Specifications, Publication No. 408, Latest Edition.

2.17 MANHOLE ADJUSTING RINGS

- A. For raising manhole covers an acceptable manhole raising device shall be provided. The device shall be a solid adjusting ring or an adjustable manhole extension device.

2.18 RAISING MANHOLE COVERS AND VALVE BOXES

- A. Install the adjusting rings in all sewer manholes that require adjusting to meet the elevation of the repaving.
- B. Coordinate the raising of all valve boxes and/or manhole covers belonging to other utilities.
- C. The Contractor shall be responsible to see that all such items as mentioned above are adjusted to the new paving elevation.

PART 3 EXECUTION

3.01 MISCELLANEOUS

- A. All materials of construction shall conform to all applicable sections of PennDOT Specifications, Publication 408, Latest Edition.
- B. Restore existing paving outside the limits of the work that is damaged by the Contractor's operation to the original condition, to the satisfaction of the Owner, at the expense of the Contractor.

SECTION 02575

PAVING AND RESURFACING

- C. All finish paving shall be completed to match the finish grade of the adjacent existing pavement unless otherwise specified on the Contract Drawings.
- D. The Contractor shall seal all joints between new pavement and existing pavement, including roads, driveways, manholes, inlets, curbs, water boxes, etc. in accordance with Section 401 of the PennDOT Specifications, Publication 408, Latest Edition. This work is incidental to the installation of the bituminous material.
- E. Upon completion of the paving, any stretch marks, cracks, open seams, etc. which allow the penetration of water and dirt shall be repaired in accordance with instruction by the Owner.
- F. Final restoration shall be completed by the Contractor within sixty (60) days of first disturbance in all paved areas. The only time extension which will be considered will be due to weather.
- G. All restored areas shall be maintained by the Contractor until expiration of the maintenance bond period as required by the Owner.

3.02 SURFACE PREPARATION

- A. The surface shall be prepared and cleaned by the Contractor.
- B. The Contractor shall apply a tack coat to the existing bituminous pavement prior to placing the new wearing course.
- C. The Contractor shall cut joints at all paved road connections. This work is incidental to the wearing course installation.
- D. All waste material removed from the roadway area shall be disposed of at a site provided by the Contractor.
- E. The road surface shall not be muddy or otherwise unsatisfactory when the binder and/or wearing course is placed thereon.

3.03 TRAFFIC CONTROLS

- A. The Contractor shall provide traffic controls as previously approved by the Owner. All traffic controls shall meet PennDOT criteria. The Owner and municipality shall be notified a minimum of three (3) days in advance of any construction in the roadway.

3.04 ROADWAY EXCAVATION AND SUBBASE PREPARATION

- A. The Contractor shall smooth cut the existing pavement at all limits of work. This work is incidental to the excavation of the roadway.

SECTION 02575

PAVING AND RESURFACING

- B. The Contractor shall excavate and remove the existing road materials, rubble, stone and rock to the depth shown on the Construction Drawings or suitable subgrade. The length and width limits of excavation shall be as indicated on the Contract Drawings.
- C. All waste material removed from the road excavation shall be disposed of at a site provided by the Contractor.
- D. The Contractor shall recompact the subgrade using equipment and methods in accordance with PennDOT Specifications, Publication No. 408, Latest Edition, Section 210 Subgrade and approved by the Owner.
- E. The subgrade shall not be muddy or otherwise unsatisfactory when the stone subbase is placed thereon.
- F. The Contractor shall construct a subbase where indicated on the Contract Drawings of approved aggregate to the depth and width shown on the Construction Drawings. The trench for the installation of the stone shall have a minimum width of 36". The stone shall be compacted and brought to the grade as shown on the Contract Drawings. The minimum size roller shall be a small vibrating trench roller approved by the Owner. All materials and methods of construction shall conform to all applicable sections of PennDOT Specifications, Publication No. 408, Latest Edition.

3.05 STONE ACCESS AND PARKING AREAS

- A. Stone parking areas shall be 10" of 2A stone over Class 2 Type "A" Filter Fabric on approved and compacted subbase as indicated on the Contract Drawings.
- B. Parking areas shall extend to the limits as shown of the Contract Drawings.

3.06 DRIVEWAYS

- A. Driveways shall be restored to existing dimensions or reconstructed to the limits as shown on the Contract Drawings as directed by the Owner.
 - 1. Bituminous Driveways
 - a. Bituminous driveways shall be 2" of superpave wearing course over 6" of 2A stone on approved and compacted subbase.
 - b. Seal all joints.
 - 2. Concrete Driveways
 - a. Concrete driveways shall be 8" of Class A, 3300 psi Concrete with 6 x 6 Welded Wire Fabric over 6" of 2A stone on approved and compacted subbase.

SECTION 02575

PAVING AND RESURFACING

- b. Provide performed expansion joint, where new concrete joins existing concrete and at intervals as directed by Owner.
 - c. Form joints with a 1/4" radius edging tool.
 - d. Provide light broom finish.
3. Stone Driveways
- a. 2A stone over Class 2 Type "A" Filter Fabric on approved and compacted subbase.
4. Concrete Driveway Apron
- a. Apron extends from depressed curb or joint with street to the furthest most point of the sidewalk.
 - b. Concrete apron shall be 8" of Class F, 3300 psi Concrete with 6 x 6 WWF over 6" of 2A on approved and compacted subbase.
 - c. Provide expansion joint where new concrete joins existing concrete and at intervals as directed by the Owner.
 - d. Form joints with a 1/4" radius edging tool.
 - e. Provide light broom finish.

3.07 SIDEWALKS

- A. Sidewalks shall be replaced to original limits or installed to the limits indicated in the Contract Drawings as directed by the Owner.
1. Concrete Sidewalks
- a. Concrete sidewalks shall be 5" Class A, 3300 psi Concrete over 4" PennDOT #57 stone on approved and compacted subbase.
 - b. Provide a light broom finish.
 - c. Form outside edges and joints with a 1/4" radius edging tool.
 - d. Form joints at 5 feet intervals, approximately 1/8" mill and 1" deep.
 - e. Provide full depth 1/2" thick premolded expansion joints at 20', and stagger with expansion joints in curbing.

SECTION 02575

PAVING AND RESURFACING

- f. Sidewalks to be a minimum of 4' wide.
- 2. Bituminous Sidewalks
 - a. Bituminous sidewalks shall be 1 1/2" of superpave wearing course over 6" of 2A on approved and compacted subbase.
 - b. Seal all new or cut joints.
 - c. Sidewalks to be a minimum 4' wide.
- 3. Handicapped Ramps
 - 1. Ramps shall comply with most recent ADA approved standards and the following:
 - a. Handicapped ramps shall be provided as indicated on the plans or directed by the Owner.
 - b. Handicapped ramps shall be a minimum of 5" Class A, 3300 psi Concrete over 4" PennDOT #57 stone on approved and compacted subbase.
 - c. Provide a light broom finish.
 - d. Form outside edged and joints with a 1/4" radius edging tool.
 - e. Ramp to be a minimum of 36" wide and shall slope at 1:12.

3.09 CONCRETE CURBING

- A. Curbs shall be replaced or installed to the limits indicated on the Contract Drawings as directed by the Owner.
- B. New concrete curbing shall be 8" wide x 24" deep and shall have a 7" reveal. This reveal shall have a 1" offset making the top thickness 7".
- C. Provide 1/2" thick premolded expansion joints at 20' and stagger with expansion joints in sidewalk.
- D. Curbs shall be Class A, 3300 psi Concrete.
- E. Place depressed curbs for drives or curb cuts where indicated or directed by Owner.

SECTION 02575

PAVING AND RESURFACING

- F. Curb depressions shall be provided with a smooth transition. This transition shall be over a minimum of 36".
- G. Existing concrete curbing damaged by construction shall be replaced to match existing.
- H. Reconstruct curbs to the first expansion joint on either side of damaged portion and install new expansion joint material.

3.10 CONCRETE SWALES

- A. Concrete swales shall be replaced or installed to the limits indicated on the Contract Drawings as directed by the Owner.
- B. Existing swales which are removed shall be replaced with similar.
- C. Existing swales shall have saw cut straight joint lines parallel to the centerline of the swale.
- D. Reconstruct swales to the first expansion joint on either side of the area to be removed and install new expansion joint material.
- E. New concrete swales shall be a minimum of 36" wide and shall be 6" Class "A", 3300 psi Concrete over 6" of 2A on approved and compacted subbase.
- F. Provide expansion joint where new concrete joins existing concrete.
- G. Provide 1/2" thick premolded expansion joints at 20'.

3.11 BITUMINOUS SWALES

- A. Bituminous swales shall be replaced or installed to the limits indicated on the Contract Drawings.
- B. Existing swales which are removed shall be replaced in kind.
- C. Existing swales shall have saw cut straight joint lines parallel to the centerline of the swale.
- D. New swales shall be 1 1/2" ID-2 wearing course over 6" 2A on approved and compacted subbase.
- E. All joints shall be sealed.

3.12 RESTORATION: TOWNSHIP/BOROUGH ROADS

- A. Roadways shall be reconstructed in accordance with the requirements of the Township or Borough with jurisdiction.

SECTION 02575

PAVING AND RESURFACING

- B. Roadways shall be reconstructed to the limits indicated on the Contract Drawings as directed by the Owner.
- C. Existing roadway shall have saw cut straight joint lines parallel to the centerline of the trench.
- D. All joints shall be sealed. Sealant shall be applied for a minimum width of 4".

3.13 SHOULDER RESTORATION: TOWNSHIP/BOROUGH ROADS

- A. Shoulders shall be reconstructed in accordance with the requirement of the State, Township or Borough with jurisdiction.
- B. Shoulders shall be reconstructed to the limits indicated on the Contract Drawings as directed by the Owner.
- C. Existing shoulders and roadway shall have saw cut straight joint lines parallel to the centerline of the trench.
- D. Shoulder restoration shall be 4" of compacted 2A stone aggregate.
- E. Seal all joints for a minimum width of 4-inch each side of the joint.

3.14 SWALES

- A. Swales shall be restored to the limits indicated on the Contract Drawings as directed by the Owner.
- B. Swales which are not paved shall be restored to the lines and grades that existed prior to construction. They shall be brought to within 12" of existing grade and lined with rip-rap minimum size to be R-4 for a minimum thickness of 12". The swale width shall be equal to the swale width prior to construction.
- C. Rip rap shall extend 3'-0" in either direction longitudinally beyond the disturbed area.
- D. If flows in swale exceed that which a R-4 can stabilize, Owner may direct Contractor to utilize a larger rock within the swale.

3.15 TEMPORARY PAVING

- A. Temporary paving shall be installed to the limits indicated on the Contract Drawings as directed by the Owner.
- B. Temporary paving shall be installed immediately after trench backfill is brought to needed grades in paved areas.

SECTION 02575

PAVING AND RESURFACING

- C. Shape and compact subgrade material, then place and compact crushed stone base course to the required thickness.
- D. The temporary paving between March 1 and October 31 shall consist of hot-mixed, hot laid, bituminous concrete, and maintained for a minimum of sixty (60) days.
- E. The temporary paving between November 1 and the end of February shall consist of bituminous stockpile patching material in accordance with PennDOT Bulletin 27 and Section 401 of Form 408 placed on top of the compacted backfill, and maintained until trench is permanently restored.
- F. Place temporary paving material. Impact to required minimum thickness with trench roller having minimum 300 pounds per inch-width of compaction roll.
- G. Continuously maintain temporary paving to the satisfaction of the Owner and the State and local road departments. Temporary paving on State roads must remain in place for a minimum of 60 days.

3.16 TEMPORARY ACCESS ROADS NEEDED BY CONTRACTOR

- A. Access roads shall be installed where needed by the Contractor to perform the work of the Contract.
- B. Temporary access roads shall be AASHTO No. 1 rock a minimum of 8" over Class 2, Type A Filter Fabric.
- C. Access road shall be maintained until Contractor has progressed sufficiently enough as to no longer need road.

3.17 LINE PAINTING

- A. Line painting shall be in accordance with Section 962 of PennDOT Specifications, Publication No. 408, Latest Edition.
- B. Line painting shall take place and be completed the same day as temporary paving and/or paving.
- C. Utilize Type I - Traffic Zone Paint, color to match existing.

3.18 PROPERTY MARKERS

- A. Property markers which are removed as a result of construction activities shall be replaced by a Licensed Surveyor licensed in the Commonwealth of Pennsylvania.
- B. Property markers shall be installed prior to substantial completion and shall be incidental to the cost of the project.

SECTION 02575

PAVING AND RESURFACING

3.19 DRIVEWAY STORMWATER PIPES

- A. Driveway stormwater pipes which are removed as a result of construction activities shall be replaced.
- B. Driveway stormwater pipes damaged by the Contractor shall be replaced with concrete pipes of similar size. Minimum size of replacement pipe shall be 12".
- C. Swales adjacent to driveway pipes shall be restored, regraded and stabilized to provide smooth transition entering and exiting pipe.

3.20 ROADWAY SIGNS

- A. All roadway signs which must be removed in order to perform construction activities shall be replaced with same in the same location.
- B. If needed, new signs shall be in accordance with Sections 1103 of PennDOT Specifications, Publication No. 408, Latest Edition, and the latest revision of PennDOT Publication 68, Title 67, Chapter 211 - Official Traffic Control Devices.

3.21 DELIVERY TICKET (PAVING MATERIALS)

- A. A delivery ticket indicating the quantities and types of paving material shall be submitted at the time of delivery. The complete delivery ticket shall be delivered to the Owner. Failure to deliver such complete ticket to the Owner will be cause for the Owner to reject paving material.

3.22 SURFACE IDENTIFICATION

- A. In accordance with "Occupancy of Highways by Utilities", Chapter 41, a mark of identification shall be placed at the nearest edge of the cut closest to the edge of the improved surface for each opening or impairment made within the improved surface of a State Highway.
- B. The paint shall be of a durable wearing quality and shall be color coded as follows:
 - 1. Blue - Water Lines
 - 2. Green - Sewer Lines
 - 3. Red - Electric Lines
 - 4. Yellow - Natural Gas Lines
 - 5. White - Proposed Excavation
 - 6. Pink - Temporary Survey Markings
 - 7. Orange - Communication/Cable TV, Alarms and Signals
 - 8. Purple - Reclaimed Water, Irrigation and Slurry Lines
- C. Contractor to mark all pavement following permanent restoration.

*** END OF SECTION ***