

**DIVISION 18****RESTORATION**18.01 Description:

The work shall consist of restoration as specified, over sanitary sewer, sewer lateral, watermain, water service, storm sewer, or basin connection trenches or adjacent to sidewalk, curb and gutter, straight curb, or pavement so that the restoration is equal to or better than the conditions existing prior to the construction. It shall include the furnishing of all labor, equipment, and material necessary to complete the work.

18.02 Materials:

18.02.01 Aggregate shall conform to the requirements as specified in Division 11.

18.02.02 Concrete shall conform to the requirements as specified in Division 8, 9, and 10, as applicable.

18.02.03 Bituminous materials shall conform to the requirements as specified in Division 12.

18.02.04 Topsoil – This work shall be done in accordance with Section 816 of the 2003 MDOT Standard Specifications for Construction, except that:

Topsoil shall consist of four (4") inches of natural loam topsoil and shall be of uniform quality, screened with maximum three-eighths(3/8") inch screen size from hard clods and all other undesirable material such as: quack grass, stones, and roots. The soil shall contain not less than five percent (5%) organic matter. The acidity range shall be between Ph. 6.0 and Ph. 7.0. A test shall be performed by the City to determine the Ph level of the topsoil. Before delivering any topsoil to the site, the contractor shall notify the Engineer so that an Inspector can make a visual inspection of the topsoil in its natural state. The contractor shall furnish delivery tickets at the time of delivery for an all topsoil. Inspector can withhold spreading of topsoil if soil being delivered does not appear acceptable until further testing. One test will be paid for by the City, additional tests will be at the contractor's costs. Topsoil sample collected for testing, shall be screened and from the location identified to be used for the project.

18.02.05 Seed, Fertilizer, and Mulch – This Work shall be done in accordance with the requirements of Section 917 "Planting Materials" of the 2003 MDOT Standard Specifications for Construction except as that:

Seed, Fertilizer, and Mulch shall be the Hydro-Seeding and Mulching Process. The slurry mixture shall be applied using a minimum of two thousand (2000) pounds of wood

fiber mulch per acre, three hundred (300) pounds of seed mixture per acre, three hundred (300) pounds of 16-32-4 fertilizer per acre or equal, and (applications between June 1 through September 1) ten (10) pounds of Finn A1000 gel per acre or approved equal. Hydro-seeding and mulching process shall be applied to a surface free of visible growing weeds.

The seed mixture shall be as follows:

<u>Seed</u>	<u>% by Weight</u>	<u>Tolerance</u>
PennLawn Red Fescue	30%	±3%
Park Kentucky Bluegrass	30%	±3%
Express Perennial Ryegrass	20%	±3%
Dasher II Perennial Ryegrass	20%	±3%

The mix shall not have more than nine (9%) percent inert ingredients and no more than one (1%) percent of other contaminant seed types.

Dormant seeding will be authorized by the Engineer only for limited areas to complete a project. Seed shall otherwise be down between May 1 and October 10.

Seed, Mulch, and Fertilizer shall be paid for at the contract unit price per square yard. Said payment shall be payment in full for all labor, material, and equipment required to complete the work as specified.

18.02.06 Sod shall conform to the requirements as specified in the current 1990 MDOT Standard Specifications for Road and Bridge Construction 8.21. Sod shall be laid on four (4) inches of topsoil. Construction methods shall conform to MDOT Specifications.

The type of sod used shall depend upon the area disturbed. Class A for lawns and Class B when specified.

18.02.07 Miscellaneous materials such as shrubs, sprinklers, sprinkler pipe, fence, etc. shall be equal to or better than the material being replaced and shall be approved by the Engineer.

18.03 General:

The contractor shall at all times conduct his work so that there is minimum inconvenience to the residents on the streets in any project. The contractor shall complete the trench backfill and remove all debris and unsuitable material to a point as close to the actual pipe installation as is practical and keep the area where pipe construction has been complete in a neat condition.

If there are no further proposed improvements to be constructed in the area of the pipe installation, the contractor shall replace or restore all surface improvements that existed

prior to the pipe installation and complete all cleanup work within forty five (45) days after the pipe installation is completed.

In those areas of pipe installation where proposed surface improvements are to be constructed, the construction of the improvements shall proceed in accordance with approved progress schedule for the project. Unless otherwise approved by the Engineer, all surface restoration work shall be completed within fifteen (15) working days after the principal concrete items (curb and gutter, drive approaches and sidewalk) have been constructed in each street, or block, if applicable.

18.04 Restoration of Lawns over Trenches:

The work shall consist of the furnishing, placing and grading of four (4) inches of topsoil over the trench to conform to the grade prior to construction, and the furnishing and placing of seed, fertilizer, mulch and additional topsoil as required on all disturbed lawn areas. At the option of the contractor or if called for in the proposal, sod shall be used.

18.05 Restoration of Ditches:

Where work is located beside a ditch and/or where an existing ditch is filled or disturbed in the contractor's operations, the contractor shall clean, repair or replace the ditch with properly pitched bottom and side slopes and of sections and capacity not less than the original section. The sides and bottom of the restored ditch shall be protected from soil erosion with an approved method to the satisfaction of the Engineer. The contractor may, if approved by the Engineer, use topsoil, seed, fertilizer and mulch as described in Section 18.04 with the understanding that if he is unsuccessful in getting a satisfactory growth of grass, he may be required to sod the ditch at the discretion of the Engineer.

18.06 Restoration of Banks and Side Slopes Steeper than One on Three (1 on 3):

When a restoration item appears on the proposal and the work disturbs an existing lawn or other established ground cover on a bank or side slope greater than one on three (1 on 3), the lawn or other established ground cover shall be restored by a method approved by the Engineer.

18.07 Miscellaneous Gravel:

The work shall consist of furnishing and placing six (6") inches of compacted gravel (22A) where directed by the Engineer.

- 18.08 Remove Bituminous Paved Area Back of Property Line and Replace with Bituminous Concrete:
- This shall consist of removing existing bituminous pavement for grade purposes or other construction operation, and replacing all disturbed bituminous areas on private property as specified on the plans. All work operations shall be in accordance with requirements of Division 12 for Bituminous Pavements.
- 18.09 Method of Measurement:
- 18.09.01 Screened Topsoil – Topsoil that is leveled and prepared for seed shall be measured in square yards in place at the specified thickness.
- 18.09.02 Seed, Mulch, and Fertilizer – Seed and Mulch shall be measured in square yards of area seeded, mulched, and fertilized.
- 18.09.03 Sodding – Area of sod shall be measured in square yards in place.
- 18.09.04 Miscellaneous Gravel – Miscellaneous Gravel shall be measured in cubic yards (Truck Measure) in place.
- 18.09.05 Remove and Replace with Bituminous Pavement or Concrete shall be measured in square yards.
- 18.10 Basis of Payment:
- 18.10.01 Screened Topsoil shall be paid for at the contract unit price per cubic yard or square yard. Said payment shall be payment in full for all labor, material, and equipment required to place topsoil four (4”) inches thick, and grading to the desired contour ready to receive seed.
- 18.10.02 Seed, Mulch, and Fertilizer shall be paid for at the contract unit price per square yard. Said payment shall be payment in full for all material, labor, and equipment required to complete this work as specified.
- 18.10.03 Sodding shall be paid for at the contract unit price per square yard. Said payment shall be payment in full for all labor, material, and equipment required to complete the work as specified.
- 18.10.04 Miscellaneous Gravel shall be paid for at the contract unit price per cubic yard (Truck Measure). Said payment shall be payment in full for all material, labor, and equipment required to furnish, place, compact and grade the gravel to the satisfaction of the engineer.

- 18.10.05 Remove and Replace with Bituminous Pavement or Concrete shall be paid for at the contract unit price per square yard. Said payment shall be payment in full for all labor, material, and equipment to do the work as specified.
- 18.10.06 Miscellaneous – Miscellaneous materials such as shrubs, sprinkler systems, fences, etc. which are required to return the area of construction operations to its original condition will normally be included in the major items of the contract, unless items are given in the proposal to cover them.