

SECTION 3

SPECIFICATIONS FOR SURFACE RESTORATION

3.01 DESCRIPTION OF WORK

Unless otherwise specified or shown on the Plans, all areas disturbed by construction operations shall be restored to the original condition thereof as determined by the Owner's Engineer using information from drawings, surveys, and photographs or video tapes when available.

The Work shall be performed in accordance with the specifications and plans, the 2020 MDOT Standard Specifications for Construction, and the following specifications.

3.02 GRADING

All streets, walks, and other improved surfaces disturbed by construction operations shall be replaced to uniform lines and grades established by the Township Engineer. The finish grade line will be established within three (3) inches of the existing ground profile shown on the Plans unless a proposed grade is shown which indicates otherwise.

The Contractor shall perform all grading, compacting, shaping, and related work required to prepare the subgrade to the satisfaction of the Owner's Engineer. The cost for preparing the subgrade as specified herein shall be incidental to the cost of the Project, and no specific payment will be made therefor.

3.03 REPLACEMENT OF AGGREGATE STREETS AND DRIVEWAYS

Aggregate streets shall be constructed in accordance with the typical section shown on the Plans and shall consist of a minimum of six (6) inches of aggregate surface course as specified below.

3.03.01 Materials

Aggregate surface course shall meet the requirements specified in Section 3.06 of the 2020 MDOT Standard Specifications for Construction. All material shall be taken from stockpiles that have recently been tested by the Ottawa County Road Commission, MDOT, or an independent laboratory.

Aggregate material that is removed from roadways and driveways shall not be reused but shall be replaced with an equivalent depth of newly compacted aggregate conforming to MDOT 22A or 21AA (October 1 to April 30).

3.03.02 Construction Methods

Placement of aggregate surface course shall be in accordance with the applicable portions of Section 3.06 of the 2020 MDOT Standard Specifications for Construction.

3.03.03 Aggregate Driveways and Field Drives

Aggregate driveways and field drives shall be replaced with a minimum of six (6) inches of MDOT 22A aggregate compacted in place.

3.03.04 Culverts

Culverts that are removed may be reused, if they are in sound condition. If damaged, the culverts shall be replaced with ASTM C76 Class III concrete pipe or equivalent pipe. The cost of removing and replacing the culverts shall be considered part of the major items of work found in the Proposal unless otherwise specified.

3.04 REPLACEMENT OF SURFACE AGGREGATE IN SPECIFIED AREAS

The Contractor shall furnish and place additional aggregate conforming to MDOT Specifications in locations determined by the Owner's Engineer for the replacement of aggregate shoulders, drives, and streets, where only part of an existing aggregate surface requires replacement, or where field conditions require replacement of the aggregate to a greater or lesser thickness than six (6) inches as determined by the Owner's Engineer.

Aggregate shoulders disturbed by the Contractor's operations shall be restored or replaced to their original width and thickness with aggregate conforming to the requirements of Section 902 of the 2020 MDOT Standard Specifications for Construction for 22A or 23A aggregate as specified.

3.05 REPLACEMENT OF HOT MIX ASPHALT (HMA) STREETS

Hot Mix Asphalt (HMA) streets shall be constructed in accordance with the typical section shown on the Plans and, unless otherwise specified, shall meet the requirements of 13A in Section 501 of the 2020 MDOT Standard Specifications for Construction placed at 330 lbs./sq. yd. minimum (165 lbs./sq. yd. leveling, 165 lbs./sq. yd. surface) over six (6) inches of compacted 22A or 21AA (October 1 to April 30) aggregate.

3.05.01 Materials

Aggregate base for HMA streets shall meet the requirements of 22A or 21AA (October 1 to April 30) in Section 902 of the 2020 MDOT Standard Specifications for Construction. HMA for base, leveling, and surface courses shall be as specified, and shall conform to the requirements of Section 501 of the 2020 MDOT Standard Specifications for Construction or as required by Ottawa County Road Commission. Materials for bond coat shall be as specified in Section 501 of the 2020 MDOT Standard Specifications for Construction.

3.05.02 Construction Methods

Aggregate base for HMA streets shall be placed in accordance with Section 302 of the 2020 MDOT Standard Specifications for Construction.

HMA mixtures shall be placed in accordance with the applicable portions of Sections 501 of the 2020 MDOT Standard Specifications for Construction. For replacement of valley gutters, pavers shall be equipped with an extension to the vibrating screed adjustable to fit the typical section shown on the plans.

The Contractor shall not place the aggregate base course until the subgrade has been approved by the Owner's Engineer. The Contractor shall not place the first HMA course and each successive HMA course until the underlying aggregate or HMA course has been approved by the Owner's Engineer.

3.05.03 Saw Cutting

HMA street, driveway, and spillway replacement shall include saw cutting the asphalt pavement at the edge of the trench for the full depth of the pavement. Payment for saw cutting shall be included in the pay items for street replacement and driveway replacement unless otherwise specified.

3.06 REPLACEMENT OF AGGREGATE SURFACE OR HOT MIX ASPHALT (HMA) PAVED AREAS (PATCHING)

When the Plans and Specifications do not require that the Contractor replace an entire street, the surface that is disturbed shall be replaced as specified herein.

3.06.01 Materials

Surfacing aggregate and aggregate base for HMA pavement shall conform to the requirements for 22A or 21AA (October 1 to April 30) aggregate in Section 902 of the 2020 MDOT Standard Specifications for Construction.

Unless otherwise specified on the Plans or in the Specifications, HMA 13A, conforming to the requirements in Section 501 of the 2020 MDOT Standard Specifications for Construction, shall be used for HMA patches. When existing seal coat pavement is disturbed, a HMA patch shall be placed.

3.06.02 Construction Methods

When an aggregate surface is disturbed by the Contractor's operations, the edges of the existing aggregate surface shall be trimmed and shall be free of all foreign material before the new aggregate is placed. The subgrade shall be graded and compacted to the proper lines and grades to match the adjacent surface. The aggregate shall be placed in layers not to exceed six (6) inches and shall be compacted to 98% of its maximum unit weight in accordance with MDOT procedures.

When a HMA surface is disturbed by the Contractor's operations, that surface shall be replaced at a thickness equal to the thickness of the existing pavement adjacent to the trench but not less than one and one-half (1-1/2) inches thick. If existing pavement is greater than two (2) inches in thickness, the replacement pavement shall be placed in two or more layers. Aggregate base shall be replaced at a thickness equal to the adjacent aggregate base (minimum six inches) as specified for aggregate patches above. After placement of the aggregate base but prior to its final shaping and compaction, the edges

of the existing pavement shall be trimmed to straight lines a minimum of one (1) foot from the edge of the trench to permit a straight and uniform surface between the existing and new aggregate base. Trimming of the existing pavement shall be by sawing, or other suitable means approved by the Owner's Engineer.

The Contractor shall replace all valley gutter in patching areas and shall be considered part of the HMA replacement.

3.07 REPLACEMENT OF CONCRETE IMPROVEMENTS

The Contractor shall replace all concrete sidewalk, drives, curb and gutter, and pavement removed during the installation of the utility or broken by the Contractor.

3.07.01 Materials

Concrete shall meet the requirements for Grade 3500 Concrete as specified in Section 801 of the 2020 MDOT Standard Specifications for Construction. Other materials shall meet the requirements of the applicable portions of the 2020 MDOT Standard Specifications for Construction.

3.07.02 Construction Methods

The thickness of the concrete shall be the same as the concrete adjacent to the trench but shall not be less than four (4) inches. The alignment and grade and the contour and finish of the surface shall be the same as the concrete adjacent to the trench unless otherwise directed by the Owner's Engineer.

Pavements, walks, and drives shall be sawcut at the edges of the trench or removed to existing joints. The depth of the saw cut shall not be less than the full depth of the concrete.

The forms and joints and the methods of placing, curing, and protection shall be consistent with standard practice and shall meet all the requirements of the 2020 MDOT Standard Specifications for Construction for the various items.

3.07.03 Concrete Curb & Gutter (Header Curb, 18 inch, 24 inch, and 30 inch)

Concrete curb and gutter shall match the existing curb. Concrete grade shall be 3500. All joints shall be saw cut. Curb and gutter shall be placed in accordance with Section 802 of the 2020 MDOT Standard Specifications for Construction.

3.07.04 Sidewalk and Concrete Driveways

Sidewalk and concrete driveways shall be placed in accordance with Section 801 & 803 of the 2020 MDOT Standard Specifications for Construction. Concrete shall meet MDOT 3000 or 3500.

3.08 REPLACEMENT OF LAWN IMPROVEMENTS

3.08.01 Underground Sprinkling Equipment

Underground sprinkling lines, valves & heads, and water system curb stops and boxes are specifically excluded from the pay items. The Contractor shall take the necessary precautions to preserve this equipment during construction. Any underground sprinkling equipment disturbed by the Contractor shall be replaced at the Contractor's expense.

All underground sprinkling equipment shall be replaced in a timely fashion so as to minimize damage to the lawn areas. The Contractor will be responsible for any lawn damage caused by delayed replacement of the sprinkling equipment.

3.08.02 Fences

Fences which are removed for construction shall be replaced with equal or better type and size. The cost of removing and replacing the fences shall be considered part of the major items of work found in the Proposal unless otherwise specified.

3.08.03 Ornamental Shrubbery and Bushes

Ornamental shrubbery and bushes that are removed during construction shall be replaced in kind and size in a vigorous growing condition. Replacement costs shall be considered part of the major items of work found in the Proposal unless otherwise specified. All shrubs and bushes replaced shall be insured by a one-(1) year warranty commencing from the date of installation.

3.09 TURF RESTORATION

All areas of established turf shall be replaced as nearly as possible to their original condition.

3.09.01 Topsoil

Topsoil shall be placed at a minimum depth of four (4) inches over all areas disturbed by the Contractor's operations. The subgrade shall be graded to conform to the adjacent contours and shall be approved by the Owner's Engineer before placing topsoil. The topsoil shall then be placed in accordance with Section 816 of the 2020 MDOT Standard Specifications for Construction.

The soil shall be dark, organic natural surface soil, exclusive of muck or peat, suitable for the establishment of grass or other vegetable growth.

3.09.02 Fertilizer

After the topsoil has been placed, it shall be fertilized at the rate per Section 816 of the 2020 MDOT Standard Specifications for Construction or as directed by the Owner's Engineer. Fertilizer shall be applied just before the placing of the seed to retain its full benefit before unfavorable weather can cause deterioration.

3.09.03 Seeding

All previously seeded lawn areas shall be reseeded with seed mixture per Section 917 of the 2020 MDOT Standard Specifications for Construction. Seed mixtures application rates, and methods shall be in accordance with Section 816 of the 2020 MDOT Standard Specifications for Construction.

Seasonal limitations on seeding in Section 816 of the 2020 MDOT Standard Specifications for Construction are waived. The Contractor shall repeat the seeding procedure as often as necessary to produce a close stand of weed-free grass.

3.09.04 Mulching

All seeded areas shall be mulched immediately following the seeding. Mulching shall be applied to all newly seeded areas in accordance with the requirements of Section 816 of the 2020 MDOT Standard Specifications for Construction. Separate loose straw mulch is prohibited on residential lawn areas.

3.09.05 Hydro Application

All fertilizing, seeding, and mulching shall be applied by an approved Hydro seeding and mulching process unless separate applications as heretofore described are approved by the Owner's Engineer.

3.09.06 Sod

Sod shall be placed only where directed by the Owner's Engineer or as noted on the Plans or Specifications.

All sod shall be nursery grown, conforming to MDOT requirements per Section 917. Sod shall be approved by the Owner's Engineer before placing and shall be placed in accordance with the requirements of Section 816 of the 2020 MDOT Standard Specifications for Construction. The base on which the sod is to be laid shall consist of a minimum of four (4) inches of topsoil placed and fertilized in the same manner required for seeding.

3.10 SCHEDULING OF RESTORATION WORK

Initial restoration (rough grading, temporary aggregate if necessary, removal of excess excavated material and debris) shall be done each day to the extent necessary to allow the movement of local traffic and permit access to all properties for emergency vehicles. Maintenance of streets, drives, sidewalks, etc. shall be the responsibility of the Contractor (including dust control, grading, stabilization, etc.) until the restoration is complete and has been accepted by the Township.

Restoration of each street or section of utility line shall follow the construction in a timely fashion so as to minimize inconvenience to the adjacent property owners and the general public. The manner in which this restoration is done by the Contractor will be a determining factor in the approval by the Owner's Engineer of staking requests and partial payment requests.