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| Version | Date | Description of Revisions |
| 1 |  |  |
| 2 | February 18, 2014 | First Draft specification update project (AV comments). |
| 3 | June 27, 2014 | Reviewed by Environmental Specialists |
| 4 | November 17, 2014 | Spec Renamed |
| 5 | March 10, 2015 | With Comments from Environmental Specialists |
| 6 | April 2, 2015 | AAM- Addressed Legal Comments 1st review |
| 7 | June 16, 2015 | AAM- Addressed Legal Comments 2nd review |
| 8 | September 10, 2015 | Updated, Finalized Specification – Reference eDOCS #5972164 v4 (AAM) |

NOTE:

This is a CONTROLLED Document. Any documents appearing in paper form are not controlled and should be checked against the on-line file version prior to use.

**Notice:** This Document hardcopy must be used for reference purpose only.

**The on-line copy is the current version of the document.**

# GENERAL

## Related Sections

### Division 1 – General Requirements.

### Section 02200 – Site Preparation.

### Section 02911 – Topsoil and Finish Grading.

## Related Standards

### Seeds Act, RSC, 1985, S-8

### “Guideline for the Production of Compost in Ontario”, July 25, 2012 MOE Waste Management Policy Branch

### “Ontario Compost Quality Standards”, July 25, 2012 MOE Waste Management Policy Branch

## Measurement and Payment

*[Choose one of the following payment language provisions that best suits the individual project.*

*If this Section is not specifically referenced by an item in the Bid Form, please use the following language:*

### The work of this Section will not be measured separately for payment. All costs associated with the work of this Section shall be included in the Contract Price.

*OR If this Section is specifically referenced in the Bid Form, use the following language and identify the relevant item in the Bid Form:*

### All costs associated with the work of this Section shall be included in the price(s) for Item No(s). \_\_\_ in the Bid Form.

*If the work of this Section is to be measured and paid for by several different methods, please amend the standard wording given above to reflect the different methods of measurement and payment.*]

### Seeding and cover measurement shall be in cubic metres following the contours of the ground with no allowance for overlap.

## Scheduling

### Schedule seeding work to coincide with preparation of the soil surface.

### Schedule seeding work between the dates recommended by the seed supplier to ensure germination.

# PRODUCTS

## Materials

### Compost

#### Shall be derived from well-composted green organic waste matter.

#### All compost material shall meet the Ontario Ministry of the Environment’s “Guidelines for the Production of Compost in Ontario” definition for Category A compost and shall be supplied from composting sites certified to meet the Ontario Ministry of the Environment’s compost Regulation 101.

### Composted Topsoil

#### Shall consist of particles where 100 percent of the material is able to pass a 25 mm sieve.

#### Shall be pre-mixed and consist of a minimum 60 percent compost material.

### Concrete Sand

#### Shall have a pH range from 7.7 to 8.0 with a mid-range of 7.8.

#### Shall meet the gradation requirements for concrete sand as described in OPSS.MUNI 1002 (November 2013).

### Fertilizer

#### In accordance with the Fertilizers Act, R.S.C. 1985, c.F-10 and Fertilizers Regulations, C.R.C., c. 666.

#### Shall be supplied in original factory sealed bags bearing the manufacturer’s original label indicating the mass and analysis.

#### Complete synthetic, in granular form, dry, free flowing and free from lumps, slow release with 35 percent of nitrogen content in water insoluble form.

### Peat Loam

#### Shall consist of a minimum of 50 percent organic matter and equal parts sand, silt, and clay.

#### Shall be suitable for horticultural purposes.

#### Shredded particles shall not exceed 16 mm in size.

### Seed

#### Shall consist of "Canada pedigreed grade" in accordance with the Seeds Act and Regulations.

#### [The seed mix(es) shall be determined in the restoration plan/erosion and sediment control drawings and shall conform to regulatory requirements and/or natural heritage policies or by the Consultant during the design phase. *[Consultant should consider using a salt tolerant mix in salt prone areas. The salt tolerant mix is a blend mixture of several turfgrass species with a proven resistance to salt. The salt tolerance mix should be specified in areas such as medians, shoulder strips, and shoulder ditches, when salt is thought to be in heavier concentrations]]*

### Seed Packaging, Labeling and Storage

#### All seed and seed mixes shall be in the original sealed package with the original legible label securely attached.

#### Labeling shall conform to the requirements of the Seeds Act and Regulations. Each package shall be labeled to show the following information at a minimum:

##### The name and address of the seed supplier.

##### The seed species, or the name of the seed mix and the various individual seed species that comprise the seed mix and the percentage by mass.

##### The grade of the seed or seed mix.

##### The supplier’s lot designation number, corresponding to the Seed Analysis Certificate.

##### Mass in kilograms.

##### The inoculant type, strain and expiry date (only required for seed mixes containing Crown Vetch or Birdsfoot Trefoil).

#### All labels should be provided to the Consultant at the time of application.

### Seed Analysis Certificate

#### A legible, valid Seed Analysis Certificate from a Seed Testing Laboratory approved by the Canadian Food Inspection Agency (CFIA) for all single seed species and all seed mixtures shall be provided to the Consultant a minimum of 24 hours prior to any seeding operations. The Seed Analysis Report shall stipulate the seed supplier’s lot designation numbers.

#### Test results from the Seed Analysis Certificate shall specify germination and purity for each seed species of the mix as well as the seed mix composition expressed as a percentage of each seed species by mass for each seed mix specified in the Contract Documents. Test results shall meet or exceed the value for the various seed mixes as specified by the Consultant.

### Water

#### Shall be free of any contaminants or impurities that would inhibit germination and growth of vegetation.

### The pH of the final manufactured soil mix shall be a minimum of 6.5 and maximum of 8.0, unless otherwise approved by the Region.

# EXECUTION

## Workmanship

### Maintain the Site and control erosion until conditions permit the application or reapplication of seed and composted topsoil.

### Do not apply to structures, signs, guide rails, fences, water bodies, foliage of any trees, plant material, utilities or any areas other than the surfaces intended.

### Immediately clean up any material sprayed where not intended, to the satisfaction of the Consultant.

### Do not perform the Work under adverse field conditions such as wind speeds over 10 km/h, ground covered with snow, ice, standing water or a concentrated flow of water.

### Protect seeded areas from trespass until plants are established.

## Preparation of Surfaces

### Surfaces to be seeded shall be prepared within 7 Days of the seeding operation.

### Fine grade areas to be seeded shall be free of humps and hollows. Ensure that the areas are free of deleterious and refuse materials, surface stones greater than 50 mm in diameter, weeds or other unwanted vegetation, and erosion.

### Uniformly cultivate areas identified as requiring cultivation to a minimum depth of 50 mm.

### Ensure that soil is loose, friable and suitable as a seed bed in order to germinate seed.

### Obtain the Consultant’s and the Region’s approval of the grade and topsoil depth before commencing seeding operations.

## Application of Composted Topsoil and Seeding

### Ensure that the pneumatic blower is properly calibrated to ensure that composted topsoil and seeding can be uniformly applied at a rate greater than 0.25 m3 of material per minute.

### Apply composted topsoil and seeding to all areas identified in the Drawings or as otherwise directed by the Region.

### Apply composted topsoil and seeding to the following depths, depending on slope gradation:

#### 0 to 5 percent slope: 10 to 15 mm depth.

#### 5 to 10 percent slope: 15 to 20 mm depth.

#### 10 to 25 percent slope: 20 to 25 mm depth.

#### 25 to 35 percent slope: 25 to 40 mm depth.

#### 35 to 45 percent slope: 30 to 50 mm depth.

### Composted topsoil and seed shall overlap the adjoining ground cover by 300 mm.

### Re-apply where the application is not uniform.

### Remove material from objects and areas not designated to be terraseeded.

### Protect seeded areas from trespass satisfactory to the Region.

### Remove protection devices as directed by the Region.

## Maintenance During Establishment Period

### Perform the following operations from the time of seed application until acceptance by the Consultant and the Region:

#### Areas of Application:

##### Repair and reseed dead or bare spots to allow for the establishment of seed prior to acceptance.

##### Mow grass to 50 mm whenever it reaches a height of 70 mm. Remove clippings which will smother grass as directed by the Region.

##### Fertilize seeded areas after the first cutting in accordance with the seed supplier’s fertilizing program. Spread half of the required amount of fertilizer in one direction and the remainder at right angles. Apply sufficient water.

##### Control weeds by mechanical or chemical means utilizing integrated pest management practices in accordance with related regulatory requirements.

##### Water seeded areas to maintain the optimum soil moisture level for germination and continued growth of grass. Control watering to prevent washouts.

## Acceptance

### Seeded areas will be accepted by the Consultant provided that:

#### Plants are uniformly established.

#### Seeded areas are free of rutted, eroded, bare or dead spots.

#### Areas have been mown at least twice.

#### Areas have been fertilized.

### Areas seeded in the fall will achieve final acceptance in the following spring, provided that all acceptance conditions listed above are fulfilled to the satisfaction of the Consultant and the Region.

## Quality Assurance

### All composted topsoil and seeded areas will be inspected by the Consultant to ensure compliance with this Section at 30, 60, and 90 Day periods following the completion of the composted topsoil and seeding operation.

### At the 30 Day inspection within the seeded earth area, it is required that:

#### The composted topsoil shall be visually intact and shall form a uniform cohesive mat;

#### Germination of the nurse crop shall be visually evident.

### At the 60 Day inspection within the seeded earth area, it is required that:

#### The nurse crop shall be evident at mature height in an evenly dispersed, uniform cover;

#### Germination of the specified, permanent seed species shall be visually evident in an evenly

#### dispersed uniform cover;

#### There shall not be any significant bare areas, both in terms of quantity and size;

#### Non-seeded, non-specified vegetation shall not exceed 20% of the seeded earth area.

### At the 90 Day inspection within the seeded earth area, it is required that;

#### The permanent seed species shall be at an average height of 50mm in an evenly dispersed, uniform cover; representative of the specified, permanent seed mixes;

#### There shall not be any significant bare areas, both in terms of quantity and size;

#### Non-seeded, non-specified vegetation shall not exceed 20% of the seeded earth area.

### The Consultant will not perform any inspections during the winter dormant period or when Site conditions prohibit a visual field inspection. The timing intervals between inspections will be suspended during the winter dormant period.

### The Contractor shall maintain the Site and control erosion until conditions permit application or reapplication of and composted topsoil seed.

### All replaced composted topsoil and seed shall be subject to the quality assurance requirements of this Section.

## Failure to Meet Performance Measures

### If the completed work does not meet the Performance Measure after the 30 Day inspection, the Consultant shall document the failure areas, notify the Contractor of those areas, and re-inspect at the 60 Day inspection. If the completed work does not meet the Performance Measure after the 60 or 90 Day inspection, the Consultant shall notify the Contractor in writing and the Contractor shall re-apply the specified materials in accordance with this Section within 14 Days of receiving the notification.

## Maintenance During Warranty Period

### Perform the following operations from the time of acceptance of the seeding work until the end of the warranty period:

#### Repair and reseed dead or bare spots to the satisfaction of the Region.

**END OF SECTION**