

PART 1 - GENERAL

1.1 REFERENCES

- .1 Agriculture and Agri-Food Canada
  - .1 The Canadian System of Soil Classification, Third Edition, 1998.
- .2 Canadian Council of Ministers of the Environment
  - .1 PN1340-2005, Guidelines for Compost Quality.
- .3 U.S. Environmental Protection Agency (EPA) / Office of Water
  - .1 EPA 833-R-06-004, May 2007, Developing Your Stormwater Pollution Prevention Plan - A Guide for Construction Sites.
- .4 Canadian Nursery Landscape Association (CNLA)
  - .1 Canadian Standards for Nursery Stock, 8th Edition, 2006.

1.2 DEFINITIONS

- .1 Compost:
  - .1 Mixture of soil and decomposing organic matter used as fertilizer, mulch, or soil conditioner.
  - .2 Compost is processed organic matter containing 40% or more organic matter as determined by Walkley-Black or Loss On Ignition (LOI) test.

1.3 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00.
- .2 Quality control submittals:
  - .1 Soil testing: submit certified test reports showing compliance with specified performance characteristics and physical properties as described in PART 2 - SOURCE QUALITY CONTROL.
  - .2 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.4 WASTE  
MANAGEMENT AND  
DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 20.
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MANAGEMENT AND  
DISPOSAL

- .2 Divert unused soil amendments from landfill to official hazardous material collections site approved by Departmental Representative.
- .3 Do not dispose of unused soil amendments into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

PART 2 - PRODUCTS

2.1 TOPSOIL

- .1 Topsoil for seeded areas: mixture of particulates, micro organisms and organic matter which provides suitable medium for supporting intended plant growth.
  - .1 Soil texture based on The Canadian System of Soil Classification, to consist of 20 to 70% sand, minimum 7% clay, and contain 2 to 10% organic matter by weight.
  - .2 Contain no toxic elements or growth inhibiting materials.
  - .3 Finished surface free from:
    - .1 Debris and stones over 50 mm diameter.
    - .2 Course vegetative material, 10 mm diameter and 100 mm length, occupying more than 2% of soil volume.
  - .4 Consistence: friable when moist.

2.2 SOIL AMENDMENTS

- .1 Fertilizer:
    - .1 Fertility: major soil nutrients present in following amounts:
    - .2 Nitrogen (N): 20 to 40 micrograms of available N per gram of topsoil.
    - .3 Phosphorus (P): 40 to 50 micrograms of phosphate per gram of topsoil.
    - .4 Potassium (K): 75 to 110 micrograms of potassium per gram of topsoil.
    - .5 Calcium, magnesium, sulfur and micro-nutrients present in balanced ratios to support germination and/or establishment of intended vegetation.
    - .6 Ph value: 6.5 to 8.0.
  - .2 Sand: washed coarse silica sand, medium to course textured.
  - .3 Limestone:
    - .1 Ground agricultural limestone.
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2.2 SOIL AMENDMENTS  
(Cont'd)

- .3 (Cont'd)  
.2 Gradation requirements: percentage passing by weight, 90% passing 1.0 mm sieve, 50% passing 0.125 mm sieve.
- .4 Fertilizer: industry accepted standard medium containing nitrogen, phosphorous, potassium and other micro-nutrients suitable to specific plant species or application or defined by soil test.

2.3 SOURCE QUALITY  
CONTROL

- .1 Advise Departmental Representative of sources of topsoil and manufactured topsoil to be utilized with sufficient lead time for testing.
- .2 Contractor is responsible for amendments to supply topsoil as specified.
- .3 Soil testing by recognized testing facility for PH, P and K, and organic matter.
- .4 Testing of topsoil will be carried out by testing laboratory designated by Departmental Representative.  
.1 Soil sampling, testing and analysis to be in accordance with Provincial standards.

PART 3 - EXECUTION

3.1 TEMPORARY  
EROSION AND  
SEDIMENTATION  
CONTROL

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction sediment and erosion control drawings sediment and erosion control plan, specific to site, that complies with EPA 833-R-06-004 or requirements of authorities having jurisdiction, whichever is more stringent.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 STRIPPING OF  
TOPSOIL

- .1 Begin topsoil stripping of areas as indicated after area has been cleared of brush weeds and grasses and removed from site.
- .2 Strip topsoil to depths as indicated.
  - .1 Avoid mixing topsoil with subsoil where textural quality will be moved outside acceptable range of intended application.
- .3 Stockpile in locations as directed by Departmental Representative.
  - .1 Stockpile height not to exceed 2 m.
- .4 Disposal of unused topsoil is to be in an environmentally responsible manner but not used as landfill.
- .5 Protect stockpiles from contamination and compaction.

3.3 PREPARATION OF  
EXISTING GRADE

- .1 Verify that grades are correct.
  - .1 If discrepancies occur, notify Departmental Representative and do not commence work until instructed by Departmental Representative.
- .2 Grade soil, eliminating uneven areas and low spots, ensuring positive drainage.
- .3 Remove debris, roots, branches, stones in excess of 50 mm diameter and other deleterious materials.
  - .1 Remove soil contaminated with calcium chloride, toxic materials and petroleum products.
  - .2 Remove debris which protrudes more than 75 mm above surface.
  - .3 Dispose of removed material off site.
- .4 Cultivate entire area which is to receive topsoil to minimum depth of 100 mm.
  - .1 Cross cultivate those areas where equipment used for hauling and spreading has compacted soil.

3.4 PLACING AND  
SPREADING OF  
TOPSOIL/PLANTING  
SOIL

- .1 Place topsoil after Departmental Representative has accepted subgrade.
  - .2 Spread topsoil in uniform layers not exceeding 150 mm.
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- 3.4 PLACING AND SPREADING OF TOPSOIL/PLANTING SOIL
- .3 For sodded areas keep topsoil 15 mm below finished grade.
  - .4 Spread topsoil as indicated.
  - .5 Manually spread topsoil/planting soil around trees, shrubs and obstacles.
- 3.5 FINISH GRADING
- .1 Grade to eliminate rough spots and low areas and ensure positive drainage.
    - .1 Prepare loose friable bed by means of cultivation and subsequent raking.
  - .2 Consolidate topsoil to required bulk density using equipment approved by Departmental Representative.
    - .1 Leave surfaces smooth, uniform and firm against deep footprinting.
- 3.6 ACCEPTANCE
- .1 Departmental Representative will inspect and test topsoil in place and determine acceptance of material, depth of topsoil and finish grading.
- 3.7 SURPLUS MATERIAL
- .1 Dispose of materials except topsoil not required.
- 3.8 CLEANING
- .1 Proceed in accordance with Section 01 74 11.
  - .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.