

**Part 1            General**

**1.1                SECTION INCLUDES**

- .1            Subsoil materials for Finish Grading
- .2            Topsoil materials for Finish Grading.

**1.2                RELATED SECTIONS**

- .1            Section 32 92 23 - Sodding.

**1.3                REFERENCES**

- .1            AASHTO T180-01(2004) - Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and an 457 mm (18 inch) Drop.
- .2            ASTM D698-07e1 - Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
- .3            ASTM D1556-07 - Test Method for Density and Weight Unit of Soil in Place by the Sand-Cone Method.
- .4            ASTM D1557-07 - Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).
- .5            ASTM D2167-08 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
- .6            ASTM D2487-06e1 - Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- .7            City of Winnipeg Standard Construction Specification – CW 3110 Sub-grade, Sub-base and Base Course Construction.
- .8            City of Winnipeg Standard Construction Specification – CW 1130 Work Site Requirements.
- .9            City of Winnipeg Standard Construction Specification – CW 3540 Topsoil and Finish Grading for Establishment of Turf Areas.

**1.4                SUBMITTALS FOR REVIEW**

- .1            Section 01 33 00: Submission procedures.

**1.5                SUBMITTALS FOR INFORMATION**

- .1            Section 01 33 00: Submission procedures.
- .2            Materials Source: Submit name of imported materials source.

**1.6 CLOSEOUT SUBMITTALS**

- .1 Section 01 78 10: Closeout Procedures.

**1.7 QUALITY ASSURANCE**

- .1 Perform Work in accordance with City of Winnipeg standards.
- .1 Maintain one (1) copy on Site.

**Part 2 Products**

**2.1 SUBSOIL MATERIALS**

- .1 Subsoil Type for Sodded Area: Conforming to Province of Manitoba standards and City of Winnipeg Standard Construction Specification – CW 3110 Sub-grade, Sub-base and Base Course Construction.
- .2 Refer to Drawings.

**2.2 TOPSOIL MATERIALS**

- .1 Topsoil for Sodded Area: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained Site; free of subsoil, clay, or impurities, plants, weeds and roots.
- .2 Topsoil Type: Conforming to Province of Manitoba standards and to City of Winnipeg Standard Construction Specification – CW 3540 Topsoil and Finish Grading for Establishment of Turf Areas.

**2.3 SOURCE QUALITY CONTROL**

- .1 Testing and Analysis of Subsoil and Topsoil Material: To City of Winnipeg Standard Construction Specification requirements.
- .2 Provide materials of each type from same source throughout the Work.

**Part 3 Execution**

**3.1 SOIL REMOVAL**

- .1 Remove lumped soil, boulders, and rock.
- .2 Stockpile excavated material in area designated on Site and remove excess material not being used, from Site.

**3.2 STOCKPILING**

- .1 Stockpile materials on Site at locations indicated designated by Contract Administrator.
- .2 Stockpile in sufficient quantities to meet Project schedule and requirements.

- .3 Separate differing materials with dividers or stockpile apart to prevent mixing.
- .4 Prevent intermixing of soil types or contamination.
- .5 Direct surface water away from stockpile Site to prevent erosion or deterioration of materials.

### **3.3 STOCKPILE CLEANUP**

- .1 To City of Winnipeg Construction Standards.
- .2 Remove stockpile, leave area in a clean and neat condition. Grade Site surface to prevent free standing surface water.

### **3.4 PREPARATION OF SUBSOIL**

- .1 City of Winnipeg Standard Construction Specification – CW 3110 Sub-grade, Sub-base and Base Course Construction.
- .2 Prepare subsoil and eliminate uneven areas and low spots.
- .3 Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- .4 Remove foreign materials and undesirable plants and their roots. Do not bury foreign material beneath areas to be sodded.
- .5 If soil contaminated with petroleum products is encountered, notify City of Winnipeg and Contract Administrator immediately before proceeding with any further work.
- .6 Scarify subsoil to a depth of 100 mm (4 inches) where topsoil is to be placed. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.
- .7 Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.

### **3.5 PLACING TOPSOIL**

- .1 To City of Winnipeg Standard Construction Specification – CW 3540 Topsoil and Finish Grading for Establishment of Turf Areas.
- .2 Spread topsoil to a minimum depth of 50 mm (2 inches) over area to be sodded.
- .3 Place topsoil during dry weather and on dry unfrozen subgrade.
- .4 Remove vegetable matter and foreign non-organic material from topsoil while spreading.
- .5 Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- .6 Install edging at periphery of sodded areas in straight lines to consistent depth.
- .7 Coordinate with installation of underground sprinkler system piping and watering heads.

**3.6 PROTECTION OF FINISHED WORK**

- .1 Section 01 78 40: Protecting installed work.
- .2 Protect landscaping and other features remaining as final work.
- .3 Protect existing structures, fences, sidewalks, utilities, paving, and curbs.

**END OF SECTION**