

## **Part 1 General**

### **1.1 RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 31 22 13 - Rough Grading.
- .3 Section 32 91 19 – Topsoil Placement and Finish Grading.

### **1.2 REFERENCES**

- .1 City of Winnipeg Standard Construction Specification: Tree Planting and Maintenance Specifications; most recent.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)
- .2 Agriculture and Agri-Food Canada (AAFC).
  - .1 Plant Hardiness Zones in Canada-2000.
- .3 Canadian Nursery Landscape Association (CNLA).
  - .1 Canadian Standards for Nursery Stock-2006, 8th Edition

### **1.3 SUBMITTALS**

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit product data for:
  - .1 Fertilizer.
  - .2 Anti-desiccant.
  - .3 Guying assembly including clamps, collar, guying wire, anchors and wire tightener.
  - .4 Wood chip mulch.
- .3 Submit samples for:
  - .1 Wood chip mulch.

### **1.4 QUALITY ASSURANCE**

- .1 Obtain approval or plant material at source.
- .2 Notify Contract Administrator of source of material at least seven (7) days in advance of shipment. No work under this Section is to proceed without approval.
- .3 Acceptance of plant material at source does not prevent rejection on site prior to or after planting operations.
- .4 Imported plant material must be accompanied with necessary permits and import licenses. Conform to federal and provincial regulations.

### **1.5 STORAGE AND PROTECTION**

- .1 Protect plant material from frost, excessive heat, wind and sun during delivery.

- .2 Immediately store and protect plant material which will not be installed within 4 hours after arrival at site in storage location approved by Contract Administrator.
- .3 Protect plant material from damage during transportation:
  - .1 When delivery distance is less than 30 km and vehicle travels at speeds under 80 km/h, tie tarpaulins around plants or over vehicle box.
  - .2 When delivery distance exceeds 30 km or vehicle travels at speeds over 80 km/h, use enclosed vehicle where practical.
  - .3 Protect foliage and root balls using anti-desiccants and tarpaulins, where use of enclosed vehicle is impractical due to size and weight of plant material.
- .4 Protect stored plant material from frost, wind and sun and as follows:
  - .1 For pots and containers, maintain moisture level in containers.
  - .2 For balled and burlapped and wire basket root balls, place to protect branches from damage. Maintain moisture level in root zones.

## **1.6 SCHEDULING**

- .1 Obtain approval of species alternatives prior to ordering plant material.
- .2 Order plant material as soon as possible after award of Contract to ensure plant availability.
- .3 Obtain approval from Contract Administrator of schedule 14 days in advance of shipment of plant material.
- .4 Schedule to include:
  - .1 Quantity and type of plant material.
  - .2 Shipping dates.
  - .3 Arrival dates on site.
  - .4 Planting Dates.

## **1.7 WARRANTY**

- .1 The Contractor shall warrant that plant material as itemized on plant list will remain free of defects in accordance with General Conditions, for twelve (12) months, after the date of Substantial Performance, providing adequate maintenance has been provided.
- .2 End-of-warranty inspection will be conducted by Contract Administrator.
- .3 The Contract Administrator reserves the right to extend Contractor's warranty responsibilities for an additional one year if, at end of initial warranty period, leaf development and growth is not sufficient to ensure future survival.
- .4 All replacement plant material subject to an additional one (1) year of warranty.

## **Part 2 Products**

### **2.1 PLANT MATERIAL**

- .1 Type of root preparation, sizing, grading and quality: comply to Canadian Standards for Nursery Stock.
  - .1 Source of plant material: grown in Zone 2b in accordance with Plant Hardiness Zones in Canada.

.2 Plant material must be planted in zone indicated as appropriate for its species.

.2 Plant material: free of disease, insects, defects or injuries and structurally sound with strong fibrous root system.

.3 Trees: conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.

## **2.2 PLANTING MEDIUM MIX**

.1 Planting soil mix: as specified in Section 32 91 19 – Topsoil Placement and Finish Grading.

## **2.3 WATER**

.1 Provide watering to conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.

.1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

## **2.4 TREE PROTECTION AND TREE SUPPORT**

.1 Provide tree protection and tree support to conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.

.1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

## **2.5 MULCH**

.1 Provide Mulch to conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.

.1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

## **2.6 FERTILIZER**

.1 Synthetic commercial type as per Section 32 92 19 – Topsoil Placement and Finish Grading.

.2 Horticultural bonemeal; raw bonemeal, finely ground with minimum analysis of 3% nitrogen and 10% phosphoric acid.

## **2.7 ANTI-DESICCANT**

.1 Wax-like emulsion.

## **2.8 FLAGGING TAPE**

.1 Fluorescent, orange colour surveyors flagging tape, length as required.

## **2.9 SOURCE QUALITY CONTROL**

.1 Obtain approval from Contract Administrator of plant material prior to planting.

.2 Imported plant material must be accompanied with necessary permits and import licenses. Conform to Federal, Provincial or Territorial regulations.

### **Part 3 Execution**

#### **3.1 RELATED WORK**

- .1 Obtain approval of site grading, and tree and shrub planting holes and beds prior to commencing work in this section.

#### **3.2 PRE-PLANTING PREPARATION**

- .1 Ensure plant material is acceptable to Contract Administrator.
- .2 Remove damaged roots and branches from plant material.
- .3 Apply anti-desiccant to conifers and deciduous trees in leaf in accordance with manufacturer's instructions.

#### **3.3 EXCAVATION AND PREPARATION OF PLANTING BEDS**

- .1 Establishment of sub-grade for planting beds is specified in Section 31 22 13 - Rough Grading.
- .2 Preparation of planting beds is specified in Section 32 91 19 – Topsoil Placement and Finish Grading.
- .3 For individual planting holes:
  - .1 Stake out location and obtain approval from Contract Administrator prior to excavating.
  - .2 Excavate to depth and width as indicated.
  - .3 Remove rocks, roots, debris and toxic material from excavated material that will be used as planting soil for trees and individual shrubs. Dispose of excess material.
  - .4 Scarify sides of planting hole.
  - .5 Remove water which enters excavations prior to planting. Notify Contract Administrator if water source is ground water.

#### **3.4 PLANTING**

- .1 For jute burlapped root balls, cut away top one third of wrapping and wire basket without damaging root ball. Do not pull burlap or rope from under root ball.
- .2 For container stock or root balls in non-degradable wrapping, remove entire container or wrapping without damaging root ball.
- .3 Plant vertically in locations as indicated. Orient plant material to give best appearance in relation to structure, roads and walks.
- .4 For trees: planting to conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

- .5 For shrubs:
  - .1 Backfill soil in 150 mm lifts. Tamp each lift to eliminate air pockets. When two thirds of depth of planting pit has been backfilled, fill remaining space with water. After water has penetrated into soil, backfill to finish grade.
  - .2 Form watering saucer as indicated.
- .6 For ground covers, backfill soil evenly to finish grade and tamp to eliminate air pockets.
- .7 Water plant material thoroughly to fully saturate soil for an area the minimum of double the width of the rootball.
- .8 After soil settlement has occurred, fill with additional topsoil to achieve finish grades.
- .9 Dispose of burlap, wire and container material off site.

### **3.5 TRUNK PROTECTION**

- .1 Provide trunk protection to conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

### **3.6 TREE SUPPORTS**

- .1 Provide tree supports to conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

### **3.7 MULCHING**

- .1 Provide mulching to conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

### **3.8 MAINTENANCE**

- .1 Provide two (2) year maintenance per City of Winnipeg standard Tree Planting and Maintenance Specifications.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)
- .2 Provide thirty (30) day establishment period maintenance including watering, weeding, pruning, and fertilizing as necessary to ensure plants are set up for optimum rooting and growth.

### **3.9 WARRANTY PERIOD**

- .1 All plantings under this section of work will be inspected by the Contract Administrator immediately after thirty (30) day establishment period.
- .2 A Certificate of Total Performance will be issued at the end of the inspection and the completion of associated replacements / adjustments.
- .3 The date of the certificate of total performance will mark the beginning of the one (1) year

warranty period for shrubs and groundcover plantings.

- .4 The date of the certificate of total performance will mark the beginning of the two (2) year warranty period for trees as per City of Winnipeg standard Tree Planting and Maintenance Specifications.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)
- .5 A plant warranty inspection scheduled and led by the Contract Administrator will be conducted as close to one year after the issuance of the certificate of total performance as possible.

### **3.10 ACCEPTANCE**

- .1 To conform to requirements of City of Winnipeg standard Tree Planting and Maintenance Specifications.
  - .1 Website:[http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree\\_Planting\\_and\\_Maintenance\\_Specification.pdf](http://winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/Tree_Planting_and_Maintenance_Specification.pdf)

**END OF SECTION**