

## **PART 1        GENERAL**

### **1.1            RELATED REQUIREMENTS**

- .1        Section 32 01 90 33 – Tree and Shrub Preservation.
- .2        Section 31 00 00.01 – Landscaping.
- .3        Section 32 91 19 13 – Topsoil Placement and Grading
- .4        Section 32 92 16 – Hydraulic Seeding

### **1.2            REFERENCES**

- .1        Bureau de normalisation du Québec - NQ 0605-200 - Entretien arboricole et horticole.
- .2        Normes de bonne pratique de la Société internationale d'arboriculture Québec (SIAQ).

### **1.3            DEFINITIONS**

- .1        Clearing consists of cutting off trees, shrubs and brush vegetative growth to not more than specified height above ground and disposing of felled trees, previously uprooted trees and stumps, and surface debris.
- .2        Close-cut clearing consists of cutting off standing trees, brush, scrub, roots, stumps and embedded logs, removing at, or close to, existing grade and disposing of fallen timber and surface debris.
- .3        Clearing isolated trees consists of cutting off to not more than specified height above ground of designated trees, and disposing of felled trees and debris.
- .4        Underbrush clearing consists of removal from treed areas of undergrowth, deadwood, and trees smaller than 50 mm trunk diameter and disposing of fallen timber and surface debris.
- .5        Complete grubbing consists of excavation and disposal of stumps and roots [boulders and rock fragments of specified size] to not less than specified depth below existing ground surface.
- .6        Partial grubbing consists of cutting stumps and roots on the surface using mechanical grubber to a minimum of 300 mm below existing level and eliminating material. Backfill hole with topsoil and grass.

### **1.4            QUALITY ASSURANCE**

- .1        Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .2        Safety Requirements: worker protection:
  - .1        Workers must wear gloves, respirators, dust masks, long sleeved clothing, eye protection and protective clothing when applying herbicide materials.

## **1.5 STORAGE AND PROTECTION**

- .1 Prevent damage to works, existing trees and shrubs to be kept, landscaping, natural features, bench marks, existing pavement, utility lines, site appurtenances, water courses and root systems of trees which are to remain.
  - .1 Repair damaged items to approval of Departmental Representative.
  - .2 If trees are damaged during work, the Contractor shall take full responsibility including financial compensation for the loss of value of the damaged trees based on the method used by the Société internationale d'arboriculture – Québec inc. (resolution CE-86-1682). Repairs are at the Contractor's expenses. The Departmental Representative shall determine the cost without recourse.
  - .3 A \$25 penalty will be applied to all minor injuries to trees and their components. The penalty will apply to minor damage to trunk, branches, branch collar and roots. Compensation will be based on tree's initial ornamental value less the current value considering the damage. Trees with injuries over 50% of the total trunk circumference are considered a total loss and compensation will be based on the tree's basic value evaluated by a specialist representing the client.

The evaluation will be carried out by a Departmental Representative with the required know-how in accordance with the SIAQ Guide d'évaluation des végétaux d'ornement.

## **1.6 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Consider felled timber from which saw logs, pulpwood, posts, poles, ties, or fuel wood can be produced as saleable timber.
  - .1 Trim limbs and tops, and saw into saleable lengths.
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- .3 Dispose of sick trees off site and burn. Departmental Representative will determine on site which trees are to be disposed of.
- .4 All felled trees must be transported to site mobilization site (service road sector). The Contractor shall carry out the evacuation site from the mobilization site (called composting). Felled trees can not be stored near the Avenue George VI / Gilmour and Champlain Boulevard

## **PART 2 PRODUCT**

### **2.1 MATERIALS**

- .1 Soil Material for Fill:
  - .1 Excavated soil material: free of debris, roots, wood, scrap material, vegetable matter, refuse, soft unsound particles, deleterious, or objectionable materials.

Remove and store soil material for reused.
  - .2 Recover topsoil during landscaping work.

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**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 and the sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 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            PREPARATION**

- .1      Inspect site and verify with Departmental Representative items designated to remain.
- .2      Locate and protect utility lines: preserve in operating condition active utilities traversing site.
  - .1      Notify Departmental Representative immediately of damage to or when unknown existing utility lines are encountered.
  - .2      When utility lines which are to be removed are encountered within area of operations, notify Departmental Representative in ample time to minimize interruption of service.
- .3      Notify utility authorities before starting clearing and grubbing.
- .4      Keep roads and walks free of dirt and debris.

**3.3            CLEARING**

- .1      Clearing includes felling, trimming, cutting of trees into sections and satisfactory disposal of trees and other vegetation designated for removal, including downed timber, snags, brush, rubbish occurring within cleared areas.
- .2      Clear as directed by Departmental Representative, by cutting at height of not more than 300 mm above ground. In areas to be subsequently grubbed, height of stumps left from clearing operations to be not more than 1000 mm above ground surface.

**3.4            CLOSE CUT CLEARING**

- .1      Close cut clearing to ground level to within 100 mm of ground surface.

**3.5            ISOLATED TREES**

- .1      Cut off isolated trees as directed by Departmental Representative at height of not more than 300 mm above ground surface.
- .2      Grub out isolated tree stumps at Departmental Representative's request.

### **3.6 SELECTIVE CUTTING**

- .1 Determine which trees to cut during the course of the work, depending on site conditions. More specialized management measures may also be required on site to protect the vegetation. The Departmental Representative will supervise the tree cutting and identify trees to be cut throughout the work as well as request management measures including cutting, protection and corrective work.

### **3.7 GRUBBING**

- .1 Remove and dispose of roots larger than 7.5 cm in diameter, matted roots, and designated stumps from indicated grubbing areas.
- .2 Remove and dispose of roots more than 7.5 cm in diameter of trees selected to be cut, damaged roots and selected stumps, if requested by Departmental Representative.
- .3 Grub out stumps and roots to not less than 300 mm below ground surface.
- .4 Level surface, fill holes, spread soil and seed.

### **3.8 REMOVAL AND DISPOSAL**

- .1 Remove cleared and grubbed materials off site.
- .2 Dispose of cleared and grubbed materials.
- .3 Chip and mulch cleared and grubbed vegetative material.  
The Contractor may use wood chips to reduce compaction of roots or to control surface water. Wood chips must be removed once landscaping work is completed.
- .4 Remove diseased trees identified by Departmental Representative and dispose of this material to approval of Departmental Representative. Apply strict control to the disposal of elms, due to Dutch Elm disease and butternut canker. Remove all parts of elm trees that have been cut, including the trunk, to an authorized disposal facility and provide proof to Departmental Representative.

### **3.9 FINISHED SURFACE**

- .1 Leave ground surface in condition suitable for immediate grading operations and stripping of topsoil to approval of Departmental Representative.

### **3.10 CLEANING**

- .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

**END OF SECTION**