

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 32 91 13 – Topsoil Placement and Grading.
- .2 Section 32 93 10 – Trees, Shrubs and Ground Cover Planting.
- .3 Section 01 33 00 – Submittals.

1.2 ADMINISTRATIVE REQUIREMENTS

- .1 Scheduling:
 - .1 Schedule hydraulic seeding to coincide with preparation of soil surface.
 - .2 Schedule seeding immediately following spreading of soil and topsoil.
 - .3 Unless indicated otherwise, schedule seeding period after the last frost and the end of June (spring) and between mid-August and mid-September (fall).

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for seed, mulch, tackifier, fertilizer, liquid soil amendments and micronutrients.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements and Section 01 35 43 - Environmental Procedures.
- .3 Submit in writing 7 days prior to commencing work.
 - .1 Volume capacity of hydraulic seeder in litres.
 - .2 Amount of material to be used per tank based on volume.
 - .3 Number of tank loads required per hectare to apply specified slurry mixture per hectare.
- .4 Samples:
 - .1 Submit 0.5 kg container of each type of fertilizer used.
 - .2 Submit samples of mulch, fasteners and mesh.
- .5 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .6 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.4 QUALITY ASSURANCE

- .1 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Labelled bags of fertilizer identifying mass in kg, mix components and percentages, date of bagging, supplier's name and lot number.
 - .2 Inoculant containers to be tagged with expiry date.
- .3 Storage and Handling Requirements:
 - .1 Store fertilizer off ground, indoors, in dry location and in accordance with manufacturer's recommendations.
 - .2 Replace defective or damaged materials with new.

1.6 WARRANTY

- .1 For seeding, 12 month warranty period.
- .2 Contractor hereby warrants that seeding will remain free of defects for 1 full growing season.
- .3 End-of-warranty inspection will be conducted by Departmental Representative.

PART 2 PRODUCT

2.1 MATERIALS

- .1 Seed: "Canada pedigreed grade" in accordance with Government of Canada Seeds Act and Regulations.
 - .1 Grass mixture: "Certified", "Canada No. 1 Lawn Grass Mixture" in accordance with Government of Canada "Seeds Act" and "Seeds Regulations".
 - .1 Seed mix. Subject to change based on seeding period and park's indigenous characteristics:
 - .1 50% Creeping red fescue / Festuca rubra.
 - .2 40% Kentucky bluegrass / Poa pratensis.
 - .3 10% Annual raygrass (chaff).
- .2 Mulch: specially manufactured for use in hydraulic seeding equipment, non-toxic, water activated, green colouring, free of germination and growth inhibiting factors with following properties.

2.1 MATERIALS (cont'd)

- .1 Mulch for seed mix:
 - .1 Composed of newsprint, cotton fibre and straw, and treated to produce fibres between 15 mm and 25 mm. Straw is the main component of the mulch.
- .3 Tackifier: water dilutable.
- .4 Water: free of impurities that would inhibit germination and growth.
- .5 Fertilizer:
 - .1 To Canada "Fertilizers Act" and Regulations.
 - .2 Synthetic, slow-release, maximum 35% soluble nitrogen, or preferably, organic. Composition: 8-30-12 formula containing 8% nitrogen from two sources, one of which is ammonium sulfate: 30% phosphate, single superphosphate and monoammonium phosphate; 12% potassium, a part of which in the form of sulfate; magnesium, sulphur and minor elements.

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrate previously installed under other Sections or Contracts are acceptable for hydraulic seeding in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLERS

- .1 Use installers members in Good Standing of Horticultural Trades Association.

3.3 PROTECTION OF EXISTING CONDITIONS

- .1 Protect structures, signs, guide rails, fences, plant material, utilities and other surfaces not intended for spray.
- .2 Immediately remove any material sprayed where not intended as directed by Departmental Representative.

3.4 PREPARATION OF SURFACES

- .1 Do not perform work under adverse field conditions such as wind speeds over 10 km/h, frozen ground or ground covered with snow, ice or standing water.
- .2 Fine grade areas to be seeded free of humps and hollows.
 - .1 Ensure areas are free of deleterious and refuse materials.

3.4 PREPARATION OF SURFACES (cont'd)

- .3 Cultivated areas identified as requiring cultivation to depth of 25 mm.
- .4 Ensure areas to be seeded are moist to depth of 150 mm before seeding.
- .5 Obtain Departmental Representative's approval of grade and topsoil depth before starting to seed.

3.5 PREPARATION OF SLURRY

- .1 Measure quantities of materials by weight or weight-calibrated volume measurement satisfactory to Departmental Representative. Supply equipment required for this work.
- .2 Charge required water into seeder. Add material into hydraulic seeder under agitation. Pulverize mulch and charge slowly into seeder.
- .3 After materials are in seeder and well mixed, charge tackifier into seeder and mix thoroughly to complete slurry.

3.6 SLURRY APPLICATION

- .1 Ensure seed is placed under supervision of certified Landscape Planting Supervisor.
- .2 Hydraulic seeding equipment:
 - .1 Slurry tank.
 - .2 Agitation system for slurry to be capable of operating during charging of tank and during seeding, consisting of recirculation of slurry and/or mechanical agitation method.
 - .3 Capable of seeding by 50 m hand operated hoses and appropriate nozzles.
 - .4 Tank volume to be certified by certifying authority and identified by authorities "Volume Certification Plate".
- .3 Spread seed mix as described above. Quantities are for one hectare unless indicated otherwise.
 - .1 Mix for seed:
 - .1 Seed: grass mixture 3 kg at 100m².
 - .2 Mulch: type , 2 225 kg.
 - .3 Tackifier: as recommended by seed distributor.
 - .4 Water.
 - .5 Fertilizer: 75 kg.
- .4 Apply slurry uniformly, at optimum angle of application for adherence to surfaces and germination of seed.
 - .1 Using correct nozzle for application.
 - .2 Using hoses for surfaces difficult to reach and to control application.
- .5 Blend application 300 mm into adjacent grass areas or sodded areas previous applications to form uniform surfaces.
- .6 Re-apply where application is not uniform.

3.6 SLURRY APPLICATION (cont'd)

- .7 Remove slurry from items and areas not designated to be sprayed.
- .8 Provide repairs of the area affected by the planting works. These corrections can be made on the fly.

3.7 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Keep pavement and area adjacent to site clean and free from mud, dirt, and debris at all times.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean and reinstate areas affected by Work.

3.8 PROTECTION

- .1 Protect seeded areas from trespass until plants are established.
- .2 Remove protection devices as directed by Departmental Representative.

3.9 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Ensure maintenance is carried out under supervision of certified Landscape Maintenance Supervisor.
- .2 Perform following operations from time of seed application until acceptance by Departmental Representative.
- .3 Grass Mixture:
 - .1 Repair and reseed dead or bare spots to allow establishment of seed prior to acceptance.
 - .2 For seed:
 - .1 Areas designated for mowing: Mow grass to 60 mm whenever it reaches height of 120 mm. Remove clippings which will smother grass as directed by Departmental Representative.
 - .2 Designated areas with no mowing: Mow grass to 150 mm whenever it reaches height of 450 mm. Remove clippings which will smother grass as directed by Departmental Representative.
- .3 Control weeds by mechanical or chemical means utilizing acceptable integrated pest management practices.
- .4 Water seeded area to maintain optimum soil moisture level for germination and continued growth of grass. Control watering to prevent washouts.

3.10 ACCEPTANCE

- .1 Seeded areas will be accepted by Departmental Representative provided that.
 - .1 Plants are uniformly established. Seeded areas are free of rutted, eroded, bare or dead spots.
 - .1 Designated areas have been mown at least twice.
 - .2 Designated areas have been mown at least one time.
- .2 Areas seeded in fall will achieve final acceptance in following spring, one month after start of growing season provided acceptance conditions are fulfilled.

3.11 MAINTENANCE DURING WARRANTY PERIOD

- .1 Perform following operations from time of acceptance until end of warranty period.
 - .1 Repair and reseed dead or bare spots to satisfaction of Departmental Representative.

END OF SECTION