

1 General

1.1 SUMMARY

- .1 This Section specifies the requirements for mechanical seeding.

1.2 RELATED SECTIONS

- .1 Section 32 91 19 Topsoil Placement and Grading
- .2 Section 32 93 10 Landscape Maintenance

1.3 REFERENCES

- .1 Canadian Nursery Landscape Association (CNLA):
 - .1 Canadian Standards for Nursery Stock, 8th Edition, 2006.
 - .2 Canada Seeds Act (Current Version).
 - .3 Canada Fertilizer Act (Current Version).

1.4 SUBMITTALS

- .1 Product Data:
 - .1 Submit product data in accordance with 01 33 00 Submittal Procedures.
 - .2 Provide product data for mechanically applied seeding:
 - .1 Seed.
 - .2 Fertilizer.
 - .3 Erosion Control Blanket.

1.5 QUALITY ASSURANCE

- .1 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
 - .1 Seed supplied either as a single seed species or as a seed mix will comply with the provisions of the Canada Seed Act and Regulations and the grade standards for the specific seed species.
- .2 Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, installation instructions and warranty requirements.
- .3 Seed packaging, labelling and storage will be in accordance with Canada Seed Act and Regulations. Make arrangements for inspection and approval of seed mixtures by Departmental Representative prior to installation.

1.6 SCHEDULING

- .1 Schedule mechanical seeding to coincide with preparation of soil surface.
- .2 For optimum conditions, schedule seeding from May 1 to June 15 or August 15 to October 15.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials.
- .2 Divert unused fertilizer from landfill to official hazardous material collections site.
- .3 Do not dispose of unused fertilizer into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

2 Products

2.1 MATERIALS

- .1 Seed: "Canada pedigreed grade" in accordance with Government of Canada Seeds Act and Regulations.
 - .1 Pollinator and Pro Sport Field Seed Mixes.
 - .1 Seed Mix Types are defined on L-10 in the drawing package.
- .2 Seeding Rate: as noted on L-10 in the drawing package.
- .3 Water: Free of impurities that would inhibit germination and growth.
- .4 Fertilizer:
 - .1 To Canada "Fertilizers Act" and "Fertilizers Regulations".
 - .2 Complete synthetic, slow release with 35% of nitrogen content in water-insoluble form.
- .5 Erosion Control Blanket:
 - .1 Bio degradable erosion control blanket.

3 Execution

3.1 WORKMANSHIP

- .1 Do not perform work under adverse field conditions such as high winds, frozen ground or ground covered with snow, ice or standing water.
- .2 Protect seeded areas from trespass until plants are established.
- .3 See landscape drawings for extents of Pollinator and Pro Sports Field Seed mixes.

3.2 SEED PLACEMENT

- .1 All seed mixes shall be applied per the application rates specified in the Drawings using a broadcast method or drill seeder seeding method.
- .2 Sow seed uniformly on a cultivated surface, per Section 3.2.

3.3 MANUAL/ MECHANICAL SEEDING

- .1 For mechanical (drill) seeding:
 - .1 Use "Brillion" type mechanical landscape seeder which accurately places seed at specified depth and rate and rolls in single operation.
 - .2 Use equipment and method acceptable to Parks Canada Departmental Representative.
- .2 For manual seeding:
 - .1 Use "Cyclone" type manually operated seeder. Hand-held type is appropriate for small areas inaccessible to equipment.
 - .2 Use manually operated, water ballast, landscaping type, smooth steel drum roller.
 - .3 Ballast as directed by Parks Canada Departmental Representative.
- .3 When using a manual seeding method, sow half of required amount of seed in one direction and remainder at right angles as applicable.
- .4 Blend applications 150 mm into adjacent grass areas and/or previous applications to form uniform surfaces.
- .5 Consolidate mechanically seeded areas by rolling area if soil conditions warrant or if directed by Parks Canada Departmental Representative with equipment approved by Parks Canada Departmental Representative immediately after seeding.

3.4 PREPARATION OF SURFACES

- .1 Fine grade areas being seeded free of humps and hollows. Ensure areas are free of deleterious and refuse materials.
- .2 Cultivate areas to receive seed mixes to a depth of 50 mm min. Ensure areas being seeded are moist to depth of 150 mm before seeding.
- .3 Obtain Parks Canada Departmental Representative approval of grade and topsoil depth before starting to seed.
- .4 Placement of topsoil to comply with Section 32 91 19 Topsoil Placement and Grading.

3.5 FERTILIZING PROGRAM

- .1 Supply and install 8-32-16 fertilizer at 350 kg per hectare in accordance with OPSS 804. Contractor to submit the application approach two (2) weeks in advance of application for review and approval by Parks Canada Departmental Representative

3.6 PROTECTION, EROSION CONTROL

- .1 Erect, maintain and remove continuous temporary barrier fence to prevent traffic on newly seeded areas as directed by the Parks Canada Departmental Representative.
- .2 Install biodegradable erosion control blanket on all seeded surfaces immediately after seeding.

3.7 PRELIMINARY ACCEPTANCE

- .1 All areas seeded will be inspected by the Parks Canada Departmental Representative using the Seeding and Cover Quality Assurance Visual Inspection Field Guide to ensure compliance with this specification at 30, 60, and 90 Day periods following the seeding operation.
 - .1 At the 30 Day inspection within the seeded area:
 - .1 The applied cover shall be visually intact and shall form a uniform cohesive mat.
 - .2 Where applied, germination of the nurse crop shall be visually evident.
 - .2 At the 60 Day inspection within the seeded area:
 - .1 Where applied, the nurse crop shall be evident at mature height in an evenly dispersed, uniform cover.
 - .2 Germination of the specified permanent seed species shall be visually evident in an evenly dispersed uniform cover.
 - .3 There shall not be any significant bare areas, both in terms of quantity and size.
 - .4 Non-seeded, non-specified vegetation shall not exceed 20% of the seeded earth area
 - .3 At the 90 Day inspection within the seeded area:
 - .1 Germination of specified permanent seed species shall be visually evident in an evenly dispersed uniform cover at an average height of 50 mm for specified grasses. Slow germinating species and wildflowers may not be evident.
 - .2 There shall not be any significant bare areas, both in terms of quantity and size.
 - .3 Non-seeded, non-specified vegetation shall not exceed 20% of the seeded earth area

3.8 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Grass Mixture:
 - .1 Repair and reseed dead or bare spots to allow establishment of seed prior to acceptance.

- .2 Fertilize seeded areas ten (10) weeks after germination provided plants have mature true leaves in accordance with fertilizing program. Spread half of required amount of fertilizer in one (1) direction and remainder at right angles.
- .3 Control weeds by mechanical or chemical means utilizing acceptable integrated pest management practices.
- .4 Water seeded areas regularly during the first 6-8 weeks after planting to maintain optimum soil moisture level for germination and continued growth of grass. Control watering to prevent incidents of erosion.

3.9 FINAL ACCEPTANCE

- .1 Seeded areas will be accepted by Parks Canada Departmental Representative provided that:
 - .1 Plants are uniformly established and seeded areas are free of rutted, eroded, bare or dead spots; and
 - .2 Areas have been fertilized.
- .2 Areas seeded in fall will achieve final acceptance in following spring, one (1) month after start of growing season provided acceptance conditions are fulfilled.

3.10 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 Parks Canada Departmental Representative.
 - .2 Fertilize seeded areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one (1) direction and remainder at right angles.

END OF SECTION