

1.0 GENERAL

1.1 Scope

- 1.1.1 This specification is to be used for seeding of side slopes, ditches and back slopes for new or existing rural cross section roadways. Not to be used for parks and open spaces. For parks and other open spaces refer to Open Space Specifications.
- 1.1.2 The work shall consist of levelling and preparing the seed bed, seeding, fertilizing and cleaning up areas to be seeded in coarse grass as shown on the plans or as designated by the Engineer.
- 1.1.3 Top soil stripped from roadway may be reused, if specified or approved by the Engineer.

1.2 Related Sections

- 1.2.1 Section 2190 – Grading of Boulevards
- 1.2.2 Section 2212 – Planting Soil and Finish Grading
- 1.2.3 Section 2282 – Chemical Vegetation Control
- 1.2.4 Section 2934 - Hydraulic Seed Mulch
- 1.2.5 Section 2930 – Seeding - Irrigated
- 1.2.6 Section 2931 – Seeding – Native

2.0 PRODUCTS

2.1 Grass Seed Mixtures

- 2.1.1 Use a grass seed mixture equivalent to the one growing on site or as follows:
 - .1 Section 2930 – Seeding – Irrigated (Mix 3), or
 - .2 Section 2931 – Seeding – Native (Mix 4, 5 or 6)
- 2.1.2 An alternate mixture may be substituted with the permission of the Engineer, in areas where regular maintenance is doubtful.
- 2.1.3 All seed specified as Canada Certified No. 1 Grade or Common No. 1 Grade shall be as per Government of Canada Seeds Act Grade Standards.
- 2.1.4 All seed must be obtained from a recognized seed house or supplier.

2.2 Fertilizer

- 2.2.1 Fertilizer shall be 16-32-6 controlled release, sulphur coated urea (SCU) or ammonia sulphate fertilizer.

2.3 Planting Soil

- 2.3.1 Refer to Section 2212 for Planting Soil

2.4 Hydraulic Seed Mulch

2.4.1 In accordance with Section 02934 Hydraulic Seed Mulch.

2.5 Submittals

2.5.1 Submit 500 g sample of each seed mixture intended for use. Submit samples in clean containers with label identifying project, seed sample and lot number, supplier and date. Seed mix sample shall match tested seed lots.

2.5.2 Certificate(s) of analysis of each seed sample. Seed analysis report shall be current (i.e. within last 6 months) and show specie and variety of seed, date and results of all tests.

2.5.3 All original seed labels and seed bags at completion of seeding to confirm amount of seed used on site.

2.5.4 Submit other required information and documents as requested or specified.

3.0 EXECUTION

3.1 Construction

3.1.1 Where designated on plans or as directed by the Engineer, ground surface shall be worked by equipment in order to fill in low spots and reduce high spots in such a manner as to promote positive drainage away from structures.

3.1.2 Unsuitable and excavated material shall be disposed of off-site by the Contractor.

3.1.3 For ditches ensure the ditch is excavated to the required depth below the final ditch surface prior to placing topsoil or planting soil.

3.1.4 If specified or approved by the Engineer, replace topsoil previously stripped to the depths as specified. If topsoil is to be reused and no depth is specified, it shall be at least 150 mm.

3.1.5 If new planting soil is specified, a minimum of 200 mm of new planting soil shall be used.

3.1.6 The surface shall be disced to a minimum depth of 100 mm to prepare seedbed.

3.1.7 Discing shall be followed by harrowing to level out the ground surface.

3.1.8 Should the seeding be done with a large drill or other applicable type of seeder the work would be acceptable.

3.1.9 Seeding shall follow harrowing, the seed (mixture as specified) to be spread on ground surface at specified rate.

3.1.10 Fertilizer shall be spread at a rate of 2.5 kg per 100 m² or as recommended by soils test.

3.1.11 After seed and fertilizer have been applied, ground surface shall be harrowed a second time to cover the mixture.

3.1.12 Clean up immediately, soil or other debris spilled onto pavement and dispose of deleterious materials.

3.2 Maintenance

3.2.1 During the warranty period, Contractor shall monitor seeded areas and repair all areas that fail to develop into a healthy, vigorous growing stand of grass. Areas that are dead, unhealthy or in unsatisfactory growing condition, or that do not meet the requirements of the specifications during the warranty period shall be corrected.

3.2.5 Provide weed control in newly seeded areas. Mow, cultivate, or physically remove weeds. Use only approved chemical methods once seed areas are fully established.

3.2.7 Cut new grass at least twice through the growing season within the warranty period to a minimum height of 100 mm. Cut forage or native type grass no lower than 125 mm and only when necessary or directed by Engineer. Do not cut more than 30% of grass blade at any one mowing. Remove excessive clippings from site.

3.2.8 Repair seeded areas which show root growth failure, deterioration, bare or thin spots, or which have been damaged by any means or cause, including replacement operations. Overseed areas that show inadequate or improper sowing of seed from drill or other methods.

3.2.9 Correct any erosion and settlement that results from faulty workmanship and/or material. Restore areas by placing topsoil as necessary and spreading new seed. Repair ruts resulting from maintenance equipment and personnel. Maintain a uniformly smooth seed bed surface.

3.2.10 Apply second application of slow release granular turf fertilizer five to six weeks after seeding. Spread evenly at rate of 2.5 kg per 100 m² and water in well after application. Postpone fertilizing until spring if application will occur after August 15th.

3.3 Maintenance Inspections:

3.3.1 During the warranty period, the Contractor shall conduct site inspections every 60 days or less to determine whether ongoing maintenance activities have been performed in accordance with specifications.

3.3.2 Maintain and complete a maintenance log for each day of maintenance activity throughout maintenance period.

3.3.3 Record all maintenance activities including date/time of activities, quantity of water applied on site, materials used and quantity during maintenance of seeded areas, location where activities were carried out, number of employees and name of supervisor on site.

3.3.6 The Contractor shall ensure that the seeded areas are properly maintained

until such time as the turf is properly established as specified.

- 3.3.7 Until final acceptance by the Engineer and rectification of any deficiencies, maintenance shall be the responsibility of the Contractor.

4.0 ACCEPTANCE

4.1 Initial Inspection

- 4.1.1 Shall occur within 48 hours of completion of work and will be concerned with workmanship and grades.
- 4.1.2 The Engineer shall prepare an inspection report confirming acceptance of the work.

4.2 Final Inspection and Acceptance

- 4.2.1 The Engineer may accept work at end of maintenance period provided:

- .1 Seeding work meets requirements of specifications.
- .2 Seeded areas are properly, uniformly, well established and reasonably free of noxious weeds as determined by the following:
 - .1 The areas shall be mowed or cut to a height of 100 mm, or as otherwise required for native grass.
 - .2 Seeded grass areas are free of dead, unhealthy or deteriorated areas; bare, burnt or thin spots; and rutted or eroded areas.
 - .3 The Contractor and the Engineer will select and measure at least three representative one metre square areas per site.
 - .4 All noxious weeds including foxtail barley shall be removed from the representative area.
 - .5 Bare areas shall be estimated by measuring at least two, 1 m x 1 m plots in the presence of the Engineer. The average of the total bare areas after weeds are removed shall not exceed 10% of the total area for areas where new planting soil was specified and 25% for areas where existing stripped topsoil was specified.
- .3 Seeded grass areas have been fertilized as specified.
- .4 Seeded grass areas are clean and free of all debris, litter and other foreign matter.
- .5 Maintenance logs have been provided.

- 4.2.2 Contractor shall use specified materials to re-establish seed installations that do not comply with requirements for acceptance and continue with specified maintenance/establishment until deemed acceptable by Engineer.