

1 General

1.01 RELATED SECTIONS

- .1 Section 31 23 10 - Excavating, Trenching and Backfilling.

1.02 REFERENCES

- .1 New Brunswick Department of Transportation and Infrastructure (NBDOTI):
 - .1 Department of Transportation and Infrastructure Standard Specifications (latest edition).
- .2 Department of Justice Canada:
 - .1 Canada Seeds Act (R.S.C., 1985, c. S-8).

1.03 DESCRIPTION

- .1 Work under this section consists of all operations necessary for placing of topsoil and hydraulic seed ("hydroseed") in areas specified in documents or as required by the Departmental Representative.

2 Measurement and Payment

2.01 MEASUREMENT FOR PAYMENT

- .1 Payment for Landscaping will be measured in square metres for areas acceptably landscaped as described herein. Payment will include:
 - .1 Payment to be unit price as indicated in the Schedule of Contract Unit Prices in the Bid Form for "Landscaping - Topsoil and Hydroseed " and shall include surface preparation, supply, hauling and placing of topsoil, fine grading and shaping of site contours, lime, fertilizers, hydroseed mix as specified, maintenance and all incidentals, together with a one year warranty period during which time the Contractor shall be responsible for making good any defect in the growth of the grass.

2.03 CONTRACTOR'S WARRANTY

- .1 All areas landscaped under this Contract shall have a warranty period of one year starting from the date of initial acceptance. This warranty shall cover any defects in materials, workmanship or damages caused by the elements of weather. During this period, any defect brought to the attention of the Contractor by the Departmental Representative shall be fixed, repaired or made good to the satisfaction of the Departmental Representative and at no additional cost to the Departmental Representative.

2.04 SOURCE QUALITY CONTROL

- .1 Provide for inspection and testing of topsoil to be carried out by a laboratory approved by the Departmental Representative. Do not commence work until topsoil is accepted by Departmental Representative.

2.05 LIMITS OF WORK

- .1 All vegetated areas affected by the construction work are to be landscaped. All other areas such as undeveloped lots are to be landscaped to the extent as designated by the Departmental Representative with topsoil and hydroseed. The exact limits of this work will be verified by the Departmental Representative in the field.

3 Products

3.01 HYDROSEED

- .1 This item consists of hydraulic seed for application on disposed common borrow material at the locations shown on the drawings.

- .2 Grass Seed Mix:

- .1 25.0 kg bags, mixture as follows:

20%	Tall Fescue
15%	Timothy
5%	Alsike Clover
5%	White Clover
5%	Coated Birds Foot Trefoil
30%	Annual Rye Grass

Alternative seed mixtures must obtain the acceptance of the Departmental Representative prior to change.

- .3 Soil Amendments:

- .1 Fertilizer for grass mix applications to have a plant food ratio of 1 nitrogen, 2 phosphorous and 2 potash + 2% F.T.E.
- .2 Lime: ground agricultural limestone containing minimum calcium carbonate equivalent of 85%.

- .4 Mulch:

- .1 Mulch shall consist of natural organic fibres (straw, cotton, cellulose) and be capable of dispersing in water to form a homogeneous slurry and remain in such state when mixed with other approved additives.
- .2 Mulch must be free of growth-inhibiting ingredients.
- .3 Mulch shall be capable of forming an absorptive mat, which will allow moisture to percolate into the underlying soil.

- .5 Hydroseeding Slurry Mixture:
- .1 The rate of application of the ingredients in the slurry mix shall be as follows:

Grass Seed Mixture	125 kg/ha
Fertilizer	100 kg/ha
Mulch	1200 kg/ha
 - .2 Alternative slurry mixtures must obtain the approval of the Departmental Representative before being incorporated into the work.

Execution

4.01 TOPSOIL

- .6 Grade and shape areas requiring topsoil to smooth contours. Loosen or scarify these areas to a depth of 50 mm before placing topsoil.
- .7 Topsoil must be accepted by the Departmental Representative before being incorporated into the work. Spread topsoil on prepared areas to a uniform depth of 100 mm.

4.02 HYDROSEEDING

- .1 The Contractor shall prepare the ground (or topsoiled surface) by removing all ruts, ridges and deleterious materials such as sticks, roots and stones that would impede growth of the seed mix and mowing.
- .2 During or after the Work but no sooner than 2 Days before application, the surface shall be loosened to a minimum depth of 25 mm, to ensure that seed mix is not placed on hardened soil.
- .3 The seed mix shall be applied within 2 Days after ground preparation.
- .4 Complete coverage of slopes requires spraying from top and bottom of the slope, and the use of a manually held hose.
- .5 Areas of voids or shadowing shall be redone, at the Contractor's expense, to attain the prescribed application rate.
- .6 Work lime into the topsoil/prepared surface prior to seeding. All areas to receive hydroseed are to have lime applied to topsoil/prepared surface. Application rate for lime to be 2000 kg/ha to 5000 kg/ha, as determined by Departmental Representative in the field.
- .7 Apply slurry mixture uniformly at a rate which meets the specified requirements for the slurry mixture.

- .8 Take reasonable care to prevent spraying items such as structures, signs, fences, plant materials, and utilities. Remove immediately slurry from items and areas not designated to be sprayed.

4.03 MAINTENANCE

- .1 The Contractor shall be responsible for maintaining hydroseeded areas to ensure proper and adequate growth of the vegetation during the one (1) year warranty period.
- .2 Fertilize hydroseeded areas one (1) month after seeding or in the following spring if the area is seeded late in the fall. Spread evenly and water well. Use Type 2 fertilizer for triple mix, ratio 15-15-15, at rate of 340 kg/ha and for grass mix use 1-2-3 ratio fertilizer at a rate of 500 kg/ha and water.
- .3 Any areas which do not catch or where the grass dies over the winter of 2017/2018 are to be reseeded at no additional costs to the Departmental Representative in the spring of 2018.

END OF SECTION