

1. General

1.1 Section Includes

1.1.1 Materials and installation of polymeric geo-textiles (filter fabric) used as part of the disposal field construction:

- Separate and prevent mixing of granular materials of different grading.
- Act as hydraulic filters permitting passage of water while retaining soil strength of granular structure.

1.2 Related Sections

- Section 01 33 00 - Submittal Procedures.
- Section 31 23 33 - Excavating, Trenching and Backfilling.
- Section 33 31 13 – Sanitary Utility Sewage Piping.

1.3 References

1.3.1 American Society for Testing and Materials International, (ASTM).

- ASTM D4491- 99a, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
- ASTM D4595- [86(2001), Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
- ASTM D4716- 01, Test Method for Determining the (In-Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
- ASTM D4751- 99a, Standard Test Method for Determining Apparent Opening Size of a Geotextile.

1.3.2 Canadian General Standards Board (CGSB).

- CAN/CGSB-4.2 No. 11.2- M89 (April 1997), Textile Test Methods - Bursting Strength - Ball Burst Test (Extension of September 1989).
- CAN/CGSB-148.1, Methods of Testing Geotextiles and Complete Geomembranes.
- No.2- M85, Methods of Testing Geosynthetics - Mass per Unit Area.
- No.3- M85, Methods of Testing Geosynthetics - Thickness of Geotextiles.
- No.6.1- 93, Methods of Testing Geotextiles and Geomembranes - Bursting Strength of Geotextiles Under No Compressive Load.

- No.7.3- 92, Methods of Testing Geotextiles and Geomembranes - Grab Tensile Test for Geotextiles.
- No. 10- 94, Methods of Testing Geosynthetics - Geotextiles - Filtration Opening Size.

1.4 Submittals

- 1.4.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- 1.4.2 Submit to Departmental Representative following samples prior to beginning Work.
 - Minimum length of two (2) m of roll width of geotextile.
- 1.4.3 Submit to Departmental Representative two (2) copies of mill test data and certificate in accordance with Section 01 33 00 - Submittal Procedures.

1.5 Approval

- 1.5.1 Obtain written approval from the Departmental Representative for geotextile/filter fabric before installation of material in work.

1.6 Delivery, Storage and Handling

- 1.6.1 The geotextile shall be protected at all times against exposure from the direct sunlight, ultraviolet rays, excessive dirt, dust, and any other deleterious materials until it is used.
- 1.6.2 The bales or rolls of geotextile shall be wrapped in a protective covering.

1.7 Waste Management and Disposal

- 1.7.1 Separate waste materials for reuse and recycling.

2. Products

2.1 Materials

- 2.1.1 The Geotextile shall be a synthetic fibre fabric, supplied in rolls that are rot proof, unaffected by action of oil or salt water and not subject to attack by insects or rodents.
- 2.1.2 The fabric shall be supplied with a width to suit its intended purpose but in no instance shall it be less than 900 mm.
- 2.1.3 The fabric shall have a minimum mass per unit area of 200 g/m².
- 2.1.4 Geotextiles meeting the requirements of Class I are suitable for application where the main stresses imposed on the geotextile are a result of hydrostatic pressures. Geotextiles that meet the requirements of Class II are suitable, where the stresses governing the design are the result of earth pressures.

3. Execution

3.1 Installation

- 3.1.1 Place geotextile material by unrolling onto graded surface and retain in position with securing pins or fine sand.
- 3.1.2 Place geotextile material smooth and free of tension stress, folds wrinkles and creases.
- 3.1.3 Place geotextile on sloping surfaces in one continuous length from the toe of the slope to the upper extent of the geotextile.
- 3.1.4 Overlap each successive strip of fabric 600 mm over previously laid strip.
- 3.1.5 Unless otherwise approved by the Departmental Representative, join successive strips of geotextile by sewing.
- 3.1.6 Protect the installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
- 3.1.7 Remove and replace damaged or deteriorated geotextile material as directed by the Departmental Representative.
- 3.1.8 Place and compact soil layers, if required, in accordance with Section 31 23 33 - Excavating, Trenching and Backfilling.
- 3.1.9 Do not permit passage of any vehicle directly on filter fabric at any time.

4. Measurement and Basis for Payment

4.1 Measurement for Payment

- 4.1.1 Geotextiles will be measured in square meters, rounded to one decimal place, of the actual area covered.
- 4.1.2 No additional payment will be made for material required to provide the overlaps.
- 4.1.3 Payment at the contract price shall be full compensation for all labour, equipment and materials necessary to supply and install the geotextile to locations specified in the contract documents.

4.2 Basis of Payment

- 4.2.1 All costs associated with the work specified in this Section shall be deemed to be included in the appropriate unit and lump sum prices in the Schedule of Quantities and Prices.