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**Part 1 General****1.1 SECTION INCLUDES**

- .1 Materials and installation of polymeric geotextiles used in revetments, breakwaters, retaining wall structures, filtration, drainage structures, roadbeds and railroad beds purpose of which is to:
  - .1 Separate and prevent mixing of granular materials of different grading.

**1.2 RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Section 31 23 20 - Excavating, Trenching and Backfilling.

**1.3 REFERENCES**

- .1 American Society for Testing and Materials International, (ASTM)
  - .1 ASTM D4491-99a(2014)e1, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
  - .2 ASTM D4595-11, Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
  - .3 ASTM D4716-14, Test Method for Determining the (In-Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
  - .4 ASTM D4751-12, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- .2 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-148.1, Methods of Testing Geotextiles and Complete Geomembranes.
    - .1 No.2-M85, Methods of Testing Geosynthetics - Mass per Unit Area.
    - .2 No.3-M85, Methods of Testing Geosynthetics - Thickness of Geotextiles.
    - .3 No.6.1-93, Methods of Testing Geotextiles and Geomembranes - Bursting Strength of Geotextiles Under No Compressive Load.
    - .4 No.7.3-92, Methods of Testing Geotextiles and Geomembranes - Grab Tensile Test for Geotextiles.
    - .5 No. 10-94, Methods of Testing Geosynthetics - Geotextiles - Filtration Opening Size.
- .3 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS 1860-April 2012, Material Specification for Geotextiles.

**1.4 SUBMITTALS**

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative following samples at least 2 weeks prior to beginning Work.
  - .1 Minimum length of 2 m of roll width of geotextile.
- .3 Submit to Departmental Representative copies of mill test data and certificate at least 2 weeks prior to start of Work, and in accordance with Section 01 33 00 - Submittal Procedures.

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**1.5 DELIVERY, STORAGE AND HANDLING**

- .1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

**1.6 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and packaging material for recycling in accordance with Waste Management Plan.
- .4 Fold up metal banding, flatten and place in designated area for recycling.

**Part 2 Products****2.1 NOT USED****Part 3 Execution****3.1 INSTALLATION**

- .1 Place geotextile material by unrolling onto graded surface in orientation, manner and locations indicated and retain in position with weights.
- .2 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
- .3 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile.
- .4 Overlap each successive strip of geotextile 300 mm over previously laid strip.
- .5 Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
- .6 After installation, cover with overlying layer within 4 h of placement.
- .7 Replace damaged or deteriorated geotextile to approval of Departmental Representative.
- .8 Place and compact soil layers in accordance with Section 31 23 20 - Excavating Trenching and Backfilling.

**3.2 CLEANING**

- .1 Remove construction debris from Project site and dispose of debris in an environmentally responsible and legal manner.

**3.3 PROTECTION**

- .1 Vehicular traffic not permitted directly on geotextile.

**END OF SECTION**