PART 1 - GENERAL

1.1 SCOPE OF WORK

.1 This section specifies requirements for the supply and installation of a floating silt curtain to enclose the work area and prevent particulate materials from leaving the immediate area of construction.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM).
- .1 ASTM D 4491-99a (2004) el, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
- .2 ASTM D 4595-05, Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
- .3 ASTM D 4716-04, Standard Test Method for Determining the (In-Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
- .4 ASTM D 4751-04, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- .5 ASTM A123/A123M-09, zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

.2 Canadian General Standards Board (CGSB).
- .1 CAN/CGSB-4.2-M88, Textile Test Methods.
- .2 CAN/CGSB-148.1, Methods of Testing Geotextiles and Geomembranes.
  - .1 No. 2-M85, Mass per Unit Area.
  - .2 No. 3-M85, Thickness of Geotextiles.
  - .3 No. 7.3-92, Grab Tensile Test for Geotextiles.
  - .4 No.6.1-93, Bursting Strength of Geotextiles Under No Compressive Load.
- .3 Canadian Standards Association (CSA).
- .1 CAN/CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel.

1.3 SUBMITTALS

.1 Provide shop drawings in accordance with Section 01340 - Shop Drawings, Samples & Submissions.

1.4 REGULATORY REQUIREMENTS

.1 There are strict environmental procedures that must be followed during the Work. (Refer to attached documents listed in the Appendices).

PART 1 - GENERAL (CONT'D)

1.4 REGULATORY REQUIREMENTS (cont'd)

.2 Comply with municipal, provincial and national codes and regulations relating to project.

1.5 MEASUREMENT FOR PAYMENT

.1 The supply, placement, maintenance and removal of the silt curtain will be measured as a fixed price item for payment purposes.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Floating boom:
- .1 Closed cell polyethylene flotation log enclosed in a UV stabilized reinforced polyethylene pocket.

.2 Silt curtain:
- .1 Woven geotextile to be impermeable to the passage of silt particles and capable to resist all imposed forces. Properties listed below are shown for minimum requirement only, Contractor shall make their own assessment of the site conditions, including wave, wind, current, ice, soil, etc..., to determine type of geotextile required.
  - .1 Thickness: to CAN/CGSB-148.1, No. 3, minimum 2.5 mm.
  - .2 Mass per unit area: to CAN/CGSB-148.1, No. 2, minimum 400 g/m^2.
  - .3 Tensile strength and elongation (in any principal direction): to ASTM D 4595.
  - .4 Tensile strength: minimum 1800 N, wet condition.
  - .5 Elongation at break: 50 to 100 percent.
  - .6 Seam strength: equal to or greater than tensile strength of fabric.
  - .7 Mullen burst strength: to CAN/CGSB-4.2, method 11.1, minimum 3100 kPa.
  - .8 Apparent opening size (AOS): to ASTM D 4751, 50 to 150 micrometers.
  - .9 Permittivity: to ASTM D 4491, 0.7 per second.
  - .10 Permeability: to ASTM D 4491, 0.03 cm per second

.3 Bottom polyethylene pocket to contain 10 mm diameter galvanized chain weight ballast complete with polypropylene rope.

PART 2 - GENERAL (CONT'D)

2.1 MATERIALS (CONT'D)

.4 Securing bolts, nuts, and washers: to CAN/CSA-G40.21, Grade 300W, hot-dipped, galvanized with minimum zinc coating of 600 g/m^2 to ASTM A123/A123M-09.

PART 3 - EXECUTION

3.1 GENERAL

.1 The floating silt curtain shall be installed around the proposed construction area at the commencement of construction activities. No work shall be carried out unless the floating silt curtain is in place and performing to the satisfaction of the Departmental Representative.

.2 The floating silt curtain shall be maintained and kept in place by the Contractor until all work has been completed, or until the Departmental Representative advises that it can be removed.

.3 The Contractor shall comply with the requirements of all permits regarding prevention of siltation in water bodies.

.4 On completion of the work, the Contractor shall remove the floating silt curtain from the site.

.5 The silt curtain shall extend from the floating boom down to the seabed throughout its length.

.6 The Contractor shall ensure all seams are securely fastened and joined to prevent any loss of silt at the connections.

.7 The contractor shall install yellow buoys to clearly mark the position of the floating silt curtain in the water. A minimum of five yellow buoys, or as otherwise required by regulatory authorities, shall be required to mark the floating silt curtain. The Contractor shall be required to maintain these buoys on the floating boom until the work has been completed and the silt curtain has been removed from the site of work.

PART 3 – EXECUTION (CONT'D)

3.1 GENERAL (CONT'D)

.8 The silt curtain shall be anchored in place to resist all forces due to wind, wave, current, ice, etc. If the curtain is damaged or breaks away from its mooring and the work area is exposed to the waterway, then the Contractor shall be required to install temporary flashing yellow lights until the silt curtain is repositioned to enclose the work area, and construction shall cease until the silt curtain is completely restored. Also, if the floating silt curtain does not perform to the satisfaction of anybody having jurisdiction, the Contractor shall suspend operations until all issues have been restored satisfactorily.