

## **SECTION 02015 GEOTEXTILE**

### **PART I: GENERAL**

#### **1.1 GENERAL REQUIREMENTS**

- A. Geotextile, also called filter fabric, in applications including pipe embedment wrap, around exterior of tunnel liner, around foundations of pipeline structures and slope stabilization.

#### **1.2 MEASUREMENT AND PAYMENT**

- A. Unit Prices:
  - 1. No separate payment shall be made for work performed under this Section. Include cost of work in unit prices for work requiring geotextile.
  - 2. Refer to Section 01270 – Measurement and Payment for unit price procedures.
- B. Stipulated Price (Lump Sum):
  - 1. If Contract is Stipulated Price Contract, payment for work in this Section shall be included in Total Stipulated Price.

#### **1.3 REFERENCES**

- A. AASHTO – American Association of State Highway and Transportation Officials.
  - 1. AASHTO M288 – Standard Specification for Geotextile Specification for Highway Applications.
- B. ASTM – American Society for Testing and Materials.
  - 1. ASTM D4491 – Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
  - 2. ASTM D4533 – Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
  - 3. ASTM D4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles (Grab Method).
  - 4. ASTM D4751 – Standard Test Method for Determining Apparent Opening Size of Geotextiles.
  - 5. ASTM D4833 – Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes and Related Products.
- C. CFTS – City of Friendswood Technical Specifications.

#### **1.4 SUBMITTALS**

- A. Conform to requirements of Section 01330 – Submittal Procedures.
- B. Submit standard manufacturer's catalog sheets and other pertinent information, for approval, prior to installation.
- C. Submit installation methods, as part of work plan for tunneling or for excavation and backfill for utilities. Obtain approval from the Project

Manager for filter fabric material and proposed installation method prior to use of filter fabric.

## **PART II: PRODUCTS**

### **2.1 GEOTEXTILE**

- A. Provide geotextile (filter fabric) designed for use in geotechnical applications. Filter fabric shall provide permeable layer or media while retaining soil matrix.
- B. Use fabric which meets physical requirements for Class A subsurface drainage installation conditions as defined in AASHTO M288 and as specified in Paragraph 2.2, Properties.

### **2.2 PROPERTIES**

- A. Material: Nonwoven, nonbiodegradable, fabric consisting of continuous chain polymer filaments or yarns, at least eighty-five percent (85%) by weight polyolefins, polyesters or polyamide, formed into dimensionally stable network.
- B. Chemical Resistance: Inert to commonly encountered chemicals and hydrocarbons over pH range of three (3) to twelve (12).
- C. Physical Resistance: Resistant to mildew and rot, ultraviolet light exposure, insects and rodents.
- D. Minimum Test Values shall be as specified in TABLE 4.1 – MINIMUM TEST VALUES FOR GEOTEXTILE MATERIAL in this section.

## **PART III: EXECUTION**

### **3.1 GENERAL**

- A. Maintain geotextiles until the project is accepted by the City.
- B. At City's option, geotextiles may remain in place after acceptance.
- C. Maintenance and removal of geotextiles shall comply with all requirements as specified in Section 02000 – Erosion Control Systems.

### **3.2 LINE WORK**

- A. Conform use of geotextile to backfill for utilities to Section 02125 – Excavation and Backfill for Utilities.

**PART IV: TABLES**

**4.1 MINIMUM TEST VALUES FOR GEOTEXTILE MATERIAL**

<b>PROPERTY</b>	<b>VALUE (MIN.)</b>	<b>TEST METHOD</b>
Grab Strength	180 lbs.	ASTM D4632
Trapezodial Tear Strength	50 lbs.	ASTM D4533
Puncture Strength	80 lbs.	ASTM D4833
Mullen Burst Strength	290 psi.	ASTM D3786
Apparent Opening Size <sup>(1)</sup>	0.25 mm	ASTM D4751
Permittivity (sec <sup>-1</sup> )	0.2	ASTM D4491

<sup>(1)</sup> Maximum average roll value.

**END OF SECTION**