VI.SEDIMENT CONTROL/SILT FENCE

A1. SEDIMENT CONTROL/SILT FENCE - DESCRIPTION

This section includes the use of a geotextile as a sediment or silt fence. A geotextile silt fence is a temporary barrier used to retain sediment laden water, allow the soil particles to settle out, and then pass the relatively clear water through its voids. It creates a temporary retaining dam yet will remove suspended soil particles from the water passing through it. The use of silt fences during construction and post construction are an essential part of most erosion control and sediment plans.

These specifications make certain design assumptions, as outlined in the sections which follow. If you have questions, or your application does not fit into one of these erosion control categories, contact the LINQ QA line (1-800-543-9966) for assistance.

LIGHT DUTY SILT FENCE

SECTION 27***

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Product specifications, installation and method of payment for silt fence installation.

1.02 RELATED SECTIONS

1.03 UNIT PRICE - MEASUREMENT AND PAYMENT

Measurement
Geotextile silt fence shall be measured to the nearest linear foot of fence actually installed in accordance with the plans or as required by the Engineer. The height of the silt fence shall be in accordance with the construction plans.

The measurement for payment excludes the fabric or fence material used for overlapping as well as fabric used for seam overlaps.

Payment: Temporary silt fence will be paid for per linear foot in place which shall be full compensation for completing the work specified. Such payment shall be full compensation of furnishing all materials, erecting, maintaining, and removing the fence.

Payment will be made under:

Pay Item	Pay Unit
Silt Fence	Linear Foot Installed

1.04 SUBMITTALS

A.Certificate of compliance: The contractor shall submit to the engineer a certificate of compliance which shall include the following information:

- Full product name by trademark and style number
- Geotextile polymer type(s),
- Geotextile physical properties,

B. The manufacturer shall maintain test records of the production of this lot of material. These records shall be made available to the Engineer upon request.

If more than one style or product code number has been produced under the same product name, the style, or product code number of the geotextile to be approved must be specifically identified. The certificate of compliance shall be attested to by a person having legal authority to bind the company.

C. Samples: At the owners or engineers option, sample(s) of the geotextile shall be submitted for approval. Each sample shall have minimum dimensions of 1.5 yards by the full roll width of the geotextile.

The geotextile machine direction shall be marked clearly on each sample submitted for testing. The machine direction is defined as the direction perpendicular to the axis of the geotextile roll.

D. Seams: At the Engineers option, when seams are used, at least one sewn sample, with a minimum of 2 yards of seam length per sample and with a minimum of 18 inches of geotextile width on each side of the seam shall also be submitted.

1.05 QUALITY CONTROL TESTING

A. At the engineers option, samples may be randomly taken at the job site to confirm that the geotextile meets the property values specified. Sampling shall be in accordance with ASTM D4354.

B. If sampled, approval will be based on testing of samples from each lot. A “lot” shall be defined for the purposes of this specification as all geotextile rolls within the consignment (i.e., all rolls sent to the project site) which were manufactured at the same manufacturing plant, have the same product name, and have the same style, merge, or product code number.

C. All geotextile which has defects, deterioration, or damage, as determined by the Engineer, may also be rejected. All rejected geotextile shall be replaced at no cost to the owner.

1.06 ACCEPTANCE REQUIREMENTS

Acceptance/rejection of geotextiles shall be determined in accordance with ASTM D4759 “Standard Practice for Determining the Specification Conformance of Geosynthetics.”

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Geotextiles shall consist of long chain polymers composed of at least 95% by weight of polypropylenes. They shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including selvages. These materials shall conform to the properties found in Section 2.02. Thread used for factory or field sewing shall be of contrasting color.

2.02 GEOTEXTILE PHYSICAL PROPERTIES

A. Geotextile property values should be expressed in terms of “Minimum Average Roll Values” and should be compared directly to the corresponding specification values. The minimum average property value of any roll within a shipment or lot of geotextile rolls meet or exceed the values required in the specification.

Property	Test Method	Property Value
Grab Tensile (lbs)(Warp / Fill)	ASTM D4632	120/100
Elongation(%)	ASTM D4632	15
Trapezoid Tear (lbs)	ASTM D4533	50
Puncture (lbs)	ASTM D4833	60
U V Stability	ASTM D4355	
(% Strength retained)	500 hrs exposure	90
Permittivity (sec^{-1})	ASTM D4491	.01
AOS (US Sieve#)	ASTM D4751	20

Product shall be LINQ GTF 180, or approved equivalent.

2.03 SHIPMENT

A. Packaging: Each roll of fence shall be packaged individually in a suitable sheet, wrapper or container to protect it from damage due to ultraviolet light and moisture during normal storage and handling.

B. Labelling: Each roll shall be identified by a tag or label securely affixed to the outside of the roll on one end. Identification shall be in accordance with ASTM D 4873.

C. Storage: The geotextile shall be stored so as not to become damaged or exposed to sunlight. Storage shall be in accordance with ASTM D 4873.

PART 3 EXECUTION

Geotextile shall be installed in accordance with the project drawings and this specification. In the event of a discrepancy between the specification and the drawings, the drawings shall govern.

3.01 Installation

The geotextile shall be attached on the up-slope side of the posts and support system with staples, wire, or in accordance with the manufacturer’s recommendations.

The geotextile shall be sewn together at all edges at the point of manufacture, or at an approved location as determined by the Engineer, to form geotextile lengths and widths as required. Alternatively, a geotextile seam may be formed by folding the geotextile from each geotextile section over on itself several times and firmly attaching the folded seam to the fence post, provided that the Contractor can demonstrate, to the satisfaction of the Engineer, that the folded geotextile seam can withstand the expected sediment loading.

The geotextile at the bottom of the fence shall be buried in a trench to minimum depth of 6 inches below the ground surface. The trench shall be backfilled and the soil tamped in place over the buried portion of the geotextile as shown on the Plans such that no flow can pass beneath the fence nor scour occur in this area. The fence posts shall be placed or driven a minimum of 18 inches into the ground. Where an 18 inch depth is impossible to obtain, the posts shall be adequately secured by bracing or guying to prevent overturning of the fence due to sediment loading, as approved by the Engineer.

Either wood or steel posts shall be used. Wood posts shall have minimum dimensions of 1.5 inch by 1.5 inch by the minimum length shown on the Plans, and shall be free of defects such as knots, splits, or gouges. Steel posts shall consist of either size No. 6 rebar or larger, or shall consist of ASTM A 120 steel pipe with a minimum diameter of 3/4 inch. the spacing of the support posts shall be as directed on the Plans or as recommended by the manufacturer with approval of the Engineer.

Sediment deposits which accumulate over time behind the silt fence shall either be removed when the deposit reaches approximately 1/2 the height of the silt fence, or a second silt fence upstream of the first shall be installed, as determined by the Engineer.

END OF SECTION