**GEOLIFT**

**Description**

The work of “Geolift” covered by this section consists of preparation, excavation and installation of all materials required for proper installation of geolifts. Geolifts are revetment structures composed of stone, compacted soil, erosion control matting, geotextile materials, and live brush used to increase bank stability. Geolifts shall be installed during the dormant season since they are vegetated.

**Materials**

Refer to Division 10 of NCDOT 2024 Standard Specifications for Roads and Structures

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| --- | --- |
| **Item** | **Section** |
| Rip Rap, Class \_\_ | 1042 |
| Coir Fiber Matting | SP |
| Geotextile for Drainage, Type 2 | 1056 |

Soil and rock placed in the Geolifts shall be free of debris and suitable for planting.

Live Plant Material shall be supplied in bundles and cut from fresh, green, healthy, dormant parent plants which are adapted to the site conditions with following guidelines:

* Woody branches up to 1” in diameter and approximately 5 feet in length.
* Branches supplied in bundles that shall cover 5 linear feet per bundle, 2-3 branches thick.
* Must contain at least two of the plant species listed below, with at least a 40% / 60% mix of species. Live branch cuttings shall be kept covered and moist at all times.

|  |  |
| --- | --- |
| **Scientific Name** | **Common Name** |
| *Cornus amomum* | Silky Dogwood |
| *Salix sericea* | Silky Willow |
| *Sambucus canadensis* | Elderberry |

**Construction Methods**

Construction shall begin with the excavation of a trench for the stone key and the slope against which the geolift will be constructed. Lay non-woven Geotextile Type 2 in the trench and place stone lifts to form a relatively uniform surface up to the channel base flow elevation. Place layer of coir fiber matting over stone and place first lift of soil over the matting, leaving sufficient overlap on the matting to completely wrap the soil lift. Compact soil lifts to approximately 90 percent of the standard Proctor maximum dry density using excavator bucket. Wrap compacted soil lift with coir fiber matting and place layer of live stakes approximately 2 feet on center on top of the lift. The basal ends of the live stakes shall contact the back of the excavated slope and shall project no more than 18 inches from the slope face. Construct subsequent lifts in similar fashion to reach design top of bank elevation. The face of the completed geolift shall match the design bank slope.

**Measurement and Payment**

*Riprap, Class \_\_* will be measured and paid for as provided in the Structure Stone Special Provision.

*Coir Fiber Matting* will be measured and paid for as provided in the Coir Fiber Mat Special Provision.

*Geotextile for Drainage, Type 2* will be measured and paid for as provided in the Structure Stone Special Provision.

Live Plant Material will be measured and paid for as the actual number of bundles installed, which has been accepted in accordance with this section.

Such price and payment will be full compensation for all work covered by this section, including, but not limited to furnishing all materials, labor, equipment, and incidentals necessary to construct the Geolift.

Payment will be made under:

|  |  |
| --- | --- |
| **Pay Item** | **Pay Unit** |
| Live Plant Material (5’Bundle) | Bundles |
|  |  |