

**ITEM 610.0502 11 - RIPARIAN MEADOW SEED MIX**

**DESCRIPTION**

Under this item, the Contractor shall furnish riparian meadow seed mix and prepare, plant, water and maintain seeded areas in accordance with the contract plans, specifications, and as directed by the Engineer.

**MATERIALS**

Cover Crop Seed Mixture: The seed mix shall consist of a mix of the following:

Annual Rye (Lolium multifolium)

The rate of application shall be 2.27 kilograms of seed mixture per 92.90 square meters. The Engineer reserves the right to reject, on or after delivery, any material which does not, in the Engineer's opinion, meet these specifications.

Seed Mixture: The seed mix shall consist of a mix of the following:

White Wood Aster	(Aster divaricatus)
Blue Wood Aster	(Aster cordifolia)
Blue Stem Goldenrod	(Solidago caesia)
White Snake Root	(Eupatorium rugosum)
Joe Pye Weed	(Eupatorium purpureum)
Upland Sedge species	(Carex pennsylvanica, Carex appalachica)
Oatgrass species	(Danthonia spicata, Danthonia compressa)
Pathrush	(Juncus tenuis)

Seed shall be available from Ernst Conservation Seeds, Meadville, PA, or approved equal.

Plant seed shall be fresh, recleaned seed of the latest crop. All seed shall be free of noxious weeds and undesirable grasses. All Plant Seed shall be delivered in sealed standard size bags of the vendor showing weight, analysis, and name of vendor. It shall be stored as directed by the Engineer, in such a manner that its' effectiveness will not be impaired.

Seed mix shall be cold stratified and no less than 75% PLS (pure live seed).

The Engineer reserves the right to reject, on or after delivery, all material which does not, in the Engineer's opinion, meet these specifications.

The rate of application shall be 3.63 kilograms of seed mixture per 92.90 square meters. The Engineer reserves the right to reject, on or after delivery, any material which does not, in the Engineer's opinion, meet these specifications.

Carrier Medium: All cover crop seed and woodland seed mix shall be mixed with clean moistened sand. Sand shall consist of clean, hard, durable, uncoated stone particles, free from lumps of clay and all deleterious substances. Sand shall be so graded that when dry, one-hundred

**ITEM 610.0502 11 - RIPARIAN MEADOW SEED MIX**

percent (100%) shall pass through a 6.30 mm square opening sieve; not more than thirty-five percent (35%) by weight shall pass a 0.300 mm sieve and not more than ten percent (10%) by weight shall pass a 0.150 mm sieve. Sand may be rejected for this class if it contains more than ten percent (10%) by weight of loam and/or silt.

Sand shall be mixed at a rate of 10 parts sand to 1 part seed.

Weed-free Straw: (FOR USE ON ALL SEEDED AREAS). Straw shall be straw of wheat, rye, oats, or salt hay, and shall be free of weed seeds. Note: Salt hay may contain seed heads of the Common Reed (*Phragmites australis*). If found, the entire bale shall be rejected and removed from site at once.

The straw shall be delivered in full bales or bags. The Contractor shall be allowed to brake up existing hay bales used for silt control following seeding operations.

**CONSTRUCTION DETAILS**

Preparation of Seed Bed: All areas to be seeded shall be thoroughly loosened to a depth of 75 mm. All sticks, stones roots, vegetation, or other objectionable material which might interfere with the formation of a finely pulverized seed bed shall be removed from the soil and a smooth uniform surface grade shall be established. Hollows, depressions, and gullies shall be filled with topsoil. When added topsoil is 100 mm or more in depth it shall be compacted, to the satisfaction of the Engineer.

Compost and Topsoil: Compost and Topsoil shall be mixed together in a 1:1 proportion, spread to a depth of 100 mm over all areas to be seeded and incorporated into the top 75 mm of soil, as per their respective specifications.

Time Of Seeding: Seed mixture (Cover & Woodland) with carrier mediums shall be sown in two (2) separate operations in the Fall, during September and October, or in the Spring, during March, April, or May, or at such other times as are approved by the Engineer. Fall-planted seed requires at least 10-12 weeks of growing time prior to winter dormancy, so seeding should be scheduled accordingly.

All seeding shall be done in moderately dry to moist (not wet) soil and at times when the wind does not exceed a velocity of 8.05 kilometers per hour. Seed mixtures shall be sown either by hand or with a seed disperser, and firmed in such a manner that a uniform stand will result.

Weed-free Straw: Newly seeded areas shall be mulched with straw at the rate of 224.17 metric tons/square kilometers. Straw shall be kept long when applied. It shall later be punched into the ground infrequently (using a shovel or other hand held implement), or any applicable mechanical crimping device. Special care must be taken to not damage the plant plugs or coir mat that has been installed underneath the straw.

**ITEM 610.0502 11 - RIPARIAN MEADOW SEED MIX**

**Maintenance:** The Contractor shall maintain all seeded areas until acceptance of the contract. The Contractor shall properly water as required to maintain a moist seed bed for optimum germination and as often as required to maintain optimum growing conditions for the new stand of plants until acceptance of the contract. If water is not available from NYSDOT sources, the Contractor is responsible for supplying water from their own source.

The Contractor shall re-seed any areas which fail to show a satisfactory stand of woodland plantings with the specified mixture of seed as many times as necessary, at no additional cost to the State, until acceptance of the Contract.

Damage to property caused by the Contractor's seeding operations shall be repaired at no additional cost to the State. All areas and construction disturbed shall be restored to their original condition to the satisfaction of the Engineer.

**METHOD OF MEASUREMENT**

This work will be measured as the number of kilograms of riparian meadow seed mix satisfactorily furnished and installed.

**BASIS OF PAYMENT**

The unit price bid shall include the cost of furnishing all labor, materials, and equipment necessary to furnish and sow seed (including cover crop seed, carrier medium and weed free straw) in the areas shown on the contract drawings, including maintaining the seeded areas, and all other work incidental thereto, in accordance with the contract plans and specifications, to the satisfaction of the Engineer. Payment for the spreading of topsoil and applying compost shall be paid for separately under their respective items.