

Spence Restoration Nursery

“Giving Nature a Helping Hand”

Specifications for Installing Bio-Retention Plugs

Part 1 General

1.01 Section Includes

- A. Preparation
- B. Plug Installation
- C. Maintenance

1.02 Environmental requirements

Installation shall be performed between April 1 and October 1. If site is prepared at any other time of the year, stabilize with the following seed mix per acre.

64 lbs seed oats (*Avena sativa*)

25 lbs annual ryegrass (*Lolium multiflorum*)

Under no circumstances shall the site be stabilized with winter rye, grain rye, or winter wheat. These plants produce toxins that inhibit native plant growth.

Part II - Products

2.01 Plugs

- A. Plugs shall be in 2 3/8” square X 3 3/4” deep open-bottomed pots. No species shall be substituted without approval of the architect.
- B. Plugs shall be inoculated with VAM (Vesicular Arbuscular Mycorrhizae) endomycorrhizal fungi as provided by Spence Restoration Nursery or approved source where available.

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2.02. Mulch

Mulch shall be shredded hardwood

2.03 Plugs

Grasses

Yellow Fox Sedge (*Carex annectans xanthocarpa*)

Brome Hummock Sedge (*Carex bromoides*)

Frank's Sedge (*Carex frankii*)

Fox Sedge (*Carex vulpinoidea*)

Tufted Hair Grass (*Deschampsia caespitosa*)

Reddish Bulrush (*Scirpus pendulus*)

Prairie Dropseed (*Sporobolus heterolepis*)

Wildflowers

Shining Aster (*Aster firmus*)

New England Aster (*Aster novae-angliae*)

Spotted Joe-Pye Weed (*Eupatorium maculatum*)

Queen of the Prairie (*Filipendula rubra*)

Bottle Gentian (*Gentiana andrewsii*)

Blue Flag (*Iris virginica var shrevei*)

Dense Blazing Star (*Liatris spicata*)

Cardinal Flower (*Lobelia cardinalis*)

Great Blue Lobelia (*Lobelia siphilitica*)

Monkeyflower (*Mimulus ringens*)

Smooth Beardtongue (*Penstemon calycosus*)

Foxglove Beardtongue (*Penstemon digitalis*)

Mountain Mint (*Pycnanthemum virginianum*)

Sweet Black-Eyed Susan (*Rudbeckia subtomentosa*)

Riddell's Goldenrod (*Solidago riddellii*)

Culver's Root (*Veronicastrum virginicum*)

Golden Alexanders (*Zizia aurea*)

Part III - Execution

3.01. Verification

- A. Verify that site is at specified grade with the specified soil mix placed but not compacted
- B. Verify that site is clean and free of debris.

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3.02 Preparation

- A. If vegetation including cover crop exists on the site, apply a 2 % glyphosate herbicide at least two weeks prior to installation on all actively growing vegetation. Verify that a good kill has resulted from the herbicide application prior to planting.
- B. Spread specified mulch to a depth of two inches across the area to be plugged.
- C. Do not apply any fertilizer

3.03 Installation

- A. Use an auger or other appropriate tool to excavate planting holes on 1 foot centers in a staggered pattern.
- B. Evenly distribute grasses and sedges throughout planting. Place wildflowers in informal drifts of 3-7 of any one species with the edges blended into adjacent species to avoid a formal appearance.
- C. Plant plugs level with existing soil grade. Be certain that soil is placed around the plugs and firmed into place. Do not fill around plugs with mulch.
- D. Thoroughly soak plugged area with water until soil is moist to a depth of 4 inches.

3.04 Maintenance

- A. Pull weeds of the following species deemed detrimental to prairie plantings.
 - Canada Thistle (*Cirsium arvense*)
 - Queen Anne's Lace (*Daucus carota*)
 - Sweet Clover (*Melilotus spp*)
- B. Supplement rainfall with watering so that plugs area receives 1 inch of water per week for the first 6 weeks or until thoroughly established

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3.05 Acceptance

- A. Plugs shall exhibit vigorous growth and be thoroughly rooted by the end of first growing season.
- B. A minimum of 95% of plugs shall be alive and growing at the end of the first growing season.

Spence Restoration Nursery

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