

March 21, 2016

Oak Bluffs Conservation Commission

North Bluff Seawall
Coastal Bank Restoration Plan

Narrative to Accompany Plan 18A
Amendment to sheet #18 of 18 - Landscape Plan

Conservation Commission Order of Conditions Requirement:

Restore the vegetation on the coastal bank impacted by the North Bluff Seawall rebuilding project. The original bank, before rebuilding, was severely eroded, with attendant loss of appropriate vegetation.

The bank will be regraded per the plans provided by Coast Line Engineering. The height of the seawall has been raised 4', thus the grade will be more gradual, easier to sustain with this 'soft' solution. Soil material that was originally there has been saved and will be reused for the grading; amendments will be added where needed.

Plant material must provide erosion control, storm damage protection and wildlife benefit. Plant material chosen must have strong interconnecting root systems to hold the soil. This is a regenerative, sustainable design; the ecological function is of prime importance. The plant material must also be highly resistant to wind, salt tolerant, dry conditions and full sun.

Of secondary concern, but still important, is the visual aspect. This is the 'gateway' to Oak Bluffs in the summer tourist season, and should be attractive. The plant material chosen is primarily native, well adapted to the 'first line' seaside environment. Most of the plants have seasonal interest, flowers and or colorful foliage, and will form strong perennial clumps of growth.

The design concept is that of a seaside meadow, where the plants will be allowed to grow and weave together, forming a tapestry of attractive appropriate vegetation. The grass and perennial areas will reseed themselves, none are overly aggressive.

Plant Material
Woody Shrubs

- 1 Rosa rugosa Beach rose
18" bareroot; plant 18" to 24" o.c.; stagger rows, edges informal
have on hand (MON contractor) 2375

Note** Certain non-native species that have specific coastal landscaping advantages can be used. Rugosa rose (Rosa rugosa) is considered to be non-native (native to eastern Asia) and potentially invasive in some regions or habitats of Massachusetts and may displace desirable vegetation if not properly managed. The shrub is often planted on coastal sites because it is extremely tolerant of sea spray and storms, thus highly useful for erosion control and stabilization. Because of its thorny stems it can be strategically planted to direct pedestrians away from the resource area being restored. In this location it can be managed and maintained without harm to the other plantings; there are no other resource areas in close proximity to concern us.

- 2 Comptonia peregrina Sweetfern (native)
4" pot plant 18" o.c. ; staggered diamond, as per plan
3 planting areas - 132 pots

Note** A hardy plant spreading by rhizomes, this is a 'user' friendly choice. Low growing, 2' to 3' at maturity, it has a sweet aroma when the leaves are crushed, if brushed against on the stairs.

- 3 Morella pensylvanica Bayberry (native)
2 gal. plant 3' o.c.; staggered diamond, as per plan
3 planting areas - 15 each area - 45 plants

- 4 Prunus marítima Beach Plum (native)
2 gal. plant 3' o.c.; staggered diamond, as per plan
3 planting areas - 18 each area - 54 plants

Note** 3 & 4

Bayberry and Beach Plum will not gain excessive ht. due to the high wind conditions of this location which severely limits upward growth. Maintenance pruning will be allowed in the Order of Conditions.

Plant chosen Primarily for Flowering

- 5 Perennial Flower Plugs - Flowering plants provide visual interest; all of these native wildflowers also provide the erosion control and stabilization required of the plant material. These will spread by root growth as well as self-seed, should be long lasting additions to the native grass area.

To be planted in masses using plant 'plugs' to increase chance for survival in more aggressive grass areas. Mass planting provides visual interest, but primarily gives them an area for successful self-propagation.

All are native to eastern US, are not invasive, have similar growth patterns, will form meadow areas.

These are of importance to native wildlife, create a more complete self-sustaining ecosystem.

Late spring/early summer flowering

Baptisa australis
Penstemon digitalis

Blue False Indigo
Tall White Beard Tongue

Summer Flowering

Asclepias tuberosa
Liatris scariosa
Monarda fistulosa

Butterfly Weed
Scaly Blazing Star
BeeBalm

Fall Flowering

Eupatorium hyssopifolium
Eurybia spectabilis
Solidago sempervirens

Hyssop Leaf Boneset
Eastern Showy Aster
Seaside Goldenrod

Plugs to be planted in grouping of 'drifts' as marked

Each species group to be massed, 20-25 plugs per species;
each 'drift' to have four massed groups:

one spring, two summer, two fall

9 'Drift' areas - 1000 plugs

***Species substitution only to be allowed with permission of
Conservation Commission

Grass Seeds

6 Coastal Bank Grass Seed Mix

Using a custom seed mix provides plants more tolerant of salt spray, well adapted to the conditions of the 'front line' coastal resource.

This also eliminates the more aggressive unwanted species in commercial mixes, provides a more consistent ratio of plants.

Grasses will prosper when planted by seed.

These should be hand sown, lightly raked in after sowing.

Ernst Seed Co. and Cape Coastal Nursery both will produce this mix.

Have mixed in even proportion (25% each): (all native grasses)

Schizachyrium scoparium	Little Bluestem
Eragrostis trichodes	Sand Lovegrass
Bouteloua curtipendula	Sideoats Gramma
Andropogon gerardii	Big Bluestem

sow in grass/perennial area, rate 5 lbs./1000 sq/ft
center approx. 8,000 sq/ft = 40 lbs mix

- 7 'Ground cover' Grass seed - Creeping Red Fescue, a native grass.
Sow over all planted areas, entire coastal bank, after all other plants are planted; best done by spraying. Its early germination will 'hold' soil, help control weed seed germination. It provides a 'green' mulch.
As woody plants and taller perennials grow, this will be shaded out.

Festuca rubra Creeping Red Fescue
sow at 6 lbs. per 1,000 sq/ft
approx. 14,000 sq/ft planting area - 84 lbs.

Planting procedure

1. Mark loosely defined woody planting areas (spray paint or hose)
aim is to have plant material grow into natural aspect
2. Plant woody shrub plant material; edges to be loose, informal
3. Mark and plant informal 'drifts', perennial plugs
4. Hand seed Coastal Bank Grass seed mix in center grass area
not in woody shrub area; hand rake in
5. Spray Creeping Red Fescue over entire planting area
will germinate quickly, hold soil

Submitted & Drawn by:

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Chair, Oak Bluffs Conservation Commission

Consulting Resources:

Design team at Wilkinson Ecological Design, Inc.

Plant Lists

Caleb Nicholson, Contemporary Landscape

Planting mechanics

Commercial sources consulted for availability, plant specifics:

Cape Coastal Nursery

146 Great Western Rd., South Dennis, MA

508-398-1743

New England Wetland Plants

820 West St., Amherst, MA

413-548-8000

Ernst Seeds

8884 Mercer Pike, Meadville, PA

800-873-3321

Sylvan Nursery

1028 Horseneck Rd., Westport, MA

508 - 636-3397