

RIVERFRONT AREA ANALYSIS

- Existing Riverfront Area on the site = approximately 33,003 square feet (sq. ft.)
Existing Developed/Degraded Riverfront Area consisting of structures, driveway, parking areas, etc. totaling approximately 4,194 sq. ft. or 12.7% of the Riverfront Area.
Proposed Developed/Degraded Riverfront Area consisting of structures, driveway, parking areas, etc. totaling approximately 9,137 sq. ft. or 27.7% of the Riverfront Area.

Therefore, the net increase in degraded Riverfront Area is 4,943 sq. ft. or an additional 15% of degraded Riverfront Area than currently exists.

In order to comply with the standards for Redevelopment Within Previously Developed Riverfront Area (310 CMR 10.58(5)), Riverfront Area restoration (310 CMR 10.58(5)(f)), and/or mitigation (310 CMR 10.58(5)(g)), is necessary to permit the increase in proposed degraded Riverfront Area at this site. A combination of Riverfront Area Mitigation and slope stabilization is proposed as part of this project to comply with the Riverfront Redevelopment standards. Please note the following proposed activities:

PROPOSED RIVERFRONT MITIGATION (310 CMR 10.58(5)(g))

- Upon construction of the stone retaining wall to create a more gentle slope, the planting area should be supplemented with clean sandy loam. After filling and grading to the correct elevation/slope, the surface should be covered with 3 inches of clean high organic loam/compost mix to create an organic layer suitable for planting. Plant native saplings and shrubs throughout the 12,580 sq. ft. mitigation planting area, which is more than the required 2 to 1 ratio of mitigation. The number of plantings is based on DEP's Inland Wetland Replication planting guidelines of saplings spaced 15 feet on center and shrubs spaced 10 feet on center. Using this plant spacing recommendation calculates 65 saplings and 146 shrubs within the proposed mitigation area. Compost and/or organic soil additives may be used during planting activities to supplement the soil. Please see Proposed Plant Tables for specifications regarding plant species, sizes, and numbers.
Upon planting, the root zones around each sapling and shrub should be mulched with natural wood chips to help retain moisture. Mulch should not be piled against the trunk of the plant.
All remaining exposed soils within the mitigation area should be hand seeded with a native seed mixture from Ernst Conservation Seeds, Inc. consisting of New England Province Riparian Mix - ERNMX-253. See seed mix profile.
Watering of the saplings and shrubs would need to be maintained by the contractor during the first growing season.
Upon completion, the area should be left undisturbed other than typical maintenance activities such as pruning, replacement of dead plant stock, hand pulling of new non-native invasive plants, etc.
Maintenance and monitoring of the area will follow the conditions from the Conservation Commission. It is recommended that the mitigation area be monitored for the first two full growing seasons following completion of the mitigation project. Monitoring Reports are included as part of this task. It is recommended that two reports per growing season occur. The first should be in late spring (late May/early June) to assess for any winter kill and to allow for spring replanting prior to the on-set of summer heat. The fall report should occur in late fall (Oct. 15 to Nov. 1st) to assess for summer kill, growth of non-native invasive plants, and allow for fall replanting. Monitoring reports will include photographs and recommendations such as remedial actions to maintain plants, additional plantings, etc. In the event that any plantings within the planting area are found to be unviable or dead in the opinion of the overseeing specialist, they will be replaced with like species and sizes. Replacement of plantings will take place when found or as soon as seasonal weather permits. Any such replacement work will be included in the monitoring reports for that period.

PROPOSED SLOPE STABILIZATION

- Install an erosion control line along the limit of fill prior to the start of excavation activities.
Remove fill material from the slope. Fill is to be removed to reveal native soils. Fill removal activities to be overseen by a supervising wetland specialist.
Areas of wetland impact where fill was removed will be evaluated by the supervising wetland specialist. A revegetation plan to address areas of wetland impact will be prepared and submitted to the Conservation office. Upon approval by the Conservation Commission, the wetland revegetation plan should occur. However, the upgradient slope should be stabilized prior to this task.
Cover slope with clean loam to support seed mix.
Cover slope with jute netting or alternative biodegradable erosion control fabric.
Plant native saplings and shrubs throughout slope stabilization area of approximately 7,800 square feet. The number of proposed plantings is based on DEP's Inland Wetland Replication planting guidelines of saplings spaced 15 feet on center and shrubs spaced 10 feet on center. Using this plant spacing recommendation calculates 40 saplings and 90 shrubs within the proposed slope stabilization area. Compost and/or organic soil additives may be used during planting activities to supplement the soil. Please see Proposed Plant Tables for specifications regarding plant species, sizes, and numbers.
Upon planting, the root zones around each sapling and shrub should be mulched with natural wood chips to help retain moisture. Mulch should not be piled against the trunk of the plant
Hydroseed the slope with a mixture of quick erosion control seed mix consisting Ernst Conservation Seeds, Inc.'s Native Steep Slope Mix w/Annual Ryegrass and PA New England Province Riparian Mix. See attached seed mix profiles.
Irrigate the slope until seed mix germinates and stabilizes the slope. Additional hydroseeding events may be necessary.
After the slope is fully stabilized, areas of wetland impact should be revegetated per Task 3 above.
Upon completion, the area should be left undisturbed other than typical maintenance activities such as pruning, replacement of dead plant stock, hand pulling of new non-native invasive plants, etc.
Maintenance and monitoring of the area will follow the conditions from the Conservation Commission. ECR recommends the mitigation area be monitored for the first two full growing seasons following completion of the stabilization project. Monitoring Reports are included as part of this task. It is recommended that two reports per growing season occur. The first should be in late spring (late May/early June) to assess for any winter kill and to allow for spring replanting prior to the on-set of summer heat. The fall report should occur in late fall (Oct. 15 to Nov. 1st) to assess for summer kill, growth of non-native invasive plants, and allow for fall replanting. Monitoring reports will include photographs and recommendations such as remedial actions to maintain plants, additional plantings, etc. In the event that any plantings within the planting area are found to be unviable or dead in the opinion of the overseeing specialist, they will be replaced with like species and sizes. Replacement of plantings will take place when found or as soon as seasonal weather permits. Any such replacement work will be included in the monitoring reports for that period.

Ernst Conservation Seeds logo and contact information: 8884 Mercer Pike, Meadville, PA 16335, (800) 873-3321 Fax (814) 336-5191 www.ernstseed.com

Table with 3 columns: Botanical Name, Common Name, Price/Lb. List of plant species for PA New England Province Riparian Mix - ERNMX-253.

100.00 % Mix Price/Lb Bulk: \$29.20
Seeding Rate: 20 lb/acre with 30 lb/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Riparian Sites
Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

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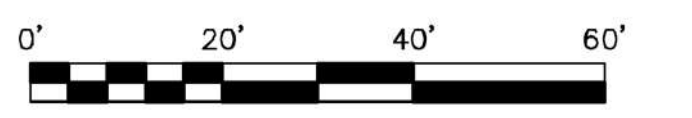
Table with 3 columns: Botanical Name, Common Name, Price/Lb. List of plant species for Native Steep Slope Mix w/Annual Ryegrass - ERNMX-181.

100.00 % Mix Price/Lb Bulk: \$13.51
Seeding Rate: 60 lb per acre, or 1.5 lb per 1,000 sq ft
Erosion Control & Revegetation; Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial

The native grass and forb species tolerate poor soils typically found on steep slopes in the eastern United States. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.



PROPOSED PLANT TABLES
SAPLING SPECIES: Red Maple (Acer rubrum), Red Oak (Quercus rubra), White Pine (Pinus strobus), Pignut Hickory (Carya glabra), Yellow Birch (Betula alleghaniensis), White Oak (Quercus alba). Total 105.
SHRUB SPECIES: Highbush Blueberry (Vaccinium corymbosum), Sweet Pepperbush (Clethra alnifolia), Bayberry (Myrica pennsylvanica), Northern Arrowwood (Viburnum recognitum), Witch Hazel (Hamamelis virginiana), Black Huckleberry (Gaylussacia baccata), Mountain Laurel (Kalmia latifolia), Shadbush (Amelanchier canadensis). Total 236.



ECR Environmental Consulting & Restoration, LLC

ECR, LLC IN COLLABORATION WITH MCKENZIE ENGINEERING GROUP

Revision table with columns: REV, DATE, DESCRIPTION. Shows revision 3 on 6/27/23 for SLOPE PLANTS.

MCKENZIE ENGINEERING GROUP logo and address: Assinippi Office Park, 150 Longwater Drive, Suite 101, Norwell, MA 02061.

RIVERFRONT AREA MITIGATION PLAN
550-560 WASHINGTON STREET
WEYMOUTH, MASSACHUSETTS
(APN 29-330-5)

PROFESSIONAL ENGINEER:

OWNERS/APPLICANT: UNION REALTY TRUST, 560 WASHINGTON STREET, WEYMOUTH, MASSACHUSETTS 02188

DESIGNED BY: ESS
CHECKED BY: BCM
APPROVED BY: BCM
DATE: MARCH 24, 2023
SCALE: 1"=20'
PROJECT NO.: 222-182
DWG. TITLE: MITIGATION AND RESTORATION PLAN

DWG. NO.: RES-1

PERMIT PLAN SET