Using biodegradable stabilization materials and/or native vegetation under Section 8 PBR

Eligibility (applicability)

I am installing biodegradable stabilization materials[1] and/or native vegetation along the shoreline of a great pond (lake), a freshwater wetland with over 20,000 square feet of open water, a river, stream or brook, or a coastal wetland, and:

- I am only stabilizing areas where soils are exposed due to erosion from wave action, currents, ice scouring or changes in water levels;
- The activity is not located in or seaward of a coastal sand dune system;
- The activity is not located in a high- or moderate value inland waterfowl and wading bird habitat; a tidal waterfowl and wading bird habitat that is a saltmarsh or mudflat; a shorebird nesting, feeding and staging area; a significant vernal pool habitat; or another significant wildlife habitat or Essential Habitat;
- If located in a coastal wetland, the activity will not cover or destroy saltmarsh or eelgrass vegetation;
- I am placing no more than 200 square feet of biodegradable stabilization materials below the normal high water line of a freshwater body or no more than 400 square feet below the highest astronomical tide line of a coastal wetland;
- Any biodegradable materials that are being placed above the base of the bank are being used to support the establishment of native vegetation; and
- I am complying with the local Shoreland Zoning ordinance.

Standards

- No trees larger than 4 inches diameter at breast height may be removed, except as necessary for regrading to allow for the required slope of between 1.5H:1V to 3H:1V for riprap, or for equipment access to the water. Hazard trees[2] may also be removed.

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[1] Natural, plant-based biodegradable or compostable fabrics, erosion control blankets, and logs or rolls made from coir, jute, straw, or other similar materials, including materials that contain or use gravel or cobble; discarded holiday trees and native trees, native brush, or native biodegradable materials; tree root wads; and wooden stakes. Metal anchors or cables may be used to secure those materials. Anchors may also include cobbles or small boulders that are not obtained from the shoreline or below the normal high water line or highest astronomical tide line.

[2] A tree with a structural defect, combination of defects, or disease resulting in a structural defect that under the normal range of environmental conditions at the site exhibits a high probability of failure and loss of a major structural component of the tree in a manner that will strike a target. A normal range of environmental conditions does not include meteorological anomalies, such as, but not limited to: hurricanes; hurricane-force winds; tornados; microbursts; or significant ice storm events. Hazard trees also include those trees that

- Disturbance of otherwise vegetated portions of the shoreline and bank must be avoided to the greatest extent possible, except for removal of invasive species. If non-invasive vegetation must be disturbed during the activity, similar types and amounts of native vegetation must be re-established in accordance with the revegetation standards in the Department's Chapter 1000 Guidelines for Municipal Shoreland Zoning Ordinances immediately upon completion of the activity and must be maintained to ensure survival.

- A yard or other developed area may not be extended closer to the water as part of a shoreline stabilization activity, and the elevation of a parcel may not be increased as part of a shoreline stabilization activity.

- The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource: The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:
    - For any soil disturbance that is limited to the upland, sediment controls such as trenched and anchored silt fence, an erosion control mix berm at least 1 foot tall, staked straw bales, and/or anchored erosion control socks at least 12 inches in diameter must be properly installed between the disturbance and the resource before the activity begins and maintained until the disturbed area is permanently stabilized;
    - Any soil disturbance within a freshwater wetland, great pond, river, stream, or brook must be done during periods of low water to minimize impacts and must be temporarily or permanently stabilized daily.
    - Any soil disturbance within a coastal wetland must be done at or near low tide and must be temporarily or permanently stabilized before being submerged.
    - Surface flows from above the disturbed area must be diverted around the disturbed area until final stabilization and any diverted runoff must be managed to prevent erosion (examples of diversions include but are not limited to erosion control mix berms or socks, sand bags, and shallow excavated trenches);
    - Within 1 calendar day following the completion of any soil disturbance, and prior to any storm event, temporary or permanent stabilization must be implemented or spread on any exposed soils;

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pose a serious and imminent risk to bank stability. A target is the area where personal injury or property damage could occur if the tree or a portion of the tree fails. Targets include roads, driveways, parking areas, structures, campsites, and any other developed area where people frequently gather and linger.

- All disturbed soils must be permanently stabilized; and
- Within 30 days of final stabilization of the site, any silt fence, straw bales, or temporary erosion or sediment controls containing plastic or other non-biodegradable materials must be removed and erosion control mulch berms must be raked to a depth of no more than 6 inches.

- If work is performed in a river, stream or brook that is less than three feet deep at the time of the activity and at the location of the activity, the applicant must provide for temporary diversion of flow to the opposite side of the channel while work is in progress and the following conditions must be met:
  - Diversion may be accomplished by placing sandbags, timbers, sheet steel, concrete blocks, 6+ mil polyethylene or geotextiles from the bank to midstream on the upstream side of the activity. No more than two-thirds (2/3) or 25 feet of stream width, whichever is less, may be diverted at one time;
  - Any material used to divert water flow must be completely removed upon completion of the activity, and the stream substrate must be restored to its original condition; and
  - A pump may be operated, where necessary, for a temporary diversion. The pump outlet shall be located and operated such that erosion or the discharge of sediment to the water is prevented.

- Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams or brooks on rock, gravel, or ledge bottom.

- Work below the high water line of a great pond, river, stream, or brook or the highest astronomical tide line of a coastal wetland must be done at low water or low tide except as required for emergency flood control work.

- All excavated material must be stockpiled either outside the protected natural resource or on mats or platforms while work is taking place. Appropriate sediment controls such as trenched and anchored silt fence, an erosion control mix berm at least 1 foot tall, staked straw bales, anchored erosion control socks at least 12 inches in diameter, or a combination of these methods must be used, where necessary, to prevent sedimentation. All excavated material must be removed to a location more than 75 feet from the

protected natural resource, unless otherwise required by this section or otherwise approved by the DEP, and properly stabilized with vegetation upon project completion.

- When planting vegetation, native species must be used. If slopes are steeper than 2H:1V, the bank may be cut back to a shallower slope for the purposes of establishing vegetation, as long as no trees larger than 4 inches diameter at breast height are removed (except as necessary for equipment access and hazard tree removal as noted above). New soil may be added to the bank adjacent to the resource and soil amendments, such as fertilizer or lime, may be used to increase soil fertility provided that:

    - No soil is placed below the normal high water line or highest astronomical tide line;
    - The slope is not steeper than 1H:1V;
    - Water bars or diversions are used to divert stormwater runoff away from the new soil and/or soil amendments;
    - The depth of new soil is less than 2 inches;
    - The amendment is worked into the underlying soils; and
    - Disturbed areas are immediately mulched and seeded.

    Non-toxic, biodegradable tackifiers may be used for vegetation establishment only with prior written approval from the DEP.

- Biodegradable materials or riprap may be placed at or below the normal high water line or highest astronomical tide line, provided that:
    - On freshwater bodies, the biodegradable materials or riprap does not extend toward the water more than 2 feet horizontally from the change of slope at the toe of the bank and does not fill more than 200 square feet below the normal high water line (including fill placed during the activity and any pre-existing fill from shoreline stabilization activities on the lot).
    - On coastal wetlands, the biodegradable materials or riprap does not extend toward the water more than 3 feet horizontally from the change of slope at the toe of the bank and does not fill more than 400 square feet below the highest astronomical tide line (including fill placed during the activity and any pre-existing fill from shoreline stabilization activities on the lot).

- Stakes used to secure biodegradable stabilization materials must be made of wood. Anchors or cables used to secure biodegradable stabilization materials may be made of wood, bright steel, or galvanized steel. No stainless steel may be used.

- Tree root wads may be driven or anchored into the bank provided they do not impede navigation in the waterway.

Application submission requirements

(1) The applicant is required to submit a minimum of one photograph in an orientation parallel to the shoreline and one photograph in an orientation perpendicular to the shoreline from the resource landward along each 25-foot section of shoreline where the activity is proposed. The photographs must clearly document erosion of the shoreline caused by wave action, currents, ice scouring or changes in water levels. The photographs should include a person or some other object for scale. Photographs along a coastal shoreline must be taken at or near low tide.

(2) The applicant must submit a written description of the cause of the erosion.

(3) n/a

(4) n/a

(5) The applicant must submit a scaled drawing and at least two cross-sections of the proposed activity. The drawing must clearly depict the property boundaries, the normal high-water line or highest astronomical tide line, and the extent of any soil disturbance, grading, vegetated areas, and biodegradable stabilization materials, such as the length along the shoreline, square footage of fill below the normal high-water line or highest astronomical tide line, and height above the normal high-water line or highest astronomical tide line. The drawing must be legible and drawn to a scale that provides a clear representation of distances and measurements on the plan.

(6) The applicant must submit a plan for how machinery will access the project site. If work will be done below the normal high-water line or highest astronomical tide line, the plan must describe how machinery will access these areas.

(7) n/a

(8) n/a

(9) Photographs showing the finished activity must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labeled with the applicant's name and the municipality in which the activity took place.

Definitions

The following terms have the following meanings, unless the context indicates otherwise:

(1) **Biodegradable stabilization materials.** Natural, plant-based biodegradable or compostable fabrics, erosion control blankets, and logs or rolls made from coir, jute, straw, or other similar materials, including materials that contain or use gravel or cobble; discarded holiday trees and native trees, native brush, or native biodegradable materials; tree root wads; and wooden stakes. Metal anchors or cables may be used to secure those materials. Anchors may also include cobbles or small boulders that are not obtained from the shoreline or below the normal high water line or highest astronomical tide line.

(2) **Fill**. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or adjacent to a water body or wetland. For the purposes of this section, fill includes biodegradable stabilization materials until such materials have entirely biodegraded.

(3) **Hazard tree**. A tree with a structural defect, combination of defects, or disease resulting in a structural defect that under the normal range of environmental conditions at the site exhibits a high probability of failure and loss of a major structural component of the tree in a manner that will strike a target. A normal range of environmental conditions does not include meteorological anomalies, such as, but not limited to: hurricanes; hurricane-force winds; tornados; microbursts; or significant ice storm events. Hazard trees also include those trees that pose a serious and imminent risk to bank stability. A target is the area where personal injury or property damage could occur if the tree or a portion of the tree fails. Targets include roads, driveways, parking areas, structures, campsites, and any other developed area where people frequently gather and linger.

(4) **Mudflat.** A low-energy intertidal environment with sediments composed of fine clays, silt, sand and organic matter. Anoxic conditions are usually present below the surface. Mudflats are organically rich regions that support large populations of shellfish, baitworms and small invertebrates, and provide important feeding grounds for migrating and resident shorebirds.

(5) **Riprap.** Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope. Square or rectangular rocks with flat faces, such as quarry stone or manufactured blocks, do not qualify as “irregularly shaped.” Rounded rocks are not considered riprap.

(6) **Riprap stabilization.** A shoreline stabilization technique that uses riprap to stabilize a bank above the toe.

(7) **Shoreline stabilization.** An activity designed to prevent erosion of soil or sediment from the terrestrial into the marine or freshwater environment caused by wave action, currents, ice scouring or changes in water levels.

(8) **Toe protection.** A shoreline stabilization technique in which materials are installed under or against the base of a bank, near the change in slope at the base of the bank, to prevent the undercutting of the bank from waves or currents.

(9) **Saltmarsh.** A persistent marine nearshore emergent grass habitat. Saltmarshes can be found between upland and intertidal flats and beaches, along tidal rivers, or behind barrier beaches. Saltmarshes are flooded by salt water on timescales ranging from twice daily to irregularly during spring tides.