

# **Appendix N      Land Cover Designations**

## **N.1    General Notes**

The retention standard approach taken in this guidance manual for on-site stormwater management recognizes the ability of pervious land covers to manage some, or all, of the rainwater that falls on it. This is termed "land abstraction" in this appendix. The concept is discussed as "existing retention" in chapters and appendices related to the off-site retention program. To facilitate the design, review, construction, and enforcement of site-designated land cover, land abstraction has been divided into two types of land covers: natural cover and compacted cover. The preservation and the creation of land covers with either of these designations are treated equally in this guidance manual. The designation of natural cover assumes these lands will generate zero stormwater runoff for a design rain event. The designation of compacted cover assumes these lands will generate 25 percent stormwater runoff for a design rain event. The minimum area threshold for the natural cover designation is 1,500 square feet, with a minimum length of 30 feet. All land cover designations must be recorded in the declaration of covenants.

## **N.2    Existing Natural Cover Requirements**

A site claiming natural cover based on the preservation of existing conditions must ensure conditions remain undisturbed to preserve hydrologic properties equal to or better than meadow in good condition. Preservation areas for natural cover may include the following:

- Portions of residential yards in forest cover that will not be disturbed during construction
- Community open space areas that will not be mowed routinely, but left in a natural vegetated state (can include areas that will be rotary mowed no more than two times per year)
- Utility rights-of-way that will be left in a natural vegetated state (can include areas that will be rotary mowed no more than two times per year)
- Other areas of existing forest and/or open space that will be protected during construction and that will remain undisturbed

## **N.3    Planting Requirements for the Creation of Natural Cover**

- Every 1,500 square feet of created natural area shall be vegetated according to the following options of plant material quantity:
  - ◆ 1 native shade tree: 1.5 inch caliper (minimum), or
  - ◆ 2 native ornamental trees: 6 foot height (minimum), or
  - ◆ 6 native shrubs: 5 gallon container size (minimum), or
  - ◆ 50 native perennial herbaceous plants: 1 gallon container size (minimum), or

- ◆ 1 native ornamental tree: 6- to 10-foot height (minimum), and 25 native perennial herbaceous plants: 1 gallon container size (minimum), or
- ◆ 3 native shrubs: 5 gallon container size (minimum), and 25 native perennial herbaceous plants: 1 gallon container size (minimum), or
- ◆ Steep slope greater than 6 percent grade will require additional plantings, soil stabilization, or a terracing system.
- Whip and seedling stock may be used (when approved by DDOE) as a site's natural cover creation if a stream bank stabilization opportunity falls within the site's footprint. In this instance, whips or seedlings must be planted at a minimum density of 700 plants per acre, and at least 55 percent of these plants must remain at the end of the 2-year management period.
- Natural regeneration (i.e., allowing volunteer plants to propagate from surrounding natural cover as a cover creation technique) may be allowed by DDOE, when 75 percent of the proposed planting area is located within 25 feet of adjoining forest, and the adjoining forest contains less than 20 percent cover of invasive exotic species. In this case, supplemental planting must ensure a density of 400 seedlings per acre.
- All plant materials used must be native to the mid-Atlantic region and must be installed in areas suitable for their growth. Lists of native species of shrubs, grasses, and wildflowers are published in the US Fish and Wildlife Service, 2009, Native Plants for Wildlife Habitat and Conservation Landscaping: Chesapeake Bay Watershed. There are several websites that may be consulted to select the most appropriate plantings for the District;
  - ◆ <http://www.wildflower.org/collections/collection.php?collection=DC>
  - ◆ <http://www.nps.gov/plants/pubs/nativesMD/pdf/MD-CoastalPlain.pdf>
  - ◆ <http://www.nps.gov/plants/pubs/nativesMD/pdf/MD-Piedmont.pdf>
- Plants can be irrigated until established.

## **N.4 Stormwater Management Plans and Natural Cover**

Sites using preservation of existing areas for the natural cover designation shall include on their Stormwater Management Plan (SWMP) a tree and vegetation survey, identification of location, and extent of preservation areas. Depending on the extent of the preservation area DDOE may require the SWMP include a more detailed schedule for retained trees noting tree species, tree size, tree canopy, tree condition, and tree location.

The SWMP will include the identification of material and equipment staging areas and parking areas. Material and equipment staging areas and parking areas must be sufficiently offset for preservation areas to ensure no adverse impacts.

For areas maintained as meadow in good condition, the SWMP shall document either the preservation of existing conditions or the creation of meadow conditions. A plan submission claiming meadow preservation will note the existing meadow boundaries and include a field survey of the richness and diversity of existing plant species and the existing soil conditions. A plan submission claiming meadow creation will note the proposed meadow boundaries, the

planting and/or seeding species methods, and provide a soil amendments plan as specified in Appendix J.

## **N.5 Construction Requirements for Natural Cover Designation**

The preservation of lands designated as natural cover, such as undisturbed portions of yards, community open space, and any other areas designated on a site's SWMP as preserved natural cover, must be shown outside the limits of disturbance on the site's Soil Erosion and Sediment Control Plan. These areas must be clearly demarcated with signage prior to commencement of construction on the site and with fencing during construction.

The creation of lands designated as natural cover as part of a public right-of-way (PROW) project and on sites where soils were not protected from compaction during construction the soils must be conditioned prior to planting with soil compost amendments as prescribed in Appendix J.

For maximum survivability, planting of trees, shrubs, and herbaceous vegetation for the creation of natural cover should occur only during the fall and early spring (September–November and March–May). The work should be done only under the supervision of someone qualified and skilled in landscape installation (see Section 3.14 Tree Planting and Preservation for details on qualifications). Proper maintenance of the materials after installation will be key in ensuring plants survival. Prior to inspection, all trees and shrubs planted must be alive and in good health, and native grass and wildflower seeds must have been sown at adequate densities and at the right time of year for each species.

Once a natural cover designation has been assigned to a portion of regulated development site, that area will need to be recorded in the declaration of covenants, documented at the site prior to construction activities, protected during construction activities, and permanently protected/maintained for the life of the regulated site.

Root pruning and fertilizing are examples of preconstruction activities. These measures aim to increase the wellbeing of trees and prepare them for higher stress. Prior to beginning construction, temporary devices such as fences or sediment controls are installed and remain throughout the construction phase. Some devices, like retaining walls and root aeration systems may remain permanently. For example, if part of a root system is collapsed by a built road, permanent aeration may be necessary for the tree to remain healthy.

## **N.6 Maintenance Requirements for Natural Cover Designation**

All areas that will be considered natural cover for stormwater purposes must have documentation that prescribes that the area will remain in a natural, vegetated state. Appropriate documentation includes subdivision covenants and restrictions; deeded operation and maintenance agreements and plans; parcels of common ownership with maintenance plans; third-party protective easements within PROW or p maintenance plans; or other documentation approved by DDOE. Natural cover designation must be identified in the site's declaration of covenants.

While the goal is to have natural cover areas remain undisturbed, some activities may be prescribed in the appropriate documentation, as approved by DDOE, such as forest management, control of invasive species, replanting and revegetation, passive recreation (e.g., trails), limited bush hogging to maintain desired vegetative community, etc.

## **N.7 Compacted Cover Designation**

The compacted cover designation can apply to all site areas that are disturbed and/or graded for eventual use as managed turf or landscaping. Examples of compacted cover include lawns; portions of residential yards that are graded or disturbed and maintained as turf, including yard areas; residential utility connections; and PROW. Landscaping areas intended to be maintained as vegetation other than turf within residential, commercial, industrial, and institutional settings are also considered compacted cover if regular maintenance practices are employed.