Land Development Services

Technical Bulletin

Subject: Fairfax County Seeding Guidelines **Date: 7/6/22** **No.: 22-04**

Summary: This Technical Bulletin establishes seeding guidelines to promote the use of native plant species and limit the use of invasive plant species in seeding applications for soil stabilization, restoration, agriculture, turf and landscaping. Seeding guidelines:

- Supplement the Virginia Erosion and Sediment Control Handbook (the "Handbook") by requiring the use of native, non-invasive plantings on all county projects and property. They are strongly recommended for all other land disturbing activities.
- Conform with additional Virginia recommendations outlined below.
- Adhere to the Fairfax County Board of Supervisor's policy in the Comprehensive Plan for use of Natural Landscaping.
- Provide technical guidance and example seed mixes to assist industry professionals during the design of the landscape plans on applicable projects.

Effective Date: Immediately

Background: The Handbook was adopted in 1974 to establish minimum standards to control sediment and prevent erosion related to land disturbing activities under the Virginia Erosion and Sediment Control Regulations. The Handbook was last updated in 1992 (third edition). The Handbook includes recommended plant species for soil stabilization, some of which are now recognized as invasive.

Staff from the Virginia Department of Conservation and Recreation (DCR) and Department of Environmental Quality (DEQ) have recognized the negative impacts of non-native invasive plant species on our environment and the many benefits provided using plant species native to Virginia. In April 2017, DCR and DEQ jointly published Frequently Asked Questions (FAQ): Native vs. Invasive Plant Species for Erosion and Sediment Control. The FAQ states that DCR discourages the use of invasive species included in the Handbook and provides a list of native plant species to use instead.

In recognition of the criticality of native plants to local food webs and ecosystem services, the Fairfax County Board of Supervisors adopted a Natural Landscaping Policy and associated manual in 2007 directing staff to use native plant species at county facilities. On June 9, 2020, the Board adopted the Natural Landscaping at County Facilities Comprehensive Plan Amendment (PA 2018-CW-2CP) requiring the use of native plant species for all county facilities, prohibiting the use of invasive plant species and allowing non-invasive, non-native species to be used only when there is no suitable native alternative. The Board adopted changes to Chapter 12 (Tree Conservation) of the Public Facilities Manual (PFM) on June 22, 2021, to require the use of native species in replanting Resource Protection Areas (RPAs).

Implementation of this guidance is intended to increase the habitat value of our human-dominated landscapes, protect functions in natural communities, support the specialized relationships between native plants and animals and allow our native species to survive.

Definitions
Native Species: Those known to occur naturally (i.e., not assisted by human movement) in Fairfax County as indicated in the Digital Atlas of the Virginia Flora.

Invasive Species: Those species intentionally or accidentally introduced by human activity into a region in which they did not evolve and cause harm to natural resources, economic activity or humans. The DCR provides a Virginia Invasive Plant Species List.

County Projects: Those projects that are located on property that is owned or controlled by Fairfax County, including the Fairfax County Park Authority and Fairfax County Public Schools, or projects performed by or at the direction of the county.

Guidance on the Use of Native Species and Non-Invasive Plants

- For county projects, plant species used in seeding applications in Fairfax County must be native with the following exceptions:
    - Non-invasive annual species used for temporary seeding (initial stabilization).
    - Perennial turf forming grass species when used specifically for turf or agricultural applications where there are no suitable native alternatives.
- Restoration or establishment of vegetation in Resource Protection Areas (RPAs) (see Chapter 118 of the Fairfax County Code) require plants and perennial seed mixes species native to Fairfax County, tolerant of site conditions and non-invasive as required by PFM §12-0316.4. Whenever any provision of these guidelines differs from the RPA planting requirements, the PFM will govern.
- For other non-county projects, the use of native plant species is strongly recommended but not required.

Invasive plant species should not be used in any planting except for limited applications such as tall fescue when used in turf or agricultural applications as recommended by technical experts as indicated in Appendix 1 of this technical bulletin.

Guidance on Seeding Specifications per Seeding Category
Seeding applications can be broken into several categories:

- General stabilization – Applications including roadsides, slopes (other than dams) and those not managed for turf, agricultural or specific restoration or landscaping goals.
- Turf and agricultural areas – Landscapes managed for turf for athletic facilities, lawns, pasture or cropland for which there are specifically recommended species to meet defined performance criteria.
- Restoration and landscaping – Land areas intended to restore ecological functions and/or to meet specific aesthetic requirements.
- Dams – State or county regulated slope areas for stormwater facilities with specific management requirements.

Seeding specifications will vary in species composition, rates, soil preparation and establishment recommendations. Basic recommendations are provided in Appendix 1 of this technical bulletin. These recommendations can be modified to meet site and project requirements, but the following guidelines should be applied:

Critical Factors	Guidance
Temporary Seeding	Temporary seeding (i.e., cover crops) should be non-invasive annual grass species. Recommended species include annual rye (Lolium multiflorum) to be used February through October 1, or winter wheat (Triticum aestivum) from October 1 through January.
Temporary Seeding Rate	Minimum 30 lbs./acre (minimum 60 lbs./acre when in an RPA).
Permanent Seeding	Should be composed of at least 50% native warm season grass* seed by volume. Note that species composition will vary based on site conditions and project goals.
Permanent Seeding Rate	Minimum 20 lbs./acre (minimum 30 lbs./acre when in an RPA).
Seeding Methods	Broadcasting and drilling are preferred application methods for native plant seed. Hydroseeding: Native plant seeds often contain awns which make hydroseeding challenging. When hydroseeding, the US Department of Agriculture recommends a two-step method: broadcasting the native seed and hydroseeding overtop with applicable tackifier and cover crop.
Mulch or Matting	Recommended mulches include clean grain crop straw applied to a depth of two inches or certified weed-free leaf mulch. Seeded areas on slopes (greater than 3:1) or within areas with potential for flowing water may also be covered with natural fiber (coir or jute) erosion control matting. In no event should hay be used or any products containing plastic mesh.
Soil Preparation	Prior to applying seed and mulch, site soil conditions should be prepared to relieve soil compaction, break up clods, incorporate recommended amendments or fertilizers and provide suitable tilth. Measures necessary may include ripping, soil profile rebuilding, deep tine aeration, discing or rotovating. In no case should prepared soil be run over with heavy equipment using a bucket or blade that may cause compaction.

*Note that switch grass (Panicum virgatum) and big bluestem (Andropogon gerardii) are not to be used in Fairfax County seeding applications. They are not native to Fairfax County (except in one very limited rare plant community), have been introduced from mid-western varieties, are aggressive and greatly lower floral and faunal diversity.

For More Information

Please refer to the Virginia Cooperative Extension, USDA Natural Resource Conservation Service Field Office Technical Guide, and the Northern Virginia Soil and Water Conservation District.

If you have any questions, please contact Brian Keightley, Director, Urban Forest Management, Department of Public Works and Environmental Services at **703-324-1770, TTY 711.**

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Attachment: Appendix 1 –Permanent Seeding Specifications

APPENDIX 1 – PERMANENT SEEDING SPECIFICATIONS

Seeding specifications should include native species for permanent seeding, and temporary seeding (cover crop) which may include annual non-native, non-invasive species. Species composition for permanent seeding will vary by application, site conditions and project goals. The following recommendations are intended to provide a foundation for permanent seed specification development.

General Stabilization – Applications including roadsides, slopes (other than dams), and those not managed for turf, agricultural or specific restoration or landscaping goals.

Dry-Sunny Conditions:

- Indian grass - *Sorghastrum nutans* – 10% of mix
- Little bluestem – *Schizachyrium scoparium* – 15%
- Broomsedge - *Andropogon virginicu s*– 5%
- Deer tongue - *Dichanthelium clandestinum* – 10%
- Purple top – *Tridens flavus* – 10%
- Beaked panic grass – *Coleataenia anceps* – 10%
- Fall or smooth panic grass – *Panicum dichotomiflorum* – 20%
- Partridge pea – *Chamaecrista fasciculata* – 5 %
- Hyssop-leaved boneset – *Eupatorium hyssopifolium* – 3%
- Heath aster – *Symphyotrichum pilosum* – 2%
- Early goldenrod – *Solidago juncea* – 5%
- Black-eyed Susan – *Rudbeckia hirta* – 3%
- Narrow-leaved mint – *Pycnanthemum tenuifolium* – 2%

Or

Grasses only:

- Indian grass - *Sorghastrum nutans* – 15% of mix
- Little bluestem – *Schizachyrium scoparium* – 15%
- Broomsedge - *Andropogon virginicus* – 5%
- Deer tongue - *Dichanthelium clandestinum* – 10%
- Purple top – *Tridens flavus* – 15%
- Beaked panic grass – *Coleataenia anceps* – 15%
- Fall or smooth panic grass – *Panicum dichotomiflorum* – 25%

Wet-Shady Conditions:

- Redtop panic grass – *Coleataenia rigidula* – 10% of mix
- Deertongue – *Dichanthelium clandestinum* – 10%
- Bottle-brush grass – *Elymus hystrix* – 10%
- Virginia wild rye – *Elymus virginicus* – 10%
- Path rush – *Juncus tenuis* – 5%

- Rice cutgrass – *Leersia oryzoides* – 10%
- Fall panic grass – *Panicum dichotomiflorum* – 5%
- Little bluestem – *Schizachyrium scoparium* – 20%
- Swamp milkweed – *Asclepias incarnata* – 2%
- Beggar-ticks – *Bidens aristosa* – 2%
- Flat-topped white aster – *Doellingeria umbellata* – 2%
- Mistflower – *Eupatorium coelestinum* – 2%
- Boneset – *Eupatorium perfoliatum* – 2%
- Autumn sneezeweed – *Helenium autumnale* – 2%
- Seedbox – *Ludwigia alternifolia* – 2%
- Pennsylvania smartweed – *Polygonum pensylvanicum* – 2%
- Panicled aster – *Symphyotrichum lanceolatum* – 2%
- Purple-stemmed aster – *Symphyotrichum puniceum* – 2%

Turf and Agricultural areas – Landscapes managed for turf for athletic facilities or lawns or pasture or cropland for which there are specifically recommended species to meet defined performance criteria. For turf, pasture or agricultural applications, recommendations from the Virginia Cooperative Extension, US Natural Resource Conservation Service (NRCS) Field Office Technical Guide, Northern Virginia Soil and Water Conservation District (NVSWCD) or other appropriate professional source should be followed. For pastureland, it is highly recommended that land managers work with the NVSWCD to develop and implement a Soil and Water Quality Conservation Plan which incorporates native warm season grasses when appropriate to improve soil porosity and organic content, water retention and habitat benefits.

Restoration and Landscaping – Land areas intended to restore ecological functions and/or to meet specific aesthetic requirements. Projects with specific landscaping or restoration goals should follow the design specifications developed by the designing landscape architect or restoration ecologist.

- Indian grass - *Sorghastrum nutans* – 20% of mix
- Little bluestem – *Schizachyrium scoparium*– 10%
- Broomsedge - *Andropogon virginicus* – 5%
- Deer tongue - *Dichanthelium clandestinum* – 10%
- Purple top – *Tridens flavus* – 10%
- Beaked panic grass – *Coleataenia anceps* – 10%
- Fall or smooth panic grass – *Panicum dichotomiflorum* – 5%
- Common milkweed – *Asclepias syriaca* – 5 %
- Hyssop-leaved boneset – *Eupatorium hyssopifolium* – 5%
- Spotted St. John's wort – *Hypericum punctatum* – 5%
- Heath aster – *Symphyotrichum pilosum* – 3%
- Rough goldenrod – *Solidago rugosa* – 2%
- Early goldenrod – *Solidago juncea* – 3%
- Grass-leaved goldenrod – Euthamia graminifolia – 3%
- Black-eyed Susan – *Rudbeckia hirta* – 2%
- Narrow-leaved mountain mint – *Pycnanthemum tenuifolium* – 2%

Dams – State or county regulated slope areas for stormwater facilities with specific management requirements. The NRCS has done extensive research on slope stability. Inclusion of native warm season grasses can greatly improve rooting depth and slope stability.

- Tall fescue - *Festuca arundinacea* – 35%
- Little bluestem - *Schizachyrium scoparium* – 25%
- Purple lovegrass - *Eragrostis spectabilis* – 20%
- Broomsedge - *Andropogon virginicus* – 10%
- Panicled tick-trefoil - *Desmodium paniculatum* – 5%
- Partridge pea - *Chamaecrista fasciculata* – 5%