

## ***Recommended revisions to the VACS BMP Manual for FY2023 – Voluntary Practices***

### Section revisions:

Minor edits have been made to this section of the Manual to add clarity and to correct references (such as AgBMP Tracking Module versus Agricultural BMP Tracking Program).

### Specification revisions:

1. Three new specifications have been developed that mimic the cost-share specifications:
  - a. VSN-6N (Voluntary stream exclusion with narrow width buffer and grazing land management)
  - b. VSN-6W (Voluntary stream exclusion with wide width buffer and grazing land management)
  - c. VSN-7 (Voluntary extension of watering systems)
2. Four specifications are recommended for deletion as the specifications have not been utilized, are recommended to be replaced by a new specification, or are mostly duplicated in another specification:
  - a. VSN-4 (Voluntary terrace systems)
  - b. VSN-6 (Voluntary stream exclusion with grazing land management)
  - c. VWQ-10 (Voluntary integrated pest management)
  - d. VWQ-11 (Agricultural sinkhole protection)
3. Twenty-five specifications have been updated to more accurately reflect the associated cost-share practice specification and the requirements to receive credit in the Chesapeake Bay Model:
  - a. VFR-1 (Voluntary afforestation of crop, hay and pastureland)
  - b. VFR-3 (Voluntary woodland buffer filter area)
  - c. VNM-3C (Voluntary split application of nitrogen on corn using pre-sidedress nitrate test)
  - d. VNM-4 (Voluntary late winter split application of nitrogen on small grains)
  - e. VNM-5N (Voluntary precision nutrient management on cropland – nitrogen application)
  - f. VNM-5P (Voluntary precision nutrient management on cropland – phosphorus application)
  - g. VSE-5 (Voluntary stream exclusion)
  - h. VSL-1 (Voluntary long term vegetative cover on cropland)
  - i. VSL-5 (Voluntary diversions)
  - j. VSL-6A (Voluntary small acreage grazing system)
  - k. VSL-6B (Voluntary alternative water system)
  - l. VSL-8 (Voluntary protective cover for specialty crops)
  - m. VSL-8B (Voluntary small grain and mixed cover crop for nutrient management and residue management)
  - n. VSL-8D (Voluntary commodity cover crop)
  - o. VSL-8H (Voluntary harvestable cover crop)
  - p. VSL-9 (Voluntary grazing land management)
  - q. VSL-11 (Voluntary permanent vegetative cover on critical areas)
  - r. VWP-2A (Voluntary streambank stabilization)

- s. VWP-3 (Voluntary sod waterway)
- t. VWP-4 (Voluntary animal waste control facilities)
- u. VWP-4B (Voluntary dairy loafing lot management system)
- v. VWP-4C (Voluntary composter facilities)
- w. VWP-4F (Voluntary animal mortality incinerator facilities)
- x. VWP-7 (Voluntary surface water runoff impoundment for water quality)
- y. VWQ-1 (Voluntary riparian grass filter strips)
- z. VWQ-7 (Voluntary irrigation water recycling system)
- aa. VWQ-12 (Voluntary roof runoff management system)

NOTE: This is the first step in revising and updating this section and associated specification of the Manual. There are additional edits that need to be made to the section and specifications including reviewing the language referencing contracts, verifications, and inspections. Additionally, the language needs to ensure that partners, such as VDACS, are appropriately included and that the standards set out in the specifications are what is needed to receive Chesapeake Bay Model credit. The Department will continue to review and revise this language and these specifications over the upcoming year.

**BMPs recommended to be added**

Name of Practice: VOLUNTARY STREAM EXCLUSION WITH NARROW  
WIDTH BUFFER AND GRAZING LAND MANAGEMENT  
DCR Specifications for No. VSL-6N

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Stream Exclusion with Grazing Land Management best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This is a structural and/or management practice that will enhance or protect vegetative cover to reduce runoff of sediment and nutrients from grazing livestock on existing pastureland through livestock exclusion.

Livestock watering systems and fencing improve water quality control erosion and eliminate direct access to or a direct runoff input to all live streams or live water. **Stream exclusion fencing and an off-stream watering facility are required components of this practice.** Rotational grazing is an optional enhancement of this practice.

B. Policies and Specifications

1. This practice is limited to pastureland that borders a live stream or Chesapeake Bay Preservation Act Resource Protection Area as defined by local ordinance. An exception to this may be granted in cases of severe environmental degradation occurring in and around features such as: springs, seeps, ponds, wetlands, or sinkholes, etc.
2. A written management plan, to include a rotational grazing component if more than three new grazing units are created by the installation of interior fencing, and operation and maintenance plans must be prepared and followed in accordance with NRCS FOTG. Factors to be addressed in the management plan should include water sources, environmental impacts, soil fertility maintenance, access lanes, fencing needs, wetlands, minimum cover or grazing heights, carrying capacity of the land and rotational schedules.
3. The buffer must be maintained as perennial species for the practice lifespan. Grazing (including flash grazing) and haying are not allowed in the protected riparian area during the lifespan of this practice. When both sides of the stream are under the same ownership, livestock must be excluded from both sides.
4. The minimum fence setback from the stream must be either (i) at least 10 feet ~~or (ii) at least 25 feet,~~ except as designed in areas immediately adjacent to livestock crossings and controlled hardened accesses. Wetlands, intermittent springs, seeps, ponds connected to streams, sensitive karst features, and gullies

adjacent to streams should be included in the buffer area.

5. Portable or temporary system components (fencing, etc.) cannot be utilized in other areas or moved from fields utilized in the system plan.
6. The conservation planning process for developing an alternative watering system for livestock should include consideration of some means to provide water to the livestock during emergency conditions.
7. The primary water use of the components ~~which were installed with state cost-share and tax credit~~ must be for the purpose of providing water for livestock. However, incidental use is not prohibited. ~~State cost-share and tax credit is not permitted for any electrical, structural, or plumbing supplies, including pipe or associated construction costs for developing any incidental use.~~ When an incidental use is anticipated, the District Board should consider the applicant's intent before approving the request. Incidental use will be documented in the applicant's file.
8. Soil loss rates must be computed for all applications.
9. All permits or approvals necessary are the responsibility of the applicant.
10. This practice is subject to NRCS Standards, 382 Fence, 390 Riparian Herbaceous Cover, 472 Access Control, 516 Livestock Pipeline, 533 Pumping Plant, 561 Heavy Use Area Protection, 574 Spring Development, 575 Trails and Walkways, 578 Stream Crossing, 614 Watering Facility and 642 Water Well.
11. All practice components implemented must be maintained for a minimum of 5 years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. By accepting either a cost-share payment or a state tax credit for this practice, the participant agrees to maintain all practice components for the specified lifespan. This practice is subject to verification by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as described above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Created April 2022

Name of Practice: STREAM EXCLUSION WITH WIDE WIDTH BUFFER AND GRAZING  
LAND MANAGEMENT  
DCR Specifications for No. VSL-6W

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Stream Exclusion with Grazing Land Management best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This is a structural and/or management practice that will enhance or protect vegetative cover to reduce runoff of sediment and nutrients from grazing livestock on existing pastureland through livestock exclusion.

Livestock watering systems and fencing improve water quality control erosion and eliminate direct access to or a direct runoff input to all live streams or live water. **Stream exclusion fencing and an off-stream watering facility are required components of this practice.** Rotational grazing is an optional enhancement of this practice.

B. Policies and Specifications

1. This practice is limited to pastureland that borders a live stream or Chesapeake Bay Preservation Act Resource Protection Area as defined by local ordinance. An exception to this may be granted in cases of severe environmental degradation occurring in and around features such as: springs, seeps, ponds, wetlands, or sinkholes, etc.
2. A written management plan, to include a rotational grazing component if more than three new grazing units are created by the installation of interior fencing, and operation and maintenance plans must be prepared and followed in accordance with NRCS FOTG. Factors to be addressed in the management plan should include water sources, environmental impacts, soil fertility maintenance, access lanes, fencing needs, wetlands, minimum cover or grazing heights, carrying capacity of the land and rotational schedules.
3. The buffer must be maintained as perennial species for the practice lifespan. Grazing (including flash grazing) and haying are not allowed in the protected riparian area during the lifespan of this practice. When both sides of the stream are under the same ownership livestock must be excluded from both sides.
4. The minimum fence setback from the stream must be ~~either (i) at least 35 feet or (ii) at least 50 feet,~~ except as designed in areas immediately adjacent to livestock crossings and controlled hardened accesses. Wetlands, intermittent springs, seeps, ponds connected to streams, sensitive karst features, and gullies adjacent to streams

should be included in the buffer area.

5. Portable or temporary system components (fencing, etc.) cannot be utilized in other areas or moved from fields utilized in the system plan.
6. The conservation planning process for developing an alternative watering system for livestock should include consideration of some means to provide water to the livestock during emergency conditions.
7. The primary water use of the ~~components which were installed with state cost share and tax credit~~ must be for the purpose of providing water for livestock. However, incidental use is not prohibited. ~~State cost share and tax credit is not permitted for any electrical, structural, or plumbing supplies, including pipe or associated construction costs for developing any incidental use.~~ When an incidental use is anticipated, the District Board should consider the applicant's intent before approving the request. Incidental use will be documented in the applicant's file.
8. Soil loss rates must be computed for all applications.
9. All permits or approvals necessary are the responsibility of the applicant.
10. This practice is subject to NRCS Standards, 382 Fence, 390 Riparian Herbaceous Cover, 472 Access Control, 516 Livestock Pipeline, 533 Pumping Plant, 561 Heavy Use Area Protection, 574 Spring Development, 575 Trails and Walkways, 578 Stream Crossing, 614 Watering Facility and 642 Water Well.
11. All practice components implemented must be maintained for a minimum of 5 years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. By accepting either a cost-share payment or a state tax credit for this practice, the participant agrees to maintain all practice components for the specified lifespan. This practice is subject to verification by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as described above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Name of Practice: VOLUNTARY EXTENSION OF WATERING SYSTEMS  
DCR Specifications for No. VSL-7

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Extension of Watering Systems best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice provides a management system to ensure adequate surface cover protection to minimize soil erosion. The system will reduce sediment, nutrients, and pathogen loads in runoff.

This practice will improve the quantity, quality, and utilization of forage for livestock and will reduce the risk of surface and groundwater contamination from non-point source pollution from pastures by assuring that an adequate stand of forage is available to absorb runoff and reduce pollutants.

B. Policies and Specifications

1. All fields under this practice must have had all livestock previously excluded or concurrently being excluded from all live streams or live water. Any field that is part of a rotational grazing system is eligible.
2. This practice extends watering systems into upland fields in order to implement rotational grazing on those fields and increase forage cover through the proper grazing and forage management techniques that will allow the pasture to rest and re-grow its cover.
3. A written Grazing Management Plan and Operation and Maintenance Plan that includes all acres in the grazing system must be prepared, implemented, and followed in accordance with NRCS Standard 528 Prescribed Grazing. Factors to be addressed should include water sources, environmental impact, soil fertility maintenance, access lanes, fencing needs, wetlands, minimum cover or grazing heights, carrying capacity of the land, and rotational schedules. Districts will monitor for compliance.
4. Grazing (including flash grazing) and haying are not allowed in the protected riparian area during the lifespan of this practice.
5. Portable or temporary system components (fencing, etc.) cannot be utilized in other areas or moved from fields utilized in the system plan. A portable water supply system is any system or component (i.e. trough, pipe, etc.) that is:



- i. Commercially available or farmer constructed;
- ii. Large enough to provide a timely and sufficient volume of water for the livestock to be contained in a specific area for which the system is designed;
- iii. Capable of being maintained in a stable position and protected from any damage while the system or component is in use;
- ~~iv.~~ Capable of being moved in a timely manner from one location to another within the acreage for which the system is designed.

- 6. This practice is subject to NRCS Standards 382 Fence, 472 Access Control, 516 Livestock Pipeline, 528 Prescribed Grazing, 533 Pumping Plant, 561 Heavy Use Area Protection, 575 Trails and Walkways, 578 Stream Crossing, and 614 Watering Facility.
- 7. All practice components implemented must be maintained for a minimum of 5 years following the calendar year in installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. By accepting payment for this practice, the recipient agrees to maintain the practice and the associated exclusion fencing for the specified lifespan. This practice is subject to verifications by the District throughout the lifespan of the practice.

D. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Created April 2022

**BMPs recommended to be deleted**

Name of Practice: VOLUNTARY TERRACE SYSTEMS  
DCR Specifications for No. VSL-4

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's voluntary terrace systems best management practice that are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice creates an earth embankment, channel, or a combination ridge and channel constructed across the slope.

Its purpose is to document and improve water quality by reducing slope and slope length to one that will slow the movement of sediment and nutrients from cropland.

B. Policies and Specifications

1. This practice may include:
  - i. Terraces and the necessary leveling and filling to permit installation of an effective system.
  - ii. Removal of stonewalls or hedgerows if necessary to permit installation of an effective system.
  - iii. Materials and installation of underground pipe outlets and other mechanical outlets.
  - iv. Necessary vegetative protective outlets or waterways.
2. A protective outlet or waterway that is installed solely as an outlet for the terrace system and serves no other conservation purpose should be cost-shared as a component of this practice. A protective outlet or waterway which, by itself solves a conservation problem, but also serves as an outlet for a terrace system, should be counted under practice VWP-1 or VWP-3.
3. This practice is subject to NRCS Standard 600 Terrace.
4. Soil loss rates must be computed for all applications.
5. The practice must not be in lifespan from any other conservation program.
6. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.

7. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised March, 2018

Name of Practice: VOLUNTARY STREAM EXCLUSION WITH GRAZING LAND  
MANAGEMENT  
DCR Specifications for No. VSL-6

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Stream Exclusion with Grazing Land Management best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice establishes a structural and/or management practice that will enhance or protect vegetative cover to reduce runoff of sediment and nutrients from grazing livestock on existing pastureland through livestock exclusion.

Its purpose is to document and provide livestock water systems, fencing, and/or a hardened pad for winter-feeding that will improve water quality control erosion and eliminate direct access to or a direct runoff input to live streams where there is a defined water quality problem. **Stream exclusion fencing is a required component of this practice.** Rotational grazing is an optional enhancement of this practice.

B. Policies and Specifications

1. This practice is limited to pastureland that borders perennial live stream or Chesapeake Bay Preservation Act Resource Protection Area as defined by local ordinance. An exception to this may be granted in cases of severe environmental degradation occurring in and around features such as: springs seeps, ponds, wetlands, or sinkholes, etc.
2. A written management plan, to include a rotational grazing component should be developed if more than three new grazing units are created by the installation of interior fencing, and Operation and Maintenance Plans should be prepared and followed in accordance with NRCS FOTG. Factors to be addressed in the management plan should include water sources, environmental impact of winter-feeding pad location, runoff from the feeding pad area, soil fertility maintenance, access lanes, fencing needs, wetlands, minimum cover or grazing heights, carrying capacity of the land and rotational schedules.
3. Grazing (including flash grazing) is not allowed in the protected riparian area during the lifespan of this practice.
  - i. When both sides of the stream are under the same ownership, livestock must be excluded from both sides of the stream.

To protect stream banks, this practice may include:

- i. Fencing to restrict stream access in connection with newly developed watering facilities. The stream exclusion fence must be placed a minimum

- of 35 feet away from the stream, except as designed in areas immediately adjacent to livestock crossings and controlled hardened accesses.
    - a. Wetlands, intermittent springs, seeps and gullies adjacent to streams should be included in the buffer area. Isolated seeps, springs or wetlands may be fenced as well.
  - ii. Stream crossings for grazing distribution or limited water access, as long as the fencing adjacent to the crossing restricts access to the excluded area.
  - iii. Fence chargers used to electrify permanent or temporary fencing.
  - iv. Watering facilities including:
    - a. troughs,
    - b. tanks/storage facilities/cisterns,
    - c. hydrants
  - v. Pipelines to convey water to watering facilities.
  - vi. Stream crossings for limited water access, as long as the fencing adjacent to the crossing restricts access to the excluded area.
  - vii. Portable water supply system components such as troughs, pipe, etc. that are:
    - a. Commercially available or farmer constructed,
    - b. Large enough to provide a timely and sufficient volume of water for the livestock to be contained in a specific area for which the system is designed,
    - c. Capable of being maintained in a stable position and protected from any damage while the system or component is in use, and
    - d. Capable of being moved in a timely manner from one location to another within the acreage for which the system is designed.
5. All permits or approvals necessary are the responsibility of the applicant.
  6. Soil loss rates must be computed for all applications.
  7. The practice must not be in lifespan from any other conservation program.
  8. This practice is subject to NRCS Standards, 390 Riparian Herbaceous Cover, 472 Access Control, 516 Livestock Pipeline, 533 Pumping Plant, 512 Forage and Biomass Planting, 561 Heavy Use Area Protection, 574 Spring Development, 575 Trails and Walkways, 578 Stream Crossing, 614 Watering Facility, and 642 Water Well.
  9. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised March, 2018

Name of Practice: VOLUNTARY INTEGRATED PEST MANAGEMENT  
DCR Specification for No. VWQ-10

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Integrated Pest Management best management practice which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice provides a procedure to prevent excessive and/or unnecessary application of pesticides to land and/or crops for the control of pests.

The purpose is to improve water quality by scouting fields and/or crops and only applying pesticides when the pest reaches the threshold of economic damage.

B. Policies and Specifications

1. This practice may include:
  - i. Pheromone traps and black light traps
  - ii. Sweep nets
  - iii. Sticky traps
  - iv. Envirocasters
2. Copies of scouting forms must be retained and kept in the producer file.
3. Eligible crops for scouting:
  - i. Cotton
  - ii. Peanuts
  - iii. Soybeans
  - iv. Small Grain
  - v. Alfalfa
  - vi. Corn
  - vii. Fruit Orchards
  - viii. Ornamentals
4. Cooperative Extension economic threshold criteria will be used.
5. Scouts must demonstrate knowledge of IPM techniques as defined by Cooperative Extension for the crop being scouted.
6. The practice must not be in lifespan from any other conservation program.



C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised March, 2016

Name of Practice: VOLUNTARY AGRICULTURAL SINKHOLE PROTECTION  
DCR Specifications for No. VWQ-11

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Agricultural Sinkhole Protection best management practice which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will provide a protection method to improve groundwater quality from surface contamination.

The purpose of this practice is to improve water quality by removing sources of pollution from sinkholes and providing an adequate buffer to trap and filter sediments and nutrients from surface flows that enter the groundwater through sinkholes.

B. Policies and Specifications

1. This practice may contain:
  - i. Measures to remove and properly dispose of all foreign materials and debris dumped in and around sinkholes.
  - ii. Structural and agronomic measures to provide adequate vegetation for filtering and sediment trapping of surface run off.
  - iii. Fencing in order to provide livestock exclusion and personal safety in these areas.
2. Consideration should be given to wildlife, any rare, threatened and/or endangered species (federal or state), and enhancing the appearance of the area when establishing the protective measures.
3. Site geology and hydrology must be considered in planning and installing component practices. Any openings such as swallets or cave entrances encountered with the installation of this practice will be documented and reported to The Department of Conservation and Recreation Division of Natural Heritage.
4. All debris (except biodegradable woody debris, rocks, and other mineral matter) removed from the sinkhole will be transported off site and disposed of in an environmentally safe manner. Should any hazardous material be anticipated or found during construction, local officials dealing with hazardous materials must be notified. Prevention methods, such as on site "over pack" drums, may be required if hazardous materials are known to exist at the site.

5. Once established, no additional debris or material can be placed within the sinkhole proper or within 50 feet of the drainage ways leading into the sinkhole. Deposition of any foreign material will violate the life span requirements of this standard.
6. All land disturbance activity will be adequately stabilized with appropriate vegetation as part of this cleanup effort. Appropriate vegetation will include, whenever possible, native grasses and shrubs.
7. This practice is subject to NRCS Standard 500 Obstruction Removal, 342 Critical Area Planting, 362 Diversion, 390 Riparian Herbaceous Buffer, 391 Riparian Forest Buffer, 393 Filter Strip, 472 Access Control, and 612 Tree and Shrub Establishment.
8. All practice components implemented should be maintained for a minimum of five years following the calendar year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.
9. Soil loss rates must be computed for all applications.
10. The practice must not be in lifespan from any other conservation program.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised March, 2016

**BMPs recommended to be revised**

Name of Practice: VOLUNTARY AFFORESTATION OF CROP, HAY AND  
PASTURE LAND  
DCR Specifications for No. VFR-1

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Afforestation of Crop, Hay and Pasture Lands best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice documents trees planted (hardwoods and/or conifers) on land used as cropland, hayland, or pastureland in order to make a permanent land use conversion to forest within the last 15 years.

The purpose of this practice is to document voluntary tree establishment that will change land use to one that will more effectively control the soil and nutrient loss from surface runoff, thus improving water quality. This practice will also provide forest areas for the benefit of wildlife.

B. Policies and Specifications

1. Crop, hay, and pastureland must have been in production for at least two out of the past five years before the planting of the trees. Forestland being replanted following timber harvest is not eligible.

2. Gullied or eroded areas shall be stabilized with a temporary or suitably durable grass cover until trees are established. Pure stands of fescue are discouraged due to tree establishment competition. ~~Plantings must be protected from grazing.~~

2.3. ~~Grazing of livestock is not permitted for the lifespan of the practice.~~

4. The practice must not be in lifespan from any other conservation program.

5. ~~Christmas tree production is not eligible~~

3-6.

5. Filter efficiency may also be improved by the addition of low growing or ground cover vegetation. Herbaceous plantings/shrubs are encouraged to provide soil stabilization and to provide long-term benefits for wildlife. Department of Forestry can recommend appropriate species.

5. All practice components implemented should be maintained for a minimum of five years. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. Control of noxious and invasive plants to ensure the survival of the stand is the responsibility of the participant. This practice is subject

to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised [April 2022](#)

Name of Practice: VOLUNTARY WOODLAND BUFFER FILTER AREA  
DCR Specifications for No. VFR-3

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Woodland Buffer Filter Area best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

The purpose of this practice is to document and maintain land use change that has occurred within the last 15 years and maintain a riparian forest buffer to provide streambank protection and to control soil erosion, sedimentation, and nutrient loss from surface runoff to improve water quality. This practice will also maintain riparian forest areas to benefit wildlife and aquatic environments.

B. Policies and Specifications

1. Crop, hay, and pastureland must have been in production for at least two out of the past five years before the planting of the woodland buffer filter area. Forestland being replanted following timber harvest is not eligible.
- ~~2.~~ Gullied or eroded areas shall be stabilized with a temporary or suitably durable grass cover until trees are established. Pure stands of fescue are discouraged due to tree establishment competition. ~~Plantings must be protected from grazing.~~
- ~~2.3.~~ Grazing of livestock in the buffer is permitted for the lifespan of the practice.
- ~~4.~~ The practice must not be in lifespan from any other conservation program.
- ~~3.5.~~ Christmas tree production is not eligible.
- ~~4.6.~~ Filter efficiency may also be improved by the addition of low growing or ground cover vegetation. Herbaceous plantings/shrubs are encouraged to provide soil stabilization and to provide long-term benefits for wildlife. Department of Forestry can recommend appropriate species.
- ~~5.7.~~ All practice components implemented should be maintained for a minimum of five years. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. Control of noxious and invasive plants to ensure the survival of the stand is the responsibility of the participant. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2022



Name of Practice: VOLUNTARY ~~SPLIT-SIDEDRESS~~ APPLICATION OF NITROGEN ON CORN ~~USING PRE-SIDEDRESS NITRATE TEST AT THE 6-LEAF STAGE OR AT LEAST 15" IN HEIGHT~~

DCR Specification for No. VNM-3C

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary ~~Split-Sidedress~~ Application of Nitrogen on Corn ~~Using Pre-Sidedress Nitrate Test (PSNT) practice, to determine the need for sidedress nitrogen when organic sources of nitrogen have been previously applied practice that which~~ are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will document ~~the sidedress the split~~ application of nitrogen (~~organic OR inorganic~~) on corn. For fields receiving only nitrogen fertilizer, ~~split-sidedress~~ applications will be based upon soil sample results and the Nutrient Management Plan (NMP). All secondary or ~~split-sidedress~~ applications will be applied at a growth stage when the plant is entering the highest demand for nitrogen (15" to 24" tall).

For fields that have previously received manure or biosolids applications according to the current NMP, a pre-sidedress nitrate test (PSNT) will be used to determine the amount of nitrogen necessary in the ~~split-sidedress~~ application.

B. Policies and Specifications

1. Eligibility

- i. Eligibility for this practice is limited to the length of the plan recommending the sidedress practice.
- ii. Farmer must keep a written verification (such as a work order, bill or field records) to document the application.
- iii. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
- iv. District staff should utilize the NMP maps, nutrient balance sheets, and summary sheets to confirm practice implementation. A comparison between crop recommendations and in-field conditions shall be used when certifying conservation practice compliance.

2. The total number of corn acres specified by the nutrient management plan to receive manure will determine the maximum acres to qualify for cost-share payment for

the PSNT. The PSNT must be done when corn is approximately 12 inches in height and PSNT samples should represent a minimum of 7 acres on average and a maximum of 20 acres on average.

- 2.3. Checks to ensure compliance with this practice may be conducted by the District or appropriate agency personnel.
3. Application of any sidedress nitrogen must be made after the corn is at the 6-leaf stage or at least 15 inches in height.
4. Total nitrogen to be applied to the cornfield must be consistent with the Nutrient Management Plan or determined by using a PSNT consistent with procedures contained in the Nutrient Management Training and Certification Regulations (4 VAC 50-85 et. Seq).
5. This is an annual practice.
6. The practice must not be in lifespan from any other conservation program.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2022

Name of Practice: VOLUNTARY LATE WINTER SPLIT  
APPLICATION OF NITROGEN ON SMALL GRAINS  
DCR Specifications for No. VNM-4

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Late Winter Split Application of Nitrogen on Small Grains practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

Late winter split application of nitrogen on small grain consists of applying nitrogen during the late winter in two increments ~~at this time of year~~ based on the progression of growth of the small grain crop. Applying nitrogen based on the progression of growth of the small grain crop in the late winter minimizes the amount lost through leaching and run off.

B. Policies and Specifications

1. Eligibility

- i. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
- ii. Eligibility for this practice is limited to the length of the plan recommending the split nitrogen application.

2. Practice Development

- i. On fields that have organic sources of nitrogen applied during the crop year or in previous years, or if high residual nitrogen levels are suspected from a previous crop, fall nitrogen rates should be determined by a nitrate test.
- ii. The amount of late winter nitrogen to be applied to the small grain field must be determined by using the criteria contained in the *Virginia Nutrient Management Standards and Criteria (revised July 2014)*.

3. Practice Implementation

- i. To ensure the impact of nitrogen to ground and surface waters is minimized in small grain production, nitrogen rates ~~and application~~

~~at planting and midwinter~~ shall follow recommendations contained in the *Virginia Nutrient Management Standards and Criteria, (revised July, 2014)*.

- ii. Compliance checks with this practice may be conducted by the District or appropriate agency personnel throughout the life of the practice.
- iii. Sample collection for any soil nitrate tests in the fall, tissue tests, or tiller counts should be done by the plan developer, an employee of the plan developer, or the farmer.
- iv. In lieu of tiller counts and tissue tests, as listed in the *Virginia Nutrient Management Standards and Criteria, (revised July, 2014)*, late winter split application of nitrogen must not exceed 40 pounds of nitrogen for the first application and must not exceed 50 pounds of nitrogen for the second application.
- v. For late winter split application of nitrogen, the two applications must be at least 30 days apart, with the first application no earlier than growth stage 25, with nitrogen rates determined based on tiller counts and tissues tests as explained in the *Virginia Nutrient Management Standards and Criteria, (revised July, 2014)*.
- vi. This is an annual practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised [April 2022](#)

Name of Practice: VOLUNTARY PRECISION NUTRIENT MANAGEMENT ON  
CROPLAND – NITROGEN APPLICATION  
DCR Specification for No. VNM-5N

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Precision Nutrient Management on Cropland – Nitrogen Application practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will encourage the use of precision nutrient management practice components that support a higher intensity of nitrogen management in the field than existing standard nutrient management practices. This practice is limited to row crops, small grains, and highly managed hayland production systems (see Glossary for definition).

This practice supports multiple enhanced nutrient management components, such as soil pre-sidedress nitrate tests (PSNT) and all variable rate nitrogen application technologies. This practice may only be used on fields that apply nitrogen based upon test results identified in section B, whether they have organic nutrient applications or not, with the exception of biosolids applications.

Multiple split applications (more than two) of nitrogen applies to corn, cotton, small grains, grain sorghum/milo, canola, specialty crops, produce, turf/sod farms, -crops and highly managed hayland. This practice does apply to the late winter split application of nitrogen on small grains. The variable rates of nitrogen listed below (in B. 2) apply to all row and highly managed hay crops (other than alfalfa, which is not eligible). Other macro-micro nutrients or soil amendments may be applied concurrently.

B. Policies and Specifications

1. This is an annual practice.
2. Results from the test conducted to develop a nitrogen application prescription must be used to determine the nutrient application rates for the current or following crop as appropriate; that prescription must be followed during the rate of application of nitrogen.
3. At least one of the following identified components must be implemented.
  - i. Soil pre-sidedress nitrate test (PSNT)
  - ii. Variable rate nitrogen applications or zone applications of nitrogen based upon the soil test results of (subfield) sampling on row crops, specialty crops, or small grains. Other macro-micro nutrients may be applied concurrently
  - ~~iii. Variable rate or zone application of nitrogen on row crops or small grains~~
  - ~~iv. Multiple (more than two) split applications of nitrogen on corn, cotton and small grains.~~

- ~~iii.~~ More than two applications of nitrogen on highly managed hayland production systems (other than alfalfa). Three or more split applications of nitrogen on small grains.
- ~~iv.~~ Two or more split sidedress applications of nitrogen on corn and cotton.
- ~~v.~~ Two or more applications of nitrogen on highly managed highland production systems (other than alfalfa, which is not eligible).
- ~~v.~~~~vi.~~ Injection at sidedress.

4. On fields that have organic sources of nitrogen applied during the crop year or in previous years, or if high residual nitrogen levels are suspected from a previous crop, fall nitrogen rates shall be determined by a soil nitrate test.

5. All split applications will be applied at a growth stage when the plant is entering the highest demand for nitrogen. Application of any sidedress nitrogen, including the first split, must be applied after the corn is at the 5-leaf stage or at least 12" in height.

6. Subsequent sidedress applications must be applied at least 14 days after the most recent application.

~~5.7.~~ Total nitrogen application rates (including pre-plant and sidedress) on corn shall not exceed 1 lb./bu. expected crop yield ~~of corn crops.~~

~~6.8.~~ Where this practice is applied, there must be a note to that effect in the narrative or elsewhere in the Nutrient Management Plan indicating that the soils were sampled in an appropriate manner.

~~7.9.~~ Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

~~8.10.~~ The total number of acres that qualify for this practice will be based upon the total acres that were sampled in zones, had mid-season testing such as soil pre-sidedress nitrate testing (PSNT), or received variable rate or zone applications of nitrogen, based upon the zone or grid soil nitrate sampling.

~~9.11.~~ The producer shall maintain written verification of the recommendation and the resulting application(s) (~~e.g. samples include but are not limited to:~~ results of laboratory test, a work order or bill, ~~and~~ as-applied application map of field) to verify that the recommendations were followed.

~~10.12.~~ Fields that have received applications of biosolids within the previous 24 months are not eligible.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised [April 2022](#)

Name of Practice: VOLUNTARY PRECISION NUTRIENT MANAGEMENT ON  
CROPLAND – PHOSPHORUS APPLICATION  
DCR Specification for No. NM-5P

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Precision Nutrient Management on Cropland – Phosphorus Application practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will encourage the use of precision nutrient management practice components that support a higher intensity of phosphorous management in the field than existing standard nutrient management practices.

This practice is intended for row crops, small grains, grain sorghum/milo, canola, specialty crops, produce, turf/sod farms, and highly managed hayland, including alfalfa hay production systems.

This practice supports multiple enhanced nutrient management components such as zone or grid soil fertility samples and all variable rate phosphorous application technologies based upon the soil test results of zone or grid (subfield) sampling. This practice may only be used on fields that apply phosphorous based upon test results identified in section B. 2, whether they have organic nutrient applications or not, with the exception of biosolids applications.

Variable rates of phosphorus apply to all row crops, small grains and highly managed hay crops. Other macro-micro nutrients or soil amendments may be applied concurrently.

B. Policies and Specifications

1. This is an annual practice.
2. Results from any test conducted to develop a phosphorous application prescription must be used to determine the phosphorous application rates for the current or following crop as appropriate, and that prescription must be followed during the application of phosphorous.
- ~~3.~~ Phosphorous applications must be based upon the soil test results of zone or grid (subfield) sampling recommendations; other macro-micro nutrients may be applied concurrently.
- ~~4.~~
- ~~5.3. — Plant tissue samples or petiole samples must be submitted at the correct growth stage and handled in accordance with laboratory guidelines to ensure sample viability and usability. The results of these tests may be used by the participant to support this practice.~~



~~6.4.~~ Total phosphorus application rates shall not exceed the recommendations of the zone or grid sampling recommendations.

~~7.5.~~ Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

~~7.6.~~ The total number of acres that qualify for this practice will be based upon the total acres that were sampled in zones (zones shall be no larger than 20 acres and based upon soil type) or grids (grid size shall be 1 to 4 acres in size), or had mid-season testing such as variable rate or zone/grid (subfield) applications of phosphorus based upon the zone or grid soil sampling recommendations.

7. The producer shall maintain written verification of the recommendation and the resulting application(s) (e.g. results of laboratory test(s), a work order or detailed bill/invoice showing application rates, an as-applied application map of field(s)) to verify that the recommendations were followed.

~~7.8.~~ Fields that have received applications of biosolids within the previous 24 months are not eligible.

#### C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2022

Name of Practice: VOLUNTARY STREAM EXCLUSION  
DCR Specifications for No. VSE-5

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Stream Exclusion with or without Grazing Land Management best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will record voluntary livestock exclusion fences that will exclude livestock from perennial streams and/or intermittent waterways, areas of streambank fenced out, and/or areas where grazing is improved. It may enhance or protect vegetative cover to reduce runoff of nutrients and some sediment from existing pastureland and therefore reduces non-point source pollution associated with grazing livestock.

The purpose of this practice is to document stream exclusion and setback/buffer practices undertaken by producers without any financial assistance. The practice provides alternative fencing that will improve water quality by eliminating direct access to surface waters. However, the fence does not need to meet any specifications except that it is a permanent functioning livestock exclusion system.

B. Policies and Specifications

1. This practice is limited to pastureland that borders a perennial or intermittent stream or Chesapeake Bay Preservation Act Resource Protection Area, as defined by local ordinance. Exception to this may be granted in cases of severe environmental degradation occurring in and around features such as seeps, ponds, wetlands, or sinkholes, etc.
2. Grazing (including flash grazing) is not allowed in the protected riparian area during the lifespan of this practice.
3. Soil loss rates must be computed for all applications.
4. The practice must not be in lifespan from any other conservation program.
- 4.5. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the

designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~March 2016~~ April,  
2022

Name of Practice: VOLUNTARY LONG TERM VEGETATIVE COVER ON CROPLAND  
DCR Specifications for No. VSL-1

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary ~~Permanent~~Long Term Vegetative Cover on Cropland best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

Grass and/or legume vegetation will be established on cropland with existing cover of less than 60%, converting it to pasture or hay land to reduce soil erosion and enhance water quality.

This practice is intended to document and promote conversion of cropland to fields with a healthy, well-maintained sod.

B. Policies and Specifications

1. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
2. Soil loss rates must be computed for all applications.
3. This practice is not intended to be used to reseed or improve hayland or pastureland.
4. Pastures and haylands that are planted under this practice ~~should~~will be grazed or harvested and maintained in accordance with NRCS Standard 512 for the lifespan. This practice is subject to ~~spot-check~~verifications by the District throughout the life of the practice.
5. Fertility - Lime and fertilizer ~~should~~can be applied for ~~establishment~~maintenance purposes ~~in accordance but must be done in accordance~~ with current soil test recommendations (at Virginia Tech Cooperative Extension ~~establishment~~maintenance rates for the appropriate sod species). ~~Maintenance applications are the~~

~~obligation of the participant.~~ If biosolids or manure is used, the material must be properly sampled and tested for nutrient content and given credit in fertilizer recommendations. Test results must be part of practice documentation. ~~Nutrient application should not exceed the recommendations of the Virginia Nutrient Management Standards and Criteria, revised July, 2014.~~

6. This practice is subject to NRCS Standard 512 ~~Forage and Biomass~~Pasture and Hay Planting.
7. All practice components implemented should be maintained for a minimum of five years following the calendar year of certification of completion. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.
8. The practice must not be in lifespan from any other conservation program.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2022

Name of Practice: VOLUNTARY DIVERSIONS  
DCR Specifications for No. VSL-5

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Diversions best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice creates a channel with a supporting ridge on the lower side constructed across the general land slope.

Its purpose is to improve water quality by directing nutrient and sediment-laden water from large areas to sites where it can be used or disposed of safely.

B. Policies and Specifications

1. This practice may include:
  - ~~i. Diversions, ditches, or dikes. Subsurface drains may be installed where necessary for the proper functioning of the diversion.~~
  - ii. ~~Installation of structures such as pipe, chutes, underground outlets, or other outlets, if needed for proper functioning of a ditch or dike, for more even flow, or to protect outlets from erosion.~~
  - iii. ~~Necessary leveling and filling to permit installation of an effective system.~~
  - iv. ~~Removing portions of stonewalls or hedgerows if necessary to permit establishment of the practice.~~
2. This practice does not include ditches or dikes designed to impound water for later use or that will be a part of a regular irrigation system.
3. Soil loss rates must be computed for all applications. ~~for use in establishing priority considerations.~~
4. This practice is subject to NRCS Standard 362 Diversions.
5. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~March, 2016~~April, 2022

Name of Practice: VOLUNTARY SMALL ACREAGE GRAZING SYSTEM  
DCR Specifications for No. VSL-6A

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Small Acreage Grazing Systems best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice establishes a system to reduce soil erosion in pastures and prevent those areas exposed to heavy livestock traffic from experiencing excessive manure and soil losses due to the destruction of ground cover. It also eliminates direct access to or a direct runoff input to live streams where there is a defined water quality problem.

Small acreage grazing systems frequently require the use of a heavy use area to remove livestock from pastures in wet conditions or when the pastures need to rest and recover. These sacrifice area paddocks quickly become denuded of vegetation and may harbor undesirable plants. Conditions in these paddocks are often unfavorable to livestock, as well as the surrounding environment, due to the build-up of manure in the paddock and the erosion that may take place on denuded soil.

The intent of this practice is to prevent manure and sediment runoff from a heavy use area and pastures from entering watercourses and to capture a portion of the manure as a resource for other uses such as fertilizer. This is accomplished by dividing the pasture into grazing paddocks. Livestock is rotated from paddock to paddock as is necessary to maintain a permanent vegetative cover. One lot is stabilized and designated as a heavy use area for use in periods of wet weather and when the grass in the grazing paddocks needs to rest and re-grow to the appropriate grazing height.

B. Policies and Specifications

1. This practice cannot compensate for over-stocking. A stocking rate of no greater than two animal units (1,000 pound equivalent) per acre must be maintained throughout the life span of the practice.
2. A Grazing Management Plan, practice design, and Operation and Maintenance Plan (OMP) are to be developed with consultation from a VCE Agent specializing in the alternative livestock (if available), NRCS, and/or the District.
3. A minimum of three grassed grazing paddocks is required.
4. A heavy use area is required.
  - i. Manure, hay, bedding, and other organic materials must be removed from the sacrifice area at intervals outlined in the Operation and Maintenance



- Plan. The sacrifice area must be maintained in a sanitary condition that does not allow for the accumulation of manure or the creation of mud.
- ii. The sacrifice area should be sized to allow 600 to 1,000 square feet per animal unit (1,000 pound equivalent). Consideration should be given to the age, sex, breed, and behavioral characteristics of the animals when determining the final size and number of sacrifice areas needed. The heavy use area shall be sloped not to exceed 10% maximum.
  - iii. Divert surface water and roof runoff away from the sacrifice area.
  - iv. Provide filtering of runoff from the heavy use area.
  - v. The primary use of the heavy use area shall be within the purpose of establishing a small acreage grazing system. Design considerations shall not be given to its use as a riding or exercise area or any purpose other than to perform its water quality benefit.
5. Each grassed grazing paddock will be sized based on soil type, topography, and herd size and be maintained in at least 80% coverage of permanent forage.
  6. Livestock must be excluded from all streams. A minimum 35 feet wide vegetated buffer shall be maintained directly adjacent to all streams, ponds, and other watercourses.
  7. Walkways may be installed to facilitate herd movement from the barn to the heavy use area and grazing paddocks. Walkways are to be designed in accordance with NRCS Standard 575 (Animal Trails and Walkways).
  8. In order for the forage in the grass paddocks to take up nutrients, such as nitrogen, it must be managed for growth and harvested for hay or pasture.
  9. Critical eroding and sensitive areas will be fenced out and permanent cover established.
  - ~~10. An Animal Waste Management System plan shall be developed as required by NRCS standard 561 Heavy Use Protection. The Nutrient Management Plan shall address all the acreage on the participant farms where manure will be applied. The Nutrient Management Plan shall be implemented and maintained for the life of the practice.~~
  - 11.10. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented on. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

~~12.11.~~ The practice must not be in lifespan from any other conservation program.

~~13.12.~~ This practice is subject to the requirements of applicable NRCS Standards. These may include 561 Heavy Use Area Protection, 342 Critical Area Planting, 362 Diversion, 575 Trails and Walkways, 391 Riparian Herbaceous Cover, 393 Filter Strip, 412 Grassed Waterway, 516 Pipeline, 528 Prescribed Grazing, 558 Roof Runoff Structures 574 Spring Development, 580 Stream Bank and Shoreline Protection, and 614 Watering Facilities.

~~14.13.~~ All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of implementation. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April, 2022

Name of Practice: VOLUNTARY ALTERNATIVE WATER SYSTEM  
DCR Specifications for No. VSL-6B

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Alternative Water System best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This structural practice provides an alternative water source for livestock to reduce direct deposition of animal waste to waterways. This practice may reduce stream bank erosion and livestock waste reaching the stream.

Its purpose is to document and provide a livestock watering system and/or fencing that will improve water quality by discouraging animal access to streams for watering where there is a defined water quality problem. Stream exclusion fencing is an optional component of this practice.

B. Policies and Specifications

1. This practice is limited to pastureland that borders a ~~live perennial or intermittent~~ stream or Chesapeake Bay Preservation Act Resource Protection Area, as defined by local ordinance. Exception to this may be granted in cases of severe environmental degradation occurring in and around features such as seeps, ponds, wetlands, or sinkholes, etc.
2. To protect stream banks, this practice may include:
  - i. Fencing to exclude livestock from a stream or waterway as a stand-alone component or in combination with an alternative water system of this best management practice; no minimum setback distance is required.
  - ii. Hardened stream crossings for livestock watering and grazing distribution, so long as the crossing restricts access to the stream in those fields serviced by the hardened access.
  - iii. Fence chargers used to electrify permanent or temporary fencing.
3. To supply water this practice may include:
  - i. Construction or deepening of wells if it is the only technically feasible alternative for a water source.
  - ii. Development of springs or seeps, including fencing of the area, where needed, to protect the development from pollution by livestock.
  - iii. Construction or repair of dugouts, dams, pits, or ponds (if the only cost effective and technically feasible alternative for water source), including fencing of the area, where needed, to protect the development from pollution by livestock.

- iv. Installing pipelines, storage facilities, cisterns, and troughs.
  - v. A portable system to meet the management requirements necessary for systems operation rather than a large number of permanent water facilities.
  - vi. Pumping equipment (except for artesian wells) and adequate facilities.
  - vii. Pumps and equipment associated with portable and permanent watering systems. Pumps may operate on purchased electrical current or alternative energy sources such as solar, battery, mechanical or hydraulic energy. ~~The selected pump and associated equipment should be the most cost effective for the specific site and application.~~
4. A portable water supply system is any system or component (i.e. trough, pipe, etc.) that is:
- i. Commercially available or farmer constructed;
  - ii. Large enough to provide a timely and sufficient volume of water for the livestock to be contained in a specific area for which the system is designed;
  - iii. Capable of being maintained in a stable position and protected from any damage while the system or component is in use;
  - iv. Capable of being moved in a timely manner from one location to another within the acreage for which the system is designed.
5. All permits or approvals necessary are the responsibility of the applicant.
6. Soil loss rates must be computed for all applications.
7. The practice must not be in lifespan from any other conservation program.
8. This practice is subject to NRCS Standards ~~528 Prescribed Grazing~~, 382 Fence, 390 Riparian Herbaceous Cover, 472 Access Control, 516 Livestock Pipeline, 512 Pasture and Hay Planting, 533 Pumping Plant, 528 Prescribed Grazing, 561 Heavy Use Area Protection, 574 Spring Development, 575 Trails and Walkways, 578 Stream Crossing, 614 Watering Facility, and 642 Water Well.
9. The conservation planning process for developing an alternative watering system for livestock should include consideration of some means to provide water to the livestock during emergency conditions.
9. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of implementation. This practice is subject to spot check by the District throughout the lifespan of the practice.

10. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised March, 2018

Name of Practice: VOLUNTARY PROTECTIVE COVER FOR SPECIALTY CROPS  
DCR Specifications for No. VSL-8

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Protective Cover for Specialty Crops best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice is designed to keep a keep a cover on specialty cropland when it is not being used following the harvest of a specialty crop. The purpose is to reduce wind and water erosion, thus when it is not being used after harvest of a specialty crop.

The purpose is to reduce wind and water erosion, thus improving water quality.

B. Policies and Specifications

1. Eligibility:

Specialty crops for this practice (for the purpose of the Virginia Agricultural Cost-Share Program only) are defined as are defined as: Vegetables, tree crops, perennial vine crops, ornamentals, horticultural crops, tobacco, hemp, turf, small grains, and other similar crops.

i) Vegetables

ii) Tobacco

iii) Small grains

2. Specialty crops are given consideration due to bare sites and highly erodible soil conditions.

3. The seeding must be planted and certified by no later than November 30. A good stand and good growth of vegetative cover must be obtained in sufficient time to protect the area no later than December 15. All cover crop plantings must maintain a minimum of 60% cover crop plant material on the enrolled acres through the lifespan of the practice. The seeding must be planted and certified by November 30. After the growth has been maintained for at least 90 days after seeding certification or until the conservation purpose has been served in accordance with NRCS 340, whichever is greater, it may be left on the land or incorporated.

43. Pasturing consistent with good management may be permitted. No vegetative growth may be harvested for hay or seed.

54. Seed type and rates shall be those listed:

Seed Type	Rate
Tetraploid Rye (pure strain only)	2.0 bu./acre
Winter Rye	1.5 bu./acre
Winter Barley	2.5 bu. /acre
Winter Annual Ryegrass	20 lbs./acre
Winter Wheat	1.5 bu./acre
Winter Hardy Oats	2.0 bu./acre
Small Grain Mixtures	1 bu./ac.with
a) legume†	10 lbs./acre or,
b) forage radish	6 lb./ acre or,
c) canola or rape	4 lbs./acre
Triticale	1.5 bu. /acre
Forage Radish	6-8 lbs. /acre
1) mixture with grass or legume†	4 lbs./acre
Winter-hardy <i>Brassica</i> (canola/rape)	5 lbs./acre
1) mixture with grass or legume†	2-4 lbs./acre

† - legume = Crimson Clover, Austrian Winter Pea or Hairy Vetch

°Use higher seeding rates for pure stands and lower seeding rates for mixed species plantings

**Higher seeding rates are recommended for aerial seeding.**

65. This practice is subject to NRCS Standard 340 Cover Crop.
76. Soil loss rates must be computed for all applications.
87. The practice must not be in lifespan from any other conservation program.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above, and/or Engineering Job Approval Authority (EJAA), for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2022

Name of Practice: VOLUNTARY SMALL GRAIN AND MIXED COVER CROP FOR  
NUTRIENT MANAGEMENT AND RESIDUE MANAGEMENT  
DCR Specifications for No. VSL-8B

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Small Grain Cover Crop for Nutrient Management and Residue Management best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice ~~is to document and~~ establishes vegetative cover on cropland for protection from erosion and the reduction of nutrient losses to groundwater.

This practice ~~will provide an~~ incentive~~s~~ to keep a cover on cropland, which will help prevent the loss of nutrients. The purpose is to reduce erosion and the leaching of nutrients to ground water. This BMP is designed to utilize the maximum amount of residual nitrogen from previous surface nutrient applications and in the first three feet of the soil profile.

B. Policies and Specifications

1. Soil loss calculations using the presently approved NRCS calculation methodology shall be documented and included in the participant file for review during spot checks.
2. No nutrients from any source are allowed between the harvesting of the previous crop and March 1 of the next calendar year. No nutrients are allowed at planting.
3. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
4. A good stand and good growth of vegetative winter cover must be obtained by December 1~~5~~ to protect the area from nutrient leaching and runoff in the fall and winter. ~~, with the exception of the cities of Chesapeake and Virginia Beach that have late November planting dates.~~ All cover crop plantings must ~~maintain a minimum of 60%~~ cover crop plant material on the enrolled acres through the lifespan of the practice.

~~Ongoing research in Virginia's coastal plain indicates that a cereal grain crop with 30 plants per square foot of field planted with two tillers per plant (60 tillers per sq. ft.) by~~



~~December 1 provides the optimum biomass for scavenging excess nitrogen while protecting the soil from erosion.~~

5. ~~All seed must be free of prohibited noxious weed seed, have a minimum germination rate of 80%, and have no more than 16 restricted noxious weed seeds per pound. If the grower elects to use home grown seed, it must be tested for purity, germination and noxious weeds prior to seeding by a recognized seed laboratory. Seeding rates shall be adjusted based on germination rates.~~
6. The practice is intended to keep a vegetative cover on cropland, which will help prevent the loss of nutrients by reducing surface erosion and absorbing any excess nutrients from the soil. Current research indicates that early planting of winter rye maximizes the cover crops environmental benefit in Virginia. [This practice is not intended for land already in permanent grass.](#)
7. Harvesting for hay, haylage, silage, grain, straw, or seed is not permitted. Pasturing consistent with sound agronomic management is permitted as long as ~~a 60%~~ cover is maintained through March 14. **In years of drought if producers anticipate a need for additional feed harvest, they should apply for the VSL-8H practice as harvest is not allowed under this practice.**
8. Select one of following species and/or mixtures of species to plant in all soils

Species	bu./acre
Rye (Tetraploid)	2 bu./acre
Winter Rye (not tetraploid)	2 bu./acre
Winter Barley	2 bu./acre
Winter Hardy Oats	2 bu./acre
Winter Wheat or Triticale	2 bu./acre
Winter Annual ryegrass	20 lbs./acre
Small grain mixtures with	1 bu./acre
a) legume <sup>†</sup> or	10 lbs./acre
b) Diakon (forage or tillage) radish or	6 lb./ acre
c) canola or rape	4 lbs./acre
Diakon (forage or tillage) Radish	6-8 lbs./acre <sup>°</sup>
mixture with annual rye grass	10 lbs./acre
Winter-hardy <i>Brassica</i> (canola/rape)	5 -7 lbs./acre <sup>°</sup>
mixture with annual rye grass	10 lbs./acre

<sup>†</sup> - legume = Crimson Clover, Austrian Winter Pea or Hairy Vetch

<sup>°</sup>Use higher seeding rates for pure stands and lower seeding rates for mixed species plantings

**Higher seeding rates are recommended for aerial seeding and non-incorporation seeding methods.**

9. Seeding of all seed types must be planted by the dates listed below:

Area	Early Planting Date	Standard Planting Date
Cities of Chesapeake & VA Beach	November 10	November 30
Coastal Plain (including the Eastern Shore)	October 25	November 15
Piedmont	October 10	November 1
Mountain and Valley	October 5	October 25

<u>Area</u>	<u>Early Planting Date</u>	<u>Standard Planting Date</u>
<u>Cities of Chesapeake &amp; VA Beach</u>	<u>November 10</u>	<u>November 30</u>
<u>Coastal Plain (including the Eastern Shore)</u>	<u>November 10</u>	<u>November 30</u>
<u>Piedmont</u>	<u>October 25</u>	<u>November 15</u>
<u>Mountain and Valley</u>	<u>October 20</u>	<u>November 10</u>

10. In all cases, this practice is subject to NRCS Standard 340.
11. The cover crop must be killed using mechanical or chemical means or by grazing no earlier than March 15 and no later than June 1. ~~May 15 for the Coastal Plain, Piedmont, and Mountain and Valley.~~ The cover crop residue may be left on the field for conservation purposes; or the cover crop or its residue may be tilled under. The practice will be considered complete once the cover crop has served its purpose and been killed.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2022

Name of Practice: VOLUNTARY COMMODITY COVER CROP  
DCR Specifications for No. VSL-8D

This document specifies terms and conditions for the Virginia Department of Conservation and Forestry's Voluntary Commodity Cover Crop best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice is to document and establish vegetative cover on cropland for protection from erosion and the reduction of nutrient losses to groundwater. Harvesting for hay, haylage, silage, grain, or seed is permitted after March 14. Early and standard planting dates are allowed.

This practice provides a cover on cropland, which will help prevent the loss of nutrients. The purpose is to reduce erosion and the leaching of nutrients to ground water. This BMP is designed to utilize the maximum amount of residual nitrogen from previous surface nutrient applications and in the first three feet of the soil profile.

B. Policies and Specifications

1. No nutrients from any sources are allowed between the harvesting of the previous crop and March 1 of the next calendar year. No nutrients are allowed at planting.

2. A good stand and good growth of vegetative winter cover must be obtained by December 15 to protect the area from nutrient leaching and runoff in the fall and winter.

~~, with the exception of the cities of Chesapeake and Virginia Beach that have late November planting dates. All cover crop plantings must maintain a minimum of 60% cover crop plant material on the enrolled acres from December 1 through the lifespan of the practice. Ongoing research in Virginia's coastal plain indicates that a cereal grain crop with 30 plants per square foot of field planted with two tillers per plant (60 tillers per sq. ft.) by December 1 provides the optimum biomass for scavenging excess nitrogen while protecting the soil from erosion.~~

3. Seeding rates shall be adjusted based on germination rates.

~~All seed must be free of prohibited noxious weed seed, have a minimum germination rate of 80%, and have no more than 16 restricted noxious weed seeds per pound. If the grower elects to use home grown seed, it must be tested for purity, germination and noxious weeds prior to seeding by a recognized seed laboratory.~~

5.4. The practice is intended to keep a vegetative cover on cropland, which will help prevent the loss of nutrients by reducing surface erosion and absorbing any excess nutrients from the soil. Current research indicates that early planting of winter rye maximizes the environmental benefit of cover crops in Virginia. This practice is not intended for land already in permanent grass.

6.5.5. —Harvesting for hay, haylage, silage, grain, or seed is permitted after March 14. Pasturing consistent with sound agronomic management is permitted as long as 60% cover is maintained through March 14.

6. Select one of following species and/or mixtures of species to plant in all soils:

Species	bu./acre
Rye (Tetraploid)	2 bu./acre
Winter Rye (not tetraploid)	2 bu./acre
Winter Barley	2 bu./acre
Winter Hardy Oats	2 bu./acre
Winter Wheat or Triticale	2 bu./acre
Winter Annual ryegrass	20 lbs./acre
Small grain mixtures with	1 bu./acre
a) legume† or	10 lbs./acre
b) Diakon (forage or tillage) radish or	6 lb./ acre
c) canola or rape	4 lbs./acre
Diakon (forage or tillage) Radish	6-8 lbs./acre°
mixture with annual rye grass	10 lbs./acre
Winter-hardy <i>Brassica</i> (canola/rape)	5 -7 lbs./acre°
mixture with annual rye grass	10 lbs./acre

† - legume = Crimson Clover, Austrian Winter Pea or Hairy Vetch

°Use higher seeding rates for pure stands and lower seeding rates for mixed species plantings

**Higher seeding rates are recommended for aerial seeding and non-incorporation seeding methods.**

7. Seeding of all seed types must be planted by the dates listed below:

<u>Area</u>	<u>Early Planting Date</u>	<u>Standard Planting Date</u>
<u>Cities of Chesapeake &amp; VA Beach</u>	<u>November 10</u>	<u>November 30</u>
<u>Coastal Plain (including the Eastern Shore)</u>	<u>November 10</u>	<u>November 30</u>
<u>Piedmont</u>	<u>October 25</u>	<u>November 15</u>
<u>Mountain and Valley</u>	<u>October 20</u>	<u>November 10</u>

Area	Early Planting Date	Standard Planting Date
Cities of Chesapeake & VA Beach	November 10	November 30
Coastal Plain (including the Eastern Shore)	October 25	November 15
Piedmont	October 10	November 1
Mountain and Valley	October 5	October 25

8. In all cases, this practice is subject to NRCS Standard 340.
9. Soil loss rates must be computed for all applications.
10. The practice must not be in lifespan from any other conservation program.
11. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised March, 2018

Name of Practice: VOLUNTARY HARVESTABLE COVER CROP  
DCR Specifications for No. VSL-8H

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Harvestable Cover Crop best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice is designed to keep a cover on cropland, which will help ~~prevent the loss of nutrients. The primary purpose is to~~ reduce winter rain and wind ~~generated~~ erosion; ~~a secondary purpose is to~~ and reduce the leaching of nutrients to ground-water. The cover crop may be harvested after of the requirements of this specification have been met.

B. Policies and Specifications

1. Soil loss calculations using the presently approved NRCS calculation methodology shall be documented and included in the participant file for review during ~~verification~~ spot checks.
2. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
3. No nutrients from any sources are allowed between the harvesting of the previous crop and March 1 of the next calendar year, except that use of manure (with less than 40 lb. ~~nitrogen-N~~ per acre tested ~~value~~) on up to 300 acres is permitted if all of the following conditions are met:
  - i. Animals are raised as part of the applicant's operation;<sub>;</sub>
  - ii. Inadequate manure storage is available for the winter;<sub>;</sub>
  - iii. There are no other vegetated acres available to safely utilize the manure;<sub>;</sub> ~~and~~
  - iv. Manure is applied in accordance with a Nutrient Management Plan prepared by a Virginia certified Nutrient Management Planner.
4. No nutrients may be applied at planting.

5. A good stand and good growth of vegetative winter cover must be obtained by December 1<sup>5</sup> to protect the area from nutrient leaching and runoff in the fall and winter; ~~with the exception of the cities of Chesapeake and Virginia Beach that have late November planting dates. All cover crop plantings must maintain a minimum of 60% cover crop plant material on the enrolled acres through the lifespan of the practice. Ongoing research in Virginia's coastal plain indicates that a cereal grain crop with 30 plants per square foot of field planted with two tillers per plant (60 tillers per sq. ft. by December 1 provides the optimum biomass for scavenging excess nitrogen while protecting the soil from erosion).~~
6. The practice is intended to keep a vegetative cover on cropland, which will help prevent the loss of nutrients by reducing surface erosion and absorbing any excess nutrients from the soil. Current research indicates that early planting of winter rye maximizes the environmental benefit of cover crops in Virginia. The VSL-8H is designed to provide year round vegetative cover on as much acreage as possible; it is not intended for commodity purposes. -
7. Harvesting for hay, haylage, silage, grain, or seed is permitted after March 14. Pasturing consistent with sound agronomic management is permitted as long as ~~60%~~ cover is maintained through March 14.
8. Land enrolled in this practice may not be enrolled in another state cover crop practice and may not be converted to or from another cover crop practice.
9. Select one of following species and/or mixtures of species to plant in all soils:

Species	bu./acre
Rye (Tetraploid)	2 bu./acre
Winter Rye (not tetraploid)	2 bu./acre
Winter Barley	2 bu./acre
Winter Hardy Oats	2 bu./acre
Winter Wheat or Triticale	2 bu./acre
Winter Annual ryegrass	20 lbs./acre
Small grain mixtures with	1 bu./acre
a) legume <sup>†</sup> or	10 lbs./acre
b) Diakon (forage or tillage) radish or	6 lb./ acre
c) canola or rape	4 lbs./acre
Diakon (forage or tillage) Radish	6-8 lbs./acre <sup>°</sup>
mixture with annual rye grass	10 lbs./acre
Winter-hardy <i>Brassica</i> (canola/rape)	5 -7 lbs./acre <sup>°</sup>
mixture with annual rye grass	10 lbs./acre

<sup>†</sup> - legume = Crimson Clover, Austrian Winter Pea or Hairy Vetch

<sup>°</sup>Use higher seeding rates for pure stands and lower seeding rates for mixed species

plantings.

**Higher seeding rates are recommended for aerial seeding and non-incorporation seeding methods.**

10. Seeding of all seed types must be planted by the dates listed below:

Area	Early Planting Date	Standard Planting Date
Cities of Chesapeake & VA Beach	November 10	November 30
Coastal Plain (including the Eastern Shore)	October 25	November 15
Piedmont	October 10	November 1
Mountain and Valley	October 5	October 25

<u>Area</u>	<u>Planting Date</u>
<u>Cities of Chesapeake &amp; VA Beach</u>	<u>November 10</u>
<u>Coastal Plain (including the Eastern Shore)</u>	<u>November 10</u>
<u>Piedmont</u>	<u>October 25</u>
<u>Mountain and Valley</u>	<u>October 20</u>

11. ~~All seed must be free of prohibited noxious weed seed, have a minimum germination rate of 80%, and have no more than 16 restricted noxious weed seeds per pound. If the grower elects to use home grown seed, it must be tested for purity, germination and noxious weeds prior to seeding by a recognized seed laboratory. Seeding rates shall be adjusted based on germination rates.~~
12. ~~In all cases, t~~This practice is subject to NRCS Standard 340 as applicable.
13. The cover crop residue may be left on the field for conservation purposes; or the cover crop or its residue may be tilled under; or the cover crop may be harvested after March 14.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~March, 2018~~April 2022



Name of Practice: VOLUNTARY GRAZING LAND MANAGEMENT  
DCR Specification for No. VSL- 9

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Grazing Land Management best management practice, which is applicable to all contracts entered into with respect to this practice.

A. Description and Purpose

This practice establishes a management system that will provide and ensure adequate surface cover protection to minimize soil erosion. The system will reduce sediment, nutrients, and pathogen loads in runoff.

Its purpose is to improve the quantity, quality and utilization of forage for livestock and to reduce the risk of surface and groundwater contamination from non-point source pollution from pastures by assuring that an adequate stand of forage is available to absorb runoff and reduce pollutants.

Pastures are represented by those lands that have been seeded, usually with introduced species (*i.e.*, tall fescue, legumes) or in some cases to native plants (e.g. switchgrass or other native warm season grasses), and which are managed using agronomic practices for livestock.

B. Policies and Specifications

All fields under this practice must have had all livestock previously excluded from all surface waters and sink holes. Any field that is part of a rotational grazing system is eligible. A written Grazing Management Plan and Operation and Maintenance Plan that includes all acres in the grazing system must be prepared and followed in accordance with NRCS Field Office Technical Guide (FOTG).

1. The system developed with this practice must meet the following requirements:
  - i. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

- ii. Maintain adequate nutrient and pH levels to improve or maintain desired forage species composition, plant vigor, and persistence. Lime shall be applied in accordance with soil test recommendations.
2. Location of infrastructure to facilitate grazing management and manure distribution must be conducted in accordance with the following:
  - i. Manage the type and number of livestock, length of grazing period, based on available forage and allowable utilization targets. Manage livestock rotation to new paddock subdivisions to maintain minimum grazing height recommendations and sufficient rest periods for plant recovery according to NRCS Grazing Heights and Rest Guidelines by Forage Table 1 (attached). Size the pasture and subdivisions and manage animal stock densities to minimize grazing periods and maximize manure and urine distribution throughout the pasture.
  - ii. Maintain adequate plant cover of a minimum of 60% year round and pasture stand density to increase rainfall infiltration and decrease runoff from pasturelands for the lifespan of the practice.
  - iii. Locate feeding areas away from sensitive areas such as wetlands, sink holes, streams/creeks, and adjacent drainage swales etc.
  - iv. Manage distribution of nutrients and minimize soil disturbance at hay feeding sites by unrolling hay across the upland landscape throughout the pasture system when soils are well drained by moving hay rings periodically.
  - v. Designate a sacrifice lot/paddock to locate livestock for feeding when adequate forage is not available in the pasture system. A sacrifice lot is used during times of drought or during excessively wet soil conditions over the winter feeding season as a place to feed hay and supplements to livestock until pasture conditions are suitable for grazing or feeding without damaging the soil quality or reducing plant cover. Sacrifice lot/paddock should not drain directly into ponds, creeks or other sensitive areas and should not be more than 10% of the total pasture acreage.
  - vi. Must mow pasture as needed to control woody vegetation and encourage vegetative re-growth.
  - vii. Pastures not meeting minimum 60% year round cover criteria should be replanted in accordance to NRCS Standard 512 ~~Forage and Biomass~~Pasture and Hay Planting. Replanting will be at the participant's expense.
3. This practice is subject to the requirements of NRCS Standards, 512 ~~Pasture and Hay~~Forage and Biomass Planting, 516 Pipeline, 528 Prescribed Grazing, 561 Heavy Use Area Protection, and 614 Watering facilities.
4. Soil loss rates must be computed for all applications.

5. The practice must not be in lifespan from any other conservation program.
6. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised [April, 2022](#)~~March, 2018~~

## **Grazing Height and Rest Guidelines by Forage**

Appropriate grazing and recovery periods allow forages to renew energy reserves, improve plant vigor, maintain or improve plant diversity, and provide long-term persistence of a productive forage stand. The grazing period should be adjusted based on stage of growth or forage height. Rest period between grazing events will vary in length depending on growing conditions and forage recovery.

**Table 1. Guidelines for Grazing Heights and Rest Periods**

Forage Species	Height to Begin Grazing (inches)	Height to End Grazing (inches)	Recovery Time (days) <sup>1</sup>
Tall Fescue	6-8	3-4	14-45
Orchardgrass	8-10	4-5	14-45
Bluegrass	4-6	2	14-45
Reed Canarygrass	10	3-4	14-45
Small Grains (Wheat, Rye, Oats, etc.)	8	2-3	7-15
Annual Ryegrass	6-8	3-4	7-15
Alfalfa	10-16	3-4	14-30 <sup>2</sup>
Sericea lespedeza	8-10	4-6	14-45
Caucasian Bluestem	8-10	3-4	14-45
Bermudagrass	6	2	7-15
Switchgrass	18-24	9-12	30-45
Eastern Gamagrass	18-24	9-12	30-45
Crabgrass	6-8	2-3	14-21
Pearl Millet	18-20	8-12	10-20
Forage Sorghum	20-30	5-7	10-20
Sorghum Sudan Hybrids	20-24	5-7	10-20
Sudangrass	20-24	5-7	10-20

<sup>1</sup>Recovery times are best based on regrowth. If pastures have not regrown, feed hay to animals in a sacrifice area.

<sup>2</sup>Grazing types of alfalfa can sustain with shorter recovery times under optimum growth conditions compared to hay types of alfalfa.

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Name of Practice: VOLUNTARY PERMANENT VEGETATIVE COVER  
ON CRITICAL AREAS  
DCR Specifications for No. VSL-11

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Permanent Vegetative Cover on Critical Areas best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will promote land shaping and planting permanent vegetative cover on critically eroding areas.

The purpose of this practice is to improve water quality by stabilizing soil, thus reducing the movement of sediment and nutrients from the site.

B. Policies and Specifications

1. This practice may include:
  - i. Measures needed to stabilize a source of sediment, such as grading, shaping, and filling;~~7~~
  - ~~ii. The establishment (including minerals) of grasses (including filter strips), trees or shrubs; and similar measures that are determined to be practical for the solution of the problem.~~
  - ii. Permanent fencing needed to protect vegetative cover. If cost-share is provided for permanent fencing, livestock exclusion is required through the lifespan of the practice.
  - iii. Measures that will significantly reduce erosion and maintain or improve the quality of water in a stream, lake, pond, or other water source.
  - iv. Measures performed on public roadsides only where these measures are essential to solve a farm-based pollution or conservation problem.
2. Livestock must be excluded after planting for a minimum of 12 months.
3. Consideration should be given to wildlife and enhancing the appearance of the area when establishing the protective measures.
43. This practice is subject to NRCS Standard 342 Critical Area Planting, 382 Fence, and 484 Mulching.
54. Soil loss rates must be computed for all applications.
65. The practice must not be in lifespan from any other conservation program.
76. All practice components implemented should be maintained for a minimum of

five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

April 2022

~~Revised March, 2016~~ Revised

Name of Practice: VOLUNTARY STREAMBANK STABILIZATION  
DCR Specifications for No. VWP-2A

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Streambank Stabilization best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice promotes protection methods along streams that reduce erosion, sedimentation, and the pollution of water from agricultural non-point sources.

The purpose of this practice is to change land use, provide vegetative stabilization or improve management techniques to more effectively control soil erosion, sedimentation, and nutrient loss from surface runoff to improve water quality.

B. Policies and Specifications

1. This practice may contain:
  - i. Vegetative work. This includes temporary seedings as well as permanent herbaceous, woody, or shrub species.
  - ii. Riprap when it is used to secure the slope's toe only.
  - iii. Structural measures such as gabions, walls or riprap on side slopes, if needed in conjunction with vegetative work.
  - ii. Grading and shaping of the bank to achieve proper slope and seeding conditions.
  - iii. Livestock crossings that retard sedimentation and pollution while providing access to water for livestock. When no other water source is feasible or exists, a controlled hardened access may be used to provide livestock access to water. The installation of livestock crossings and controlled hardened accesses are limited to small streams. Where required, permits must be obtained by the applicant from authorities before the practice will be approved.
  - iv. Stream banks bordering only agricultural and forestal lands. Other lands such as recreational, urban, and built-up or residential lots are not eligible.
2. ~~v.~~ Only freshwater streams are eligible. All appropriate local, state and federal permits must be obtained before cost-share can be authorized.
3. Stream bank stabilization performed under the practice shall be protected from damage by livestock and equipment. For fencing, the VSE-5 Voluntary Stream Exclusion practice must be used.
4. Consideration must be given to wildlife and environmental issues when designing the practice.

5. Soil loss rates must be computed for all applications.
6. The practice must not be in lifespan from any other conservation program.
7. This practice is subject to NRCS Standards: 342 Critical Area Planting, 382 Fence, 472 Use Exclusion, 575 Trails and Walkways, 578 Stream Crossing, 580 Stream Bank and Shoreline Protection, and 612 Tree /Shrub Establishment.
8. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April, 2022~~March, 2016~~



Name of Practice: VOLUNTARY SOD WATERWAY  
DCR Specifications for No. VWP-3

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Sod Waterway practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice creates a natural or constructed waterway, shaped or graded and established in suitable vegetation, to safely convey water across areas of concentrated flow.

Its purpose is to improve water quality by reducing the movement of sediment and nutrients from agricultural non-point sources.

B. Policies and Specifications

1. This practice includes site preparation, grading, shaping, filling, and establishing permanent vegetative cover.
2. Permanent fencing, subsurface drains, or stone lined centers are authorized if necessary for proper functioning of waterways.
3. The cover may consist of sod-forming grasses, legumes, mixtures of grasses and legumes, or other types of vegetative cover that will provide the needed protection from erosion.
4. Livestock must be excluded after planting for a minimum of 12 months.
52. Close-sown small grains, annuals, or mulching may be used for temporary protection if followed by eligible permanent vegetative cover established by seeding or natural re-vegetation.
63. Soil loss rates must be computed for all applications.
47. The practice must not be in lifespan from any other conservation program.
58. This practice is subject to NRCS Standard 342 Critical Area Planting, 382 Fence, 412 Grassed Waterways, 484 Mulching, 606 Subsurface Drain, 620 Underground Outlet. When a subsurface drain is used in conjunction with the practice, a wetlands determination shall be performed prior to installation.
96. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the

practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised [April 2022](#)

Name of Practice: VOLUNTARY ANIMAL WASTE CONTROL FACILITIES  
DCR Specifications for No. VWP-4

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Animal Waste Control Facilities best management practice which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice establishes a planned system designed to manage liquid and/or solid waste from areas where livestock and poultry are concentrated. This practice is designed to provide facilities for the storage and handling of livestock and poultry waste and the control of surface runoff water to permit the recycling of animal waste onto the land in a way that will abate pollution that would otherwise result from existing livestock or poultry operations.

Its purpose is to improve water quality by storing and spreading waste at the proper time, rate and location, and/or to control erosion and nutrient input caused by ~~winter~~-feeding operations located adjacent to riparian areas or other environmentally sensitive features.

B. Policies and Specifications

1. This practice may contain animal waste storage facilities, such as dry stacking, dry stacking storage, aerobic or anaerobic lagoons, liquid manure tanks, holding ponds, collection basins, settling basins, and similar facilities, as well as diversions, channels, waterways, designed filter strips, outlet structures, piping, land shaping, and similar measures needed as part of a system on the farm to manage animal wastes.
  - i. Fencing and vegetative cover (including mulching needed to protect the facility). Fencing can be included for livestock exclusion from live and intermittent streams in concentrated holding and winter-feeding areas.
  - ii. Leveling and filling to permit the installation of an effective system.
2. Animal waste facilities must meet local or state regulations.
3. Design storage capacity of animal waste facilities should be coordinated with the Nutrient Management Plan so that adequate storage capacity is installed for the specific cropping system.
4. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set

forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

5. A manure test for nutrient analysis is required.
4. All appropriate local and state permits must be obtained.
5. The practice must not be in lifespan from any other conservation program.
6. This practice is subject to a Comprehensive Nutrient Management Plan (CNMP), which includes NRCS Standards 313 Waste Storage Structure, 316 Animal Mortality Facility, 342 Critical Area Planting, 359 Waste Treatment Lagoon, 362 Diversion, 367 Roofs and Covers, 412 Grassed Waterway, 558 Roof Run Off Management, 561 Heavy Use Protection, 575 Trails and Walkways, 620 Underground Outlet, 633 Waste Recycling and 634 Waste Transfer.
7. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised April 2022

Name of Practice: VOLUNTARY DAIRY LOAFING LOT MANAGEMENT SYSTEM  
DCR Specifications for No. VWP-4B

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Dairy Loafing Lot Management System best management practice which are applicable to all contracts entered into with respect to that practice.

A. Purpose and Description

This practice ~~prevents~~ is designed to prevent those areas exposed to heavy livestock traffic on dairy operations from experiencing excessive manure and soil losses due to the destruction of ground cover. Unimproved loafing lots that are used for dairy herd exercise and loafing are usually denuded of vegetation and harbor undesirable plants.

The intent of this practice is to prevent manure and sediment runoff from entering watercourses and sensitive karst areas and to capture a portion of the manure as a resource for other uses such as crop fertilizer. This is accomplished by dividing the area into lots. The dairy cattle are rotated from lot to lot as is necessary to maintain a vegetative cover. One lot is designated as a sacrifice area for use in periods of wet weather. This practice is for dairy cattle only.

B. Policies and Specifications

1. A management plan and practice design is to be developed with consultation from a qualified consultant, VCE, NRCS and/or the District.
2. A minimum of three grassed loafing paddocks are required. Each grassed loafing paddock will be sized based on soil type, topography and herd size, not to exceed a stocking rate of twenty cattle (1,000 lb. ~~average~~ EAU) per acre and be maintained in permanent forage.
3. Concrete walkway(s) with curbing or other hardened walkway(s) may be installed ~~———~~ to facilitate herd movement from the barn to the loafing lots. Crusher run is not an acceptable surface material. Slope ~~is to~~ shall be no ~~—~~ greater than 8%. See VCE publication on installing dairy lanes.
4. A sacrifice area is required unless adequate housing facilities are available (e.g. free stall barns).
  - i. Sacrifice area (if needed) must be scraped periodically.
  - ii. The sacrifice area should ~~not~~ be sized ~~to exceed~~ between 600 ~~to and~~ 650 square feet per animal (1,000 lb. equivalent). It should be sloped between 1% minimum to 8% maximum.
  - iii. Divert surface water away from the sacrifice area.
  - iv. Provide filter strip per NRCS Standard 393 to filter runoff from the sacrifice area.

5. In order for the forage to take up nutrients such as ~~n~~Nitrogen it must be managed for growth and harvested for hay when possible. Dry cows or other grazers can be used to remove forage growth.
6. Critical eroding and sensitive areas will be fenced out and permanent cover established.
7. If a sacrifice lot is impractical due soil and/or topographical conditions, a loose housing structure may be substituted for the sacrifice lot:
  - i. All other potential more cost-effective approaches to reducing the water quality impact from the unimproved loafing lot must have been explored and rejected due to economic inefficiency or lack of space for relocation before constructing a loose housing structure.
  - ii. General Design guidelines for Loose Housing Structures
    - a) Bedded pack space requirements:
      - 60 sq. ft. per heifer minimum
      - 100 sq. ft. per lactating cow minimum
      - 120 sq. ft. per dry cow
    - b) If the loose housing structure is to have a roof, wind and snow loads shall be as specified in NRCS 367 Roofs and Covers or ASAE EP288.5 Agricultural Building Snow and Wind Loads. A Professional Engineer shall certify roof designs. If the facility is to serve as part of a foundation or support for a building, the total load shall be considered in the structural design.
- ~~i. If a sacrifice lot is impractical due soil and/or topographical conditions, a loose housing structure may be substituted for the sacrifice lot.~~
- ~~ii. General design guidelines for loose housing structures:~~
  - ~~a) Bedded pack space requirements:~~
    - ~~• 60 sq. ft. per heifer minimum~~
    - ~~• 100 sq. ft. per lactating cow minimum~~
    - ~~• 120 sq. ft. per dry cow~~

87. A Nutrient Management Plan developed in accordance with requirements for Nutrient Management Plan content and procedures, as stipulated in the Virginia Nutrient Management Training and Certification Regulations, is required for either land application or a planned waste management system for any other uses of manure produced. The Nutrient Management Plan should address all the acreage that the participant farms onto which manure from the loafing lot system will be applied. The Nutrient Management Plan should be implemented and maintained for the life of the practice. Storage capacity of animal waste facilities should be coordinated with the Nutrient Management Plan so that adequate storage capacity is installed for the specific cropping system.

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9. If a loose housing structure is included as part of the practice, manure storage associated with the manure collection area of the feed lane should be considered as an eligible component of the practice. When a feed lane is utilized, manure storage shall be sized based upon livestock time at feed bunks, up to six (6) months storage of existing need.

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10. Soil loss rates must be computed for all applications.

118. The practice must not be in lifespan from any other conservation program.

129. For structural design specifications for loose housing structures, refer to NRCS Standard 313 Waste Storage Facility, 342 Critical Area Planting, 362 Diversion, 367 Roofs and Covers, 516 Livestock Pipeline, 533 Pumping Plant, 558 Roof Runoff Structure, 561 Heavy Use Area Protection, 574 Spring Development, 575 Trails and Walkways, 614 Watering Facility, 620 Underground Outlet, 633 Waste Recycling, 634 Waste Transfer and 642 Water Well.

103. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. This practice is subject to ~~spot~~ check verifications by the District throughout the lifespan of the practice.

141. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

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C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~March,~~  
~~2018~~ April 2022



Name of Practice: VOLUNTARY COMPOSTER FACILITIES  
DCR Specifications for No. VWP-4C

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Composting Facilities best management practice which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice creates a planned system designed to manage treatment and disposal of poultry and swine carcasses resulting from normal mortality to improve water quality by composting carcasses and spreading the composted material at the proper time, rate, and location.

B. Policies and Specifications

1. This practice is designed to provide facilities for composting poultry and swine carcasses from normal mortality, storage of raw materials necessary for composting, storage of the composted end product, and the recycling of composted carcasses by land applying the end product in a manner that will abate pollution that would otherwise result from existing disposal methods for normal poultry and swine mortality carcasses.

All applicants must have:

- i. A written oOperation and mManagement pPlan for each composting structure.
- ii. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained on which the field that this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
- iii. A manure test for the composted end product for nutrient analysis and, if applicable, a separate test for any other land applied animal wastes (once during the first twelve months of operation of the structure).
- iv. A thermometer of suitable design, which permits temperature monitoring through the depth of the composting material within a bin or cell. During the composting process, temperatures must be achieved that are adequate to kill known pathogens.

- v. For composting swine mortality, one of the following high-carbon bulking agents for mortality coverage must be used:
    - a. Sawdust or fine wood chips obtained from a sawmill or other wood processing facility.
    - b. Ginning trash obtained from cotton gins.
    - c. Chopped straw or chopped cornstalks.
    - d. Other organic materials as recommended by technical composting publications, including Virginia Cooperative Extension “Composting for Mortality Disposal on Hog Farms” publication 414-020 (Virginia Tech., 2003); Arkansas Cooperative Extension Service “Disposal of Swine Carcasses in Arkansas” publication MP392 (Univ. of Arkansas, 1997); Missouri Cooperative Extension Service “Composting Dead Swine” publication WQ225 (Univ. of Missouri, 1994).
- 2. This practice may include:
  - i. Composting facilities, which are free standing or attached to a dry waste stacking facility. Constructed composting facilities may also be housed within dry waste stacking facilities when housing the composting facilities does not interfere with the waste storage and management of stacking facilities.
  - ii. Prefabricated composting facilities, including drum composting facilities.
- 3. All appropriate local and state permits must be obtained before cost-share payments are authorized.
- 4. The practice must not be in lifespan from any other conservation program.
- 54. This practice is subject to NRCS Standards 313 Waste Storage Facility, 316 Animal Mortality Facility, 317 Composting Facility, 362 Diversion, 367 Roofs and Covers, 382 Fence, 558 Roof Runoff Structure, 561 Heavy Use Area, 620 Underground Outlet, 633 Waste Recycling, and 634 Waste Transfer.
- 65. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check

procedures and any other quality control measures.

Revised ~~March, 2018~~April 2022

Name of Practice: VOLUNTARY ANIMAL MORTALITY INCINERATOR FACILITIES  
DCR Specifications for No. VWP-4F

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Animal Mortality Incinerator Facility best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice creates a planned mortality incineration system that will dispose of poultry and livestock carcasses resulting ~~from other than catastrophic disease~~ normal mortality.

B. Policies and Specifications

1. This practice directs implementation of an incineration facility to protect and improve water quality. This practice encourages better mortality and nutrient management by incinerating poultry and livestock carcasses that have resulted from normal mortality and spreading or properly disposing of the residual material at the proper time, rate, and location.
2. This practice is to provide facilities for incinerating poultry and livestock carcasses from normal mortality. Incinerators must be sized to accommodate normally expected mortality from the existing operation and may not consider future expansion of the operation.
3. All applicants must have:
  - i. A written Operation and Management Plan for each incineration facility.
  - ii. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must be in accordance with requirements for Nutrient Management Plan content and procedures as stipulated in the Virginia Nutrient Management Training and Certification Regulations for animal wastes which are land applied. The Nutrient Management Plan shall be implemented and maintained for the life of the practice.
  - ~~ii. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia-certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).~~
  - iii. A method of disposal of the residual from the incineration facility that does not increase non-point source contamination of state waters if a Nutrient Management Plan is not required for that residual.

4. Compliance with all appropriate local and state laws, regulations and zoning ordinances is required before cost-share payments are issued. This includes, but is not limited to, acquisition of permits and completion of inspections as required.
5. ~~5.~~—The practice must not be in lifespan from any other conservation program.
6. Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field upon which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District before any cost-share payment is made to the participant. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
7. This practice is subject to the NRCS Standards 316 Animal Mortality Facility, 317 Composting Facility, 367 Roofs and Covers, 558 Roof Runoff Structure, 620 Underground Outlet, 633 Waste Utilization and 634 Waste Transfer.
8. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~April, 2022~~ March, 2018

Name of Practice: VOLUNTARY SURFACE WATER RUNOFF IMPOUNDMENT FOR  
WATER QUALITY  
DCR Specification for No. VWP-7

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Agricultural Surface Water Runoff Impoundment for Water Quality, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will promote structures that will impound surface water runoff and allow sediment and nutrients to settle.

~~The purpose of the practice is to improve water quality by impounding surface water and allowing sediments and nutrients to settle out.~~

B. Policies and Specifications

1. This practice is subject to NRCS Standards 378 Pond, 393 Filter Strip, 362 Diversion, 350 Sediment Basin, and 342 Critical Area Planting, 472 Use Exclusion.
2. Soil loss rates must be computed for all applications.
3. The practice must not be in lifespan from any other conservation program.
4. All practice components implemented should be maintained for a minimum of ~~five~~<sup>ed</sup> years following the calendar year of installation. This practice is subject to spot check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~April, 2022~~<sup>March, 2016</sup>

Name of Practice: VOLUNTARY RIPARIAN GRASS FILTER STRIPS  
DCR Specification No. VWQ-1

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary RIparian Grass Filter Strip best management practice, ~~that~~ which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

RIparian Grass filter strips are vegetative buffers that are located along the banks of water courses to filter runoff, anchor soil particles, and protect banks against scour and erosion. Even the best conservation measures on a farm allow some soil movement during heavy rains. Filter strips are the stream's last line of defense against pollution. Since filter strips trap eroded soil, they help keep sediment out of streams. The strips also improve water quality by filtering out fertilizers, pesticides, and microorganisms that otherwise might reach waterways. In addition, riparian grass filter strips along streams serve as environmental corridors. They provide valuable food, cover, and travel ways for some wildlife species. As a result, they permit a greater diversity of wildlife, which, in turn, contributes to a more stable environment. Also, these living filters are also aesthetically pleasing.

This practice will document riparian grass filter strips that are located adjacent to cropland ~~and permanent hayland~~ or animal holding areas.

B. Policies and Specifications

1. RIparian Grass filter strips shall be designed and installed to filter sheet flow, rather than concentrated flow. If concentrated flow will occur, land smoothing or the use of some other BMP or combination of BMPs may be required (such as grassed waterways and structures for water control).
2. Filter strips must be a minimum 35' in width.
3. RIparian grass ~~f~~Filter strips must be located within 100' ~~feet~~ of a perennial or intermittent waterway, open sinkhole, abandoned well or Chesapeake Bay Preservation Act Resource Protection Area, as defined by local ordinance. An intermittent waterway is considered as being, but not limited to, any channel or flood prone area where periodic water flow or storage is diverted by surface drainage. RIparian grass filter strips may be installed along intermittent waterways where judged appropriate and feasible by the local technical authority.
4. All trees, stumps, brush, rocks and similar materials that may interfere with installing the filter strip should be removed. The materials should be disposed of in a manner that will not degrade the quality of the environment or interfere with the

proper functioning of the filter strip.

~~4.~~

5. No-till planting is preferable. If grading is necessary, conventional equipment can be used for preparing the seedbed, fertilizing and maintenance.

6. Lime and fertilize shall be applied according to soil test to assure proper establishment. Established filter strips shall not receive any applications of nitrogen or phosphorus.

~~7. Hayland is considered cropland if it is in rotation with row crops during the five year life span of the grass filter strip.~~

~~8-7.~~ Soil loss rates must be computed for all applications.

~~9-8.~~ The practice must not be in lifespan from any other conservation program.

~~10-9.~~ Select an appropriate planting mix for filtering runoff and protecting water quality from the NRCS Plant Establishment Guide for Virginia.

~~11-10.~~ Maintenance

- i. In cropland, a vegetative filter strip should be maintained on each side of the watercourse. The buffer must be maintained as perennial species for the practice lifespan.
- ii. Protect the filter strip from damage by livestock. Grazing (including flash grazing) and haying are not allowed in the protected riparian area during the lifespan of this practice.
- iii. Do not use as a roadway.
- iv. Avoid operations that leave tillage or wheel marks.
- v. Woody stems should not be allowed to exceed two inches in diameter.
- vi. Avoid damaging filter area with herbicides.
- vii. Hay may be harvested from grass filter strips.

~~12-11.~~ Filter strips planned for runoff from concentrated livestock areas or controlled overland flows for the treatment of liquid wastes are subject to NRCS Specification 393 Filter Strip. This practices subject to NRCS Standards 393 Filter Strip, 466 Land Smoothing, and 572 Spoil Spreading and Leveling.

~~13-12.~~ All practice components, including the vegetative cover implemented, should be maintained for a minimum of five years following the calendar year of installation. The lifespan begins on Jan. 1 of the calendar year following the year of certification of completion. This practice is subject to spot check by the District throughout the lifespan of the practice.



~~14.13.~~ Producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~March, 2018~~ April, 2022

## METHOD OF CALCULATING EROSION REDUCTION FOR FILTER STRIP (VWQ-1)

The effectiveness of vegetative filter strip is directly related to a variety of site-specific conditions. Except for the actual area of grass vegetation, filter strips do not reduce active erosion in the contributing field, but only trap a percentage of the delivered sediment passing through this grass vegetation. Not all of the sediment that occurs in the field reaches the filter strip. For these reasons, the effectiveness of a filter strip must take into account sediment delivery and trapping efficiency in the calculation of water quality benefits.

Step 1: Determine size of filter strip and erosion rate.

- a. Determine the length (lfs) and width (ft) for calculating the area (acres) of the filter strip. Acres will be the extent technically authorized.
- b. Using RUSLE2, determine soil loss occurring in the field. Place this erosion rate in under the Sheet and Rill (tons/ac/yr) erosion reduction field in the Tracking Program

Step 2: Determine trapping efficiency of the filter area.

- a. Determine the amount of delivered sediment to the filter strip by calculating the effective length of slope of the contributing field to the filter area. Maximum length allowed is 400 feet. Multiply the length of the filter strip (lfs) from Step 1 times the length of slope. Divide this number by 43,560 sq. ft. /acre to determine the contributing acreage.

$$\frac{\text{Length of Filter Strip} \times \text{Length of Slope}}{43,560}$$

Next, the contributing acreage is multiplied by the soil loss rate occurring on the field (previously calculated in Step #1) times a sediment delivery ratio (SDR) occurring in the field itself. Assume a SDR of 0.5.

$$\text{Area} \times \text{Erosion Rate} \times \text{SDR} = \text{Delivered Sediment Load}$$

- b. Determine the amount trapped by multiplying the delivered sediment load times the trapping coefficient of the vegetation.

$$\text{Sediment Load} \times \text{Trapping Coefficient} = \text{Sediment Trapped}$$

Use one of the following coefficients for your calculations:

<u>Strip Width</u>	<u>Coefficient</u>
35'	0.35
50'	0.50
100'	0.75

This trapping efficiency expressed in tons/year is placed in under Gross Erosion Reduction in tons/yr. field of the Tracking Program.

Example: 1,000-foot filter strip is planned for a 50-acre field; the slope length of the contributing area is approximately 250 feet. US soil loss rate is approximately 6 tons/ac./year. The filter strip itself is 50' wide.

Step 1: Size of filter area is to be placed in Extent Requested - 1.15 acres.

Erosion rate of 6 tons/ac/year to be placed in Sheet & Rill Reduction.

Step 2: Trapping efficiency

a. Delivered Sediment

$$\frac{\text{Length of filter strip (1,000)} \times \text{Length of Slope (250)}}{43,560}$$

$$\frac{1,000 \times 250}{43,560} = 5.7 \text{ acres of contributing field}$$

Area (5.7 ac) x Erosion Rate (6 tons/ac/yr) x SDR (0.5)

$$5.7 \times 6 \times 0.5 = \text{Delivered Sediment Load of 17.1}$$

b. Trapping coefficient

$$\text{Sediment Load (17.1)} \times \text{Trapping Coefficient (0.5)} = 8.55$$

Round 8.55 up to 9 and place under Gross Erosion Reduction.

Name of Practice: VOLUNTARY IRRIGATION WATER RECYCLING SYSTEM  
DCR Specification for No. VWQ-7

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation's Voluntary Irrigation Water Recycling System best management practice, which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice establishes a system ~~of practices designed~~ to distribute, collect, and reuse irrigation water and surface runoff from agricultural fields involved in the production of vegetable and horticultural crops.

The purpose is to improve water quality by collecting and reusing irrigation and surface runoff, which may be high in nutrients, sediments, or pesticides from a variety of vegetable and horticultural crops that were grown using plastic, synthetic fiber mulches, and/or impervious surfaces.

B. Policies and Specifications

1. An annual water test is required of the applicant for the lifespan of the practice. Minimum requirements are to test for nitrogen (nitrate and nitrite), phosphorous, and the specific chemicals used in the operation.
2. The volume of water applied through the irrigation system must be calculated and documented as part of the Irrigation Water Management practices that is required for every system.
3. Soil loss rates must be computed for all applications.
4. The practice must not be in lifespan from any other conservation program.
5. This practice is subject to NRCS Standards 342 Critical Area Planting, 350 Sediment Basin, 356 Dike, 362 Diversion, 393 Filter Strip, 410 Grade Stabilization Structure, 412 Grassed Waterway, 436 Irrigation Storage Reservoir, 449 Irrigation Water Management, 430 Irrigation Pipeline, 436 Irrigation Storage Reservoir, 441 Irrigation System, Micro-Irrigation, 442 Irrigation System Sprinkler, 466 Land Smoothing, 447 Irrigation Systems Tail water Recovery, 468 Lined Waterway or Outlet, 533 Pumping Plant, 552 Irrigation Regulating Reservoir, 572 Spoil Spreading, 582 Open Channel, 607 Surface Drainage, Field Ditch, 608 Surface Drainage, Main or Lateral, 620 Underground Outlet, and 638 Water and Sediment Control Basin.
6. All practice components implemented should be maintained for a minimum of five years following the calendar year of installation. This practice is subject to spot

check by the District throughout the lifespan of the practice.

C. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

Revised ~~March, 2016~~ April, 2022