

Virginia Stormwater Management Handbook, Version 1.1

Revisions from Version 1.0 of the Virginia Stormwater Management Handbook (Handbook) are summarized below with strikethrough (to indicate deleted text) and underline (to indicate new text). Text in brackets [] and *italics* explains revisions and, in some cases, includes strikethrough and underline text to show specific revisions.

| <u>Section</u> | <u>Revision/Change</u> |
|----------------------------|--|
| Acronyms and Abbreviations | DCR Department of Conservation and Recreation [<i>duplicate definition; retained</i> and " <i>DCR Virginia Department of Conservation and Recreation</i> " and " <i>VDCR ...</i> " since both are used in the Handbook] |
| | ESCL Erosion and Sediment Control Law <u>for Localities Not Administering a Virginia Erosion and Stormwater Management Program</u> [<i>clarifies name of Article 2.4 of the State Water Control Law, as effective July 1, 2024</i>] Regulation <u>Virginia Erosion and Stormwater Management Regulation, 9 VAC 25-875</u> [<i>clarifies the meaning and use of the term "Regulation"</i>] |
| 1.1.3 | Virginia Erosion and Stormwater Management Regulation, 9VAC25-875-10 et seq; <u>Chesapeake Bay Preservation Act, §§ 62.1-44.15:67 through 62.1-44.15:79 of the Code of Virginia</u> ; and Other associated state or federal regulations ... [<i>adds the Chesapeake Bay Preservation Act to the list of laws addressed in the Handbook</i>] |
| 1.4.1 | Process to Develop the Handbook. VDEQ used the used the following "Plan, Do, Check, Adjust" project management cycle, ... [<i>delete duplicate text</i>] |
| 2.1.1 | As a developer or designer, you are probably reading this Handbook because you are working on a development that <u>is or may be</u> subject to regulation [<i>removed link</i>] under a state or locally administered program ... |
| 2.1.1.1 | In <u>the Virginia Erosion and Stormwater Management Act and the Virginia Erosion and Stormwater Management Regulation</u> , state law and regulation , "stormwater" means ... |
| 2.1.3.2.4 | Flooding Impacts [<i>moved text related to flooding impacts, which had been included under "Biological Impacts," to its own section and re-numbered the remaining sections</i>] |
| 2.1.3.2.5 | In-Stream Habitats [<i>this had been numbered as 2.1.3.2.4</i>] |
| 2.1.3.2.6 | Biological Impacts [<i>this had been numbered as 2.1.3.2.5</i>] |
| 2.1.3.2.7 | Infrastructure Impacts [<i>this had been numbered as 2.1.3.2.6</i>] |
| 3.2 | Chapters 758 and 68 of the 2016 Acts of Assembly combine the stormwater management requirements in the Stormwater Management Act and erosion and |

sediment control requirements in the Erosion and Sediment Control Law (~~ESCL~~) to create the Virginia Erosion and Stormwater Management Act (VESMA) ... Localities that administer a VESCP are subject to the Erosion and Sediment Control Law ~~ESCL~~ for Localities Not Administering a Virginia Erosion and Stormwater Management Program (ESCL), which is the amended version of the Erosion and Sediment Control Law. The ESCL establishes a program for the effective control of soil erosion, sediment deposition, and nonagricultural runoff to prevent the unreasonable degradation of properties, stream channels, waters, and other natural resources. [*clarifies use of the acronym ESCL and adds broad overview of the ESCL as amended*]

3.3 Part VI. Standards and Specifications Program ...

In addition, persons engaging in more than one jurisdiction in the creation and operation of a wetland mitigation or stream restoration bank that has been approved and is operated in accordance with applicable federal and state guidance, laws, or regulations for the establishment, use, and operation of a wetlands mitigation or stream restoration bank, pursuant to a mitigation banking instrument signed by the VDEQ, VMRC, or U.S. Army Corps of Engineers, may submit standards and specifications for VDEQ approval. [*added wetland mitigation or stream restoration bank*]

3.4.1 Dam Safety Act, §§ 10.1-604.1 through 10.1-613.6 of the Code of Virginia, and the Impounding Structure Regulations (4VAC50-20-10 et seq.), which are promulgated by the Virginia Soil and Water Conservation Board and administered by the Virginia Department of Conservation and Recreation (VDCR); ...

Although agency guidance is not enforceable (i.e., it is not a state “requirement”), guidance documents issued by VDEQ and other agencies which affect permittees’ stormwater compliance strategies provide information about the application of, and compliance with, state requirements and often affect permittees’ stormwater compliance strategies. The documents and memoranda on the Virginia Regulatory Town Hall (<https://www.townhall.virginia.gov/>) and VDEQ’s webpage, including this Handbook, interpret existing regulations. Applicable content from previously issued guidance memos related to the VSMP and Erosion and Sediment Control regulations (which were repealed effective July 1, 2024) ~~and their content~~ has been incorporated into this Handbook. [*moved the point to the end of the list and revised to clarify that guidance is not a “state requirement”*]

4.2 As an applicant implementing a project that is potentially regulated under Virginia Erosion and Stormwater Management Act (VESMA, §§ 62.1-44.15:24 through 62.1-44.15:50 of the Code of Virginia) and Virginia Erosion and Stormwater Management Regulation (~~Regulation~~, 9VAC25-875-10 through 9VAC25-875-1420), ... [*moved linked text so that it is with the citation*]

- 4.2.5 For any solar project with a rated electrical generation capacity exceeding five megawatts, per § 62.1-44.15:55.1 of the Code of Virginia, ...
- 4.2.7 *[Revised the first two paragraphs of this section as follows for consistency with the language in 9VAC25-875:]*
 When LDAs are subject to the jurisdiction of multiple VESMP or VESCP authorities, ~~one or all of the authorities may enter into an agreement with VDEQ to provide review of the erosion control and/or stormwater management plan. If VDEQ conducts the review, a fee may be charged to the jurisdiction(s) requesting the review.~~

~~Alternatively, for LDAs within multiple VESMP or VESCP jurisdictions,~~ a program authority may enter into an agreement with an adjacent program authority regarding all or part of the project’s administrative procedures. Should adjacent program authorities fail to reach an agreement, each program authority is responsible for the portion of the multi-jurisdictional project that lies within its own jurisdiction...
- 4.2.8 Section 62.1-44.15:31 of the Code of Virginia allows state agencies, federal entities, and other specified entities to submit standards and specifications for land-disturbing activities. There are three categories of entities: state agencies and federal entities; linear utilities and linear projects; and certain wetland mitigation or stream restoration bank projects. Each is described below. ...

Any person engaging in more than one jurisdiction in the creation and operation of a wetland mitigation or stream restoration bank that has been approved and is operated in accordance with applicable federal and state guidance, laws, or regulations for the establishment, use, and operation of (i) a wetlands mitigation or stream restoration bank, pursuant to a mitigation banking instrument signed by the VDEQ, the VMRC, or the USACE, or (ii) a stream restoration project for purposes of reducing nutrients or sediment entering state waters may submit standards and specifications for VDEQ approval that describe how land-disturbing activities shall be conducted. *[deleted duplicate subsection header (Projects Subject to an Approved S&S Program), inserted 1st paragraph to tie section to state law, inserted 4th paragraph to include wetland mitigation and stream restoration banks, and corrected url to the list of S&S holders]*
- 4.2.8 During construction of the stormwater management facilities, VDEQ is required to make inspections on a random basis (9VAC25-875-~~590~~790).
- 4.3.1 Removed duplicate header
- 4.3.2.6.1 *[Changed “ESC measures,” “ESC structures,” and “ESC practices” to “construction BMPs” (and “SWM practices” to “post-construction BMPs”) to be consistent with terminology in the Handbook (see 1.2.2)]*

- 4.3.2.7.1 [Changed “SWM facilities” to “post-construction BMPs” to be consistent with terminology in the Handbook (see above); added link for “Regulation”]
- 4.3.2.7.2 [Added link for “Regulation”]
- 4.3.3.1.2 Added the link to the Plan Review Checklist at the end the Section: The Plan Submission Checklist is posted on the VDEQ website at: <https://www.deq.virginia.gov/home/showpublisheddocument/21238/638344464313170000>.
- 4.3.3.1.3 [Added citation to § 62.1-44.15:34]
- 4.4 ... Depending on the projected area for LDA, an ESC Plan may need to be reviewed and approved by the VESCP authority; the SWM plan may need to be reviewed and approved; and submission of a registration statement and obtaining ~~for~~ coverage under the CGP may be necessary. (See 9VAC25-875-530.) [Clarify permit requirements]
- 4.4.1.4 The Regulation (see 9VAC25-875-500 G) and the CGP (see 9VAC25-880-70 Part II C) require ...
- 4.4.1.5 [Removed link to CGP Regulation in the last sentence of the 3rd paragraph b/c link was going to the VESM Regulation]
- 4.4.2.2 Construction must always remain in compliance with the CGP. For the owner/operator, this includes verifying that ~~ESC and SWM measures~~ construction and post-construction BMPs are in place, ...
- 4.4.3 [Changed “ESC measures” to “construction BMPs” and revised 2nd paragraph for consistency with Handbook terminology]
- 4.4.3.3 [Changed “erosion control measures” to “construction BMPs” for consistency with Handbook terminology]
- 4.4.3.5 Once construction on a project is complete, the ~~permanent SWM measures~~ post-construction BMPs (SWM facilities) must be maintained. (9VAC25-875-535) Inspections and maintenance can ensure that a facility is operating as intended. Specific procedures for long-term maintenance and compliance with the requirements in the Regulation are covered in greater detail in Chapter 10...
For state and federal land-disturbing activities, ~~9VAC25-875-590~~790 establishes responsibility...
- 5.1 ...~~A VESMP or VSMP only applies to the following regulated LDAs:~~ The following regulated LDAs are subject to different technical criteria depending on the amount of disturbance and location in the State:
Those that disturb ~~occupy~~ a surface area greater than or equal to 10,000 square feet;

Those that ~~disturb~~ ~~occupy~~ a surface area greater than or equal to 1 acre;

Those that are part of a larger common plan of development or sale that is greater than or equal to 1 acre;

Those that ~~disturb~~ ~~occupy~~ a surface area greater than or equal to 2,500 square feet in a Chesapeake Bay Preservation Area (CBPA); and

Those disturbances ~~areas~~ that are subject to more stringent requirements established by the local VESMP or VESCP Authority...

Where CGP coverage is required, an owner or operator must complete a Registration Statement, ~~and~~ submit it to the VESMP or VSMP authority, and obtain coverage before starting land disturbance. [*revisions clarify requirements*]

5.1.3 Virginia ~~L~~-laws

5.1.4 [*added links for ESCL, Regulation, and VESMA*];

The following activities are exempt from the VESMA and Regulation, but may be regulated by other agencies or regulations: ...

~~Cleaning~~ Clearing of lands...

[*added 62.1-44.15:34 G which includes "routine maintenance"*]

5.1.5 [*Changes to clarify information about land-disturbing activities in areas subject to the Chesapeake Bay Preservation Act, added the names of the cities and counties that are in "Tidewater Virginia"*]

5.1.6 A stormwater discharge associated with a small construction activity (as defined in 9VAC25-875-20) of a single-family ~~Single-family~~ detached residential structures, within or outside a common plan of development or sale, is authorized to discharge under the Construction General Permit, 9VAC25-880-70, and shall comply with the requirements contained in the general permit and Regulation (9VAC25-875), including the ~~that is are not in a the CBPA is are regulated under the CGP as a regulated LDA and subject to MS-19 requirements (Section 5.3). Generally, this means construction of a single-family detached residential structure when the if the following is true:~~

Project disturbs greater than or equal to 1 acre of land and less than 5 acres or, if less than one acre, is part of a common plan of development or sale.

If the project disturbs 10,000 square feet or more, but less than one acre, ~~if and is~~ not part of a larger common plan of development or sale, it is subject to MS-19 requirements, but no registration statement is required under the CGP. [*makes requirements for single-family detached residential structures consistent with amendment to the 2024 CGP; deleted paragraph*]

~~Localities subject to the provisions of the Chesapeake Bay Preservation Act CBPA may regulate single family residences separately built and disturbing less than 1 acre where land disturbance exceeds 2,500 square feet (§ 62.1-44.15:34). After June 30, 2014, land disturbance equal to or greater than 2,500 square feet but less than one acre in a CBPA area shall not require CGP coverage, unless a part of a common plan of development or sale. For land-disturbing activities for single-family detached residential structures in an area designated as a CBPA subject to the Chesapeake Bay Preservation Act, soil erosion control and water quantity technical criteria shall apply to any land-disturbing activity that disturbs 2,500 square feet or more of land, and the locality also may require compliance with the water quality technical criteria. In addition, the governing body of any affected locality may reduce this regulatory threshold to a smaller area of disturbed land. § 62.1-44.15:34 E of the Code of Virginia. [revised to be consistent with the VESMA as cited]~~

Agreement In-Lieu-Of a Stormwater Management Plan (§§ 62.1-44.15:24 and 62.1-44.15:34)

5.1.7 [added new subsection] Wetland and Stream Restoration and Reforestation

Section 640 of the VESM Regulation, 9VAC25-875-640, establishes the requirement that linear development projects control post-development stormwater runoff in accordance with a site-specific stormwater management plan or a comprehensive watershed stormwater management plan. “Linear development projects” are defined as “land-disturbing activity that is linear in nature, such as but not limited to (i) the construction of electric and telephone utility lines and natural gas pipelines; (ii) construction of tracks, rights-of-way, bridges, communication facilities, and other related structures of a railroad company; (iii) highway construction projects; (iv) construction of stormwater channels and stream restoration activities; and (v) water and sewer lines.” 9VAC25-875-20.

However, the VESM Regulation does not include specific requirements or considerations for different types of linear development projects or distinguish between typical land development projects (i.e., utility construction, railroad projects, highways) and the creation/restoration of wetlands or mitigation banks. Nor does the VESM Regulation address reforestation for the purpose developing a nutrient bank in accordance with the Certification of Nonpoint Source Nutrient Credits, 9VAC25-900.

VDEQ acknowledges that the construction of these projects may change the predevelopment runoff characteristics of the land surface after the completion of construction in the post-development condition. In addition, these projects improve water quality benefits and they do not generate increased rates or volumes of runoff after construction. Thus, notwithstanding any other provision of the VESMA, when DEQ is acting as the VSMP authority, for permitting

purposes, the following activities will need to comply with the soil erosion control requirements in Article 2 of Part V of the VESM Regulation (9VAC25-875-540 et seq.), but do not need to meet the water quantity and water quality technical criteria (Article 3 of Part V, 9VAC25-875-570 et seq.), unless otherwise required by federal law:

- Wetland and stream restoration performed for permittee responsible mitigation (PRM);
- Wetland and stream restoration performed for a permitted municipal separate storm sewer system (MS4) to meet their MS4 permit nutrient reductions;
- In-lieu fee (ILF) mitigation programs, and mitigation banks as defined under 9VAC25-900-10¹; and
- Afforestation for nutrient banks or any purpose.

For afforestation projects, the soil erosion control should include a tree planting plan prepared and/or reviewed by a person trained in (i) forestry management, (ii) nutrient management, (iii) landscape architecture, or (iv) other applicable land management training that demonstrates an understanding of land management planning. VDEQ will evaluate acceptable alternative land management training on a case-by-case basis. In addition, the planting plan should include size, species, and spacing of trees, including provisions to achieve a minimum survival density tree stems per acre including any noninvasive volunteers or ecological success criteria for woody vegetation and success criteria for herbaceous cover as specified in the Nutrient Reduction Implementation Plan (NRIP).

The installation of new permanent structures, including but not limited to new or enlarged permanent access roads, permanent parking areas, trails, etc., and additional land-disturbing activities outside of the wetland and stream mitigation and/or reforestation remain subject to the stormwater technical criteria.

¹"Mitigation banks" and "restoration" are defined in the regulations for Certification of Nonpoint Source Nutrient Credits, 9VAC25-900:

"Mitigation bank" means a site providing off-site, consolidated compensatory mitigation that is developed and approved in accordance with all applicable federal and state laws or regulations for the establishment, use and operation of mitigation banks and is operating under a signed mitigation banking instrument.

"Restoration" means the reestablishment of a wetland, stream, or other aquatic resource in an area where it previously existed. Wetland restoration means the reestablishment of wetland hydrology, soils, and vegetation in an area where a wetland previously existed. Stream restoration means the process of converting an unstable, altered, or degraded stream corridor, including adjacent areas and floodplains, to its natural conditions.

9VAC25-900-10.

5.2.2

The grandfathering section of the Regulation (Article 4 of Part V, 9VAC25-875-670 et seq.) specifies the technical criteria for regulated lays-out conditions for determining whether an LDA associated with projects that are is grandfathered under 9VAC25-875-490. [revised to accurately state purpose of the grandfathering section]

5.2.2.1 LDAs grandfathered under 9VAC25-875-490, except for those mentioned in 5.2.2.1 above, remain subject to the requirements in Article ~~34~~ of Part V (9VAC25-875-~~570~~670 et seq.). Consistent with 9VAC25-875-480 B, portions of the project not under construction by July 1, 2024 (the end of the “two additional permit cycles”), become subject to any new technical criteria adopted by the State Water Control Board (i.e., Article 3 of Part V, 9VAC25-875-570 et seq.). as of July 1, 2024. [revised to be consistent with the Regulation]

5.2.2.2 The Regulation, at 9VAC25-875-480, limits applicability of grandfathering for all other LDAs to two additional permit cycles after July 1, 2014 (i.e., July 1, 2014 - June 30, 2019, and July 1, 2019 - June 30, 2024). The two permit cycles ended with the July 1, 2024 effective date of the General VPDES Permit for Discharges of Stormwater from Construction Activities. After July 1, 2024, portions of the project not under construction shall become subject to any new technical criteria adopted by the State Water Control Board, i.e., Article 3 (9VAC25-875-570 et seq) of Part V of the Regulation. Additional information is provided in 5.2.2.3.

Prior to July 1, 2024, other LDAs were ~~are~~ considered grandfathered by the VESMP authority and ~~were~~ ~~are~~ subject to the Article 4, 9VAC25-875-670 et seq technical criteria provided: ... [revised to reflect expiration of grandfathering for other LDAs]

5.2.2.3 [Updated Figures 5-3 and 5-4 for consistency with the Virginia Erosion and Stormwater Management Regulation]

5.2.3 Comprehensive Stormwater Management Plans (9VAC25-875-660)

State and federal agencies may develop comprehensive stormwater management plans and may participate in locality-developed comprehensive stormwater management plans where practicable and permitted by the locality ~~VSMP~~ VESMP authority.

Nutrient Offset Program (§62.1-44.15:35, 9VAC25-875-610)

A VESMP or VSMP authority is authorized to allow the use of nutrient credits for compliance with water quality ~~and water quantity~~ technical criteria in the Virginia Erosion and Stormwater Management Regulation... *[nutrient credits cannot be used to meet water quantity criteria]*

1. Documentation of the acquisition of nutrient credits shall be provided to the VESMP authority and VDEQ (or VDEQ when the agency is the VSMP authority) in a certification from the credit provider documenting the number of phosphorus nutrient credits acquired and the associated ratio of nitrogen nutrient credits at the credit-generating entity...

Exceptions must not be granted for: ... Use of a water quality BMP not found on the Virginia Stormwater BMP Clearinghouse, except where allowed under Article 4 of Part V of the Regulation, as described in 5.2.2.

- 5.3.1 In the discussion below, MSs are restated from 9VAC25-875-560, described, and ~~including~~ application examples are included for each.
- 5.3.1.2 During construction of the project, soil stockpiles and borrow areas will be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles onsite as well as borrow areas and soil intentionally transported from the project site. *[added period]*
- 5.3.1.14 Virginia Department of Game and Inland Fisheries (DGIF) or local wetland board time of year restrictions.
- 5.3.2.3 When stormwater from a development is discharged to a natural stormwater conveyance system, the maximum allowable peak flowrate from the 1-year, 24-hour storm following the LDA must be calculated either using the Energy Balance method or another methodology demonstrated by the VESMP ~~VSMP~~ authority to achieve equivalent results and approved by the ~~Water Control Board~~ VDEQ. ...
- Detention of stormwater or downstream improvements may be incorporated into the approved LDA to meet this criterion at the discretion of the VESMP or VSMP authority; or ...
- 5.3.2.4 For projects that will not satisfy the channel protection requirements using the Energy Balance method (detailed in Section 5.3.2.1~~2~~)... *[correct cross-reference]*
- The Energy Balance Method (9VAC25-875-600)
- The Energy Balance method must be used to calculate ... , unless an alternate methodology to achieve equivalent results is approved by the VESMP or VSMP authority.
- [Moved the Note at the end of the section to the next section, 5.3.2.5, so that is it with Figure 5-26]*
- 5.3.2.5 *[Note from 5.3.2.4 moved to this section, changed “The assumption in the decision process for ~~calculation on~~ Figure 5-26...”]*
- 5.3.2.6 The Water Quality Design Criteria, 9VAC25-875-580 and 9VAC25-875-590, focus on the removal of pollutants from stormwater runoff. These criteria focus strongly on phosphorus removal, the level of which depends on the development characteristics. The criteria state:
- To protect the quality of state waters and to control the discharge of stormwater mi from regulated activities, the following minimum design criteria, and state-wide standards for stormwater management will be applied to the site.

Compliance should be determined by using the Virginia Runoff Reduction Method (VRRM).

The VDEQ approved VRRM Version 4.1 for use beginning July 1, 2024. Version 4.1 is based on the Handbook and revised BMP specifications within it and updates the total phosphorus load of new development projects to 0.26 pounds per acre per year, which takes into account Virginia's ban on phosphate in lawn fertilizer and newer Chesapeake Bay watershed modeling. The updated total phosphorus load of new development and VRRM 4.1 have been approved by the VDEQ as another equivalent methodology (9VAC25-875-590), when used in conjunction with the Handbook. Until the Regulation is amended to reflect the lower total phosphorus load for new development (or July 1, 2025, whichever is later), 0.41 pounds per acre per year may be used in conjunction with VRRM 3.0 (2016) or VRRM 1.0 (2011) and the 2011 BMP specifications available from the Virginia Stormwater BMP Clearinghouse. [clarifies that 0.26 lbs/acre/yr is not the regulatory standard at this time, but is approved as an equivalent methodology]

5.3.2.6.2 See ~~handbooks~~ Handbook sections

6.2.1 (§ 62.1-44.15:68 ~~VAC~~ of the Code of Virginia) [*4th paragraph*]

For instance, whether a site is located within the Bay Act watershed or not meaningfully changes the land disturbance area trigger at which stormwater management and erosion and sediment control regulations are applied to site-scale developments. This is discussed in detail within Chapter 5. CBPAs ~~are~~ comprised of areas that ultimately drain to the Chesapeake Bay, including areas that drain to tributaries feeding the bay such as the James, York, and Rappahannock Rivers; among others... and associated regulations (9VAC25-830); which can be ... [*5th paragraph – grammatical corrections*]

6.2.2 A first step in the stormwater site design process is to map existing site features so they ~~Map existing site features as a first step in the stormwater site design process. These features~~ can be used to develop an initial site layout. The objectives of site scale mapping are to ~~that~~ minimizes environmental impacts, identify ~~ies~~ regulated features such as wetlands and steep slopes that may require additional approvals, and assists in selecting and locating construction and post-construction BMPs that are best suited for the particular challenges and opportunities associated with each development project. [*grammatical corrections*]

6.2.2.1 Land disturbing activities in a stream, lake, pond, or other surface water may require a separate permit from VDEQ, VMRC, and/or the USACE. These can ~~which~~ have the potential to cause construction delays if not properly managed. [*4th paragraph, grammatical corrections*]

6.2.2.5 These include topographic maps, LiDAR data, geologic maps, county soil surveys, aerial imagery, and sinkhole/cave mapping, and GIS layers.

Regions suspected to include karst topography are then subjected to a detailed site investigation to map and describe karst features more accurately. ~~This ; this~~ is typically performed after an initial stormwater site design. *[grammatical corrections in the last 2 paragraphs of the section]*

6.2.2.6 Fish and Wildlife Resources: Existing information on fish and wildlife resources can be obtained from the Virginia Department of ~~Game and Inland Fisheries~~ Wildlife Resources.

The Virginia Department of Health regulates private wells (see 12VAC5-630) and retains records as resources. In general, water withdrawal is regulated by VDEQ. ~~Due ; due~~ to stresses on specific aquifers, some locations may be subject to additional requirements under the Groundwater Withdrawal Regulations (9VAC25-610-40, restricting groundwater withdrawal within a groundwater management area, except as authorized pursuant to a groundwater withdrawal permit). One example is the Eastern Virginia Groundwater Management Area which is generally east of Interstate 95 and includes all or part of counties and cities from Stafford County in Northern Virginia to the city of Virginia Beach, ~~for example, the northeast parts of Virginia.~~ *[grammatical corrections, clarifying examples]*

6.2.2.7.1 *[Revised Items 2 and 3 under “Planning for Acid Sulfate Soils and Sulfidic Materials” for consistency with GM22-2012.]*

2. If the presence of sulfide minerals has already been documented within the site or the relative risk of encountering acid sulfate soils within the proposed limits of clearing and grading is considered to be moderate- to high-risk, the design professional or another qualified professional with experience in acid sulfate soil recognition and remediation should perform a site-specific investigation, including the collection of soil and drainage samples (Virginia Tech 2020).
3. *[10th paragraph]*Based upon the site-specific conditions and the laboratory results, the design professional or another qualified professional with experience in acid sulfate soil recognition and remediation should develop a site soil reclamation prescription. This prescription should be incorporated into the land-disturbing activity’s Erosion and Sediment Control Plan and geotechnical investigation/report. Any stormwater discharges associated with acid sulfate soils resulting in impacts to water quality standards in receiving state waters may be subject to additional remediation and plan modifications.

6.2.2.8 ... Understanding and mapping these sources of contamination is critical to proper siting of stormwater and erosion and sediment control features, as well as

understanding the need for and cost of environmental remediation work required to create conditions suitable for intended uses. [*grammatical correction*]

6.2.3 Local, state, and federal regulations may restrict the disturbance of or encroachment upon any of the following: wetlands, state waters (defined at § 62.1-44.3 of the Code of Virginia), Waters of the United States, stream or wetland buffers, floodplains, conservation easements, and other sensitive resources. [*added citation for clarity*]

6.3.1.4.2 For planting guidance, see ~~VDEQ's~~ VDCR's Riparian Buffer Modification and Mitigation Guidance Manual 784 (2023b) which VDEQ adopted as guidance in 2013 with the transfer of the stormwater program from VDCR to VDEQ.

6.3.1.5.1 [*Deleted duplicate heading*]

6.3.1.5.3 As noted above, ~~on March 29, 2022,~~ VDEQ issued a technical memorandum dated March 29, 2022 required solar installations to be considered as unconnected impervious cover stating that starting immediately, VDEQ is implementing a stronger post-development stormwater management policy for solar projects that are subject to stormwater management requirements. Specifically, the memo stated that ground mounted solar panels shall be considered unconnected impervious cover as defined in Chapter 9, Part 630 of the NRCS National Engineering Handbook.

A subsequent memorandum, dated April 14, 2022, recognized that, for those solar projects in advanced stages of design or implementation, ~~several a number of~~ fiscal, contractual, and other obligations need to be considered in the implementation timing of the ~~previous~~ March 29, 2022 memorandum. Specifically, the April memorandum stated:

“~~...~~Therefore, any solar project that does not obtain an interconnection approval by a regional transmission organization or electric utility by December 31, 2024, must comply with the requirements detailed in the Department’s March 29, 2022, memorandum, which will be further clarified in an agency guidance document. Any owner or operator with a previously VDEQ-approved solar project that does not obtain an interconnection approval by a regional transmission organization or electric utility on or before December 31, 2024, may submit a revised stormwater management plan to VDEQ for a fast-tracked (expedited) review to verify compliance with this section. No additional plan review fee(s) will be assessed by VDEQ for solar projects falling within this category.”

To provide further guidance, "Interconnection Approval" can be demonstrated by ~~the issuance of the System Impact Study as defined in PJM Manual 14a: New Services Request Process, Section 4.3 or equivalent study that results from the PJM Reform Process.~~ "Interconnection Approval" can also be demonstrated by

~~the issuance of a Small Generator Interconnection Agreement for projects subject to the state interconnection process, one of the following:~~

1. Issuance of a System Impact Study as defined in PJM Manual 14a: New Services Request Process, Section 4.3 (Revision 29, Effective Date: August 24, 2021, or as amended thereafter).
2. Issuance of an equivalent study by PJM under any process approved by the Federal Energy Regulatory Commission (FERC) that results from the PJM Interconnection Reform Process.
3. Issuance of a Small Generator Interconnection Agreement for projects that go through the state interconnection process.
4. Submission, and acceptance, of an initial interconnection service request application to a regional transmission organization or electric utility.

~~Additionally, if an owner or operator wants to confirm whether the stronger post-development stormwater requirements will apply to a particular project, “Interconnection Approval” may also be demonstrated by PJM approval of a new service request on or before April 14, 2022. In all cases, an owner or operator should indicate on the plan cover sheet which demonstration is being selected and provide a copy of appropriate documentation of acceptance of this new service request by the applicable entity ofn the cover sheet. All solar projects are subject to submission, and acceptance, of a complete stormwater management plan, prepared in accordance with all other provisions of this Handbook.~~

Finally, in accordance with the April 14, 2022 memorandum, any owner or operator with a previously VDEQ-approved solar project that does not obtain an interconnection approval, as further demonstrated by the documentation previously described, may submit a revised stormwater management plan to VDEQ for a fast-tracked (expedited) review to verify compliance with Chapter 9, Part 630 of the NRCS National Engineering Handbook. No additional plan review fee(s) will be assessed by VDEQ for solar projects falling within this category.

6.3.1.5.7 A complete discussion of acid sulphate soils is found in Section 6.2.2.7.1.

~~*[Deleted bullet about the use of lime-based materials because they decrease acidity]*~~

Provide adequate monitoring and management of the site to prevent the leaching of metals and sulfates from the soil and the loss of acid waters, metals, and sediments to surface- and groundwaters.

6.3.2.3.1 C-SSM-09: Establishment of temporary vegetative cover on disturbed areas that will not be brought to final grade for periods of ~~14~~ 30 days to one year by seeding with appropriate rapidly growing plants. [*changed to match spec*]

6.3.4 The following sections describe VESMP and Virginia Stormwater Management Program (VSMP) authority ~~authorization~~ to allow an operator to fully or partially meet water quantity or water quality technical criteria in Articles 3 or 4 of Part V of the Virginia Erosion and Stormwater Regulation using nutrient credits and other offsite options.

Offsite options ~~allowed through 9VAC25-875-610~~ include:

1. Offsite controls utilized in accordance with a comprehensive stormwater management plan adopted pursuant to 9VAC25-875-660 for the local watershed within which a project is located;
2. A locality pollutant loading pro rata share program or similar local funding mechanism established pursuant to § 15.2-2243 of the Code of Virginia, subject to limitations in § 62.1-44.15:35 of the Code of Virginia;
3. A Nonpoint Source (NPS) nutrient credit program as established pursuant to § 62.1-44.15:35 of the Code of Virginia, commonly referred to as a nutrient bank; and
4. Other offsite options approved by a VESMP authority or the VDEQ when acting as a VSMP authority. ~~an applicable state agency or state board; and~~
5. ~~Use of offsite facilities such that when an operator has additional properties available within the same hydraulic unit code (HUC) or upstream HUC that the land-disturbing activity directly discharges to or within the same watershed as determined by the VESMP/VSMP authority, offsite stormwater management facilities on those properties may be utilized to meet the required phosphorus nutrient reductions from the land-disturbing activity. [revised to be consistent with § 62.1-44.15:35 and the VESM Regulation]~~

[Added for consistency with GM22-2012:] The use of offsite compliance options should comply with 9VAC25-875-610 and VDEQ Guidance Memo No. 21-2007.

6.3.4.2 Another option for offsite compliance is a pro rata share program, which some localities establish within their ordinances pursuant to § 15.2-2243 of the Code of Virginia (subject to limitations in § 62.1-44.15:35 of the Code of Virginia)...

6.3.4.3 NPS nutrient credits are the most commonly used compliance option to assist in meeting water quality technical criteria. Nutrient credits are typically generated by credit producers and then sold to developers with projects in nearby areas. VDEQ has established a few general rules for the use of nutrient credits (see § 62.1-44.15:35 of the Code of Virginia, 9VAC25-875-610, and 9VAC25-900):

The credits must be generated in the same or adjacent fourth order subbasin, as defined by the hydrologic unit boundaries of the National Watershed Boundary

~~Dataset, as the land-disturbing activity. If no credits are available within these subbasins when the VESMP or department as the VSMP authority accepts the final site design, credits available within the same tributary may be used, from the same tributary as the land-disturbing activity and the same or adjacent eight digit HUC. Credits outside the same or adjacent eight digit HUC may only be used if, at the time of accepting the final stormwater site design, the VESMP/VSMP authority determines no credits are available within the same or adjacent eight-digit HUC.~~

~~When NPS nutrient credits are utilized for water quality compliance, documentation of the acquisition of nutrient credits must be provided to the VESMP authority and the department or the department as the VSMP authority in a certification from the credit provider documenting the number of phosphorus nutrient credits acquired and the associated ratio of nitrogen nutrient credits at the credit-generating entity. a letter of availability from the credit provider is required during permit application. The letter of availability must be requested from a VDEQ approved nutrient bank and must be provided on the official letterhead naming the nutrient bank.~~

~~Ultimately, a certification must be provided by the credit provider with the number of phosphorus nutrient credits acquired and the associated ration of nitrogen nutrient credits at the credit-generating entity. This must be provided to the VESMP/VSMP authority and VDEQ. [revised to be consistent with § 62.1-44.15:35 and 9VAC25-875-610; last bullet is incorporated in preceding bullet]~~

- 7.3.1 [Updated table with clearer image]
- 7.3.2 [Updated table to change abbreviation for Concrete Washout Pit]
- 7.3.3 [Updated table to change abbreviations for Tree Preservation, Topsoiling]
- 7.3.4 [Updated table with clearer image]
- 7.3.5 [Updated table with clearer image]
- 7.4 C-ENV-07 Gabions ~~Deflectors~~ [correction in list of BMPs]
- 7.4 C-ECM-02 [added CAD and PDF files, updated Figure C-ECM-02-1]
- 7.4 C-ECM-03 [updated Figure C-ECM-03-1 and URL in References]
- 7.4 C-ECM-04 [added PDF file and Figure C-ECM-04-1]
- 7.4 C-ECM-05 [added PDF file and updated Figure C-ECM-05-1]
- 7.4 C-ECM-06 [added PDF file and updated Figure C-ECM-06-1]

- 7.4 C-ECM-07 [added PDF file, updated Figure C-ECM-07-1, and updated URL for PADEP 2012 in References]
- 7.4 C-ECM-08 [added CAD and PDF files, updated Figures C-ECM-08-1 through C-ECM-08-8 (removing Figure C-ECM-08-3), corrected typo in titles of Figures C-ECM-08-7 and -8 “Defle~~a~~ctor”]
- 7.4 C-ECM-09 [added PDF file, updated Figures C-ECM-09-1 and -2]
- 7.4 C-ECM-10 [added PDF files, updated Figures C-ECM-10-1 through -4, -8, -9, , renumbered Table C-ECM-~~09~~-2 as C-ECM-10-2]
- 7.4 C-ECM-11 [added PDF file, updated Figures C-ECM-11-1 through -3]
- 7.4 C-ECM-12 [added PDF file, updated Figures C-ECM-12-1 through -3]
- 7.4 C-ECM-13 [added PDF file, added links to internal cross-references, updated Figures C-ECM-13-1 and -2]
- 7.4 C-ECM-14 [added CAD and PDF files, updated Figures C-ECM-14-1 and -2]
- 7.4 C-ECM-15 [added CAD and PDF files, updated Figures C-ECM-15-1 through -3 in section 5.0, updated calculations for riprap stone size in the Plunge Pool Design – changing the exponents of 2, 2.5, and 4/3 so they are shown as superscripts, added reference for HEC-14]
- 7.4 C-ECM-16 [corrected typo in section 3.0: karst ~~terrane~~ terrain]
- 7.4 C-ENV-01 [added CAD and PDF files, updated Figures C-ENV-01-1 through -4]
- 7.4 C-ENV-02 [added PDF files, changed “The Department of Stormwater Control’s (DSWC’s) Shoreline Programs Bureau” to “The Virginia Department of Conservation and Recreation’s Shoreline Erosion Advisory Service” in Table C-ENV-02-1 updated Figures C-ENV-02-1 through -4]
- 7.4 C-ENV-03 [added PDF file, updated Figures C-ENV-03-1 and -2]
- 7.4 C-ENV-04 [added CAD and PDF files, changed [s] to (s) in Table C-ENV-04-2, added “horizontal directional drilling” in Table C-ENV-04-4 to define “HDD,” updated Figures C-ENV-04-1 through -5]
- 7.4 C-ENV-05 [added CAD and PDF files, changed caption for 2nd photo to “A-Frame,” updated Figures C-ENV-05-1 through -5]
- 7.4 C-ENV-06 [added CAD and PDF files, updated Figures C-ENV-06-1 and -2]

- 7.4 C-ENV-08 [*added CAD and PDF files, updated Figure C-ENV-08-1*]
- 7.4 C-ENV-09 [*added CAD and PDF files, updated Figure C-ENV-09-1*]
- 7.4 C-ENV-10 [*added CAD and PDF files, removed hyphen after “silt fence” in section 1.0, updated Figures C-ENV-10-1 through -4*]
- 7.4 C-ENV-11 [*added CAD and PDF files, updated Figure C-ENV-11-1, numbered table C-ENV-11-1, corrected “geomembrane”*]
- 7.4 C-ENV-12 [*added CAD and PDF files, updated Figure C-ENV-12-1*]
- 7.4 C-ENV-13 [*added CAD and PDF files, updated Figure C-ENV-13-1*]
- 7.4 C-ENV-14 [*removed incorrect CAD*]
- 7.4 C-ENV-15 [*removed incorrect CAD*]
- 7.4 C-ENV-15 [*corrected spelling of Chamaecrista nicitians and Panicum dichotomiflorum*]
- 7.4 C-PCM-01 [*added PDF file, updated Figure C-PCM-01-1*]
- 7.4 C-PCM-02 [*added PDF file, updated Figure C-PCM-02-1*]
- 7.4 C-PCM-03 [*added PDF file, updated Figure C-PCM-03-1*]
- 7.4 C-PCM-04 [*added PDF files, added qualifying statement (In section 3.0, added: “Do not use this BMP in areas of concentrated flow (except as specified in the Design Criteria).”), updated Figures C-PCM-04-2 through -5*]
- 7.4 C-PCM-05 [*corrected typo “≠ other” in 3.0*]
- 7.4 C-PCM-01 [*renumbered Table C-SCM-01-4 as C-SCN-01-3*]
- 7.4 C-SCM-02 [*added CAD and PDF files, updated Figure C-SCM-02-01*]
- 7.4 C-SCM-03 [*added PDF files, updated Figure C-SCM-03-01*]
- 7.4 C-SCM-04 [*added PDF files, updated Figure C-SCM-04-01, C-SCM-04-2, C-SCM-04-3, C-SCM-04-4, C-SCM-04-5, C-SCM-04-6, C-SCM-04-7*]
- 7.4 C-SCM-05 [*added PDF files, updated Figure C-SCM-05-01, C-SCM 05-02*]
- 7.4 C-SCM-06 [*added PDF files, updated Figure C-SCM-06-01 (including Figure number (SCM-01-1 to SCM-06-1))*]

- 7.4 C-SCM-07 [*added PDF files, updated Figure C-SCM-07-01, C-SCM-07-02*]
- 7.4 C-SCM-08 [*added CAD and PDF files, updated Figure C-SCM-08-01*]
- 7.4 C-SCM-09 [*added PDF files, updated Figure C-SCM-09-01, Figure C-SCM-09-02, Figure C-SCM-09-03*]
- 7.4 C-SCM-10 [*added PDF files, updated Figure C-SCM-10-1, Figure C-SCM-10-2, Figure C-SCM-10-3, Figure C-SCM-10-4, Figure C-SCM-10-5*]
- 7.4 C-SCM-11 [*added PDF files, updated Figure C-SCM-11-1, Figure C-SCM-11-2, Figure C-SCM-11-3*]
- 7.4 C-SCM-12 [*added PDF files, updated Figure C-SCM-12-1 Figure C-SCM-12-2, Figure C-SCM-12-3, Figure C-SCM-12-4, Figure C-SCM-12-5, Figure C-SCM-12-6, Figure C-SCM-12-7, Figure C-SCM-12-12, Figure C-SCM-12-13, Figure C-SCM-12-14, Figure C-SCM-12-15*]
- 7.4 C-SSM-01 [*added PDF files, updated Figure C-SSM-01-01, Figure C-SSM-01-2, Figure C-SSM-01-3, Figure C-SSM-01-4, Figure C-SSM-01-5, Figure C-SSM-01-6, Figure C-SSM-01-7, Figure C-SSM-01-8, Figure C-SSM-01-9*]
- 7.4 C-SSM-03 [*added PDF files, updated Figure C-SSM-03-01, Figure C-SSM-03-2, Figure C-SSM-03-3, Figure C-SSM-03-4*]
- 7.4 C-SSM-05 [*added PDF files, updated Figure C-SSM-05-01, Figure C-SSM-05-2, Figure C-SSM-05-3, Figure C-SSM-05-4, Figure C-SSM-05-5, Figure C-SSM-05-6*]
- 7.4 C-SSM-06 [*added PDF files, updated Figure C-SSM-06-01, Figure C-SSM-06-2*]
- 7.4 C-SSM-08 [*added PDF files*]
- 8.2.1 Stormwater Performance Summary ... Virginia Erosion and Stormwater Management Regulation
- 8.3.4 [*added*] P-SUP-08 Permanent Level Spreader
- 8.4.4.1 Submit the completed registration statement and supporting documents to VDEQ.'s ~~Rebecca~~ Rebecca Roehet (Rebecca.Roehet@deq.virginia.gov)
- 8.4.4.2 [*added clarifying information*] Unless a higher efficiency is provided by another state, regional, or national verification or certification program, the VDEQ will assign a percent TP removal efficiency as follows:

| Certification | Assigned TP Removal Efficiency ¹ |
|---------------|---|
|---------------|---|

| | |
|-------------------------------|-----|
| TAPE TP Removal: $\geq 50\%$ | 50% |
| TAPE TSS Removal: $\geq 80\%$ | 40% |
| NJDEP TSS Removal: 80% | 40% |
| NJDEP TSS Removal: 50% | 20% |

When a higher efficiency is provided, the VDEQ will use the higher efficiency. These assignments of removal efficiencies are not an endorsement of any product by the VDEQ.

¹Defined as the change in the average event mean concentration (EMC)

"TAPE" means Washington State's Technology Assessment Protocol - Ecology program

"NJDEP" means New Jersey Department of Environmental Protection

"TP" means Total Phosphorus

"TSS" means Total Suspended Solids

- 8.5 P-BAS-01 [*updated Figure P-BAS-01-2, P-BAS-01-3*]
- 8.5 P-BAS-02 [*updated Figure P-BAS-02-1, P-BAS-02-2; re-numbered 2nd Table P-BAS-02-5 as P-BAS-05-6 b/c 2 tables had the same number; re-numbered subsequent tables (through P-BAS-02-11) and corresponding references to them in the text; renumbered vegetated buffer photo (P-BAS-02-3 (it was 03-02-1), corrected single pond 'seth' cell in Table P-BAS-02-6*]
- 8.5 P-BAS-03 [*updated Figure P-BAS-03-1*]
- 8.5 P-BAS-04 [*updated Figure P-BAS-04-1, Figure P-BAS-04-2, Figure P-BAS-04-3*]
- 8.5 P-CNV-01 [*updated Figure P-CNV-01-2, Figure P-CNV-01-3, Figure P-CNV-01-4, Figure P-CNV-01-5, Figure P-CNV-01-6, Figure P-CNV-01-7, Figure P-CNV-01-8*]
- 8.5 P-CNV-02 [*updated Figure P-CNV-02-1, Figure P-CNV-02-2, Figure P-CNV-02-3, Figure P-CNV-02-4, Figure P-CNV-02-5, Figure P-CNV-02-6, Figure P-CNV-02-7a, Figure P-CNV-02-7b, Figure P-CNV-02-8*]
- 8.5 P-CNV-03 [*updated Figure P-CNV-03-1, Figure P-CNV-03-2; re-numbered Tables P-CNV-03-3 as -03-2 and P-CNV-03-4 as -03-3 to correct sequence and internal references to the tables*]
- 8.5 P-CNV-04 [*updated Figure P-CNV-04-2, Figure P-CNV-04-3*]
- 8.5 P-FIL-01 [*updated Figure P-FIL-01-1, Figure P-FIL-01-2, Figure P-FIL-01-3, Figure P-FIL-01-4, Figure P-FIL-01-5, Figure P-FIL-01-6, Figure P-FIL-01-7*]

- 8.5 P-FIL-02 [updated Figure P-FIL-02-1, Figure P-FIL-02-2; updated Table numbers to change P-FIL-05-1 through -3 to P-FIL-02-1 through -3]
- 8.5 P-FIL-03 [updated Figure P-FIL-03-2]
- 8.5 P-FIL-04 [updated Figure P-FIL-04-1, Figure P-FIL-04-2, Figure P-FIL-04-3, Figure P-FIL-04-4, Figure P-FIL-04-5, Figure P-FIL-04-6; updated numbering to remove duplicate Table P-FIL-04-8 (changed 2nd instance to FIL-04-9), updated FL-04-9 to FIL-04-10, re-numbered Tables P-FIL-04-9 through -11]
- 8.5 P-FIL-05 [updated Figure P-FIL-05-6, Figure P-FIL-05-7, Figure P-FIL-05-11]
- 8.5 P-FIL-05 [In Section 5.0, revised the following statement for consistency with GM24-2002:] “Any forest or ~~mixed open space~~ areas included within the contributing drainage area ~~are~~is not part of the TV_{BMP}.”
- 8.5 P-FIL-06 [updated Figure P-FIL-06-4, Figure P-FIL-06-5, Figure P-FIL-06-6]
- 8.5 P-FIL-08 [In Section 5.2, corrected clerical error by updating Table P-FIL-08-2 to corrected note numbering and superscripts]
- 8.5 P-SUP-01 [updated Figure P-SUP-01-1, Figure P-SUP-01-2, Figure P-SUP-01-3, Figure P-SUP-01-4]
- 8.5 P-SUP-03 [updated Figure P-SUP-03-1]
- 8.5 P-SUP-06 [updated Figure P-SUP-06-1, Figure P-SUP-06-4]
- 8.5 P-SUP-08 [updated Figure P-SUP-08-1]
- 9.4.2.2 Get Control Early. Appropriate controls should be installed and functioning prior to clearing and grubbing. [corrected typo]
- 9.8 [Revised this Section for consistency with 9VAC25-880]

Inspection Requirements (9VAC25-880-70 Part II, Subsection G.3.)

As a part of each inspection, the qualified personnel shall, at a minimum:

1. Record the date and time of the inspection and the amount of cumulative rainfall or snowfall since the last inspection.

...

3. Record any ~~land-disturbing~~ construction activities that have occurred outside of the approved erosion and sediment control plan.
4. Inspect all stormwater discharge locations at the construction site. If a stormwater discharge is occurring during the inspection, observe and document the visual quality and characteristics of the discharge, including

color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.

5. Inspect all construction dewatering discharge locations at the construction site, if applicable. If a construction dewatering discharge is occurring during the inspection, observe and document the visual quality and characteristics of the discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.

...

9. Inspect for evidence that the erosion and sediment control plan has not been implemented properly. Evidence may include the following:
....e. Portions of the construction site on which required stabilizations has not been initiated or completed;

...

12. Identify and ~~document~~report the presence of any evidence of a discharge of pollutants prohibited by the Construction General Permit including, but not limited to, the following:

...

Inspection Report (9VAC25-880-70 Part II, Subsection G.4.)

Inspection Reports and major observations should include:

...

- An estimate of the amount of rainfall or snowfall at the construction site (in inches) from the runoff-producing storm event requiring the inspection, or if inspecting on a 7-day schedule, the amount of rainfall or snowfall (in inches) since the previous inspection;
- ~~A description~~The location(s), visual quality, and characteristics of any all stormwater discharges occurring at the time of inspection;
- The location(s), visual quality, and characteristics of all construction dewatering discharges, if applicable;
- The location(s) of discharges of sediment or other pollutants from the site;
- Location(s) of control measures that need ~~to be maintained~~routine maintenance;

...

Corrective Actions (9VAC25-880-70 Part II, Subsection H.)

When any turbidity measurement of a construction dewatering discharge exceeds the selected turbidity benchmark option or visual monitoring indicates a change in the characterization of effluent discharge, as outlined in Part II B 8 of the Construction General Permit, the operator shall:

1. Immediately cease the construction dewatering discharge at the location that exceeds the turbidity benchmark or where visual monitoring indicates a change in the characterization of effluent discharge;
2. Determine whether the construction dewatering controls are operating effectively or need routing maintenance or if an additional or alternate control measure is necessary; and

- 3. Make any necessary adjustments, additions, repairs, or replacements to the construction dewatering controls.

Once these corrective action steps are completed and any necessary adjustments, additions, repairs, or replacements are made, the operator may resume its construction dewatering discharge and shall sample for turbidity within 15 minutes of the construction dewatering discharge commencing. No additional correction action items are required beyond recording the results in the SWPPP.

10.2.4

[Revised the Section title from “Access and Maintenance” to “Easements” for consistency with the outline]

[Combined the second and third bullet under “Easements should cover:” to read correctly.]

- o Enough land around the BMPs for construction equipment to enter and maneuver. This includes access to dams, risers, safety benches, forebays, and outlets, as appropriate;
- o ~~to dams, risers, safety benches, forebays, and outlets, as appropriate;~~

[Deleted the following bullet as it was replaced with language from GM22-2012:]

- ~~For drainage easements, the easement width should increase as the top width of the channel or depth of the pipe increases. For example, the easement width should be progressively increased in increments of 5 feet for pipes at depths of 10, 15, and 20 feet.~~

[Added the following language to the end of the Section per GM222012:]

Storm Drainage easements should be obtained and recorded among the local land records to encompass any proposed offsite manmade stormwater conveyance systems (including their outfall structures, such as outlet protection or level spreaders), and any proposed offsite sheet flow paths to an existing stormwater conveyance system. The easement(s) should be recorded prior to state permit termination or earlier as required by the VDEQ. This does not apply to improvements or sheet flow paths located solely within a public right-of-way.

- A. Open stormwater conveyance channels should be encompassed with a drainage easement whose minimum width is 16 feet or provides containment of the 10-year water surface elevation, whichever is greater.
- B. Culverts should be encompassed with a drainage easement whose minimum width is 16 feet or provides containment of the 10-year water surface elevation, whichever is greater.
- C. Storm sewer pipes should be aligned in the center of the drainage easement. Drainage easement widths should be greater than or equal to the following, unless greater widths are required by the local government:

| <u>Pipe Diameter</u> | <u>Easement Width (ft)</u> |
|------------------------|----------------------------|
| <u>Up to 18 inches</u> | <u>10</u> |
| <u>21 to 33 inches</u> | <u>15</u> |

| <u>Pipe Diameter</u> | <u>Easement Width (ft)</u> |
|------------------------|----------------------------|
| <u>36 to 48 inches</u> | <u>20</u> |
| <u>54 to 72 inches</u> | <u>24</u> |

D. Offsite discharges of sheet flow from a level spreader, with the exception of those discharges meeting the requirements of Safe Harbor, or there is no increase in the 1-year 24-hour and 10-year 24-hour storm post-development runoff volumes and velocities as compared to the pre-development volumes and velocities, should be encompassed with a drainage easement. The minimum width of the easement should be the length of the level spreader plus 5 feet on each side. The minimum length of the easement should be the distance of the sheet flow path to the down-gradient stormwater conveyance system.

Appendix A.3.7

[Added subsection 1 to Item D of Appendix 3.17.1 Pre-Development Curve Number Section for consistency with GM22-2012]

1. Adjust the native HSG by at least one factor (i.e., HSG A → HSG B; HSG B → HSG C; HSG C → HSG D) when selecting the pre-development CN; or

Appendix A.6

[Added Appendix Section] A.6.2 Water Quality Criteria for Brownfields and Reclaimed Mine Development

For the purposes of the stormwater criteria, brownfield means real property; the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Therefore, any land disturbing activity on a site that meets this definition must comply with the requirements of 9VAC25-875-580 A 2, as follows:

- A. The post-development total phosphorus load should be reduced at least 20% via the implementation of stormwater management facilities or best management practices.
- B. The total phosphorus load shall not be required to be reduced to below the applicable standard for new development unless a more stringent standard has been established by a local stormwater management program locality.
- C. Compliance should be determined by using the VRRM.
- D. When a land-disturbing activity discharges stormwater runoff to more than one 6th order (12-digit) hydrologic unit code, the total phosphorus load reduction requirements in this section should be applied independently within each hydrologic unit code.

Any land disturbing activity on a reclaimed mine must comply with the requirements of 9VAC25-875-580 A 2, as follows:

- A. The post-development total phosphorus load should be reduced at least 20% via the implementation of stormwater management facilities or best management practices.
- B. The total phosphorus load shall not be required to be reduced to below the applicable standard for new development unless a more stringent standard has been established by a local stormwater management program locality.
- C. Compliance should be determined by using the VRRM.
- D. When a land-disturbing activity discharges stormwater runoff to more than one 6th order (12-digit) hydrologic unit code, the total phosphorus load reduction requirements in this section should be applied independently within each hydrologic unit code.

Appendix J.5.

[Updated projects subjected to approved standards and specifications to include persons engaged in creation an operation of wetland mitigation or stream restoration banks, text is consistent with 4.2.8; updated references to Version 1.1 instead of Version 1.0 of the Handbook]

Section 62.1-44.15:31 of the Code of Virginia allows state agencies, federal entities, and other specified entities to submit standards and specifications for land-disturbing activities. There are three categories of entities: state agencies and federal entities; linear utilities and linear projects; and certain wetland mitigation or stream restoration bank projects. Each is described below.

As an alternative to submitting soil erosion control and stormwater management plans for its land-disturbing activities, VDOT shall, and any other state agency or federal entity may, submit standards and specifications for its conduct of land-disturbing activities for VDEQ approval.

Electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies, railroad companies, and authorities created pursuant to § 15.2-5102 of the Code of Virginia may submit standards and specifications for VDEQ approval that describe how land-disturbing activities shall be conducted. Such standards and specifications may be submitted for the following types of projects:

1. Construction, installation, or maintenance of electric transmission and distribution lines, oil or gas transmission and distribution pipelines, communication utility lines, and water and sewer lines; and
2. Construction of the tracks, rights-of-way, bridges, communication facilities, and other related structures and facilities of a railroad company.

Any person engaging in more than one jurisdiction in the creation and operation of a wetland mitigation or stream restoration bank that has been

approved and is operated in accordance with applicable federal and state guidance, laws, or regulations for the establishment, use, and operation of (i) a wetlands mitigation or stream restoration bank, pursuant to a mitigation banking instrument signed by the VDEQ, the VMRC, or the USACE, or (ii) a stream restoration project for purposes of reducing nutrients or sediment entering state waters may submit standards and specifications for VDEQ approval that describe how land-disturbing activities shall be conducted.