



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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SUBJECT: Virginia Stormwater Management Handbook Technical Review Committee
(TRC) Sixth Meeting Minutes - FINAL

DATE: April 30, 2026

The Virginia Department of Environmental Quality (DEQ) held the sixth TRC meeting on April 16, 2026, at DEQ's Central Office, Bank of America 3rd Floor Conference Room, 1111 E. Main St., Richmond, Virginia 23219. The meeting began at 9:33 AM and ended at 12:51 PM. The purpose of the meeting is to assist DEQ in reviewing and revising the Virginia Stormwater Management Handbook (Handbook).

The following members and alternate members of the TRC attended the meeting:

Table with 2 columns listing members and alternate members of the TRC, including names and affiliations such as Vector Corp, Montgomery County, and various environmental organizations.

The following members of the TRC or their alternates were not in attendance:

Table with 2 columns listing members of the TRC or their alternates who were not in attendance, including Virginia Military Institute and Virginia Department of Conservation and Recreation.

Jacob Bottoms – Ferguson Waterworks (Alternate for Jason Bailey)	Mark Killgore – Virginia Department of Conservation and Recreation (DCR) (Alternate for Angela Davis)
Sheldon Bower – American Society of Civil Engineers (ASCE) (Alternate for Trent Warner)	Kristen Mahoney – Appalachian Power (Alternate for Jared Webb)
Thomas Branin – Henrico County	Mark Miller – Aquashield, Inc.
Sam Brumberg – Virginia Electric Cooperatives (Alternate – Alex Jones)	Sal Musarra (Alternate) Virginia Chapter of the American Society of Landscape Architects (ASLA)
Ranee Buck – Lane Enterprises	Wil Orndorff – Virginia Department of Conservation and Recreation (DCR)
Andrew Clark – Home Builders Association of Virginia	Abigail Patterson – Virginia Economic Development Partnership (VEDP)
Jim Clarke – Advanced Drainage Systems	Chris Pomeroy - AquaLaw
Justin Curtis – AquaLaw for Virginia Municipal Stormwater Association	Chase Sawyer – Department of Housing and Community Development (DHCD)
Angela Davis – Virginia Department of Conservation and Recreation (DCR)	David Scott – Xerxes/Mattr
Jacob Dorman – Contech Engineered Solutions, LLC	Mike Sheehan, Shaw
Justin Doyle – James River Association	Jill Sunderland (alternate) Hampton Roads Planning District Commission (HRPDC)
J. Alex Forste – Virginia Department of Transportation (VDOT)	Jaewan Yoon – Old Dominion University
Mike Gerel – Chesapeake Bay Foundation (CBF)	Hannah Zegler, Dominion Energy, Inc.

The following members of the public attended the meeting:

Mike DeVuono – Arcadis (DEQ Consultant)	Kateri Simon – Luck Companies
Jonet Prevost-White – City of Richmond	

The following DEQ staff attended the meeting:

Kathleen Alexander, Stormwater Program Engineer Office of Stormwater Management	Andrew Huff, Training Specialist, Office of Training Services
Margaret Culpeper, Stormwater Plan Reviewer, Office of Stormwater Management	William Norris, Policy Analyst, Policy Division
Nelson Daniel, Policy Analyst, Policy Division	Fernando Pasquel – Chief Policy Advisor – DEQ CO
Sarah Desmarais, Regulatory Analyst, Policy Division	April Rhodes – Stormwater Program Manager, Office of Stormwater Management

Meeting Opening:

Kay Alexander, Stormwater Program Engineer at DEQ, welcomed members of the TRC and public to the meeting, provided an overview of the proposed agenda, and reviewed the public meeting

requirements in Virginia’s Freedom of Information Act. DEQ provided redlined specifications to the TRC and posted the redlined specifications and draft agenda on the Virginia Regulatory Town Hall website prior to the meeting. The meeting minutes from the fifth TRC meeting on January 12, 2026, were finalized after TRC members indicated there were no comments or revisions needed.

DEQ Updates:

• **Handbook Version 1.2 (V1.2) Status**

- V1.2 is available on the enCodePlus website and users may submit comments through the website . The checklist and the cover sheet on the site plan should have a field to enter which version you are using. V1.2 is currently optional for use and will replace V1.1 on July 1, 2026.

Post-Construction BMP Specifications Review:

• **P-FIL-01 Rooftop Disconnect: .**

- **Group Discussion:** The TRC discussed the added component statement in Section 5.1 Simple Rooftop Disconnect and whether the intent was for these to be required or optional.
- **Staff Response:** Staff will add the phrase “may include” to clarify that they are options.
- **Group Discussion:** The TRC discussed the possible addition of a bullet prior to the current statement of “As a general rule...” that would read: “Storage should be provided for the 1-inch volume of runoff” to add further clarity.
- **Staff Response:** Staff will consider the addition of the clarifying language.

• **P-FIL-02 Vegetated Roof: .**

- **Group Discussion:** The TRC discussed plant selection for this type of BMP and noted that mainly the plant species used are not native. It was noted that there are some native species that are listed on the Native Plant Finder that are available. The suggestion was made that this should be noted on Page 11 in association with Table P-FIL-02-5 Ground Covers for Vegetated Roofs in Zones 6 and 7 of the Chesapeake Bay Watershed.
- **Staff Response:** Staff requested information on the recommended native plant species and their specifications from DCR to be incorporated into the specification. Staff also asked for any available research related to the use of and the success rates of the use of specific native plant species.
- **P-FIL-04 Infiltration Practices: Group Discussion:** The TRC discussed the language in Table 04-8 for infiltration design guidelines that reads “Minimum of 2 feet between the bottom of the infiltration practice and the seasonal high-water table or bedrock.” It was noted that 2 feet is the industry standard and is common practice. It was noted that providing for some flexibility in coastal plain areas would be helpful.
- **Staff Response:** DEQ staff requested coastal plain representatives to provide research or documentation regarding flexibility of this requirement.
- **Group Discussion:** The TRC discussed the requirements for downgradient setbacks for micro-infiltration. The specification used to read “10 feet downgradient” and now reads “10 feet upgradient”.

- **Staff Response:** The rationale is that the micro is so small that it should not have impacts downgradient.
- **Group Discussion:** The TRC discussed Table P-FIL-04-4 regarding the inspection of BMPs in Karst areas. It was recommended that the “inspection” language should be moved to the maintenance section.
- **Staff Response:** Staff agreed including the statement in the Post-construction observation requirements is appropriate.
- **Group Discussion:** The group discussed bioretention in karst areas and the need to clarify that it should be Level 1 (no infiltration).
- **Staff Response:** The specification will be revised to clarify this requirement.
- **P-FIL-06 Filtering Practices: Group Discussion:** The TRC discussed the change in the drainage area for surface sand filters from 2 to 5 acres and the rationale for that change.
- **Staff Response:** The original specification had 2-5 acres and it was dropped in development of previous versions, so it has been added back in for clarity.
- **P-FIL-07 Sheet Flow to Vegetated Filter Strip: Group Discussion:** The TRC discussed BMP discharges from a natural heritage standpoint; there should be no discharges directed to known areas supporting rare and endangered species or communities. There needs to be due diligence on the part of the applicant to know whether there is something in the proposed discharge area that needs to be protected.
- **Staff Response:** Language could be added to call attention to the need for due diligence in consideration of rare, threatened, and endangered species and habitat. Staff requested examples of language related to consideration of areas of threatened and endangered species or habitats as it relates to stormwater regulations and guidance. It was recommended that Natural Heritage and Department of Wildlife Resources should be consulted as part of that due diligence.
- **Group Discussion:** The TRC discussed sheet flow. It was noted that there are sites with saturated soils that do not allow infiltration, even though the design meets the specifications for sheet flow to an open space and flooding can result. Level spreaders should not be used in known saturated areas. The resulting flooding may impact the plant and aquatic species that are present.
- **Group Discussion:** The TRC discussed the actual flow length for a level spreader and the requirement for a gravel diaphragm. Clarify if the gravel diaphragm allows for the dissipation of energy, and if this or another option allow for increased flow length. It was suggested that in some cases 100 feet is restrictive, which could be addressed with different size diaphragms or a tiered system allow for flexibility. The use of the 100 foot standard versus use of the equation from the Handbook appendix was discussed. There was a general discussion about the sheet flow length calculations. The question was raised as to whether it could be clarified that the use of 100 feet is acceptable (no math required) but if the proposed length is over 100 feet, then the math demonstrating compliance needs to be provided.
- **Staff Response:** The 100 feet is standard from TR-55. There are many factors that impact sheet flow, especially slope of the receiving area. There are not many requests

- for variances in sheet flow length. The equation from the Handbook appendix sometimes can give you a length that is over 100 feet. Staff will evaluate inclusion of a comment clarifying that if the calculations demonstrate flow length over 100 feet is allowable using the equation in the Handbook, then that documentation is acceptable.
- **P-FIL-08 Soil Compost Amendments: Group Discussion:** The TRC discussed the concept of “reputable laboratory” and if that means “DCR approved”. It was suggested that the use of the term “reputable” was too vague and that the labs should be accredited or otherwise certified. It was suggested that the added language should be moved to table 8-4 or at least repeated there.
 - **Staff Response:** There are other geotechnical labs that are certified other than those that are approved by DCR. Designating only “DCR approved” labs would be too restrictive. Staff to consider revising language ”reputable” to “certified”, “qualified” , “accredited” or other appropriate terms.
 - **Group Discussion:** The TRC discussed the requirement for a week-long waiting time for inspecting/testing the compost media placement.
 - **Staff Response:** This was added to allow for settling and curing time to ensure that the functionality is accurately verified. The testing is essentially being done to confirm post construction conditions required by the as-built.
 - **Group Discussion:** The requirement for a second soil test was questioned. It was noted that the placement of the requirement was confusing.
 - **Staff Response:** Staff noted that the post-construction testing requirements can be moved down to the inspection/monitoring section. In addition, the sentence related to taking the second sample will be moved to the bottom of 5.1 Soil Testing for clarity. Staff asked the TRC to provide their thoughts related to post-construction requirements.
 - **Group Discussion:** The phrase “free of weed seeds” in Section 5.3 of the compost specification was discussed. It was recommended that the invasive species list should be referenced and it should be noted that the compost should be free of those seeds. It was stated that there isn’t a way to verify what seeds are in the compost. The compost is held at certain temperatures to remove all viable seeds. There isn’t a way to differentiate seed types, and this could cause confusion. The inclusion of inspection criteria for invasives as part of the Operation and Maintenance requirements was discussed.
 - **Staff Response:** Establishing inspection criteria in these stormwater specifications could be problematic. Staff will consider adding a reference to Appendix G when discussing vegetation management plans and recommend the removal of invasives. A member of the public on the Composting Council agreed to provide documents for reference on the curing process that treats viable seeds.

New Topics Review:11:00

- **C-SCM-02 Construction Road Stabilization with Timber Mats:**
 - **Group Discussion:** The main issues with timber mats seem to be the length of time that a timber mat can be left in place and whether the placement of the mats will or will not be considered as land-disturbance. It was noted that homeowners often use plywood

- or other mat stabilization techniques to try to avoid land disturbance and stay under 2,500 sq. feet, but localities are concerned and inconsistent regarding this practice
- **Staff Response:** The VWP requirements use 6-12 months as the identified time limit that timber mats can stay in place as “temporary impacts” to wetlands under different regulations for a different purpose. The expectation is that if the mats cause loss of vegetation, then you must restabilize the area after removal. This specification should only be used for construction road stabilization, not for laydown or material staging.
 - **Group Discussion:** The concept of “land disturbance” was discussed. A question was raised that if timber mats are used in projects that are under 2,500 s. feet, is there a time limit for which the mats can be used and not considered as land disturbance. It was suggested that this is a BMP and BMPs should be placed inside the limits of development and would then be considered as part of the land disturbance area. It was suggested that the phrase “constitute land disturbance” should be changed to “constitute a change in land cover”.
 - **Staff Response:** The language can be removed from the laydown and staging section for clarity. Staff will consider use of the phrase “temporary land cover change” and will include language about re-stabilization. The purpose is to provide an alternative to stone stabilization on construction roads. It was noted that whatever changes are made here should also be considered for timber mat wetland crossings.
 - **Group Discussion:** It was suggested that if we are trying to speak to the use of timber mats and whether they constitute land disturbance or not then that language needs to go into the linear project section.
 - **Staff Response:** Staff asked for input from members on language for this specification. Recommendations on the location of the specification language was also requested.
- **C-SCM-03 Temporary Stone Construction Entrance with Timber Mats:**
 - **Group Discussion:** The TRC discussed that this option will likely be utilized by subdivisions that do not connect to a public road. It was noted that this is not a good practice for removing dirt from tires and can result in track-out issues, even if not a public road. Requiring the use of washing procedures “prior to entering a paved road” was discussed. The current language reads “paved or public”. Support for wheel washing no matter the road type was noted because it prevents the spread of invasive seeds. It was recommended that the wording used by VDOT for this practice should be used in this specification.
 - **Staff Response:** Staff will consider language to allow timber mat entrance with washing.
 - **Section 6.3.3.4 Addition of Continuous Monitoring Adaptive Controls (CMAC) Language:** Proposed language is provided to further enhance the concept of CMAC in the handbook. **Group Discussion:** The TRC discussed the concept of the use of CMAC. It was noted that the Bay Program has a specification for CMAC that could be considered.
 - **Staff Response:** Our use and purpose may vary from that of the Bay Program. This would be considered a support specification, not a stand-alone BMP. Staff requested the specification from the TRC.

- **Group Discussion:** It is important to note that the CMAC does not reduce the volume of stormwater but rather it is a tool to manage the volume that the BMP stores. It was recommended that the specification should specify that a “governmental entity” means the VESMP/VSMP authority.
- **Staff Response:** The text that calls attention to the CMAC will be included in V1.3, but an actual specification will not be developed for this version. Staff requested any comments and any research relevant to the current draft language on CMAC.
- **Flocculant Specification:** Staff revised the version of the specification that was attached to the meeting agenda prior to the meeting (a copy showing redline and strikethrough is attached to the minutes). DEQ has been receiving variance requests for the use of flocculants. Flocculants are intended to enhance other BMPs as a supplement or enhancement to the erosion control system; not a stand-alone BMP. As with manufactured treatment devices, DEQ plans to create a list of approved products. There is a difference between cationic and anionic flocculants. Cationic flocculants are known to bind to fish gills and harm aquatic life; anionic flocculants do not. If applicants are proposing the use of cationic flocculants, the Maryland specification requires testing and other requirements. **Group Discussion:** It was noted that the intent for the use of flocculants is to reduce turbidity and to use them in a treatment train approach, upstream of other erosion control measures. Flocculants are important because soils like colloidal clays can pass through silt fence and remain suspended in sediment basins and traps, even when properly designed and installed. Proper use of flocculants could remedy this situation.
- **Staff Response:** Flocculants need to be submitted to get on the approved list with an application Arcadis is currently developing. If a flocculant specification is added to the Handbook, only flocculant products on the approved list could be used with this specification and would need to include a site-specific plan for use. The flocculant use plan will be documented in the SWPPP and include site specific test results for the various products it proposes to use.
- There are two paths for flocculant use as proposed: specify it on the design plans or provide all the required information as a field revision once turbidity issues are identified on the site.
- **Group Discussion:** Various topics related to the use of flocculants were discussed by the TRC, including how field revisions would be handled; addressing different soil types and conditions; the use of flocculants if there are known aquatic resources downstream; the approval process for cationic flocculants; and the source of Virginia’s list (based on Maryland’s list).
- **Staff Response:** Staff will consider the development of more robust language for the approval process to be added to the list for both anionic and cationic flocculants to address concerns and topic areas raised by the TRC.
- **Group Discussion:** There needs to be more clarification regarding what the permittee needs to do for compliance, versus what DEQ is going to do for approval and compliance verification. The Handbook should be directed at the permittee and what they need to do to achieve compliance. It was also noted that the sentence that refers to

the disposal of sediment and the classification of a hazardous waste needs to be clarified.

- **Staff Response:** “Confirming no toxicity” comes from being on the approved list. Visual inspection is for issues such as fish kills, but does not refer to sampling of water quality, it is not the intent to require sampling; staff will revise this language for clarity. Staff agreed to revise the hazardous waste statement that the use of flocculants alone does not constitute hazardous waste.
- **Group Discussion:** The concept of a “treatment train” was discussed. Need to ensure that the use of “treatment train” does not suggest that it provided treatment that can be used for quality compliance. The use of “treatment train” means that the use of flocculant must be upstream of additional filtration controls, such as silt fences and filter socks. Because the site is already designed to comply with the erosion control requirements, the use of flocculant is considered an enhancement and does not require a change in design plans once approved.
- **Staff Response:** Staff will send out the version of the specification discussed at the meeting (attached to the meeting minutes), Maryland’s information on flocculants, and the referenced research study to the TRC for discussion at the next meeting of the TRC.

Other General Topics:

- **TRC Comments:** A comment spreadsheet has been sent out to committee members to accommodate those who could not attend the meeting. If the committee has additional comments, please add them to the spreadsheet so that they can be organized and reviewed.
- **Safety Fences:** Staff raised the topic of safety fences. The Handbook specification has a minimum height for safety fences of 5-feet. Staff asked the TRC whether they had any issues with reducing the specification to a minimum height of 4-feet for safety fences to match industry standards and VDOT’s specifications. No objections were noted.

Public Forum:

No comments were received from the public.

Next Steps:

- Redlined version of flocculant information and associated references will be distributed to the TRC for review prior to the next meeting of the TRC.
- Next meeting is tentatively planned for May 26 or May 28, 2026.
- Planned topics for the next meeting:
 - Permeable Pavement Specification
 - Bioretention Specification
 - Tree Planting Specification
 - Permanent Utility Access Roads Specification

Wrap Up:

- Great discussion – TRC was thanked for their participation and input.
- DEQ requested feedback from the TRC on what is working and what is not for these TRC meetings. The TRC provided the following comments in response:
 - Need for follow-up on comments not resolved from previous meetings to make the committee aware of the result. DEQ will provide an agenda item for the next meeting including a “recap of prior discussions” and an identification of what was changed is proposed as a result of those discussions and research.
 - It would be helpful if the committee knew why a change was made to the specifications. Need to understand there is or was a change. Need to understand how the staff has addressed comments and discussions.
 - Need to have an introduction item on the agenda so everyone knows who is present at the meeting.

Meeting Adjournment:

The meeting adjourned at 12:51 PM