

**Virginia Stormwater Best Management Practice (BMP) Clearinghouse  
Stakeholder Meeting**

DEQ Piedmont Regional Office  
4949-A Cox Road, Glen Allen, VA 23060  
March 22, 2017

Meeting minutes by Jane Walker -- Additional information pertinent to the meeting discussion but not provided during the meeting is included within brackets, [].

**Virginia Department of Environmental Quality (DEQ) Personnel Present**

Robert Cooper, DEQ-Central Office  
Fred Cunningham, DEQ-Central Office  
Melanie Davenport, DEQ-Central Office  
Ben Leach, DEQ-Central Office

**Virginia Water Resources Research Center Personnel Present**

Jane Walker, Virginia Water Resources Research Center (VWRRC)

**Stakeholders Present**

Derek Berg, Contech Engineered Solutions  
Aimee Connerton, Rinker  
Jacob Dorman, Contech Engineered Solutions  
Britton Dovel, Rotondo Environmental Solutions LLC  
K.C. Filippino, Hampton Roads Planning District Commission  
Jim Filson, Dewberry  
Ken Freeman, Lane Enterprises, Inc.  
Chris Gorman, Oldcastle Precast Stormwater Solutions  
Normand Goulet, Northern Virginia Regional Commission  
Jeff Hancock, Virginia Department of Transportation (VDOT)  
Richard Jacobs, Culpeper Soil and Water Conservation District (SWCD)  
Greg Johnson, City of Virginia Beach  
Chuck Lacey, Advanced Drainage Systems (ADS)  
Dan Lang, Cenarion Enterprises  
Daniel Michaelson, Marion Enterprises  
Mark Miller, AquaShield, Inc.  
Rebecca Napier, Wetland Studies and Solutions, Inc. (WSSI)  
Brian Rustia, ADS/BaySaver  
David Scott, HydroInternational  
Kateri Shreve, Luck Ecosystems  
Corey Simonpietri, ACF Environmental  
Terry Siviter, Rotondo Environmental Solutions LLC  
Richard Street, Spotsylvania County  
Mark Whitfield, Luck Ecosystems  
John Woodburn, Goochland County

### **Call to Order & Introductions**

Fred Cunningham of DEQ called the meeting to order. Everyone introduced herself or himself.

### **Minutes from November 16, 2016 Meeting**

No one provided additions or corrections to the minutes of the previous meeting. The final version of the minutes will be posted on the Virginia Regulatory Town Hall website.

### **Update: DEQ Stormwater Program**

Melanie Davenport reported that she met Environmental Protection Agency (EPA) Administrator Scott Pruitt at a meeting of the Association of Clean Water Administrators (ACWA). His focus for EPA includes: (1) cooperative federalism, whereby he wants to reset the cooperative relationship between state environmental agencies and EPA so that states have the knowledge and ability to implement programs without a great deal of federal oversight; and (2) money for infrastructure and pass-through projects. Infrastructure projects include updates to water and sewer systems as well as management of stormwater. Significant budget cuts will be forthcoming, but specifics are unknown at this time.

### **Virginia 2017 Legislative Session**

Regarding the current Virginia legislative session, there are three stormwater management bills of likely interest to the BMP Clearinghouse stakeholders that passed the General Assembly and are under consideration by the Governor for adoption.

- HB 1774: Directs the Commonwealth Center for Recurrent Flooding Resiliency (the Center) at Old Dominion University to convene a work group to consider alternative methods of stormwater management in rural Tidewater localities. The Virginia Coastal Policy Center at William and Mary Law School will facilitate the work group. The group is to include representatives of institutions of higher education, state agencies (DEQ will participate), local governments, private industry, and other groups. The bill requires the Center to report the results of the group's efforts by January 1, 2018. The bill also delays from July 1, 2017, to July 1, 2018, the effective date of new stormwater laws enacted during the 2016 Session of the General Assembly. [see <https://lis.virginia.gov/cgi-bin/legp604.exe?171+sum+HB1774>]
- HB 2009: Authorizes the hiring of certified third-party professionals to administer any or all aspects of a program for the management of stormwater and erosion, including plan review and inspection but not including enforcement, on behalf of a Virginia Stormwater Management Program (VSMP) or Virginia Erosion and Stormwater Management Program (VESMP) authority. [see <https://lis.virginia.gov/cgi-bin/legp604.exe?171+cab+HC10116HB2009+BREF>]
- HB 2076 and SB 1127: Directs the State Water Control Board to adopt regulations requiring that all final plan elements, specifications, or calculations whose preparation requires a license in engineering, architecture, soil science, or a related profession be signed and sealed by a licensed professional. The bill incorporates professions covered by Chapter 4 [engineering, architecture, etc.] and now Chapter 22 [soil scientists] of the Code of Virginia Title 54.1. The bill requires the regulations to be effective no later than July 1, 2018. [see <https://lis.virginia.gov/cgi-bin/legp604.exe?171+sum+HB2076>]

Two nutrient trading bills that passed the General Assembly and are under review by the Governor are associated with Executive Order 52, 2016 [Development of Long-Term, Offsetting Methods within the Virginia Nutrient Credit Exchange Program]:

- HB 1619, which requires the review of allocations for watershed discharge permits [see <https://lis.virginia.gov/cgi-bin/legp604.exe?171+sum+HB1619>]; and
- HB 2311, which pertains to the Nutrient Offset Fund [see <https://lis.virginia.gov/cgi-bin/legp604.exe?171+sum+HB2311>].

Ms. Davenport concluded her update by saying that the top two issues among states in attendance of the ACWA meeting are (1) control of nutrients and (2) stormwater management.

### General Permits

Mr. Cunningham reported on DEQ's progress with reissue of the Phase II Municipal Separate Storm Sewer System (MS4) General Permit. He explained that EPA changed its Remand Rule to require (1) clear, specific, and measurable goals for minimum standards, and (2) greater public engagement, including the opportunity to request a public hearing. EPA provided two options for meeting the second requirement: (a) a traditional approach whereby all requirements are included upfront in the permit, and a hearing is held on the proposed permit; or (b) a procedural approach whereby not all requirements are necessarily in the permit, but when requirements are added, public participation and hearings are allowed. In its present form, the proposed permit in Virginia does not meet the public participation requirement so DEQ is working with its Technical Advisory Committee (TAC) to alter the permit so that it meets all requirements. DEQ is following a traditional approach by incorporating upfront all conditions in the permit. Enforcement actions will be through the conditions of the MS4 permit (not program plans or TMDL [total maximum daily load] action plans). DEQ expects to bring a proposed regulation to the State Water Control Board prior to or at its September meeting.

A stakeholder noted that the MS4 General Permit being developed will rely on numbers from the 5.3 version of the Chesapeake Bay Model and phase II Watershed Implementation Plans (WIPs) because the new numbers will not be available in time for their use.

Ms. Davenport reported that the Shenandoah Riverkeeper has recently mounted a court challenge to Virginia's Construction Stormwater General Permit. The State Water Control Board adopted the general permit in 2013, and the permit became effective on July 1, 2014. Thus, Virginia has been approving projects based on this permit for almost three years. The lawsuit focuses on enforceable elements of the permit and public access provisions. The plaintiff also contends that not all water quality impacts were considered during permit development (e.g. temperature). The judge has not yet reached a decision on the challenge.

Mr. Cunningham stated that DEQ intends to start the regulatory process for development of a new Construction General Permit late this summer. It is an 18- to 24-month process. DEQ will issue a Notice of Intended Regulatory Action (NOIRA) and invite individuals to participate on the TAC to help develop the permit; individuals interested in serving on the TAC should nominate themselves.

Ben Leach stated that statewide, Virginia currently has more than 6,000 active permits. During the past fiscal year (July 1, 2015 to June 30, 2016), more than 12,000 new permits were issued. DEQ is projecting the number of permits will increase this year. He reported that there has also been an increase in the purchasing of nutrient trading credits this year and an increase in the number of nutrient banks. Virginia now allows nutrient banks outside the Chesapeake Bay watershed, which has contributed to the increase.

#### **Update: House Joint Resolution 587, 2015**

Robert Cooper stated that DEQ submitted the second-year report on the seasonal high groundwater table study to the Governor and General Assembly in December 2016. DEQ solicited public input prior to finalizing the report. Since completion, DEQ has not received any additional comments from legislators or the public. The report lists several recommendations. Mr. Cooper's next tasks will be to begin implementing the recommendations.

Mr. Cooper plans to "scrub" the 2013 draft design specifications for the 15 nonproprietary BMPs. DEQ intends to tie the specifications to its Handbook [*Virginia Stormwater Management Handbook*]. Mr. Cooper wants to talk with localities to get feedback. Everyone will have an opportunity to comment on the draft revisions. DEQ will update the specifications through guidance and once adopted, will post the updated versions on the BMP Clearinghouse.

As recommended in the report, DEQ is working with the City of Virginia Beach to develop a regional approach to applying stormwater management regulations. There are different levels of complexity in taking a regional approach. For example, localities could simply use a spreadsheet for calculations. Virginia Beach is looking to use PCSWMM as a tool for modeling watershed quantity and quality. DEQ wants to develop guidelines to help localities utilize a regional approach.

Other tools and ways to meet the stormwater regulatory requirements could be useful. DEQ recognizes that there may be methods other than the Runoff Reduction Method. Models, such as IDEAL, may be helpful so DEQ is open to learning about such tools and other methods.

In the report, DEQ recommends reassessing the runoff reduction credit given to BMPs, and if appropriate, developing additional tools for volume reduction credit beyond those currently listed in the BMP design specifications. For example, there is a need to consider losses from evapotranspiration.

In general, DEQ is looking into the use of more tools to meet the regulations. In response to a question, Mr. Cooper explained that DEQ would allow the use of new tools, as applicable, within and outside areas with a seasonal high groundwater table.

#### **Update: Manufactured Treatment Device (MTD) Sizing**

Mr. Cunningham offered that DEQ has summarized the information submitted for MTDs approved for use in Virginia. It is DEQ's intention to post the information in table format on the BMP Clearinghouse. Mr. Cooper reviewed all reports submitted and summarized the information in an Excel spreadsheet. He noted that the summary indicates that the agency has thus far been consistent in its evaluation of MTDs. Some MTD certifications from New Jersey have expired;

Mr. Cooper offered that manufacturers could submit updated reports if desired. He asked representatives of MTDs to review the information on the spreadsheet with that provided in the submitted reports and send any comments to DEQ.

In response to a question, Mr. Cooper offered that DEQ intends to reference an equation for how to convert treatment volume obtained from the Runoff Reduction Method spreadsheet to flow using a standard method for small watersheds (Dr. Pitt's method). DEQ will reference the equation through the BMP Clearinghouse website or Handbook. There are other methods available that DEQ would also accept.

A stakeholder reported that the Chesapeake Bay Program has started its efforts to establish a protocol for evaluating BMPs. The Bay Program provided funding to Carmine Balascio from the University of Delaware in cooperation with David Sample from Virginia Tech to develop an evaluation protocol; a report is due in a year. At the completion of a year, the Bay Program hopes to be able to move the protocol through its approval process.

A different stakeholder asked if an industry-accepted group is looking into the sizing issue. Several responded that the Water Environment Federation (WEF) was working in this area. WEF initiated a framework for a national testing and evaluation program, STEPP [Stormwater Testing and Evaluation for Products and Practices]. An individual noted WEF hitched STEPP to the evaluation programs in New Jersey and Washington and relied on these programs as the core for the national program. EPA was funding WEF's work through a grant, which has ended. WEF published a report [available at <http://news.wef.org/wef-announces-a-framework-for-stepp-initiative/>]. WEF worked with EPA finance personnel to set up a plan for funding the program, and industry groups and several states wrote letters of support for the effort. However, funding is not available for it at this time. Funding appears to be the missing piece. Any entity undertaking such an endeavor needs funding.

A representative of a MTD manufacturer commented that several MTDs on the BMP Clearinghouse have two or three studies, and each study has a different loading rate for the same technology. The different loading rates for the technology occur because different states have different testing requirements, and manufacturers may be testing for different purposes. He asked what studies DEQ would look at for setting sizing. Mr. Cooper responded that DEQ realizes there is much inconsistency with the testing protocols used, and that the testing methodology affects the pollutant removal results.

Another representative of a MTD commented that the interval of maintenance will impact the performance of all BMPs. If a practice is undersized, storms will consistently bypass it. He suggested looking at practices that have been in the ground for at least three years.

Mr. Cunningham asked if there is a benefit to posting the summary information on the BMP Clearinghouse website. Several answered in the affirmative with the caveat that DEQ provides guidance to those who may want to use the information. It is a step in the right direction to help designers and reviewers, provided users understand how the table was developed.

Mr. Cunningham asked for comments on the spreadsheet and specifically requested that each manufacturer review the information provided for its devices. DEQ will then edit the information as needed and post it on the BMP Clearinghouse website along with guidance explaining how the table was developed. Mr. Cunningham requested that manufacturers verify the data in a few weeks. The manufacturers should just review the data for studies currently listed on the BMP Clearinghouse website. DEQ intends to have the spreadsheet posted by the next stakeholder meeting in May.

### **Open Discussion – Proprietary BMPs**

Mr. Cooper stated that DEQ is evaluating the interim guidance for approving MTDs [Guidance Memo No. 14-2009; available at <http://www.vwrrc.vt.edu/swc/EvalCert.html>] with other approaches to address use of MTDs as part of pretreatment. As part of DEQ's brainstorming for changes to make based on lessons learned, the agency is considering changing the status of the hydrodynamic separator (HDS). Given how other states deal with the HDS and given that testing for these devices is through total suspended solids (TSS) or suspended-sediment concentration (SSC) removal from lab tests (instead of TP removal from field testing), DEQ proposes removing the HDS category from the BMP Clearinghouse website. All HDS devices would be considered pretreatment and thus not receive TP removal credit. Mr. Cunningham reiterated that DEQ is simply looking for feedback at this time regarding the idea.

A representative of a MTD manufacturer stated that removing the granted TP credit from HDS devices would deter their use. Awarding a 20% TP removal rating, although low, provides an incentive for using them in treatment trains. Another stakeholder stated that the HDS is used commonly in industrial applications for pollution prevention and good housekeeping where we do not have a set standard or specification.

An individual suggested that instead of basing HDS performance on TSS test removal results from storm events, manufacturers could determine the total amount of sediment removed by the device in a year and estimate TP removal from the measured amount.

A representative of a MTD manufacturer stated that Washington has lower testing standards for HDS devices because of their use only as pretreatment. He added his support for DEQ's plans to tighten up on HDS devices because, in his opinion, the HDS devices are not removing, on average, 20% of phosphorus input, especially given the way some size the devices. He added that Virginia is missing policy for why to use a pretreatment device; thus, there is no regulatory driver for using HDS devices in Virginia. Other states, such as New Jersey, mandate the use of a sediment removal pretreatment device. The individual added that Virginia also hinders the use of MTDs by artificially capping filters at 50% TP removal. He requested that DEQ consider tightening up on HDS devices while loosening up on filtering devices. He concluded that Virginia should develop new policies if it does not plan to develop a testing protocol for evaluating BMPs.

Others offered that states such as Washington have testing for pretreatment, oil, phosphorus, metals, etc. whereas Virginia just gives credit for phosphorus removal. This comment prompted Ms. Davenport to ask if the stakeholders thought Virginia should have established something

other than TP for its regulations. The stakeholders were in support of the use of TP in the regulations. They cited that Maine also has phosphorus regulations.

Mr. Cooper offered that most nonproprietary BMPs require pretreatment, and these practices could use a HDS to meet the pretreatment requirement. The overall practice would get a higher TP removal rating than just the 20% for the HDS. Mr. Cooper stated that DEQ hears the concerns about capping efficiencies. He added that the verification studies often show much higher removal ratings than awarded in the certifications provided in other states. A representative of a MTD manufacturer stated that other states (New Jersey, Washington, Maine) offer “pass/fail” tests, whereby if the device achieves certain goals, it “passes” and if not, it “fails.” Virginia does not have a “pass/fail” system; each site is looking to remove as much phosphorus as possible.

Mr. Cunningham stated that Virginia will continue using the interim guidance for the time being.

Discussion ensued on the need for guidance on the proper use and configuration of treatment trains. For example, there is nothing in the current specification to prevent someone from placing a HDS at the end of the treatment train. There was consensus that if someone puts a HDS device at the end of the treatment train, it will not remove 20% of the TP coming into the device. There was general agreement among the stakeholders that all HDS devices should belong to a pretreatment category for use only at the front end of a treatment train, and credit should be awarded to them for the TP that they remove.

Mr. Cooper explained that DEQ does not currently allow “double dipping,” whereby credit is given to a HDS used for pretreatment at 20% in addition to the credit provided for the practice. If a HDS is used to meet the pretreatment requirements (e.g., instead of using a forebay), no additional credit can be provided.

An individual stated that New York separates practices used specifically for pretreatment from those with stand-alone credit; generally, New York also sizes the practices differently depending on the intended use. He suggested that to remove phosphorus as a stand-alone BMP, a HDS would need to be sized conservatively.

Mr. Leach proposed that the MTD category could have two levels of performance. Level 1 would be for pretreatment, and have less conservative sizing requirements. Level 2 would be for stand-alone treatment, and the device would need to be sized very conservatively.

A representative of a MTD manufacturer voiced support for tightening up the data used to evaluate HDS devices. He explained that the longer the residence time, the more pollutants the device removes. Under conditions of high loading rates, however, an HDS is not likely to get any phosphorus removal.

A stakeholder mentioned that the Minnesota Stormwater Manual has standards for pretreatment practices. He suggested that Virginia consider following the Minnesota approach by developing standards for pretreatment practices. MTDs could be a part of this category along with forebays and other types of pretreatment practices.

A stakeholder commented that it sounds like there is talk of doing a lot of work just to shift credits from one place to another. He wondered what benefit would be gained from the effort. He expressed concern for removing tools. Another individual stated that it would better to develop proper guidance.

A different stakeholder asked if DEQ is considering making any other changes to the interim guidance. Mr. Cooper responded that DEQ is only in the early stages of proposing a more permanent guidance for evaluation of MTDs.

Mr. Cooper explained that the Minnesota Stormwater Manual offers guidance for what the engineer and reviewer need to ask in order to establish proper sizing. He asked if Virginia should develop similar guidance or specification. There was support for such information from the stakeholders.

#### **Next Meeting Dates**

The next meeting date is set for May 17, 2017. Someone suggested using a poll to set suitable meeting dates in August and November. Jane Walker offered to follow up on this request.

#### **General Comments**

Jeff Hancock stated that VDOT has reviewed 25 MTDs in its effort to develop an “approved products list.” Devices reviewed by VDOT must be on the BMP Clearinghouse website. The agency is establishing what products it will accept on VDOT projects. VDOT focuses on constructability, maintenance, and life-cycle costs. The agency has requested additional information for four or five devices. Initial comments from the VDOT internal review committee are due in mid-April.

#### **Adjournment**

With no further business, Mr. Cunningham thanked everyone for participating and adjourned the meeting.