Virginia Stormwater Best Management Practice (BMP) Clearinghouse Committee Meeting
Henrico Training Center
7701 E. Parham Road, Henrico, VA 23294
July 29, 2015

Meeting minutes by Jane Walker

Additional information pertinent to the meeting discussion but not provided during the meeting is included within brackets, [].

Committee Members Present
Fred Cunningham, Virginia Department of Environmental Quality (DEQ), Committee Chair
Normand Goulet, Northern Virginia Regional Commission
Roy Mills, Virginia Department of Transportation (VDOT)
Colleen Rizzi, Loudoun Water
Brian Stokes, Campbell County

Agency Staff Present
Robert Cooper, DEQ-Central Office
Drew Hammond, DEQ-Central Office
Melanie Davenport, DEQ-Central Office

Contracted Administrative Personnel Present
Jane Walker, Virginia Water Resources Research Center (VWRRC)

Others Present
Derek Berg, Contech Engineered Solutions
C.J. Bodnar, City of Virginia Beach – Public Works
John Brown, ESI Environmental Services Inc.
Aimee Connerton, Rinker Materials
Scott Crafton, Louis Berger
Whitney Katchmark, Hampton Roads Planning District Commission (HRPDC)
Chris Kuhn, Stantec
Chuck Lacey, Jr., Advanced Drainage Systems (ADS)
Lisa Lemont, Hydro International
Hessam Nabavi, Virginia Ready-Mixed Concrete Association
Bill Nell, Arcadis / Thirsty Duck
Norman Rainer, Dynaphore, Inc.
Corey Simonpietri, ACF Environmental
Sean Simonpietri, Exact Stormwater Management
Terry Siviter, Rotondo Environmental Solutions
Richard Street, Spotsylvania County
Jill Sunderland, HRPDC
Steve Sunderman, Terrazia PC
Mark Williams, Luck Companies
John Woodburn, Goochland County

Call to Order & Introductions

Fred Cunningham of DEQ called the meeting to order and reviewed the meeting agenda. Everyone introduced herself or himself. Jane Walker of the VWRRC asked all to sign in to record the attendance.

Minutes from January 28, 2015 Meeting

The January 28, 2015 meeting minutes were approved as distributed. The final version of the minutes will be posted on the Virginia Regulatory Town Hall website.

Update: DEQ Stormwater Program

Agency Reorganization: Melanie Davenport with DEQ announced that the agency is splitting the Water Division into two new divisions: Water Permitting Division and the Water Planning Division. Melanie will be heading the Water Permitting Division, which will include the Virginia Pollutant Discharge Elimination System (VPDES), Stormwater Management, and Wetlands programs. Jutta Schneider will head the Water Planning Division, which will include the Total Maximum Daily Load (TMDL), Water Monitoring and Assessment, and Chesapeake Bay programs.

Stormwater Stakeholder Advisory Group (SAG): This group was created by DEQ to consolidate the integration of the Chesapeake Bay Preservation Act, the Erosion and Sediment Control (ESC) Law, and the Virginia Stormwater Management Act (integrating both the Code of Virginia and associated programs). There are also four smaller work groups associated with the SAG: (1) Nutrient Trading, (2) Enforcement, (3) Implementation, and (4) Wordsmithing. Numerous meetings of the SAG and its various workgroups have met this spring and summer. Meeting minutes have been posted on the Virginia Regulatory Town Hall website. No consensus has been reached, but progress is being made. DEQ anticipates that the final efforts will be put forward in the 2016 governor's legislative package. Support has been given by Delegate Hodges (98th District) and Senator Hanger (24th District). Wrap up of the work is expected by October 2015.

***Construction General Permit*:** Fred Cunningham reported that DEQ issued about 730 first-time construction general permits in FY 2015 (July 1, 2014 – June 30, 2015). Of these issued permits, DEQ is the Virginia Stormwater Management Program (VSMP) authority for 210 permits, and localities are the VSMP authority for 520 permits. The number of permits is roughly half what was expected (DEQ expected 1,500 new permits). DEQ has also approved 150 plan reviews this past year, and 50 plans are still under review. DEQ is hiring more plan reviewers.

Mr. Cunningham offered that the agency's reporting database seems to be working well for localities. In June, DEQ provided training on the use of the database for new VSMP localities and provided refresher courses for other localities. The first enhancement of the database was issued at the end of June. The enhanced version gives localities editing capabilities and more reporting capabilities. DEQ will offer trainings for localities so they can conduct transfers and modifications using the enhanced version of the database.

DEQ is in the process of creating and testing an inspection module, which will also be tested by some VSMP localities before going public. The inspection module is for reporting to EPA on VPDES inspections under the post-construction general permit. DEQ plans to add a Geographic Information System (GIS) component to the system by the end of September 2015.

Water Permit Guidance: Drew Hammond of DEQ reported that the agency issued two stormwater-related guidance documents in April:

- 15-2003 -- Postdevelopment Stormwater Management Implementation Guidance for Linear Utility Projects under the Virginia Stormwater Management Program Regulation, 9VAC25-870
- 15-2004 -- Point Assessment for Alleged Violations of the Construction Stormwater Permit Criteria and Enforcement Referral Guidance.

These documents are posted on the Virginia Regulatory Town Hall website [https://www.townhall.virginia.gov/l/GDocs.cfm?boardid=103] and also provided on DEQ's Water Permit Guidance website [http://www.deq.virginia.gov/Programs/Water/Laws,Regulations,Guidance/Guidance/WaterPermitGuidance.aspx].

Virginia House Joint Resolution 587: Mr. Hammond explained DEQ's plan to meet Virginia House Joint Resolution 587, which requests DEQ to conduct a two-year study of the application of the post-development stormwater management technical criteria in areas with a seasonal high groundwater table. DEQ is in the process of obtaining information from other localities and states that have looked at the issue and plans to summarize the collected information and bring it before impacted localities and the BMP Clearinghouse Committee. DEQ may potentially have something to review before the October or December (January) BMP Clearinghouse Committee meetings; a progress report is due to the General Assembly on the first day of the 2016 session.

Municipal Separate Storm Sewer System (MS4) Phase I Permits: Mr. Cunningham reported that DEQ has been working with the HRPDC and individual localities regarding their MS4 permits. The goal for the agency is to have draft permits to the MS4 localities by the end of August for final comment. Public notice is expected in early fall.

TMDL Action Plans: DEQ has reviewed some draft TMDL action plans and has thus far found them to generally look good. The plans are due to DEQ by the end of September. EPA is providing funding that DEQ can use to get contracted help to review the plans so that DEQ can get them approved in the timeframe required by the permits.

Guidance: Evaluation of Manufactured Treatment Devices (MTDs)

Mr. Cunningham explained that DEQ's Director Paylor received a letter in June from eighteen stakeholders who expressed concern regarding DEQ's guidance on MTD evaluations (Memo No. 14-2009). The stakeholders primarily represent local governments and stormwater equipment manufacturers. From the perspective of these stakeholders, there is confusion because the guidance does not provide technical standards for sizing of MTDs. Director Paylor and other DEQ personnel met with key individuals of the stakeholder group in July to discuss the issue. As an outcome, DEQ asked the stakeholder group to identify three or four individuals to work with the agency to provide approaches or options to address MTD sizing. The goal of the group

is to submit something to Director Paylor by mid-September. DEQ plans to share the drafted document with the BMP Clearinghouse Committee and others for feedback. DEQ then plans to revise the guidance document.

Presentation: Robert Cooper gave a PowerPoint presentation that highlighted DEQ's understanding of the issues of MTD sizing and requested feedback from those in attendance. [Following the meeting, the slides from Mr. Cooper's presentation were posted on the Virginia Stormwater BMP Clearinghouse website: http://www.vwrrc.vt.edu/swc/WhatsNew.html.]

Mr. Cooper explained that there are two basic issues: 1) the design of the MTD itself regarding sizing (e.g., gallons per square foot for filters), and 2) a method for determining what goes into a MTD unit. He offered that he would focus on methods that can be used for determining what goes into a MTD, and therefore concentrate on the basics of runoff reduction, phosphorus treatment volume, and flow (conversion to cubic feet per second, cfs).

Mr. Cooper started with a review of the Simple Method equation, which estimates the annual pollutant load exported in stormwater runoff from small urban catchments. Loads are important because they estimate the amount of pollutant. In response to a question, Mr. Cooper clarified that phosphorus loads in Virginia are based on total phosphorus (TP).

The Simple Method equation is shown below:

$$L = P \times Pj \times Rv \times C \times A \times 2.72/12$$

Where:

L (lbs/yr) = total post-development pollutant load
P (in) = average annual rainfall depth = 43 in. (VA)
Pj = fraction of rainfall events producing runoff = 0.9
Rv = volumetric runoff coefficient
C (mg/L) = flow-weighted event mean concentration (EMC) of TP = 0.26 mg/L
A (acres) = area of development site.

Mr. Cooper then showed the equation for determining the pollutant load when the volumetric runoff coefficient is comprised of a composite of the drainage area that includes impervious cover (*I*), managed turf/disturbed soils (*T*), and forest/open space (*F*):

$$L = P \times Pj \times Rv_{composite} \times C \times A \times 2.72/12$$

Where:

$Rv_{composite}$ = weighted runoff coefficient = $(Rv_I \times \%I) + (Rv_T \times \%T) + (Rv_F \times \%F)$
Given the runoff coefficient (Rv) for *I* = Impervious cover (0.95); *T* = Managed Turf/Disturbed soils; and *F* = Forest/Open Space; and the percent coverage (%) of these respective land uses in the drainage area.

The $Rv_{composite}$ value is important because it is used in determining the phosphorus load (see above). It is also used to calculate the treatment volume to a BMP (Tv_{BMP}), which is used to size the BMP.

The Tv_{BMP} can be calculated using the following equation:

$$Tv_{BMP} = (P \times Rv_{composite} \times A)/12$$

Where:

Tv_{BMP} = treatment volume from contributing drainage area to BMP + remaining runoff from upstream practices
$P = 90^{th}$ percentile rainfall depth = 1 inch
$Rv_{composite}$ = weighted runoff coefficient
A = contributing drainage area to BMP.

The one-inch value for P comes from rainfall frequency analyses for different locations in Virginia, which show that approximately 1-inch of rainfall will capture 90% of all storms.

The Tv_{BMP} can also be determined from the Virginia Runoff Reduction Method (VRRM) spreadsheet. When using the VRRM spreadsheet, users enter the area (acres) treated by specified practices. If the practice receives a runoff reduction credit, the value will be shown in the spreadsheet; MTDs do not receive runoff reduction credit. Given the area to be treated, the spreadsheet will calculate the runoff reduction achieved by the BMP (0 ft^3 for MTDs), the remaining runoff volume (ft^3), and the total BMP treatment volume (Tv_{BMP}, ft^3).

The Tv_{BMP} provides the value needed to determine the size of the MTD. If the drainage area is specifically going to the MTD, the MTD treatment volume is specific to the drainage area so sizing the MTD according to the total BMP treatment volume is appropriate. However, if the MTD is used in a treatment train, it will receive the runoff volume from all of the upstream treatment practices plus the runoff volume from the area draining to the MTD; in this case, the MTD could be oversized if designed based on the total BMP treatment volume. For example, if a MTD in a treatment train only needs to remove 0.2 to 0.3 pounds of phosphorus, it could be oversized if based on the treatment volume received by the MTD.

Mr. Cooper asked if others had thoughts about this issue. A representative of a MTD manufacturer asked when the new VRRM spreadsheet would be released; Mr. Cooper replied likely by the end of August 2015.

Mr. Cooper explained that once users know the treatment volume needed, they have two treatment choices: use of volume-based BMPs or flow-based BMPs (or a treatment train of these BMPs).

Volume-based practices store treatment volume and treat at or below a designed flow rate. For volume-based BMPs, the water can be released from storage at a rate that meets the specification of the BMP. In addition, the storage process provides pretreatment, which improves the pollutant removal efficiency of the practice.

A flow-based BMP is more complicated because one must convert the treatment volume to flow. The Technical Release 55 (TR-55) method by the Natural Resources Conservation Service (NRCS) can be used to convert treatment volume to flow. The method is described below, is included in Virginia's draft Stormwater Handbook, and is used in other states. It is based on the following equation [Modified NRCS TR-55 Eq. 4-1]:

$$q_{pTv} = q_u \times A \times Q_a$$

Where:

q_{pTv} = treatment volume peak discharge (cfs)
q_u = unit peak discharge (cfs/mi^2/in)
A = drainage area (mi^2)
Q_a = runoff volume (watershed inches), equal to Tv/A

Mr. Cooper offered that when using the method, the volumetric term of 1-inch is converted to an intensity term of 1-inch in 24 hours. Also, the equation assumes a NRCS Type II rainfall distribution. [Most of Virginia falls under the Type II distribution; however, Virginia Beach is classified as Type III.]

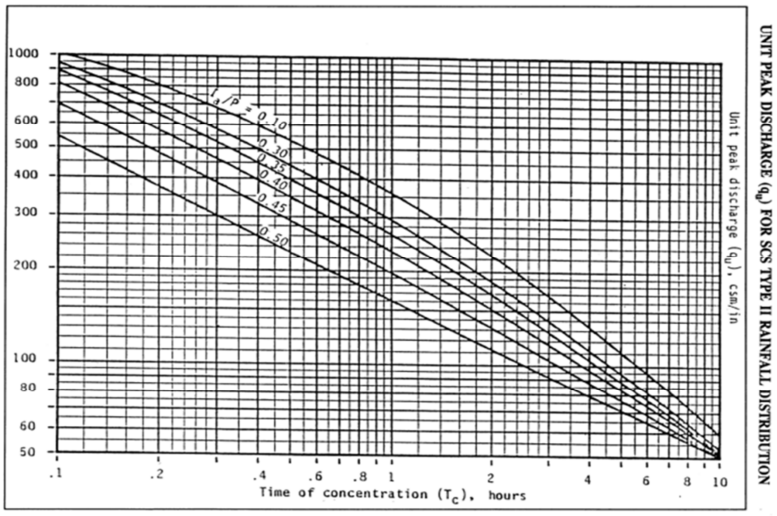
To determine the unit peak discharge (q_u), first use the equation below to determine the curve number (CN):

$$CN = \frac{1000}{\left[10 + 5P + 10Q_a - 10(Q_a^2 + 1.25Q_aP)^{0.5}\right]}$$

Where:

CN = curve number
P = rainfall (inches), 1.0 inch in Virginia
Q_a = runoff volume (watershed inches), equal to Tv/A

The resulting curve number is then used to find the initial abstraction-precipitation ratio (I_a/P), which is used in the chart below. The chart has time of concentration (T_c) along the x-axis, and the unit peak discharge (q_u) along the y-axis. Thus, by using the I_a/P and T_c, the q_u can be estimated from the chart. The unit peak discharge, q_u, is expressed in cubic feet per second per square mile per inch of runoff (csm/in). [Initial abstraction, I_a, is a measure of the losses that occur before runoff begins, including interception, infiltration, surface depression storage, etc. The time of concentration (T_c) represents the length of time required for a drop of water to travel from the most hydraulically distant point in the watershed or sub-watershed to the point of analysis; T_c is expressed in hours.]



In the chart above, the I_a/P ranges from 0.10 to 0.50. However, a 1-inch rainfall yields an I_a/P outside the range. As an example, a CN of 98 yields an I_a/P ratio of 0.041. For this situation, one would need to extrapolate to develop a curve from the NRCS TR-55 model to get the unit peak discharge.

In summary, the method described above is listed in Virginia's draft Handbook so can be used during the short-term. [See http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/Publications.aspx for the 2013 draft Virginia Stormwater Management Handbook and 1999 Virginia Stormwater Management Handbook (Blue Book).]

An individual asked how one knows what amount of suspended matter or sediment is in the determined volume of water. Mr. Cooper replied that no one knows for sure. In general, treating storm events less than or equal to one inch is estimated to capture 75% of the flow volume created by rainfall on an annual basis. Someone could argue, therefore, that the treatment volume is being used as a surrogate for TP. An individual who worked for the Virginia Department of Conservation and Recreation (DCR) when the design storm was being developed added that statewide runoff averages for total suspended solids (TSS), phosphorus, and nitrogen were determined at that time for urban land uses.

Mr. Cooper explained that a second method used to size flow-based BMPs relies on a continuous model simulation. This method is being used in Washington, Wisconsin, and other places. The continuous model generates the percent annual flow versus flow rate (gallons per minute, gpm). Thus, someone could size the BMP to the flow rate that equates to treating 90% of the annual flow. The model is designed to be used on a site-by-site basis and ties in well with runoff reduction. Drawbacks to the method include that it is more complex so requires more work for engineers. Mr. Cooper added that Virginia may be able to make its use simpler by establishing a surrogate site and extrapolating values up or down from the surrogate site as needed. A series of curves could be generated and used to come up with sizing. An individual noted that the example shown only has impervious cover, not managed turf. Someone suggested that different scenarios

with different levels of impervious cover and turf could be generated. Mr. Cooper offered that the issue may already be settled when determining the site Rv value.

In response to a question, an individual summarized that flow-based devices provide treatment instantaneously (because there is no storage) so must have the capacity to treat the peak flow rate coming across the site; otherwise, the runoff will overtop or bypass the treatment. Thus, we need a way to calculate the peak flow rate. He estimated the first method described would likely predict four times the peak flow rate of the second method. Thus, the unit would more likely underperform (not provide the desired treatment) if sized based on the second method.

An individual commented that currently, most people default to using the 1-inch storm so they can use easier calculations; they then may end up purchasing a larger unit than needed. By oversizing the unit, they are ensuring that it meets their needs. Purchasing an oversized unit is more costly but has advantages. Oversized units should theoretically provide more phosphorus removal and/or have longer maintenance cycles.

Mr. Cooper briefly described what some other states are doing to compute stormwater runoff rates and volumes. For example, the New Jersey stormwater quality design storm can be used to analyze and design BMPs based on several different methods, including the NRCS methods. New Jersey provides a rate to use and rainfall distributions to go along with the rate, a number to grade an intensity-duration-frequency (IDF) curve [for use with the Rational Method], as well as cumulative and incremental rainfall distributions for use with computer programs such as the NRCS methodology [to compute stormwater quality design storm runoff peaks or hydrographs; see http://www.njstormwater.org/bmp_manual2.htm and http://www.njstormwater.org/bmp_manual/NJ_SWBMP_5%20print.pdf for more information.] New Jersey's methodology puts the volume associated with the method used and the flow rate "on the same playing field." Virginia has not yet tied the flow rate to the VRRM so this may be something to explore down the road.

Mr. Cooper offered that different states provide different stormwater quality design storms for use in designing BMPs. Virginia uses 1-inch of rainfall, whereas the New Jersey design storm has a total rainfall depth of 1.25 inches and a total duration of two hours. Georgia uses 1.2 inches of rainfall, and South Carolina treats 1.8 in./24 hour (1 year; based on IDEAL model). Some states consider impervious cover only, whereas others, such as New Jersey, specify offline only. Mr. Cooper referenced earlier comments on how the Rv values change when considering impervious versus pervious land cover. He concluded by saying that these differences are important because the methods are used to determine the flow rate into the BMP, which is then used to size the BMP.

A representative of a MTD manufacturer commented that the NRCS method would be the quickest to implement because it is used in 10 states already. Mr. Cooper replied that, as mentioned earlier, his concern with its use is taking a single depth number and converting it to intensity and distribution.

A representative of another MTD manufacturer suggested that rates be determined differently for hydrodynamic separators (HDS's) and filters.

Mr. Cooper showed a graph of a storm event where MTD performance monitoring occurred. The graph showed that sampling took place when the actual flow was much lower than the design flow. Mr. Cooper stated that in general, the data reviewed for MTD performance evaluation was not representative of the MTD design flow. A representative of a MTD manufacturer stated that the MTD may need to be designed to capture the 90% percentile flow, but that means that 90% of the time, the flow going through the device will be less than what it was designed to handle. Therefore, he would expect sampling to occur when the flow was lower than the design flow. Mr. Cooper agreed but noted that performance can decline as the flow reaches the design flow of the MTD so needs to be considered and possibly addressed.

Mr. Cooper concluded his presentation by stating that the materials received and considered by DEQ for the purpose of determining phosphorus removal efficiency for the MTDs listed on the Virginia Stormwater BMP Clearinghouse website were posted on the website [see http://www.vwrrc.vt.edu/swc/MTDApplications.html]. He encouraged interested individuals to look at the information to learn more about the MTDs and their performance testing.

Presentation Discussion: Mr. Cunningham asked if anyone knew how New Jersey and others came up with the numbers used for their design storms. A representative of a MTD manufacturer replied that New Jersey performed a statistical analysis of their historic rainfall. New Jersey offers a rainfall intensity-duration curve (for those using the Rational Method to compute stormwater quality design storm runoff peaks). For this graph, New Jersey performed a frequency analysis on rainfall intensity and based the numbers off storm events expected to occur within 10 months (a conservative design). He added that he does not know how the numbers were derived, but he knows the person who developed them. The meeting participant added that Tennessee also uses an intensity value that can be used in a formula to calculate flow rate. Their work was also based on a statistical analysis of the historic rainfall. Mr. Cooper suggested that perhaps Virginia could perform a similar analysis.

An individual cautioned that as DEQ goes forward with developing new means to tie in flow with the VRRM, that it be careful not to develop sizing for MTDs with different standards than those in the current regulations for non-proprietary BMPs. He noted that those involved in the process to develop the current numbers for volume-based BMPs had to show stakeholders that they were reasonable and cost effective. He added that when the numbers were developed for the volume-based BMPs, they did not consider flow-based MTDs.

An individual representing a local government offered that DCR's Dam Safety Program intends to set up runoff rates through actual storm intensities. The release date is expected for December 2015 and will make a difference on the rates. The data are expected to be more reflective of the region and thus more accurate. As a result, NRCS is considering making changes to theTR-55 methodology to make it a more site-specific and distribution-specific approach.

An individual asked if DEQ foresees changes to the performance criteria related to maintenance. Mr. Cooper stated that maintenance is a factor in BMP performance. He added that DEQ has not put any parameters on MTD maintenance requirements; DEQ simply refers to the recommendations by the MTD manufacturer regarding maintenance. The individual noted that

Home Owners Associations often do not budget for maintenance and then complain to the manufacturers that the MTD is not working properly. Ms. Davenport offered that DEQ is developing a verification process to ensure that drainage areas in the Chesapeake Bay watershed are meeting TMDL reductions; as a result, regular BMP maintenance may be needed for localities to show compliance with the Bay TMDL.

An individual offered that Massachusetts conducted an analysis comparing four different approaches to converting volume to flow rate. He offered to provide a copy of the 2009 technical report. ["PCSWMM Evaluation" by Rees and Schoen; available at http://www.mastep.net/documents/PCSWMM_Final_Report.pdf]

Several representatives of MTD manufacturers requested that sizing information be posted on the Virginia Stormwater BMP Clearinghouse website for approved MTDs. One individual expressed that in his opinion not having this information is the biggest information hole with the BMP Clearinghouse website and estimated that this hole could be filled within 60 days. He offered that there are likely 100 different ways to determine flow, and each method likely has 15 assumptions. He therefore proposed that DEQ publicize the sizing that was used during testing. Another agreed, suggesting that DEQ approve MTDs at a loading rate determined from the sizing used during testing (e.g., The MTD can't exceed X rate during peak flow using Y method – that which was used during testing).

Mr. Cooper offered that determining sizing from the performance data submitted would not be a simple and easy task. He noted that for field testing, he does not have discrete flows with discrete results; the data were generally averaged. Lab testing was conducted under different flow rates and loading rates, and lab testing involved TSS removal, not TP removal. A representative of a MTD manufacturer offered that the manufacturers could provide the information on how the MTD was sized during the testing process so that Mr. Cooper could review it.

A BMP Clearinghouse Committee member proposed that the submitted information could be used to establish a maximum sizing flow rate during an interim period. The rate could be set conservatively. In the meantime, DEQ could establish a sizing method that all could use down the road. A representative of a MTD manufacturer added that this is what he would like to see happen.

Mr. Hammond commented that Director Paylor stresses that DEQ should not do anything that offers an advantage to one MTD over another. In response, a representative of a MTD manufacturer suggested that DEQ post a policy paragraph on the BMP Clearinghouse website that explains the method that DEQ is following in determining sizing criteria for all approved MTDs; that way, no advantage would be given to one device over another. Others added that if DEQ bases the sizing on that provided by the manufacturer during testing, the manufacturers would have little room to complain.

Mr. Cunningham questioned the usefulness of the MTD sizing during testing given that the performance data were taken from events well below the design rate. The BMP Clearinghouse Committee member who made the suggestion agreed that the method would not be perfect, but

he added it would be a starting point while a better method is established. A representative of a MTD manufacturer explained that other state evaluation programs require two monitored events to be at least 75% of the design rate; if a submission does not meet the requirement, its removal rate can be reduced.

Mr. Cooper offered that the following issues would need to be considered: 1) field vs. lab testing; 2) TSS vs. TP testing; and 3) HDS vs. filtering devices. Mr. Cunningham summarized that DEQ would work with a small group of stakeholders. A draft of the product developed would be shared with the BMP Clearinghouse Committee and others on the BMP Clearinghouse listserv. Anyone could send comments on the draft to Robert Cooper (Robert.Cooper@DEQ.Virginia.gov) for consideration by DEQ. DEQ would make the final decisions.

An individual asked if a manufacturer could provide additional data to get a higher flow rate. Mr. Cunningham responded that any manufacturer could ask to have its product reevaluated if there is new information. DEQ's goal is to make decisions on the most current information and to be fair to all.

The individual suggested that DEQ might want to incentivize being better than the minimum requirements. Another person offered that California requires monitoring of stormwater and requires that units meet specified standards, e.g., effluent of less than 1.5 parts per million (ppm) of copper and zinc.

A meeting participant who represents a MTD manufacturer commented that while he thinks sizing is the first issue to take off the table, it is not the only issue that needs to be addressed in a more permanent MTD evaluation guidance. He requested an update from DEQ regarding developing a more permanent guidance, given that a year ago, the agency believed the current document would serve a one-year period. Mr. Cunningham responded that from his perspective, the guidance should not be majorly revised, given that the Chesapeake Bay Program has plans to develop an evaluation protocol.

An individual reported that the Chesapeake Bay Program's Scientific and Technical Advisory Committee (STAC) organized a workshop in March focused on evaluating MTDs. Currently, a report is being drafted that summarizes what was said during the workshop. One recommendation was that there should be a Bay-wide policy, and there was agreement by the Bay states on the concept of such a policy. Thus, they are pulling together stakeholders to establish such a policy. Progress is being made, but it will not happen overnight. The first meeting of the stakeholders is scheduled for September. In response to a question, the individual explained that the process is focused strictly on MTDs; the Bay Program has a different process for non-MTDs.

Ms. Davenport reported that the Interstate Technology and Regulatory Council (ITRC) is starting a new Stormwater BMP project team. She offered to provide more information to Jane Walker for distribution to those on the BMP Clearinghouse listserv. [ITRC is a public-private coalition with the goal of reducing barriers to the use of innovative environmental technologies that reduce compliance costs and maximize cleanup efficacy. ITRC is a program of the Environmental

Research Institute of the States (ERIS), a 501(c)(3) organization that is managed by the Environmental Council of the States (ECOS), a national non-profit, non-partisan association of state and territorial environmental agency leaders.]

A BMP Clearinghouse Committee member observed that whereas DEQ accepts the use of MTDs for MS4 compliance purposes, the Chesapeake Bay model does not count them towards meeting the Chesapeake Bay TMDL. Thus, he noted, the state is losing nutrient credit. He added that once there are sufficient numbers of designs available, the Chesapeake Bay Program will create a BMP class (e.g., green roofs, permeable pavers), where research information can be submitted for inclusion in the Bay model.

Other Comments

An individual stated that he has issues with calculations associated with pervious pavers. Mr. Cooper requested that he send his comments and suggestions to him. Mr. Cooper further explained that DEQ is looking at three projects associated with the BMP specifications: 1) Updating the current specifications, 2) Updating affected specifications following the high-water-table study to be conducted, and 3) Updating specifications for linear projects.

A representative of a MTD manufacturer asked why a HDS unit was given a TP removal credit of 25% when all other HDS's are given a 20% removal credit, particularly in light of earlier comments that DEQ does not want to provide an unfair advantage. He added that he was working under the assumption that HDS's only get 20% credit as a maximum. Mr. Cooper explained that the device referred to is a hybrid: it has a HDS component and a filtering component. In addition, the submission had TP data to show that it could remove phosphorus at a level where DEQ has confidence to give it 25% removal credit. In response to a follow-up question, Mr. Cooper stated that DEQ is willing to review new data for products already listed on the BMP Clearinghouse website to determine if different credit should be awarded. [Note: Table 1 in Guidance Memo No. 14-2009 provides a summary of percent TP removal efficiencies awarded by DEQ.]

Next Meeting Dates

The next meetings are set for October 28, 2015 and January 27, 2016.

Adjournment

With no further business, the meeting was adjourned.