



Environmental Solutions

December 2010
Newsletter

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Special Points of Interest:

- Water Reclamation and Reuse reduces discharge of nutrients (page 2)
- VSMP submittal now 90 days (page 3)
- Effluent Limitations Guidelines were withdrawn (page 4)
- WEG's community outreach (back cover)



Virginia Stormwater Management Program Regulations Update

As you may know, the Virginia Department of Conservation and Recreation (DCR) has undertaken a lengthy process moving toward revisions to the Virginia Stormwater Management Program Regulations and Technical Criteria (4VAC50-60). The regulations were most recently presented to the Virginia Soil and Water Conservation Board (SWCB) for adoption in late 2009. They were adopted but subsequently suspended, pending changes to the numeric nutrient load thresholds that will be needed to implement the federal Total Maximum Daily Load (TMDL) objectives for the Chesapeake Bay. The Bay TMDL process has been proceeding throughout 2010 and the Environmental Protection Agency (EPA) envisions publication of a final TMDL Watershed Implementation Plan by December 31, 2010. The stormwa-

ter regulatory process was restarted in July 2010 to review the provisions in the suspended regulations and provided refinements to the technical and administrative criteria. The new Regulatory Advisory Panel (RAP) is making strides to improve the regulations and the DCR anticipates completion of the revised regulations and presentation of final regulation to the SWCB in May 2011.

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Dam Safety: Legislative Update

The 2010 legislative session proposed several bills that affect dams pursuing recertification. The most important aspects of these bills are summarized below.

- The regulatory Spillway Design Flood (SDF) requirement for High Hazard dams now differentiates between existing and new dams, allowing a reduced regulatory SDF for existing dams.
- The regulatory SDF can be further re-

duced if the owner commits to agree with a series of specific conditions spelled out in Senate Bill SB276.

- The SDF for High Hazard dams has been reduced to as low as the 100-year storm event with the application of an Incremental Damage Analysis (IDA), when it is demonstrated the reduced SDF will not increase the risk for downstream properties.

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Navigating Water Reclamation and Reuse

The *Water Reclamation and Reuse Regulation* (9VAC25-740 et seq.) (Regulation) promotes and encourages the reclamation of wastewater (reclaimed water) and reuse of the reclaimed water in a manner protective of the public and the environment. The reuse of reclaimed water offers an alternative to the discharge of wastewater, making reclaimed water a resource, not a waste as traditionally viewed. Reuses approved in the Regulation include agricultural irrigation, landscape irrigation (golf courses, athletic fields, cemeteries, etc.), nurseries, sod farms, silviculture, and landscape impoundments. The Regulation prohibits the reuse of reclaimed water for potable sources and flushing in residential structures, although commercial and industrial reusers can use reclaimed water for flushing toilets.

One of the benefits of water reclamation and reuse is the reduction in direct discharge of the nutrients nitrogen and phosphorous to the Chesapeake Bay and its tributaries. The U.S. EPA is in the process of adopting Total Maximum Daily Loads (TMDLs) for the Bay and its tributaries placing limits on the amount of nitrogen and phosphorous that can be discharged. As a result, Virginia has prepared a Watershed Implementation Plan (WIP) detailing how the TMDLs will be met in the Commonwealth. Water reclamation and reuse is identified in the WIP as a best management practice (BMP) for future reductions in nutrients discharged to the Bay. In the Regulation, reclaimed water reused for the regulated purposes are not counted against the reclaimer's allowed nutrient loads, depending upon the level of treatment provided and the final reuse. While all of the nutrients are not removed from the reclaimer's reported discharge, the amount credited as removed significantly reduces the nutrient loadings from a facility, allowing it to comply with permitted effluent limits and reduce the impact on the Bay.



A central requirement of the reuser is the development and implementation of a Reclaimed Water Management (RWM) Plan, detailing how the reclaimed water will be stored, distributed, and used in their system. The RWM includes mapping, an inventory of storage facilities, a water balance, service agreements and contracts with the reclaimer, monitoring requirements, education and notification, a cross-connection and backflow prevention program, and maintenance of water quality in the storage and distribution system. While the end-user benefits from the availability of reclaimed water for use in their operations, the reuse for irrigation is limited by the water needed for the crop (supplemental irrigation), the nutrients in the water and soil, the nutrients required by the crop, and the ability of the soil to absorb the water without creating runoff and discharge to State waters. Under certain water quality conditions and irrigation uses, the RWM plan must include a Nutrient Management Plan (NMP) prepared by a planner certified by the Virginia Department of Conservation and Recreation (DCR).

WEG has a number of professionals with the expertise to assist water reusers with negotiating the regulatory and permit program. WEG has many years of experience in water budgeting and irrigation planning for golf courses and other urban land uses. WEG can develop RWM plans to meet the needs of a reuser and the requirements of the Regulation. WEG also employs certified Nutrient Management Planners with experience in planning for non-agricultural reuses. If you believe your operations can benefit from the reuse of reclaimed water, please contact us to see how we can assist you.

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VSMP Permitting Timeline

The Virginia Department of Conservation and Recreation (DCR) recently clarified an important point regarding the timeline for application submittals for Virginia Stormwater Management Program (VSMP) permits. VSMP Permit Regulation Section 50-60-360 states the following:

Stormwater discharges from large construction activities and stormwater discharges associated with small construction activities shall submit applications at least 90 days before the date on which construction is to commence.

In addition, Section 50-60-1150 states:

The operator of a construction activity is authorized to discharge stormwater under

the terms and conditions of this permit 15 business days following submission of a complete and accurate registration statement to the permit-issuing authority unless notification of coverage is made by the permit-issuing authority at an earlier time.

Based on recent correspondence with the DCR, their recommended position is that permit applicants should follow the permit application timeframe and submit registration statements 90 days prior to the anticipated start of construction. This will provide time for the 15-day permit processing period plus time for additional information to be provided to DCR if the registration statement is incomplete. Assuming an accurate and complete submission, permit coverage begins 15 business days

after receipt. At times, the DCR has received permit application paperwork for construction projects just a few days prior to the start date for the project which then results in a project delay since the DCR still needs adequate time to review the application paperwork and process the permit authorization letter.

In order to avoid VSMP permit-related project delays, submit the VSMP application paperwork to the DCR as early as 90 days prior to the construction start date.

The Increasing Emphasis on Water Withdrawal Reporting

The Virginia Department of Environmental Quality (DEQ) continues to emphasize permit compliance. This includes the often neglected element of reporting for ground water and surface water withdrawals. While not routinely enforced in the past, DEQ is now in the process of looking at water withdrawal projects and examining records to determine if users are, in fact, reporting their withdrawals on an annual basis. The data are used in formulating water supply plans for consideration by the General Assembly and in delineating surface water management areas and are available to local governments and private interests to assist them in their own water supply planning.

This reporting requirement applies to every user withdrawing groundwater or surface water in Virginia whose average daily withdrawal, during any single month, exceeds 10,000 gallons per day. Reportable with-

drawals include, but are not limited to, those for public water supply, golf courses, irrigation, manufacturing, mining, commercial, institutional, livestock watering, artificial fish culture, and steam-electric power generation uses. Reports are collected by the DEQ in January of each year for the preceding calendar year. To help with compliance on water withdrawal projects, all reports should include the sources and locations of withdrawal, cumulative volume of water withdrawn each month of the calendar year, maximum day withdrawal and the month in which it occurred, and method of withdrawal measurement.



Effluent Limitations Guidelines (ELGs) Update

On December 1, 2009, the Environmental Protection Agency (EPA) published effluent limitations guidelines (ELGs) and new source performance standards (NSPS) to control the discharge of pollutants in stormwater from construction sites. The regulation became effective on February 1, 2010.

However, in August 2010, the EPA withdrew that portion of the EPA regulation that required a numeric limitation for turbidity of 280 NTUs (nephelometric turbidity units) for all construction sites disturbing 10 acres or more due to legal challenges from several organizations including the National Association of Home Builders and the federal Small Business Administration Office of Advocacy.

The EPA will re-evaluate its numeric turbidity limitation over an 18-month period while the litigation is on hold (until February 2012). The EPA is expected to issue interim stormwater management guidance for construction site operators as the agency works to refine the rule. In addition, the EPA must file a report on the status of the administrative proceedings every 180 days during the 18-month period. It is possible that after review by the EPA, a different numeric limitation for turbidity will replace the original 280 NTU requirement. All other requirements of the ELG will remain in effect.



EPA withdraws
requirement for a 280
NTU for all
construction sites
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more.



Virginia Stormwater Management Regulations Update

(Continued from page 1)

Specifically, the RAP and its subcommittees have been focusing on proposed revisions in several areas:

Water Quality Criteria – establishing the minimum criteria that would be protective of water quality statewide, irrespective of the Bay TMDL. Upon completion of the Bay TMDL, additional provisions for dischargers within the Bay watershed will be provided.

Water Quantity Criteria – reviewing the proposed “Energy Balance” method, and attempting to simplify the language to ease application and administration of the criteria.

Local Government Administrative Provisions – reviewing the administrative criteria as it relates to local government program administration to assure better integration of the final regulation with local review and approval processes.

Grandfathering – reviewing the previously proposed grandfathering language and providing revisions where appropriate.

Offsets/Trading – evaluating the various provisions for stormwater offsets/trading, identifying appropriate thresholds for when trades will be allowed and providing suggested regulatory language affecting both municipal and private nutrient offset provisions.

WEG has been involved in the RAP and has participated in numerous subcommittee meetings. Mr. Doug Beisch, P.E., our Water Resources Program Manager, is the chairman of the Stormwater Offset subcommittee, and Mr. Daniel Proctor, P.E., Senior Engineer, has been participating as an alternate on the Water Quantity subcommittee.

Upon adoption (currently scheduled for late 2011), localities will likely have two (2) years to incorporate these regulations into their local ordinances and permitting/review processes. Full implementation of the new stormwater criteria are envisioned in July 2014, coinciding with the expiration of the current VSMP Construction General Permit.

Dam Safety: Legislative Update

(Continued from page 1)

- The Soil & Water Conservation Board (SWCB) was directed to provide a revised procedure for the hazard classification based on low traffic roadways located on or below the dam.

The SWCB has implemented most of the requirements emanating from the 2010 Legislative Session with fast track regulatory action at the Board Meeting on July 15, 2010 either by final exempt action or by final fast-track action.

The SWCB has issued six draft guidance documents:

1. Special Low Hazard Criteria Policy
2. Dam Mapping Policy
3. Agricultural Exemption Policy
4. Fee Prorating Policy
5. Hazard Potential Policy
6. Roadways Policy

Although regulation changes have been implemented and revisions to the guidance documents are expected as a consequence of the bills that passed the legislative session, the current take home lesson is as follows:

The requirement for dam break inundation studies and associated inundation mapping, as well as the requirement for a significantly revised Emergency Action Plan (EAP) for re-certification, is not affected by any legislative action taken. However, the consequences for dam owners in regard to necessary spillway capacity *may* change, depending on the situation of the individual dam.

Since the 2010 legislative session, DCR and the SWCB have been routinely granting extensions to expiring regular Operation & Maintenance certificates. Extensions have typically been limited to 6 months and have been granted free of charge. It is unclear for how much longer this practice will apply. It has been indicated that DCR prefers to grant conditional certificates in cases where no inundation study has been performed. 1-year conditional certificates are typically granted to private owners. Under certain circumstances, 2-year conditional certificates have been issued, preferably to public entities.

Should you have further questions regarding the current status of the dam safety regulations and the consequences for the certification status of your dam, please contact one of WEG's dam safety experts at 757-220-6869.

Case Study : New Town Stream Monitoring

The New Town Development is an approximately 373-acre parcel located between Colonial Williamsburg and Route 199 in Williamsburg, Virginia. It is designed to be the town-center of Williamsburg featuring a "new urban" design that incorporates both commercial and residential developments that are pedestrian-oriented for life, work, and play.

WEG (whose corporate headquarters are located in New Town) has been involved with the development of New Town since the time of zoning. WEG has performed services such as preliminary stormwater design, environmental feasibility studies, threatened and endangered species surveys, historic resources coordination, stream assessment, wetland delineation, and regulatory permitting. The site is located at the headwaters of a Powhatan Creek tributary within James City County.

In the fall of 2007, WEG started a multi-year stream monitoring program for the New Town Development including water quality samples and discharge measurements, a macrobenthic community analysis, and stream stability analysis. The principle objectives of the monitoring program are 1) to develop baseline information (completed in 2007) prior to the development occurring within the contributing watershed, and 2) to generate biological, physical and chemical stream quality data to evaluate trends in resource quality during development of the contributing watershed. The *Stream Monitoring Plan* was approved by



James City County in 2007 and baseline monitoring established pre-development resource quality to benchmark against during the monitoring program. The program will continue for a period of five (5) years after complete build-out. To date, more than 3 years of ambient water quality data (physical, chemical, and biological) have been catalogued and compared to baseline/reference conditions to evaluate changes in the receiving streams. The watershed is presently 74% built-out and is anticipated to be fully built-out in the next several years. The Stormwater Master Plan and Stream Monitoring Program for New Town was presented by Toni E. B. Small, P.E., WEG Senior Engineer, at the Virginia Lakes and Watersheds Conference in March 2010.

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WEG Reaches Out and Digs In

Williamsburg Environmental Group, Inc. (WEG) Fredericksburg Office employees, Megan McCollough and Jeff Hancock, served as experts for a local Commonwealth Governor's School (Brooke Point High School in Stafford, Virginia) extended research project called "Culminating Activity." Between September 2009 and May 2010, Megan and Jeff worked with a Governor's School senior to help her learn about Low Impact Development strategies.

The project work included the design and creation of a mock concept plan of a biofilter and a functional model of a biofilter to help remove nitrogenous and phosphorous waste from water.

Upon completion of the project, the student donated the completed model back to WEG for use in future education and outreach opportunities.

As a result of the work associated with the student's high school, faculty members have approached WEG to learn more about biofilters so they could possibly implement one at the school as a service project and also as part of the new International Baccalaureate (IB) curriculum.



Pictured above from left to right:

*Top: WEG's Megan McCollough preparing the biofilter model; the completed biofilter model
Bottom: Commonwealth Governor's School student building the biofilter model;
the working biofilter model*