DNREC Sediment & Stormwater Listserve Update: January 2020

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1. DNREC Sediment and Stormwater Program Contact Information

The DNREC Sediment and Stormwater Program's administrative specialist position is currently vacant. During this time, questions specific to eNOIs should be directed to DNREC_eNOIadmin@state.de.us.

Sediment and Stormwater certification or any other program general questions should be directed to DNREC.Stormwater@delaware.gov.

2. New Sediment and Stormwater Program Office Location

The DNREC Sediment & Stormwater Program along with all other Dover offices of the DNREC Division of Watershed Stewardship is now located at **285 Beiser Boulevard, Suite 102, Dover, DE 19904**. Please update mailing addresses used for submittals to the DNREC Sediment and Stormwater Program. The DNREC Sediment and Stormwater Program phone number remains (302) 739-9921.

3. Blue Card Course Dates for 2020

The Contractor Training Program, also known as the "Blue Card Course", is a ½-day course that gives an overview of the Sediment and Stormwater Program, its regulations, and required erosion and sediment control measures in the State of Delaware. Under the Delaware Sediment & Stormwater Regulations, at least one person in responsible charge of a construction site must have successfully completed the Contractor Training Program. The Blue Card Course dates set for 2020 are **February 13**, **May 21**, **September 10** and **December 3**.

Registration for the February 13, 2020 course date is currently being accepted. Additional information and the registration form can be found on the Sediment & Stormwater Program website at the following link:

http://www.dnrec.delaware.gov/swc/Drainage/Pages/BlueCard.aspx

4. 2020 CCR Course Dates

The 2020 Certified Construction Reviewer (CCR) course will be held on **Wednesdays**, **March 4**, **March 11 or 18 (field trip), and March 25**, **2020**. Registration has begun and there are

limited spots still available for registration. Information on the CCR course and a link to the registration form will be found at the following link:

http://www.dnrec.delaware.gov/swc/Drainage/Pages/CCR.aspx

5. DISCLAIMER: DSSR Training By HalfMoon Education, Inc.

The Sediment & Stormwater Program (SSP) has received several inquiries regarding a training seminar sponsored by HalfMoon Education, Inc. on the Delaware Sediment & Stormwater Regulations that is scheduled for January 24, 2020. The agenda included in the seminar flyer is a direct copy of the SSP website links. Prospective participants are advised that the individual indicated as the faculty member in the training announcement did not contact the SSP to notify us of this proposed training. In addition, the SSP has no record of this individual ever attending any of our formal training sessions. As such, the SSP cannot attest to the accuracy or completeness of this training.

6. 2019 Regulations Highlight: Extra RPv Credit for Detention Practices

The 2019 Delaware Sediment & Stormwater Regulations (DSSR) allow extra credit for the management of runoff in excess of the minimum required for compliance for the Resource Protection (RPv) event. While this is a straightforward process when infiltrating or surface recharge practices are used, there are several technical requirements that must be met if detention practices are being used. The Delaware Urban Runoff Model (DURMM) v2.5 will calculate the total runoff from the contributing area at Step 1.3 on the RPv Sheet. The minimum runoff volume that needs to be managed for the RPv is calculated at Step 1.4. (NOTE: It is important to keep in mind that in some cases this may be less than the maximum 1.0" of runoff required for compliance under the 2019 DSSR. DURMMv2.5 computes this required volume to be managed that is not easily computed in a hydrologic routing program such as HydroCAD.) If the total runoff exceeds the minimum required for compliance, then management of that extra volume of runoff can be taken as extra credit. The extra credit can be used on-site for subareas that may have a shortfall or off-site in accordance with the offset provisions under Section 13 of the DSSR.

For infiltrating and surface recharge practices, DURMM v2.5 can be used directly to calculate the extra credit by adjusting the retention volume at Step 2 or surface recharge area at Step 3 accordingly. However, for detention practices an external hydrologic model such as HydroCAD must be used to show both compliance and extra credit. Step 5 on the RPv Sheet is used to provide the information used in the hydrologic model. If no infiltrating or surface recharge practices are being used, Steps 5.1 and 5.2 show the total runoff volume during the RPv event in watershed inches and cubic feet respectively. Step 5.3 shows the volume of runoff that must be detained for a minimum of 48-hrs in order to meet RPv compliance. Step 5.4 shows the average discharge rate for 48-hr detention that can be used to size a control device. Step 5.5 shows the maximum allowable discharge rate for 48-hr detention.

In order to claim extra credit for a detention practice, the hydrologic model must show that the maximum discharge does not exceed the maximum allowable discharge rate shown at Step 5.5 on the RPv sheet. This will necessarily result in total detention times greater than 48 hours if the total volume exceeds the minimum for compliance, which supports the rationale for allowing extra credit for detention practices.

As an alternative in cases where a site is meeting compliance based on the maximum 1.0" of runoff, a quick calculation can be done to show that 1.0 ac-in of runoff detained over 48 hours will have an average discharge rate of 0.02 cfs/acre. Therefore, the maximum discharge rate would be 0.1 cfs/acre. The total runoff can then be routed in the hydrologic model with a maximum discharge rate of 0.1 cfs/acre to gain extra credit. This method cannot be used for sites that require management of less than 1.0" of runoff for RPv compliance.

The procedures noted above are for situations where the designer wishes to claim extra credit for using a detention practice. If extra credit is not a concern, RPv compliance can be met by simply providing 48-hr detention of the runoff generated by the 2.7" rainfall event without going through the DURMM v2.5 analysis. However, this will require supporting calculations to determine the average discharge rate and maximum allowable discharge rate for design. The average discharge rate is determined by dividing the total runoff by 48 hours and converting to cubic feet per second (cfs). The maximum allowable discharge is then determined as 5 times (5x) the average discharge rate.

Designers are encouraged to contact their Delegated Agency or the DNREC Sediment & Stormwater Program if they have additional questions on this subject.

7. Link of the Month: New Insights on Using Green Stormwater Infrastructure

The U. S. Geological Survey recently completed a paired-watershed study in Montgomery County, Maryland that compared the use of Green Infrastructure (GI) stormwater management practices with more traditional detention practices. The study was intended to answer two main questions:

1. How does the amount of runoff change when an agricultural area is developed into a suburban neighborhood with a high density of green stormwater infrastructure?
2. Can suburban development with a high density of green stormwater infrastructure store and infiltrate enough runoff to replicate forested conditions?

While the GI sites showed that runoff volumes and peak streamflow were lower from the GI sites, they were not able to replicate pre-developed conditions. It should be noted, however, that the GI stormwater management practices were designed for 1" of precipitation. Newer design standards typically require more runoff to be managed with these practices. A summary of the results from this study are available at the following link:

https://www.usgs.gov/centers/cba/science/new-insights-using-green-stormwater-infrastructure-reduce-suburban-runoff?qt-science_center_objects=0#qt-science_center_objects

A PDF copy of the full report can be downloaded from the following link:

https://onlinelibrary.wiley.com/doi/epdf/10.1002/hyp.13593