An Update on the Changing Virginia Stormwater Management Regulations And What it Means to You

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VA Stormwater Management Regulation

BIG PICTURE- WHAT IS CHANGING?

- WATER **QUALITY** STANDARDS
- WATER **QUANTITY** STANDARDS
- INSPECTION REQUIREMENTS AND STABILIZATION TIMING

Also we will discuss:

How do we keep the old criteria in place on projects in the pipeline?

WARNING!

Regulations may change…in particular with **HB1173**

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House Bill 1173

- Passed House 93-1 – In Senate Ag Committee (2/18/14)
- Fact Sheet/ Q&A from DEQ:

House Bill 1173 Summary

House Bill 1173 limits VSMP adoption to MS4 localities and allows other localities to "opt in" to the VSMP program. It also includes the following:

- Establishes a provision for agreements in lieu of a stormwater management plan;
- Clarifies that localities not choosing to opt in must still administer the flow rate capacity and velocity requirements set forth in the Erosion and Sediment Control law;
- Sets forth that the provisions in the Stormwater Management Act related to Chesapeake Bay Land Disturbing activities must still be administered by Bay Act localities even if they choose not to adopt a VSMP;
- Allows newly designated (after January 1, 2014) MS4 *counties* to defer adoption of a VSMP to no later than January 1, 2015; and
- Provides clarification as to how local VSMPs are to conduct of hearings and appeals.
- Allows MS4 towns to fall under a County's VSMP.

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House Bill 1173

- **Q&A Session**

<u>Question:</u> The changes proposed in HB 1173 allow for submittal of "Agreement in lieu of Plan" for Single Family Development (SFD) but also speaks about establishing a procedure by which a registration statement is not required for coverage under General Permit for separately built SFD. These appear to be in conflict, can you explain the difference in these requirements?

<u>Answer:</u> The construction of a separately built SFD that requires general permit coverage would be authorized to discharge under the general permit without the submittal of a registration statement. Even though a registration statement is not required, the operator would need to comply with all conditions of the general permit, including the development of a SWPPP which contains an approved SWM plan or an agreement in lieu of a SWM plan. This SWPPP requirement is independent of the need to submit a registration statement for general permit coverage.

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House Bill 1173

- **Q&A Session *continued…***

<u>Question:</u> If a registration statement is not required, then would they need to have a stormwater management plan or only have an E & S and meet MS-19?

<u>Answer:</u> Even though a registration statement is not required, the operator would need to comply with all conditions of the general permit. Therefore, the SWPPP must contain an approved ESC plan (or an agreement in lieu of an ESC plan) and an approved SWM plan (or agreement in lieu of a SWM plan).

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Water Quality

Algae blooms near Norfolk Yacht Club on 8/8/09 (Source: Ryan C. Henriksen – The Virginian Pilot)

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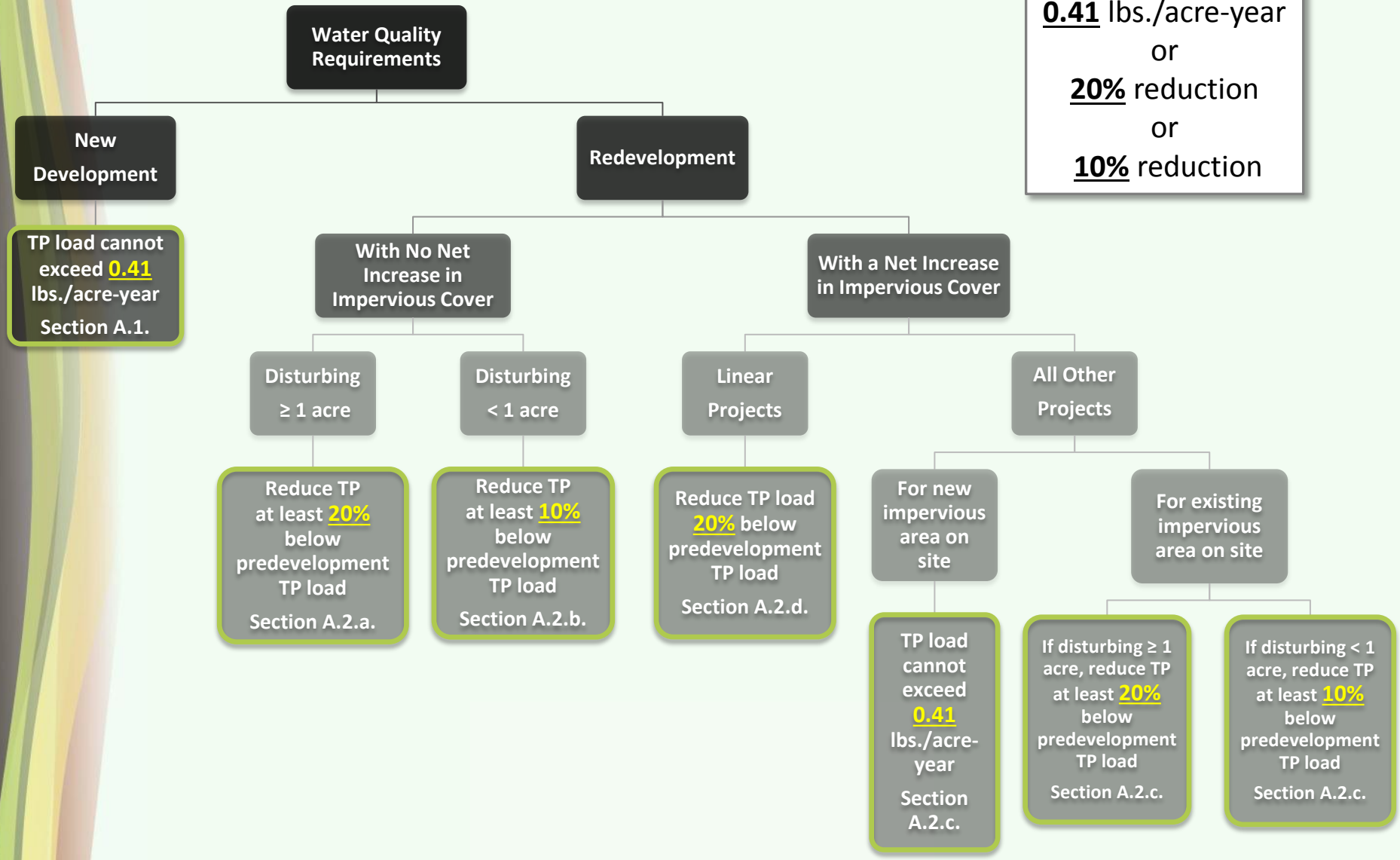
Water Quality

4VAC50-60-63

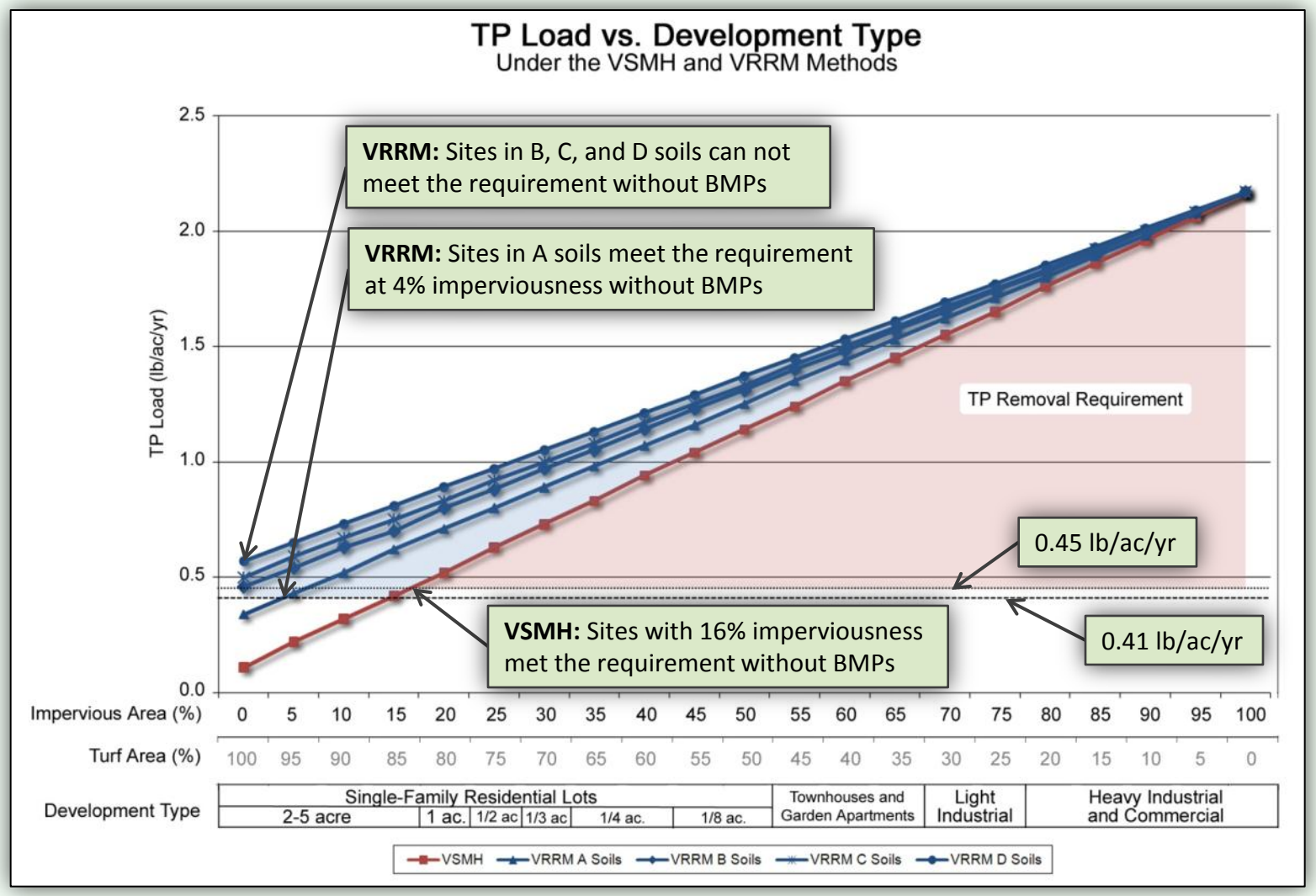
Summary, either:
0.41 lbs./acre-year
or
20% reduction
or
10% reduction



4VAC50-60-63.A.1

Comparing the new 0.41 lb/ac/yr to the old 0.45 lb/ac/yr

- Each uses different calculation methods
- The loading rates are not comparable; therefore, the requirements are not comparable either!



4VAC50-60-63.A.1

Comparing the new 0.41 lb/ac/yr to the old 0.45 lb/ac/yr

Why the difference in loading-rate calculations?

VSMH: Under the VSMH, TP loads were calculated using the **Simple Method**.

The old regulations required a loading rate of 0.45 lb/ac/yr based on a calculation of average land cover (excluding urban) and loading rates, as follows:

F_{va} = relative total phosphorus load for Virginia's Chesapeake Bay Watershed

= (%forest x F_{forest}) + (%pasture x $F_{pasture}$) + (%conservation till x $F_{cons.\ till}$) + (%conventional till x $F_{conv.\ till}$)

= (0.66 x 0.12) + (0.21 x 0.59) + (0.07 x 1.52) + (0.06 x 2.42)

= 0.45 lb/ac/yr

(See the Chesapeake Bay Local Assistance Department's Local Assistance Manual, November 1989.)

VRRM: The VRRM calculates loading rates based on a **modified Simple Method** which accounts for soil types as well as for TP loads from forested land and turf.

The new regulations require a loading rate of 0.41 lb/ac/yr based on the discussion on the following slides. (See slides 7-10.)

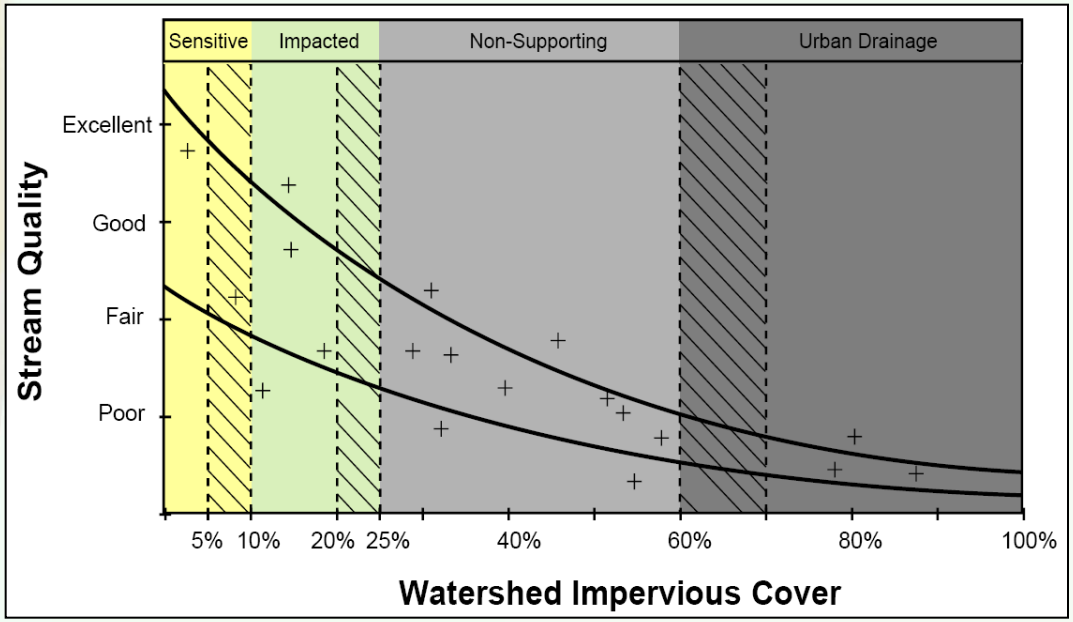
4VAC50-60-63.A.1

Why 0.41 lb/ac/yr?

How should the allowable loading rate be calculated state-wide?

- The subcommittee recommended ***0.36 lb/ac/yr*** TP based on a Modified VRRM calculation (to account for forest):
  - Assumes 7.5% impervious cover[1], 30% turf, and 62.5% VA-average forest cover
  - Assumes 1.15% HSG A, 61.28% HSG B, 28.60% HSG C, and 8.97% HSG D[2]

- Other Options:
  - 10% impervious cover, 30% turf, 60% forest = **0.41 lb/ac/yr**
  - 5% impervious cover, 30% turf, 65% forest = **0.30 lb/ac/yr**



[1] Schueler, T., Fraley-McNeal, L., and Cappiella, K. "Is Impervious Cover Still Important? Review of Recent Research." Journal of Hydrologic Engineering, April, 2009.

[2] Weighted average soil cover was derived from STATSGO state-wide soils database soils breakdown for Virginia outside of the Chesapeake Bay Watershed. STATSGO breakdown: 210 mi^2 HSG A; 0 mi^2 HSG A/D; 11,207 mi^2 HSG B; 0 mi^2 HSG B/D; 5,231 mi^2 HSG C; 373 mi^2 HSG C/D; 1,153 mi^2 HSG D; 115 mi^2 Unrated. C/D and unrated soils were assigned to HSG D.

4VAC50-60-63.A.1

Why 0.41 lb/ac/yr? (cont.)

Jantz, P., Goetz, S., and Jantz, C. 2005. *Urbanization and the Loss of Resource Lands in the Chesapeake Bay Watershed*. Journal of Environmental Management. 36 (6): 808-825.

Page 823 –

In our most conservative estimate, we calculate that at least 388 km^2 of forest lands, 1,016 km^2 of agricultural lands, and 2 km^2 of wetlands, have been lost to commercial and residential development within the CBW since 1990. As much as 826 km^2 of forests, 1,543 km^2 of agricultural lands, and 60 km^2 of wetlands have been converted, although we emphasize the more moderate results derived from the land cover agreement map indicating losses of 504 km^2 for forests, 1,266 km^2 for agricultural lands, and 2 km^2 for wetlands. However, we would expect functional losses,

Chesapeake Bay Watershed:

Conservative Estimate
388 + 1,016 + 2 = 1,406 km^2 converted
390 / 1,406 = **28%** converted from forest (with wetlands)
1,106 / 1,406 = **72%** converted from agriculture

Unconservative Estimate
826 + 60 + 1,543 = 2,429 km^2 converted
886 / 2,429 = **36%** converted from forest (with wetlands)
1,543 / 2,429 = **64%** converted from agriculture

Moderate Estimate
504 + 1,266 + 2 = 1,772 km^2 converted
506 / 1,722 = **29%** converted from forest (with wetlands)
1,266 / 1,722 = **71%** converted from agriculture

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4VAC50-60-63.A.1

Why 0.41 lb/ac/yr? (cont.)

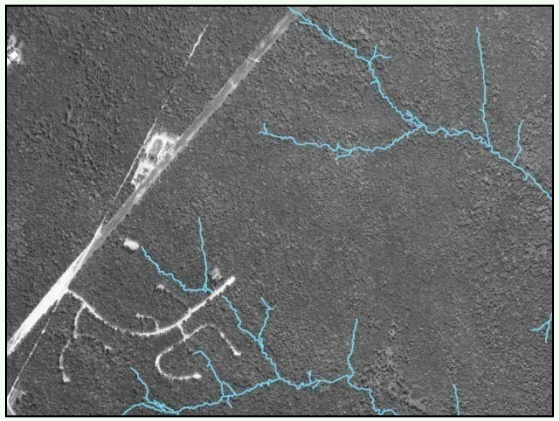
Based on historic development trends per Jantz et. al, **TP = 0.51 to 0.56 lb/ac/yr** to achieve no-net-increase above the allowable average 2025 nutrient loads from previous land uses per the November 2010 WIP.

TP Load Based on Varying Percentages of Previous Land Uses Converted to Development					
Source[1]	% Forest	Forest TP Load (lb/ac/yr)[2]	% Agriculture	Agriculture TP Load (lb/ac/yr)[2]	**Total TP Load (lb/ac/yr)[3]**
Conservative Estimate	28%	0.11	72%	0.74	**0.56**
Unconservative Estimate	36%		64%		**0.51**
Moderate Estimate	29%		71%		**0.56**

1. Historic development trends were derived from: Jantz, P., Goetz, S., and Jantz, C. 2005. *Urbanization and the Loss of Resource Lands in the Chesapeake Bay Watershed*. Journal of Environmental Management. 36 (6): 823.

2. Calculated as the draft WIP 2025 forest and agricultural allocations divided by 2010 sector acreages (which were transmitted to WSSI via e-mail from Russ Perkinson on 8/12/2010).
(For forest: 1,072,000 lb/yr / 9,776,274 ac = 0.11 lb/ac/yr. For agriculture: 2,097,000 lb/yr / 2,836,970 ac = 0.74 lb/ac/yr)

3. Total TP Load is calculated as the sum of (% Forest x Forested TP Load + % Agriculture x Agriculture TP Load)



4VAC50-60-63.A.1

Why 0.41 lb/ac/yr? (cont.)

November 2010 Final Phase I Virginia WIP:

> *"The Tier 1 load-balancing approach uses the allocation loads for forest, cropland, pasture, and hay land uses in the Chesapeake Bay Program's Phase 5.3 Watershed Model to calculate the average pollutant loads from a generic pre-development acre based on the mix of projected land to be developed for Virginia's Chesapeake Bay watershed."*
> (Final WIP, pg. 86)

State-wide Requirement Based on Percentage of Impervious Cover and STATSGO average soil cover		Current Compromise	Chesapeake Bay Requirement Based on "No Increase" from previous land uses	
5% impervious, 65% forest, 30% turf	**0.30**	**0.41**	**0.51**	36% forest, 64% agriculture
7.5% impervious, 62.5% forest, 30% turf	**0.36**		**0.56**	28% forest, 72% agriculture
10% impervious, 60% forest, 30% turf	**0.41**		**0.56**	29% forest, 71% agriculture

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4VAC50-60-63.A.2

Why 10% and 20% Reductions for Redevelopment?

The Chesapeake Bay Preservation Act previously required a TP load reduction of 10% for redeveloped sites.

The new regulations sought to improve over current conditions without discouraging redevelopment; therefore, the SAG agreed on a 20% TP load reduction requirement for redeveloped sites.

However, a 20% TP load reduction is difficult for small sites, so the previous 10% TP load reduction requirement was maintained for sites <1 ac.

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Water Quality - cont.

What does this mean for new development?

This means **more BMPs** and **more infiltration** (where possible).

For example in Fairfax County, consider:
A downtown commercial site on C soils (80% impervious and 20% turf)

Under the old regulations, the site produces: **1.76 lb/ac/yr TP**
Under the old regulations, the load must be reduced by 40% to: **1.06 lb/ac/yr TP**

This currently can be done with extended detention ponds.

Extended detention pond

Extended detention pond

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Water Quality - cont.

What does this mean for new development?

Same site:

A downtown commercial site on C soils (80% impervious and 20% turf)

Under the new regulations, the site produces: **1.83 lb/ac/yr TP**
Under the new regulations, the load must be reduced by 78% to: **0.41 lb/ac/yr TP**

- This cannot be accomplished with extended detention alone; requires additional BMPs (rain gardens, cisterns, permeable pavements, infiltration, wetlands, etc.) or trading.

The debate on trading is ongoing:

- Who sets the price of credits- the market or the government?
- How much can be traded? What percentage must be achieved on-site?
- How will acceptable service areas be determined?

Pervious pavers


Cistern

Offsite Compliance Options (Nutrient Trading)

(Source: Nutrient Credit Trading for the Chesapeake Bay, An Economic Study)

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Offsite Compliance

4VAC50-60-69

- Off-site compliance options include:
  - Adopted comprehensive SW management plan in local watershed of project
  - Locality pollutant loading pro rata share program
  - Nonpoint nutrient offset program established by VA Code
  - Other options approved by applicable state agency or board
  - Other properties within same or upstream HUC can be used to meet project TP reductions

- Offsite compliance options must meet only one of the following:
  - At least 75% of required phosphorus nutrient reductions are achieved on-site;
  - < 5 acres of land will be disturbed; or
  - Post construction phosphorus control requirement is < 10 pounds per year.

Localities may desire restrictions to prevent local water quality degradation

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Quantity Control

Snakeden Branch in Reston, Virginia, prior to restoration

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Quantity Control

4VAC50-60-66 Overview

4VAC50-60-66 requires the energy balance method on the 1-year storm event.

- Executive Order 13508 requires developers to match pre-development hydrology. The energy balance method provides a practical solution for sites that can not meet pre-development hydrology.

4VAC50-60-66 defines requirements for three outfall conditions:

- Man-made conveyance systems;
- Restored conveyance systems; and
- Natural conveyance systems.

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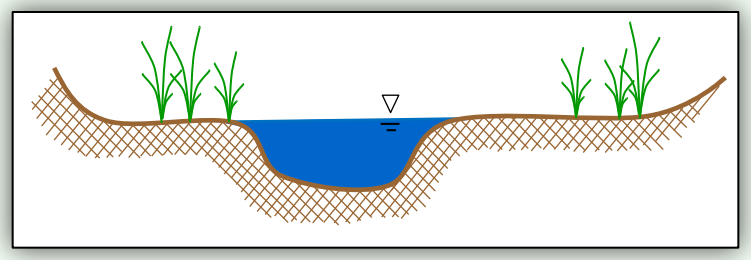
Energy Balance

The theory behind 4VAC50-60-66.B



Stream cross section at bankfull stage

- Stable streams in this region and climatic epoch formed in forested watersheds and achieve stability by overbank flooding in the 1-1.5 year event.
- To prevent degradation, need to match peak flow, volume, and timing of such conditions.
- Traditional SW management controls peak flow, but increases volume, which increases stream power (and power degrades streams).
- Goal of the energy balance method:
  - Keeps pre-development power same by reducing peak flow rate if volume increases;
  - Provides a quantifiable incentive to match pre-development volume to the MEP; and
  - Mass Balance Equation: $Q*Rv_{post} = Q*RV_{forest}$
- Economic considerations of proposed version use pre-development conditions instead of forest (unlike state law and Fairfax County PFM), coupled with improvement factor, I.F. (The I.F. is required because state law requires an improvement on existing conditions.)
  - I.F. of 0.8 yields same ballpark SW sizing as forest conditions

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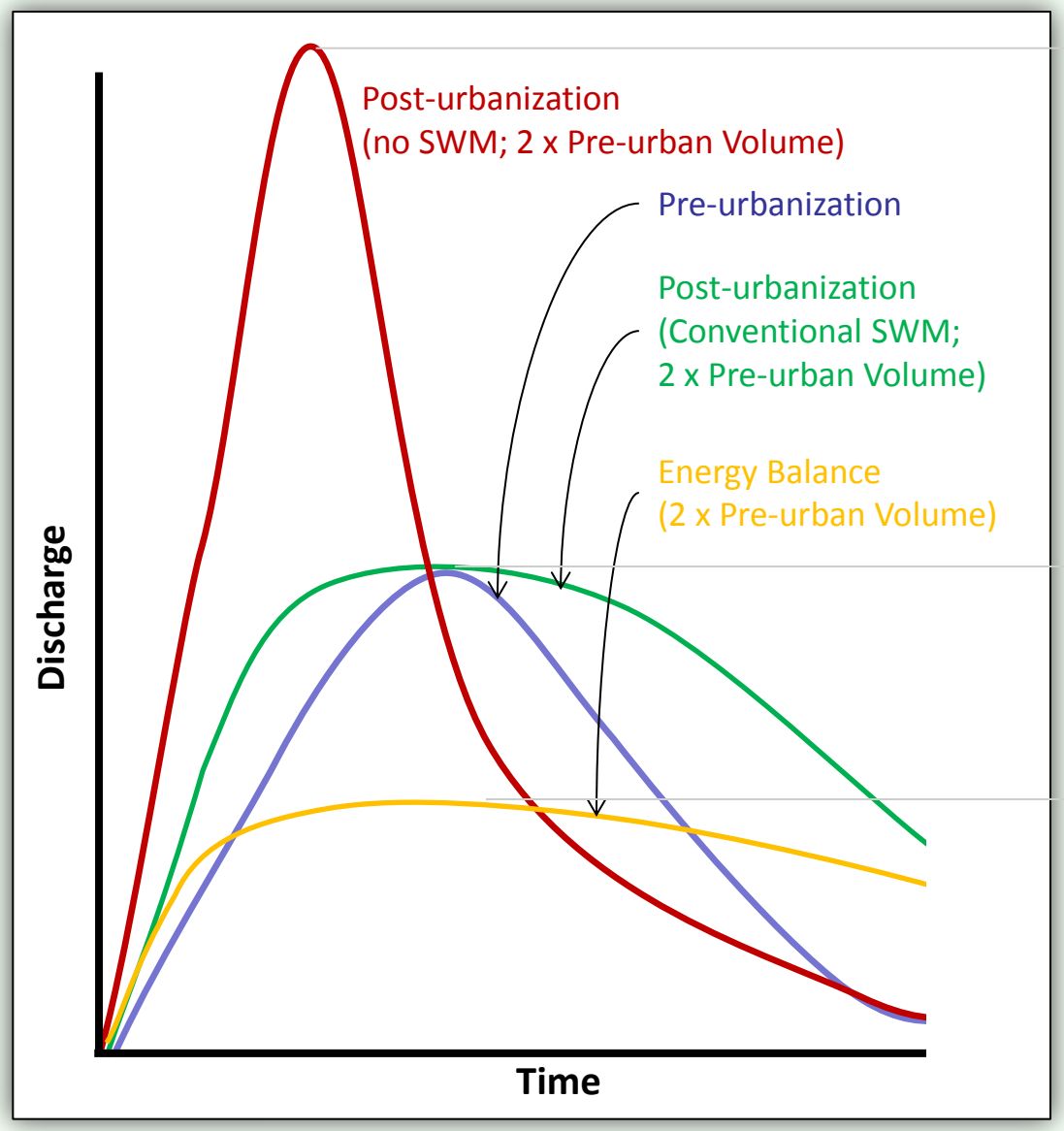
Energy Balance

The theory behind 4VAC50-60-66.B

Assume: $RV_{post} = 2*RV_{pre}$



Energy Balance

The theory behind 4VAC50-60-66.B

Restored conveyance system

Energy Balance Method:

Allowable 1-yr, 24-hr peak flow rate:

$Q_{developed} \leq$ I.F. x $Q_{pre\text{-}developed}$ x $RV_{pre\text{-}developed} / RV_{developed}$

$Q_{developed}$ shall not be required to be less than $[Q_{forested} \times RV_{forested}] / Rv_{developed}$

$Q_{developed}$ must be $\leq Q_{pre\text{-}developed}$

Where:

- Q = Peak flow rate of runoff
- RV = Volume of runoff
- Improvement Factor (I.F.) = 0.8 for sites > 1 ac
  0.9 for sites ≤ 1 ac
- Pre-developed = conditions prior to development, not pre-colonial conditions

Natural conveyance system

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Quantity Control

4VAC50-60-66

4VAC50-60-66 defines requirements for three outfall conditions:

1. **Manmade conveyance systems**
    1. Convey the 2-year, 24-hour storm (after SWM) without erosion, OR
    2. Allowable 1-yr, 24-hr peak flow rate for all conditions (see below)

2. **Restored conveyance systems**
    1. Discharge was considered in the design of the restored system, OR
    2. Allowable 1-yr, 24-hr peak flow rate for all conditions (see below)

3. **Natural conveyance systems**
    1. Allowable 1-yr, 24-hr peak flow rate for all conditions (see below)

- $Q_{developed} \leq IF \times Q_{pre\text{-}developed} \times RV_{pre\text{-}developed} / RV_{developed}$
- $Q_{developed}$ shall not be required to be less than $[Q_{forested} \times RV_{forested}] / Rv_{developed}$
- $Q_{developed}$ must be $\leq Q_{pre\text{-}developed}$

Where:

- Q = Peak flow rate of runoff
- RV = Volume of runoff
- Improvement Factor (IF) = 0.8 for sites > 1 ac
  0.9 for sites $\leq$ 1 ac
- Pre-developed = conditions prior to development, not pre-colonial conditions

Quantity Control - cont.

Limits of Analysis (4VAC50-60-66.B.4)

Stormwater conveyance systems shall be analyzed for channel protection to a point where either one of the following is satisfied:

1. Based on area
   Prior to any land disturbance, the site's contributing drainage area to site discharge point is ≤ 1.0% of total watershed area draining to that point of discharge, or

2. Based on peak flow rate
   Based on peak flow rate, the site's peak flow rate from the one-year 24-hour storm is less than or equal to 1.0% of the existing peak flow rate from the one-year 24-hour storm prior to the implementation of any stormwater quantity control measures.

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Quantity Control

Flood Protection (4VAC50-60-66.C)

1. For stormwater conveyance systems that currently **do not experience localized flooding** during the 10-year, 24-hour storm event:

    a) Confine the post-development peak flow rate from the 10-year, 24-hour storm event within the stormwater conveyance system.

2. For stormwater conveyance systems that currently **do experience localized flooding** during the 10-year, 24-hour storm event:

    a) Confine the post-development peak flow rate from the 10-year, 24-hour storm event within the stormwater conveyance system; or

    b) Release a post-development peak flow rate for the 10-year, 24-hour storm event that is less than the pre-development peak flow rate from the 10-year, 24-hour storm event.

Note:

- **1a and 2a are the same**
- **Likely localities will be stricter, as many are already**

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Flood Protection Definitions

4VAC50-60-66.C

* 4VAC50-60-10. Definitions:

"*Stormwater conveyance system*“ means a combination of drainage components that are used to convey stormwater discharge, either within or downstream of the land-disturbing activity. This includes:
1. "**Manmade stormwater conveyance system**" means a pipe, ditch, vegetated swale, or other stormwater conveyance system constructed by man except for restored stormwater conveyance systems;
2. "**Natural stormwater conveyance system**" means the main channel of a natural stream and the flood-prone area adjacent to the main channel; or
3. "**Restored stormwater conveyance system**" means a stormwater conveyance system that has been designed and constructed using natural channel design concepts. Restored stormwater conveyance systems include the main channel and the flood-prone area adjacent to the main channel.

"*Flood-prone area*" means the component of a natural or restored stormwater conveyance system that is outside the main channel. Flood-prone areas may include, but are not limited to, the floodplain, the floodway, the flood fringe, wetlands, riparian buffers or other areas adjacent to the main channel.

"*Floodplain*" means the area adjacent to a channel, river, stream, or other water body that is susceptible to being inundated by water associated with the 100-year flood or storm event. This includes, but is not limited to, the floodplain designated by the Federal Emergency Management Agency.

"*Floodway*" means the channel of a river or other watercourse and the adjacent land areas, usually associated with flowing water, that must be reserved in order to discharge the 100-year flood or storm event without cumulatively increasing the water surface elevation more than one foot. This includes, but is not limited to, the floodway designated by the Federal Emergency Management Agency.

"*Flood fringe*" means the portion of the floodplain outside the floodway that is usually covered with water from the 100-year flood or storm event. This includes, but is not limited to, the flood or floodway fringe designated by the Federal Emergency Management Agency.

Quantity Control

Summary- What does this mean for the private sector?

- Requires the Energy Balance of the 1-year, 24-hour storm with an improvement factor and no increase in 10-year peak flows, rather than conventional 2- and 10-year peak flow analysis;
- **No longer requires Adequate Outfall (MS-19) –** **Unless locality says otherwise** 4VAC50-60-66.A: *"Compliance with the minimum standards set out in this section shall be deemed to satisfy the requirements of 4VAC50-30-40.19"*
- Pond footprints will typically be similar (±15%) because the 10-year Flood Protection governs the overall size (which matches most current requirements);
- The size of the 2-year orifice will be reduced to meet 1-year Energy Balance requirement; and
- The 1-year detention volume will usually be greater than the current 2-year volume requirement.

The regulations will result in the more effective use of SWM facilities to protect streams and reduce erosion/sediment at minimal cost.

NOTE: This is more "lenient" than the current Fairfax Co. "Detention Method" for Adequate Outfall.

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Virginia Stormwater BMP Clearinghouse

4VAC50-60-65.B

BMP's are Changing!

Administered by DCR and the Virginia Water Resources Research Center at Virginia Tech, and overseen by a stakeholders' committee

Purpose:

- To disseminate design standards and specifications for all stormwater BMPs approved for use in Virginia;
- To disseminate the evaluation and performance certification of proprietary BMPs approved for use in Virginia; and
- To provide information and links to related websites.

4VAC50-60-65.B: "The BMPs listed in this subsection are approved for use as necessary to effectively reduce the phosphorus load and runoff volume in accordance with the Virginia Runoff Reduction Method. Other approved BMPs found on the Virginia Stormwater BMP Clearinghouse Website at http://www.vwrrc.vt.edu/swc may also be utilized. Design specifications and the pollutant removal efficiencies for all approved BMPs are found on the Virginia Stormwater BMP Clearinghouse Website at http://www.vwrrc.vt.edu/swc."

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Virginia Stormwater BMP Clearinghouse

http://vwrrc.vt.edu/swc/StandardsSpecs.html

Website Screenshot

Virginia Stormwater BMP Clearinghouse

Runoff Reduction and Nutrient Removal Comparison

Two design levels:

Level 1
- Typically less strict design requirements;
- Typically lower runoff reduction; and
- Typically lower EMC removal.

Level 2
- Typically stricter design requirements;
- Typically higher runoff reduction; and
- Typically higher EMC removal.

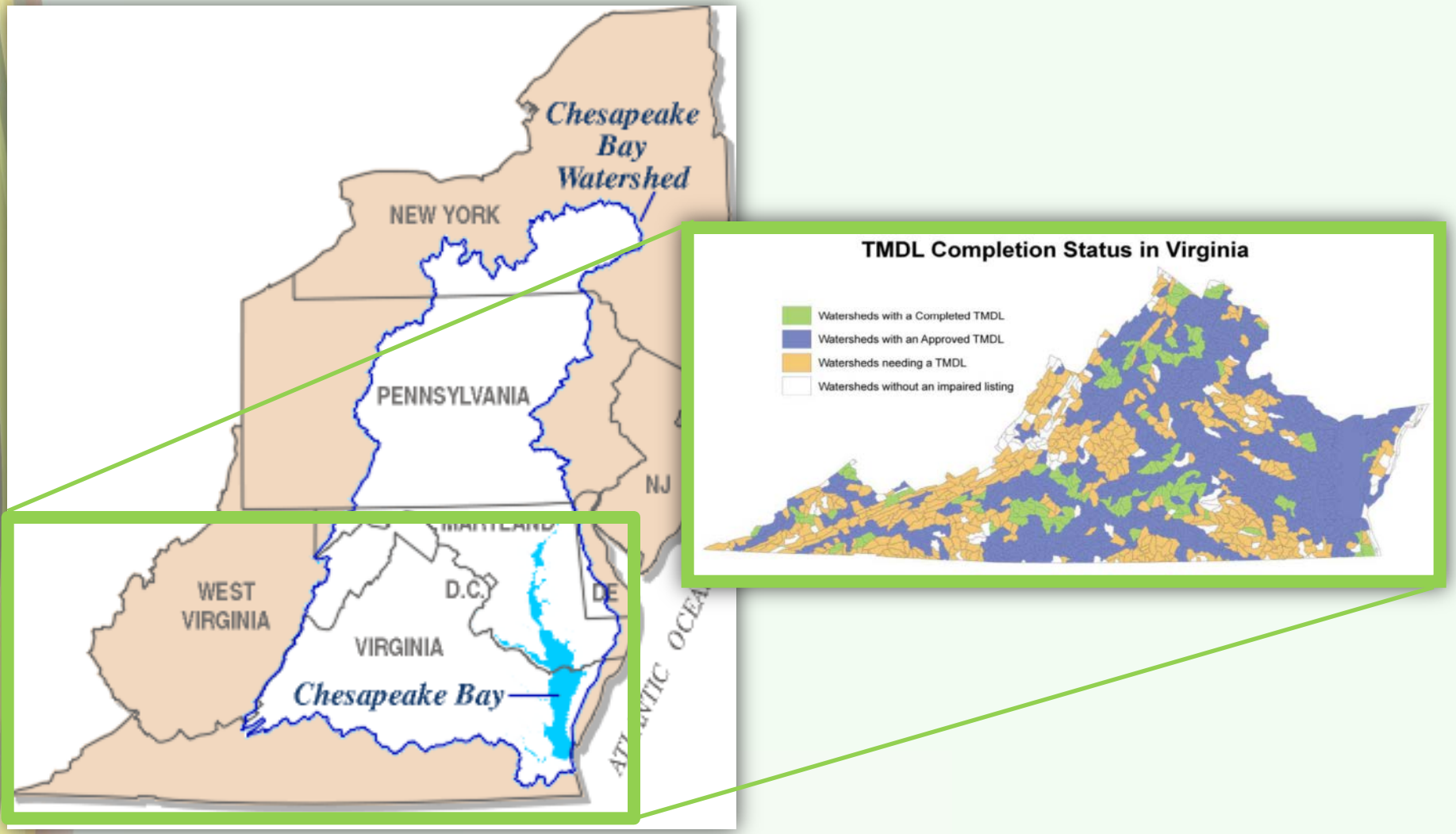
Different Sizing Criteria of of RR %'s versus Current !

Note: BSM Specification is Changing!!!

Table 1. Comparative Runoff Reduction and Nutrient Removal for Practices

Practice	Design Level	Runoff Reduction	TN EMC Removal[3]	TN Mass Load Removal	TP EMC Removal	TP Mass Load Removal[6]
Rooftop Disconnect	1[2]	25 to 50[1]	0	25 to 50[1]	0	25 to 50[1]
		No Level 2 Design				
Sheet Flow to Veg. Filter or Conserv. Open Space	1	50	0	50	0	50
	2[5]	50 to 75[1]	0	50 to 75[1]	0	50 to 75[1]
Grass Channels	1	10 to 20[1]	20	28 to 44[1]	15	24 to 41[1]
		No Level 2 Design				
Soil Compost Amendment	Can be used to Decrease Runoff Coefficient for Turf Cover at Site. See the design specs for Rooftop Disconnection, Sheet Flow to Vegetated Filter or Conserved Open Space, and Grass Channel					
Vegetated Roof	1	45	0	45	0	45
	2	60	0	60	0	60
Rainwater Harvesting	1	Up to 90[3,5]	0	Up to 90[3,5]	0	Up to 90[3,5]
		No Level 2 Design				
Permeable Pavement	1	45	25	59	25	59
	2	75	25	81	25	81
Infiltration Practices	1	50	15	57	25	63
	2	90	15	92	25	93
Bioretention Practices	1	40	40	64	25	55
	2	80	60	90	50	90
Urban Bioretention	1	40	40	64	25	55
		No Level 2 Design				
Dry Swales	1	40	25	55	20	52
	2	60	35	74	40	76
Wet Swales	1	0	25	25	20	20
	2	0	35	35	40	40
Filtering Practices	1	0	30	30	60	60
	2	0	45	45	65	65
Constructed Wetlands	1	0	25	25	50	50
	2	0	55	55	75	75
Wet Ponds	1	0	30 (20)[4]	30 (20)[4]	50 (45)[4]	50 (45)[4]
	2	0	40 (30)[4]	40 (30)[4]	75 (65)[4]	75 (65)[4]
Ext. Det. Ponds	1	0	10	10	15	15
	2	15	10	24	15	31

SWM Regulations, Impaired Waters, and TMDLs



Chesapeake Bay Watershed

SWPPP Inspection and Stabilization Frequency

Because in NOVA you are always in a TMDL or Impacted Water, the VPDES GP (Section B.4.) requires:

- Develop, implement, and maintain a SWPPP consistent with the TMDL
- Impaired water, TMDL, and pollutants of concern be identified in the SWPPP
- Soil stabilization applied with seven days (permanent or temporary)
- Nutrients applied in accordance with instructions and not during rainfall
- Inspections
  - 1 every 4 business days, **or**
  - 1 every 5 business days and no more than 48 hrs after measurable event (0.25 in/24 hrs)

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A Note of Concern Regarding TMDL's

DEQ's 2/10/2014 Q&A

8. **When are additional control measures that address particular TMDLs and associated pollutants required in a Stormwater Pollution Prevention Plan (SWPPP) for a construction activity? What are those additional control measures?**

Operators must develop, implement, and maintain a SWPPP that minimizes the pollutants of concern (i.e., sediment or a sediment-related parameter or nutrients) when discharging to surface waters identified as impaired on the 2012 305(b)/303(d) Water Quality Assessment Integrated Report or for which a TMDL has been approved prior to the term of this general permit. Implementation and maintenance of erosion and sediment controls in accordance with an approved Erosion and Sediment Control Plan or an "agreement in lieu of a plan" will minimize (i.e., reduce or eliminate) the discharge of (i) sediment or a sediment-related parameter or (ii) nutrients from construction activities. Upon obtaining coverage under the 2014 Construction General Permit, DEQ will determine if the land disturbing activity will discharge to a TMDL water body and identify any additional measures needed to address the TMDL. In addition, operators must also (i) apply permanent or temporary soil stabilization to denuded areas within 7 days after final grade is reached on any portion of the site, (ii) apply nutrients in accordance with manufacturer's recommendations or and approved nutrient management plan and not during rainfall events, and (iii) perform site inspections at a frequency of at least once every 4 business days or, at least once every 5 business days and no later than 48 hours following a measurable storm event.

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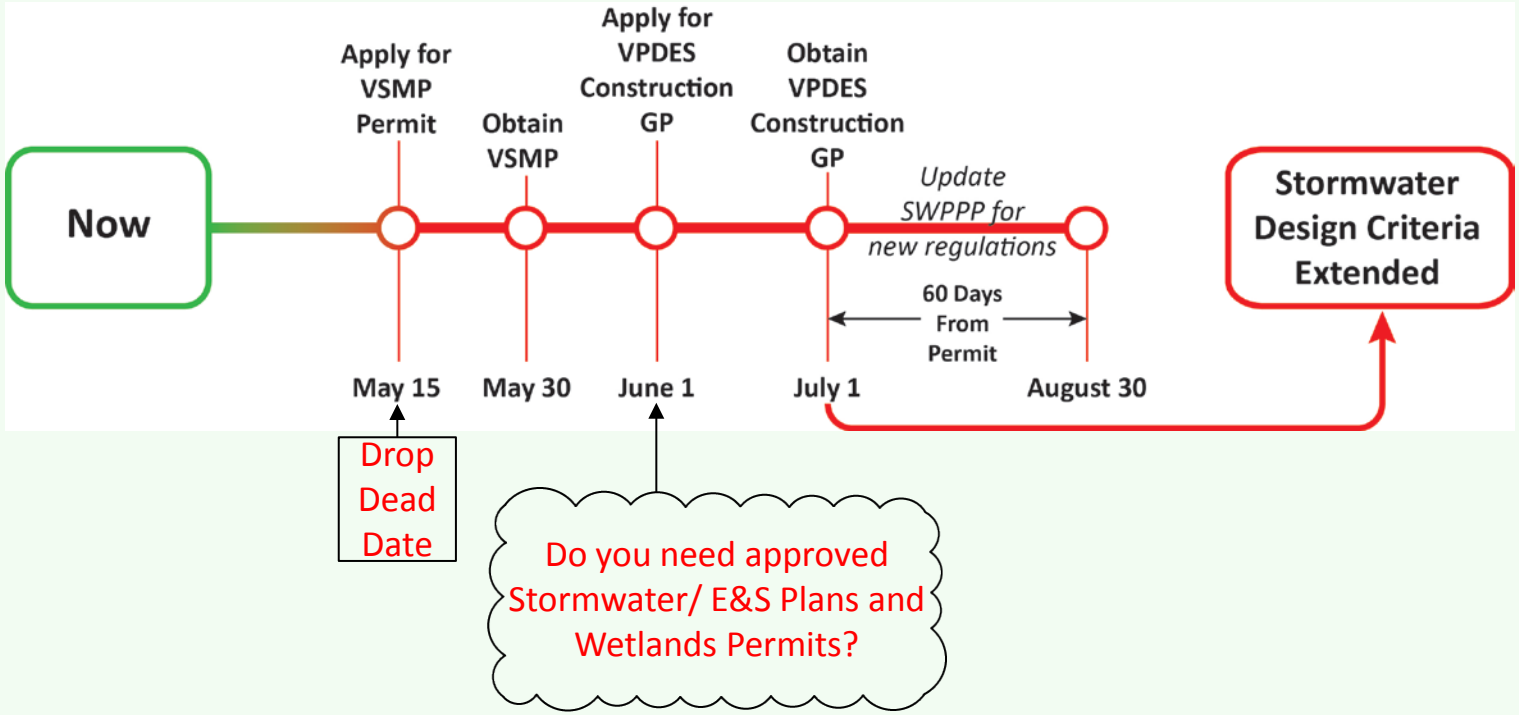
How to Keep Using Today's Requirements?

Timeline

Stormwater Design Criteria Extension –10 years (2 Permit Cycles)

- **9VAC25-870-47**
- **9VAC25-880-50.A.2**



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How to Keep Using Today's Requirements

Grandfather projects (5yrs) that get SW Design Criteria Extended by:

- Obtain locality concurrence of grandfathering (9VAC25-870-48.A), which requires:
  - Proffered REZ , or approved plans (many types) approved prior to 7/1/12 that:
    a. Provides a layout per 9VAC25-870-10*,
    b. Complies with Part II C technical criteria,
    c. No modifications increase TP, volume, or rate of runoff
  - State permit that has not been issued before 7/1/14; and
  - Land disturbance did not commence before 7/1/14.

* *"Layout" means a conceptual drawing sufficient to provide for the specified stormwater management facilities required at the time of approval.*

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Current Implementation Questions and Problems

Case Study Problem: Do you need approved civil plans and wetland permits to obtain your VSMP GP for Construction Activities??

Situation A:

- Project under development, plans to be submitted to locality in April.
- SWPPP and registration statement for VSMP GP to be submitted to DEQ prior to locality submission (as soon as E&S and SWM plans are done).

Question: Are approved plans from locality required to get VSMP?

Answer: No. Current VSMP VAR 10 permit states plans must be approved *"prior to commencement of land disturbance"*. VSMP can be obtained and would be valid until 6/30/14.

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Current Implementation Questions and Problems *(cont.)*

Case Study Problem: Do you need approved civil plans and wetland permit to obtain your VPDES GP for Construction Activities??

Situation B:

- Same project, submit new application for VPDES GP pursuant to 9VAC25-870-47 (Stormwater Design Criteria Extension) to gain 5 years of protection (out of 10) under today's standards.
- Do not expect locality approval prior to this date.

Same Question: Are approved plans from locality required to get VSMP?

Answer:

- Unclear. DEQ and former DCR Staff say no plan approval required to have a valid VPDES permit issued prior to 7/1/14.
- Regulations say all local, state and federal approvals needed.
- DEQ promises answer by 2/21/2014

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Common VSMP Extension Questions

Question:

Landowner has VSMP and by 6/1/14 obtains VPDES GP. He then sells to a third party. Can they simply transfer the name on the permit and maintain protection?

Answer:

Yes, the coverage can be transferred to a new operator. The existing transfer agreement is available online and the new one is expected mid March.

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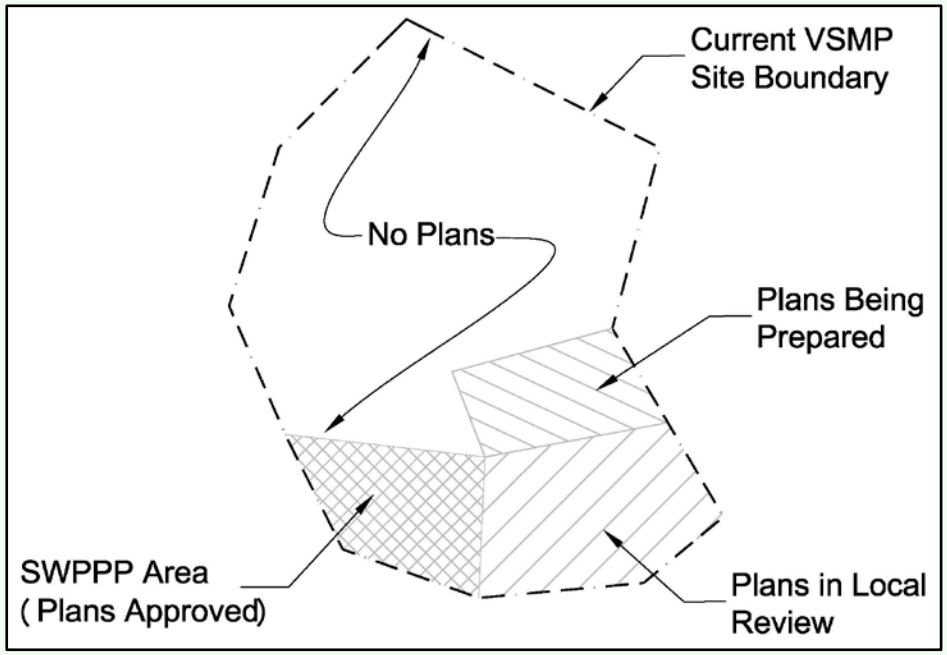
Common VSMP Extension Questions

Question:

How will coverage for existing large, phased projects be handled?



Answer:

Not certain – DEQ is reviewing and a definitive answer is expected 2/21/14.

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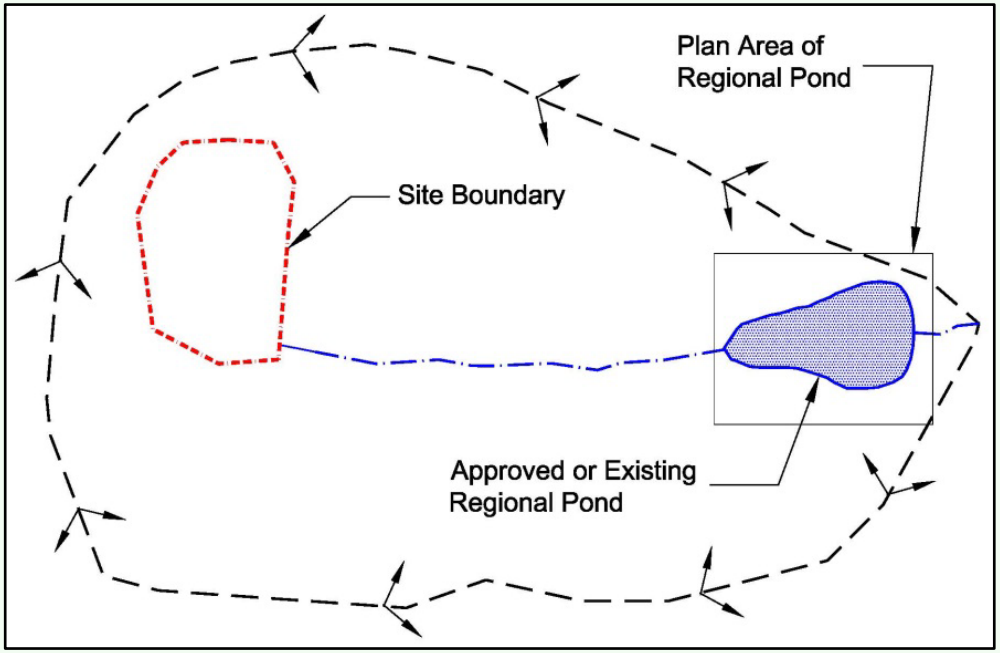
Common VSMP Extension Questions

Question:

How will coverage by Regional Ponds be handled?



Answer:

Not certain – DEQ is reviewing and a definitive answer is expected 2/21/14.

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Common VSMP Inspection Questions

Q: When will I be required to perform site inspections?

A: All of Northern Virginia is in the Chesapeake Bay watershed which has approved TMDL wasteload allocation, thus permitees will be required to inspect their sites either once every four business days or at least once every five business days and no later than 48 hours after a measurable rainfall event. Business day is defined as Monday thru Friday excluding state holidays.

Q: What is a measurable rain event?

A: The Construction General Permit Regulation defines a measurable storm event as a rainfall event producing 0.25 inches of rain over a 24 hour time period.

Q: What defines the 24 hour time period?

A: The 24-hour period could potentially be a number of different time frames (e.g., 12:00 am – 11:59 pm, 7:00 am – 6:59 am, 12:00 pm – 11:59 am, etc.). Regardless of the time frame chosen, it should be applied consistently over the life span of the construction activity (this is not “normal” hydrology rainfall event measurement).

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Common VSMP Inspection Questions

Q: How do I (and/or local and state inspectors) determine if a site has had a rain fall event?

A: Permitees can either use an on-site conventional rain gauge, on-site automated rain gauge or utilize and off-site National Weather Service (or other entity) rain gauge that is representative of the construction activity location to determine whether they need to perform a rain event inspection.

Q: If my site receives 0.48 inches of rain over a 25 hour rain event and I am required to perform a rain event inspection?

A: It all depends on when the rain fell. If 0.24 inches of rain fell during the first 24 hours of the rain event and the remaining 0.24 inches of rain fell during the last hour of the event than technically you would not be required to perform a rain event inspection since the cumulative rain fall amount over a 24 hour period never exceeded 0.25 inches. However, if the cumulative rainfall total exceeded 0.25 inches over either of the 24 hour periods than a rainfall event inspection would be required.

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Common VSMP Inspection Questions

Q: What inspection option does WSSI recommend?

A: In an effort to insure consistency, avoid the aggravation of dealing with rain gauges and limit inspection costs we are recommending that permitees inspect their sites every 4 business days. The 30 year average for annual 0.25”/ 24 hour rainfall events at Dulles Airport is 49.5 events. Inspecting every 4 business days would require fewer inspections than performing weekly and rain event inspections (61 inspections vs. 64 inspections).

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Questions?

Hurricane Sandy damage in Belmar, NJ (Source: Tim Larson – New Jersey governor's office)

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