

Virginia Part IIB Stormwater Regulations One Year In From the Consultant/Client Perspective

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Developer/Client Feedback

- Risk – more unknowns, requires engineering and analysis before even broad assumptions can be made
- Changes to the layout/design requires substantial effort in terms of calculations and compliance
- Varied policies between municipalities – this is one of the biggest issues moving forward



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Developer/Client Feedback

- Engineering fee proposals (pre-design) contain so many caveats and assumptions pertaining to scope of services, they are unsure of final requirements (overall design budgets)
- Concern over lack of ability to fast track projects, particularly in non-VSMP jurisdictions
- Unknowns in overall project costs due to difficult to forecast stormwater costs



VSMP/Non-VSMP Municipalities

widely varied approach to processing, review, and approval

- Lack of clarity on formal process, interpretation of regulations, process to ask questions/clarifications – even 1 year in, the process seems very “NEW” to the municipalities
- Broad range of how reviews are being conducted
- VSMP jurisdictions – “fear of audit” is being used to limit design options. Differences in interpretation of regulations tend to fall on the conservative side in implementation.



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VSMP/Non-VSMP Municipalities

widely varied approach to processing, review, and approval

- Examples of variations in interpretation:
 - LID measures such as rooftop disconnect, amended soils, etc. – municipalities not allowing for compliance because they are not able to verify and enforce long term operation
 - Subdivision lot specific approach: Lack of manpower to monitor and ensure implementation of small BMPs maintained by owners.
 - Adequacy computations must extend downstream even if energy balance method is used and met



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Schematic Design Feedback

- VSMP Localities – limited feedback on schematic and predesign questions
 - Formal calculations required early in process.
 - Many localities are require full stormwater calculations for rezoning and subdivision plats - before any engineering drawings are provided
 - Stormwater calculations now crucial on preliminary layouts/master plans since the stormwater design is now so integrated in the overall layout.
- Non-VSMP (DEQ Review)
 - Shifts of review responsibilities within DEQ
 - Can't ask questions of the actual reviewer – all questions are routed through Central Office



Nuances in the process and technical implementation

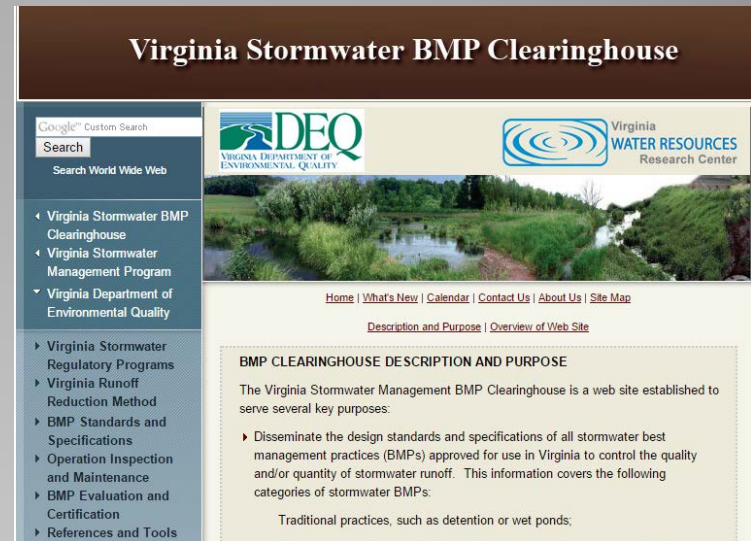
- Regulatory Interpretation:
 - In general, DEQ/Municipal reviewers will not make a final decision on interpretation without consulting DEQ Central Office.
- Stormwater Management Handbook and BMP Specifications are still “DRAFT”
 - Should we be using them?
 - Is there a timeline on when these will be Final?

DRAFT



Nuances in the process and technical implementation

- The BMP Clearinghouse was supposed to be an active means of continually improving the BMP standards. We have seen little to no changes to the Clearinghouse standards since introduction.



Nuances in the process and technical implementation (cont'd)

- Level Spreader design critical in many designs due to difficulties in meeting “Energy Balance”
 - DEQ has not issued formal guidance on level spreader design.
- Although level spreader design standards exist in the ESC Handbook and in the BMP Clearinghouse for the water quality measure sheet flow to open/conserved space, but nothing directly applicable to level spreaders provided under the new IIB quantity criteria.



Nuances in the process and technical implementation (cont'd)

- Assessment of Downstream Adequacy
 - Level Spreaders: No guidance on assessment of downstream impacts past level spreaders—how does adequacy downstream come into play for level spreaders vs. energy balance on small site design both from regulatory and liability perspectives.



http://betterbeltline.org/images/CRT_Tour_050_sm.jpg



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Nuances in the process and technical implementation (cont'd)

- Virginia Runoff Reduction Spreadsheet
 - Originally described as a tool that may/may not be used by design engineer
 - In practice it is required by virtually all municipalities and DEQ reviewers
 - Limitations in certain combinations due to spreadsheet limitations—and it is locked for editing/modification
 - Average rainfall can be modified—but should it ever be?—most reviewers (and DEQ) says no
 - No “Linear Development” spreadsheet

1. Post-Development Project & Land Cover Information						
11						
12						
13	Constants					
14						
15	Annual Rainfall (inches)	43				
16	Target Rainfall Event (inches)	1.00				
17	Phosphorus EMC (mg/L)	0.26	Nitrogen EMC (mg/L)	1.86		
18	Target Phosphorus Target Load (lb/acre/yr)	0.41				
19	P _i	0.90				
20						
21	Land Cover (acres)					
22		A soils	B Soils	C Soils	D Soils	Totals
23	Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested land	0.00	0.00	0.00	0.00	0.00
24	Maximum Total (acres) – undisturbed, reforested, forest					



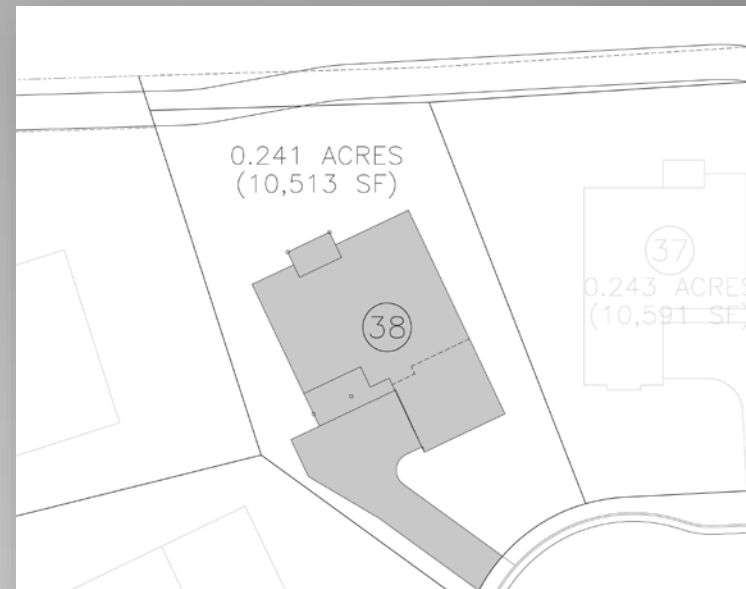
Nuances in the process and technical implementation (cont'd)

- VSMP Permitting
 - Difficult to keep track of process for payment of fees and application for permits as MS4 management rolled out
 - Differing interpretations between municipalities of “Maintenance Fee” for ongoing permits – are they required this year, or not?
 - Split jurisdictions
 - Sometimes requiring separate Construction General Permits which ends up being more costly than if same project was in single jurisdiction



Difficulties in Meeting Requirements due to site characteristics

- For small lot subdivisions (platted after 2004) are required to have BMPs as part of the building permit process. It is difficult on many of these lots to meet phosphorus removal requirements even using the highest efficiency BMPs.



Stormwater/Zoning Regulatory Conflicts

- LID/Zoning
 - Jurisdictions beginning slow process of amending regulations to allow for LID techniques
 - Currently many require curb/gutter (ditches and swales not allowed in R/W)
 - Stormwater BMPs not allowed in R/W in many jurisdictions – not consistent
 - Deed restrictions and/or plats required to permanently restrict use (and require maintenance) in BMP locations
 - Allow BMP areas to count as part of recreational open space requirements?



Offsite Run-on Through Site

- Upstream Run-on and/or Bypass through Site
 - No official guidance on how this should be handled
 - Most localities interpret as comparison of predevelopment and post-development conditions for “disturbed area” only, which can result in very small allowable discharges
 - Officially, can run-on be treated to meet water quality requirements? Some municipalities say yes, and some say no.



Energy Balance

- Some municipalities are requiring downstream analysis even if energy balance is met (although most interpret the regulation to not require this)
- Small heavily developed sites with large pre- to post-development swings in R_v coefficient result in release rates that are “trickles”
- Need guidance on smallest practical orifice size to use, design guidance for anti-clogging
- Need guidance on level spreaders in urbanized areas if energy balance can't be met



MS-19

- Interpretation inconsistencies:
 - Several reviewers have commented that their interpretation of the latest wording implies that every site that is subject to MS-19 is also subject to energy balance--others believe the opposite.
 - Creates issues in situations where a project is less than the threshold for full stormwater requirements, but over the E&SC threshold
- 1% Rule:
 - In most cases, something downstream is 'inadequate'; therefore, the default standard seems to be meeting the energy balance (since returning to sheet flow is not really an option in many cases)



Evidence of localized flooding

- Outfalls to VDOT – VDOT requires design to 10y-10y management to protect their ditch and culverts – VDOT has not been willing to provide a letter stating localized flooding is present, localities will not state this even with VDOT requiring onsite management
- Municipalities are open to stating that there is localized flooding, however all are concerned about putting that into writing – once they do they set a precedent for other projects to follow
- With the new focus on stormwater by the State, municipalities are shying away from this due to potential liability aspects



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