

From: Evans, David
To: [Michelle Edwards](#)
Subject: Draft Answers to Second Meeting Questions
Date: Thursday, August 30, 2018 4:56:53 PM

Thought I'd share this working draft.

Listing of DEQ Follow up Actions:

1. **Septic Connections:** does data include both residential and commercial sector? For purposes of WIP III planning, PDCs should report all septic practices (residential or non-residential buildings) in their WIP III planning targets. This would include pump-outs, repairs, new septic systems, and connections to sewers.
2. **Septic Denitrification:** does data include both conversions-upgrades and new-replacement systems? Both conversions-upgrades that include denitrification, and new (replacement) systems with denitrification count toward this BMP. Also, for new growth, PDCs should identify the number of new septic systems that they expect will include denitrification, as the default for new growth would be conventional septic system.
3. **ESC2:** clarify whether current Stormwater Construction GP satisfies the ESC2 standard. If so, should all new development outside MS4 areas be coded as ESC2? All new development (outside MS4 areas) that disturbs > 1 acre (the Construction GP threshold) should be reported under the ESC2 BMP. **(NEED TO ADDRESS THE LEVEL OF CONTROL FOR STATE E&S LAW/LOCAL E&S PROGRAMS)**

Storm Drain Cleaning: CAST model seems to require direct entry of N and P reductions, doesn't make sense and will create error/inconsistency issues among PDCs. The Street Sweeping Expert Panel report addresses this, and can be found at:

https://www.chesapeakebay.net/channel_files/22425/final_street_cleaning_expert_panel_report.pdf.

This report calls for pollutant reductions to be calculated based on the estimated mass of materials that would be collected from storm drains, explained in more detail below.*

4. **Stormwater Runoff Reduction/Treatment:** are these all intended to be retrofits? New land development can be counted under these two BMPs, or under any applicable specific stormwater BMPs. These measures are also the only way to report retrofits of existing stormwater wet ponds.), this is "All BMPs with the 3 measures (total area, impervious area, and run-off captured in acre-feet) have been reported as new stormwater treatment or new runoff reduction BMPs. A BMP reported using the standard method can be retrofitted to RR or ST by including the additional measures (impervious area, run-off captured)." (NEED CLARIFICATION OF WHAT THIS MEANS)
5. **County Growth Projections in CAST:** DEQ to provide RRRC with the growth projections for each jurisdiction from 2017-2025. Local jurisdiction population growth estimates included in CAST were derived from Wells & Cooper, and can be found at: _____

* The panel report on Storm Drain Clean-outs, section 6.4 on page 44 describes how credit should be computed in the following three steps:

Step 1: Measure the mass of solids/organic matter that is effectively captured and properly disposed by the storm drain cleaning practice on an annual basis.

Step 2: Convert the initial wet mass captured into dry weight. The following default factors can be used to convert wet mass to dry weight in the absence of local data. The conversion factors are 0.7 for wet sediments (CSN, 2011) and 0.2 for wet organic matter (Stack et al, 2013).

Step 3: Multiply the dry weight mass by a default nutrient enrichment factor depending on whether the material captured is sediment or organic in nature (see Table 20). Note: locals may substitute their own enrichment factor if they sample the nutrient and carbon content of the materials they physically remove from the storm drain.

The aggregate load collected over the course of the year, expressed as pounds of sediment and

nutrients, is reported for credit.

Let me know if any questions.

Dave

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Rappahannock-Rapidan PDC - Urban BMP data 10/3/18

Sector	LAPG BMPs	Unit	2017	WIP 2	2025 Available	WIP 3	Notes
Developed	Advanced Grey Infrastructure Nutrient Discovery Program (IDDE)	acres	0	0	86,057	0	
Developed	Bioretention/raingardens - A/B soils	acres	55	2,884	114,172	2,884	
Developed	Bioretention/raingardens - C/D soils	acres	2	0	48,845	500	
Developed	Bioswale	acres	10	0	114,172	1,000	
Developed	Dirt & Gravel Road Erosion & Sediment Control	feet	0	80	25,882	0	
Developed	Dirt & Gravel Road Erosion & Sediment Control - Outlets	feet	0	196	12,941	1,000	
Developed	Dry Detention Ponds and Hydrodynamic Structures	acres	2,518	5,652	114,172	3,000	
Developed	Dry Extended Detention Ponds	acres	2,013	10,744	114,172	3,000	
Developed	Erosion and Sediment Control Level 1	acres	60	877	1,251	0	
Developed	Erosion and Sediment Control Level 2	acres	0	0	1,251	877	Moved WIP 2 ESC1 acres to ESC2
Developed	Erosion and Sediment Control Level 3	acres	0	0	1,251	0	
Developed	Filtering Practices	acres	29	6,144	114,172	500	
Developed	Floating Treatment Wetland 10% Coverage of Pond	acres	0	0	114,172	0	
Developed	Floating Treatment Wetland 20% Coverage of Pond	acres	0	0	114,172	0	
Developed	Floating Treatment Wetland 30% Coverage of Pond	acres	0	0	114,172	5	
Developed	Floating Treatment Wetland 40% Coverage of Pond	acres	0	0	114,172	0	
Developed	Floating Treatment Wetland 50% Coverage of Pond	acres	0	0	114,172	0	
Developed	Forest Buffer	acres	0	344	71,923	50	
Developed	Forest Planting	acres	0	86	71,923	200	
Developed	Impervious Surface Reduction	acres	0	1,899	29,169	200	
Developed	Infiltration	acres	112	5,513	114,172	162	
Developed	Nutrient Management Plan	acres	659	42,923	86,057	20,000	

Sector	LAPG BMPs	Unit	2017	WIP 2	2025 Available	WIP 3	Notes
Developed	Permeable Pavement	acres	0	6	114,172	6	
Developed	Storm Drain Cleaning	pounds	0	0	N/A	50	
Developed	Stormwater Performance Standard-Runoff Reduction	acres	5	0	114,172	5	
Developed	Stormwater Performance Standard-Stormwater Treatment	acres	1	0	114,118	1	
Developed	Mechanical Broom Technology (Street Cleaning)	acres	0	633	13,375	633	Richard Jacobs is working to collect data from towns to get a more accurate estimate
Developed	Tree Planting - Canopy	acres	0	0	114,172	2.5%	
Developed	Vegetated Open Channels - A/B	acres	11	145	114,172	500	
Developed	Wet Ponds and Wetlands	acres	2,764	10,514	114,172	10,514	
Natural	Algal Flow-way Non-Tidal Monitored	pounds	0	0	N/A	0	
Natural	Algal Flow-way Non-Tidal	acres	0	0	114,172	0	
Natural	Urban Stream Restoration	feet	0	10,218	10,431,144	10,218	
Natural	Wetland Enhancement	acres	0	0	26,208	25	
Natural	Wetland Rehabilitation	acres	0	0	26,208	25	
Septic	Septic Connection	systems	6	3,401	42,812	500	
Septic	Septic Denitrification-Conventional	systems	91	6,041	38,504	185	VDH estimate
Septic	Septic Denitrification-Enhanced	systems	31	0	38,504	167	VDH estimate
Septic	Septic Effluent-Enhanced	systems	20	0	38,504	24	VDH estimate
Septic	Septic Pumping	systems	403	5,073	38,504	5,073	
Septic	Septic Secondary Treatment Conventional	systems	307	0	38,504	407	VDH estimate
Septic	Septic Secondary Treatment Enhanced	systems	8	0	38,504	52	VDH estimate
Growth	Agricultural Conservation Policy	County	0	0	All	0	
Growth	Forest Conservation Policy	County	0	0	All	0	
Growth	Growth Management Policy	County	0	0	All	All Counties	

NOTE: grey shading denotes annual BMPs

Nitrogen Loads (lbs/yr)

Load Source	RRRC WIP II- Urban	RRRC WIP III Urban Working Draft	RRRC WIP II- Urban	RRRC WIP III Urban Working Draft
	(Edge of Stream)	(Edge of Stream)	(Edge of Tide)	(Edge of Tide)
Sector: Agriculture	4,230,652.57	4,242,393.19	2,620,077.50	2,628,368.43
Sector: Developed	874,428.41	859,112.68	482,813.78	473,398.64
Sector: Natural	1,578,455.66	1,578,221.05	909,424.81	909,367.91
Sector: Septic	347,953.35	345,644.16	188,485.58	187,025.85
Sector: Wastewater	400,731.66	400,731.66	279,725.91	279,725.91
TOTAL	7,432,221.65	7,426,102.74	4,480,527.58	4,477,886.73

Permit Number	Operator Name	Construction Activity Location Name	Construction Activity Location	Est Project Start Date	Est Project End Date	Total Area of Development Acres	Est Area to be Disturbed Acres	Permit Coverage Approval Date
VAR101726	Armstrong Green and Embrey Inc	Remington Mulch Storage Expansion	Culpeper	9/12/2016	3/31/2017	11.89	10.35	11/7/2016
VAR101578	Chemung Contracting Corp	Ardent Mills	Culpeper	7/15/2016	7/15/2017	16	5	8/5/2016
VAR101361	Hitt Contracting Inc	Nap of the Capital Region Expansion - Data Center Campus	Culpeper	9/22/2014	9/22/2017	28.3	27.3	10/31/2014
VAR101326	K and M Properties LC	Highpoint of Culpeper Phases 4 6 and 1 Section 5 Pond	Culpeper	10/1/2010	10/1/2018	94.94	35	9/5/2014
VAR101512	Lidl US Operations LLC	Lidl Culpeper	Culpeper	8/1/2016	8/1/2017	9.03	6.37	7/20/2016
VAR101350	Mark A James	Euro Composites Corporation	Culpeper	5/2/2016	5/1/2018	11.57	3.57	7/20/2016
VAR101759	Muddy Flats Farm LLC	Muddy Flats Farm Poultry Houses	Culpeper	10/1/2016	4/30/2017	35.6	7.08	11/7/2016
VAR101337	NAP of the Capital Region LLC	NAP of the Capital Region	Culpeper	9/15/2014	9/15/2017	30.1	30.1	10/10/2014
VAR101322	Ricky L Brown Inc	Blue Ridge Overlook	Culpeper	9/1/2016	9/1/2017	102.46	9.56	4/11/2017
VAR10E903	Robert Bobbitt	AMRF Storage	Culpeper	7/1/2014	6/30/2019	3.77	3.5	8/22/2014
VAR10E799	Sona Inc	Stone Ridge	Culpeper	6/15/2014	6/15/2017	175.45	30	9/12/2014
VAR101335	Stlickbow LLC	NorthridgeSubdivision	Culpeper	1/1/2005	1/30/2018	225.69	76.16	9/5/2014
VAR10G939	Storeland LLC	Storeland LLC	Culpeper	6/1/2015	6/1/2017	6.2	3.54	8/25/2015
VAR10H758	601 LLC	601 Subdivision - Former Rappahannock Electric Coop	Culpeper (in Culpeper County)	2/1/2016	2/1/2017	8.62	8.62	2/8/2016
VAR101008	Amazon Web Services Inc	Project MVP Site D	Culpeper (in Culpeper County)	4/15/2016	2/15/2017	7.22	5.81	7/13/2016
VAR101330	K Hovnanian Homes of Virginia Inc	North Ridge Phase II	Culpeper (in Culpeper County)	7/15/2005	12/15/2019	23.8	19.9	8/15/2014
VAR101250	Murphy Oil USA Inc	Murphy Oil USA Culpeper	Culpeper (in Culpeper County)	1/2/2016	1/2/2017	0.7	0.7	6/8/2016
VAR101456	Rappahannock Rapidan Community Services Board	Bridges Facility	Culpeper (in Culpeper County)	7/11/2016	5/1/2017	6.12	3.2	7/20/2016
VAR10E366	Swan Family Properties LLC	The Townes at Mountain Brook Estates	Culpeper (in Culpeper County)	6/15/2014	6/30/2019	18.5	12.5	10/3/2014
VAR10G940	The Board of Supervisors of Culpeper County	Galbreath Marshall DSS Building Expansion	Culpeper (in Culpeper County)	8/1/2015	8/1/2017	4.46	4.46	8/27/2015
VAR101514	Virginia Baptist Homes Inc dba Lifespire of Virginia	Lifespire of Virginia Culpeper	Culpeper (in Culpeper County)	4/1/2017	12/31/2018	101.31	18.68	4/26/2017
VAR102049	17 66 LLC	17 66 Business Park	Fauquier	2/1/2009	3/31/2018	153	58.21	8/29/2014
VAR102059	Casterock Enterprises Inc	Mollett & Ballhaus Property	Fauquier	8/1/2011	8/1/2017	90.57	7.67	8/15/2014
VAR102069	Richmond American Homes of Virginia Inc	Jamison's Farm II	Fauquier	7/1/2014	6/30/2019	103.9	4.9	8/15/2014
VAR102090	Brookmill LLC	Brookside Phase 9	Fauquier	9/15/2007	6/1/2019	79.8	45	8/15/2014
VAR102092	Edward R Moore	Brookside Parkway Extension & Community Development	Fauquier	6/15/2012	12/31/2017	116.3	116.3	8/1/2014
VAR102105	RFI WC LC	Warrenton Chase	Fauquier	1/31/2011	12/31/2019	249.24	249.24	8/15/2014
VAR102147	Anthony T Tobias	The Meadows at Kelly Farm: Howard Leslie Kelly Property	Fauquier	9/16/2013	7/31/2018	123	4.9	8/15/2014
VAR102149	AGB Warranty Services LLC	AGB Warranty Services LLC Property	Fauquier	6/1/2014	9/1/2017	11.9	3.7	8/29/2014
VAR10D717	Tiltton Enterprises LLC	The Theodora Randolph Ring	Fauquier	7/1/2014	7/1/2019	28.3	3.5	8/15/2014
VAR10D762	K Hovnanian Homes of Virginia Inc	Raymond Farm	Fauquier	5/23/2014	5/31/2017	64.5	52	10/10/2014
VAR10D881	Danforth Homes LLC	Rappahannock Landing	Fauquier	6/1/2014	9/1/2017	44.92	21.96	1/7/2015
VAR10D925	Fauquier H and R RE LLC	Bealeton Health and Rehabilitation Center	Fauquier	6/1/2014	9/1/2017	9.41	8.7	8/22/2014
VAR10D940	Wakefield School Inc	Wakefield School	Fauquier	6/1/2014	6/1/2019	62.8	17.8	8/22/2014
VAR10E020	The Bridge Community Church	The Bridge Community Church	Fauquier	6/1/2014	10/1/2017	34.99	7.8	9/5/2014
VAR10E248	Gall Crouthamel	Four Calling Birds Farm	Fauquier	7/1/2014	6/30/2019	75.05	3.3	8/15/2014
VAR10E353	Edward R Moore	Brookside Phase 10	Fauquier	8/1/2014	6/1/2019	73.67	37.2	9/5/2014
VAR10E569	Ringwood LLC	Ringwood Farm	Fauquier	3/1/2015	6/1/2019	73.28	73.28	9/5/2014
VAR10F059	Pleasants Oliver LLC	Wooded Run Estates	Fauquier	6/15/2014	6/15/2024	87.16	62.9	10/10/2014
VAR10F146	Belvoir Station LLC	Belvoir Station LLC	Fauquier	6/12/2014	6/30/2019	26.28	6.09	9/19/2014
VAR10F171	Edward R Moore	Brookside Phase II	Fauquier	5/1/2015	6/1/2019	74.04	37.7	9/19/2014
VAR10F177	Mintbrook Developers LLC	Mintbrook	Fauquier	7/1/2014	12/31/2020	332.39	222.5	9/19/2014
VAR10F518	PK Marshall LLC	Grovetown Meadows	Fauquier	6/1/2014	6/1/2018	10.6	10.28	9/26/2014
VAR10F994	Red Dirt Developments	Mill Run Business Park	Fauquier	1/1/2015	6/15/2018	53.4	44	11/13/2015
VAR10G131	NVP Inc	Stone Crest	Fauquier	6/15/2014	6/30/2017	10.25	7	8/29/2014
VAR10H388	Babette Husson	Husson Lewis Enterprises LLC	Fauquier	6/15/2015	6/15/2019	3.17	3.17	11/24/2015
VAR10H988	NVR Inc dba Ryan Homes	Waverly Station at Bealeton	Fauquier	1/15/2016	1/15/2018	5.61	2.54	3/28/2016
VAR101343	Fauquier County	Corral Farm Transfer Station	Fauquier	8/1/2016	2/1/2017	251.38	174.71	6/13/2016
VAR101420	James Alt	Fenton Chase Subdivision - Phase 2	Fauquier	8/1/2016	8/31/2017	10	9.17	6/29/2016
VAR101453	PE BEN USA Inc	PE Ben Bealeton Pipe Laydown Area	Fauquier	6/27/2016	6/27/2021	38.93	38.93	7/5/2016
VAR101454	Associated Contract Services Inc	Dollar General Morrisville	Fauquier	7/1/2016	7/1/2017	3.89	2.47	7/5/2016
VAR101541	Edward Moore	Vint Hill Landbay K Phase 2	Fauquier	7/1/2016	7/31/2017	268	16.08	7/20/2016
VAR101571	Dakota Springs LLC	Dakota Springs	Fauquier	8/1/2016	7/31/2017	23.99	3.85	7/26/2016
VAR101775	Natalie Orberg	Creekside Crossing	Fauquier	9/8/2016	9/8/2017	5.5	1.6	9/9/2016
VAR10J011	Edward Moore	Vint Hill Public Utility Improvement Plan	Fauquier	9/1/2016	9/1/2017	5.5	5.5	10/27/2016
VAR10J023	Virginia Electric and Power Co	TL 541	Fauquier	12/1/2016	10/30/2017	8.63	1.35	11/14/2016
VAR10J052	Washburn Place LP	Washburn Place Townhomes	Fauquier	6/15/2016	8/30/2017	6	6	11/10/2016
VAR10J053	Gray Coyner	Spiritual Care Support Ministry	Fauquier	5/15/2016	5/15/2017	6.93	2.47	11/17/2016
VAR10J057	John E Dreyer	Delaplaine Grade LLC Property Horse Barns	Fauquier	6/1/2016	6/1/2017	100.07	6.6	11/10/2016
VAR10J083	Virginia Electric and Power Co	Remington Ct Warrenton 230 kV Line North Phase	Fauquier	12/1/2016	3/31/2020	174.63	36.79	4/12/2017
VAR10J099	Virginia Electric and Power Co	Remington Ct Warrenton 230 kV Line South Phase	Fauquier	12/1/2016	11/30/2019	123.1	18.97	12/5/2016
VAR10J165	Virginia Electric and Power Co	Remington Solar Project	Fauquier	2/1/2017	12/31/2017	277.14	136.63	12/22/2016
VAR10J411	Dominion Transmission Inc	DTI Quantico Compressor Station	Fauquier	4/1/2017	4/1/2018	30.63	3.7	3/29/2017
VAR10I860	Roger Scott	Roger Scott Poultry House	Madison	9/26/2016	5/31/2017	99.8	6.3	10/5/2016
VAR10I705	PMC Distribution Inc	Thomas E Lee Industrial Park Zamma Corporation Expansion	Orange	10/1/2016	6/30/2017	2.34	2.34	3/14/2017
VAR10H392	R and M Frazier LLC	Union Station Subdivision	Orange	11/1/2015	12/31/2018	52.53	3.5	4/29/2016
VAR10G969	Titan Construction LLC	Dollar General - Unionville	Orange	6/1/2015	6/1/2019	3.21	2.28	8/21/2015
VAR10S007	Tricord Inc	Wilderness Shores	Orange	6/1/2003	6/1/2024	467.5	6.1	10/10/2014
VAR101353	Bill Hager	Orange Baptist Church	Orange (in Orange County)	7/1/2016	6/30/2018	28.36	8.9	6/30/2016
VAR101309	Nielsen Builders Inc	Lohmann Corporation Expansion	Orange (in Orange County)	6/13/2016	3/31/2017	4.1	4.1	6/24/2016
VAR10E730	BRS Mosby LLC	Warrenton Crossing	Warrenton (in Fauquier County)	3/1/2015	12/31/2018	46.69	46.62	8/15/2014
VAR10H121	Michael Moore	Warrenton Training Center - Tower Hill Rd and Pond View Rd Intersec	Warrenton (in Fauquier County)	5/1/2015	5/1/2017	357	1.15	7/21/2015
VAR101151	Vadata Inc	Project MVP Site B	Warrenton (in Fauquier County)	7/5/2016	1/23/2017	8.21	6.85	9/14/2016
VAR101222	Zirkelbach Construction Inc	Poets Walk	Warrenton (in Fauquier County)	5/1/2016	6/1/2018	3.33	3.04	5/17/2016
VAR101334	Groundscapes LLC	Lineweaver Business Park Parking Lot Addition	Warrenton (in Fauquier County)	6/15/2016	6/15/2017	4.42	0.8	6/10/2016
VAR10I828	CCMK LLC	CCMK III OTEC III	Warrenton (in Fauquier County)	8/26/2016	8/8/2017	5.68	2.48	9/26/2016
These are projects that may have higher disturbed acres than reported						TOTALS =	5336.75	1992.32

APPROVED BY USWG ON 5/15/2018 AS A BMP CREDIT OPTION
Revised July 2018 by WTWG

Date: Original April 24, 2018, Revised August 10, 2018
From: Tom Schueler and David Wood, CSN
To: Urban Stormwater Work Group
Re: Nutrient Reduction Credit for Conservation Landscaping

1. Background

In March of 2018, the USWG discussed potential ways to credit conservation landscaping for nutrient reduction in the context of the Chesapeake Bay watershed model. A conservation landscaping credit would fill an key gap by enabling homeowners, institutions and municipalities to manage their open space as meadows rather than intensively managed turf grass. Based on subsequent communications with VA DEQ and DOEE staff, we have drafted a proposal to provide credit for conservation landscaping as a homeowner BMP retrofit, as follows:

2. Definition of Conservation Landscaping

Definition: Conservation landscaping areas are areas of managed turf that are converted into perennial meadows using species that are native to the Chesapeake Bay region. The landscaping areas are slightly depressed so they can hold rainfall and, in some cases, treat runoff from adjacent hard surfaces. Conservation landscaping is designed to provide habitat for birds and pollinators, and does not rely on mulch to suppress weeds over the long term.

Conservation landscaping may also be described as urban meadows, Bay-scapes or Bay-wide landscaping practices. More details on conservation landscaping can be found in Lane and Schueler (2013) and references cited therein.

3. Proposed Credit

Two options are offered for credit:

Option 1: Conservation Area (Turf)

The credit is calculated by applying the removal rates provided in Table 1 to the unit loads produced by urban turf grass, adjusted for the surface area of the conservation landscaping (usually a fraction of an acre).

Option 2: Conservation Area with IC Run-on.

In this situation, additional credit is calculated for the surface area of adjacent impervious cover that runs onto the conservation landscape. The load for the impervious cover is multiplied by the load reduction values in Table 1 to determine the nutrient load removed (which is in addition to the turf load reduction calculated under Option 1).

Note: to prevent the runoff from overwhelming the conservation area, the contributing IC area cannot exceed twice the conservation landscaping area.

Table 1: Removal Efficiency for Conservation Landscaping			
Pollutant	Sediment	Total N	Total P
Removal Rate*	0% **	78%	50%
WTWG Rate ***	0%	39%	25%
** Nutrient removal rates based on differential load for managed turf grass compared to the load for the "mixed-open natural" land use category created for the new Phase 6 watershed model (see Schueler and Wood, 2018).			
** No sediment removal is expected for conservation landscaping since its vegetative cover is equivalent to that provided by turf grass (UNM EPR, 2013).			
*** Conservative removal rate recommended by WTWG applies to the approved BMP (currently interim; used for WIP planning purposes only). The BMP can be used for annual progress reporting once the model lock down period expires in April 2019.			

4. Technical Rationale

Conservation landscapes reduce nutrient loads for several reasons. The first reason is that they do not receive any fertilizer inputs, which is major source on N export for urban turf grass. The second reason is that the biomass of each conservation area is "recycled" back into the soil every year. (unlike lawn clippings that can wash off). This helps conservation areas build up organic matter and improve soil quality over time, thereby retaining more nutrients. Lastly, the deeper root systems associated with meadow plants extend further into the soil profile, help de-compact urban soils and enhance the soil microbial community.

5. Qualifying Conditions

Several minimum criteria need to be met before conservation credits can be granted.

- The turf conversion needs to follow a plan to sustain the meadow landscape over the years. This will usually include the methods to:
 - initially prepare the site (e.g., dethatching, tilling, soil amendments).
 - establish the meadow plant community (seeding/container plants) including native plant species used to improve biodiversity from current conditions.
 - maintain the conservation area to arrest succession and remain in a meadow state (e.g., biannual mowing, invasive species removal, controlled burns, etc.).

- Most communities that provide incentives to build and maintain conservation landscapes have established effective criteria for homeowners. A good example of these criteria can be found in the District of Columbia River's Smart Homes program (could use a link here). In general, any local conservation area criteria should be followed to earn this credit.
- **Note:** This IS NOT a credit for normal landscaping in residential or commercial areas. Any landscaping project that requires continuous mulch replacement is not eligible for this credit (although rain gardens may be eligible as an on-site retrofit --- see CBP, 2012).

6. Eligibility

- The credit applies to all conservation areas that have been installed since 2009 and will be verified 2018 or 2019.
- No credit is allowed for conservation landscaping installed prior to 2009 since it now accounted for in the mixed-open natural land use category in the Phase 6 CBP watershed model.

7. Practice Reporting

Communities that operate incentive programs to install conservation areas on public or private lands will likely be the ones reporting this practice.

To streamline reporting, they may submit the total acreage of landscape conservation each year from multiple property owners, although they will need to keep records on each individual project to assist in future verification.

Communities that have access to the SMART tool to provide easier tracking and reporting of conservation landscape areas. The SMART tool should become available in PA, MD, and VA later in 2018.

8. Verification

Since most conservation landscapes will be very small in area (usually much less than one acre in size), they can be a hard practice to inspect and verify.

Conservation landscaping should undergo the same verification procedures for homeowner BMPs and on-site retrofits (CBP, 2012, Goulet and Schueler, 2014), namely:

- Their condition should be inspected every five years, using visual indicators that the conservation landscape still exists and functions as a meadow
- Self-reporting of these indicators by homeowners using digital photos is acceptable.

- Alternatively, a community can elect to inspect a subset (10%) of the conservation landscaping areas in their jurisdiction

9. References

Chesapeake Bay Program (CBP). 2012. Recommendations of the expert panel to define removal rates for urban stormwater retrofit projects.

Goulet, N. and T. Schueler. 2014. Revised memo: application of CBP approved urban BMP protocols to credit nutrient reduction associated with installation of homeowner BMPs. USWG recommendations, as approved by Water Quality Goal Implementation Team. April, 2014.

Lane C. and T. Schueler. 2013. Homeowners guide for a more Bay-friendly property. Chesapeake Stormwater Network. Ellicott City, MD.

Schueler, T. and D. Wood. 2018. Request for a land use credit for conversion of turf to mixed-open land use. Draft memo submitted to USWG. March 7, 2018.

From: Joe Costello <jcostello@rrregion.org>
Sent: Friday, September 14, 2018 3:53 PM
To: 'Evans, David' <david.evans@deq.virginia.gov>
Cc: Michelle Edwards <medwards@rrregion.org>; 'Richard Jacobs' <richardj@culpeperswcd.org>
Subject: Dirt & Gravel Road Erosion & Sediment Control BMP Analysis

Hello David,

As part of our WIP planning efforts we wanted to explore increasing our usage of the Dirt & Gravel Road Erosion & Sediment Control annual BMP. However, upon analysis the information we received originally from Daniel Moore vastly understates the amount of available land in the region available to implement this bmp.

In Arcmap, I pulled VDOT's 2017 unpaved roads layer showing all unpaved roads in our region. I then created 100 ft buffer and intersected this new buffer layer with our streams .shp to locate the best opportunities to implement this bmp. Examples are shown in the attached maps and detailed in the table below.

Sector	LAPG BMP (Annual)	Unit	2017	WIP 2	2025 Available	Actual Available	Within 100 ft of Streams	Within 100 ft of Streams (Miles)
Developed	Dirt & Gravel Road Erosion & Sediment Control	feet	-	80	25,882	494 (miles)	339, 121(ft)	64

Overall, there are around 495 miles of unpaved roads in our region with 64 miles of unpaved roads within 100 ft of streams. All of which I would think would be 'available' for this bmp implementation. There are also a number of VDOT programs such as the rural rustic roads program, the secondary six year plan, pave-in-place program, and revenue sharing that could be leveraged in addition to any resulting funds/programs made available through the WIP planning process. In short, please advise if we can consider the much larger figure of actual available area shown in working to reach our regional WIP goals.

Thank you,

Joe

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Estimated Acres of Non-residential Turf in Rappahannock Rapidan Region							
County	Parks	Golf Courses	Schools	Battlefields Owned by Trusts	Airports	Montpelier	
Culpeper	472.00	175.00	90.00	1,332.02	301.00	-	
Fauquier	527.00	255.50	155.00	1.76	407.00	-	
Orange	26.00	355.00	50.00	693.43	348.00	2,591.00	
Madison	182.00	-	19.00	-	-	-	
Rappahannock	1.00	87.50	8.00	-	-	-	
Total	1,208.00	873.00	322.00	2,027.21	1,056.00	2,591.00	Grand Total 8,077