

Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan

Hanover County, Virginia

Permit No. VAR040012

Prepared by:
Department of Public Works
7516 County Complex Road
Hanover, VA 23069
(804) 365-6181



October 2015

Table of Contents

- **Introduction.....1**
- **Current Program and Existing Legal Authority.....1**
- **New or Modified Legal Authority.....2**
- **Means and Methods to Address Discharges from New Sources.....3**
- **Estimated Existing Source Loads and Calculated Total Pollutant of Concern (POC)
Required Reductions.....3**
- **Means and Methods to Meet the Required Reductions and Schedule.....6**
- **Means and methods to offset increased loads from new sources initiating
construction between July 1, 2009 and June 30, 2014.....9**
- **Means and methods to offset increased loads from grandfathered projects that
begin construction after July 1, 2014.....9**
- **A list of future projects, and associated acreage that qualify as grandfathered.....10**
- **An estimate of the expected cost to implement the necessary reductions.....10**
- **Public Comments on Draft Action Plan.....12**
- **Appendices.....13**
 - Appendix A – Hanover County MS4 Land Cover
 - Appendix B – Church of the Creator Stream Restoration Project
 - Appendix C – Henderson Hall Stream Restoration Project
 - Appendix D – Laurel Meadows Elementary School Pond Enhancement Project
 - Appendix E – Opossum Creek Stream Restoration Project
 - Appendix F – Street Sweeping Program
 - Appendix G – Public Hearing Documents

Introduction

Virginia Regulation 9VAC-25-890 et. seq. regarding the General VPDES permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s) requires Hanover County to establish a Total Daily Maximum Load (TMDL) Action Plan by July 1, 2015. This action plan must address the permit special condition for the Chesapeake Bay TMDL. The Commonwealth in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans (WIP) committed to a phased approach for MS4s, affording MS4 operators up to three full five-year permit cycles to implement necessary reductions.

This plan is in compliance with the general permit and consistent with the Chesapeake Bay TMDL and the Virginia Phase I and II WIPs to meet the Level 2 (L2) scoping run for existing developed lands, as it represents an implementation of 5.0% of L2 as specified in the 2010 Phase I WIP. Conditions of future plans will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.

Hanover County's Chesapeake Bay TMDL Action Plan was formatted in accordance with Part VI of The Department of Environmental Quality's Action Plan Guidance (5/18/2015).

1. Current Program and Existing Legal Authority (*General Permit Section I.C.2.a.(1)*)

A review of the current MS4 program implemented as a requirement of this state permit including a review of the existing legal authorities and the operator's ability to ensure compliance with this special condition;

Hanover County Municipal Separate Storm Sewer System (MS4) Permit (VAR040012)

Hanover County Ordinances

Chapter 10 – Environmental Management

- Article I – Erosion and Sediment Control
- Article II – Chesapeake Bay Preservation
- Article IV – Municipal Separate Storm Sewer System (MS4) Management Program
- Article V – Stormwater Management

Chapter 12 - Flood Plain and Drainage Control

2. New or Modified Legal Authority (*General Permit Section I.C.2.a.(2)*)

The identification of any new or modified legal authorities such as ordinances, state and other permits, orders, specific contract language, and interjurisdictional agreements implemented or needing to be implemented to meet the requirements of this special condition;

Hanover Ordinances have been modified to meet the new requirements of the requirements to adopt a stormwater program consistent with the requirements of 9VAC-25-870-150, including the most recent provisions related to the implementation of the Chesapeake Bay TMDL:

Ordinance 13-09 – Erosion and Sediment Control

An ordinance amending Chapter 10, ARTICLE I, of the Hanover County Code pursuant to Title 62.1, Chapter 3.1, Article 2.4 (§ 62.1-44.15:51 et seq.) of the Code of Virginia to conform to state law and new regulatory requirements

Ordinance 13-10 – Chesapeake Bay Preservation

An ordinance amending Chapter 10, ARTICLE II, of the Hanover County Code pursuant to Title 62.1, Chapter 3.1, Article 2.5 (§ 62.1-44.15:67 et seq.) of the Code of Virginia to conform to state law and new regulatory requirements

Ordinance 13-12 – Stormwater Management

An ordinance adopting ARTICLE V of Chapter 10 of the Hanover County Code pursuant to Title 62.1, Chapter 3.1, Article 2.3 (§ 62.1-44.15:24 et seq.) of the Code of Virginia to conform to changes in state law and new regulatory requirements

Hanover County received VSMP program approval from DEQ on December 22, 2014.

3. Means and Methods to Address Discharges from New Sources (*General Permit Section I.C.2.a.(3)*)

The means and methods that will be utilized to address discharges into the MS4 from new sources;

As part of the ordinances above, Hanover Ordinance Chapter 10 Article V Sec. 10-85 requires new projects to address the technical criteria under the provision of 9 VAC 25-870-62 Part IIB.

4. Estimated Existing Source Loads and Calculated Total Pollutant of Concern (POC) Required Reductions (*General Permit Section I.C.2.a.(4)* and (*General Permit Section I.C.2.a.(5)*)

An estimate of the annual POC loads discharged from the existing sources as of June 30, 2009, based on the 2009 progress run. The operator shall utilize the applicable [Table/Tables] in this section based on the river basin to which the MS4 discharges by multiplying the total existing acres served by the MS4 on June 30, 2009, and the 2009 Edge of Stream (EOS) loading rate;

Pervious and impervious surfaces were estimated using a GIS based land cover dataset prepared at a one meter resolution by WorldView Solutions Inc, from 2009-2011 land cover imagery. This data was then used to generate acreage estimates for applicable land uses. (See Appendix A for a categorization of land uses) These land uses were analyzed to determine the percentage of pervious and impervious area for each land use category. This data was further processed to generate urban pervious and impervious, forest / open space and other estimated areas in the county applicable to determining the necessary POC loadings and required reductions.

Publically owned or operated drainage areas (PDAs) to each of 794 outfalls in the MS4 area (2000 urbanized area) were obtained by mapping watershed and drainage areas to each outfall. 591 of these outfalls are owned or operated by Hanover County. The total area of PDAs owned by Hanover County is 4,683 acres. Drainage to privately owned systems or owned by VDOT were excluded for pervious and impervious area estimates for the calculated reductions for the MS4. These public drainage areas are divided between regulated urban pervious, and impervious areas for the James River and York River Basins. A summary of these areas and the estimate of the POC load as required under the MS4 regulations are provided below.

Table 2a – Calculation Sheet for Estimating Existing Source Loads for the James River Basin				
(* Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	Pollutant	Total Existing Acres Served by MS4 (06/30/09)	2009 EOS Loading Rate (lbs/acre/yr)	Estimated POC Load Based on 2009 Progress Run (lbs/yr)
Regulated Urban Impervious	Nitrogen	1,092	9.39	10,254
Regulated Urban Pervious		2,073	6.99	14,490
Regulated Urban Impervious	Phosphorus	1,092	1.76	1,922
Regulated Urban Pervious		2,073	0.5	1,032
Regulated Urban Impervious	Sediment	1,092	676.94	739,218
Regulated Urban Pervious		2,073	101.08	209,539

Table 2d – Calculation Sheet for Estimating Existing Source Loads for the York River Basin				
(* Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	Pollutant	Total Existing Acres Served by MS4 (06/30/09)	2009 EOS Loading Rate (lbs/acre/yr)	Estimated POC Load Based on 2009 Progress Run (lbs/yr)
Regulated Urban Impervious	Nitrogen	482	7.31	3,523
Regulated Urban Pervious		1,036	7.65	7,925
Regulated Urban Impervious	Phosphorus	482	1.51	728
Regulated Urban Pervious		1,036	0.51	528
Regulated Urban Impervious	Sediment	482	456.68	220,120
Regulated Urban Pervious		1,036	72.78	75,400

Table 3a – Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the James River Basin (* Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	Pollutant	Total Existing Acres Served by MS4 (06/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/acre/yr)	Total Reduction Required First Permit Cycle (lbs/yr)
Regulated Urban Impervious	Nitrogen	1,092	0.04	43.68
Regulated Urban Pervious		2,073	0.02	41.46
Regulated Urban Impervious	Phosphorus	1,092	0.01	10.92
Regulated Urban Pervious		2,073	0.002	4.15
Regulated Urban Impervious	Sediment	1,092	6.67	7,284
Regulated Urban Pervious		2,073	0.44	912

Table 3d – Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the York River Basin (* Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	Pollutant	Total Existing Acres Served by MS4 (06/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/acre/yr)	Total Reduction Required First Permit Cycle (lbs/yr)
Regulated Urban Impervious	Nitrogen	482	0.03	14.46
Regulated Urban Pervious		1,036	0.02	20.72
Regulated Urban Impervious	Phosphorus	482	0.01	4.82
Regulated Urban Pervious		1,036	0.002	2.07
Regulated Urban Impervious	Sediment	482	4.60	2217
Regulated Urban Pervious		1,036	0.32	332

5. Means and Methods to Meet the Required Reductions and Schedule (General Permit Section I.C.2.a.(6))

The means and methods, such as management practices and retrofit programs that will be utilized to meet the required reductions included in subdivision 2 a (5) of this subsection, and a schedule to achieve those reductions. The schedule should include annual benchmarks to demonstrate the ongoing progress in meeting those reductions;

Means and Methods (Proposed Projects to meet required TMDL load reductions)

Within regulated drainage areas, Hanover County receives the full reduction credit. Within unregulated drainage areas, Hanover County receives the full reduction credit minus the required baseline reduction.

Within VDOT drainage areas (outfall lies within VDOT right-of-way), Hanover County receives the full reduction credit minus the required baseline reduction.

For sections of drainage areas that are within the VDOT right-of-way, Hanover County receives the full reduction credit minus the required baseline reduction. VDOT receives credit for the baseline reduction.

Hanover County receives the full reduction credit for all forested acres treated.

(See Appendices B-E for project specific computations in accordance with DEQ TMDL Action Plan Guidance dated May 18, 2015, including baseline subtractions)

James River Basin*

Project	Type	Location	Treatment Area (ac)	Length (ft)	TP Removal (lbs/yr)	TN Removal (lbs/yr)	TSS Removal (lbs/yr)
Church of the Creator ^{4,5}	Stream Restoration	37.609, -77.346	28.7	650	42.7	222.6	507,207
Laurel Meadows ES ^{1,5}	Wet Pond Level 2	37.627, -77.335	16.9		11.6 ₂	38.2 ₂	3,722 ₃
TOTAL					54.3	260.8	510,929
5% Req.					15.07	85.14	8,196
40% Req.					120.56	681.12	65,568
100% Req.					301.4	1,702.8	163,920

1. Not classified as a retrofit, original design does not address water quality
2. BMP Clearinghouse Efficiency
3. Retrofit Curve Efficiency
4. BANCs Method
5. located in coastal plain terrain (based on USGS mapping)

York River Basin*

Project	Type	Location	Treatment Area (ac)	Length (ft)	TP Removal (lbs/yr)	TN Removal (lbs/yr)	TSS Removal (lbs/yr)
Henderson Hall	Stream Restoration	37.687, -77.422	61.1	700	45.7	45.4	30,619
Opossum Creek ¹	Stream Restoration	37.653, -77.392	1,161	4,029	230.1	182.4	43,581
TOTAL					275.8	227.8	74,200
5% Req.					6.89	35.18	2,549
40% Req.					55.12	281.44	20,392
100% Req.					137.8	703.6	50,980

1. located in coastal plain terrain (based on USGS mapping)

Accounting for Unregulated Baseline Removal and VDOT Credits

Project	ROW in Regulated Area (ac)	Unregulated Area (ac)	Unreg. Baseline (lbs/yr)			VDOT Drainage Area (ac)		VDOT Removal (lbs/yr)		
			TP	TN	TSS	Hanover	ROW	TP	TN	TSS
Church of the Creator	8.49	1.96	0.18	1.04	96.99	0.0	0.0	1.1	5.4	697
Laurel Meadows ES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Henderson Hall	10.84	2.76	0.32	1.37	131.51	0.0	0.0	1.5	5.7	666
Opossum Creek	69.3	210.87	20.67	54.9	7,895	82.15	24.85	13.9	43.5	5,716
TOTAL								16.5	54.6	7,079

Additional Street Sweeping Reductions

The Hanover County Street Sweeping Program sweeps roads within the MS4 area 2 weeks per year. The purpose is to reduce pollutants discharged to the MS4 and improve the appearance of Hanover County’s roadways. A summary of street sweeping activity and historical pollutant loads removed based on the Mass Loading Approach is presented in Appendix F.

**The BMPs included in this Action Plan that result in reductions in excess of the required 5.0% will be guaranteed at the efficiencies available at the time this Action Plan is submitted and credited toward future permit cycle reductions; Per DEQ Chesapeake Bay TMDL Action Plan Guidance dated 05/18/2015.*

The individual projects listed in this Action Plan are all subject to change at the discretion of Hanover County. Alternative methods may be employed to achieve the required reductions; such as Pollutant Trading referenced in *General Permit Section I.C.2.b.(4)*. Any changes to the listed pollutant reduction methods would be included in future Action Plan updates as required by the permit.

Proposed Schedule

The proposed schedule includes target dates when new management practices will be initiated, when BMP construction will begin, and when BMP installation is expected to be completed. Annual benchmarks for these target dates are included as part of this schedule. Target dates may be adjusted by Hanover County due to unforeseeable circumstances. BMPs necessary to achieve the 5.0% reduction will be completed by the end of the first permit cycle.

<i>Schedule item</i>	Laurel Meadows ES	Church of the Creator	Henderson Hall	Opossum Creek
Notice to proceed on design	Summer 2014	Spring 2014	Spring 2015	
Completion of plans and specification	Winter 2014/15	Spring 2015	Winter 2015/16	
Plans and specs approved	Winter 2014/15	Spring 2015	Winter 2016	
Advertise for bids	Spring 2015	Spring 2015	Spring 2016	
Bid opening	Spring 2015	Spring 2015	Spring 2016	
Award contract	Spring 2015	Spring 2015	Spring 2016	
Construction	Summer 2015	Summer 2015	Summer 2016	Bond Released 07/19/2011

6. Means and methods to offset increased loads from new sources initiating construction between July 1, 2009 and June 30, 2014 (General Permit Section I.C.2.a.(7))

The means and methods to offset the increased loads from new sources initiating construction between July 1, 2009, and June 30, 2014, that disturb one acre or greater as a result of the utilization of an average land cover condition greater than 16% impervious cover for the design of post-development stormwater management facilities. The operator shall utilize the Table 4 in this section to develop the equivalent pollutant load for nitrogen and total suspended solids. The operator shall offset 5.0% of the calculated increased load from these new sources during the permit cycle.

Hanover County adopted an average land cover condition of 16% impervious in the implementation of the stormwater program; therefore consistent with this section, no increased load offset is required.

All projects with and acreage over 16% impervious were required to treat impervious acreage consistent with the stormwater nutrient reduction requirements in place at that time, or purchase credit under the County's approved prorata share program.

7. Means and methods to offset increased loads from grandfathered projects that begin construction after July 1, 2014 (General Permit Section I.C.2.a.(8))

The means and methods to offset the increased loads from projects as grandfathered in accordance with 9VAC25-870-48, that disturb one acre or greater that begin construction after July 1, 2014, where the project utilizes an average land cover condition greater than 16% impervious cover in the design of post-development stormwater management facilities. The operator shall utilize Table 4 in this section to develop the equivalent pollutant load for nitrogen and total suspended solids.

Hanover County adopted an average land cover condition of 16% impervious in the implementation of the stormwater program; therefore consistent with this section, no increased load offset is required.

All projects with and acreage over 16% impervious were required to treat impervious acreage consistent with the stormwater nutrient reduction requirements in place at that time, or purchase credit under the County's approved prorata share program.

8. A list of future projects, and associated acreage that qualify as grandfathered
(General Permit Section I.C.2.a.(10))

A list of future projects and associated acreage that qualify as grandfathered in accordance with 9VAC25-870-48

Grandfathered Projects

Project Name	Permit Number	Acreage	Permit Date	SPR	Plan Approval Date
Blue Bell Creameries	VAR10G454	2.44	2/13/15	20-14	1/21/15
Hanover County New Courts Building	VAR10G573	13.14	2/12/15	29-83 Am. 9-14	10/15/14

9. An estimate of the expected cost to implement the necessary reductions
(General Permit Section I.C.2.a.(11))

An estimate of the expected costs to implement the requirements of this special condition during the state permit cycle;

Project	Type	Cost/lb Phosphorous	Total Cost (SLAF Grant)	County Cost (50%)	TP Removal (lbs/yr)
Church of the Creator	Stream Restoration	\$17,253	\$736,720	\$368,360	42.7
Laurel Meadows ES	Wet Pond 2	\$8,343	\$96,780	\$48,390	11.6
Henderson Hall	Stream Restoration	\$17,854	\$815,936	\$407,968	45.7
TOTAL			\$1,649,436	\$824,718	100.0
5% Req.					21.96

Potential Future Projects - The following are a list of projects being considered to meet the requirements of the Chesapeake Bay TMDL. An estimated phosphorous removal of **439 lbs/yr** by Hanover County will be necessary to meet required reductions over the course of the next three permit cycles. This reduction was calculated using the 2000 U.S. Census Bureau urbanized MS4 drainage areas.

These are some of the projects that Hanover County will consider to meet these reduction requirements in the future:

Project	Type	Treatment Area (ac)	River Basin	Cost/lb Phosphorous	Total Cost	Total lbs Phosphorous
Washington Henry ES	Bioretention A	0.94	York	\$13,841	\$62,837	4.54
	Bioretention B	1.80				
Pearson's Corner ES	Modified Wet Swale	2.00	York	\$17,107	\$88,785	0.56
	Stormfilter	0.87				0.47
	Vegetated Filter Strip	0.73				0.63
	Vegetated Filter Strip	9.25				2.16
	Vegetated Filter Strip	1.83				1.37
Cold Harbor ES	Bioretention	2.20	James	\$19,421	\$175,373	3.26
	Bioretention	1.29				2.21
	Bioretention	1.53				0.92
	Bioretention	4.65				2.64
Rural Point ES	Bioretention	6.94	York	\$20,039	\$199,195	4.98
	Bioretention	1.84				3.59
	Filter Strip	1.99				1.37
Mechanicsville ES	Bioretention	4.02	James	\$20,323	\$178,436	3.72
	Bioretention	1.42				1.95
	Bioretention	1.73				3.11
Lee Davis/ Stonewall Jackson	Bioretention	3.77	James	\$22,342	\$90,488	4.05
Green Ridge	Stream restoration	63.0	James	\$4,311	\$741,555	172.00
Hunters Ridge	Stream restoration	71.0	James	\$8,170	\$514,689	63.00
Windy Hills	Stream restoration	21.0	James	\$21,431	\$728,674	34.00
Summerwalk Regional Pond Restoration	Pond upgrade	133.0	James	\$9,563	\$98,500	10.3
Cherrydale Regional Pond Restoration	Pond upgrade	2233.0	James	\$2,028	\$290,000	143.00
TOTAL					\$3,016,910	463.83

Please note that some projects will require funds for cost of land acquisition, plats, easement negotiations, contingencies and other factors necessary to complete the project. These prices are for planning purposes and reflect the costs of Engineering and construction and plan approval only.

10. Public Comments on Draft Action Plan (*General Permit Section I.C.2.a.(12)*)

An opportunity for receipt and consideration of public comment regarding the draft Chesapeake Bay TMDL Action Plan.

The Hanover County Department of Public Works presented on the Chesapeake Bay TMDL Action Plan at the May 13, 2015 Hanover County Board of Supervisors Meeting. This allowed the opportunity for public comment through June 15, 2015. The Board of Supervisors Meeting was advertised through the Hanover County website and the Herald Progress. A copy of the advertisement and agenda summary can be found in Appendix G.

The following comments were received will be addressed (if appropriate) in updates of the Action Plan:

1. Meredith Dash from the Chesapeake Bay Foundation spoke in favor of the plan. Her primary comment was that she would like to see more project specific details. The Department of Public Works advised her that construction plans are public documents if she should like to come look at them. She also asked about BMP maintenance requirements which will be addressed through the County's Stormwater Management Facility Maintenance Program.

APPENDICES

Appendix A – Hanover County MS4 Land Cover

Appendix B – Church of the Creator Stream Restoration Project

Appendix C – Henderson Hall Stream Restoration Project

Appendix D – Laurel Meadows Elementary School Pond Enhancement Project

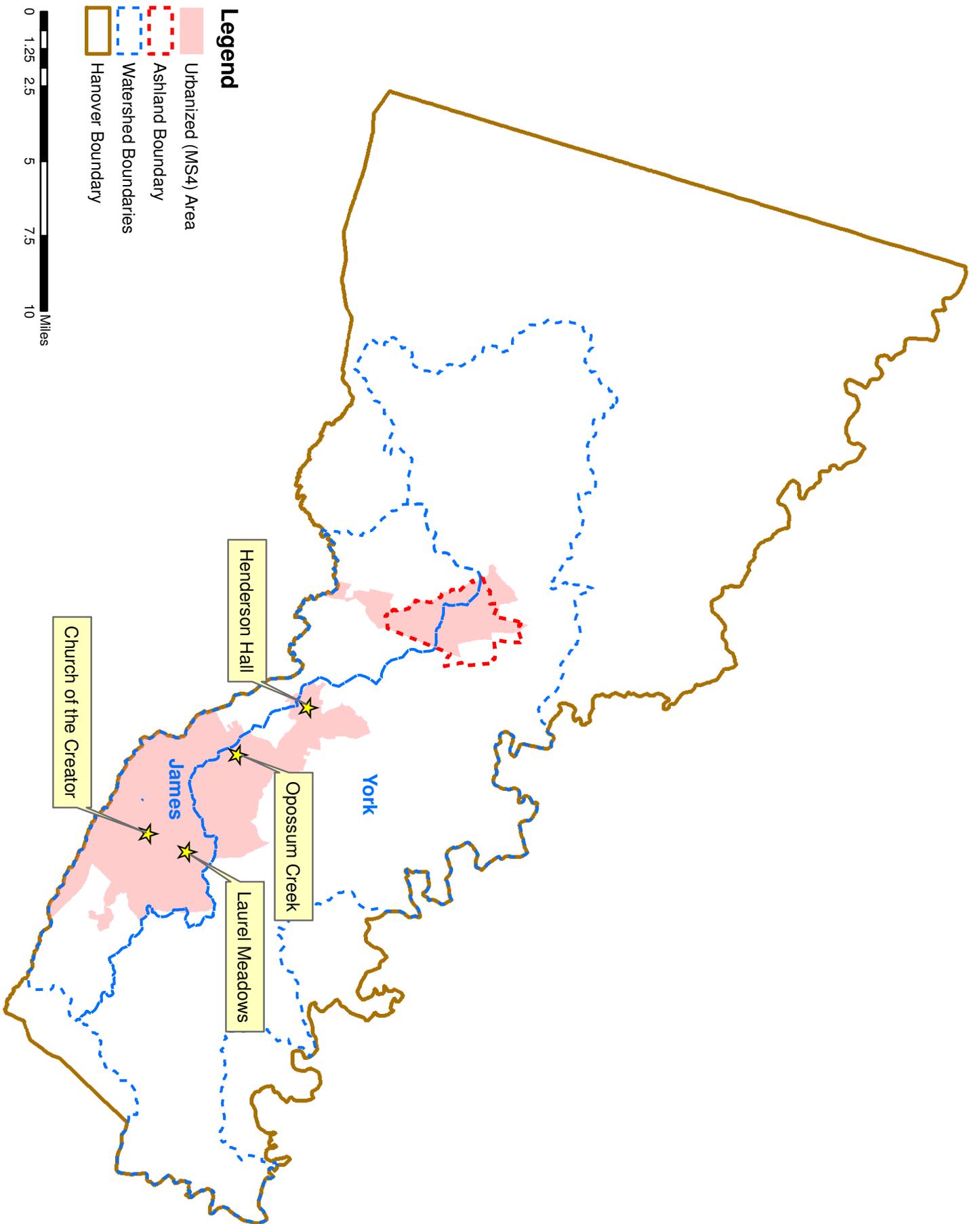
Appendix E – Opossum Creek Stream Restoration Project

Appendix F – Street Sweeping Program

Appendix G – Public Hearing Documents

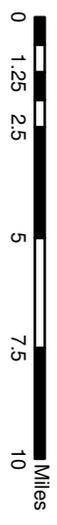
Appendix A – Hanover County MS4 Land Cover

Hanover County MS4

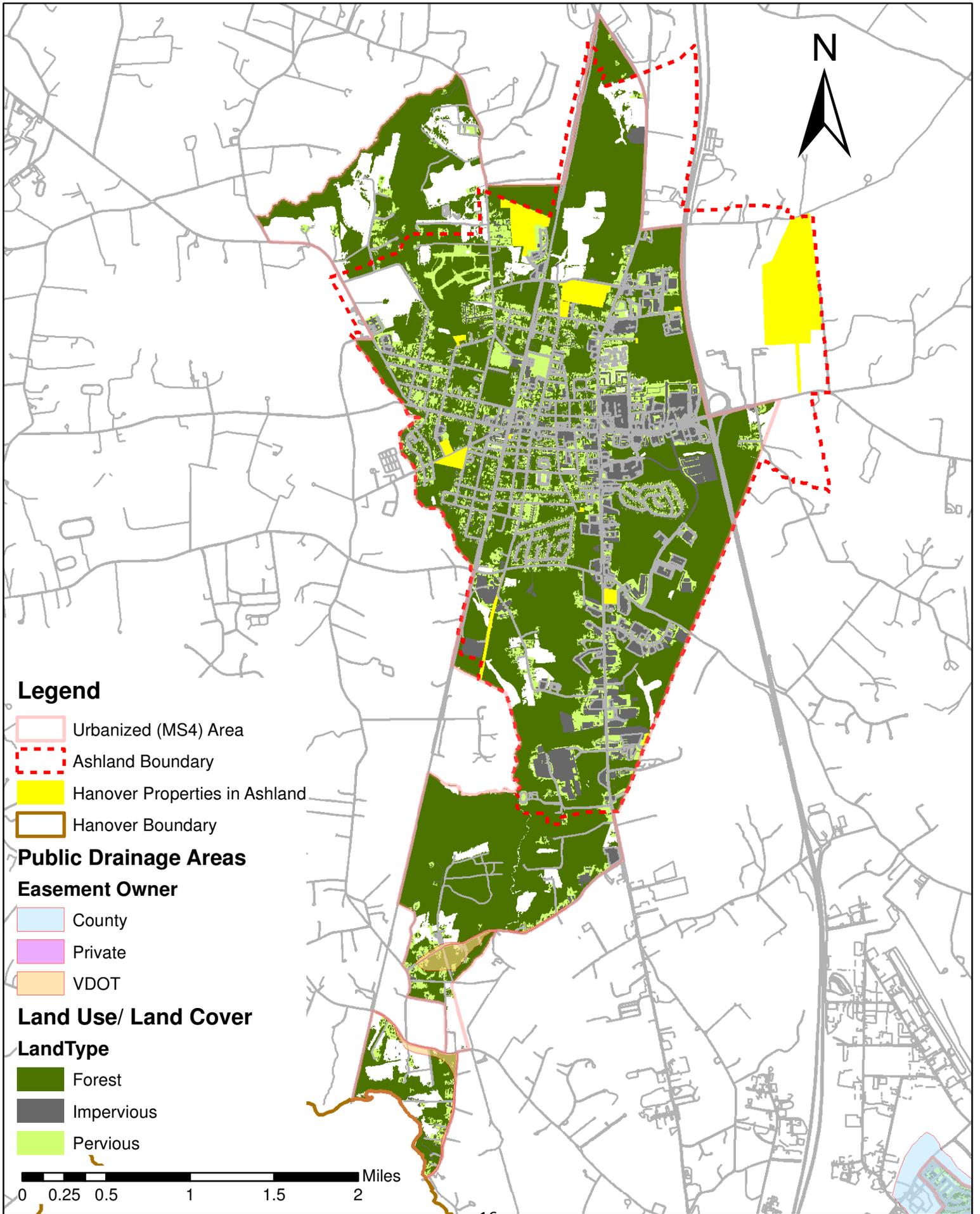


Legend

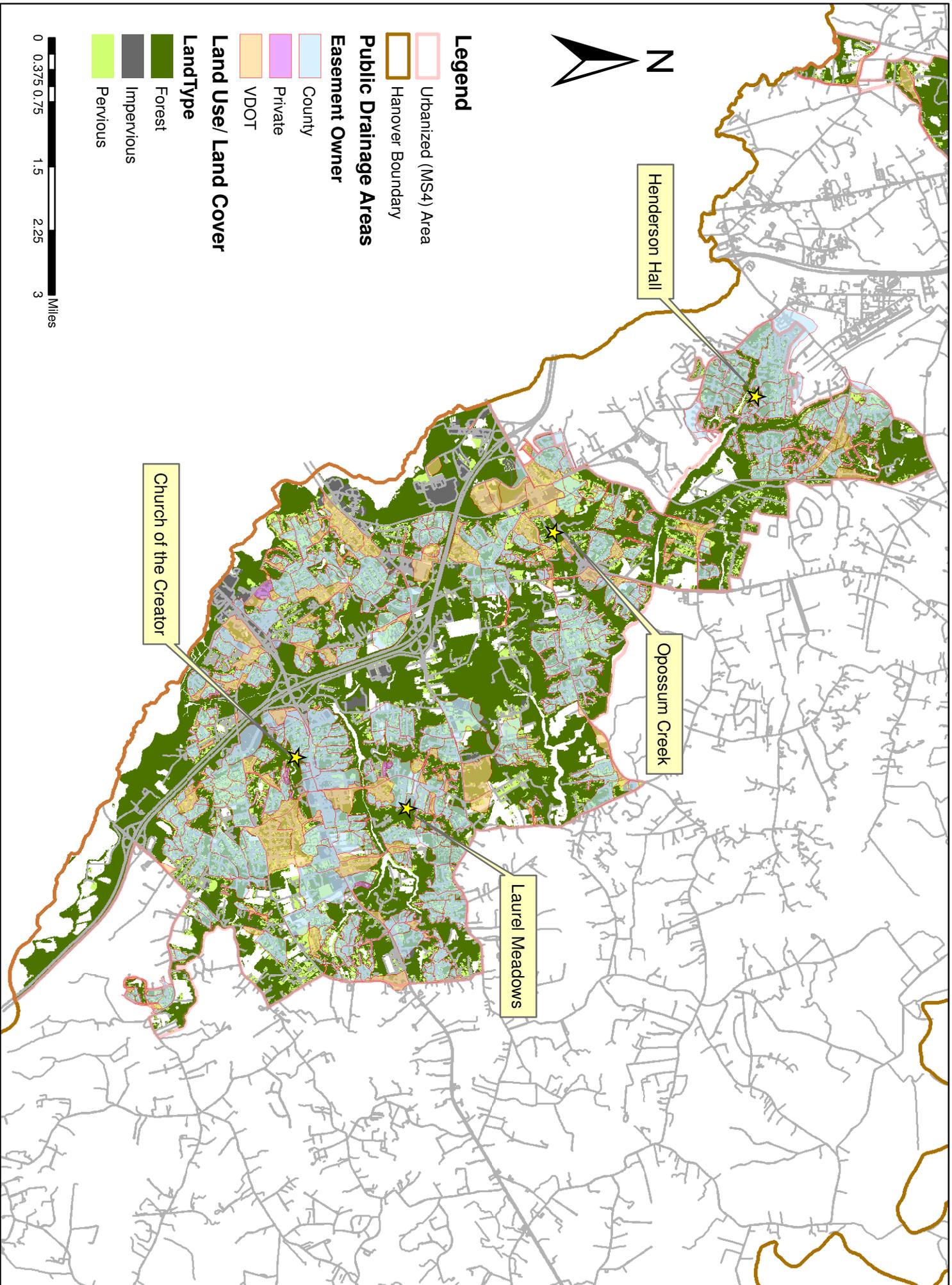
- Urbanized (MS4) Area
- Ashland Boundary
- Watershed Boundaries
- Hanover Boundary



Hanover County MS4 (North)



Hanover County MS4 (South)



Summary of Land Use Codes within Hanover County

The table below shows land use acreage totals for the entire county and regulated public drainage areas (PDA) within the 2000 urbanized MS4 service area. The MS4 area is further split between the James River and York River Watersheds as required for permit Tables 2 & 3.

Entire County	MS4 PDA	James MS4 PDA	York MS4 PDA
------------------	------------	---------------------	--------------------

Land Use Code

Low Density (Rural) Residential Structures (1)	1143	25	15	10
Medium Density (Subdivisions) Residential Structures (2)	857	482	320	162
High Density Residential Structures (3)	60	22	15	7
Commercial Structures (4)	410	111	98	13
Industrial Structures (5)	359	2	2	
Church Structures (6)	33	6	5	1
School Structures (7)	77	15	11	4
Government Structures (8)	20	2	1	1
Other Structures (9)	10			
Managed Turf (11)	20055	3109	2073	1036
Grassland (12)	10521	259	204	55
Agriculture (13)	58380	220	173	47
Bare Earth (14)	880			
Parks (15)				
Deciduous Forest (21)	124408	1779	1092	687
Coniferous Forest (22)	56104	857	631	226
Forest Harvest (23)	9470	0		
Water (30)	10116	2	2	
Impervious Surface (40) Total				
Impervious Surface (40) Public ROW	3898	861	562	299
Impervious Surface (40) Private Total				
Impervious Surface (40) Commercial Zoning (COR)	739	338	275	63
Impervious Surface (40) Industrial Zoning (COR)	1320	42	6	36
Impervious Surface (40) Government (Town)	9			0
Impervious Surface (40) Government (County)	142	5	5	0
Impervious Surface (40) Public Schools	103	24	18	6
Impervious Surface (40) Residential Zoning (COR) & Other	4713	500	321	179
Total	303827	8661	5829	2832
Developed Impervious	9995	1574	1092	482
Developed Pervious	20055	3109	2073	1036
Developed Total	30050	4683	3165	1518

****All numbers are in Acres**

Summary Table of Land Use Code Groupings

The tables below show how the land use codes were grouped to account for Impervious, Pervious, and Forested cover.

Land Use Code Groupings

Low Density (Rural) Residential Structures (1) Medium Density (Subdivisions) Residential Structures (2) High Density Residential Structures (3) Commercial Structures (4) Industrial Structures (5) Church Structures (6) School Structures (7) Government Structures (8) Other Structures (9) Impervious Surface (40)	Impervious
Managed Turf (11)	Pervious
Grassland (12) Deciduous Forest (21) Coniferous Forest (22) Forest Harvest (23)	Forest

	Entire County	% of Entire County	MS4	James	York
			PDA	MS4 PDA	MS4 PDA
SF Residential	6713	2.2%	1007	656	351
Comm., Ind., Multi-Fam., Church, Other	2931	1.0%	521	401	120
Schools, Govt.	351	0.1%	46	35	11
Public ROW	3898	1.3%	861	562	299
Managed Turf	20055	6.6%	3109	2073	1036
Agricultural	58380	19.2%	220	173	47
Forrest, Grassland	200503	66.0%	2895	1927	968
Bare Earth	880	0.3%	0	0	0
Water	10116	3.3%	2	2	0
TOTAL	303827	100%	8661	5829	2832
Developed Impervious	9995	3.3%	1574	1092	482
ROW Impervious	3898	1.3%	861	562	299
Developed Pervious	20055	6.6%	3109	2073	1036
Developed Total	33948	11.2%	5544	3727	1817
ROW % of Total Imp		28.1%	35.4%	34.0%	38.3%

Appendix B – Church of the Creator Stream Restoration Project

Overview

The Church of the Creator Stream Restoration Project is located in Mechanicsville, VA. The restoration limits begin at the southeast corner of The Church of the Creator (7159 Mechanicsville Turnpike) parking lot and continue downstream to Brandy Branch.

The project will restore 650 linear feet of stream channel which collects a 28.7 acre watershed. The land use within the county regulated portion of the drainage area contains a mixture of commercial development, roadways, and residential lots with landscaping. The land use within the unregulated portion of the drainage area consists of several residential lots with landscaping and undeveloped land.

The stream corridor is entirely wooded and the soil is composed of sand and sandy loams. Due to increased flow and frequency of flow caused by development, the channel has experienced significant down cutting. The stream receives concentrated flow from two points at the upstream end of the channel. The channel has degraded to the point that the upstream portion of the project area is characterized by 10-15 foot deep scoured banks. The 10-15 foot cut extends downstream 450 feet where it transitions to a 5-7 foot deep channel until it outfalls into Brandy Branch.

Project Removal Credit Summary

	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (lbs/yr)
Hanover	42.7	222.6	507,207
VDOT	1.1	5.4	697

Church of the Creator Project Map





Looking Upstream



Looking Downstream

CHURCH OF THE CREATOR STREAM RESTORATION PROJECT - JAMES RIVER BASIN

Input Value
Calculated Value

Developed from Chesapeake Bay Action Plan Guidance - Appendix V.1

STEP 1: PROJECT REDUCTIONS

Stream Length Restored (ft)	-	TN (lbs/in ft)	TP (lbs/in ft)	TSS (lbs/in ft)
Default Removal Rate	-	-	-	-
Project Reductions (lbs)	229.00	44.00	508,000.00	

* Computed Loads from Sampling Results

STEP 2: ACRES DRAINING TO THE PROJECT

Drainage Area Type	Owner	Urban Impervious Acres	Urban Pervious Acres	Total Urban Acres	Forested Acres	Total	
Regulated	Hanover County	5.77	3.93	9.70	4.35		
	VDOT ROW	4.99	3.50	8.49	0.00		
	Hanover County	0.32	1.01	1.33	4.19		
Unregulated	VDOT ROW	0.32	0.31	0.63	0.00		
	Total					20.15	8.54
						Total	28.7

STEP 3: REGULATED PROJECT CREDIT

Max. Regulated Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Hanover County Portion	145.19	27.90	322,081.56
VDOT Portion (Baseline)	139.80	26.76	321,385.10
	5.39	1.14	696.47

Land Type Ratios	Regulated	Unregulated	Forested
	0.63	0.07	0.30

STEP 4: FORESTED PROJECT CREDIT

Max. Forested Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Hanover County Portion	68.17	13.10	151,213.66
VDOT Portion (No Credit)	68.17	13.10	151,213.66
	0.00	0.00	0.00

100% REQUIRED REDUCTION RATES (BASELINE)

	TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS (lbs/ac/yr)
Urban Impervious	0.80	0.20	133.40
Urban Pervious	0.40	0.04	8.80

STEP 5: UNREGULATED PROJECT CREDIT

Max. Unregulated Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Unregulated Baseline Reduction	15.64	3.01	34,704.78
Hanover County Portion	1.04	0.18	96.99
	14.60	2.83	34,607.78

= (Project Reduction * Unregulated Land Ratio)

= (Unregulated Project Reduction - Unregulated Baseline)

Note: Baseline Reduction > Project Reduction then Project Credit = 0

STEP 6: FINAL CREDIT PROJECT REDUCTIONS

Hanover Reductions	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
	222.6	42.7	507,206.5
VDOT Reductions	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
	5.4	1.1	696.5

Sediment Nutrient Testing Summary

Sediment Samples							Computed Loads		
Sample ID	Inorganic Nitrogen (ppm)	Kjeldahl Nitrogen (ppm)	Total Nitrogen (ppm)	Total Phosphorus (ppm)	Total Nitrogen lb/ton	Total Phosphorus (lb/ton)	Tons of Sed (ton)	N (lb)	P (lb)
Church of Creator									
1	214	210	424	77	0.848	0.154			
2	241	240	481	123	0.962	0.246			
4	226	220	446	60	0.892	0.12			
Average	227	223	450	87	0.90	0.17			
						*50%:	508	458	88
							254	229	44
							(508,000 lb)		

*** Chesapeake Bay Expert Panel for Stream Restoration, Protocol 1**

Sediment determined using BANCs Method

Report Number
15-023-0503
Account Number
07353

Page: 1 of 2

Send To : WATERSHED CONSULTING, PLLC
ERIK ALLEN
15 N THOMPSON ST
RICHMOND , VA 23221

Client : HENDERSON HALL
CHURCH OF CREATOR

Submitted By : ERIK ALLEN
Purchase Order :
Report Date : 2/2/2015
Date Received : 1/23/2015



www.aleastern.com

A&L Eastern Laboratories, Inc.

7521 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

REPORT OF ANALYSIS

Nitrogen, Total (Inorganic + CALCULATION	Total Kjeldahl Nitrogen SM-4500-NH3C-TKN	Total Phosphorus SW 6010C
214	210	77.0
241	240	123
71	70.0	25.0
226	220	60.0

Lab No	Sample ID Sample Date and Time	ppm
09115	1	210
09116	2	240
09117	2A	70.0
09118	4	220

Paucic McGroary

Paucic McGroary

Appendix C – Henderson Hall Stream Restoration Project

Overview

The Henderson Hall Stream Restoration Project is located in Mechanicsville, VA within the Kings Charter Subdivision. The restoration limits are located to the east of Henderson Hall Road between Kings Charter Drive and Finger Lake.

The project will restore 700 linear feet of stream channel which collects a 61.1 acre watershed. The land use within the county regulated portion of the drainage area contains a mixture of roadways, residential lots with landscaping, and undeveloped land. The land use within the unregulated portion of the drainage area consists of residential lots with landscaping, and undeveloped land.

The stream corridor is maintained in various manners on each of the residential properties. All properties are partially wooded which provides some visual screening between lots. The corridor is mowed/heavily maintained to the stream bank on many of the lots and various types of fences and pedestrian bridges have been installed within and adjacent to the stream channel.

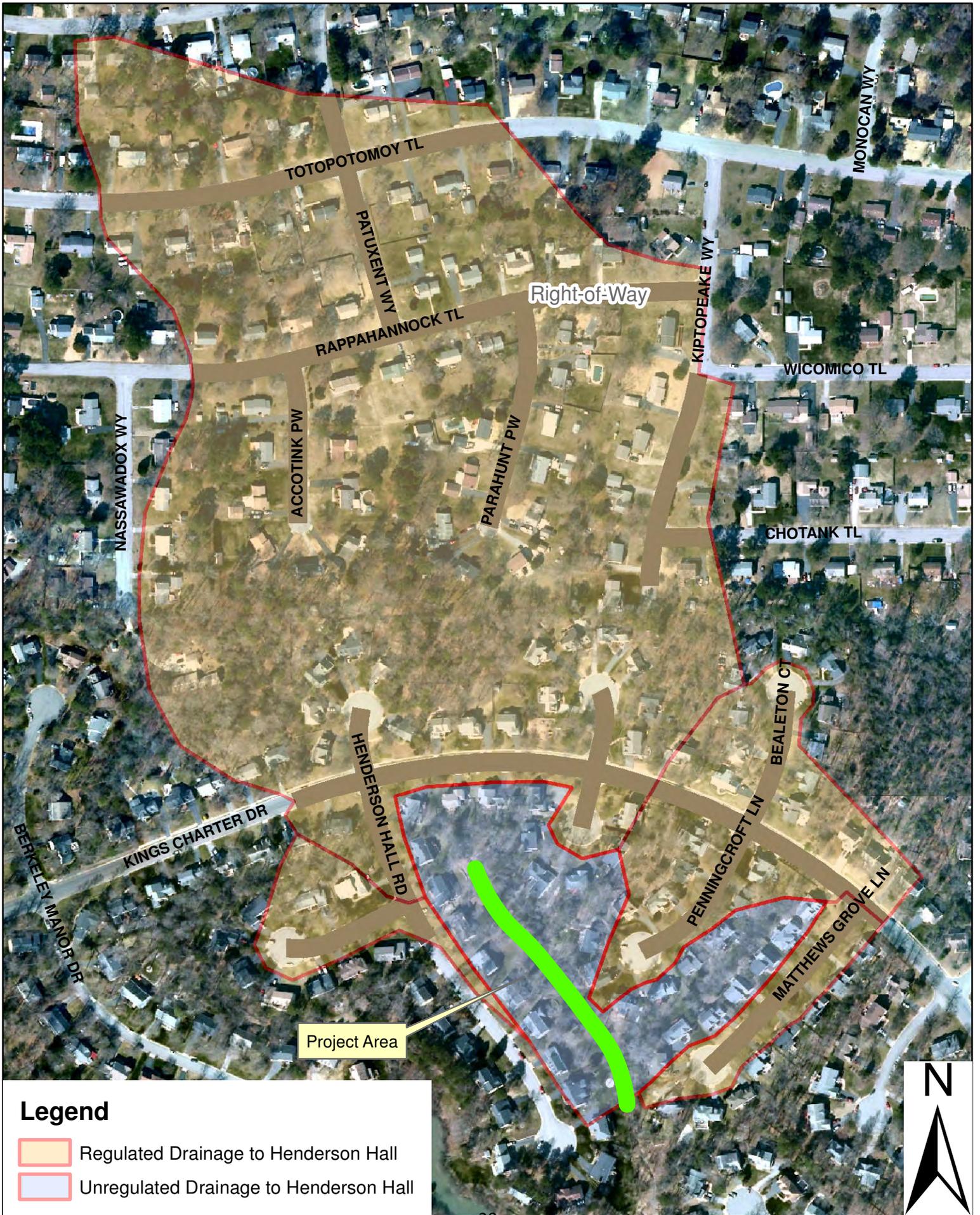
The upper portion of the soil profile is composed of silt loams. Due to increased flow and frequency of flow caused by development, the channel has experienced significant down cutting. Degradation has been exacerbated by residential maintenance activities within the corridor including construction of fences, bridges, removal of native trees and shrubs, mowing and landscaping.

In general, the stream is incised due to historical down-cutting. The upper portion of the stream channel is characterized by vertical banks averaging 3 feet in height with the worst erosion occurring in the middle section which has been down-cut to create 6 foot deep scoured banks.

Project Removal Credit Summary

	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (lbs/yr)
Hanover	45.7	45.4	30,619
VDOT	1.5	5.7	666

Henderson Hall Project Map





Looking Downstream



Looking Upstream



Downstream Section

HENDERSON HALL STREAM RESTORATION PROJECT - YORK RIVER BASIN

Input Value
Calculated Value

Developed from Chesapeake Bay Action Plan Guidance - Appendix V.1

STEP 1: PROJECT REDUCTIONS

Stream Length Restored (ft)	700.00	TP (lbs/in ft)	TSS (lbs/in ft)
Default Removal Rate	0.075	0.068	44.88
Project Reductions (lbs)	52.50	47.60	31,416.00

*15.13 for coastal plain

STEP 2: ACRES DRAINING TO THE PROJECT

Drainage Area Type	Owner	Urban Impervious Acres	Urban Pervious Acres	Total Urban Acres	Forested Acres	Total
Regulated	Hanover County	6.66	14.08	20.74	22.40	
	VDOT ROW	6.97	3.87	10.84	0.00	
	Hanover County	1.33	1.43	2.76	4.40	
Unregulated	VDOT ROW	0.00	0.00	0.00	0.00	
	Total					26.80

STEP 3: REGULATED PROJECT CREDIT

Max. Regulated Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Hanover County Portion	27.12	24.59	16,226.98
VDOT Portion (Baseline)	21.39	23.04	15,560.97
	5.73	1.55	666.01

Land Type Ratios	Regulated	Unregulated	Forested
	0.52	0.05	0.44

100% REQUIRED REDUCTION RATES (BASELINE)

	TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS (lbs/ac/yr)
Urban Impervious	0.60	0.20	92.00
Urban Pervious	0.40	0.04	6.40

STEP 4: FORESTED PROJECT CREDIT

Max. Forested Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Hanover County Portion	23.01	20.86	13,770.83
VDOT Portion (No Credit)	0.00	0.00	0.00

STEP 5: UNREGULATED PROJECT CREDIT

Max. Unregulated Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Unregulated Baseline Reduction	2.37	2.15	1,418.19
Hanover County Portion	1.37	0.32	131.51
	1.00	1.83	1,286.68

STEP 6: FINAL CREDIT PROJECT REDUCTIONS

Hanover Reductions	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
VDOT Reductions	5.7	1.5	666.0

= (Project Reduction * Unregulated Land Ratio)

= (Unregulated Project Reduction - Unregulated Baseline)

Note: Baseline Reduction > Project Reduction then Project Credit = 0

Appendix D – Laurel Meadows Elementary School Pond Enhancement

Overview

The Laurel Meadows Elementary School Pond Enhancement Project is located at 8248 Lee Davis Road in Mechanicsville, VA. The pond is located at the eastern rear of the property.

The project will convert an existing Dry Pond to a Wet Pond #2, which collects a 16.9 acre watershed. This entire drainage area is county regulated that consists of 6.26 acres of impervious cover and 10.68 acres of managed turf.

The property contains a large school facility with associated parking, sidewalks, bus loops, maintenance access lots, and turf grass fields. The developed area is located on the highest portion of the property and drains via stormsewer into the existing detention facility. Parking lots drain primarily by curb and gutter directly into curb inlets. Some roof tops are collected directly into underground pipe networks and others outfall onto the ground surface. The stormsewer has two main outfall points into the existing basin.

The original pond design did not account for any water quality benefits, therefore full credit will be taken for the conversion.

Project Removal Credit Summary

	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (lbs/yr)
Hanover	11.6	38.2	3,722
VDOT	0.0	0.0	0.0

Laurel Meadows Project Map



Legend

 Regulated Drainage to Laurel Meadows



Looking North



Looking South

Nitrogen and Phosphorus Removal (Runoff Reduction Method)

Site Data Summary

Total Rainfall = 43 inches

Site Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	6.11	3.56	0.56	0.45	10.68	63.05
Impervious (acres)	5.50	0.45	0.07	0.24	6.26	36.95
					16.94	100.00

Site Rv	0.46
Post Development Treatment Volume (ft ³)	28355
Post Development TP Load (lb/yr)	17.82
Post Development TN Load (lb/yr)	127.45
Total TP Load Reduction Required (lb/yr)	10.87

Total Runoff Volume Reduction (ft ³)	0
Total TP Load Reduction Achieved (lb/yr)	12
Total TN Load Reduction Achieved (lb/yr)	38.19
Adjusted Post Development TP Load (lb/yr)	6.25
Remaining Phosphorous Load Reduction (Lb/yr) Required	0.00

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	10.68	0.00	0.00	0.00	0.00	10.68
Impervious (acres)	6.26	0.00	0.00	0.00	0.00	6.26
						16.94

Drainage Area Compliance Summary

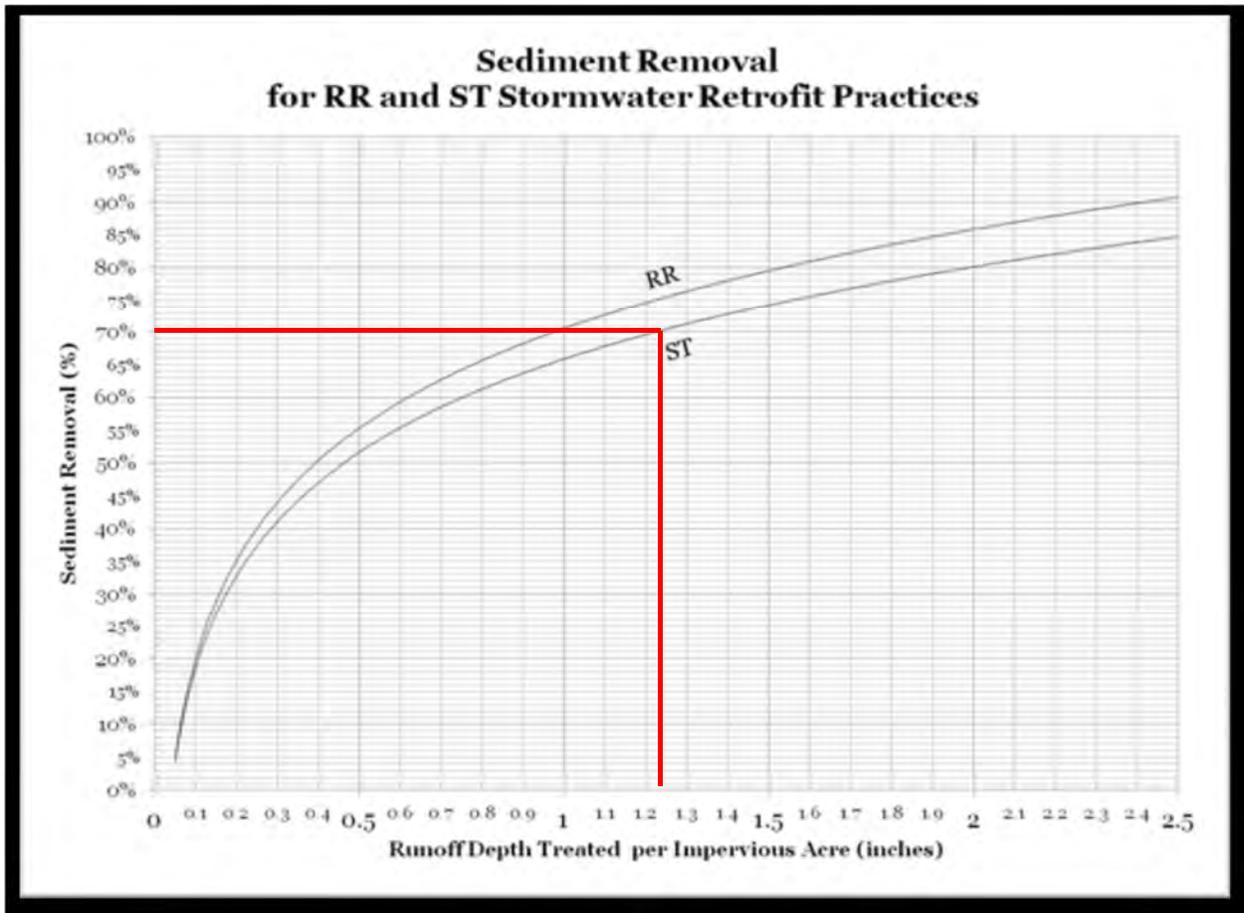
	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Red. (lb/yr)	11.57	0.00	0.00	0.00	0.00	11.57
TN Load Red. (lb/yr)	38.19	0.00	0.00	0.00	0.00	38.19

Sediment Removal (Appendix V.B – Chesapeake Bay Program, Retrofit Curves)

$$RD = \frac{(RS)(12)}{IA} = \frac{(.65)(12)}{6.26} = 1.25 \text{ in}$$

Where

- RD = Runoff Depth Treated (inches)
- RS = Runoff Storage (acre-feet)
- IA = Impervious Area (acres)



Sediment Reduction for Impervious Area:

$$6.26 \text{ acres} * 676.94 \text{ TSS/ac/yr} = 4237.6 \text{ lbs TSS/yr} * 70\% = 2966.4 \text{ lbs TSS/yr}$$

Sediment Reduction for Pervious Area:

$$10.68 \text{ acres} * 101.08 \text{ TSS/ac/yr} = 1079.5 \text{ lbs TSS/yr} * 70\% = 755.7 \text{ lbs TSS/yr}$$

Total Sediment Removal:

$$2966.4 \text{ lbs TSS/yr} + 755.7 \text{ lbs TSS/yr} = 3722.1 \text{ lbs TSS/yr}$$

Appendix E – Opossum Creek Stream Restoration Project

Overview

The Opossum Creek Stream Restoration Project is located in Mechanicsville, VA. The restoration limits extend east of Shady Grove Road and terminate downstream just beyond Elder Trail. Two tributaries at Wyattwood Road were included in the restoration limits as well. This project was completed in 2009?

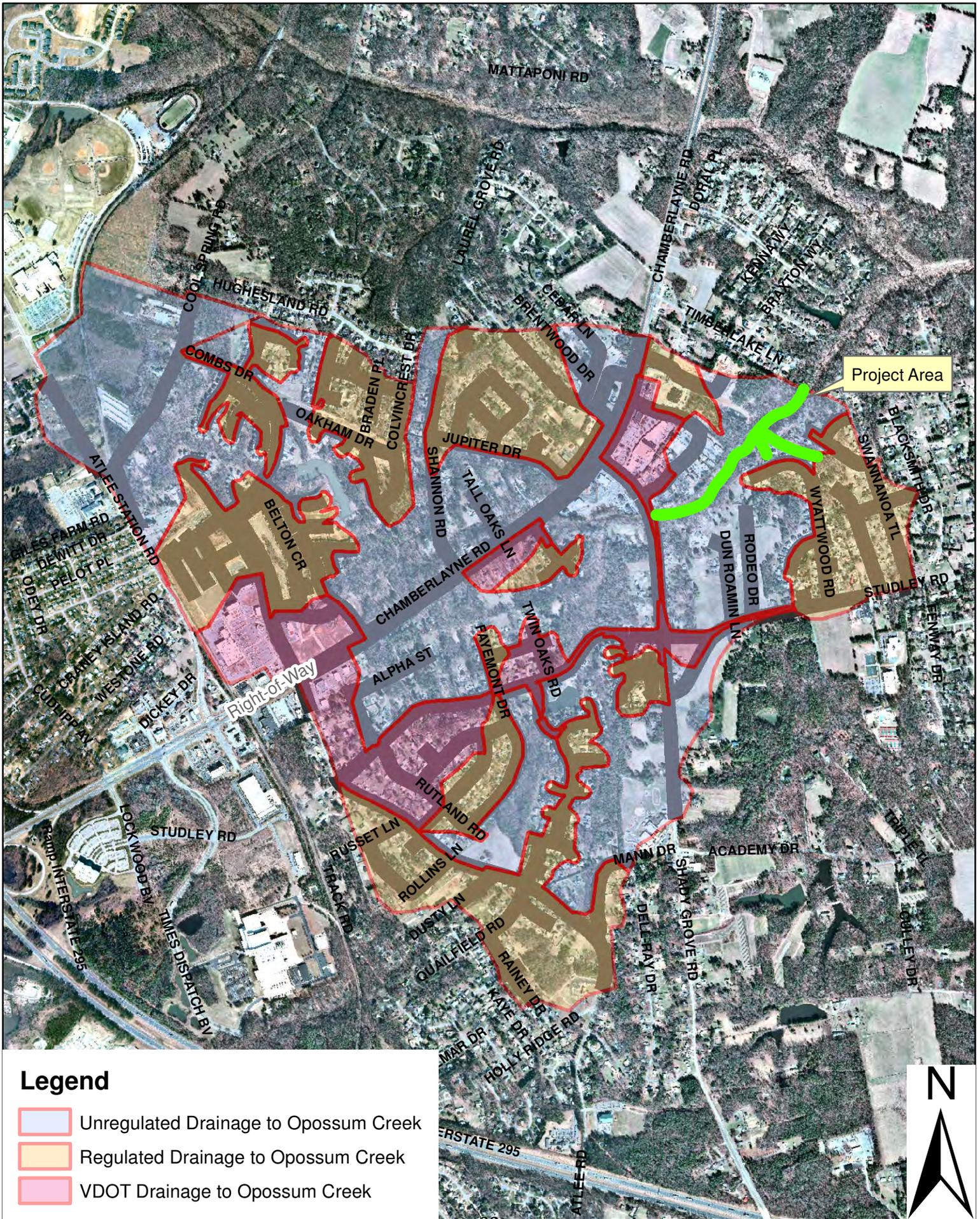
The project restored 4,029 linear feet of stream channel which collects a 1,205 acre watershed (1,161 acres considered for land use analysis). The land use within the county regulated portion of the drainage area contains a mixture of commercial development, landscaping, roadways, residential lots, undeveloped land. The land use within the unregulated (includes VDOT-interconnected) portion of the drainage area consists of commercial development, landscaping, roadways, residential lots, undeveloped land.

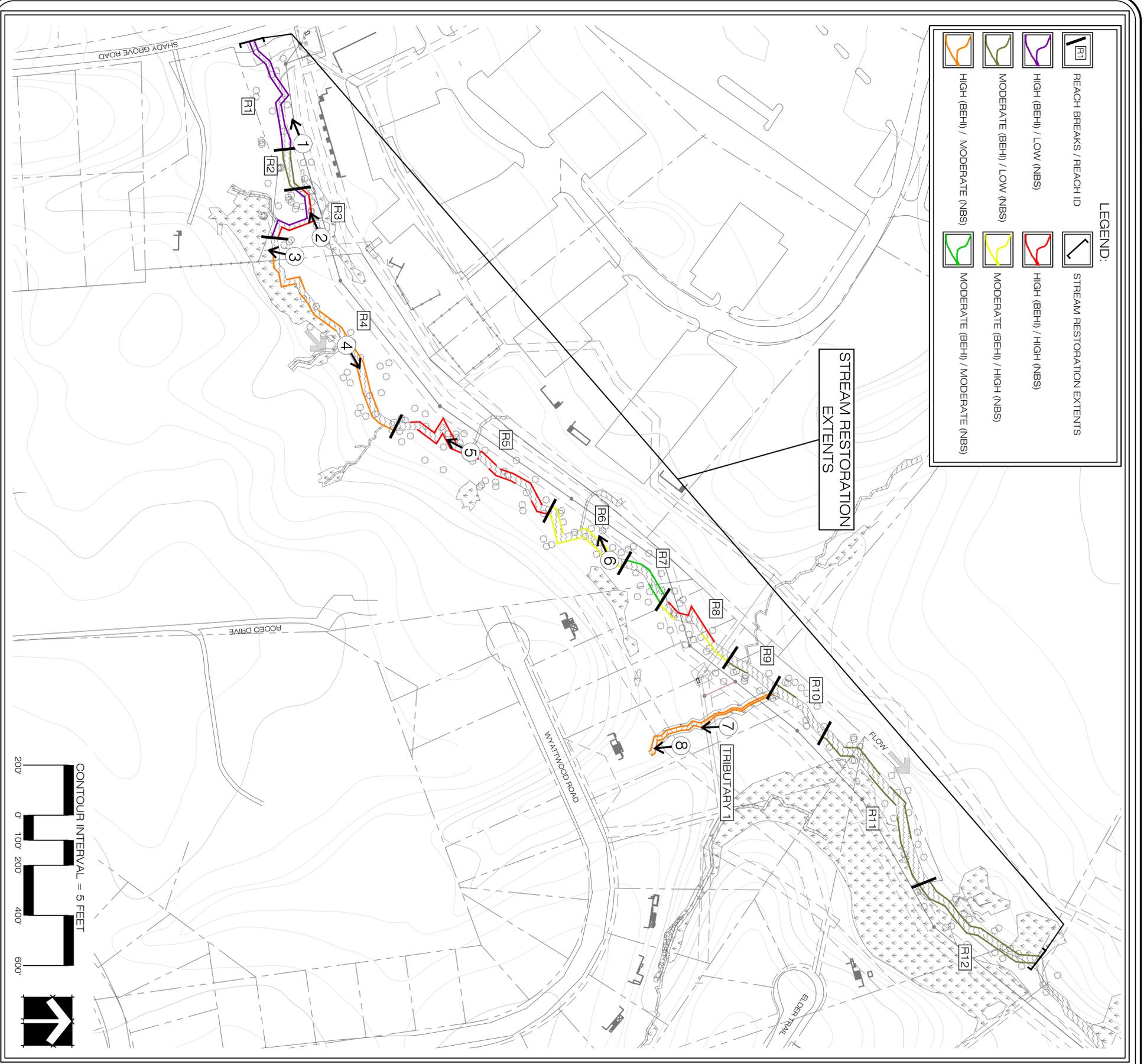
The pre-restoration conditions of Opossum Creek were characterized by extensive bank erosion and scour as well as tortuous, unstable meander patterns. The channel had been incised and disconnected from the floodplain. The banks were frequently vertical with insufficient rooting depth and lack of surface protection.

Project Removal Credit Summary

	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (lbs/yr)
Hanover	230.1	182.4	43,581
VDOT	13.9	43.5	5,716

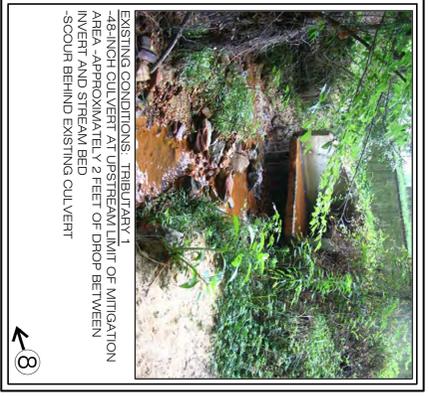
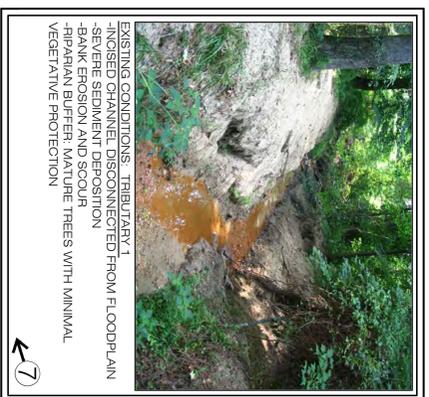
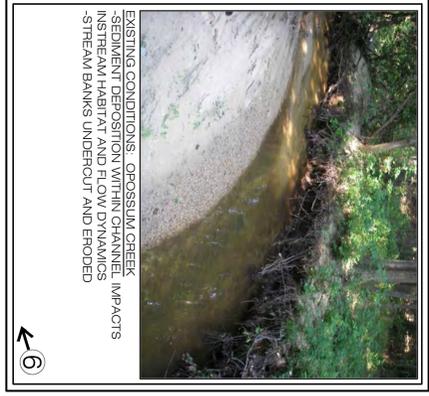
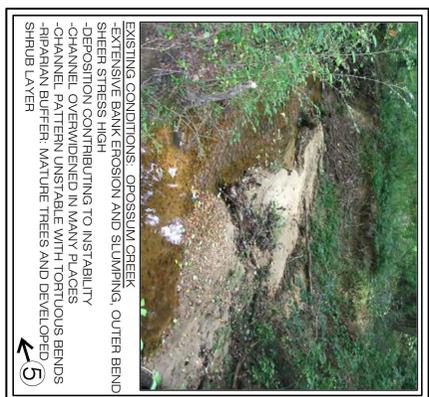
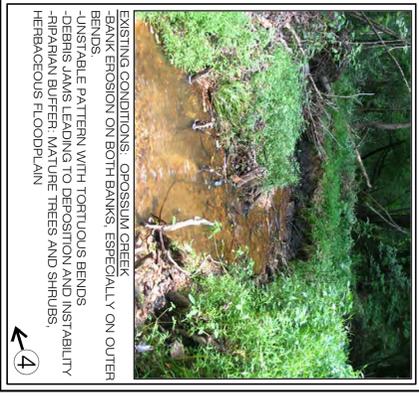
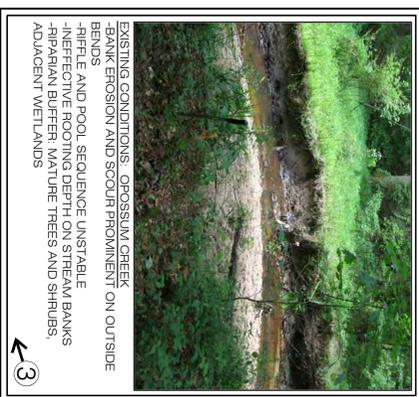
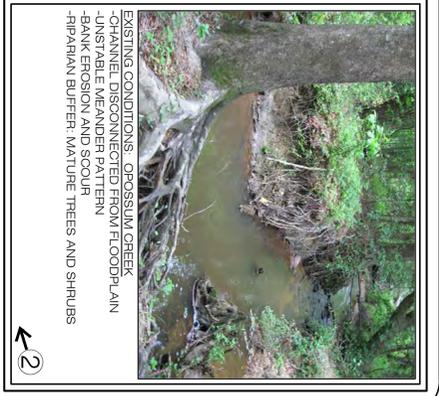
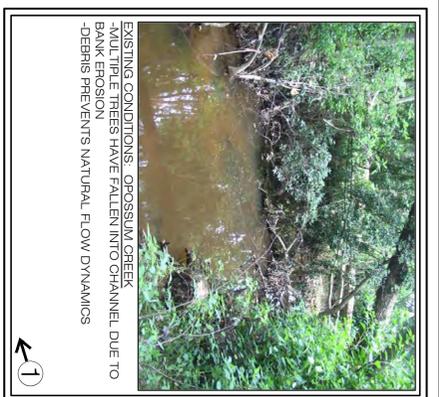
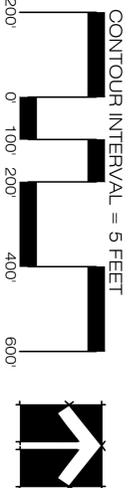
Opossum Creek Project Map





LEGEND:

	REACH BREAKS / REACH ID		STREAM RESTORATION EXTENTS
	HIGH (BEHI) / LOW (NBS)		HIGH (BEHI) / HIGH (NBS)
	MODERATE (BEHI) / LOW (NBS)		MODERATE (BEHI) / HIGH (NBS)
	HIGH (BEHI) / MODERATE (NBS)		MODERATE (BEHI) / MODERATE (NBS)



**BEHI / NBS ASSESSMENT MAP
HANOVER NUTRIENT
REDUCTIONS
HANOVER COUNTY, VIRGINIA**

DATE: MAY 2014
JOB NUMBER: 203400233
SCALE: 1 INCH = 100 FEET

5209 Center Street
Williamsburg, Virginia 23188
(757) 220-6869

1011 Boulder Springs Drive, Suite 225
Richmond, Virginia 23225
(804) 267-3474

150 Riverside Parkway, Suite 301
Fredericksburg, Virginia 22406
(540) 785-5544

Environmental Consultants

OPOSSUM CREEK STREAM RESTORATION PROJECT - YORK RIVER BASIN

Input Value
Calculated Value

Developed from Chesapeake Bay Action Plan Guidance - Appendix V.1

STEP 1: PROJECT REDUCTIONS

Stream Length Restored (ft)	4,029.00	TP (lbs/in ft)	TSS (lbs/in ft)
Default Removal Rate	0.075	0.068	15.13
Project Reductions (lbs)	302.18	273.97	60,958.77

*15.13 for coastal plain

STEP 2: ACRES DRAINING TO THE PROJECT

Drainage Area Type	Owner	Urban Impervious Acres	Urban Pervious Acres	Total Urban Acres	Forested Acres	Total
Regulated	Hanover County	52.90	179.12	232.02	109.26	
	VDOT ROW	46.35	22.95	69.30	11.67	
Unregulated	Hanover County	56.64	127.75	184.39	368.03	
	VDOT ROW	19.82	6.66	26.48	16.15	
	Hanover County	37.86	44.29	82.15	31.19	
	VDOT ROW	16.68	8.17	24.85	5.09	
						Total
				619.19	541.39	1,160.6

STEP 3: REGULATED PROJECT CREDIT

Max. Regulated Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Hanover County Portion	78.45	71.13	15,826.65
VDOT Portion (Baseline)	41.46	60.94	11,415.57
	36.99	10.19	4,411.08

STEP 4: FORESTED PROJECT CREDIT

Max. Forested Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Hanover County Portion	140.96	127.80	28,436.19
VDOT Portion (No Credit)	140.96	127.80	28,436.19
	0.00	0.00	0.00

STEP 5: UNREGULATED PROJECT CREDIT

Max. Unregulated Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Unregulated Baseline Reduction	54.90	49.78	11,075.82
Hanover County Portion	99.64	20.67	7,894.54
VDOT Portion (No Credit)	0.00	29.11	3,181.28

STEP 6: VDOT D.A. PROJECT CREDIT

Max. VDOT Reduction	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
Max. outside ROW	27.86	25.26	5,620.11
Baseline (VDOT) outside ROW	21.39	19.39	4,314.88
Max. inside ROW	21.39	9.34	3,766.58
VDOT Portion (Baseline)	6.47	5.87	1,305.23
Hanover County Portion	6.47	3.66	1,305.23
	0.00	12.25	548.30

Note: Baseline Reduction > Project Reduction then Project Credit = 0

STEP 7: FINAL CREDIT PROJECT REDUCTIONS

Hanover Reductions	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
	182.4	230.1	43,581.3
VDOT Reductions	TN (lbs/yr)	TP (lbs/yr)	TSS (lbs/yr)
	43.5	13.9	5,716.3

Land Type Ratios	Regulated	Unregulated	Forested	VDOT
	0.26	0.18	0.47	0.09

100% REQUIRED REDUCTION RATES (BASELINE)

	TN (lbs/ac/yr)	TP (lbs/ac/yr)	TSS (lbs/ac/yr)
Urban Impervious	0.60	0.20	92.00
Urban Pervious	0.40	0.04	6.40

= (Project Reduction * Unregulated Land Ratio)

= (Unregulated Project Reduction - Unregulated Baseline)

Note: Baseline Reduction > Project Reduction then Project Credit = 0

Appendix F – Street Sweeping Program

Overview

The Hanover County Street Sweeping Program sweeps roads within the MS4 area 2 weeks per year. The purpose is to reduce pollutants discharged to the MS4 and improve the appearance of Hanover County’s roadways. Public roadways in Hanover County are under the control of the Virginia the Department of Transportation. Hanover County, with the cooperation of VDOT, has initiated a program to clean local roadways. The Department of Public Works uses a rented street sweeping machine and operates on major thoroughfares in the County. These roads include Bell Creek, Pole Green, Meadowbridge, Atlee, Shady Grove, Lakeridge Parkway, part of US 1 to Sliding Hill, parts of Mechanicsville Turnpike, and others dependent on scheduling. All materials from street sweeping are properly disposed in a sanitary landfill.

The summary table below shows pollutant loads removed based on the Mass Loading Approach (DEQ Action Plan Guidance, Appendix V.G).

Dry Weight = 0.7 * Pounds of Material Collected

POC Factors:

TP (lbs/yr)	TN (lbs/yr)	TSS (lbs/yr)
.001	.0025	.3

Removal Credit Summary (Post 2009)

Fiscal Year	Tons Collected	Pounds Collected	Dry Weight (lbs)	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (lbs/yr)
2009	170	340,000	238,000	238	595	71,400
2010	167	334,000	233,800	233.8	584.5	70,140
2011	164	328,000	229,600	229.6	574	68,880
2012	164	328,000	229,600	229.6	574	66,880
2013	174	348,000	243,600	243.6	609	73,080
2014	175	350,000	245,000	245	612.5	73,500
2015	320	640,000	448,000	448	1120	134,400

Appendix G – Public Hearing Documents

citizens is to call your attention to the upcoming primary, to be held June 9. Trip is opposed by Eddie Vaughn, a former Commonwealth's Attorney. Why Mr. Vaughn was defeated when he was, occurred before I moved to Hanover County from the West End, so I cannot comment. I do not know.

What I can tell you is this is the best county I have ever lived in. I have always felt I got lucky when I moved here. The public safety is such that we have a very low crime rate. Drive on any road and shortly you will see a deputy sheriff coming by you.

Equally reassuring is the work I see as an attorney when I go up against Trip Chalkley or one of his assistant commonwealth's attorneys. Notwithstanding my appreciation of what I have seen of Trip's office, I assure you I do not get any special consideration with my cases. He and his staff look at the facts of each case and they decide what they are willing to do on each case, and they do it fairly.

All being said, it is most important that we all go out and vote on primary day, June 9. Not only is it a gift from the Founding Fathers, it is a civil duty and it has consequences for you. If you want to keep the high level of enforcement and the judicial fairness that is the hallmark

PUBLIC NOTICE

Notice is hereby given that the Hanover County Board of Supervisors has set Wednesday, May 13, 2015, at 7:00 P.M., in the Board Room of the Hanover County Government Building at Hanover Courthouse, Hanover, Virginia, as the day, date, time, and place for a public hearing to consider the following cases, at which public comments will be accepted:

SPECIAL EXCEPTION

SE-10-15 MONTPELIER ENTERPRISES, INC., Requests a Special Exception Permit in accordance with Section 26-131.7 of the Hanover County Zoning Ordinance to permit seasonal promotional activities on GPIN 7822-41-8400, consisting of approximately 5.6 acres, zoned B-3, General Business District, and located on the north line of Mountain Road (U.S. Route 33), approximately 700 feet west of its intersection with W. Patrick Henry Road (State Route 54) in the **BEAVERDAM MAGISTERIAL DISTRICT**. (PUBLIC HEARING)

Copies of the above case may be reviewed in the Planning Office, Monday through Friday, between the hours of 8:30 a.m. and 5:00 p.m.

**COUNTY OF HANOVER, VIRGINIA
NOTICE OF PUBLIC HEARING TO CONSIDER THE
PROPOSED SECONDARY SIX-YEAR PLAN FOR FY 2016-21**

The Virginia Department of Transportation (VDOT) and the Hanover County Board of Supervisors, in accordance with Section 33.2-331 of the Code of Virginia, will conduct a joint public hearing on Wednesday, May 13, 2015, at 7:00 p.m. in the Board meeting room at the Hanover County Administration Building, 7516 County Complex Road, at Hanover Courthouse, Hanover, Virginia, on the following resolution being proposed for adoption:

**RESOLUTION
VIRGINIA DEPARTMENT OF TRANSPORTATION
SECONDARY SIX-YEAR PLAN (FY 2016-21) AND
CONSTRUCTION BUDGET (FY 16)**

A RESOLUTION TO APPROVE THE SECONDARY SIX-YEAR PLAN (FY 2016-21) AND CONSTRUCTION BUDGET (FY 16) AND TO FORWARD A CERTIFIED COPY OF THE RESOLUTION APPROVING THE PLAN TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION.

The purpose of this public hearing is to receive public comment on the proposed Secondary Six-Year Plan for FY 2016-21 and on the Secondary Construction Budget for FY 16 for Hanover County. Copies of the proposed Plan and Budget and related information may be reviewed at the office of the County Administrator, Hanover County Administration Building, 7516 County Complex Road, at Hanover Courthouse, Hanover, Virginia any regular working day between 8:30 a.m. and 5:00 p.m.

All projects in the Secondary Six-Year Plan that are eligible for federal funds will be included in the Statewide Transportation Improvement Program (STIP), which documents how Virginia will obligate federal transportation funds.

All persons wishing to comment on the proposal may appear at the stated time and place. Persons requiring special assistance to participate in this hearing should contact Hanover County at (804) 365-6176.

Cecil R. Harris, Jr., County Administrator

**PUBLIC HEARING NOTICE
HANOVER COUNTY BOARD OF SUPERVISORS**

The Hanover County Board of Supervisors will hold a public hearing on **Wednesday, May 13, 2015 at 7:00 p.m.** in the Board meeting room at the Hanover County Administration Building, 7516 County Complex Road, at Hanover Courthouse, Hanover, Virginia, on the following plan:

**HANOVER COUNTY
DRAFT CHESAPEAKE BAY TMDL ACTION PLAN
JUNE 30, 2015**

SECTION 25-890 OF TITLE 9 OF THE VIRGINIA ADMINISTRATIVE CODE REGARDING GENERAL VPDES PERMITS FOR DISCHARGES OF STORMWATER FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4S) REQUIRES HANOVER COUNTY TO ESTABLISH A CHESAPEAKE BAY TOTAL DAILY MAXIMUM LOAD (TMDL) ACTION PLAN BY JULY 1, 2015.

A complete copy of the proposed plan and related information is available at the office of the County Administrator any regular working day between 8:30 a.m. and 5:00 p.m.

All persons wishing to comment on the proposal may appear at the stated time and place.

Cecil R. Harris, Jr., County Administrator

**PUBLIC HEARING NOTICE
HANOVER COUNTY BOARD OF SUPERVISORS**

The Hanover County Board of Supervisors will hold a public hearing on **Wednesday, May 13, 2015 at 7:00 p.m.** in the Board meeting room at the Hanover County Administration Building, 7516 County Complex Road, at Hanover Courthouse, Hanover, Virginia, on the following ordinance being proposed for adoption:

ORDINANCE NO. 15-06

AN ORDINANCE AMENDING THE HANOVER COUNTY CODE, CHAPTER 22.1, ARTICLE VI, SECTION 22.1-34, TO INCREASE THE RATE FOR TAXI TRIPS FROM THE RICHMOND INTERNATIONAL AIRPORT INCLUDING THE AMOUNT OF TWO DOLLARS AND THIRTY CENTS TO FUND AIRPORT IMPROVEMENTS RELATED TO LOCAL TRANSPORTATION.

A complete copy of the proposed ordinance and related information is available at the office of the County Administrator any regular working day between 8:30 a.m. and 5:00 p.m.

All persons wishing to comment on the proposal may appear at the stated time and place.

Cecil R. Harris, Jr., County Administrator

**TOWN OF ASHLAND
2015-2016 ADVERTISED BUDGET**

A public hearing will be held at 7:00 p.m. on June 2, 2015 at the Town Hall, 101 Thompson Street, Ashland, Virginia, on the FY 2015-2016 Budget as summarized below. A full copy of the Advertised Budget may be examined on weekdays at the Municipal Building between the hours of 8:30 a.m. and 5:00 p.m. and at the Ashland Branch of the Pamunkey Library System.

All interested citizens will have the opportunity to give written and oral comments and are encouraged to attend.

**GENERAL FUND
REVENUE**

Revenue from Local Sources	
General Property Taxes	\$ 1,063,500
Other Local Taxes	\$ 4,478,000
Permits and Licenses	\$ 25,000
Fines and Forfeitures	\$ 100,000
Revenue from Use of Money & Property	\$ 21,300
Charges for Service	\$ 55,300
Miscellaneous	\$ 15,000
Recovered Costs	\$ 9,367
Total Local Source	\$ 5,767,467
Revenue from the Commonwealth	
Non-Categorical Aid	
Mobile Home Titling Tax	\$ 6,700
Motor Vehicle Carriers Tax	\$ 11,400
Auto Rental Tax	\$ 110,000
PPTRA Reimbursement	\$ 111,310
Categorical Aid	
Law Enforcement	\$ 165,320
Streets & Highway Maintenance	\$ 1,584,298
Fire Programs Fund	\$ 22,000
Grants	\$ 8,325
Total from Commonwealth	\$2,019,353
Revenue from the Federal Government	
Bulletproof Vest Grant	\$ 3,000
Justice Assistance Grant	\$ 4,500
Transportation Safety Grant	\$ 19,000
Total from the Federal Government	\$ 26,500
Revenue from Other Sources	
Unappropriated Funds Transfer	\$ 805,502
Total Revenues	\$ 8,618,822

EXPENDITURES

Administration	
Legislative	\$ 40,053
Town Manager	\$ 462,120
Tourism	\$ 132,664
Finance	\$ 259,201
Information Technologies	\$ 116,000
Public Safety	
Police Department	\$ 2,531,606
Fire and Rescue	\$ 32,000
Public Works	
Public Works Admin	\$ 711,702
Streets, Drainage, Snow, & Traffic	\$ 1,811,413

Buildings and Grounds	\$ 196,872
Sanitation, Waste & Brush Removal	\$ 216,000
Vehicle Maintenance	\$ 154,835
Parks, Recreation and Cultural	
Parks and Recreation	\$ 152,066
Planning & Community Development	
Planning	\$ 390,569
Economic Development	\$ 140,438
Non-Departmental	
OPEB	\$ 104,500
Health Insurance	\$ 31,783
Transfer to Capital Project Fund	\$ 1,135,000
Total Expenditures—General Fund	\$ 8,618,822

**CAPITAL PROJECT FUND
REVENUES**

Local Revenues	
Transfer from General Fund	\$ 1,135,000
Local Revenue	\$ 7,000
Grants/VDOT Revenue Sharing	\$ 385,319
Balance Forward	\$ 2,906,376
Total Revenues	\$4,433,695

EXPENDITURES

Public Works—Streets—Local	\$ 1,637,055
Stormwater	\$ 441,976
Facilities	\$ 685,997
Vehicles	\$ 459,028
Parks and Recreation	\$ 347,651
Economic Development	\$ 733,251
Non-Departmental	\$ 128,737
Total Expenditures—Capital Project Fund	\$ 4,433,695
Total Expenditures—All Funds	\$ 13,052,517

**TAX RATES AND FEES
2015-2016 RATE**

Real Estate Property Tax	\$0.09 per \$100	Unchanged
Mobile Homes	\$0.07 per \$100	Unchanged
Personal Property Tax	\$0.77 per \$100	Unchanged
Public Service Corp.	\$0.77 per \$100	Unchanged
Machinery & Tools Tax	\$0.77 per \$100	Unchanged

OTHER LOCAL TAXES

Business, Professional,	\$30 or 0.07 per	Unchanged
Occupational License Tax	\$100 of gross	
(Business License or BPOL)	receipts>\$100,000)	
Consumer Utility Tax – Each Service per month		
Electric:		
Residential	\$1.00/month	Unchanged
Commercial/Industrial	\$10.00/month	Unchanged
Natural Gas:		
Residential	\$3.00/month	Unchanged
Commercial/Industrial	\$10.00/month	Unchanged
Utility License Tax		
Telephone service	.5%	Unchanged
Meals Tax	5.0%	Unchanged
Motor Vehicle License Tax		
Cars & trucks	\$25.00	Unchanged
Motorcycles	\$15.00	Unchanged
Transient Tax	7.0%	Unchanged
Cigarette Tax	\$2.22 per pack	Unchanged



XVI.

Agenda Item

**County of Hanover
Board Meeting: May 13, 2015**

Subject: Public Hearing – Department of Public Works – TMDL Action Plan - General Permit for Small Municipal Separate Storm Sewer Systems (MS-4)

**Summary of
Agenda Item:**

In accordance with applicable state and federal rules, Hanover County must comply with the Virginia Stormwater Management Program (VSMP) for Small Municipal Separate Storm Sewer Systems (MS4). To meet these requirements, Hanover County is eligible to file a registration statement for coverage under a general permit. The general permit includes State stormwater management requirements mandated by Section 402 of the Federal Clean Water Act. One of the general permit special conditions requires Hanover County to establish a Chesapeake Bay Total Daily Maximum Load (TMDL) action plan by July 1, 2015.

The Commonwealth in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans (WIP) committed to a phased approach for MS4s, affording MS4 operators up to three full five-year permit cycles to implement necessary reductions. This plan in accordance with the general permit is consistent with the Chesapeake Bay TMDL and the Virginia Phase I and II WIPs to meet the first permit cycle 5.0% reduction requirement for existing developed lands. Conditions of future plans will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.

Hanover County's Chesapeake Bay TMDL Action Plan was formatted in accordance with Part VI of The Department of Environmental Quality's Action Plan Guidance (draft rev. 3/19/2015).

The hearing allows the public to comment on the County's proposed TMDL Action Plan. In addition to the hearing, the public may submit comments on the proposed TMDL Action plan to the Department of Public Works until close of business June 15, 2015.

**County
Administrator's
Recommended
Board Motion:**

N/A