

Town of Smithfield Stormwater Management Program



PEP07-11

November 2007

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The staff of the Hampton Roads Planning District Commission wishes to acknowledge the cooperation and assistance extended by the officials and staff of the Town of Smithfield.

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Stormwater Management Program

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ABSTRACT

This document describes the detailed Stormwater Management Program for the Town of Smithfield, which is based on the six minimum control measures of the Phase II stormwater regulations. These measures when implemented in concert over the next several years are expected to result in decreases in the amount of stormwater pollution entering local creeks and streams in and around the town.

In addition to the Stormwater Management Program components, presented in Part I, this document also describes applicable stormwater regulations, compares town policies to state regulations, proposes recommendation on how town programs can be improved, and describes a process for coordinating stormwater management between the Town of Smithfield and Isle of Wight County.

ACKNOWLEDGMENTS

The staff of the Hampton Roads Planning District Commission wishes to acknowledge the cooperation and assistance extended by the officials and staff of the Town of Smithfield.

Preparation of this report was included in the HRPDC Unified Planning Work Program for FY 2006 – 2007, approved by the Commission at its Executive Committee Meeting of March 15, 2006.

TOWN OF SMITHFIELD
STORMWATER MANAGEMENT
PROGRAM

Adopted by the Town Council of the Town of Smithfield, Virginia
December 4, 2007

TOWN OF SMITHFIELD, VIRGINIA STORMWATER MANAGEMENT

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PART I:
STORMWATER MANAGEMENT PROGRAM

A. Introduction

This is a Stormwater Management Program prepared for the Town of Smithfield by the Hampton Roads Planning District Commission. The goal of the Stormwater Management Program is to effectively address, to the maximum extent practicable, some of the common pollutants found in stormwater. The comprehensive program includes pollution reduction activities for citizens, businesses, construction sites, and municipal operations. The program also includes participation in a regional public education effort and targeted pollution reduction strategies. By addressing the pollutants and limiting the sources of such pollutants through the implementation of structural and nonstructural Best Management Practices (BMPs), the Town of Smithfield hopes to improve the water quality of its creeks and streams and protect the natural beauty and defining characteristics of the town's landscape.

The Town of Smithfield is not currently required by regulations to adopt a stormwater management program. Yet, the Town of Smithfield will become regulated in the future when the Virginia Department of Conservation and Recreation (DCR) delegates the administration of the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities (4 VAC 50-60-1100 et seq.) to local governments. The Town of Smithfield will be required to accept administration of this VSMP general permit program because of its status as a Chesapeake Bay Preservation Act locality. When delegation occurs, the Town of Smithfield will need to adopt a stormwater management ordinance and include inspection, monitoring and enforcement procedures into its stormwater program. Delegation of the VSMP general permit program is expected to occur within the next two to three years. (Further information about the delegation of the VSMP general permit for construction activities can be found in Part III.B.)

The Town of Smithfield may also become regulated in the future if it grows to a level that requires the town to obtain a Municipal Separate Storm Sewer System (MS4) Permit from DCR. MS4 stormwater permits are required when a municipality owning a municipal separate storm sewer system is located in an urbanized area as determined by the latest decennial census. The next decennial census will take place in 2010. Urban areas are defined based on population density, and not necessarily population size. Localities falling into the regulated category are required to apply for and obtain a MS4 permit and adhere to the Phase II stormwater regulations, first promulgated by the U.S. Environmental Protection Agency in 1999 and currently administered in Virginia by DCR through the Virginia Stormwater Management Program (VSMP) regulations. Even if the town does not qualify as an urbanized area in 2010, DCR's Board of Soil and Water Conservation has the authority to require a municipality to obtain a Phase II permit if the Board determines that a locality's stormwater system is a significant contributor of pollutants to state waters.

In order to prepare the town for potential regulation and any new stormwater requirements that may be imposed, the Town of Smithfield has embarked on the development of a Stormwater Management Program. The Stormwater Management Program for the Town of Smithfield is based on the Phase II program requirements and is generally consistent with the Isle of Wight County Stormwater Management Program. Isle of Wight County is currently a regulated Phase II MS4.

B. What is Stormwater?

Stormwater is the flow of water that results from precipitation, which occurs immediately following rainfall or as a result of snowmelt. When a rainfall event occurs, several things can happen to the precipitation. Some of the precipitation infiltrates into the soil surface, some is taken up by plants, and some is evaporated into the atmosphere. The rest of the precipitation that runs off land surfaces and impervious surfaces such as driveways, sidewalks, rooftops, and paved streets is known as stormwater runoff.

Stormwater runoff accumulates pollutants as it travels across the land. A variety of pollutants have been identified, historically, in stormwater discharges. Some of these pollutants include suspended solids, sediments, bacteria, nutrients, pesticides, herbicides, toxics, floatables, oil, grease, heavy metals, synthetic organics, petroleum hydrocarbons, and oxygen-demanding substances.

The adverse impacts of these pollutants in stormwater discharges include closed beaches, closed shellfish areas, toxic contamination causing fish consumption bans, beach and shoreline litter and floatables, siltation of marina and shipping channels, habitat/wetland degradation, and stream bank erosion.

The sources of pollutants in stormwater runoff could include urban streets, lawns, driveways, parking lots, gas stations, bus depots, golf courses, construction sites, marinas, trash, sand/salt, commercial and industrial areas, agricultural and forestry activities, direct rainfall (i.e., acid rain), and a variety of other activities such as landfills, recycling facilities, and transportation facilities.

C. Town Overview

The Town of Smithfield is located in the Northern portion of Isle of Wight County. In 2000, the Town of Smithfield had a population of approximately 6,324 people, and only 1.9 percent of the population was classified as rural. In 2005, the population was estimated to be 6,840, which is an 8.2 percent population increase in five years.¹ The Town of Smithfield is approximately 10.1 square miles in size.

¹ July 2005 Population estimate from the Weldon Cooper Center, received from Isle of Wight County staff.

There are a number of creeks and rivers traversing the town that potentially accept stormwater runoff. The waterbodies located in or adjacent to the town are as follows and are presented in Map1: Champion Swamp, Cypress Creek, Jones Creek, Little River, Moone Creek, Mount Holly Creek, and the Pagan River.

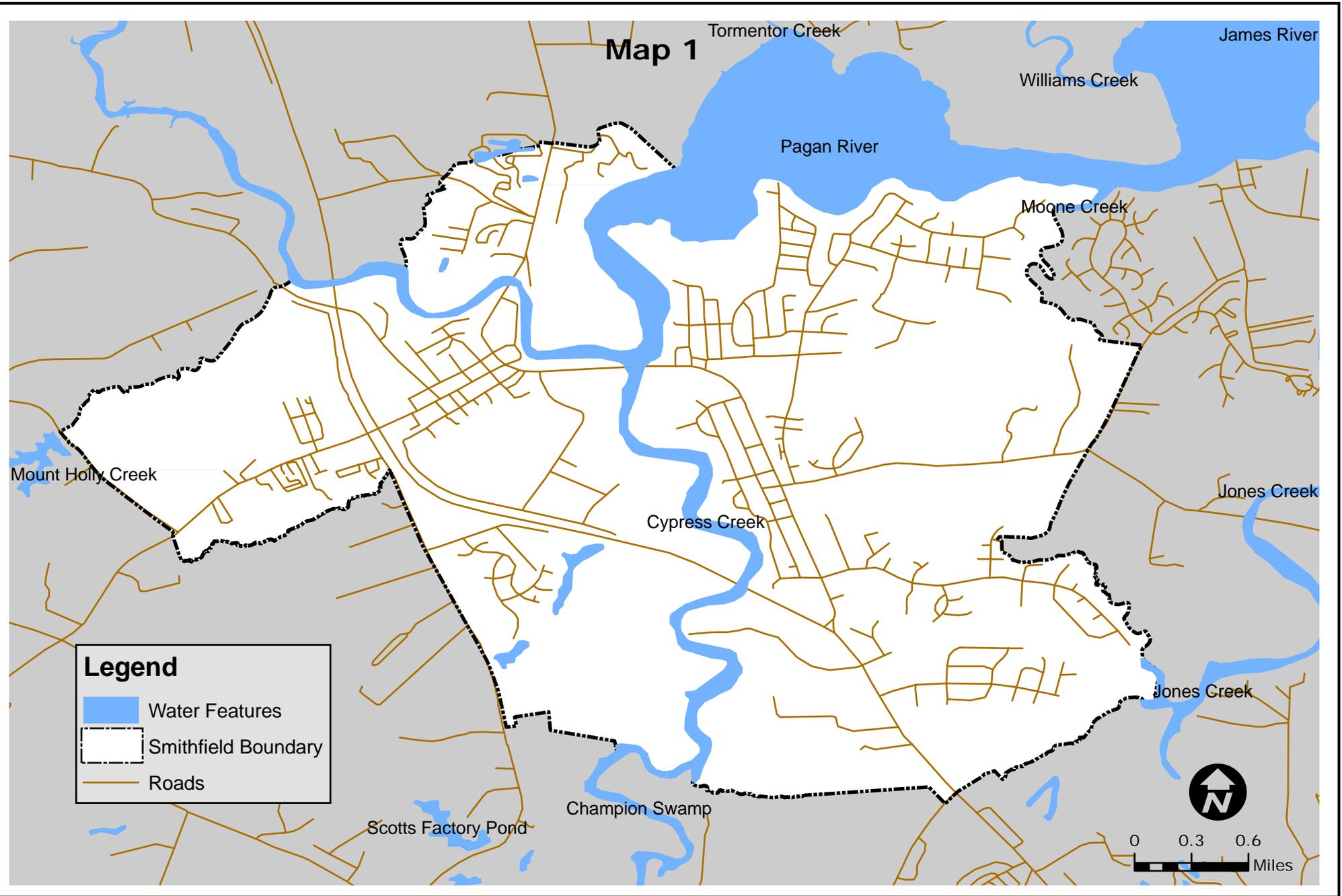
The Town of Smithfield is divided into three subwatersheds, which are all a part of the Lower James River drainage basin. The James River ultimately flows into the Chesapeake Bay. The watershed boundaries have been delineated as a part of the National Watershed Boundary Dataset (NWBD), which became the official hydrologic unit system of Virginia in July 2006. See Table 1 and Map 2 for additional information and details about the watershed boundaries within Smithfield.

Table 1: Subwatersheds in the Town of Smithfield

NWBD Code	Watershed Name (extent)	USGS Hydrologic Unit Code	USGS Watershed Name
JL39	Pagan River (Source to Cypress Creek)	2080206	Lower James River
JL40	Cypress Creek (Source to Pagan River)	2080206	Lower James River
JL41	Pagan River (Cypress Creek to James River)	2080206	Lower James River

Data Source: National Watershed Boundary Dataset

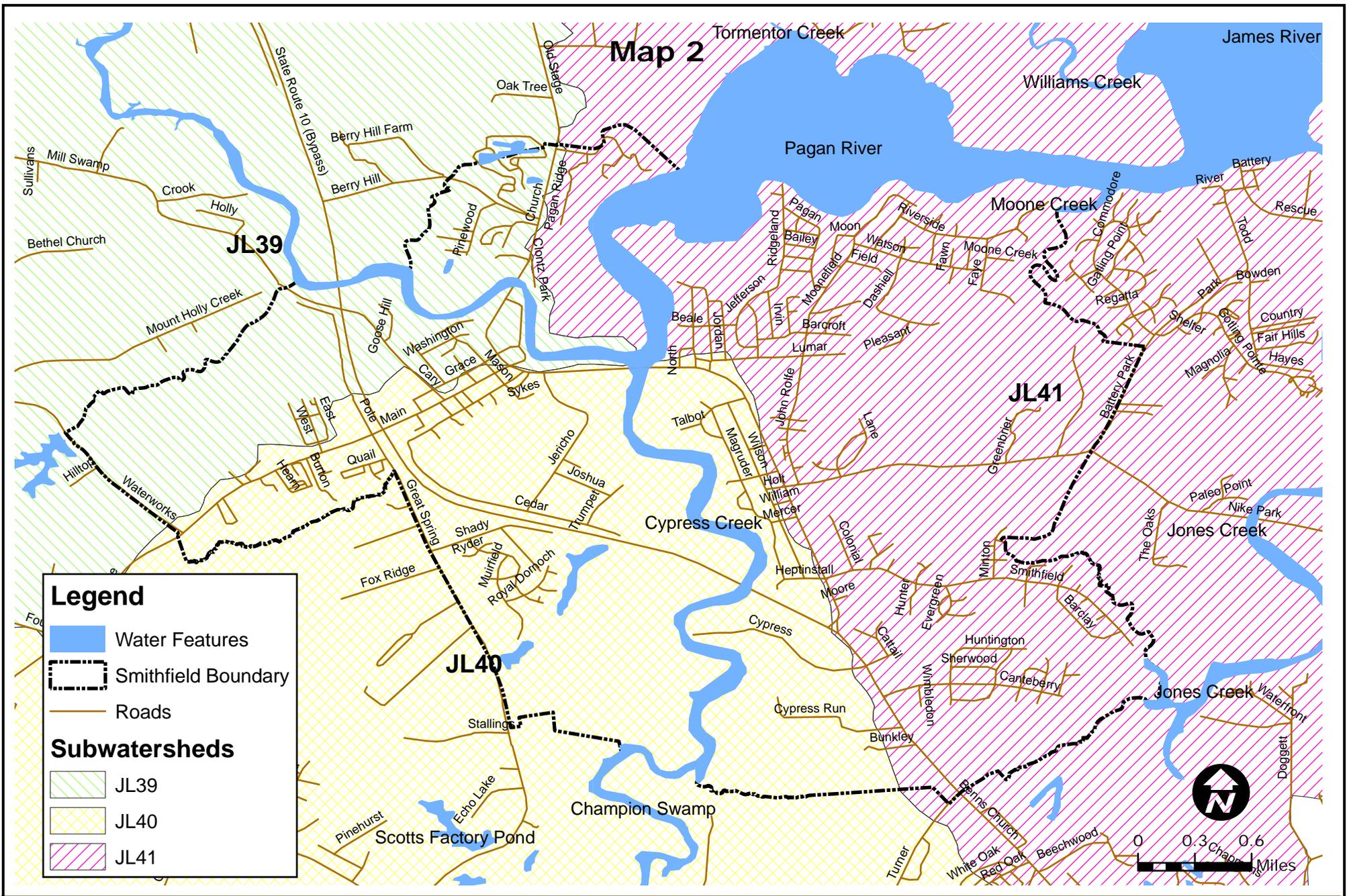
Smithfield lies within the Atlantic Coastal Plain of Tidewater Virginia, on the higher ground of an escarpment adjacent to a navigable river. The land rises rather steeply from an elevation of a few feet above sea level at the marsh's edge to broad flat plains ranging from 20 to 40 feet above sea level. The highest elevations occur in the far western area of town, generally increasing as one moves inland from the Pagan River.



Map 1: Creeks and Streams in the Town of Smithfield

Map Created by HRPDC Staff, June 2007.
 Data Source: Town of Smithfield, Census 2000 Tiger Line Files





Map 2: Subwatersheds in the Town of Smithfield

Map Created by HRPDC Staff, June 2007.
 Data Source: National Watershed Boundary Dataset (NWB), Town of Smithfield, Census 2000 Tiger Line Files



D. Current Water Quality Improvement Activities

For many years, the Town of Smithfield has been committed to improving water quality within the town through its implementation of practices to meet the requirements of the Chesapeake Bay Preservation Act and Regulations, the Erosion and Sediment Control Law and Regulations, and the Virginia Stormwater Management Law and Regulations. The Town of Smithfield's Chesapeake Bay Preservation Overlay District in its Zoning Ordinance aids in the protection of the Chesapeake Bay and its tributaries by requiring the use of effective conservation planning and pollution prevention practices when using and developing environmentally sensitive areas. The entire Town of Smithfield has been designated as a Chesapeake Bay Preservation Area. The town's Erosion and Sedimentation Control Article of its Zoning Ordinance references the erosion and sediment control standards, which require all developers to convey runoff to adequate channels and to prevent an increase of runoff from their regulated activities. The required erosion and sedimentation minimum control measures prevent soil movement and loss and help to reduce and eliminate damage to off-site receiving channels, property, and natural resources. For any development or redevelopment within the town, the Town of Smithfield through its zoning ordinance requires stormwater runoff to be controlled by the use of best management practices consistent with the water quality protection provisions of the Virginia Stormwater Management Regulations.

The Town of Smithfield also improves water quality through investments in the rehabilitation and replacement of some of the older, deteriorating sewer lines within the town. The Town of Smithfield is also a participant in the Hampton Roads Sanitary Sewer Overflow Initiative. Under this initiative, the Town of Smithfield, along with twelve other localities in the region and the Hampton Roads Sanitation District (HRSD), has committed to completing several projects and activities that will improve the town's sanitary sewer system and minimize sanitary sewer overflows expeditiously in an environmentally sound and cost-effective manner. Smithfield is also involved in HR FOG, the regional public information campaign formed to educate the public and restaurant owners about the need to decrease the amounts of fats, oils and grease entering the sanitary sewer system.

Ensuring the operation and maintenance of stormwater management facilities is another water quality protection measure. The Town of Smithfield operates and maintains a municipal storm drainage system that consists of miles of pipe, open drainage ditches, curb and gutter, and several structural best management practices (BMPs). These structural BMPs have water quality features incorporated into them and are designed to be integral to neighborhood, commercial and office designs, emphasizing both water quality and runoff quantity control principles as well as minimizing the impacts on sensitive environmental areas.

“Clean the Bay Day” has been a valuable clean up event within the Town of Smithfield for a number of years. Each year, through the efforts of town staff and citizen volunteers, this event helps in preventing a significant amount of trash and debris from entering the town’s waterways, while simultaneously providing a valuable community building and public participation experience.

E. Water Quality Impairments

Although much has been done to improve water quality, additional improvements are still needed. Currently, several stream segments within the Town of Smithfield have been identified by the Virginia Department of Environmental Quality (DEQ) as impaired for some of the following designated uses: aquatic life, fish consumption, shellfishing, recreation, and submerged aquatic vegetation. An impairment occurs when pollution amounts are too high; waterbodies cannot support their designated uses; and waterbodies fail to meet Virginia water quality standards. After impaired waters have been identified, the water bodies are issued a Total Maximum Daily Load (TMDL), or limit, for the pollutant or pollutants causing impairment. After a TMDL is developed for a water body within the Town of Smithfield, the town and other stakeholders have the opportunity to aid in the development of a TMDL Implementation Plan, which outlines the activities that should be taken to reduce the waterbody impairments. Table 2 describes the designated uses, impairments, and TMDL development time frames for the impaired waters that are fully or partially located within the Town of Smithfield. These impaired waters include Cypress Creek, a Jones Creek Tributary, and a portion of the Pagan River. Map 3 graphically illustrates the extent and location of these impaired waters. This information is based on the state’s 2006 Water Quality Assessment. Additional waters could be designated as impaired when the state completes its next assessment in 2008.

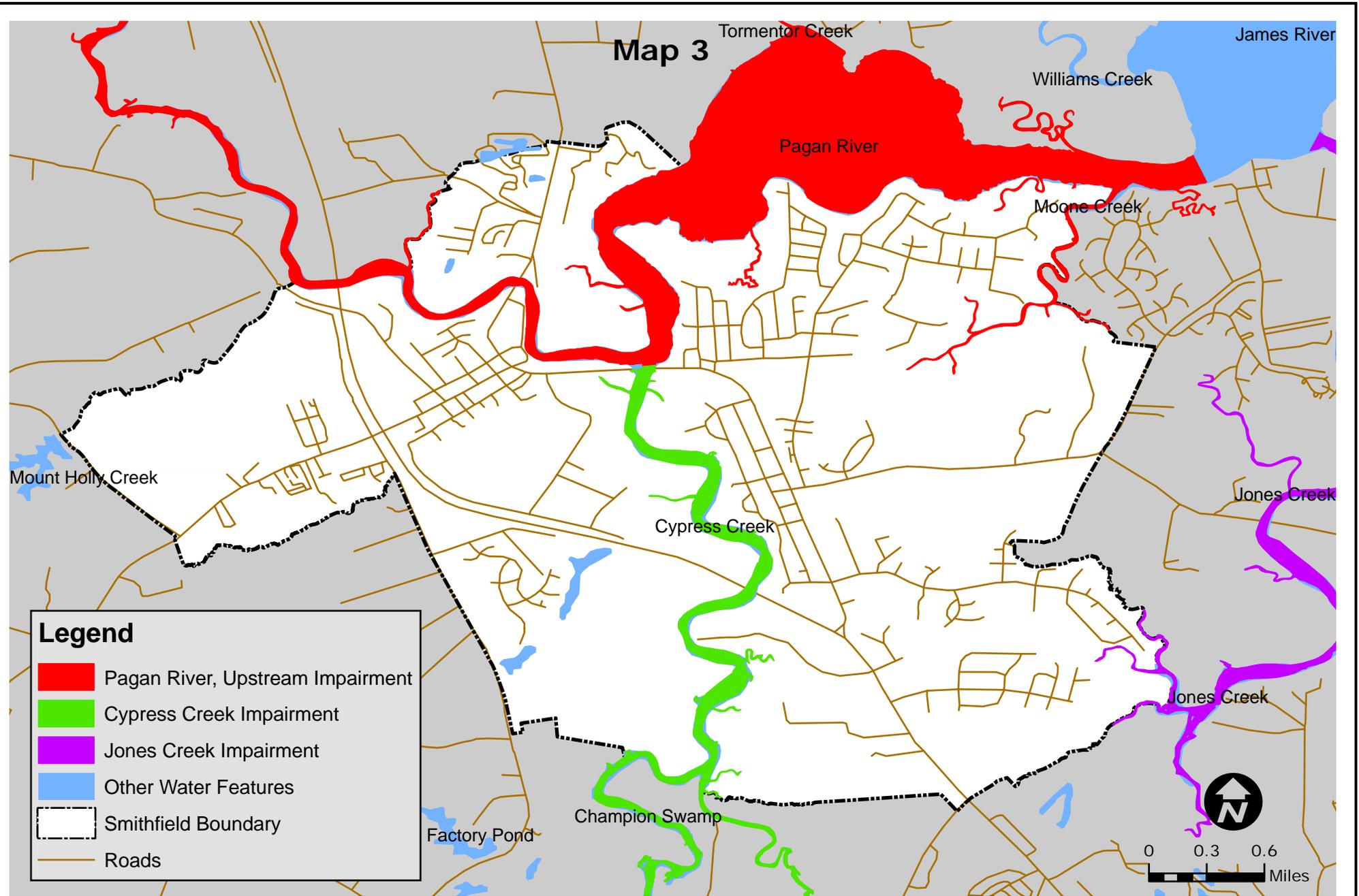
Stormwater pollution can be a contributing factor for some of the listed impairments. Practices implemented through a stormwater management program can help reduce the amount of pollution entering the impaired water body and positively affect water quality.

Table 2: Water Quality Impairments in the Town of Smithfield

Use Description	Impairments and (TMDL Development Due Date)		
	Cypress Creek	Jones Creek-Tributary to Pagan River	Pagan River - Upstream of Mouth
Shellfishing	Fecal Coliform (2010)	Fecal Coliform (2008)*	Fecal Coliform (2008)*
Aquatic Life	Aquatic Plants and Dissolved Oxygen (2010)	Aquatic Plants and Dissolved Oxygen (2010)	Aquatic Plants, and Dissolved Oxygen (2010)
Open-Water Aquatic Life	Lack of Dissolved Oxygen (2010)	Dissolved Oxygen (2010)	Dissolved Oxygen (2010)
Fish Consumption	PCB in Fish Tissue (2018)	PCB in Fish Tissue (2016)	PCB in Fish Tissue (2018)
Shallow-Water Submerged Aquatic Vegetation	Lack of Aquatic Plants (2010)	Aquatic Plants (2010)	Aquatic Plants (2010)
Recreation	NONE	Enterococcus (2018)*	Enterococcus (2008)*

Data Source: Virginia Department of Environmental Quality, 2006 303(b)/303(d) Water Quality Assessment

*Indicates TMDLs that have been completed as of October 1, 2007



Map 3: Impaired Waters in the Town of Smithfield

Map Created by HRPDC Staff, June 2007.
 Data Source: Virginia Department of Environmental Quality, 2006 303(b)/303(d) Water Quality Assessment,
 Town of Smithfield, Census 2000 Tiger Line Files



F. Stormwater Program Goals

The Town of Smithfield is interested in managing stormwater in a manner which protects and does not degrade waters of the state and which meets locally established quality of life goals and objectives. The Stormwater Management Program for the Town of Smithfield will incorporate various program elements and activities that can help reduce stormwater pollution and improve water quality.

In the development of a Stormwater Management Program for the town, the following goals have been identified.

- Manage stormwater quantity and quality to the maximum extent practicable (MEP)
 - Implement best management practices (BMPs) and retrofit flood control projects to provide water quality benefits.
 - Support site planning and plan review activities.
 - Manage pesticide, herbicide, and fertilizer applications.
- Implement public information activities to increase citizen awareness and support for the program.
- Meet the following needs of citizens.
 - Address flooding and drainage problems.
 - Maintain the stormwater infrastructure.
 - Protect waterways.
 - Provide the appropriate funding for the program.
- Implement cost-effective and flexible program components.
- Satisfy regulatory requirements.
- Enhance erosion and sedimentation controls.
- Manage illicit discharges, spill response and remediation.

These goals are consistent with the Regional Stormwater Management Program Goals which guide the operation of the stormwater management programs of the cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg and the counties of Gloucester, Isle of Wight, James City, Southampton, Surry, and York.

G. Stormwater Program Components

The Town of Smithfield's Stormwater Management Program is comprised of six minimum control measures that, when implemented in concert over the next several years, are expected to result in reductions of stormwater pollutant discharges into the Pagan River and its tributaries.

The six minimum control measures to be used in the Town of Smithfield Program include the following:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Stormwater Runoff Control.
5. Post-Construction Stormwater Management in New Development and Redevelopment.
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

These minimum control measures are a part of the Phase II regulations, first promulgated by the U.S. Environmental Protection Agency in 1999. The Phase II regulations require the owners/operators of small Municipal Separate Storm Sewer Systems (MS4s) that are located within an urbanized area, as defined by the latest decennial census, to obtain a National Pollutant Discharge Elimination System (NPDES) permit. The permit requires the local government to develop a stormwater management program that addresses the six specified minimum control measures. The Department of Conservation and Recreation (DCR) currently administers the Virginia Phase II Stormwater NPDES permit program through the Virginia Stormwater Management Program (VSMP) regulations.

Although the Town of Smithfield is not currently a regulated small MS4, it is likely that, in the future, the town's population will grow to a level that will put it into the regulated category. The development of a Stormwater Management Program that is based on the Phase II program requirements and is consistent with Isle of Wight County's Stormwater Management Program will prepare the town for potential regulation in the future and any new stormwater requirements that may be imposed. DCR is currently in the process of making changes to the Phase II regulations, which are expected to be more rigorous than current Phase II permit and program requirements. (See Part III.B. of this document for additional information about the potential changes to the Phase II regulations.)

For each of the six minimum control measures identified, the Town of Smithfield has proposed structural and non-structural best management practices to help reduce the amount of stormwater pollution entering local creeks and streams. Each minimum control measure has one or more goals that the Town of Smithfield will strive to achieve as a part of its stormwater management program. The goals are addressed through several proposed best management practices. The listed tasks specifically identify the items the Town of Smithfield will perform based on the proposed best management practices. The identified best management practices and tasks for achieving the requirements of each of the six minimum control measures are described in the pages that follow.

1. PUBLIC EDUCATION & OUTREACH

Goal

- Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

Proposed Best Management Practices

To address the public education and outreach goal, the Town of Smithfield will participate in HR STORM, the regional stormwater education program coordinated by the Hampton Roads Planning District Commission (HRPDC). HR STORM was formally established in 1997 to take advantage of the economies of scale resulting from the joint implementation of a regional stormwater education program by the then fifteen participating local governments of the Hampton Roads Regional Stormwater Management Committee. Since its inception, HR STORM has been responsible for meeting several of the common stormwater education needs of the local governments in the Hampton Roads region. HR STORM has been successful in the development of a host of educational strategies and materials that inform individuals and households about the steps they can take to reduce stormwater pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, and the proper disposal of used motor oil and other household hazardous wastes.

The Town of Smithfield will also distribute the “Town of Smithfield Stormwater Management” brochure, developed in conjunction with this stormwater management program. This brochure includes tips and techniques that can be used to minimize stormwater pollution and improve water quality within the town.

Tasks

1.a. – Participate in the Hampton Roads Regional Stormwater Management Program Memorandum of Agreement, which outlines the framework and responsibilities for the implementation of the stormwater public education and outreach program.

1.b. – Identify stormwater education needs and priorities through staff participation on the HRPDC Phase II Subcommittee, the Regional Stormwater Management Committee, and the stormwater education subcommittee, HR STORM.

1.c. – Distribute educational materials developed through the HRPDC and HR STORM to meet the identified needs and priorities of the Town of Smithfield.

1.d. – Distribute the “Town of Smithfield Stormwater Management” brochure and make it available on the town’s website.

1.e. – Include stormwater educational components in the town’s quarterly newsletter, as appropriate.

2. PUBLIC INVOLVEMENT / PARTICIPATION

Goal

- At a minimum, comply with state, tribal, and local public notice requirements when implementing the stormwater management program.

Proposed Best Management Practices

To meet the public involvement and participation goal, the Town of Smithfield will, at a minimum, comply with the Virginia Freedom of Information Act (§2.2-3700 of the Code of Virginia) and public hearing and notice requirements found in §15.2-2204 of the Code of Virginia. The Act requires local governments to give the public notice of and access to all local council and commission meetings. In addition, all public records maintained by the town are required to be accessible to the public. Section 15.2-2204 of the Code of Virginia requires local governing bodies and planning commissions to publish notices and hold public hearings on proposed amendments to locally adopted plans and ordinances. This includes stormwater management plans and ordinances.

The Smithfield Town Council will also continue to actively solicit public input and get in touch with citizen concerns through informal public discussion sessions held prior to Town Council Meetings. This public input mechanism has been in practice since February 4, 2003.

In addition, the Town of Smithfield will continue to involve citizens through activities such as the annual clean up event within the town. Each year, through the efforts of town staff and citizen volunteers, the “Clean the Bay Day” event has been beneficial in preventing a significant amount of trash and debris from entering the town’s waterways, while simultaneously providing a valuable community-building and public participation experience.

Tasks

2.a. – Comply with the public hearing/notice requirements of the Virginia Freedom of Information Act and §15.2-2204 of the Code of Virginia in developing and implementing the local stormwater management program.

2.b. – Continue to solicit public input through informal public discussion sessions held prior to Town Council meetings.

2.c. – Continue public participation and involvement activities such as the annual “Clean the Bay Day” clean-up event.

3. ILLICIT DISCHARGE DETECTION & ELIMINATION

Goals

Develop, implement, and enforce a program to detect and eliminate illicit discharges, as defined at 4 VAC 50-60-10, into the storm sewer system.

- Develop, if not already completed, a storm sewer system map showing the location of all major outfalls and the names and location of all surface waters that receive discharges from those outfalls.
- To the extent allowable under state, tribal or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions.
- Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the stormwater system.
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and the improper disposal of wastes.

Proposed Best Management Practices

The Town of Smithfield will develop, implement and enforce a program to detect and eliminate illicit discharges by developing and implementing the following components.

To begin, the Town of Smithfield proposes to identify, characterize, and map the major stormwater outfalls within the town. As a part of this effort, the town may also decide to map additional components of its stormwater drainage system. Currently, the town has a digital layer of the major drainage ditches located within the town.

In addition, the town proposes to develop and adopt an illicit discharge ordinance, which will prohibit most non-stormwater discharges to the municipal separate storm sewer. The following categories of non-stormwater discharges or flows will only be prohibited if they are identified by the town as significant contributors of pollutants to the storm sewer system: water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water, and discharges or flows from fire fighting activities.

In order to detect and address non-stormwater discharges, including illegal dumping, to the stormwater system, the Town of Smithfield proposes to

implement a complaint-driven illicit discharge detection and elimination program for the municipally owned storm sewer system. To implement such a program, the Town of Smithfield will develop a response protocol for reacting to illicit discharge complaints. The response protocol may include procedures for tracing the source of an illicit discharge, and procedures for removing the source of the discharge. Specific documentation of response procedures for sanitary sewer spills and petroleum and hazardous materials spills is desired, if not already completed and available.

The Town of Smithfield will inform public employees, businesses, and the general public of hazards associated with illegal discharges and the improper disposal of wastes, through its participation in the regional stormwater education program, HR STORM. The regional stormwater education efforts include the development of educational products, promotional materials, and training events about illicit discharges, illicit discharge detection, and the proper disposal of wastes. Through the HRPDC Phase II Subcommittee and the HR STORM subcommittee, educational needs will be identified and prioritized.

In order to further prevent illicit discharges associated with the improper disposal of pet waste, the town will improve its current pet waste ordinance (Article 1, Section 18-10 of the Town Code). The ordinance will be changed to make it unlawful for a pet owner to allow urination or defecation by such animal within the curb or gutter area of a public street or roadway. Animal feces within the curb and gutter area of a street or roadway can easily enter the storm drain system and pollute the rivers and streams within the town.

Tasks

3.a. – Develop a storm sewer system map showing the location of all major outfalls and the names and location of all surface waters that receive discharges from those outfalls.

3.b. – Update the storm sewer system map periodically as new major outfalls are established.

3.c. – Develop an illicit discharge ordinance, which prohibits illicit discharges from entering the stormwater system.

3.d. – Adopt and implement the developed illicit discharge ordinance.

3.e. – Begin to develop a complaint-driven illicit discharge detection and elimination program for the municipally owned portions of the MS4 within the Town of Smithfield. If not already developed and available, specifically document sanitary sewer spill response procedures, as well as, petroleum and hazardous materials spill response procedures.

3.f. – Begin implementing the complaint-driven illicit discharge detection and elimination program, and track the number and types of discharges detected and eliminated.

3.g. – Identify and prioritize education needs for public employees, businesses, and residential behaviors according to relative risk for producing illicit discharges through the HRPDC Phase II Subcommittee and HR STORM.

3.h. – Distribute educational materials developed through HR STORM to groups with high risk for producing illicit discharges.

3.i. – Participate in illicit discharge training events and workshops developed through HR STORM.

3.j. – Revise Article 1, Section 18-10 of the Town Code to make it unlawful to allow urination or defecation by pets and other owned animals within the curb or gutter area of a public street or roadway.

4. CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Goals

Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre, or equal to or greater than 2,500 square feet in all areas of the jurisdiction designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The program should include the development and implementation of, at a minimum:

- An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under state or local law.
- Requirements for construction site operators to implement appropriate erosion and sediment control best management practices.
- Procedures for site plan reviews that include consideration of potential water quality impacts.
- Procedures for site inspection and enforcement of control measures.
- Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality; or procedures to ensure that construction site operators will secure a VSMP construction permit.
- Procedures for receipt and consideration of information submitted by the public.

Proposed Best Management Practices

The Town of Smithfield has an ordinance in place to ensure compliance with erosion and sediment controls. The Town of Smithfield references the requirements of the Erosion and Sediment Control Law and Regulations in its Erosion and Sediment Control Ordinance, Article 11.A. of the Town of Smithfield Zoning Ordinance. The Town of Smithfield and Isle of Wight County cooperatively implement and enforce the Erosion and Sediment Control Law and Regulations within the Town of Smithfield. Generally, Isle of Wight County staff carries out erosion and sediment control for the residential developments within the Town of Smithfield, and the town staff implements erosion and sediment control for industrial and commercial developments within the Town of Smithfield. The town and county are working toward the development of an agreement that describes the specific responsibilities of each party in implementing erosion and sediment controls within the town.

The Town of Smithfield will continue to require construction site operators to implement appropriate erosion and sediment control best management practices through its ordinance. Currently, under the town's Erosion and Sediment Control Ordinance, proposed projects disturbing 2,500 square feet or more are required to have a locally approved erosion and sediment control plan before commencing any land disturbing activity. The town's Zoning Ordinance also requires a developer to submit a site plan that shows the proposed stormwater BMPs for controlling the quantity and quality of stormwater runoff at a construction site. Once the plan is approved, the Town of Smithfield or the County of Isle of Wight will periodically inspect the site and determine whether the BMPs are properly installed and maintained according to the plan. If it is found at any time that the BMPs are not properly installed and maintained, the Town of Smithfield or Isle of Wight County can bring an enforcement action against the violator under the local Erosion and Sediment Control Ordinance.

The small MS4 requirement to regulate wastes at construction sites is identical to that in the Virginia Stormwater Management Program (VSMP) Permit for the Discharge of Stormwater from Construction Activities (4 VAC 50-60-1100 et seq). Rather than duplicate this state requirement at the local level and unnecessarily increase the burden on construction site operators and private property owners, the Town of Smithfield will incorporate procedures into its erosion and sediment control plan review process that will direct applicants to secure a VSMP Construction General Permit from the Virginia Department of Conservation and Recreation (DCR). DCR is currently in the process of making changes to the VSMP General Permit for Construction Activities. As a result of regulation changes, it is expected that DCR will be authorizing local governments to administer the VSMP General Permit for Construction Activities. The Town of Smithfield will be required to administer the permit due to its status as a Chesapeake Bay Preservation Act community. (See Part II.B. of this document for additional information about potential regulatory changes).

Also as a part of the Construction Site Stormwater Runoff control measure, the Town of Smithfield will encourage the public to notify town staff of any suggestions or problems associated with construction site stormwater runoff. The public will be able to submit comments, complaints, and notices of possible erosion and sediment control violations through a variety of means, including in person at town offices, via email, and telephone.

Tasks

4.a. – Implement the site plan review, construction site BMP, and inspection provisions of the local Erosion and Sediment Control Program.

4. b. – Continue work on the development of a formal written agreement with Isle of Wight County to distinguish between the responsibilities of the town and the county when implementing the Erosion and Sediment Control Act and Regulations.

4.c. – Receive and respond to information from citizens relating to the local erosion and sediment control program through personal visits, email, and telephone.

4.d. – Adopt administrative procedures in the plan review process that will direct applicants, proposing to disturb 2,500 square feet or more of land in a Chesapeake Bay Preservation Area or proposing to disturb 2,500 square feet or more of land in a Chesapeake Bay Preservation Area as part of a larger common plan of development or sale, to DCR to secure a VSMP Construction General Permit. In the event that DCR delegates the administration of the permit, the Town of Smithfield will prepare for the administration, issuance and enforcement of the VSMP General Permit for Construction Activities. (See Part III.B. of this document for additional information about the potential regulatory changes.)

4.e. – Track the number of land disturbing activities and total disturbed acreage from development activities.

5. POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT & REDEVELOPMENT

Goals

Develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre or equal to or greater than 2,500 square feet in areas subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the small MS4.

- Develop and implement strategies that include a combination of structural or nonstructural, or both, best management practices appropriate for the community.
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state, tribal or local law.
- Ensure adequate long-term operation and maintenance by the owner of BMPs.
- Track all permanent BMPs installed in the MS4. Include the type of BMP installed, the geographic location (hydrologic unit code), waterbody the BMP is discharging into, the number of acres treated, whether or not the BMP is inspected or maintained, and how often the BMP is maintained (quarterly, annually, etc).

Proposed Best Management Practices

To satisfy this minimum management measure, the Town of Smithfield will implement and enforce its local Chesapeake Bay Preservation Overlay District (Article 3.P. of the Town of Smithfield Zoning Ordinance). Under this ordinance, any development or redevelopment activity equal to or greater than 2,500 square feet must comply with the General Performance Standards of the Chesapeake Bay Preservation Act. The entire Town of Smithfield is within designated Chesapeake Bay Preservation Areas. The General Performance Standards set forth the minimum requirements for development which will prevent a net increase in nonpoint source pollution from new development, reduce nonpoint source pollution from redevelopment, and reduce nonpoint source pollution from agricultural uses. The standards most relevant to the post construction stormwater management minimum management measure include the BMP maintenance requirement and the requirement to use best management practices that are consistent with the water quality protection provisions of the Virginia Stormwater Management Regulations.

In the Town of Smithfield's Zoning Ordinance, Article 3.P; all BMP facilities are required to have an approved maintenance agreement with the Town of Smithfield. BMP maintenance agreements help to ensure the adequate long-term operation and maintenance of BMPs by the owner. The Town of Smithfield requires the homeowners association (HOA) to accept the responsibility for the permanent stormwater management facilities. Improvements can be made to current procedures through the development of a BMP maintenance agreement that requires the private owner to maintain his/her BMP in good working order, and ensures that the town has the authority to repair and maintain the BMP and assess the owner the cost of the repair in situations where the private owner or HOA fails to perform proper maintenance.

In addition to requiring BMP maintenance agreements, the Town of Smithfield will also develop and implement a stormwater management facility inspection program. Such a program will ensure that stormwater management facilities are regularly maintained and operated properly. The development of a stormwater management facility inspection program is one of the recommended future stormwater management improvement recommendations listed in the Town of Smithfield Comprehensive Plan. The plan recommends that town staff inspect all private BMP structures that have a maintenance agreement at least once per year.

The Town of Smithfield will also track the number and types of permanent BMP structures installed within the town. A BMP database has been developed by some of the local Hampton Roads Phase II communities. This database tracks the BMP type, geographic location, waterbody being discharged into, number of acres treated, inspection, and maintenance activities.

Tasks

5.a. – Continue to implement the stormwater performance standards of the local Chesapeake Bay Preservation Act Ordinance (Article 3.P. of the Town of Smithfield Zoning Ordinance) for new development and redevelopment.

5.b. – Develop a BMP maintenance agreement for privately owned stormwater management facilities that requires the private owner to maintain his/her BMP in good working order, and ensures that the town has the authority to repair and maintain the BMP and assess the owner the cost of the repair in situations where the private owner or HOA fails to perform proper maintenance.

5.c. – Continue to require BMP maintenance agreements for all stormwater management facilities within the Town of Smithfield, as directed by the local Chesapeake Bay Preservation Ordinance (Article 3.P. of the Town of Smithfield Zoning Ordinance).

5.d. – Develop a stormwater management facility inspection program, which includes an inspection of all permanent BMP structures on a routine basis.

5.d. – Track information about the newly installed structural BMPs within the town. Include information about BMP type, geographic location, waterbody being discharged into, number of acres treated, inspection, and maintenance activities.

6. POLLUTION PREVENTION / GOOD HOUSEKEEPING FOR MUNICIPAL OPERATORS

Goals

- Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The program should include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

Proposed Best Management Practices

To satisfy this minimum management measure, the Town of Smithfield proposes to develop and implement an operations and maintenance program component for the MS4 owned by the Town of Smithfield. Such an operations program could include the development of an inventory of all of the municipal operations within the town that have the potential to cause stormwater pollution. Such operations may include storage areas for sand, salt, fertilizers, pesticides and other chemicals; vehicle fueling, storage and maintenance areas; solid and hazardous waste management facilities and recycling centers; water and sewer treatment systems; animal shelters and pounds; parking lots; and locally owned and operated parks and open space. The town will then regularly inspect the identified facilities and correct any problems observed.

Also, the Town of Smithfield proposes to educate and train municipal employees to prevent and reduce pollutant runoff from municipal operations through the regional stormwater education efforts coordinated by the HRPDC. In the past, educational efforts have included training sessions on fleet maintenance, landscaping and lawncare, and illicit discharge detection. Training events and workshops will be prioritized through the HRPDC Phase II Subcommittee.

Tasks

6.a. – Develop an operations and maintenance program for municipally owned stormwater facilities within the Town of Smithfield.

6.b. – Identify and prioritize pollution prevention education and training needs for municipal employees based on relative risk for stormwater pollution from municipal operations through the HRPDC Phase II Subcommittee.

6.c. – Distribute pollution prevention educational materials developed through the HRPDC to municipal employees engaging in operations with high risk of discharging pollutants into the MS4.

6.d. – Aid with the development of a training workshop for local government employees, engaging in operations with a high risk of discharging pollutants into the MS4 and coordinated by the HRPDC Phase II Subcommittee.

6.e. – Encourage town staff to attend and participate in training workshops offered by the HRPDC.

PART II:
**STORMWATER MANAGEMENT PLAN
FRAMEWORK**

A. MS4 Program Plan

Once the Town of Smithfield has made progress in implementing its Stormwater Management Program, the town should consider developing a Municipal Separate Storm Sewer System (MS4) Program Plan. A MS4 Program Plan is a valuable tool used to aid with the organization and documentation of the best management practices (BMPs) implemented, and planned for implementation, over time, as part of a stormwater management program.

A proposed draft outline for a Town of Smithfield MS4 Program Plan is presented in Part B of this Section. The proposed MS4 Program Plan outline is divided into eight chapters. The outline for chapter one includes background information, and a discussion about the purpose of the MS4 Program Plan and the various components of the plan, including the MS4 Program Annual Work Plan and the Annual Report. (The development of an annual work plan and annual report would only be necessary if the Town of Smithfield becomes regulated under a Phase II VSMP permit issued by the Virginia Department of Conservation and Recreation (DCR).) The proposed content of chapter two includes a brief overview of the town's stormwater program, its organizational structure and resources for the program. Chapters three through eight are structured to discuss the town's program, categorized into the following six minimum control measures:

- Public education and outreach
- Public involvement
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction runoff control for development and redevelopment
- Good housekeeping and pollution prevention

The BMPs used in the Town of Smithfield Stormwater Management Program, would be included under the appropriate chapter and minimum control measure in the plan. Fact sheets would then be developed to describe each of the BMPs in further detail. Each fact sheet could include the following proposed components:

- Description of the BMP,
- Goal of the BMP,
- The requirement or minimum control measure that the BMP satisfies,
- The applicable state or federal regulation that requires the BMP,
- Authority of the town to perform the BMP,
- Department responsible for the BMP,
- Contact person,
- Standard operating procedures and references that describe or assist with the performance of the BMP,

- Description of what is reported regarding the BMP in the MS4 Annual Report, if required.
- Schedule for performing the BMP

BMPs for each of the minimum control measures could be added, modified, and taken out as the town's program develops and expands. Procedures for modification of the MS4 Program Plan would be identified in part 1.6 of the town's MS4 Program Plan.

B. MS4 Program Plan Draft Outline

The proposed draft outline for the Town of Smithfield Stormwater Management Program is presented below. Modifications will need to be made as the town's Stormwater Program grows and develops.

1.0 Introduction

- 1.1 Background
- 1.2 Purpose of MS4 Program Plan
- 1.3 MS4 Program Annual Work Plan
- 1.4 MS4 program Annual Report
- 1.5 TMDL Implementation Plans
 - Include a Table of Impaired Waters in the town
- 1.6 Modifications to MS4 Program Plan

2.0 Program Overview

- 2.1 Organizational Structure
 - Include a Stormwater Management Program Organizational Chart
- 2.2 Financial and Staff Resources
- 2.3 Legal Authority
- 2.4 Regional Program

3.0 Public Education and Outreach

3.1 Homeowner Education and Outreach

- 3.1.1 HR STORM
- 3.1.2 HR CLEAN
- 3.1.3 HR WET
- 3.1.4 HR FOG (fats, oils & grease)
- 3.1.5 Town of Smithfield Stormwater Brochure
- 3.1.6 Town of Smithfield Quarterly Newsletter
- 3.1.7 Municipal Website

3.2 New and Redevelopment Education and Outreach

- 3.2.1 Design and Construction Standards Manual

3.3 Erosion and Sediment Control Education and Outreach

- 3.3.1 HR STORM

3.4 Industrial Facility Education and Outreach

- 3.4.1 HR STORM

3.5 General Education and Outreach

- 3.5.1 HR STORM
- 3.5.2 Town of Smithfield Quarterly Newsletter
- 3.5.3 Town of Smithfield Stormwater Brochure

4.0 Public Involvement

4.1 Public Notification and Planning Participation

- 4.1.1 Public Notification Requirements
- 4.1.2 Public Meetings
- 4.1.3 Comprehensive Planning

4.2 Public Comment and Input

- 4.2.1 Informal Public Discussion Sessions Held Prior to Town Council Meetings
- 4.2.2 Volunteer Litter Removal Programs

4.3 Public Availability of MS4 Documents

- 4.3.1 Place on Website, Make Available Upon Request

5.0 Illicit Discharge Detection and Elimination

5.1 Outfall Update

- 5.1.1 Storm Sewer Maps (major outfalls and stormwater drainage system)
- 5.1.2 Storm Sewer Map Updates

5.2 Illicit Discharge Detection and Elimination

- 5.2.1 Town Ordinance for Illicit Discharges
- 5.2.2 Illicit Discharge Response Protocol
- 5.2.3 Documentation of Discharges Detected and Eliminated

5.3 Sanitary Sewer Seepage into MS4

- 5.3.1 Inflow and Infiltration Reduction Program
- 5.3.2 Sanitary Sewer Upgrade Program

5.4 Industrial Stormwater

- 5.4.1 HR STORM

5.5 Spill Response

- 5.5.1 Petroleum and Hazardous Materials Spills
- 5.5.2 Sanitary Sewer Spills
- 5.5.3 Regional Web-Based Sanitary Sewer Overflow Reporting System (SSORS)

6.0 Construction Site Runoff Control

(Achieve and Maintain Consistent E&S Program, Chapter 11.A. of the Town of Smithfield Zoning Ordinance)

6.1 Design Standards

- 6.1.1 In accordance with E&S Program

6.2 Inspection and Enforcement

- 6.2.1 In accordance with E&S Program

6.3 Tracking

- 6.3.1 In accordance with E&S Program

6.4 Reporting

- 6.4.1 In accordance with E&S Program

6.5 Permit Coordination

6.5.1 VSMP General Permits for Construction Activities

6.6 Municipal Projects

6.6.1 Compliance with Applicable E&S Control Requirements

7.0 Post Construction Runoff Control

7.1 Planning and Development

7.1.1 Chesapeake Bay Preservation Area District

7.1.2 Net Developable Acreage Calculations

7.2 Design and Plan Review

7.2.1 Water Quality BMP Requirements

7.2.2 Plan Review

7.3 Maintenance, Inspection and Compliance

7.3.1 Inspections of Public BMPs

7.3.2 Inspections of Private BMPs

7.3.3 Routine Maintenance of Public BMPs

7.3.4 Maintenance Agreements with Private BMP Owners

7.3.5 BMP Database

8.0 Good Housekeeping and Pollution Preventions

8.1 Source Prevention

8.1.1 Roadways

8.1.1.1 Street Sweeping

8.1.1.2 Salt Storage

8.1.2 Municipal Operation Centers

8.1.2.1 Annual Inspections of Town Yards

8.1.2.2 Town Yard Stormwater Inlet Identification

8.1.3 Other Facilities

8.1.3.1 Schools

8.1.4 Pesticides, Herbicides, and Fertilizers

8.1.4.1 Required Certification of Town Employees

8.1.5 Employee Training

8.1.5.1 Stormwater Pollution Prevention Training for Selected Employees

8.1.5.2 HR STORM

8.2 Structural Maintenance

8.2.1 Operational Maintenance

8.2.1.1 Stormwater System Maintenance

8.2.1.2 Routine Ditch Maintenance

8.2.2 CIP Programs and Retrofits

8.2.2.1 Evaluate Flood Management Projects for Water Quality Impacts

Proposed Appendices to the MS4 Program Plan: Applicable Ordinances, MOUs and MOAs, Key Personnel Contact List, and an Annual Work Plan.

PART III:
REGULATION SUMMARIES

A. Stormwater & Related Regulations

There are three major acts and associated regulations that address or relate to the municipal control of stormwater. They include the following:

- Chesapeake Bay Preservation Act and Regulations, the
- Erosion and Sediment Control Act and Regulations, and the
- Virginia Stormwater Management Program Regulations.

The purpose and major components of each of these acts and regulations are described below.

Chesapeake Bay Preservation Act & Regulations

The Chesapeake Bay Act and Regulations are designed to improve water quality in the Chesapeake Bay and its tributaries by requiring the use of effective conservation planning and pollution prevention practices when using and developing environmentally sensitive lands.

As part of the regulations, the Town of Smithfield has established a program to define and protect Chesapeake Bay Preservation Areas. All of the land parcels within the Town of Smithfield have been designated into three categories in accordance with the Chesapeake Bay Preservation Act and Regulations. These three Chesapeake Bay Preservation Area designations include Resource Protection Areas (RPAs), Resource Management Areas (RMAs), and Intensely Developed Areas (IDAs). Development or redevelopment of land in these Chesapeake Bay Preservation Areas must meet the performance criteria outlined in the regulations. The performance criteria apply to most land disturbing activities greater than 2,500 square feet, and provide that land-disturbing activities must comply with the local erosion and sediment control ordinance and the stormwater management criteria of the Virginia Stormwater Management Regulations.

As another component of the Chesapeake Bay Preservation Act Program, the Town of Smithfield must incorporate water quality protection measures into its comprehensive plan, zoning ordinance, and subdivision ordinance. In addition, a plan of development process is required prior to the issuance of a building permit to assure that the use and development of land in Chesapeake Bay Preservation Areas is accomplished in a manner that protects the quality of state waters.

Erosion & Sediment Control Act and Regulations

The goal of the Erosion and Sediment Control Act and Regulations is to control soil erosion, sedimentation, and nonagricultural runoff from regulated "land-disturbing activities" to prevent degradation of property and natural resources.

The regulations specify nineteen "Minimum Standards," which include criteria, techniques and policies, which must be followed on all regulated activities. These standards delineate the rights and responsibilities of governments that administer an Erosion and Sediment Control program and those of property owners who must comply with the program.

A "land disturbing activity" is defined as any land change on private or public land that may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands in the commonwealth, including but not limited to clearing, grading, excavating, transporting, and filling of land. This definition includes land-disturbing activities equal to or exceeding 10,000 square feet in area. Because the Town of Smithfield is a Chesapeake Bay Preservation Area and is governed by the Chesapeake Bay Preservation Act, all land disturbing activities within the town that disturb more than 2,500 square feet in area are required to comply with the Virginia Erosion and Sediment Control Law and Regulations.

Virginia Stormwater Management Permit (VSMP) Regulations

The Virginia Stormwater Management Permit Regulations include the following major components.

- Stormwater Technical Criteria, which are applicable to every stormwater management program and every land disturbing activity in Virginia.
- Program and permit requirements for small municipal separate storm sewer systems (Phase II MS4s).
- General VSMP permit requirements for stormwater discharges from construction activities.
- Program and permit requirements for large and medium municipal separate storm sewer systems (Phase I MS4s).

The Stormwater Technical Criteria include general stormwater requirements, water quality criteria, stream channel erosion requirements, and flooding requirements. The technical criteria are applicable to every land-disturbing project in Virginia with a land disturbance greater than one acre, or 2,500 square feet if the land disturbance occurs in a Chesapeake Bay Preservation Area. Certain types of land disturbing activities, such as agricultural activities, are exempt. The Town of Smithfield must require that land disturbing activities within the town address the stormwater technical criteria.

The regulated small MS4s (Phase II MS4s) are required to develop, implement, and enforce a Stormwater Management Program that includes the following six "minimum control measures".

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation

3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Stormwater Runoff Control.
5. Post-Construction Stormwater Management in New Development and Redevelopment.
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

In addition to developing a stormwater management program, the Phase II MS4s are required to obtain permit coverage under the VSMP stormwater general permit. The six Phase II small MS4s within the Hampton Roads region include the cities of Poquoson, Suffolk and Williamsburg and the counties of Isle of Wight, James City and York. The Town of Smithfield is currently not required to obtain a permit for its municipal separate storm sewer system.

Owners/operators of construction activities larger than 2,500 square feet in the Town of Smithfield are required to obtain permit coverage under the VSMP general permit for construction activities. As a requirement of permit coverage, the operator of the construction site is required to send DCR a registration statement and develop and implement a stormwater pollution prevention plan (SWPPP) for the construction activity covered by the permit. As a part of its stormwater management program, the town proposes to notify operators of construction sites within the town that they are required to apply for coverage under the general permit for construction activities.

B. Potential Changes to Stormwater Regulations

Changes to Phase II (small MS4) Permit Requirements (as of September 14, 2007)

DCR has recently proposed changes to the Virginia Stormwater Management Program (VSMP) regulations in order to develop a new General Permit for Stormwater Discharges from small MS4s. The current stormwater general permit for small MS4s will expire on December 9, 2007. The final draft of the regulation is out for public comment until December and will be finalized toward the end of 2007. After finalization, the regulated small MS4s will have 180 days from the effective date of the general permit to submit a schedule to develop and implement programs to meet the conditions established by the permit.

The final proposed draft of the regulations includes the following major changes.

- When tracking data and developing registration statements, small MS4s will have to use the new Hydrologic Unit Codes, identified in the most recent version of Virginia's 6th Order National Watershed Boundary Dataset.
- An MS4 Program Plan must be developed and submitted with the registration statements. The MS4 Program Plan must now include a list of Best Management Practices (BMPs) employed, a list of existing policies,

- ordinance, schedules, inspection forms, and other documents necessary for BMP implementation, the objectives of each BMP, and the method to be utilized to determine the effectiveness of each BMP.
- If a municipal stormwater system discharges to a segment of state waters that has an approved TMDL, then the locality must update its MS4 Program Plan to include measurable goals, schedules, and strategies to ensure MS4 Program consistency with the TMDL. The program must include:
 - o The development of a current list of ordinances and legal authorities, policies, plans, procedures and contracts implemented as part of the MS4 Program that are applicable to reducing the pollutant identified in a Waste Load Allocation (WLA). Evaluate and identify weaknesses of the MS4 Program regarding the reduction of the pollutant identified in the WLA.
 - o The creation of a schedule to implement procedures and strategies to address the MS4 Program weaknesses including a timetable to update existing ordinances and legal authorities, policies, plans, procedures, and contracts to ensure consistency with the TMDL.
 - o The establishment of a public education awareness campaign and outreach program that promotes the methods to eliminate and reduce discharges of the pollutant identified in the WLA.
 - o The development and implementation of outfall reconnaissance procedures on 15% of known outfalls, to identify and eliminate the discharge of pollutants identified in the WLA from anthropogenic activities.
 - o The evaluation of all properties owned or operated by the MS4 operator for potential sources of the pollutant identified in the WLA. When a property stores, transfers, transports, or has historically disposed of the identified pollutant, the MS4 operator must perform water quality monitoring at the site, and then develop and implement a schedule to minimize the discharge of the pollutant identified in the WLA.
 - o The estimation of the volume of stormwater discharged in gallons from the MS4, and the quantity of the pollutant identified in the WLA.
 - Prior to the submittal of the MS4 Program Plan and proposed schedule, the MS4 operator must provide public notification and provide for the receipt of public comments. Public notice shall allow at least 30 days for public comment.
 - Develop and maintain an updated storm sewer system map showing the location of ALL known outfalls of the regulated small MS4.
 - Provide narratives on how illicit discharges are eliminated.
 - The MS4 operator must encourage Low Impact Development (LID), where determined appropriate by the operator, and track the number of acres developed utilizing low impact development principles.

Changes to Stormwater Technical Criteria (as of September 13, 2007)

DCR is in the process of making changes to Part II of the VSMP stormwater regulations (4 VAC 50-60-40 et seq), which consists of the stormwater technical criteria. Changes to this section are still being developed, reviewed, and revised by DCR and the Stormwater Technical Advisory Committee (TAC) members. Some of the major components of the stormwater technical criteria are summarized below.

The latest proposed draft of stormwater technical criteria includes strict post development nitrogen and phosphorus water quality requirements. In addition to water quality criteria, the stormwater technical criteria will now also include water quantity criteria. Stormwater practices implemented on-site will have to be designed to detain water quality volume and release it over 48 hours; and detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm. Developed sites will have to reduce the allowable peak flow rate resulting from the 1.5, 2, and 10 year, 24-hour storm to a level that is less than or equal to the peak flow rate from the site assuming that it was in good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition.

Additional pollutant control measures will be required when land disturbing activity discharges to impaired waters in which TMDLs have been established.

Where a site drains to more than one Hydrologic Unit, as identified in Virginia's 6th order National Watershed Boundary Dataset (version 2), the pollutant load reduction requirements shall be applied independently to each hydrologic unit.

Percent of imperviousness of a development site may be adjusted through implementation of low impact development (LID) practices, allowing for an adjusted pollution removal rate. Local governments can limit the use of LID practices set out in the Virginia Stormwater Management Handbook. Offsite controls to meet the water quality criteria may be allowed if a comprehensive watershed stormwater management plan has been adopted for the watershed within which the project is located.

Once the stormwater technical criteria are finalized and become effective, the Town of Smithfield will have to ensure that all development within the town greater than 2,500 square feet follows the new stormwater technical criteria requirements.

Changes to VSMP General Construction Permit Issuance (as of September 13, 2007)

As a result of changes made to Part III of the Virginia Stormwater Management Program (VSMP) Permit Regulations (4 VAC 50-60-100 et seq), certain administrative procedures for the issuance of the general permit for construction activities may be delegated from DCR to localities with municipal separate storm sewer systems (MS4s), to localities covered by the Chesapeake Bay Preservation Act, and to localities requesting to operate or “opt” in to the program. If EPA allows DCR to transfer administration of the VSMP general permit for construction activities to local governments, the Town of Smithfield will be required to participate because of its status as a Chesapeake Bay Preservation Act Community.

Changes to this section are still being developed, reviewed, and revised by DCR and the Stormwater Technical Advisory Committee (TAC) members. Some of the major components of the local program administration of the VSMP General Construction permit section are summarized below.

To issue the VSMP general permit for construction activities, the Town of Smithfield will have to provide for the following.

- An ordinance that includes the state’s procedures for the issuance, denial, revocation, termination, reissuance or modification of coverage under the VSMP general permit for construction activities.
- An ordinance that identifies the plan reviewing, plan approving, inspection and enforcement authorities.
- An ordinance that requires all land disturbing activities issued a VSMP general permit for construction activities to comply with the stormwater technical criteria (Part II of the Stormwater Management Regulations) and identifies other criteria used in the program.
- Procedures for submission and approval of plans, in which the locality will have to
 - o Require a stormwater management plan for land disturbing activities.
 - o Request proposed right of entry agreements or easements from the owner of the land disturbing activity for purposes of inspection and maintenance.
- Provide for the assessment and collection of fees. Fees collected must be placed in a separate fund and used to finance the permit program. In addition 30% of the fees must be sent to the State.
- Incorporation of VSMP general permit land-disturbing inspections into the program.
- Procedures for long-term stormwater management facility inspections
- Informal and formal enforcement procedures,
- Report to the state about

- The number of permits issued and terminated to include the permit number, operator name, activity name, acres disturbed, and date of permit coverage.
- Permanent stormwater management facilities accepted during the fiscal year, to include the type of stormwater management facility, GPS coordinates, acres treated, surface waters discharged into.
- Number of VSMP general permit construction projects inspected and total number of inspections.
- Number and type of enforcement actions.
- Number of exceptions applied for and granted or denied.

Changes to Permit Fees (as of September 13, 2007)

DCR is also in the process of making changes to Part XIII of the VSMP stormwater regulations, which consists of the stormwater permit fee structures. The latest proposed draft of Part XIII of the regulations includes increases in some of the MS4 permit issuance, permit modification, and permit maintenance fees, and increases in all of the fees for general permits for construction activities.

PART IV:

**COMPARISON OF TOWN POLICIES
TO STATE REGULATIONS
& PROPOSED RECOMMENDATIONS**

A. Chesapeake Bay Preservation Act

In order to meet the requirements of the Chesapeake Bay Preservation Act and Regulations, the Town of Smithfield must incorporate general water quality protection measures into its comprehensive plan, zoning ordinance, and subdivision ordinance; and establish a program to define and protect Chesapeake Bay Preservation Areas.

Local Chesapeake Bay Preservation Act Programs must contain the following seven major components.

1. A map delineating Chesapeake Bay Preservation Areas.
2. Performance criteria applying in Chesapeake Bay Preservation Areas that employ the requirement in Part IV of the regulation (9 VAC 10-20-110 et seq.)
3. A comprehensive plan or revision that incorporates the protection of Chesapeake Bay Preservation Areas and of the quality of state waters, in accordance with the criteria set forth in Part V of the regulation (9 VAC 10-20-170 et seq.)
4. A zoning ordinance or revisions that incorporates measures to protect the quality of state waters in Chesapeake Bay Preservation areas as set forth in Part VI of the regulations (9 VAC 10-20-181 et seq.) and that requires compliance with all criteria set forth in Part IV of the regulation (9 VAC 10-20-110 et seq.)
5. A subdivision ordinance or revision that incorporates measures to protect the quality of state waters in the Chesapeake Bay Preservation Areas, as set forth in Part VI of the regulations (9 VAC 10-20-181 et seq.) and that assures all subdivisions in Chesapeake Bay Preservation Areas comply with the criteria set forth in Part IV of the regulation (9 VAC 10-20-110 et seq.)
6. An erosion and sediment control ordinance or revision that requires compliance with the criteria in Part IV (9 VAC10-20-110 et seq).
7. A plan of development process prior to the issuance of a building permit to assure that use and development of land in Chesapeake Bay Preservation Areas is accomplished in a manner that protects the quality of state waters.

The Town of Smithfield Comprehensive Plan includes a variety of water quality protection measures, topics, and policies, and the town uses a Chesapeake Bay Preservation Overlay District, Article 3.P. of the town zoning ordinance, to define and protect Chesapeake Bay Preservation Areas.

As part of the Chesapeake Bay Preservation Act and Regulations a local government must establish and maintain, as appropriate, an information base from which policy choices are made about future land use and development that will protect the quality of state waters. Local governments are also required in

their comprehensive plans to clearly indicate local policy on land use issues relative to water quality protection based on an analysis of the data acquired as a part of the information base. Within the local policy discussion, the local government must address the relationship between the plan, existing and proposed land use, public services, and capital improvement plans and budgets to ensure a consistent local policy.

The Chesapeake Bay Local Assistance Board designated the Town of Smithfield as Phase I consistent with the Chesapeake Bay Preservation Act on June 19, 2006 and Phase II consistent on September 15, 2003. Although the Town of Smithfield is generally consistent with the provisions of the Chesapeake Bay Preservation Act, a few improvements to the program could be made. Based on a thorough review of the Chesapeake Bay Preservation Act Regulations and the Town of Smithfield's ordinances and its 1999 Comprehensive Plan, the following recommendations are made.

Chesapeake Bay Act Recommendations

1. Make the following changes to the Chesapeake Bay Preservation Overlay district, Article 3.P. of the Town of Smithfield Zoning Ordinance.
 - a. Change the citation reference for the Virginia Stormwater Management Regulations from (4 VAC 3-20-10 et seq.) to (4 VAC 50-60-40 et seq.). The citation changed when the stormwater regulations switched from the Department of Environmental Quality (DEQ) to the Department of Conservation and Recreation (DCR).
 - b. In Article 3.P.d.4.b., which identifies how IDAs (Intensely Developed Areas) are defined, the language should more closely reflect the regulation and read as follows “Public water and sewer systems, or a constructed stormwater drainage system, or both, have been constructed and served the area at the time of the original local program adoption date.” This language will ensure that those areas planned for water and sewer are not classified as IDAs.
2. Make the following programmatic changes to the Town of Smithfield CBPA Program
 - a. Zoning Ordinance, Article 3.P. requires all BMP facilities to have an approved maintenance agreement with the Town of Smithfield. To carry out this requirement, the town should develop a model BMP maintenance agreement and use the BMP maintenance agreement for all new BMP facilities installed.
 - b. The CBPA regulations state, “All sewage disposal site records shall be administered to provide adequate notice and enforcement”. The town may want to consider how it addresses notification and enforcement requirements. The town may want to develop an inventory of houses with on-site disposal systems and/or develop

- an educational piece targeted at homeowners with on-site sewer systems. The town currently prevents new on-site sewer systems from being developed by requiring development to connect to public water and sewer.
- c. The regulations state that “Local governments should notify the board of all development requiring a [water quality impact] assessment”. The town may want to think about how this is implemented. How often is a water quality assessment required, and is the Board notified regularly?
 - d. Include the following plat notation requirements in the town’s zoning ordinance and plat checklist.
 - i. A plat notation of the requirement for pump-out and 100% reserve drainfield sites for onsite sewage treatment systems.
 - ii. A plat notation of the permissibility of only water dependent facilities or redevelopment in the RPA, including the 100 foot wide buffer area.
3. Make the following changes to Article 11.I of the town’s zoning ordinance, which addresses the on-site sewage disposal requirements of the Chesapeake Bay Preservation Act & Regulations.
- a. In Article 11.I.9.a. include the citation for the regulations of the State Department of Health.
 - b. In Article 11.I.9.b. include the citation for the State Health Code.
 - c. In Article 11.I.9.c.9. state that the local government shall annually notify the property owners that the drainfields must be altered.
4. Make the following changes regarding the Development Criteria for Resource Protection Areas (RPAs)
- a. In Article 3.P: G.3.c.2.a.2 the text should more closely mirror regulations to read as follows: “Where practicable, a vegetated area that will maximize water quality protection, mitigate the effects of buffer encroachment into the buffer area, and is equal to the area of encroachment into the buffer area shall be established elsewhere on the lot or parcel; and...”
 - b. In Article 3.P: G.3.c.4. of the town zoning ordinance, which discusses permitted buffer modifications, consider incorporating items 4 and 5 of (9 VAC10-20-130), which deal with agricultural encroachments into the buffer.
5. Make the following changes to the Town of Smithfield Comprehensive Plan
- a. Include a map of existing and potential water pollution sources. There is currently only a table of non-point source pollutants, and a table of potential threats to groundwater.
 - b. Include a map of public and private waterfront access areas within the town.

- c. In the Town of Smithfield Comprehensive Plan consistently discuss the local policies on land use issues relative to water quality protection, clearly outline the policies, and explain how the policy is implemented. Currently, the discussion of importance, policies adopted and explanation of how the policies are implemented are scattered throughout the plan. Specifically, the development of a local policy on the relationship of land use to commercial and recreational fisheries and other aquatic resources needs to be more explicit. Other policy issues to consider include the following.
 - i. Physical constraints to development
 - ii. Protection of potable water supply, including groundwater resources and threats to water supply, and potential pollution sources
 - iii. Siting of docks and piers
 - iv. Public and private access to waterfront areas
 - v. Mitigation of the impacts of land use and its associated pollution upon water quality.
 - vi. Shoreline and streambank erosion problems
 - vii. Water quality improvement through reduction of existing pollution sources and the redevelopment of Intensely Development Areas and other areas targeted for redevelopment.
- d. Within the local policy discussion address the relationship between the plan, existing and proposed land use, public services, and capital improvement plans and budgets to ensure a consistent local policy.

In addition to the above recommendations, the town should also begin to prepare for Phase III of the Chesapeake Bay Preservation Act. Phase III will include the following requirements.

1. Local governments shall evaluate the relationship between the submission requirements, performance standards, and permitted uses in local land development ordinances and regulations to identify any obstacles to achieving the water quality goals of the Act.
2. Local governments shall review and revise their land development ordinances and regulations adopted to assure that their subdivision ordinances, zoning ordinances, and all other components of their local CBPA programs are consistent in promoting and achieving the protection of state waters. In addition, local governments shall identify and resolve any conflicts among the components of the local programs and with other local ordinances, regulations and administrative policies, to assure that the intent of the Chesapeake Bay Preservation Act is fulfilled.
3. Local governments shall review and revise their land development ordinances and regulations to ensure consistency with the water

quality protection goals, objectives, policies and implementation strategies identified in the local comprehensive plan.

B. Erosion and Sediment Control

The Town of Smithfield implements the Erosion and Sediment Control Law and Regulatory Requirements through Article 11.A. of its Zoning Ordinance. Through the CBPA Overlay District, Article 3.P. of the Zoning Ordinance, the town requires land-disturbing activities that exceed an area of 2,500 square feet and are located within the town to comply with the town Erosion and Sediment Control requirements.

The town's ordinance designates the town's Director of Planning, Zoning, and Development as the erosion and sediment control program authority, the plan approving authority, and the enforcement authority. The town's Zoning Ordinance also references the Virginia DCR Erosion and Sediment Control Handbook as guidance for implementing erosion and sediment control measures. Although the ordinance states that the erosion and sediment control program of the Town of Smithfield consists of the state program and regulations for erosion and sediment control, the specific Erosion and Sediment Control requirements are not cited.

The Town of Smithfield cooperates with Isle of Wight County in implementing the Erosion and Sediment Control Act and Regulations. Generally, Isle of Wight County administers the program for the residential sites within the Town of Smithfield, and town staff administers the program for the commercial and industrial sites within the Town of Smithfield. This cooperative process has been implemented through an informal, verbal agreement. The town and county are working toward the development of an agreement that describes the specific responsibilities of each party in implementing erosion and sediment controls within the town.

Although the Town of Smithfield generally meets the provisions of the Erosion and Sediment Control Law and Regulations, a few improvements to the program should be made. Based on a thorough review of the town's policies and ordinances and the State's regulatory requirements, the following recommendations have been prepared.

Erosion & Sediment Control Program Recommendations

1. Since Isle of Wight County and Smithfield share a watershed and cooperate in implementing the Erosion & Sediment Control Regulations, the Town of Smithfield may want to consider modifying its Erosion and Sediment Control Ordinance to refer to or more closely reflect the Isle of Wight Erosion and Sediment Control Ordinance. This would allow for

consistent erosion and sediment control implementation and enforcement within the town and county and in their shared watersheds.

2. Include the definitions of “Land Disturbing Activity” in Article 11.A. of the Erosion and Sediment Control Ordinance. Additional definitions may be needed to clarify requirements and ensure consistency with the E&S Ordinance of Isle of Wight County.
3. Specify the requirements of an Erosion and Sediment Control Plan in the town’s Ordinance, or include a definition of Erosion and Sediment Control Plan.
4. Include the Erosion and Sediment Control regulation citation in Article 11.A. The town may want to consider identifying the E&S requirements that are to be used in the town’s Erosion and Sediment Control Program and incorporating the nineteen minimum E&S standards in its ordinance.
5. Continue work on the development of a formal written Erosion and Sediment Control Agreement with Isle of Wight County to distinguish between the responsibilities of the Town of Smithfield and Isle of Wight County when implementing the Erosion and Sediment Control Law and Regulations. The current Erosion and Sediment Control Ordinance of the Town of Smithfield implies that the town has full authority for the Erosion and Sediment Control Program even though Isle of Wight and the town cooperate in implementing an Erosion and Sediment Control program within the town. The agreement should include the following items.
 - a. A description of the authority and responsibility for Erosion and Sediment Control within the Town of Smithfield.
 - b. A description of which inspections the Town of Smithfield is responsible for and which inspections Isle of Wight County takes care of.
 - c. Clarification of which enforcement actions the town has the authority to take, and which enforcement actions are the responsibility of Isle of Wight County
 - d. An explanation of which land disturbing activities the Town of Smithfield will report to the state, and which land disturbing activities Isle of Wight County will report to the state.
6. Document in the town ordinance, the following Erosion and Sediment Control Procedures.
 - a. Procedures for monitoring and inspection of land disturbing activities. Such procedures should include the requirements in 4 VAC 50-30-60, which require E&S control structures and systems to be maintained, inspected and repaired as needed to ensure continued performance. The program authority is required to provide inspection during or immediately following initial installation

of E&S controls, at least once in every two-week period, within 48 hours following any runoff producing storm event and at the completion of the project prior to the release of any performance bonds. (An alternative program can be established.)

- b. Procedures for taking enforcement actions and a description of the types of enforcement mechanisms used.
7. Ensure that town staff maintains the appropriate Erosion and Sediment Control certifications, as required by the Erosion and Sediment Control Certification Regulations. (Certified Inspector, Certified Plan Reviewer, and Certified Combined Administrator)

C. Stormwater Management

The Town of Smithfield primarily addresses stormwater through its Chesapeake Bay Overlay District, Article 3.P. of the Town of Smithfield Zoning Ordinance. Section G.2.e.1. of Article 3.P. specifically states that, "For any development or redevelopment, stormwater runoff shall be controlled by the use of best management practices consistent with the water quality protection provisions of the Virginia Stormwater Management Regulations." The land disturbing activities in the town are required to adhere to this provision through references made in the Zoning Ordinance. Most of the zoning districts, presented in Articles 3.A. through 3.R of the zoning ordinance, reference and require compliance with the Chesapeake Bay Overlay District, Article 3.P. Thus, the stormwater technical criteria become applicable to every land-disturbing project in the Town of Smithfield with a land disturbance greater than 2,500 square feet.

The Chesapeake Bay Overlay District of the zoning ordinance, Article 3.P., only includes the water quality protection provisions of the Virginia Stormwater Management Regulations. Instead, this section should reference the Stormwater Management Technical Criteria, which includes general stormwater criteria, stream channel erosion, and flooding criteria in addition to water quality protection provisions. Although the Town of Smithfield Zoning Ordinance and Subdivision Ordinance include several of the specific requirements of the Stormwater Management Technical Criteria, not all of the requirements are fully defined in the town code. Several of the following statements, items A through F, are a part of the stormwater management criteria but are not currently found in the town's ordinance. These items should be included for clarification and to assure regulatory compliance.

- A. The determination of flooding and channel erosion impacts to receiving streams due to land-disturbing activities shall be measured at each point of discharge from the land disturbance and such determination shall include any runoff from the balance of the watershed which also contributes to that point of discharge.

- B. For the purposes of computing runoff, all pervious lands in the site shall be assumed prior to development to be in good condition (if the lands are pastures, lawns, or parks), with good cover (if the lands are woods), or with conservation treatment (if the lands are cultivated); regardless of conditions existing at the time of computation.
- C. Outflows from a stormwater management facility or stormwater conveyance system, shall be discharged to an adequate channel.
- D. Individual lots in new subdivisions shall not be considered separate land-disturbing activities, but rather the entire subdivision shall be considered a single land development project.
- E. The construction of stormwater management impoundment structures within the FEMA designated 100-year floodplain will be avoided.
- F. Natural channel characteristics shall be preserved to the maximum extent practicable.

DCR is currently in the process of making regulatory changes to the stormwater management technical criteria. The proposed regulatory changes include strict nitrogen and phosphorus reduction requirements and water quantity criteria requirements. In addition, the use of low impact development measures will be encouraged. DCR is also in the process of making changes to the VSMP General Permit for construction activities. As a result of regulation changes, DCR will be authorizing local governments to administer the VSMP General Permit for Construction Activities. The Town of Smithfield will be required to administer the permit due to its status as a Chesapeake Bay Preservation Act community. To administer the program, the Town of Smithfield will have to develop a Stormwater Management Program approved by the Soil & Water Conservation Board. (See Part III.B. for additional detailed information about the proposed regulatory changes.)

Based on a thorough review of the town's policies and ordinances and the State's regulatory requirements and proposed regulatory changes, the following recommendations have been prepared.

Stormwater Program Recommendations

1. In the Chesapeake Bay Overlay District, Article 3.P: G.2.e.1. of the Town of Smithfield Zoning Ordinance, reword the section to require the use of best management practices consistent with the Stormwater Management Technical Criteria of the Virginia Stormwater Management Regulations and include a citation of the regulations.
2. Once DCR has finalized the proposed changes to Part II of the Stormwater Regulations (4 VAC 50-60-40 et seq), the town will need to incorporate the new stormwater technical criteria into its ordinance and program. Water quantity criteria will be a new component of the Stormwater Management Technical Criteria.

3. Once DCR has finalized the proposed changes to Part III of the Stormwater Regulations (4 VAC 50-60-100 et seq) and has delegated the administration of the VSMP general permit for construction activities to local governments, the Town of Smithfield should implement the following.
 - a. Develop a Stormwater Ordinance that
 - i. Requires all land-disturbing activities issued a VSMP general permit for construction activities (land disturbing activities greater than 2,500 square feet in CBPA areas) to comply with the Stormwater Technical Criteria (Part II of the Stormwater Management Regulations) and identifies other criteria used in the program.
 - ii. Identifies the plan reviewing, plan approving, and inspection and enforcement authorities for stormwater management.
 - iii. Includes the State's procedures for the issuance, denial, revocation, termination, reissuance or modification of coverage under the VSMP general permit for construction activities.
 - b. Develop procedures for the submission and approval of plans, which
 - i. Requires a stormwater management plan for land disturbing activities.
 - ii. Requests proposed right of entry agreements or easements from the owner of the land disturbing activity for purposes of inspection and maintenance.
 - c. Provide for the collection and assessment of fees for the program. Fees collected must be placed in a separate fund and used to finance the permit program. In addition, 30% of the fees gathered from the VSMP general permits for construction activities must be sent to the State.
 - d. Incorporate VSMP general permit land-disturbing inspections into the program.
 - e. Adopt procedures for long-term stormwater management facility inspections. The draft regulation specifically states what items must be included in a BMP maintenance agreement.
 - f. Adopt informal and formal procedures for enforcement as defined in the new regulation.
 - g. Prepare for the state's reporting requirements, to be defined in the regulation.

PART V:

**INSTITUTIONAL PROCESS
FOR STORMWATER MANAGEMENT**

A. Background

In 1992, the Hampton Roads Planning District Commission prepared a stormwater management process document entitled Institutional Process for Stormwater Management in Shared Watersheds, the Pagan River Watershed: A Pilot Study. This document emphasized the need for coordinated management of stormwater between local governments who share watersheds. Multiple review processes and multiple stormwater management requirements complicate development and stormwater management in shared watersheds. Without coordinated management, this situation may result in individual developments being affected by two sets of differing requirements and in facilities that are inadequate to handle stormwater from future development in adjacent jurisdictions. The Institutional Process Pilot Study specifically addressed the Pagan River Watershed and the jurisdictions of Isle of Wight County and the Town of Smithfield.

At the time the original study was completed, Isle of Wight County and the Town of Smithfield had adopted comprehensive packages of development management regulations (Zoning, Subdivision, Erosion and Sediment Control, and Chesapeake Bay Preservation Act (CBPA) Ordinances) and neither community had adopted a stormwater management ordinance. Yet, through their CBPA and Erosion and Sediment Control ordinances, both had adopted the basic elements of a stormwater management program.

Since that time, Isle of Wight County has developed a Phase II MS4 (Municipal Separate Storm Sewer System) Stormwater Program and obtained a Virginia Stormwater Management Program (VSMP) permit from the Virginia Department of Conservation and Recreation (DCR) in 2003 for the County's stormwater discharges.

Although the Town of Smithfield is not currently required to obtain a stormwater permit, the town is going ahead with the development of a stormwater management program modeled after the Phase II program of Isle of Wight County and the other Phase II localities in Hampton Roads. As the town's population continues to grow, it is expected that the town will eventually be designated as a Phase II MS4 and be required to obtain a stormwater permit from DCR. Also, new state regulations will require the Town of Smithfield to have an operational stormwater management program in order to administer the VSMP stormwater permit for construction activities. The town will be required to administer this construction permit due to its status as a Chesapeake Bay Preservation Act locality.

B. Consensus Points

One of the major components of the 1992 study was the creation of several consensus points regarding the development and design of a coordinated stormwater management process. The following points are still applicable today.

1. Common design standards for stormwater management are appropriate.
2. Requirements for operation and maintenance of non-local government stormwater management facilities should be developed to ensure the long-term effectiveness of the facilities and to ensure that they do not become an administrative or financial burden to the locality.
3. The two communities should continue informal discussions concerning broader coordination of development review.
4. HRPDC staff should be available to facilitate joint meetings between staff from the two jurisdictions if desired and requested.

Several of the consensus items have evolved over the past decade into current, routine stormwater program activities and several of the items will be addressed as the Town of Smithfield develops and refines its Stormwater Management Program.

Over the years, both the town and county continue to maintain that common design standards for stormwater management are appropriate. Common design standards are already in place insofar as Erosion and Sediment Control and CBPA Stormwater Performance Criteria are concerned. The town and county are currently working toward the development of common stormwater management requirements and similar stormwater management programs. As additional stormwater management program components are added and developed, common design standards can be included. A key desire in the development of the Stormwater Management Program for the Town of Smithfield has been consistency with the County program. The Smithfield Stormwater Management Program is modeled after the Phase II program, and mimics the stormwater management program of Isle of Wight County. A Stormwater Management Program for the Town of Smithfield that is similar to the Isle of Wight program can go a long way to ensure that developments within the Pagan Watershed adhere to the same criteria.

The long-term operation of non-municipal stormwater management facilities will be ensured through stormwater management facility (BMP) maintenance agreements or declarations of covenants issued by the Town of Smithfield and Isle of Wight County.

With the new stormwater technical criteria being developed as a result of regulatory changes, the town and county, through continued discussions will ensure that common design standards for stormwater management are achieved. Opportunities for coordination between the two communities regularly

occur through participation on the Regional Stormwater Management Committee. Specifically, both communities are participants in the Phase II Subcommittee of the Regional Stormwater Management Program and the stormwater education subcommittee, HR STORM. These formal committees allow for the exchange of information and developing, in cooperation with other local governments in Hampton Roads, regional consensus positions on stormwater management issues as they arise. The HRPDC continues to be available to facilitate joint meetings between staff from the Town of Smithfield and Isle of Wight County if desired and requested.

Coordination and cooperation among the localities in the Pagan watershed continues to be important due to upcoming stormwater and development related events and increased pressures to reduce pollution from stormwater runoff. Some of these items and activities include the following:

- Pagan River TMDL development and anticipated additional local government requirements to prevent further impairment of the water body.
- Upcoming changes to the stormwater technical criteria, which will include strict nutrient and phosphorus reduction requirements and water quantity requirements for land-disturbing projects.
- Upcoming changes to the administration of the VSMP stormwater permit for construction activities, which will require local governments to administer the program.
- Upcoming changes to Phase II stormwater regulations, which will include additional stormwater program requirements.
- Increases of development in the Pagan River Watershed due to improvements in centralized wastewater facility availability (which makes the land more developable), transportation improvements, and other natural and community features that make the Town of Smithfield an attractive place to work and live.

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