2014

PHASE III

MIDDLE PENINSULA PLANNING DISTRICT COMMISSION

LAND AND WATER QUALITY PROTECTION IN MIDDLE PENINSULA

Virginia Coastal Zone MANAGEMENT PROGRAM

MIDDLE PENINSULA PLANNING DISTRICT COMMISSION

NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION U.S. DEPARTMENT OF COMMERCE

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I. Executive Summary

Based on changing Federal and State regulations associated with Chesapeake Bay nutrient goals (i.e. Total Maximum Daily Loads (TMDL), onsite sewage disposal system (OSDS)/ alternative onsite sewage system (AOSS) management, stormwater management, and groundwater management), the Middle Peninsula Planning District Commission (MPPDC) staff continued to develop a rural pilot project that aimed to identify pressing coastal issues of concern relating to new federal and state regulations that ultimately necessitate local action and policy development in response.

MPPDC has operated an Onsite Repair Program since 1997 to identify, target and repair known failing septic systems impacting the surface and groundwater of the Rappahannock, York and Coastal Watersheds in support of the Chesapeake Bay TMDL WIP. The program has repaired/replaced over 100 failed septic systems valued at over $800,000. Program partners include local health departments and local officials who identity failing septic systems and direct homeowners to MPPDC for financial assistance. Past experience has shown that the ability to blend loans and grants results in a significantly greater number o f completed septic repairs especially as costs for approved septic systems continue to rise precipitously as state and federal regulations change. The program has relied on funds from Virginia's Water Quality Improvement Funds through the Departments of Conservation and Recreation (DCR) and Environmental Quality (DEQ) to provide the grants to low income homeowners in the past. Currently these funds are only available for Stormwater Management programs. For MPPDC's and other similar programs to continue, additional sources of funding need to be identified or created.

During Phase II of the Land and Water Quality Project (Grant # NA12NOS4190168 Task 94.02) funds were used to hire a legal consultant to conduct a legal analysis of seven ditches parallel and perpendicular to VDOT right-of-ways (ROW) to help clarify the party responsible for maintaining roadside ditches, the findings were contrary to some of the original beliefs. It was found that in the majority of cases, that outfall ditches that run perpendicular to VDOT roads

are the responsibility of private property owners). Ultimately however the report found that the duty to keep ditches clear and maintained is determined by ditch-specific circumstances.

During Phase III MPPDC contracted with the Virginia Coastal Policy Clinic to help identify legal and financial aspects of sustaining permanent funding sources to address septic repairs and rural stormwater ditch maintenance and to identify authority of local governments to enter private property to maintain existing ditches. MPPDC also explored new partnerships and submitted proposals to new sources to fund its Onsite Repair Program.

II. Introduction

To build on MPPDC staff efforts from Phase I and II of the Land and Water Quality Project (Grant #NA11NOS4190122 Task 94.02 and Grant# NA12NOS4190168 Task 94.02), additional progress has been made during Phase III of this project to research, inform and develop enforceable policy in response to changing Federal and State regulations associated with Chesapeake Bay nutrient goals. MPPDC staff, in partnership with Middle Peninsula localities, worked to comprehensively address local implications of these regulations, identifies funding sources and models, and explore new partnerships.

III. Product #1: Master Project Report

MPPDC consolidated the work from products 2 & 3 into this final report.

IV. Product #2: Sustainable Septic Repair Funding Model

MPPDC staff contracted with the Virginia Coastal Policy Clinic (VCPC) to explore options for sustainably capitalizing a revolving loan/grant program dedicated to septic repairs within the Middle Peninsula (Appendix A). VCPC's report identified legal and financial aspects of sustaining permanent funding sources to address septic repairs. The report included a review and assessment of national level examples of septic repair programs (sources of funding, legal issues, programmatic issues, administration, and other lessons learned).

MPPDC staff reviewed funding sources identified in the Virginia Coastal Policy Clinic report to ascertain their applicability to the MPPDC Onsite Repair Program.

MPPC staff met with Virginia Department of Environmental Quality staff to discuss potential state funding opportunities to fund the program. Funding for recapitalization of the Revolving Loan Fund was applied for and MPPDC received notice on October 3, 2014that the funding was recommended to the State Water Control Board for approval. Loan funds are anticipated to be available in 2015 following the public comment period that ends on November 12, 2014.

MPPDC also met with representatives of a local bank to discuss a line of credit to provide loans to a specific class of low income "homeowners", those living in "heir situations". MPPDC with funding from NA09NOS4190163 Task 95.01 researched Heir Properties and Failing Septic Systems. Heirs' property is a little-known form of property ownership that arises when land is passed down through the generations without written wills. Heirs' property is a more common form of ownership in low-income families due to lack of knowledge regarding the importance of wills and lack of access to affordable legal assistance. Depending on the size of the family, there may be dozens or even hundreds of individuals with a legal interest in the property. Because of the lack of documentation regarding property transfers, it is difficult for individuals living on heirs' property to prove they are the rightful owner and hence are often unable to secure financing for repairs.

MPPDC worked with Virginia State Delegate Keith Hodges to introduce legislation in the 2013 Virginia General Assembly which was subsequently passed. § 15.2-958.6 allows localities the option to adopt an ordinance that serves as new enforceable policy that allows repayment of unsecured loans for septic repairs through the local real estate tax bill for heir properties. MPPDC continues to work with Middle Peninsula localities to adopt such an ordinance. To this end, MPPDC has been discussing partnership(s) with local bank(s) to provide funding in the spirit of the Community Reinvestment Act to provide loan funds for these projects. Nevertheless grant funding would still be needed to make the cost of the septic repairs affordable for the homeowners.

Several other funding opportunities have been reviewed and proposals submitted although none have yet have been identified that would provide a sustainable source of grant funds to homeowners in the entire region.

V. Product #3: Sustainable Ditching Maintenance Model

Throughout the Middle Peninsula, the network of aging roadside ditches and outfalls, serving 670 miles of roads, creates the region's primary stormwater conveyance system and is in a current state of disrepair. Each locality in the region experiences inadequate conveyance of stormwater through these roadside and outfall ditches due to decades of debris and sediment build-up, illicit filling of the ditches on private property, and/or failing ditches as well as affects of sea-level rise and geologic subsidence. This inadequate conveyance system results in standing water for several days following storm events creating significant economic impacts (ie. the delay of commodity transport); damage to private and public infrastructure; risk to human life (ie. impedes fire and rescue vehicles), hampers the ability of school buses to reach children; poses risk to health; flooding of agricultural and forest lands; and creates environmental concerns for citizens and local decision makers.

Thus, in an effort to understand how local governments and citizens may improve ditches and outfalls, MPPDC staff contracted with the Virginia Coastal Policy Clinic (VCPC) to research the responsibility for the maintenance of ditches and identify federal and state funding programs that could to assist local governments and citizens, the different types of assistance available and how to gain access to such assistance, and the authority local government has to enter private property to clean ditches in the name of public improvements and/or how such authority could be enabled. Within VCPC's report multiple federal and state grant programs were identified as potential funding sources for local governments to repair and improve ditch drainage.

The report also reviews two funding options for private drainage maintenance. The first option entails a localities use of general tax revenue to support private ditching and roadside ditches. The second option entails a utility model which could sustain financing for long-term repair and maintenance. Finally the VCPC's report includes case studies of Alaska, Ohio,

Wisconsin, Mesa County, Colorado, and Virginia that have drainage statutes, drainage districts or management programs in place. More details please see Appendix A for the full report.

VI. Conclusion

As Federal and State water quality regulations tighten, there is a continuing need for local governments to stay informed and adaptable to these changes. With Phase III funds, MPPDC staff was able to continue building local knowledge of land and water quality concerns impacting Middle Peninsula communities, and continue to develop and implement policy tools to address local needs especially for sustainable funding to address failing septic systems and dysfunctional roadside and outfall ditches. MPPDC continues to search for reliable and sustainable funding mechanisms for its successful septic repair program. Based on Land and Water Quality projects – Phase 1, 2, & 3 – MPPDC has positioned itself to receive additional funding through the Virginia Coastal Zone Management Program (Section 309) to explore the enabling mechanism in which a Drainage and Roadside Ditching Authority may be developed. Such an Authority would be responsible for prioritizing ditch improvement needs, and partnering with and leveraging Virginia Department of Transportation (VDOT) funding. This consortium of project have and will empower Middle Peninsula local governments and citizens with knowledge, understanding, and hopefully a path for funding that will ultimately improve the functionality of the region's roadside and outfall ditches.

APPENDIX A:

Septic System Repair and Ditch Maintenance Report

Virginia Coastal Policy Clinic

SEPTIC SYSTEM REPAIR AND DITCH MAINTENANCE: SUSTAINING PERMANENT FUNDING

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This paper assists the Middle Peninsula Planning District Commission (MPPDC) to identify the legal and financial aspects of sustaining permanent funding sources to address septic repairs and rural stormwater ditch maintenance. This paper is organized as follows:

I. Septic Systems
- A. Background
- B. MPPDC's Septic Repair Program
- C. Case Studies: Sustaining Funding for Septic Maintenance
- D. Legal Aspects: Sustaining Permanent Septic Funding
- E. Funding Sources for Septic Repair
- F. National Examples of Septic Repair Programs

II. Rural Ditch Maintenance Programs
- A. Background
- B. Potential Funding Sources for Ditch Maintenance
- C. Ditch Maintenance: Potential CRS Credits

The MPPDC recognized the role septic systems play in contributing to water quality and identified the immense need to aid low-income homeowners with failing and aged septic systems. The PDC created a program, described more fully below, that provides financial assistance to homeowners of limited means whose homes operate under strained or aged septic systems. This paper primarily aims to provide alternative funding sources to help the MPPDC supplement its existing program and sustain its future. It also strives to identify funding sources for rural ditch maintenance. Our goal is that the information provided not only benefits the MPPDC but also aids interested Planning District Commissions, individuals, or localities.

I. Septic Systems

BACKGROUND

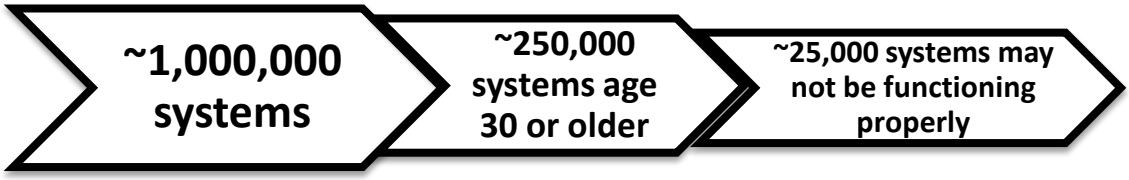
Decentralized wastewater treatment systems are commonly known as "septic systems." They are affordable solutions for wastewater treatment in areas where it is costly or inefficient for localities to install and maintain a sewer system.[2] Aging decentralized systems present a danger to a community when systems are not properly serviced, replaced, updated, or repaired. Inadequate systems may allow untreated sewage to flow into the soil and water supply, creating health issues for

[1] VCPC staff would also like to thank W&M Law student Jason Kane, J.D. expected 2015, for his research work on this issue.
[2] Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems, United States Environmental Protection Agency, No. 832-B-05-001, December 2005, *available at* http://water.epa.gov/infrastructure/septic/upload/onsite_handbook.pdf.

citizens and polluting water resources.[3] Given the high risk of soil and water contamination, and the fact that individuals own and maintain the systems instead of the locality, communities must deal with planning and financing issues to prevent potentially harmful problems.

The Virginia Department of Health (VDH) estimates there are about one million onsite sewage systems in Virginia serving 25 to 35% of Virginia's population.[4] VDH also estimates that a quarter of these systems (250,000) are more than 30 years old, with approximately 2,500 systems not functioning properly.

Virginia Onsite Sewage Systems (2011)[5]



Virginia's close proximity to the Chesapeake Bay offers a complicating factor to managing decentralized wastewater systems. VDH estimates about half of all of the Commonwealth's septic systems (535,000) sit within the Chesapeake Bay Watershed. Virginia is committed to participate in a nationally enforced Chesapeake Bay cleanup plan—the Chesapeake Bay Total Maximum Daily Load ("Bay TMDL").[6] The Bay TMDL outlines a "pollution diet," allocating a maximum amount of pollutants and sediments that may be deposited into the Chesapeake Bay for each state. Virginia's blueprint to complying with the Bay TMDL—the Virginia Watershed Implementation Plan—includes a section entirely dedicated to ensuring the safe and proper use of decentralized wastewater systems.[7] If the Commonwealth does not take sufficient measures to meet the national standards set by the Environmental Protection Agency, costly backstop measures, such as increased federal enforcement and loss of federal funding, may result.[8] As arms of the state and implementers of wastewater treatment programs, Virginia's localities share in this responsibility.

[3] Zipper, Reneau, and Jantrania, *On-Site Sewage Treatment Alternatives,* Virginia Cooperative Extension, Publication 448-407, 2009, at 2-3, *available at* http://pubs.ext.vt.edu/448/448-407/448-407_pdf.pdf.
[4] Private Sector Service Delivery for the Onsite Sewage and Water Supply Program, Virginia Department of Health, 2011, at 5, *available at* http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/newsofinterest/documents/2012/pdf/RD32.pdf.
[5] Private Sector Service Delivery for the Onsite Sewage and Water Supply Program, Virginia Department of Health, 2011, at 5, *available at* http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/newsofinterest/documents/2012/pdf/RD32.pdf. (As of 2011, it was estimated that there were about one million onsite sewage systems in Virginia. Twenty-five percent (or, about 250,000) of these systems are estimated to be more than 30 years old. More than 10% (or over 25,000 of these systems) may not be functioning properly.)
[6] Chesapeake Bay TMDL, Virginia Department of Environmental Quality, http://www.deq.state.va.us/Programs/Water/ChesapeakeBay/ChesapeakeBayTMDL.aspx.
[7] Commonwealth of Virginia Chesapeake Bay TMDL Phase I Watershed Implementation Plan (Nov. 29, 2010), at 97-107, *available at* http://www.deq.state.va.us/Portals/0/DEQ/Water/TMDL/Baywip/vatmdlwipphase1.pdf.
[8] Chesapeake Bay TMDL Executive Summary (Dec. 29, 2010), at ES-8, *available at* http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/FinalBayTMDL/BayTMDLExecutiveSummaryFINAL122910_final.pdf.

MPPDC'S SEPTIC REPAIR PROGRAM

Planning District Commissions are political subdivisions "of the Commonwealth chartered under the Regional Cooperation Act by the local governments of each planning district, and as such, they are a creation of local government encouraged by the state."[9] The MPPDC consists of six counties - Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex - and three towns - Tappahannock, Urbanna, and West Point, all of which are located on the Middle Peninsula of Virginia. Commissioners consist of two elected individuals and one citizen from each county or one elected individual from each town. [10] In addition to these locality representatives, the Commission includes, on a rotating basis, three county administrators and one town manager. The Commission then selects the Executive Director and Secretary, who manage the Commission's staff and daily operations.[11]

One of the programs administered by the MPPDC is its onsite sewage treatment system repair program. The 'MPPDC Revolving Loan and Grant Program' aids homeowners by both providing "financial assistance to individuals with malfunctioning, failing, and absent on-site wastewater treatment systems,"[12] and helping the Commonwealth comply with Virginia and Bay TMDL standards and goals. The MPPDC works closely with localities, local health departments, the Virginia Department of Environmental Quality, the Virginia Department of Health, and private sector representatives to help homeowners meet pump out requirements and repair failing or malfunctioning septic systems.[13]

CASE STUDIES: SUSTAINING SEPTIC MAINTENANCE

An important issue for the MPPDC – and many PDCs and localities – is to identify the legal and financial aspects of sustaining permanent funding sources to address septic repairs. This section provides several case studies of approaches used by other jurisdictions to ensure long-term maintenance of septic systems. A primary way to ensure ongoing and proper maintenance and establish a system for septic repair and replacement is to establish a **public or private utility program.** Public utility programs, often created by a special district, rely on user fees for funding and employing public works staff to manage and maintain the septic systems in the district. A private approach is less common, but some jurisdictions, usually by ordinance, require new developments to conduct septic maintenance. Yet another approach is a public-private partnership ("PPP"). Under a PPP model, a public entity could develop the program and assess user fees, using the funds to contract with private third-parties to conduct septic maintenance.[14]

A utility approach, whether public, private, or a PPP, essentially falls under two EPA wastewater management model categories: 1) "Responsible Management Entity Operation &

[9] Va. Code § 15.2-4200; http://www.mppdc.com/index.php/pdcinfo/mppdc.
[10] Middle Peninsula Planning District Commission, http://www.mppdc.com/index.php/pdcinfo/commissioners
[11] Middle Peninsula Planning District Commission, http://www.mppdc.com/index.php/pdcinfo/staff-contacts; http://www.mppdc.com/index.php/pdcinfo/mppdc.
[12] Middle Peninsula Planning District Commission, http://www.mppdc.com/index.php/service-centers/wastewater/septic-repair.
[13] Applications for this program are available here: http://www.mppdc.com/articles/service_centers/OSDS/Application_Package_2012.pdf.
[14] Decentralized Wastewater Management: A Guidebook for Georgia Communities, River Basin Center, April 2013, at 30, *available at,* http://www.rivercenter.uga.edu/research/onsite/pdf/dwm_guidebook2013.pdf.

Maintenance,"[15] and 2) "Responsible Management Entity Ownership."[16] Both models envision the creation of a "responsible management entity" to take responsibility for the operation and maintenance, in exchange for a user fee. The management entity either conducts operation and maintenance of the systems itself or designates a third party, or multiple parties, responsible. The primary difference between the two relate to ownership, as the following chart describes:

Responsible Management Entity Operation & Maintenance	Responsible Management Entity Ownership
• Professional operations and maintenance service, assured by management entity • Oversight provided through operating permits	• Management entity has both ownership and management of systems • Focus on risk evaluation and prioritization in planning and design of systems • Complete oversight of rate and financial structures

The benefits of both of these models include relieving the homeowner from responsibility of maintenance and placing this burden on a third party. The management entity also has flexibility to contract with third-party professionals to conduct the necessary work. Funding occurs in the same manner as other sewage system or stormwater management funding: user fees. Under a fee-for-service model, homeowners using septic systems pay for the services provided by the management entity. EPA estimates that the programs would require only oversight of a few managers, especially since a third-party is likely to conduct most of maintenance and oversight work.[17]

A possible limitation of the models are that they provide users with only one option and put the community in risk of a speculative monopoly, always an issue with the utility approach. Legal and administrative challenges, as outlined below, would also need to be addressed.[18]

Challenges	
Responsible Management Entity Operation & Maintenance	**Responsible Management Entity Ownership**
• Management entity must have owner approval for repairs • An easement for access is likely required • Oversight, possibly regulatory, is likely needed over the entity	• Probably requires greater financial investment for installation of new systems and/or purchase of old systems • Oversight, possibly regulatory, is likely needed over the entity

Case Study: Otter Tail Water Management District, Minnesota

[15] Case Studies of Individual and Clustered (Decentralized) Wastewater Management Programs, United States Environmental Protection Agency, Office of Wastewater Management, June 2012, at 7, *available at,* http://water.epa.gov/infrastructure/septic/upload/Decentralized-Case-Studies-2012.pdf.
[16] *Id.*
[17] *Id.*
[18] *Id.* at 16.

The Otter Tail Water Management District in Otter Tail County, Minnesota, is an example of a public utility that combines both the abovementioned EPA model approaches.[19] Otter Tail Lake is a popular fishing and recreational lake that lies in the heart of Otter Tail County in Minnesota. Residential and commercial development surrounds the majority of the lake. In 1984, the Otter Tail Water Management District (OTWMD) was formed under the authority of the Minnesota statute, which authorizes the establishment of subordinate sanitary sewer districts in qualifying counties.[20] The OTWMD assumed responsibility for maintaining 1,640 individual wastewater systems and 13 clustered systems at the time.[21]

The district has jurisdiction over the maintenance and operation of all onsite septic tanks and community drainfields. The inspection program inspects about 500 systems per year, allowing the district to inspect a system about every three years. The district hires an external firm for maintenance and repairs. User fees fund the program, with rates that increase as a function of the cost of repairs and materials. The district has one full time employee and two part time employees.

Participation in the program is mandatory, but homeowners are given two options for how they participate based on whether they own primary or secondary, seasonal homes.[22] The OTWMD owns and maintains the septic systems for primary homeowners, who pay fees for inspections, maintenance, and repairs, similar to the "Responsible Management Entity Ownership" model.[23] In the "passive" program designed for secondary, seasonal homes, the owner maintains ownership of the septic system, must maintain the system according to OTWMD requirements, and pay an annual fee.[24] This aspect of the program is similar to EPA's "Responsible Management Entity Operation & Maintenance" model.

Potential Application in Virginia

Virginia localities are permitted to create service districts for the purpose of providing sanitary service.[25] Service districts, the Code explains, "may be created to provide additional more complete, or more timely services of government than are desired in the locality or the localities as a whole."[26] Virginia localities are permitted to impose fees or taxes on property owners to fund such district programs.[27] The Code outlines notice requirements and other administrative processes required by localities in the creation and operation of such districts.

[19] *Id.* at 26.
[20] Minn. Stat. Ann. § 375B.03. (This statute authorizes the creation of subordinate service districts, within certain constraints. In the establishment of a sanitary sewer services, only non-metropolitan counties with 'independent statutory authority to provide sanitary sewer service within the county' are permitted to service such subordinate districts. (Minn. Op. Att'y Gen. 125A (1984)). The authority to create the district must already be granted by statute. In the example of the Attorney General Opinion cited above, the County in question derived its authority through Minn. Stat. Ann. § 116A and Minn. Stat. Ann. §444.075. (Minn. Op. Att'y Gen. 125A (1984).)
[21] Case Studies of Individual and Clustered (Decentralized) Wastewater Management Programs, United States Environmental Protection Agency, Office of Wastewater Management, June 2012, at 26, *available at,* http://water.epa.gov/infrastructure/septic/upload/Decentralized-Case-Studies-2012.pdf.
[22] Decentralized Wastewater Management: A Guidebook for Georgia Communities, River Basin Center, April 2013, at liix, *available at,* http://www.rivercenter.uga.edu/research/onsite/pdf/dwm_guidebook2013.pdf.
[23] *Id.*
[24] *Id.*
[25] Va. Code Ann. §15.2-2400.
[26] *Id.*
[27] According to the Virginia Code, "[a] locality may impose taxes or assessments upon the owners of abutting property for constructing, improving, replacing or enlarging the sidewalks upon existing streets, for improving and paving existing

The statutory authority to create service districts was exercised by Northampton County, in September 2013, through its attempt to pass an ordinance creating the "Southern Node Commercial Wastewater Tax District."[28] The ordinance reviewed for adoption, pursuant to Virginia Code §15.2-2400, would effectively create a tax district that enabled the Northampton County Board of Supervisors to collect taxes from commercial properties located within the district, for the purpose of financing capital expenditures associated with pump stations, pipe collection and distribution, and 'other items necessary and convenient for the collection and distribution of waste water."[29] After a public notice and comment period closed, the Board of Supervisors motioned that the action be tabled until further project development was conducted; the motion passed unanimously.[30] Although this district was not created, the authority exercised to support its creation could be used by other localities to create a district in which funds for septic repair could be created.

Interview Insights

As part of this project, VCPC law student Jason Kane interviewed Roland Mann, OTWMD Executive Director. Some insights from the interview are distilled below:

Management Goal: The original goal of the district was to improve the water quality of the lakes within the district to ensure the health and safety of its users. The program had success in improving water quality of the lakes, and now strives to maintain their adequate and safe standard.

Problems Encountered: Inadequate or misinformation about preexisting onsite wastewater systems at the beginning of the program from unconcerned homeowners and past insufficient recordkeeping. This increased costs of collecting and revising the incorrect information.

Outreach to Users: The district strives to send a manual created by the University of Minnesota[31] to educate new residents and seasonal vacationers on adequate maintenance of their septic system. The district also utilizes the local newspaper to promote information and useful tips.

Advice: Ensure that users understand the importance of collecting accurate information to create a database of systems within the management district. Additionally, the management entity should continue to keep the public and relevant stakeholders educated as property ownership changes.

alleys, and for the construction or the use of sanitary or storm water management facilities, retaining walls, curbs and gutters. Such taxes or assessments may include the legal, financial or other directly attributable costs incurred by the locality in creating a district, if a district is created, and financing the payment of the improvements." Va. Code Ann. §15.2-2404.

[28] Public Hearing, Board of Supervisors of the County of Northampton, Virginia, September 23, 2013, at 2, *available at*, http://www.co.northampton.va.us/gov/minutes/09_23_13.pdf.

[29] *Id.* at 3.

[30] *Id.* at 29.

[31] Manual for Septic System Professionals in Minnesota, University of Minnesota, *available here*, http://www.septic.umn.edu/prod/groups/cfans/@pub/@cfans/@ostp/documents/asset/cfans_asset_180964.pdf.

Case Study: Blacksburg, Virginia

Blacksburg, Virginia, provides a prime example of a designated management entity that "owns, operates, and manages the decentralized wastewater treatment systems in a manner analogous to central sewerage."[32] Blacksburg, a growing community, had to make a choice when meeting development needs: either extend the existing sewer system or allow decentralized septic systems.[33] Specifically, a neighborhood in Blacksburg, the Village of Toms Creek, contained about 200 homes and was in need of a wastewater management program. Citizens of Blacksburg opposed the costly expansion of the sewer system.[34]

Ultimately, in an effort to carefully consider "cost, construction-related traffic disruptions, floodplain and creek impacts due to centralized sewer main construction, collection system infiltration/inflow and leakage, treatment effectiveness, and other factors," Blacksburg created a workgroup to evaluate existing wastewater infrastructure and "seek alternative approaches to providing wastewater service in the most cost-effective and environmentally progressive manner."[35] From the findings of this workgroup, Blacksburg decided to develop a pilot project in Toms Creek to assess viability of a **decentralized, clustered system managed by a responsible entity**.[36]

> A cluster system is "a wastewater collection and treatment system under some form of common ownership which collects wastewater from two or more dwellings and conveys it to a treatment and disposal system located on a suitable site near the dwellings or buildings." – *Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems*, EPA

The workgroup concluded that "management was the key to the success" of alternative wastewater options to a centralized sewer system.[37] Blacksburg therefore selected a Responsible Management Entity Ownership Model to pilot in Toms Creek, choosing its Public Works Department to serve as the neighborhood's wastewater utility.[38] The Public Works Department

[32] Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems, United States Environmental Protection Agency, Office of Water, EPA 832-B-03-001, March 2003, at 20, *available at*, http://water.epa.gov/scitech/wastetech/upload/septic_guidelines.pdf.
[33] Case Studies of Individual and Clustered (Decentralized) Wastewater Management Programs, United States Environmental Protection Agency, Office of Wastewater Management, June 2012, at 30, *available at,* http://water.epa.gov/infrastructure/septic/upload/Decentralized-Case-Studies-2012.pdf.
[34] Indeed, as a series of news articles from the late 1990s and early 2000s indicate, the issue was a controversial one. *See e.g.* Elizabeth Obenshain, *Blacksburg's Last Rural Area Confronting Development,* ROANOKE TIMES, NEW RIVER JOURNAL (April 18, 1999)(reporting that Blacksburg "is considering spending $25 million to extend sewerlines through the Toms Creek Basin, the town's last predominantly rural expanse," and that "[i[t is both predictable and understandable that many residents are passionately opposed" to the projeet, as homeowners worry about costs and "about the environmental damage that bulldozers and backhoes will inflict installing sewer lines that will cross Toms Creek and its tributaries as much as 80 times.").
[35] Town of Blacksburg, Virginia, *Utility Services: Providing Safe, Reliable Services to Your Front Door* 4 (2009), *available at* http://blacksburg.va.us/Modules/ShowDocument.aspx?documentid=1129. *See also* a 2001 webpage describing the consensus report, www.tcbsewer.org/MAIN/STEP.htm.
[36] *Id.*
[37] Case Studies of Individual and Clustered (Decentralized) Wastewater Management Programs, United States Environmental Protection Agency, Office of Wastewater Management, June 2012, at 30, *available at,* http://water.epa.gov/infrastructure/septic/upload/Decentralized-Case-Studies-2012.pdf.
[38] *Id.*

selected a "hybrid collection system including a Septic Tank Effluent Pump (STEP) pressure system combined with a Septic Tank Effluent Gravity (STEG) system."[39] The town owns the system, which also consists of tanks on each property. In addition, the town acquired access easements on each property to operate and maintain each system. The developer of the neighborhood paid the price of the septic system and its installation. Long-term operation and maintenance of the system is financed by fees from septic users.[40] Blacksburg's ordinance regarding sanitary sewer requirements is attached in Appendix A. The program's primary elements are listed below.

Blacksburg: Responsible Management Entity Ownership Model
• Blacksburg Public Works Department owns and manages the clustered STEP/STEG system • Operating permit requirements for homeowners – each house must have an individual septic tank and must conduct maintenance • Trained Public Works personnel inspect each tank every two years • Blacksburg Public Works Department has enforcement authority when inspections reveal problems • Blacksburg Public Works pumps the 200 individual septic tanks as needed • Operation and maintenance is financed through user fees

Interview Insights

As part of this project, VCPC law student Jason Kane interviewed Kelly Maddingly, Director of Public Works for the City of Blacksburg.

Public Driven Project: Concerned citizens drove the creation of the program. During the initial planning stages of potential sewer lines, citizens initiated discussion of their concerns during a public comment period.

Preliminary Planning Was Critical Factor: Non-conventional septic systems require research and knowledge up front to correctly design and install the system. Without extensive and proper research, a non-conventional septic system, such as the one installed in Tom's Creek, "could have failed miserably."

Problems Encountered: Acquiring easements to homeowners' properties created a legal hurdle. Easements were permitted by Town Council resolution. Politics from opponents and proponents created some problems and prompted political land use decisions.

Non-Conventional Septic System Management Advice: Localities interested in this approach should have a strong awareness of how much of a departure non-conventional septic systems and the "Responsible Management Entity Ownership" model are from the norm. As a result, you must ensure that all possible parties are educated about non-conventional septic systems and assured that the city will operate and maintain the system

[39] *Id.*
[40] Kane interview with Kelly Maddingly, Blacksburg Director of Public Works.

like a utility. Open communication among all stakeholders - engineers, public works employees, public officers, citizens, and developers - is critical.

LEGAL ASPECTS: SUSTAINING PERMANENT SEPTIC FUNDING

The purpose of this section is to begin identifying some legal issues that may arise should a Virginia locality consider different alternatives to establishing permanent sources of funding for maintaining septic systems. The section provides a brief overview of Virginia law applicable to both conventional septic systems and alternative onsite sewage systems.

Background: Virginia Law Regulating Septics

In Virginia, localities have broad power to establish and maintain a sewage disposal system to protect public health and abate pollution.[41] This power includes the ability to set rates and fees, conduct inspections, and take enforcement action.[42] When a locality adopts a master plan for sewage, a city or town also has the general authority to deny applications for onsite sewage systems.[43]

When a centralized sewer system is not available, a locality also has authority to require the installation, maintenance, operation, regulation, and inspection of onsite sewage systems to protect the public health, pursuant to Va. Code §15.2-2157 et seq.[44] A recent Virginia Attorney General Opinion concluded that the authority granted to localities to "regulate and inspect onsite sewage systems" includes both conventional septic systems and alternative onsite systems.[45] This is a critical point because Virginia amended Title 15.2 of the Virginia Code allowing for "alternative onsite sewage systems" fairly recently, in 2009. Specifically, the amendments provided that alternative onsite sewage systems are allowed, if they are "approved by the Virginia Department of Health (VDH) for use in the particular circumstances and conditions in which the proposed system is to be operating."[46] Moreover, the amendments prohibited localities from exceeding VDH standards governing alternative onsite sewage systems.[47]

Alternative Onsite Sewage Systems Have Raised New Legal Questions

[41] Va. Code Ann. § 15.2-2122 et seq.
[42] *Id.*
[43] Va. Code § 15.2-2128 ("Notwithstanding any other provision of general law relating to the approval of sewage systems, the governing body of any county or town which has adopted a master plan for a sewage system is authorized to deny an application for a sewage system if such denial appears to it to be in the best interest of the inhabitants of the county or town.").
[44] Va. Code Ann. § 15.2157(A)("Any locality may require the installation, maintenance and operation of, regulate and inspect onsite sewage systems or other means of disposing of sewage when sewers or sewerage disposal facilities are not available; without liability to the owner thereof, may prevent the maintenance and operation of onsite sewage systems or such other means of disposing of sewage when they contribute or are likely to contribute to the pollution of public or private water supplies or the contraction or spread of infectious, contagious and dangerous diseases; and may regulate and inspect the disposal of human excreta.").
[45] Va. Op. Att'y Gen. No. 11-100 (2012).
[46] Va. Code Ann. § 15.2157(C). The regulations governing alternative onsite sewage systems are found at 12 VAC 5-613.
[47] Va. Code Ann. § 15.2-2157(D).

As described above, Virginia law distinguishes between "conventional" - what is typically considered traditional septic tanks - and "alternative" onsite sewage systems.[48] If a locality is interested in developing a septic-utility program involving a Responsible Management Entity, this distinction in the law may impact how the program can operate, particularly if the locality is interested in adopting an alternative onsite sewage system. Several recent Attorney General Opinions have addressed a series of questions related to alternative onsite sewage systems that may illuminate how a locality can or cannot develop its program. **Given that sustaining funding is a focus of this paper, the Attorney General's conclusion that a county ordinance requiring a bond, letter of credit, or cash escrow paid by the owner prior to the issuance of an operation permit for an alternative onsite sewage system, to provide for the maintenance, repair or replacement of the system, is in fact permissible under Virginia law may be particularly useful.** The questions presented and conclusions are outlined in the chart below.

Citation	Question Presented	Attorney General Conclusion
2010 Op. Va. Att'y Gen. 53.	Whether § 15.2-2157(C) prevents a Virginia locality from requiring a developer to obtain a special exception to the local zoning ordinance to construct a privately-owned alternative onsite sewage system under the circumstances contemplated by that subsection?	"A Virginia locality cannot require an owner to obtain a special exception to a local zoning ordinance in order to install an alternative onsite sewage system if the conditions set forth in § 15.2-2157(C) exist, namely that (i) there is no sewer or sewerage disposal facility available and (ii) the alternative onsite sewage system has been approved by the Virginia Department of Health for use in the particular circumstances and conditions in which the proposed system is to be operating." According to the Attorney General, this would "effectively give the local governing body the option to prohibit the system, a result not permitted by that subsection." Moreover, if the exception placed requirements more restrictive than VDH, that would be a violation of the Dillon Rule.
2012 Op. Va. Att'y Gen. 11-100.	Whether, pursuant to § 15.2-2157, a locality may adopt requirements and standards, other than maintenance requirements for alternative onsite sewage systems, that are	"[A] Virginia locality can adopt standards and requirements for alternative onsite sewage systems that are in addition to or more stringent than those promulgated in regulations by the Board of Health, provided such standards or regulations do not relate

[48] Va. Code Ann. § 32.1-163 defines a conventional onsite sewage system as "a treatment works consisting of one or more septic tanks with gravity, pumped, or siphoned conveyance to a gravity distributed subsurface drainfield." The provision defines an alternative onsite sewage system as, "a treatment works that is not a conventional onsite sewage system and does not result in a point source discharge."

	in addition to or more stringent than those set forth by the Board of Health in the Sewage Handling and Disposal Regulations and the Emergency Regulations for Alternative Onsite Sewage Systems?	to maintenance issues." The opinion notes that the request specifically referred to a county ordinance that requires a bond, letter of credit or cash escrow to be paid by the owner prior to the issuance of an operation permit for an alternative onsite sewage system, to provide for the maintenance, repair or replacement of the system. According to the Attorney General, the "Department of Health's regulations applicable to maintenance of onsite sewage systems do not include a provision for a requirement of posting such a bond." The Attorney General also observed that an ordinance requiring horizontal and vertical setback requirements, as well as reserve area requirements that are in excess of those found in the Board of Health's regulations, are permissible.
2012 Op. Va. Att'y Gen. 12-045.	Whether a Virginia locality may adopt and apply any ordinance, standard or other requirement to an alternative onsite sewage system that is more stringent than, in addition to, or otherwise exceeds VDH regulations, standards and requirements, where the failure to satisfy the local ordinance, standard or requirement could result in the denial of the right to install such a system?	"[L]ocalities are authorized to regulate, inspect and deny applications for alternative systems pursuant to §§ 15.2-2128 and 15.2-2157(A), but this authorization is substantially limited by § 15.2-2157(C) in cases where public sewer facilities are unavailable. [W]here public sewer facilities are unavailable, and a property owner meets the Board of Health's regulatory requirements, a local ordinance exceeding such standards is without authorization from the General Assembly if its enforcement could result in the denial of such an application.

Virginia Standards for User Fees for Sewer Services

While an ordinance establishing fees for sewer services is presumed valid,[49] localities must meet a fair and reasonable standard, and the fees must be practicable, equitable, and uniform. The Virginia General Assembly gives localities the ability to set rates and fees as part of their authority to establish and manage a sewage disposal system,[50] and pursuant to § 15.2-2119, "[w]ater and sewer connection fees established by any locality shall be fair and reasonable."[51] Because a public body's authority to assess fees is a delegation of authority by the General Assembly, Virginia courts have determined such authority "involves a reasonable amount of discretion."[52] For this reason, Virginia courts "presume that such action is valid and reasonable unless the party disputing the action presents unchallenged evidence of unreasonableness."[53] When reasonableness is challenged by "probative evidence of unreasonableness," the locality may overcome the challenge "by some evidence of reasonableness."[54] The locality's action "must be sustained" if the evidence "is sufficient to make the question fairly debatable." [55] A 1997 Attorney General Opinion observed that, "[n]otwithstanding such judicial deference," court "decisions affirming such fees generally examine whether the evidence establishes a cost-based relation between the charge imposed and the benefits conferred.[56]

In addition, pursuant to § 15.2–2119, "localities' governing bodies may only charge fees 'as the governing body deems practicable[,] equitable, [and] uniform' for sewer services."[57] If a Virginia locality adopted a program similar to Otter Creek's, which distinguished between primary and seasonal homeowners, the locality could be at risk for violating this standard depending on the facts and circumstances. As a 1997 Attorney General Opinion noted, in a case where a town wanted to charge county and town users different rates, "absent some correlation between the increased rate imposed on county users and the costs incurred by the town in providing the services[,]" the proposal would not be likely found reasonable.[58] In short, while Virginia courts are very deferential toward localities setting user fees to fund septic repair, localities should be aware of these legal standards if they consider out-of-state funding models.

Other Issues

Other legal issues localities should consider if when contemplating creating a utility-type program include examining the following:

- Whether it fits within existing enabling authority or new authority is needed;

[49] *Town of Leesburg v. Giordano*, 280 Va. 597, 606 (2010).
[50] Va. Code Ann. § 15.2-2122.
[51] *Eagle Harbor, L.L.C. v. Isle of Wight Cnty.*, 271 Va. 603, 616, 628 S.E.2d 298, 305 (2006)(quoting § 15.2-2119).
[52] *Id.* At 306.
[53] *Id. See also Mountain View Ltd. P'ship v. City of Clifton Forge*, 256 Va. 304, 312 (1998) (user fee is a valid revenue generating device only when "there is a reasonable correlation between the benefit conferred and the cost exacted by the ordinance"); *City of Charlottesville v. Marks' Shows, Inc.*, 179 Va. 321, 329 ("exacted charge must bear some reasonable relation to the additional burdens imposed").
[54] *Town of Leesburg v. Giordano*, 280 Va. 597, 606-07 (2010).
[55] *Id.* at 606.
[56] Va. Op. Att'y Gen. 77 (1997).
[57] *Town of Leesburg v. Giordano*, 280 Va. 597, 606-07 (2010).
[58] Va. Op. Att'y Gen. 77 (1997).

- Whether the Comprehensive Plan should be amended if zoning standards are changed;
- Whether federal or state grants, such as Community Development Block Grants, are easier to obtain if the program is included within the Comprehensive Plan;
- Necessary property access authority;
- Rate structure;
- Differences between authority to assess civil penalties against private homeowners using a septic tank versus an alternative onsite discharge system.

FINANCING SOURCES FOR SEPTIC REPAIR

The following section describes various federal, state and private financing sources available to jurisdictions or individuals for septic repairs in Virginia. The financing sources are divided into Loan and Grant Opportunities for Homeowners and Localities, although some programs may be available to both applicants. Please note that this list is not exhaustive. Interested parties should contact the noted organization representative for further information.

Loan and Grant Opportunities for Homeowners	
Water and Waste Disposal Systems for Rural Communities: CFDA 10.760	
Administrator	United States Department of Agriculture - Rural Utilities Service
Description	This funding source offers direct loans, guaranteed/insured loans, and project grants for projects aimed at reducing health risks and improving rural water and waste disposal facilities.[59] Loans include a 40-year maximum term with three interest rates available.[60] According to email correspondence with Richmond Community Programs Director, Janice Stroud-Bickes, for community and individual septic repair assistance, preliminary engineering reports are reviewed to determine the rate structure for repairs or construction of systems.[61] Direct grants fund 30% or less of the projects; loans fund the remaining projects.[62]
Who Qualifies	**Localities, political subdivisions of a State, and Indian tribes**. **Individuals** are eligible in certain regions.
Application	Applications are accepted at any time through the Rural Development State and Area Offices. The application process is outlined in 7 CFR §§ 1780.31-49.
Resources	*Description of the Program*: https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=5a8596cb7aabbc5b7f3cadd60a02a044

[59] Water and Waste Disposal Systems for Rural Communities Program Information, Catalog of Federal Domestic Assistance, https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=5a8596cb7aabbc5b7f3cadd60a02a044.
[60] *Id.*
[61] Email from Janice Stroud-Bickes, June 20, 2014.
[62] *Id.*

	Complete Instruction: http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr;sid=b895752c16da8b01975fefc818e95a6e;tpl=/ecfrbrowse/Title07/7cfr1780_main_02.tpl
Contact	Janice Stroud-Bickes Community Programs Director United States Department of Agriculture Telephone:. 804-287-1615 Email: janice.stroud-bickes@va.usda.gov
Rural Repair and Rehabilitation Loans and Grants (504 Program): CFDA 10.417	
Administrator	United States Department of Agriculture, Rural Development
Description	These loans and grants are available to homeowners through The Very Low-Income Housing Repair program. Loans or grants are for the repair, improvement, or modernization of dwellings to mitigate safety and health hazards. To qualify, homeowners have incomes below 50% of the area median income. Grants are less common; they are only available to homeowners greater than 62 years of age who cannot repay a Section 504 Program loan.[63] Loans are capped at $20,000 and available up to 20 years at 1% interest.[64] Grants are awarded up to $7,500.[65] For more information, see the website below.
Applicant	**Individuals** with very low incomes (below 50% of area medium income).[66]
Application	The application process is outlined in 7 CFR §§ 3550.1-52.
Resources	*Webpages*: • http://www.rurdev.usda.gov/had-rr_loans_grants.html • https://www.cfda.gov/index?s=program&mode=form&tab=core&id=0c4f76491bd0c2310f7337020d8d4b28
Contact	Janice Stroud-Bickes Community Programs Director United States Department of Agriculture Telephone:. 804-287-1615 Email: janice.stroud-bickes@va.usda.gov
Southeast Rural Community Assistance Facilities Development Program[67]	
Administrator	Southeast Rural Community Assistance Project (Non-Profit)
Description	SERCAP is a non-profit serving Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia and Florida. This program, described as SRCAP's

[63] Rural Repair and Rehabilitation Loans and Grants, http://www.rurdev.usda.gov/HAD-RR_Loans_Grants.html.
[64] *Id.*
[65] *Id.*
[66] *Id.*
[67] Rural Community Facilities Development Program, Southeast Rural Community Assistance Project, http://www.sercap.org/programs/rc_facilities_dev.htm.

	"hallmark program" in Virginia, provides emergency grants to families for the replacement or repair of "damaged plumbing, pumps, [and] lines."[68] Additionally, this program offers grants for the construction of "new facilities for individual, isolated households."[69] This program is designed to work in cooperation with local governments, community organizations, and other non-profit entities.
Who Qualifies	**Individuals** seeking a loan through this program are directed to contact the SRCAP staff member included in the contact section below. The extent of grant opportunities for **localities** is unclear, however, the program offers "[m]ajor assistance" to communities for engineering studies and other analytical studies.[70] In addition, the program offers "comprehensive development costs" for "other" water system upgrades, which could potentially include the costs of administering a septic repair or maintenance program.[71]
Contact	Beth Pusha bpusha@sercap.org
Southeast Rural Community Assistance Project Loan Fund Program[72]	
Administrator	Southeast Rural Community Assistance Project (Non-profit)
Description	SERCAP's Rural Community Assistance Loan Fund Program offers low-interest loans to low-income rural communities for a variety of purposes. Most relevant to this paper are its loans available to localities and individuals for the construction of new or updating of old wastewater services and facilities. Loans range from $1,000 to $150,000 with interest rates between 4%-7%, according to need.[73]
Who Qualifies	**Individuals** seeking a loan through this program fill out the 'Individual Programs Application' form and select the "Septic System Loan (VA)" purpose on page 2.[74] **Localities:** Low-income rural communities are eligible for the cost of upgrading or constructing wastewater systems.
Application	Individuals can apply here: http://www.southeastrcap.org/documents/IndividualHouseholdProgramApplication-Final_000.pdf The community wastewater application can be found here: http://www.southeastrcap.org/pdfs/Loan_Fund_WW_Application_3_05.pdf
Resources	*Webpage*: http://www.southeastrcap.org/se_loan_fund.htm
Contact	Charlotte Oliver Housing Coordinator

[68] *Id.*
[69] *Id.*
[70] *Id.*
[71] *Id.*
[72] SERCAP Loan Fund Program, Southeast Rural Community Assistance Project, http://www.southeastrcap.org/se_loan_fund.htm.
[73] *Id.*
[74] SRCAP, Individual Application available here: http://www.southeastrcap.org/documents/IndividualHouseholdProgramApplication-Final_000.pdf.

	Southeast Rural Community Assistance Project Telephone: 540-345-1184 ext 137 Email: coliver@sercap.org

Loan and Grant Opportunities for Localities	
Virginia Clean Water Revolving Loan Fund Program for Publicly Owned Wastewater Treatment Facilities and Collection Systems	
Administrator	Virginia Department of Environmental Quality
Description	This is a loan program authorized under the federal Clean Water Act. The Environmental Protection Agency grants revolving loan funds to "provide independent and permanent sources of low-cost financing for a wide range of water quality infrastructure projects."[75] Funds are distributed through the state, matching the amount of federal aid. States receive federal funding to deposit in a State Water Pollution Control Revolving Loan Fund.[76] States then loan money from this fund to localities for the improvement of public facilities.[77] These loan repayments create a fund available to localities for water improvement projects.[78] Virginia amended its Code on several occasions to permit the extension of funding to, among other projects, "malfunctioning or inadequate on-site wastewater disposal systems" and "privately owned wastewater treatment facilities."[79]
Who Qualifies	**Localities**
Application	Generally in May of each year, DEQ mails a request for applicants to all localities and "service and sanitation authorities operating wastewater treatment and collection systems" in the state.[80] **Note:** MPPDC is currently utilizing funding from this program; however it is an important resource for those localities or planning district commissions unaware of the program.
Resources	*Webpage and application* (when available): http://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/Wastewater.aspx *Wastewater Loan Program Guidelines*: http://www.deq.virginia.gov/Portals/0/DEQ/Water/ConstructionAssistanceProgram/ProGuideChapterNumbered-DB.pdf *Wastewater Loan Program Design Manual*: http://www.deq.virginia.gov/Programs/Wat

[75] How the CWSRF Works, United States Environmental Protection Agency, http://water.epa.gov/grants_funding/cwsrf/basics.cfm.
[76] Virginia Wastewater Revolving Loan Fund – Program Design Manual, Virginia Department of Environmental Quality, 2001, *available at* http://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/VirginiaWastewaterRevolvingLoanFund.aspx.
[77] *Id.*
[78] *Id.*
[79] *Id.*
[80] *Id.*

	er/CleanWaterFinancingAssistance/VirginiaWastewaterRevolvingLoanFund.aspx *Funding Decentralized Wastewater Systems Using the Clean Water State Revolving Fund* (2003): http://water.epa.gov/grants_funding/cwsrf/upload/2003_03_21_cwfinance_cwsrf_septic.pdf
Contact	Walter A. Gills Program Manager, Clean Water Financing & Assistance Program Department of Environmental Quality Telephone: (804) 698-4133 Email: Walter.Gills@deq.virginia.gov
Section 319 Nonpoint Source Management Implementation Grant Program[81]	
Administrator	Virginia Department of Environmental Quality
Description	Section 319 of the Clean Water Act grants states funding for the implementation of nonpoint source programs. DEQ, coordinating with an advisory committee, distributes the funding for "watershed projects, demonstration and educational programs, nonpoint source pollution control program development, and technical and program staff."[82] It is important to note that currently, all nonpoint source funding for septic repair management has been managed through local Chesapeake Bay TMDL Implementation Plans.
Who Qualifies	**Localities and Organizations. Individuals may only apply for grants funding demonstration projects.**
Application	Grants and their requirements vary. DEQ administers these grants by releasing Requests for Funding Proposals (RFPs), publically accessed through the DEQ website: http://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance/NonpointSourceFunding.aspx
Resources	**Resources** *Nonpoint source management*: http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollutionManagement.aspx *TMDL implementation plans in Virginia*: http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLImplementation/TMDLImplementationProjects.aspx *Jurisdictions that have received Section 319 grant funding for TMDL implementation plans*: http://www.deq.virginia.gov/Portals/0/DEQ/Water/Nonpoint%20Source/TMDL_IP_2013_Rpt.pdf

[81] For a list of septic repair projects and locality funding for 2013, please see FY 2013 Chesapeake Bay and Virginia Waters Clean-Up Plan, *available at* http://www.deq.virginia.gov/Portals/0/DEQ/Water/Nonpoint%20Source/2013_Va_Water_clean-up_plan.pdf.

[82] Nonpoint Source Pollution Management, Virginia Department of Environmental Quality, http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollutionManagement.aspx.

Contact	Nicole Sandberg NPS Grant Manager, Office of Watershed Programs, Division of Water Virginia Department of Environmental Quality Telephone 804-698-4043 Email: nicole.sandberg@deq.virginia.gov
Section 117 Chesapeake Bay Grants	
Administrator	Environmental Protection Agency via the Virginia Department of Environmental Quality
Description	This grant program funds projects that work to meet the goals and commitments established in the Chesapeake 2000 Agreement and Executive Order 13508, Chesapeake Bay Protection and Restoration.[83] Grants include: 117(d) Technical Assistance and General Assistance Grants, 117(e)(1)(A) and 117(d) Chesapeake Bay Regulatory and Accountability Grants, 117(e)(1)(A) Implementation Grants, 117(e)(1)(B) Monitoring Grants, and 117(g)(2) Small Watershed Grants. While certain grants may award support for local or regional septic repair for qualifying individuals, these funding sources are frozen due to reallocation of funding for local stormwater program development.[84]
Who Qualifies	State and local governments, academic institutions, interstate agencies, and nonprofit organizations.
Resources	*Webpage*: https://www.cfda.gov/index?s=program&mode=form&tab=core&id=af4d0199d77923b01c5ca4eff7a70b65
Contact	John Kennedy Virginia Department of Environmental Quality Office of Ecology & Infrastructure 804-698-4312 john.kennedy@deq.virginia.gov

Other Funding Sources for Related Projects

Funding for Management and Technical Support	
Community Development Block Grants	
Administrator	United States Department of Housing and Urban Development (HUD)
Description	There are multiple program areas within the Community Development Block Grant Program. The most relevant to funding septic repair programs are: State Administered CDBG (also referred to as the Small Cities CDBG) and the

[83]Chesapeake Bay Program, Catalog of Federal Domestic Assistance, https://www.cfda.gov/index?s=program&mode=form&tab=core&id=af4d0199d77923b01c5ca4eff7a70b65.
[84] Email from John Kennedy, DEQ dated May 21, 2014.

	Neighborhood Stabilization Program. The State Administered CFBG is likely the best option for funding septic maintenance and repair programs.[85] Funding is available for 1 to 3 year periods.
Who Qualifies	Local governments apply through the State.
Resources	Webpage: http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs
Contact	CPD Field Office (Richmond) Ronnie J. Legette Telephone: 804-822-4831 Ext. 3770 Email: Ronnie.J.Legette@hud.gov
Rural Community Development Initiative: CFDA 10.446	
Administrator	United States Department of Agriculture, Rural Housing Service
Description	This program provides project grants for training, organizational capacity building, and technical assistance to low-income rural communities.[86]
Who Qualifies	Non-profits, community development organizations, and rural communities.
Application	Application instructions are outlined in 7 CFR §§ 3015, 3016, 3019, and 3052.
Resources	*Webpages*: http://www.rurdev.usda.gov/had-rcdi_grants.html https://www.cfda.gov/index?s=program&mode=form&tab=core&id=d34a18ad96a6d044bb4b00b0e7afc5b1
Contact	Kent Ware Virginia Program Director United States Agriculture Department Telephone: (804) 287-1551 Email: kent.ware@va.usda.gov

National Sources and Organizations

Catalog of Federal Funding Sources for Watershed Protection	
Description	This is a searchable database of grant and loan sources for the federal government, by category and agency.
Webpage	https://ofmpub.epa.gov/apex/watershedfunding/f?p=116:1:0::NO:RP::#search_results
National Onsite Wastewater Recycling Association	

[85] State Administered CDBG, United States Department of Housing and Urban Development, http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs/stateadmin.

[86] Rural Community Development Imitative, Catalog of Federal Domestic Assistance, https://www.cfda.gov/index?s=program&mode=form&tab=core&id=d34a18ad96a6d044bb4b00b0e7afc5b1.

Description	Collection of federal funding sources.
Webpage	http://www.nowra.org/content.asp?pl=27&sl=149&contentid=149
Local Government Environmental Assistance Network	
Description	Resources for localities concerning environmental news and financing opportunities.
Webpage	http://www.lgean.org/index.cfm
National Environmental Services Center	
Description	NESC has a good collection of publications on information about septic systems generally.
Webpage	http://www.nesc.wvu.edu/subpages/septic.cfm

Regional Organizations	
Chesapeake Bay Program	
Description	The Bay Program offers grants for watershed programs and support for innovative nutrient sediment reduction, along with a variety of other grants.
Webpage	http://www.chesapeakebay.net/rfps
Chesapeake Bay Trust	
Description	The Chesapeake Bay Trust is a nonprofit grant-making organization dedicated to improving the Chesapeake Bay and its rivers through environmental education, community outreach, and local watershed restoration. Although the CBT does not currently support septic repair in existing programs, a pioneer grant may be available for septic repair in the future.
Webpage	http://www.cbtrust.org/
Center for Chesapeake Communities	
Description	The Center for Chesapeake Communities assists local governments in planning and growth, while protecting the Chesapeake Bay and local natural resources. The Center provides tools, technical assistance opportunities, and techniques to local governments for watershed initiatives. Education, inspection, and assistance programs for septic tanks is an eligible project identified on the website.
Webpage	http://www.chesapeakecommunities.org/
National Environmental Services Center	
Description	The Environmental Finance Centers provides communities with the tools and information necessary to manage change for a healthy environment and an enhanced quality of life. EFC believes that environmental finance can be used to develop a shared community vision. This network may be a good resource to contact and encourage to support septic repair efforts. Bay WIP Financing Workshops may be especially useful; current workshops sponsored by the Chesapeake Bay Program focus on agriculture and stormwater.
Webpage	http://efc.umd.edu/

	http://www2.epa.gov/envirofinance/tools

NATIONAL EXAMPLES OF SEPTIC REPAIR PROGRAMS

Massachusetts

Massachusetts' Department of Environmental Protection Program administers three programs related to septic repair.[87]

The Community Septic Management Program
Applicants: Communities and homeowners apply through local health boards.
Aid: This program offers 0% loans to communities and low-interest betterment loans to homeowners.[88]

Homeowner Septic Loan Program
Applicants: Homeowners
Aid: This program offers bank loans for homeowners with failed Title 5 inspections. The bank offers loans through the MassHousing Program.

Tax Credit Program
Applicants: Homeowners apply through forms distributed by the Department of Revenue
Aid: Homeowners are eligible to receive up to $6,000 for 4 years for septic system repair costs to primary residences. Tax credit cannot exceed $1,500 per year and may be spread out over 4 years.

New York

The Catskill Watershed Corporation, a local development corporation created for the protection of the West of the Hudson River watershed, administers various programs to fund community development projects that improve water quality in the watershed it services.[89]

Catskill Watershed Corporation Septic System Rehabilitation and Replacement Program
Applicants: Permanent and non-permanent residents of the West of Hudson Watershed.
Aid: The New York Department of Environmental Protection helps fund the Catskill Watershed Corporation to carry out the program. The program reimburses permanent residents 100% and non-permanent residents 60% of the repair or replacement costs of septic systems. Newly constructed homes are not eligible to receive funding.[90]

Catskill Watershed Corporation Small Business Septic System Program

[87] Title 5 / Septic Systems: Financial Assistance Opportunities for System Owners, Massachusetts Office of Energy and Environmental Affairs, http://www.mass.gov/eea/agencies/massdep/water/grants/title-5-septic-systems.html.
[88] The Community Septic Management Program, Massachusetts Office of Energy and Environmental Affairs, http://www.mass.gov/eea/agencies/massdep/water/wastewater/the-community-septic-management-program.html.
[89] Septic Systems, The City of New York Environmental Protection, http://www.nyc.gov/html/dep/html/watershed_protection/septic_systems.shtml.
[90] Catskill Watershed Corporation, http://www.cwconline.org/septic_reahabilitation_and_replacement_program.html; http://www.cwconline.org/linked/septic_article_2a.pdf; http://www.nyc.gov/html/dep/html/watershed_protection/septic_systems.shtml.

Applicants: Small businesses that employ 100 people of less in the Catskill-Delaware Watershed.
Aid: The Catskill Watershed Corporation reimburses small business owners for 75% of the replacement or repair of failed septic systems. Those small businesses eligible for funding can receive a maximum of $40,000.[91]

Catskill Septic System Maintenance Program
Applicants: Homeowners who live in the West-of-Hudson Watershed with "new or replacement septic systems installed after November 1, 1995 and at least three years ago"[92]
Aid: The purpose of the program is to reduce the number of septic system failures through regular pump-outs and maintenance. This program reimburses homeowners up to 50% of the costs for inspections and pump-outs.[93]

Kensico Septic System Rehabilitation Reimbursement Program
Applicants: Homeowners
Aid: The New York Department of Environmental Protection and the New York State Environmental Facilities Corporation help fund the Catskill Watershed Corporation to carry out the program.[94] The program "reimburses eligible homeowners up to 50% of the costs for repairing or remediating septic systems, **or** to connect their septic systems to an existing sewage collection system."[95] This program, however, does not include the funding of ongoing operation and maintenance.

Kentucky

Kentucky PRIDE Homeowner Septic System Grant Program
Applicants: Low-income homeowners located in the 42 counties that Eastern Kentucky PRIDE services.
Aid: Homeowners receive funding to replace failing septic systems.[96]

Pennsylvania

Pennsylvania Infrastructure Investment Authority Homeowner Septic Program
Applicants: Eligible homeowners in need of septic system repair or replacement.
Aid: The Pennsylvania Infrastructure Investment Authority, the Pennsylvania Housing Finance Agency, and the Pennsylvania Department of Environmental Protection fund this

[91] Small Business Septic Repair Program, Catskill Watershed Corporation, http://www.cwconline.org/sm.business_septic_repair_program.html.
[92] Septic Maintenance Program, Catskill Watershed Corporation, http://www.cwconline.org/septic_maintenance_program.html.
[93] *Id.*
[94] Septic Systems, Catskill Watershed Corporation, http://www.nyc.gov/html/dep/html/watershed_protection/septic_systems.shtml.
[95] *Id.*
[96] Septic, PRIDE Personal Responsibility in a Desirable Environment, http://kypride.org/programs/septic/.

program.[97] Loans are secured through homeowner's mortgages with an interest rate of 1.75%.[98]

Texas

Texas Supplemental Environmental Projects
Applicants: Non-profits, localities, community groups. Texas Natural Resource Conservation Commission
Aid: The Texas Commission on Environmental Quality (Texas' DEQ) funds this program for projects that prevent and reduce pollution of natural resources. The program previously funded the replacement and maintenance of septic systems in a local community.[99]

Maryland

Bay Restoration Fund – Onsite Disposal Systems Fund
Applicants: Individuals may apply through local County Health Department or similar department[100]
Aid: The Maryland Department of the Environment administers this program. The funds are financed by Maryland wastewater treatment facility and septic system users. The Onsite Disposal Systems Fund generates $27 million yearly, of which funds are dedicated to upgrading septic systems.[101]

Sewerage Facilities Supplemental Assistance Program
Applicants: Localities and regional sanitation authorities
Aid: The Maryland Department of the Environment administers this program. Funding is made available in grant form, supplementing Water Quality Loan funds, to localities for the improvement of public health and water quality[102] through "planning, design, and construction of needed wastewater facilities.[103]

[97] PENNVEST Homeowner Septic Program, Pennsylvania Housing Finance Agency, http://www.phfa.org/consumers/homeowners/pennvest.aspx.
[98] *Id.*
[99] Supplemental Environmental Project, Texas Commission on Environmental Quality, https://www.tceq.texas.gov/legal/sep/info.html/#process.
[100] Maryland's Nitrogen-Reducing Septic Upgrade Program, Maryland Department of the Environment, http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/Water/cbwrf/index.aspx.
[101] Bay Restoration Fund, Maryland Department of the Environment, http://www.mde.state.md.us/programs/Water/BayRestorationFund/Pages/index.aspx.
[102] Grants and Other Financial Assistance Opportunities at MDE, Maryland Department of the Environment, http://www.mde.state.md.us/aboutmde/GrantsandFinancialAssistance/Pages/AboutMDE/grants/index.aspx.
[103] Supplemental Assistance Program, Maryland Department of the Environment, http://www.mde.state.md.us/programs/Water/QualityFinancing/SaterQualityFinanceHome/Pages/programs/waterprograms/water_quality_finance/wqfa_supplemental.aspx.

II. Rural Ditch Maintenance Programs

BACKGROUND

This section of the white paper will identify existing federal and state programs that assist local governments and private citizens to address ditching and/or drainage maintenance problems, include a list of the different types of assistance available, and explain how to gain access to such assistance. Because examining potential funding options and resources for private ditching and road drainage maintenance is a priority for MPPDC, this section begins by describing how other jurisdictions have attempted to address the problem. It will then include potential federal and state funding programs. It will conclude with a discussion of how drainage maintenance earns communities credits under FEMA's Community Rating System.

Ohio and Minnesota appear to lead the change in this work, striving to comprehensively address rural drainage systems.[104] Most drainage and ditching laws, like those in Virginia, precede modern regulatory statutes.[105] A future project potentially worth considering could examine recommendations for statutory reform of Virginia's approach to managing drainage and ditching projects.

OPTIONS FOR FUNDING PRIVATE DRAINAGE MAINTENANCE

Several options exist for localities to create funding for private drainage maintenance through the assessment of fees that fund private citizens to conduct maintenance. The first option is, of course, a localities use of general tax revenues to support private ditching and road maintenance programs. This paper will not explore that option. The second option is a utility model, similar to those of sewage or stormwater management utilities. This model can be created as a large, area-wide scale program or a smaller, development-by-development basis program. Seeking the incorporation of possible federal, state, and/or private funding to generate the necessary operation and maintenance resources is discussed in the next section.

Utility Model: Drainage Districts & Stormwater Management Departments

Just as responsible management entities may be useful for managing septics, a utility model may be one of the best ways to generate sustainable revenue for development maintenance and

[104] *See* Rural Drainage Systems: Agencies and Organizations Reach Consensus on Ways Forward, 2008 Report by the Ohio Rural Drainage Advisory Committee, *available at* http://www2.ohiodnr.com/portals/soilwater/pdf/swcd/Drainage_Report.pdf.; Minnesota Drainage Law Analysis and Evaluation Final Report, 2011 Report for the Environment and Natural Resources Fund, *available at* http://www.lccmr.leg.mn/projects/2009/finals/2009_05f_rpt_mn_drainage_law_analysis.pdf.

[105] *See* VA Code Ann. § 21-292 et seq. (establishing the authority of Virginia circuit courts to establish drainage projects). Virginia's drainage law was first enacted in 1914. Strawberry Hill Land Corp. v. Starbuck, 124 Va. 71, 97 S.E. 362, 364 (1918)(finding that the General Assembly had the power to "provide for the drainage and reclamation of swamp lands by the creation of local drainage districts, to delegate their power to local agencies to organize and control systems of drainage within their boundaries, and to assess the cost thereof against the property thereby benefited.").

repair funds for private property owners. Existing stormwater management programs or utilities, in particular, could provide a model for sustaining financing for ongoing repair and maintenance of private ditches. A drainage management utility would generally need to address the following:

- Enabling legislation may be necessary, as the petition and assessment process outlined in Virginia's Drainage Statute, discussed below, does not provide for ongoing maintenance and repair[106]
- An administrative structure to collect fees and manage the program
- Managing entity would need owner approval to conduct repairs on private property
- An easement for access is likely required
- Development of a drainage management plan for area covered and related ordinances that ensure implementation and long-term maintenance
- Development of an inspection program
- Public education to inform private property owners about the program and its benefit

Virginia's Drainage Statute

Virginia law allows Circuit Courts to establish drainage projects by petition.[107] Section 21-295 provides:

> Whenever a petition, signed by fifty-one percent or more of the owners of land who own fifty-one percent or more of the land, within a proposed drainage project, according to the county-land book or books or to the latest assessment lists of the county or counties in which such project is located, or by the heirs, guardians, conservators or executors of estates or by those having color of title, or by those in adverse possession, or by the officers of corporations, whose lands will be affected by or assessed for the expense of the proposed improvements….]

The extent to which this law is currently utilized is unclear. Certainly, it is difficult to find online evidence of established and functioning drainage districts. Furthermore, while the law provides for a petition process to establish a drainage project, it does not provide for a process to support project repairs and maintenance. Other states with drainage statutes, several of which are described below, appear to have active drainage districts and management programs that include a process for funding ongoing repair and maintenance.

[106] Va. Code Ann. § 21-295. (Providing that, [w]henever a petition, signed by fifty-one percent or more of the owners of land who own fifty-one percent or more of the land, within a proposed drainage project, according to the county-land book or books or to the latest assessment lists of the county or counties in which such project is located, or by the heirs, guardians, conservators or executors of estates or by those having color of title, or by those in adverse possession, or by the officers of corporations, whose lands will be affected by or assessed for the expense of the proposed improvements….]

[107] Va. Code Ann. § 21-292. ("The circuit courts of the several counties and cities of this Commonwealth shall have jurisdiction, power and authority to establish a levee, or drainage project or projects, in their several counties and cities and in projects as hereinafter set out, and to locate and establish levees, drains or canals and cause to be constructed, straightened, widened or deepened any land drainage, ditch, drain or watercourse, and to build levees or embankments and erect tide gates and pumping plants for the purpose of draining and reclaiming wet, swamp or overflowed lands.")

Wisconsin's Drainage District Program

While most of Wisconsin's rural drains are operated by a single landowner or by voluntary cooperation among neighbors, Wisconsin has a Drainage District program, governed by county drainage boards.[108] The Department of Agriculture, Trade, and Consumer Protection regulates the drainage district program.[109] The county drainage board has the authority to:

- Annex or withdraw lands from a drainage district
- Purchase or lease equipment
- Levy assessments
- Obtain injunctions
- Hire attorneys, engineers, or other assistants
- Construct and maintain district drains
- Contract with governmental agencies
- Borrow money, and
- Perform inspections[110]

In Wisconsin, private lands are in a drainage district if either they 1) were included in a petition that was filed with, and approved by, the county circuit court, or 2) were "included in a petition to annex lands into a drainage district, the circuit court or the county drainage board issued an order approving the annexation, and the circuit court has not since ordered dissolution of the drainage district or the court or drainage board has not removed the lands from the drainage district."[111] The Wisconsin County Drainage Board Handbook provides a comprehensive and clear overview of how their drainage district program works.

Ohio's Ditch Petition Law & Ditch Maintenance Fund

Ohio's Ditch Maintenance Fund provides funding for maintenance of ditch improvements constructed under Ohio's County "Petition Ditch" Law and its Interstate County Ditches law.[112] Any landowner may file a petition with the board of county commissioners to construct an "improvement," and the petition must: 1) state the proposed benefits, 2) state that it improves the public welfare, 3) include a description of work, and 4) state that all costs of engineering, construction and future maintenance will be assessed to benefitting parcels of land. The petitioner must file a $500 bond plus $2 for each parcel of land in excess of 200 parcels.[113]

[108] Wis. Stat. Ann. § 88.00, et seq.
[109] *Id.*
[110] Drainage Districts in Wisconsin Brouchure, State of Wisconsin Department of Agriculture, Trade and Consumer Protection, Fall 2013, *availbale here*, http://datcp.wi.gov/uploads/Environment/pdf/DrainageDistrictFactsheet.pdf.
[111] Department of Agriculture, Trade & Consumer Protection, County Drainage Board Handbook (2007), *available here*, http://datcp.wi.gov/uploads/Environment/pdf/DrainageHandbook.pdf.
[112] Ohio Rev. Code Ann. §6131.04.
[113] Ohio Rev. Code Ann. §6131.06.

Under Section 6137.02 of the Ohio Code, each county must establish and maintain a maintenance fund for the repair, upkeep, and permanent maintenance of each project. The maintenance fund is maintained, as needed, by an assessment levied, not more often than once annually, upon the benefited owners, apportioned on the basis of the estimated benefits for construction of the improvement. Section 6137.03 specifically provides that the fund is maintained as follows:

> "The maintenance fund shall be maintained, as needed, by an assessment levied not more often than once annually upon the benefited owners…apportioned on the basis of the estimated benefits for construction of the improvement. An assessment shall represent such a percentage of the estimated benefits as is estimated by the engineer and found adequate by the board or joint board to effect the purpose of section 6137.02 of the Revised Code, except that at no time shall a maintenance fund have an unencumbered balance greater than twenty per cent of all construction costs of the improvement. The minimum assessment shall be two dollars."[114]

An owner may apply for reduction in the maintenance assessment by proposing work, such as clearing brush, removing silt, or removing debris. Landowners using BMPs to control runoff, erosion, and sedimentation may qualify for up to a 50% reduction in assessments.[115]

Notably, a bill was introduced in 2011 revising the petition and assessment notification process, as well revising the maximum 20% annual assessment. According to the County Commissioners Association of Ohio, which supported the bill, "the problem with Section 6137.03" is that:

> [It] "limits the amount of the maintenance fund collected to 20% of the original construction cost. Because many of the drainage improvements under maintenance are over 50 years-old, the construction cost base is so low that a 20% limitation does not allow adequate funds to accumulate for the proper maintenance and repair of the projects. Given that construction inflation has increased by as much as 300-400% since original construction, even the maximum 20% annual assessment cannot keep the improvement in adequate repair."[116]

The bill did not pass and the 20% assessment remains in effect.

The Grand Valley Drainage District, Colorado

The Grand Valley Drainage District (GVDD) covers more than 258 miles of open and piped ditches throughout Mesa County, Colorado. Created in 1915, the GVDD was organized as a political subdivision and is governed by an elected board with three Board of Director members.[117] The GVDD is funded by a property tax levy and employs "up to 17 full-time people," who operate and maintain open and piped drains in the district.[118] While private property owners are responsible

[114] Ohio Rev. Code Ann. §6137.03.
[115] Ohio Rev. Code Ann. §6137.09.
[116] Ditch Maintenance Update, County Commissioners Association of Ohio, County Advisory Bulletin 2001-06.
[117] Colorado State Statutes, Title 37, Article 31.
[118] GVDD History, http://thedrainagedistrict.org/gvdd-history/.

for managing ditches on their private property, the GVDD manages and repairs sub-surface drainage ditches.

Hillside District, Anchorage, Alaska – Watershed Drainage Plan Program

To address its significant drainage, erosion, and flooding issues, the City of Anchorage recently included a plan to establish a "drainage funding and management entity" for an area known as the Hillside District.[119] As their 2010 Hillside District Plan notes, a single entity is needed to manage drainage throughout the watershed because "a patchwork of Limited Road Service Areas, homeowners associations, or informal neighborhood maintenance groups, who generally do not have the authority or resources to solve drainage issues," manage the majority of the district's drainage issues.[120] While the Plan recommends that the district use the existing service area approach, it has also proposed a stand-alone Drainage Authority.

James City County, Virginia: PRIDE Program

James City County, as part of its water quality program, developed an educational program called "PRIDE," which stands for 'Protecting Resources in Delicate Environments.' The County established a PRIDE Stormwater grant program to provide financial support for volunteer restoration and water protection projects, including the requesting of support up to $1,000 under a Drainage Improvement Assistant Grant. Eligible applicants include homeowner associations, neighborhoods, clubs, and businesses.[121]

JCC PRIDE began as a jointly-funded effort between the James City County Department of Development Management's Environmental Division (now the Engineering & Resource Protection Division) and the James City Service Authority (JCSA).[122] Currently, the County's General Services Department's Stormwater Division leads the program. James City County's locality budget funds the program.

Chesterfield County, Virginia: Ditch Maintenance Operations

Chesterfield County established a Drainage Maintenance Operations team.[123] This team:

> ….performs a wide variety of maintenance functions on drainage facilities located in easements throughout the County. The Drainage Maintenance Operations also includes a "BMP Maintenance team, dedicated to the maintenance of BMP facilities in residential areas and the follow up inspection of private maintenance of BMPs

[119] Hillside District Plan 3-1 (2010), City of Anchorage, 6-1, *available at* http://www.muni.org/Departments/OCPD/Planning/Publications/Documents/HillsideDistrictPlan-April2010-Web.pdf.
[120] *Id.*
[121] JCC Pride, James City County, http://www.jamescitycountyva.gov/jccpride/.
[122] Hampton Roads Planning District Commission, *Reducing Nutrients on Private Property: Evaluation of Programs, Practices and Incentives* 2-10 (2012).
[123] Drainage Maintenance Operations, Environmental Engineering, Chesterfield County, http://www.chesterfield.gov/content2.aspx?id=2837.

located on commercially owned properties." In the course of an average operating year the Drainage Maintenance Operations team will provide maintenance to some 107 miles of drainage facilities, in the process servicing over 10,000 addresses, 99% of which are in residential areas. [124]

After interviewing Jerry Duffy, Drainage Superintendent, Mary-Carson Stiff, VCPC Legal Fellow, learned the following:

- The program maintains "installed infrastructure," which is a ditch installed as result of building. An easement is associated with the ditch, which allows the program to clean and maintain it.
- Commercial infrastructure is not always maintained through the program.
- Problems arise when a house is built on an older lot when new builders are not asked to get an easement on the property for the ditch. In old areas where the infrastructure is inadequate, a Capital Improvement Project may cause the locality to ask the landowner for an easement, which is usually acquired for $1.
- The program is funded by the general tax operating funds of the locality.
- The general Ditch Maintenance Operations Program administers the BMP Practice Program, which maintains stormwater treatment funds. Developers in theory contribute to the fund upon projects approval.

OPTIONS FOR FEDERAL & STATE FUNDING PROGRAMS

Funding for private ditching repair is difficult to identify. Indeed, as the 2007 Ohio Report on Rural Drainage Systems observes, drainage entities have become "forgotten infrastructure."[125] Capital improvement budgets have shrunk, and the United States Department of Agriculture has dramatically reduced funding support. Aging drainage and ditching infrastructure is the result, creating increased conflict among private property owners, more demands on local government officials (and frustration when these demands cannot be met), environmental degradation, and increased flooding.

However, some funding may be available under current federal and state grant programs.

USDA Rural Utilities Service Program

Funding to develop a drainage maintenance project may be available under the Water and Waste Disposal Direct Loans and Grants through USDA's Rural Utilities Service Program. The purpose of this program is to "develop water and waste disposal systems in rural areas and towns with a population not in excess of 10,000. The funds are available to public bodies, non-profit

[124] *Id.*
[125] Rural Drainage Systems: Agencies and Organizations Reach Consensus on Ways Forward, 2008 Report by the Ohio Rural Drainage Advisory Committee, 1, *available at*, http://soilandwater.ohiodnr.gov/portals/soilwater/pdf/swcd/Drainage_Report.pdf.

corporations and Indian tribes."[126] "To qualify, applicants must be unable to obtain the financing from other sources at rates and terms they can afford and/or their own resources."[127] Because it is unlikely that applicants can receive grant or loans under the State Revolving Fund Program, unless the drainage system maintenance was directly connected to a stormwater project, Virginia localities may be able to qualify. Funds may be used for "construction, land acquisition, legal fees, engineering fees, capitalized interest, equipment, initial operation and maintenance costs, project contingencies, and any other cost that is determined by the Rural Development to be necessary for the completion of the project."[128] Rural users are prioritized.

Note: the terms "water and waste disposal systems" do not appear to be defined in the application guidelines, so a threshold question would be *whether drainage and ditch maintenance would qualify*. It appears that drainage and ditching projects would qualify if they were connected to storm drainage projects. Applications are accepted at any time through state and local rural development offices. USDA lists the following Virginia offices and contacts:

Virginia State Office
1606 Santa Rosa Road, Suite 238
Richmond, VA 23229
(804) 287-1550 | (804) 287-1721 FAX

Courtland Office
22329 Main Street, Southampton Office Bldg 2, Courtland, VA 23837
(757) 653-2532 x4

Culpeper Office
351 Lakeside Drive, Culpeper, VA 22701
(540) 825-4200 x4

Harrisonburg Office
1934 Deyerle Ave, Suite D, Harrisonburg, VA 22801
(540) 433-9126 x5

Lynchburg Office
20311-A Timberlake Rd, Lynchburg, VA 24502
(434) 239-3473

Wytheville Office
100 USDA Drive, Wytheville, VA 24382
(276) 228-3513

[126] Water and Waste Disposal Direct Loans and Grants, United States Department of Agriculture, Rural Development, http://www.rurdev.usda.gov/UWP-dispdirectloansgrants.htm.
[127] *Id.*
[128] *Id.*

Clean Water Act, Section 319 -- TMDL Implementation Funding

Virginia's TMDL Implementation Program is funded by Section 319(h) of the Clean Water Act. It funds various Best Management Practices (BMPs) identified in approved TMDL Implementation Plans. Virginia's Watershed Implementation Plan (WIP) under the Bay TMDL calls for, as an implementation strategy, "expand[ing] the traditional responsibility, obligation, and funding for stormwater drainage to include sediment impact on the waterways, and expand the traditional responsibility, obligation, and funding for stormwater drainage to include the sediment impact on the waterways, and initiate and implement a plan to remove stormwater sediment damage to waterways and to proactively prevent sedimentation and shoaling of the waterways as a way to optimize property values and tax revenue."[129] Given this, it is arguable that grant funding to meet the WIP could include funding for private ditching repair.

If the locality can show drainage system maintenance will improve sediment and nutrient management, other Section 319 grants may be available.

FEMA

Hazard Mitigation Program

FEMA's Hazard Mitigation Grant Program "provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration."[130] Generally, FEMA gives Hazard Mitigation Grants to states, which, as sub-applicants, then use the funds to provide grants for local governments. Individual homeowners and businesses may not apply directly to the program, although an eligible applicant or sub-applicant may apply on their behalf. The Virginia Department of Emergency Management administers Hazard Mitigation grants in Virginia.

Generally, FEMA grants do not directly fund private ditching or drainage maintenance, although there may be ways to address some of these issues indirectly, especially if the focus is flood control.[131] With respect to flood control, FEMA mitigation grants allow for "infrastructure retrofit[s]." In these instances, retrofitting is an improvement in base storm water management functionality, but is not directly related to maintenance or a mitigation measure for the system itself.[132] FEMA mitigation grants also fund minor localized flood reduction projects," which include measures such as retention basins, culverts, and increased curb height with water flow directed to storm water drainage).[133] Ongoing maintenance, however, remains the responsibility of the funding

[129] Commonwealth of Virginia, Chesapeake Bay TMDL Phase II Watershed Implementation Plan 60 (2012).
[130] Hazard Mitigation Grant Program, Federal Emergency Management Agency, http://www.fema.gov/hazard-mitigation-grant-program. For Virginia's program, see http://www.vaemergency.gov/em-community/grants/HMAgrant2010.
[131] Email with Matthew Wall, State Hazard Mitigation Officer, Virginia Department of Emergency Management.
[132] *Id.*
[133] Hazard Mitigation Grant Program, Federal Emergency Management Agency, http://www.fema.gov/hazard-mitigation-grant-program.

recipient. Again, because individuals may not be funded directly, a private owner would must be sponsored by the locality and would be required to sign over an easement to the locality.[134]

Pre-Disaster Mitigation Program

FEMA's Pre-Disaster Mitigation (PDM) program "provides funds for hazard mitigation planning and projects on an annual basis."[135] Eligible applicants are state, local, and tribal governments "to implement and sustain cost-effective measures designed to reduce the risk to individuals and property from natural hazards, while also reducing reliance of Federal funding from future disasters." Individual homeowners and businesses may not apply directly to the program, although an eligible applicant or sub-applicant may apply on their behalf.

Funding was not available under this program in FY 2013, but was made available in FY 2014. Indeed, a funding announcement was released on May 30, 2014, with the application period closing on July 25, 2014.[136] Allowable activities that could incorporate drainage system maintenance include infrastructure retrofits, minor localized flooding projects and soil stabilization. As noted above, these projects may not fund private individuals directly, but there are likely ways to achieve drainage maintenance goals by means of easements to a sponsoring locality.

Flood Mitigation Assistance Program

In addition to Hazard Mitigation assistance, FEMA also provides funding through its Flood Mitigation Program. This program "provides funds for projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis."[137] There are three types of available grants:

1. **Planning Grants** – Assist with preparing flood mitigation plans
2. **Project Grants** - Implement measures to reduce flood losses, such as elevation, acquisition or relocation of NFIP-insured structures
3. **Management Cost Grants -** Administer the FMA program and activities

Generally, as with Hazard Mitigation Grants, FEMA funds the states, which then use the funds to provide grants for local governments. Individual homeowners and businesses may not apply directly to the program, although an eligible applicant or sub-applicant may apply on their behalf. The Department of Conservation & Recreation's Floodplain Management Program administers Flood Mitigation Assistance grants in Virginia.[138]

[134] *Id.* Mr. Wall notes a culvert project in Hanover County that was funded in 2007-2008 that may be provide a good model.
[135]Pre-Disaster Mitigation Grant Program, Federal Emergency Management Agency, http://www.fema.gov/pre-disaster-mitigation-grant-program.
[136]FEMA, Funding Opportunity Announcement 97.047, Pre-Disaster Mitigation Grant.
[137] Flood Mitigation Assistance Program, Federal Emergency Management Agency, http://www.fema.gov/flood-mitigation-assistance-program.
[138] Floodplain Management Program Major Elements, Dam Safety, Floodplain Management, Virginia Department of Conservation and Recreation, http://www.dcr.virginia.gov/dam_safety_and_floodplains/fpelemnz.shtml.

This program could be a strong option to fund a drainage system maintenance and repair program. Michigan, for example, provides funding for Project Grants to applicants with a FEMA-approved Flood Mitigation Plan. Eligible projects include flood-control activities involving, among other things, "drainage system maintenance."[139]

Similarly, the Virginia's Flood Prevention and Protection Assistance Fund could also potentially fund a drainage system maintenance and repair program.[140] This fund provides localities a 50% match for flood prevention or protection projects, either as a grant or a loan. In March, DCR, in cooperation with the Virginia Resources Authority, released its 2014 application process guidance for funding under the Flood Prevention and Protection Assistance Fund (applications were due May 1, 2014).[141] Applicants were eligible to apply for funding for the following projects:

- Locality Flood Warning and Response Systems such as Reverse 911 and IFLOWS
- Improvements to Locality Floodplain Program and Acceptance in Community Rating System
- Locality Floodplain Information and Educational Programs

Given that FEMA's CRS program, described in the next section, provides credits for drainage system maintenance, it is possible that a project to address maintenance issues could qualify under this program in the future.

CRS CREDIT: DRAINAGE SYSTEM MAINTENANCE

The Community Rating System (CRS) is a voluntary program under the NFIP designed to encourage communities to undertake activities and implement measures that reduce flood risk. When communities enrolled in the CRS Program adopt measures that 'go above and beyond the minimum requirements of the NFIP,' they receive insurance discounts up to 45% off flood insurance premiums for properties located in Special Flood Hazard Areas.[142] The communities generate credits for activities in four categories: public information, mapping and regulations, flood damage reduction, and flood preparedness.[143] Communities are placed into 10 classes; a community with 0-499 credits is given a rating of 10, and for every 500 point increase the communities move up a class.[144] A community in class 10 does not receive a discount, but with each class increase, properties in a Special Flood Hazard Area receive an additional 5% reduction on their rates, while

[139] Mitigation Grant Programs, Emergency Management and Homeland Security, Michigan State Police, http://www.michigan.gov/msp/0,4643,7-123-60152_62790-15282--,00.html.
[140] Va. Code Ann. § 10.1-603.17.
[141] 2014 Grant Manual, Virginia Dam Safety, Flood Prevention & Protection Assistance Fund, *available at,* http://www.dcr.virginia.gov/dam_safety_and_floodplains/.
[142] Federal Emergency Management Agency, National Flood Insurance Program Community Rating System, http://www.fema.gov/national-flood-insurance-program-community-rating-system.
[143] *Id.*
[144] *Id.*

properties outside of the SFHA receive a reduction of 5% for classes 9 through 7, and 10% for classes 6 through 1.[145]

CRS Activity 520: Drainage System Maintenance

Up to 200 points of CRS credit is available for communities that inspect and clear out debris from the streams, canals, ditches, detention basins, and other portions of its drainage system under Activity 540 (Drainage System Maintenance).[146] To earn credit, the community must conduct a basic inspection and maintenance program by doing the following:

- Annually or regularly inspect some or all of its drainage system,
- Conduct inspections after major storms and in response to citizens' complaints,
- Remove debris and other obstructions to flow or storage when they are found, and
- Have written procedures for maintenance.[147]

An additional 150 points are available for going beyond the basic program as follows:

Up to 50 more points. Program identifies specific "choke points" or other obstructions to flows that are inspected and maintained differently or more frequently than other parts of the drainage system.

Up to 70 more points. If the community has an ongoing program, such as a capital improvement plan, to eliminate or correct drainage problems, improve drainage or storage facilities, or construct "low maintenance" channels or other facilities.[148]

Up to 30 more points. For enacting and enforcing regulations prohibiting dumping in drainage-ways and storage basins and for informing the public about the regulations.

Finally, under Virginia's Uniform Minimum Credit for CRS, additional credit for local drainage management may be created under CRS Activity 420, State-Mandated Standards, as follows for "Local Drainage Protection (LDP)." Ten points may be given for adoption of the [International

[145] *Id.*

[146] CRS Credit for Drainage System Maintenance, A National Flood Insurance Program Community Rating System Handout, *available at*, http://crsresources.org/files/500/540_crs_handout_540_drainage_508_june_2013.pdf.

[147] The procedures must include six items:

(1) Who is responsible for the various aspects of the maintenance program,
(2) An inventory of the system, including ownership,
(3) A map of the drainage system and the parts subject to the program,
(4) The procedures for inspection (e.g., when and how inspections are conducted),
(5) The procedures for debris removal, (e.g., how soon the problem is fixed after an inspection and what can and cannot be removed), and
(6) The records kept to document the inspections and the removal projects.

Id.

[148] "There is no credit for this item if the community does not spend money on a regular basis on such improvement projects (a one-time-only project would not be credited). There is no credit if the funded projects are not part of the drainage system that is described in the community's inspection and maintenance procedures." *Id.*

Building Code] which requires drainage away from all buildings, not just those in a flood hazard area.[149]

[149] CRS Uniform Minimum Credit Virginia, National Flood Insurance Program Community Rating System, http://crsresources.org/files/200/umc/virginia.pdf.

Appendix A

City of Blacksburg Municipal Code

Sec. 5-700. Sanitary sewer required if available.

(a)Sanitary sewerage facilities shall connect with public sanitary sewerage systems where available and adequate capacity exists. When sanitary sewers are not available, as determined by the agent, the agent shall require a written statement from the health official certifying that the area contained in the subdivision is satisfactory for the installation of septic systems, and that such septic systems will not create a public health hazard.

(b)In the Tom's Creek Basin Unsewered Area, public sanitary sewer shall be provided by STEG or STEP systems. The boundaries of the "Tom's Creek Basin Unsewered Area" are depicted on the map bearing the title "Areas of Town Where Public Sanitary Sewer Required for Development Shall Be Provided With STEG or STEP Systems," as approved by the town council and on file in the town clerk's office.

(c)In areas in which the town council has determined that conventional sewer service is not practical, public sanitary sewer shall be provided by STEG or STEP systems. The boundaries of the areas in which conventional sewer service has been determined to be impractical are shown on the map bearing the title "Areas of Town Where Public Sanitary Sewer Required for Development Shall Be Provided with STEG or STEP Systems," as approved by the town council and on file in the town clerk's office.

(d)If public sanitary sewerage facilities are reasonably available to serve the proposed subdivision, but the agent determines that there is not adequate capacity, the subdivider shall at his or her expense upgrade the sanitary sewerage lines or facilities to provide the additional capacity. The agent shall evaluate the downstream sewer system to the point where the flow contributed by the subdivision is less than one (1) percent of the flow in the system.

(e)In considering the availability of a public sewer, the agent shall consider the following criteria: the proximity of public sewer lines; engineering feasibility and cost of extension of such lines to serve the subdivision; the location of the subdivision in relation to the Tom's Creek Basin Unsewered Area or areas that the town council has determined are not practical to serve with conventional sewer service; public health and safety of the proposed subdivision; and the town's plans for sewer line extension or service in the area.

(f)Unless public sewer is determined not to be available, the subdivider shall install the sanitary sewer system within the subdivision and connect to an existing town system, in accordance with the standards of this division, and upon its completion, shall dedicate and convey title to the sanitary sewer system to the town.

(g)The sanitary sewerage plan shall include calculations of the amount of sanitary flow to be discharged from the subdivision upon complete occupancy of the site.
(Ord. No. 1217, § 2, 12-14-99; Ord. No. 1467, § 1, 7-14-09)

APPENDIX B:

FY2015 Virginia Clean Water Revolving Loan Fund

Notice of Public Meeting and Projects List

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

NOTICE OF PUBLIC MEETING

SUBJECT: Virginia Clean Water Revolving Loan Fund - FY 2015 Intended Use Plan and Projects Targeted for FY 2015 Loan Assistance

TO: FY 2015 Virginia Clean Water Revolving Loan Fund Applicants

FROM: Clean Water Financing and Assistance Program

DATE: October 2, 2014

Introduction:

Section 606(c) of the Water Quality Act of 1987 requires the State to develop an annual plan that identifies the intended uses of its Clean Water Revolving Loan Fund and to prepare a list of projects targeted for financial assistance with those funds. Following public comment and final Board action, the list of targeted projects for financial assistance becomes the State's yearly clean water revolving loan project priority list.

Funds Available:

The federal appropriation for the nation's Clean Water State Revolving Funds for FY 2015 has not been approved yet but Virginia's share is expected to be in the range of $20+ million. State matching appropriations, along with the accumulation of monies through loan repayments and prepayments, interest earnings, and de-allocations from leverage accounts should make an additional $70+ million available for funding new projects. These funds, in accumulation, will result in at least $90 million becoming available during the 2015 funding cycle.

FY 2015 Program Development

On May 30, 2014, the staff solicited applications from the Commonwealth's localities and wastewater authorities as well as potential land conservation applicants and Brownfield remediation clientele. July 18, 2014 was established as the deadline for receiving applications.

Based on this solicitation, DEQ received fifteen (15) wastewater improvement applications requesting $60,901,278, eight (8) applications for land conservation projects (totaling $21,869,300), and one (1) stormwater management application for an additional $1,195,000, bringing the total amount requested to $83,965,578.

All 15 wastewater applications were evaluated in accordance with the program's Funding Distribution Criteria. In keeping with the program objectives and funding prioritization criteria, the staff reviewed project type and impact on state waters, the locality's compliance history and fiscal stress, and the project's readiness-to-proceed. The 8 land conservation applications were reviewed using the Board's Land Conservation Loan Funding Prioritization criteria and the staff also received input from the Department of Conservation and Recreation in accordance with the Board guidelines and state law. The one stormwater application was reviewed in accordance with the Board's Priority Ranking Criteria for Stormwater projects. The list of applications in Attachment A is shown by project type in priority funding order based on the Board's prioritization criteria. All applications are considered to be of good quality and should provide significant water quality and environmental improvement.

Based on these considerations, on September 29th the Board approved the staff recommendation to authorize funding for $83,965,578 for all 24 projects as shown on Attachment B.

Public Participation

The Board is presenting its draft list of targeted FY 2015 loan recipients for public review and comment. A public meeting will be held at 2:00 p.m. on Wednesday, November 12th in the Department of Environmental Quality's 2nd Floor Conference Room, 629 East Main Street, Richmond, Virginia 23219. The public review and comment period will end immediately following the public meeting. Comments or questions should be directed to Mr. Walter Gills, Department of Environmental Quality, Clean Water Financing and Assistance Program, P. O. Box 1105, Richmond, Virginia 23218, telephone number (804) 698-4133, or e-mailed to walter.gills@deq.virginia.gov. Written comments should include the name, address and telephone number of the presenter.

Attachments

Listing of Applicants Requesting FY 2015 Virginia Clean Water Revolving Loan Assistance

Attachment A

FY 2015 Applicants	Amount Requested	Project Description	Points	Projected Construction Start
Wastewater Projects				
City of Norfolk	6,000,000	Sewer system improvements including 8 projects from the City's Long Term Control Plan to reduce sanitary sewer overflows in accordance with Consent Order.	390.8	July-15
City of Waynesboro	1,723,401	Sewer system improvements including 2 infiltration/inflow correction projects in accordance with Consent Order.	368.3	June-15
Rivanna WSA	3,418,174	Replacing a portion of Schenks Branch Interceptor, completing the final phase of the interceptor replacement project under Consent Order.	364.9	Spring 2015
Buchanan County PSA	16,204,121	Replace, upgrade & expand PSA's outdated Wastewater Treatment Plant (WWTP).	280.0	June-16
Town of Surry	2,020,400	Upgrade and expand the Town's WWTP with sequencing batch reactor and tertiary filtration in accordance with Consent Order.	277.1	July-15
Middle Peninsula PDC	200,000	Local On-site program; providing loans to individuals to repair/replace failing septic tanks/drain fields.	271.7	N / A
Alleghany County	1,612,720	Replacement of the Mallow Mall and Cherokee Forest Pump Stations, both of which are outdated and subject to sewage overflows.	266.1	May-15
Town of Broadway	6,565,000	Replace current existing lagoon with failing baffle curtains with concrete water retaining basins to provide reliable treatment operations.	245.6	February-15
Town of Rural Retreat	862,550	Replacing the aging South Fork Reed Creek sewer line and related appurtenances to reduce infiltration/inflow and prevent failure.	244.7	April-15
Washington County Service Authority	1,171,550	Exit 13 Wastewater Phase 3 - Provide sewer service along McCray Drive and a portion of the Fox Fire Subdivision near Exit 13 off Interstate 81 to address failing septic systems.	214.7	March-16
Harrisonburg/Rockingham Regional Sewer Authority	8,995,500	Energy savings / energy recovery projects to offset increased operating costs of nutrient removal.	209.1	October 2014 and Spring 2015
Alleghany County	1,000,000	Low Moor WWTP upgrade: replace chlorination system with ultraviolet disinfection, add several dissolved oxygen meters and upgrade SCADA system, renovate Lab/Operator Building.	206.1	April-15
Town of Honaker	396,171	New grit removal system to replace failed equipment at Town's WWTP.	192.9	May-15
Tazewell County Public Service Authority	10,586,691	Divides Sewer Extension improvements, 4 pump stations, and a leachate pretreatment facility to provide reliable service to the county landfill.	183.1	February-16
Alleghany County	145,000	Replacement of outdated sewer camera and recording equipment.	176.1	March-15
Wastewater Projects subtotal $	60,901,278			
Stormwater Projects				
City of Norfolk	1,195,000	Several stormwater projects that range in options from bioretention facilities to pre-engineered / manufactured systems.	510.8	July-15
Stormwater Projects subtotal $	1,195,000			

Listing of Applicants Requesting FY 2015 Virginia Clean Water Revolving Loan Assistance

Attachment A

FY 2015 Applicants	Amount Requested	Project Description	Points	Projected Construction Start
Land Conservation Projects				
Virginia Conservation Legacy Fund	5,160,000	Fort Powhatan: Acquire 3,163 acres, with over 1 mile along the James River, including wetlands and riverine forests to protect water quality. Also protects historic Revolutionary & Civil War archaeological sites & rare piedmont river bottom wildlife habitat.	520.0	
Virginia Conservation Legacy Fund	5,169,000	Buffalo Creek-Purgatory Mountain Special Project Area: Acquire 6,488 acres to protect water quality within this project area. Also protects wildlife corridor from Allegheny to Blue Ridge Mts.	500.0	
Virginia Conservation Legacy Fund	5,215,000	Blue Ridge State Park: Acquire 771 acres to protect water quality on Potomac River and viewsheds from Harper's Ferry National Park.	470.0	
Virginia Conservation Legacy Fund	3,103,000	Dividing Waters: Historic farm which straddles the headwaters of both the James and Potomac Rivers. Acquire 928 acres to protect water quality in both watersheds.	470.0	
Virginia Conservation Legacy Fund	597,000	Red Mill: Acquire 65 acres to protect water quality in Cedar Creek, which is impaired. Also protects rare plants, historic Inn (1740) and Mill. Extends property boundary for proposed Natural Bridge State Park.	450.0	
Virginia Conservation Legacy Fund	2,073,000	Bald Knob: Acquire 176 acres of mature forests & fields, with 1,000+ feet of frontage on the north bank of the Pigg River. Also includes best of 5 known worldwide sites for an endangered plant species (Fameflower).	440.0	
Town of Marion	127,300	Currin Valley Spring: Acquisition of this 112 acre parcel to protect the public water supply for the Town of Marion and Upper Smyth County.	400.0	
Virginia Conservation Legacy Fund	425,000	Mays Brook: Acquire 196 acres to protect water quality of Mays Brook (a naturalized rainbow trout stream) and part of the Virginia Outdoors Foundation Buffalo Creek-Purgatory Mountain Special Project Area.	350.0	
Land Conservation Projects subtotal	$ 21,869,300			
Total Requested	**$ 83,965,578**			