

**Anne Arundel County 2016 – 2017 Programmatic Two-Year Milestones  
FINAL Progress Report**

**Reporting Period  
January 1, 2016 – December 31, 2017**

<b>Target Date</b>	<b>Milestone</b>	<b>Deliverable</b>	<b>Lead Agency</b>	<b>Comments</b>
<b>Urban Stormwater</b>				
Complete	Implement the County’s Watershed Protection and Restoration Program (WPRP)	Fully staffed and implemented program	DPW	Previous 2014-2015 milestone. The WPRP is fully implemented, staffed and operational.
12/2016 Complete	Explore opportunity to appropriate capital funding of restoration projects on a watershed basis to provide flexibility in implementation.	Watershed based capital budget	DPW Budget Admin	New 2016-2017 milestone. County legislation (Bill 64-16) passed in October 2016 to allow greater program budget flexibility. Budgeting of restoration and improvements to stormwater outfalls by major watershed was initiated in the FY18 capital budget. Additionally, two new projects were budgeted in FY18 to further facilitate implementation – WPRP Land Acquisition and WPRP Project Planning.

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12/2016 Complete	Explore creating a “performance based” project in the FY17 budget to enhance private sector engagement in the County’s clean water efforts	New B-Class project in capital budget	DPW	New 2016-2017 milestone. A new project, Public/Private Performance of Water Quality Implementation was created in the FY17 capital budget. This project provides funding to incentivize the implementation of water quality restoration projects by private sector partners that will count towards the County’s MS4 Permit and TMDL load reductions as well as State and Federal permit conditions. A “Full Delivery” RFP solicitation was advertised in August 2016. Technical proposals were reviewed in January 2017 and contract award was issued April 2017. A second “Full Delivery” RFP was issued in October 2017.
On-going	Broaden Public Awareness and understanding of the Stormwater Remediation Fee and WPRP	Public Presentations. Outreach and education documents. Enhanced program web site.	DPW	Previous 2014-2015 milestone. Ongoing. WPRP continued to expand its web-based informational program and social media campaign using Facebook and Twitter to provide stakeholders with an overview of the WPRP fee, restoration projects updates, grant opportunities, maps of project locations, and schedules, watershed assessments and educational resources regarding stormwater pollution. WPRP staff also conducted ninety-six (96) formal presentations to school-aged children, community and watershed organizations throughout Anne Arundel County. WPRP continued to promote the WPRP program and highlight accomplishments.
On-going	Investigate and establish public/private partnerships to leverage funding and implement WIP restoration projects	Established partnerships that facilitate and implement restoration projects	DPW	Previous 2014-2015 milestone. Ongoing. Public/Private partnerships are now engaged through both the non-profit WPRP grant program as well as the “Full Delivery” RFP. Additionally, WPRP staff work closely with OPZ and I&P staff to coordinate on potential projects with the development sector.

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7/2018 In progress	Refine the County's Stormwater BMP Database	Refined Database	DPW	Previous 2014-2015 milestone. Phase I (review and update of BMP records between 2002 and 2015) and review of FY16 and FY17 records was delivered to the County Oct.-Nov 2017. Phase II records (prior to 2002) review was initiated due July 1, 2017. As of December 31, approximately 6,100 grading permits representing over 21,500 BMPs had been reviewed for data accuracy and updating
On-going	Identify, prioritize and establish a schedule for joint SHA/AACo. implementation projects	Prioritized list of WIP restoration projects and associated map identifying SHA projects, AACo projects, and location of joint implementation projects. List and map accompanied by a coordinated implementation schedule.	DPW	Previous 2014-2015 milestone. A Memorandum of Understanding (MOU) has been executed between AACo. and SHA. AACo. and SHA continue to meet to coordinate WIP implementation projects, identify opportunities for collaborative implementation, monitor progress and allocate potential TMDL credits. A senior Project Manager in the WPRP CIP Unit has been staffed as the SHA liaison. Work is progressing on 2 separate stream projects with cost and credit sharing benefits: Jabez Reach 3 (4,000 LF stream restoration and 6 new BMPs) and Rock Creek (6,000 LF stream restoration and 8 BMPs).
12/2017 Complete	Develop a Memorandum of Understanding (MOU) to execute joint City of Annapolis/AACo. implementation projects.	MOU and prioritized site list of projects and associated map identifying project locations.	DPW	New milestone added in 2016 by the WPRP Restoration Unit. An MOU with the City of Annapolis was executed in October 2016.

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12/2017 Complete	Develop a MOU to execute joint MDTA/AACo. implementation projects.	MOU and prioritized list of projects and associated map identifying project locations.	DPW	New milestone added in 2016 by WPRP Restoration Unit. A MOU was executed in January 2017. A WPRP CIP Project Manager has been assigned to work as a liaison for work conducted under this MOU.
On-going	Improve Federal, State and County permitting process for restoration projects	A permitting process that reduces the amount of time to secure Federal, State and County permits for restoration projects.	DPW	Previous 2014-2015 milestone. Improvements have been made to both the County and State processes to facilitate restoration project permitting. In August 2016, MDE rolled out a streamlined permitting process for restoration projects in coordination with several counties. In addition, regular MDE/Army Corps coordination have been initiated. Since that time AACo. has participated in several of the joint MDE/Corps meetings. Anne Arundel County in association with other local governments represented by the Patuxent River Commission drafted a letter requesting that the Army Corps of Engineers ensure that adequate federal staff is in place to review restoration projects in a timely manner so that restoration goals can be met for the Patuxent River and the Chesapeake Bay.
Complete	Require new development to provide an adequate, stable outfall for stormwater discharges from their site into receiving waterways.	Continue to implement adequacy of public facilities regulations as they pertain to outfall adequacy.	OPZ	Milestone added in 2014-2015. Since the adoption of the new State stormwater management regulations by Anne Arundel County in 2011, the County has required a demonstration of outfall adequacy, not just in terms of downstream flooding, but also stability. This work is in addition to the stormwater management requirements otherwise required for new development.

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12/2017 Complete	Work with the Bureau of Highways to determine the feasibility of utilizing pervious concrete on new impervious area	Establish policy	DPW	New 2016-2017 milestone. The Dept. of Public Works utilizes pervious concrete on a case by case basis where appropriate and is looking to use porous concrete on certain new sidewalk projects as part of the Pavement Management Program's rehabilitation projects.
12/2017 In progress	Work with the Bureau of Highways to determine the feasibility of installing dry well/infiltration basins in manhole footprints	Draft standards	DPW	New 2016-2017 milestone. Concurrence was achieved with the Bureau of Highways to conduct a pilot study of 3-5 sites under existing roadways. Negotiated with the Department of Recreation and Parks to place 2-3 dry wells at Arden Park under an existing parking lot. This work is being done as a pilot project that is currently in the final stages of design and should be installed in 2018.
12/2015 Complete	Examine the County's current street-sweeping program to determine opportunities for expanding the current program to allow monthly sweeping of all curbed roads.	Targeted street sweeping program	DPW	Previous 2014-2015 milestone. Beginning in calendar year 2016 the County began twice monthly sweeping along a portion of its road network entirely through contracted street sweeping services. Currently, the County is targeting those curbed streets with high traffic volumes, business/industrial parks, NPDES priority areas, and select County parking lots subject to 12-SW SWP3 Plans. Beginning in calendar year 2017, and included in the FY18 budget, the County further expanded its sweeping effort to perform twice monthly sweeping on additional curbed collector roads in the County.

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12/2015 Complete	Examine the County's current inlet cleaning program to determine opportunities for expanding the current program to allow routine cleaning of storm inlets.	Targeted inlet cleaning program	DPW	Previous 2014-2015 milestone. During calendar year 2016 the County's Bureau of Highways (BOH) procured (1) specialized dewatering roll-off can in order to capture the weight of vacuum truck collections from storm inlet cleaning by segregating these collections from other debris collections and generating individual scale house tickets for tracking purposes. In addition, two (2) replacement vacuum trucks and two (2) additional vacuum trucks were purchased for use by the inlet cleaning program under the FY15-FY17 budgets, with three (3) delivered and operational in calendar 2016, and the fourth expected to be delivered and operational in 2018.
Ongoing	Coordinate the Bureau of Highways (BOH) rehabilitation projects with the Bureau of Engineers (BOE) WIP implementation projects to maximize opportunity for load reduction.	Convert Infrastructure Management Division's (IMD) culvert and storm drain rehab data base to a geospatially referenced map.	DPW	Previous 2014-2015 milestone. A subset of the projects in the IMD database for which the County is taking restoration credit was submitted as part of the MS4 Geodatabase ALTBMPLine feature class. These projects are listed as Outfall Stabilization under project type with the following descriptions.
12/2015 Complete	Complete hiring staff authorized in the FY14 and proposed in the FY15 budget to augment existing staff to address culvert and closed storm drain issues and closed storm drain maintenance (e.g. inlet cleaning).	Hire 10 positions in the Bureau of Highways	DPW	Previous 2014-2015 milestone. Five (5) positions, one engineer and 4 construction inspectors, in the Infrastructure Management Division (IMD) were lost as a result of budget cuts in FY17. All other funded positions have been filled.

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12/2017 In progress	Refine list of potential reforestation sites to develop a geo-referenced database of publically owned sites suitable for planting.	Database of viable properties for tree planting	DPW I&P	New 2016-2017 milestone. . Geo-referenced database has been updated. County-owned parcels for reforestation have been evaluated with GIS and Geocortex, mapping tools, and ranked as “excellent, good, OK, or poor” candidates for reforestation. County-owned parcels ranked “excellent comprise 155 acres of potential new forest land. A preliminary field assessment of “excellent” County-owned candidate parcels is underway.

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12/2017 Complete	Review implementation of restoration projects to determine County's progress towards achieving the 60% stormwater load reduction goal by 2017.	Midterm evaluation	DPW	<p>New 2016-2017 milestone. Implementation of the restoration projects to meet load reductions continued in FY17. Based on completed stormwater restoration efforts through the end of FY17, the County has achieved a cumulative TN reduction of 16,190 lbs. per yr., which is 13% of the reduction required to meet the 60% 2017 interim target load reduction and 8% of the reduction required to meet 2025 load reduction target. The County has achieved a TP reduction of 4,455 lbs. which is 28% of the reduction required to meet the 60% 2017 Interim Target Load and 17% of the reduction required to meet the 2025 load reduction target. For TSS reductions, Maryland's Phase II WIP assumes that if TP reduction is met TSS reduction is met. The County's July 2, 2013 Phase II WIP includes a three part strategy to achieve the necessary load reductions. With the continued implementation of upgrades to the County's WWTPs, by the end of 2016, Anne Arundel County was producing approximately 100,000 lbs. of nitrogen less than its load caps. By the end of 2017 the County WWTPs were producing 314,100 lbs of nitrogen, approximately 257,000 lbs. of nitrogen less than its load caps. For phosphorus, the WWTPs produced 21,333 lbs of total phosphorus at the end of 2017, approximately 21,000 lbs below the allocation. This load reduction will help offset any shortfalls in the stormwater load reductions.</p>



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On-going	Engage Watershed Organizations in WIP implementation	Achieve engagement of and coordinate watershed organizations within the County in watershed implementation projects.	DPW	<p>Previous 2014-2015 milestone. Watershed organizations are active in restoration projects throughout the County with a focus on the central part of the County. The County is continuing to identify and provide support to new organizations throughout the northern portions of the County. WPRP staff interacts with and assists with both established and emerging organizations and routinely corresponds with them to direct them toward potential projects as well as to share information. WPRP staff provides technical input on restoration projects undertaken by watershed organizations when requested. WPRP staff also maintains a list of contacts that are interested in watershed issues and connects individuals and organizations with opportunities to advance TMDL WIP initiatives. WPRP actively engages in conversations with established and new NGOs to determine organizational needs and best ways to support those needs. In 2018 representatives from one of the NGOs operating in the County will be included Project Management training (monthly Lunch and Learns, CIP Stormwater meetings and project management meetings) to help facilitate their familiarity with WPRP initiatives. Monthly meetings are being established with the WPRP Project Managers and Inspections and Permit staff to better assist the NGO with project implementation.</p>

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On-going	Work in collaboration with watershed organizations to leverage and secure grant funding for implementation projects.	Letters of Support for grants to local watershed organizations that provide funding for restoration projects. In kind match on projects that achieve load reduction.	DPW	Previous 2014-2015 milestone. The Dept. of Public Works provided fourteen (14) letters of support in 2016 and 2017 to NGOs for grant applications for standard restoration projects and innovative practices. The County also continues to provide funding for its <i>Anne Arundel County Watershed Restoration Grant</i> in collaboration with the Chesapeake Bay Trust. The grant has funded eighteen (18) viable projects in its first three years. Eleven (11) of the eighteen projects have been built, with an additional two (2) currently being constructed, and the remaining five (5) in the design and permitting phases. The application due date of the third round of grants was 12/7/2017. Nine (9) applications were received and are being evaluated. More information on the grant program can be found at: <a href="http://www.cbtrust.org">www.cbtrust.org</a> . The County continues to partner with UMCES (University of Maryland Center for Environmental Science) by providing in-kind support on a project to research hypoxia and nutrient budgeting in the Rock Creek estuary. County staff have provided technical in-kind support to projects that achieve load reduction. Support took the form of Forest Stand Delineations, BANCS analysis, and plan reviews.
On-going	Collaborate with the Anne Arundel Watershed Stewards Academy (WSA) to Train community leaders to coordinate residential restoration and stormwater outreach	150 hours of training to certify 50 master Watershed Stewards and provide continuing education to 100 additional Stewards. Convene two annual conferences to network stormwater professionals, government	DPW	Previous 2014-2015 and 2016-2017 milestone. Deliverable updated to reflect 2018-2019 goal. During 2016, WSA continued training its 8 <sup>th</sup> class of Master Watershed Stewards, and recruited and began training for its 9 <sup>th</sup> Class. The Steward Certification Course was re-vamped and updated to include the latest restoration science and new outreach topics, including a specialized track for Stewards who want to work within school settings. During 2016, Class 8

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		officials and Stewards. Provide support services and networking for 150 Stewards.		<p>Steward Candidates completed capstone projects and graduated. The graduating class was composed of 17 total Master Watershed Stewards, including 6 from faith congregations. Communities represented spanned from Linthicum in the northern section of the County to Churchton in the southern section of the County. This year's class represented the largest percentage of under-represented communities yet (ethnically or geographically under-represented in overall restoration efforts). During 2017, WSA continued training its 9<sup>th</sup> class of Master Watershed Stewards and began training for its 10<sup>th</sup> class. In December 2017 Master Watershed Stewards from Class 9 graduated. Both years the Steward Certification Course was re-vamped and updated to include the latest restoration science and new outreach topics, including a specialized track for Stewards who want to work within school settings. In 2017, in an effort to recruit a younger cohort of Steward Candidates, the course was redesigned so that one-third of the content is available in an online format including webinars, forums, and independent study. The 10<sup>th</sup> class has 32 Steward candidates of which 12 will work with Anne Arundel County Public Schools to provide watershed education to k-12 students. A total of 91 hours of instruction were provided to Master Watershed Stewards from classes 8, 9, and 10 for a total of over 1,700 person hours of training. Continuing Education classes were held for both Stewards and Environmental professionals including: EnviroCert, Native Plant Identification, Grant Writing and Project Management, Buffer Planting, Environmental Site Design, Stormwater Pond</p>

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				<p>Assessment and Maintenance, RiverWise Congregations Project Maintenance, HEC-RAS, and BMP monitoring. This training added up to a total of 40 hours to over 200 people for a total of 8,000 person hours of training. Eight networking sessions were also held for certified Steward collaboration. WSA's 5<sup>th</sup> annual conference was held on Saturday, February 27<sup>th</sup>, 2016 and was attended by 220 Stewards, Consortium and restoration advocates. WSA's 6<sup>th</sup> annual conference was held on February 25, 2017 and attended by 202 Stewards, Consortium and restoration advocates. In addition, support services were provided to over 190 Maser Watershed Stewards and candidates, including connection with professional services, increased outreach and restoration materials and ono-on-one mentoring. WPRP staff participate in WSA Consortium meetings.</p>

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On-going	The Watershed Stewards Academy will support community leaders to coordinate residential restoration and stormwater outreach.	200 rain barrels installed. 15,000 native plants and trees planted. 500,000 square feet of new residential and community restoration installed. Direct outreach and education on stormwater awareness topics to over 20,000 citizens. Tracking, maintenance and /or renovation of all Steward projects over three years old- except rain barrels.	DPW	Previous 2014-2015 and 2016-2017 milestone. Deliverable updated to reflect 2018-2019 goal. In 2016 and 2017, the WSA continued cultivating community leaders to take action to improve their local streams, including ongoing work with houses of worship. In 2016 and 2017, WSA and Master Watershed Stewards engaged over 15,000 people, in volunteering and learning about watershed issues; installed over 140 water harvesting devices (rain barrels or cisterns) resulting in the capture of 13,000 gallons of water; and planted over 22,000 native trees and shrubs in over 800,000 square feet of restoration. A restoration tracking database has been created and is being populated with past projects, and inspection/monitoring status. The restoration tracking database was populated with projects installed through December 2016. Monitoring data on selected projects were uploaded into the database in Fall 2017.
12/2015 Complete	Develop a Clean Water Communities Certification. Work with WSA to explore ways that the WPRP can incentivize communities to achieve Clean Water Communities Certification. Augment the online resources provided by the DPW WPRP to provide greater connection between citizens, the WPRP and action to reduce stormwater originating from residential property.	Pilot the Clean Water Communities certification in two communities including the installation of 28 homeowner BMPs and promotion of two behavior change campaigns to reduce polluting behaviors in pilot communities. Expanded website and mapping resources to connect citizens with the WPRP and to incentives for individual actions to reduce stormwater.	DPW	Previous 2014-2015 milestone. Completed during 2016-2017 milestone period. A third and revised pilot program will be implemented in 2018.

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12/2017 Complete	Gather baseline information on knowledge of stormwater possessed by residents in Anne Arundel County	In order to determine the type and extent of education and outreach that needs to be carried out, and to evaluate the success of outreach programs it is important to establish a baseline from which progress can be determined.	DPW	New 2016-2017 milestone. During 2016, WPRP secured grant funding from the Chesapeake Bay Trust to partner with the Chesapeake Bay Program's Citizen Stewardship Team in order to implement a County-wide survey on citizen stewardship. The survey was conducted between March 2017 and June 2017. The mission of this survey, known as the Anne Arundel County Stormwater Survey, was to assess behaviors and attitudes related to individual stormwater management practices among the adult population of Anne Arundel County. Results of this study will enable WPRP to better target public outreach efforts and to know where to focus resources to encourage more people to adopt these practices.
12/2017 Ongoing	Raise awareness of healthy practices and stewardship throughout the County	Targeted outreach and education materials: e.g. surveys, social media, print materials.	DPW	New 2016-2017 milestone. Ongoing. WPRP has promoted healthy practices through its social media outlets, community events and presentations. In addition, several "tip cards" promoting healthy practices were distributed at events. It is anticipated that specific targeted outreach will be developed based on the results of the Anne Arundel Stormwater Survey. WPRP continues to support the Anne Arundel County Watershed Stewards Academy (WSA) and the Chesapeake Connections Program operated out of Arlington Echo Outdoor Education Center in their endeavors to promote healthy practices throughout the County.

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12/2017 Ongoing	Explore collaborative partnerships that can benefit the overall watershed	In cooperation with County agencies, local watershed groups, and other community organizations develop educational strategies consistent with the Chesapeake Bay TMDL priorities to increase awareness of contaminant sources and BMPs to limit contaminants from reaching County waterways and the Chesapeake Bay. This could include supporting projects that build on awareness and knowledge and connect back to the community	DPW	<p>New 2016-2017 milestone. WPRP, through its Watershed Restoration Grant Program, and other partnerships, has been able to promote specific watershed restoration projects and practices to a wider audience than in previous years. These new partnerships continue to present opportunities to further promote WPRP goals and objectives while also promoting community-based projects and accomplishments that align with those goals and objectives.</p> <p>Additionally, in 2016 WPRP partnered with the University of Maryland Partnership for Action Learning in sustainability (PALS) to develop a one-time course for the Spring 2017 semester. Students in the course were tasked with conducting research on various outreach and educational parameters of Anne Arundel County's MS4 permit. Teams of students developed and tested prototypes of marketing tools, collection techniques and end product usage options. WPRP continues to support the Anne Arundel County Watershed Stewards Academy (WSA) and the Chesapeake Connections Program operated out of Arlington Echo Outdoor Education center.</p>

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12/2017 In progress	Develop and implement a training workshop for community stormwater BMP maintenance.	Training workshop	DPW	New 2016-2017 milestone. WPRP finalized BMP maintenance fact sheets for HOA's and other community organizations that are responsible for maintaining private and community owned BMPs. The suite of BMP fact sheets include: wet/dry ponds, rain gardens, infiltration trenches, buried dry wells, bioretention, grass swales and permeable paving. Buried Dry Wells, Grass Swales, Infiltration Areas, Pervious Pavement, Rain Gardens/Bioretention and Surface Sand Filters. The fact sheets address recommended maintenance procedures and schedules, and troubleshooting tips and can be found at: <a href="http://www.aacounty.org/departments/public-works/wprp/education-outreach/index.html">http://www.aacounty.org/departments/public-works/wprp/education-outreach/index.html</a> . A new Step Pool Stormwater Conveyance (SPSC) Manual will be rolled out in 2018 with conference presentations and professional workshops, nationally and locally.
12/2016 Ongoing	Increase existing outreach and education initiatives through the implementation of a County-wide pet waste campaign	Fact sheets. Informational material.	DPW	New 2016-2017 milestone. Ongoing. Throughout 2016 and 2017, WPRP has promoted proper pet waste practices through its social media outlets, and at community events and presentations. In addition, a "tip card" promoting proper pet waste practices was distributed at events. WPRP also distributed 500+ pet waste bag holders at community events. More specific targeted outreach regarding pet waste is expected to be developed in early 2018 based on the findings of the Anne Arundel County Stormwater Survey.



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12/2017 In progress	In addition to County Parks that have already installed pet waste stations, explore opportunities to install pet waste stations on other County properties.	Installation of additional pet waste stations	DPW Central Services	New 2016-2017 milestone. Ongoing. Findings from the Anne Arundel County Stormwater Survey are being analyzed to determine the extent of proper pet waste disposal. While pet waste stations are installed in all County parks that have specific dog park areas, there are several local County parks that do not have pet waste stations installed. More research on new potential pet waste station installations will continue into 2018. The WPRP has purchased several pet waste stations which it will make available to communities that express interest.
12/2017 In progress	Determine the effectiveness of a Countywide pet waste campaign through monitoring and research to verify water quality benefits of this BMP.	Report that includes findings and adaptive management strategies for achieving expected load reductions	DPW	New 2016-2017 milestone. Ongoing. The County completed a TMDL Restoration Plan for Bacteria in 2016. One of the strategies in the plan is an Expanded Pet Waste Education Program that involves implementing a multi-media-based pet waste education program to instill behavior change in pet owners and reduce loads from pet waste. During 2016-2017 the County highlighted pet waste management through Facebook postings and handed out dog waste bags at the County Fair. These expanded education efforts and the findings of the Anne Arundel County Stormwater Survey will be incorporated into a more structured pet waste management initiative that will then be evaluated for its effectiveness.

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12/2017 Ongoing	Explore strategies that result in increased management of sewage discharges from boats.	Expanded marina outreach programs and support for the State's Clean Marina Program	DPW	New 2016-2017 milestone. Ongoing. In 2016, WPRP partnered with MD DNR's Clean Marinas Program in order to promote awareness and usage of certified Clean Marinas in Anne Arundel County. Along with a specific "Responsible Boating" website and prompts on social media, WPRP developed an interactive web-based mapping application that pinpoints all Clean Marinas in the County. Plans to include all pump-out stations located in the County are under development. Additionally, NGOs are advocating the creation of a Countywide "No Discharge Zone". In 2017, WPRP distributed 250 brochures to marinas in the Rhode River area regarding the impact boaters can have on bacteria levels in the river system.
12/2017 Complete	Collaborate with the Anne Arundel Watershed Stewards Academy (WSA) to create and implement a new communication and technology strategy for Certified Stewards to report their stewardship activities and those of their communities so that the metrics collected accurately reflect the pollutant loads reduced through residential scale BMPs.	Increased reporting of Steward projects and a more robust measurement of projects implemented as a result of Steward presence in a community.	DPW	New 2016-2017 milestone. A series of clarifying meetings between WPRP and WSA were held in 2016 and yielded an increased clarification of measurements of small scale restoration projects. A project tracking database was created to accurately capture and track both new and existing projects and inspection/monitoring data. The new online data entry spreadsheet was refined for Stewards based on these new protocols.

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12/2017 Ongoing	Support the Anne Arundel Watershed Stewards Academy in developing and implementing educational programs for community leaders without the time or ability to attend the full Master Steward Certification Course. This training may be called Steward Lite.	Fifty (50) hours of training provided to approximately thirty (30) community leaders.	DPW	New 2016-2017 milestone. Ongoing. Three under-represented faith congregations were recruited for the new Steward Lite program. Each faith congregation received a compressed watershed training (15 hours total) for 20 congregants from each congregation for a total of 60 “congregational stewards” trained, a total of 900 training hours provided. A stormwater assessment was completed at each house of worship and BMPs that were selected by the congregations were installed in 2017. Twenty-seven (27) residential sites were selected for stormwater assessments. Designs and installation of stormwater projects were completed on the 27 properties between Fall 2016 and Summer 2017. Combined these projects installed 62 rain barrels and 5,140 square feet of in the ground restoration with over 1,500 native plants and shrubs and over 40 trees. In the summer of 2017 two communities, Pines on the Severn in the Severn River watershed and Glen Isle in the South River watershed elected to participate in the latest round of the Clean Water Communities Program. This program includes the 15 “Community Stewards” per community whom complete a compressed training of 3-4 sessions for a total of 20 hours of training per Community Steward. Training for Pines on the Severn began in December 2017 and will continue into 2018 and training in Glen Isle will begin in 2018.
<b>Wastewater Source Sector</b>				

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12/2017 In progress	Complete construction of all new ENR facilities and optimize performance.	Conditional acceptance for contracts	DPW	Previous 2014-2015 milestone revised to reflect 2016-2017 goals. Ongoing. ENR upgrades at Annapolis, Broadneck, Broadwater, Maryland City, Cox Creek and Patuxent treatment facilities have been completed. Mayo facility was decommissioned in the fall of 2017.
1/2017 Complete	Maintain progress on Cox Creek WRF-ENR construction project	On-going construction work	DPW	Previous 2014-2015 milestone revised to reflect 2016-2017 goals. ENR components are operational. Work expected to be completed in 2018.
12/2016 Ongoing	Explore utilizing performance below pollution load caps as a way to extend the County's compliance schedule for other pollution sectors	Nutrient trading framework	DPW	Milestone added in 2014-2015. Ongoing. The County has been involved in ongoing nutrient trading discussions with MDE. Overall performance at facilities after ENR upgrades has been at or below 4 mg/l total nitrogen.
<b>Septic Source Sector</b>				
	<b><u>Large CIP Program</u></b>			
12/2017 In progress	Determine long term funding methods to pay for connection of existing OSDS to public sewer and cluster treatment systems.	Financial Plan for implementing program	DPW	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager.
12/2018 In progress	Develop mechanisms and policies to achieve funding.	Formal establishment of revised rates or fee structures via legislative action by County Council	Budget Office	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager.

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12/2018 In progress	Modify the County Code and administrative procedures as needed to provide authorization for the program	Legislative code changes	Law Office	Previous 2014-2015 milestone. Pending. Further progress on this milestone expected through OSDS Program Manager.
12/2014 Complete	Develop a tracking and reporting system to follow the progress of OSDS conversion and upgrades	Reporting forms and transmittals. Database sharing as needed.	DPW	Previous 2014-2015 milestone. Complete. Database sharing has progressed. Formal reporting formats have not yet been established.
12/2017 In progress	Determine staffing requirements and pursue position authorization within the Dept. of Public Work, Dept. of Inspections & Permits, and Office of Planning & Zoning to support the expected workload.	Requests for position authorization	Multiple Agencies	Previous 2014-2015 milestone. Ongoing. Any future personnel requests will be dependent on the program details.
12/2017 In progress	Develop scope descriptions and tasks for workload to be delegated using staff augmentation contracts.	Procurement of contract(s) for management of specific portions of the program.	DPW	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager (“Strategic Planner”).

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12/2017 In progress	Review and clarify legal and administrative policies to connect existing OSDS to public sewer and cluster treatment systems.	Internal legal brief(s)	Law Office	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager.
12/2017 In progress	Review and clarify permitting requirements to connect existing OSDS to public sewer and cluster treatment systems.	Internal memorandum	DPW OPZ	Previous 2014-2015 milestone. Pending. Further progress on this milestone expected through OSDS Program Manager.
4/2018 In progress	Develop Countywide Public Relations Strategy.	Written strategy for engaging the public and providing timely and accurate information.	DPW	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager.
12/2019 In progress	Develop new requirements and boundaries for the proposed Cluster Treatment Areas for incorporation into the Water and Sewer Master Plan.	Updated Master Plan areas as needed.	DPW OPZ	Previous 2014-2015 milestone. Pending. In 2016 the County initiated Contract X764254 – Minor System Takeover Study to examine the feasibility of upgrading existing small treatment systems and incorporating nearby septic systems. In 2017 the County submitted a CBRAP grant application to evaluate the use of cluster treatment technologies in conjunction with subsurface discharge systems to treat and discharge flow from DPW’s Priority Management Areas identified as needing cluster treatment approaches. Further development of this milestone is expected through the OSDS Program Manager.

<b>Target Date</b>	<b>Milestone</b>	<b>Deliverable</b>	<b>Lead Agency</b>	<b>Comments</b>
12/2018 In progress	Pursue new legislation that authorizes mandatory participation by residents and businesses on septic systems for connection to the public sewer system where recommended to achieve TN pollutant reduction.	Proposed legislation as needed	Law Office	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager. Other options may be implemented as determined by the administration.
12/2018 Pending	The Dept. of Public Works and the Health Department will work collaboratively to develop technical standards for new cluster systems capable of nitrogen removal.	Standard specifications and details as needed	DPW	Previous 2014-2015 milestone. Pending. Overall use of cluster systems may be limited and development of standard specifications and details may not be warranted. County will be examining cluster treatment technologies in a 2018 contract "Cluster Treatment Implementation Study".
12/2016	Pursue new State legislation to allow communities to use a Special Community Benefit District (SCBD) to cover community costs for septic to sewer conversions	Proposed legislation as needed	County Administration	Previous 2014-2015 milestone. Pending. Further development on this milestone expected through OSDS Program Manager ("Strategic Planner"). Feedback from the 2017 Septic Task Force meetings will be used to assist in formulating approaches.
	<b><u>Small CIP Program</u></b>			

<b>Target Date</b>	<b>Milestone</b>	<b>Deliverable</b>	<b>Lead Agency</b>	<b>Comments</b>
12/2017 Pending	Determine whether the program will be voluntary-only or a combination of mandatory and voluntary, and develop the necessary administrative procedures or legislation.	Small CIP Program Implementation Plan	DPW Law Office	Previous 2014-2015 milestone. Pending. Further development of this milestone expected through OSDS Program Manager. Feedback from the Septic Task Force meetings will be used to assist in formulating approaches.
12/2017 In Progress	Determine how costs will be shared by existing homeowners.	Small CIP Program Implementation Plan	DPW –	Previous 2014-2015 milestone. Pending. Further development on this milestone expected through OSDS Program Manager.
N/A	Consider the issue of equity between homeowners connected through the large CIP Program and those connected through the small CIP Program. In general, connections through the Small CIP Program are expected to be lower cost projects.	N/A – will be incorporated into the program fee structure	DPW –	Previous 2014-2015 milestone. Further progress on this milestone is not anticipated during the 2016-2017 milestone period. This milestone has been recommended for deletion for future reporting.
12/2017 In Progress	Explore incentive systems for individual homeowners to increase interest in voluntary participation.	Summarize options in internal memorandum	Various	Previous 2014-2015 milestone. Pending. Further development on this milestone expected through OSDS Program Manager. Feedback from the Septic Task Force meetings will be used to assist in formulating approaches.



<b>Target Date</b>	<b>Milestone</b>	<b>Deliverable</b>	<b>Lead Agency</b>	<b>Comments</b>
12/2017 Complete	Develop a system in coordination with the Department of Health for identifying and prioritizing areas to determine upcoming projects to be performed each year.	Finalized Prioritization System	DPW	Previous 2014-2015 milestone. The County completed Contract X764250 – “HDP A Prioritization” to develop a ranking matrix for the onsite wastewater management problem areas.
Pending	Develop a public outreach program to notify neighborhoods of upcoming projects.	N/A – Will be incorporated into the public relations strategy	DPW	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager. Feedback from the Septic Task Force meetings will be used to assist in formulating approaches.
12/2017 Pending	Determine an annual funding level for the program implementation.	Set yearly appropriation level for contract(s).	DPW	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager. Feedback from the 2017 Septic Task Force will be used to assist in formulating approaches.
12/2017 Pending	Determine staffing requirements within the Dept. of Public Works and the Health Dept. to support the program.	Requests for positions where determined necessary	Various	Previous 2014-2015 milestone. Further development on this milestone expected through OSDS Program Manager. Any future personnel requests will be dependent on the program details.
	<b><u>Private Sector Facilitated Upgrades</u></b>			

<b>Target Date</b>	<b>Milestone</b>	<b>Deliverable</b>	<b>Lead Agency</b>	<b>Comments</b>
12/2017 On Hold	Develop new policies and procedures to minimize construction of new systems in management areas designated as high priority for conversion to point source treatment. These new policies will be developed in accordance with Senate Bill 236 (Sustainable Growth and Agricultural Preservation Act of 2012)	Published guidance regarding requirements for new development in accordance with Growth Tiers.	DPW OPZ	Previous 2014-2015 milestone. On Hold. Growth Tiers have been published by OPZ. Consideration will be given as to whether additional policy guidance is needed.
12/2015 Pending	Develop new policies to further reduce nutrient loading from future OSDS.	Internal meetings to review additional policies to encourage additional OSDS load reductions.	DPW OPZ	Previous 2014-2015 milestone. The County has received inquiries regarding connection credits to be provided to developers. Legislation was introduced to the County Council to establish a Rural Conservation Line that would further protect existing rural areas from excessive development but did not pass.
2017 Complete	Create a Septic Task Force to further implementation of the septic component of the County's Phase II WIP.	A set of fiscal and policy recommendations to facilitate the implementation of the County's Phase II WIP septic component.	DPW	New 2016-2017 milestone established January 2017. The Task Force met monthly from February through July 2017. Information about the Septic Task Force can be found at: <a href="http://www.aacounty.org/departments/public-works/wprp/septic-task-force/index.html">http://www.aacounty.org/departments/public-works/wprp/septic-task-force/index.html</a>
3/2018 In Progress	Evaluate the feasibility and nitrogen removal cost effectiveness of water reuse alternatives from small treatment systems or cluster systems	Feasibility Study	DPW	New milestone added in 2017. A grant was received to conduct a feasibility study. Contract X76458 "Cluster Treatment Implementation Study is being opened.

Target Date	Milestone	Deliverable	Lead Agency	Comments
3/2019 In Progress	Evaluate the feasibility and nitrogen removal cost effectiveness of water reuse alternatives from large treatment systems or cluster systems.	Feasibility Study	DPW	New milestone added in 2017. A grant was received to conduct a feasibility study. Contract X764259 “Minor System Water Reuse Study” is being initiated.
	<b><u>OSDS Nitrogen Reducing Units</u></b>			
On-going	Provide educational materials to the public on septic system maintenance	Educational materials; DVDs, septic system records, scheduled maintenance folders and brochures.	Health Dept.	Previous 2014-2015 milestone. Four hundred and eighty-six (486) information packets were distributed during calendar year 2016. These information packets are sent to every septic system inspected by the Health Dept. The information packet includes a cover letter that provides the Health Dept.’s web address <a href="http://www.aahealth.org">www.aahealth.org</a> for more information. The website also contains videos on septic system maintenance in YouTube format. In addition to the cover letter, the information packet also includes a brochure on maintaining a septic system; a list of licensed liquid waste haulers; and a folder that is labeled to facilitate record keeping for maintenance of the septic system. Additionally, Health Dept. staff gives presentations on septic system health and maintenance upon request to a variety of organizations.
11/2018 In Progress	Implement a Voluntary Pump-out Tracking Program	Program Development and implementation.	Health Dept.	New milestone added in 2016 by the Health Dept. This program will be developed and implemented with existing Health dept. staff to track properties that provide records of septic tank pumping. The program will begin in January 2018. Funding will be needed to promote the program.

<b>Target Date</b>	<b>Milestone</b>	<b>Deliverable</b>	<b>Lead Agency</b>	<b>Comments</b>
On-going	Enforcement of Property Maintenance Code requirements	Enforcement of identified Code violations involving improper maintenance of septic systems.	Health Dept.	Previous 2014-2015 milestone. The Health Dept. continued to enforce the requirements of the Anne Arundel County Property Maintenance Code (PMC) that requires property owners maintain their septic systems in a safe, sanitary and functional condition. Where a violation is identified, Anne Arundel County enforces the requirements of the Maintenance Code including the issuance of notices, citations, and civil fines. One hundred and twenty (120) cases of violations of the PMC were enforced involving overflowing or failing OSDS from 2016 – 2017.
On-going	Maintain accurate inventory of developed accounts served by on-site disposal systems.	Accounts with accurate septic system information.	Health Dept.	Previous 2014-2015 milestone. Continue to develop and perform quarterly updates to accurately assess the inventory of developed accounts served by on-site-sewage disposal systems. This inventory is critical to the assessment of the State’s Bay Restoration Fund, and to ensure accurate accounting of nitrogen reducing units and Best Available Technology for tracking purposes. The Dept. of Health conducted quarterly assessments of the inventory and provided the listing of developed properties with OSDS and number of users of each OSDS to the Office of Finance for billing purposes.

<b>Target Date</b>	<b>Milestone</b>	<b>Deliverable</b>	<b>Lead Agency</b>	<b>Comments</b>
On-going	Work with private sector firms to encourage innovative and lower cost solutions to on-site septic treatment.	Coordinate with MDE and local agencies to make Anne Arundel County a testing ground for innovative OSDS technologies	DPW/ Health Dept.	Milestone added in 2014-2015. During 2016 Anne Arundel County participated in discussions with Elm Street Developers to pilot a local BAT OSDS technology in the County in parallel with the testing of the technology by the National Science Foundation (NSF).The technology received NSF certification and patent approval. However, recent policy developments in the State of Maryland have reduced the potential for BAT systems making it unlikely that further investment in the development and installation of innovative septic systems in Maryland will occur.