

**UA01**  
**Department of the Environment – Capital**

***Capital Budget Summary***

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**Grant and Loan *Capital Improvement Program***  
(\$ in Millions)

<i>Program</i>	<i>2014 Approp.</i>	<i>FY 2015 Approp.</i>	<i>FY 2016 Request</i>	<i>FY 2017 Estimate</i>	<i>FY 2018 Estimate</i>	<i>FY 2019 Estimate</i>	<i>FY 2020 Estimate</i>
MD Water Quality Revolving Loan Fund	\$130.000	\$130.000	\$130.000	\$130.000	\$140.000	\$150.000	\$150.000
MD Drinking Water Revolving Loan Fund	22.000	22.000	24.000	24.000	24.000	24.000	24.000
Bay Restoration Fund – Wastewater Projects	88.000	81.000	80.000	40.000	40.000	50.000	60.000
Septic System Upgrade Program	15.000	15.000	14.000	14.000	14.000	14.000	14.000
Biological Nutrient Removal Program	29.200	21.200	26.500	33.500	26.000	10.000	10.000
Supplemental Assistance Program	5.925	5.864	4.157	5.000	5.000	5.000	5.000
Water Supply Financial Assistance Program	3.450	4.357	2.661	2.500	2.500	2.500	2.500
Hazardous Substance Clean-up Program	0.300	1.000	0.700	1.000	1.000	1.000	1.000
Mining Remediation Program	0.000	0.500	0.500	0.500	0.500	0.500	0.500
<b>Total</b>	<b>\$293.875</b>	<b>\$280.921</b>	<b>\$282.518</b>	<b>\$250.500</b>	<b>\$253.000</b>	<b>\$257.000</b>	<b>\$267.000</b>

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<i>Fund Source</i>	<i>2014 Approp.</i>	<i>FY 2015 Approp.</i>	<i>FY 2016 Request</i>	<i>FY 2017 Estimate</i>	<i>FY 2018 Estimate</i>	<i>FY 2019 Estimate</i>	<i>FY 2020 Estimate</i>
PAYGO GF	\$0.300	\$1.000	\$0.700	\$1.000	\$1.000	\$1.000	\$1.000
PAYGO SF	200.730	197.620	193.346	165.790	175.790	195.790	205.790
PAYGO FF	44.598	41.307	44.869	34.400	34.400	34.400	34.400
GO Bonds	48.247	40.994	43.603	49.310	41.810	25.810	25.810
<b>Total</b>	<b>\$293.875</b>	<b>\$280.921</b>	<b>\$282.518</b>	<b>\$250.500</b>	<b>\$253.000</b>	<b>\$257.000</b>	<b>\$267.000</b>

CIP: *Capital Improvement Program*

FF: federal funds

GF: general funds

GO: general obligation

PAYGO: pay-as-you-go

## ***Summary of Updates***

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***Hazardous Substance Clean-up Program Remediation Projects and Site Assessments:*** Fiscal 2015 funding for the Hazardous Substance Clean-up Program included \$300,000 in general funds for site assessments. Updated information on five remediation projects and four significant site assessments is provided.

## ***Summary of Recommended PAYGO Actions***

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1. Concur with the Governor’s allowance for the Water Quality Revolving Loan Fund special fund appropriation of \$89,308,000 and federal fund appropriation of \$33,910,000.
2. Concur with the Governor’s allowance for the Hazardous Substance Clean-up Program general fund appropriation of \$700,000.
3. Concur with the Governor’s allowance for the Drinking Water Revolving Loan Fund special fund appropriation of \$10,038,000 and federal fund appropriation of \$10,959,000.
4. Concur with the Governor’s allowance for the Bay Restoration Fund – Wastewater special fund appropriation of \$80,000,000.
5. Concur with the Governor’s allowance for the Bay Restoration Fund – Septic Systems special fund appropriation of \$14,000,000.

## ***Summary of Recommended Bond Actions***

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1. Biological Nutrient Removal Program

Approve the \$26,500,000 general obligation bond authorization for the Biological Nutrient Removal Program for grants to projects to remove nutrients from discharges at publicly owned sewage treatment works.

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2. Supplemental Assistance Program

Approve the \$4,157,000 general obligation bond authorization for the Supplemental Assistance Program for grants to provide assistance to grant and loan recipients to meet the local share of construction costs for compliance-related wastewater facility improvements.

3. Maryland Drinking Water Revolving Loan Fund

Approve the \$3,003,000 general obligation authorization for the Maryland Drinking Water Revolving Loan Fund for funds to finance drinking water projects. This funding represents the 20% match to the \$10,959,000 in federal funding.

4. Maryland Water Quality Revolving Loan Fund

Approve the \$6,782,000 general obligation bond authorization for the Maryland Water Quality Revolving Loan Fund to provide funds to finance water quality improvement projects. This funding represents the 20% match to the \$33,910,000 in federal funds.

5. Mining Remediation Program

Approve the \$500,000 general obligation bond authorization for the Mining Remediation Program to provide funds to design, construct, and equip active and passive measures to remediate damage to water quality related to abandoned mining operations.

6. Water Supply Financial Assistance Program

Approve the \$2,661,000 general obligation bond authorization for the Water Supply Financial Assistance Program to provide funds for assistance to State and local government entities to acquire, design, construct, rehabilitate, equip, and improve water supply facilities.

7. Section 2 – Department of the Environment Chesapeake Bay Water Quality

Approve the modification of Chapter 424 of 2013 to de-authorize \$550,000 in general obligation bond authorization for the Supplemental Assistance Program to provide a grant to Talbot County for the design and construction of sewer system infrastructure to support the Shore Health System Regional Medical Center. The water and sewer line construction for the proposed Medical Center has been delayed, and there is no definite schedule for project construction.

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8. Section 2 – Department of the Environment Water Supply Financial Assistance Program

Approve the modification of Chapter 424 of 2013 to de-authorize \$450,000 in general obligation bond authorization for the Water Supply Financial Assistance Program to provide a grant to Talbot County for the design and construction of water system infrastructure to support the Shore Health System Regional Medical Center. The water and sewer line construction for the proposed Medical Center has been delayed, and there is no definite schedule for project construction.

## ***Program Description***

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The Maryland Department of the Environment’s (MDE) capital program is comprised of the Water Quality Revolving Loan Fund (WQRLF), the Drinking Water Revolving Loan Fund (DWRLF), the Bay Restoration Fund (BRF) – Wastewater Projects, BRF – Septic System Projects, the Biological Nutrient Removal (BNR) Program, the Supplemental Assistance Program, the Water Supply Financial Assistance Program, the Hazardous Substance Cleanup Program, and a new program for fiscal 2015 – the Mining Remediation Program. The programs address MDE’s goals of ensuring safe and adequate drinking water, improving and protecting Maryland’s water quality, and reducing Maryland citizens’ exposure to hazards. Descriptions of the nine programs follow.

- **Water Quality Revolving Loan Fund** – The WQRLF was created to provide low-interest loans to counties and municipalities to finance water quality improvement projects. The fund was established by the federal government in the Clean Water Act of 1987 and by the State of Maryland in Sections 9-204 and 9-1604 of the Environment Article to replace the federal construction grants program that was phased out. Projects eligible for funding include wastewater treatment plants (WWTP); failing septic systems; and nonpoint source projects, such as urban stormwater control projects. The federal Act requires a 20% State match. For fiscal 2016, at least 10% of the federal funding must be used for Green Reserve projects – water efficiency, energy efficiency, green infrastructure, and environmentally innovative projects – and no more than \$2.768 million may be used for loan forgiveness/grants. WQRLF projects are prioritized based on a U.S. Environmental Protection Agency (EPA) approved Integrated Project Priority System. The priority system for WQRLF projects consists of a system for evaluating, rating, and ranking of both point source and nonpoint source water quality projects. The Integrated Project Priority System was revised by MDE and approved by EPA in 2010 to target financial assistance to projects that help meet Maryland’s Phase I Watershed Implementation Plan (WIP) to address the Chesapeake Bay Total Maximum Daily Load (TMDL). The Integrated Project Priority System focuses on compliance, documented public health concerns, relative effectiveness of projects to the Chesapeake Bay, sustainability criteria, and water quality restoration. In accordance with this system, the projects are rated and ranked by MDE’s Water Quality Financing Administration and are listed in ascending ranking order on the Project Priority List. Through January 1, 2015, the program has executed \$1.938 billion in loans, loan forgiveness, and grants, including American Recovery and Reinvestment Act of 2009 (ARRA) funding.
- **Drinking Water Revolving Loan Fund** – The DWRLF was established in accordance with a federal capitalization grant approved by Congress in 1996 in anticipation of future federal capitalization grants. This program was authorized by the General Assembly in 1993 to provide loans to counties and municipalities to finance water supply improvements and upgrades. In accordance with the federal legislation, these funds may also be loaned to private parties. The federal Act requires that a minimum of 20% of State matching funds for each year’s federal capitalization grant be deposited into the fund. For fiscal 2016, no more than \$4.5 million of the federal funding may be used for grants or loan forgiveness. Similar to the WQRLF, DWRLF projects are prioritized based on an EPA-approved Drinking Water Project Priority System that focuses on many criteria, the most important being public health benefit. Through

January 1, 2014, the program has executed approximately \$293.7 million in loans, loan forgiveness, and grants including ARRA funding.

- **Bay Restoration Fund – Wastewater Projects** – The BRF (Chapter 428 of 2004) was created to address the significant decline in Chesapeake Bay water quality due to overenrichment of nutrients such as phosphorus and nitrogen. This dedicated fund, financed in large part by WWTP users, is used to upgrade Maryland’s 67 major WWTPs with enhanced nutrient removal (ENR) technology. Chapter 150 of 2012 increased the BRF fee beginning July 1, 2012, in order to address a significant funding shortfall that would have made it very difficult to complete the upgrades to the 67 major publicly owned WWTPs by calendar 2017, as required by the WIP. Chapter 150 also made several other changes such as establishing additional uses for the fund beginning in fiscal 2018. As a result, the State will be better positioned to complete the WWTP upgrades by calendar 2017. ENR takes water that has gone through the BNR process and further refines the effluent physically, biochemically, or chemically to an average level of 3.0 milligrams per liter (mg/L) nitrogen and 0.3 mg/L phosphorus. Revenue from this fund also supports upgrades to septic systems. A portion of the funding (\$5 million in the fiscal 2016 allowance) is budgeted in the MDE operating budget for operations and maintenance of WWTPs upgraded to ENR status. The ENR Program provides grants to local governments to institute ENR technology at the 67 largest WWTPs in Maryland. Overall, upgrading these WWTPs will reduce nitrogen loading to the Chesapeake Bay and its tributaries by an additional 7.5 million pounds per year in order to reach Maryland’s commitment under the TMDL as implemented by the WIP.
- **Bay Restoration Fund – Septic System Projects** – The BRF includes a separate program to fund replacement of failing septic systems. This program is funded as part of the BRF legislation by a fee on users of septic systems and sewage holding tanks, of which 60% of the revenue is allocated to MDE for the septic system upgrade program and 40% to the Maryland Department of Agriculture for the Cover Crop Program. While Chapter 280 of 2009 (Chesapeake Bay Nitrogen Reduction Act of 2009) already required best available technology for new and replacement systems in the Chesapeake Bay Critical Area or the Atlantic Coastal Bays Critical Area, new regulations finalized in September 2012 expand septic system upgrade requirements to include the best available technology for all septic systems serving new construction in the Chesapeake and Atlantic Coastal Bays watersheds and in the watershed of any nitrogen impaired water body. MDE provides grants to upgrade failing systems and holding tanks with the best available technology for nitrogen removal. Overall, the program gives priority to projects that involve failing systems in environmentally sensitive areas that are ready to proceed. The program is administered by county governments or other parties; contractors conducting the septic system upgrades are directly reimbursed for their work. Applications are prioritized as follows: (1) failing septic systems or holding tanks in the Critical Areas; (2) failing septic systems or holding tanks outside the Critical Areas; (3) nonconforming septic systems in the Critical Areas; (4) nonconforming septic systems outside of the Critical Areas; (5) other septic systems in the Critical Areas, including new construction; and (6) other septic systems outside the Critical Areas, including new construction. Homeowners with household income less than or equal to \$300,000 per year are eligible for 100% grants of the best available technology cost, and all other homeowners are eligible for grants covering 50% of the cost.

Nonprofit entities are eligible for 100% grants. For-profit businesses are eligible for 50% grants. Chapter 379 of 2014 (Bay Restoration Fund – Authorized Uses – Local Entities) required that up to 10% of the funds in the Septics Account of the Bay Restoration Fund be distributed to a local public entity delegated by MDE – local health departments – to cover reasonable costs associated with implementation of MDE regulations pertaining to septic systems that use the best available technology for nitrogen removal.

- **Biological Nutrient Removal Program** – This program provides cost-share grant funds to local governments to retrofit or upgrade WWTPs to remove a greater portion of nutrients (nitrogen and phosphorus) from discharges. The goal of the program is to support the WIP implementation of the Chesapeake Bay TMDL point source nutrient reduction strategy. The State provides up to 50% of the total eligible project cost, with the ability to provide 100% of the project cost, as provided under Title 9, Sections 9-348 of the Environment Article. BNR biologically removes the total nitrogen to an average level of 8 mg/L and the total phosphorus to an average level of 2 mg/L prior to discharging the water into the receiving waters. The next level of treatment is provided by an upgrade to ENR technology. All WWTPs upgraded to BNR by MDE will have the capacity to accommodate ENR upgrades in the future.
- **Supplemental Assistance Program** – The Supplemental Assistance Program provides grant assistance to local governments for planning, designing, and constructing WWTP improvements; for connection of older communities with failing septic systems; for correction of combined sewer overflows (CSO) and sanitary sewer overflows (SSO); and for correction of excessive infiltration and inflow throughout the State. Funds are targeted principally to two types of projects: (1) maintaining compliance at existing WWTPs; and (2) eliminating failing septic systems in older communities. Funds are directed principally to projects where local governments need a subsidy to undertake the needed water quality or public health project. This program is often used in conjunction with other sources of federal and State financial assistance to achieve project affordability. This program funds up to 87.5% of eligible costs for sewer projects and up to 25.0% of the BNR project costs for small, lower-income jurisdictions. In addition, this program has taken on the needs of the Sewer Rehabilitation Program, which no longer is receiving BRF – Wastewater funding.
- **Water Supply Financial Assistance Program** – The General Assembly created the Water Supply Financial Assistance Program in 1982 to address the deteriorating condition of the State’s water supply infrastructure and the lack of adequate financing available to local governments to upgrade water supply systems. This program provides grants to assist small communities in the acquisition, construction, equipping, rehabilitation, and improvement of publicly owned water supply facilities. The State may provide up to 87.5% of total eligible project costs (not to exceed \$1.5 million per project), and a minimum 12.5% local match is required. In recent years, all assistance has been in the form of grants rather than loans. This program is often used in conjunction with other sources of federal and State financial assistance (such as the DWRLF) to achieve project affordability.
- **Hazardous Substance Cleanup Program** – The Hazardous Substance Cleanup program provides funds for cleaning up uncontrolled waste sites listed on the federal National Priorities



List (Superfund) and other uncontrolled waste sites within the State that do not qualify for federal funding through the Superfund program. The State provides up to 100% of the costs of cleanup for the projects not included on the National Priorities List. At orphan sites, sites lacking a financially viable responsible party to pay for the cleanup, the State provides 100% of the cost of the preliminary site assessment. In all cases, the program seeks cost recovery when possible from responsible parties. The program also provides the State’s share (10.0%) of remediation costs for federal Superfund orphan sites with the remainder provided through the federal share (90.0%).

- Mining Remediation Program** – The Mining Remediation Program was a new addition to MDE’s capital program for fiscal 2015. Where there is no financially viable responsible party, the program provides funding for remediation of abandoned lands and waters impacted by inadequate coal mining reclamation practices prior to the passage of the federal Surface Mine Control and Reclamation Act of 1977. The program will work through the Maryland Abandoned Mine Land Division. Projects include reclamation of surface mine high walls and pits, stabilization of landslides, restoration of stream banks to address flooding, extinguishing underground coal mine and coal refuse fires, stabilization of coal refuse piles, water supply replacement, stabilizing buildings and roads that are impacted by underground mine subsidence, and acid mine drainage treatment projects.

## ***Performance Measures and Outputs***

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In January of each year, MDE solicits interest for funding from the WQRLF and the DWRLF. The solicitation of interest is available to local governments and private drinking water providers. MDE’s funding solicitation in January 2014 for fiscal 2016 funding is reflected in **Exhibit 1**. MDE’s solicitation distinguishes between clean water and drinking water type projects with the majority of funding solicited for clean water projects. As reflected in the exhibit, the funding demand of \$755.6 million exceeds the \$154.0 million in the fiscal 2016 allowance for the WQRLF and the DWRLF.

### **Exhibit 1 MDE Capital Program Funding Solicitation for Revolving Loan Funds Fiscal 2016**

<u>Project Type</u>	<u>Applications</u>	<u>Total Project Cost</u>	<u>Funding Requested from MDE</u>
<b>Clean Water</b>			
Advanced Treatment	12	\$636,720,823	\$362,929,669
Sewerage (inc. I/I & CSO)	55	284,489,458	156,844,728
Stormwater	2	1,453,038	1,439,229
Small Creeks and Estuaries	3	8,735,512	6,135,962
Landfills	1	1,861,500	1,555,000
<b>Subtotal</b>	<b>73</b>	<b>\$933,260,331</b>	<b>\$528,904,588</b>

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<u>Project Type</u>	<u>Applications</u>	<u>Total Project Cost</u>	<u>Funding Requested from MDE</u>
<b>Drinking Water</b>			
Source Water Development	1	\$1,639,200	\$571,700
Water Treatment Plant	3	5,023,494	4,740,000
Transmission/Distribution Main	27	58,789,962	55,539,162
Water Storage	9	226,161,100	165,868,895
Other	0	0	0
<b>Subtotal</b>	<b>40</b>	<b>\$291,613,756</b>	<b>\$226,719,757</b>
<b>Total</b>	<b>113</b>	<b>\$1,224,874,087</b>	<b>\$755,624,345</b>

CSO: combined sewer overflow

I/I: infiltration or inflow

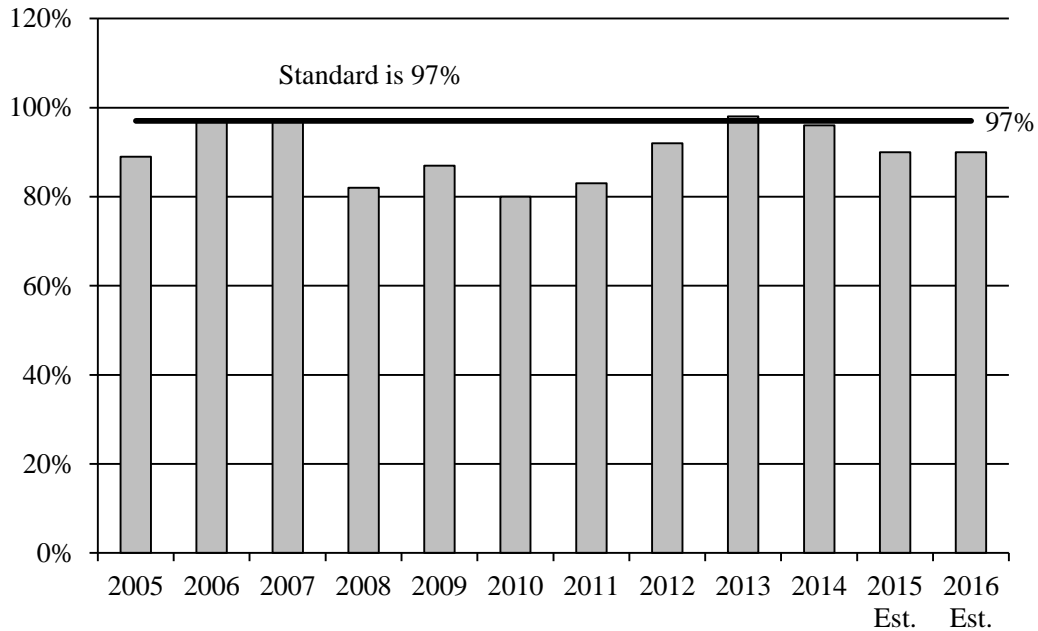
MDE: Maryland Department of the Environment

Source: Maryland Department of the Environment

## **Drinking Water Revolving Loan Fund**

**Exhibit 2** shows that due to the changing nature of the underlying standards to which MDE applies a 97% significant compliance goal, it is difficult to see long-term trends in public water system compliance with rules. Instead, there appears to be a trend toward increasing compliance with a standard for a couple of years after the standard is created until a new standard is developed and the process starts over. For instance, Maryland met the standard for complying with the 2002 rules in fiscal 2006, but then new rules were developed, and the compliance dropped to 82% in fiscal 2008. Five new federal regulations required new State rules in fiscal 2010. As of October 2013, MDE notes that monitoring requirements for two new contaminant levels have reduced the fiscal 2015 and 2016 compliance levels. These two new contaminant levels are the Long Term Enhanced Surface Water Treatment Rule, which became effective on September 30, 2014, for targeted systems serving less than 10,000 people, and the Stage 2 Disinfections By-Products Rule, which required a second round of monitoring in October 2013 and reporting by October 2014. In addition, MDE notes that it was anticipating the Revised Total Coliform Rule to be adopted in fiscal 2015, but this has since been pushed back to fiscal 2016. However, as noted previously, the overall trend is toward a cleaner public water system in Maryland.

**Exhibit 2  
Marylanders Served by Public Water Systems  
In Significant Compliance  
Fiscal 2005-2016 Est.**



Note: Up to fiscal 2008, the basis for significant compliance with public water systems rules was 97% of the rules adopted in 2002. For fiscal 2008, the basis for significant compliance is 97% of the rules adopted since fiscal 2002. For fiscal 2009 and onward, significant compliance is measured as 97% of the rules adopted as of fiscal 2009. In fiscal 2010, State regulations were adopted to reflect five new federal regulations: arsenic, radionuclide, Stage 2 Disinfection Byproduct, Long Term Enhanced Surface Water Treatment, and revised lead and copper. The Maryland Department of the Environment notes that fiscal 2015 and 2016 estimates have been adjusted to reflect short-term compliance issues from more than 500 water systems implementing new monitoring requirements, as of October 2013, for two new maximum contaminant levels.

Source: Governor’s Budget Books, Fiscal 2008-2016

**Bay Restoration Fund – Wastewater Projects**

**Exhibit 3** shows the status of efforts to install BNR and ENR technology at the 67 major WWTPs. BNR technology allows WWTPs to achieve wastewater effluent quality of 8 mg/L total nitrogen and 3 mg/L total phosphorus. As of January 2015, of the 67 major WWTPs, 93% are operating at the BNR level (up from 88% as of January 2014), and 54% are operating at the ENR level (up from 46% as of January 2014). MDE indicates that there are five WWTPs that may not meet the deadline to fully complete the upgrade of the 67 major WWTPs to ENR technology by June 30, 2017. The

**Exhibit 3**  
**Status of BNR and ENR Construction**  
**Through January 2015**

	<u>BNR</u>	<u>ENR</u>
Pre-planning	0	0
Planning	1	2
Design	1	8
Construction	3	21
Under Operation	62	36
<b>Total</b>	<b>67</b>	<b>67</b>

BNR: biological nutrient removal

ENR: enhanced nutrient removal

Note: The Bay Restoration Fund Advisory Committee added the Hampstead wastewater treatment plant, increasing the major plants to 67.

Source: Maryland Department of the Environment

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five WWTPs are Westminster, Salisbury, Princess Anne, Hampstead, and Mayo, although they are all expected to be under construction by that point. EPA’s most recent evaluation of Maryland’s progress and commitments indicates that the State will have enough measures in place by calendar 2017 to achieve 60% of the necessary nutrient pollution reductions. However, those commitments include actions that have not yet been fully mapped out or implemented, including regulations for the Phosphorus Management Tool, renewing the general discharge permit for animal feeding operations, developing a tracking system for accounting for new growth, and funding upgrades for minor WWTPs.

### **Bay Restoration Fund – Septic System Projects**

The septic system data provided in **Exhibit 4** reflects the large numbers of septic systems to be upgraded by the program. The greatest number of both the State’s septic systems in the Critical Area and upgrades funded by the BRF are in Anne Arundel County. Between December 2013 and February 2015, 1,286 septic systems in total have been upgraded with BRF funding, which includes 711 in the Critical Area. Since the program’s inception, a total of 1,149 systems have been upgraded using non-BRF funding with the greatest number of upgrades in Anne Arundel County.

**Exhibit 4  
Septic System Data  
February 2015**

<u>County</u>	<u>Systems</u>	<u>Systems in Critical Area</u>	<u>Systems Not in Critical Area</u>	<u>BRF Upgraded Septic Systems</u>	<u>Critical Area BRF Upgraded Septic Systems</u>	<u>Septic Systems Upgraded without BRF Funding</u>
Allegany	4,169	0	4,169	12	0	9
Anne Arundel	40,538	12,911	27,627	857	704	300
Baltimore City	0	0	0	0	n/a	0
Baltimore County	28,000	2,130	25,870	186	46	54
Calvert	25,341	4,832	20,509	514	429	105
Caroline	8,463	1,135	7,328	184	100	16
Carroll	33,441	0	33,441	102	n/a	55
Cecil	20,209	3,503	16,706	288	175	37
Charles	22,067	1,132	20,935	156	105	24
Dorchester	6,883	3,321	3,562	350	324	11
Frederick	31,031	0	31,031	150	n/a	88
Garrett	11,897	0	11,897	43	n/a	1
Harford	33,568	182	33,386	193	30	83
Howard	17,131	0	17,131	77	n/a	83
Kent	4,850	1,914	2,936	281	177	27
Montgomery	32,800	0	32,800	119	n/a	54
Prince George's	10,348	209	10,139	11	1	14
Queen Anne's	9,074	4,525	4,549	500	393	6
Somerset	6,058	2,529	3,529	667	319	36
St. Mary's	21,882	5,994	15,888	542	420	52
Talbot	7,732	4,045	3,687	345	305	16
Washington	18,626	0	18,626	160	n/a	38
Wicomico	20,619	1,589	19,030	351	124	20
Worcester	7,039	1,520	5,519	207	128	20
<b>Total</b>	<b>421,766</b>	<b>51,471</b>	<b>370,295</b>	<b>6,295</b>	<b>3,780</b>	<b>1,149</b>

BRF: Bay Restoration Fund

Note: The information on the total number of septic systems is based on 2009 Maryland Department of Planning data, while the number of systems in the Critical Area is based on 2004 Maryland Department of Planning data. Certain counties have no septic systems in the Critical Area. In the column "Critical Area BRF Upgraded Septic Systems," the information for these counties is designated as not applicable, or "n/a."

Source: Maryland Department of the Environment

The Phase II WIP strategy for septic system upgrades is 43,181 additional septic systems not planned for connection to WWTPs. This figure is comprised of 15,141 systems in the Critical Area, 15,498 systems outside the Critical Area but within 1,000 feet of a perennial stream, and 12,542 additional systems outside the Critical Area and beyond 1,000 feet of a perennial stream. MDE has noted in the past that along with the approximately 1,200 septic systems upgraded per year with BRF funding, the new regulations requiring best available technology for new construction and repairs to existing homes in the Chesapeake Bay watershed, paid for by homeowners, will help convert most septic systems to best available technology over the septic systems 30-year life cycle. However, it was noted in the report *Historical and Projected Chesapeake Bay Restoration Spending* submitted by the Administration in response to budget bill language in the fiscal 2015 operating budget bill that nutrient reductions due to septic system upgrades and connections to wastewater treatment plants are typically outweighed by the installation of new septic systems.

**Exhibit 5** shows the septic systems upgraded by county for fiscal 2008 to 2014. Between fiscal 2008 and 2010, MDE implemented a concurrent program with the county reimbursable program, which is reflected under the label “statewide.” The average number of septic systems upgraded over the time period shown is 933, which is greater than the 747 in last year’s analysis. In fact, in fiscal 2014, there were 1,635 total upgrades perhaps due to the additional revenue generated by doubling the BRF fee by Chapter 151 of 2012.

**Exhibit 5  
Septic System Best Available Technology Installations  
Fiscal 2008-2014**

<b><u>Jurisdiction</u></b>	<b><u>2008</u></b>	<b><u>2009</u></b>	<b><u>2010</u></b>	<b><u>2011</u></b>	<b><u>2012</u></b>	<b><u>2013</u></b>	<b><u>2014</u></b>
Allegany				1	2	1	7
Anne Arundel	44	72	0	170	201	265	239
Baltimore				17	19	20	36
Calvert	35	49	55	95	77	108	109
Caroline	10	17	7	13	31	22	58
Carroll				3	3	5	53
Cecil		1	26	28	39	62	127
Charles	19	16	51	3	14	9	24
Dorchester		11	5	69	68	34	86
Frederick	14	17	0	13	15	41	67
Garrett				8	5	8	11
Harford			45	1	7	15	69
Howard				3	8	13	39
Kent	12	28	2	34	46	50	81
Montgomery				4	6	14	33
Prince George's				0	1	2	12
Queen Anne's				72	59	73	125
St. Mary's				67	61	125	171
Somerset				23	28	40	31
Talbot	49	52	10	31	24	44	90
Washington		16	25	15	18	48	44
Wicomico	48	19	77	54	29	36	84
Worcester	8	34	61	30	11	28	39
Statewide	53	569	751	0	0	0	0
<b>Total Upgrades</b>	<b>292</b>	<b>901</b>	<b>1,115</b>	<b>754</b>	<b>772</b>	<b>1,063</b>	<b>1,635</b>
Subset of Total Upgrades: Critical Area BAT Upgrades	189	418	551	580	585	650	743

BAT: best available technology

Note: Gray-shaded cells reflect no reimbursement funding being provided to a county for that year.

Source: Maryland Department of the Environment

## Hazardous Substance Clean-up Program

The previous performance measure for the Hazardous Substance Clean-up Program was the number of properties on the State Master and Non-Master Lists that are given a “No Further Action” determination and moved to the formerly investigated sites category or archived. The State Master List identified potential hazardous waste sites in Maryland and includes sites identified under the EPA’s Superfund Program. The Non-Master List is comprised of sites currently under investigation or that had previously been investigated but were not on the State Master List. However, beginning in 2014, MDE notes that it combined all the sites into a single list called the Brownfield Master Inventory list, which was an amalgamation of the State Master List, the Non-Master List, a Federal Facilities list, a Voluntary Cleanup Program list, a Formerly Used Defense Site list, and a Brownfield list.

**Exhibit 6** reflects data on the number of sites on the State Master and Non-Master List between fiscal 2010 and 2013. More recently, MDE notes that there were 1,014 active sites and 804 archived sites on the Brownfield Master Inventory list, although sites can move between the “active” and “archived” list based on whether a prospective property purchaser enrolls the property in the Voluntary Cleanup Program or new environmental data suggests inclusion. In addition, to time series data on how many projects are on the new Brownfield Master Inventory list, it would be helpful to know the value of the land improvements generated by the Hazardous Substance Clean-up Program in terms of increased taxes, new development, jobs, and the saving of valuable undeveloped land, but this information is not currently collected.

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**Exhibit 6**  
**State Master and Non-Master List Sites**  
**Fiscal 2010-2013**

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
<b>Beginning</b>	<b>355</b>	<b>347</b>	<b>344</b>	<b>318</b>
Removed	-8	-5	-26	-20
Added	0	2	0	0
<b>Net Change</b>	<b>-8</b>	<b>-3</b>	<b>-26</b>	<b>-20</b>
<b>End</b>	<b>347</b>	<b>344</b>	<b>318</b>	<b>298</b>

Note: It is assumed that no sites were added in fiscal 2013.

Source: Maryland Department of the Environment

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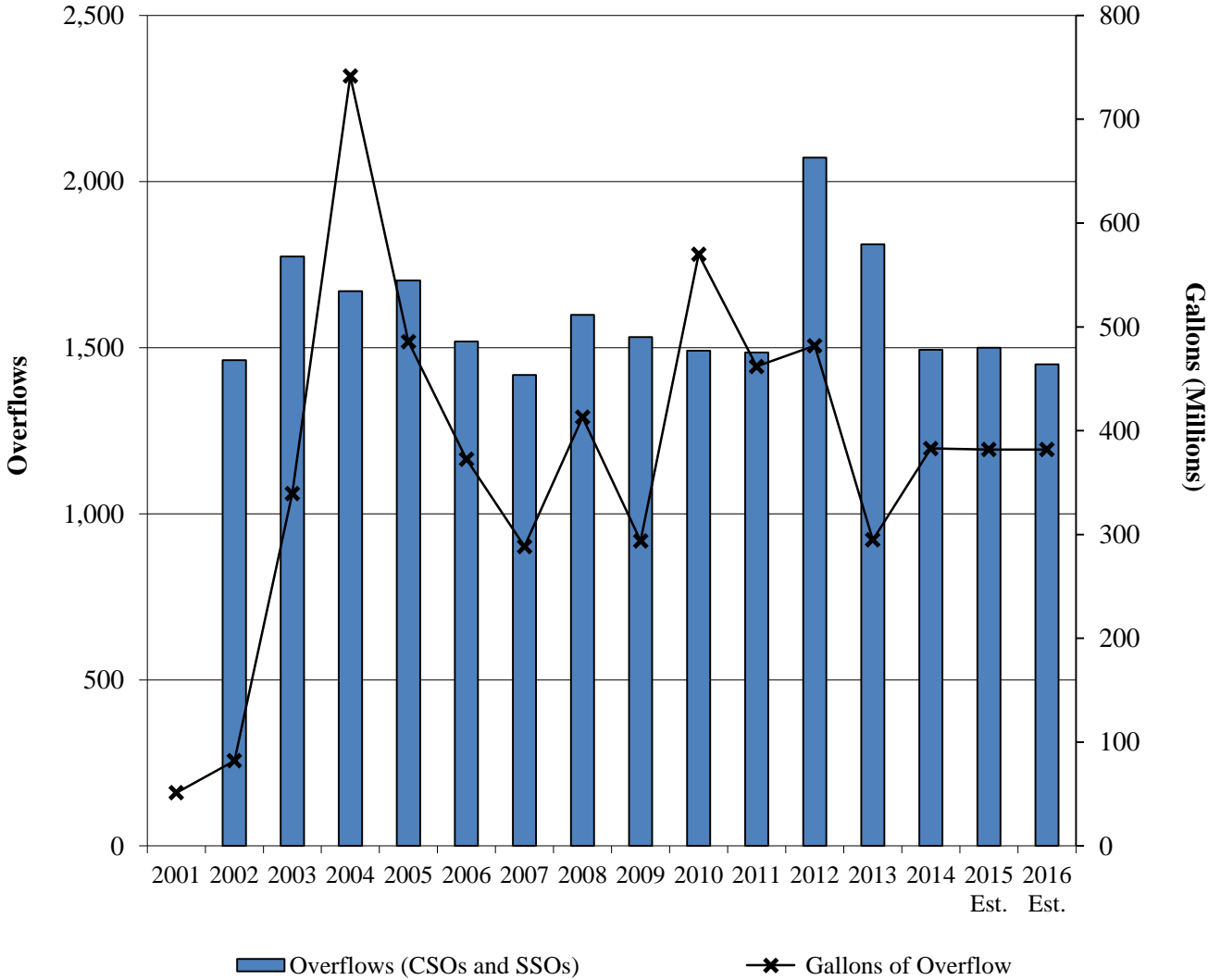


## **Supplemental Assistance Program**

A number of Maryland’s jurisdictions have signed consent decrees, requiring the upgrade of their sewer systems due to the release of untreated sewage from facilities with National Pollutant Discharge Elimination System permits. These releases are called CSOs if a jurisdiction has a single system carrying both storm and sanitary sewer water, and it is called a SSO if the two systems are separated.

As illustrated in **Exhibit 7**, the number of sewage overflows decreased between fiscal 2013 and 2014 while the gallons of sewage released increased. Over the fiscal 2001 through 2014 period, it appears very little progress has been made to reduce the number of overflows or gallons of sewage released. MDE has noted previously that funding for sewer rehabilitation and the amount of rainfall will determine future sewer overflow reductions and that it has very little control over either the number of overflows or the associated gallons. For instance, while not necessarily reflected in Exhibit 7, MDE notes that predictions about more substantial storms due to global warming have led to higher overflow estimates for future years. MDE notes that it can ensure that the systems have Long-term Control Plans and/or consent decrees or other enforcement actions to control overflows, but that remedying these shortcomings can be expensive, long-term projects and so only slow progress toward the objective of a 50% reduction from the baseline amount of overflow gallons can be made. In terms of progress, MDE notes that Baltimore County and the Washington Suburban Sanitary Commission have made system upgrade progress under their consent orders and that Cambridge completed its sewer separation project to eliminate CSOs and their consent order has been terminated in 2014. Furthermore, Frostburg and other communities continue to make progress in improving their systems in accordance with their consent orders for improvements.

**Exhibit 7  
CSO and SSO Overflows  
Fiscal 2001-2016**



CSO: combined sewer overflow  
SSO: sanitary sewer overflow

Note: The number of gallons of overflow is calculated by the annual net change in number of gallons of overflows from the 2003-2005 average to that average.

Source: Governor’s Budget Books, Fiscal 2005-2016

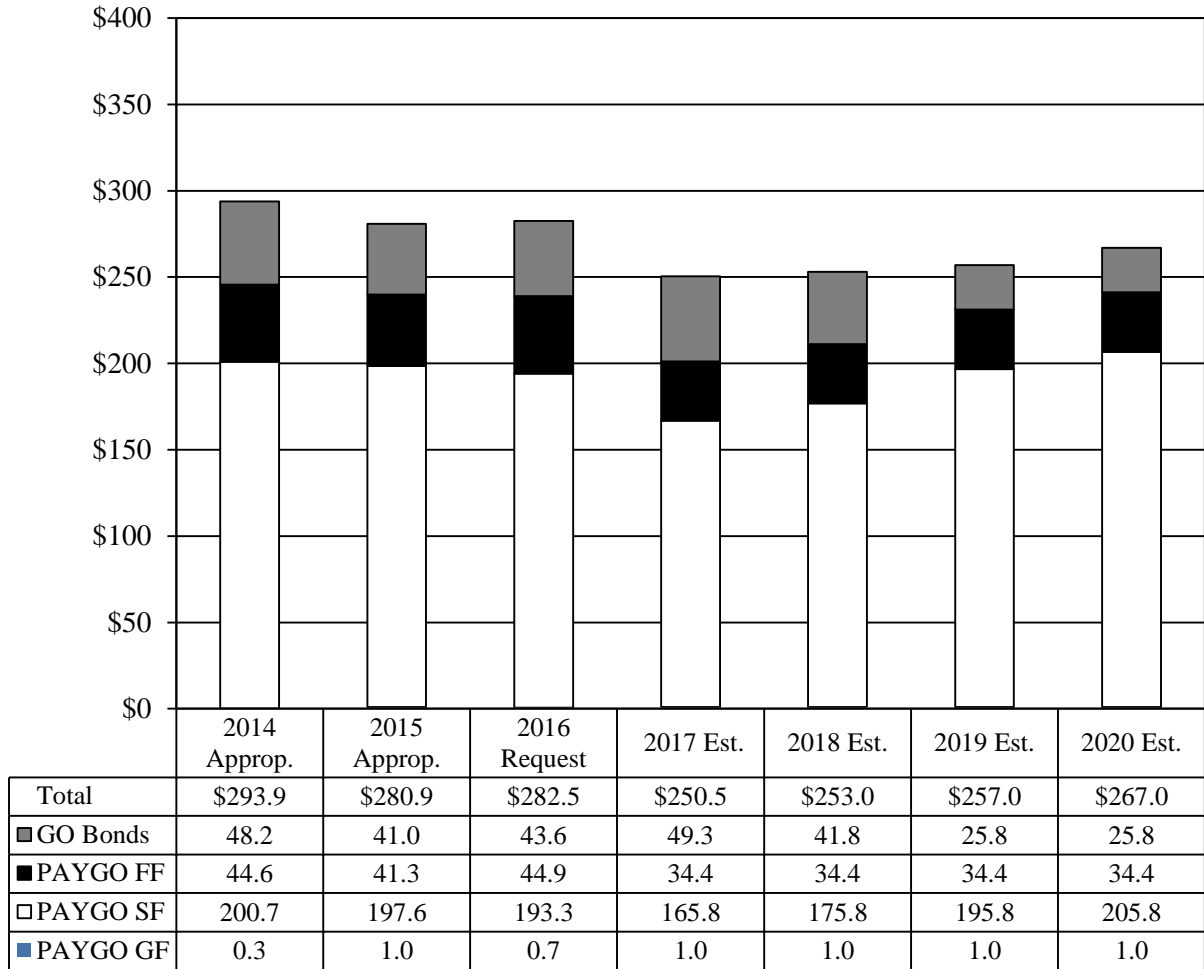
## ***Budget Overview***

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### **Fiscal 2016 Budget**

In the Governor’s budget, MDE’s fiscal 2016 capital program, as introduced, includes \$0.7 million in general funds, \$193.3 million in special funds, \$44.9 million in federal funds, and \$43.6 million in general obligation (GO) bonds for a total of \$282.5 million. The overall change between fiscal 2015 and 2016 is a \$1.6 million increase, as shown in **Exhibit 8**. The increase in funding between fiscal 2015 and 2016 is attributable to the \$5.3 million in additional funding for BNR to upgrade the Back River WWTP, which is offset partially by reductions of \$1.7 million for the Supplemental Assistance Program, \$1.7 million for the Water Supply Financial Assistance Program, \$1.0 for the Septic System Upgrade Program, and \$1.0 million for the BRF – Wastewater Projects. For the out-years, the slight but steady increase in funding is attributable to the WQRLF revolving of special funds and the funding programmed for the BRF – Wastewater Projects as funding comes online for stormwater retrofits, septic system upgrades, and major-minor upgrades to ENR technology.

**Exhibit 8**  
**MDE Capital Programs Funding**  
**Fiscal 2014-2020 Est.**  
**(\$ in Millions)**



FF: federal funds  
 GF: general funds  
 GO: general obligation  
 MDE: Maryland Department of the Environment  
 PAYGO: pay-as-you-go  
 SF: special funds

Source: Governor’s Capital Budget, Fiscal 2016; Department of Budget and Management Capital Budget Worksheets

## **Multiple Sources of Funding**

Unlike prior years, there are only a few projects in the fiscal 2016 allowance receive funding from multiple MDE pay-as-you-go programs. **Exhibit 9** shows water quality-related project funding across programs; there are two projects receiving multiple sources of funding in fiscal 2016. The Back River WWTP improvements and High Level Sewershed Sewer Improvements projects receive funding from two programs. **Exhibit 10** shows drinking water-related project funding across programs, for which there is one project receiving multiple sources of funding in fiscal 2016 – Jenkins Lane Water System.

**Exhibit 9  
Water Quality-related Project Funding Across Programs  
Fiscal 2016**

	<b>LD</b>	<b>Project Title</b>	<b>Estimated Cost</b>	<b>WQRLF</b>	<b>SAP</b>	<b>BNR</b>	<b>ENR</b>	<b>Total</b>	<b>Reasons for Multiple Allocations</b>
Allegany	1B	LaVale Mechanic Street Interceptor Sewer Rehabilitation	\$1,495,000	\$0	\$650,000	\$0	\$0	\$650,000	Not applicable.
Allegany	1B	Wrights Crossing Pump Station Improvements	2,000,000	0	1,000,000	0	0	1,000,000	Not applicable.
Allegany	1B	Frostburg CSO Elimination Phase VIII – Grant Street Connector	1,684,000	0	1,474,000	0	0	1,474,000	Not applicable.
Anne Arundel	46	Patapsco Sewershed Sewer Improvements Phase I SC-903	23,531,700	1,577,900	0	0		1,577,900	Not applicable.
Baltimore	6	Back River WWTP, BNR and ENR Upgrade	686,535,731	0	0	26,500,000	80,000,000	106,500,000	This is a multi-year project with multiple contracts. BNR and ENR have been encumbered according to eligibility and as bids have opened.
Baltimore City	41	Gwynns Falls Sewershed Collection System Area B SC 921	18,520,000	4,375,000	0	0	0	4,375,000	

	<u>LD</u>	<u>Project Title</u>	<u>Estimated Cost</u>	<u>WQRLF</u>	<u>SAP</u>	<u>BNR</u>	<u>ENR</u>	<u>Total</u>	<u>Reasons for Multiple Allocations</u>
Baltimore City	43	Herring Run Sewershed Sewer Improvements Chinquapin Run SC-910	16,440,000	5,785,000	0	0	0	5,785,000	Not applicable.
Baltimore City	41	High Level Sewershed Sewer Improvements SC-940	19,450,000	13,545,000	233,000	0	0	13,778,000	The applicant is eligible for the \$1.5 million maximum subsidy for this project. The WQRLF amount includes \$1,267,900 of loan forgiveness; the balance of eligible subsidy is requested as Supplemental Assistance Program.
Baltimore City	40	Jones Falls Sewershed Sewer Improvements SC-941	12,798,000	6,140,000	0	0	0	6,140,000	Not applicable.
Baltimore City	46	Low Level Sewershed Sewer Improvements SC-914	18,078,000	12,520,000	0	0	0	12,520,000	Not applicable.
Baltimore City	44A	Maidens Choice Sewer Improvements SC-939	4,984,700	1,410,000	0	0	0	1,410,000	Not applicable.
Baltimore City	46	Patapsco Sewershed Sewer Improvements Phase I SC-903	23,531,700	15,400,000	0	0	0	15,400,000	Not applicable.
Frederick	3A	Gas House Pike WWTP Miscellaneous Improvements	51,981,800	29,205,800	0	0	0	29,205,800	Not applicable.

	<u>LD</u>	<u>Project Title</u>	<u>Estimated Cost</u>	<u>WQRLF</u>	<u>SAP</u>	<u>BNR</u>	<u>ENR</u>	<u>Total</u>	<u>Reasons for Multiple Allocations</u>
Garrett	1A	Mountain Lake Park Stormdrain Project – Heritage Drive and Pensinger Drive	1,143,038	121,500	0	0	0	121,500	Not applicable.
Prince George's	23B	Bowie WWTP Building Addition	642,850	164,800	0	0	0	164,800	Not applicable.
Somerset	38A	Smith Island Wastewater Upgrades	6,189,630	0	500,000	0	0	500,000	Not applicable.
Washington	2B	Hagerstown Collection System Rehabilitation Phase 1A	690,000	0	300,000	0	0	300,000	Not applicable.
Wicomico	37A	Salisbury WWTP – Miscellaneous Improvements	68,679,000	36,480,000	0	0	0	36,480,000	Not applicable.
<b>Total</b>			<b>\$962,825,649</b>	<b>\$130,000,000</b>	<b>\$4,157,000</b>	<b>\$26,500,000</b>	<b>\$80,000,000</b>	<b>\$240,657,000</b>	

BNR: Biological Nutrient Removal Program  
 CSO: combined sewer overflows  
 ENR: enhanced nutrient removal  
 WQRLF: Water Quality Revolving Loan Fund  
 WWTP: wastewater treatment plants

Source: Maryland Department of the Environment



**Exhibit 10**  
**Drinking Water-related Project Funding Across Programs**  
**Fiscal 2016**

Analysis of the FY 2016 Maryland Executive Budget, 2015

UA01 – Department of the Environment – Capital

<u>Subdivision</u>	<u>LD</u>	<u>Project Title</u>	<u>Estimated Cost</u>	<u>DWRLF</u>	<u>Water Supp.</u>	<u>Total</u>	<u>Reasons for Multiple Allocations</u>
Baltimore City	8	Fullerton Water Reservoir	\$78,662,000	\$0	\$1,500,000	\$1,500,000	Not applicable.
Cecil	36	Chesapeake City Water Storage Tank	1,662,500	0	831,000	831,000	Not applicable.
Wicomico	38B	Pittsville Water Treatment Plant Upgrade Phase 3	326,000	0	163,000	163,000	Not applicable.
Allegany	1B	Barrelville Water	900,000	900,000	0	900,000	Not applicable.
Allegany	1B	Creek Road Water	600,000	300,000	0	300,000	Not applicable.
Baltimore City	40	Druid Lake Tanks Replacement WC 1204	143,560,000	11,446,780	0	11,446,780	Not applicable.
Calvert	27B	Chesapeake Heights/Dares Beach Arsenic Treatment	1,639,200	1,456,700	0	1,456,700	Not applicable.
Calvert	29C	St. Leonard Tower Well & Elevated Storage Tank	2,131,600	1,378,600	0	1,378,600	Not applicable.
Charles	28	Jenkins Lane Water System	667,385	500,385	167,000	667,385	To make the project more affordable.
Garrett	1A	Oakland Water System Rehabilitation	450,000	450,000	0	450,000	Not applicable.
Somerset	38A	Westover Water Service	3,681,035	3,681,035	0	3,681,035	Not applicable.
St. Mary's	29B	Piney Point Water System Upgrade	2,386,500	2,386,500	0	2,386,500	Not applicable.
Washington	1C	Williamsport Phase II Water Improvements	1,500,000	1,500,000	0	1,500,000	Not applicable.
<b>Total</b>			<b>\$238,166,220</b>	<b>\$24,000,000</b>	<b>\$2,661,000</b>	<b>\$26,661,000</b>	

DWRLF: Drinking Water Revolving Loan Fund

Source: Maryland Department of the Environment

**Highlights**

The changes in funding between fiscal 2015 and 2016 are reflected in terms of the program overall difference in **Exhibit 11**.

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**Exhibit 11**  
**MDE Capital Funding Changes**  
**Fiscal 2015-2016**  
**(\$ in Millions)**

<u>Program</u>	<u>2015 Approp.</u>	<u>2016 Request</u>	<u>Difference</u>
Biological Nutrient Removal Program	\$21.200	\$26.500	\$5.300
Maryland Drinking Water Revolving Loan Fund	22.000	24.000	2.000
Maryland Water Quality Revolving Loan Fund	130.000	130.000	0.000
Mining Remediation Program	0.500	0.500	0.000
Hazardous Substance Clean-up Program	1.000	0.700	-0.300
Bay Restoration Fund – Wastewater Projects	81.000	80.000	-1.000
Septic System Upgrade Program	15.000	14.000	-1.000
Water Supply Financial Assistance Program	4.357	2.661	-1.696
Supplemental Assistance Program	5.864	4.157	-1.707
<b>Total</b>	<b>\$280.921</b>	<b>\$282.518</b>	<b>\$1.597</b>

MDE: Maryland Department of the Environment

Source: Department of Budget and Management; Department of Legislative Services

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The highlighted changes in new funding for fiscal 2016 are as follows:

- Biological Nutrient Removal** – The BNR Program funding increases by \$5.3 million in GO bonds relative to the fiscal 2015 authorization and is \$1.5 million greater than the amount projected in the 2014 *Capital Improvement Program* (CIP). This is due to an increase in the funding authorized for the Back River WWTP BNR upgrade – the one project in the fiscal 2016 budget. Out-year funding increases relative to the 2014 CIP for fiscal 2017 and 2018 a result from shifting costs for the Back River project into future years due to fiscal 2016 capital budget constraints. Overall, the Back River project cost for both BNR and ENR has decreased from \$698.3 million to \$686.5 million due to a reduction of \$11.8 million in the construction cost. The State’s expected BNR total contribution has also decreased – from \$140.2 million to \$139.3 million – but its percent contribution has increased from 20.1% to 20.3%, which is why the overall cost decrease has not led to greater savings for the State. The future BNR request for the Back River upgrade is estimated to be \$49.6 million. Starting in fiscal 2019, there is \$10.0 million per year programmed for the upgrade of the major-minors to BNR technology. **Exhibit 12** shows the major-minors that MDE is currently considering for funding.

**Exhibit 12**  
**Major-Minors Being Considered for Biological Nutrient Removal Funding**  
(\$ in Millions)

<u>Facility</u>	<u>Subdivision</u>	<u>Amount</u>	<u>Funding Schedule</u>
Queenstown	Queen Anne’s	\$1.4 actual	Funded in fiscal 2014
Rising Sun	Cecil	1.7 actual	Funded in fiscal 2015
Sudlersville	Queen Anne’s	0.9 actual	Funded in fiscal 2015
Greensboro	Caroline	2.3 estimated	To be determined
Betterton	Kent	1.5 estimated	To be determined
Galena	Kent	1.0 estimated	To be determined
Chesapeake City	Cecil	To be determined	To be determined
Rock Hall	Kent	To be determined	To be determined
Town of Secretary (Twin Cities)	Dorchester	To be determined	To be determined
Oxford	Talbot	To be determined	To be determined

Note: MDE notes that the funding schedule label of “To be determined” means that funds will be provided after construction bids open.

Source: Maryland Department of the Environment

- Water Supply Financial Assistance Program** – The Water Supply Financial Assistance Program funding of \$2,661,000 in GO bonds reflects a \$1,696,000 reduction relative to the fiscal 2015 authorization, which included a \$3,000,000 allocation to Fruitland for design and

construction of the Fruitland Water Tower and Drinking Water Distribution System for the Morris Mill area residents. MDE notes that this project is under construction. Relative to the 2014 CIP, the fiscal 2016 authorization reflects a \$161,000 increase, which is due to the interest in funding high-priority projects for disadvantaged communities. The \$161,000 can be attributed to the full funding of the Chesapeake City Water Storage Tank Project in Cecil County. The fiscal 2014 Talbot County Water System project funding of \$450,000 in GO bonds is de-authorized in the fiscal 2016 capital budget bill.

- **Hazardous Substance Clean-up Program** – The fiscal 2016 allowance includes \$0.7 million in general funds for the Hazardous Substance Clean-up Program, which is a decrease of \$0.3 million relative to both the fiscal 2015 appropriation and the 2014 CIP. Of the \$0.7 million in fiscal 2016 proposed funding, \$225,000 would continue the site assessment activities and \$475,000 would be used for clean-ups at four sites: Chemical Metals Inc. – Indoor Air and Water Quality Improvements (\$150,000), Fairchild Republic – Reactivate Monitoring Wells (\$125,000), Lindamoor Lane Well Contamination (\$100,000), and Lusby Crossroads Groundwater Contamination (\$100,000).
- **Mining Remediation Program** – The Mining Remediation Program receives its second year of funding in fiscal 2016 – \$500,000 in GO bonds – which is equal to both the fiscal 2015 authorization and the 2014 CIP. The funding provides for second year funding of the following three projects: Winebrenner Run Acid Mine Drainage Remediation Project (\$251,948), Upper George’s Creek Stream Sealing Project (\$125,000), and Matthew Run Acid Mine Drainage Remediation Project (\$123,052). MDE notes that it encumbered all of its fiscal 2015 funding in February 2015, completed the first treatment project in the Jennings Run watershed in fall 2014, plans on investigating Upper George’s Creek streams and tributaries after the February 18, 2015 Board of Public Works meeting, and is nearing completion on preliminary design work for the Winebrenner Run Acid Mine Drainage Remediation Project.
- **Maryland Water Quality Revolving Loan Fund** – MDE’s fiscal 2016 allowance for the WQRLF is even with the fiscal 2015 appropriation, although it reflects an increase of \$10.0 million relative to the 2014 CIP due to an increase in the federal capitalization amount, which requires a greater match. MDE’s revised plan is to encumber \$140.0 million in fiscal 2015, which will increase the estimated ending balance from \$2.4 million – under a \$192.8 million encumbrance assumption – to \$55.2 million by the end of 2015. The fiscal 2016 allowance includes \$89.3 million in special funds, \$33.9 million in federal funds, and \$6.8 million in GO bonds used for the 20% match to the federal funds. This funding would provide for a number of Baltimore City CSO projects that MDE indicates are ready to proceed. The single largest project planned for fiscal 2016 is the \$36.5 million Salisbury WWTP miscellaneous improvements project, which originally used an alternative design for its ENR upgrade that failed. MDE notes that the current estimated State commitment to the project is a BNR grant of \$7.8 million, ENR grant of \$13.6 million, and the fiscal 2016 WQRLF amount of \$36.5 million. Project bids will open March 2015 with construction underway by July 1. Lower future federal allocations are reflected in the 2015 CIP as \$24.0 million per year through fiscal 2020. Local government stormwater funding needs under the 20% impervious surface retrofit requirement for the State’s Watershed Implementation Plan for Chesapeake Bay

restoration are expected to increase substantially in the next couple of years. Therefore, the approximately \$100,000,000 fund balance that may be accumulated by fiscal 2020 – based on the funding plan reduction of \$52.8 million in encumbrances in fiscal 2015 – will allow for a substantial investment in stormwater infrastructure. Additionally, MDE is authorized to issue revenue bonds under the WQRLF that would increase the available funding for stormwater retrofits. **DLS recommends that MDE comment on the amount and timing of expected local government stormwater retrofit project cost requests to be funded by the WQRLF and on whether it anticipates issuing revenue bonds for this purpose within the next couple of years.**

- **Maryland Drinking Water Revolving Loan Fund** – The DWRLF allowance for fiscal 2016 is \$2.0 million greater than both the fiscal 2015 appropriation and the 2014 CIP due to a greater amount of federal funds and State match GO bonds. The federal allocation to Maryland has increased from 1.55% to 1.70% to reflect the ratio of Maryland drinking water needs as a percentage of the national drinking water needs based on the 2011 U.S. EPA National Drinking Water Needs Survey conducted by the EPA. MDE has attributed the increase in need to new drinking water treatment rules and aging infrastructure and Maryland’s utilities being diligent in completing the needs survey. The fiscal 2015 allowance includes \$10.0 million in special funds, \$11.0 million in federal funds, and \$3.0 million in GO bond authorizations used as matching funding. The one large project in fiscal 2016 is the Druid Lake Tanks replacement, which reflects continuing State funding.
- **Septic System Upgrade Program** – The fiscal 2016 appropriation of \$14.0 million in special funds for the Septic System Upgrade Program decreases by \$1.0 million relative to both the fiscal 2015 appropriation and the 2014 CIP. The change is due to Chapter 379 of 2014 (Bay Restoration Fund – Authorized Uses – Local Entities), which required that up to 10.0% of the funds in the septic account of the Bay Restoration Fund be distributed to a local public entity delegated by MDE – local health departments – to cover reasonable costs associated with implementation of MDE regulations pertaining to septic systems that use the best available technology for nitrogen removal. MDE notes that it distributed \$1.06 million in fiscal 2015 and that the funding is distributed based on the number of septic systems in each county: 3 small counties with few septic systems – \$30,000; 7 medium counties with more septic systems – \$55,000; and 13 large counties with the most septic systems – \$80,000. The program anticipates upgrading 1,100 systems in fiscal 2016.
- **Supplemental Assistance Program** – The Supplemental Assistance Program funding for fiscal 2016 of \$4,157,000 in GO bonds reflects a decrease relative to the fiscal 2015 authorization partially due to one-time funding for the town of Federalsburg Railroad Avenue CSO removal and water main replacement project. The fiscal 2016 allowance is \$843,000 less than the amount projected in the 2014 CIP because the \$500,000 Smith Island wastewater upgrades project – which consists of directional drilling to construct a force main under the Chesapeake Bay from Tylerton to Ewell to treat wastewater at the existing Ewell WWTP – will

- be funded over two years. The one large project in the fiscal 2016 authorization is \$1,000,000 for the Wrights Crossing Pump Station improvements. The fiscal 2014 Talbot County sewer system – infrastructure improvements project funding of \$550,000 in GO bonds is de-authorized in the fiscal 2016 capital budget bill.
- **Bay Restoration Fund – Wastewater Projects** – Funding for BRF – Wastewater Projects decreases by \$1.0 million in special funds relative to fiscal 2015 but increases by \$10.0 million relative to the 2014 CIP due to the availability of special funds for upgrading wastewater treatment plants to ENR technology. MDE’s current plan is to issue a total of \$430.0 million in revenue bonds, which reflects a reduction of \$100.0 million relative to this time last year. MDE issued \$50.0 million in revenue bonds in fiscal 2008 and \$100.0 million in fiscal 2014, and projects the need to issue \$180.0 million in fiscal 2016, and \$100.0 million in fiscal 2017 in order to fund the approximately \$1.234 billion cost of upgrading the 67 major WWTPs to ENR technology. For fiscal 2016, the entire \$80.0 million is programmed for the Back River WWTP – ENR project. No funding is currently scheduled for major-minor facility – facilities with a design capacity of less than 500,000 gallons per day – upgrades in fiscal 2016. Funding for major-minors is next proposed for fiscal 2017 at \$40.0 million. Starting in fiscal 2018, the fee increase legislation – Chapter 150 of 2012 – establishes additional authorized uses including septic upgrade and stormwater remediation projects. For projection purposes, MDE is allocating funding for septic upgrade and stormwater remediation projects as provided for in Chapter 150 at \$20.0 million each in fiscal 2018, \$25.0 million each in fiscal 2019, and \$30.0 million each in fiscal 2020. As noted previously, local government stormwater costs are expected to increase substantially in the next couple of years. **DLS recommends that MDE comment on how it will prioritize the BRF funding in fiscal 2018 given the expanded uses eligible and how this will address the expected increase in local stormwater retrofit costs.**

## *Updates*

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### **1. Hazardous Substance Clean-up Program Remediation Projects and Site Assessments**

The fiscal 2015 funding for the Hazardous Substance Clean-up Program included \$300,000 in general funds for site assessments. MDE notes that a complete site assessment may cost anywhere from \$50,000 to \$300,000 and may be completed over multiple years. Site assessment costs vary depending on a number of factors as follows: geological complexity of the site, size of the property, number of domestic wells in the area, type of hazardous waste, existing historical data, and geographic location, among other factors. **Exhibit 13** reflects the updated information for fiscal 2015 remediation projects and site assessments.

**Exhibit 13**  
**Hazardous Substance Clean-up Program Remediation and Site Assessments**  
**Fiscal 2015**

<u>Site</u>	<u>County</u>	<u>Update</u>
<b><u>Remediation Projects</u></b>		
Drumco	Anne Arundel	The assessment and remedial actions were completed. Contaminated soil that exceeded standards was removed, consolidated, and capped to prevent future exposure to site workers or trespassers. A covenant was placed on the property by the owner to ensure future use remains protective of human health and the environment.
Fairchild Republic	Washington	A preliminary assessment of the property has been completed and the report is currently being reviewed to determine specific future actions.
Lusby Crossroads	Anne Arundel	The investigation at Lusby Crossroads was recently completed to determine the source and extent of groundwater contamination discovered in a stream traversing the property. MDE has determined that the contamination is not impacting residential wells in the area. MDE will be monitoring the contaminant plume.
Chemical Metals Inc.	Baltimore City	After finally getting full access to the site, MDE has completed a remedial action and feasibility study to determine future remedial action and associated costs. MDE anticipates starting a pilot study to determine the design and implementation of the remedial strategy.
Lindamoore Lane on the Severn	Anne Arundel	After finding high levels of chlorinated solvents in a number of residential wells near Annapolis, MDE has completed surveying the nearby homes and installed granulated carbon treatment units in all affected wells. Based on the information available, MDE will continue to investigate a final remediation.
<b><u>Significant Site Assessments</u></b>		
Elite Free State Cleaners	Wicomico	An investigation of this former drycleaner in Delmar was conducted to determine if the site might be contributing to contamination discovered in the adjacent State of Delaware production wells. MDE has been cooperating with the U.S. Environmental Protection Agency on this investigation and a report based on completed field work is anticipated shortly.
Mr. G's Cleaners	Prince George's	The investigation of this former drycleaner has been completed and additional remedial action is anticipated shortly. Since this facility no longer exists and the contamination is affecting one or more

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<u>Site</u>	<u>County</u>	<u>Update</u>
		adjacent properties, this site has been designated as an “orphan site” and will proceed as a State lead.
Glebe Road	Talbot	After chlorinated solvents were discovered in monitoring wells belonging to Easton Utilities an investigation has been initiated to determine the source and extent of the contamination and to determine if it will affect any nearby businesses or residents. Field work should begin in early spring 2015.
Jarrettsville Pike PCE	Baltimore County	After the discovery of chlorinated solvents in several residential wells, MDE is installing monitoring wells to determine if contamination is migrating toward a number of downgradient residential wells. Future actions are to be determined.

MDE: Maryland Department of the Environment

PCE: perchloroethylene

Source: Maryland Department of the Environment

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***Pre-authorizations and De-authorizations***

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There are two de-authorization in the fiscal 2016 budget bill tied to one project – the Shore Health System Regional Medical Center in Talbot County as shown in **Exhibit 14**.

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**Exhibit 14  
De-authorizations**

<b>Project</b>	<b>De-authorized Amount</b>	<b>Reason</b>
Talbot County Water System (Water Supply Financial Assistance Program)	\$450,000	The water line construction for the proposed Shore Health System Regional Medical Center in Talbot County has been delayed, and there is no definite schedule for project construction.
Talbot County Sewer System – Infrastructure Improvements (Supplemental Assistance Program)	\$550,000	The sewer line construction for the proposed Shore Health System Regional Medical Center in Talbot County has been delayed, and there is no definite schedule for project construction.

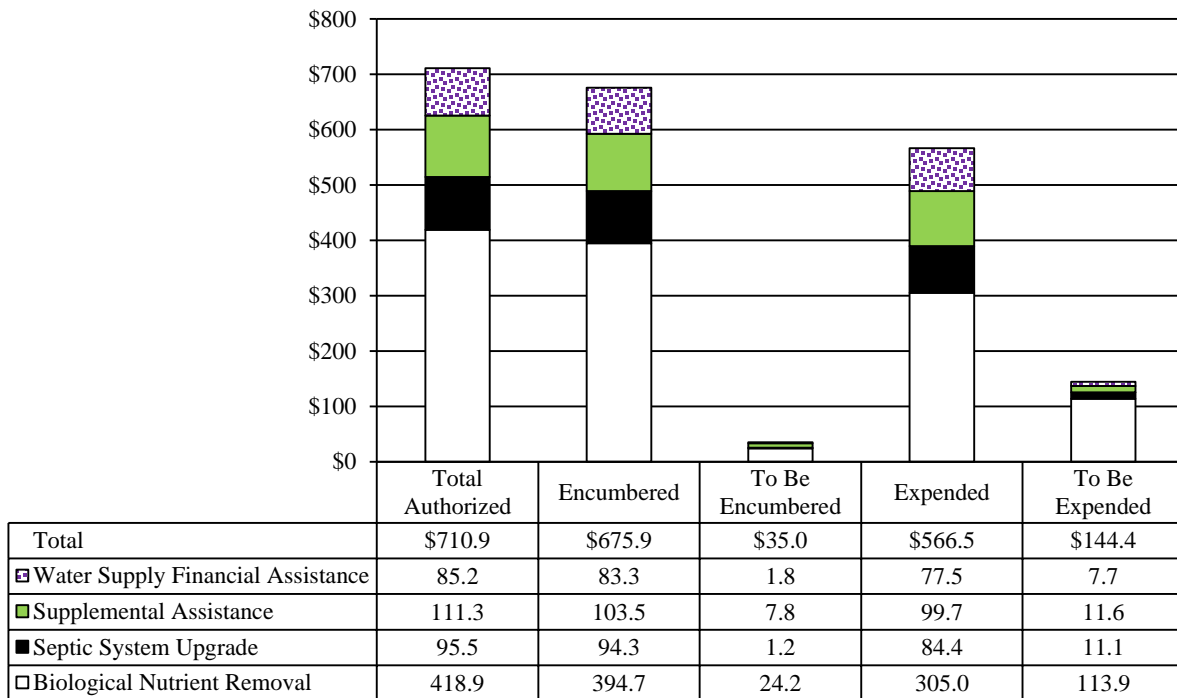
Source: Department of Budget and Management, 2015 *Capital Improvement Program*

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## Encumbrances and Expenditures

**Exhibit 15** reflects the encumbrance and expenditure levels for the Water Supply Financial Assistance, Supplemental Assistance, Septic System Upgrade, and BNR programs. In general, the exhibit reflects expenditure levels being proportionate to the total authorization for the program. The largest authorization reflected is for the BNR Program, which has \$418.9 million authorized. Of this amount, \$24.2 million remains to be encumbered, although the department’s project list for the current fiscal year reflects full utilization and encumbrance of these funds in fiscal 2015. The \$113.9 million that remains to be expended typically reflects the delays in reimbursement requests from local governments that are responsible for project procurement and implementation.

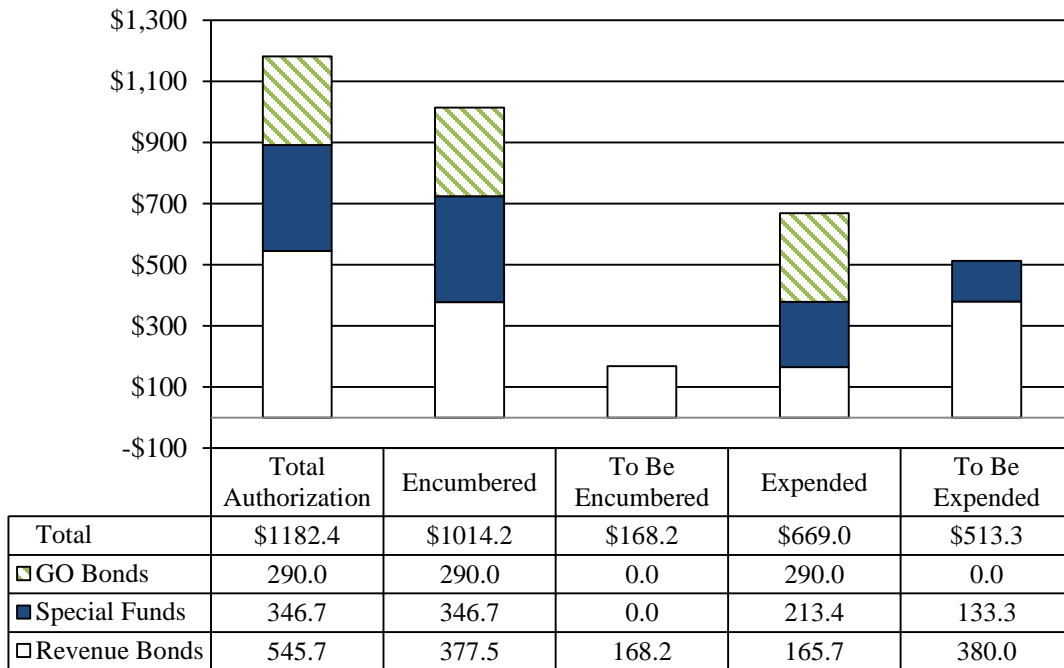
**Exhibit 15**  
**Water Supply Financial Assistance, Biological Nutrient Removal,**  
**Supplemental Assistance, and Septic System Upgrade Programs**  
**Encumbrances and Expenditures**  
**Program Inception through February 2015**  
**(\$ in Millions)**



Source: Maryland Department of the Environment

**Exhibit 16** reflects the encumbrances and expenditures for the BRF – Wastewater Projects. The overall authorization is \$1,182.4 million, of which \$168.2 million remains to be encumbered, and \$513.3 million still remains to be expended. However, the entirety of the amount to be encumbered and the majority of the amount to be expended reflect MDE’s authorization of \$530.0 million in revenue bonds. MDE’s plan is to hold the revenue bond issuances until the very end of the financing period. Since the revenue bonds will require debt service payments once they are issued, that will reduce available cash for reimbursement payments. To date, \$150.0 million in revenue bonds have been issued based on cash flow needs for project reimbursements. Although only \$150.0 million of the revenue bond authorization has been issued, MDE reflects the encumbrance or obligation of a portion of the remaining \$380.0 million in authorization for projects in anticipation that the revenue bonds will be issued within the next couple of years. Due to the doubling of the BRF fee and project scheduling, it appears that at some point \$100.0 million of revenue bond authorizations will be cancelled.

**Exhibit 16**  
**Bay Restoration Fund – Wastewater Projects**  
**Encumbrances and Expenditures**  
**Program Inception through February 2015**  
**(\$ in Millions)**



GO: general obligation

Source: Maryland Department of the Environment

## ***PAYGO Recommended Actions***

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1. Concur with the Governor’s allowance for the Water Quality Revolving Loan Fund special fund appropriation of \$89,308,000 and federal fund appropriation of \$33,910,000.
2. Concur with the Governor’s allowance for the Hazardous Substance Clean-up Program general fund appropriation of \$700,000.
3. Concur with the Governor’s allowance for the Drinking Water Revolving Loan Fund special fund appropriation of \$10,038,000 and federal fund appropriation of \$10,959,000.
4. Concur with the Governor’s allowance for the Bay Restoration Fund – Wastewater special fund appropriation of \$80,000,000.
5. Concur with the Governor’s allowance for the Bay Restoration Fund – Septic Systems special fund appropriation of \$14,000,000.

## ***GO Bond Recommended Actions***

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1. Approve the \$26,500,000 general obligation bond authorization for the Biological Nutrient Removal Program for grants to projects to remove nutrients from discharges at publicly owned sewage treatment works.
2. Approve the \$4,157,000 general obligation bond authorization for the Supplemental Assistance Program for grants to provide assistance to grant and loan recipients to meet the local share of construction costs for compliance-related wastewater facility improvements.
3. Approve the \$3,003,000 general obligation authorization for the Maryland Drinking Water Revolving Loan Fund for funds to finance drinking water projects. This funding represents the 20% match to the \$10,959,000 in federal funding.
4. Approve the \$6,782,000 general obligation bond authorization for the Maryland Water Quality Revolving Loan Fund to provide funds to finance water quality improvement projects. This funding represents the 20% match to the \$33,910,000 in federal funds.
5. Approve the \$500,000 general obligation bond authorization for the Mining Remediation Program to provide funds to design, construct, and equip active and passive measures to remediate damage to water quality related to abandoned mining operations.
6. Approve the \$2,661,000 general obligation bond authorization for the Water Supply Financial Assistance Program to provide funds for assistance to State and local government entities to acquire, design, construct, rehabilitate, equip, and improve water supply facilities.
7. Approve the modification of Chapter 424 of 2013 to de-authorize \$550,000 in general obligation bond authorization for the Supplemental Assistance Program to provide a grant to Talbot County for the design and construction of sewer system infrastructure to support the Shore Health System Regional Medical Center. The water and sewer line construction for the proposed Medical Center has been delayed, and there is no definite schedule for project construction.
8. Approve the modification of Chapter 424 of 2013 to de-authorize \$450,000 in general obligation bond authorization for the Water Supply Financial Assistance Program to provide a grant to Talbot County for the design and construction of water system infrastructure to support the Shore Health System Regional Medical Center. The water and sewer line

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construction for the proposed Medical Center has been delayed, and there is no definite schedule for project construction.

**Targeted Major-Minor WWTP Facilities and Permitted Flow  
February 10, 2015**

<b>Priority Rank</b>	<b>County</b>	<b>Facility Name</b>	<b>Status</b>	<b>Design Capacity (MGD)</b>	<b>TN Reduction (Pounds/Year)</b>	<b>Est. BNR and ENR Cost</b>
1	Cecil	Rising Sun WWTP	Construction	0.500	21,309	\$4,497,000
2	Caroline	Greensboro WWTP	Design	0.332	14,149	6,049,000
3	Washington	Boonsboro WWTP	Operation	0.530	22,951	6,000,000
4	Dorchester	Twin Cities WWTP	Planning	0.281	11,975	4,332,000
5	Queen Anne’s	Sudlersville WWTP	Construction	0.200	8,523	3,537,000
6	Kent	Rock Hall WWTP	Pre-planning	0.480	20,456	4,979,000
7	Washington	Smithsburg WWTP	Waiting	0.333	14,192	4,528,000
8	Kent	Betterton WWTP	Design	0.200	9,624	3,135,000
9	Kent	Worton – Butlertown WWTP	Operation	0.250	10,654	5,000,000
10	Kent	Galena WWTP	Planning	0.080	3,409	3,034,000
11	Cecil	Port Deposit WWTP	Waiting	0.700	32,266	5,493,000
12	Queen Anne’s	Queenstown WWTP	Construction	0.085	3,622	3,651,000
13	Wicomico	Sharptown WWTP	Waiting	0.150	6,393	3,680,000
14	Washington	Hancock Wastewater Lagoon	Waiting	0.380	16,195	4,686,000
15	Cecil	Cherry Hill WWTP	Waiting	0.250	10,654	4,203,000
16	Frederick	Middletown East WWTP	Waiting	0.250	10,654	4,203,000
17	Frederick	Middletown WWTP	Waiting	0.250	10,654	4,203,000
18	Frederick	Myersville WWTP	Waiting	0.300	12,785	4,407,000
19	Somerset	Eastern Correctional Institute	Planning	0.720	33,362	5,533,000
20	Washington	Antietam WWTP	Waiting	0.163	6,947	3,760,000
21	Wicomico	Pittsville WWTP	Waiting	0.115	4,901	3,434,000
22	Frederick	Point of Rocks WWTP	Waiting	0.230	9,802	4,112,000
23	Talbot	Trappe WWTP	Waiting	0.200	8,523	3,966,000
24	Dorchester	Vienna WWTP	Waiting	0.137	5,839	3,594,000
25	Carroll	Union Bridge WWTP	Waiting	0.200	8,523	3,966,000
26	Frederick	Jefferson WWTP	Waiting	0.300	12,785	4,407,000

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<b>Priority Rank</b>	<b>County</b>	<b>Facility Name</b>	<b>Status</b>	<b>Design Capacity (MGD)</b>	<b>TN Reduction (Pounds/Year)</b>	<b>Est. BNR and ENR Cost</b>
27	Frederick	Monrovia WWTP	Waiting	0.200	8,523	3,966,000
28	Frederick	New Market WWTP	Waiting	0.240	10,228	4,158,000
29	Frederick	Woodsboro WWTP	Waiting	0.250	10,654	4,203,000
30	Carroll	Manchester WWTP	Waiting	0.500	21,309	5,033,000
31	Kent	Tolchester WWTP	Waiting	0.265	11,294	4,267,000
32	Allegany	Rawlings (if becomes public)	Pre-planning	0.143	6,094	3,634,000
33	Washington	Clear Spring WWTP	Waiting	0.200	8,523	3,966,000
34	Queen Anne's	Millington WWTP	Waiting	0.140	5,966	3,615,000
35	Wicomico	Willards WWTP	Waiting	0.200	8,523	3,966,000
36	Caroline	Ridgely WWTP	Waiting	0.200	8,523	3,966,000
37	Somerset	Ewell WWTP	Waiting	0.065	2,770	2,961,000
38	Caroline	Preston WWTP	Waiting	0.115	4,901	3,434,000
39	Talbot	Talbot County Region V WWTP	Waiting	0.150	6,393	3,680,000
40	Cecil	Cecilton WWTP	Waiting	0.100	4,262	3,312,000
41	Frederick	Fountaindale WWTP	Waiting	0.200	8,523	3,966,000
42	Washington	Funkstown WWTP	Waiting	0.200	8,523	3,966,000
43	Carroll	New Windsor WWTP	Waiting	0.115	1,400	3,434,000
44	Wicomico	Hebron WWTP	Waiting	0.101	4,304	3,320,000
45	Frederick	Mill Bottom WWTP	Waiting	0.100	4,262	3,312,000
46	Talbot	Oxford WWTP	Waiting	0.150	6,393	3,680,000
47	Frederick	Pleasant Branch WWTP	Waiting	0.100	4,262	3,312,000
48	Queen Anne's	Church Hill WWTP	Waiting	0.080	3,409	3,125,000
49	Cecil	Chesapeake City North WWTP	Waiting	0.075	3,196	3,073,000
50	Cecil	Chesapeake City South WWTP	Waiting	0.088	3,750	3,203,000
51	Charles	Clifton the Potomac	Waiting	0.070	2,983	3,018,000
52	Somerset	Fairmount WWTP	Waiting	0.040	1,705	2,610,000
53	Cecil	Harbor View	Waiting	0.065	2,770	2,961,000
54	Cecil	Elk Neck State Park	Waiting	0.060	2,557	2,900,000
55	St. Mary's	Point Lookout State Park WWTP	Waiting	0.090	3,836	3,222,000



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<u>Priority Rank</u>	<u>County</u>	<u>Facility Name</u>	<u>Status</u>	<u>Design Capacity (MGD)</u>	<u>TN Reduction (Pounds/Year)</u>	<u>Est. BNR and ENR Cost</u>
56	Kent	Kennedyville	Waiting	0.060	2,557	2,900,000
57	Frederick	White Rock	Waiting	0.050	2,131	2,766,000
58	Frederick	Libertytown	Waiting	0.050	2,131	2,766,000
59	Allegany	Flintstone WWTP	Waiting	0.045	1,918	2,691,000
60	Allegany	Oldtown	Waiting	0.040	1,705	2,610,000
<b>Total</b>					<b>521,429</b>	<b>\$229,385,000</b>

BNR: biological nutrient removal

ENR: enhanced nutrient removal

MGD: millions of gallons used per day

TN: total nitrogen

WWTP: wastewater treatment plant

Source: Maryland Department of the Environment