WASHINGTON SUBURBAN SANITARY DISTRICT

GREEN FINANCING FRAMEWORK

WSSCWATER
DELIVERING THE ESSENTIAL

January 31, 2024

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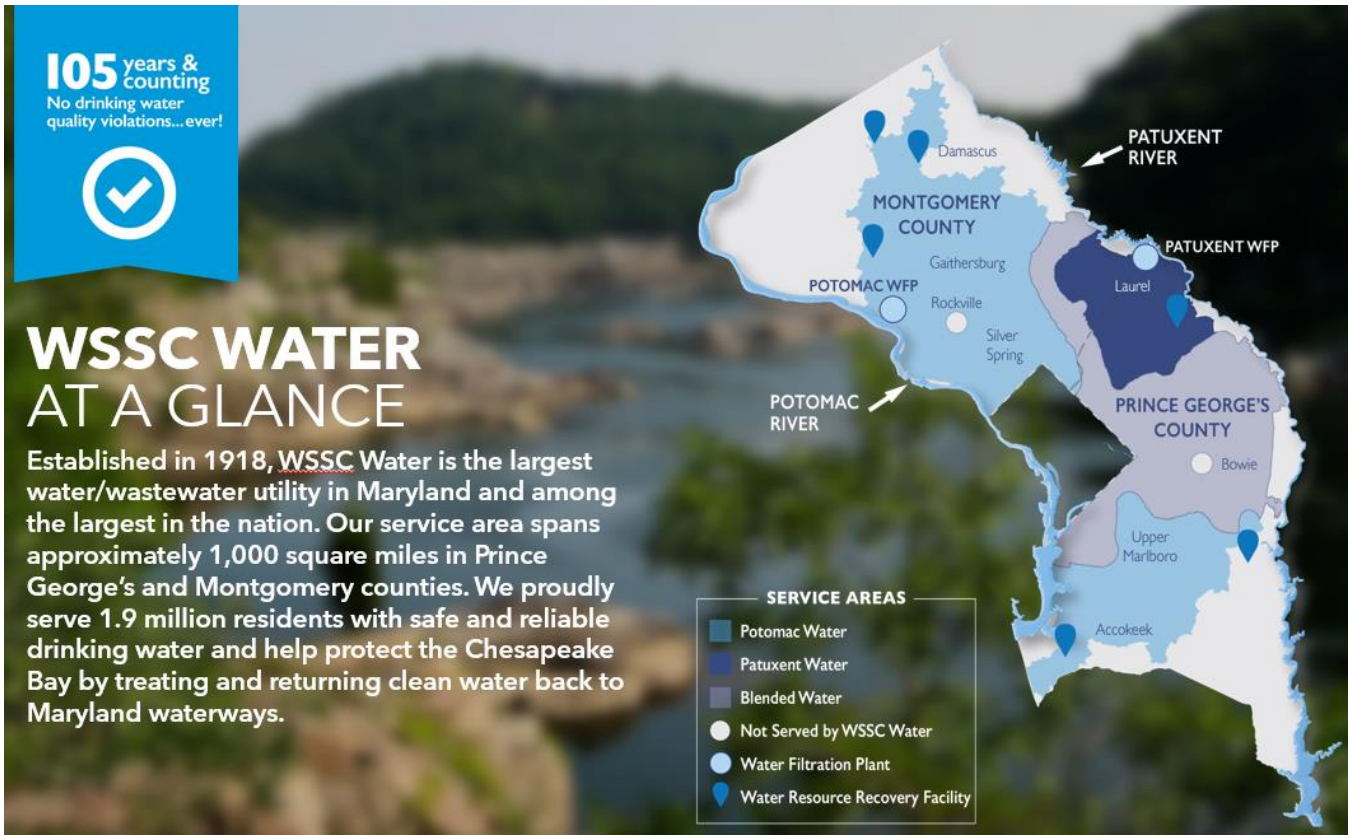
1. MISSION & STRATEGIC PRIORITIES

Our Mission

We are entrusted by our community to provide safe and reliable water, life's most precious resource, and return clean water to our environment, all in an ethical, sustainable, and financially responsible manner.

WSSC Water At A Glance



Strategic Priorities

Operating

- Safe Drinking Water Act and Clean Water Act compliance
- Installation, operation, and maintenance of critical infrastructure assets to support our core mission
- Implement a phased approach to compensation improvement to make WSSC Water a leader in compensation among utilities in the DC-Maryland-Virginia region and improve retention and recruitment efforts
- Review existing capitalization policies to enhance flexibility in funding operating costs like compensation, training, maintenance of non-production (treatment) facilities and contractual services support
- Establish sustainable funding for new and existing customer assistance programs

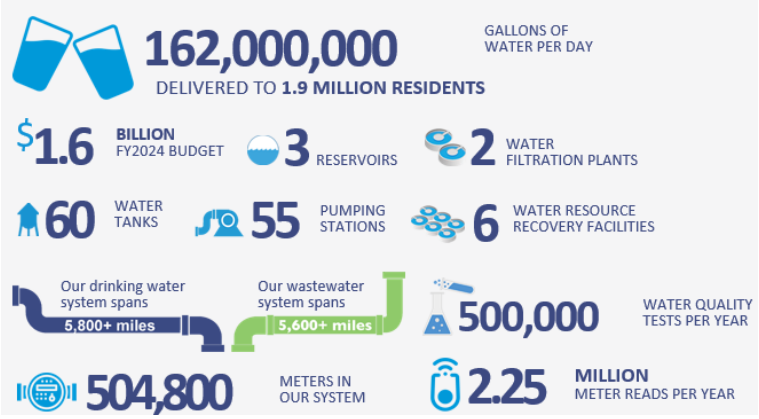
Capital

- Increase investment in Production facilities for process improvements; and non-production facilities upgrades
- Plan and implement improvements to address Per- and Polyfluoroalkyl Substances (PFAS) and other regulatory changes
- Upgrade meter infrastructure
- Investment to ensure operational reliability and resilience
- Mitigation of enterprise risks
- Increase fleet refresh and leverage external funds for electric vehicle (EV) charging infrastructure and vehicles
- Transition capital improvement planning to a needs-based model

2. INTRODUCTION

The Washington Suburban Sanitary Commission (WSSC Water) provides water and sewer services to over 1.9 million residents of Montgomery and Prince George's Counties in Maryland, which border Washington, D.C. Established by the Maryland General Assembly in 1918 as a regional (bi-county) organization under Article 29 and later recodified into Division II of the Public Utilities Article of the Annotated Code of Maryland, WSSC Water ranks among the largest water and sewer utilities in the country encompassing a service area of nearly 1,000 square miles.

To fulfill its primary mission of providing safe and reliable water and returning clean water to the environment, WSSC Water operates and maintains an extensive array of highly automated facilities. The organization's two water filtration plants, drawing raw water from the Potomac and Patuxent rivers, are projected to produce an average of 162 million gallons of water per day in FY 2023 and deliver that water through a system of approximately 5,800 miles of water mains to homes and businesses in Montgomery and Prince George's Counties, serving over 475,000 customer accounts.



WSSC Water is committed to protecting the natural environment of Prince George's and Montgomery Counties as it carries out its mandate to provide sanitary sewer and drinking water services. This commitment is reflected in the organization's core value, environmental stewardship, which serves to guide and incorporate behavior and decision making into the organization's investments in climate change adaptation, renewable energy, water quality, pollution prevention and control, and green buildings/facilities. WSSC Water's commitment to sustainability is reflected by a broad array of actions that include the following examples:

Climate Change Adaptation (GHG Emissions):

- Adopted and implementing a Greenhouse Gas (GHG) emission reduction plan (see *Responding to the Impact of Climate Change*).
- Design and construction of the Piscataway Bio-Energy Plant which will recover approximately 3 megawatts (MW) of renewable energy from wastewater biomass; reduce geenhouse gas production by 11,800 tons/year; reduce biosolids output by 50 - 55% of current output; reduce lime demand by 4,100 tons/year; maintain permitted nutrient load limits to the Chesapeake Bay; reduce 5 million gallons/year of grease discharge to sewers; and produce pathogen-free Class A Biosolids.

Renewable Energy:

- Awarded a new, long-term wind contract in 2020. As a result, WSSC Water will receive 33 percent of its energy directly from wind power and own the associated Renewable Energy Credits (RECs).
- Maintain 6 MW of solar photovoltaic power at two water resource recovery facilities and one off-site facility. In addition WSSC Water purchased solar power over a 20-year period at a fixed unit price. Standard Solar was recently awarded a contract to design/build/own/operate an additional 12 MW wholesale solar site in Western Maryland. WSSC Water will own 100% of the carbon offsets from the power generated plus RECs beginning in year 4 of operation. Plant

projected to be completed in late 2024.
- Operate three 700-horsepower pump turbines at WSSC Water's Rocky Gorge Water Pumping Station. Our Brighton Dam facility also operates two 250-horsepower hydro turbine generators, with a production capacity of 1,800,000 kilowatt-hours (kWh) of electricity annually.

Water Quality:
- Return 180+ million gallons of clean water to local waterways each day that support the health of the Chesapeake Bay watershed.
- Maintain an Environmental Programs Section (EPS) as a lead resource for identifying environmental impacts associated with underground utility construction and maintenance activities. Environmental Assessments are routinely conducted for water quality issues (sediment and erosion control), urban forestry, forest conservation, contamination screenings, and impacts to environmentally sensitive areas.

- Conduct, on average, 2,000 erosion and sediment control inspections on underground utility construction sites, issuance of 300 erosion and sediment control plan approvals and permits, issuance of 350 roadside tree permit authorizations for tree removals and replanting, and 100 hazardous conditions screenings for possible site contamination issues for water systems extension projects.
- Participated in a stream restoration project funded jointly by WSC Water, Howard County government, and the Soil Conservation District to reduce nutrient and sediment load to the Patuxent reservoir system.
- Conduct, annually, free environmental education programming for more than 2,500 school-aged children. Through partnerships with local school districts and environmental non-profit organizations, WSSC Water staff have assisted with the professional development of over 200 educators. These educators learn about issues facing local waterways, the importance of source water protection, and how to bring these topics into their classrooms.

Pollution Preventation and Control (Recycling and Waste Management):
- Installed equipment and obtained permits to allow biosolids land application at the Western Branch Resource Recovery Facility (WRRF) that previously used landfill disposal, saving approximately $5 million per year, and providing a back-up disposal option when the future Piscataway BioEnergy facility is off-line.
- Optimized the filter backwash practice at the Potomac Water Filtration Plant, saving an estimated $500,000 per year in energy and chemical costs, and reducing the amount of wastewater for treatment.
- Adoption of DocuSign, ePermitting, and and ebill programs save over 250 trees a year and has saved over 2,125,500 sheets of paper in first 12 months.
- Recycled over 495 tons of metal equivalent to 66 school buses.

Green Buildings/Facilities:
- Retrofitted Water Resource Recovery Facilities with energy-saving measures that saves the amount of electricity used by 1,186 homes in one year and saves our rate payers $900,000 per year.

WSSC Water established The Office of Innovation and Research (OIR) that is focused on finding new technologies and processes primarily to support our clean water mission by identifying innovative

strategies to improve sustainability, reduce operating expenses, increase safe work practices, and identify, evaluate and pursue revenue opportunities created from innovative ideas. The OIR currently has several sustainability initiatives including:

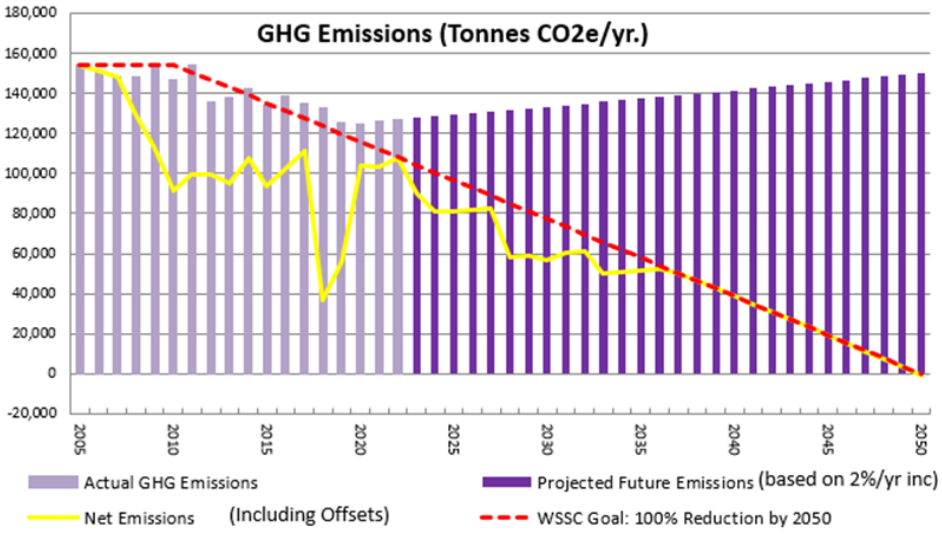
- Improved processes to enhance nutrient removal (nitrogen and phosphorous) through ammonia-based aeration controls at three Water Resource Recovery Facilities (WRRF);
- Installation of technologies to reduce chemical use at an additional three WRRFs; and
- Researching leak detection strategies to identify and mitigate water main pressure transients to reduce water main breaks and related loss of water and system disruptions.

Responding to the Impact of Climate Change

Starting in 2016, WSSC Water undertook an ambitious approach to responding to the threat of climate change and the unique challenges it will present to water and wastewater utilities by initiating a multi-year Climate Change Vulnerability Assessment, Adaption, and Mitigation Planning (CCVAAMP) Project. The CCVAAMP project included a climate analysis and projections, a vulnerability assessment of WSSC Water facilities and resources, an adaptation analysis, and mitigation planning.

With 49 facilities located in or near floodplains, WSSC Water has several current and future challenges associated with climate change. To address this a "Design Guide for Protecting Facilities from Future Climate Extremes" has been drafted and eighteen facility assessments have been completed. At these 18 facilities, the assessments indicated that eight were at risk of flooding now or in the future. We are in the process of developing plans to implement adaptation strategies for each of these eight facilities.

WSSC Water has developed inventories of annual GHG emissions for all Commission operations for the calendar years (CY) 2005 through 2022. The inventories quantify the GHG emissions that result from the energy-intensive processes required to treat and distribute potable water for public use and to collect and treat wastewater before discharge. Accounting protocols published by The Climate Registry (TCR) General Reporting Protocol (GRP) Version 2.1 in 2016 are used to complete the inventory. Based on the inventory results, a long-term plan of action was developed with strategies to reduce future GHG emissions at WSSC Water 100 percent by the year 2050, using demonstrated technologies and practices available at the present time.



The GHG inventory results and the future emissions projections were used to develop strategies to reduce the GHG emissions and meet the reduction goal. The following are the focus areas of the GHG reduction strategies:

1. Optimizing the efficiency of the water distribution system
2. Improving equipment efficiency for water and wastewater

3. Reducing residuals and optimizing processes
4. Reducing GHGs associated with vehicles and transportation
5. Optimizing building services (lighting/heating, ventilating, and air conditioning [HVAC])
6. Implementing renewable energy

3. FRAMEWORK

In support of the Green Bonds to be issued by WSSC Water, a framework has been created that follows the four pillars of the Green Bond Principles (GBP):

- Use of Proceeds;
- Evaluation and Selection Process;
- Management of Proceeds; and
- Reporting.

3.1 Use of Proceeds

To be eligible for the Green Bond proceeds, the projects to be funded must meet criteria in one or more of the following areas:

1. Green buildings;
2. Pollution prevention and control;
3. Renewable energy;
4. Water quality; and/or
5. Climate change adaptation.

The context: Working to protect clean water, WSSC Water in 2005 joined then U.S. Representative Chris Van Hollen, Lieutenant Governor Michael S. Steele and representatives from the Anacostia Watershed Society, Natural Resources Defense Council Audubon Naturalist Society, and Friends of Sligo Creek to announce agreement on a multiyear action plan to dramatically minimize sanitary sewerage overflows. A sanitary sewer overflow (SSO) is an event where untreated or partially treated wastewater discharge from a sanitary sewer system into the surrounding areas.

Working closely with its partners at the federal, state, and local levels, WSSC Water developed a proactive, comprehensive plan that augments existing efforts to maintain, identify and rehabilitate problem areas within its 5,500-mile sewer system. Investment actions by the organization will enhance its ability to meet the public health needs of our customers and protect the environment.

In 2003, WSSC Water also implemented an Energy Performance Program that provides for the planning, design, and construction of projects to replace and upgrade energy consuming equipment and systems at all its facilities. The program's objective is to reduce energy consumption and energy-related costs (electricity, fuel oil, natural gas, or other fuel), as well as WSSC Water's overall carbon footprint.

Use of proceeds: WSSC Water has identified candidate projects aimed at making its infrastructure greener. The projects involve one or more of the following activities:

Green buildings/facilities

- Installation of high-efficiency heating, ventilating and air conditioning units;
- Installation of high-efficiency light emitting diode (LED) lighting fixtures;
- Use of cool roof materials; and
- Installation of high-efficiency water and wastewater processing equipment, pumps, motors, and valves.

Pollution prevention and control

- Lead clean-up and removal;
- Protection of environmentally sensitive areas from sewer overflow;
- Construction of new sewer, storm drain and recycled water supply systems;
- Sewer system rehabilitation to prevent overflow in waterways;
- Sewer line blockage assessments; and
- Enhanced nutrient removal (nitrogen and phosphorus) and discharge processes to protect waterways.

Renewable energy

- Installation of new equipment and systems to produce biogas and electricity.

Water quality

- Sewer and water line reconstruction for cleaner drinking water;
- Leak detection technologies;
- Advanced mixing systems;
- Installation of technologies to reduce chemical use; and
- Construction of intake channel to reduce drinking water contamination and treatment.

Climate change adaptation

- Address safety standards including the Probable Maximum Flood criteria and maximum credible earthquake loadings;
- Install enhanced power reliability equipment at water resource recovery facilities and wastewater pumping stations to prevent sanitary sewer overflows; and
- Reduce biosolids production to enhance health of Chesapeake Bay and reduce greenhouse gas emissions and other air pollutants.

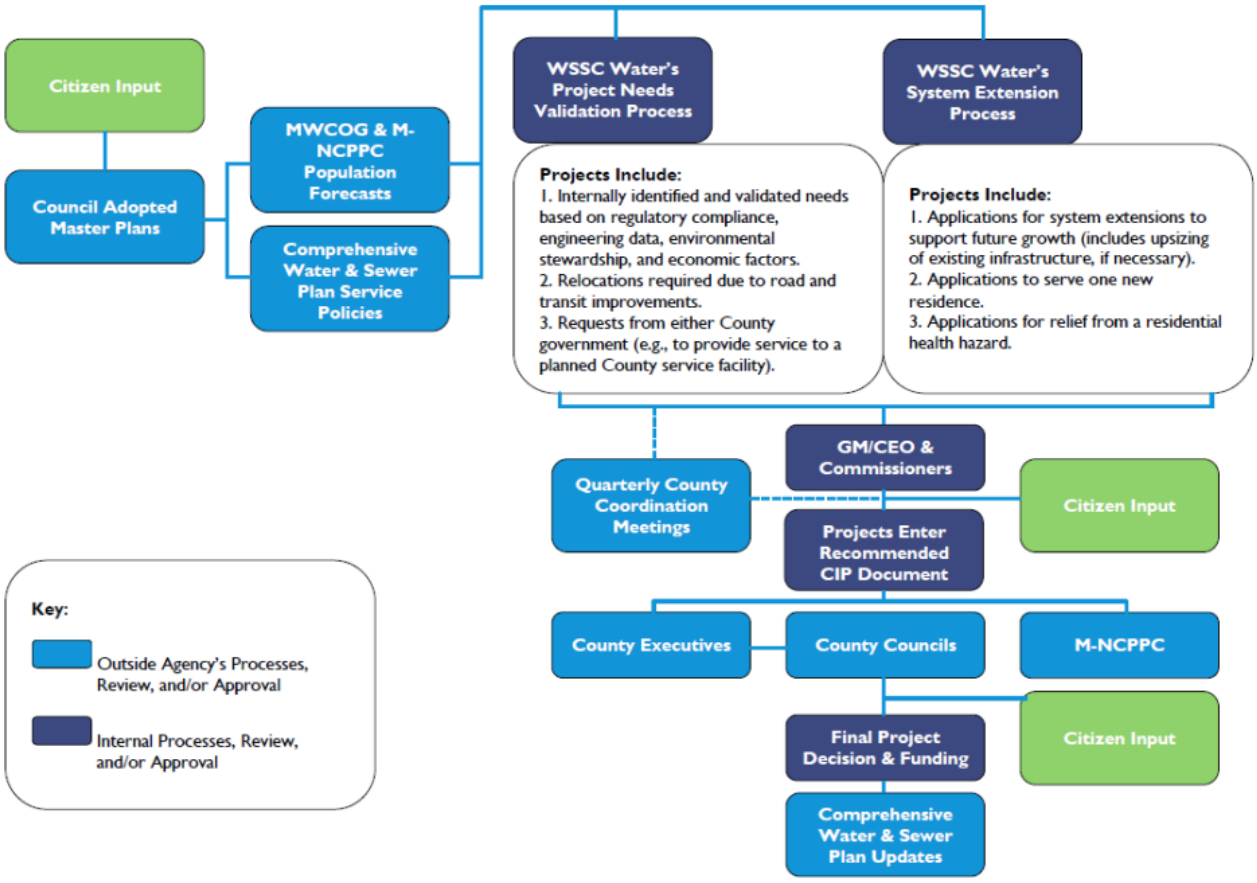
Projects focused on the activities above are eligible to be funded in whole or in part by an allocation of the Green Bond proceeds. WSSC Water has selected the projects listed in Appendix A for the allocation of proceeds. This is the fifth issue of Green Bonds since 2019.

3.2 Project Evaluation and Selection Process

WSSC Water has a rigorous and comprehensive process for the planning and programming of capital projects. Projects financed or refinanced through the Green Bond proceeds are evaluated and selected through the capital improvements program (CIP) project development and approval process based on (i) alignment with the 30- year asset management plan (need identification and validation); (ii) business case studies, as needed (identify needs, develop and evaluate options, and identify a preferred solution); and (iii) a thorough vetting process for review and final approval.

The project development process incorporates engineering data, environmental requirements, economic factors, and public interaction to establish a sound basis for making decisions, for efficiently conducting and documenting specific work tasks, and for successfully implementing needed solutions. An important goal in the development process is to produce a result that is acceptable to citizens, elected officials, regulatory agencies, and WSSC Water at a reasonable cost.

CIP Project Development and Approval Process



Evaluation and Selection: WSSC Water initial steps in project review and investment includes triaging projects based upon capital need within the following prioritization: Priority 1a – Regulatory and Mandates; Priority 1b – Health and Safety, and Business Risk Exposure; Priority 2 – Operational Efficiencies/ Level of Service; Priority 3 – Reliability and Resilience; Priority 4 – Maintaining State of Good Repair; and Priority 5 – Initiatives/ Plans and Policies.

Capital needs validation specifically includes: investment equity consideration; the collection of performance measure data to WSSC Water's level of service and community level goals; and a facility planning process that utilizes future needs projections to identify the scope and schedule of facility plans.

The needs validation is critical in identifying and validating water and wastewater needs. The depiction below highlights some of the key elements of this process.

Both the project development and needs validation processes reflects WSSC Water's commitment to protect the natural environment of Prince George's and Montgomery Counties. Many projects throughout WSSC Water's CIP reflects the General Manager's and senior staff's actions to investment in outcomes that address environmental sensitivity, as well as mitigating impacts on the environment. These actions include: rehabilitation of sewer mains in environmentally sensitive areas (ESAs); mitigation efforts such as reforestation; greenhouse gas reduction; upgrading of facilities to protect health and safety of employees; and complying with federal and/or state environmental mandates.

While any resource investment seeks to balance cost and affordability with environmental consequences, risk, and system reliability, WSSC Water will advocate and support conduct for environmental management that:

1. Addresses the known community concerns and environmental issues early in the development stage;
2. Maintains public health standards and water quality protection;

3. Ensures environmental policy is communicated to WSSC Water staff, its customers, and the community;
4. Complies with all applicable environmental laws and regulations;
5. Ensures environmental considerations include feasible and cost-effective options for exceeding applicable regulatory requirements;
6. Defines and establishes environmental objectives, targets, and best management practices and monitor performance;
7. Maintains a Customer Outreach Program to address common environmental issues; and
8. Fulfills the responsibilities of each generation as trustee of the environment for succeeding generations through environmental awareness and communication with employees, customers, regulatory agencies, and neighboring communities.

All projects financed with Green Bond proceeds are selected based on their adherence to the conduct stated as part of WSSC Water's environmental management and all applicable laws, rules, and regulations. In addition, all selected projects have been reviewed against WSSC Water's Environment Statement (Appendix D) and a stakeholder consultation process through our CIP approval process.

The CIP approval process is a comprehensive review process that ultimately determines if a project is to be part of the six-year capital plan. The process is fully document within WSSC Water's published CIP and includes points for public input, WSSC Water Commission review, and review by our bi-county governance - Prince George's and Montgomery Counties. All public hearings, Commission meetings, and County actions are recorded and available for review by the public.

Environmental, Social, and Governance (ESG) Risks: WSSC Water is a public utility governed by the State of Maryland, a six-member Commission, and bi-county government. There is sufficient transparency into WSSC Water's programs which minimizes failure to identify and address ESG risks. As stated, the capital approval process is a comprehensive process that not only includes a thorough project development stage - initial community comments, environmental assessments, and necessary permitting - but a rigorous approval process, incorporating public input. Any ESG risks that would surface and be addressed within the approval process.

3.3 Management of Proceeds

Management: Proceeds from Green Bond issuance will be specifically directed to pay the costs of design, construction, property acquisition, and other related costs necessary for selected projects. Ensuring that the proceeds from a Green Bond issuance are used according to established procedures will be the responsibility of WSSC Water's Chief Financial Officer and Division Manager of Accounting.

WSSC Water's Green Bond proceeds will be held in a segregated account and used exclusively to fund a new project or refinance a portion of a prior bond issuance which funded eligible green projects. Green Bond proceeds may also be used to pay the cost of issuance and underwriter's fees. These costs will be specifically delineated in closing documents.

Green Bond proceeds are reconciled and matched against project expenditures quarterly. For any upcoming new issuance, WSSC Water management annually determines the size of the Green Bond issuance for a fiscal year or 12 months. Green Bond issuance may not at times cover all the expenditures planned for given fiscal year since issuance sizing is based upon management's view.

Refunding Plan: Any portion of a bond that is refunded would be determined by reviewing the applicable bonds and identifying proceeds that were drawn down for eligible Green Bond Projects. WSSC Water follows a rigorous process for refunding which is guided by debt policy. Refunding includes a detailed breakdown of bonds being refunded, as well as multiple points of disclosure to the Commission, bi-county governance bodies, and to the market via Official Statement.

In the case of refunding, all the funds will be allocated immediately, as no proceeds are used to initiate new projects.

3.4 Reporting

Allocation Reporting

WSSC Water will produce an annual report detailing: how the Green Bond proceeds were used to finance the selected projects, a description of the selected projects, and details of the environmental benefits resulting from the project until the full allocation of the proceeds. The management of proceeds will be reviewed each year by a third party in accordance with attestation standards established by the American Institute of Certified Public Accountants. The annual report will include a copy of the final Independent Accountants' Report. The annual report will be posted to the Electronic Municipal Market Access (EMMA) website of the Municipal Securities Rulemaking Board, accessible at www.emma.msrb.org. This report will be posted along with other WSSC Water filings, which will be made on or before the date eight months after the close of the fiscal year.

Green Bond issuance and proceeds can be used to reimburse for appropriate capital expenses not covered by prior Green Bond debt issuance. The annual report following such action will include the relevant details of the selected projects that were reimbursed by the issuance.

Impact Reporting

WSSC Water commits to provide reporting on key performance indicators (KPIs) in the annual report and "Environmental Stewardship" section of the WSSC Water website until the full allocation of the proceeds.

For an example of this KPI reporting for eligible projects, please see Appendix B.

WSSC Water has not undertaken an independent third-party impact assessment of the environmental benefits and externalities associated with financed projects. CFO is planning for such assessment as part of the next issuance in FY 2025.

Quarterly Reporting

For FY 2025, management is looking to utilize our monthly status report to include, on a quarterly basis, updates on allocation utilization and impacts. This quarterly reporting would include any necessary disclosures on material developments.

4. SELECTED PROJECTS

4.1 Use of Proceeds

Based on the project criteria and project planning and development articulated above, WSSC Water proposes the following projects to be financed with the proceeds of its second series of Green Bonds in February 2024:

Description: Potomac WFP Consent Decree Program

(W-73.33)

Anticipated Environmental Outcomes per International Capital Market Association (ICMA) Green Bond Principles: Pollution Prevention/Control

KPI: Increase in the percent of river solids removed

Estimated Cost: $20,000,000

Estimated Timeline: February 2024 through November 2024

Description: Large Diameter Water Pipe & Large Valve Rehabilitation Program (W-161.01)

Anticipated Environmental Outcomes per International Capital Market Association (ICMA) Green Bond Principles: Sustainable Water Management

KPI: Miles of large diameter water mains replaced annually

Estimated Cost: $10,000,000

Estimated Timeline: February 2024 through November 2024

Capital projects selected for "green" funding are considered viable for the duration of the 30-year debt period. The project's scope and objectives are followed and reviewed annually as part of our capital plan and continue in this review cycle until the project is completed or "closed" (meaning all funding has been satisfied for the project's completion). If a project is considered no longer eligible, or the asset no longer viable, proper disclosures will be made to all bond holders. As in the case for all capital projects that are approved within the capital plan and under this Framework, funding would be relocated to other eligible "green" projects that have been approved. The WSSC Water Controller monitors and tracks all WSSC Water assets, funding, and expenditures.

Further detail on selected projects can be found on Appendices A, B, and F.

APPENDICES

Appendix A: Eligible Projects

The following table provides a project description, amount, and indicates the ICMA Green Bond Principles (June 2021) category for each eligible project funded/refunded by the Green Bond. See Appendix E for Project Categories.

Project name	Project description	Amount (USD)	Renewable Energy	Energy Efficiency	Pollution prevention /control	Sustainable management of living natural resources	Terrestrial and aquatic biodiversity	Clean transportation	Sustainable water management	Climate change adaptation	Eco-efficient products, production	Green Building
Potomac WFP Consent Decree Program (W-73.33)	The Potomac WFP Consent Decree Program provides for the planning, design, and construction required for the implementation of Short-Term Operational and Long-Term Capital Improvements at the Potomac Water Filtration Plant (WFP) to allow WSSC Water to meet the new discharge limitations identified in the Consent Decree.	$20,000,000			**X**							

ICMA Green Bond Principles category definitions can be found on Appendix E.

Appendix A: Eligible Projects (continued)

Project name	Project description	Amount (USD)	Renewable Energy	Energy Efficiency	Pollution prevention /control	Sustainable management of living natural resources	Terrestrial and aquatic biodiversity conservation	Clean transportation	Sustainable water management	Climate change adaptation	Eco-efficient products, production technologies	Green Building
Large Diameter Water Pipe & Large Valve Rehabilitation Program W-161.01)	The purpose of this Program is to plan, inspect, design, and rehabilitate or replace large diameter water transmission mains and large system valves that have reached the end of their useful life. Condition assessment and/or corrosion monitoring is performed on metallic pipelines, including ductile iron, cast iron, and steel, to identify lengths of pipe requiring replacement or rehabilitation and cathodic protection. Rehabilitation or replacement of these mains provides value to the customer by minimizing the risk of failure and ensuring a safe and reliable water supply.	$10,000,000							**X**			

ICMA Green Bond Principles category definitions can be found on Appendix E.

Appendix B: Project KPI Reporting

Project	Category	KPI	Target Result Description	Status
Potomac WFP Consent Decree Program	Solid Discharge Reduction	Increase in the percent of river solids removed	Dewater and remove at least 50% of the river intake solids (dry weight equivalent) in addition to the dry weight equivalent of the annual tons of solids resulting from the addition of water treatment chemical due to facility improvements.	Project is proceeding on schedule. Long-term improvements are currently in design. Short-term improvements are complete. Solids removal has improved from 80% to 86.4%.
Large Diameter Water Pipe & Large Valve Rehabilitation Program	Sustainable Infrastructure	Miles of large diameter water mains replaced annually	Over the 6-year CIP planning period, this program is scheduled to replace 7.0 miles of large diameter water mains (16 inches in diameter or greater) on average per year. For FY 2025, the goal is 7.0 miles. Since FY 2018, WSSC Water has replaced 28 miles of large diameter water mains.	WSSC Water completed 5.0 miles of large diameter pipe work in FY 2023.

Appendix C: WSSC Water Governance

A six-member commission governs WSSC Water - three members from each County. The Commissioners are appointed to four-year terms by their respective County Executives and confirmed by their County Councils. The Commission's powers and responsibilities are set forth in Division II of the Public Utilities Article of the Annotated Code of Maryland and in any subsequent legislative amendments. The Maryland General Assembly conferred these powers upon the WSSC Water to enable it to fulfill its principal functions:

- To provide for the construction, operation, and maintenance of water supply and sanitary sewerage systems in Montgomery and Prince George's Counties;
- To provide for the construction of water and sewer house connection lines from WSSC Water's mains to abutting property lines;
- To approve the locations of, and issue permits for, utilities installed in public ways; and
- To establish water consumption rates, sewer usage rates, connection charges, front foot benefit charges, and permit fees and, if required, to cause appropriate ad valorem taxes to be levied.

The WSSC Water Strategic Priorities are reviewed and adopted by the Commission, including updates when recommended by management. The Priorities are crucial to not only guiding every decision WSSC Water makes in support of their customers, but in the achievement of their clean water mission.

WSSC Water Commissioners

Regina Y. Speed-Bost
Chair
Prince George's County, 2022

T. Eloise Foster
Vice-Chair
Montgomery County, 2016

Fausto R. Bayonet
Montgomery County, 2015

Howard A. Denis
Montgomery County, 2016

Lynnette D. Espy-Williams
Prince George's County, 2022

Mark J. Smith
Prince George's County, 2022

General Manager/CEO

Kishia L. Powell
General
Manager/CEO
2023

Kishia L. Powell is a dynamic force in the global water sector with 25 years of experience in both the public and private sectors across the U.S. and London, England. Powell leads a team of 1,680 strong and manages the day-to-day operations of the largest water utility in Maryland – 8th largest in the country – and ensures water and water resource recovery services are safely provided to 1.9 million customers throughout a 1,000-square-mile service area.

Prior to being selected to lead WSSC Water, Powell served as DC Water's Chief Operating Officer and Executive Vice President. During her tenure at DC Water, Powell championed several initiatives, including a focus on operationalizing equity and environmental justice. She provided oversight for DC Water's 10-year $6.4 billion capital improvement program and led the implementation of workstreams under the utility's strategic plan imperative for reliability.

Before DC Water, Powell was the City of Atlanta's Commissioner of Watershed Management, overseeing $644 million in annual operating expenditures and a five-year capital improvement plan of $1.26 billion. Powell previously served as the City of Jackson, Mississippi's Public Works Director and Bureau Head of Water and Wastewater for the City of Baltimore, where she was recognized by the Chesapeake Water Environment Association as a Water Hero in 2010. A licensed Professional Engineer in Maryland, Virginia and the District of Columbia, Powell holds a Bachelor of Science in Civil Engineering from Morgan State University's Clarence M. Mitchell, Jr. School of Engineering.

Appendix D: WSSC Water Environmental Statement

WSSC Water is committed to protecting the natural environment of Prince George's and Montgomery Counties as it carries out its mandate to provide sanitary sewer and drinking water services. This commitment focuses on those unique natural and manmade features (waterways, woodlands, and wetlands, as well as parklands, historical sites, and residential areas) that have been indicated by federal, state, and local environmental protection laws and regulations. Specific impact information is included in the evaluation of alternatives during the organization's Asset Management Process if the environment features will be affected by the proposed construction of a project. Six primary areas are addressed as appropriate:

- Stream Valleys – identify the classification of the stream and, in general terms, the published water quality. From published maps, show the topography including the 100-year floodplain;
- Wetlands (Tidal and Non-tidal) – using published maps, show the locations of these and give their classification;
- Woodlands or Forested Areas – using aerial photographs or published maps, the location and identification of type are discovered;
- Parklands – using published maps, show the location of all land holdings of the Maryland-National Capital Park & Planning Commission, the Department of Natural Resources, and the National Park Service;
- Steep Slopes – using published maps, show all slopes greater than 15%; and,
- Historical/Archaeological Sites – the Maryland Geological Survey (State Archaeologist) and Maryland Historical Trust will provide information on sites near the project alternatives. The Maryland-National Capital Park & Planning Commission or county government may provide additional information of local interest.

Appendix E: Green Project Categories (ICMA June 2021)

The eligible Green Project categories, listed in no specific order, include, but are not limited to:

- **Renewable energy** (including production, transmission, appliances, and products);
- **Energy efficiency** (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances, and products);
- **Pollution prevention and control** (including reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy/emission-efficient waste to energy);
- **Environmentally sustainable management of living natural resources and land use** (including environmentally sustainable agriculture; environmentally sustainable animal husbandry; climate smart farm inputs such as biological crop protection or drip-irrigation; environmentally sustainable fishery and aquaculture; environmentally sustainable forestry, including afforestation or reforestation, and preservation or restoration of natural landscapes);
- **Terrestrial and aquatic biodiversity conservation** (including the protection of coastal, marine and watershed environments);
- **Clean transportation** (such as electric, hybrid, public, rail, non-motorized, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions);
- **Sustainable water and wastewater management** (including sustainable infrastructure for clean and/or drinking water, wastewater treatment, sustainable urban drainage systems and river training and other forms of flooding mitigation);
- **Climate change adaptation** (including efforts to make infrastructure more resilient to impacts of climate change, as well as information support systems, such as climate observation and early warning systems);
- **Circular economy adapted products, production technologies and processes** (such as the design and introduction of reusable, recyclable and refurbished materials, components and products; circular tools and services); **and/or certified eco-efficient products**.
- **Green buildings** that meet regional, national, or internationally recognized standards or certifications for environmental performance.

Appendix F: Selected Green Bond Projects

Potomac WFP Consent Decree Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W - 000073.33	173801	Change

PDF Date	October 1, 2022
Date Revised	

Pressure Zones	Potomac WFP HGPOWF
Drainage Basins	
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'22	Estimate FY'23	Total 6 Years	Year 1 FY'24	Year 2 FY'25	Year 3 FY'26	Year 4 FY'27	Year 5 FY'28	Year 6 FY'29	Beyond 6 Years
Planning, Design & Supervision	36,373	17,373	4,000	15,000	4,000	4,000	4,000	3,000			
Land	1,000	1,000									
Construction	149,669	16,669	25,000	108,000	27,000	27,000	27,000	27,000			
Other	7,600		1,450	6,150	1,550	1,550	1,550	1,500			
Total	**194,642**	**35,042**	**30,450**	**129,150**	**32,550**	**32,550**	**32,550**	**31,500**			

C. Funding Schedule (000's)

WSSC Bonds	194,642	35,042	30,450	129,150	32,550	32,550	32,550	31,500			

D. Description & Justification

DESCRIPTION

The Potomac WFP Consent Decree Program provides for the planning, design, and construction required for the implementation of Short-Term Operational and Long-Term Capital Improvements at the Potomac Water Filtration Plant (WFP) to allow WSSC Water to meet the new discharge limitations identified in the Consent Decree.

BENEFIT

Regulatory & Other Agreements: This project is required to meet regulatory requirements, multi-jurisdictional agreements, and/or consent decrees; Environmental Sustainability: This project supports WSSC Water's commitment to protect the natural environment of Prince George's and Montgomery Counties

JUSTIFICATION

The Consent Decree (CD) was Entered by the U.S. District Court of Maryland on April 15, 2016. Under the terms of the CD WSSC Water is required to "undertake short-term operational changes and capital improvements at the Potomac WFP that will enable WSSC Water to reduce significantly the pounds per day of solids discharged to the River" (CD Section II. Paragraph 6.i); and to plan, design, and implement long-term "upgrades to the existing Plant or to design and construct a new plant to achieve the effluent limits, conditions, and waste load allocations established by the Maryland Department of the Environment (the Department) and/or in this Consent Decree, and incorporated in a new discharge permit to be issued by the Department" (CD Section II. Paragraph 6.ii). The CD required WSSC Water to submit a Draft Audit Report and Draft Long-Term Upgrade Plan to the Citizens and the Department by November 15, 2016, and final reports to the Citizens and the Department by January 1, 2017. The Final Audit and Long-Term Upgrade Plan Reports were submitted to the Citizens and the Department on December 29, 2016. The Department reviews the Audit Report and selects recommended improvements in operations, monitoring, and waste tracking, along with select capital projects that can be completed no later than April 1, 2020 and that are necessary to achieve the goals identified in CD Section IV. Paragraph 24. Additionally, the work required to implement the Long-Term Capital Improvements Project(s) shall be fully implemented in accordance with the schedule set forth in the Long-Term Upgrade Plan. WSSC Water shall be subject to a lump-sum stipulated penalty in accordance with the CD for failure to implement the Long-Term Capital Improvement Project(s) by January 1, 2026.

COST CHANGE

The expenditure projections were updated to reflect actual bids for the sedimentation basin upgrades.

OTHER

The project scope has remained the same. The schedule and expenditure projections shown in Block B above are a mix of actual bids and design level estimates and include $1,000,000 for Supplemental Environmental Projects included under CD Section IX. Paragraph 50. WSSC Water Green Bonds will be utilized to fund a portion of this project. The reduction in suspended solids discharged into the Potomac River will address the following International Capital Market Association (ICMA) Green Bond Principles 2016 categories: Pollution prevention/control; and Terrestrial and aquatic biodiversity conservation.

COORDINATION

Coordinating Agencies: Maryland Department of the Environment; Montgomery County Government; National Park Service; Prince George's County Government; U.S. Environmental Protection Agency, Region III
Coordinating Projects: W - 000073.30 - Potomac WFP Submerged Channel Intake; W - 000073.32 - Potomac WFP Main Zone Pipeline

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$12,662	28
Total Cost	$12,662	28
Impact on Water and Sewer Rate	$0.03	28

F. Approval and Expenditure Data (000's)

Date First in Program	FY'17
Date First Approved	FY'16
Initial Cost Estimate	27,250
Cost Estimate Last FY	182,298
Present Cost Estimate	194,642
Approved Request Last FY	25,200
Total Expense & Encumbrances	35,042
Approval Request Year 1	32,550

G. Status Information

Land Status	Land Acquired
Project Phase	Construction
Percent Complete	0 %
Estimated Completion Date	January 2027

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Appendix F: Selected Green Bond Projects (Continued)

Large Diameter Water Pipe & Large Valve Rehabilitation Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W - 000161.01	113803	Change

PDF Date	October 1, 2022
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'22	Estimate FY'23	Total 6 Years	Year 1 FY'24	Year 2 FY'25	Year 3 FY'26	Year 4 FY'27	Year 5 FY'28	Year 6 FY'29	Beyond 6 Years
Planning, Design & Supervision	63,403		6,921	56,482	7,673	8,291	8,812	9,549	10,310	11,847	
Land											
Construction	651,577		39,953	611,624	64,441	77,693	84,211	111,115	137,798	136,366	
Other	71,497		4,689	66,808	7,212	8,598	9,302	12,063	14,811	14,822	
Total	**786,477**		**51,563**	**734,914**	**79,326**	**94,582**	**102,325**	**132,727**	**162,919**	**163,035**	

C. Funding Schedule (000's)

WSSC Bonds	786,477		51,563	734,914	79,326	94,582	102,325	132,727	162,919	163,035	

D. Description & Justification

DESCRIPTION

The purpose of this program is to plan, inspect, design, and rehabilitate or replace large diameter water transmission mains and large system valves that have reached the end of their useful life. Condition assessment and/or corrosion monitoring is performed on metallic pipelines, including ductile iron, cast iron, and steel, to identify lengths of pipe requiring replacement or rehabilitation and cathodic protection. The PCCP Inspection and Condition Assessment and Monitoring Program identifies individual pipe segments that require repair or replacement to assure the continued safe and reliable operation of the pipeline. The program also identifies extended lengths of pipe that require the replacement of an increased number of pipe segments in varying stages of deterioration that are most cost effectively accomplished by the replacement or rehabilitation of long segments of the pipeline or the entire pipeline. Rehabilitation or replacement of these mains provides value to the customer by minimizing the risk of failure and ensuring a safe and reliable water supply. The program includes installation of Acoustic Fiber Optic Monitoring equipment in order to accomplish these goals in PCCP mains.

*EXPENDITURES FOR LARGE DIAMETER WATER PIPE REHABILITATION ARE EXPECTED TO CONTINUE INDEFINITELY.

BENEFIT

Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life; System Reliability: This project will improve service reliability through fewer and shorter service interruptions; Environmental Sustainability: This project supports WSSC Water's commitment to protect the natural environment of Prince George's and Montgomery Counties

JUSTIFICATION

WSSC Water has approximately 1,031 miles of large diameter water main ranging from 16-inches to 96-inches in diameter. This includes 335 miles of cast iron, 326 miles of ductile iron, 35 miles of steel, and 335 miles of PCCP. Internal inspection and condition assessment is performed on PCCP pipelines 36-inches and larger in diameter. Of the 335 miles of PCCP, 140 miles are 36-inch diameter and larger. The inspection program includes internal visual and sounding, sonic/ultrasonic testing, and electromagnetic testing to establish the condition of each pipe section and determine if maintenance repairs, rehabilitation, or replacement are needed.

The planning and design phase evaluates the alignment, hydraulic capacity, and project coordination, among other factors, in an effort to re-engineer these pipelines to meet today's design standards. The design effort includes the preparation of bid ready contract documents including all needed rights-of-way acquisitions and regulatory permits. The constructed system is inspected and an as-built plan is produced to serve as the renewed asset record.

In July 2013, WSSC Water's Acoustic Fiber Optic monitoring system identified breaking wires in a 54-inch diameter PCCP water transmission main in the Forestville area of Prince George's County. Upon attempting to close nearby valves to isolate the failing pipe for repair, WSSC Water crews encountered an inoperable valve with a broken gear, requiring the crew to drop back to the next available valve. This dropping-back to another valve would block one of the major water mains serving Prince George's County, significantly enlarging the shutdown area and reduce our capacity to supply water to over 100,000 residents. In order to minimize the risk associated with inoperable large valves and possible water outages, the large valve inspection and repair program was initiated to systematically inspect, exercise, repair, or replace any of the nearly 1,500 large diameter valves and vaults located throughout the system.

Utility Wide Master Plan (December 2007); 30 Year Infrastructure Plan (2007); FY'24 Water Network Asset Management Plan (May 2022).

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$51,161	
Total Cost	$51,161	
Impact on Water and Sewer Rate	$0.11	

F. Approval and Expenditure Data (000's)

Date First in Program	FY'11
Date First Approved	FY'11
Initial Cost Estimate	
Cost Estimate Last FY	576,383
Present Cost Estimate	786,477
Approved Request Last FY	45,675
Total Expense & Encumbrances	
Approval Request Year 1	79,326

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

WSSCWATER
DELIVERING THE ESSENTIAL

Appendix F: Selected Green Bond Projects – Large Diameter Wipe Pipe and Large Valve Rehabilitation Program (Continued)

COST CHANGE

Program costs reflect the latest schedule and expenditure estimates based upon the recommendations from the Buried Water Assets System Asset Management Plan.

OTHER

The project scope has remained the same. The schedule and expenditure projections shown in Block B above are order of magnitude estimates and are expected to change based upon the results of the on-going inspections and condition assessments. Additional costs associated with PCCP inspection/condition assessment, large valve inspection/repairs, and emergency repairs are included in the Operating Budget. WSSC Water Green Bonds will be utilized to fund a portion of this project. The annual replacement work for large diameter water mains will address the following International Capital Market Association (ICMA) Green Bond Principles 2016 category: Sustainable water management.

COORDINATION

Coordinating Agencies: Local Community Civic Associations; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Public Works and Transportation; Montgomery County Government;(including localities where work is to be performed); Prince George's County Government;(including localities where work is to be performed); Prince George's County Department of Permitting Inspection and Enforcement
Coordinating Projects: W - 000001.00 - Water Reconstruction Program; W - 000107.00 - Specialty Valve Vault Rehabilitation Program

Environmental Stewardship Program

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January 2024