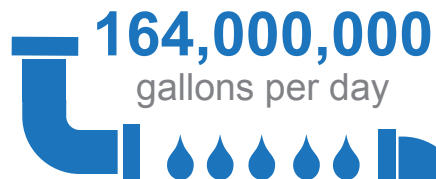




**500,000**

Laboratory tests per year



**164,000,000**

gallons per day

delivered to

**1.8 million**

residents

**5,700 miles**



**2**

Water Filtration Plants



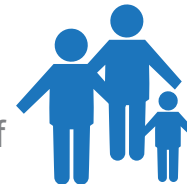
Reducing our carbon footprint with

**17,000**

solar panels

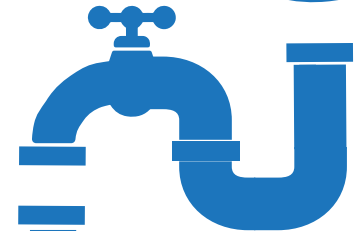
Wind is part of WSSC's energy portfolio

Average daily consumption of  
**55 gallons**  
per person per day



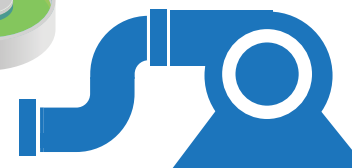
Our Wastewater System Spans

**5,500 miles**



**6**

Water Resource Recovery Facilities



**55**

pumping stations



MAINTAINS  
42,000+  
FIRE HYDRANTS

**FIRE PROTECTION**



# PROPOSED CIP

## Capital Improvements Program

FYs 2020-2025



# **Washington Suburban Sanitary Commission**

## **Proposed Six-Year Capital Improvements Program Fiscal Years 2020 - 2025**

**October 1, 2018**

**T. Eloise Foster, Chair  
Chris Lawson, Vice Chair  
Fausto R. Bayonet, Commissioner**

**Omar M. Boulware, Commissioner  
Howard A. Denis, Commissioner  
Thomasina V. Rogers, Commissioner**

**Carla A. Reid, General Manager/CEO  
ATTEST: Sheila R. Finlayson, Esq., Corporate Secretary**

*Established 100 years ago in 1918, WSSC is currently among the largest water and wastewater utilities in the nation with a network of over 5,700 miles of fresh water pipeline and over 5,500 miles of sewer pipeline. Our service area spans nearly 1,000 square miles in Prince George's and Montgomery counties, providing service to 1.8 million residents. WSSC drinking water has always met or surpassed federal standards.*

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**WASHINGTON SUBURBAN SANITARY COMMISSION  
PROPOSED CAPITAL IMPROVEMENTS PROGRAM  
FISCAL YEARS 2020-2025**

**LEGAL AUTHORITY AND RESPONSIBILITY**

**Statutory Basis**

Under Section 23-301 of the Public Utilities Article, WSSD Laws, Annotated Code of Maryland, the Washington Suburban Sanitary Commission (WSSC) is responsible for annually preparing a Six-Year Capital Improvements Program (CIP) for major water and sanitary sewerage facilities and transmitting it to the County Council and the County Executive of Montgomery County and the County Executive of Prince George's County by October 1 each year. The Commission, where required by the two County Councils' final action on the program, must revise the same and then, prior to the commencement of the first fiscal year of the six-year program, adopt the Capital Improvements Program.

Section 23-301 defines major projects for inclusion in the CIP as water mains at least 16 inches in diameter, sewer mains at least 15 inches in diameter, water or sewage pumping stations, force mains, storage facilities, and other major facilities. Project information presented in this document complies with all legal requirements of the ten-year water and sewerage plans and is in direct support of the two counties' approved land use plans and policies for orderly growth and development. By WSSC Resolution No. 2018-2190 dated June 20, 2018, the Commission adopted the FYs 2019-2024 CIP as amended.

**WSSC's Role**

The Commission is a bi-county agency established 100 years ago, in 1918, by an act of the Maryland General Assembly. The WSSC is responsible for planning, designing, constructing, operating, and maintaining water and sewerage systems, and acquiring facility sites and rights-of-way in order to provide potable water and sanitary sewer services to residents, businesses, and federal, state, and local municipalities within the Washington Suburban Sanitary District (WSSD). The WSSD encompasses nearly all of Montgomery and Prince George's Counties and provides water and sewer service to approximately 1.8 million customers in an area of nearly 1,000 square miles. A board of six commissioners directs the WSSC, three appointed by the County Executive of Prince George's County and confirmed by the Prince George's County Council, and three appointed by the Montgomery County Executive and confirmed by the Montgomery County Council. Commissioners serve four-year staggered terms.



## **WSSC's 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's Responsibilities**

The WSSC's primary responsibilities include:

- protecting the health and safety of the residents of both counties by providing an adequate supply of safe drinking water;
- meeting fire-fighting requirements;
- collecting and adequately treating wastewater before it is returned to the waters of the State of Maryland;
- managing and safeguarding the watershed and the water supply by implementing sound forestation and land use practices, and by discouraging development within the watershed buffer;
- monitoring the collection and treatment of wastewater;
- discharging an effluent cleansed of nutrients, pollutants, and hazardous materials;
- managing treated wastewater biosolids responsibly and cost effectively;
- maintaining the existing water and wastewater infrastructures;
- planning for the orderly growth of the Sanitary District and WSSC services to meet the needs of the communities we serve;
- monitoring adherence to all plumbing and gasfitting standards and ensuring proper coordination with other public utilities; and
- managing operations to provide efficient service to its customers while keeping costs as low as possible.

The projects contained in this Capital Improvements Program represent the WSSC's plan to successfully meet its responsibilities. The WSSC strives to maintain a balance between the use of valuable resources and the public's demand for clean water. In carrying out these activities that will help ensure that we fulfill our core mission, we are energized by the opportunity to strengthen our local economies by assuring that we maintain fair, ethical and equitable contracting practices. This will allow us to secure high quality and competitively priced goods and services from our diverse and talented local businesses in Prince George's and Montgomery Counties.

## **PROGRAM OVERVIEW**

### **Objective**

The principal objective of the Capital Improvements Program (CIP) is the six-year programming of planning, design, land acquisition, and construction activities on a yearly basis for major water and sewerage infrastructure projects and programs. These projects and programs may be necessary for system improvements for service to existing customers, to comply with federal and/or state environmental mandates, or to support new development in accordance with the counties' approved plans and policies for orderly growth and development.

### **Spending Affordability and Fiscal Implications**

Projects in this CIP are primarily financed with funds from the Water Supply and Sewage Disposal Bond Funds. The Commission largely finances these projects with the proceeds from the sale of long-term debt. Water supply bonds are issued to finance the planning, design, and construction of major water treatment, storage, and transmission facilities. Sewage disposal bonds are issued to finance the planning, design, and construction of major sewage collection, treatment, and disposal facilities.

The water supply and sewage disposal bonds are repaid to bond holders over a 30-year period by annual principal and interest payments or, debt service. In this manner, the initial high cost of capital improvements is spread over time and paid for by future customers who will benefit from the facilities, as well as by current customers. The annual debt service on outstanding bonds is paid from the Commission's operating funds. The primary funding source for the repayment of debt is the revenue generated by water consumption and sewer use charges. Water and sewer charges are set on an annual basis to cover both operational and debt service costs (associated with the water supply and sewage disposal bonds) of the Commission. It is through this capital project financing process that the size of the CIP impacts the size of water and sewer bond issues, the associated debt service costs, and, ultimately, our customers' water and sewer bills.

Several capital spending and funding practices are noteworthy. The Commission:

- continues an aggressive program to rehabilitate or replace the older portions of the Commission's 5,700 miles of water main and 5,600 miles of sewer main infrastructure;
- funds capital facilities needed to accommodate growth with the System Development Charge (SDC). This charge is reviewed annually by the County Councils. (Refer to Appendices A and B for details. A comparison of SDC revenues and estimated growth spending for the six-year program period is displayed on the table titled "Growth Funding Gap" in the Funding Growth section of this document.);

- uses PAYGO (Pay-As-You-Go): the practice of using current revenues, when budgeted, to the extent practical to help fund the capital program, thereby reducing the need for debt financing;
- maximizes and manages the collection of funding from alternative sources including state and federal grants, and payments from other jurisdictions for projects which specifically benefit them. The amount of these collections varies from year to year. The WSSC's reliance on rate-supported debt to build the capital program is reduced to the extent that these sources are available to help fund capital projects; and
- does not allow the use of rate-supported debt to fund CIP-sized water and sewer projects requested by Applicants in support of new development. These projects, identified as Development Services Process (DSP) projects, may only proceed if built at the Applicant's expense. (An explanation of the DSP process is included in the Development Services Process section of this document.) However, since these projects are eligible for SDC credits (to the extent that SDC funds are available), the Applicants should eventually recoup their costs. (Refer to Appendix B for definitions and details.)

In May 1993, the Montgomery and Prince George's County Councils created the Bi-County Working Group on WSSC Spending Controls (Working Group) to review WSSC finances and recommend spending control limits. The Working Group's January 1994 report recommended "the creation of a spending affordability process that requires the Counties to set annual ceilings on the WSSC's rates and debt (debt in this context means both bonded indebtedness and debt service), and then place corresponding limits on the size of the capital and operating budgets of the Commission." The objective of this process is to create a framework for controlling costs and achieving low or moderate water/sewer bill increases, as well as slowing the rate at which the WSSC is incurring debt, thus reducing the portion of WSSC water/sewer bills dedicated to paying off debt. This valuable, annual process focuses debate on the need to balance affordability considerations against providing the resources necessary to serve existing customers, meet environmental mandates, and provide the facilities needed for growth.

The Commission has submitted a CIP and budget, which generally conforms to the Spending Affordability Guidelines (SAG) established by both county governments every year since 1994. Through FY'19, projects were reduced or deferred by nearly \$226 million. For FY'20, CIP and Information Only combined spending was reduced or deferred by \$46 million.

The FY'20 combined expenditures (CIP & Information Only projects) are estimated at \$569.7 million, which represents a decrease of approximately \$57.9 million from the approved funding level for FY'19. The decrease is primarily due to the construction progress on the Clinton Zone water main projects and a planned decrease in the Water Reconstruction Program.

## **Funding Sources**

The projects included in this combined program are funded primarily by issuance of water and sewer rate-supported debt (WSSC Bonds). To a lesser degree, projects may also be funded by the following:

- State Grants – a share of the support provided on a local level . The State of Maryland provides funding under a separate grants program for enhanced nutrient removal at existing wastewater treatment plants and for the rehabilitation of sewer mains as part of the Chesapeake Bay Program;
- Federal Grants - Department of Energy grants related to WSSC's Energy Performance Program and Piscataway WWTP Bio-Energy projects to promote and develop green energy sources;
- Local Government Contributions – payments to the WSSC for co-use of regional facilities, or funding provided by county governments for projects they are sponsoring;
- PAYGO – when budgeted, the practice of using current revenues to the extent practical to help fund the capital program, thereby reducing the need for debt financing;
- SDC – anticipated revenue from the System Development Charge (SDC); and
- Contribution/Other – projects funded by Applicants for growth projects where the County Councils have directed that no WSSC rate-supported debt be used to pay for the project.

(Please refer to Figure 3 near the end of this section, which displays the funding allocations for the major funding sources.)

## **Funding Growth**

The portion of the combined program needed to accommodate growth is approximately \$91 million, which equals 3% of all expenditures in the combined six-year program. The major funding sources for this part of the program are System Development Charge (SDC) revenues and payments by Applicants. In the event that growth costs are greater than the income generated by growth funding sources, either SDC supported or rate-supported water/sewer bonds may be used to close any gap.

The Maryland General Assembly, in 1993, first approved legislation authorizing the Montgomery and Prince George's County Councils to establish, and the WSSC to impose, a System Development Charge. This is a charge on new development to pay for that part of the Commission's Capital Improvements Program needed to accommodate growth in the WSSC's customer base. In accordance with the enabling legislation, the Councils approved, and the Commission began to phase in, this charge beginning in FY'94. The SDC charge was eventually approved at the maximum rate of \$160 per fixture unit by Commission Resolution No. 95-1457, adopted May 24, 1995, and became effective July 1, 1995. In the 1998 legislative session, the General Assembly modified the charge by passage of House Bill 832 setting the fee at \$200 per fixture unit with a provision for annual inflation adjustments. Subsequent resolutions have established a process for approving partial and full exemptions for elderly housing and biotechnology properties, as well as exemptions for properties in designated economic revitalization areas and properties used primarily for recreational and educational programs and services to youth. For FY'19, the Montgomery County and Prince George's Councils increased the maximum allowable charge by the 1.6% increase in the CPI-U, but maintained the current rate of \$203 per fixture unit. The Commission adopted the Councils' actions by Resolution Number 2018-2187 dated June 20, 2018. Policies and other information associated with the System Development Charge are included in this document in Appendices A through D.

It is estimated that there will be an overall growth funding surplus of \$84.2 million over the six-year program period. The gap or surplus between growth funding sources (SDC, developer contributions, and Applicant payments under System Extension Permits) and the estimated growth-related expenditures vary over the six-year period. If growth-related expenditures were to exceed the available SDC account balance in any given fiscal year, it is anticipated that WSSC would issue new SDC supported debt to cover this temporary gap. The debt will be repaid through future SDC collections, as allowed by State Law. Further, it is currently anticipated that no significant additional growth projects will evolve in the later years of the six-year period. (A listing of SDC-eligible projects is included in Appendix D.)

An estimate of the gap or surplus for each fiscal year is presented in the table that follows. To estimate the gap/surplus for an individual fiscal year, it is assumed that 80% of the eligible expenditures will actually be incurred in a given year due to scheduling and other delays. The projected gap/surplus is the difference between the eligible expenditures adjusted for completion and the sum of the various funding sources.

**GROWTH FUNDING GAP**  
**(In Millions)**

	<b><u>FY'20</u></b>	<b><u>FY'21</u></b>	<b><u>FY'22</u></b>	<b><u>FY'23</u></b>	<b><u>FY'24</u></b>	<b><u>FY'25</u></b>	<b><u>6 YEAR TOTAL</u></b>
<b>CIP GROWTH EXPENDITURES</b>	\$32.1	\$18.0	\$18.6	\$12.0	\$9.2	\$0.5	\$90.4
Expenditures Adjusted for Completion	25.7	20.8	18.5	13.3	9.8	2.2	90.3
<b>FUNDING SOURCES</b>							
Privately Funded Projects	8.3	7.9	2.9	0.8	0.5	0.5	20.9
Estimated SDC Revenue	27.6	28.6	29.6	29.6	29.9	30.6	175.6
Less SDC Developer Credits	(4.0)	(3.0)	(3.0)	(2.0)	(2.0)	(2.0)	(16.0)
Less SDC Exemptions <sup>1</sup>	<u>(1.0)</u>	<u>(1.0)</u>	<u>(1.0)</u>	<u>(1.0)</u>	<u>(1.0)</u>	<u>(1.0)</u>	<u>(6.0)</u>
<b>TOTAL FUNDING SOURCES</b>	\$30.9	\$32.5	\$28.5	\$27.4	\$27.1	\$28.1	\$174.5
<b>FUNDING GAP/(SURPLUS)</b>							
<b>ADJUSTED FOR COMPLETION</b>	<b>(\$5.2)</b>	<b>(\$11.7)</b>	<b>(\$10.0)</b>	<b>(\$14.1)</b>	<b>(\$17.3)</b>	<b>(\$25.9)</b>	<b>(\$84.2)</b>

<sup>1</sup> Each County may grant SDC exemptions, as identified in Appendix A, totaling up to \$500,000 per fiscal year as provided for in Maryland State Law (Public Utilities Article, Section 25-403(b)). Unused exemption amounts are available for use in future fiscal years. Cumulative unused SDC exemptions totaled approximately \$6.5 million for Montgomery County and \$3.4 million for Prince George's County through June 30, 2018.

**Expenditures**

The Proposed FYs 2020-2025 combined program includes 70 CIP and 8 Information Only projects for a grand total of \$5.1 billion dollars. The grand total is \$89 million less than the Adopted FYs 2019-2024 combined program primarily due to the completion and close-out of the Bi-County Water Tunnel project in the last CIP. Expenditures for the combined six-year program period are estimated at \$3.2 billion. FY'20 expenditures are estimated at \$569.7 million, which is \$57.9 million less than the funding level approved for FY'19. Of the \$569.7 million, \$111.9 million is for the Water Program, \$271.4 million is for the Sewerage Program, and \$186.3 million is for the Information Only Projects. System Extension Process (SEP) growth projects are estimated at \$21 million in the six-year program with approximately \$10.4 million programmed in FY'20. There are four new projects this cycle. New projects are shown on the New Projects Listing near the end of this section.

A table comparing the Adopted FYs 2019-2024 CIP to the Proposed FYs 2020-2025 CIP follows:

## WSSC CIP - COMPARISON

(In Thousands)

	<u>COMBINED PROGRAM</u>	<u>TOTAL SIX YEARS</u>	<u>BUDGET YEARS COMPARISON</u>
Adopted FYs 2019-2024	\$5,147,809	\$3,339,131	\$627,591
Proposed FYs 2020-2025	5,059,114	3,229,062	569,664
Change	(\$88,695)	(\$110,069)	(\$57,927)

Combined six-year program expenditures are estimated at approximately \$3.2 billion, \$775.2 million for the Water Program, \$1.1 billion for the Sewerage Program, and \$1.4 billion for the Information Only Projects. This is a \$110.1 million decrease from the combined six-year total in the Adopted FYs 2019-2024 CIP. The overall decrease is primarily due to the projected construction progress on the Clinton Zone water main projects, and deferring the Potomac Submerged Channel Intake project to beyond six years due to spending affordability considerations.

### Expenditure Categories

Expenditures are divided into three main categories: projects needed for growth, projects needed to implement environmental regulations, and projects needed for system improvements. The categories are defined as follows:

Growth – any project, or part of a project, that increases the demand for treatment and delivery of potable water and/or increases system requirements to collect and treat more sewage in response to new, first time, service hookups to the WSSC’s existing customer base.

Environmental Regulations – any project which is required to meet changes in federal regulations, such as the Clean Water Act, or in response to more stringent state operating permit requirements, but does not increase system capacity. Any part of this type of a project that provides for additional capacity is for growth.

System Improvements – any project which improves or replaces components of existing water and sewerage systems or provides for mainline relocations required in response to county or state transportation department road projects where the intended purpose is not to increase the capacity of any system components. This category also includes program-sized water main extensions for which the primary function is to provide water supply redundancy to pressure zones or smaller areas in the Sanitary District or for system loops to improve maintainability and reliability. Any part of this type of a project not dictated by maintenance or rehabilitation needs and that provides for additional capacity is for growth. (Please refer to Figure 4 near the end of this section, which displays funding allocations for all three categories.)

## **CIP Development Schedule**

The CIP production cycle spans 13 months, beginning in May of each year. The organizational units responsible for project initiation submit project description forms (commonly referred to as PDFs) to the WSSC's Finance Office (Budget Division). The expenditures, and schedules displayed on each PDF represent the WSSC's best estimate of the cost and the time it will take to plan, design, and construct a project. These submittals are comprehensively reviewed with the General Manager/CEO and Senior Staff each June to assess the addition of new projects, changes in cost or scope, criticality, priority, environmental sensitivity, adherence to county growth and public outreach policies, construction schedule changes, and spending affordability considerations.

Following this comprehensive review, worksessions are conducted by the WSSC Budget Division with the Prince George's and Montgomery County Governments, Maryland-National Capital Park and Planning Commission (M-NCP&PC), and local municipality representatives to solicit their input, and a draft document is presented to the WSSC's Commissioners for their consideration. Draft CIP Public Hearing documents are published and distributed each August and the Commissioners' host public hearings in each County in September. The hearings are advertised in a major newspaper circulated in Prince George's and Montgomery Counties, through our webpage and social media, and special notices are sent to the Prince George's and Montgomery Counties' State Senators and Delegates, County Executives, County Council members and County Government staff. In addition, a notice is included with each water bill mailed to WSSC customers throughout the months of June, July, and August inviting them to participate in the public hearings. After considering all relevant comments, the Commissioners approve the Proposed CIP document for transmittal to both county governments before October 1, in accordance with state law.

After January of the following year, the Prince George's and Montgomery County Executives transmit their recommendations to their respective County Councils. Each County Council conducts separate public hearings and worksessions to consider additional modifications to the Proposed CIP. On or before May 15<sup>th</sup>, the County Councils meet jointly to agree on required changes, and on or before June 1st each year, enact formal resolutions identifying project modifications and approving the addition of new projects. The WSSC then adopts these changes and additions before the beginning of the new fiscal year on July 1. If the Councils do not jointly agree on changes by June 1, under law, the CIP is approved as proposed by the WSSC.



## **Program Description**

Individual project information is displayed on the project description forms. The content of these forms, as prescribed under Section 23-301 of the Public Utilities Article, WSSD Laws, Annotated Code of Maryland, includes as applicable: estimated diameter, length, and location of pipelines; design capacity; population and area to be served; project justification; project expenditure schedule showing the estimated cost and funding sources; and, where applicable, a map. Project description forms are organized within the following major sections: Montgomery County Water, Montgomery County Sewer, Bi-County Water, Bi-County Sewer, Prince George's County Water, Prince George's County Sewer, and Information Only Projects. A financial summary of expenditures by major section is included at the end of this narrative. Project number prefixes indicate a water (W-), sewerage (S-), or administrative (A-) project. Administrative projects are included in the Information Only section and refer to projects that may include a combination of water and sewerage sub-projects. Each major section includes a financial summary for the projects in that section, a list of new projects, a PDF for each project, and a list of projects that are being closed out in the section.







Anticipated land, rights-of-way and any watershed buffer property projected acquisition costs are consolidated onto composite PDFs (W-202.00 and S-203.00). This format provides flexibility in expending funds in a specific fiscal year and permits the WSSC to respond to the uncertainty of implementation schedules, unpredictable delays, unanticipated rights-of-way requirements, and the need to assure the WSSC an equitable negotiation position by avoiding project-specific cost displays prior to contacting property owners. When a land purchase has been concluded, this cost is transferred back to the individual project.

A Projects Pending Close-Out list is included at the end of each major section when required. Each list contains projects which were approved and included in the prior adopted CIP, but which do not appear in this program for reasons such as expected construction completion or project cancellation.

This document also contains an Information Only projects section. Projects in this section are not required to be in the program under Section 23-301 of the Public Utilities Article, WSSD Laws, Annotated Code of Maryland, but may be included for any number of reasons such as: fiscal planning purposes; the reader's improved understanding of the full scope of a specific set of projects; or responding to requests from county governments. Expenditures for Information Only projects, shown separately on the financial summary, are not included as part of the CIP six-year program costs. The Combined Program is the sum of the CIP and Information Only projects.

Funding requirements for the first year of the six-year program, as shown on each project description form (PDF) in Block B, Column Year 1, are included in the Commission's capital and operating budgets. In addition to adopting a six-year CIP, the Montgomery and Prince George's County Governments also annually review and approve the WSSC's capital and operating budget.

The following symbols are used on the individual project maps to represent different types of water and sewerage system components:

- Water Main/Gravity Sewer 
- Water/Wastewater Pumping Station 
- Sewage Force Main 
- Water/Sewage Storage Facility 
- Water Filtration Plant 
- Water Resource Recovery Facility 

## **CIP PLANNING PROCESS**

### **Water Treatment/Distribution Systems**

The provision of potable water involves three major areas: supply, treatment, and distribution. The Potomac and Patuxent Rivers are the two sources of water supply for the Washington Suburban Sanitary District (WSSD), with the majority of water coming from the Potomac. Raw water is taken directly from the natural flow of the Potomac River into the Potomac Water Filtration Plant in Montgomery County. Water from the Patuxent River is impounded in two reservoirs by the Brighton and T. Howard Duckett Dams, which are the sources of supply to the Patuxent Water Filtration Plant in northern Prince George's County. The Triadelphia and T. Howard Duckett reservoirs have a combined storage capacity of approximately 10.2 billion gallons of water. The two filtration plants have produced an average of 162.9 million gallons of potable water per day over the last five fiscal years.

The natural flow in the Potomac River can be augmented during low flow conditions by two other reservoirs. The Jennings Randolph Reservoir, impounding 13.0 billion gallons of emergency raw water supply, is located on the North Fork of the Potomac River in West Virginia, and is owned and operated by the U.S. Army Corps of Engineers. Little Seneca Lake in Montgomery County provides an additional 3.8 billion gallons of useable raw water storage, and is owned and operated by the WSSC. Both reservoirs are shared by users in the Washington Metropolitan area, including the U.S. Army Corps of Engineers, the Fairfax County Water Authority, and the WSSC. Withdrawal during low flow conditions is governed by the terms of the Potomac Low Flow Allocation Agreement of 1981 as amended, and is administered by the Interstate Commission on the Potomac River Basin.

As raw water enters a plant, it goes through several stages of filtration and purification. Much of the finished water produced at the WSSC's plants has to be pumped into the distribution system. Water pumping stations are strategically located throughout the Sanitary District to move water to higher topographic elevations to maintain adequate system pressure. The WSSD is divided into 17 major pressure zones that represent hydraulically separated segments of the water system. The pipelines within each of the zones must be designed to serve not only customers within the confines of that zone, but also customers in adjacent interconnected zones. Water to zones at higher elevations must be pumped; water to lower elevations must be closely controlled with pressure regulating valves. A system under pressure enables the pipes to be laid uphill or downhill, with the flow direction independent of the slope of the ground. The design and operation of a water system is a complex task which requires detailed knowledge of the interrelationships between the source of supply, the location of pumping stations, pump characteristics, pressure reducing valves, storage facilities, pipe diameters and capacity characteristics, consumption patterns throughout the day, operating techniques and costs, and location of our 1.8 million customers spread out over our 1,000 square mile service area.

More than 40 elevated tanks, standpipes, and ground-level storage structures in the distribution system are filled with finished, filtered water to meet daily peak customer demand and to provide reserves for fire protection and emergencies. A network of more than 5,700 miles of underground water pipeline delivers water to homes, apartments, schools, hospitals, businesses, and all other types of buildings where water meters measure the amount of water used. All customer accounts are metered and billed based upon individual usage. For the past 100 years, these facilities have been operated and maintained by the WSSC 24 hours a day, 7 days a week, including holidays, throughout the year, in order to provide safe and reliable service to our customers.

### **Water Resource Recovery Facilities/Wastewater Collection Systems**

The WSSC's water resource recovery facilities have been nationally recognized as a Utility of the Future Today by the National Association of Clean Water Agencies (NACWA), the Water Environment Federation (WEF), the Water Research Foundation (WRF) and the WaterReuse Association, with input from the U.S. Environmental Protection Agency (EPA), for transformational work in community engagement, watershed stewardship, and recovery of resources such as water, energy, and nutrients. The Utility of the Future Today designation recognizes water utilities that have transformed from the traditional wastewater treatment system to a resource recovery center and leader in the overall sustainability and resilience of the communities they serve, recovering resources from wastewater, engaging in their community, forming unique partnerships, and building an internal culture of innovation. As one of the country's most effective pollution control networks, WSSC facilities go beyond conventional, second-stage treatment to provide "tertiary treatment," which is an advanced treatment process. All of the WSSC's facilities employ state of the art, integrated, enhanced nutrient removal processes that significantly reduce the amount of nitrogen and phosphorous reaching the Chesapeake Bay. These features ensure that the quality of the effluent (treated wastewater discharged from the facilities) is better than the natural waters into which it is returned.

Wastewater operations are divided into two functions: treatment and conveyance of sewage. Sewage treatment is accomplished through a network of facilities, the base of which is the regional water resource recovery facility. The WSSC owns and operates six water resource recovery facilities, which receive and process waste from residences, businesses (where waste is a by-product of the manufacturing process), restaurants, hospitals, and other commercial and industrial users. During the water resource recovery process, solid material is removed, harmful organisms are destroyed, and excess disinfection products are neutralized before the remaining liquid, the effluent, is returned to the waters of Maryland.

The WSSC's six facilities have a combined capacity of 95 million gallons per day (mgd). The six facilities are Piscataway, Western Branch, Parkway, Seneca, Damascus, and Hyattstown. Unlike the water system, operation of the sewerage system is highly dependent upon other area jurisdictions and, for this reason, the WSSC has purchased 169 mgd of treatment capacity at the Blue Plains Regional Wastewater Treatment Plant located in the District of Columbia, 3 mgd of capacity at the Mattawoman Wastewater Treatment plant located in northern Charles County, and 20,000 gallons per day of capacity in the Town of Poolesville's wastewater treatment plant. The capital costs of the Blue Plains and Mattawoman plants are shared among the users based upon treatment capacity allocations. The WSSC also pays to the District of Columbia and Charles County a

share of the operating, maintenance, and overhead costs at each plant, in proportion to actual flows. These cost-sharing arrangements were agreed to in the Intermunicipal Agreement of 2012 and the Mattawoman Agreement of 1980, respectively. Sewer capacity purchased by the WSSC in the Poolesville plant is in accordance with the May 1984 agreement between the WSSC, the Town of Poolesville, and the Montgomery County Government.

The other function of the sewerage system is to convey waste flows from the point of origin (for example, from a customer's home) to a point of treatment. The sewerage network contains more than 5,600 miles of pipeline, with pipe sizes ranging from 6 to 102 inches in diameter, and is predominantly a gravity system. This means the flow travels in a downhill direction without any other help and, therefore, sewers generally flow along streambeds towards the lowest elevation in a basin. The sewers in one drainage basin are independent of those in other basins. There are 13 major drainage basins in the Sanitary District.

The largest diameter pipelines (interceptor sewers) run up from the treatment plant to the major lines (trunk lines) within individual drainage basins. Smaller diameter pipelines (outfall) run up sub-basins from the major lines. Even smaller lines (lateral), usually built in or along subdivision streets to provide service to abutting properties, lead up to hundreds of thousands of individual service connections (hookups from the pipe in the street to a private home or building) to be served by the remainder of the conveyance system. Ideally, the entire system would provide for the gravitational flow of waste from the individual houses, businesses, and other sources through the lateral subdivision lines to the outfall pipelines to the larger diameter interceptors pipelines to the water resource recovery facility. Because gravity cannot always be used to accomplish this ideal pattern of flow, the WSSC has more than 40 wastewater pumping stations in operation, and others in standby status, throughout the Sanitary District. These pumping stations range from 0.08 to 306 mgd in capacity. Pumping stations lift wastewater through a pressure line called a force main, over ridges or from stream valleys that have no continuous trunk sewer, into the gravity-flow system of an adjacent drainage basin that contains existing pipeline and water resource recovery facilities. All WSSC wastewater flows through enclosed trunk line systems and is completely separate and independent from the storm drain system. For the past 100 years, these facilities have been operated and maintained by the WSSC 24 hours a day, 7 days a week, including holidays throughout the year, in order to provide safe and reliable service to all of our customers.

In addition, small pressure systems exist throughout the Sanitary District. A typical system is comprised of a grinder pump (one for each dwelling unit grouped in a small residential development) contained in a sump, pumping through a plastic force main, and then connecting to a gravity sewer line located nearby. This type of system is limited in size, and is necessary to overcome minor changes in topography to avoid the construction of a conventional gravity line in another direction where the distance to an existing sewer would be considerably greater and less cost effective.

Approximately 64% of all wastewater originating in Montgomery County and central Prince George's County follows the Anacostia, Rock Creek, and Potomac River Valleys, to the Blue Plains Wastewater Treatment Plant. The WSSC's proportionate share of capital costs at Blue Plains,

to meet suburban Maryland's treatment requirements, have represented some of the most significant planned expenditures in this document. The purpose of the projects contained in this document and their associated cost is to expand, replace, or rehabilitate the existing water and sewerage systems; to continue a very high level of continuous service and reliability; and to protect the health of current and new customers, while mitigating impacts on the environment.

### **Environmental Concerns**

The Commission 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 Commission'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, show the location of these and identify their type;
- 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.

A further extension of these protections has been funded by the approximately \$190 million included in the Combined six-year program which is attributable to meeting environmental regulations. These projects, currently estimated at 5.9% of the combined six-year costs in this CIP, are mandated by the U.S. Environmental Protection Agency under the Clean Water Act through the State of Maryland Department of the Environment in response to pollution controls in the form of more stringent state discharge permit requirements. The environmental component is

allocated among the projects listed on the following page, and project details can be found on the individual project description forms included elsewhere in this document.

**Environmental Spending**

	<u>(Dollars in Millions)</u>
• W-73.33, Potomac WFP Consent Decree Program	118.1
• S-22.10, Blue Plains WWTP: Enhanced Nutrient Removal	13.0
• S-22.11, Blue Plains: Pipelines & Appurtenances	58.9

Combined Six-Year Program Expenditures Allocated to Environmental Regulations    \$190.0

**Public Outreach**

The Commission’s proactive Project Outreach program is an integral part of our process to include early public involvement in projects. The objective is to inform affected communities about the WSSC’s plans, actively seek their input, and respond to their concerns. The WSSC’s planning approach is an open process, receptive to public comment and involvement. Residents of Prince George’s and Montgomery Counties are given the opportunity to review clear, accessible documents that describe the rationale behind program planning and project decisions. The overall outreach goals are to:

- identify community and public policy issues early in the planning stage;
- address the known community concerns and environmental issues that are within the reasonable context of the planning effort;
- promote community understanding of system needs and demands, and the planning process used by the WSSC to maintain public health standards and water quality protection;
- provide constructive forums for community involvement and information throughout the planning process;
- provide a clear understanding of the decision-making process;
- address potential health and environmental risks; and
- establish and maintain open lines of communication.

The Project Outreach program advocates achieving planning goals through a collaborative effort among WSSC staff, technical experts, citizens and/or organizations, and public officials. Fostering community involvement allows the WSSC to be responsive and sensitive to community concerns, to define the best approach to address customers' concerns, and to garner community support while meeting public health objectives.

### **The Planning Process**

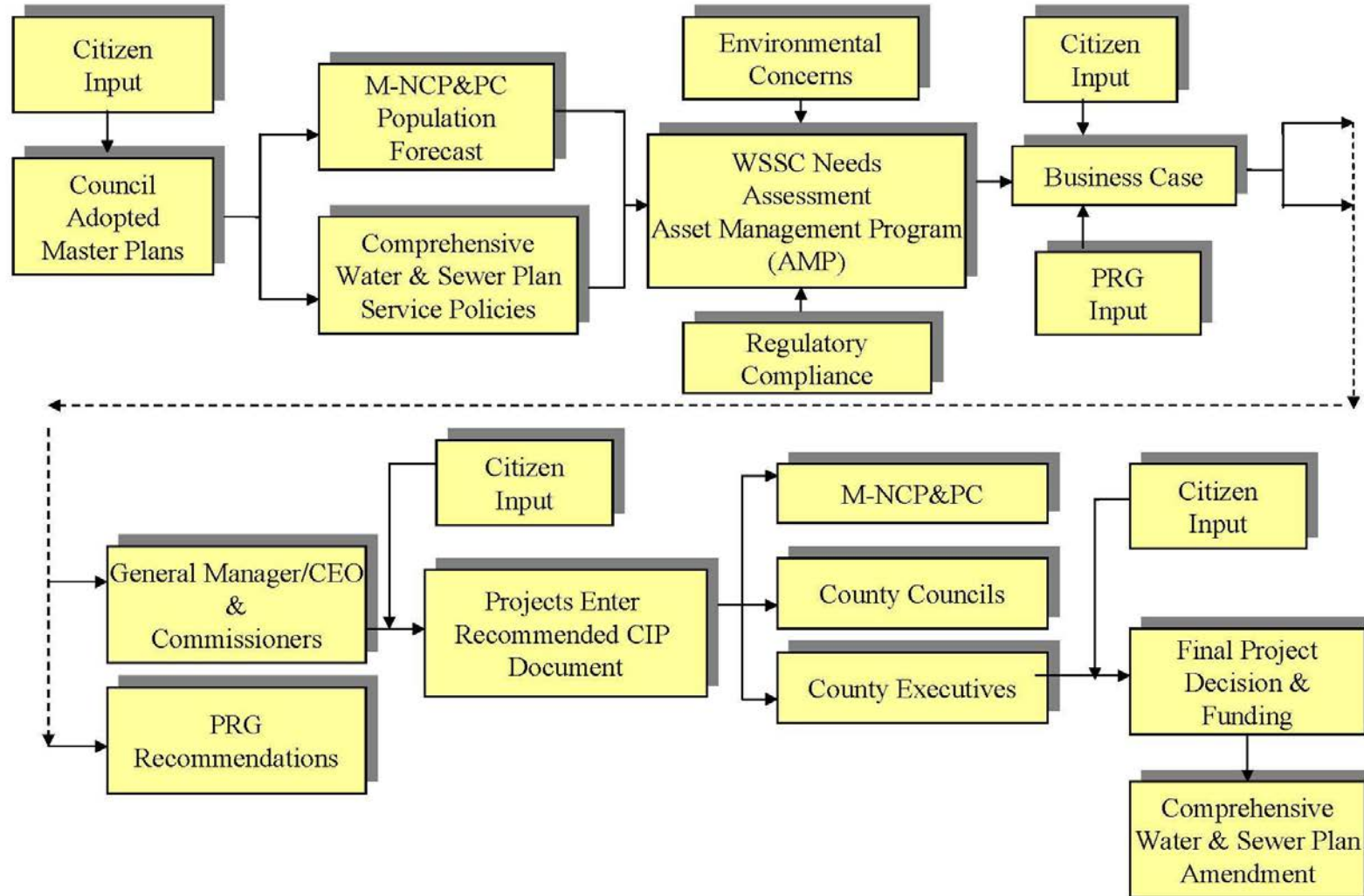
Effective planning is the application of a well-thought-out process that combines engineering data, environmental requirements, economic factors, and public interaction to establish a sound basis for making competent decisions, for efficiently conducting and documenting specific work tasks, and for successfully implementing needed solutions. The WSSC's planning process utilizes Business Case Studies to identify needs, develop and evaluate options, and identify a preferred solution. An important goal in the process is to produce a result that is acceptable to citizens, elected officials, regulatory agencies, and the WSSC at a reasonable cost.

A number of outside influences affect the WSSC's project planning process. Water and sewer projects are essentially an infrastructure response to land use decisions made by the two county governments and demographic information (population forecasts) provided by the Washington Council of Governments and the Maryland-National Capital Park & Planning Commission. These elements are used by the WSSC to calculate projected water and sewerage demands. The WSSC must also consider environmental consequences and compliance with federal and state regulations such as the Clean Water Act and Safe Drinking Water Act. The WSSC's needs analysis also incorporates both county governments' guidance on service policies as contained in the Comprehensive Ten-Year Water and Sewerage Plans. Generally stated, the goals, purposes, and concepts provided by the Prince George's and Montgomery County Governments require that the water and sewerage systems be consistent with officially-approved local and general plans, and provide adequate capacity to accommodate the foreseeable development of the area served based upon population and employment projections. This requirement corresponds with what has always been Commission policy: to provide utility service to the type and location of development that each county governing body has approved, if economically and otherwise feasible. Figure 1, on the following page, displays the overall project planning and approval process.



FIGURE 1

## PROJECT DEVELOPMENT & APPROVAL PROCESS



## **WSSC Asset Management Program**

WSSC's Strategic Priority, to Improve Infrastructure, focuses on our Core Value of Cost Effectiveness to improve capital investment management. The objective of the Asset Management Program (AMP) is to identify infrastructure needs and investment strategies for the next 30 years, or more, and develop and implement an asset management framework for optimal investment decision making. A key task is to identify the existing and future capacity, regulatory, and rehabilitation/repair/replacement requirements for the next 30 years. The AMP provides input to the Commission's multi-year financial forecasting and develops and refines a 30-year capital investment projection based on the following requirements: regulatory, capacity, maintenance, rehabilitation/replacement, process control, energy conservation, efficiency and reliability.

## **How Projects Enter the CIP**

The Asset Management Program systematically identifies and validates water and wastewater needs, and is the primary source of new projects. Figure 2 depicts some of the important elements common to the WSSC Asset Management Program.

**FIGURE 2**

Overview of WSSC AMP Process		
Genesis and Validation	Business Case Development	Review and Approval
Asset Management Plans <ul style="list-style-type: none"><li>• Establishment of Need</li><li>• Need Validation</li><li>• Funding</li></ul>	Technical Analysis and Documentation <ul style="list-style-type: none"><li>• Coordination</li><li>• Community Outreach</li><li>• Project Validation</li><li>• Solution Recommendation</li></ul>	<ul style="list-style-type: none"><li>• Project Prioritization</li><li>• Public Comment</li><li>• County Governments</li><li>• WSSC CIP</li></ul>
Implementation		

The WSSC's needs assessments may identify other potential projects. A project may be added in response to relocation requirements due to road improvements or the need to construct a segment of pipe in advance of paving. Projects may also be included at the request of either county government, usually to provide service to a planned county service facility, or in response to a request for service from an Applicant for new development. Projects may also enter the CIP when they are split from previously approved projects. Projects may be split either at the request of the Applicant or by WSSC for administrative reasons such as to afford better project management or to provide greater clarity to the reader.

## **System Extension Process (SEP)**

System Extension Process (SEP) projects are undertaken by developers to support future growth. Service to properties approved under the SEP almost always require the extension of small diameter subdivision lines and may involve program-sized pipes that must be included in the WSSC's CIP. This document includes only the portion of an Applicant's total pipe extension or pumping facility requirements and associated costs that conform to the definition provided in the section titled "Statutory Basis" at the beginning of this narrative.

To initiate a project, the Applicant will submit preliminary subdivision plans to the Planning Department of the Maryland-National Capital Park and Planning Commission (M-NCP&PC) for their County. WSSC will review these submittals for water and/or sewer service, including a determination if the property to be served is located within the appropriate "service category." (Service category designations are a staging tool employed by and strictly administered in the Comprehensive Ten-Year Water and Sewerage Plans by both county governments. If the property is not in the correct service category, the Applicant must contact the appropriate County office to begin a County Ten-Year Plan amendment process for reconsideration of the service area designation currently assigned to the property. If a designation change is approved later by the County Council, the Applicant may proceed with the construction of the project.) Once it has been determined that the property to be served is located within the appropriate service category, and a request for Hydraulic Planning Analysis (HPA) is made and completed, the WSSC issues a Letter of Findings (LOF) which specifies the project conditions that must be met prior to the start of construction. The need for a CIP-sized project is identified by WSSC during the HPA review. WSSC will perform a review of the design plans for compliance with WSSC requirements. Construction can begin when design plans have been approved, all necessary permits and rights-of-way have been obtained, and the Applicant has satisfied all other project conditions. Approximately one third of the projects in this document are SEP-related.

For those projects serving one new residence or providing relief from a residential health hazard, the Applicant may hire an engineer to follow the System Extension Process or can opt to follow the WSSC Built Process. Each step in the WSSC Built Process is done at the Applicant's expense. In this case, the Applicant will prepare a feasibility study for review and for WSSC to issue a Feasibility Letter of Findings. The Letter of Findings will again specify any project conditions and advise the Applicant of their cost responsibilities. If the Applicant elects to proceed with the WSSC Built Process, WSSC will prepare the design plans. Once the Applicant has met all the project conditions from the Letter of Findings, the design plans are approved, and all permits and rights-of-way are acquired, the WSSC will proceed with the construction of the project at the Applicant's expense. However, such projects rarely include CIP-sized mains.

## **Project Development Criteria**

It has been the WSSC's policy to have facilities in service when, or before, they are needed so that new development demands on the system do not result in a reduction of the level of service provided to existing customers. This policy provides for unrestricted water supply and no sewage overflows and avoids a water or sewer connection moratorium. This general service policy guides the planning and sizing of the WSSC's systems

and requires that both the water and wastewater systems are sized to handle the peak or maximum demands, adjusted for weather-related usage. The task is to balance cost and spending affordability limits with environmental consequences, risk and system reliability.

Water and wastewater systems are composed of functionally different sub-systems: treatment, transmission, distribution, collection, and storage. Ideally, the capacity of each component should match the capacity of the other parts of the system. An example of a real situation from the past is the comparison of the Blue Plains Wastewater Treatment Plant to the Muddy Branch and Seneca Creek wastewater transmission systems. The plant had enough capacity but, in contrast, probable peak flows in the sewers exceeded pipeline capacity. These were part of the same network, yet one of the sub-systems had excess capacity, while other parts, although connected, were deficient. Transmission projects to correct this imbalance were completed in these basins, ensuring capacity to handle future flows in the conveyance systems.

For most facilities, the WSSC plans enough capacity to last 20 years or more. When it seems clear that adding capacity incrementally will not be economical, feasible, or is significantly disruptive, longer range planning is done. A pipeline is sized for full development, or “build out” of its service area, to avoid repeated environmental and community disruption caused by construction. In most cases, this results in a service life that extends beyond 20 years. Since the weather-related usage and future population projections are broad-based estimates of future conditions used in the calculation of future flow demands, the rate at which predicted flows increase or decrease in a pipeline system is somewhat variable, but still useful in providing a long-range target for timing the WSSC’s project construction. The WSSC conservatively estimates the lead time required to plan, design, and construct a facility, and projects enter the CIP on that basis. It is not unusual for 10 or more years to elapse before a major facility project, such as a treatment plant, is finished following its initial appearance in this document.

Twenty-year estimates of increases in customer demand are based on the most recent M-NCP&PC demographic forecasts of population, dwelling units, and employment. Estimates of full development demands are based on the most current land use and zoning information available from the M-NCP&PC. This data is organized by Traffic Analysis Zones in Montgomery County and by Policy Analysis Zones in Prince George’s County. The information is then disaggregated by sub-basins for use in the planning and sizing of projects.

### **Project Estimates**

Pipeline cost estimates are developed through the use of a detailed checklist of cost elements. The comprehensiveness and uniformity of planning-level cost estimates is significantly improved through the inclusion of more site-specific details, previously not considered until advanced stages of design. Through this process the number of projects with cost increases that typically occur when a project transitions from the preliminary planning phase to the design phase is greatly reduced.

Actual design plans and profiles, if available, are analyzed together with United States Geological Survey soil maps. Additional factors such as site access, excessive traffic, known jurisdictional constraints, presence of rock or running sand, work through existing neighborhoods or open

fields, and proximity to other existing utility lines are taken into consideration. The base prices upon which the estimates are predicated are derived from both historical cost data and the most recent bid information. The specific final unit prices are increased or decreased, dependent upon factors such as those listed above. In addition, all environmental mitigation costs for efforts such as reforestation are already included in the individual project costs. Regardless of the extensive checklist, some additional costs may be required by permitting agencies to reflect unpredictable requirements for things such as changes in alignment, more complex traffic management plans, or for changes in permit requirements for more stringent erosion protection measures at construction sites. The need for these kinds of features is project specific and is identified on individual project description forms (PDFs) when appropriate.

Order of magnitude cost estimates for major facility projects (e.g., treatment plants and pumping stations) are first derived from Business Case Studies in the planning stage and further refined in the design phase based on estimates developed by consulting engineers. The WSSC requires that projects be re-evaluated by consulting engineers at the 30% and 70% stages of design. Estimated construction costs, reflecting any modifications, are identified on the individual PDFs, if applicable. Because the costs displayed in the CIP are estimates and not actual costs, construction contingencies may be added.

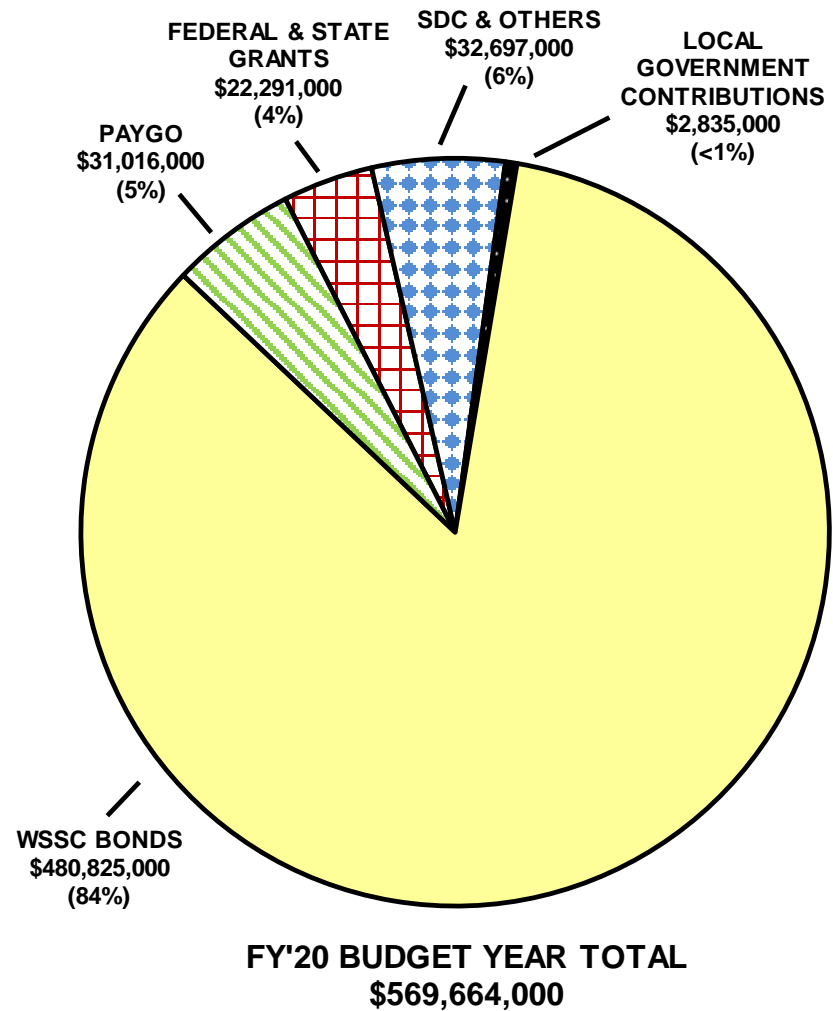
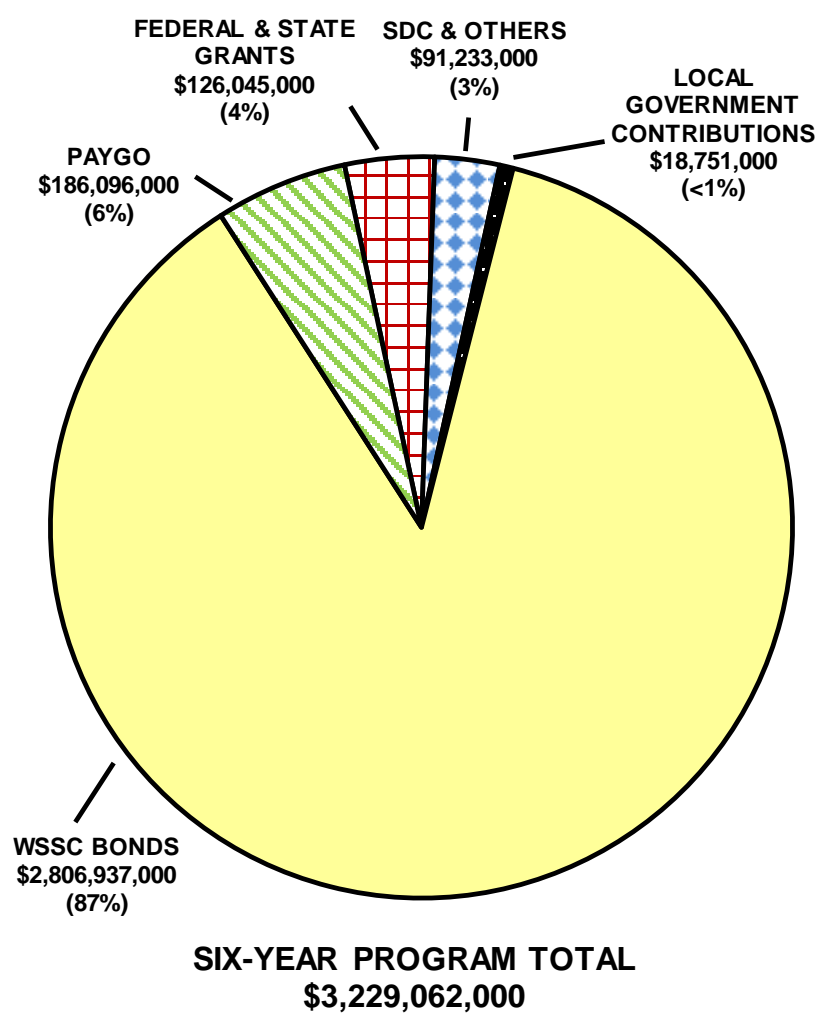
The “Other” cost element, displayed in Block B, in the Expenditure Schedule on each PDF, is a broad estimate of the direct and indirect expenses associated with the implementation of each project and is not covered by the other major cost categories. These costs include direct support costs for a project such as salaries, wages, and related personnel costs (social security, retirement), and services, rentals, supplies, mileage, and other expenses. This element is estimated for the majority of the projects in this document by multiplying the sum of the project’s Planning, Design and Supervision, and Construction cost elements in each column on the PDF by a constant 15%. There are exceptions: a value, based upon 1%, is applied to Blue Plains project costs; a constant of 10% is used to more realistically estimate these expenses for projects with a total estimated cost of \$10 to \$49 million; and, a constant of 5% is used for projects with a total estimated cost of \$50 million or more.

A project’s previous expenditures, which include all direct, indirect and overhead costs, are shown on the PDF in the Block B Expenditure Schedule in the “Thru” Column. These expenditures are accessed from the WSSC’s financial information system through the period ending March 31<sup>st</sup> of each year. End of the fiscal year expenditures were not available in time for the development of project expenditure schedules and are estimated.

**FIGURE 3**

# WSSC PROPOSED FYS 2020-25 CIP

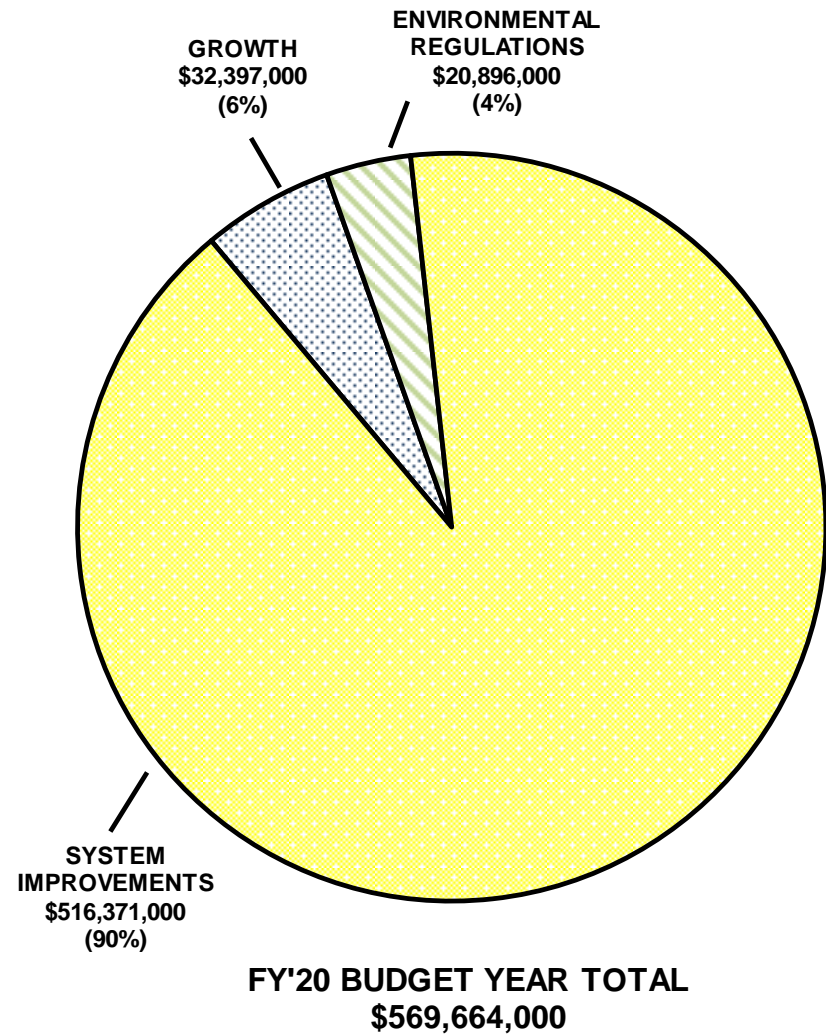
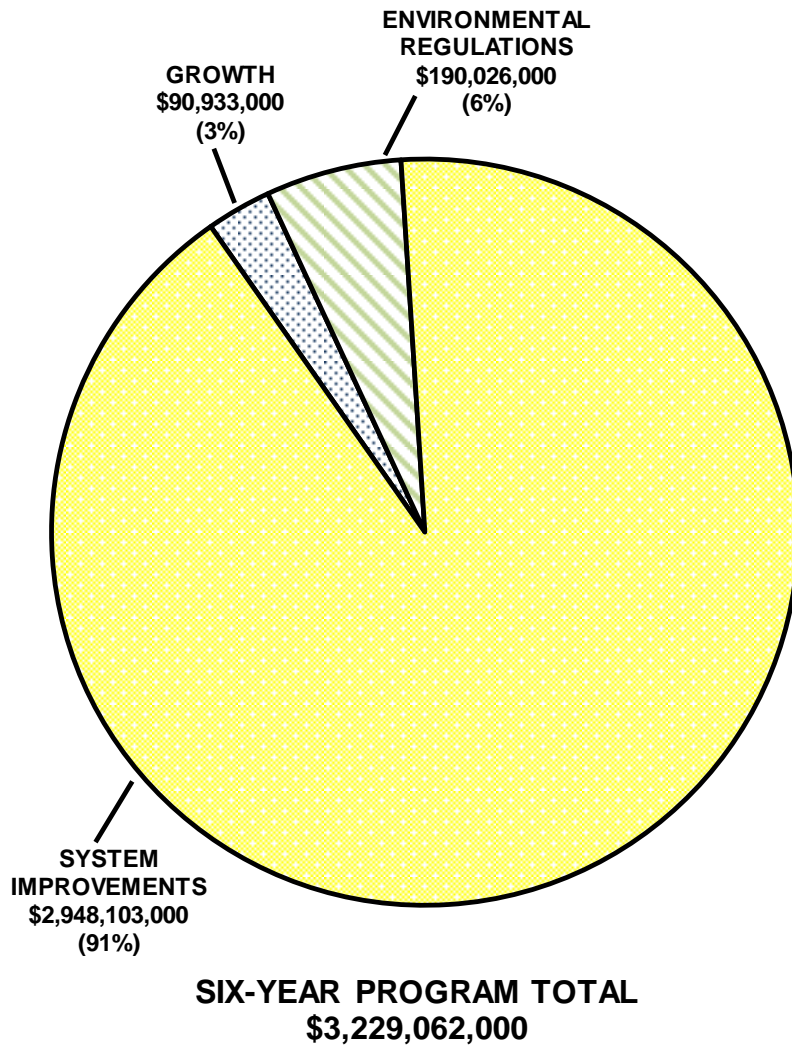
## COMBINED PROGRAM FUNDING BY SOURCE



**FIGURE 4**

# WSSC PROPOSED FYS 2020-25 CIP

## COMBINED PROGRAM EXPENDITURES BY MAJOR CATEGORY



**WSSC FYS 2020 - 2025 CIP**  
**NEW PROJECTS LISTING**  
(costs in thousands)

Agency Number	Project Name	Total Project Cost	6 Year Program Cost	Budget Year Cost	% of Growth
<b><u>Montgomery County Water Projects</u></b>					
W-113.20	White Oak Water Mains Augmentation	\$4,830	\$4,830	\$345	100%
<b><u>Montgomery County Sewer Projects</u></b>					
S-94.13	Damascus Town Center WWPS Replacement	9,460	9,170	520	30%
S-94.14	Spring Gardens WWPS Replacement	10,320	9,216	921	67%
<b><u>Prince George's County Sewer Projects</u></b>					
S-157.02	Western Branch WRRF Process Train Improvements	14,859	12,936	3,520	0%
<b>TOTALS</b>		<b><u>\$39,469</u></b>	<b><u>\$36,152</u></b>	<b><u>\$5,306</u></b>	



**WSSC FYS 2020 - 2025 CIP**  
**ALL PROJECTS PENDING CLOSE-OUT**  
(costs in thousands)

Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'18	Estimated Expenditures FY'19	Remarks
<b><u>Montgomery County Sewer Projects</u></b>					
S-84.47	Clarksburg Triangle Outfall Sewer, Part 2	\$2,002	\$1,263	\$739	Project completion expected in FY'19.
<b><u>Bi-County Water Projects</u></b>					
W-73.19	Potomac WFP Outdoor Substation No. 2 Replacement	15,537	15,476	61	Project completion expected in FY'19.
W-73.21	Potomac WFP Corrosion Mitigation	17,278	17,278	-	Project completed.
W-172.05	Patuxent WFP Phase II Expansion	65,135	62,961	2,174	Project completion expected in FY'19.
<b><u>Prince George's County Water Projects</u></b>					
W-119.01	John Hanson Highway Water Main, Part 1	12,602	11,711	891	Project completion expected in FY'19.
W-120.15	Villages of Timothy Water Main, Part 2	-	-	-	Project combined with W-120.14.
W-123.14	Old Marlboro Pike Water Main	1,545	1,427	118	Project completion expected in FY'19.
W-123.20	Oak Grove/Leeland Roads Water Main, Part 2	13,014	13,002	12	Project completion expected in FY'19.
W-147.00	Collington Elevated Water Storage Facility	16,876	16,818	58	Project completion expected in FY'19.
<b><u>Information Only Projects</u></b>					
A-145.01	Brighton Dam Operations & Maintenance Facility and Site Improvements	6,394	4,135	2,259	Project completion expected in FY'19.
<b>TOTALS</b>		<b><u>\$150,383</u></b>	<b><u>\$144,071</u></b>	<b><u>\$6,312</u></b>	
10 Projects Pending Close-Out					

## FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

### EXPENDITURE PROJECTIONS

	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
					YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
Montgomery County Water Projects	55,523	23,527	18,859	13,137	7,295	1,702	316	2,214	1,610	0	0	1-1
Prince George's County Water Projects	322,839	85,669	36,004	177,028	27,636	24,217	43,271	34,325	34,327	13,252	24,138	5-1
Bi-County Water Projects	945,378	165,580	83,013	585,014	76,983	81,006	89,952	113,274	114,753	109,046	111,771	3-1
<b>TOTAL WATER PROJECTS</b>	<b>1,323,740</b>	<b>274,776</b>	<b>137,876</b>	<b>775,179</b>	<b>111,914</b>	<b>106,925</b>	<b>133,539</b>	<b>149,813</b>	<b>150,690</b>	<b>122,298</b>	<b>135,909</b>	
Montgomery County Sewerage Projects	50,823	3,323	20,775	26,725	7,881	4,026	8,355	6,233	230	0	0	2-1
Prince George's County Sewerage Projects	438,729	237,067	42,257	158,626	55,649	62,124	35,394	2,873	1,293	1,293	779	6-1
Bi-County Sewerage Projects	1,620,074	372,494	171,764	911,990	207,876	232,216	186,718	108,014	92,668	84,498	163,826	4-1
<b>TOTAL SEWERAGE PROJECTS</b>	<b>2,109,626</b>	<b>612,884</b>	<b>234,796</b>	<b>1,097,341</b>	<b>271,406</b>	<b>298,366</b>	<b>230,467</b>	<b>117,120</b>	<b>94,191</b>	<b>85,791</b>	<b>164,605</b>	
<b>TOTAL CIP PROGRAM</b>	<b>3,433,366</b>	<b>887,660</b>	<b>372,672</b>	<b>1,872,520</b>	<b>383,320</b>	<b>405,291</b>	<b>364,006</b>	<b>266,933</b>	<b>244,881</b>	<b>208,089</b>	<b>300,514</b>	
Total Information Only Projects	1,625,748	34,703	232,921	1,356,542	186,344	211,112	238,241	246,102	234,135	240,608	1,582	7-1
<b>COMBINED PROGRAM</b>	<b>5,059,114</b>	<b>922,363</b>	<b>605,593</b>	<b>3,229,062</b>	<b>569,664</b>	<b>616,403</b>	<b>602,247</b>	<b>513,035</b>	<b>479,016</b>	<b>448,697</b>	<b>302,096</b>	

### FUNDING SOURCES

WSSC Bonds	4,065,082	496,905	476,732	2,806,937	480,825	541,321	528,705	446,670	415,502	393,914	284,508
PAYGO	217,112	0	31,016	186,096	31,016	31,016	31,016	31,016	31,016	31,016	0
State Grants	353,684	205,712	21,622	126,045	22,291	22,340	20,559	20,248	20,324	20,283	305
System Development Charge	324,539	198,367	49,455	69,402	21,716	10,657	16,753	11,571	8,705	0	7,315
Contribution/Other	59,969	14,264	23,874	21,831	10,981	7,588	1,800	486	488	488	0
Government Contributions	38,158	6,545	2,894	18,751	2,835	3,481	3,414	3,044	2,981	2,996	9,968
Federal Grants	570	570	0	0	0	0	0	0	0	0	0
<b>COMBINED PROGRAM</b>	<b>5,059,114</b>	<b>922,363</b>	<b>605,593</b>	<b>3,229,062</b>	<b>569,664</b>	<b>616,403</b>	<b>602,247</b>	<b>513,035</b>	<b>479,016</b>	<b>448,697</b>	<b>302,096</b>

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## Section 1 - Montgomery County Water Projects

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**FINANCIAL SUMMARY**

(ALL FIGURES IN THOUSANDS)

**MONTGOMERY COUNTY WATER PROJECTS**

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
W-3.02	Olney Standpipe Replacement	7,940	6,539	1,227	174	174	0	0	0	0	0	0	1-3
W-46.15	Clarksburg Elevated Water Storage Facility	7,332	4,118	3,202	12	12	0	0	0	0	0	0	1-5
W-46.24	Clarksburg Area Stage 3 Water Main, Part 4	4,088	2,939	451	698	271	427	0	0	0	0	0	1-6
W-46.25	Clarksburg Area Stage 3 Water Main, Part 5	2,712	140	2,175	397	397	0	0	0	0	0	0	1-7
W-90.04	Brink Zone Reliability Improvements	16,700	2,058	7,627	7,015	6,085	930	0	0	0	0	0	1-8
W-113.20	White Oak Water Mains Augmentation	4,830	0	0	4,830	345	345	316	2,214	1,610	0	0	1-9
W-138.02	Shady Grove Standpipe Replacement	11,921	7,733	4,177	11	11	0	0	0	0	0	0	1-10
	<b>TOTALS</b>	55,523	23,527	18,859	13,137	7,295	1,702	316	2,214	1,610	0	0	

**Montgomery County Water Projects**  
**New Projects Listing**  
 (costs in thousands)

<b>Agency Number</b>	<b>Project Name</b>	<b>Total Project Cost</b>	<b>Budget Year Cost</b>	<b>Page Number</b>
W-113.20	White Oak Water Mains Augmentation	\$4,830	\$345	1-9
	<b>TOTALS</b>	\$4,830	\$345	

Olney Standpipe Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-3.02	063801	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Montgomery High Zone 560I;
Drainage Basins	
Planning Areas	Olney & Vicinity PA 23;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,629	2,122	406	101	101						
Land	25	25									
Site Improvements & Utilities											
Construction	5,103	4,392	661	50	50						
Other	183		160	23	23						
Total	7,940	6,539	1,227	174	174						

C. Funding Schedule (000's)

WSSC Bonds	7,940	6,539	1,227	174	174						
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D. Description & Justification

**DESCRIPTION**  
This project provides for the community outreach, planning, site selection, design, and construction of up to 1.5 million gallons (MG) of elevated storage to serve the Olney area, and for the removal of the existing Olney Standpipe.

**JUSTIFICATION**  
The efforts of the Systems Control Group have improved the minimum chlorine residual concentrations and appear to have lowered the THM concentrations in the distribution system. However, these efforts still leave the Olney area with troublesome chlorine residuals and result in low-pressure complaints during the drawdown efforts. The existing Olney Standpipe with 1.8 million gallons of non-usable storage requires constant attention to maintain acceptable water quality.  
Montgomery County High Zone Facility Plan, Boyle Engineering (1991); Memorandum from Jeff Asner to Karen Wright dated March 22, 2004; Water Storage Volume Criteria Report (November 2005).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon actual bid and Change Orders. Project completion is currently projected for July 2019. Expenditures shown in FY'20 are for final inspection and project close-out.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment;  
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

	FY of Impact	
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$517	21
Total Cost	\$517	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

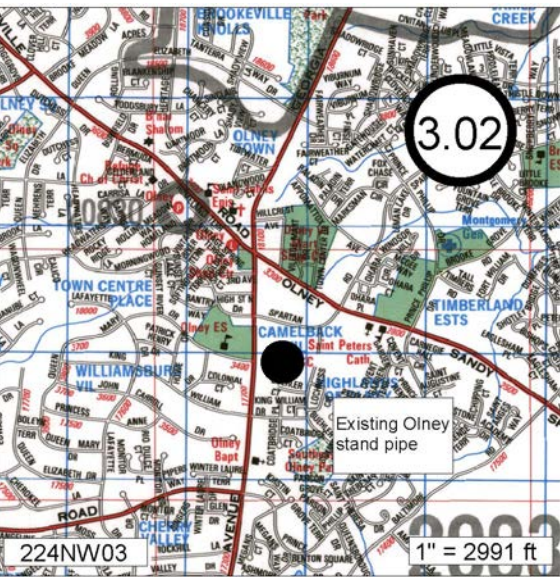
Date First in Program	FY 06
Date First Approved	FY 06
Initial Cost Estimate	3,911
Cost Estimate Last FY	8,278
Present Cost Estimate	7,940
Approved Request Last FY	918
Total Expense & Encumbrances	6,539
Approval Request Year 1	174

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	86%
Est Completion Date	July 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	1.5 MG

H. Map



GERMANTOWN/CLARKSBURG AREA PROJECTS  
(costs in thousands)

AGENCY NUMBER	PROJECT NAME	ADOPTED FY'19 TOTAL COST	PROPOSED FY'20 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-46.15	Clarksburg Elevated Water Storage Facility	\$7,594	\$7,332	(\$262)	-3.5%	\$12	FY 2019
W-46.24	Clarksburg Area Stage 3 Water Main, Part 4	3,969	4,088	119	3.0%	698	Developer Dependent
W-46.25	Clarksburg Area Stage 3 Water Main, Part 5	1,796	2,712	916	51.0%	397	FY 2020
	TOTALS	\$13,359	\$14,132	\$773	5.8%	\$1,107	

Summary: These projects are in response to the growth in the up-county area including Germantown and Clarksburg. The Clarksburg Elevated Water Storage Facility project (W-46.15), Clarksburg Area Stage 3 Water Main, Part 4 project (W-46.24) and Clarksburg Area Stage 3 Water Main, Part 5 (W-46.25) will serve the **areas designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area.**

Cost Impact: The cost for project W-46.25 Clarksburg Area Stage 3 Water Main, Part 5, has increased based upon updated information provided by the developer.

# Clarksburg Elevated Water Storage Facility

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-46.15	973819	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clarksburg HG760B;
Drainage Basins	
Planning Areas	Clarksburg & Vicinity PA 13;

**B. Expenditure Schedule (000's)**

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	1,284	920	354	10	10						
Land	1,330	1,330									
Site Improvements & Utilities											
Construction	4,298	1,868	2,430								
Other	420		418	2	2						
<b>Total</b>	<b>7,332</b>	<b>4,118</b>	<b>3,202</b>	<b>12</b>	<b>12</b>						

**C. Funding Schedule (000's)**

SDC	7,332	4,118	3,202	12	12						
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**D. Description & Justification**

<p><b>DESCRIPTION</b></p> <p>This project provides for the community outreach, site selection, planning, design, and construction for a 1 million gallon (MG) elevated storage facility in the HG760 water pressure zone.</p> <p><b>JUSTIFICATION</b></p> <p>This project is required to meet projected future growth in the HG760 pressure zone. Reevaluation of this project with Round 6.2 growth forecasts indicates a storage deficit for this zone. The facility plan identified the preferred location for the water storage facility. As noted in the facility plan, public meetings were held to obtain comments concerning the location.</p> <p>Montgomery County High Zone Supply Facility Plan, WSSC; M-NCP&amp;PC Round 6.2 growth forecasts; Western Clarksburg Facility Plan, Rogers Associates (December 2004); Water Storage Volume Criteria Report (November 2005); Finished Water Storage Analysis (December 2013).</p> <p><b>COST CHANGE</b></p> <p>Not Applicable</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon actual bid. No WSSC rate supported debt will be used for this project. Expenditures shown in FY20 are for final warranty inspection and project close-out.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park &amp; Planning Commission; (Mandatory Referral Process was completed on January 23, 2015); Maryland Department of the Environment;</p> <p>Coordinating Projects: Not Applicable</p>
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**E. Annual Operating Budget Impact (000's)**

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

**F. Approval and Expenditure Data (000's)**

Date First in Program	FY 97
Date First Approved	FY 97
Initial Cost Estimate	138
Cost Estimate Last FY	7,594
Present Cost Estimate	7,332
Approved Request Last FY	1,864
Total Expense & Encumbrances	4,118
Approval Request Year 1	12

**G. Status Information**

Land Status	Land acquired
Project Phase	Construction
Percent Complete	43%
Est Completion Date	March 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	1 MG

**H. Map**





Clarksburg Area Stage 3 Water Main, Part 4

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-46.24	113800	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Brink HG760A;
Drainage Basins	
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	458	239	157	62	32	30					
Land											
Site Improvements & Utilities											
Construction	3,480	2,700	235	545	204	341					
Other	150		59	91	35	56					
Total	4,088	2,939	451	698	271	427					

C. Funding Schedule (000's)

Contribution/Other	4,088	2,939	451	698	271	427					
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the design and construction of 3,580 feet of 24-inch diameter water main along Brink Road and Route 355 and 2,920 feet of 24-inch diameter water main along West Old Baltimore Road.</p> <p><b>JUSTIFICATION</b></p> <p>This water main is planned to serve the area designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area, approved and adopted in June 1994.</p> <p>General Plan and M-NCP&amp;PC Round 6 growth forecasts.</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B are based on information provided by the developer. Design and construction of this project will be performed by the developer under System Extension Permits. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.</p>
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COORDINATION

<p>Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park &amp; Planning Commission; Maryland State Highway Administration;</p> <p>Coordinating Projects: W-46.15-Clarksburg Elevated Water Storage Facility; W-46.25-Clarksburg Area Stage 3 Water Main, Part 5;</p>
--

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$168	22
Other Project Costs		
Debt Service		
Total Cost	\$168	22
Impact on Water and Sewer Rate		

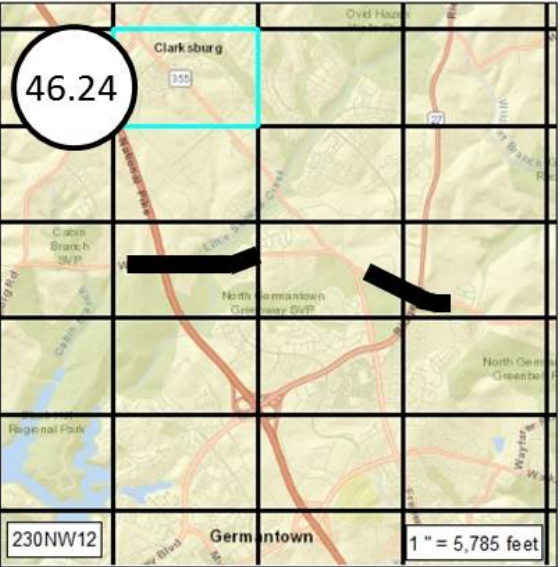
F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 97
Initial Cost Estimate	1,954
Cost Estimate Last FY	3,969
Present Cost Estimate	4,088
Approved Request Last FY	581
Total Expense & Encumbrances	2,939
Approval Request Year 1	271

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	50%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



**Clarksburg Area Stage 3 Water Main, Part 5**

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-46.25	163801	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Brink HG760A;
Drainage Basins	
Planning Areas	Clarksburg & Vicinity PA 13;

**B. Expenditure Schedule (000's)**

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	196	140	56								
Land											
Site Improvements & Utilities											
Construction	2,180		1,835	345	345						
Other	336		284	52	52						
<b>Total</b>	<b>2,712</b>	<b>140</b>	<b>2,175</b>	<b>397</b>	<b>397</b>						

**C. Funding Schedule (000's)**

Contribution/Other	2,712	140	2,175	397	397						
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**D. Description & Justification**

<p><b>DESCRIPTION</b></p> <p>This project provides for the design and construction of 2,700 feet of 24-inch diameter water main along Route 355 and West Old Baltimore Road.</p> <p><b>JUSTIFICATION</b></p> <p>This water main is planned to serve the area designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area, approved and adopted in June, 1994.</p> <p>General Plan and M-NCPPC Round 6 growth forecasts.</p> <p><b>COST CHANGE</b></p> <p>The project cost has increased based upon information provided by the developer. The original estimated cost, based on a conceptual alignment, now has a clearly defined scope of work and is 60% designed. Included in the current estimated cost are valve vaults, air release valves, blowoffs, and restoration costs.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Pending area road projects had resulted in the need to accelerate portions of the 24-inch water project separate from project W-46.24. The project will be completed by the developer in conjunction with Montgomery County and Maryland State Highway Administration road projects. No rate supported debt will be used for this project.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park &amp; Planning Commission; Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation;</p> <p>Coordinating Projects: W-46.24-Clarksburg Area Stage 3 Water Main, Part 4;</p>
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**E. Annual Operating Budget Impact (000's)**

		FY of Impact
Staff		
Maintenance	\$64	21
Other Project Costs		
Debt Service		
Total Cost	\$64	21
Impact on Water and Sewer Rate		

**F. Approval and Expenditure Data (000's)**

Date First in Program	FY16
Date First Approved	FY97
Initial Cost Estimate	1,624
Cost Estimate Last FY	1,796
Present Cost Estimate	2,712
Approved Request Last FY	159
Total Expense & Encumbrances	140
Approval Request Year 1	397

**G. Status Information**

Land Status	Not Applicable
Project Phase	Design
Percent Complete	60%
Est Completion Date	FY 2020

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

**H. Map**



Brink Zone Reliability Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-90.04	143800	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Woodfield HG740A; Clarksburg HG740B;
Drainage Basins	
Planning Areas	Gaithersburg & Vicinity PA 20;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,472	1,456	573	443	422	21					
Land											
Site Improvements & Utilities											
Construction	12,897	602	6,361	5,934	5,110	824					
Other	1,331		693	638	553	85					
Total	16,700	2,058	7,627	7,015	6,085	930					

C. Funding Schedule (000's)

WSSC Bonds	16,700	2,058	7,627	7,015	6,085	930					
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D. Description & Justification

**DESCRIPTION**

This project provides for the planning, design, and construction of a new water pumping station and pipeline to increase reliability and redundancy to the Montgomery County High Zone water transmission system.

**JUSTIFICATION**

The Neelsville Water Pumping Station is the sole delivery of water from the Montgomery County High Zone (HG660) through a single 24-inch diameter PCCP Water Transmission Main that crosses 2 miles to the Brink Elevated Tank (HG760). The new pumping station will effectively deliver water to the Brink Elevated Tank and, in turn, the Cedar Heights (HG836), Damascus (HG960), and dependent pressure zones.

Business Case Evaluation: Brink Reliability Assessment, Black & Veatch (June 2013)

**COST CHANGE**

Cost increase is based on actual bid.

**OTHER**

The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon actual bid.

**COORDINATION**

Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,086	22
Total Cost	\$1,086	22
Impact on Water and Sewer Rate	\$0.02	22

F. Approval and Expenditure Data (000's)

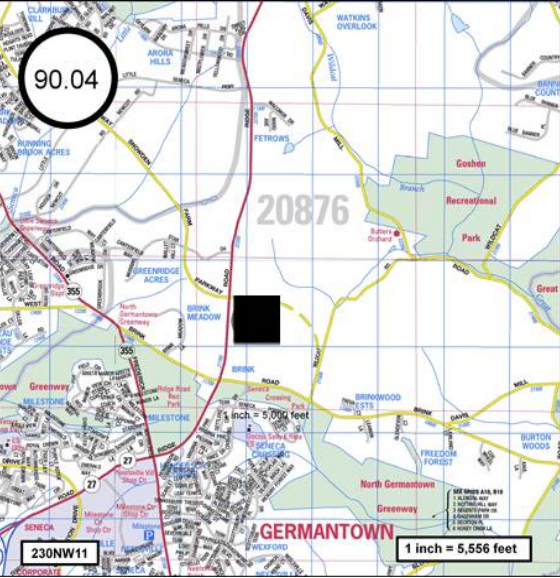
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	345
Cost Estimate Last FY	13,040
Present Cost Estimate	16,700
Approved Request Last FY	6,490
Total Expense & Encumbrances	2,058
Approval Request Year 1	6,085

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	5%
Est Completion Date	July 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	13 MGD

H. Map



White Oak Water Mains Augmentation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-113.20	382001	Add

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Montgomery Main 495A;
Drainage Basins	
Planning Areas	Fairland-Beltsville (PG) PA 61; Langley

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	800			800	300	300	100	50	50		
Land											
Site Improvements & Utilities											
Construction	3,400			3,400			175	1,875	1,350		
Other	630			630	45	45	41	289	210		
Total	4,830			4,830	345	345	316	2,214	1,610		

C. Funding Schedule (000's)

SDC	4,830			4,830	345	345	316	2,214	1,610		
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design and construction required for the replacement of 7,650 feet of 4-inch to 20-inch diameter water main along Cherry Hill Road, Gracefield Road and Powder Mill Road / Perimeter Road to serve three planned projects in the White Oak area: Washington Adventist Hospital, VIVA Global LifeSci Village, and Food & Drug Administration White Oak Master Plan.
<b>JUSTIFICATION</b> The existing mains in these areas will be upsized to provide adequate capacity to serve domestic and fire flow needs for the three new developments. The mains will also provide additional looping and redundancy to the 495A Pressure Zone. MWCOG Round 8.0 growth forecasts; WSSC memorandum dated November 21, 2017; Capital Needs Process Validation #122 submitted December 4, 2017.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope was developed for the FY 2020 CIP and has an estimated total cost of \$4,830,000. The schedule and expenditures show in Block B above are preliminary planning level estimates and are expected to change once the project moves into design.
<b>COORDINATION</b> Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Prince George's County Government; Montgomery County Government; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$198	25
Other Project Costs		
Debt Service		
Total Cost	\$198	25
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

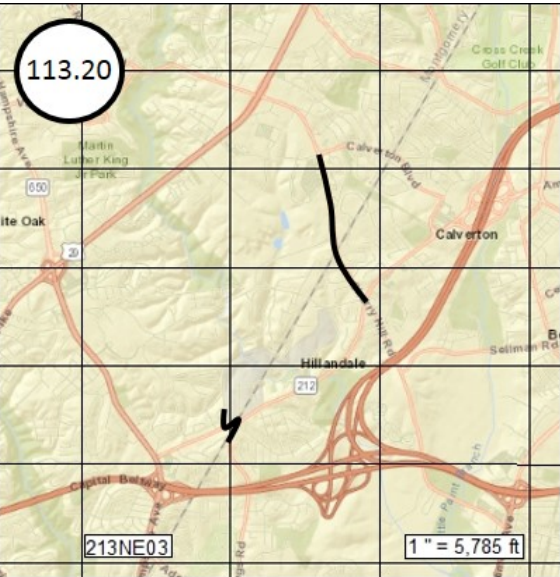
Date First in Program	FY20
Date First Approved	FY20
Initial Cost Estimate	4,380
Cost Estimate Last FY	
Present Cost Estimate	4,830
Approved Request Last FY	
Total Expense & Encumbrances	
Approval Request Year 1	345

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	10%
Est Completion Date	April 2024

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map





Shady Grove Standpipe Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-138.02	093801	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Montgomery High HG660A;
Drainage Basins	
Planning Areas	Gaithersburg & Vicinity PA 20;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,372	2,037	325	10	10						
Land											
Site Improvements & Utilities											
Construction	9,168	5,696	3,472								
Other	381		380	1	1						
Total	11,921	7,733	4,177	11	11						

C. Funding Schedule (000's)

WSSC Bonds	11,921	7,733	4,177	11	11						
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of 3.0 million gallons (MG) of elevated storage to replace the existing Shady Grove Standpipe.
<b>JUSTIFICATION</b> The existing 5.0 MG standpipe is in need of extensive repairs. Replacing the standpipe with a smaller elevated storage facility will provide the same level of service while helping to meet U.S. Environmental Protection Agency regulations for disinfectant by-products and improving water quality.
Water Storage Volume Criteria Report (November 2005); 2006 Water Production Projections; WSSC Memorandum dated May 7, 2007, from Karen Wright, Systems Control Group Leader; WSSC Memorandum dated May 24, 2007, from Tim Hirrel, Planning Group.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon actual bid and Change Orders. Project completion is projected for January 2019. Expenditures shown in FY20 are for final warranty inspection and project close-out.
<b>COORDINATION</b> Coordinating Agencies: Montgomery County Government; City of Rockville; Maryland Department of the Environment; Maryland Department of Natural Resources; Maryland-National Capital Park & Planning Commission; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$775	21
Total Cost	\$775	21
Impact on Water and Sewer Rate	\$0.02	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	7,475
Cost Estimate Last FY	12,343
Present Cost Estimate	11,921
Approved Request Last FY	3,857
Total Expense & Encumbrances	7,733
Approval Request Year 1	11

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	62%
Est Completion Date	January 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	3.0 MG

H. Map



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## Section 2 - Montgomery County Sewer Projects

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**FINANCIAL SUMMARY**

(ALL FIGURES IN THOUSANDS)

**MONTGOMERY COUNTY SEWER PROJECTS**

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
S-84.60	Cabin Branch Wastewater Pumping Station	3,181	99	853	2,229	1,402	827	0	0	0	0	0	2-4
S-84.61	Cabin Branch WWPS Force Main	488	98	153	237	209	28	0	0	0	0	0	2-5
S-84.67	Milestone Center Sewer Main	657	127	0	530	507	23	0	0	0	0	0	2-6
S-84.68	Clarksburg Wastewater Pumping Station	3,888	367	1,998	1,523	1,335	188	0	0	0	0	0	2-7
S-84.69	Clarksburg WWPS Force Main	1,936	140	1,774	22	22	0	0	0	0	0	0	2-8
S-85.21	Shady Grove Station Sewer Augmentation	2,538	125	335	2,078	1,245	833	0	0	0	0	0	2-9
S-94.13	Damascus Town Center WWPS Replacement	9,460	120	170	9,170	520	630	2,820	4,970	230	0	0	2-10
S-94.14	Spring Gardens WWPS Replacement	10,320	420	684	9,216	921	1,497	5,535	1,263	0	0	0	2-11
S-103.16	Cabin John Trunk Sewer Relief	16,353	564	14,069	1,720	1,720	0	0	0	0	0	0	2-12
	Projects Pending Close-Out	2,002	1,263	739	0	0	0	0	0	0	0	0	2-13
	<b>TOTALS</b>	<b>50,823</b>	<b>3,323</b>	<b>20,775</b>	<b>26,725</b>	<b>7,881</b>	<b>4,026</b>	<b>8,355</b>	<b>6,233</b>	<b>230</b>	<b>0</b>	<b>0</b>	

**Montgomery County Sewer Projects**  
**New Projects Listing**  
(costs in thousands)

<b>Agency Number</b>	<b>Project Name</b>	<b>Total Project Cost</b>	<b>Budget Year Cost</b>	<b>Page Number</b>
S-94.13	Damascus Town Center WWPS Replacement	\$9,460	\$520	2-10
S-94.14	Spring Gardens WWPS Replacement	10,320	921	2-11
	<b>TOTALS</b>	\$19,780	\$1,441	



CABIN BRANCH AREA PROJECTS  
(costs in thousands)

AGENCY NUMBER	PROJECT NAME	ADOPTED FY'19 TOTAL COST	PROPOSED FY'20 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-84.60	Cabin Branch Wastewater Pumping Station	\$3,084	\$3,181	\$97	3.1%	\$2,229	Developer Dependent
S-84.61	Cabin Branch WWPS Force Main	449	488	39	8.7%	237	Developer Dependent
	TOTALS	\$3,533	\$3,669	\$136	3.8%	\$2,466	

Summary: This group of Development Services Process (DSP) projects is programmed to serve new development in the Clarksburg area west of Route 355, including the Clarksburg Triangle and Cabin Branch areas. The need for these projects was identified in the Stage 3 requirements of the Clarksburg Master Plan and Hyattstown Special Study Area reports. Estimated completion schedules are dependent **upon the property developers' schedules**. No WSSC rate supported debt will be used for these projects. The projects that will impact local wetlands will be coordinated with the Maryland-National Capital Park & Planning Commission, Montgomery County Department of Environmental Protection, Maryland Department of the Environment, Maryland Department of Natural Resources, and the U.S. Fish & Wildlife Service, along with Montgomery County Government. The individual project description forms on the pages following this summary provide additional information.

Cost Impact: Not applicable.

Cabin Branch Wastewater Pumping Station

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.60	023807	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	445	99	242	104	52	52					
Land											
Site Improvements & Utilities											
Construction	2,334		500	1,834	1,167	667					
Other	402		111	291	183	108					
Total	3,181	99	853	2,229	1,402	827					

C. Funding Schedule (000's)

Contribution/Other	3,181	99	853	2,229	1,402	827					
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of a 0.9 MGD wastewater pumping station. This wastewater pumping station is projected to serve new development in Stage 3 of the Clarksburg planning area west of I-270.

**JUSTIFICATION**  
The Cabin Branch neighborhood includes Clarksburg Triangle and other Stage 3 properties west of I-270 and east of Clarksburg Road.

Clarksburg Master Plan and Hyattstown Special Study Area (1994); Montgomery County Council Resolution Number 14-772; Water and Sewer Plan Service Area Map Amendments for the Clarksburg Master Plan Area (Adopted February 13, 2001); Clarksburg Stages 3 and 4 Area Facility Plan, Rodgers Consulting (December 2004); Cabin Branch - Amended Phase I Letter of Findings #6 (September 2013).

**COST CHANGE**  
Costs were increased based upon information provided by the developer.

**OTHER**  
The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Memorandum of Understanding. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**  
Coordinating Agencies: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; (Non-Tidal Wetlands Permit) Maryland Department of Natural Resources; U.S. Fish and Wildlife Service; Maryland Department of the Environment; Montgomery County Government;  
Coordinating Projects: S-84.61-Cabin Branch WWPS Force Main;

E. Annual Operating Budget Impact (000's)

	FY of Impact
Staff	
Maintenance	
Other Project Costs	
Debt Service	
Total Cost	
Impact on Water and Sewer Rate	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	22
Cost Estimate Last FY	3,084
Present Cost Estimate	3,181
Approved Request Last FY	1,393
Total Expense & Encumbrances	99
Approval Request Year 1	1,402

G. Status Information

Land Status	Land acquired
Project Phase	Design
Percent Complete	0%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	1,550
Capacity	0.9 MGD

H. Map



Cabin Branch WWPS Force Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.61	023808	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	183	98	45	40	34	6					
Land											
Site Improvements & Utilities											
Construction	254		88	166	148	18					
Other	51		20	31	27	4					
Total	488	98	153	237	209	28					

C. Funding Schedule (000's)

Contribution/Other	488	98	153	237	209	28					
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D. Description & Justification

**DESCRIPTION**

This project provides for the planning, design, and construction of 2,000 feet of 10-inch diameter force main downstream of the Cabin Branch Wastewater Pumping Station. The wastewater pumping station and force main will provide service to new development in Stage 3 of the Clarksburg planning area, west of I-270.

**JUSTIFICATION**

The Cabin Branch neighborhood includes Clarksburg Triangle and other Stage 3 properties west of I-270 and east of Clarksburg Road. Clarksburg Master Plan and Hyattstown Special Study Area (1994); Montgomery County Council Resolution Number 14-772; Water and Sewer Plan Service Area Map Amendments for the Clarksburg Master Plan Area (Adopted February 13, 2001); Clarksburg Stages 3 and 4 Area Facility Plan, Rodgers Consulting (December 2004); Cabin Branch - Amended Phase I Letter of Findings #6 (September 2013).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; (Non-Tidal Wetlands Permit) Maryland Department of Natural Resources; U.S. Fish and Wildlife Service; Montgomery County Government;

Coordinating Projects: S-84.60-Cabin Branch Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$35	22
Other Project Costs		
Debt Service		
Total Cost	\$35	22
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	22
Cost Estimate Last FY	449
Present Cost Estimate	488
Approved Request Last FY	179
Total Expense & Encumbrances	98
Approval Request Year 1	209

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	1,550
Capacity	0.98 MGD

H. Map



## Milestone Center Sewer Main

### A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-84.67	173804	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Germantown & Vicinity PA 19;

### B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	253	127		126	126						
Land											
Site Improvements & Utilities											
Construction	335			335	315	20					
Other	69			69	66	3					
<b>Total</b>	<b>657</b>	<b>127</b>		<b>530</b>	<b>507</b>	<b>23</b>					

### C. Funding Schedule (000's)

Contribution/Other	657	127		530	507	23					
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### D. Description & Justification

[illegible]

This project provides for the planning, design, and construction of approximately 1,860 feet of 18-inch diameter sewer main to serve the new Milestone development.

### JUSTIFICATION

Milestone Development Amended Hydraulic Planning Analysis and Letter of Findings #2 (January 2016).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. The expenditures and schedule projection shown in Block B are based upon information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

## COORDINATION

Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission;

Coordinating Projects: Not Applicable

#### E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$32	22
Other Project Costs		
Debt Service		
Total Cost	\$32	22
Impact on Water and Sewer Rate		

#### **F. Approval and Expenditure Data (000's)**

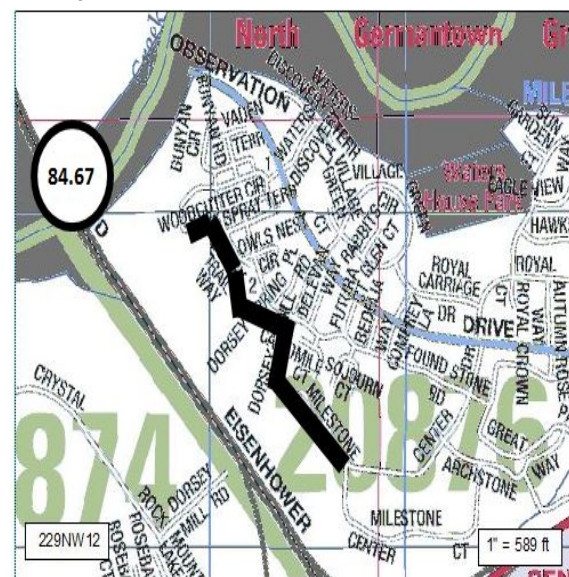
Date First in Program	FY 18
Date First Approved	FY 18
Initial Cost Estimate	504
Cost Estimate Last FY	514
Present Cost Estimate	657
Approved Request Last FY	492
Total Expense & Encumbrances	127
Approval Request Year 1	507

### G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	0%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	2.83 MGD

## H. Map



Clarksburg Wastewater Pumping Station

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.68	173802	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	654	206	248	200	160	40					
Land	161	161									
Site Improvements & Utilities											
Construction	2,614		1,500	1,114	1,000	114					
Other	459		250	209	175	34					
<b>Total</b>	<b>3,888</b>	<b>367</b>	<b>1,998</b>	<b>1,523</b>	<b>1,335</b>	<b>188</b>					

C. Funding Schedule (000's)

SDC	3,888	367	1,998	1,523	1,335	188					
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of a 0.94 MGD wastewater pumping station. The new wastewater pumping station and force main will provide service to the Miles property and the Clarksburg Historic District.</p> <p><b>JUSTIFICATION</b></p> <p>Clarksburg Master Plan &amp; Hyattstown Special Study Area (Approved and Adopted, June 1994). Ten Mile Creek Area Limited Amendment to Clarksburg Master Plan and Hyattstown Special Study Area (Approved July 2014). Clarksburg - Ten Mile Creek Area Sewer Facility Study Business Case, CDM Smith (March 2015).</p> <p><b>COST CHANGE</b></p> <p>The total project cost has increased due to the addition of land cost and an increase in the design cost based on actual design contract.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The schedule and expenditure projections shown in Block B above are planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'17 under ESP project S-602.61, Clarksburg - Ten Mile Creek Area Study. The Montgomery County Planning Board endorsed the Study recommendation Alternative 12 on May 26, 2016. The Montgomery County Council adopted a resolution supporting the Study recommendation on July 12, 2016. No WSSC rate supported debt will be used for this project.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection; Maryland-National Capital Park &amp; Planning Commission;</p> <p>Coordinating Projects: S-84.69-Clarksburg WWPS Force Main</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

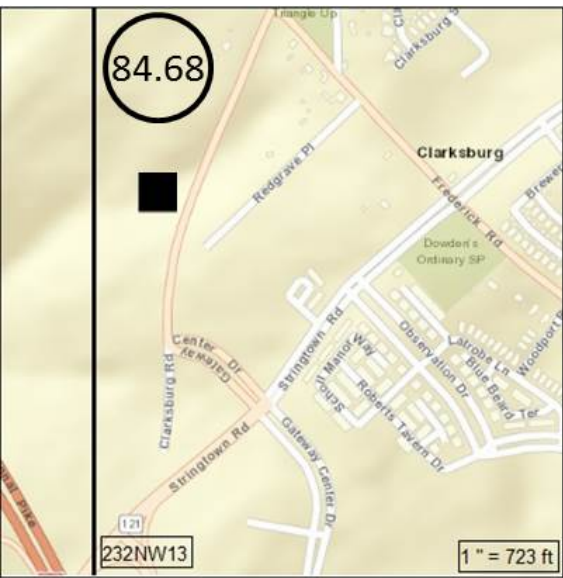
Date First in Program	FY 18
Date First Approved	FY 18
Initial Cost Estimate	3,393
Cost Estimate Last FY	3,450
Present Cost Estimate	3,888
Approved Request Last FY	1,311
Total Expense & Encumbrances	367
Approval Request Year 1	1,335

G. Status Information

Land Status	Land acquired
Project Phase	Design
Percent Complete	70%
Est Completion Date	FY 2021

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	0.94 MGD

H. Map





**Clarksburg WWPS Force Main**

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.69	173803	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

**B. Expenditure Schedule (000's)**

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	184	140	43	1	1						
Land											
Site Improvements & Utilities											
Construction	1,520		1,500	20	20						
Other	232		231	1	1						
<b>Total</b>	<b>1,936</b>	<b>140</b>	<b>1,774</b>	<b>22</b>	<b>22</b>						

**C. Funding Schedule (000's)**

SDC	1,936	140	1,774	22	22						
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**D. Description & Justification**

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of 1,270 feet of force main downstream of the Clarksburg Wastewater Pumping Station. The new wastewater pumping station and force main will provide service to the Miles property and the Clarksburg Historic District.</p> <p><b>JUSTIFICATION</b></p> <p>Clarksburg Master Plan &amp; Hyattstown Special Study Area (Approved and Adopted, June 1994). Ten Mile Creek Area Limited Amendment to Clarksburg Master Plan and Hyattstown Special Study Area (Approved July 2014). Clarksburg - Ten Mile Creek Area Sewer Facility Study Business Case, CDM Smith (March 2015).</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The schedule and expenditure projections shown in Block B above are preliminary design level estimates and may change based upon site conditions and design constraints. Planning work began in FY'17 under ESP project S-602.61, Clarksburg - Ten Mile Creek Area Study. The Montgomery County Planning Board endorsed the Study recommendation Alternative 12 on May 26, 2016. The Montgomery County Council adopted a resolution supporting the Study recommendation on July 12, 2016. No WSSC rate supported debt will be used for this project.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection; Maryland State Highway Administration; Maryland State Department of Transportation; Maryland-National Capital Park &amp; Planning Commission;</p> <p>Coordinating Projects: S-84.68-Clarksburg Wastewater Pumping Station</p>
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**E. Annual Operating Budget Impact (000's)**

		FY of Impact
Staff		
Maintenance	\$38	21
Other Project Costs		
Debt Service		
Total Cost	\$38	21
Impact on Water and Sewer Rate		

**F. Approval and Expenditure Data (000's)**

Date First in Program	FY 18
Date First Approved	FY 18
Initial Cost Estimate	1,149
Cost Estimate Last FY	1,840
Present Cost Estimate	1,936
Approved Request Last FY	877
Total Expense & Encumbrances	140
Approval Request Year 1	22

**G. Status Information**

Land Status	Site Selected
Project Phase	Design
Percent Complete	95%
Est Completion Date	FY 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	.94 MGD

**H. Map**



Shady Grove Station Sewer Augmentation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-85.21	153800	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Rock Creek 05;
Planning Areas	Gaithersburg & Vicinity PA 20;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	171	122	22	27	15	12					
Land											
Site Improvements & Utilities											
Construction	2,052	3	269	1,780	1,068	712					
Other	315		44	271	162	109					
Total	2,538	125	335	2,078	1,245	833					

C. Funding Schedule (000's)

Contribution/Other	2,538	125	335	2,078	1,245	833					
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of approximately 3,600 feet of 15-inch to 18-inch diameter sewers. These sewers will replace an existing 10-inch diameter sewer main near Crabbs Branch Creek and CSX Railroad and terminate at a manhole approximately 300 feet southeast of Redland Road.

**JUSTIFICATION**  
The new 15-inch and 18-inch diameter sewers will serve the area encompassed by Shady Grove Road, I-370 and CSX Railroad.  
Due to the development density proposed in DA5409Z12, the projected peak wastewater flow exceeds the capacity of existing sewers.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Montgomery County Department of Public Works and Transportation; Montgomery County Government; Maryland-National Capital Park & Planning Commission;  
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

	FY of Impact	
Staff		
Maintenance	\$68	22
Other Project Costs		
Debt Service		
Total Cost	\$68	22
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 15
Date First Approved	FY 15
Initial Cost Estimate	2,254
Cost Estimate Last FY	2,465
Present Cost Estimate	2,538
Approved Request Last FY	1,209
Total Expense & Encumbrances	125
Approval Request Year 1	1,245

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	50%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	5,500
Capacity	1.0 - 3.0 mgd

H. Map



Damascus Town Center WWPS Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-94.13	382002	Add

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Patuxent North 26; Seneca Creek 15;
Planning Areas	Damascus & Vicinity PA 11;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	1,670	120	150	1,400	450	550	175	175	50		
Land											
Site Improvements & Utilities											
Construction	6,575			6,575			2,275	4,150	150		
Other	1,215		20	1,195	70	80	370	645	30		
Total	9,460	120	170	9,170	520	630	2,820	4,970	230		

C. Funding Schedule (000's)

WSSC Bonds	6,622	84	120	6,418	364	440	1,974	3,480	160		
SDC	2,838	36	50	2,752	156	190	846	1,490	70		

D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design and, construction of a 0.416 MGD wastewater pumping station (WWPS), approximately 2,100 LF of gravity sewer and 2,100 LF of force main (FM). The new WWPS and associated FM and gravity sewer will provide service to the existing and future Damascus Town Center service area.</p> <p><b>JUSTIFICATION</b></p> <p>The existing pumping station, which is over thirty-five years old was originally built as a privately owned facility and did not conform to WSSC standards. The pumping station was taken over by WSSC in the late 1970s. It has reached the end of its useful life and replacement parts are obsolete. Additionally, the capacity of the pumping station must be increased to accommodate the future service area in accordance with the Maryland National Capital Park and Planning Commission Damascus Master Plan. The Asset Management Office Business Case CNPV7 recommended the pumping station replacement.</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The present project scope was developed for FY 2020 CIP and has an estimated total cost of \$9,460,000. The schedule and expenditure projections shown in Block B above are preliminary planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'18 under ESP project S-602.01, Damascus Town Center WWPS Replacement. Land costs are included in WSSC project S-203.00.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland-National Capital Park &amp; Planning Commission; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Montgomery County Department of Public Works and Transportation;</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$431	25
Total Cost	\$431	25
Impact on Water and Sewer Rate	\$0.01	25

F. Approval and Expenditure Data (000's)

Date First in Program	FY 20
Date First Approved	FY 20
Initial Cost Estimate	9,460
Cost Estimate Last FY	
Present Cost Estimate	9,460
Approved Request Last FY	
Total Expense & Encumbrances	120
Approval Request Year 1	520

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	5%
Est Completion Date	November 2023
Growth	30%
System Improvement	70%
Environmental Regulation	
Population Served	854
Capacity	0.416MGD

H. Map

MAP NOT APPLICABLE
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Spring Gardens WWPS Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-94.14	382003	Add

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Monocacy 25;
Planning Areas	Damascus & Vicinity PA 11;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,190	280	595	1,315	800	400	65	50			
Land	140	140									
Site Improvements & Utilities											
Construction	6,700			6,700		900	4,750	1,050			
Other	1,290		89	1,201	121	197	720	163			
Total	10,320	420	684	9,216	921	1,497	5,535	1,263			

C. Funding Schedule (000's)

WSSC Bonds	3,440	140	228	3,072	307	499	1,845	421			
SDC	6,880	280	456	6,144	614	998	3,690	842			

D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of a 1.3 MGD wastewater pumping station, 7,500 LF of force main, and 900 LF of gravity sewer. The relocated wastewater pumping station and force main will provide service to the existing and future Spring Gardens service area.
<b>JUSTIFICATION</b> The existing pumping station and force main are over forty-one years old and have reached the end of their useful life. Additionally, the existing capacity of the pumping station must be increased to accommodate build-out of the service area and therefore it must be replaced with a new facility rated at 1.3 MGD. The Asset Management Office Business Case CNPV6 recommended the pumping station replacement.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The present project scope was developed for the FY 2020 CIP and has an estimated total cost of \$10,320,000. The schedule and expenditure projections shown in Block B above are preliminary planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'18 under ESP project S-602.26, Spring Gardens WWPS Replacement.
<b>COORDINATION</b> Coordinating Agencies: Montgomery County Department of Public Works and Transportation; Maryland State Highway Administration; Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$146	24
Other Project Costs		
Debt Service	\$224	24
Total Cost	\$370	24
Impact on Water and Sewer Rate	\$0.01	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 20
Date First Approved	FY 20
Initial Cost Estimate	10,180
Cost Estimate Last FY	
Present Cost Estimate	10,320
Approved Request Last FY	
Total Expense & Encumbrances	420
Approval Request Year 1	921

G. Status Information

Land Status	Land acquired
Project Phase	Planning
Percent Complete	5%
Est Completion Date	FY 2023

Growth	67%
System Improvement	33%
Environmental Regulation	
Population Served	
Capacity	1.3 MGD

H. Map

MAP NOT APPLICABLE
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Cabin John Trunk Sewer Relief

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-103.16	153801	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Cabin John 07;
Planning Areas	Bethesda-Chevy Chase & Vicinity PA 35;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	1,111	564	290	257	257						
Land											
Site Improvements & Utilities											
Construction	13,807		12,500	1,307	1,307						
Other	1,435		1,279	156	156						
Total	16,353	564	14,069	1,720	1,720						

C. Funding Schedule (000's)

Contribution/Other	16,353	564	14,069	1,720	1,720						
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of 3,400 feet of 24-inch diameter sewer in the Cabin John Basin.</p> <p><b>JUSTIFICATION</b></p> <p>Mid-Pike Plaza Hydraulic Planning Analysis (November, 2012).</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland-National Capital Park &amp; Planning Commission; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland Department of Natural Resources; Montgomery County Government; Maryland State Highway Administration;</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$59	21
Other Project Costs		
Debt Service		
Total Cost	\$59	21
Impact on Water and Sewer Rate		

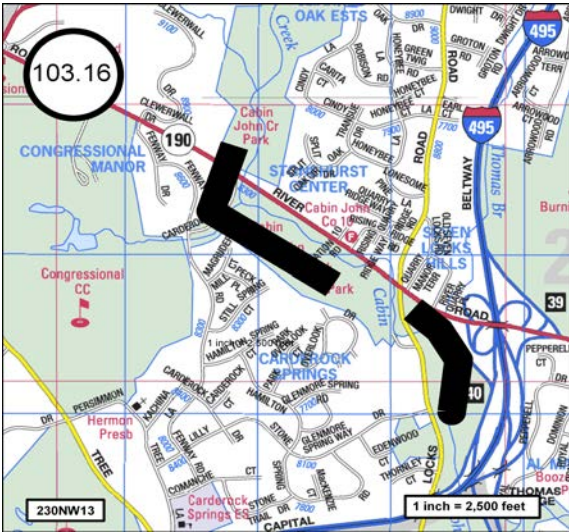
F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	7,999
Cost Estimate Last FY	15,878
Present Cost Estimate	16,353
Approved Request Last FY	6,457
Total Expense & Encumbrances	564
Approval Request Year 1	1,720

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	95%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	29.37 to 36.74 MGD

H. Map



**PROJECTS PENDING CLOSE-OUT**  
**Montgomery County Sewer Projects**  
(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'18	Estimated Expenditures FY'19	Remarks
023811	S- 84.47	Clarksburg Triangle Outfall Sewer, Part 2	\$2,002	\$1,263	\$739	Project completion expected in FY'19.
		<b>TOTALS</b>	\$2,002	\$1,263	\$739	

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## Section 3 - Bi-County Water Projects

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**FINANCIAL SUMMARY**

(ALL FIGURES IN THOUSANDS)

**BI-COUNTY WATER PROJECTS**

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
W-73.22	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	25,275	11,893	2,723	10,659	8,000	2,659	0	0	0	0	0	3-3
W-73.30	Potomac WFP Submerged Channel Intake	85,603	4,336	21	0	0	0	0	0	0	0	81,246	3-4
W-73.32	Potomac WFP Main Zone Pipeline	38,102	1,014	575	36,513	460	690	575	13,915	13,915	6,958	0	3-5
W-73.33	Potomac WFP Consent Decree Program	163,823	6,323	9,450	118,125	9,975	10,500	25,200	25,200	24,150	23,100	29,925	3-6
W-139.02	Duckett & Brighton Dam Upgrades	40,291	19,763	13,690	6,838	6,838	0	0	0	0	0	0	3-7
W-161.01	Large Diameter Water Pipe & Large Valve Rehabilitation Program	433,056	0	40,260	392,796	40,385	58,447	64,159	74,149	76,678	78,978	0	3-8
W-172.07	Patuxent Raw Water Pipeline	34,439	13,121	4,158	17,160	8,580	8,580	0	0	0	0	0	3-11
W-172.08	Rocky Gorge Pump Station Upgrade	23,241	13,415	8,801	1,025	1,025	0	0	0	0	0	0	3-12
W-202.00	Land & Rights-of-Way Acquisition - Bi-County Water	3,598	0	1,100	1,898	1,720	130	18	10	10	10	600	3-13
	Projects Pending Close-Out	97,950	95,715	2,235	0	0	0	0	0	0	0	0	3-14
<b>TOTALS</b>		<b>945,378</b>	<b>165,580</b>	<b>83,013</b>	<b>585,014</b>	<b>76,983</b>	<b>81,006</b>	<b>89,952</b>	<b>113,274</b>	<b>114,753</b>	<b>109,046</b>	<b>111,771</b>	

POTOMAC WATER FILTRATION PLANT PROJECTS  
(costs in thousands)

AGENCY NUMBER	PROJECT NAME	ADOPTED FY'19 TOTAL COST	PROPOSED FY'20 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-73.22	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	\$24,961	\$25,275	\$314	1.3%	\$10,659	June 2021
W-73.30	Potomac WFP Submerged Channel Intake	83,104	85,603	2,499	3.0%	0	Beyond 6 Years
W-73.32	Potomac WFP Main Zone Pipeline	37,470	38,102	632	1.7%	36,513	FY 2025
W-73.33	Potomac WFP Consent Decree Program	157,480	163,823	6,343	4.0%	118,125	January 2026
	TOTALS	\$303,015	\$312,803	\$9,788	3.2%	\$165,297	

Summary: This group of projects represents operational improvements to the Potomac Water Filtration Plant (WFP) in Montgomery County. The Potomac WFP Pre-Filter Chlorination & Air Scour Improvements project (W-73.22) provides for a pre-filter chlorination system, evaluation of retrofitting an air scour system, and the replacement of existing plant filters to improve the performance of the underdrain system. The Potomac WFP Submerged Channel Intake project (W-73.30) will provide an additional barrier against drinking water contamination, enhance reliability, and reduce treatment costs by drawing water from a location with a cleaner, more stable water quality. The Potomac WFP Main Zone Pipeline project (W-73.32) provides an 84-inch diameter redundancy main from the Main Zone pumping station to the 96-inch diameter and 66-inch diameter main wye connections on River Road. The Potomac WFP Consent Decree Program project (W-73.33) 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 the Commission to meet the new discharge limitations identified in the Consent Decree.

Cost Impact: Due to budgetary constraints, all expenditures for the Potomac WFP Submerged Channel Intake project (W-73.30) have been deferred to beyond six years. Estimates and other long-term alternatives associated with the Potomac WFP Consent Decree Program (W-73.33) are under review and revision by consultants to seek the most effective long-term upgrade plan for MDE approval.

Potomac WFP Pre-Filter Chlorination & Air Scour Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.22	143803	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	3,759	2,733	127	899	680	219					
Land											
Site Improvements & Utilities											
Construction	20,299	9,160	2,348	8,791	6,593	2,198					
Other	1,217		248	969	727	242					
Total	25,275	11,893	2,723	10,659	8,000	2,659					

C. Funding Schedule (000's)

WSSC Bonds	25,275	11,893	2,723	10,659	8,000	2,659					
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of a pre-filter chlorination system and filter air scour system for the Potomac Water Filtration Plant. It also includes the replacement of all 32 filter underdrains.
<b>JUSTIFICATION</b> Due to numerous separate incidents of catastrophic filter underdrain failures since October 2006, an investigation was conducted by WSSC and ITT Leopold, suppliers of the failed underdrain systems. The investigation revealed that the ITT Leopold underdrain system with an Integral Media Support (IMS) cap is not compatible with the biologically active filters at the Potomac WFP. Engineering Standard - I. M. S. Cap Monitoring Operation, and Maintenance Instructions, ITT Water & Wastewater, Leopold, Inc., (April 2009). Memo from John Geibel, P.E., Sr. Product Engineer @ ITT Water & Wastewater, Leopold, Inc. - Potomac Filtration Plant Visit April 2009 - to Joseph Johnson, Potomac Plant Superintendent, (May 2010);
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. The Potomac Water Filtration Plant experienced fourteen separate incidents of catastrophic filter underdrain failure from October 2006 through FY'17, including three filters that failed twice. The failure rate accelerated with six of the fourteen filter failures taking place during the spring and summer of 2016. Expenditure and schedule projections shown in Block B above include design level estimates for Air Scour (which may change based on actual bids) and on actual bids for Underdrain Replacement. The original plan was to design and construct both pre-filter chlorination and air scour systems as one deliverable at the same time. However, due to the more critical need to implement pre-filter chlorination at the Potomac plant, this portion of the project was placed on an accelerated schedule for design and construction, separate from that of the air scour system.
<b>COORDINATION</b> Coordinating Agencies: Montgomery County Government; Prince George's County Government; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,644	22
Total Cost	\$1,644	22
Impact on Water and Sewer Rate	\$0.03	22

F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	5,602
Cost Estimate Last FY	24,961
Present Cost Estimate	25,275
Approved Request Last FY	7,883
Total Expense & Encumbrances	11,893
Approval Request Year 1	8,000

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	40%
Est Completion Date	June 2021

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE
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Potomac WFP Submerged Channel Intake

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.30	033812	Change

PDF Date	October 1, 2018
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	10,972	4,336	20								6,616
Land											
Site Improvements & Utilities											
Construction	70,761										70,761
Other	3,870		1								3,869
Total	85,603	4,336	21								81,246

C. Funding Schedule (000's)

WSSC Bonds	85,603	4,336	21								81,246
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D. Description & Justification

<b>DESCRIPTION</b> This project includes planning, which involves community outreach and coordination with elected officials, design, and construction of a submerged channel intake to provide an additional barrier against drinking water contamination (particularly Giardia cysts and Cryptosporidium oocysts), as well as to enhance reliability and reduce treatment costs by drawing water from a location with cleaner, more stable water quality.
<b>JUSTIFICATION</b> The project is expected to pay for itself over time based upon the reduced chemical and solids handling costs resulting from the cleaner raw water source. It also provides for a more reliable supply by eliminating the current problems associated with ice and vegetation blocking the existing bank withdrawal. This project is consistent with the industry's recommended multiple barrier approach. "Technical Memorandum No. 2 Water Quality Needs Assessment," O'Brien & Gere Engineers, Inc. (November 2001); "Draft Source Water Assessment Study," Maryland Department of the Environment (April 2002); "Potomac WFP Facility Plan," O'Brien & Gere Engineers, Inc. (September 2002). "Draft Feasibility Study Report", Black & Veatch (November 2013).
<b>COST CHANGE</b> Due to budgetary constraints the project costs have been moved to beyond six (6) years column.
<b>OTHER</b> The project scope has remained the same. Significant public outreach activities occurred as part of the planning phase of this project. The National Environmental Policy Act (NEPA) process was concluded in January 2018 when the National Park Service (NPS) approved the Environmental Assessment and transmitted its record of decision and the Finding of No Significant Impact. A series of briefings with State legislators, County Council members, County Executive staff and County Council staff will be undertaken prior to commencement of further engineering work. Both Councils will review the results of the detailed study and must approve continuing with the project before design and construction may proceed. Expenditure and schedule projections shown above are planning level estimates and may change based on site-specific conditions and design constraints. Land costs are included in WSSC Project W-202.00.
<b>COORDINATION</b> Coordinating Agencies: Montgomery County Government; Prince George's County Government; National Park Service; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; Maryland-National Capital Park & Planning Commission;  Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$5,569	20
Total Cost	\$5,569	20
Impact on Water and Sewer Rate	\$0.12	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 04
Date First Approved	FY 03
Initial Cost Estimate	936
Cost Estimate Last FY	83,104
Present Cost Estimate	85,603
Approved Request Last FY	70
Total Expense & Encumbrances	4,336
Approval Request Year 1	

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	100%
Est Completion Date	TBD
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE
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Potomac WFP Main Zone Pipeline

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.32	133800	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Montgomery Main 495A; Prince George's
Drainage Basins	
Planning Areas	Potomac-Cabin John & Vicinity PA 29;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	3,264	1,014	500	1,750	400	600	500	100	100	50	
Land											
Site Improvements & Utilities											
Construction	30,000			30,000				12,000	12,000	6,000	
Other	4,838		75	4,763	60	90	75	1,815	1,815	908	
Total	38,102	1,014	575	36,513	460	690	575	13,915	13,915	6,958	

C. Funding Schedule (000's)

WSSC Bonds	38,102	1,014	575	36,513	460	690	575	13,915	13,915	6,958	
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of approximately 1,500 feet of 84-inch diameter redundancy main from the Main Zone pumping station to the 96-inch diameter and 66-inch diameter main wye connections on River Road. The project may include a rock tunnel segment.</p> <p><b>JUSTIFICATION</b></p> <p>The existing 78-inch diameter PCCP pipeline is the major feed to the 96-inch diameter Montgomery County Main Zone pipeline and the 66-inch diameter River Road pipeline. The primary purpose of this project is to provide redundancy for the existing line. The Business Case recommended a new 84-inch diameter main be installed from the Main Zone pumping station to the 66-inch diameter and 96-inch diameter wye connection. In addition the wye connection will be replaced as part of this project.</p> <p>E-mail from M. Woodcock to C. Fricke and E. Betanzo dated April 27, 2011; "Business Case Evaluation for Potomac Water Treatment Plan - 78 inch finished water main redundancy", O'Brien and Gere Engineers, Inc. (October 2013)</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B above are Order of Magnitude estimates and may change based upon site specific conditions and design constraints. Due to changes to the planning and design processes, the schedule has been extended. The time extension is needed to complete the additional preliminary analysis, as well as design and coordination with the Potomac WFP Consent Decree Program (W-73.33).</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; Maryland Department of the Environment; Maryland Department of Natural Resources; U.S. Army Corps of Engineers; Maryland-National Capital Park &amp; Planning Commission;</p> <p>Coordinating Projects: W-73.33-Potomac WFP Consent Decree Program</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$39	26
Other Project Costs		
Debt Service	\$2,479	26
Total Cost	\$2,518	26
Impact on Water and Sewer Rate	\$0.05	26

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	330
Cost Estimate Last FY	37,470
Present Cost Estimate	38,102
Approved Request Last FY	1,100
Total Expense & Encumbrances	1,014
Approval Request Year 1	460

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	25%
Est Completion Date	FY 2025

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	Approximately 200 mgd

H. Map

MAP NOT AVAILABLE
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Potomac WFP Consent Decree Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.33	173801	Change

PDF Date	October 1, 2018
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	31,600	4,600	3,500	20,500	3,500	4,000	4,000	4,000	3,000	2,000	3,000
Land	1,000	1,000									
Site Improvements & Utilities											
Construction	123,723	723	5,500	92,000	6,000	6,000	20,000	20,000	20,000	20,000	25,500
Other	7,500		450	5,625	475	500	1,200	1,200	1,150	1,100	1,425
Total	163,823	6,323	9,450	118,125	9,975	10,500	25,200	25,200	24,150	23,100	29,925

C. Funding Schedule (000's)

WSSC Bonds	163,823	6,323	9,450	118,125	9,975	10,500	25,200	25,200	24,150	23,100	29,925
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>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 the Commission to meet the new discharge limitations identified in the Consent Decree.</p> <p><b>JUSTIFICATION</b></p> <p>The Consent Decree (CD) was Entered by the U.S. District Court of Maryland on April 15, 2016. Under the terms of the CD the Commission is required to "undertake short-term operational changes and capital improvements at the Potomac WFP that will enable WSSC 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 the Commission 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. The Commission 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.</p> <p><b>COST CHANGE</b></p> <p>Costs were increased for inflation. These estimates and other long-term alternatives are under review and revision by consultants to seek the most effective long-term upgrade plan for MDE approval.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditure and schedule projections shown above are estimates and serve as placeholders because project alternatives are being reconsidered and revised for a Long-Term Plan Amendment to the 2016 plan to be submitted to MDE by Fall of 2018. The construction estimates were increased significantly based on the Short-Term Audit Report and Long-Term Upgrade Plan Report dated December 2016. The expenditure and schedule projections shown above also include \$1,000,000 for Supplemental Environmental Projects included under CD Section IX. Paragraph 50. Preliminary planning work began in FY'16 under ESP project W-708.48, Potomac WFP Consent Decree Projects; operational requirements identified in CD Section IV. Interim Performance Measures and Plant Improvements are currently underway under ESP project W-708.47, Potomac WFP Turbidity Monitoring.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland Department of the Environment; Montgomery County Government; Prince George's County Government; National Park Service; U.S. Environmental Protection Agency, Region III;</p> <p>Coordinating Projects: W-73.30-Potomac WFP Submerged Channel Intake;</p>
--

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$10,657	
Total Cost	\$10,657	
Impact on Water and Sewer Rate	\$0.22	

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	157,480
Present Cost Estimate	163,823
Approved Request Last FY	9,850
Total Expense & Encumbrances	6,323
Approval Request Year 1	9,975

G. Status Information

Land Status	Land acquired
Project Phase	Planning
Percent Complete	95%
Est Completion Date	January 2026

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Duckett & Brighton Dam Upgrades

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-139.02	073802	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	10,568	9,292	855	421	421						
Land											
Site Improvements & Utilities											
Construction	27,856	10,471	11,590	5,795	5,795						
Other	1,867		1,245	622	622						
Total	40,291	19,763	13,690	6,838	6,838						

C. Funding Schedule (000's)

WSSC Bonds	40,291	19,763	13,690	6,838	6,838						
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of the upgrades required to enable the T. Howard Duckett Dam to meet current Maryland Department of the Environment (MDE) dam safety standards including the Probable Maximum Flood (PMF) criteria and maximum credible earthquake loadings. The upgrades include parapet walls on both embankments of the dam and three foot thick scour slabs tied into the rock on the downstream side of the dam. The project also includes work at the Brighton Dam to assure continued safe operation, e.g., spillway resurfacing, new stairs and intake repairs.</p>
<p><b>JUSTIFICATION</b></p> <p>The MDE requested that WSSC perform a safety analysis of the T. Howard Duckett Dam to ensure that the dam can safely pass the Probable Maximum Flood criteria. MDE also requested that the evaluation include an analysis of the dam's ability to withstand the maximum credible earthquake loadings. The safety analysis includes geotechnical and structural evaluations.</p> <p>December 13, 2004 letter from MDE; "Comprehensive Safety Evaluation of the T. Howard Duckett Dam", URS Corporation (January 2007); June 28, 2007 letter from MDE.</p>
<p><b>COST CHANGE</b></p> <p>Costs were increased due to changed conditions discovered during Brighton Dam Upgrade construction project, including asbestos in the existing concrete joints and remedial concrete work.</p>
<p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditures and schedule projections shown in Block B above reflect the actual bid for the Brighton Dam Upgrades construction. Construction work at Duckett Dam is substantially complete. Brighton Dam Upgrades construction project is currently under construction.</p>
<p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Prince George's County Government; Howard County Government; City of Laurel; Maryland Department of the Environment; U.S. Army Corps of Engineers;</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,621	21
Total Cost	\$2,621	21
Impact on Water and Sewer Rate	\$0.05	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 07
Date First Approved	FY 07
Initial Cost Estimate	575
Cost Estimate Last FY	30,754
Present Cost Estimate	40,291
Approved Request Last FY	7,801
Total Expense & Encumbrances	19,763
Approval Request Year 1	6,838

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	37%
Est Completion Date	December 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE
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Large Diameter Water Pipe & Large Valve Rehabilitation Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-161.01	113803	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	44,871		6,690	38,181	5,861	6,170	6,355	6,404	6,597	6,794	
Land											
Site Improvements & Utilities											
Construction	367,564		31,653	335,911	32,601	49,494	54,749	64,214	66,430	68,423	
Other	20,621		1,917	18,704	1,923	2,783	3,055	3,531	3,651	3,761	
Total	433,056		40,260	392,796	40,385	58,447	64,159	74,149	76,678	78,978	

C. Funding Schedule (000's)

WSSC Bonds	433,056		40,260	392,796	40,385	58,447	64,159	74,149	76,678	78,978	
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>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.</p> <p>* EXPENDITURES FOR LARGE DIAMETER WATER PIPE REHABILITATION ARE EXPECTED TO CONTINUE INDEFINITELY.</p> <p><b>JUSTIFICATION</b></p> <p>WSSC has approximately 1,031 miles of large diameter water main ranging from 16-inch to 96-inch 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 annually on PCCP pipelines 36-inch 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.</p> <p>The planning and design phase evaluates the alignment, hydraulic capacity, and project coordination amongst 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.</p> <p>In July 2013, WSSC'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 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 and replace (when necessary) any of the 1,500 large diameter valves and vaults located throughout the system.</p> <p>Utility Wide Master Plan (December 2007); 30 Year Infrastructure Plan (2007); FY2016 Water Transmission System Asset Management Plan (February 2014); WSSC FY 2018 Buried Water Asset Systems Asset Management Plan (December 2015);</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$28,171	26
Total Cost	\$28,171	26
Impact on Water and Sewer Rate	\$0.59	26

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	435,594
Present Cost Estimate	433,056
Approved Request Last FY	40,661
Total Expense & Encumbrances	
Approval Request Year 1	40,385

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE
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Large Diameter Water Pipe & Large Valve Rehabilitation Program

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are Order of Magnitude estimates and are expected to change based upon the results of the inspections and condition assessments. Life to date expenditures for this program thru FY'18 are approximately \$225 million. Additional costs associated with PCCP inspection/condition assessment, large valve inspection/repairs and emergency repairs are included in the Operating Budget.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; 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); Maryland-National Capital Park & Planning Commission; Prince George's County Department of Permitting Inspection and Enforcement; Local Community Civic Associations;  
Coordinating Projects: W-1.00-Water Reconstruction Program; A-107.00-Specialty Valve Vault Rehabilitation Program;

PATUXENT WATER FILTRATION PLANT PROJECTS  
(costs in thousands)

AGENCY NUMBER	PROJECT NAME	ADOPTED FY'19 TOTAL COST	PROPOSED FY'20 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-172.07	Patuxent Raw Water Pipeline	\$33,663	\$34,439	\$776	2.3%	\$17,160	FY 2021
W-172.08	Rocky Gorge Pump Station Upgrade	22,564	23,241	677	3.0%	1,025	October 2019
	TOTALS	\$56,227	\$57,680	\$1,453	2.6%	\$18,185	

Summary: In conjunction with the Patuxent WFP Phase II Expansion project (W-172.05) which is expected to be completed in FY'19, the Patuxent Raw Water Pipeline project (W-172.07) and the Rocky Gorge Pump Station Upgrade project (W-172.08) provide for a new raw water pipeline and the necessary modification/expansion to the pumping station to allow the delivery of up to 110 million gallons per day (MGD) of raw water to the Patuxent WFP.

Cost Impact: Not applicable.

Patuxent Raw Water Pipeline

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-172.07	063804	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	5,462	4,882	180	400	200	200					
Land	304	304									
Site Improvements & Utilities											
Construction	26,735	7,935	3,600	15,200	7,600	7,600					
Other	1,938		378	1,560	780	780					
Total	34,439	13,121	4,158	17,160	8,580	8,580					

C. Funding Schedule (000's)

WSSC Bonds	34,439	13,121	4,158	17,160	8,580	8,580					
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for planning, design and construction of approximately 2.5 miles of new 48-inch diameter raw water pipeline from the Rocky Gorge Raw Water Pumping Station to the Patuxent Water Filtration Plant, cleaning of the existing water lines and replacement of valves.</p> <p><b>JUSTIFICATION</b></p> <p>The existing raw water supply facilities are hydraulically limited to 72 MGD with all pumps running at the Rocky Gorge Pumping Station. In order to convey more than 72 MGD of raw water, a new raw water pipeline is required. A fourth raw water pipeline from Rocky Gorge Pumping Station to the Patuxent Plant and modification/expansion of the Rocky Gorge Pumping Station will provide a firm raw water pumping transmission capacity of 110 MGD. These improvements, in conjunction with expansion of the Patuxent Water Filtration Plant, will give the Plant a firm nominal capacity of 72 MGD, with an emergency capacity of 110 MG.</p> <p>Patuxent WFP Facility Plan (April 1997); In-House Study (April 2002).</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The Rocky Gorge Valve Replacement and the cleaning of existing raw water pipelines are 100% complete. The new raw water pipeline is currently in design. Expenditure and schedule estimates for the new raw water pipeline may change based upon design constraints and permitting issues. The project has been delayed due to a lengthy permit and right-of-way acquisition process. As with any construction project, areas disturbed by construction will be restored. This restoration includes paving of impacted roads in accordance with Prince George's County Policy and Specifications for Utility Installation and Maintenance Manual (Section 4.7.2). Land costs are included in WSSC Project W-202.00.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park &amp; Planning Commission; Maryland Department of the Environment; Interstate Commission on the Potomac River Basin; Local Community Civic Associations; (West Laurel Civic Association); Baltimore Gas &amp; Electric;</p> <p>Coordinating Projects: W-172.05-Patuxent WFP Phase II Expansion; W-172.08-Rocky Gorge Pump Station Upgrade;</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$341	22
Other Project Costs		
Debt Service	\$2,240	22
Total Cost	\$2,581	22
Impact on Water and Sewer Rate	\$0.05	22

F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 03
Initial Cost Estimate	18,750
Cost Estimate Last FY	33,663
Present Cost Estimate	34,439
Approved Request Last FY	378
Total Expense & Encumbrances	13,121
Approval Request Year 1	8,580

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	98%
Est Completion Date	FY 2021

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE
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Rocky Gorge Pump Station Upgrade

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-172.08	063805	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	6,445	4,306	1,800	339	339						
Land											
Site Improvements & Utilities											
Construction	15,902	9,109	6,200	593	593						
Other	894		801	93	93						
Total	23,241	13,415	8,801	1,025	1,025						

C. Funding Schedule (000's)

WSSC Bonds	23,241	13,415	8,801	1,025	1,025						
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the modification and expansion of the Rocky Gorge Pump Station to allow the station to provide up to 110 MGD of raw water to the Patuxent Water Filtration Plant.
<b>JUSTIFICATION</b> The modification and expansion of the Rocky Gorge Raw Water Pumping Station will provide a firm raw water pumping capacity of 110 MGD. The improvements to the pump station, along with a fourth water pipeline (W-172.07) and expansion of the Patuxent Plant (W-172.05) will give the Patuxent Plant a firm nominal capacity of 72 MGD, with emergency capacity of 110 MGD. Patuxent WFP Facility Plan (April 1997); In-House Study (April 2002)
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope remains the same. Expenditure and schedule projections shown in Block B above are based on contracts in place. Construction is ongoing.
<b>COORDINATION</b> Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Prince George's County Government; Maryland Department of the Environment; Baltimore Gas & Electric; Coordinating Projects: W-172.05-Patuxent WFP Phase II Expansion; W-172.07-Patuxent Raw Water Pipeline; W-139.02-Duckett & Brighton Dam Upgrades;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,512	21
Total Cost	\$1,512	21
Impact on Water and Sewer Rate	\$0.03	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 03
Initial Cost Estimate	12,930
Cost Estimate Last FY	22,564
Present Cost Estimate	23,241
Approved Request Last FY	2,484
Total Expense & Encumbrances	13,415
Approval Request Year 1	1,025

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	50%
Est Completion Date	October 2019
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	110 MGD

H. Map

MAP NOT AVAILABLE
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Land & Rights-of-Way Acquisition - Bi-County Water

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-202.00	983857	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision											
Land	3,598		1,100	1,898	1,720	130	18	10	10	10	600
Site Improvements & Utilities											
Construction											
Other											
Total	3,598		1,100	1,898	1,720	130	18	10	10	10	600

C. Funding Schedule (000's)

WSSC Bonds	3,214		891	1,723	1,545	130	18	10	10	10	600
SDC	384		209	175	175						

D. Description & Justification

<b>DESCRIPTION</b> This PDF provides a consolidated estimate of funding for the acquisition of land and rights-of-way for water projects and for easement and land acquisitions for watershed protection. Expenditures are programmed based upon anticipated schedules and are required for the completion of those specific projects. These costs do not include purchases which have already been completed.
<b>JUSTIFICATION</b>  Consolidation of expenditures for land and rights-of-way acquisitions provides flexibility in expending funds in a specific fiscal year and permits the WSSC to respond to the uncertainty of project-specific implementation schedules. Other considerations include the accomodation of unpredictable delays which impact the timing of a planned purchase, unanticipated rights-of-way requirements due to minor alignment changes identified late in the design phase, and the need to assure the WSSC an equitable negotiation position by avoiding project-specific cost displays prior to contacting property owners.  Acquisition needs are determined by the WSSC and are based upon facility planning efforts, alignment studies, field surveys, realignments required by other agencies, or requirements identified within the Development Services Process (DSP).
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. Expenditure and schedule projections shown in Block B are Order of Magnitude estimates only and may change based upon actual negotiations. When purchases are complete, the actual cost will be displayed in the expenditure schedule on the appropriate project.
<b>COORDINATION</b> Coordinating Agencies: Not Applicable Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$209	
Total Cost	\$209	
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 98
Date First Approved	FY 98
Intial Cost Estimate	
Cost Estimate Last FY	3,695
Present Cost Estimate	3,598
Approved Request Last FY	1,300
Total Expense & Encumbrances	
Approval Request Year 1	1,720

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	
Est Completion Date	Not Applicable
Growth	11%
System Improvement	89%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE
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**PROJECTS PENDING CLOSE-OUT****Bi-County Water Projects****(costs in thousands)**

<b>Project Number</b>	<b>Agency Number</b>	<b>Project Name</b>	<b>Estimated Total Cost</b>	<b>Expenditures Thru FY'18</b>	<b>Estimated Expenditures FY'19</b>	<b>Remarks</b>
113802	W-73.19	Potomac WFP Outdoor Substation No. 2 Replacement	\$15,537	\$15,476	\$61	Project completion expected in FY'19.
143802	W-73.21	Potomac WFP Corrosion Mitigation	17,278	17,278	0	Project completed.
033807	W-172.05	Patuxent WFP Phase II Expansion	65,135	62,961	2,174	Project completion expected in FY'19.
		<b>TOTALS</b>	\$65,135	\$62,961	\$2,174	

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## Section 4 - Bi-County Sewer Projects

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**FINANCIAL SUMMARY**

(ALL FIGURES IN THOUSANDS)

**BI-COUNTY SEWER PROJECTS**

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	247,693	0	17,471	125,793	22,831	23,621	19,984	15,432	19,886	24,039	104,429	4-3
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	41,472	0	7,890	32,969	10,164	10,809	8,708	2,156	726	406	613	4-4
S-22.09	Blue Plains WWTP: Plant-wide Projects	117,624	0	8,206	89,324	10,487	20,379	20,438	17,999	10,505	9,516	20,094	4-5
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	394,543	356,289	8,345	12,979	1,507	1,209	884	1,517	1,502	6,360	16,930	4-6
S-22.11	Blue Plains: Pipelines & Appurtenances	152,284	0	23,393	107,131	17,117	18,083	26,145	18,684	16,809	10,293	21,760	4-7
S-103.02	Piscataway WRRF Bio-Energy Project	261,993	11,030	30,188	220,775	58,118	67,988	64,040	20,286	10,343	0	0	4-8
S-170.08	Septage Discharge Facility Planning & Implementation	32,455	5,175	1,364	25,916	12,276	12,276	1,364	0	0	0	0	4-10
S-170.09	Trunk Sewer Reconstruction Program	371,635	0	74,857	296,778	75,326	77,636	45,140	31,925	32,882	33,869	0	4-11
S-203.00	Land & Rights-Of-Way Acquisition - Bi-County Sewer	375	0	50	325	50	215	15	15	15	15	0	4-12
<b>TOTALS</b>		1,620,074	372,494	171,764	911,990	207,876	232,216	186,718	108,014	92,668	84,498	163,826	

BLUE PLAINS WASTEWATER TREATMENT PLANT PROJECTS  
(costs in thousands)

AGENCY NUMBER	PROJECT NAME	ADOPTED FY'19 TOTAL COST	PROPOSED FY'20 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	\$192,823	\$247,693	\$54,870	28.5%	\$125,793	On-Going
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	40,688	41,472	784	1.9%	32,969	On-Going
S-22.09	Blue Plains WWTP: Plant-wide Projects	110,265	117,624	7,359	6.7%	89,324	On-Going
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	404,480	394,543	(9,937)	-2.5%	12,979	On-Going
S-22.11	Blue Plains: Pipelines & Appurtenances	147,842	152,284	4,442	3.0%	107,131	On-Going
	TOTALS	\$896,098	\$953,616	\$57,518	6.4%	\$368,196	

Summary: These five projects, with an estimated total cost of \$953.6 million, provide funding for the upgrade, expansion, and enhancement of wastewater treatment and solids handling facilities at the Regional Blue Plains Wastewater Treatment Plant, located in the District of Columbia. Whereas typical WSSC projects encompass planning, design, construction, and start-up for a single project, with defined starting and ending dates, the Blue Plains projects are comprised of many sub-projects and are **"open-ended."** As the Blue Plains Facility Plans move forward and new sub-projects are approved, the costs of these new sub-projects are added to the appropriate existing Blue Plains project. The **expenditures displayed represent the WSSC's calculated share.** There are four main funding divisions: liquid treatment train (S-22.06); biosolids management (S-22.07); plant-wide projects (S-22.09); and, pipelines & appurtenances (S-22.11). Project S-22.10 Enhanced Nutrient Removal (ENR) will achieve nutrient removal levels surpassing Biological Nutrient Removal (BNR) as determined in the Tributary Strategy process of 2005 in order to meet Chesapeake Bay water quality targets.

Cost Impact: These five Blue Plains projects, which comprise one of the largest groups of expenditures in the CIP, represent 19% of the Six-Year WSSC CIP program. The figures shown above are derived from the latest available spending projections provided by the District of Columbia Water and Sewer Authority (DCWASA). Spending at the DCWASA staff-proposed rate in future years may challenge **the WSSC's ability to stay within County-established spending affordability limits.** It is, therefore, recommended that the **coordination of development and approval of the DCWASA's and WSSC's CIPs be sustained in order that the economic development and environmental objectives of the region be met, without causing a rapid increase in WSSC customers' bills.** An explanation of the cost changes for each project is included on the individual project description forms that immediately follow this summary page.

Blue Plains WWTP: Liquid Train Projects, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.06	954811	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30;
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	48,642		3,398	28,835	2,294	3,926	4,843	3,863	7,151	6,758	16,409
Land											
Site Improvements & Utilities											
Construction	196,598		13,900	95,712	20,311	19,461	14,943	11,416	12,538	17,043	86,986
Other	2,453		173	1,246	226	234	198	153	197	238	1,034
Total	247,693		17,471	125,793	22,831	23,621	19,984	15,432	19,886	24,039	104,429

C. Funding Schedule (000's)

WSSC Bonds	234,095		16,512	118,887	21,578	22,324	18,887	14,585	18,794	22,719	98,696
City of Rockville	13,598		959	6,906	1,253	1,297	1,097	847	1,092	1,320	5,733

D. Description & Justification

<b>DESCRIPTION</b> This project provides funding for WSSC's share of Blue Plains liquid train projects for which construction began after June 30, 1993. Major projects include: Filtration/Disinfection Facilities Phases I & II, upgrading influent screening, and upgrading effluent filters.
<b>JUSTIFICATION</b> This is a continuation of the DCWASA's upgrading of the Blue Plains Wastewater Treatment Plant. The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); Blue Plains Facilities Master Plan (2016), and the DCWASA Approved FY 2019 Capital Improvements Program.
<b>COST CHANGE</b> Costs beyond six years were increased for renewal and replacement of components expected to have reached the end of their useful life, including mechanical treatment components and some structural rebuilds of tanks and filters.
<b>OTHER</b> The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast of spending and DCWASA's latest project management data, and fully reflect DCWASA's current cost estimates and expenditure schedules. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost. Life to date expenditures for this program are approximately \$381 million.
<b>COORDINATION</b> Coordinating Agencies: District of Columbia Water and Sewer Authority; (responsible for design and construction); City of Rockville; (responsible for a share of funding) Coordinating Projects: S-22.10-Blue Plains WWTP: Enhanced Nutrient Removal;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$15,228	
Total Cost	\$15,228	
Impact on Water and Sewer Rate	\$0.35	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	
Cost Estimate Last FY	192,823
Present Cost Estimate	247,693
Approved Request Last FY	17,471
Total Expense & Encumbrances	
Approval Request Year 1	22,831

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	169.6 / 370 MGD

H. Map

MAP NOT AVAILABLE
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Blue Plains WWTP: Biosolids Management, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.07	954812	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30;
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	7,331		814	5,910	1,498	1,638	1,292	610	470	402	607
Land											
Site Improvements & Utilities											
Construction	33,731		6,998	26,733	8,565	9,064	7,330	1,525	249		
Other	410		78	326	101	107	86	21	7	4	6
Total	41,472		7,890	32,969	10,164	10,809	8,708	2,156	726	406	613

C. Funding Schedule (000's)

WSSC Bonds	39,196		7,457	31,160	9,606	10,216	8,230	2,038	686	384	579
City of Rockville	2,276		433	1,809	558	593	478	118	40	22	34

D. Description & Justification

<b>DESCRIPTION</b> <p>This project provides funding for WSSC's share of the Blue Plains biosolids handling projects for which construction began after June 30, 1993. Major projects include: Gravity Thickener Facility upgrades; and Solids Processing Building/Dewatered Sludge Loading Facility.</p>
<b>JUSTIFICATION</b> <p>This project is needed to implement a set of facilities which will provide a permanent biosolids management program for Blue Plains.</p> <p>The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); EPMC IV Facility Plan, CH2MHILL (2001); the Biosolids Management at DCWASA Blue Plains Wastewater Treatment Plant Phase II - Design and Cost Considerations for Treatment Alternatives Report (December 2007); Blue Plains Facilities Master Plan (2016); and the DCWASA Approved FY 2019 Capital Improvement Program.</p>
<b>COST CHANGE</b> <p>Not applicable.</p>
<b>OTHER</b> <p>The project scope has remained the same. Project costs are derived from the DCWASA Capital &amp; Operating Budget 10-year forecast of spending and DCWASA's latest project management data, and fully reflect DCWASA's current cost estimates and expenditure schedules. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. Portions of the program have been financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. The funding schedule also indicates the calculated Rockville share of the cost. Life to date expenditures for this program are approximately \$416 million.</p>
<b>COORDINATION</b> <p>Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction)</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,550	
Total Cost	\$2,550	
Impact on Water and Sewer Rate	\$0.06	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	
Cost Estimate Last FY	40,688
Present Cost Estimate	41,472
Approved Request Last FY	7,890
Total Expense & Encumbrances	
Approval Request Year 1	10,164

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	169.6 / 370 MGD

H. Map

MAP NOT AVAILABLE
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Blue Plains WWTP: Plant-wide Projects

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.09	023805	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30;
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	26,840		2,327	22,131	2,558	5,763	5,056	4,491	2,549	1,714	2,382
Land											
Site Improvements & Utilities											
Construction	89,620		5,798	66,309	7,825	14,414	15,180	13,330	7,852	7,708	17,513
Other	1,164		81	884	104	202	202	178	104	94	199
Total	117,624		8,206	89,324	10,487	20,379	20,438	17,999	10,505	9,516	20,094

C. Funding Schedule (000's)

WSSC Bonds	111,167		7,756	84,420	9,911	19,260	19,316	17,011	9,928	8,994	18,991
City of Rockville	6,457		450	4,904	576	1,119	1,122	988	577	522	1,103

D. Description & Justification

<b>DESCRIPTION</b> This project provides funding for WSSC's share of Blue Plains plant-wide projects for which construction began after June 30, 1993. Major projects include: Electrical system upgrades, Floodwall construction, Lighting upgrades, Chemical system upgrades, Process Computer Control system, and Miscellaneous projects.
<b>JUSTIFICATION</b> This is a continuation of the DCWASA's upgrading of the Blue Plains Wastewater Treatment Plant. The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); Blue Plains Facilities Master Plan (2016), and the DCWASA Approved FY 2019 Capital Improvement Program.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast and latest project management data, and reflect DCWASA's current expenditure estimates and schedules. Given the open-ended nature of the project, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost. Life to date expenditures for this program are approximately \$217 million.
<b>COORDINATION</b> Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction) Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$7,232	
Total Cost	\$7,232	
Impact on Water and Sewer Rate	\$0.17	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 02
Initial Cost Estimate	
Cost Estimate Last FY	110,265
Present Cost Estimate	117,624
Approved Request Last FY	8,206
Total Expense & Encumbrances	
Approval Request Year 1	10,487

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	169.6 / 370 MGD

H. Map

MAP NOT AVAILABLE
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Blue Plains WWTP: Enhanced Nutrient Removal

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.10	083800	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30;
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	104,214	89,072	5,224	6,956	942	846	747	1,496	1,474	1,451	2,962
Land											
Site Improvements & Utilities											
Construction	289,949	267,217	3,038	5,894	550	351	128	6	13	4,846	13,800
Other	380		83	129	15	12	9	15	15	63	168
Total	394,543	356,289	8,345	12,979	1,507	1,209	884	1,517	1,502	6,360	16,930

C. Funding Schedule (000's)

WSSC Bonds	173,123	144,032	3,991	9,388	677	349	307	1,199	1,113	5,743	15,712
State Aid	213,184	205,712	4,122	3,045	791	840	559	248	324	283	305
City of Rockville	8,236	6,545	232	546	39	20	18	70	65	334	913

D. Description & Justification

<b>DESCRIPTION</b> <p>This project provides funding for WSSC's share of the Blue Plains Enhanced Nutrient Removal (ENR) projects required to achieve nutrient removal to levels below Biological Nutrient Removal (BNR) levels to meet the Chesapeake Bay water quality targets determined in the 2005 Tributary Strategies Process and DC Water's 2010 NPDES permit. Major projects include: Enhanced Nitrogen Removal North, Enhanced Clarification Facilities, Enhanced Nitrogen Removal Facilities, Biosolids Filtrate Treatment Facilities, Combined Heat &amp; Power as Back-up Power, Biosolids Blending Development Center, ENR Program Management, Wet Weather Mitigation, Diversion at Bolling, a portion of the Blue Plains Tunnel, and the Tunnel Dewatering Pump Station (used as flow equalization to aid nutrient removal at Blue Plains).</p>
<b>JUSTIFICATION</b> <p>The funding schedule reflects the final cost sharing agreement with the Maryland Department of the Environment.</p> <p>Chesapeake Bay Program Tributary Strategies Process (2005); Blue Plains Strategic Process Study, Metcalf &amp; Eddy (2005); Selection of the Enhanced Nitrogen Removal Process Alternative for the Blue Plains Advanced Wastewater Treatment Facility, Metcalf &amp; Eddy (2009); Blue Plains Facilities Master Plan (2016); DCWASA Approved FY 2019 Capital Improvement Program, and the Blue Plains Intermunicipal Agreement of 2012.</p>
<b>COST CHANGE</b> <p>ENR upgrades are substantially complete. Future upgrades are planned for secondary treatment to provide full nitrification under future flow conditions.</p>
<b>OTHER</b> <p>The project scope has remained the same. Project costs are derived from the DCWASA Capital &amp; Operating Budget 10-year forecast and latest project management data, and reflect DCWASA's current expenditure estimates and schedules. Total Nitrogen Secondary Treatment Upgrades are scheduled to be initiated in FY23 or later. Projects extending beyond those supported by State Aid include rehabilitation and upgrades to older projects. Portions of the program have been financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. The funding schedule also indicates the calculated Rockville share of the cost.</p>
<b>COORDINATION</b> <p>Coordinating Agencies: Maryland Department of the Environment; U.S. Environmental Protection Agency, Region III; District of Columbia Water and Sewer Authority; (responsible for design and construction); City of Rockville; (responsible for a share of funding)</p> <p>Coordinating Projects: S-22.06-Blue Plains WWTP: Liquid Train Projects, Part 2;</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$11,262	
Total Cost	\$11,262	
Impact on Water and Sewer Rate	\$0.26	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 07
Initial Cost Estimate	648
Cost Estimate Last FY	404,480
Present Cost Estimate	394,543
Approved Request Last FY	8,345
Total Expense & Encumbrances	356,289
Approval Request Year 1	1,507

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	96%
Est Completion Date	FY 2026

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	169.2 / 370 MGD

H. Map

MAP NOT AVAILABLE
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Blue Plains: Pipelines & Appurtenances

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.11	113804	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30;
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	24,380		3,833	19,194	3,644	4,403	4,442	3,354	1,925	1,426	1,353
Land											
Site Improvements & Utilities											
Construction	126,397		19,328	86,877	13,304	13,501	21,444	15,145	14,718	8,765	20,192
Other	1,507		232	1,060	169	179	259	185	166	102	215
Total	152,284		23,393	107,131	17,117	18,083	26,145	18,684	16,809	10,293	21,760

C. Funding Schedule (000's)

WSSC Bonds	144,693		22,573	102,545	16,708	17,631	25,446	17,663	15,602	9,495	19,575
City of Rockville	7,591		820	4,586	409	452	699	1,021	1,207	798	2,185

D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides funding for WSSC's share of Blue Plains-associated projects which are "outside the fence" of the treatment plant. Major projects include: Potomac Interceptor Rehabilitation; Upper Potomac Interceptor; Potomac Sewage Pumping Station Rehabilitation; Main Sewage Pumping Station intermediate repairs; Renovations to the central operations facility; Rehabilitation of the Anacostia and Potomac force mains; Influent Sewers Rehabilitation; and projects associated with the Combined Sewer Overflow (CSO) Long Term Control Plan (Clean Rivers Program) (Anacostia and Potomac Tunnels).</p> <p><b>JUSTIFICATION</b></p> <p>This is a continuation of DCWASA's upgrading of the Blue Plains-associated projects outside the fence.</p> <p>The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); Technical Memorandum No. 1, Multi-Jurisdictional Use Facilities Capital Cost Allocation, (June 2013); and the DCWASA Approved FY 2019 Capital Improvement Program.</p> <p><b>COST CHANGE</b></p> <p>Not Applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Project costs are derived from the DC-WASA Capital &amp; Operating Budget 10-year forecast and project management data, and reflect WASA's expenditure estimates and schedules. Given the open-ended nature of the project, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost which varies by project based on the City's relative share of WSSC's flow as derived in the Multijurisdiction Use Facilities Study. Life to date expenditures for this program are approximately \$164 million.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction)</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$9,412	
Total Cost	\$9,412	
Impact on Water and Sewer Rate	\$0.22	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 02
Initial Cost Estimate	
Cost Estimate Last FY	147,842
Present Cost Estimate	152,284
Approved Request Last FY	23,393
Total Expense & Encumbrances	
Approval Request Year 1	17,117

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

Growth	
System Improvement	45%
Environmental Regulation	55%
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE
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Piscataway WRRF Bio-Energy Project

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-103.02	153802	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	42,290	11,030	4,950	26,310	9,150	9,250	5,540	1,420	950		
Land											
Site Improvements & Utilities											
Construction	207,750		23,800	183,950	46,200	55,500	55,450	17,900	8,900		
Other	11,953		1,438	10,515	2,768	3,238	3,050	966	493		
Total	261,993	11,030	30,188	220,775	58,118	67,988	64,040	20,286	10,343		

C. Funding Schedule (000's)

WSSC Bonds	257,923	10,460	29,688	217,775	56,618	66,488	64,040	20,286	10,343		
Federal Aid	570	570									
State Aid	3,500		500	3,000	1,500	1,500					

D. Description & Justification

**DESCRIPTION**

This project will develop a comprehensive program for the engineering, design, construction, maintenance, and monitoring and verification necessary to add sustainable energy equipment and systems to produce biogas and electricity at Piscataway WRRF. It will provide a reduction in operations, maintenance, chemicals, biosolids transportation, and biosolids disposal costs. It will also enhance existing operating conditions and reliability while continuing to meet all permit requirements, and ensure a continued commitment to environmental stewardship at WSSC sites. The scope of work includes, but is not limited to, the addition of anaerobic digestion equipment; thermal hydrolysis pretreatment equipment; gas cleaning, storage and upgrade systems; tanks; piping; valves; pumps; biosolids pre- and post dewatering; cake receiving and blending; cake storage; effluent disinfection systems; instrumentation; flow metering; power measurement; and combined heat and power generation systems.

JUSTIFICATION

In March 2009, the WSSC received approval for a federal Department of Energy grant of \$570,900 for the feasibility study/conceptual design phase. On June 16, 2010, the WSSC awarded the study contract to AECOM Technical Services, Inc., of Laurel, Maryland. The study was completed in December 2011, and the Thermal Hydrolysis/Mesophilic Anaerobic Digestion/Combined Heat & Power facility was recommended to be constructed and was presented to the Commission in April 2012.

The EPA is urging wastewater utilities to utilize this commercially available technology (anaerobic digestion) to produce power at a cost below retail electricity, displace purchased fuels for thermal needs, produce renewable fuel for green power programs, enhance power reliability for the wastewater treatment plant to prevent sanitary sewer overflows, reduce biosolids production and improve the health of the Chesapeake Bay, and to reduce greenhouse gas (GHG) and other air pollutants. In April 2009, the EPA announced that greenhouse gases contributed to air pollution that may endanger public health or welfare, and began proceedings to regulate CO2 under the Clean Air Act. In June 2014, the EPA announced a proposed rule to reduce carbon emissions from power plants by 30% by 2030, compared to the levels in 2005. Based on AECOM's feasibility study work as of May 2011, a regional/centralized plant at a location to be determined based on a Thermal Hydrolysis/Mesophilic Anaerobic Digestion/Combined Heat & Power (TH/MAD/CHP) process supplemented by restaurant grease fuel design was recommended.

The environmental benefits are estimated as follows: Recover approximately 2 MW of renewable energy from wastewater biomass; reduce Greenhouse 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; produce pathogen-free Class A Biosolids.

The economic benefits are estimated as follows: Recover more than \$1.5 million of renewable energy costs/year; reduce biosolids disposal costs by ~ \$1.7 million/year; reduce chemical costs by ~ \$500,000/year; hedge against rising costs of power fuel and chemicals; provide a net payback over time.

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$16,778	25
Total Cost	\$16,778	25
Impact on Water and Sewer Rate	\$0.38	25

F. Approval and Expenditure Data (000's)

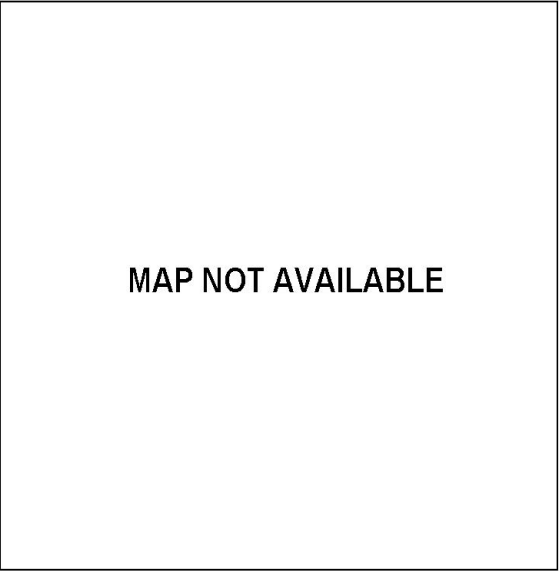
Date First in Program	FY 15
Date First Approved	FY 10
Initial Cost Estimate	345
Cost Estimate Last FY	248,677
Present Cost Estimate	261,993
Approved Request Last FY	40,310
Total Expense & Encumbrances	11,030
Approval Request Year 1	58,118

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	12%
Est Completion Date	August 2023

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



**Piscataway WRRF Bio-Energy Project**

Plans & Studies: Appel Consultants, Urban Waste Grease Resource Assessment-NREL (November 1998); Environmental Protection Agency (EPA), Opportunities For and Benefits Of Combined Heat and Power at Wastewater Treatment Facilities (December 2006); Brown & Caldwell, Anaerobic Digestion and Electric Generation Options for WSSC (November 2007); Metcalf & Eddy, WSSC Sludge Digestion Study for Piscataway and Seneca (December 2007); Black & Veatch, WSSC Digester Scope and Analysis (December 2007); JMT, Prince George's County Septage (FOG) Discharge Facility Study (February 2008); JMT, Western Research Institute (WRI) Biogas Feasibility Study Scope of Work - WSSC (April 2008); JMT, Montgomery County Septage (FOG) Discharge Facility Study (January 2010); Facility Plan for the Rock Creek Wastewater Treatment Plant (January 2010); AECOM Technical Services, Inc., Anaerobic Digestion/Combined Heat & Power Study (December 2011, Executive Summary Revised May 2013). HDR Inc. Design Development Report (March 2017). HDR Inc. Design Criteria Report (July 2017).

**COST CHANGE**

Cost increased to reflect recent market trends in construction industry escalations for costs of labor, steel, diesel, miscellaneous metals, concrete, electrical and process equipment, and other materials.

**OTHER**

The project scope has remained the same. The Commission has a defined scope and estimated capital cost, and is able to proceed with the detailed design and construction of the anerobic digestion, biomass, and combined heat and power generation system facilities for treating all biosolids from WSSC's Damascus, Seneca, Parkway, Western Branch and Piscataway WRRFs. The Montgomery and Prince George's County Councils were briefed and approved the project by resolution on November 25, 2014, and September 9, 2014, respectively. In April 2017 the Maryland Energy Administration notified WSSC of approval of grant funding up to \$500,000. In June 2017 WSSC was approved for a \$3 million grant through the Maryland Department of the Environment's Energy Water Infrastructure Program (EWIP). WSSC has also applied for grants from the local power utility. WSSC will continue to apply for other available funding sources. The Commission retained the following consulting services: in 2015 - Hawkins, Delafield and Wood - procurement; Raftelis Financial Consultants - financial; in 2016 - HDR Inc for program management and construction management for the Bio-Energy project. In Sept 2017 WSSC issued a Request For Proposals (RFP) to two design--build entities for a progressive design-build delivery of the Bio-Energy Project. Transporting of biosolids from Western Branch WRRF to Piscataway was included in FY2019 program update. A portion of this project will be financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program.

**COORDINATION**

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Chesapeake Bay Critical Areas; Maryland Energy Administration Washington Gas Light Company; SMECO  
Coordinating Projects: S-96.14-Piscataway WRRF Facility Upgrades; S-170.08-Septage Discharge Facility Planning & Implementation;

Septage Discharge Facility Planning & Implementation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-170.08	103802	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	4,640	3,840	40	760	360	360	40				
Land											
Site Improvements & Utilities											
Construction	25,335	1,335	1,200	22,800	10,800	10,800	1,200				
Other	2,480		124	2,356	1,116	1,116	124				
Total	32,455	5,175	1,364	25,916	12,276	12,276	1,364				

C. Funding Schedule (000's)

WSSC Bonds	32,455	5,175	1,364	25,916	12,276	12,276	1,364				
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of a new Septage and Fats, Oils, Grease (FOG) discharge facility at the abandoned Rock Creek WRRF, and new Septage discharge facilities at Anacostia WWPS No 2 and Piscataway WRRF.
<b>JUSTIFICATION</b> Currently septage waste is collected at three locations: Muddy Branch Road Disposal Site in Montgomery County, and Ritchie Road Disposal Site and Bladensburg Disposal Site in Prince George's County (the Temple Hills Road site was closed down on July 1, 2015). The types of waste collected are as follows: Septic Tank Pump-Out (Sludge), Waste Holding Tank Discharge (Gray Water); Grease Trap Pump Out (FOG), Bus Holding Tank Discharge (Sewage and Chemicals), and Small Food Service Providers (Low Volume FOG Waste). FOG wastes should not be discharged to the Commission's sewerage system without treatment. Septage Discharge Facility Study for Montgomery County: Final Report, JMT (July 2012); Septage Discharge Facility Study for Prince George's County: Final Report, JMT (July 2012).
<b>COST CHANGE</b> The estimated construction cost of the three facilities has increased slightly based upon a more refined cost estimate for the Piscataway Septage Facility.
<b>OTHER</b> The project scope has remained the same. The design of the Rock Creek and Anacostia sites are 100% complete. The design of the Piscataway site is 30% complete. The expenditures and schedule projections shown in Block B are estimates at the current design stages at each site, and may change based upon actual bid. The design and construction of the FOG Discharge Facility at the Piscataway WRRF has been moved to the Piscataway WRRF Bio-Energy Project.
<b>COORDINATION</b> Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral) Montgomery County Department of Environmental Protection; Maryland Department of Natural Resources; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; Coordinating Projects: S-103.02-Piscataway WRRF Bio-Energy Project;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,111	23
Total Cost	\$2,111	23
Impact on Water and Sewer Rate	\$0.05	23

F. Approval and Expenditure Data (000's)

Date First in Program	FY 10
Date First Approved	FY 10
Initial Cost Estimate	10,835
Cost Estimate Last FY	30,494
Present Cost Estimate	32,455
Approved Request Last FY	5,229
Total Expense & Encumbrances	5,175
Approval Request Year 1	12,276

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	70%
Est Completion Date	FY 2022

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Trunk Sewer Reconstruction Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-170.09	113805	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30;
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	89,401		17,171	72,230	14,921	15,869	12,058	9,506	9,791	10,085	
Land											
Site Improvements & Utilities											
Construction	248,670		50,750	197,920	54,372	55,553	28,568	19,227	19,803	20,397	
Other	33,564		6,936	26,628	6,033	6,214	4,514	3,192	3,288	3,387	
Total	371,635		74,857	296,778	75,326	77,636	45,140	31,925	32,882	33,869	

C. Funding Schedule (000's)

WSSC Bonds	371,635		74,857	296,778	75,326	77,636	45,140	31,925	32,882	33,869	
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D. Description & Justification

**DESCRIPTION**

The Trunk Sewer Reconstruction Program provides for the inspection, evaluation, planning, design, and construction required for the rehabilitation of sewer mains and their associated manholes in environmentally sensitive areas (ESA). This includes both trunk sewers 15-inches in diameter and greater, along with associated smaller diameter pipe less than 15-inches in diameter. The smaller diameter pipe is included due to its location within the ESA. The Program also includes planning, design and construction for the prioritized replacement of force mains.

**JUSTIFICATION**

Under the terms of the Consent Decree the WSSC Trunk Sewer Inspection Program inspected all required sewers in 21 basins by December 2010 and completed Sewer System Evaluation Surveys (SSES) for 9 basins. WSSC shall conduct rainfall, groundwater and flow monitoring to determine Inflow/Infiltration (I/I) rates and identify areas of limited capacity through collection system modeling. Where appropriate, WSSC shall use additional means to identify sources of I/I, including CCTV, smoke and/or dye testing. All the Trunk Sewer Inspections, SSES work and other related collection system evaluations are complete. Due to the delay in receiving permits, as well as Right-of-Entry permissions and subcontractor availability, trunk sewer reconstruction work has been delayed. All USACE and MDE permits have been received. WSSC Sanitary Sewer Overflow Consent Decree (December 7, 2005). Second Amendment to WSSC Sanitary Sewer Overflow Consent Decree (December 4, 2015)

COST CHANGE

Program costs reflect the latest expenditure and schedule estimates.

OTHER

The project scope has remained the same. Reconstruction work will include: reduction of I/I; replacement of substandard sewer segments; in situ lining of sewer segments; pipeline and manhole protection; rebuilding of manholes; and correction of structural defects and poor alignment. The reconstruction work in each sewer basin will be prioritized to most effectively prevent Sanitary Sewer Overflows (SSO) and backups. A Second Amendment to the Consent Decree extending WSSC's deadline to FY 2022 was agreed to by the U.S. Environmental Protection Agency, U.S. Department of Justice, and Maryland Department of the Environment and was entered by the US District Court. All construction contracts for ESA work have been awarded and the approved amounts have been utilized in the current budget projections. As actual construction progresses the projections may be updated. Beginning in FY 2015, construction work increased in the ESAs as a majority of the work was released for construction. Most of the upfront costs are associated with the construction of access roads and by-pass pumping. After completion of a majority of the Priority 1 construction activities associated with the Consent Decree, Phase 2 work (Priority 2 & 3 plus any newly identified Priority 1) is programmed at roughly five miles per year beginning in FY 2023. Life to date expenditures for this program are approximately \$516 million. Land costs are included in WSSC Project S-203.00.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Maryland-National Capital Park & Planning Commission; National Park Service; Maryland Department of the Environment; Maryland Department of Natural Resources; (Critical Area Commission, FSD Approval Forest Conservation/Reforestation Rare, Threatened or Endangered Species) Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III; Maryland Historical Trust;

Coordinating Projects: S-1.01-Sewer Reconstruction Program;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$459	26
Other Project Costs		
Debt Service	\$24,175	26
Total Cost	\$24,634	26
Impact on Water and Sewer Rate	\$0.56	26

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	440,073
Present Cost Estimate	371,635
Approved Request Last FY	81,615
Total Expense & Encumbrances	
Approval Request Year 1	75,326

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Land & Rights-of-Way Acquisition - Bi-County Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-203.00	163800	Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision											
Land	375		50	325	50	215	15	15	15	15	
Site Improvements & Utilities											
Construction											
Other											
Total	375		50	325	50	215	15	15	15	15	

C. Funding Schedule (000's)

WSSC Bonds	315		50	265	50	155	15	15	15	15	
SDC	60			60		60					

D. Description & Justification

<b>DESCRIPTION</b> This PDF provides a consolidated estimate of funding for the acquisition of land and rights-of-way for sewer projects. Expenditures are programmed based upon anticipated schedules and are required for the completion of those specific projects. These costs do not include purchases which have already been completed.
<b>JUSTIFICATION</b> Consolidation of expenditures for land and rights-of-way acquisitions provides flexibility in expending funds in a specific fiscal year and permits the WSSC to respond to the uncertainty of project-specific implementation schedules. Other considerations include the accommodation of unpredictable delays which impact the timing of a planned purchase, unanticipated rights-of-way requirements due to minor alignment changes identified late in the design phase, and the need to assure the WSSC an equitable negotiation position by avoiding project-specific cost displays prior to contacting property owners.  Acquisition needs are determined by the WSSC and are based upon facility planning efforts, alignment studies, field surveys, realignments required by other agencies, or requirements identified within the Development Services Process.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. Expenditure and schedule projections shown in Block B are estimates only and may change based upon actual negotiations. When purchases are complete, the actual cost will be displayed in the expenditure schedule on the appropriate project.
<b>COORDINATION</b> Coordinating Agencies: Not Applicable Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$20	26
Total Cost	\$20	26
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 98
Date First Approved	FY 98
Initial Cost Estimate	
Cost Estimate Last FY	490
Present Cost Estimate	375
Approved Request Last FY	95
Total Expense & Encumbrances	
Approval Request Year 1	50

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	
Est Completion Date	Not Applicable
Growth	16%
System Improvement	84%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

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## Section 5 - Prince George's County Water Projects

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**FINANCIAL SUMMARY**

(ALL FIGURES IN THOUSANDS)

**PRINCE GEORGE'S COUNTY WATER PROJECTS**

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
W-12.02	Prince George's County HG415 Zone Water Main	3,718	433	1,079	2,206	2,136	70	0	0	0	0	0	5-2
W-34.02	Old Branch Avenue Water Main	23,930	2,698	166	21,066	6,766	8,634	5,666	0	0	0	0	5-3
W-34.03	Water Transmission Improvements 385B Pressure Zone	10,063	2,345	6,615	1,103	1,103	0	0	0	0	0	0	5-4
W-34.04	Branch Avenue Water Transmission Improvements	38,155	12,788	8,195	17,172	10,714	4,422	2,036	0	0	0	0	5-5
W-34.05	Marlboro Zone Reinforcement Main	4,302	461	851	2,990	2,990	0	0	0	0	0	0	5-6
W-62.05	Clinton Zone Water Storage Facility Implementation	17,126	3,721	5,677	413	413	0	0	0	0	0	7,315	5-7
W-65.10	St. Barnabas Elevated Tank Replacement	11,776	9,728	2,036	12	12	0	0	0	0	0	0	5-8
W-84.02	Ritchie Marlboro Road Transmission & PRV	6,877	3,302	3,550	25	25	0	0	0	0	0	0	5-9
W-84.03	Smith Home Farms Water Main	2,689	801	588	1,300	438	434	428	0	0	0	0	5-10
W-84.04	Westphalia Town Center Water Main	1,578	556	44	978	327	385	266	0	0	0	0	5-11
W-84.05	Prince George's County 450A Zone Water Main	79,578	1,700	568	60,487	643	8,604	12,810	12,810	12,810	12,810	16,823	5-12
W-93.01	Konterra Town Center East Water Main	2,107	53	0	2,054	714	814	526	0	0	0	0	5-13
W-105.01	Marlton Section 18 Water Main, Lake Marlton Avenue	2,657	29	1	2,627	417	443	443	440	442	442	0	5-14
W-111.05	Hillmeade Road Water Main	5,431	2,845	2,561	25	25	0	0	0	0	0	0	5-15
W-120.14	Timothy Branch Water Main	2,056	312	1,482	262	262	0	0	0	0	0	0	5-16
W-137.03	South Potomac Supply Improvement, Phase 2	66,759	939	1,512	64,308	651	411	21,096	21,075	21,075	0	0	5-17
	Projects Pending Close-Out	44,037	42,958	1,079	0	0	0	0	0	0	0	0	5-18
<b>TOTALS</b>		322,839	85,669	36,004	177,028	27,636	24,217	43,271	34,325	34,327	13,252	24,138	

Prince George's County HG415 Zone Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-12.02		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Patuxent HG415A; Montgomery High
Drainage Basins	
Planning Areas	Patuxent PA 15;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	446	433	9	4	3	1					
Land											
Site Improvements & Utilities											
Construction	2,843		929	1,914	1,854	60					
Other	429		141	288	279	9					
Total	3,718	433	1,079	2,206	2,136	70					

C. Funding Schedule (000's)

WSSC Bonds	3,718	433	1,079	2,206	2,136	70					
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of 1,500 feet of 24-inch diameter water main and new isolation valves, pressure relief valves with flow control capability, which will improve system reliability by improving the flexibility of the delivery system to the Montgomery County High Zone HG660, Main Zone HG495A and Patuxent Pressure Zone HG415A 30-inch and 42-inch diameter transmission mains leaving the Patuxent Plant.

**JUSTIFICATION**  
The new water main will provide a redundant feed to the Montgomery County High Zone HG660, Montgomery County Main Zone HG495 and Patuxent Pressure Zone HG415A from the Potomac Plant in the event the Patuxent Plant is out of service.  
BOA Contract No. PM0003A05, Task Order No. 12: Patuxent Pressure Zone HG415A Redundancy Study, Whitman, Requardt & Associates, LLP (February 2009); BOA Contract No. PM0019A08, Task Order No. 11, Patuxent Pressure Zone HG415A 24-inch Transmission Main, EBA Engineering (December 2011). PM0007A13, Task Order No. 14, Patuxent Pressure Zone HG415A 24-inch Transmission Main, EBA Engineering ( March 16, 2017).

COST CHANGE

Not applicable.

OTHER

The project scope remains the same. Expenditure and schedule projections shown in Block B above are preliminary design level estimates and may change depending on site-specific conditions and design constrains. Land costs are included in WSSC Project W-202.00.

COORDINATION

Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Baltimore Gas & Electric;  
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$54	22
Other Project Costs		
Debt Service	\$242	22
Total Cost	\$296	22
Impact on Water and Sewer Rate	\$0.01	22

F. Approval and Expenditure Data (000's)

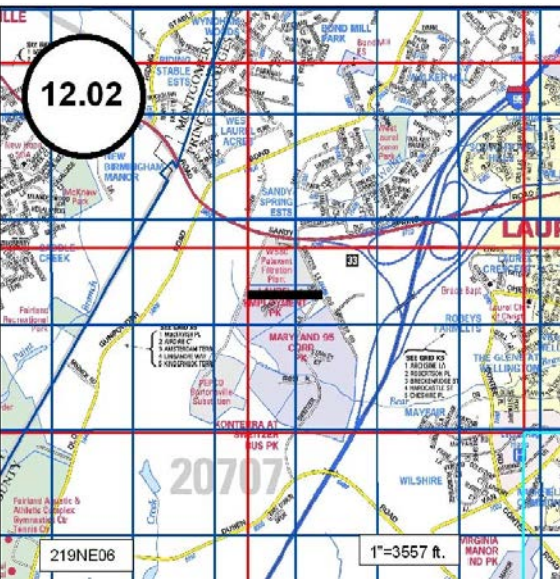
Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	1,074
Cost Estimate Last FY	3,644
Present Cost Estimate	3,718
Approved Request Last FY	2,077
Total Expense & Encumbrances	433
Approval Request Year 1	2,136

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	90%
Est Completion Date	FY 2021

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Old Branch Avenue Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.02		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	3,030	2,430	150	450	150	150	150				
Land	268	268									
Site Improvements & Utilities											
Construction	18,700			18,700	6,000	7,700	5,000				
Other	1,932		16	1,916	616	784	516				
Total	23,930	2,698	166	21,066	6,766	8,634	5,666				

C. Funding Schedule (000's)

WSSC Bonds	11,965	1,349	83	10,533	3,383	4,317	2,833				
SDC	11,965	1,349	83	10,533	3,383	4,317	2,833				

D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of approximately 16,000 feet of 30-inch diameter water main and a new flow control valve along Old Branch Avenue, from Allentown Road to Piscataway Road.
<b>JUSTIFICATION</b> This project will provide redundancy to a large area of Prince George's County, including the 85,000 customers in Clinton Pressure Zone HG385B and dependent zones. Service to these zones would be severely disrupted with the loss of the Marlboro Road Pressure Reducing Valves or associated piping. The WSSC attempts to provide for average day demands in the event of the loss of any one water system facility and this project will meet that goal for Clinton Pressure Zone HG385B and dependent zones. General Plan; M-NCP&PC Round 7.0 growth forecasts; WSSC Memorandum dated May 16, 2006.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. The expenditure and schedule projections as shown in Block B above are design level estimates and may change based upon the final engineer's estimate and actual bids. Five properties have been acquired.
<b>COORDINATION</b> Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Prince George's County Department of Permitting Inspection and Enforcement;  Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$414	23
Other Project Costs		
Debt Service	\$778	23
Total Cost	\$1,192	23
Impact on Water and Sewer Rate	\$0.02	23

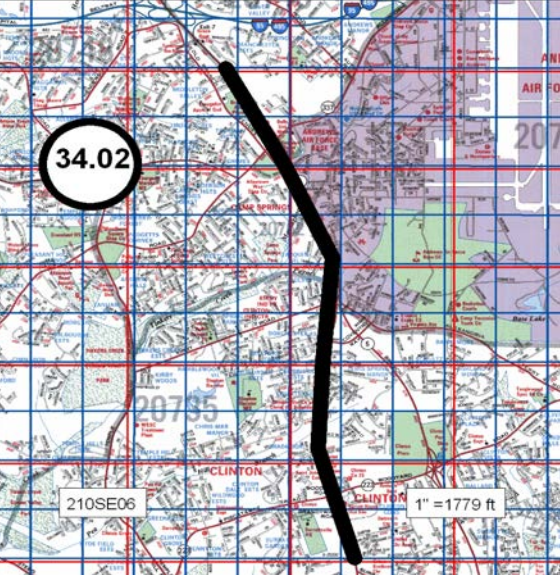
F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	10,350
Cost Estimate Last FY	24,240
Present Cost Estimate	23,930
Approved Request Last FY	6,820
Total Expense & Encumbrances	2,698
Approval Request Year 1	6,766

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	100%
Est Completion Date	FY 2022
Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Water Transmission Improvements 385B Pressure Zone

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.03		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	1,354	1,336	15	3	3						
Land	9	9									
Site Improvements & Utilities											
Construction	8,000	1,000	6,000	1,000	1,000						
Other	700		600	100	100						
Total	10,063	2,345	6,615	1,103	1,103						

C. Funding Schedule (000's)

SDC	10,063	2,345	6,615	1,103	1,103						
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of approximately 24,000 feet of 24-inch diameter water transmission main and a flow control valve along Accokeek Road that will improve system reliability through the HG385 and HG345 pressure zones.

**JUSTIFICATION**  
The existing transmission mains have been stressed by recent development in southern Prince George's County. In addition, head-loss due to increased water use is preventing the Accokeek elevated tank from operating as designed. A new water main will improve our transmission capacity to serve recent and future growth, and will also improve overall reliability for southern Prince George's County customers.  
Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).

COST CHANGE

Cost decreased based upon actual bid.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based on actual bid and may change as a result of unforeseen field change conditions. The design phase has been completed and the construction for the water transmission main is underway. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; (Major stakeholder as 3/4 of the proposed alignment would be on SHA ROW); Maryland-National Capital Park & Planning Commission; (MNCPPC Mandatory Referral Review Approval obtained on March 3, 2015). Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Prince George's County Government;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$622	21
Other Project Costs		
Debt Service		
Total Cost	\$622	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 12
Date First Approved	FY 12
Initial Cost Estimate	173
Cost Estimate Last FY	23,253
Present Cost Estimate	10,063
Approved Request Last FY	6,620
Total Expense & Encumbrances	2,345
Approval Request Year 1	1,103

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	10%
Est Completion Date	FY 2020

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map





Branch Avenue Water Transmission Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.04		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	3,131	2,610	450	71	40	20	11				
Land	244	244									
Site Improvements & Utilities											
Construction	32,474	9,934	7,000	15,540	9,700	4,000	1,840				
Other	2,306		745	1,561	974	402	185				
Total	38,155	12,788	8,195	17,172	10,714	4,422	2,036				

C. Funding Schedule (000's)

SDC	38,155	12,788	8,195	17,172	10,714	4,422	2,036				
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of approximately 21,800 feet of 42-inch diameter water transmission main and 5,400 feet of 30-inch diameter water transmission main along Branch Avenue and Surratts Road in the Clinton area.

**JUSTIFICATION**  
The new water main will serve as a primary feed for the new Brandywine (formerly Clinton South )Tank.  
Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).

**COST CHANGE**  
Total project cost decreased based on revised estimates for the new alignment for the final phase of the project.

**OTHER**  
The project scope has remained the same. Expenditure and schedule projections shown in Block B above are a mix of bid value, design and planning level estimates and are expected to change as design progresses. The project is split into four phases. The first phase is comprised of approximately 1,200 feet of 42-inch pipe along Surratts Road and has been constructed by Prince George's County as part of the County Surratts/Brandywine road widening project. The second phase is approximately 3,300 feet of 30-inch main along Branch Avenue and will be constructed by the Maryland State Highway Administration (SHA) under the SHA MD5/Brandywine interchange improvement project. The third phase is to construct approximately 12,800 feet of 42-inch pipe and 2,100 feet of 30-inch pipe along Branch Avenue. The last phase is to construct the remaining 7,798 feet of pipe along Surratts Rd and the north section to tie-in to the existing 30-inch pipe on Woodyard/Piscataway/ Road. Both Phases III (BL5273B11) and IV (BL5273F11) will be bid and constructed by WSSC. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC Project W-202.00.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Prince George's County Department of Public Works and Transportation; Prince George's County Department of Permitting Inspection and Enforcement;  
Coordinating Projects: W-62.05-Clinton Zone Water Storage Facility Implementation;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$704	23
Other Project Costs		
Debt Service		
Total Cost	\$704	23
Impact on Water and Sewer Rate	\$0.01	23

F. Approval and Expenditure Data (000's)

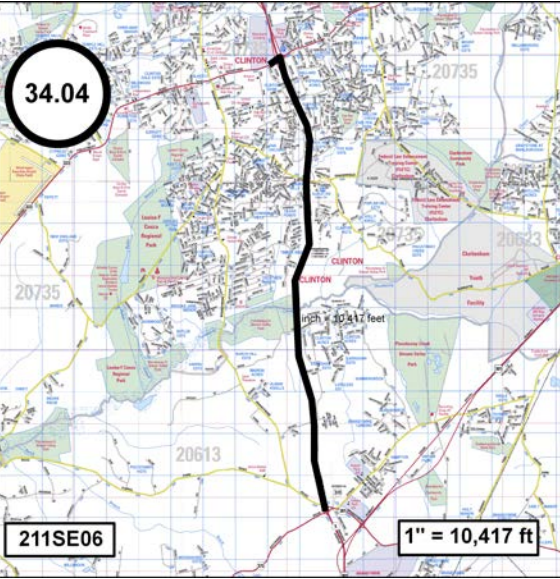
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	23,705
Cost Estimate Last FY	60,377
Present Cost Estimate	38,155
Approved Request Last FY	14,751
Total Expense & Encumbrances	12,788
Approval Request Year 1	10,714

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Construction
Percent Complete	50%
Est Completion Date	December 2021

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Marlboro Zone Reinforcement Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.05		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	748	458	140	150	150						
Land	3	3									
Site Improvements & Utilities											
Construction	3,050		600	2,450	2,450						
Other	501		111	390	390						
Total	4,302	461	851	2,990	2,990						

C. Funding Schedule (000's)

WSSC Bonds	4,302	461	851	2,990	2,990						
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D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of approximately 4,000 feet of 16-inch diameter water transmission main and a flow control valve along Old Marlboro Pike in the Clinton area.

JUSTIFICATION

This new water main will provide system reliability and redundancy by connecting the 385B and 280A pressure zones.

Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are preliminary design level estimates and are expected to change as design progresses.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Prince George's County Department of Environmental Resources; Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$104	21
Other Project Costs		
Debt Service	\$280	21
Total Cost	\$384	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

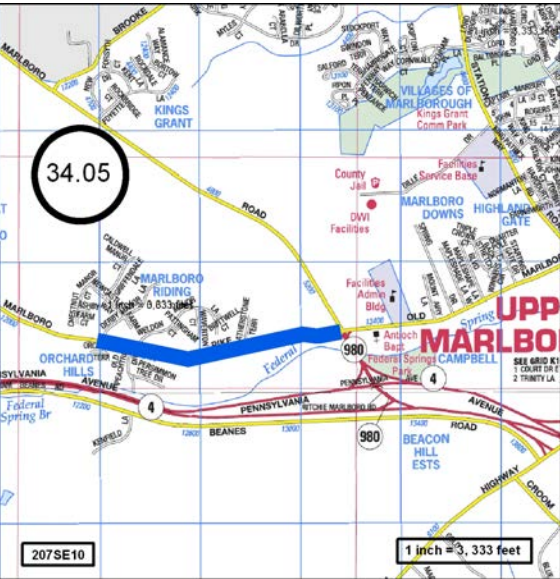
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	5,234
Cost Estimate Last FY	4,226
Present Cost Estimate	4,302
Approved Request Last FY	3,036
Total Expense & Encumbrances	461
Approval Request Year 1	2,990

G. Status Information

Land Status	R/W acquired
Project Phase	Design
Percent Complete	95%
Est Completion Date	FY 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Clinton Zone Water Storage Facility Implementation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-62.05		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,501	2,224	177	50	50						50
Land	287	287									
Site Improvements & Utilities											
Construction	13,119	1,210	4,984	325	325						6,600
Other	1,219		516	38	38						665
Total	17,126	3,721	5,677	413	413						7,315

C. Funding Schedule (000's)

SDC	17,126	3,721	5,677	413	413						7,315
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of approximately 4.0 million gallons (MG) of water storage to serve the Clinton area. The site selection phase of this project will include a Community Outreach Program. WSSC will construct a 2.0 MG water tank in the Brandywine area by FY'20. A future 2.0 MG water tank will be constructed in the Rosaryville area by FY'26 to meet the demands of the study area.
<b>JUSTIFICATION</b> Clinton Pressure Zone HG385B serves a large and growing area of Southern Prince George's County and currently has only one storage facility. Since storage facilities must be periodically removed from service for maintenance, having only one in a large zone creates operational problems. The Modeling and Master Plan Report indicates that there will be approximately 4.0 MG of storage deficit in Clinton Pressure Zone HG385B by the year 2040.  WSSC Memorandum dated May 9, 2005, from Timothy Hirrel, Unit Coordinator, to Craig Fricke, Planning Group Leader; 2006 Water Production Projections; 2005 Water Storage Volume Criteria; Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).
<b>COST CHANGE</b> Cost increase reflects actual bid.
<b>OTHER</b> The project scope has remained the same. Expenditure and schedule projections shown are based upon actual bid. Estimated costs allocated for 'Beyond 6 Years' is for the future 2.0 MG water tank, are planning level estimates, and are expected to change once the project moves to design. No WSSC rate supported debt will be used for this project.
<b>COORDINATION</b> Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; Federal Aviation Administration; Maryland Department of Natural Resources; Coordinating Projects: W-34.02-Old Branch Avenue Water Main; W-34.03-Water Transmission Improvements 385B Pressure Zone; W-34.04-Branch Avenue Water Transmission Improvements; W-34.05-Marlboro Zone Reinforcement Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	7,993
Cost Estimate Last FY	15,527
Present Cost Estimate	17,126
Approved Request Last FY	5,993
Total Expense & Encumbrances	3,721
Approval Request Year 1	413

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	25%
Est Completion Date	See Block D

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	4.0 MG

H. Map

MAP NOT APPLICABLE
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St. Barnabas Elevated Tank Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-65.10		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Prince George's High HG450A; Patuxent
Drainage Basins	
Planning Areas	Suitland-District Heights & Vicinity PA

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,772	2,642	119	11	11						
Land											
Site Improvements & Utilities											
Construction	8,819	7,086	1,733								
Other	185		184	1	1						
Total	11,776	9,728	2,036	12	12						

C. Funding Schedule (000's)

WSSC Bonds	5,888	4,864	1,018	6	6						
SDC	5,888	4,864	1,018	6	6						

D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of approximately 2.5 million gallons (MG) of water storage to serve Prince George's High Pressure Zone HG450A and the demolition of the existing St. Barnabas elevated water storage tank.
<b>JUSTIFICATION</b> This project is necessary to provide storage capacity and address water quality issues in Prince George's High Pressure Zone HG450A. Specifically, the existing St. Barnabas and Camp Springs elevated tanks have low overflow elevations that impact water quality in the zone. Prince George's County High Zone Storage Study, Hazen & Sawyer (June 2012).
<b>COST CHANGE</b> Cost has increased to reflect the cost of the original Prince George's County High Zone Storage Study, Hazen & Sawyer (June 2012).
<b>OTHER</b> The project scope has remained the same. Expenditure and schedule projections shown in Block B are based on actual bid and Change Orders. The Prince George's County High Zone Storage Study recommended moving forward with design and construction of a new tank on the existing St. Barnabas site. The new tank will replace the existing St. Barnabas elevated tank. The study also recommended pursuing acquisition of an additional site for long-term water storage needs. Expenditure shown in FY20 are for final warranty inspection and project close-out.
<b>COORDINATION</b> Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Federal Aviation Administration; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$383	21
Total Cost	\$383	21
Impact on Water and Sewer Rate	\$0.01	21

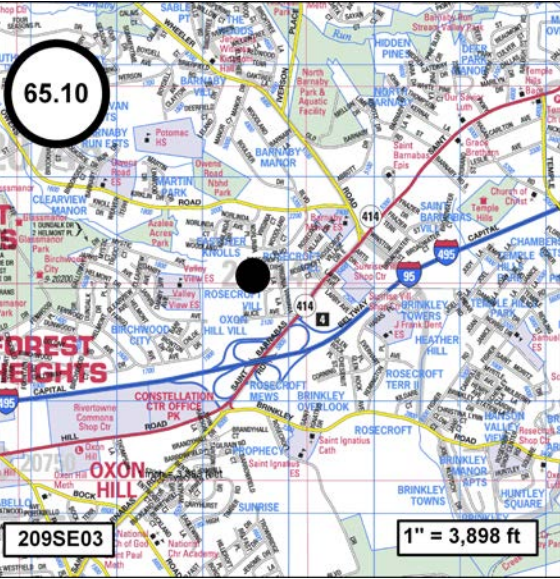
F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	7,274
Cost Estimate Last FY	10,784
Present Cost Estimate	11,776
Approved Request Last FY	422
Total Expense & Encumbrances	9,728
Approval Request Year 1	12

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	80%
Est Completion Date	November 2018
Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	2.5 MG

H. Map





Ritchie Marlboro Road Transmission Main & PRV

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.02		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Prince George's High HG450A; Southern
Drainage Basins	
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	1,802	1,700	100	2	2						
Land	2	2									
Site Improvements & Utilities											
Construction	4,620	1,600	3,000	20	20						
Other	453		450	3	3						
Total	6,877	3,302	3,550	25	25						

C. Funding Schedule (000's)

SDC	6,877	3,302	3,550	25	25						
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of approximately 13,100 feet of 24-inch diameter main and a pressure reducing valve (PRV) to serve the Westphalia area. The water main will be constructed along Ritchie Marlboro Road from south of Westphalia Road to the Beltway.

**JUSTIFICATION**

Prince George's County High Zone Water Main Alignment and Capacity Study, Chester Engineering (September 2012).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. Expenditure and schedule projections shown above are based upon actual bid. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Water Management Administration; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers;  
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$339	21
Other Project Costs		
Debt Service		
Total Cost	\$339	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

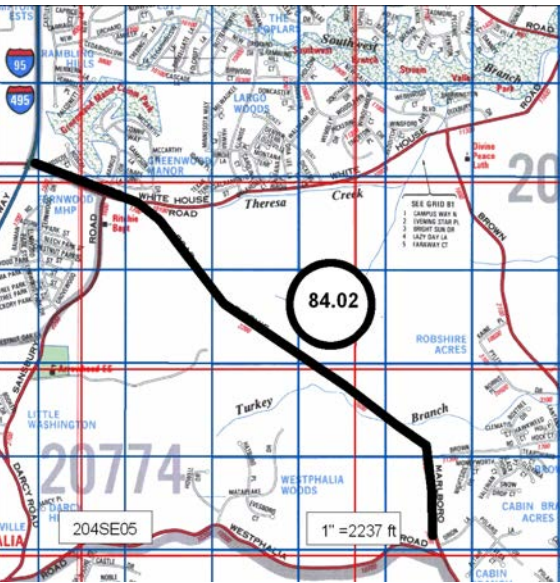
Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	2,496
Cost Estimate Last FY	6,867
Present Cost Estimate	6,877
Approved Request Last FY	1,760
Total Expense & Encumbrances	3,302
Approval Request Year 1	25

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	70%
Est Completion Date	March 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Smith Home Farms Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.03		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Southern 385B;
Drainage Basins	
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	440	158	90	192	66	64	62				
Land											
Site Improvements & Utilities											
Construction	2,002	643	421	938	315	313	310				
Other	247		77	170	57	57	56				
Total	2,689	801	588	1,300	438	434	428				

C. Funding Schedule (000's)

Contribution/Other	2,689	801	588	1,300	438	434	428				
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of 7,600 feet of 16-inch diameter water main to serve the Smith Home Farms Subdivision.</p> <p><b>JUSTIFICATION</b></p> <p>Smith Home Farm Subdivision Hydraulic Planning Analysis (Amended March 2015).</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland-National Capital Park &amp; Planning Commission; (Westphalia Sector Plan); Prince George's County Government;</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$197	23
Other Project Costs		
Debt Service		
Total Cost	\$197	23
Impact on Water and Sewer Rate		

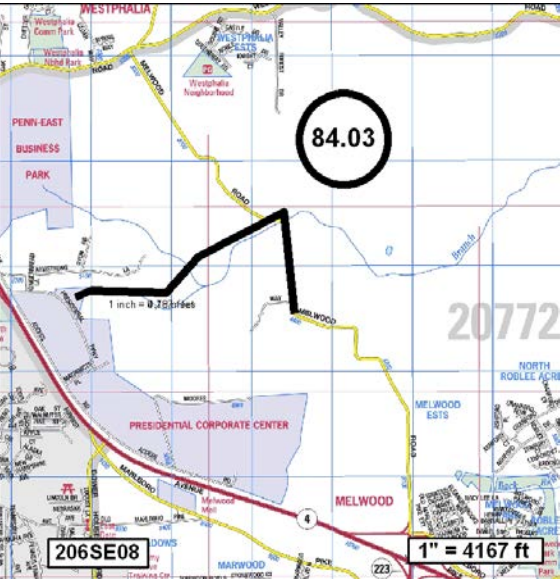
F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	1,600
Cost Estimate Last FY	2,603
Present Cost Estimate	2,689
Approved Request Last FY	414
Total Expense & Encumbrances	801
Approval Request Year 1	438

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	75%
	Developer Dependent
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Westphalia Town Center Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.04		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	197	23	38	136	64	47	25				
Land											
Site Improvements & Utilities											
Construction	1,247	533		714	220	288	206				
Other	134		6	128	43	50	35				
Total	1,578	556	44	978	327	385	266				

C. Funding Schedule (000's)

Contribution/Other	1,578	556	44	978	327	385	266				
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of 4,700 feet of 16-inch diameter water main to serve Westphalia Town Center and vicinity.

**JUSTIFICATION**  
Westphalia Town Center Hydraulic Planning Analysis (June 2009).

**COST CHANGE**  
Not applicable.

**OTHER**  
The project scope has remained the same. The expenditure and schedule projections shown in Block B above are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**  
Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government;  
Coordinating Projects: W-84.03-Smith Home Farms Water Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$122	23
Other Project Costs		
Debt Service		
Total Cost	\$122	23
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

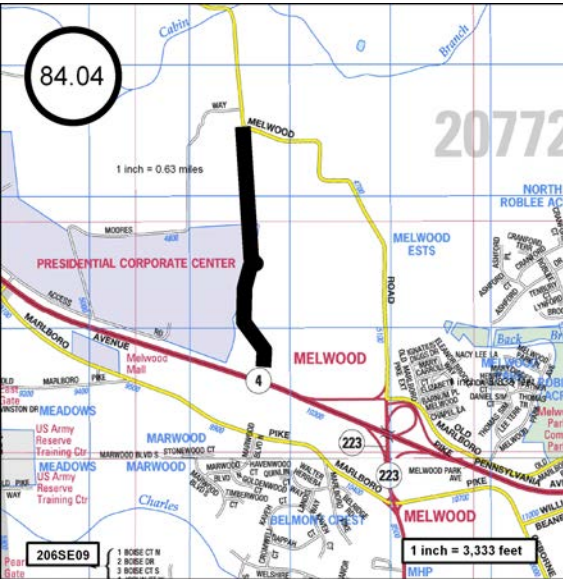
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	1,396
Cost Estimate Last FY	1,532
Present Cost Estimate	1,578
Approved Request Last FY	313
Total Expense & Encumbrances	556
Approval Request Year 1	327

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	40%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Prince George's County 450A Zone Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.05		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Prince George's High HG450A;
Drainage Basins	
Planning Areas	Prince George's County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	3,768	1,700	541	1,527	612	183	183	183	183	183	
Land											
Site Improvements & Utilities											
Construction	72,101			56,079		8,011	12,017	12,017	12,017	12,017	16,022
Other	3,709		27	2,881	31	410	610	610	610	610	801
Total	79,578	1,700	568	60,487	643	8,604	12,810	12,810	12,810	12,810	16,823

C. Funding Schedule (000's)

WSSC Bonds	79,578	1,700	568	60,487	643	8,604	12,810	12,810	12,810	12,810	16,823
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for a capacity and alignment study, design, and construction of approximately 3.8 miles of new 48-inch diameter redundant transmission main for Prince George's High Pressure Zone HG450A. Portions of the transmission main that currently serve the HG450A and HG290B Pressure Zones will be out of service almost every year to meet the goals of the PCCP inspection program. A redundant transmission main is required to continue to provide service to our customers while the existing transmission main is planned to be out of service and to provide service in case the existing main fails.
<b>JUSTIFICATION</b> When portions of the existing main are out of service, the remaining mains lack sufficient capacity and pumping against these restrictions can cause high pressure that may result in pipe failure. The new transmission main may parallel or replace existing mains as determined by modeling. The new main should be a minimum of 30-inch diameter and will start where the existing 54-inch diameter main inside the beltway connects to an existing 30-inch diameter main just north of Pennsylvania Ave. and tie in to the new 30-inch diameter main to be constructed under WSSC project W-34.02-Old Branch Avenue Water Main.
<b>COST CHANGE</b> Cost estimates were updated based upon the latest design information.
<b>OTHER</b> The project scope has remained the same. Expenditure and schedule projects shown above are preliminary design level estimates and are expected to change as the project moves through design. An alignment and capacity study has been performed and final alignment and pipeline diameter has been selected. Land costs are included in WSSC Project W-202.00.
<b>COORDINATION</b> Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Prince George's County Department of Permitting Inspection and Enforcement; Maryland Department of Natural Resources; Prince George's County Department of Public Works and Transportation; National Park Service; Maryland Historical Trust; U.S. Army Corps of Engineers; (Joint Base Andrews military base) Washington Metropolitan Area Transit Authority; Coordinating Projects: W-34.02-Old Branch Avenue Water Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$547	
Other Project Costs		
Debt Service	\$5,177	
Total Cost	\$5,724	
Impact on Water and Sewer Rate	\$0.12	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	374
Cost Estimate Last FY	84,540
Present Cost Estimate	79,578
Approved Request Last FY	684
Total Expense & Encumbrances	1,700
Approval Request Year 1	643

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	45%
Est Completion Date	FY 2026

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map





Konterra Town Center East Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-93.01		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	P.G. 415A;
Drainage Basins	Northeast Branch Branch 08;
Planning Areas	Northwestern Area PA 60;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	251	18		233	81	92	60				
Land											
Site Improvements & Utilities											
Construction	1,588	35		1,553	540	616	397				
Other	268			268	93	106	69				
Total	2,107	53		2,054	714	814	526				

C. Funding Schedule (000's)

Contribution/Other	2,107	53		2,054	714	814	526				
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D. Description & Justification

**DESCRIPTION**

This project provides for the planning, design, and construction of 9,200 feet of 16-inch diameter water main to serve the Konterra Town Center East, located in the area bound by Interstate 95, the Intercounty Connector and Konterra Drive. The sleeve for the water main crossing the Intercounty Connector was built under WSSC Project S-28.18 Konterra Town Center East Sewer.

**JUSTIFICATION**

Letter of Findings - Hydraulic Planning Analysis (August 29, 2013).

**COST CHANGE**

Cost increased based upon updated information provided by the developer.

**OTHER**

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Prince George's County Government;  
Coordinating Projects: S-28.18-Konterra Town Center East Sewer Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$238	23
Other Project Costs		
Debt Service		
Total Cost	\$238	23
Impact on Water and Sewer Rate		

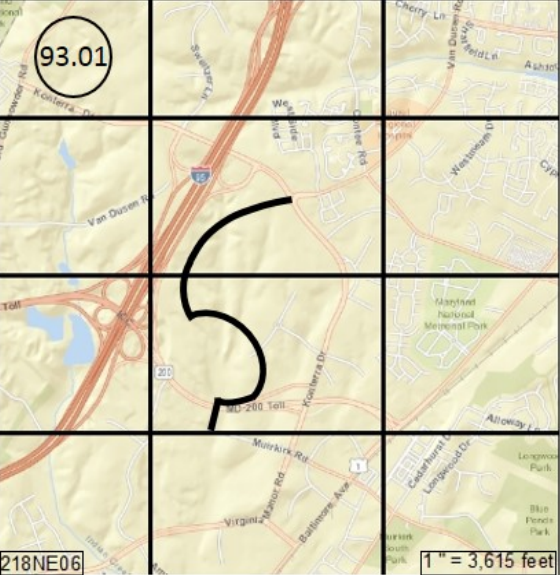
F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	610
Cost Estimate Last FY	1,581
Present Cost Estimate	2,107
Approved Request Last FY	61
Total Expense & Encumbrances	53
Approval Request Year 1	714

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	3%
Developer Dependent	
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Marlton Section 18 Water Main, Lake Marlton Avenue

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-105.01		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Rosaryville PA 82A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	404	29	1	374	44	66	66	66	66	66	
Land											
Site Improvements & Utilities											
Construction	1,910			1,910	319	319	319	317	318	318	
Other	343			343	54	58	58	57	58	58	
Total	2,657	29	1	2,627	417	443	443	440	442	442	

C. Funding Schedule (000's)

Contribution/Other	2,657	29	1	2,627	417	443	443	440	442	442	
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of 5,400 feet of 16-inch diameter water main to provide service to East Marlton, Section 18, along Heathermore Boulevard and Lake Marlton Avenue.

**JUSTIFICATION**  
East Marlton Hydraulic Planning Analysis (February 2008).

**COST CHANGE**  
Not applicable.

**OTHER**  
The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**  
Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment;  
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$140	26
Other Project Costs		
Debt Service		
Total Cost	\$140	26
Impact on Water and Sewer Rate		

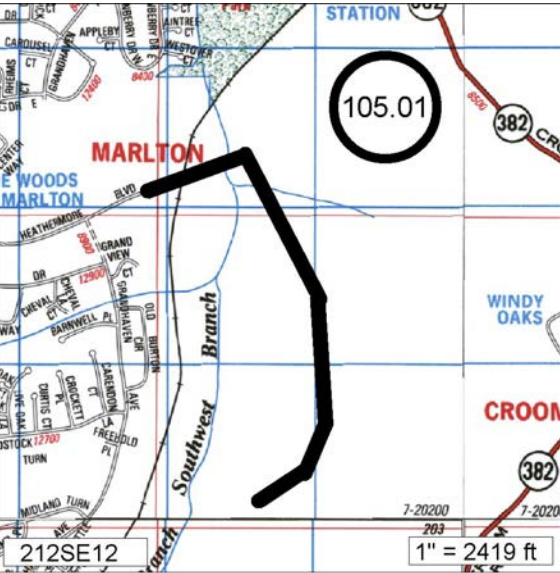
F. Approval and Expenditure Data (000's)

Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	398
Cost Estimate Last FY	2,581
Present Cost Estimate	2,657
Approved Request Last FY	406
Total Expense & Encumbrances	29
Approval Request Year 1	417

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	20%
	Developer Dependent
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Hillmeade Road Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-111.05		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Bowie HG350E;
Drainage Basins	
Planning Areas	Bowie & Vicinity PA 71A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	1,029	1,002	25	2	2						
Land	5	5									
Site Improvements & Utilities											
Construction	4,060	1,838	2,202	20	20						
Other	337		334	3	3						
Total	5,431	2,845	2,561	25	25						

C. Funding Schedule (000's)

SDC	5,431	2,845	2,561	25	25						
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of approximately 7,300 feet of 24-inch diameter water main along Hillmeade Road from Lanham-Severn Road to an existing 24-inch diameter water main in Hillmeade Road at Daisy Lane.
<b>JUSTIFICATION</b> The purpose of this project is to provide adequate pressure in response to growth in the Bowie area. Bowie-Glen Dale Water Storage Facility Plan, O'Brien & Gere Engineers, Inc. (October 1990); Water Resources Planning Section Memorandum dated May 31, 1996; M-NCP&PC Round 6 growth forecasts.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. Expenditures and schedule projections shown in Block B are based upon actual bid. No WSSC rate supported debt will be used for this project.
<b>COORDINATION</b> Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; AMTRAK; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$189	21
Other Project Costs		
Debt Service		
Total Cost	\$189	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

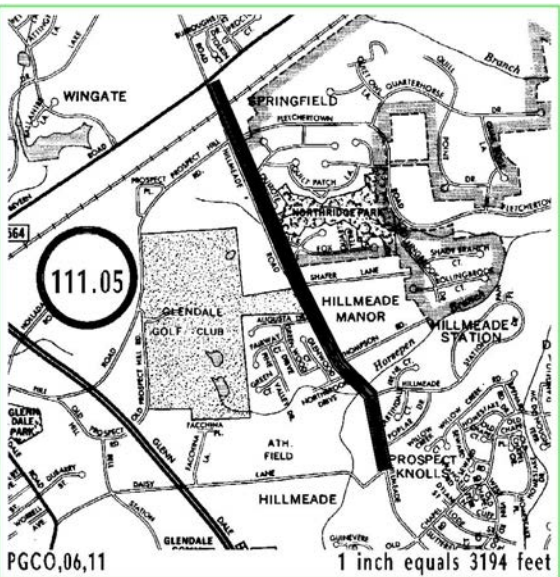
Date First in Program	FY 98
Date First Approved	FY 98
Initial Cost Estimate	1,898
Cost Estimate Last FY	5,438
Present Cost Estimate	5,431
Approved Request Last FY	2,676
Total Expense & Encumbrances	2,845
Approval Request Year 1	25

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	40%
Est Completion Date	March 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Timothy Branch Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-120.14		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Southern 385B;
Drainage Basins	
Planning Areas	Brandywine & Vicinity PA 85A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	525	312	181	32	32						
Land											
Site Improvements & Utilities											
Construction	1,304		1,108	196	196						
Other	227		193	34	34						
Total	2,056	312	1,482	262	262						

C. Funding Schedule (000's)

Contribution/Other	2,056	312	1,482	262	262						
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of 5,050 feet of 16-inch water main to serve the Timothy Branch project, Part 6. This project has been combined with W-120.15, to coordinate with the Hydraulic Planning Analysis Amendment approved September 12, 2017.

**JUSTIFICATION**

Timothy Branch Hydraulic Planning Analysis DA9381Z92 (Amended September 2017).

**COST CHANGE**

The expenditures and schedule have been updated based upon information provided by the developer.

**OTHER**

The project scope has remained the same. The expenditure and schedule projections shown in Block B above are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Prince George's County Government;  
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$131	21
Other Project Costs		
Debt Service		
Total Cost	\$131	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

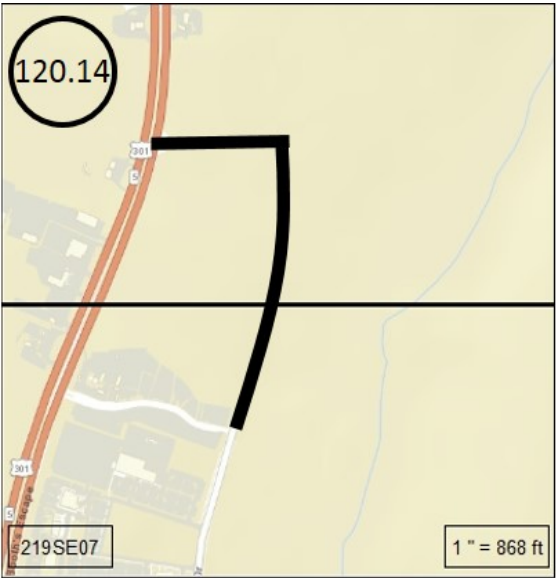
Date First in Program	FY 94
Date First Approved	FY 94
Initial Cost Estimate	176
Cost Estimate Last FY	1,069
Present Cost Estimate	2,056
Approved Request Last FY	475
Total Expense & Encumbrances	312
Approval Request Year 1	262

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map





South Potomac Supply Improvement, Phase 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-137.03		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Rosecroft HG290A; Potomac 290B;
Drainage Basins	
Planning Areas	Henson Creek PA 76B; Henson Creek

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	3,619	939	1,440	1,240	620	390	90	70	70		
Land											
Site Improvements & Utilities											
Construction	60,000			60,000			20,000	20,000	20,000		
Other	3,140		72	3,068	31	21	1,006	1,005	1,005		
Total	66,759	939	1,512	64,308	651	411	21,096	21,075	21,075		

C. Funding Schedule (000's)

WSSC Bonds	44,506	626	1,008	42,872	434	274	14,064	14,050	14,050		
SDC	22,253	313	504	21,436	217	137	7,032	7,025	7,025		

D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the design and construction of 4.4 miles of 42-inch diameter ductile iron transmission main and 6.0 miles of distribution mains (diameters ranging from 10 to 16-inches, and a new flow control valve and vault. The project will replace 3.5 miles of existing 42-inch diameter PCCP transmission main located within the Henson Creek corridor and will replace parallel aged distribution infrastructure located along the project limits.</p>
<p><b>JUSTIFICATION</b></p> <p>During design of the 42-inch PCCP transmission main replacement under CIP W-137.02, South Potomac Supply Improvement, Phase 1, WSSC and the Maryland Department of the Environment discussed extensive requirements for stream restoration of Henson Creek. At that time, WSSC staff identified up to 3.5 miles of pipe south of the project area that is exposed along eroding stretches of Henson Creek. An alignment study began under CIP W-137.03, South Potomac Supply Improvement, Phase 2, to evaluate possible relocation of the existing 42-inch PCCP main between Rosecroft Drive and Indian Head Highway. The 3.5 miles of PCCP main will be relocated out of Henson Creek and into a roadway alignment between Temple Hill Road and Indian Head Highway, for a total of 4.4 miles of new 42-inch ductile iron pipe. The transmission main will be relocated out of the 290B pressure zone and into the 450A pressure zone. Phase 2 includes the installation of a new flow control valve between pressure zones 450A and 290B.</p>

Concept Finalization Report, O'Brien & Gere Engineers Inc. (January 2014); Alignment Study - Final: Henson Creek 42-Inch Water Main Replacement, O'Brien & Gere Engineers Inc. (April 2017).

COST CHANGE

Cost estimates were increased based upon the preliminary design level estimate for the revised alignment and projected restoration requirements for Henson Creek.

OTHER

The project scope remains the same. The Phase 1 alignment study was completed on April 2017. Notice to Proceed for Phase 2 (Design) was issued in February 2018. Schedule and expenditure projections for Phase 2 are preliminary design estimates and may change based upon design constraints, site-specific conditions, and stream restoration requirements for Henson Creek. Land costs are included in WSSC Project W-202.00

COORDINATION

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Washington Gas Light Company;

Coordinating Projects: W-84.05-Prince George's County 450A Zone Water Main; W-34.02-Old Branch Avenue Water Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$602	25
Other Project Costs		
Debt Service	\$2,895	25
Total Cost	\$3,497	25
Impact on Water and Sewer Rate	\$0.07	25

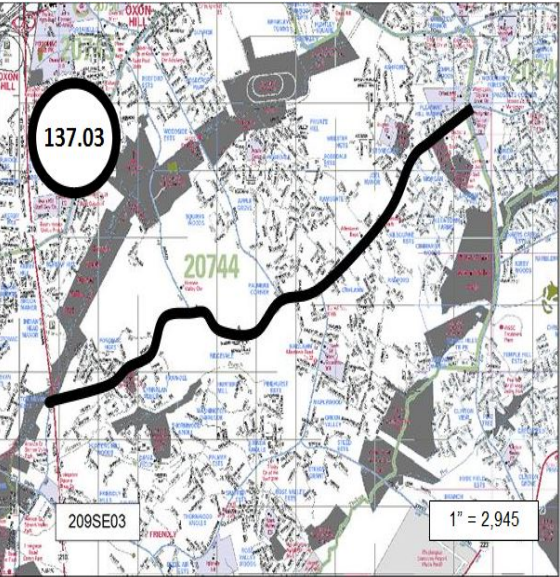
F. Approval and Expenditure Data (000's)

Date First in Program	FY 18
Date First Approved	FY 07
Initial Cost Estimate	53,374
Cost Estimate Last FY	54,632
Present Cost Estimate	66,759
Approved Request Last FY	1,575
Total Expense & Encumbrances	939
Approval Request Year 1	651

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	30%
Est Completion Date	FY 2024
Growth	34%
System Improvement	66%
Environmental Regulation	
Population Served	
Capacity	

H. Map



**PROJECTS PENDING CLOSE-OUT**  
**Prince George's Water Projects**  
**(costs in thousands)**

<b>Project Number</b>	<b>Agency Number</b>	<b>Project Name</b>	<b>Estimated Total Cost</b>	<b>Expenditures Thru FY'18</b>	<b>Estimated Expenditures FY'19</b>	<b>Remarks</b>
	W-119.01	John Hanson Highway Water Main, Part 1	\$12,602	\$11,711	\$891	Project completion expected in FY'19.
	W-120.15	Villages of Timothy Water Main, Part 2	0	0	0	Project combined with W-120.14.
	W-123.14	Old Marlboro Pike Water Main	1,545	1,427	118	Project completion expected in FY'19.
	W-123.20	Oak Grove/Leeland Roads Water Main, Part 2	13,014	13,002	12	Project completion expected in FY'19.
	W-147.00	Collington Elevated Water Storage Facility	16,876	16,818	58	Project completion expected in FY'19.
		<b>TOTALS</b>	<b>\$44,037</b>	<b>\$42,958</b>	<b>\$1,079</b>	

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## Section 6 - Prince George's County Sewer Projects

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**FINANCIAL SUMMARY**

(ALL FIGURES IN THOUSANDS)

**PRINCE GEORGE'S COUNTY SEWER PROJECTS**

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
S-27.08	Westphalia Town Center Sewer Main	876	207	473	196	133	51	12	0	0	0	0	6-3
S-28.18	Konterra Town Center East Sewer	7,136	5,144	0	1,992	0	1,992	0	0	0	0	0	6-4
S-43.02	Broad Creek WWPS Augmentation	182,032	162,986	15,225	3,821	3,821	0	0	0	0	0	0	6-5
S-57.92	Western Branch Facility Upgrade	53,040	51,968	837	235	235	0	0	0	0	0	0	6-6
S-68.01	Landover Mall Redevelopment	1,344	24	102	1,218	631	403	46	46	46	46	0	6-7
S-75.19	Brandywine Woods Wastewater Pumping Station	324	7	181	136	70	66	0	0	0	0	0	6-8
S-75.20	Brandywine Woods WWPS Force Main	127	15	43	69	69	0	0	0	0	0	0	6-9
S-75.21	Mattawoman WRRF Upgrades	17,237	0	4,049	12,409	4,174	3,235	1,223	1,283	1,247	1,247	779	6-10
S-77.20	Parkway North Substation Replacement	6,133	325	2,530	3,278	2,473	805	0	0	0	0	0	6-11
S-86.19	Karington Subdivision Sewer	692	103	216	373	182	191	0	0	0	0	0	6-12
S-96.14	Piscataway WRRF Facility Upgrades	147,648	13,358	14,912	119,378	38,229	49,267	30,514	1,368	0	0	0	6-13
S-131.05	Pleasant Valley Sewer Main, Part 2	902	43	205	654	406	169	79	0	0	0	0	6-14
S-131.07	Pleasant Valley Sewer Main, Part 1	1,801	98	479	1,224	999	225	0	0	0	0	0	6-15
S-131.10	Fort Washington Forest No. 1 WWPS Augmentation	4,578	2,626	1,245	707	707	0	0	0	0	0	0	6-16
S-157.02	Western Branch WRRF Process Train Improvements	14,859	163	1,760	12,936	3,520	5,720	3,520	176	0	0	0	6-17
<b>TOTALS</b>		438,729	237,067	42,257	158,626	55,649	62,124	35,394	2,873	1,293	1,293	779	

**Prince George's County Sewer Projects**  
**New Projects Listing**  
 (costs in thousands)

<b>Agency Number</b>	<b>Project Name</b>	<b>Total Project Cost</b>	<b>Budget Year Cost</b>	<b>Page Number</b>
S-157.02	Western Branch WRRF Process Train Improvements	\$14,859	\$3,520	6-17
	<b>TOTALS</b>	\$14,859	\$3,520	

Westphalia Town Center Sewer Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-27.08		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	92	22	33	37	21	11	5				
Land											
Site Improvements & Utilities											
Construction	696	185	378	133	95	33	5				
Other	88		62	26	17	7	2				
Total	876	207	473	196	133	51	12				

C. Funding Schedule (000's)

Contribution/Other	876	207	473	196	133	51	12				
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D. Description & Justification

**DESCRIPTION**

This project provides for the planning, design, and construction of 4,550 feet of 15-inch, 18-inch, and 21-inch sanitary sewer main to serve the Westphalia Town Center.

**JUSTIFICATION**

Westphalia Town Center Hydraulic Planning Analysis (June 2009).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Environmental Resources; Prince George's County Department of Permitting Inspection and Enforcement; Local Community Civic Associations; (Interaction with state, county and regulatory staff)

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$79	23
Other Project Costs		
Debt Service		
Total Cost	\$79	23
Impact on Water and Sewer Rate		

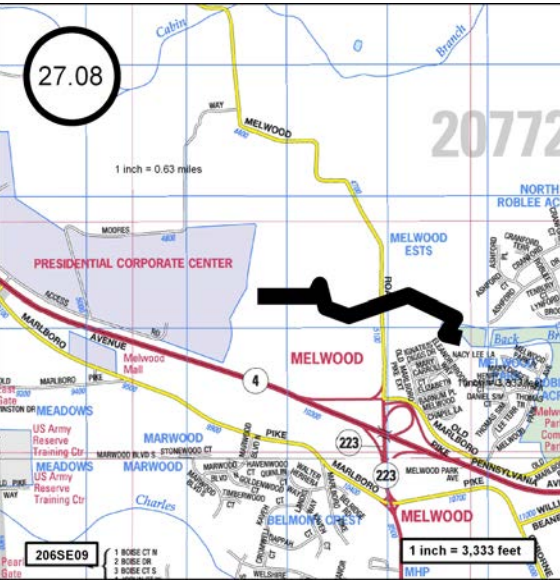
F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	378
Cost Estimate Last FY	850
Present Cost Estimate	876
Approved Request Last FY	124
Total Expense & Encumbrances	207
Approval Request Year 1	133

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	40%
	Developer Dependent
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	7,600
Capacity	3.2 MGD

H. Map



Konterra Town Center East Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-28.18		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Northeast Branch Branch 08;
Planning Areas	Northwestern Area PA 60;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,585	2,359		226		226					
Land											
Site Improvements & Utilities											
Construction	4,291	2,785		1,506		1,506					
Other	260			260		260					
Total	7,136	5,144		1,992		1,992					

C. Funding Schedule (000's)

Contribution/Other	7,136	5,144		1,992		1,992					
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of 14,000 feet of 15-inch to 24-inch diameter sewer main, 240 feet of 24-inch diameter steel sleeve for a 16-inch diameter water main (W-93.01), and 240 feet of 48-inch diameter steel sleeve for a 24-inch diameter sewer. The project serves the Konterra Town Center East development which is located in the area bound by Interstate 95, the Intercounty Connector and Konterra Drive.

**JUSTIFICATION**  
Letter of Findings DA4623Z07 (August 29, 2013).

**COST CHANGE**  
Not applicable.

**OTHER**  
The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**  
Coordinating Agencies: Prince George's County Government;  
Coordinating Projects: W-93.01-Konterra Town Center East Water Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$252	20
Other Project Costs		
Debt Service		
Total Cost	\$252	20
Impact on Water and Sewer Rate	\$0.01	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	833
Cost Estimate Last FY	7,211
Present Cost Estimate	7,136
Approved Request Last FY	513
Total Expense & Encumbrances	5,144
Approval Request Year 1	

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	72%
	Developer Dependent
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	11,300
Capacity	8.11 MGD

H. Map



Broad Creek WWPS Augmentation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-43.02		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Broad Creek 11;
Planning Areas	South Potomac Sector PA 80;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	29,234	27,575	1,500	159	159						
Land	227	227									
Site Improvements & Utilities											
Construction	151,664	135,184	13,000	3,480	3,480						
Other	907		725	182	182						
Total	182,032	162,986	15,225	3,821	3,821						

C. Funding Schedule (000's)

WSSC Bonds	30,946	27,708	2,588	650	650						
SDC	151,086	135,278	12,637	3,171	3,171						

D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for modifications to the Broad Creek Wastewater Pumping Station and Force Main system for conveying Broad Creek sewerage basin flows to the Piscataway Water Resource Recovery Facility. The Broad Creek WWPS Facility Plan included assessments of engineering, economic, environmental and local community impacts, and recommended the construction of a 48-inch diameter force main and capacity enhancing modifications at the pumping station. At the Piscataway WRRF a concrete storage facility was constructed in the upper existing polishing pond allowing intermittent storage of excess sewage until flow levels at the plant allow treatment. Implementation of this alternative was approved by the Environmental Protection Agency and the Maryland Department of the Environment (MDE). Construction costs shown above also reflect emergency power generators that were installed in the event of power outages.</p> <p><b>JUSTIFICATION</b></p> <p>This project stems from the following litigation: Section V (Remedial Measures), Article 10, Section B.8 (Pump Stations - Broad Creek), Sanitary Sewer Overflows (SSO) Consent Order Decree (Civil Action PJM-04-3679), Judge Messite, December 7, 2005.</p> <p>The following plans/studies have been completed: Broad Creek Flow Monitoring and I/I Analysis (1996); Broad Creek SSES (1996 to 1999); Broad Creek I/I Analysis and SSES Phase II (2001 to 2005); Broad Creek Facility Plan, Delon Hampton &amp; Associates, Inc. (January 2007); FY2012 Broad Creek WWPS Asset Management Plan, GHD, Inc. (March 2011).</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The expenditures and schedule projections shown in Block B reflect the latest available estimates. Construction is being performed under four (4) contracts to expedite project completion. The final contract is in the construction phase.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park &amp; Planning Commission; National Park Service; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III;</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$467	21
Other Project Costs		
Debt Service	\$2,013	21
Total Cost	\$2,480	21
Impact on Water and Sewer Rate	\$0.06	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	80,850
Cost Estimate Last FY	182,490
Present Cost Estimate	182,032
Approved Request Last FY	15,225
Total Expense & Encumbrances	162,986
Approval Request Year 1	3,821

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	85%
Est Completion Date	FY 2020

Growth	83%
System Improvement	17%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE
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Western Branch Facility Upgrade

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-57.92		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Upper Marlboro & Vicinity PA 79;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	14,850	14,693	132	25	25						
Land											
Site Improvements & Utilities											
Construction	38,140	37,275	665	200	200						
Other	50		40	10	10						
Total	53,040	51,968	837	235	235						

C. Funding Schedule (000's)

WSSC Bonds	53,040	51,968	837	235	235						
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of improvements at the Western Branch WRRF required to rehabilitate aging systems and to continue to meet all the terms of its NPDES discharge permit. Improvements include sludge thickener for waste activation, biosolids stabilization and storage facilities, a new scum removal system, raw sewage pump station upgrades, additional grit chambers, air blower replacements, HVAC, and electrical upgrades.
<b>JUSTIFICATION</b> The plant was originally designed in the 1970s. It is the only WSSC WRRF that does not utilize Biological Nitrogen Removal (BNR); instead, relying on the addition of methanol for nitrogen removal. Western Branch Facility Plan, Johnson, Mirmiran & Thompson (May 2005); ESP Project Number S-647.38, Western Branch WWTP Facility Plan; Western Branch Enhanced Nutrient Removal and Facility Upgrade Project - Evaluation Phase, Metcalf and Eddy (August 2007).
<b>COST CHANGE</b> Total project cost has decreased based on the updated reliability and integration cost estimates.
<b>OTHER</b> The project scope has remained the same. Updated schedule and expenditure projections are shown in Block B. FY 20 cost projections are included for site restoration and projected system reliability and integration costs. The MDE construction permit was obtained in March 2011. The Notice To Proceed was issued on October 31, 2011. This project is financed through a low interest loan from the MDE's Water Quality Administration State Revolving Loan Program.
<b>COORDINATION</b> Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$3,450	21
Total Cost	\$3,450	21
Impact on Water and Sewer Rate	\$0.08	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 06
Initial Cost Estimate	6,325
Cost Estimate Last FY	56,419
Present Cost Estimate	53,040
Approved Request Last FY	3,150
Total Expense & Encumbrances	51,968
Approval Request Year 1	235

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	98%
Est Completion Date	FY 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	30.6 MGD

H. Map

MAP NOT AVAILABLE
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Landover Mall Redevelopment

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-68.01		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Beaverdam Branch 3;
Planning Areas	Prince George's County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	231	24	36	171	76	46	13	12	12	12	
Land											
Site Improvements & Utilities											
Construction	941		53	888	473	304	27	28	28	28	
Other	172		13	159	82	53	6	6	6	6	
Total	1,344	24	102	1,218	631	403	46	46	46	46	

C. Funding Schedule (000's)

Contribution/Other	1,344	24	102	1,218	631	403	46	46	46	46	
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D. Description & Justification

<b>DESCRIPTION</b> This project provides 2,500 feet of 27-inch, 300 feet of 24-inch, and 1,450 feet of 18-inch diameter sewer main to provide service for the Landover Mall Redevelopment.
<b>JUSTIFICATION</b> Hydraulic Planning Analysis (May 2009).
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.
<b>COORDINATION</b> Coordinating Agencies: Prince George's County Government; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$74	26
Other Project Costs		
Debt Service		
Total Cost	\$74	26
Impact on Water and Sewer Rate		

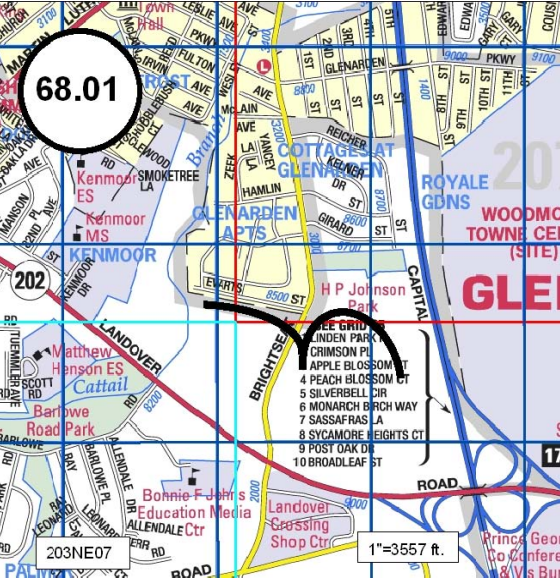
F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	1,108
Cost Estimate Last FY	1,305
Present Cost Estimate	1,344
Approved Request Last FY	618
Total Expense & Encumbrances	24
Approval Request Year 1	631

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	20%
	Developer Dependent
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	3,347
Capacity	5.63 MGD

H. Map



Brandywine Woods Wastewater Pumping Station

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-75.19		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Mattawoman 21;
Planning Areas	Cedarville & Vicinity PA 85B;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	59	7	27	25	14	11					
Land											
Site Improvements & Utilities											
Construction	223		130	93	47	46					
Other	42		24	18	9	9					
Total	324	7	181	136	70	66					

C. Funding Schedule (000's)

Contribution/Other	324	7	181	136	70	66					
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D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of a new wastewater pumping station to provide service to the Brandywine Woods Property.

JUSTIFICATION

Hydraulic Planning Analysis (March 2006).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government;  
Coordinating Projects: S-75.20-Brandywine Woods WWPS Force Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	247
Cost Estimate Last FY	315
Present Cost Estimate	324
Approved Request Last FY	67
Total Expense & Encumbrances	7
Approval Request Year 1	70

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	490
Capacity	0.28 MGD

H. Map



Brandywine Woods WWPS Force Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-75.20		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Mattawoman 21;
Planning Areas	Cedarville & Vicinity PA 85B;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	28	13	7	8	8						
Land											
Site Improvements & Utilities											
Construction	84	2	30	52	52						
Other	15		6	9	9						
Total	127	15	43	69	69						

C. Funding Schedule (000's)

Contribution/Other	127	15	43	69	69						
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of 1,600 feet of 4-inch diameter force main from the Brandywine Woods Wastewater Pumping Station to provide service to the Brandywine Woods Property.
<b>JUSTIFICATION</b> Hydraulic Planning Analysis (March 2006).
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.
<b>COORDINATION</b> Coordinating Agencies: Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government; Coordinating Projects: S-75.19-Brandywine Woods Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$28	21
Other Project Costs		
Debt Service		
Total Cost	\$28	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	100
Cost Estimate Last FY	123
Present Cost Estimate	127
Approved Request Last FY	67
Total Expense & Encumbrances	15
Approval Request Year 1	69

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	100%
	Developer Dependent
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	490
Capacity	0.28MGD

H. Map



Mattawoman WRRF Upgrades

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-75.21		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Mattawoman 21;
Planning Areas	Piscataway & Vicinity PA 84; Cedarville &

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	17,237		4,049	12,409	4,174	3,235	1,223	1,283	1,247	1,247	779
Other											
Total	17,237		4,049	12,409	4,174	3,235	1,223	1,283	1,247	1,247	779

C. Funding Schedule (000's)

WSSC Bonds	17,237		4,049	12,409	4,174	3,235	1,223	1,283	1,247	1,247	779
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the WSSC's share of the evaluation, design, and construction of capital projects to upgrade and repair Charles County's Mattawoman Interceptor and WRRF. Current projects include: Influent/Effluent Pump Station Upgrades, Plant Automation, Electrical System Replacement, In-Plant Water System Improvement, Flow Equalization, Clarifier and Thickener Upgrades, Belt Filter Press Replacement, SCADA System Upgrade, Effluent Force Main Improvements, and Primary Clarifiers 1-4 Demolition.</p> <p><b>JUSTIFICATION</b></p> <p>Prior evaluations of equipment and structural facilities concluded the need existed for various upgrade, repair, and replacement projects. A further thorough evaluation of the Head Works, Influent/Effluent Pumps, and Influent Wet Well was also deemed necessary in order to identify the specific scope of hydraulic, control, capacity, and safety upgrades to the Influent/Effluent Pump Station. Plant automation will improve the efficiency of operation and maintenance, thereby minimizing resource utilization and avoiding costs.</p> <p>Agreement dated October 22, 1980; Agreement Addendum No. 1 dated April 15, 2004.</p> <p><b>COST CHANGE</b></p> <p>The expenditure schedule reflects the latest information provided by Charles County. The estimated costs for the project have been adjusted to reflect changes in the Charles County CIP which include changes in project schedules, actual costs (bids) and revised estimates for various projects.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Under the terms of the 1980 Agreement with Charles County, the WSSC has the use of 3 MGD of the WRRF's capacity, and pays a proportionate share of the capital expenses. As new upgrade sub-projects are added, the associated costs will be added to this project. Beginning in FY 2007, the total plant capacity increased to 20 MGD, and WSSC's proportionate cost share decreased to 15% under the terms of Agreement Addendum No.1. This project is expected to continue indefinitely. Life to date expenditures for this project are approximately \$6.1 million.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Charles County Government; (Depts of Utilities, Planning &amp; Growth Management, and Fiscal Services)</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,121	
Total Cost	\$1,121	
Impact on Water and Sewer Rate	\$0.03	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	760
Cost Estimate Last FY	19,449
Present Cost Estimate	17,237
Approved Request Last FY	4,049
Total Expense & Encumbrances	
Approval Request Year 1	4,174

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	3 MGD for WSSC in Total Plant Capacity of 20 MGD

H. Map

MAP NOT AVAILABLE

Parkway North Substation Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-77.20		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Parkway 17;
Planning Areas	South Laurel-Montpelier PA 62;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	775	325	200	250	150	100					
Land											
Site Improvements & Utilities											
Construction	4,600		2,000	2,600	2,000	600					
Other	758		330	428	323	105					
Total	6,133	325	2,530	3,278	2,473	805					

C. Funding Schedule (000's)

WSSC Bonds	6,133	325	2,530	3,278	2,473	805					
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design and construction of electrical upgrades for the Parkway WRRF including the full replacement of the North Substation, Motor Control Cabinet #1 (MCC1) and a 480 volt substation. Temporary facilities must be provided to maintain operation of the WRRF during construction.
<b>JUSTIFICATION</b> Asset Management Program, CPNV #48, Business Case recommendation requires immediate replacement of electrical equipment to maintain level of services at the WRRF.
<b>COST CHANGE</b> Cost has increased based on cost estimate by Owner's Advisor at time of advertisement.
<b>OTHER</b> The project scope has remained the same. Project to be awarded under Design-Build delivery method. "Planning, Design & Supervision" cost includes Owner's Advisor. Construction cost will include Design-Builder's design work. The schedule and expenditure projections shown in Block B above are planning level estimates and may change based upon award of Design-Build contract. Preliminary planning work through FY'18 was conducted under ESP project S-627.15, Parkway North Substation.
<b>COORDINATION</b> Coordinating Agencies: Maryland Department of the Environment; Prince George's County Government; Prince George's County Department of Environmental Resources; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$399	22
Total Cost	\$399	22
Impact on Water and Sewer Rate	\$0.01	22

F. Approval and Expenditure Data (000's)

Date First in Program	FY19
Date First Approved	FY19
Initial Cost Estimate	5,003
Cost Estimate Last FY	5,003
Present Cost Estimate	6,133
Approved Request Last FY	2,650
Total Expense & Encumbrances	325
Approval Request Year 1	2,473

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	10%
Est Completion Date	September 2020
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE



Karington Subdivision Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-86.19		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Mitchellville & Vicinity PA 74A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	107	88	13	6	3	3					
Land											
Site Improvements & Utilities											
Construction	508	15	175	318	155	163					
Other	77		28	49	24	25					
Total	692	103	216	373	182	191					

C. Funding Schedule (000's)

Contribution/Other	692	103	216	373	182	191					
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D. Description & Justification

**DESCRIPTION**

This project provides for the planning, design, and construction of 970 feet of 15-inch and 20-inch diameter sewer main to serve the Karington Subdivision.

**JUSTIFICATION**

Karington Hydraulic Planning Analysis (May 2006).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$17	22
Other Project Costs		
Debt Service		
Total Cost	\$17	22
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	801
Cost Estimate Last FY	672
Present Cost Estimate	692
Approved Request Last FY	181
Total Expense & Encumbrances	103
Approval Request Year 1	182

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	100%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	2,102
Capacity	1.7 to 2.87 MGD

H. Map



Piscataway WRRF Facility Upgrades

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-96.14		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Accokeek PA 83;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	26,161	13,358	3,329	9,474	3,496	3,715	2,145	118			
Land											
Site Improvements & Utilities											
Construction	115,093		10,873	104,220	32,913	43,206	26,916	1,185			
Other	6,394		710	5,684	1,820	2,346	1,453	65			
Total	147,648	13,358	14,912	119,378	38,229	49,267	30,514	1,368			

C. Funding Schedule (000's)

WSSC Bonds	147,648	13,358	14,912	119,378	38,229	49,267	30,514	1,368			
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of improvements at the Piscataway WRRF required to prevent plant overflows or permit violations which can occur during significant rainfall events. The work will remove bottlenecks within the plant process trains, address the physical capacity of the system, and rehabilitate existing equipment that has reached its expected service life ensuring the ability of the plant to achieve its permit-required level of service.</p> <p><b>JUSTIFICATION</b></p> <p>In the Asset Management Plan the condition assessment process identified several areas of concern within the plant process trains that could potentially result in capacity or level of service failures during significant rainfall events. The Facility Plan provided a more detailed study that included the development of a plant-wide hydraulic and biological process model, CCTV inspection of buried piping, analysis of soil borings, and Level 3 Condition Assessment of electrical systems. Projects within the Facility Plan were justified and prioritized using WSSC's Asset Management Strategy guidelines, based on life cycle costs, business risk exposure, and needs prioritization.</p> <p>FY 2012 Piscataway WRRF Asset Management Plan, GHD, Inc. (March 2011); Piscataway WRRF Facility Plan, AECOM (January 2014); FY 2019 Wastewater Treatment System Asset Management Plan (December 2016).</p> <p><b>COST CHANGE</b></p> <p>Construction cost estimates have decreased for the Electrical upgrades, Effluent Filter upgrades, and Secondary Clarifiers, while it has increased for the Raw Wastewater Pumping Station.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B represent estimates at the 100% or bid ready design stage for all projects except for the Effluent Filter upgrades, which are at the 70% design stage. These costs may change based upon site conditions and actual bids received. The Office of Asset Management has determined the priority of the recommended projects.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; Maryland Department of Natural Resources;</p> <p>Coordinating Projects: S-43.02-Broad Creek WWPS Augmentation; S-170.08-Septage Discharge Facility Planning &amp; Implementation; S-103.02-Piscataway WRRF Bio-Energy Project;</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$9,605	24
Total Cost	\$9,605	24
Impact on Water and Sewer Rate	\$0.22	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 12
Date First Approved	FY 12
Initial Cost Estimate	66,396
Cost Estimate Last FY	143,294
Present Cost Estimate	147,648
Approved Request Last FY	31,115
Total Expense & Encumbrances	13,358
Approval Request Year 1	38,229

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	90%
Est Completion Date	FY 2023

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	30 MGD

H. Map

MAP NOT AVAILABLE
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Pleasant Valley Sewer Main, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-131.05		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Piscataway & Vicinity PA 84;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	175	43	61	71	54	10	7				
Land											
Site Improvements & Utilities											
Construction	615		117	498	299	137	62				
Other	112		27	85	53	22	10				
Total	902	43	205	654	406	169	79				

C. Funding Schedule (000's)

Contribution/Other	902	43	205	654	406	169	79				
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D. Description & Justification

**DESCRIPTION**

This project provides for the planning, design, and construction of 2,750 feet of 21-inch diameter sewer main to provide service to the Estates of Pleasant Valley and the Ridges III Subdivisions.

**JUSTIFICATION**

Estates of Pleasant Valley Hydraulic Planning Analysis (Amended March 2010).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Prince George's County Department of Permitting Inspection and Enforcement;  
Coordinating Projects: S-131.07-Pleasant Valley Sewer Main, Part 1;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$48	23
Other Project Costs		
Debt Service		
Total Cost	\$48	23
Impact on Water and Sewer Rate		

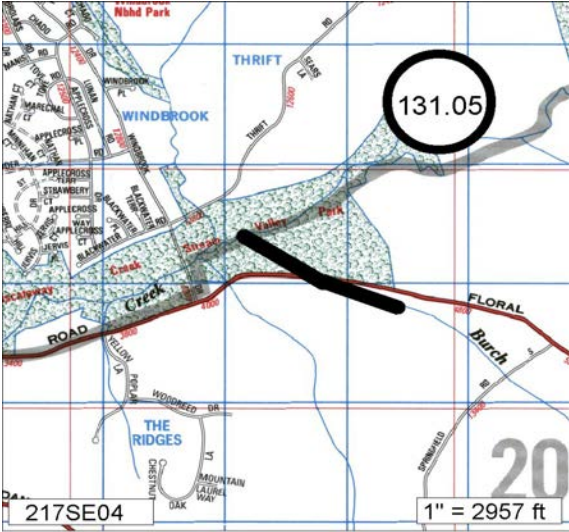
F. Approval and Expenditure Data (000's)

Date First in Program	FY 05
Date First Approved	FY 05
Initial Cost Estimate	586
Cost Estimate Last FY	877
Present Cost Estimate	902
Approved Request Last FY	393
Total Expense & Encumbrances	43
Approval Request Year 1	406

G. Status Information

Land Status	R/W acquired
Project Phase	Design
Percent Complete	60%
	Developer Dependent
Est Completion Date	
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	2000
Capacity	3.5 MGD

H. Map



# Pleasant Valley Sewer Main, Part 1

### A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-131.07		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Accokeek PA 83;

### B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	390	98	159	133	110	23					
Land											
Site Improvements & Utilities											
Construction	1,189		258	931	758	173					
Other	222		62	160	131	29					
<b>Total</b>	<b>1,801</b>	<b>98</b>	<b>479</b>	<b>1,224</b>	<b>999</b>	<b>225</b>					

### C. Funding Schedule (000's)

Contribution/Other	1,801	98	479	1,224	999	225					
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#### D. Description & Justification

DESCRIPTION
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This project provides for the planning, design, and construction of 10,000 feet of 15-inch and 18-inch diameter sewer main to serve The Estates at Pleasant Valley Subdivision.

## JUSTIFICATION

Estates of Pleasant Valley Hydraulic Planning Analysis (Amended March 2010).

## COST CHANGE

Not applicable.

## OTHER

The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

## COORDINATION

Coordinating Agencies: Potomac Electric Power Company; Prince George's County Government; Maryland-National Capital Park & Planning Commission;

Coordinating Projects: S-131.05-Pleasant Valley Sewer Main, Part 2;

#### E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$174	22
Other Project Costs		
Debt Service		
Total Cost	\$174	22
Impact on Water and Sewer Rate		

#### F. Approval and Expenditure Data (000's)

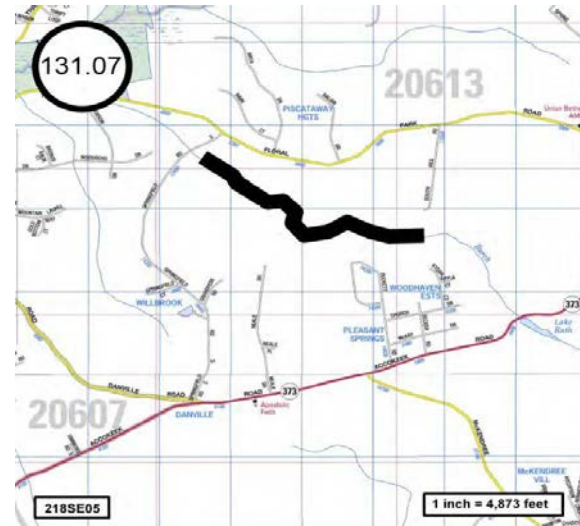
Date First in Program	FY 10
Date First Approved	FY 10
Intial Cost Estimate	1,303
Cost Estimate Last FY	1,750
Present Cost Estimate	1,801
Approved Request Last FY	970
Total Expense & Encumbrances	988
Approval Request Year 1	999

### G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	80%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	2,800
Capacity	1.7 to 2.2 MGD

## H. Map



Fort Washington Forest No. 1 WWPS Augmentation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-131.10		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Piscataway & Vicinity PA 84;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	1,349	1,167	108	74	74						
Land											
Site Improvements & Utilities											
Construction	2,975	1,459	975	541	541						
Other	254		162	92	92						
Total	4,578	2,626	1,245	707	707						

C. Funding Schedule (000's)

WSSC Bonds	4,578	2,626	1,245	707	707						
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D. Description & Justification

**DESCRIPTION**  
This project provides for the planning, design, and construction of the rehabilitation work required for the Fort Washington Forest No.1 WWPS and to upsize a 900 foot segment of failing 4-inch diameter force main to an 8-inch diameter force main. The rehabilitation will more than double the pumping station's capacity. In addition, approximately 2,700 feet of downstream 8-inch diameter gravity sewer will be upsized to 12-inch diameter to accommodate the additional flow. At the Fort Washington Estates WWPS facility, improvements will be planned, designed and constructed to improve its reliability and the existing force main and downstream gravity sewer will be upsized to accommodate the additional flow.

**JUSTIFICATION**

There have been additional overflows at both pumping stations since the original 2005 study. On January 22, 2013, the EPA approved a 180-Day Report, making Fort Washington Forest No. 1 part of the Consent Decree. On July 2, 2015, the 180-Day Report and Schedule for Corrective Measures at Fort Washington Estates WWPS was approved by the EPA. July 2005 Study by Ken Dixon, Planning Group, outlined work to be done on the Fort Washington Forest No. 1 WWPS and Fort Washington Estates WWPS.

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. The expenditure and schedule projections shown in Block B may change based upon site conditions and actual bid for Fort Washington Estates WWPS. Planning began in March 2014 for the Fort Washington Estates WWPS with construction to start in FY 2019.

**COORDINATION**

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Environmental Resources; U.S. Environmental Protection Agency, Region III; Maryland Department of the Environment;  
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$127	21
Other Project Costs		
Debt Service	\$298	21
Total Cost	\$425	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

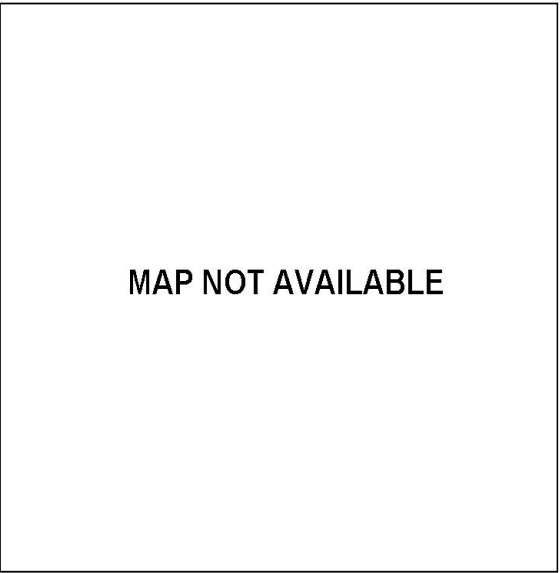
Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	1,454
Cost Estimate Last FY	4,775
Present Cost Estimate	4,578
Approved Request Last FY	1,275
Total Expense & Encumbrances	2,626
Approval Request Year 1	707

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	100%
Est Completion Date	March 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	825
Capacity	0.7 MGD

H. Map



Western Branch WRRF Process Train Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-157.02		Add

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Upper Marlboro & Vicinity PA 79;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	2,923	163	1,600	1,160	700	200	200	60			
Land											
Site Improvements & Utilities											
Construction	10,600			10,600	2,500	5,000	3,000	100			
Other	1,336		160	1,176	320	520	320	16			
Total	14,859	163	1,760	12,936	3,520	5,720	3,520	176			

C. Funding Schedule (000's)

WSSC Bonds	14,859	163	1,760	12,936	3,520	5,720	3,520	176			
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D. Description & Justification

<b>DESCRIPTION</b> This project provides for the planning, design, and construction of improvements at the Western Branch WRRF required to rehabilitate aging structures within the process treatment trains. Improvements are to the clarifiers, aeration system as well as concrete structure and walkway rehabilitation.
<b>JUSTIFICATION</b> The Plant was originally built in the early 1970s. Weathering and corrosion of concrete structures and metal equipment require rehabilitation and replacement to extend the useful life and maintain safe access and operation of the process treatment trains. This project was evaluated through the Asset Management Needs Planning process under ESP Project Number S-647.46. A treatment train structural condition assessment was performed by WSSC's Engineering and Environmental Services Division as part of the needs planning process.
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The present project scope was developed for FY2020 CIP and has an estimated cost of \$14,859,000. The expenditure and schedule projections shown in Block B are planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'18 under ESP project S-647.46, Western Branch WRRF Process Train Improvements.
<b>COORDINATION</b> Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$967	24
Total Cost	\$967	24
Impact on Water and Sewer Rate	\$0.02	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 20
Date First Approved	FY 20
Initial Cost Estimate	14,859
Cost Estimate Last FY	
Present Cost Estimate	14,859
Approved Request Last FY	
Total Expense & Encumbrances	163
Approval Request Year 1	3,520

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	0%
Est Completion Date	FY2023

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	30.6 MGD

H. Map

MAP NOT APPLICABLE
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## Section 7 - Information Only Projects

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**FINANCIAL SUMMARY**

(ALL FIGURES IN THOUSANDS)

**INFORMATION ONLY PROJECTS**

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 18	EST. EXPEND 19	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 20	YR 2 21	YR 3 22	YR 4 23	YR 5 24	YR 6 25		
W-1.00	Water Reconstruction Program	815,164	0	121,892	693,272	75,784	96,382	121,439	127,512	132,982	139,173	0	7-2
S-1.01	Sewer Reconstruction Program	496,842	0	62,971	433,871	64,684	69,538	71,624	73,772	75,987	78,266	0	7-3
A-102.00	Engineering Support Program	128,000	0	14,000	114,000	18,000	18,000	18,000	20,000	20,000	20,000	0	7-4
A-103.00	Energy Performance Program	25,105	0	11,308	13,797	5,898	3,636	2,888	1,375	0	0	0	7-5
A-105.00	Water Storage Facility Rehabilitation Program	18,630	0	630	18,000	3,000	3,000	3,000	3,000	3,000	3,000	0	7-6
A-107.00	Specialty Valve Vault Rehabilitation Program	37,947	29,603	419	6,343	1,119	1,104	2,115	1,268	568	169	1,582	7-7
A-109.00	Advanced Metering Infrastructure	96,750	875	19,175	76,700	17,577	19,175	19,175	19,175	1,598	0	0	7-8
S-300.01	D'Arcy Park North Relief Sewer	916	90	267	559	282	277	0	0	0	0	0	7-9
	Projects Pending Close-Out	6,394	4,135	2,259	0	0	0	0	0	0	0	0	7-10
<b>TOTAL INFORMATION ONLY PROJECTS</b>		1,625,748	34,703	232,921	1,356,542	186,344	211,112	238,241	246,102	234,135	240,608	1,582	

Water Reconstruction Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-1.00		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Bi-County;
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	110,960		19,208	91,752	11,281	11,829	13,945	16,176	18,202	20,319	
Land											
Site Improvements & Utilities											
Construction	609,807		87,151	522,656	55,580	73,372	93,756	96,938	99,781	103,229	
Other	94,397		15,533	78,864	8,923	11,181	13,738	14,398	14,999	15,625	
Total	815,164		121,892	693,272	75,784	96,382	121,439	127,512	132,982	139,173	

C. Funding Schedule (000's)

WSSC Bonds	815,164		121,892	693,272	75,784	96,382	121,439	127,512	132,982	139,173	
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>The purpose of this program is to renew and extend the useful life of water mains, house connections, and large water services. Portions of the water system are more than 80 years old. Bare cast iron mains, installed generally before 1965, permit the build-up of tuberculation which can reduce flow and cause discoloration at the customer's tap. Selected replacement is necessary to supply water in sufficient quantity, quality and pressure for domestic use and fire fighting. As the system ages, water main breaks are increasing. Selected mains are chronically breaking and other mains are undersized for the current flow standards. Replacement, rehabilitation via structural lining, and the addition of cathodic protection to these mains provides added value to the customer. Galvanized, copper and cast iron water mains, as well as all other water main appurtenances including meter and PRV vaults are replaced on an as needed basis when they have exceeded their useful life. * EXPENDITURES FOR WATER RECONSTRUCTION ARE EXPECTED TO CONTINUE INDEFINITELY.</p> <p><b>JUSTIFICATION</b></p> <p>The program's projected work units and expenditure levels for FY'20 (including overhead) are as follows: design and construction of main replacement and associated water house connection renewals, 25 miles - \$56.5M; cathodic protection - \$1.1M; Leak Detection system - \$3.0M; design and construction of large water service replacements - \$8.4M; emergency contracts at depots - \$6.8M. Note: The specific mix and type of water main reconstruction may vary in any given year depending on the nature and priority of the work to be addressed. Program level may be adjusted in future years based upon the results of the Asset Management Plan. Based upon the prioritization and recommendations in the Enterprise Asset Management Plan, the number of miles of water main replacement was reduced from 45 miles to 25 miles per year.</p> <p>Flow studies, water system modeling, and field surveys are routinely conducted. Water Main Condition Assessment, 1915-1998; Analysis and Recommendations by the Water Main Reconstruction Work Group (June, 1999). FY2018 Buried Water Asset Systems Asset Management Plan, (December 2015) identifies the business risk exposure of the water distribution system. FY2019 Enterprise Asset Management Plan (May 2017)</p> <p><b>COST CHANGE</b></p> <p>Overall program costs increased for inflation and higher construction unit costs.</p> <p><b>OTHER</b></p> <p>The water reconstruction program has been ongoing since 1979. Funding in the six-year program period is subject to Spending Affordability Guideline limits. The following work accomplishments through FY'18 summarize the magnitude of the reconstruction effort: 1,839 miles rehabilitated or replaced; 237 large water service/meters replaced. It is anticipated water reconstruction activity will be a perpetual element of future work programs.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement; Local Community Civic Associations;</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$53,027	26
Total Cost	\$53,027	26
Impact on Water and Sewer Rate	\$1.16	26

F. Approval and Expenditure Data (000's)

Date First in Program	
Date First Approved	
Initial Cost Estimate	
Cost Estimate Last FY	735,727
Present Cost Estimate	815,164
Approved Request Last FY	99,925
Total Expense & Encumbrances	
Approval Request Year 1	75,784

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE
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Sewer Reconstruction Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-1.01		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30;
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	108,999		13,654	95,345	14,262	15,272	15,731	16,202	16,689	17,189	
Land											
Site Improvements & Utilities											
Construction	338,159		43,020	295,139	43,954	47,312	48,731	50,193	51,699	53,250	
Other	49,684		6,297	43,387	6,468	6,954	7,162	7,377	7,599	7,827	
Total	496,842		62,971	433,871	64,684	69,538	71,624	73,772	75,987	78,266	

C. Funding Schedule (000's)

WSSC Bonds	359,842		45,971	313,871	44,684	49,538	51,624	53,772	55,987	58,266	
State Aid	137,000		17,000	120,000	20,000	20,000	20,000	20,000	20,000	20,000	

D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This program funds a comprehensive sewer system rehabilitation program in residential areas. The main component of this program is the rehabilitation and/or repair of sewer mains less than 15-inches in diameter and sewer house connections. The program addresses infiltration and inflow control, exposed pipe problems, and future capacity needs for the basin. The rehabilitation and repair funded by this program includes the rehabilitation and repair recommended by comprehensive basin studies as well as that resulting from sewer systems evaluations, line blockage assessments, field surveys, and closed circuit TV inspections. This program does not include funding for any major capital projects (e.g. CIP size relief or replacement sewers) that may result from a comprehensive basin study. These are funded separately in the CIP. * EXPENDITURES FOR SEWER RECONSTRUCTION ARE EXPECTED TO CONTINUE INDEFINITELY.</p> <p><b>JUSTIFICATION</b></p> <p>The work units and associated costs are based on our historical experience with regards to timing of design and construction work and availability of authorized contractors for proprietary rehabilitation techniques. The program's projected work units and expenditure levels for FY'20 (including overhead) are as follows: 20 miles of mainline construction - \$32.1M; 6 miles of lateral line construction and associated sewer house connection renewals - \$29.7M; emergency repairs - \$2.9M. Note: The specific mix and type of sewer reconstruction may vary in any given year depending on identified system defects.</p> <p>Comprehensive Basin Studies, Sewer System Evaluation Surveys, Line Blockage Assessments, field surveys, closed circuit TV inspections, and/or other activities investigating specific portions of the collection system. WSSC FY2019 Buried WasteWater Asset Systems Asset Management Plan (December 2016).</p> <p><b>COST CHANGE</b></p> <p>The overall program cost estimate reflects the current plan for the completion of Phase 2 (Priority 2 and Priority 3) Consent Decree work.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The program schedule and expenditures shown above reflect the terms of the Sanitary Sewer Overflow Consent Decree. The Consent Decree between WSSC, Maryland Department of the Environment (MDE), and the EPA was entered into on December 7, 2005. WSSC has applied for low interest loans through the MDE's Water Quality Administration State Revolving Loan Program and grant funding from the MDE Bay Restoration Fund for portions of this program. The sewer reconstruction program was established in 1979. Expenditures for grouting repairs are included in the operating budget. The following work accomplishments through FY'18 summarize the magnitude of this reconstruction effort: sewer main reconstruction - 503 miles. It is anticipated that sewer reconstruction activity will be a perpetual element of future work programs.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; (including local municipalities where work is to be performed); Prince George's County Government; (including local municipalities where work is to be performed); Maryland Department of the Environment; (SSO Consent Decree Compliance); Prince George's County Department of Permitting Inspection and Enforcement; U.S. Environmental Protection Agency, Region III; (SSO Consent Decree Compliance); Local Community Civic Associations;</p> <p>Coordinating Projects: S-170.09-Trunk Sewer Reconstruction Program;</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$2,297	26
Other Project Costs		
Debt Service	\$23,408	26
Total Cost	\$25,705	26
Impact on Water and Sewer Rate	\$0.59	26

F. Approval and Expenditure Data (000's)

Date First in Program	
Date First Approved	
Initial Cost Estimate	
Cost Estimate Last FY	486,081
Present Cost Estimate	496,842
Approved Request Last FY	64,684
Total Expense & Encumbrances	
Approval Request Year 1	64,684

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	0%
Est Completion Date	On-Going
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE



Engineering Support Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-102.00		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	128,000		14,000	114,000	18,000	18,000	18,000	20,000	20,000	20,000	
Other											
Total	128,000		14,000	114,000	18,000	18,000	18,000	20,000	20,000	20,000	

C. Funding Schedule (000's)

WSSC Bonds	128,000		14,000	114,000	18,000	18,000	18,000	20,000	20,000	20,000	
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D. Description & Justification

<b>DESCRIPTION</b> The Engineering Support Program (ESP) represents a consolidation of a diverse group of projects whose unified purpose is to support the extensive water and sewer infrastructure and numerous support facilities that are owned, operated, and maintained by the WSSC. EXPENDITURES FOR ENGINEERING SUPPORT ARE EXPECTED TO CONTINUE INDEFINITELY.
<b>JUSTIFICATION</b> ESP projects are identified primarily through the WSSC's Asset Management Plan Business Case process. Engineering services are provided for planning, design, and construction to meet a wide range of needs. As such, ESP projects are diverse in scope and typically include work needed to upgrade operating efficiency, modify existing processes, satisfy regulatory requirements, improve safety and security, or rehabilitate aging facilities. The ESP does not include proposed "major projects" which, by law, must be programmed in the WSSC Six-Year Capital Improvements Program or projects to serve new development.  Asset Management Implementation Plan, Stearns & Wheler (April 2008).
<b>COST CHANGE</b> The annual capital funding level has been increased based upon higher projected needs for facilities requiring rehabilitation.
<b>OTHER</b> The ESP process provides a stable funding level for projects that require engineering support. Each year, the requested projects will be prioritized and then initiated subject to the available funding for the fiscal year.
<b>COORDINATION</b> Coordinating Agencies: Not Applicable Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$8,327	26
Total Cost	\$8,327	26
Impact on Water and Sewer Rate	\$0.18	26

F. Approval and Expenditure Data (000's)

Date First in Program	FY 87
Date First Approved	FY 87
Initial Cost Estimate	
Cost Estimate Last FY	122,000
Present Cost Estimate	128,000
Approved Request Last FY	14,000
Total Expense & Encumbrances	
Approval Request Year 1	18,000

G. Status Information

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

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE
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Energy Performance Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-103.00		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	4,495		1,830	2,665	1,262	638	515	250			
Land											
Site Improvements & Utilities											
Construction	18,327		8,450	9,877	4,100	2,667	2,110	1,000			
Other	2,283		1,028	1,255	536	331	263	125			
Total	25,105		11,308	13,797	5,898	3,636	2,888	1,375			

C. Funding Schedule (000's)

WSSC Bonds	23,905		10,408	13,497	5,598	3,636	2,888	1,375			
Contribution/Other	1,200		900	300	300						

D. Description & Justification

**DESCRIPTION**

This program provides for the planning, design and construction of projects to replace and upgrade energy consuming equipment and systems at all Commission facilities to reduce energy consumption and energy-related costs (electricity, fuel oil, natural gas, or other fuel). The projects will maintain or enhance existing operating conditions and reliability while continuing to meet all permit requirements and ensuring a continued commitment to environmental stewardship. Energy conservation measures may include, but are not limited to, the replacement or upgrade of water and wastewater process equipment, wastewater pumps, water pump/valve/motor replacement, peak shaving and backup power generation systems, variable speed drives, HVAC equipment/systems, and lighting. A baseline is established to identify energy usage and costs before the equipment upgrades are implemented and then compared to the actual energy savings to quantify the savings.

**JUSTIFICATION**

Past Projects: Phases I-A through 1-D were implemented through various Energy Services Companies (ESCO) and Power Purchase Agreement (PPA) procurement mechanisms. Detailed engineering audits and planning of equipment and operations upgrades were undertaken to develop an energy efficient and guaranteed savings program. The implementation phases involved detailed design, construction, savings monitoring, energy/energy-related savings guarantees and, for solar and wind, Power Purchase Agreements. The upgrades were implemented at WSSC's water and wastewater treatment and pumping facilities as well as offices and depots.

Phase II-F: awarded in February 2018, includes Energy Conservation Measures for LED lighting upgrades at the RGH Headquarters building, Potomac and Patuxent WFPs, Parkway, Seneca, Piscataway and Damascus WRRFs, as well Anacostia and Gaithersburg Depots and Mill Branch, Hyattsville and Horsepen WWPSs. Energy Conservation Measures for building envelope upgrades and HVAC controls tuning are also included. Energy efficiency rebates are anticipated from BGE and PEPCO, totaling \$300,000. Phase II-F projects will be the last utilizing the ESCO contracting mechanism. The remaining Phase IIF Energy Conservation Measures: Piscataway WRRF Aeration system upgrades; Parkway WRRF mixer replacements; and Potomac WFP LCI Drives replacement will be implemented by WSSC.

WSSC will continue to identify energy savings efforts through the implementation of the energy audit calculations and methods utilized in the previous phases of the program. Future projects may include the replacement or upgrade of equipment at our water resource recovery facilities and water treatment plants. All future projects will be validated via the AMP Business Case Process prior to moving forward.

The Khepra Group, Potomac Water Filtration Plant Pump Systems Evaluation (May 2008); Whitman, Requardt & Associates / Shah Associates, Solar Photovoltaic Concept Study for Potomac WFP and Western Branch WWTP (May 2010).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Costs for monitoring and verification are included in the Operating Budget. Portions of the program were financed by low interest loans through the Maryland Department of the Environment's State Revolving Loan Program.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government;  
Coordinating Projects: S-96.14-Piscataway WRRF Facility Upgrades;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,555	24
Total Cost	\$1,555	24
Impact on Water and Sewer Rate	\$0.03	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 03
Date First Approved	FY 03
Initial Cost Estimate	
Cost Estimate Last FY	33,398
Present Cost Estimate	25,105
Approved Request Last FY	9,134
Total Expense & Encumbrances	
Approval Request Year 1	5,898

G. Status Information

Land Status	Public/Agency owned land
Project Phase	On-Going
Percent Complete	
Est Completion Date	Various

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Water Storage Facility Rehabilitation Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-105.00		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	Bi-County;
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	4,830		630	4,200	700	700	700	700	700	700	
Land											
Site Improvements & Utilities											
Construction	13,800			13,800	2,300	2,300	2,300	2,300	2,300	2,300	
Other											
Total	18,630		630	18,000	3,000	3,000	3,000	3,000	3,000	3,000	

C. Funding Schedule (000's)

WSSC Bonds	18,630		630	18,000	3,000	3,000	3,000	3,000	3,000	3,000	
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D. Description & Justification

<b>DESCRIPTION</b> The Water Storage Facility Rehabilitation Program provides for the comprehensive rehabilitation of the Commission's more than 60 water storage facilities located throughout the WSSC service area holding over 200 million gallons of finished drinking water. The Program provides for structural metal and concrete foundation repairs, equipment upgrades to meet current OSHA standards, lead paint removal, security upgrades, advanced mixing systems to improve water quality, and altitude valve vault and supply pipe replacements.
<b>JUSTIFICATION</b> Currently, there are more than 20 steel tanks whose last painting contract was finished 10 or more years ago. Many older tanks have accumulated significant layers of paint which have lost their bonding strength to the steel. Old coatings will be completely removed and costly lead abatement techniques will be required in many cases. The recommended practice is to perform this extra work every third re-coating to extend the service life of the structure. Modern coating systems should extend the length of service between coatings from the current 10 years to somewhere between 15 to 20 years.
<b>COST CHANGE</b> Annual program costs have been reduced to reflect the updated schedule for the remaining tanks in the program.
<b>OTHER</b> The project scope has remained the same. Tanks are prioritized based on the condition of the existing coating and structural integrity issues. The Program plan for FY'20 will address the following water storage facilities: North Woodside and Pointer Ridge.
<b>COORDINATION</b> Coordinating Agencies: Montgomery County Government; Prince George's County Government; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,212	26
Total Cost	\$1,212	26
Impact on Water and Sewer Rate	\$0.03	26

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	
Cost Estimate Last FY	56,000
Present Cost Estimate	18,630
Approved Request Last FY	8,000
Total Expense & Encumbrances	
Approval Request Year 1	3,000

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE
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Specialty Valve Vault Rehabilitation Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-107.00		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	8,947	7,481	203	1,129	242	288	278	195	96	30	134
Land											
Site Improvements & Utilities											
Construction	27,912	22,122	161	4,387	731	672	1,561	908	398	117	1,242
Other	1,088		55	827	146	144	276	165	74	22	206
Total	37,947	29,603	419	6,343	1,119	1,104	2,115	1,268	568	169	1,582

C. Funding Schedule (000's)

WSSC Bonds	37,947	29,603	419	6,343	1,119	1,104	2,115	1,268	568	169	1,582
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D. Description & Justification

<b>DESCRIPTION</b> This program provides for the planning, design, and construction of improvements and replacement of specialty valves and their associated vaults, including pressure reducing valves, pressure relief valves, altitude and metering valves, throughout the water distribution system. The program includes valves ranging in size from 8-inches to 60-inches in diameter. The program will systematically evaluate the condition of individual installations, some of which were constructed as early as the 1930's, and upgrade or relocate the structures and equipment as necessary. This program will improve reliability and increase the efficiency of system operations.
<b>JUSTIFICATION</b> The facilities included in this program are in need of rehabilitation due to factors such as: location within heavily traveled roadways, age deterioration, obsolescence and operational improvements. The Prince George's, Old Baltimore Ave, and Brinkley vaults are nearly completed. Candidate PRVs were originally identified in an October 26, 2005, memo from Jeff Asner to Karen Wright, and a subsequent May 7, 2007, memo from Karen Wright to Thomas Heikkinen. Originally, there were 23 candidate vaults within this Program as identified by the Systems Control Group; PRV Vault Rehabilitation Evaluation Study, EBA Engineering, Inc. (September 2010). Additional work has been added through 209B Business Case Report (January 2016).
<b>COST CHANGE</b> Not applicable.
<b>OTHER</b> The project scope has remained the same; additional vaults may be added to or removed from the program based upon business case recommendations from the Asset Management Programs. The cost for vaults that may be permanently taken out of service or replaced under other future projects have been moved to funding beyond 6 years. The Prince George's, Old Baltimore Ave, and Brinkley vaults are nearly completed. Land and rights-of-way costs are included in WSSC Project W-202.00.
<b>COORDINATION</b> Coordinating Agencies: Maryland State Highway Administration; Maryland Water Management Administration; Montgomery County Government; Prince George's County Department of Permitting Inspection and Enforcement; Montgomery County Department of Public Works and Transportation; Prince George's County Government; Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,468	
Total Cost	\$2,468	
Impact on Water and Sewer Rate	\$0.05	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	17,560
Cost Estimate Last FY	37,136
Present Cost Estimate	37,947
Approved Request Last FY	1,442
Total Expense & Encumbrances	29,603
Approval Request Year 1	1,119

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	78%
Est Completion Date	On-Going
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE
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Advanced Metering Infrastructure

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-109.00		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	96,750	875	19,175	76,700	17,577	19,175	19,175	19,175	1,598		
Other											
Total	96,750	875	19,175	76,700	17,577	19,175	19,175	19,175	1,598		

C. Funding Schedule (000's)

WSSC Bonds	96,750	875	19,175	76,700	17,577	19,175	19,175	19,175	1,598		
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D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the implementation of a system-wide automated meter reading infrastructure system (System) and new comprehensive customer billing and data analysis integration software. All meters will receive new Meter Interface Units with internal antenna capable of obtaining and/or transmitting the meter register reading. All readings will be collected remotely by either a mobile system or a fixed network communications system.</p>
<p><b>JUSTIFICATION</b></p> <p>The System will be required to obtain accurate register readings from a variety of water meters located in indoor, pit-set, and underground vault settings, and be universally compatible with the existing meters and encoder registers in the distribution system.</p> <p>Dial Outbound AMR Trial Final Report, Metering Services, Inc. (1990); An Economic Evaluation of AMR for WSSC, Marilyn Harrington (1992); Cost of Meter Reading Study, Marilyn Harrington (2000); The WSSC Experience with Radio-Frequency AMR on Commercial &amp; Industrial Meters (2002); Radio Frequency Solution for Meter Reading (2003); AMR Phase I (July 2005); Customer Care Team Departmental Action Item #20 - AMR Installation (2007); Advanced Metering Infrastructure Study, R.W. Beck (March 2011).</p>
<p><b>COST CHANGE</b></p> <p>Order of Magnitude cost estimates were increased for inflation.</p>
<p><b>OTHER</b></p> <p>The project scope has remained the same. AMI will improve both customer service and operational efficiency. The expected results include: Monthly billing based on actual meter readings. This would reduce bill size to help customers stay current with their payments, help customers develop a greater awareness of their water consumption, and ensure that problems such as excessive consumption due to leaks are addressed more quickly; Active notification of customers with abnormal consumption that might signify leaks before they get high consumption bills; Reduced customer calls; Reduced field investigation visits; Provide opportunities to employ more sophisticated rate structures; Analysis of individual consumption patterns to detect meters suspected of wearing out, or perform meter sizing analysis to ensure that large meters are optimally sized; Monitoring of individual consumption to perform precise, targeted conservation enforcement during droughts; Opportunities to improve the monitoring and operation of the distribution system, in order to detect and reduce non-revenue water. Schedule and expenditure estimates are Order of Magnitude estimates originating from the March 2011 study. These estimates are expected to change based upon the latest technology available at the time the project is bid. The AMI project has been delayed until the replacement of the Commission's Customer Service Information System (CSIS) is completed. Implementation of the new customer billing software, Customer2Meter (C2M), and pilot testing of the latest meter technology is underway.</p>
<p><b>COORDINATION</b></p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government;</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$6,294	25
Total Cost	\$6,294	25
Impact on Water and Sewer Rate	\$0.14	25

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	86,000
Cost Estimate Last FY	93,930
Present Cost Estimate	96,750
Approved Request Last FY	27,694
Total Expense & Encumbrances	875
Approval Request Year 1	17,577

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	15%
Est Completion Date	FY 2024

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	1.8 Million Customers
Capacity	

H. Map

MAP NOT AVAILABLE
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D'Arcy Park North Relief Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-300.01		Change

PDF Date	October 1, 2018
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Suitland-District Heights & Vicinity PA

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'18	Estimate FY'19	Total 6 Years	Year 1 FY'20	Year 2 FY'21	Year 3 FY'22	Year 4 FY'23	Year 5 FY'24	Year 6 FY'25	Beyond 6 Years
Planning, Design & Supervision	276	90	96	90	47	43					
Land											
Site Improvements & Utilities											
Construction	532		136	396	198	198					
Other	108		35	73	37	36					
Total	916	90	267	559	282	277					

C. Funding Schedule (000's)

Contribution/Other	916	90	267	559	282	277					
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D. Description & Justification

**DESCRIPTION**

This project provides for the planning, design, and construction of 1,110 feet of 12-inch diameter (non-SDC eligible) PVC relief sewer to provide service to D'Arcy Park North.

**JUSTIFICATION**

D'Arcy Park North Hydraulic Planning Analysis, (September 2008).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. Estimated completion date is developer dependent. This project is not eligible for SDC credits. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Prince George's County Government; Prince George's County Department of Environmental Resources; Local Community Civic Associations;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$19	22
Other Project Costs		
Debt Service		
Total Cost	\$19	22
Impact on Water and Sewer Rate		

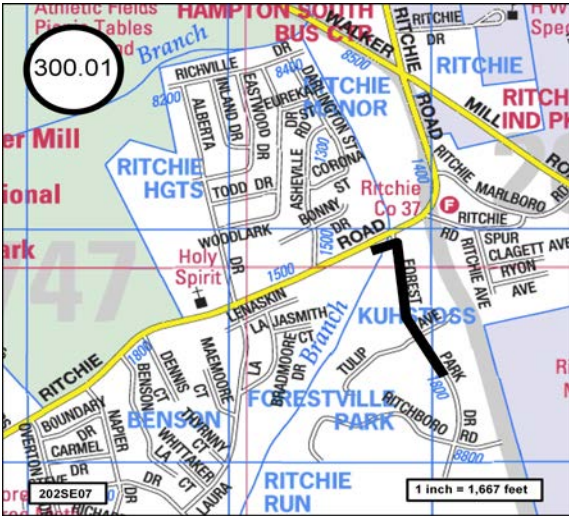
F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	824
Cost Estimate Last FY	892
Present Cost Estimate	916
Approved Request Last FY	274
Total Expense & Encumbrances	90
Approval Request Year 1	282

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	20%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	1.6 MGD

H. Map



**PROJECTS PENDING CLOSE-OUT**  
**Information Only Projects**  
**(costs in thousands)**

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'18	Estimated Expenditures FY'19	Remarks
	A-145.01	Brighton Dam Operations & Maintenance Facility and Site Improvements	\$6,394	\$4,135	\$2,259	Projection completion expected in FY'19
		<b>TOTALS</b>	\$6,394	\$4,135	\$2,259	

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## Appendices

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RESOLUTION NO. 2018-2187

Adopted: June 20, 2018

Effective Date: July 1, 2018

WASHINGTON SUBURBAN SANITARY COMMISSION

**SUBJECT:** A RESOLUTION modifying the System Development Charge (SDC) to help finance the capital costs of expanding and augmenting water and sewerage systems to accommodate service to subscribers in the Washington Suburban Sanitary District (WSSD) and to provide a financing mechanism to aid the Washington Suburban Sanitary Commission (Commission) in paying for the capital projects thereof by providing methods and procedures by which the SDC is to be implemented and/or collected.

**WHEREAS**, the Maryland Annotated Code, Public Utilities Article (PUA) §§ 25-401, *et seq.* authorizes the Montgomery and Prince George's County Councils to establish a System Development Charge which will be paid by applicants for new water and sewer service; and

**WHEREAS**, PUA §§ 25-402 and 25-403 govern the schedule for the payment of the System Development Charge to the Commission for certain properties and establishes a maximum System Development Charge that may be charged; and

**WHEREAS**, PUA § 25-403(b) provides that the Montgomery and Prince George's County Councils shall grant a full or partial exemption from the SDC charge for public sponsored or affordable housing; and

**WHEREAS**, PUA § 25-403(b) provides that the Montgomery and Prince George's County Councils may grant a full or partial exemption from the SDC charge for revitalization projects, elderly housing, biotechnology, and for certain properties used primarily for recreational and educational programs for youth, properties used for child care or after-school care, or properties used for programs and services for the developmentally disabled; and

**WHEREAS**, the Commission owns and operates various water treatment and sewage treatment disposal plants and facilities within the WSSD and utilizes and has an equity share in sewage treatment plants operated by other jurisdictions to treat sewage generated in portions of the WSSD; and

**WHEREAS**, it is necessary that the Commission, with the advice and consent of the local governing bodies within the WSSD, develop alternative funding to cover the costs of providing quality water and sewer service in the WSSD and to similarly accommodate new growth therein as authorized by the County Governments; and

RESOLUTION NO. 2018-2187

Adopted: June 20, 2018

Effective Date: July 1, 2018

**WHEREAS**, the System Development Charge is a component of the Commission's Fiscal Year 2019 capital and operating budgets prepared pursuant to PUA §17-202; and

**WHEREAS**, the Commission last modified the System Development Charge effective July 1, 2017 by Commission Resolution No. 2017-2157; and

**WHEREAS**, for all of the foregoing reasons it is necessary or desirable to continue the imposition of a System Development Charge fee; and

**WHEREAS**, PUA § 25-403 provides that the Montgomery and Prince George's County Councils may adopt and the Commission may implement a System Development Charge not to exceed \$200.00 per fixture unit or, for residential properties with five or fewer toilets, not to exceed certain enumerated amounts based on the number of toilets per dwelling unit; and

**WHEREAS**, PUA § 25-403 provides that on July 1, 1999 and each July 1 of each succeeding year, the maximum charge may be changed by an amount equal to the prior calendar year's change in the consumer price index published by the Bureau of Labor Statistics of the United States Department of Labor for urban wage earners and clerical workers for all items for the Washington, D.C. metropolitan area; and

**WHEREAS**, the consumer price index published by the Bureau of Labor Statistics of the United States Department of Labor for urban wage earners and clerical workers for all items for the Washington, D.C. metropolitan area increased 1.6% from November 2016 to November 2017; and

**WHEREAS**, the Commission recommends keeping the System Development Charge rates unchanged for FY'19. However, the Commission recommends increasing the maximum allowable charge by 1.6% from FY'18 limits in order to maintain future rate flexibility to address future potential growth funding gaps; and

**WHEREAS**, the County Councils of Prince George's County and Montgomery County met and approved the modifications to the System Development Charge set forth below on May 10, 2018; and

**NOW, THEREFORE, BE IT RESOLVED** THIS 20<sup>th</sup> day of June, 2018, that the Commission hereby adopts the approved System Development Charge fee schedule as set forth herein. For the purposes of this Resolution, the following definitions apply:

RESOLUTION NO. 2018-2187

Adopted: June 20, 2018

Effective Date: July 1, 2018

Definitions:

- 1) Apartment Unit means one of several single family residential units within one building that is not a “multi-unit dwelling.” An “apartment unit” must contain at least one full bath and kitchen, but not more than two toilets. An “apartment unit” typically includes, but is not limited to, an individual dwelling unit in a garden, medium or high-rise type residential building.
- 2) Biotechnology Research and Development or Manufacturing means any development as jointly defined and approved by the Montgomery and Prince George’s County Councils as eligible for a waived System Development Charge, more particularly described in Schedule C, attached.
- 3) Drainage Charge is the portion of the System Development Charge applicable to drainage fixture units for apartments and residential properties having five or fewer toilets.
- 4) Drainage Fixture Unit Value is a measure of the probable discharge into the drainage system by a particular plumbing fixture in terms of volume rate of discharge and duration of a single drainage operation and the time between successive operations.
- 5) Dwelling Unit means a single-family housing unit used as a residence, including trailers and mobile homes.
- 6) Elderly Housing means residential units as jointly defined and approved by the Montgomery and Prince George’s County Councils as eligible for a waived System Development Charge, more particularly described in Schedule D, attached.
- 7) Hookup means the joining of the on-site water and/or sewer line(s) to the Commission’s service connection or the installation of plumbing fixtures in a building served by the Commission’s water and/or sewer facilities.
- 8) Multi-Unit Dwelling means a building that will accommodate several housing units on a lateral basis; namely, semi-attached houses, row houses, or townhouses used as residences.
- 9) New Service means:
  - a) the first-time hook-up of a property to the Commission’s water and/or sewer system, including
    - 1) a direct connection of an improvement or building; or
    - 2) a connection of the improvement or building through an existing on-site system; or
  - b) a new connection or increased water meter size for a property previously or currently served by the Commission if the new connection or increased meter

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size is needed because of a change in the use of the property or an increase in demand for service at the property.

- 10) Non-Residential Unit is a structure not otherwise defined as a Residential Unit, generally commercial or industrial in nature. Examples may include shopping malls, non-residential townhouses, warehouses, industrial buildings, restaurants, schools, dormitories, hospitals, hotels, motels, nursing homes, office buildings, churches, theaters, and similar commercial or industrial buildings.
- 11) Property Used Primarily for Recreational and Educational Programs and Services to Youth means real property, owned in fee simple, by a Community Based Organization that is jointly defined and approved by the Montgomery and Prince George's County Councils as eligible for a System Development Charge exemption, more particularly described in Schedule F, attached.
- 12) Property Used Primarily for Child Care and After-School Care means improved property owned in fee simple by an individual or organization licensed by the State of Maryland to provide day care services, on which a child day care use or after-school care use, as defined in the Montgomery County or Prince George's County Zoning Ordinance (as applicable), operates as a principal use thereon.
- 13) Property Used Primarily for Programs and Services for Developmentally Disabled Individuals means improved property owned in fee simple by an individual or organization licensed by the State of Maryland to provide services to developmentally disabled individuals, on which a use defined in the Montgomery County or Prince George's County Zoning Ordinance (as applicable) as one that provides services to developmentally disabled individuals, operates as a principal use thereon.
- 14) Public Sponsored or Affordable Housing means residential units as jointly defined and approved by the Montgomery and Prince George's County Councils as eligible for a waived System Development Charge, more particularly described in Schedule A, attached.
- 15) Residential Unit means any housing unit defined in Paragraphs 1, 5, 6, 8 and 11 above used as a residence.
- 16) Revitalization means any development as jointly defined and approved by the Montgomery and Prince George's County Councils as eligible for a waived System Development Charge, more particularly described in Schedule B, attached.
- 17) System Development Charge means that charge imposed by the Commission pursuant to the provisions of §25-403, Division II of the Public Utilities Article,

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Annotated Code of Maryland. (Maximum allowable System Development Charge is the maximum charge authorized by law, but not necessarily imposed in a given year.)

- 18) Toilet is a water closet as set forth in the WSSC Plumbing and Fuel Gas Code; and
- 19) Water Supply Charge is the portion of the System Development Charge applicable to water supply fixture units for apartments and residential properties having five or fewer toilets; and
- 20) Water Supply Fixture Unit Value is a measure of the probable hydraulic demand on the water supply by a particular plumbing fixture in terms of volume rate of supply and duration of a single supply operation and the time between successive operations; and

**BE IT FURTHER RESOLVED**, that the System Development Charge rates for FY'19 shall be as follows:

Property Type	FY'19 Charge	Maximum Allowable Charge
Apartment Unit		
Water	\$896	\$1,310
Sewer	1,140	1,669
1-2 Toilets / Residential		
Water	1,344	1,968
Sewer	1,710	2,500
3-4 Toilets / Residential		
Water	2,240	3,279
Sewer	2,850	4,171
5 Toilets / Residential		
Water	3,135	4,589
Sewer	3,991	5,841
6 or More Toilets / Residential*		
Water	88	130
Sewer	115	170
Non-Residential*		
Water	88	130
Sewer	115	170

\*Per Fixture Unit

(The System Development Charge for non-residential properties and dwelling units or multi-unit dwellings with more than five toilets shall be based on the number of plumbing fixtures and the assigned values for those fixtures as set forth in the WSSC Plumbing and Fuel Gas Code.); and

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**BE IT FURTHER RESOLVED**, that the System Development Charge, as established herein, shall be paid to the Commission at the time of application for plumbing permit to install fixtures or hookup(s) to the Commission's water and/or sewage system(s) except that an applicant for a plumbing permit for a residential unit may pay the System Development Charge in two payments as follows:

- 1) One-half at the time of Plumbing Permit Application;
- 2) The remaining one-half within 12 months after the first payment or prior to the transfer of title to the property, whichever occurs first.

At the time of the first payment, the applicant for the plumbing permit for a residential unit shall deposit with the Commission security for the second payment in an amount and form established and approved by the Commission; and

**BE IT FURTHER RESOLVED**, that the fees established herein shall be in addition to, and not a substitution for, any other fees, rates, charges, or assessments allowed by law; and

**BE IT FURTHER RESOLVED**, that the County Councils for Prince George's and Montgomery Counties shall grant a full or partial exemption from the System Development Charge, as set forth in PUA §25-403(b)(1), for any public sponsored or affordable housing as defined in Schedule A; and

**BE IT FURTHER RESOLVED**, that the County Councils for Prince George's and Montgomery Counties may grant a full or partial exemption from the System Development Charge, as set forth in PUA §25-403(b)(2)(i), for revitalization projects, as defined in Schedule B; and

**BE IT FURTHER RESOLVED**, that the County Councils for Prince George's and Montgomery Counties may grant a full or partial exemption from the System Development Charge, as set forth in PUA §25-403(b)(3), for elderly housing as defined in Schedule D, and subject to the maximum exemptions established by County Councils and set forth in Schedule E; and

**BE IT FURTHER RESOLVED**, that the County Councils for Prince George's and Montgomery Counties may grant a full or partial exemption from the System Development Charge, up to \$80,000, as set forth in PUA §25-403(b)(2)(ii) for Properties Used Primarily for Recreational and Educational Programs and Service to Youth as defined in Schedule F; and

**BE IT FURTHER RESOLVED**, that the County Councils for Prince George's and Montgomery Counties may grant a full or partial exemption from the System

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Development Charge, as set forth in PUA §25-403(b)(2)(iii), for properties used primarily for child care or after-school care, as defined in Definition 12 herein; and

**BE IT FURTHER RESOLVED**, that the County Councils for Prince George's and Montgomery Counties may grant a full or partial exemption from the System Development Charge, as set forth in PUA §25-403(b)(2)(iv), for properties used primarily for programs and services for developmentally disabled individuals, as defined in Definition 13 herein; and

**BE IT FURTHER RESOLVED**, that the County Councils for Prince George's and Montgomery Counties may grant a full or partial exemption from the System Development Charge, as set forth in PUA §25-403(b)(3)(iv), for properties used for manufacturing or biotechnology research and development, as defined in Schedule C;

**BE IT FURTHER RESOLVED**, that the County Councils of Prince George's and Montgomery Counties may adopt implementing resolutions for the aforesaid System Development Charge exemptions, which resolutions govern the administration of the exemptions for projects within each County.

**BE IT FURTHER RESOLVED**, that nothing herein shall be construed as creating a contract between the Commission and the applicant for service, and that the providing of water and/or sewer service to an applicant's property shall be subject to intervention of other governmental authority; the duly adopted policies of Montgomery and Prince George's Counties, and the Commission's ability to otherwise provide such service; and

**BE IT FURTHER RESOLVED**, that Commission Resolution No. 2017-2157 adopted June 20, 2018 on the same subject matter be, and the same is hereby superseded by this Commission Resolution No. 2018-2187; and

**BE IT FURTHER RESOLVED**, that the System Development Charge established herein shall take effect on July 1, 2018.

RESOLUTION NO. 2018-2187  
Adopted: June 20, 2018  
Effective Date: July 1, 2018

A True Copy

Attest:

\_\_\_\_\_  
Sheila R. Finlayson, Esq., Corporate Secretary



**SCHEDULE A**

“Public sponsored or affordable housing” means:

- 1) any dwelling unit built or financed under a government program, regulation, or binding agreement that limits for at least 10 years the price or rent charged for the unit in order to make the unit affordable to households earning less than 80% of the area median income, adjusted for family size;
- 2) any Moderately Priced Dwelling Unit built under Chapter 25A of the Montgomery County Code or Subtitles 13 and 27 of the Prince George’s County Code;
- 3) any Productivity Housing Unit, as defined in Section 25B-17 (k) of the Montgomery County Code;
- 4) any unit in an Opportunity Housing Project built under Sections 56-28 through 56-32 of the Montgomery County Code or Subtitle 13, Division 8, of the Prince George’s County Code, which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law);
- 5) any dwelling unit constructed pursuant to the Capturing Housing Opportunities in Communities Everywhere (CHOICE) Program in Prince George’s County which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law).

**SCHEDULE B**

“Revitalization” means:

- 1) a project meeting any additional criteria that may be adopted by the respective county council or applicable municipal council that is located in:
  - a) any state-designated revitalization area as defined by the Maryland Department of Housing and Community Development (DHCD).
  - b) any state-designated enterprise zone as defined by the Maryland Department of Business and Economic Development (DBED).
  - c) any federally-designated economic development district as defined by the U.S. Department of Commerce, Economic Development Administration (EDA).
  - d) any federally-designated empowerment zone and developable sites as defined by the U.S. Department of Housing and Urban Development (HUD).
  - e) any Transit District Overlay Zone (T-D-O Zone) as defined by Subtitle 27, Part 10A, Division 1, of the Prince George’s County Code.
  - f) any Prince George’s County designated revitalization area as defined in Subtitle 10 of the Prince George’s County Code.
  - g) any state designated Neighborhood Business Development Program as defined in Subtitle 3, of Title 6, of the Housing and Community Development Article of the Annotated Code of Maryland.
  - h) any Montgomery County designated neighborhoods, as determined by the Montgomery County Executive and County Council, as a revitalization neighborhood for activities that will act to preserve, stabilize, and enhance the social, physical, and economic conditions of the neighborhood. Activities may include concentrated housing code inspections and enforcement, housing rehabilitation, social service programs, public infrastructure improvements, and private and/or public capital investment.
- 2) A property used for the production of alcoholic beverages.

**SCHEDULE C**

“Biotechnology Research and Development or Manufacturing” means:

Any activity that substantially involves research, development, or manufacturing of:

- a. Biologically-active molecules;
- b. Devices that employ or affect biological processes; or
- c. Devices and software for production or management of specific biological information.

**SCHEDULE D**

“Elderly Housing” include the following types of housing:

As defined in the Prince George’s County Zoning Ordinance:

**Sec. 27-107.01. Definitions**

**(a) Terms in the Zoning Ordinance are defined as follows:**

**(20.3)Assisted Living Facility  
(54)Congregate Living Facility  
(151)Mixed Retirement Development**

**Sec. 27-352.01 Elderly Housing (one-family attached dwellings)**

**Sec. 27-374 Medical / residential campus**

**Sec. 27-395 Planned retirement community**

OR

As defined in the Montgomery County Zoning Ordinance:

**Sec. 59-G-2.35 Housing and related facilities for elderly or handicapped persons**

**Sec. 59-G-2.35.1 Life Care (continuing care) facility**

**Sec. 59-C-7.4 Housing constructed in a planned retirement community zone**

OR

As defined in a municipal zoning ordinance in a municipality having separate zoning powers and that is found by the Director of the Department of Housing and Community Affairs to be equivalent to the definition for the county in which the municipality is located. The review of equivalency should be based upon age of occupants and the inclusion of assisted living dwelling units.

**SCHEDULE E**

Maximum “elderly housing” exemptions are as follows:

- |    |   |  |
|----|---|--|
| 1. | Apartment unit  | \$436.00   |
| 2. | Dwelling unit or housing unit within a multi-unit dwelling with one or two toilets    | \$654.00   |
| 3. | Dwelling unit or housing unit within a multi-unit dwelling with three or four toilets | \$1,090.00   |
| 4. | Dwelling unit or housing unit with a multi-unit dwelling with five toilets            | \$1,526.00   |
| 5. | For other housing that meets the elderly housing exemption criteria                   | Not more than \$43 per combined fixture unit value |

**SCHEDULE F**

1. “Property Used Primarily for Recreational and Educational Programs and Services to Youth” means:

Real property, owned in fee simple, by a Community Based Organization, located within the Washington Suburban Sanitary District, which is used to advance the mission and purpose of providing recreational and educational program and services to youth in Prince George’s and/or Montgomery County.

2. “Community Based Organization” means:

A not-for-profit entity duly incorporated in or authorized to do business by the State of Maryland and in good standing under the laws of the State of Maryland, which has as its primary mission and purpose to provide recreational and educational programs and services to youth in Prince George’s and/or Montgomery County.

3. “Exempt From Taxation” means:

A not-for-profit, charitable or educational organization as determined by the Internal Revenue Service, under Section 501(c) (3) of the Internal Revenue Code.

# STANDARD PROCEDURES OF THE WASHINGTON SUBURBAN SANITARY COMMISSION

ORIGINATOR	SP NUMBER	APPROVE BY/DATE	EFFECTIVE DATE	PAGE
Joseph P. McNerney Customer Affairs Bureau Director	CUS 98-01 Supersedes CUS 94-06 & CUS 93-02	COMMISSION <i>Michael Schwartz</i>	July 1, 1998	1 OF 7

SUBJECT: SYSTEM DEVELOPMENT CHARGE LEVY AND COLLECTION

## PURPOSE

- 1.1 To document the levy, collection and deposit of the System Development Charge (SDC) in accordance with Article 29, §6-113 of the Annotated Code of Maryland and WSSC's Resolution No. 98-1555.
- 1.2 Define terms and phrases referencing SDC as commonly used in the issuance of plumbing permits.

## DEFINITIONS

- 2.1 Apartment Unit means one of several single family housing units within one building and not specifically classified as a multi-unit dwelling, e.g., individual dwelling units in garden, medium and high-rise type residential buildings.
- 2.2 Base SDC Fee is the WSSC approved dollar charge for a plumbing fixture having a Drainage Fixture Unit Value and/or a Water Supply Fixture Unit Value of one for non-residential properties or residential units with more than five toilets. The Base SDC Fee for residential units with five or fewer toilets is the WSSC approved dollar charge based upon the unit's number of toilets.
- 2.3 Drainage Fixture Unit Value is a measure of the probable discharge into the drainage system by a particular plumbing fixture in terms of volume rate of discharge and duration of a single drainage operation and the time period between successive operations.
- 2.4 Dwelling Unit means a single family housing unit used as a residence, including trailers and mobile homes.
- 2.5 Hookup means the joining of a property's on-site water and/or sewer line(s) to the Commission's service connection or the installation of plumbing fixtures in a building served by the Commission's water and/or sewer facilities.
- 2.6 Multi-Unit Dwelling means a building that will accommodate several housing units on a lateral basis; namely, semi-attached houses, row houses or townhouses used as residences.

- 2.7 New Service means:

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WSSC STANDARD PROCEDURES

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- (a) the first-time hook-up of a property to the Commission's water and/or sewer system; or
- (b) a new connection or increased water meter size for a property, previously or currently served by the Commission, if the new connection or increased meter size is needed because of a change in the use of the property or an increase in demand for service at the property.

2.8 Non-Residential Unit is a structure not otherwise defined as a Residential Unit, generally commercial or industrial in nature. Examples may include Shopping Malls, non-Residential Townhouses, Warehouses, Industrial Buildings, Restaurants, Schools, Dormitories, Hospitals, Hotels, Motels, Nursing Homes, Office Buildings, Churches, Theaters and similar commercial or industrial buildings.

2.9 Plumbing Permit is the approved instrument, resulting from an application filed by a Registered Master Plumber, which allows for hookup of fixtures or onsite piping to the Commission's water and/or sewer systems.

2.10 Property means an improvement(s) or building(s) on a lot or parcel of land containing plumbing fixtures described in terms of Drainage Fixture Unit Values or Water Supply Fixture Unit Values.

2.11 Public Sponsored and Affordable Housing means:

- (1) any dwelling unit built or financed under a government program, regulation, or binding agreement that limits for at least 10 years the price or rent charged for the unit in order to make the unit affordable to households earning less than 80% of the area median income, adjusted for family size;
- (2) any Moderately Priced Dwelling Unit built under Chapter 25A of the Montgomery County Code or Subtitles 13 and 27 of the Prince George's County Code;
- (3) any Productivity Housing Unit, as defined in Section 25B-17(m) of the Montgomery County Code;
- (4) any unit in an Opportunity Housing Project built under Sections 56-28 through 56-33 of the Montgomery County Code or Subtitle 13, Division 8, of the Prince George's County Code, which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law);
- (5) any dwelling unit constructed pursuant to the Capturing Housing Opportunities in Communities Everywhere (CHOICE) Program in Prince George's County which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law).

2.12 Residential Unit means any housing unit defined in Paragraphs 2.1, 2.4, and 2.5 above used as a residence.



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- 2.13 Residential Applicant means a builder on whose behalf a Registered Master Plumber applies for and receives from the Commission plumbing permits for construction of new residential units.
- 2.14 SDC Sewer Charge is the product of a fixture's Drainage Fixture Unit Value and its associated Base SDC Fee for non-residential properties or dwelling and multi-unit housing units with more than five toilets. For residential properties with five or fewer toilets, the SDC Sewer Charge is the Commission approved drainage portion of the Base SDC Fee.
- 2.15 SDC Water Charge is the product of a fixture's Water Supply Fixture Unit Value and its associated Base SDC Fee for non-residential properties or dwelling and multi-unit housing units with more than five toilets. For residential properties with five or fewer toilets, the SDC Water Charge is the Commission approved water supply portion of the Base SDC Fee.
- 2.16 Sub-District Charge means that charge established by the Commission pursuant to the provisions of §6-103, Article 29, Annotated Code of Maryland.
- 2.17 Toilet means a water closet, as set forth in the WSSD Plumbing and Gasfitting Regulations.
- 2.18 Water Supply Fixture Unit Value is a measure of the probable hydraulic demand on the water supply by a particular plumbing fixture in terms of volume rate of supply and duration of a single supply operation and the time period between successive operations.

GENERAL

- 3.1 SDC is a fee established pursuant to provisions of Article 29, § 6-113 of the Annotated Code of Maryland, to help finance the capital cost of upgrading existing plants and facilities as well as the construction of new capital projects attributable to the addition of new service.
- 3.2 The Base SDC Fee level is established by Commission Resolution representing a formal adoption of the fee level mutually agreed upon by the Montgomery and Prince George's County Councils.
- 3.3 The SDC fee for a non-residential property or a dwelling unit or housing unit within multi-unit dwelling with more than five toilets is determined by the type and number of fixtures, existing and/or proposed, for which hookup to the WSSC's water and/or sewerage system(s) is proposed. The SDC levy is the sum of SDC Water Charges and SDC Sewer Charges, prevailing at the time of application for hook-up, which are associated with the individual fixtures proposed for hookup.
- 3.4 The SDC fee for a residential unit with five or fewer toilets is determined by the number of toilets, existing and/or proposed, for which hookup to the WSSC's water and/or sewerage system(s) is proposed. The SDC levy is the sum

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of SDC Water Charges and SDC Sewer Charges, prevailing at the time of application for hook-up, which are associated with the number of toilets proposed for hookup.

- 3.5 Except as provided by Section 3.9, a property's calculated SDC fee is payable in full and shall accompany the application for plumbing permit for hookup of a property's fixtures to the WSSC system. Any "credit" pursuant to WSSC Standard Procedure CUS 94-03, entitled *SDC DEVELOPER CREDITS AND REIMBURSEMENTS*, may be substituted as payment, on a dollar for dollar basis, as therein described. Collected SDC fees shall be deposited in established revenue accounts and reconciled through the Service Applications & Records Section's remittance-processing system.
- 3.6 When a request is made to add a fixture(s) to a plumbing permit which has been issued under a previous SDC rate structure and which has not received final inspection approval, the additional SDC shall be calculated and collected based upon the fixture unit rate in effect at the time of request, except that the total SDC for a residential unit permit with five or less toilets shall not exceed the current Base SDC fee for such a unit.
- 3.7 When an application is made to add a toilet(s) to an existing dwelling or housing unit within an existing multi-unit dwelling, the resulting permit may be subject to a SDC fee only if the unit was previously assessed a SDC fee or an increase is required in the size of the unit's connection or meter. In either situation, a SDC fee will be actually assessed only if the number of toilets is being increased from one toilet based rate category to the next. For housing units with five or fewer toilets, the SDC fee assessed will be equal to the difference in the SDC base charge currently applicable to the number of existing toilets and that applicable to the total number of existing and proposed toilets. The SDC fee assessed for existing housing units with more than five toilets is the sum of the SDC Base fees at the current SDC rate structure for all added fixtures.
- 3.8 When an application is made to add fixtures to a Non-residential Unit, the resulting permit may be subject to a SDC fee only if the unit was previously assessed a SDC fee or an increase is required in the size of the unit's connection or meter. In either situation, the SDC fee assessed is the sum of the SDC Base fees at the current SDC rate structure for all added fixtures.
- 3.9 A residential applicant who elects to delay paying a portion of the system development charge shall pay one half the charge at the time of filing application for plumbing permit. The remaining one half of the system development charge for each residential unit shall be paid to the Commission within 12 months after the first payment or prior to the transfer of title to the property, whichever occurs first. A residential applicant must provide security for the remaining one half of the system development charge at the time of filing the plumbing permit application in one of the following forms:

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- (a). An irrevocable letter of credit that is automatically renewed from a bank that is rated "C" or better by Thomson BankWatch.
- (b). A financial guaranty bond in a form substantially similar to the form attached here as Appendix "A." The bond shall be executed by the applicant and a corporate bonding company licensed to transact such business in the State of Maryland and named on the current list of "surety companies acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of this bond shall be paid by the applicant. If at any time the surety on any such bond is declared bankrupt or loses its right to do business in the State of Maryland or is removed from the list of surety companies accepted on Federal bonds, the applicant shall within ten days after notice from the Commission to do so, substitute an acceptable bond in such forms and sum and signed by such other surety or sureties as may be satisfactory to the Commission.
- (c). For the residential applicant who certifies that he or she applies for four or fewer permits for the construction of residential units within the same calendar year, the General Counsel is hereby authorized to accept other forms of security proposed by the applicant and that in the judgment of the General Counsel will protect the Commission's interests in the same manner as the letter of credit and financial guaranty bond described above.

3.10. Fixtures verified by WSSC inspection prior to removal may result in credits toward SDC in a replacement structure. Following written application by a Registered Master Plumber, Postcard Permit inspections to confirm fixtures prior to removal will be the basis for calculating any SDC credit. No credit

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WSSC STANDARD PROCEDURES

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will be afforded for rough-in piping or fixtures removed prior to inspection. SDC credit under this paragraph may only be obtained by submitting the original Master Plumber's copy of the approved Postcard Permit document at the time of application for hook-up of the replacement or remodeled structure. Credit obtained under this provision may only be used toward the remodeling of the existing structure or the redevelopment of a property from which the original fixtures were removed.

EXEMPTIONS

- 4.1 Additional fixtures installed in a structure or building are exempt from the levy of an SDC fee only if inspection of the initial hookup of the building or structure's plumbing to the WSSC's system(s) was approved under a permit issued as a result of an application filed before July 19, 1993, and the change in fixtures does not require an increase in the property's connection(s) or meter size.
- 4.2 The hook-up of a residential unit which is certified by Montgomery or Prince George's County as being a Public Sponsored or Affordable Housing Unit, as defined by Commission Resolution No. 98-1555, shall be exempted from any SDC fee.
- 4.3 The initial hook-up of a residential unit to the Commission's water and/or sewerage system will be exempted from the levy of any SDC fee if the unit existed and was served by a private well and/or septic system on or before July 16, 1993, and the applicable WSSC water or sewer main was in service or its construction was the subject of "Formal Notice To Proceed" (to the WSSC contractor) on or before the same July 16, 1993.

REFUNDS

- 5.1 In the event a permit to install plumbing fixtures expires or is canceled pursuant to provisions of Section 206.2 of the Plumbing and Gasfitting Regulations, all SDC fees paid in association with the application for plumbing permit to hook-up may be refunded, provided Code Enforcement Section's inspection records confirm that no work covered by the permit has been accomplished. Such refunds will be made to the original SDC payer at the time of application.
- 5.2 SDC payments for fixtures represented on an application, but not installed, may be refunded to the original payer provided a written request for refund is filed with the Service Applications & Records Section prior to a request for final inspection. Upon confirmation by the Code Enforcement Section that the fixtures or related rough-in work referenced in the written request have not been installed, the fixtures will be deleted from the permit database record and SDC refund action will be initiated.
- 5.3 The reimbursement of SDC payments to comply with credit requirements set forth in Article 29, §6-113.(e) of the Annotated Code of Maryland shall be

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accomplished as specified by WSSC Standard Procedure CUS 94-03, entitled SDC CREDITS AND REIMBURSEMENT.

- 5.4 A request for full or partial refund of previously remitted SDC which has been denied may be appealed under provisions of Article 29, §6-111 of the Annotated Code of Maryland.

AUTHORITY CLAUSE

The General Counsel certifies that the statutory authority for adoption of this Standard Procedure is Article 29, §§ 6-113 and 9-101 of the Annotated Code of Maryland.

Distribution List

MASTER VOLUME LIST:

General Manager's Office  
Internal Audit Office  
Secretary's Office  
Human Resources Division

Other Distribution:

Commissioner's Office  
Administration Branch  
Operations Branch  
General Counsel's Office  
Budget and Financial Planning Office  
Construction Bureau  
Customer Affairs Bureau  
Finance Bureau  
Customer Services Division  
Financial Operations Division  
Regulatory Compliance Division  
Code Enforcement Section  
General Accounting Section  
Service Applications & Records Section

APPENDIX "A"

FINANCIAL GUARANTY BOND

Plumbing Permit Number \_\_\_\_\_

Bond Number \_\_\_\_\_

Date Bond Executed \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS:

That \_\_\_\_\_  
(here insert the legal name of the Applicant)

\_\_\_\_\_  
(here insert the address of the Applicant)

as Principal, hereinafter called "Applicant", and

\_\_\_\_\_  
(here insert the legal name of the Surety)

\_\_\_\_\_  
(here insert the address of the Surety)

as Surety, hereinafter called "Surety", are held and firmly bound  
unto the WASHINGTON SUBURBAN SANITARY COMMISSION, Laurel, Maryland, a  
public and governmental corporate agency of the State of Maryland, as  
Obligee, hereinafter called the "Commission", in  
the amount of

\_\_\_\_\_ dollars (\$ \_\_\_\_\_), being 50  
percent of the System Development Charge of the herein-mentioned  
application, for the payment whereof Applicant and Surety bind  
themselves, their heirs, executors, administrators, successors and  
assigns, jointly and severally.

WHEREAS, the Applicant has applied for a plumbing permit to  
install fixtures or hookup a residential property to the Commission's  
water and/or sewerage system(s) under Plumbing Permit No. \_\_\_\_\_ and  
has promised to pay the full system development charge within 12

months of the date of the application or prior to the transfer of title to the property, whichever occurs first.

NOW, THEREFORE, the condition of this obligation is such that if the Applicant shall promptly and faithfully pay the system development charge in a timely manner, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Commission.

Whenever Applicant shall be, and declared by Commission to be, in default in payment of the system development charge, the Commission having performed Commission's obligations thereunder, the Surety shall promptly pay the amount owed by the Applicant to the Commission.

Any suit under this bond must be instituted before the expiration of eighteen (18) months from the date payment is due. No right of action shall accrue on this bond to or for the use of any person or corporation other than the Commission or its successors and assigns.

The bond is executed in two (2) counterparts, each of which shall, without proof or accounting for the other counterpart, be deemed an original thereof.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_,

ATTEST:

Applicant Name

By:

(Title)

(Surety Name)

By:

(Title)

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed, or caused to be executed by their duly authorized officials, this performance bond in (\_\_\_\_\_) copies each of which shall be deemed an original on the date first above written. (The following is applicable if applicant is corporation or incorporated joint venture.)

A Corporation \_\_\_\_\_

By:

(Title)

Date:

Attest:

Secretary of Corporation

Certificate as to Corporation (Corporate Seal)

I, \_\_\_\_\_, certify that I am Secretary of the Corporation named as Applicant herein, that \_\_\_\_\_ who signed this Performance Bond on behalf of the Applicant was then \_\_\_\_\_ of said Corporation; that I know his signature thereto is genuine; that the Bond was duly signed and sealed in behalf of said Corporation by authority of its governing body, and is within the scope of its corporate powers.

Secretary of Corporation



(The following is applicable if Applicant is individual, partnership or unincorporated joint venture.)

Signed and Sealed in the full names of all partners and all members of Joint Ventures.

\_\_\_\_\_  
(Print)      Name      (Signature)  
\_\_\_\_\_  
Address

\_\_\_\_\_  
(Print)      Name      (Signature)  
\_\_\_\_\_  
Address

\_\_\_\_\_  
(Seal)

\_\_\_\_\_  
(Print)      Name      (Signature)  
\_\_\_\_\_  
Address

\_\_\_\_\_  
(Seal)

\_\_\_\_\_  
(Print)      Name      (Signature)  
\_\_\_\_\_  
Address

## STANDARD PROCEDURES OF THE WASHINGTON SUBURBAN SANITARY COMMISSION

ORIGINATOR & POSITION	SP NUMBER	APPROVE BY/DATE	EFFECTIVE DATE	PAGE
Richard Shagogue, Team Chief Engineering & Construction Team	ENG 04-01 Supersedes CUS 94-03	<i>Richard Morris</i> Acting Top Secretary Commissioners March 10, 2004	March 24, 2004	1 OF 8

**SUBJECT:**  
SDC APPLICANT CREDITS AND REIMBURSEMENTS

### PURPOSE

- 1.0 Define procedures for the issuance of a System Development Charge (SDC) Credit earned through private design and construction to serve the Applicant's property. These procedures pertain only to either an approved Capital Improvement Program (CIP) Project or a project that provides only local service, is 2,000 feet or less in length, is either a sewer main 15 inches or greater in diameter, or water main 16 inches or greater in diameter and is built to avoid unnecessary and uneconomical duplication when a major project is constructed.
- 1.1 Describe how the SDC Credit due an Applicant will be determined.
- 1.2 Describe when SDC credit and reimbursement will occur.

### DEFINITIONS

- 2.0 Systems Development Charge (SDC) - A fee paid to the WSSC at the time of application for a plumbing permit intended to cover the cost of building CIP Projects needed to accommodate growth.
- 2.1 Applicant - Any firm, corporation, partnership, joint venture, municipality, agency, person or persons whom WSSC has authorized to design and construct a Qualified Project eligible for SDC credit or whom WSSC has required to provide eligible private funding of the Commission's costs to design and construct such a Project.
- 2.2 System Extension Permit (SEP) - A permit/agreement made between the WSSC and an Applicant pursuant to the "Development Services Process Manual" adopted by the Commission, effective July 1, 2000, and subsequent adopted revisions. A qualified project built under a System Extension Permit issued without a signed accompanying SDC Credit Agreement is not eligible for SDC applicant credits or reimbursement.
- 2.3 Memorandum of Understanding (MOU) - An agreement made pursuant to provisions of Standard Procedure # PD-93-06 entitled "Procedure for Developing a Memorandum of

## WSSC STANDARD PROCEDURES

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PAGE 2 OF 8

Understanding for the Construction of WSSC Systems by Others" between the WSSC and an Applicant which covers the Applicant's design and construction of a CIP Project and which identifies the estimated total Applicant costs eligible for SDC credit and/or reimbursement. **A qualified project built without a signed MOU is not eligible for SDC applicant credits or reimbursement.**

- 2.4 **Qualified Project** - Any CIP facility, CIP line, sewer main 15 inches or greater, or water main 16 inches or greater in diameter necessary to serve the Applicant's property, which is designed and constructed by and at the sole expense of an Applicant pursuant to an MOU or SEP or other agreement. Also, any CIP project which is constructed by WSSC that the Applicant is required to provide eligible private funding of WSSC design and construction costs.
- 2.5 **Qualified Properties** - The specific properties located within the geographic area which WSSC identifies as served by the Qualified Project, as defined in Section 3.2.
- 2.6 **Eligible Private Funding** - Payment required by and made to WSSC by an Applicant to cover WSSC costs to design and construct a CIP Project needed to accommodate growth.
- 2.7 **SDC Credit** - A dollar value which is credited to an Applicant against SDC payable in connection with Qualified Properties and which equals the total eligible costs as defined in Section 3.6 incurred by the Applicant in the Applicant's design and construction of a Qualified Project or the amount of eligible private funding made by the Applicant to cover WSSC costs to design and construct a Qualified Project. An Applicant who designs a Qualified Project must also construct that Project in order to be eligible to receive SDC Credits.
- 2.8 **SDC Credit Agreement** - An agreement that summarizes the eligible costs considered for SDC Credit (as described in Section 3.6). The SDC Credit Agreement is appended to an SEP. The credit agreement is included in the MOU as Attachment A.
- 2.9 **SDC Ledger** - The record of SDC credit authorized for an Applicant and the amount(s) of SDC credit issued or reimbursed to the Applicant for fixtures covered by plumbing permits obtained in the course of developing Qualified Properties associated with a Qualified Project.
- 2.10 **Credit Voucher** - The document (Attachment "B"), executed by the Applicant, which serves as the instrument to obtain SDC credit associated with an application for permit to install plumbing fixtures. Each Credit Voucher may apply only to a single application for plumbing permit and shall:
  - identify the Qualified Project from which credit is derived; and
  - specify the Qualified Property for which the credit is requested; and
  - be signed by the Applicant or its authorized agent, be duly notarized; and
  - show the amount to be credited in lieu of SDC payment
- 2.11 **Qualified Project Scope** - The specific scope of the qualified project. For pipelines built under an SEP, the specific scope will be included with the SDC Credit Agreement, and

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will include pipeline lengths and diameters, valves, vaults and any other appurtenant structures. For facility projects, the specific scope of work will be included with the MOU.

PROCEDURES

- 3.0 An Applicant shall declare a desire to design and construct a Qualified Project eligible for SDC credit either as an element of its request for a Hydraulic Planning Analysis filed with the Development Services Group or in a written response to the Letter of Findings prepared by the Development Services Group. For projects that were previously authorized, but have not yet been issued an SEP or MOU, the Applicant may request an authorization amendment to allow the Applicant to design and construct a Qualified Project eligible for SDC credit.
- 3.1 The Applicant agrees to pay WSSC all review fees normally due WSSC. Letters of credit are not acceptable in lieu of fees.
- 3.2 When an Applicant has requested that it be permitted to design and construct a CIP Project, the Development Services Group shall prepare a map during its hydraulic planning analysis that identifies the Qualified Properties to be served by the CIP Project which the Applicant has requested to design and construct. SDC Credit will only be issued to properties within the geographic boundaries identified in the map as Qualified Properties. A copy of the prepared map will be sent to the Applicant.
- 3.3 If WSSC either authorizes the Applicant to design and construct a Qualified Project or requires eligible private funding from the Applicant of WSSC's design and construction costs, then the properties identified as served by the Project will receive credit and/or be subject to SDC Payments which may be reimbursed to the Applicant up to the total eligible amount. The Permit Services Unit will establish an Applicant's SDC Ledger following either 1) execution of a MOU or SEP covering Applicant design and construction of the Qualified Project or 2) WSSC receipt of eligible private funding of the Qualified Project from the Applicant. Prior to establishing the Applicant's SDC Ledger, the Permit Services Unit requires a map identifying all Qualified Properties to be served by the Qualified Project from the Development Services Group. **Please note that for pipeline jobs, the Applicant will not receive SDC credit or reimbursement unless the SDC credit agreement is signed before the SEP is issued.**
- 3.4 The SDC Ledger will reflect the total amount of SDC credit/reimbursement that the Applicant is eligible to receive. If the Applicant is designing and constructing the Qualified Project, the Ledger will initially reflect the Applicant's SDC credit based upon the estimated total eligible costs agreed upon in the MOU or SEP. The Applicant's initial Ledger credit amount will be adjusted to reflect the actual total eligible costs for the Qualified Project, as determined by the WSSC's Internal Audit Manager (as discussed in Sections 3.5, 3.6, 3.7, 3.8 and 3.12), after the Qualified Project has been accepted and placed in service by WSSC. If WSSC is designing and constructing a Qualified Project, the Ledger will reflect the total amount of eligible private funding received from the Applicant.
- 3.5 SDC credits may not exceed 50% of the estimated total eligible project cost (not to

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include contingency for increase in scope items (see Section 3.8)) until such time as final audit is completed and the actual total eligible project cost is determined. Once the actual total eligible project cost is determined, SDC credits are available up to the eligible project cost and quarterly refunds (based upon SDC collected for qualified properties) will commence. Prior to the final audit, the Credit Voucher is the only method of reimbursement to the Applicant.

Following WSSC receipt of eligible private funding, SDC credits against the ledger amount may be granted. However in the SDC credits toward the private funding may not exceed 50% of the total estimated project cost.

- 3.6 When an Applicant is designing and constructing a Qualified Project, SDC Credit is the total eligible Project cost incurred and paid by the Applicant. The SDC Credit is subject to the general guidelines that (1) eligible costs will be the types of costs that WSSC would have incurred had WSSC designed and constructed the Qualified Project, and (2) the SDC Credit will not exceed the maximum amount mutually agreed upon in the SDC Credit Agreement. Eligible costs must be directly allocable to the Qualified Project. Examples include, but are not limited to

**Engineering Costs:** design, reprographics, survey (topo), soil borings, As-built drawing preparation, and bonding fees.

**Permits Costs:** Costs for permits that WSSC would have had to acquire had WSSC built the project.

**WSSC Fees for Pipelines:** Fees for extra WSSC reviews or re-testing will be considered only if non-eligible portions of the job do not require extra reviews or re-testing. Unless mentioned otherwise, fees will be allocated to the Qualified Project based on estimated costs and overall water and sewer project cost for the project number.

**WSSC Fees for Facilities:** All WSSC direct costs and overhead associated with the qualified project as stated in the MOU.

**Construction Costs:** Contractors bid price, survey (stake out), Geotech (compaction testing), off-site restoration, and construction management.

**Interest Costs:** Interest costs for funds used during design and construction, at an average interest rate not to exceed the rate paid by WSSC on short-term construction notes outstanding during the period beginning with the date of WSSC signature on the SEP or MOU agreement and ending when the Qualified Project is substantially complete.

**Off-Property Rights of Way:** Acquisition costs are eligible up to amount appraised by WSSC for purchase of off-Applicant's property right-of-way and construction strips, plus up to 25 percent of the appraised amount for direct costs associated with purchase of off-site rights-of-way and construction strips.

- 3.7 Examples of costs that are not eligible include, but are not limited to

Area wide planning not directly related to the Qualified Project;

Attorneys fees

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The WSSC Hydraulic Review Fee

Costs for negotiation of SDC Credit Agreement or MOU;

Bonus payments or acceleration costs paid to the contractor for completion of construction;

Third party inspection costs for facility projects;

Applicant's overhead costs not directly attributable to the Qualified Project;

Costs outside the scope of the Qualified Project;

Permit costs associated with a development rather than the Qualified Project;

Site acquisition costs beyond what WSSC would have paid;

Facilities capital cost of money;

Fines and penalties;

Maintenance Costs;

Maintenance Bond Costs that are beyond both two years after substantial completion and beyond one year after release of service or final acceptance.

Grading of rights of way;

Sediment control for grading;

Clearing and grubbing for public rights-of-way in which the Qualified Project will be installed;

Federal and state income taxes;

Administrative or Management Fees not directly associated with the Qualified Project; and

Personal injury compensation or damages.

- 3.8 The maximum SDC reimbursement shall not exceed 110 percent of the contractor bid price plus other eligible costs.
- 3.9 The SDC Credit Agreement will not provide payment to the Applicant for costs the Applicant did not incur or for costs reimbursed to the Applicant from other sources. The SDC Credit Agreement will not provide any premiums for expedited work.
- 3.10 Prior to SDC Credit Agreement or MOU approval, the WSSC project manager for the project is responsible to have components of the SDC Credit Agreement or MOU

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WSSC STANDARD PROCEDURES

reviewed by other offices. The Contract Technical Services Unit should review the Applicant's construction costs using a copy of the signed plans. Internal Audit is to review any item that the WSSC project manager proposes which is contrary to items 3.6 or 3.7. Other appropriate WSSC offices should be consulted such as the Land Acquisition Unit for additional land acquisition costs and the Planning Group for planning costs.

- 3.11 For Qualified Projects, the SEP or MOU agreements should indicate that the Maintenance Bond should remain in effect at least two years beyond the date of substantial completion for SEP projects or at least one year beyond the date of final acceptance for MOU projects. The Applicant will submit a written request for audit to WSSC's Internal Audit Manager, after the Qualified Project built by the Applicant has been released for service (pipelines) or finally accepted (facilities). Along with the request, the Applicant must submit an itemized listing of eligible Qualified Project costs, incurred and paid, supporting the total amount of SDC Credit claimed. **It should be emphasized that the Applicant should retain all the contracts, invoices and payments for WSSC Internal Audit to inspect and review to determine the SDC credits.**
- 3.12 In compliance with Article 29 § 6-113(e)(4), of the Annotated Code of Maryland, WSSC's Internal Audit Manager shall review and approve the costs incurred by the Applicant. The Internal Audit Manager will strive to initiate the audit within 90 days of the Applicant's request, if the request includes the required itemized cost listing. The Internal Audit Report will be the formal document that communicates the final results of the audit to WSSC and the Applicant. When an audit is complete, prior to the final Internal Audit Report, the Internal Audit Manager will issue to the Applicant an unsigned DISCUSSION DRAFT to allow the Applicant an opportunity to discuss with Internal Audit any concerns the Applicant has with the proposed SDC Credit. Subsequently, the Internal Audit Manager will issue to the Applicant its final Report on the SDC Credit to be provided the Applicant.
- 3.13 SDC credits against an Applicant's SDC Credit balance will be issued by WSSC upon receipt of a complete and fully executed Credit Voucher submitted at the time of plumbing permit application. The application must be made in connection with a Qualified Property served by the Qualified Project (being) built by the Applicant. Also, the amount specified in the Credit Voucher shall not exceed the calculated SDC for plumbing fixtures covered by the permit application. Credit Vouchers reflecting and specifying an amount in excess of calculated SDC for the requested permit will not be accepted. The plumbing permit will be issued after verification that a sufficient credit balance remains to cover the Credit Voucher Amount. Insofar as possible, Credit Vouchers will be considered on a "first come-first served" basis. For a plumbing permit application accompanied by a Credit Voucher for which an Applicant's credit balance has been exhausted, the credit voucher and the associated application will be returned to the applicant. WSSC is not responsible for managing or assisting the Applicant in managing the issuance of Credit Vouchers. Managing the issuance of Credit Vouchers is not an eligible cost for reimbursement.
- 3.14 In the event an issued Plumbing Permit expires or is cancelled by the owner or

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plumber, no SDC reimbursement to the Applicant will be approved for that permit. In such cases, any Credit Voucher will be voided and the credit amount added to the Applicant's outstanding Ledger balance.

- 3.15 In conformance with Section 3.18, SDC payments received in association with applications for plumbing permits for Qualified Properties will be identified as eligible for reimbursement (after the Internal Audit Report has been completed - see Section 3.12) to the Applicant who has constructed the Qualified Projects serving those Qualified Properties.
- 3.16 For those situations where more than one Qualified Project serves a Qualified Property, SDC reimbursement payments shall be made in proportional shares to the Applicants who have built or funded the Qualified Projects. A proportional share is calculated based upon a Qualified Project's actual eligible costs or funding expressed as a percentage of the sum of all actual eligible costs and/or funding of Qualified Projects serving the Qualified Property.
- 3.17 At the conclusion of each calendar quarter, the Permit Services Unit will determine the total SDC receipts eligible for reimbursement made for each previously identified Qualified Property. Only those SDC receipts filed in association with plumbing permits under which all covered work has received an approved final inspection are eligible for reimbursement.
- 3.18 Based upon the quarterly reconciliation, the Permit Services Unit will prepare and forward to the Accounting Group a Payment Request to be made to the appropriate Applicant in an amount equal to the sum of qualifying SDC receipts not yet reimbursed, and a memorandum recommending reimbursement of SDC receipts and identifying the maximum amount recoverable. The memorandum shall be accompanied by a statement detailing eligible plumbing permits.
- 3.19 Following review of the recommended reimbursement, the Accounting Group will forward the Payment Request and supporting documentation to the Disbursements Group which will issue payment to the Applicant.
- 3.20 When an Applicant has designed and constructed a Qualified Project, the sum of SDC Credits and Reimbursements pursuant to this procedure will be made only to the maximum determined by the Internal Audit Report and only to the Applicant identified in the MOU or SEP.
- 3.21 The Applicant may issue credit vouchers to multiple builders to facilitate construction of residential or non-residential structures within the Qualified Property and reimbursement of Qualified Project costs. If the Applicant wishes to transfer its right and title to any remaining SDC credit from a Qualified Project, the Applicant shall notify the Permit Services Unit of the requested transfer. Such notification shall be in writing and shall identify the single entity to receive the entire remaining balance of SDC credit from a Qualified Project. The Permit Services Unit will acknowledge the credit transfer and forward the written request for inclusion in the Qualified Project's MOU or SEP as an amendment. Thereafter, all Qualified Property SDC credits or reimbursements will be issued to the last designated entity in the MOU or SEP as amended.
- 3.22 Notwithstanding any other provision of this Procedure, SDC Credit or reimbursements



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for costs identified in Section 3.3 of this Procedure are limited to SDC transactions for Qualified Properties served by the Qualified Project within a twenty-year period, or until the sum of credits and reimbursements equals the total approved SDC Credit. The twenty-year period will commence for SEP, MOU, or eligible funding projects on the day of release for service. At the conclusion of the twenty-year period, the Permit Services Unit will close the SDC Reimbursement Ledger and will provide written notification of exhaustion or termination of the SDC Credit to the last designated recipient.

**AUTHORITY**

The General Counsel certifies that this Standard Procedure was adopted pursuant to the authority of Sections 6-113 and 9-101 of Article 29 of the Annotated Code of Maryland.

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Planning Group  
Systems Inspection Group  
Customer Relations Group  
Permit Services Unit  
Accounting Group  
Budget Group  
Disbursements Group

**ATTACHMENT A**

**SDC CREDITS ESTIMATE**

ESTIMATED AMOUNT

Design

Permits

Administration

Interest

WSSC's Fees

Construction Costs

**TOTAL ESTIMATED ELIGIBLE COSTS**

ATTACHMENT B  
WASHINGTON SUBURBAN  
SANITARY COMMISSION

System Development Charge  
Credit Voucher

I, \_\_\_\_\_ hereby affirm under penalty of perjury that I am the Developer  
(name printed)  
or its authorized agent, entitled to an SDC credit pursuant to an approved System Extension  
Permit or Memorandum of Understanding for \_\_\_\_\_, a Qualified  
Project. Pursuant to the current

(WSSC Contract No. & C.I.P No.)

WSSC Standard Operating Procedure, I hereby request that \$ \_\_\_\_\_ be charged against the  
remaining eligible SDC credit balance for the specified Qualified Project. The above credit  
amount shall be applied against SDC due in connection with an application for plumbing permit  
to install fixtures in an improvement on property described as: \_\_\_\_\_  
\_\_\_\_\_ which is a "Qualified Property" served by the above named  
"Qualified Project."

I agree to indemnify and hold harmless the Washington Suburban Sanitary Commission to whom  
this request is presented and its agents and employees, from and against all claims, damages,  
losses and expenses, including reasonable attorneys' fees, arising out of or by reason of  
complying with this request.

\_\_\_\_\_  
(Developer's Signature)

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Notary Public)

\_\_\_\_\_  
(Name Printed)

My Commission Expires \_\_\_\_\_

STANDARD PROCEDURES  
OF  
THE WASHINGTON SUBURBAN SANITARY COMMISSION

ORIGINATOR	DEPT. & NUMBER	APPROVED BY/DATE	EFFECTIVE DATE	PAGE 1
Water Resources Planning Section	PD 93-01	<i>Cortez A. White</i> Cortez A. White General Manager	July 1, 1993	OF 3

SUBJECT

PROCEDURE FOR DETERMINING PERCENT GROWTH FOR CIP PROJECTS

I. PURPOSE AND APPLICABILITY

The purpose of this procedure is to establish a method for determining what proportion of certain WSSC CIP projects is for growth. This procedure applies after June 30, 1993: 1) to projects which are added to the CIP; and 2) to any revisions of projects already programmed which change the amount of system capacity added by the projects.

II. PROCEDURE AND METHODOLOGY

The Water Resources Planning Section will determine the percent growth for all applicable CIP Projects using the following methodology.

The method involves the following three steps:

Step 1. Test for 100% Growth

If flows/demands remained at June 1993 levels, would a project still be required?

No ==> Growth = 100%  
Yes ==> Continue to Step 2

Step 2. Test for 0% Growth

Does the project improve or replace components of an existing facility without increasing the capacity of any of the components?

Yes ==> Growth = 0%  
No ==> Continue to Step 3

Step 3. Determine Percent Growth

1. Identify system capacity added by the project.
2. Identify and subtract June 30, 1993 capacity deficit, if any.
3. Divide result by total project design capacity.

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Notes:

1. For most water and wastewater facilities, there is a straight-forward relationship between demand, capacity requirements, and facility size. For water transmission mains, however, the relationship is more complicated. There are many factors other than size which must be considered to determine capacity. These factors include length, the size and number of interconnections and the allowable energy differential between the points connected by the transmission system. Capacity analysis of a transmission network normally requires computer modeling. Previous water system analyses will be used to the extent they are applicable; however, where no previous analysis exists, computer modeling will be required.
2. If an existing facility with available system capacity is being replaced by a new project which increases total system capacity, the available capacity in the existing facility is lost or wasted. In such cases, existing available capacity will be treated as a negative deficit in Step 3, part 2.

Examples:

1. An existing sewer has a safe capacity of 20 mgd. The June 30, 1993 peak flow is 17 mgd. A proposed parallel sewer will add 10 mgd of capacity for growth. Since the existing sewer can handle the June 30, 1993 flows the project is 100% for growth. (Step 1)
2. An existing sewer has a safe capacity of 20 mgd; its maximum capacity before overflow is 27 mgd. The June 30, 1993 peak flow is 21 mgd. A proposed parallel sewer will add 10 mgd of capacity for growth. Since the existing sewer can handle the June 30, 1993 flows, the project is 100% for growth. (Step 1)
3. An existing pumping station has 1 mgd of capacity. The June 30, 1993 flow is 0.8 mgd. A proposed replacement pumping station will have a total capacity of 1.5 mgd. The existing pumping station is old, and a rehab project would be needed if the new pumping station were not built. Therefore, the station is not 100% for growth. (Step 1) It adds capacity, so it is not 0% growth. (Step 2) The percent for growth is calculated as follows:  $0.5 \text{ mgd [the capacity added by the new pumping station] plus } 0.2 \text{ mgd [the amount of lost available capacity] divided by } 1.5 \text{ mgd [the total capacity of the new pumping station]} = 47\%$ . (Step 3)

WSSC STANDARD PROCEDURES

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4. An existing pumping station in good condition has 1 mgd of capacity. The June 30, 1993 flow is 0.8 mgd. A proposed replacement pumping station, located downstream to increase the service area, will have a total capacity of 1.5 mgd. The proposed pumping station is 100% for growth. (Step 1)
5. A pressure zone has a 1 mg storage deficit based on June 30, 1993 demands. When we finally get agreement to build a 3 mg tank in the zone, the deficit has risen to 2 mg. The tank is 66.7% for growth. [3 mg added - 1 mg deficit]/3 mg total capacity = 67.7%. (Step 3)

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WASHINGTON SUBURBAN SANITARY COMMISSION  
PROPOSED FYS 2020 - 2025 CIP  
SDC ELIGIBLE PROJECTS  
SUMMARY  
(In Thousands)

PROGRAM NAME	TOTAL COST	FY 2018	FY 2019	TOTAL 6 YEARS	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	BEYOND 6 YEARS
MONTGOMERY COUNTY WATER PROJECTS											
Total Project Costs *	\$18,962	\$7,197	\$5,828	\$5,937	\$1,025	\$772	\$316	\$2,214	\$1,610	\$0	\$0
SDC Eligible Costs	\$18,962	\$7,197	\$5,828	\$5,937	\$1,025	\$772	\$316	\$2,214	\$1,610	\$0	\$0
BI-COUNTY WATER PROJECTS											
Total Project Costs *	\$3,598	\$0	\$1,100	\$1,898	\$1,720	\$130	\$18	\$10	\$10	\$10	\$600
SDC Eligible Costs	\$384	\$0	\$209	\$175	\$175	\$0	\$0	\$0	\$0	\$0	\$0
PRINCE GEORGE'S COUNTY WATER PROJECTS											
Total Project Costs *	\$191,204	\$40,117	\$32,427	\$111,345	\$21,867	\$15,543	\$30,461	\$21,515	\$21,517	\$442	\$7,315
SDC Eligible Costs	\$128,845	\$33,278	\$30,318	\$57,934	\$18,044	\$10,952	\$13,564	\$7,465	\$7,467	\$442	\$7,315
TOTAL WATER PROJECT COSTS	\$213,764	\$47,314	\$39,355	\$119,180	\$24,612	\$16,445	\$30,795	\$23,739	\$23,137	\$452	\$7,915
TOTAL WATER SDC ELIGIBLE COSTS	\$148,191	\$40,475	\$36,355	\$64,046	\$19,244	\$11,724	\$13,880	\$9,679	\$9,077	\$442	\$7,315
MONTGOMERY COUNTY SEWERAGE PROJECTS											
Total Project Costs *	\$48,821	\$2,060	\$20,036	\$26,725	\$7,881	\$4,026	\$8,355	\$6,233	\$230	\$0	\$0
SDC Eligible Costs	\$38,759	\$1,836	\$19,688	\$17,235	\$7,210	\$3,087	\$4,536	\$2,332	\$70	\$0	\$0
BI-COUNTY SEWERAGE PROJECTS											
Total Project Costs *	\$375	\$0	\$50	\$325	\$50	\$215	\$15	\$15	\$15	\$15	\$0
SDC Eligible Costs	\$60	\$0	\$0	\$60	\$0	\$60	\$0	\$0	\$0	\$0	\$0
PRINCE GEORGE'S COUNTY SEWERAGE PROJECTS											
Total Project Costs *	\$195,234	\$168,627	\$16,924	\$9,683	\$6,311	\$3,097	\$137	\$46	\$46	\$46	\$0
SDC Eligible Costs	\$164,288	\$140,919	\$14,336	\$9,033	\$5,661	\$3,097	\$137	\$46	\$46	\$46	\$0
TOTAL SEWERAGE PROJECT COSTS	\$244,430	\$170,687	\$37,010	\$36,733	\$14,242	\$7,338	\$8,507	\$6,294	\$291	\$61	\$0
TOTAL SEWERAGE SDC ELIGIBLE COSTS	\$203,107	\$142,755	\$34,024	\$26,328	\$12,871	\$6,244	\$4,673	\$2,378	\$116	\$46	\$0
TOTAL PROJECT COSTS	\$458,194	\$218,001	\$76,365	\$155,913	\$38,854	\$23,783	\$39,302	\$30,033	\$23,428	\$513	\$7,915
TOTAL SDC ELIGIBLE COSTS	\$351,298	\$183,230	\$70,379	\$90,374	\$32,115	\$17,968	\$18,553	\$12,057	\$9,193	\$488	\$7,315

\* Total Project Costs – This is the total cost for all projects needed to support growth. SDC Eligible Costs – That portion of Total Project Costs specifically for growth.  
(i.e. if a project supports 50% Growth and 50% System Improvements, SDC Eligible Costs refer only to the 50% Growth portion).

WASHINGTON SUBURBAN SANITARY COMMISSION  
PROPOSED FY'S 2020 - 2025 CIP  
SDC ELIGIBLE PROJECTS  
(In Thousands)

PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2018	FY 2019	TOTAL 6 YEARS	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	BEYOND 6 YEARS
<u>WATER PROJECTS</u>												
<u>BI-COUNTY PROJECTS</u>												
W-202.00	LAND & RIGHTS-OF-WAY ACQUISITION - BI-COUNTY WATER	3,598	0	1,100	1,898	1,720	130	18	10	10	10	600
	TOTAL GROWTH COSTS	384	0	209	175	175	0	0	0	0	0	0
SUBTOTAL BI-COUNTY WATER PROJECTS		\$3,598	\$0	\$1,100	\$1,898	\$1,720	\$130	\$18	\$10	\$10	\$10	\$600
SUBTOTAL BI-COUNTY SDC ELIGIBLE COSTS		\$384	\$0	\$209	\$175	\$175	\$0	\$0	\$0	\$0	\$0	\$0
<u>MONTGOMERY COUNTY PROJECTS</u>												
W-46.15	CLARKSBURG ELEVATED WATER STORAGE FACILITY	7,332	4,118	3,202	12	12	0	0	0	0	0	0
	TOTAL GROWTH COSTS	7,332	4,118	3,202	12	12	0	0	0	0	0	0
W-46.24	CLARKSBURG AREA STAGE 3 WATER MAIN, PART 4	4,088	2,939	451	698	271	427	0	0	0	0	0
	TOTAL GROWTH COSTS	4,088	2,939	451	698	271	427	0	0	0	0	0
W-46.25	CLARKSBURG AREA STAGE 3 WATER MAIN, PART 5	2,712	140	2,175	397	397	0	0	0	0	0	0
	TOTAL GROWTH COSTS	2,712	140	2,175	397	397	0	0	0	0	0	0
W-113.20	WHITE OAK WATER MAINS AUGMENTATION	4,830	0	0	4,830	345	345	316	2,214	1,610	0	0
	TOTAL GROWTH COSTS	4,830	0	0	4,830	345	345	316	2,214	1,610	0	0
SUBTOTAL MONTGOMERY COUNTY WATER PROJECTS		\$18,962	\$7,197	\$5,828	\$5,937	\$1,025	\$772	\$316	\$2,214	\$1,610	\$0	\$0
SUBTOTAL MONTGOMERY COUNTY SDC ELIGIBLE COSTS		\$18,962	\$7,197	\$5,828	\$5,937	\$1,025	\$772	\$316	\$2,214	\$1,610	\$0	\$0
<u>PRINCE GEORGE'S COUNTY PROJECTS</u>												
W-34.02	OLD BRANCH AVENUE WATER MAIN	23,930	2,698	166	21,066	6,766	8,634	5,666	0	0	0	0
	TOTAL GROWTH COSTS	11,965	1,349	83	10,533	3,383	4,317	2,833	0	0	0	0
W-34.03	WATER TRANSMISSION IMPROVEMENTS 385B PRESSURE ZONE	10,063	2,345	6,615	1,103	1,103	0	0	0	0	0	0
	TOTAL GROWTH COSTS	10,063	2,345	6,615	1,103	1,103	0	0	0	0	0	0
W-34.04	BRANCH AVENUE WATER TRANSMISSION IMPROVEMENTS	38,155	12,788	8,195	17,172	10,714	4,422	2,036	0	0	0	0
	TOTAL GROWTH COSTS	38,155	12,788	8,195	17,172	10,714	4,422	2,036	0	0	0	0



WASHINGTON SUBURBAN SANITARY COMMISSION  
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SDC ELIGIBLE PROJECTS  
(In Thousands)

PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2018	FY 2019	TOTAL 6 YEARS	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	BEYOND 6 YEARS
<u>PRINCE GEORGE'S COUNTY PROJECTS (CONTINUED)</u>												
W-62.05	CLINTON ZONE WATER STORAGE FACILITY IMPLEMENTATION	17,126	3,721	5,677	413	413	0	0	0	0	0	7,315
	TOTAL GROWTH COSTS	17,126	3,721	5,677	413	413	0	0	0	0	0	7,315
W-65.10	ST. BARNABAS ELEVATED TANK REPLACEMENT	11,776	9,728	2,036	12	12	0	0	0	0	0	0
	TOTAL GROWTH COSTS	5,888	4,864	1,018	6	6	0	0	0	0	0	0
W-84.02	RITCHIE MARLBORO ROAD TRANSMISSION MAIN & PRV	6,877	3,302	3,550	25	25	0	0	0	0	0	0
	TOTAL GROWTH COSTS	6,877	3,302	3,550	25	25	0	0	0	0	0	0
W-84.03	SMITH HOME FARMS WATER MAIN	2,689	801	588	1,300	438	434	428	0	0	0	0
	TOTAL GROWTH COSTS	2,689	801	588	1,300	438	434	428	0	0	0	0
W-84.04	WESTPHALIA TOWN CENTER WATER MAIN	1,578	556	44	978	327	385	266	0	0	0	0
	TOTAL GROWTH COSTS	1,578	556	44	978	327	385	266	0	0	0	0
W-93.01	KONTERRA TOWN CENTER EAST WATER MAIN	2,107	53	0	2,054	714	814	526	0	0	0	0
	TOTAL GROWTH COSTS	2,107	53	0	2,054	714	814	526	0	0	0	0
W-105.01	MARLTON SECTION 18 WATER MAIN, LAKE MARLTON AVENUE	2,657	29	1	2,627	417	443	443	440	442	442	0
	TOTAL GROWTH COSTS	2,657	29	1	2,627	417	443	443	440	442	442	0
W-111.05	HILLMEADE ROAD WATER MAIN	5,431	2,845	2,561	25	25	0	0	0	0	0	0
	TOTAL GROWTH COSTS	5,431	2,845	2,561	25	25	0	0	0	0	0	0
W-120.14	VILLAGES OF TIMOTHY WATER MAIN, PART 1	2,056	312	1,482	262	262	0	0	0	0	0	0
	TOTAL GROWTH COSTS	2,056	312	1,482	262	262	0	0	0	0	0	0
W-137.03	SOUTH POTOMAC SUPPLY IMPROVEMENT, PHASE 2	66,759	939	1,512	64,308	651	411	21,096	21,075	21,075	0	0
	TOTAL GROWTH COSTS	22,253	313	504	21,436	217	137	7,032	7,025	7,025	0	0
SUBTOTAL PRINCE GEORGE'S COUNTY WATER PROJECTS		\$191,204	\$40,117	\$32,427	\$111,345	\$21,867	\$15,543	\$30,461	\$21,515	\$21,517	\$442	\$7,315
SUBTOTAL PRINCE GEORGE'S COUNTY SDC ELIGIBLE COSTS		\$128,845	\$33,278	\$30,318	\$57,934	\$18,044	\$10,952	\$13,564	\$7,465	\$7,467	\$442	\$7,315
TOTAL WATER PROJECTS COSTS		\$213,764	\$47,314	\$39,355	\$119,180	\$24,612	\$16,445	\$30,795	\$23,739	\$23,137	\$452	\$7,915
TOTAL WATER SDC ELIGIBLE COSTS		\$148,191	\$40,475	\$36,355	\$64,046	\$19,244	\$11,724	\$13,880	\$9,679	\$9,077	\$442	\$7,315

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 SDC ELIGIBLE PROJECTS  
 (In Thousands)

PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2018	FY 2019	TOTAL 6 YEARS	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	BEYOND 6 YEARS
<u>SEWERAGE PROJECTS</u>												
<u>BI-COUNTY PROJECTS</u>												
S-203.00	LAND & RIGHTS-OF-WAY ACQUISITION - BI-COUNTY SEWER	\$375	\$0	\$50	\$325	\$50	\$215	\$15	\$15	\$15	\$15	\$0
	TOTAL GROWTH COSTS	60	0	0	60	0	60	0	0	0	0	0
SUBTOTAL BI-COUNTY SEWERAGE PROJECTS		\$375	\$0	\$50	\$325	\$50	\$215	\$15	\$15	\$15	\$15	\$0
SUBTOTAL BI-COUNTY SDC ELIGIBLE COSTS		\$60	\$0	\$0	\$60	\$0	\$60	\$0	\$0	\$0	\$0	\$0
<u>MONTGOMERY COUNTY PROJECTS</u>												
S-84.60	CABIN BRANCH WASTEWATER PUMPING STATION	3,181	99	853	2,229	1,402	827	0	0	0	0	0
	TOTAL GROWTH COSTS	3,181	99	853	2,229	1,402	827	0	0	0	0	0
S-84.61	CABIN BRANCH WWPS FORCE MAIN	488	98	153	237	209	28	0	0	0	0	0
	TOTAL GROWTH COSTS	488	98	153	237	209	28	0	0	0	0	0
S-84.67	MILESTONE CENTER SEWER MAIN	657	127	0	530	507	23	0	0	0	0	0
	TOTAL GROWTH COSTS	657	127	0	530	507	23	0	0	0	0	0
S-84.68	CLARKSBURG WASTEWATER PUMPING STATION	3,888	367	1,998	1,523	1,335	188	0	0	0	0	0
	TOTAL GROWTH COSTS	3,888	367	1,998	1,523	1,335	188	0	0	0	0	0
S-84.69	CLARKSBURG WWPS FORCE MAIN	1,936	140	1,774	22	22	0	0	0	0	0	0
	TOTAL GROWTH COSTS	1,936	140	1,774	22	22	0	0	0	0	0	0
S-85.21	SHADY GROVE STATION SEWER AUGMENTATION	2,538	125	335	2,078	1,245	833	0	0	0	0	0
	TOTAL GROWTH COSTS	2,538	125	335	2,078	1,245	833	0	0	0	0	0
S-94.13	DAMASCUS TOWN CENTER WWPS REPLACEMENT	9,460	120	170	9,170	520	630	2,820	4,970	230	0	0
	TOTAL GROWTH COSTS	2,838	36	50	2,752	156	190	846	1,490	70	0	0
S-94.14	SPRING GARDENS WWPS REPLACEMENT	10,320	420	684	9,216	921	1,497	5,535	1,263	0	0	0
	TOTAL GROWTH COSTS	6,880	280	456	6,144	614	998	3,690	842	0	0	0
S-103.16	CABIN JOHN TRUNK SEWER RELIEF	16,353	564	14,069	1,720	1,720	0	0	0	0	0	0
	TOTAL GROWTH COSTS	16,353	564	14,069	1,720	1,720	0	0	0	0	0	0
SUBTOTAL MONTGOMERY COUNTY SEWERAGE PROJECTS		\$48,821	\$2,060	\$20,036	\$26,725	\$7,881	\$4,026	\$8,355	\$6,233	\$230	\$0	\$0
SUBTOTAL MONTGOMERY COUNTY SDC ELIGIBLE COSTS		\$38,759	\$1,836	\$19,688	\$17,235	\$7,210	\$3,087	\$4,536	\$2,332	\$70	\$0	\$0

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SDC ELIGIBLE PROJECTS  
(In Thousands)

PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2018	FY 2019	TOTAL 6 YEARS	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	BEYOND 6 YEARS
<u>PRINCE GEORGE'S COUNTY PROJECTS</u>												
S-27.08	WESTPHALIA TOWN CENTER SEWER MAIN	\$876	\$207	\$473	\$196	\$133	\$51	\$12	\$0	\$0	\$0	\$0
	TOTAL GROWTH COSTS	876	207	473	\$196	133	51	12	0	0	0	0
S-28.18	KONTERRA TOWN CENTER EAST SEWER	7,136	5,144	0	1,992	0	1,992	0	0	0	0	0
	TOTAL GROWTH COSTS	7,136	5,144	0	1,992	0	1,992	0	0	0	0	0
S-43.02	BROAD CREEK WWPS AUGMENTATION	182,032	162,986	15,225	3,821	3,821	0	0	0	0	0	0
	TOTAL GROWTH COSTS	151,086	135,278	12,637	3,171	3,171	0	0	0	0	0	0
S-68.01	LANDOVER MALL REDEVELOPMENT	1,344	24	102	1,218	631	403	46	46	46	46	0
	TOTAL GROWTH COSTS	1,344	24	102	1,218	631	403	46	46	46	46	0
S-75.19	BRANDYWINE WOODS WASTEWATER PUMPING STATION	324	7	181	136	70	66	0	0	0	0	0
	TOTAL GROWTH COSTS	324	7	181	136	70	66	0	0	0	0	0
S-75.20	BRANDYWINE WOODS WWPS FORCE MAIN	127	15	43	69	69	0	0	0	0	0	0
	TOTAL GROWTH COSTS	127	15	43	69	69	0	0	0	0	0	0
S-86.19	KARINGTON SUBDIVISION SEWER	692	103	216	373	182	191	0	0	0	0	0
	TOTAL GROWTH COSTS	692	103	216	373	182	191	0	0	0	0	0
S-131.05	PLEASANT VALLEY SEWER MAIN, PART 2	902	43	205	654	406	169	79	0	0	0	0
	TOTAL GROWTH COSTS	902	43	205	654	406	169	79	0	0	0	0
S-131.07	PLEASANT VALLEY SEWER MAIN, PART 1	1,801	98	479	1,224	999	225	0	0	0	0	0
	TOTAL GROWTH COSTS	1,801	98	479	1,224	999	225	0	0	0	0	0
SUBTOTAL PRINCE GEORGE'S COUNTY SEWERAGE PROJECTS		\$195,234	\$168,627	\$16,924	\$9,683	\$6,311	\$3,097	\$137	\$46	\$46	\$46	\$0
SUBTOTAL PRINCE GEORGE'S COUNTY SDC ELIGIBLE COSTS		\$164,288	\$140,919	\$14,336	\$9,033	\$5,661	\$3,097	\$137	\$46	\$46	\$46	\$0
TOTAL SEWERAGE PROJECTS COSTS		\$244,430	\$170,687	\$37,010	\$36,733	\$14,242	\$7,338	\$8,507	\$6,294	\$291	\$61	\$0
TOTAL SEWERAGE SDC ELIGIBLE COSTS		\$203,107	\$142,755	\$34,024	\$26,328	\$12,871	\$6,244	\$4,673	\$2,378	\$116	\$46	\$0
TOTAL PROJECT COSTS		\$458,194	\$218,001	\$76,365	155,913	\$38,854	\$23,783	\$39,302	\$30,033	\$23,428	\$513	\$7,915
TOTAL SDC ELIGIBLE COSTS		\$351,298	\$183,230	\$70,379	90,374	\$32,115	\$17,968	\$18,553	\$12,057	\$9,193	\$488	\$7,315