WSSC

Where Water Matters

ADOPTED CIP

Capital Improvements Program

FYs 2018–2023

Washington Suburban Sanitary Commission

Adopted
Six-Year Capital Improvements Program
Fiscal Years 2018 - 2023

June 21, 2017

On our cover: Construction is well underway on the two new Gravity Thickeners and the new Residuals Handling Building at our Patuxent Water Filtration Plant. When completed in late 2018, the Phase II Expansion project will also add new Ultra-Violet Disinfection Facilities and a Sixth Process Treatment Train, increasing the daily capacity from 56 million gallons per day (MGD) to 72 MGD and increasing the emergency capacity to 110 MGD. Our Patuxent Plant has been providing clean safe drinking water to our customers in Prince George's and Montgomery Counties, 24 hours a day, 7 days a week, since 1944.

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WASHINGTON SUBURBAN SANITARY COMMISSION
ADOPTED CAPITAL IMPROVEMENTS PROGRAM
FISCAL YEARS 2018-2023

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. The Adopted FYs 2018-2023 CIP reflects the actions of the Montgomery County Council by Resolution No. 18-829 dated May 25, 2017, and Prince George's County Council by Resolution No. CR-39-2017 dated May 25, 2017. By WSSC Resolution No. 2017-2160 dated June 21, 2017, the Commission adopted the FYs 2018-2023 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 5,500 miles of water main and 5,400 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. Over the five-year period from FY'96 through FY'00, CIP spending was reduced by a total of $85.9 million. Over the period from FY'01 to FY'07, the Commission submitted budgets that did not require any further reductions. In two of the three years from FY'08 to FY'10, CIP spending was reduced or deferred by a total of $95.8 million. The FY'11 through FY'18 CIPs did not require any reductions.

The FY'18 expenditures are estimated at $477.2 million, which represents a decrease of approximately $20.8 million from the approved funding level for FY'17. The decrease is primarily due to the projected construction progress on the Broad Creek WWPS Augmentation, Blue Plains WWTP Enhanced Nutrient Removal, and Patuxent WFP Expansion projects.

Funding Sources

The projects included in this Capital Improvements 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 in conjunction with the Federal Grants Program. The State of Maryland also provides additional 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 and Federal Clean Water Act;
- 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.

A graph is provided on page 25 which displays the funding allocations for the major funding sources.

Funding Growth

The portion of the CIP needed to accommodate growth is approximately $210 million, which equals 11% of all expenditures in the 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'18, the Montgomery County and Prince George's Councils increased the maximum allowable charge by the 1.2% increase in the CPI-U, but maintained the current rate of $203 per fixture unit. The Commission adopted the Councils' actions by Resolution Number 2017-2157 dated June 21, 2017. 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 gap of $1.9 million over the six-year program period. The gap 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, it is anticipated that WSSC would issue new SDC supported debt to cover this temporary gap rather than increasing the SDC. 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 92% 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)

	FY'18	FY'19	FY'20	FY'21	FY'22	FY'23	6 YEAR TOTAL
CIP GROWTH EXPENDITURES	$99.1	$72.6	$21.4	$6.2	$5.4	$5.3	$210.0
Expenditures Adjusted for Completion	91.2	74.7	25.5	7.4	5.5	5.3	209.6
FUNDING SOURCES							
Privately Funded Projects	19.0	14.8	5.4	1.0	1.1	0.9	42.2
Estimated SDC Revenue	28.6	30.7	30.7	32.7	32.7	34.8	190.2
Less SDC Developer Credits	(1.7)	(5.0)	(5.0)	(3.0)	(2.0)	(2.0)	(18.7)
Less SDC Exemptions [1]	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(6.0)
TOTAL FUNDING SOURCES	$44.9	$39.5	$30.1	$29.7	$30.8	$32.7	$207.7
FUNDING GAP ADJUSTED FOR COMPLETION	**$46.3**	**$35.2**	**($4.6)**	**($22.3)**	**($25.3)**	**($27.4)**	**$1.9**

[1] 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 $6.2 million for Montgomery County and $2.9 million for Prince George's County through June 30, 2017.

Expenditures

The FYs 2018-2023 Capital Improvements Program includes 79 projects for a grand total of $3.3 billion dollars. The grand total is $1.1 billion lower than the Adopted FYs 2017-2022 CIP primarily due to the decision to remove the "Expended Thru" costs from those projects which are considered ongoing programs (S-22.06, Blue Plains WWTP: Liquid Train Projects, Part 2; S-22.07, Blue Plains WWTP: Biosolids Management, Part 2; S-22.09, Blue Plains WWTP: Plant-wide Projects; S-22.11, Blue Plains: Pipelines & Appurtenances; S-170.09, Trunk Sewer Reconstruction Program; and, W-161.01, Large Diameter Water Pipe & Large Valve Rehabilitation Program). The revised grand total better represents the size of the current total program. Expenditures for the six-year program period are estimated at $1.9 billion. FY'18 expenditures are estimated at $477.2 million, which is $20.8 million less than the funding level approved for FY'17. Of the $477.2 million, $198.9 million is for the Water Program and $278.3 million is for the Sewerage Program. Approximately one third of the projects in this CIP are System Extension Process (SEP) growth projects. The SEP projects' estimated six-year program cost is $42.2 million, with approximately $20.6 million programmed in FY'18. There are three 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 2017-2022 CIP to the Adopted FYs 2018-2023 CIP follows:

WSSC CIP - COMPARISON

(In Thousands)

	TOTAL PROGRAM	TOTAL SIX YEARS	BUDGET YEARS COMPARISON
Adopted FYs 2017-2022	$4,427,657	$2,021,748	$498,023
Adopted FYs 2018-2023	3,348,799	1,906,553	477,192
Change	($1,078,858)	($115,195)	($20,831)

Six-year program expenditures are estimated at approximately $1.9 billion, $838.2 million for the Water Program and $1.1 billion for the Sewerage Program. This is a $115.2 million decrease from the six-year total in the Adopted FYs 2017-2022 CIP. The overall decrease is primarily due to the projected construction progress on the Trunk Sewer Reconstruction Program, Broad Creek WWPS Augmentation and Blue Plains WWTP Enhanced Nutrient Removal projects, partially offset by a planned increase in the Large Diameter Water Pipe & Large Valve Rehabilitation Program.

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. (Refer to Figure 3, 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, and construction schedule changes.

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' public hearings are held in September. The hearings are advertised in a major newspaper circulated in Prince George's and Montgomery Counties, 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 15th, 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.

The CIP 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 are not included as part of the CIP six-year program costs, but are shown separately on the bottom line of the financial summary at the end of this section for informational purposes.

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 
- Wastewater Treatment Plant 

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 162.4 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 impounds 13.0 billion gallons of emergency raw water supply. The reservoir 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 5,500 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 are 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.

Wastewater Treatment/Collection Systems

Wastewater facilities 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 treatment plant. The WSSC owns and operates 6 wastewater treatment plants, 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 treatment process, solid material is removed, harmful organisms are destroyed, and excess disinfection products are neutralized before the remaining liquid is sent back to the river. With the substantial completion of Seneca WWTP expansion project in August 2015, the WSSC's 6 treatment plants now have a combined treatment capacity of 95 million gallons per day (mgd). The six plants 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 5,400 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 need to be located generally along streambeds at 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 treatment plant. 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 treatment facilities. All WSSC wastewater flows through enclosed trunk line systems and is completely separate an 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, represents some of the most significant planned expenditures in this document.

The WSSC's wastewater collection and treatment systems are nationally recognized as components of one of the country's most effective pollution control networks. All of the above-mentioned sewage treatment plants go beyond conventional, second-stage treatment to provide "tertiary treatment," which is an advanced treatment process. With the substantial completion of the Western Branch WWTP's enhanced nutrient removal (ENR) project in June 2016, all of the WSSC's plants now have state of the art, integrated, enhanced nutrient removal processes to 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 plants) is better than the natural waters into which it is returned. 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 described above; 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

By adoption of a resolution dated January 29, 1992, the Commission reaffirmed its commitment to protect 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 Facility Planning Process, if the environment features will be affected by the proposed construction of a project. Six 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 $129.7 million included in the six-year program which is attributable to meeting environmental regulations. These projects, currently estimated at 7% of the total six-year costs in this CIP, are mandated by the U.S. Environmental Protection Agency under the Clean Air Act and 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

	(Dollars in Millions)
• W-73.33, Potomac WFP Consent Decree Program	40.0
• W-172.05, Patuxent WFP Phase II Expansion	2.3
• S-22.10, Blue Plains WWTP: Enhanced Nutrient Removal	34.9
• S-22.11, Blue Plains: Pipelines & Appurtenances	33.8
• S-57.94, Western Branch WWTP Incinerator Emissions Control	18.7
Total Six-Year Program Expenditures Allocated to Environmental Regulations	$129.7

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 addresses customers' concerns, and to garner community support while meeting public health objectives.

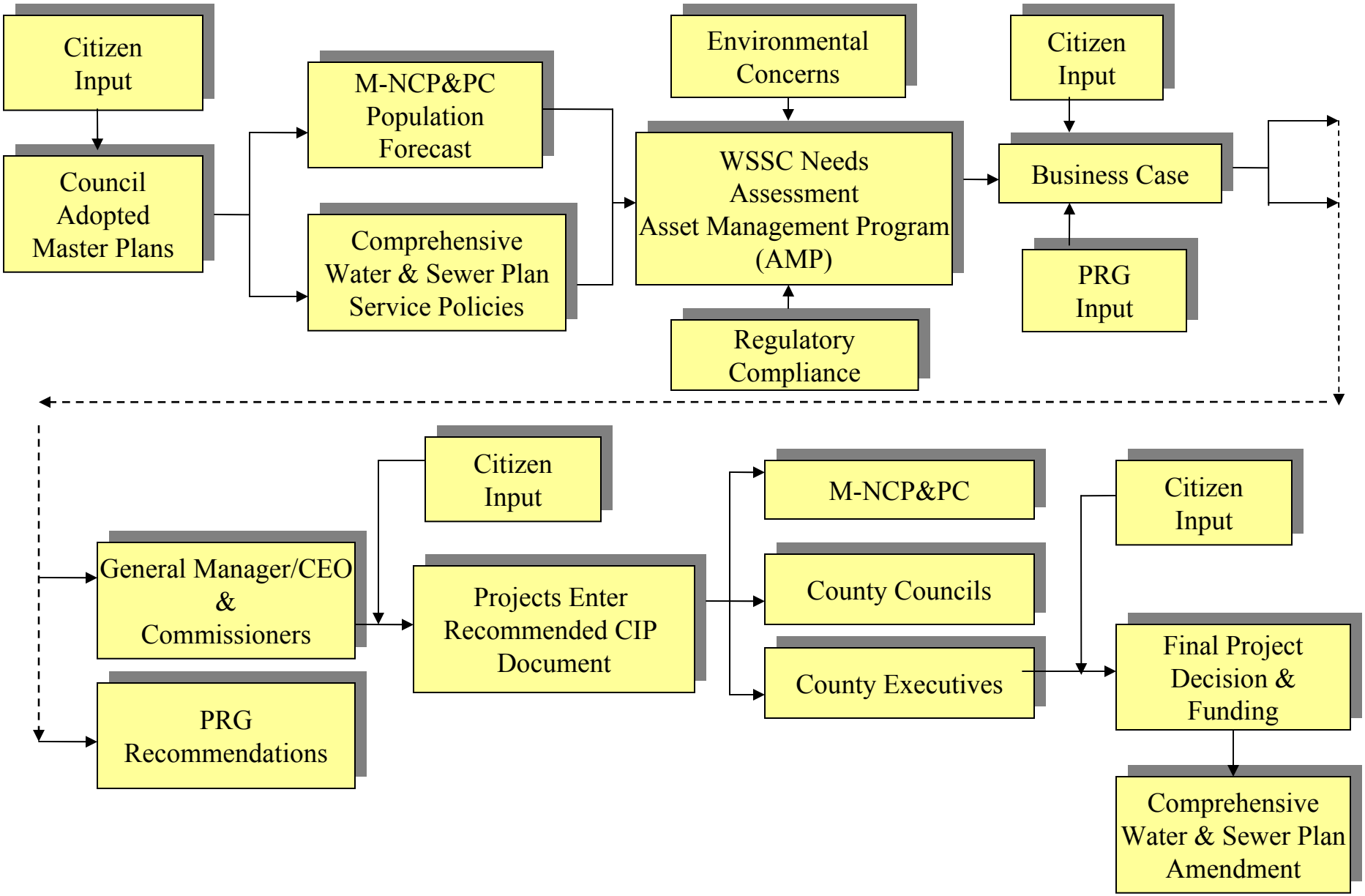
The Planning Process

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 includes 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. 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

One of the WSSC's top priorities, in the core strategy of Infrastructure Asset Management, is 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 (AMP) 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 • Establishment of Need • Need Validation • Funding	Technical Analysis and Documentation • Coordination • Community Outreach • Project Validation • Solution Recommendation	• Project Prioritization • Public Comment • County Governments • WSSC CIP
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-NCPPC) 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 has guided the planning and sizing of the WSSC's

systems for many years 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 have been 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 Cases 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.

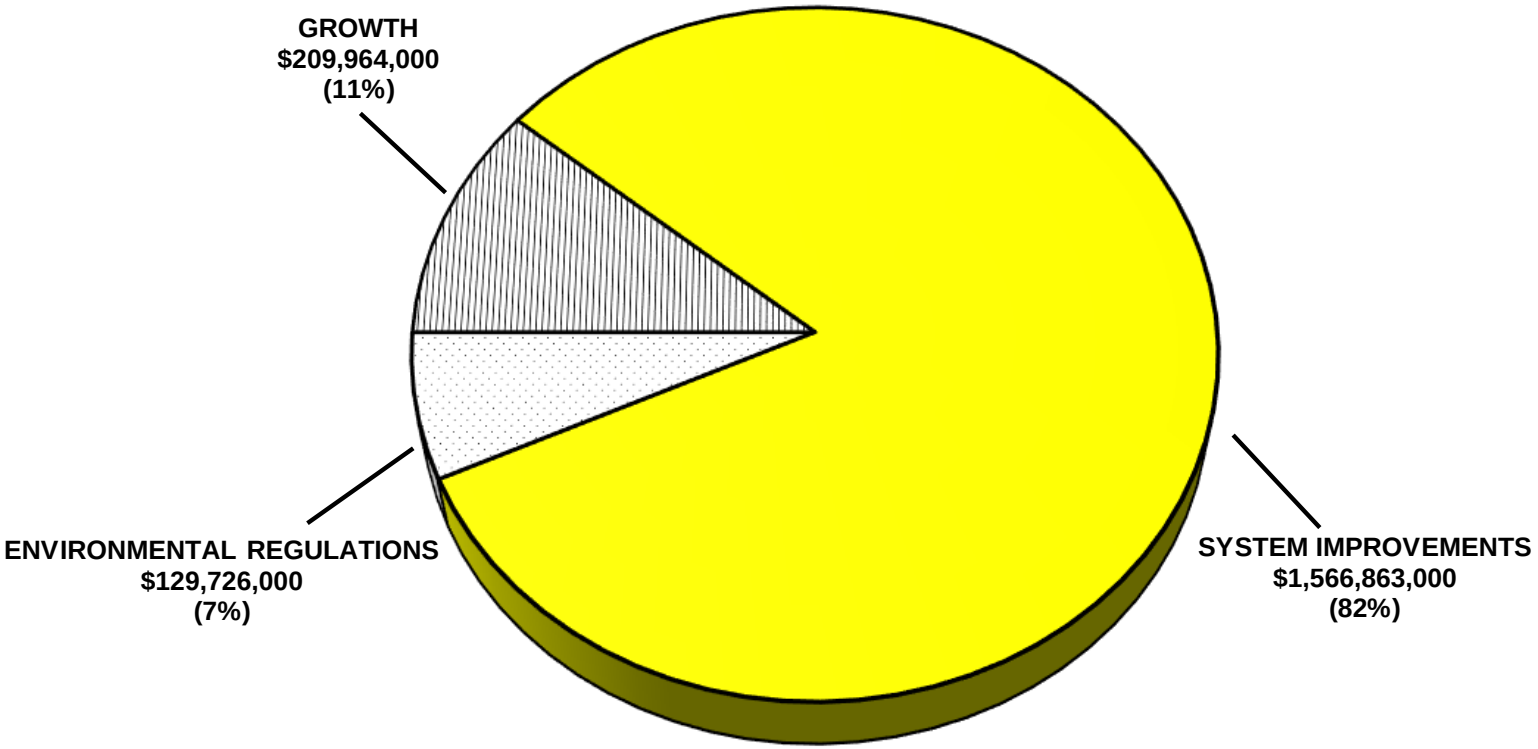
The "Other" cost element, displayed in Block B, in the Expenditure Schedule on each PDF, is a broad estimate of the direct and indirect expenses associated with the implementation of each project and is not covered by the other major cost categories. These costs include direct support costs for a project such as salaries, wages, and related personnel costs (social security, retirement), and services, rentals, supplies, mileage, and other expenses. (General overhead costs, which may be allocated to a project, are not included.) 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 April 30th 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 ADOPTED FYS 2018-23 CIP

SIX-YEAR PROGRAM EXPENDITURES BY MAJOR CATEGORY*

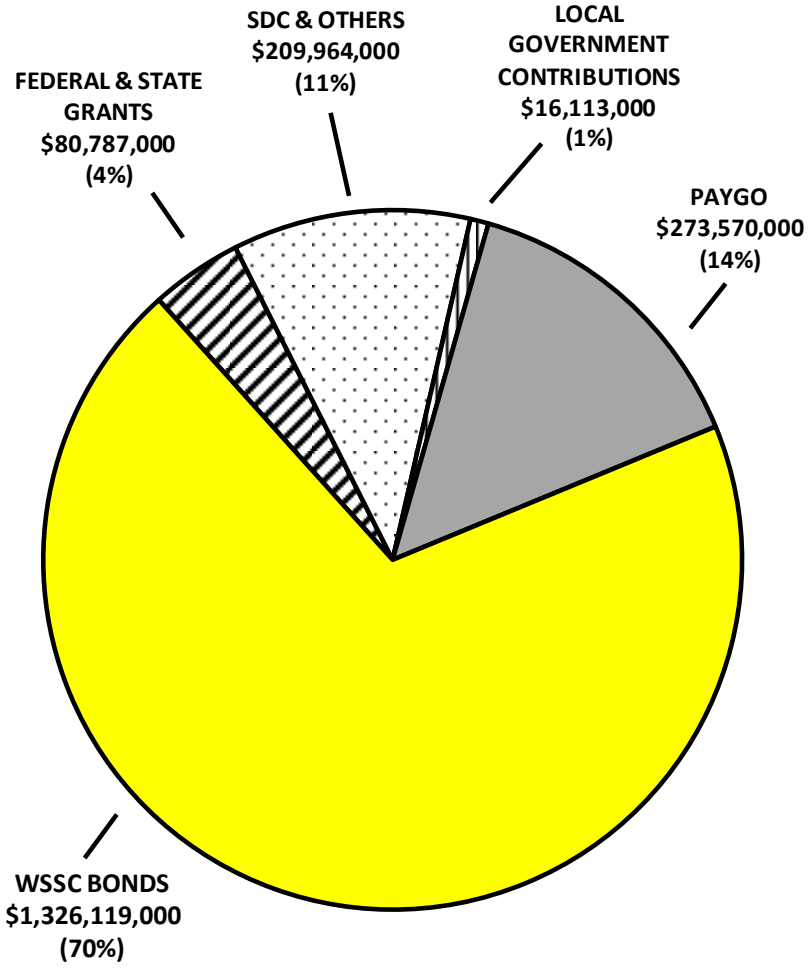


SIX-YEAR PROGRAM TOTAL
$1,906,553,000*

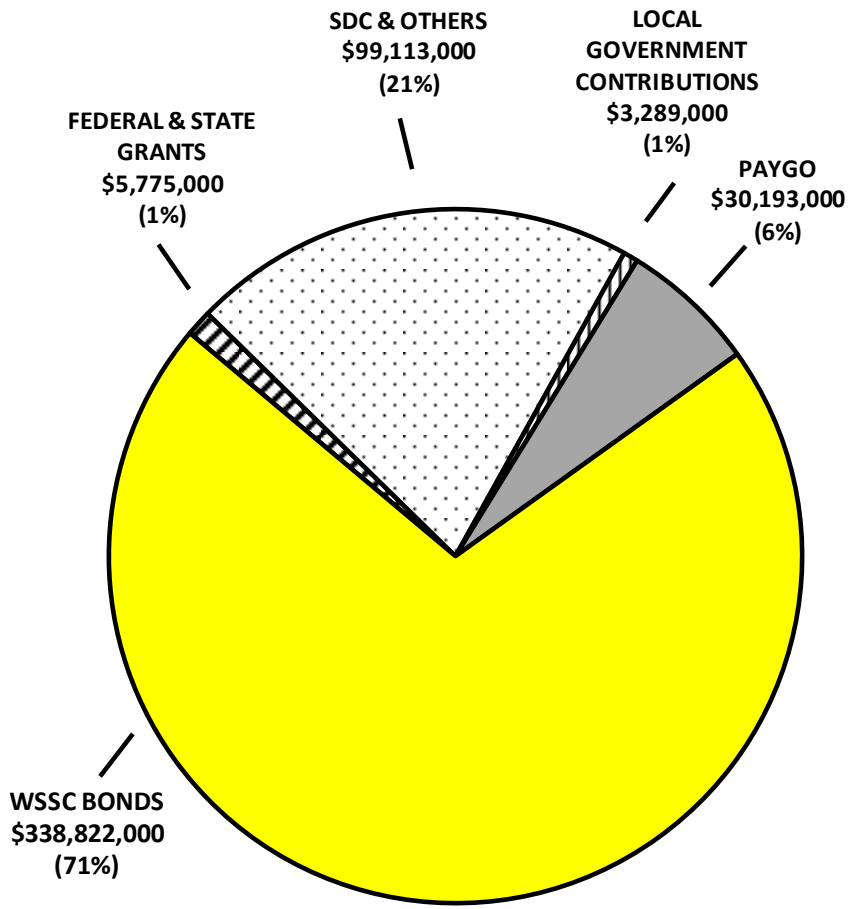
* Totals do not include expenditures for Information Only Projects.

WSSC ADOPTED FYS 2018-23 CIP

FUNDING BY SOURCE*



SIX-YEAR PROGRAM TOTAL
$1,906,553,000*



FY'18 BUDGET YEAR TOTAL
$477,192,000*

*Totals do not include expenditures for Information Only Projects in the six-year program and budget year, respectively.

WSSC FYS 2018 - 2023 CIP
NEW PROJECTS LISTING
(costs in thousands)

Agency Number	Project Name		Total Project Cost	6 Year Program Cost	Budget Year Cost	% of Growth
Montgomery County Sewer Projects						
S-84.67	Milestone Center Sewer Main		$504	$504	$483	100%
S-84.68	Clarksburg Wastewater Pumping Station		3,393	3,393	290	100%
S-84.69	Clarksburg WWPS Force Main		1,149	1,149	100	100%
		TOTALS	**$5,046**	**$5,046**	**$873**	

3 New Projects

WSSC FYS 2018 - 2023 CIP
ALL PROJECTS PENDING CLOSE-OUT
(costs in thousands)

Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'16	Estimated Expenditures FY'17	Remarks
Montgomery County Sewer Projects					
S- 53.21	Seneca WWTP Enhanced Nutrient Removal	$13,509	$13,509	$0	Project completion expected in FY'17.
S- 53.22	Seneca WWTP Expansion, Part 2	32,194	30,874	1,320	Project completion expected in FY'17.
Prince George's County Sewer Projects					
S-57.93	Western Branch WWTP Enhanced Nutrient Removal	42,399	42,025	374	Project completion expected in FY'17.
S-77.19	Parkway WWTP Biosolids Facility Plan Implementation	32,535	32,381	154	Project completion expected in FY'17.
S-87.15	Rodenhauser Wastewater Pumping Station	1,200	1,124	76	Project completion expected in FY'17.
S-87.16	Rodenhauser WWPS Force Main	289	284	5	Project completion expected in FY'17.
S-131.08	Preserves of Piscataway Wastewater Pumping Station	4	4	0	Project cancelled at the request of the Applicant.
S-131.09	Preserves of Piscataway WWPS Force Main	6	6	0	Project cancelled at the request of the Applicant.
	TOTALS	**$122,136**	**$120,207**	**$1,929**	

8 Projects Pending Close-Out

DATE: October 1, 2016
REVISED: May 11, 2017

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

TOTAL WSSC CIP

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
	Montgomery County Water Projects	46,985	9,274	9,025	28,686	20,715	6,652	1,319	0	0	0	0	1-1
	Prince George's County Water Projects	328,217	51,757	43,690	205,950	72,020	54,466	20,861	20,388	19,108	19,107	26,820	5-1
	Bi-County Water Projects	932,752	223,875	105,288	603,589	106,115	95,840	120,801	99,537	96,653	84,643	0	3-1
	TOTAL WATER PROJECTS	**1,307,954**	**284,906**	**158,003**	**838,225**	**198,850**	**156,958**	**142,981**	**119,925**	**115,761**	**103,750**	**26,820**	
	Montgomery County Sewerage Projects	87,684	50,359	6,050	31,275	14,223	13,776	3,276	0	0	0	0	2-1
	Prince George's County Sewerage Projects	483,447	248,503	52,628	181,736	44,336	61,236	53,029	18,251	2,602	2,282	580	6-1
	Bi-County Sewerage Projects	1,469,714	297,926	226,354	855,317	219,783	169,839	190,137	126,682	75,098	73,778	90,117	4-1
	TOTAL SEWERAGE PROJECTS	**2,040,845**	**596,788**	**285,032**	**1,068,328**	**278,342**	**244,851**	**246,442**	**144,933**	**77,700**	**76,060**	**90,697**	
	TOTAL WSSC PROGRAM	**3,348,799**	**881,694**	**443,035**	**1,906,553**	**477,192**	**401,809**	**389,423**	**264,858**	**193,461**	**179,810**	**117,517**	
	Total Information Only Projects	1,687,800	19,529	206,823	1,431,461	234,415	246,371	240,851	250,896	226,622	232,306	29,987	7-1

Section 1 - Montgomery County Water Projects

DATE: October 1, 2016

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

MONTGOMERY COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
W-3.02	Olney Standpipe Replacement	9,977	1,461	1,540	6,976	4,070	2,346	560	0	0	0	0	1-2
W-46.14	Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3	6,077	2,890	805	2,382	1,845	469	68	0	0	0	0	1-4
W-46.15	Clarksburg Elevated Water Storage Facility	5,757	673	1,262	3,822	3,281	541	0	0	0	0	0	1-5
W-46.24	Clarksburg Area Stage 3 Water Main, Part 4	3,905	2,013	429	1,463	569	483	411	0	0	0	0	1-6
W-46.25	Clarksburg Area Stage 3 Water Main, Part 5	1,672	0	0	1,672	1,464	153	55	0	0	0	0	1-7
W-90.04	Brink Zone Reliability Improvements	7,500	780	1,590	5,130	4,280	625	225	0	0	0	0	1-8
W-138.02	Shady Grove Standpipe Replacement	12,097	1,457	3,399	7,241	5,206	2,035	0	0	0	0	0	1-9
	TOTAL MONTGOMERY COUNTY WATER PROJECTS	46,985	9,274	9,025	28,686	20,715	6,652	1,319	0	0	0	0	

Olney Standpipe Replacement

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-3.02	063801	Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,412**	1,432	269	**711**	328	328	55				
Land	**25**	25									
Site Improvements & Utilities											
Construction	**6,429**	4	1,070	**5,355**	3,211	1,712	432				
Other	**1,111**		201	**910**	531	306	73				
Total	**9,977**	**1,461**	**1,540**	**6,976**	**4,070**	**2,346**	**560**				

C. Funding Schedule (000's)

WSSC Bonds	**9,977**	1,461	1,540	**6,976**	4,070	2,346	560				

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

Costs increased based on a more defined engineer's estimate and extended inspection and project management services.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon final design and may change based upon actual bid. The project has been delayed due to easement requirements and permitting with the Maryland Department of Environment and the Maryland State Highway Administration.

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	$649	21
Total Cost	$649	21
Impact on Water and Sewer Rate	$0.01	21

F. Approval and Expenditure Data (000's)

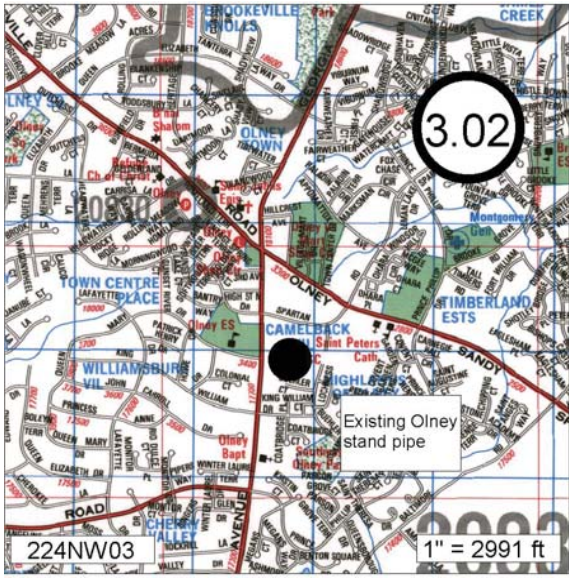
Date First in Program	FY 06
Date First Approved	FY 06
Intial Cost Estimate	3,911
Cost Estimate Last FY	9,284
Present Cost Estimate	9,977
Approved Request Last FY	3,560
Total Expense & Encumbrances	1,461
Approval Request Year 1	4,070

G. Status Information

Land Status	Land acquired
Project Phase	Design
Percent Complete	99%
Est Completion Date	FY 2020

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

H. Map



GERMANTOWN/CLARKSBURG AREA PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'17 TOTAL COST	ADOPTED FY'18 TOTAL COST	CHANGE $	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-46.14	Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3	$5,900	$6,077	$177	3.0%	$2,382	Developer Dependent
W-46.15	Clarksburg Elevated Water Storage Facility	5,982	5,757	(225)	-3.8%	3,822	FY 2019
W-46.24	Clarksburg Area Stage 3 Water Main, Part 4	3,791	3,905	114	3.0%	1,463	Developer Dependent
W-46.25	Clarksburg Area Stage 3 Water Main, Part 5	1,624	1,672	48	3.0%	1,672	FY 2020
	TOTALS	**$17,297**	**$17,411**	**$114**	**0.7%**	**$9,339**	

Summary: These projects are in response to the growth in the up-county area including Germantown and Clarksburg. The Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3 project (W-46.14), 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: Not applicable.

Clarksburg Area Stage 3 Water Main, Parts 1, 2, & 3

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-46.14	973818	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Cedar Heights HG836A; Brink HG760A;
Drainage Basins	
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,126**	358	200	**568**	475	82	11				
Land											
Site Improvements & Utilities											
Construction	**4,535**	2,532	500	**1,503**	1,129	326	48				
Other	**416**		105	**311**	241	61	9				
Total	**6,077**	**2,890**	**805**	**2,382**	**1,845**	**469**	**68**				

C. Funding Schedule (000's)

Contribution/Other	**6,077**	2,890	805	**2,382**	1,845	469	68				

D. Description & Justification

DESCRIPTION

This project provides for the design and construction of 8,200 feet of 24-inch diameter water main to the proposed Clarksburg Elevated Water Storage Facility (WSSC Project W-46.15) and 9,800 feet of 16-inch water main along Whalen Lane, Clarksburg Road, and various proposed subdivision streets.

JUSTIFICATION

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.

General Plan and M-NCP&PC Round 6 growth forecasts; Ten Mile Creek Area Limited Master Plan (2014).

COST CHANGE

Not applicable.

OTHER

The project scope remains the same. 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 System Extension Permits. The 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: W-46.15-Clarksburg Elevated Water Storage Facility; S-84.47-Clarksburg Triangle Outfall Sewer, Part 2; W-46.24-Clarksburg Area Stage 3 Water Main, Part 4;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$423	21
Other Project Costs		
Debt Service		
Total Cost	$423	21
Impact on Water and Sewer Rate	$0.01	21

F. Approval and Expenditure Data (000's)

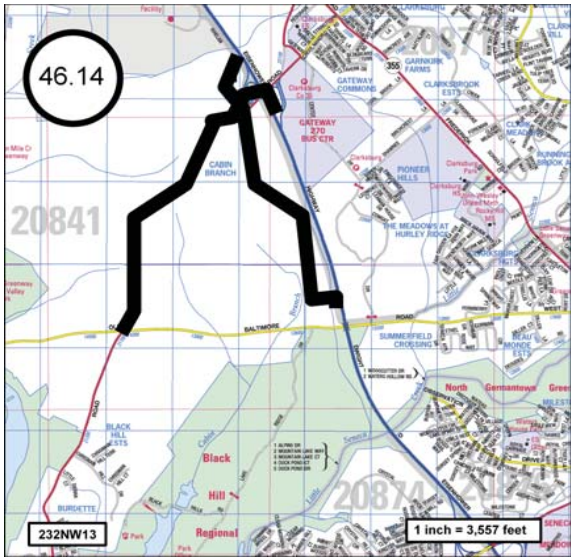
Date First in Program	FY 97
Date First Approved	FY 97
Intial Cost Estimate	3,376
Cost Estimate Last FY	5,900
Present Cost Estimate	6,077
Approved Request Last FY	1,751
Total Expense & Encumbrances	2,890
Approval Request Year 1	1,845

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Construction
Percent Complete	60%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**894**	673	97	**124**	93	31					
Land											
Site Improvements & Utilities											
Construction	**4,200**		1,000	**3,200**	2,760	440					
Other	**663**		165	**498**	428	70					
Total	**5,757**	**673**	**1,262**	**3,822**	**3,281**	**541**					

C. Funding Schedule (000's)

SDC	**5,757**	673	1,262	**3,822**	3,281	541					

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.

Montgomery County High Zone Supply Facility Plan, WSSC; M-NCP&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).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are design level estimates and may change based upon actual bid. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC Project W-202.00.

COORDINATION

Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process was completed on January 23, 2015); Maryland Department of the Environment;

Coordinating Projects: W-46.14-Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3;

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)

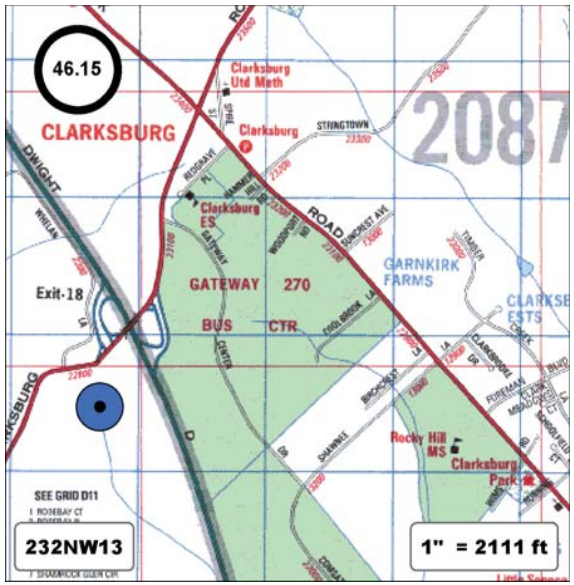
Date First in Program	FY 97
Date First Approved	FY 97
Intial Cost Estimate	138
Cost Estimate Last FY	5,982
Present Cost Estimate	5,757
Approved Request Last FY	1,285
Total Expense & Encumbrances	673
Approval Request Year 1	3,281

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	90%
Est Completion Date	FY 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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**477**	196	149	**132**	68	44	20				
Land											
Site Improvements & Utilities											
Construction	**3,181**	1,817	224	**1,140**	427	376	337				
Other	**247**		56	**191**	74	63	54				
Total	**3,905**	**2,013**	**429**	**1,463**	**569**	**483**	**411**				

C. Funding Schedule (000's)

Contribution/Other	**3,905**	2,013	429	**1,463**	569	483	411				

D. Description & Justification

DESCRIPTION

This project provides for the design and construction of 3,580 feet of 24-inch diameter water main along Route 27 and Route 355 and 2,920 feet of 24-inch diameter water main along West Old Baltimore Road.

JUSTIFICATION

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.

General Plan and M-NCP&PC Round 6 growth forecasts.

COST CHANGE

Not applicable.

OTHER

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.

COORDINATION

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

Coordinating Projects: W-46.14-Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3; W-46.15-Clarksburg Elevated Water Storage Facility; W-46.25-Clarksburg Area Stage 3 Water Main, Part 5;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$153	21
Other Project Costs		
Debt Service		
Total Cost	$153	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

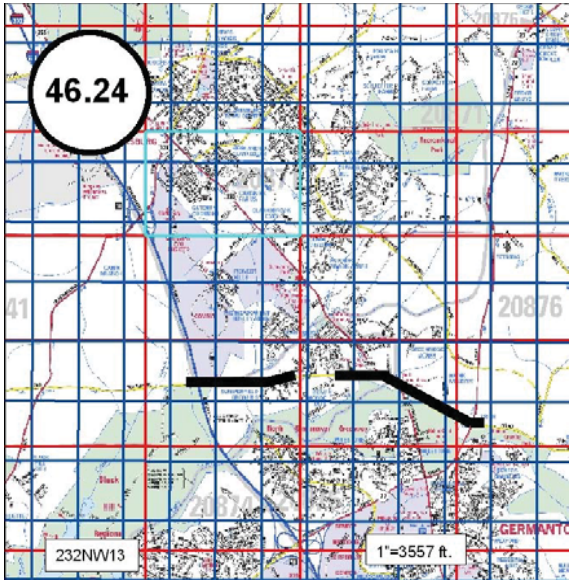
Date First in Program	FY 11
Date First Approved	FY 97
Intial Cost Estimate	1,954
Cost Estimate Last FY	3,791
Present Cost Estimate	3,905
Approved Request Last FY	1,149
Total Expense & Encumbrances	2,013
Approval Request Year 1	569

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**188**			**188**	165	16	7				
Land											
Site Improvements & Utilities											
Construction	**1,266**			**1,266**	1,108	117	41				
Other	**218**			**218**	191	20	7				
Total	**1,672**			**1,672**	**1,464**	**153**	**55**				

C. Funding Schedule (000's)

SDC	**1,672**			**1,672**	1,464	153	55				

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.
General Plan and M-NCPPC Round 6 growth forecasts.

COST CHANGE

Not applicable.

OTHER

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 developer-built project W-46.24. The WSSC-built portions will now be completed under Project W-46.25 in conjunction with Montgomery County and Maryland State Highway Administration road projects. No rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission; Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation;
Coordinating Projects: W-46.24-Clarksburg Area Stage 3 Water Main, Part 4;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$63	21
Other Project Costs		
Debt Service		
Total Cost	$63	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY16
Date First Approved	FY97
Intial Cost Estimate	1,624
Cost Estimate Last FY	1,624
Present Cost Estimate	1,672
Approved Request Last FY	147
Total Expense & Encumbrances	
Approval Request Year 1	1,464

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	20%
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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,870**	780	270	**820**	600	110	110				
Land											
Site Improvements & Utilities											
Construction	**4,900**	0	1,150	**3,750**	3,200	450	100				
Other	**730**		170	**560**	480	65	15				
Total	**7,500**	**780**	**1,590**	**5,130**	**4,280**	**625**	**225**				

C. Funding Schedule (000's)

WSSC Bonds	**7,500**	780	1,590	**5,130**	4,280	625	225				

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 design level construction estimate.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are design level estimates and may change 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	$488	21
Total Cost	$488	21
Impact on Water and Sewer Rate	$0.01	21

F. Approval and Expenditure Data (000's)

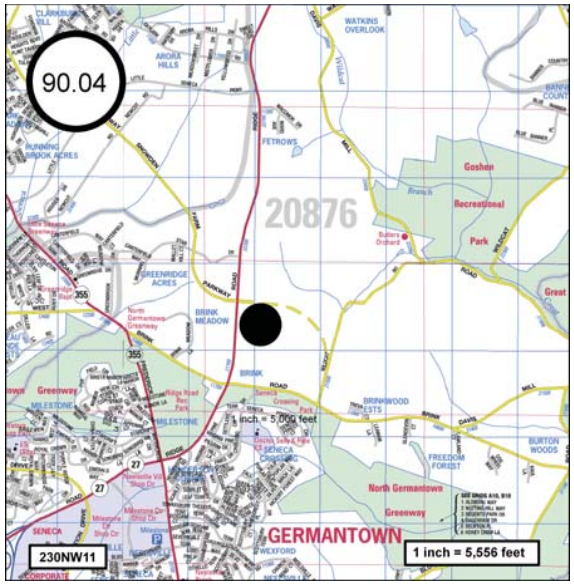
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	345
Cost Estimate Last FY	6,874
Present Cost Estimate	7,500
Approved Request Last FY	1,438
Total Expense & Encumbrances	780
Approval Request Year 1	4,280

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	100%
Est Completion Date	September 2019

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

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,297**	1,457	362	**478**	317	161					
Land											
Site Improvements & Utilities											
Construction	**8,833**		2,728	**6,105**	4,416	1,689					
Other	**967**		309	**658**	473	185					
Total	**12,097**	**1,457**	**3,399**	**7,241**	**5,206**	**2,035**					

C. Funding Schedule (000's)

WSSC Bonds	**12,097**	1,457	3,399	**7,241**	5,206	2,035					

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.

COST CHANGE

Costs increased due to a more defined estimate for construction costs.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are design level estimates and may change based upon actual bid. The project has been delayed due to easement and permitting requirements with the Maryland Department of Natural Resources and City of Rockville.

COORDINATION

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	$787	20
Total Cost	$787	20
Impact on Water and Sewer Rate	$0.02	20

F. Approval and Expenditure Data (000's)

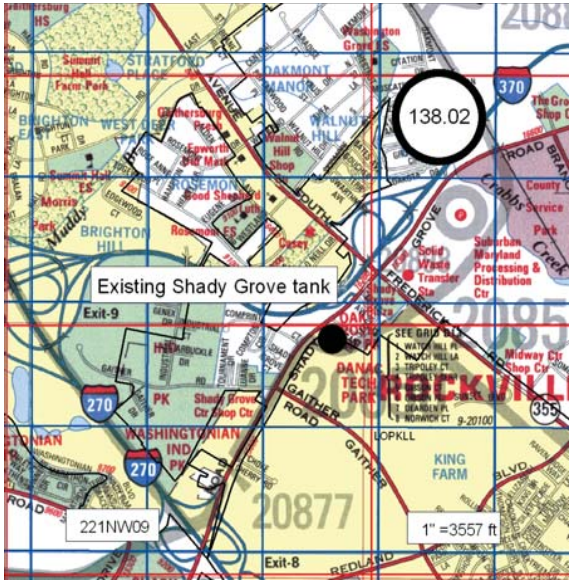
Date First in Program	FY 09
Date First Approved	FY 09
Intial Cost Estimate	7,475
Cost Estimate Last FY	9,064
Present Cost Estimate	12,097
Approved Request Last FY	3,626
Total Expense & Encumbrances	1,457
Approval Request Year 1	5,206

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	99%
Est Completion Date	FY 2019

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

H. Map



Section 2 - Montgomery County Sewer Projects

DATE: October 1, 2016

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

MONTGOMERY COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
S-25.03	Twinbrook Commons Sewer	1,034	607	230	197	100	97	0	0	0	0	0	2-3
S-25.04	Mid-Pike Plaza Sewer Main, Phase 1	4,175	3,841	205	129	129	0	0	0	0	0	0	2-4
S-25.05	Mid-Pike Plaza Sewer Main, Phase 2	6,278	124	1,477	4,677	3,200	1,477	0	0	0	0	0	2-5
S-84.47	Clarksburg Triangle Outfall Sewer, Part 2	2,615	1,185	725	705	606	99	0	0	0	0	0	2-7
S-84.60	Cabin Branch Wastewater Pumping Station	3,000	0	350	2,650	1,325	1,325	0	0	0	0	0	2-8
S-84.61	Cabin Branch WWPS Force Main	436	0	17	419	147	247	25	0	0	0	0	2-9
S-84.65	Tapestry Wastewater Pumping Station	1,372	138	906	328	328	0	0	0	0	0	0	2-10
S-84.66	Tapestry WWPS Force Main	137	26	44	67	37	30	0	0	0	0	0	2-11
S-84.67	Milestone Center Sewer Main	504	0	0	504	483	21	0	0	0	0	0	2-12
S-84.68	Clarksburg Wastewater Pumping Staion	3,393	0	0	3,393	290	2,592	511	0	0	0	0	2-13
S-84.69	Clarksburg WWPS Force Main	1,149	0	0	1,149	100	1,049	0	0	0	0	0	2-14
S-85.21	Shady Grove Station Sewer Augmentation	2,321	24	314	1,983	1,216	767	0	0	0	0	0	2-15
S-103.16	Cabin John Trunk Sewer Relief	15,567	31	462	15,074	6,262	6,072	2,740	0	0	0	0	2-16
	Projects Pending Close-Out	45,703	44,383	1,320	0	0	0	0	0	0	0	0	2-17
	TOTAL MONTGOMERY COUNTY SEWER PROJECTS	87,684	50,359	6,050	31,275	14,223	13,776	3,276	0	0	0	0	

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

Agency Number	Project Name	Total Project Cost	Budget Year Cost	Page Number
S-84.67	Milestone Center Sewer Main	$504	$483	2-12
S-84.68	Clarksburg Wastewater Pumping Station	3,393	290	2-13
S-84.69	Clarksburg WWPS Force Main	1,149	100	2-14
	TOTALS	$5,046	$873	

Twinbrook Commons Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-25.03	083801	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	Rock Creek 05;
Planning Areas	North Bethesda PA 30;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**420**	380	20	**20**	12	8					
Land											
Site Improvements & Utilities											
Construction	**558**	227	180	**151**	75	76					
Other	**56**		30	**26**	13	13					
Total	**1,034**	**607**	**230**	**197**	**100**	**97**					

C. Funding Schedule (000's)

Contribution/Other	**1,034**	607	230	**197**	100	97					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 1,300 feet of 18-inch diameter sewer main to provide service to Twinbrook Commons.

JUSTIFICATION

Phase I Letter of Findings (April 2006).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. This project will be completed in two phases. The first phase, Contract No. DA4159A05, was completed in January 2010. There has been no activity on the second phase, Contract No. DA4159B05. 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 System Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Washington Metropolitan Area Transit Authority; Montgomery County Government; City of Rockville; Local Community Civic Associations;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$21	20
Other Project Costs		
Debt Service		
Total Cost	$21	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

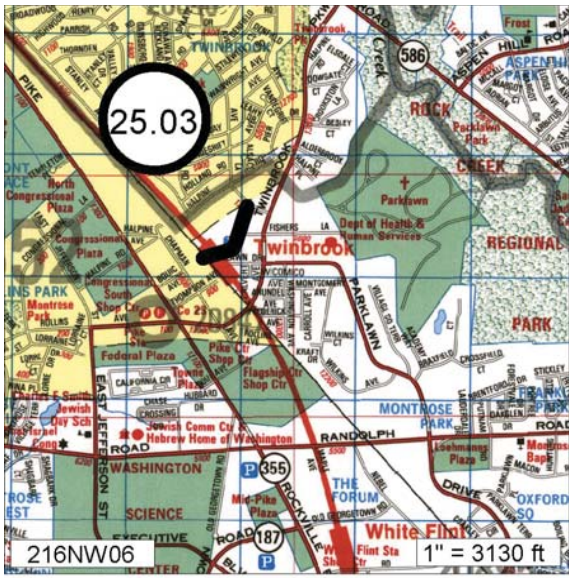
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	677
Cost Estimate Last FY	1,004
Present Cost Estimate	1,034
Approved Request Last FY	159
Total Expense & Encumbrances	607
Approval Request Year 1	100

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	3.26 to 4.33 MGD

H. Map



Mid-Pike Plaza Sewer Main, Phase 1

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-25.04	123801	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	Cabin John 07;
Planning Areas	North Bethesda PA 30;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**346**	332	5	**9**	9						
Land											
Site Improvements & Utilities											
Construction	**3,785**	3,509	173	**103**	103						
Other	**44**		27	**17**	17						
Total	**4,175**	**3,841**	**205**	**129**	**129**						

C. Funding Schedule (000's)

Contribution/Other	**4,175**	3,841	205	**129**	129						

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 4,000 feet of 15, 18, and 21-inch diameter sewer main to provide service to Mid-Pike Plaza.

JUSTIFICATION

Mid-Pike Plaza Hydraulic Planning Analysis (November 2012).

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 Government; Montgomery County Department of Environmental Protection; Local Community Civic Associations;
Coordinating Projects: S-103.16-Cabin John Trunk Sewer Relief; S-25.05-Mid-Pike Plaza Sewer Main, Phase 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$66	19
Other Project Costs		
Debt Service		
Total Cost	$66	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

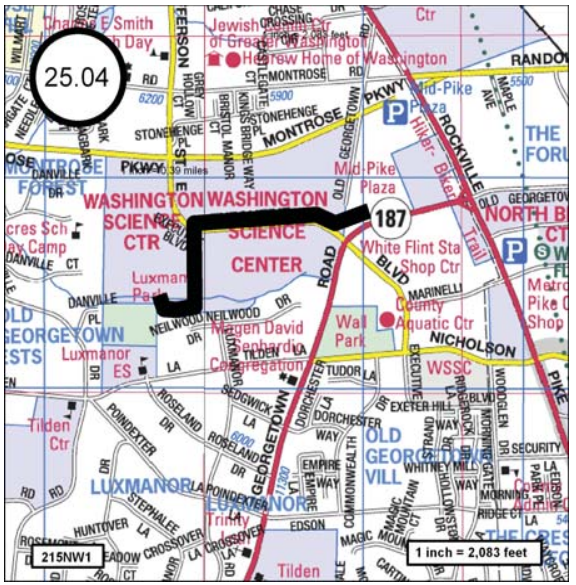
Date First in Program	FY 12
Date First Approved	FY 12
Intial Cost Estimate	1,488
Cost Estimate Last FY	4,053
Present Cost Estimate	4,175
Approved Request Last FY	124
Total Expense & Encumbrances	3,841
Approval Request Year 1	129

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	75%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	2,007
Capacity	3.47 mgd

H. Map



Mid-Pike Plaza Sewer Main, Phase 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-25.05	143801	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	Cabin John 07;
Planning Areas	North Bethesda PA 30;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**886**	124	254	**508**	254	254					
Land											
Site Improvements & Utilities											
Construction	**4,589**		1,030	**3,559**	2,529	1,030					
Other	**803**		193	**610**	417	193					
Total	**6,278**	**124**	**1,477**	**4,677**	**3,200**	**1,477**					

C. Funding Schedule (000's)

Contribution/Other	**6,278**	124	1,477	**4,677**	3,200	1,477					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 3,600 feet of 21-inch and 24-inch diameter sewer main to provide service to Mid-Pike Plaza.

JUSTIFICATION

Mid-Pike Plaza Hydraulic Planning Analysis (November 2012).

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: Montgomery County Government; Montgomery County Department of Environmental Protection; Local Community Civic Associations;

Coordinating Projects: S-25.04-Mid-Pike Plaza Sewer Main, Phase 1; S-103.16-Cabin John Trunk Sewer Relief;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$59	20
Other Project Costs		
Debt Service		
Total Cost	$59	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

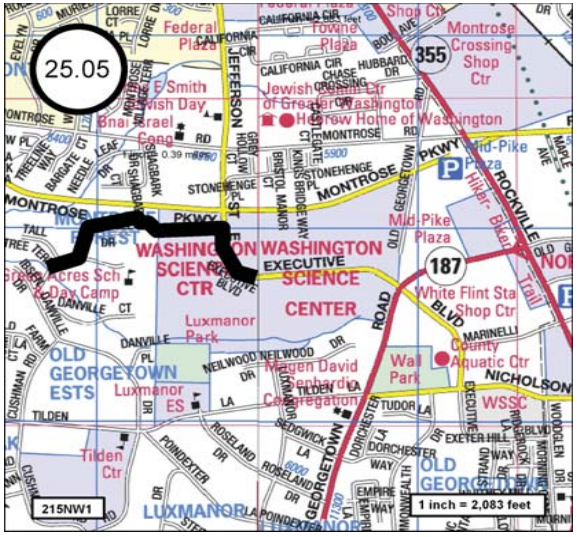
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	5,917
Cost Estimate Last FY	6,094
Present Cost Estimate	6,278
Approved Request Last FY	3,107
Total Expense & Encumbrances	124
Approval Request Year 1	3,200

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	20%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



CABIN BRANCH AREA PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'17 TOTAL COST	ADOPTED FY'18 TOTAL COST	CHANGE $	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-84.47	Clarksburg Triangle Outfall Sewer, Part 2	$2,539	$2,615	$76	3.0%	$705	Developer Dependent
S-84.60	Cabin Branch Wastewater Pumping Station	2,342	3,000	658	28.1%	2,650	Developer Dependent
S-84.61	Cabin Branch WWPS Force Main	424	436	12	2.8%	419	Developer Dependent
	TOTALS	**$5,305**	**$6,051**	**$746**	**14.1%**	**$3,774**	

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.

Clarksburg Triangle Outfall Sewer, Part 2

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-84.47	023811	Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**505**	258	230	**17**	15	2					
Land											
Site Improvements & Utilities											
Construction	**1,923**	927	400	**596**	512	84					
Other	**187**		95	**92**	79	13					
Total	**2,615**	**1,185**	**725**	**705**	**606**	**99**					

C. Funding Schedule (000's)

Contribution/Other	**2,615**	1,185	725	**705**	606	99					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of approximately 4,200 feet of 24-inch, 1,450 feet of 21-inch, 1,670 feet of 18-inch, and 580 feet of 15-inch diameter outfall sewer along a tributary west of and parallel to U.S. Interstate 270, north of West Old Baltimore Road. This sewer is projected to serve new development in Stage 3 of the Clarksburg planning area west of I-270 and potentially serve Clarksburg Development Stage 4 as specified in the 1994 Clarksburg Master Plan.

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); Ten Mile Creek Area Limited Master Plan (2014).

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 System Extension Permit. 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: W-46.14-Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$130	20
Other Project Costs		
Debt Service		
Total Cost	$130	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

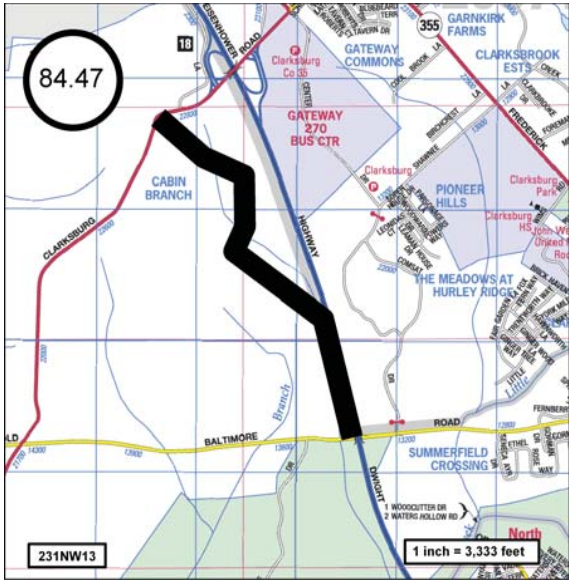
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	22
Cost Estimate Last FY	2,539
Present Cost Estimate	2,615
Approved Request Last FY	555
Total Expense & Encumbrances	1,185
Approval Request Year 1	606

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	70%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	10.8 MGD

H. Map



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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**450**		350	**100**	50	50					
Land											
Site Improvements & Utilities											
Construction	**2,310**			**2,310**	1,155	1,155					
Other	**240**			**240**	120	120					
Total	**3,000**		**350**	**2,650**	**1,325**	**1,325**					

C. Funding Schedule (000's)

Contribution/Other	**3,000**		350	**2,650**	1,325	1,325					

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)

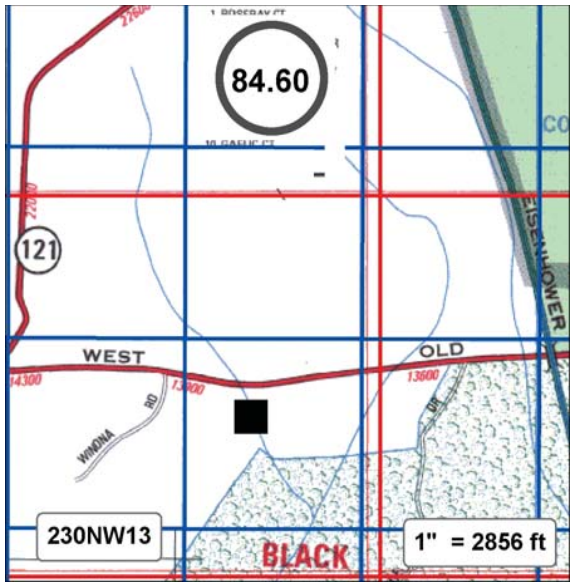
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	22
Cost Estimate Last FY	2,342
Present Cost Estimate	3,000
Approved Request Last FY	449
Total Expense & Encumbrances	
Approval Request Year 1	1,325

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	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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**92**		15	**77**	28	46	3				
Land											
Site Improvements & Utilities											
Construction	**288**			**288**	100	169	19				
Other	**56**		2	**54**	19	32	3				
Total	**436**		**17**	**419**	**147**	**247**	**25**				

C. Funding Schedule (000's)

Contribution/Other	**436**		17	**419**	147	247	25				

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. Land costs are included in WSSC Project S-203.00.

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-84.47-Clarksburg Triangle Outfall Sewer, Part 2; S-84.60-Cabin Branch Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$33	21
Other Project Costs		
Debt Service		
Total Cost	$33	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

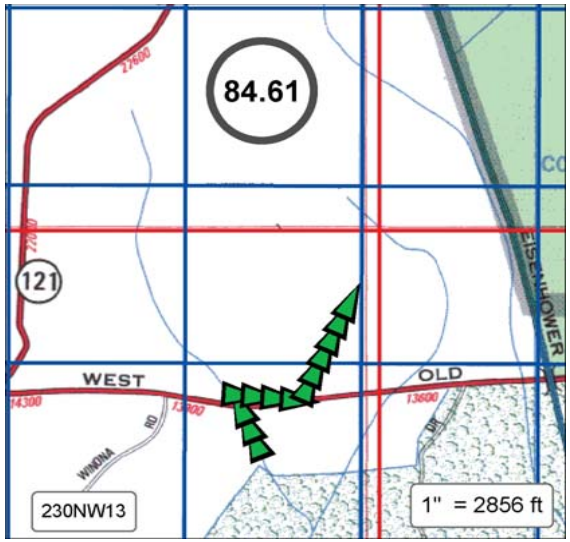
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	22
Cost Estimate Last FY	424
Present Cost Estimate	436
Approved Request Last FY	143
Total Expense & Encumbrances	
Approval Request Year 1	147

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	0.9 MGD

H. Map



Tapestry Wastewater Pumping Station

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-84.65	083803	Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**338**	138	150	**50**	50						
Land											
Site Improvements & Utilities											
Construction	**873**		638	**235**	235						
Other	**161**		118	**43**	43						
Total	**1,372**	**138**	**906**	**328**	**328**						

C. Funding Schedule (000's)

Contribution/Other	**1,372**	138	906	**328**	328						

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of a 0.23 MGD wastewater pumping station to serve the Tapestry Subdivision.

JUSTIFICATION

Tapestry Subdivision Amended Hydraulic Planning Analysis and Letter of Findings #2 (March 2014).

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. The design and construction will be performed by the developer under a Memorandum of Understanding. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Montgomery County Government; Local Community Civic Associations;
Coordinating Projects: S-84.66-Tapestry 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)

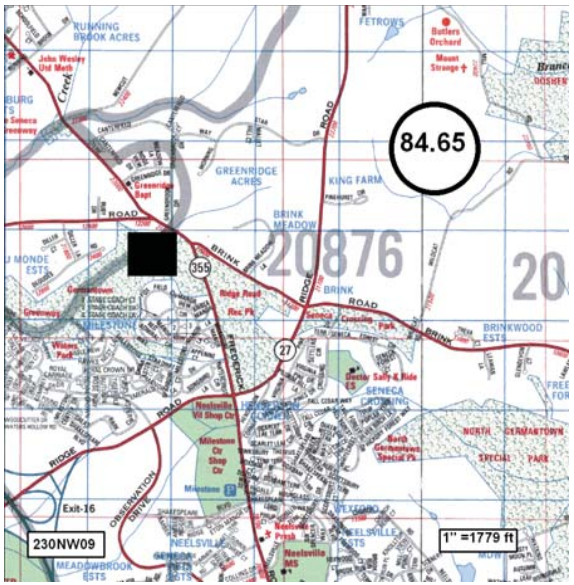
Date First in Program	FY08
Date First Approved	FY08
Intial Cost Estimate	552
Cost Estimate Last FY	1,354
Present Cost Estimate	1,372
Approved Request Last FY	461
Total Expense & Encumbrances	138
Approval Request Year 1	328

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	590
Capacity	0.23 MGD

H. Map



Tapestry WWPS Force Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.66	083804	Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**26**	26									
Land											
Site Improvements & Utilities											
Construction	**95**		37	**58**	32	26					
Other	**16**		7	**9**	5	4					
Total	**137**	**26**	**44**	**67**	**37**	**30**					

C. Funding Schedule (000's)

Contribution/Other	**137**	26	44	**67**	37	30					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 2,150 feet of 4-inch diameter force main to serve the Tapestry Subdivision.

JUSTIFICATION

Tapestry Subdivision Amended Hydraulic Planning Analysis and Letter of Findings #2 (March 2014).

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: Montgomery County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process) Local Community Civic Associations;

Coordinating Projects: S-84.65-Tapestry Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$35	20
Other Project Costs		
Debt Service		
Total Cost	$35	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	110
Cost Estimate Last FY	134
Present Cost Estimate	137
Approved Request Last FY	37
Total Expense & Encumbrances	26
Approval Request Year 1	37

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	590
Capacity	

H. Map

Milestone Center Sewer Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.67	173804	Add

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Montgomery High HG660A;
Drainage Basins	Seneca Creek 15;
Planning Areas	Germantown & Vicinity PA 19;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**120**			**120**	120						
Land											
Site Improvements & Utilities											
Construction	**318**			**318**	300	18					
Other	**66**			**66**	63	3					
Total	**504**			**504**	**483**	**21**					

C. Funding Schedule (000's)

Contribution/Other	**504**			**504**	483	21					

D. Description & Justification

DESCRIPTION

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 was developed for the FY 2018 CIP and has a total estimated cost of $504,000. The construction cost is based on WSSC Unit prices, based on length of pipe only. A cost estimate has been requested from the developer. The expenditures and schedule projection shown in Block B are planning level estimates and may change based on site-specific conditions and design constraints. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Montgomery County Government;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$31	20
Other Project Costs		
Debt Service		
Total Cost	$31	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

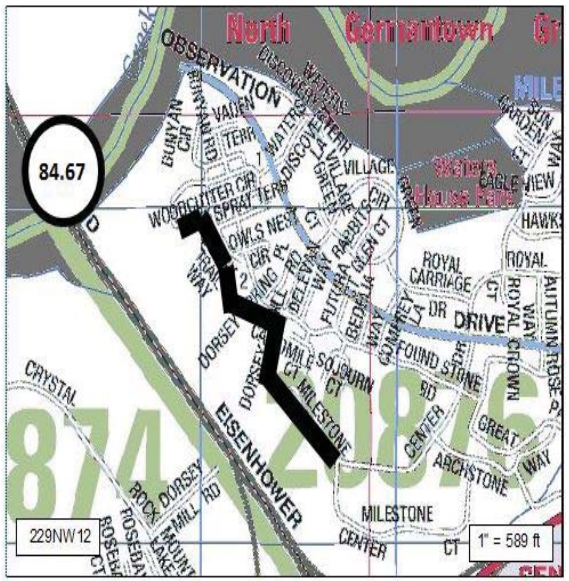
Date First in Program	FY 18
Date First Approved	FY 18
Intial Cost Estimate	504
Cost Estimate Last FY	
Present Cost Estimate	504
Approved Request Last FY	
Total Expense & Encumbrances	
Approval Request Year 1	483

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	Add

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**412**			**412**	252	151	9				
Land											
Site Improvements & Utilities											
Construction	**2,538**			**2,538**		2,103	435				
Other	**443**			**443**	38	338	67				
Total	**3,393**			**3,393**	**290**	**2,592**	**511**				

C. Funding Schedule (000's)

SDC	**3,393**			**3,393**	290	2,592	511				

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

Clarksburg Master Plan & 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).

COST CHANGE

Not applicable.

OTHER

The present project scope was developed for the FY 2018 CIP and has an estimated total cost of $3,393,000. 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 is currently underway 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. Land costs are included in WSSC project S-203.00.

COORDINATION

Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection;
Coordinating Projects: S-84.69-Clarksburg 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 18
Date First Approved	FY 18
Intial Cost Estimate	3,393
Cost Estimate Last FY	
Present Cost Estimate	3,393
Approved Request Last FY	
Total Expense & Encumbrances	
Approval Request Year 1	290

G. Status Information

Land Status	Site not selected
Project Phase	Planning
Percent Complete	95%
Est Completion Date	FY 2020

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	0.94

H. Map

MAP NOT APPLICABLE

Clarksburg WWPS Force Main

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

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**122**			**122**	87	35					
Land											
Site Improvements & Utilities											
Construction	**877**			**877**		877					
Other	**150**			**150**	13	137					
Total	**1,149**			**1,149**	**100**	**1,049**					

C. Funding Schedule (000's)

SDC	**1,149**			**1,149**	100	1,049					

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

Clarksburg Master Plan & 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).

COST CHANGE

Not applicable.

OTHER

The present project scope was developed for the FY 2018 CIP and has an estimated total cost of $1,149,000. 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 is currently underway 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.

COORDINATION

Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection;
Coordinating Projects: S-84.68-Clarksburg Wastewater Pumping Station

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$21	20
Other Project Costs		
Debt Service		
Total Cost	$21	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 18
Date First Approved	FY 18
Intial Cost Estimate	1,149
Cost Estimate Last FY	
Present Cost Estimate	1,149
Approved Request Last FY	
Total Expense & Encumbrances	
Approval Request Year 1	100

G. Status Information

Land Status	Site not selected
Project Phase	Planning
Percent Complete	95%
Est Completion Date	FY 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**60**	24	15	**21**	11	10					
Land											
Site Improvements & Utilities											
Construction	**1,961**		258	**1,703**	1,046	657					
Other	**300**		41	**259**	159	100					
Total	**2,321**	**24**	**314**	**1,983**	**1,216**	**767**					

C. Funding Schedule (000's)

Contribution/Other	**2,321**	24	314	**1,983**	1,216	767					

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 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	$64	20
Other Project Costs		
Debt Service		
Total Cost	$64	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 15
Date First Approved	FY 15
Intial Cost Estimate	2,254
Cost Estimate Last FY	2,254
Present Cost Estimate	2,321
Approved Request Last FY	1,181
Total Expense & Encumbrances	24
Approval Request Year 1	1,216

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

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, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**650**	31	402	**217**	186	21	10				
Land											
Site Improvements & Utilities											
Construction	**12,891**			**12,891**	5,259	5,259	2,373				
Other	**2,026**		60	**1,966**	817	792	357				
Total	**15,567**	**31**	**462**	**15,074**	**6,262**	**6,072**	**2,740**				

C. Funding Schedule (000's)

Contribution/Other	**15,567**	31	462	**15,074**	6,262	6,072	2,740				

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 3,400 feet of 24-inch diameter sewer in the Cabin John Basin.

JUSTIFICATION

Mid-Pike Plaza Hydraulic Planning Analysis (November, 2012).

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: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland Department of Natural Resources; Montgomery County Government;
Coordinating Projects: S-25.04-Mid-Pike Plaza Sewer Main, Phase 1; S-25.05-Mid-Pike Plaza Sewer Main, Phase 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$56	21
Other Project Costs		
Debt Service		
Total Cost	$56	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

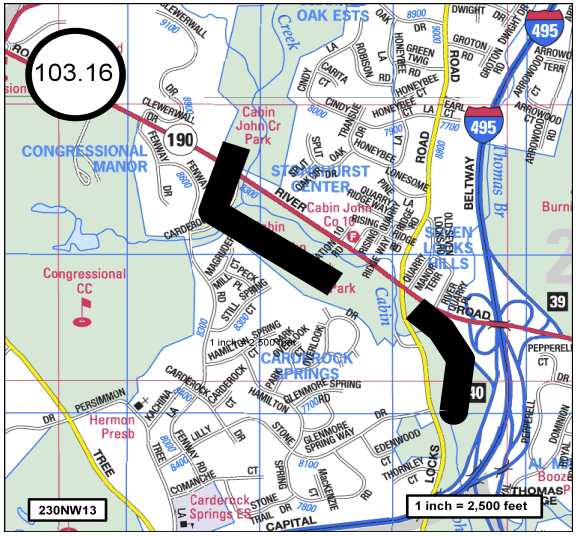
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	7,999
Cost Estimate Last FY	15,113
Present Cost Estimate	15,567
Approved Request Last FY	6,085
Total Expense & Encumbrances	31
Approval Request Year 1	6,262

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	20%
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'16	Estimated Expenditures FY'17	Remarks
073800	S-53.21	Seneca WWTP Enhanced Nutrient Removal	$13,509	$13,509	$0	Project completion expected in FY'17.
083802	S-53.22	Seneca WWTP Expansion, Part 2	32,194	30,874	1,320	Project completion expected in FY'17.
		TOTALS	$45,703	$44,383	$1,320	

Section 3 - Bi-County Water Projects

DATE: October 1, 2016

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

BI-COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
W-73.19	Potomac WFP Outdoor Substation No. 2 Replacement	14,850	5,597	7,944	1,309	1,248	61	0	0	0	0	0	3-3
W-73.21	Potomac WFP Corrosion Mitigation	15,557	11,100	3,630	827	760	67	0	0	0	0	0	3-4
W-73.22	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	22,129	1,924	8,239	11,966	9,972	1,994	0	0	0	0	0	3-5
W-73.30	Potomac WFP Submerged Channel Intake	83,104	4,300	630	78,174	1,523	3,570	24,308	24,255	19,320	5,198	0	3-6
W-73.32	Potomac WFP Main Zone Pipeline	36,494	887	770	34,837	9,504	11,572	13,761	0	0	0	0	3-7
W-73.33	Potomac WFP Consent Decree Program	43,050	250	2,800	40,000	7,000	6,600	6,600	6,600	6,600	6,600	0	3-8
W-127.01	Bi-County Water Tunnel	142,371	140,254	1,284	833	833	0	0	0	0	0	0	3-9
W-139.02	Duckett & Brighton Dam Upgrades	35,415	13,607	6,013	15,795	10,673	5,122	0	0	0	0	0	3-11
W-161.01	Large Diameter Water Pipe & Large Valve Rehabilitation Program	415,928	0	44,896	371,032	41,501	50,463	66,836	68,664	70,723	72,845	0	3-12
W-172.05	Patuxent WFP Phase II Expansion	64,214	29,429	23,226	11,559	8,956	2,603	0	0	0	0	0	3-15
W-172.07	Patuxent Raw Water Pipeline	32,932	11,886	110	20,936	4,180	8,378	8,378	0	0	0	0	3-16
W-172.08	Rocky Gorge Pump Station Upgrade	22,179	4,641	4,686	12,852	7,590	4,514	748	0	0	0	0	3-17
W-202.00	Land & Rights-of-Way Acquisition - Bi-County Water	4,529	0	1,060	3,469	2,375	896	170	18	10	0	0	3-18
	TOTAL BI-COUNTY WATER PROJECTS	932,752	223,875	105,288	603,589	106,115	95,840	120,801	99,537	96,653	84,643	0	

POTOMAC WATER FILTRATION PLANT PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'17 TOTAL COST	ADOPTED FY'18 TOTAL COST	CHANGE $	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-73.19	Potomac WFP Outdoor Substation No. 2 Replacement	$15,562	$14,850	($712)	-4.6%	$1,309	December 2017
W-73.21	Potomac WFP Corrosion Mitigation	15,508	15,557	49	0.3%	827	August 2017
W-73.22	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	11,200	22,129	10,929	97.6%	11,966	December 2018
W-73.30	Potomac WFP Submerged Channel Intake	80,537	83,104	2,567	3.2%	78,174	FY 2023
W-73.32	Potomac WFP Main Zone Pipeline	35,009	36,494	1,485	4.2%	34,837	FY 2020
W-73.33	Potomac WFP Consent Decree Program	27,250	43,050	15,800	58.0%	40,000	January 2026
	TOTALS	**$185,066**	**$215,184**	**$30,118**	**16.3%**	**$167,113**	

Summary: This group of projects represents operational improvements to the Potomac Water Filtration Plant (WFP) in Montgomery County. The Potomac WFP Outdoor Substation No. 2 Replacement project (W-73.19) provides for the replacement of the Outdoor Substation No. 2 (OSS-2) at the Potomac Water Filtration Plant which is over 30 years old and contains 5kV switchgear that houses air magnetic breakers which are obsolete. The Potomac WFP Corrosion Mitigation (W-73.21) provides for upgrading/replacing existing metallic components in the eight sedimentation basins due to accelerated corrosion, along with upgrading components in the rapid mix and flocculation processes. The Potomac WFP Pre-Filter Chlorination & Air Scour Improvements project (W-73.22) provides for a pre-filter chlorination system and evaluation of retrofitting an air scour system into 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 why 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: The net increase in cost is primarily due to the addition of the new Potomac WFP Consent Decree Program (W-73.33).

Potomac WFP Outdoor Substation No. 2 Replacement

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-73.19	113802	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**3,549**	2,207	1,222	**120**	105	15					
Land											
Site Improvements & Utilities											
Construction	**10,460**	3,390	6,000	**1,070**	1,030	40					
Other	**841**		722	**119**	113	6					
Total	**14,850**	**5,597**	**7,944**	**1,309**	**1,248**	**61**					

C. Funding Schedule (000's)

WSSC Bonds	**14,850**	5,597	7,944	**1,309**	1,248	61					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction required to replace the Outdoor Substation No. 2 (OSS-2) 5kV switchgear and the two motor control centers (MCCs) located in the Raw Water Pumping Station No. 1 at the Potomac Water Filtration Plant. OSS-2 is over 30 years old and contains 5kV switchgear that houses air magnetic breakers which are obsolete. The two MCCs are over 50 years old, and the manufacturer is no longer in business, making replacement parts difficult to obtain.

JUSTIFICATION

The Phase ID - Energy Performance Project included engineering, and planning of equipment and operations upgrades to develop an energy efficient and guaranteed savings program to upgrade/replace pumps at the Potomac Raw Water Pumping Stations (RWPS) #1 and #2, and upgrade Main Zone pump #3. Subsequent tests and inspections of OSS-2 serving RWPS #1 and #2 resulted in a report indicating that OSS-2 was unsafe and in poor condition, and that WSSC should move in an expeditious manner to replace the switchgear in its entirety. Industry practice is to replace 5 kV switchgear between 25 and 30 years old, when in an environment with airborne chemicals. The old breakers in OSS-2 have misalignment problems, and the switchgear housing is corroded, which can pose safety risks to the plant electrical and mechanical maintenance staff as well as the operators.

Energy Performance Project, Phase ID, Energy Systems Group (ESG) (March 2009). Raw Water Pump Testing and subsequent site visits and meetings at Potomac from April to June 2009 by ESG, Whitman Requardt & Assoc., and Shah Assoc. (sub-consultants to ESG).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based on actual bid. Estimated cost shown for FY'19 is for site restoration.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government;
Coordinating Projects: A-103.00-Energy Performance Program;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$966	20
Total Cost	$966	20
Impact on Water and Sewer Rate	$0.02	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	7,934
Cost Estimate Last FY	15,562
Present Cost Estimate	14,850
Approved Request Last FY	6,982
Total Expense & Encumbrances	5,597
Approval Request Year 1	1,248

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	30%
Est Completion Date	December 2017

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Potomac WFP Corrosion Mitigation

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-73.21	143802	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,050**	1,800	200	**50**	40	10					
Land											
Site Improvements & Utilities											
Construction	**13,100**	9,300	3,100	**700**	650	50					
Other	**407**		330	**77**	70	7					
Total	**15,557**	**11,100**	**3,630**	**827**	**760**	**67**					

C. Funding Schedule (000's)

WSSC Bonds	**15,557**	11,100	3,630	**827**	760	67					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction required to upgrade and replace the existing metallic components in the eight Sedimentation Basins due to accelerated corrosion observed since the implementation of the full-scale Low pH Enhanced Coagulation Program in 2008. The project will also upgrade components in the Rapid Mix and Flocculation process areas in anticipation of the Ferric Chloride Feed System Project completion that will introduce a coagulant that is not compatible with several of the existing metallic components.

JUSTIFICATION

Sedimentation Basin components, such as valve hardware, pipe couplings, operator extensions, cross beams, cross collector drive chains and pipe support brackets, are all essential elements. Failure could mean losing important and significant process capacity, possibly for extended periods of time. This could hinder the Commission's ability to meet water supply demands, particularly when the system may need to recover quickly, as in the case of a major water main break. Replacing the metallic components with compatible materials will help maintain the integrity of our system. The project also includes the replacement of the existing polyurethane sprockets, chains for the cross collector drive, augers, auger shafts, and auger chains.

Technical Memorandum No. 1 - Impact of Ferric Chloride on Existing Facilities, Hazen and Sawyer, (May 2010); Potomac Sedimentation Basin Corrosion Study, Hatch Mott MacDonald, (July 2010).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditures and schedule projections shown in Block B above are based upon actual bid. Estimated cost shown for FY'19 is for project closeout activities.

COORDINATION

Coordinating Agencies: Montgomery County Government; 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	$1,012	20
Total Cost	$1,012	20
Impact on Water and Sewer Rate	$0.02	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	7,443
Cost Estimate Last FY	15,508
Present Cost Estimate	15,557
Approved Request Last FY	2,239
Total Expense & Encumbrances	11,100
Approval Request Year 1	760

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	25%
Est Completion Date	August 2017

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,226**	1,113	124	**989**	824	165					
Land											
Site Improvements & Utilities											
Construction	**18,066**	811	7,366	**9,889**	8,241	1,648					
Other	**1,837**		749	**1,088**	907	181					
Total	**22,129**	**1,924**	**8,239**	**11,966**	**9,972**	**1,994**					

C. Funding Schedule (000's)

WSSC Bonds	**22,129**	1,924	8,239	**11,966**	9,972	1,994					

D. Description & Justification

DESCRIPTION

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 up to 12 filter underdrains.

JUSTIFICATION

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);

COST CHANGE

Total project cost has increased to include the cost for replacement of up to 12 filter underdrains.

OTHER

The project scope has been modified to include the replacement of up to 12 filter underdrains. The Potomac Water Filtration Plant has experienced fourteen (14) separate incidents of catastrophic filter underdrain failures since October 2006 including three filters that failed twice. There are currently a total of seven (7) filters out of service due to this problem. The failures have accelerated to an alarming rate with six of the current filter failures taking place since the beginning of 2016. To put this loss in perspective, the filter design flow rate at Potomac is 10 MGD summer and 8.2 MGD winter. This means that with these seven filters out of service we have effectively lost up to 70 MGD capacity, far exceeding the total pre-upgrade capacity of the WSSC Patuxent Plant. Expenditure and schedule projections shown in Block B above are design level estimates, and may change based on actual bids. It was originally planned 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.

COORDINATION

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	$1,440	20
Total Cost	$1,440	20
Impact on Water and Sewer Rate	$0.03	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	5,602
Cost Estimate Last FY	11,200
Present Cost Estimate	22,129
Approved Request Last FY	2,564
Total Expense & Encumbrances	1,924
Approval Request Year 1	9,972

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	100%
Est Completion Date	December 2018

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**10,650**	4,300	600	**5,750**	1,450	1,400	1,150	1,100	400	250	
Land											
Site Improvements & Utilities											
Construction	**68,700**			**68,700**		2,000	22,000	22,000	18,000	4,700	
Other	**3,754**		30	**3,724**	73	170	1,158	1,155	920	248	
Total	**83,104**	**4,300**	**630**	**78,174**	**1,523**	**3,570**	**24,308**	**24,255**	**19,320**	**5,198**	

C. Funding Schedule (000's)

WSSC Bonds	**83,104**	4,300	630	**78,174**	1,523	3,570	24,308	24,255	19,320	5,198	

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. As part of the planning phase of this project, significant outreach activities will occur. 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. As the planning process moves into its final stages and the National Environmental Policy Act (NEPA) approval process is underway, elected officials, county government staffs, environmental community members, and the general public will be engaged in an on-going information, outreach and project participation program. Expenditure and schedule projections shown above are planning level estimates and may change based on site-specific conditions and design constraints. Both Councils will review the results of the detailed study and must approve continuing with the project before design and construction may proceed. Land costs are included in WSSC Project W-202.00.

COORDINATION

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	$5,406	24
Total Cost	$5,406	24
Impact on Water and Sewer Rate	$0.11	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 04
Date First Approved	FY 03
Intial Cost Estimate	936
Cost Estimate Last FY	80,537
Present Cost Estimate	83,104
Approved Request Last FY	1,050
Total Expense & Encumbrances	4,300
Approval Request Year 1	1,523

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	95%
Est Completion Date	FY 2023

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,357**	887	700	**770**	400	220	150				
Land											
Site Improvements & Utilities											
Construction	**30,900**			**30,900**	8,240	10,300	12,360				
Other	**3,237**		70	**3,167**	864	1,052	1,251				
Total	**36,494**	**887**	**770**	**34,837**	**9,504**	**11,572**	**13,761**				

C. Funding Schedule (000's)

WSSC Bonds	**36,494**	887	770	**34,837**	9,504	11,572	13,761				

D. Description & Justification

DESCRIPTION

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 will include a rock tunnel segment.

JUSTIFICATION

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.

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)

COST CHANGE

Not applicable.

OTHER

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.

COORDINATION

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 & Planning Commission;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$35	21
Other Project Costs		
Debt Service	$2,374	21
Total Cost	$2,409	21
Impact on Water and Sewer Rate	$0.05	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Intial Cost Estimate	330
Cost Estimate Last FY	35,009
Present Cost Estimate	36,494
Approved Request Last FY	353
Total Expense & Encumbrances	887
Approval Request Year 1	9,504

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	10%
Est Completion Date	FY 2020

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

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**14,250**	250	2,000	**12,000**	2,000	2,000	2,000	2,000	2,000	2,000	
Land	**1,000**		600	**400**	400						
Site Improvements & Utilities											
Construction	**24,000**			**24,000**	4,000	4,000	4,000	4,000	4,000	4,000	
Other	**3,800**		200	**3,600**	600	600	600	600	600	600	
Total	**43,050**	**250**	**2,800**	**40,000**	**7,000**	**6,600**	**6,600**	**6,600**	**6,600**	**6,600**	

C. Funding Schedule (000's)

WSSC Bonds	**43,050**	250	2,800	**40,000**	7,000	6,600	6,600	6,600	6,600	6,600	

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

The Consent Decree (CD) was Entered by the U.S. District Court of Maryland on April 15, 2016. Under the terms of the CD 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 requires 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 be submitted to the Citizens and the Department by January 1, 2017. Upon receipt the Department will review the Audit Report and select improvements in operations, monitoring, and waste tracking recommended in the Audit Report and 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.

COST CHANGE

Cost increase is based on including additional funds for FY22 and FY23 in accordance with schedule requirements for the Consent Decree.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown above are Order of Magnitude level estimates. The construction estimate is expected to increase significantly once the Short-Term (Audit Report) and Long-Term Capital Improvements plans are completed and approved by the Maryland Department of the Environment. 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. In addition, 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.

COORDINATION

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;

Coordinating Projects: W-73.21-Potomac WFP Corrosion Mitigation; W-73.30-Potomac WFP Submerged Channel Intake;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$2,800	24
Total Cost	$2,800	24
Impact on Water and Sewer Rate	$0.06	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 17
Date First Approved	FY 16
Intial Cost Estimate	27,250
Cost Estimate Last FY	27,250
Present Cost Estimate	43,050
Approved Request Last FY	2,700
Total Expense & Encumbrances	250
Approval Request Year 1	7,000

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	10%
Est Completion Date	January 2026

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Bi-County Water Tunnel

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-127.01	934855	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Montgomery Main 495A; Prince George's
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**28,377**	27,031	673	**673**	673						
Land											
Site Improvements & Utilities											
Construction	**113,893**	113,223	550	**120**	120						
Other	**101**		61	**40**	40						
Total	**142,371**	**140,254**	**1,284**	**833**	**833**						

C. Funding Schedule (000's)

WSSC Bonds	**700**	700									
SDC	**141,671**	139,554	1,284	**833**	833						

D. Description & Justification

DESCRIPTION

This project provides for the design and construction of approximately 28,400 feet of 84-inch diameter water main between the intersection of Tuckerman Lane and Route I-270 and the western terminus of the Bi-County Water Tunnel near the area where Rock Creek crosses the Capital Beltway (Maryland Route 495). The project will be constructed as a deep tunnel, minimizing community and environmental impacts. The project also includes relining 450 feet of existing 96-inch diameter PCCP with 84-inch diameter steel pipe at the I-270 connection between this pipeline and the new tunnel.

JUSTIFICATION

This project will significantly increase transmission capacity from the Potomac Water Filtration Plant to the Montgomery County Main Zone and Prince George's County. The alignment study completed in July 2005 recommended that the water main be constructed as a pipeline with a deep rock tunnel from 90 to 250 feet below the ground surface.

Montgomery and Prince George's Main Zone Facility Plan, Black and Veatch, Inc. (October 1990); Technical Memoranda #s1, 2, & 3 (Draft), Louis Berger & Associates (1997); Updated Water Demand Projections (dated April 6, 2001); and the General Plan. Final Alignment Report, Black and Veatch, Inc. (July 2005).

COST CHANGE

Not applicable.

OTHER

The project scope remains the same. Expenditures shown in Block B above are definitive and are the sum of the design services, construction management services and construction contract amounts. In late 2005, both Councils reviewed the results of the detailed alignment study and agreed upon the final alignment and construction method. The tunnel was substantially completed and the Commission received beneficial use of the main on February 12, 2015. As part of the permit requirements for work within Cabin John and Rock Creek Parks, M-NCP&PC calls for stream restoration along Old Farm Creek. This work will be handled under a separate contract with costs extending into FY'18. The relining of 450 feet of existing 96-inch diameter PCCP was completed in FY'14 at a cost of $700,000 and is not subject to SDC funding.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral submissions are approved); Maryland Department of Natural Resources; Maryland State Department of Transportation;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$678	19
Other Project Costs		
Debt Service	$46	19
Total Cost	$724	19
Impact on Water and Sewer Rate	$0.01	19

F. Approval and Expenditure Data (000's)

Date First in Program	FY 93
Date First Approved	FY 93
Intial Cost Estimate	63,000
Cost Estimate Last FY	143,855
Present Cost Estimate	142,371
Approved Request Last FY	32
Total Expense & Encumbrances	140,254
Approval Request Year 1	833

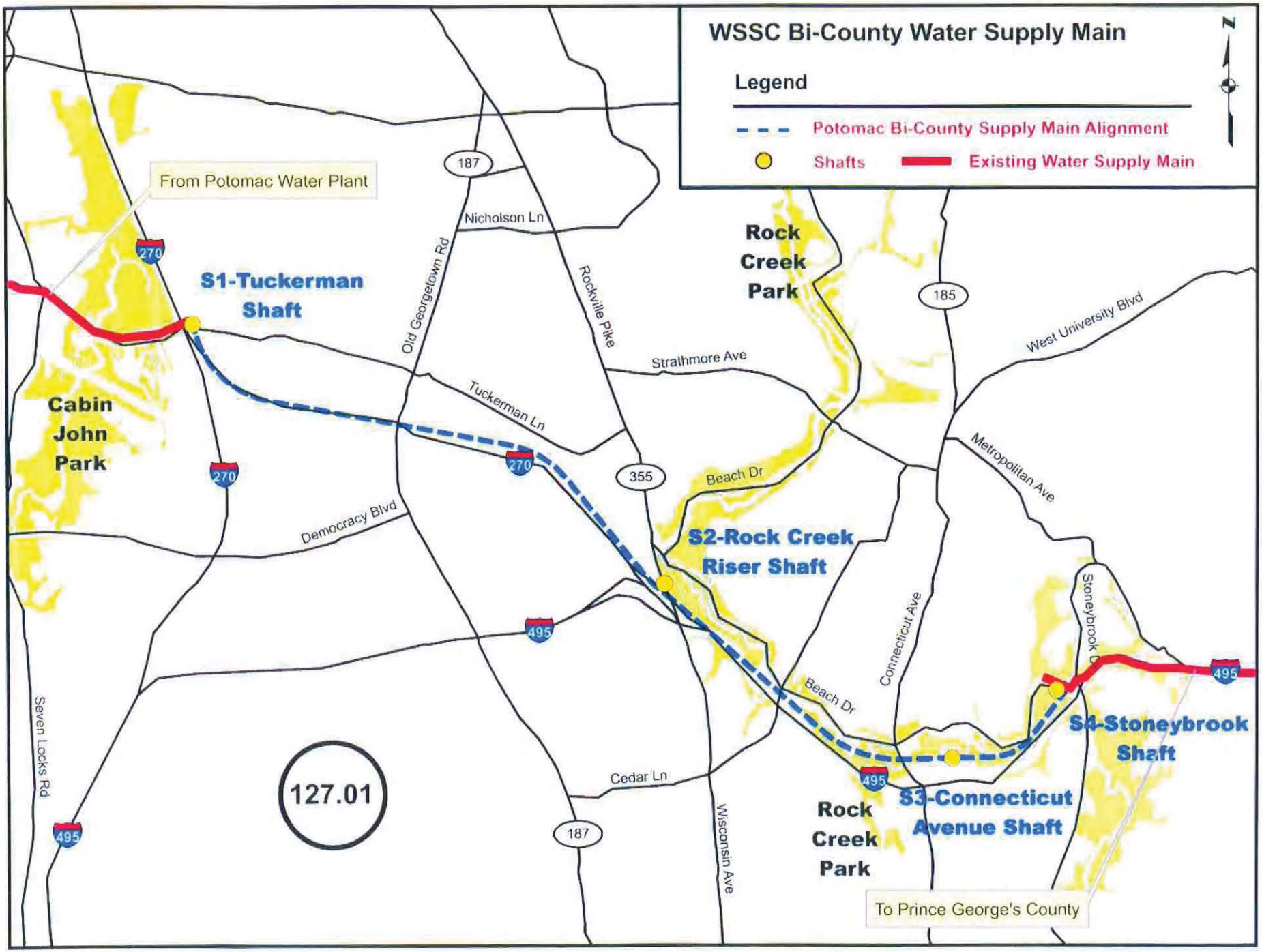
G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	99%
Est Completion Date	See Block D

Growth	99%
System Improvement	1%
Environmental Regulation	
Population Served	
Capacity	

H. Map

SEE ATTACHED MAP


WSSC Bi-County Water Supply Main
Legend
Potomac Bi-County Supply Main Alignment
Shafts
Existing Water Supply Main
N
From Potomac Water Plant
S1-Tuckerman Shaft
S2-Rock Creek Riser Shaft
S3-Connecticut Avenue Shaft
S4-Stoneybrook Shaft
Cabin John Park
Rock Creek Park
Rock Creek Park
127.01
To Prince George's County
Nicholson Ln
Old Georgetown Rd
Rockville Pike
Strathmore Ave
Tuckerman Ln
West University Blvd
Metropolitan Ave
Beach Dr
Democracy Blvd
Connecticut Ave
Stoneybrook Dr
Cedar Ln
Wisconsin Ave
Seven Locks Rd
187
185
355
270
495

Duckett & Brighton Dam Upgrades

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-139.02	073802	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**9,500**	7,131	802	**1,567**	1,175	392					
Land											
Site Improvements & Utilities											
Construction	**23,932**	6,476	4,664	**12,792**	8,528	4,264					
Other	**1,983**		547	**1,436**	970	466					
Total	**35,415**	**13,607**	**6,013**	**15,795**	**10,673**	**5,122**					

C. Funding Schedule (000's)

WSSC Bonds	**35,415**	13,607	6,013	**15,795**	10,673	5,122					

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.

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.

COST CHANGE

Costs were increased based on the updated construction cost estimate for T. Howard Duckett Dam, and newly negotiated construction management cost for Brighton Dam.

OTHER

The project scope has remained the same. Expenditures and schedule projections shown in Block B above reflect Design Services During Construction (DSDC) cost for Brighton Dam and the Engineer's Estimate for Brighton Dam Upgrades construction. A report with a presentation of alternatives to enable the dam to safely pass the PMF and any other safety requirements was delivered to MDE in January 2007. In June 2007, MDE formally concurred with the recommended alternative. Construction work at Duckett Dam is approximately 99% complete. Brighton Dam Upgrades design is complete, and is to be bid in July 2016.

COORDINATION

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;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$2,304	20
Total Cost	$2,304	20
Impact on Water and Sewer Rate	$0.05	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 07
Date First Approved	FY 07
Intial Cost Estimate	575
Cost Estimate Last FY	29,692
Present Cost Estimate	35,415
Approved Request Last FY	8,773
Total Expense & Encumbrances	13,607
Approval Request Year 1	10,673

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	99%
Est Completion Date	See Block D

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**39,272**		4,595	**34,677**	4,553	5,674	5,844	6,020	6,200	6,386	
Land											
Site Improvements & Utilities											
Construction	**356,849**		38,163	**318,686**	34,972	42,386	57,809	59,374	61,155	62,990	
Other	**19,807**		2,138	**17,669**	1,976	2,403	3,183	3,270	3,368	3,469	
Total	**415,928**		**44,896**	**371,032**	**41,501**	**50,463**	**66,836**	**68,664**	**70,723**	**72,845**	

C. Funding Schedule (000's)

WSSC Bonds	**415,928**		44,896	**371,032**	41,501	50,463	66,836	68,664	70,723	72,845	

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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.

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.

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 1500 large diameter valves and vaults located throughout the system.
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);

COST CHANGE

Not applicable.

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$27,057	24
Total Cost	$27,057	24
Impact on Water and Sewer Rate	$0.56	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	60,000
Cost Estimate Last FY	417,169
Present Cost Estimate	415,928
Approved Request Last FY	48,092
Total Expense & Encumbrances	
Approval Request Year 1	41,501

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

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 are approximately $110 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)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'17 TOTAL COST	ADOPTED FY'18 TOTAL COST	CHANGE $	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-172.05	Patuxent WFP Phase II Expansion	$64,838	$64,214	($624)	-1.0%	$11,559	September 2018
W-172.07	Patuxent Raw Water Pipeline	32,436	32,932	496	1.5%	20,936	FY 2020
W-172.08	Rocky Gorge Pump Station Upgrade	19,582	22,179	2,597	13.3%	12,852	July 2019
	TOTALS	**$116,856**	**$119,325**	**$2,469**	**2.1%**	**$45,347**	

Summary: The Patuxent Water Filtration Plant (WFP) Phase II Expansion project (W-172.05) provides for the addition of a sixth treatment train, a new electrical substation, upgrades to existing yard piping, upgrades to chemical facilities, new UV disinfection facilities, an upgrade to the existing potassium permanganate feed system, upgrades to the existing sewer system and new solids removal facilities. In conjunction with the WFP Phase II Expansion project, 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 WFP Phase II Expansion

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-172.05	033807	Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**15,148**	10,768	2,120	**2,260**	1,730	530					
Land	**34**	34									
Site Improvements & Utilities											
Construction	**47,376**	18,627	20,000	**8,749**	6,800	1,949					
Other	**1,656**		1,106	**550**	426	124					
Total	**64,214**	**29,429**	**23,226**	**11,559**	**8,956**	**2,603**					

C. Funding Schedule (000's)

WSSC Bonds	**64,214**	29,429	23,226	**11,559**	8,956	2,603					

D. Description & Justification

DESCRIPTION

This project provides for the addition of a sixth treatment train, a new electrical substation, a new residuals handling facility, new UV disinfection facilities, upgrades to existing yard piping, and upgrades to chemical facilities at the Patuxent WFP along with an upgrade to the existing potassium permanganate and carbon feed systems at the Patuxent Pretreatment Facility and a new relief sewer which upgrades the existing sewer system along Sweitzer Lane to accommodate the new residuals facility.

JUSTIFICATION

Phase II will add a sixth treatment train consisting of a three stage flocculation chamber, sedimentation basin with chain and flight solids removal and plate settlers, disinfectant contact chamber, and two deep bed granular carbon filters. A fourth raw water pipeline, Patuxent Raw Water Pipeline (W-172.07) and the modification and expansion of the Rocky Gorge Water Pumping Station (W-172.08), will provide a firm raw water pumping/transmission capacity of 110 MGD. These improvements will give the plant a firm nominal capacity of 72 MGD, with emergency capacity of 110 MGD. New UV disinfection facilities are being added to the plant in order to assure compliance with future EPA regulations for Cryptosporidium treatment and Stage 2 Disinfection Byproducts Rule effective 2012. This project also adds a residuals handling facility to remove the solids from impacting the Parkway WWTP and a relief sewer along Sweitzer Lane to assure no sanitary sewer overflows (SSO) occur as a result of Plant wastewater discharge.

"Patuxent WFP Facility Plan", O'Brien & Gere Engineers, Inc., (April, 1997); In-House Study (April, 2002); Patuxent Expansion Design Criteria Report (April, 2005), "Parkway WWTP Biosolids Facility Plan", CH2M Hill (October, 2009); "Evaluation of Residuals Handling Process Alternatives", AECOM Technical Services, (July, 2011)

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based on actual bids. In the event of an outage at the Potomac WFP, additional capacity at the Patuxent WFP will reduce customer impact. However, emergency conservation measures will still be required.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Maryland State Department of Transportation; Baltimore Gas & Electric; Maryland State Highway Administration;

Coordinating Projects: W-12.02-Prince George's County HG415 Zone Water Main; W-172.07-Patuxent Raw Water Pipeline; W-172.08-Rocky Gorge Pump Station Upgrade;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$4,177	20
Total Cost	$4,177	20
Impact on Water and Sewer Rate	$0.09	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 04
Date First Approved	FY 03
Intial Cost Estimate	33,002
Cost Estimate Last FY	64,838
Present Cost Estimate	64,214
Approved Request Last FY	17,778
Total Expense & Encumbrances	29,429
Approval Request Year 1	8,956

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	32%
Est Completion Date	September 2018

Growth	
System Improvement	80%
Environmental Regulation	20%
Population Served	
Capacity	72 MGD nominal/110 MGD emergency

H. Map

MAP NOT AVAILABLE

Patuxent Raw Water Pipeline

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

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**4,651**	3,951	100	**600**	200	200	200				
Land											
Site Improvements & Utilities											
Construction	**26,367**	7,935		**18,432**	3,600	7,416	7,416				
Other	**1,914**		10	**1,904**	380	762	762				
Total	**32,932**	**11,886**	**110**	**20,936**	**4,180**	**8,378**	**8,378**				

C. Funding Schedule (000's)

WSSC Bonds	**32,932**	11,886	110	**20,936**	4,180	8,378	8,378				

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.

Patuxent WFP Facility Plan (April 1997); In-House Study (April 2002).

COST CHANGE

Not applicable.

OTHER

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.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Interstate Commission on the Potomac River Basin; Local Community Civic Associations; (West Laurel Civic Association); Baltimore Gas & Electric;

Coordinating Projects: W-172.05-Patuxent WFP Phase II Expansion; W-172.08-Rocky Gorge Pump Station Upgrade;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$309	21
Other Project Costs		
Debt Service	$2,142	21
Total Cost	$2,451	21
Impact on Water and Sewer Rate	$0.05	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 03
Intial Cost Estimate	18,750
Cost Estimate Last FY	32,436
Present Cost Estimate	32,932
Approved Request Last FY	5,610
Total Expense & Encumbrances	11,886
Approval Request Year 1	4,180

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	90%
Est Completion Date	FY 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**5,737**	3,137	760	**1,840**	900	760	180				
Land											
Site Improvements & Utilities											
Construction	**14,848**	1,504	3,500	**9,844**	6,000	3,344	500				
Other	**1,594**		426	**1,168**	690	410	68				
Total	**22,179**	**4,641**	**4,686**	**12,852**	**7,590**	**4,514**	**748**				

C. Funding Schedule (000's)

WSSC Bonds	**22,179**	4,641	4,686	**12,852**	7,590	4,514	748				

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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)

COST CHANGE

Cost Increase reflects an increase in construction time, along with the retention of outside construction management services.

OTHER

The project scope remains the same. Expenditure and schedule projections shown in Block B above are design level estimates and may change based upon actual bids. The current plan calls for construction to begin in summer of 2016. The estimated construction time increased by 6 months to reflect complex operational coordination requirements. The construction expenditures through FY'16 include the upgrade of the station's existing turbines, which were part of the overall station upgrade, but were contracted separately.

COORDINATION

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	$1,443	21
Total Cost	$1,443	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
Intial Cost Estimate	12,930
Cost Estimate Last FY	19,582
Present Cost Estimate	22,179
Approved Request Last FY	7,564
Total Expense & Encumbrances	4,641
Approval Request Year 1	7,590

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	99%
Est Completion Date	July 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	110 MGD

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision											
Land	**4,529**		1,060	**3,469**	2,375	896	170	18	10		
Site Improvements & Utilities											
Construction											
Other											
Total	**4,529**		**1,060**	**3,469**	**2,375**	**896**	**170**	**18**	**10**		

C. Funding Schedule (000's)

WSSC Bonds	**1,291**		414	**877**	175	504	170	18	10		
SDC	**3,238**		646	**2,592**	2,200	392					

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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).

COST CHANGE

Not applicable.

OTHER

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.

COORDINATION

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	$84	23
Total Cost	$84	23
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	2,120
Present Cost Estimate	4,529
Approved Request Last FY	425
Total Expense & Encumbrances	
Approval Request Year 1	2,375

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Not Applicable
Percent Complete	
Est Completion Date	Not Applicable

Growth	71%
System Improvement	29%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Section 4 - Bi-County Sewer Projects

DATE: October 1, 2016
REVISED: May 11, 2017

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

BI-COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	173,026	0	8,686	115,540	13,154	28,016	23,330	12,753	17,811	20,476	48,800	4-3
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	36,101	0	4,115	31,239	2,557	8,099	8,458	7,507	3,848	770	747	4-4
S-22.09	Blue Plains WWTP: Plant-wide Projects	98,436	0	5,559	73,933	7,021	9,133	16,872	11,931	13,979	14,997	18,944	4-5
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	381,788	293,151	47,631	34,868	28,619	2,927	2,130	517	3	672	6,138	4-6
S-22.11	Blue Plains: Pipelines & Appurtenances	98,924	0	21,985	61,451	12,926	12,378	13,764	8,543	5,992	7,848	15,488	4-7
S-103.02	Piscataway WWTP Bio-Energy Project	162,190	2,276	6,510	153,404	3,990	47,354	53,656	43,154	5,250	0	0	4-8
S-170.08	Septage Discharge Facility Planning & Implementation	14,344	2,499	648	11,197	2,521	5,302	2,712	662	0	0	0	4-10
S-170.09	Trunk Sewer Reconstruction Program	504,500	0	131,000	373,500	148,900	56,600	69,200	41,600	28,200	29,000	0	4-11
S-203.00	Land & Rights-Of-Way Acquisition - Bi County Sewer	405	0	220	185	95	30	15	15	15	15	0	4-12
	TOTAL BI-COUNTY SEWER PROJECTS	1,469,714	297,926	226,354	855,317	219,783	169,839	190,137	126,682	75,098	73,778	90,117	

BLUE PLAINS WASTEWATER TREATMENT PLANT PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'17 TOTAL COST	ADOPTED FY'18 TOTAL COST	CHANGE $	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	$359,105	$173,026	($186,079)	-51.8%	$115,540	On-Going
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	446,827	36,101	(410,726)	-91.9%	31,239	On-Going
S-22.09	Blue Plains WWTP: Plant-wide Projects	303,487	98,436	(205,051)	-67.6%	73,933	On-Going
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	398,919	381,788	(17,131)	-4.3%	34,868	FY 2024
S-22.11	Blue Plains: Pipelines & Appurtenances	176,502	98,924	(77,578)	-44.0%	61,451	On-Going
	TOTALS	**$1,684,840**	**$788,275**	**($896,565)**	**-53.2%**	**$317,031**	

Summary: These five projects, with an estimated total cost of $788.3 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 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, the largest group of expenditures in the CIP, represent 24% of the total 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). Officials at the DCWASA have indicated that they have the fiscal capacity as well as the engineering capability to implement these projects. 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. The total cost shown above is $896.6 million less than the Adopted FYs 2017-2022 CIP primarily due to the decision to remove the "Expended Thru" costs from those projects which are considered ongoing programs (S-22.06, Blue Plains WWTP: Liquid Train Projects, Part 2; S-22.07, Blue Plains WWTP: Biosolids Management, Part 2; S-22.09, Blue Plains WWTP: Plant-wide Projects; and, S-22.11, Blue Plains: Pipelines & Appurtenances). The revised total costs better represents the size of the current total program.

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, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**32,466**		2,739	**17,210**	2,819	2,926	3,020	2,348	2,639	3,458	12,517
Land											
Site Improvements & Utilities											
Construction	**138,848**		5,861	**97,187**	10,205	24,813	20,079	10,279	14,996	16,815	35,800
Other	**1,712**		86	**1,143**	130	277	231	126	176	203	483
Total	**173,026**		**8,686**	**115,540**	**13,154**	**28,016**	**23,330**	**12,753**	**17,811**	**20,476**	**48,800**

C. Funding Schedule (000's)

WSSC Bonds	**163,527**		8,209	**109,197**	12,432	26,478	22,049	12,053	16,833	19,352	46,121
City of Rockville	**9,499**		477	**6,343**	722	1,538	1,281	700	978	1,124	2,679

D. Description & Justification

DESCRIPTION

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: Dual Purpose Sedimentation Basins Rehabilitation, Filtration/Disinfection Facilities Phases I&II, and Grit Chamber Buildings 1&2.

JUSTIFICATION

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); and the DCWASA Approved FY 2017 Capital Improvements Program.

COST CHANGE

Cost increase is primarily due to the addition of new projects for High Strength Waste Receiving Facility, Wastewater Asset Management Support, Process Control Upgrade, and Chemical System/Building Upgrades.

OTHER

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 $360 million.

COORDINATION

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	$10,638	
Total Cost	$10,638	
Impact on Water and Sewer Rate	$0.24	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Intial Cost Estimate	69,745
Cost Estimate Last FY	359,105
Present Cost Estimate	173,026
Approved Request Last FY	12,078
Total Expense & Encumbrances	
Approval Request Year 1	13,154

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	370 MGD

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**7,135**		971	**5,652**	554	975	1,297	1,567	1,065	194	512
Land											
Site Improvements & Utilities											
Construction	**28,609**		3,103	**25,278**	1,978	7,044	7,077	5,866	2,745	568	228
Other	**357**		41	**309**	25	80	84	74	38	8	7
Total	**36,101**		**4,115**	**31,239**	**2,557**	**8,099**	**8,458**	**7,507**	**3,848**	**770**	**747**

C. Funding Schedule (000's)

WSSC Bonds	**34,120**		3,889	**29,525**	2,417	7,654	7,994	7,095	3,637	728	706
City of Rockville	**1,981**		226	**1,714**	140	445	464	412	211	42	41

D. Description & Justification

DESCRIPTION

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: new Digestion Facilities; Gravity Thickener Facilities; and Solids Processing Building/Dewatered Sludge Loading Facility.

JUSTIFICATION

This project is needed to implement a set of facilities which will provide a permanent biosolids management program for Blue Plains.

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); and the DCWASA Approved FY 2017 Capital Improvement Program.

COST CHANGE

Not applicable.

OTHER

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. 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 $400 million.

COORDINATION

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	$2,220	
Total Cost	$2,220	
Impact on Water and Sewer Rate	$0.05	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Intial Cost Estimate	77,296
Cost Estimate Last FY	446,827
Present Cost Estimate	36,101
Approved Request Last FY	4,010
Total Expense & Encumbrances	
Approval Request Year 1	2,557

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	370 MGD

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**21,499**		1,960	**16,600**	2,743	1,436	4,635	3,256	2,544	1,986	2,939
Land											
Site Improvements & Utilities											
Construction	**75,963**		3,544	**56,602**	4,208	7,607	12,070	8,557	11,297	12,863	15,817
Other	**974**		55	**731**	70	90	167	118	138	148	188
Total	**98,436**		**5,559**	**73,933**	**7,021**	**9,133**	**16,872**	**11,931**	**13,979**	**14,997**	**18,944**

C. Funding Schedule (000's)

WSSC Bonds	**93,034**		5,254	**69,876**	6,636	8,632	15,946	11,276	13,212	14,174	17,904
City of Rockville	**5,402**		305	**4,057**	385	501	926	655	767	823	1,040

D. Description & Justification

DESCRIPTION

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: Plant-wide Fine Bubble Aeration, Plant-wide Painting of Steel Pipes, Process Computer Control System, and Miscellaneous Projects.

JUSTIFICATION

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); and the DCWASA Approved FY 2017 Capital Improvement Program.

COST CHANGE

Cost increased for new major projects including: Blue Plains IT Backbone, Wastewater Asset Management Technical Support, and Plant-wide Paving.

OTHER

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 $200 million.

COORDINATION

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	$6,052	
Total Cost	$6,052	
Impact on Water and Sewer Rate	$0.14	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 02
Intial Cost Estimate	84,650
Cost Estimate Last FY	303,487
Present Cost Estimate	98,436
Approved Request Last FY	8,242
Total Expense & Encumbrances	
Approval Request Year 1	7,021

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	370 MGD

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**103,423**	78,215	10,033	**14,181**	8,462	2,622	1,998	494	0	605	994
Land											
Site Improvements & Utilities											
Construction	**277,487**	214,936	37,126	**20,342**	19,874	276	111	18	3	60	5,083
Other	**878**		472	**345**	283	29	21	5	0	7	61
Total	**381,788**	**293,151**	**47,631**	**34,868**	**28,619**	**2,927**	**2,130**	**517**	**3**	**672**	**6,138**

C. Funding Schedule (000's)

WSSC Bonds	**164,078**	94,513	34,671	**29,093**	23,475	2,555	1,938	487	3	635	5,801
State Aid	**210,083**	193,148	12,850	**4,085**	3,780	224	79	2	0	0	0
City of Rockville	**7,627**	5,490	110	**1,690**	1,364	148	113	28	0	37	337

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC's share of the Blue Plains Enhanced Nutrient Removal projects required to achieve nutrient removal to levels below 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 & Power as Back-up Power, Biosolids Blending Development Center, ENR Program Management, and Wet Weather Mitigation, Diversion at Bolling and Tunnel Dewatering Pump Station.

JUSTIFICATION

The funding schedule reflects the final cost sharing agreement with the Maryland Department of the Environment.

Chesapeake Bay Program Tributary Strategies Process (2005); Blue Plains Strategic Process Study, Metcalf & Eddy (2005); Selection of the Enhanced Nitrogen Removal Process Alternative for the Blue Plains Advanced Wastewater Treatment Facility, Metcalf & Eddy (2009); DCWASA Approved FY 2017 Capital Improvement Program, and the Blue Plains Intermunicipal Agreement of 2012.

COST CHANGE

Minor cost savings due to accelerated construction schedule.

OTHER

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. Total Nitrogen Secondary Treatment Upgrades will take place after 2021. 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.

COORDINATION

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)

Coordinating Projects: S-22.06-Blue Plains WWTP: Liquid Train Projects, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$10,673	
Total Cost	$10,673	
Impact on Water and Sewer Rate	$0.24	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 07
Intial Cost Estimate	648
Cost Estimate Last FY	398,919
Present Cost Estimate	381,788
Approved Request Last FY	47,437
Total Expense & Encumbrances	293,151
Approval Request Year 1	28,619

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	80%
Est Completion Date	FY 2024

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

H. Map

MAP NOT AVAILABLE

Blue Plains: Pipelines & Appurtenances

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-22.11	113804	Change

PDF Date	October 1, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**19,200**		4,395	**12,153**	2,536	1,678	1,659	2,641	2,284	1,355	2,652
Land											
Site Improvements & Utilities											
Construction	**78,744**		17,372	**48,689**	10,262	10,577	11,969	5,817	3,649	6,415	12,683
Other	**980**		218	**609**	128	123	136	85	59	78	153
Total	**98,924**		**21,985**	**61,451**	**12,926**	**12,378**	**13,764**	**8,543**	**5,992**	**7,848**	**15,488**

C. Funding Schedule (000's)

WSSC Bonds	**93,418**		21,039	**59,142**	12,248	11,960	13,613	8,235	5,609	7,477	13,237
City of Rockville	**5,506**		946	**2,309**	678	418	151	308	383	371	2,251

D. Description & Justification

DESCRIPTION

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: A new headquarters building; Potomac Interceptor Rehabilitation; Upper Potomac Interceptor; Potomac Sewage Pumping Station Rehabilitation; Influent Sewers Rehabilitation; and projects associated with the Combined Sewer Overflow (CSO) Long Term Control Plan (Clean Rivers Program) (e.g. Anacostia Tunnel).

JUSTIFICATION

This is a continuation of DCWASA's upgrading of the Blue Plains-associated projects outside the fence.

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 2017 Capital Improvement Program.

COST CHANGE

With the major upgrade projects at Blue Plains underway, attention is increasingly being paid to the sewer system leading to the WWTP.

OTHER

The project scope has remained the same. Project costs are derived from the DC-WASA Capital & Operating Budget 10-year forecast and latest project management data, and reflect WASA'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 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 $100 million.

COORDINATION

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	$6,077	
Total Cost	$6,077	
Impact on Water and Sewer Rate	$0.14	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 02
Intial Cost Estimate	102,833
Cost Estimate Last FY	176,502
Present Cost Estimate	98,924
Approved Request Last FY	17,094
Total Expense & Encumbrances	
Approval Request Year 1	12,926

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

Piscataway WWTP Bio-Energy Project

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-103.02	153802	Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**26,826**	2,276	6,200	**18,350**	3,550	5,100	5,100	4,100	500		
Land											
Site Improvements & Utilities											
Construction	**127,750**			**127,750**	250	40,000	46,000	37,000	4,500		
Other	**7,614**		310	**7,304**	190	2,254	2,556	2,054	250		
Total	**162,190**	**2,276**	**6,510**	**153,404**	**3,990**	**47,354**	**53,656**	**43,154**	**5,250**		

C. Funding Schedule (000's)

WSSC Bonds	**81,095**	1,138	3,255	**76,702**	1,995	23,677	26,828	21,577	2,625		
Federal Aid	**81,095**	1,138	3,255	**76,702**	1,995	23,677	26,828	21,577	2,625		

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 WWTP. The program will provide a reduction in energy and energy-related costs (electricity, natural gas, transportation, and disposal of biosolids) which may in part be guaranteed by the contractor. The potential guaranteed reduction component includes annual avoided energy costs as well as operations and maintenance, chemicals, and biosolids transportation and disposal costs. The program will 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 will include, but is not limited to, the addition of anaerobic digestion equipment, thermal hydrolysis pretreatment equipment, gas cleaning systems, hydrogen sulfide and siloxane removal, tanks, piping, valves, pumps, sludge dewatering/thickening equipment, grit removal, 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/Mesophillic Anaerobic Digestion/Combined Heat & Power (TH/MAD/CHP) process supplemented by restaurant grease fuel design was recommended.

The environmental benefits and expected outcomes determined from the feasibility study are estimated as follows: 1. Recover 2-3 MW of renewable energy from biomass 2. Reduce Greenhouse Gas production by 11,800 tons/year 3. Reduce biosolids output by more than 50,500 tons/year 4. Reduce lime demand by 4,100 tons/year 5. Reduce nutrient load to the Chesapeake Bay 6. Reduce 5 million gallons/year of grease discharge to sewers 7. Produce Class A Biosolids

The economic benefits determined from the feasibility study are estimated as follows: 1. Recover more than $1.5 million of renewable energy costs/year 2. Reduce biosolids disposal costs by ~ $1.7 million/year 3. Reduce chemical costs by ~ $500,000/year 4. Hedge against rising costs of power fuel and chemicals 5. Net Payback over time (net based on capital cost of TH/MAD/CHP minus capital cost of lime stabilization upgrade of WSSC WWTP facilities through 2030) (Any Federal Aid received would shorten the payback period).

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$5,275	23
Total Cost	$5,275	23
Impact on Water and Sewer Rate	$0.12	23

F. Approval and Expenditure Data (000's)

Date First in Program	FY 15
Date First Approved	FY 10
Intial Cost Estimate	345
Cost Estimate Last FY	144,020
Present Cost Estimate	162,190
Approved Request Last FY	4,254
Total Expense & Encumbrances	2,276
Approval Request Year 1	3,990

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	0%
Est Completion Date	December 2021

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Piscataway WWTP 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).

COST CHANGE

Cost increased to reflect updated planning level estimate.

OTHER

The project scope has remained the same. Now that the feasibility study has been completed, the Commission has a defined scope, capital cost, and energy and energy-related cost savings estimates to be 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 and Piscataway WWTPs. The Montgomery and Prince George's County Councils have been briefed on the project and approved by resolution on November 25, 2014, and September 9, 2014, respectively. It is envisioned that either the entire project, or only portions of the project that include the thermal hydrolysis, anaerobic digestion or combined heat and power, include a guarantee by the contractor that the capital cost will be paid back 100% from energy and energy-related cost savings over time. The energy savings for other completed WSSC Energy Performance projects have surpassed the contracts' guaranteed amount every year of the monitoring and verification period. The WSSC will continue to pursue federal capital funding as a source of cost sharing as the project develops. Any Federal Aid received would shorten the payback period. The funding schedule reflects 50% Federal participation. The Commission retained the following consulting services: in 2015 - Hawkins, Delafield and Wood - procurement; Raftelis Financial Consultants - financial; in 2016 - HDR Inc - design bridging documents and program management.

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;

Coordinating Projects: S-96.14-Piscataway WWTP 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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**3,747**	2,258	589	**900**	500	180	180	40			
Land											
Site Improvements & Utilities											
Construction	**9,520**	241		**9,279**	1,792	4,640	2,285	562			
Other	**1,077**		59	**1,018**	229	482	247	60			
Total	**14,344**	**2,499**	**648**	**11,197**	**2,521**	**5,302**	**2,712**	**662**			

C. Funding Schedule (000's)

WSSC Bonds	**14,344**	2,499	648	**11,197**	2,521	5,302	2,712	662			

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of new Septage and Fats, Oils, Grease (FOG) discharge facilities at two locations: (1) the abandoned Rock Creek WWTP, and (2) Piscataway WWTP; and new Septage discharge facilities at Anacostia WWPS No 2.

JUSTIFICATION

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), Small Food Service Providers (Low Volume FOG Waste), and Hazardous Materials. 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).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are planning level estimates and may change depending on site-specific conditions and design constraints. The design of the facilities at the Piscataway WWTP will be performed in concert with the design of the Piscataway WWTP Bio-Energy project.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral) Montgomery County Department of Environmental Protection; Prince George's County Department of Environmental Resources; Prince George's County Health Department;

Coordinating Projects: S-103.02-Piscataway WWTP Bio-Energy Project;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff	$750	22
Maintenance		
Other Project Costs	$482	22
Debt Service	$933	22
Total Cost	$2,165	22
Impact on Water and Sewer Rate	$0.05	22

F. Approval and Expenditure Data (000's)

Date First in Program	FY 10
Date First Approved	FY 10
Intial Cost Estimate	10,835
Cost Estimate Last FY	14,478
Present Cost Estimate	14,344
Approved Request Last FY	2,455
Total Expense & Encumbrances	2,499
Approval Request Year 1	2,521

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	60%
Est Completion Date	July 2020

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, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**96,900**		26,500	**70,400**	27,900	11,500	11,500	7,600	5,900	6,000	
Land											
Site Improvements & Utilities											
Construction	**363,000**		92,000	**271,000**	107,700	39,700	52,700	30,700	19,800	20,400	
Other	**44,600**		12,500	**32,100**	13,300	5,400	5,000	3,300	2,500	2,600	
Total	**504,500**		**131,000**	**373,500**	**148,900**	**56,600**	**69,200**	**41,600**	**28,200**	**29,000**	

C. Funding Schedule (000's)

WSSC Bonds	**504,500**		131,000	**373,500**	148,900	56,600	69,200	41,600	28,200	29,000	

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.

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 were increased for inflation.

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 SSOs and backups. The Consent Decree required that all rehabilitation work be substantially complete by December 5, 2015. A Second Amendment 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. Life to date expenditures for this program are approximately $330 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		
Other Project Costs		
Debt Service	$32,818	24
Total Cost	$32,818	24
Impact on Water and Sewer Rate	$0.74	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	504,993
Cost Estimate Last FY	790,060
Present Cost Estimate	504,500
Approved Request Last FY	145,521
Total Expense & Encumbrances	
Approval Request Year 1	148,900

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision											
Land	**405**		220	**185**	95	30	15	15	15	15	
Site Improvements & Utilities											
Construction											
Other											
Total	**405**		**220**	**185**	**95**	**30**	**15**	**15**	**15**	**15**	

C. Funding Schedule (000's)

WSSC Bonds	**210**		55	**155**	80	15	15	15	15	15	
SDC	**150**		150								
Contribution/Other	**45**		15	**30**	15	15					

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.

COST CHANGE

Not applicable.

OTHER

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.

COORDINATION

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	$14	24
Total Cost	$14	24
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	204
Present Cost Estimate	405
Approved Request Last FY	122
Total Expense & Encumbrances	
Approval Request Year 1	95

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Not Applicable
Percent Complete	
Est Completion Date	Not Applicable

Growth	18%
System Improvement	82%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Section 5 - Prince George's County Water Projects

DATE: October 1, 2016

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

PRINCE GEORGE'S COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
W-12.02	Prince George's County HG415 Zone Water Main	3,443	288	95	3,060	2,098	962	0	0	0	0	0	5-3
W-34.02	Old Branch Avenue Water Main	23,510	1,850	62	21,598	8,640	8,638	4,320	0	0	0	0	5-4
W-34.03	Water Transmission Improvements 385B Pressure Zone	30,240	1,200	220	28,820	13,365	11,055	3,300	1,100	0	0	0	5-5
W-34.04	Branch Avenue Water Transmission Improvements	54,033	5,338	11,524	37,171	13,604	20,306	3,261	0	0	0	0	5-6
W-34.05	Marlboro Zone Reinforcement Main	4,232	166	29	4,037	2,651	1,386	0	0	0	0	0	5-7
W-62.05	Clinton Zone Water Storage Facility Implementation	15,482	1,831	1,337	7,474	4,920	2,115	439	0	0	0	4,840	5-8
W-65.10	St. Barnabas Elevated Tank Replacement	11,382	726	5,422	5,234	4,724	510	0	0	0	0	0	5-9
W-84.02	Ritchie Marlboro Road Transmission & PRV	12,799	1,342	2,937	8,520	5,676	2,844	0	0	0	0	0	5-10
W-84.03	Smith Home Farms Water Main	2,549	772	559	1,218	409	407	402	0	0	0	0	5-11
W-84.04	Westphalia Town Center Water Main	1,497	552	41	904	302	357	245	0	0	0	0	5-12
W-84.05	Prince George's County 450A Zone Water Main	40,308	835	972	22,917	1,609	1,609	1,990	5,903	5,903	5,903	15,584	5-13
W-93.01	Konterra Town Center East Water Main	1,593	85	637	871	61	343	191	276	0	0	0	5-14
W-105.01	Marlton Section 18 Water Main, Lake Marlton Avenue	2,480	29	1	2,450	386	413	413	413	413	412	0	5-15
W-111.05	Hillmeade Road Water Main	5,698	984	17	4,697	3,114	1,583	0	0	0	0	0	5-16
W-119.01	John Hanson Highway Water Main, Part 1	14,500	1,300	6,050	7,150	6,600	550	0	0	0	0	0	5-17
W-120.14	Villages of Timothy Water Main, Part 1	277	24	225	28	28	0	0	0	0	0	0	5-18
W-120.15	Villages of Timothy Water Main, Part 2	688	66	558	64	64	0	0	0	0	0	0	5-19
W-120.16	Villages of Timothy Water Main, Part 3	470	39	376	55	55	0	0	0	0	0	0	5-20
W-123.14	Old Marlboro Pike Water Main	1,748	1,262	118	368	202	166	0	0	0	0	0	5-21
W-123.20	Oak Grove/Leeland Roads Water Main, Part 2	14,444	8,842	2,346	3,256	2,322	934	0	0	0	0	0	5-22

DATE: October 1, 2016

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

PRINCE GEORGE'S COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
W-137.02	South Potomac Supply Improvement, Phase 1	16,448	7,294	9,122	32	32	0	0	0	0	0	0	5-23
W-137.03	South Potomac Supply Improvement, Phase 2	53,374	350	768	45,860	1,024	256	6,300	12,696	12,792	12,792	6,396	5-24
W-147.00	Collington Elevated Water Storage Facility	17,022	16,582	274	166	134	32	0	0	0	0	0	5-25
	TOTAL PRINCE GEORGE'S COUNTY WATER PROJECTS	328,217	51,757	43,690	205,950	72,020	54,466	20,861	20,388	19,108	19,107	26,820	

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**300**	288	8	**4**	3	1					
Land											
Site Improvements & Utilities											
Construction	**2,732**		75	**2,657**	1,821	836					
Other	**411**		12	**399**	274	125					
Total	**3,443**	**288**	**95**	**3,060**	**2,098**	**962**					

C. Funding Schedule (000's)

WSSC Bonds	**3,443**	288	95	**3,060**	2,098	962					

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).

COST CHANGE

Not applicable.

OTHER

The project scope remains the same. Expenditure and schedule projections shown in Block B above are planning level estimates and may change depending on site-specific conditions and design constraints. 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	$47	20
Other Project Costs		
Debt Service	$224	20
Total Cost	$271	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

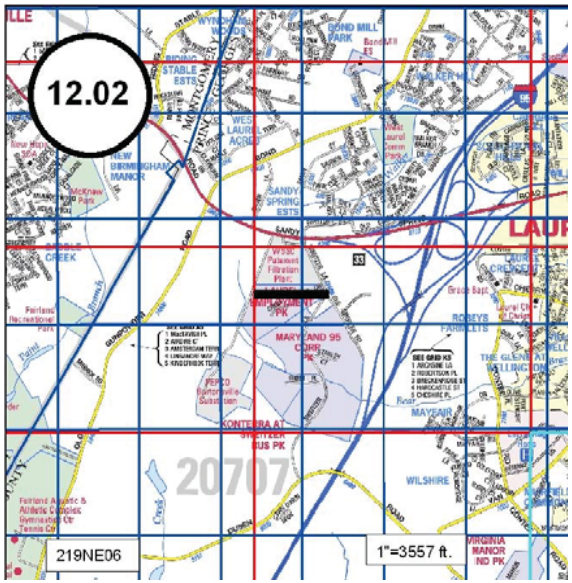
Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	1,074
Cost Estimate Last FY	3,374
Present Cost Estimate	3,443
Approved Request Last FY	2,098
Total Expense & Encumbrances	288
Approval Request Year 1	2,098

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	70%
Est Completion Date	FY 2019

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,663**	1,688	40	**935**	374	374	187				
Land	**162**	162									
Site Improvements & Utilities											
Construction	**18,700**			**18,700**	7,480	7,480	3,740				
Other	**1,985**		22	**1,963**	786	784	393				
Total	**23,510**	**1,850**	**62**	**21,598**	**8,640**	**8,638**	**4,320**				

C. Funding Schedule (000's)

WSSC Bonds	**11,755**	925	31	**10,799**	4,320	4,319	2,160				
SDC	**11,755**	925	31	**10,799**	4,320	4,319	2,160				

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.

COST CHANGE

The total project cost has decreased $2.5 million. The estimated decrease is due to strategic sourcing (Supply Chain Management) of ductile iron pipe, and a more accurate Engineer's Estimate.

OTHER

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; additional property and rights-of-way are required. Land costs are included in WSSC Project W-202.00.

COORDINATION

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	$376	21
Other Project Costs		
Debt Service	$765	21
Total Cost	$1,141	21
Impact on Water and Sewer Rate	$0.02	21

F. Approval and Expenditure Data (000's)

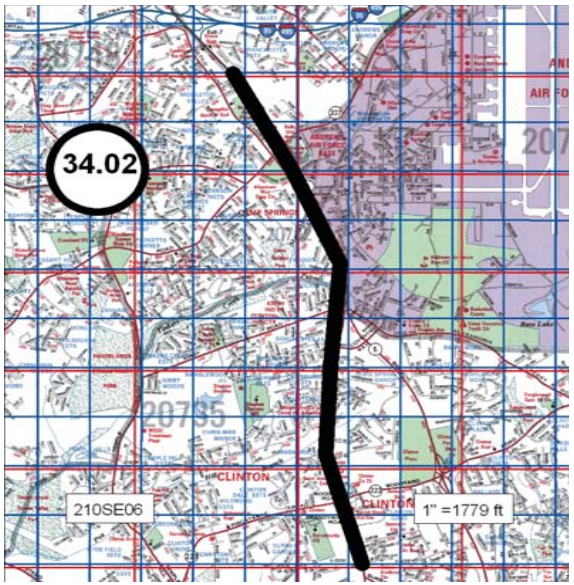
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	10,350
Cost Estimate Last FY	26,070
Present Cost Estimate	23,510
Approved Request Last FY	3,336
Total Expense & Encumbrances	1,850
Approval Request Year 1	8,640

G. Status Information

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

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,600**	1,200	200	**200**	150	50					
Land											
Site Improvements & Utilities											
Construction	**26,000**			**26,000**	12,000	10,000	3,000	1,000			
Other	**2,640**		20	**2,620**	1,215	1,005	300	100			
Total	**30,240**	**1,200**	**220**	**28,820**	**13,365**	**11,055**	**3,300**	**1,100**			

C. Funding Schedule (000's)

SDC	**30,240**	1,200	220	**28,820**	13,365	11,055	3,300	1,100			

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

Construction cost has decreased due to greater reliability in the engineer's estimates as a result of progress achieved in the design phase.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are design level estimates and may change based on actual bid. The alignment has been established and design is being finalized. 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; (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	$564	22
Other Project Costs		
Debt Service		
Total Cost	$564	22
Impact on Water and Sewer Rate	$0.01	22

F. Approval and Expenditure Data (000's)

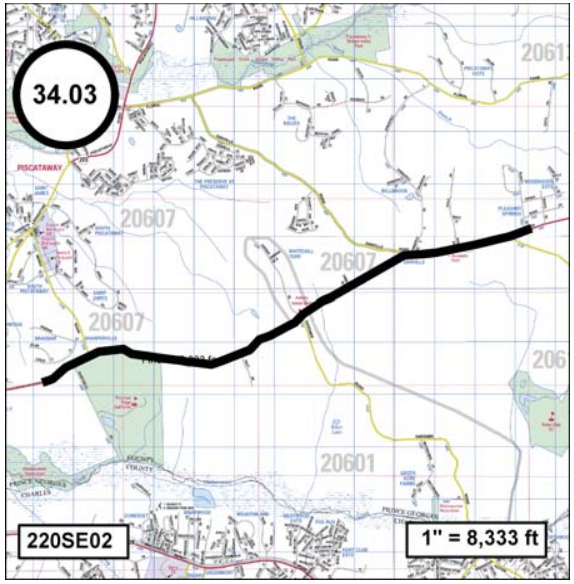
Date First in Program	FY 12
Date First Approved	FY 12
Intial Cost Estimate	173
Cost Estimate Last FY	34,593
Present Cost Estimate	30,240
Approved Request Last FY	2,860
Total Expense & Encumbrances	1,200
Approval Request Year 1	13,365

G. Status Information

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

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,711**	2,369	264	**78**	50	28					
Land											
Site Improvements & Utilities											
Construction	**48,942**	2,969	10,693	**35,280**	12,800	19,374	3,106				
Other	**2,380**		567	**1,813**	754	904	155				
Total	**54,033**	**5,338**	**11,524**	**37,171**	**13,604**	**20,306**	**3,261**				

C. Funding Schedule (000's)

SDC	**54,033**	5,338	11,524	**37,171**	13,604	20,306	3,261				

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 supply feed for the proposed Clinton South Tank.

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 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 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 Government;

Coordinating Projects: W-62.05-Clinton Zone Water Storage Facility Implementation;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$639	21
Other Project Costs		
Debt Service		
Total Cost	$639	21
Impact on Water and Sewer Rate	$0.01	21

F. Approval and Expenditure Data (000's)

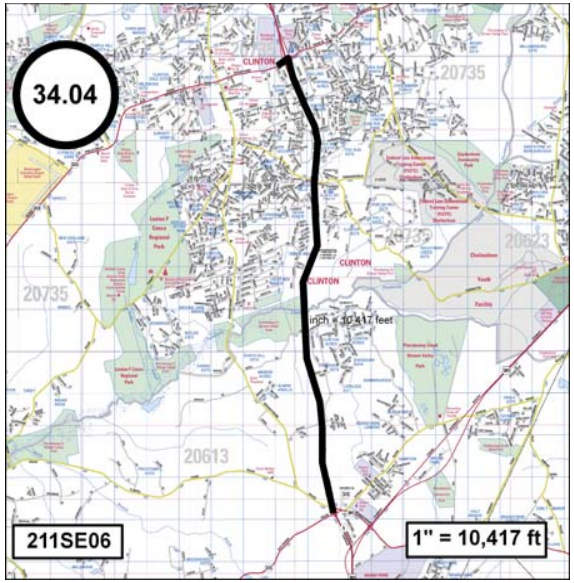
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	23,705
Cost Estimate Last FY	53,555
Present Cost Estimate	54,033
Approved Request Last FY	15,834
Total Expense & Encumbrances	5,338
Approval Request Year 1	13,604

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Construction
Percent Complete	30%
Est Completion Date	FY 2020

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**201**	166	25	**10**	5	5					
Land											
Site Improvements & Utilities											
Construction	**3,500**			**3,500**	2,300	1,200					
Other	**531**		4	**527**	346	181					
Total	**4,232**	**166**	**29**	**4,037**	**2,651**	**1,386**					

C. Funding Schedule (000's)

WSSC Bonds	**4,232**	166	29	**4,037**	2,651	1,386					

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 planning level estimates and are expected to change as design progresses. 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); 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	$94	20
Other Project Costs		
Debt Service	$275	20
Total Cost	$369	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

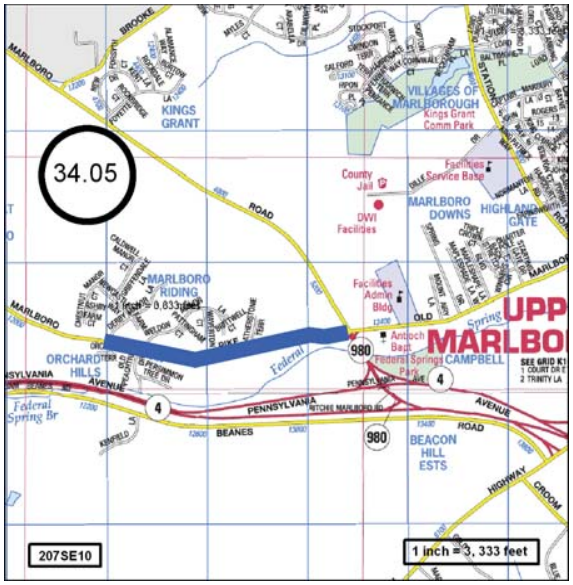
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	5,234
Cost Estimate Last FY	4,443
Present Cost Estimate	4,232
Approved Request Last FY	1,354
Total Expense & Encumbrances	166
Approval Request Year 1	2,651

G. Status Information

Land Status	Site Selected
Project Phase	Design
Percent Complete	70%
Est Completion Date	FY 2019

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,277**	1,717	170	**340**	150	150	40				50
Land	**114**	114									
Site Improvements & Utilities											
Construction	**11,850**		1,050	**6,450**	4,300	1,775	375				4,350
Other	**1,241**		117	**684**	470	190	24				440
Total	**15,482**	**1,831**	**1,337**	**7,474**	**4,920**	**2,115**	**439**				**4,840**

C. Funding Schedule (000's)

SDC	**15,482**	1,831	1,337	**7,474**	4,920	2,115	439				4,840

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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).

COST CHANGE

Costs increase is based on information from engineer's design estimate.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown are design level estimates and are expected to change once the project moves into construction. Estimated costs allocated for 'Beyond 6 Years' is for the future 2.0 MG water tank. No WSSC rate supported debt will be used for this project. 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; Prince George's County Department of Environmental 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
Intial Cost Estimate	7,993
Cost Estimate Last FY	12,559
Present Cost Estimate	15,482
Approved Request Last FY	1,980
Total Expense & Encumbrances	1,831
Approval Request Year 1	4,920

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	90%
Est Completion Date	See Block D

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

H. Map

MAP NOT APPLICABLE

St. Barnabas Elevated Tank Replacement

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-65.10		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,128**	726	181	**221**	181	40					
Land											
Site Improvements & Utilities											
Construction	**8,864**		4,534	**4,330**	3,927	403					
Other	**1,390**		707	**683**	616	67					
Total	**11,382**	**726**	**5,422**	**5,234**	**4,724**	**510**					

C. Funding Schedule (000's)

WSSC Bonds	**5,691**	363	2,711	**2,617**	2,362	255					
SDC	**5,691**	363	2,711	**2,617**	2,362	255					

D. Description & Justification

DESCRIPTION

This project provides for the 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.

JUSTIFICATION

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).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are based on the design estimate and may change once the project is bid and awarded. 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. The project has been delayed due to delays in acquiring permits.

COORDINATION

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	$370	20
Total Cost	$370	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

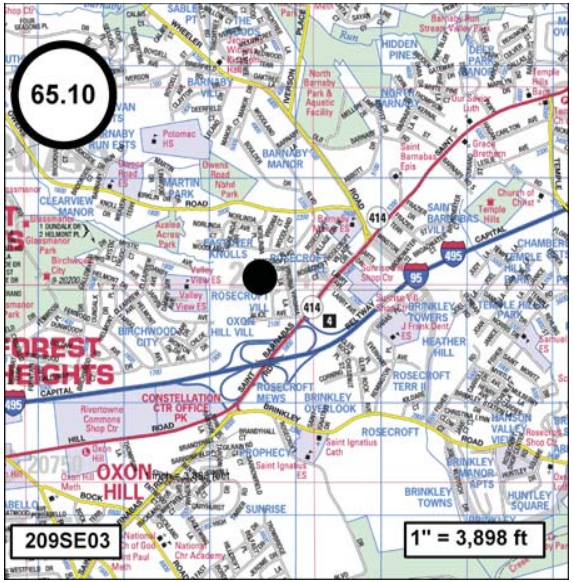
Date First in Program	FY 13
Date First Approved	FY 13
Intial Cost Estimate	7,274
Cost Estimate Last FY	10,908
Present Cost Estimate	11,382
Approved Request Last FY	5,524
Total Expense & Encumbrances	726
Approval Request Year 1	4,724

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	99%
Est Completion Date	FY 2019

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,532**	1,342	170	**20**	10	10					
Land											
Site Improvements & Utilities											
Construction	**10,225**		2,500	**7,725**	5,150	2,575					
Other	**1,042**		267	**775**	516	259					
Total	**12,799**	**1,342**	**2,937**	**8,520**	**5,676**	**2,844**					

C. Funding Schedule (000's)

SDC	**12,799**	1,342	2,937	**8,520**	5,676	2,844					

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 design level estimates and may change based on actual bid. 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; 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	$308	20
Other Project Costs		
Debt Service		
Total Cost	$308	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

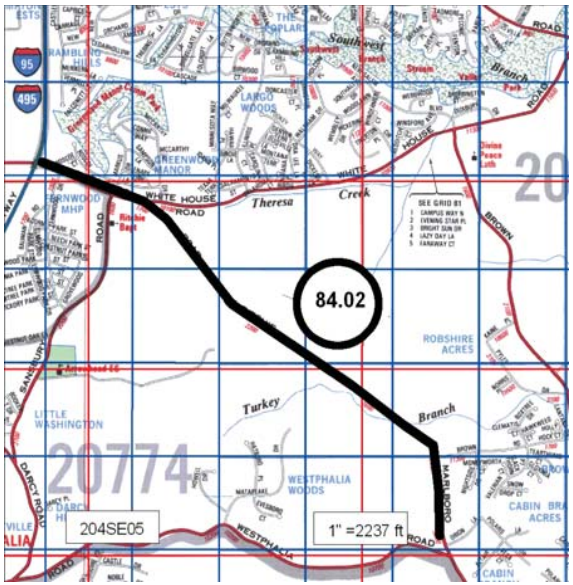
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	2,496
Cost Estimate Last FY	12,619
Present Cost Estimate	12,799
Approved Request Last FY	4,413
Total Expense & Encumbrances	1,342
Approval Request Year 1	5,676

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	98%
Est Completion Date	FY 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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**404**	142	85	**177**	62	60	55				
Land											
Site Improvements & Utilities											
Construction	**1,913**	630	401	**882**	294	294	294				
Other	**232**		73	**159**	53	53	53				
Total	**2,549**	**772**	**559**	**1,218**	**409**	**407**	**402**				

C. Funding Schedule (000's)

Contribution/Other	**2,549**	772	559	**1,218**	409	407	402				

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

Smith Home Farm Subdivision Hydraulic Planning Analysis (Amended March 2015).

COST CHANGE

Not applicable.

OTHER

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.

COORDINATION

Coordinating Agencies: Maryland-National Capital Park & Planning Commission; (Westphalia Sector Plan); Prince George's County Government;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$179	21
Other Project Costs		
Debt Service		
Total Cost	$179	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

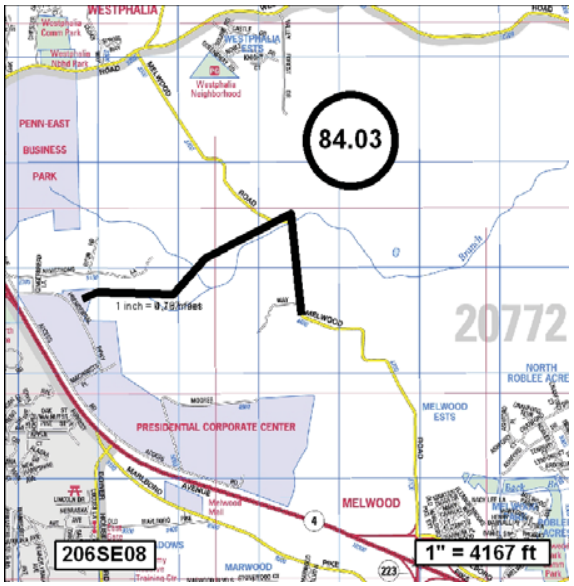
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	1,600
Cost Estimate Last FY	2,500
Present Cost Estimate	2,549
Approved Request Last FY	397
Total Expense & Encumbrances	772
Approval Request Year 1	409

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	75%
Est Completion Date	Developer Dependent

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**185**	22	36	**127**	60	44	23				
Land											
Site Improvements & Utilities											
Construction	**1,189**	530		**659**	203	266	190				
Other	**123**		5	**118**	39	47	32				
Total	**1,497**	**552**	**41**	**904**	**302**	**357**	**245**				

C. Funding Schedule (000's)

Contribution/Other	**1,497**	552	41	**904**	302	357	245				

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	$110	21
Other Project Costs		
Debt Service		
Total Cost	$110	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

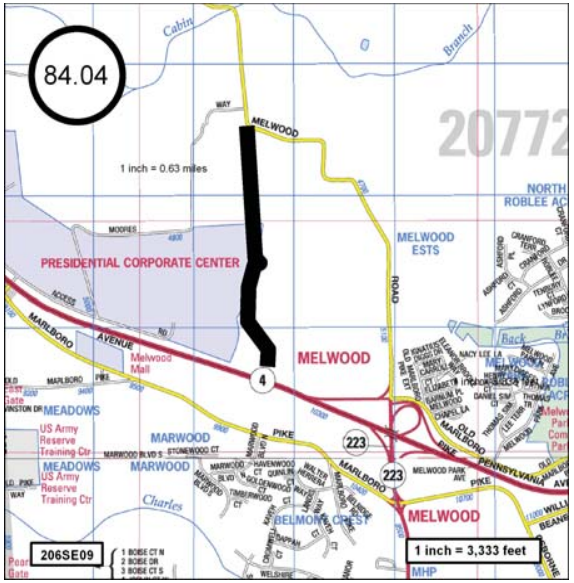
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	1,396
Cost Estimate Last FY	1,438
Present Cost Estimate	1,497
Approved Request Last FY	293
Total Expense & Encumbrances	552
Approval Request Year 1	302

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**6,695**	835	860	**5,000**	1,463	1,463	976	366	366	366	
Land											
Site Improvements & Utilities											
Construction	**30,000**			**15,833**			833	5,000	5,000	5,000	14,167
Other	**3,613**		112	**2,084**	146	146	181	537	537	537	1,417
Total	**40,308**	**835**	**972**	**22,917**	**1,609**	**1,609**	**1,990**	**5,903**	**5,903**	**5,903**	**15,584**

C. Funding Schedule (000's)

WSSC Bonds	**40,308**	835	972	**22,917**	1,609	1,609	1,990	5,903	5,903	5,903	15,584

D. Description & Justification

DESCRIPTION

This project provides for a capacity and alignment study, design, and construction of approximately ten miles of new 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.

JUSTIFICATION

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 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 24-inch diameter main at D'arcy Road. The new transmission main may parallel or replace existing mains as determined by modeling. The new transmission main shall tie in to the existing 42-inch diameter main on the south side of I-495 where it splits into the existing 42-inch diameter and 36-inch diameter mains.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown above are Order of Magnitude level estimates and are expected to change once the project moves through planning and design. This project is in the advanced planning and final alignment selection phases. An alignment and capacity study has been performed and the project is expected to move into final design phase in the next fiscal year. Land costs are included in WSSC Project W-202.00.

COORDINATION

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; Washington Metropolitan Area Transit Authority;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$1,241	
Other Project Costs		
Debt Service	$2,622	
Total Cost	$3,863	
Impact on Water and Sewer Rate	$0.08	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Intial Cost Estimate	374
Cost Estimate Last FY	40,100
Present Cost Estimate	40,308
Approved Request Last FY	1,609
Total Expense & Encumbrances	835
Approval Request Year 1	1,609

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	30%
Est Completion Date	FY 2024

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**221**	50	72	**99**	7	39	22	31			
Land											
Site Improvements & Utilities											
Construction	**1,175**	35	482	**658**	46	259	144	209			
Other	**197**		83	**114**	8	45	25	36			
Total	**1,593**	**85**	**637**	**871**	**61**	**343**	**191**	**276**			

C. Funding Schedule (000's)

Contribution/Other	**1,593**	85	637	**871**	61	343	191	276			

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

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. 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: S-28.18-Konterra Town Center East Sewer Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$216	22
Other Project Costs		
Debt Service		
Total Cost	$216	22
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

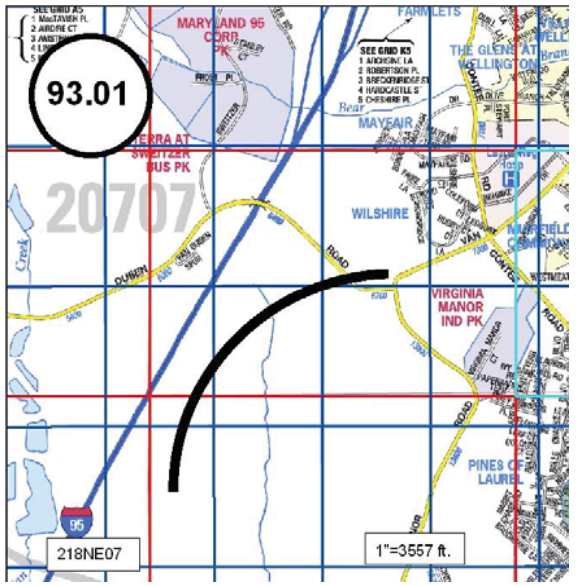
Date First in Program	FY 09
Date First Approved	FY 09
Intial Cost Estimate	610
Cost Estimate Last FY	1,607
Present Cost Estimate	1,593
Approved Request Last FY	619
Total Expense & Encumbrances	85
Approval Request Year 1	61

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	3%
Est Completion Date	Developer Dependent

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**373**	29	1	**343**	39	61	61	61	61	60	
Land											
Site Improvements & Utilities											
Construction	**1,787**			**1,787**	297	298	298	298	298	298	
Other	**320**		0	**320**	50	54	54	54	54	54	
Total	**2,480**	**29**	**1**	**2,450**	**386**	**413**	**413**	**413**	**413**	**412**	

C. Funding Schedule (000's)

Contribution/Other	**2,480**	29	1	**2,450**	386	413	413	413	413	412	

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 5,800 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 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	$153	24
Other Project Costs		
Debt Service		
Total Cost	$153	24
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

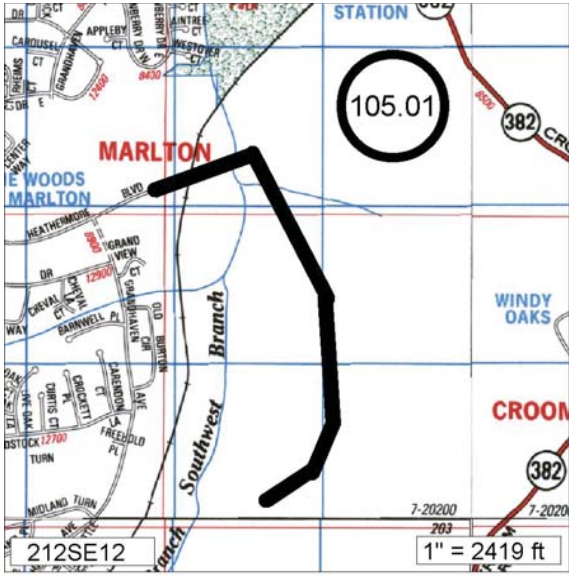
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	398
Cost Estimate Last FY	2,407
Present Cost Estimate	2,480
Approved Request Last FY	374
Total Expense & Encumbrances	29
Approval Request Year 1	386

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	
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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,014**	954	15	**45**	30	15					
Land	**30**	30									
Site Improvements & Utilities											
Construction	**4,040**			**4,040**	2,678	1,362					
Other	**614**		2	**612**	406	206					
Total	**5,698**	**984**	**17**	**4,697**	**3,114**	**1,583**					

C. Funding Schedule (000's)

SDC	**5,698**	984	17	**4,697**	3,114	1,583					

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditures and schedule projections shown in Block B are design level estimates and may change based upon site-specific conditions and actual bid. This project has been delayed due to outstanding permitting issues. 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; 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	$172	20
Other Project Costs		
Debt Service		
Total Cost	$172	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

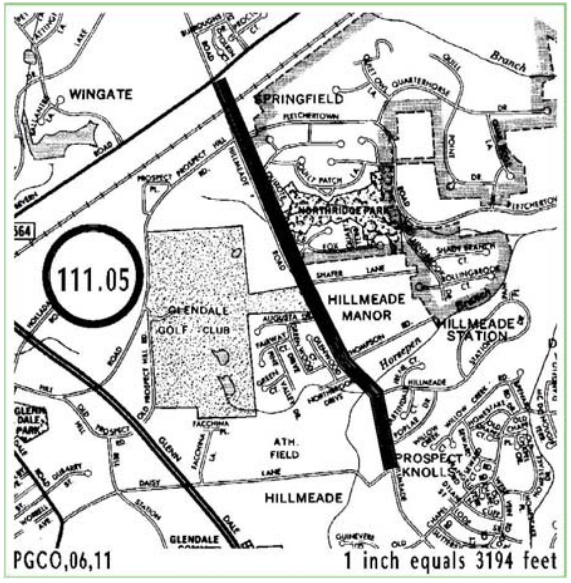
Date First in Program	FY 98
Date First Approved	FY 98
Intial Cost Estimate	1,898
Cost Estimate Last FY	5,514
Present Cost Estimate	5,698
Approved Request Last FY	3,025
Total Expense & Encumbrances	984
Approval Request Year 1	3,114

G. Status Information

Land Status	Land acquired
Project Phase	Design
Percent Complete	95%
Est Completion Date	December 2018

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



John Hanson Highway Water Main, Part 1

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-119.01		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Prince George's Main HG320A; Prince
Drainage Basins	
Planning Areas	Collington & Vicinity PA 74B; Largo-

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,900**	1,300	275	**325**	300	25					
Land											
Site Improvements & Utilities											
Construction	**11,400**		5,225	**6,175**	5,700	475					
Other	**1,200**		550	**650**	600	50					
Total	**14,500**	**1,300**	**6,050**	**7,150**	**6,600**	**550**					

C. Funding Schedule (000's)

SDC	**14,500**	1,300	6,050	**7,150**	6,600	550					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 9,300 feet of 36-inch diameter water main along John Hanson Highway and Martin Luther King Jr. Highway, from Whitfield Chapel Road to Folly Branch.

JUSTIFICATION

This project will provide service to the growing area of Bowie and to the low pressure area north of Route 50, Prince George's Main Pressure Zone HG320A. This main will provide redundancy to existing and future developments in the Bowie area.
General Plan; M-NCP&PC Round 6.2 growth projections; WSSC Memorandum dated April 7, 1997.

COST CHANGE

The total project cost has decreased based upon the low bid for construction.

OTHER

The project scope has remained the same. The expenditure and schedule projections shown in Block B above are design level estimates and may change based upon the final engineer's estimate and actual bids. The redundancy and water system reliability benefits of this project would be immediate. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Prince George's County Department of Environmental Resources; Maryland Department of the Environment; U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; Maryland-National Capital Park & Planning Commission; Maryland Department of Natural Resources;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$219	20
Other Project Costs		
Debt Service		
Total Cost	$219	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

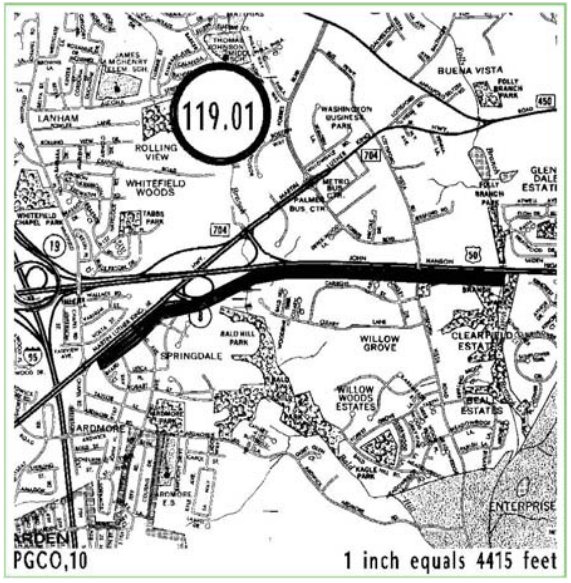
Date First in Program	FY 82
Date First Approved	FY 82
Intial Cost Estimate	675
Cost Estimate Last FY	15,920
Present Cost Estimate	14,500
Approved Request Last FY	6,697
Total Expense & Encumbrances	1,300
Approval Request Year 1	6,600

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	0%
Est Completion Date	FY 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Villages of Timothy Water Main, Part 1

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

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**41**	24	16	**1**	1						
Land											
Site Improvements & Utilities											
Construction	**203**		180	**23**	23						
Other	**33**		29	**4**	4						
Total	**277**	**24**	**225**	**28**	**28**						

C. Funding Schedule (000's)

Contribution/Other	**277**	24	225	**28**	28						

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 1,000 feet of 16-inch diameter water main to serve the Villages of Timothy project.

JUSTIFICATION

Villages of Timothy Hydraulic Planning Analysis (Amended September 2015).

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 project name was changed at the request of the developer. 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: W-120.15-Villages of Timothy Water Main, Part 2; W-120.16-Villages of Timothy Water Main, Part 3;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$24	19
Other Project Costs		
Debt Service		
Total Cost	$24	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

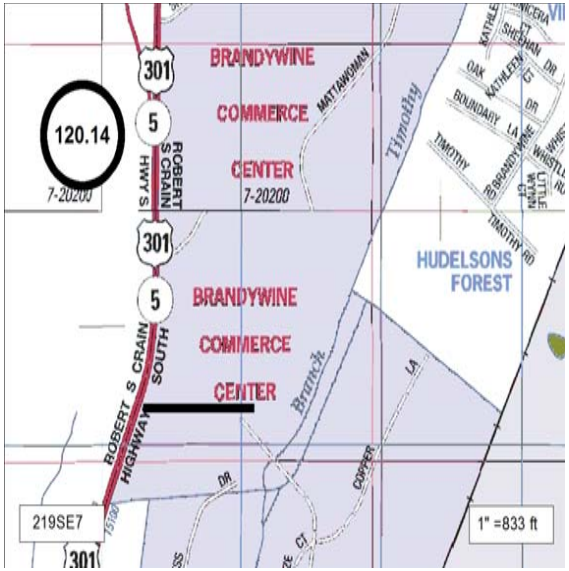
Date First in Program	FY 94
Date First Approved	FY 94
Intial Cost Estimate	176
Cost Estimate Last FY	193
Present Cost Estimate	277
Approved Request Last FY	10
Total Expense & Encumbrances	24
Approval Request Year 1	28

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



Villages of Timothy Water Main, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-120.15		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**101**	66	30	**5**	5						
Land											
Site Improvements & Utilities											
Construction	**506**		455	**51**	51						
Other	**81**		73	**8**	8						
Total	**688**	**66**	**558**	**64**	**64**						

C. Funding Schedule (000's)

Contribution/Other	**688**	66	558	**64**	64						

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 2,700 feet of 16-inch diameter water main to serve the Villages of Timothy project.

JUSTIFICATION

Villages of Timothy Hydraulic Planning Analysis (Amended September 2015).

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 project name was changed at the request of the developer. 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: W-120.14-Villages of Timothy Water Main, Part 1; W-120.16-Villages of Timothy Water Main, Part 3;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$63	19
Other Project Costs		
Debt Service		
Total Cost	$63	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

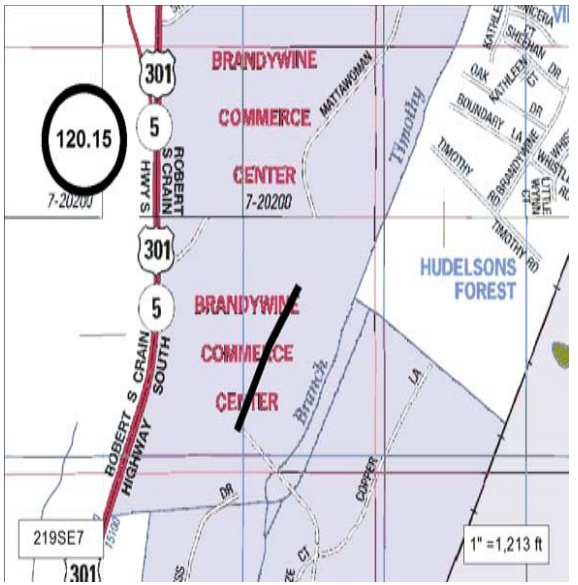
Date First in Program	FY 94
Date First Approved	FY 94
Intial Cost Estimate	159
Cost Estimate Last FY	618
Present Cost Estimate	688
Approved Request Last FY	14
Total Expense & Encumbrances	66
Approval Request Year 1	64

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



Villages of Timothy Water Main, Part 3

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-120.16		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**69**	39	27	**3**	3						
Land											
Site Improvements & Utilities											
Construction	**345**		300	**45**	45						
Other	**56**		49	**7**	7						
Total	**470**	**39**	**376**	**55**	**55**						

C. Funding Schedule (000's)

Contribution/Other	**470**	39	376	**55**	55						

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 1,600 feet of 16-inch diameter water main to serve the Villages of Timothy project.

JUSTIFICATION

Villages of Timothy Hydraulic Planning Analysis (Amended September 2015).

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 project name was changed at the request of the developer. The expenditure and schedule projections shown in Block B above are based upon updated 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: W-120.14-Villages of Timothy Water Main, Part 1; W-120.15-Villages of Timothy Water Main, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$38	19
Other Project Costs		
Debt Service		
Total Cost	$38	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

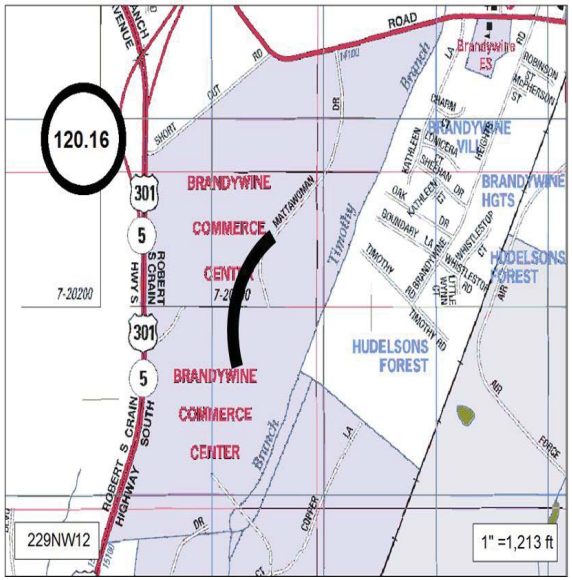
Date First in Program	FY 94
Date First Approved	FY 94
Intial Cost Estimate	26
Cost Estimate Last FY	47
Present Cost Estimate	470
Approved Request Last FY	33
Total Expense & Encumbrances	39
Approval Request Year 1	55

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



Old Marlboro Pike Water Main

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-123.14		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Upper Marlboro & Vicinity PA 79;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**226**	182	11	**33**	16	17					
Land											
Site Improvements & Utilities											
Construction	**1,459**	1,080	92	**287**	160	127					
Other	**63**		15	**48**	26	22					
Total	**1,748**	**1,262**	**118**	**368**	**202**	**166**					

C. Funding Schedule (000's)

Contribution/Other	**1,748**	1,262	118	**368**	202	166					

D. Description & Justification

DESCRIPTION

This project provides for the design and construction of approximately 9,000 feet of 16-inch diameter water main along Old Marlboro Pike and on-site at the applicant's property to serve the Addison Property development.

JUSTIFICATION

Old Marlboro Pike Hydraulic Analysis (February 2003). Review of Project #DA3538Z03 for the Addison Property development. Based on Development Services and Planning Group studies, a 16-inch diameter water main was deemed necessary to provide service to the Addison Property development as well as to future development.

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; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland State Department of Transportation; Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Department of Environmental Resources;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$212	20
Other Project Costs		
Debt Service		
Total Cost	$212	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

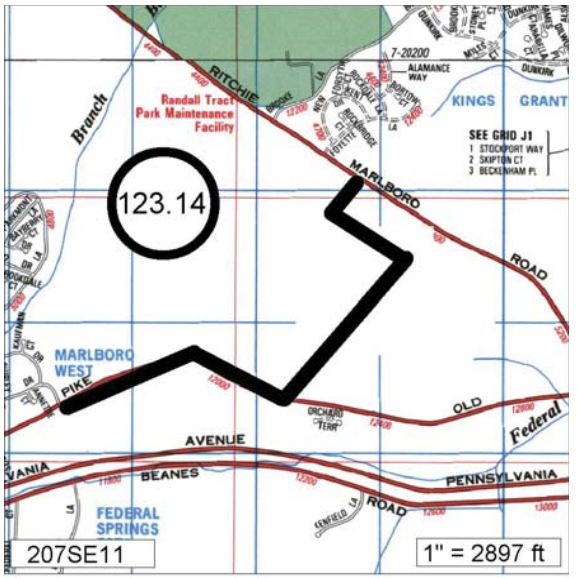
Date First in Program	FY 04
Date First Approved	FY 04
Intial Cost Estimate	800
Cost Estimate Last FY	1,698
Present Cost Estimate	1,748
Approved Request Last FY	179
Total Expense & Encumbrances	1,262
Approval Request Year 1	202

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	80%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Oak Grove/Leeland Roads Water Main, Part 2

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-123.20		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Prince George's Intermediate HG317A;
Drainage Basins	
Planning Areas	Mitchellville & Vicinity PA 74A;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,392**	2,322	40	**30**	20	10					
Land	**12**	12									
Site Improvements & Utilities											
Construction	**11,304**	6,504	2,000	**2,800**	2,000	800					
Other	**736**	4	306	**426**	302	124					
Total	**14,444**	**8,842**	**2,346**	**3,256**	**2,322**	**934**					

C. Funding Schedule (000's)

WSSC Bonds	**7,222**	4,421	1,173	**1,628**	1,161	467					
SDC	**7,222**	4,421	1,173	**1,628**	1,161	467					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of approximately 16,805 feet of 24-inch diameter water main along Oak Grove and Leeland Roads, and 1,240 feet of 16-inch diameter water main in Church Road in the Upper Marlboro Planning Area of Prince George's County.

JUSTIFICATION

The Intermediate & Marlboro Zones Water Storage Facility siting study recommended the placement of 4 million gallons of storage at the Safeway Distribution Center near the intersection of Leeland Road and Route 301 in Prince George's County. Based upon the final site selection, a 24-inch diameter water main along Oak Grove and Leeland Roads will be needed to connect to the new storage facility and provide adequate hydraulic capacity to the Intermediate Pressure Zone HG317A distribution system. This project will also provide a second feed to the Beechtree development west of Route 301 and south of Leeland Road.

Intermediate & Marlboro Zones Water Storage Facility (September 1999).

COST CHANGE

Cost increased due to the need to rebid the B contract and resulting delays in permitting and additional survey requirements.

OTHER

The project scope has remained the same. The expenditure and schedule projections in Block B above are based upon the actual bid for Contract A and the 100% complete design estimate for Contract B. The project will be bid under two separate contracts: Contract A was bid on 9/26/12 and Contract B is expected to be rebid in August 2016 with the ductile iron pipe design.

COORDINATION

Coordinating Agencies: Prince George's County Government; Maryland State Highway Administration;
Coordinating Projects: W-147.00-Collington Elevated Water Storage Facility;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$424	20
Other Project Costs		
Debt Service	$470	20
Total Cost	$894	20
Impact on Water and Sewer Rate	$0.02	20

F. Approval and Expenditure Data (000's)

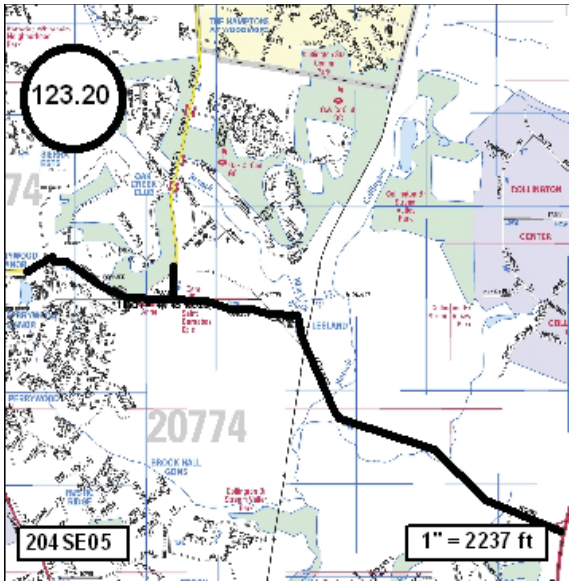
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	4,117
Cost Estimate Last FY	12,828
Present Cost Estimate	14,444
Approved Request Last FY	3,472
Total Expense & Encumbrances	8,842
Approval Request Year 1	2,322

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	50%
Est Completion Date	June 2019

Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	

H. Map



South Potomac Supply Improvement, Phase 1

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-137.02		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**557**	215	332	**10**	10						
Land											
Site Improvements & Utilities											
Construction	**14,699**	7,079	7,600	**20**	20						
Other	**1,192**		1,190	**2**	2						
Total	**16,448**	**7,294**	**9,122**	**32**	**32**						

C. Funding Schedule (000's)

WSSC Bonds	**8,224**	3,647	4,561	**16**	16						
SDC	**8,224**	3,647	4,561	**16**	16						

D. Description & Justification

DESCRIPTION

This project provides for the design and construction of approximately 2.1 miles of 42-inch diameter ductile iron pipe and a new flow control valve vault to replace an out-of-service, 42-inch diameter PCCP water transmission main.

JUSTIFICATION

This project will provide a second major feed to Rosecroft Pressure Zone HG290A, which serves southwestern Prince George's County, primarily areas west of Indian Head Highway, including National Harbor. The northern section for the zone is approximately 10,600 feet of 42-inch diameter PCCP water main originally installed in the 1970's and consists of lined (PS-5) cylinder pipe and possible class IV wire. The WSSC has confirmed that the condition of the pipe is extremely poor and would present a service liability in the event of failure. In addition, after discussions with the Maryland Department of the Environment regarding extensive requirements for stream restoration, up to 3.5 miles of pipe in the southern section that is exposed along eroding stretches of Henson Creek has been identified for relocation for the Phase 2 project, under CIP W-137.03.

Henson Creek 42-inch Prestressed Concrete Cylinder Pipe Transmission Main Rehabilitation Study, Patton, Harris, Rust & Associates, Inc. (October 2008)

COST CHANGE

Costs were decreased as Phase 2 of the project was separated into a new CIP project W-137.03, South Potomac Supply Improvement, Phase 2.

OTHER

The project scope was revised to split the project into two phases. Phase 1 is under construction with an anticipated construction completion date of September 2016. The expenditure and schedule projections shown in Block B above for Phase 1 are based on actual bids. Phase 2 will now be constructed under CIP project W-137.03, South Potomac Supply Improvement, Phase 2.

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;
Coordinating Projects: W-137.03-South Potomac Supply Improvement, Phase 2

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$261	19
Other Project Costs		
Debt Service	$535	19
Total Cost	$796	19
Impact on Water and Sewer Rate	$0.02	19

F. Approval and Expenditure Data (000's)

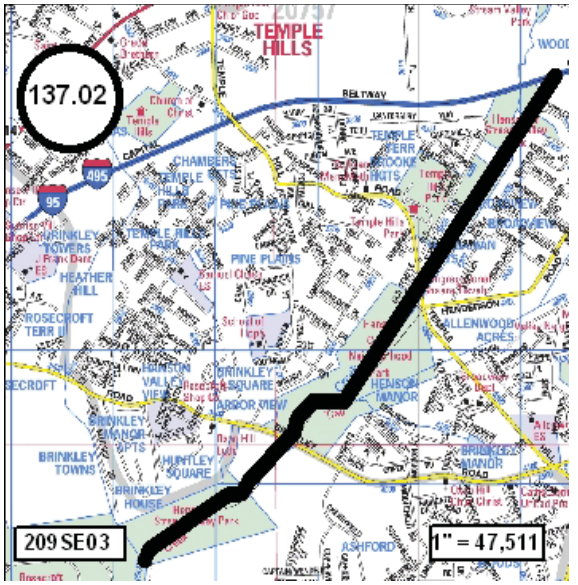
Date First in Program	FY 12
Date First Approved	FY 07
Intial Cost Estimate	25
Cost Estimate Last FY	57,852
Present Cost Estimate	16,448
Approved Request Last FY	12,410
Total Expense & Encumbrances	7,294
Approval Request Year 1	32

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	35%
Est Completion Date	September 2016

Growth	50%
System Improvement	50%
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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,848**	350	731	**1,676**	975	244		91	183	183	91
Land											
Site Improvements & Utilities											
Construction	**48,000**			**42,000**			6,000	12,000	12,000	12,000	6,000
Other	**2,526**		37	**2,184**	49	12	300	605	609	609	305
Total	**53,374**	**350**	**768**	**45,860**	**1,024**	**256**	**6,300**	**12,696**	**12,792**	**12,792**	**6,396**

C. Funding Schedule (000's)

WSSC Bonds	**35,227**	231	507	**30,268**	676	169	4,158	8,379	8,443	8,443	4,221
SDC	**18,147**	119	261	**15,592**	348	87	2,142	4,317	4,349	4,349	2,175

D. Description & Justification

DESCRIPTION

This project provides for the design and construction of 4.4 miles of 42-inch diameter ductile iron pipe and a new flow control valve vault to replace 3.5 miles of 42-inch diameter PCCP water transmission main in Henson Creek. The new main will be relocated out of Henson Creek and into the roadway along Palmer Road, Tucker Road, and Allentown Road. The project limits are between Indian Head Highway and Temple Hill Road. A parallel distribution main will be constructed to serve residential customers along Palmer, Tucker, and Allentown Roads.

JUSTIFICATION

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 alignment study for Phase 2 was completed in March 2016. 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 flow control valve between pressure zones 450A and 290B.

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. (March 2016).

COST CHANGE

Costs reflect design and construction of 4.4 miles of 42-inch ductile iron water main, parallel 10-inch distribution main, and flow control valve and vault.

OTHER

The project scope was developed for the FY 2018 CIP when the Phase 2 project was split out from CIP project W-137.02, South Potomac Supply Improvement, Phase 1. Phase 1 is under construction. The alignment study for Phase 2 was completed in March 2016. Schedule and expenditure projections for Phase 2 are Order of Magnitude level estimates and may change based upon a final determination of alignment, restoration requirements, and other site-specific conditions. 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; W-137.02-South Potomac Supply Improvement, Phase 1

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$546	
Other Project Costs		
Debt Service	$2,292	
Total Cost	$2,838	
Impact on Water and Sewer Rate	$0.06	

F. Approval and Expenditure Data (000's)

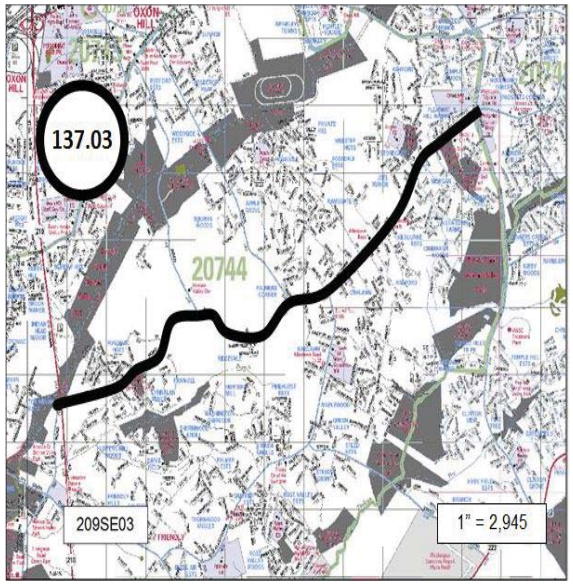
Date First in Program	FY 18
Date First Approved	FY 07
Intial Cost Estimate	53,374
Cost Estimate Last FY	
Present Cost Estimate	53,374
Approved Request Last FY	
Total Expense & Encumbrances	350
Approval Request Year 1	1,024

G. Status Information

Land Status	Site not selected
Project Phase	Design
Percent Complete	30%
Est Completion Date	FY 2024

Growth	34%
System Improvement	66%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Collington Elevated Water Storage Facility

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-147.00		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Prince George's Intermediate HG317A;
Drainage Basins	
Planning Areas	Collington & Vicinity PA 74B;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,180**	1,100	49	**31**	21	10					
Land	**130**	130									
Site Improvements & Utilities											
Construction	**15,672**	15,352	200	**120**	100	20					
Other	**40**		25	**15**	13	2					
Total	**17,022**	**16,582**	**274**	**166**	**134**	**32**					

C. Funding Schedule (000's)

WSSC Bonds	**8,511**	8,291	137	**83**	67	16					
SDC	**8,511**	8,291	137	**83**	67	16					

D. Description & Justification

DESCRIPTION

This project provides for the site selection, planning, design, and construction of 4 million gallons (MG) of elevated storage to serve the Intermediate Zone. The site selection phase included a Community Outreach Program. A portion of the Safeway Distribution Facility property, at Leeland Road and Route 301, was acquired as the site for the new water storage tanks. This project also includes modifications at the existing Central Avenue Water Pumping Station to add an additional pump and upgrade an existing pump in order to optimize the utilization of the new Collington Tanks and provide redundancy in the affected zones.

JUSTIFICATION

The Prince George's High Zone Facility Plan indicates there is a need to provide up to 4 MG of additional storage to the Intermediate Zone to meet demands to the year 2020. During the siting phase, this project determined the site and size of the new facility.
Prince George's County High Zone Facility Plan (April 1996); Water Storage Volume Criteria Report (November 2005).

COST CHANGE

Cost increase is based on actual expenditure for construction.

OTHER

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

COORDINATION

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; City of Bowie;
Coordinating Projects: W-123.20-Oak Grove/Leeland Roads Water Main, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$554	20
Total Cost	$554	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

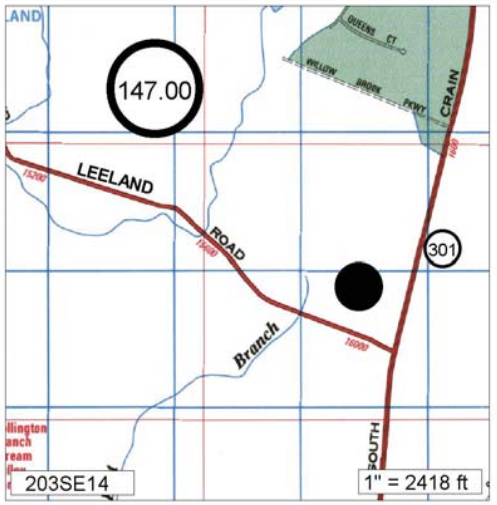
Date First in Program	FY 98
Date First Approved	FY 98
Intial Cost Estimate	12,536
Cost Estimate Last FY	14,782
Present Cost Estimate	17,022
Approved Request Last FY	34
Total Expense & Encumbrances	16,582
Approval Request Year 1	134

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	95%
Est Completion Date	March 2018

Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	4.0 MG

H. Map



Section 6 - Prince George's County Sewer Projects

DATE: October 1, 2016

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

PRINCE GEORGE'S COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
S-27.08	Westphalia Town Center Sewer Main	828	201	451	176	122	45	9	0	0	0	0	6-2
S-28.18	Konterra Town Center East Sewer	6,897	4,913	0	1,984	503	376	0	0	635	470	0	6-3
S-43.02	Broad Creek WWPS Augmentation	175,971	102,668	37,503	35,800	17,805	12,062	5,933	0	0	0	0	6-4
S-57.92	Western Branch Facility Upgrade	53,950	49,488	1,727	2,735	1,995	740	0	0	0	0	0	6-5
S-57.94	Western Branch WWTP Incinerator Emissions Control	25,288	2,231	4,309	18,748	9,595	7,692	1,461	0	0	0	0	6-6
S-68.01	Landover Mall Redevelopment	1,278	24	97	1,157	605	389	43	40	40	40	0	6-7
S-75.19	Brandywine Woods Wastewater Pumping Station	308	6	173	129	65	64	0	0	0	0	0	6-8
S-75.20	Brandywine Woods WWPS Force Main	121	12	37	72	38	34	0	0	0	0	0	6-9
S-75.21	Mattawoman WWTP Upgrades	16,156	5,978	1,309	8,289	3,633	2,596	854	398	404	404	580	6-10
S-86.19	Karington Subdivision Sewer	655	99	204	352	176	176	0	0	0	0	0	6-11
S-96.14	Piscataway WWTP Facility Upgrades	118,156	4,588	4,915	108,653	6,993	36,303	44,653	17,813	1,523	1,368	0	6-12
S-131.05	Pleasant Valley Sewer Main, Part 2	849	31	196	622	385	161	76	0	0	0	0	6-13
S-131.07	Pleasant Valley Sewer Main, Part 1	1,670	50	455	1,165	951	214	0	0	0	0	0	6-14
S-131.10	Fort Washington Forest No. 1 WWPS Augmentation	4,887	2,390	643	1,854	1,470	384	0	0	0	0	0	6-15
	Projects Pending Close-Out	76,433	75,824	609	0	0	0	0	0	0	0	0	6-16
	TOTAL PRINCE GEORGE'S COUNTY SEWER PROJECTS	483,447	248,503	52,628	181,736	44,336	61,236	53,029	18,251	2,602	2,282	580	

Westphalia Town Center Sewer Main

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

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**83**	21	31	**31**	18	9	4				
Land											
Site Improvements & Utilities											
Construction	**663**	180	361	**122**	88	30	4				
Other	**82**		59	**23**	16	6	1				
Total	**828**	**201**	**451**	**176**	**122**	**45**	**9**				

C. Funding Schedule (000's)

Contribution/Other	**828**	201	451	**176**	122	45	9				

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	$75	21
Other Project Costs		
Debt Service		
Total Cost	$75	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

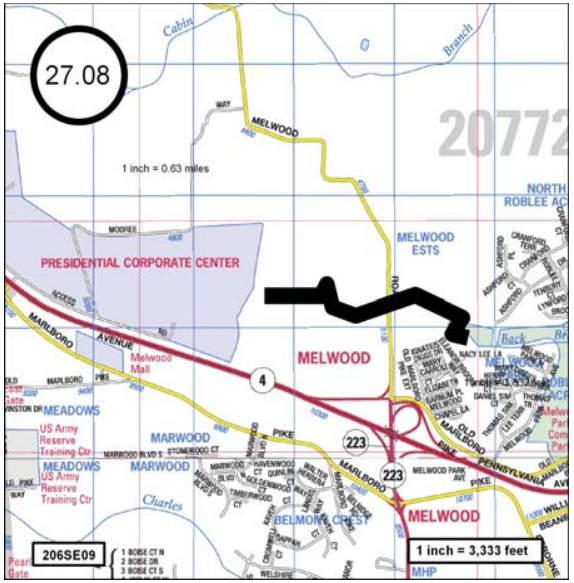
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	378
Cost Estimate Last FY	816
Present Cost Estimate	828
Approved Request Last FY	120
Total Expense & Encumbrances	201
Approval Request Year 1	122

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	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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**2,353**	2,128		**225**	57	43			72	53	
Land											
Site Improvements & Utilities											
Construction	**4,285**	2,785		**1,500**	380	284			480	356	
Other	**259**			**259**	66	49			83	61	
Total	**6,897**	**4,913**		**1,984**	**503**	**376**			**635**	**470**	

C. Funding Schedule (000's)

Contribution/Other	**6,897**	4,913		**1,984**	503	376			635	470	

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

The increase in cost is the result of a more definitive construction cost estimate from the developer's engineer.

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	$237	20
Other Project Costs		
Debt Service		
Total Cost	$237	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

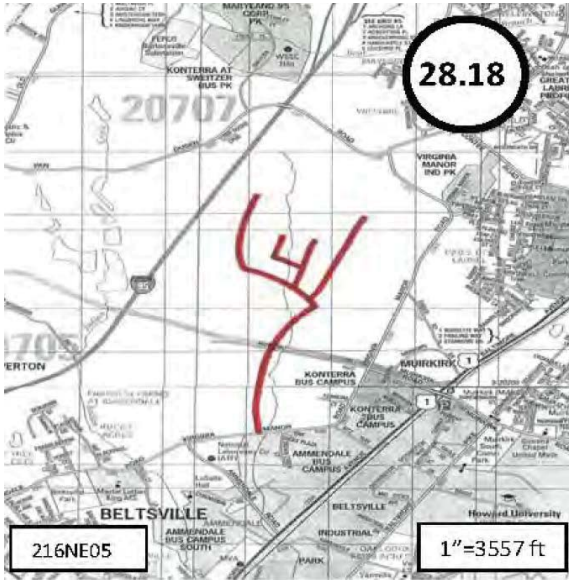
Date First in Program	FY 09
Date First Approved	FY 09
Intial Cost Estimate	833
Cost Estimate Last FY	6,458
Present Cost Estimate	6,897
Approved Request Last FY	0
Total Expense & Encumbrances	4,913
Approval Request Year 1	503

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	11,300
Capacity	7.95 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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**30,538**	25,561	1,800	**3,177**	1,489	1,188	500				
Land	**227**	227									
Site Improvements & Utilities											
Construction	**141,715**	76,880	33,917	**30,918**	15,468	10,300	5,150				
Other	**3,491**		1,786	**1,705**	848	574	283				
Total	**175,971**	**102,668**	**37,503**	**35,800**	**17,805**	**12,062**	**5,933**				

C. Funding Schedule (000's)

WSSC Bonds	**29,917**	17,454	6,376	**6,087**	3,027	2,051	1,009				
SDC	**146,054**	85,214	31,127	**29,713**	14,778	10,011	4,924				

D. Description & Justification

DESCRIPTION

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 Wastewater Treatment Plant. 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 WWTP a concrete storage facility will be constructed in the upper existing polishing pond allowing intermittent storage of excess sewage until flows 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 provide for an emergency generator in the event of power outages. The emergency generators have been installed.

JUSTIFICATION

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.

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 & Associates, Inc. (January 2007); FY2012 Broad Creek WWPS Asset Management Plan, GHD, Inc. (March 2011).

COST CHANGE

Not applicable.

OTHER

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 National Park Service Permits, previously delaying the project, were obtained in April 2016. The final construction contract is in the solicitation phase.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & 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;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$441	21
Other Project Costs		
Debt Service	$1,946	21
Total Cost	$2,387	21
Impact on Water and Sewer Rate	$0.05	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Intial Cost Estimate	80,850
Cost Estimate Last FY	175,955
Present Cost Estimate	175,971
Approved Request Last FY	35,175
Total Expense & Encumbrances	102,668
Approval Request Year 1	17,805

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	55%
Est Completion Date	FY 2020

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

H. Map

MAP NOT AVAILABLE

Western Branch Facility Upgrade

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-57.92		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**14,741**	13,491	745	**505**	400	105					
Land											
Site Improvements & Utilities											
Construction	**38,997**	35,997	900	**2,100**	1,500	600					
Other	**212**		82	**130**	95	35					
Total	**53,950**	**49,488**	**1,727**	**2,735**	**1,995**	**740**					

C. Funding Schedule (000's)

WSSC Bonds	**53,950**	49,488	1,727	**2,735**	1,995	740					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of improvements at the Western Branch WWTP 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.

JUSTIFICATION

The plant was originally designed in the 1970s. It is the only WSSC WWTP 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).

COST CHANGE

Total project cost has increased based on the updated construction supervision cost estimate due to construction schedule delays.

OTHER

The project scope has remained the same. The schedule and expenditures projections shown in Block B are based upon the Contractor's Schedule . FY 18 and FY 19 cost projections are included as a placeholder for site restoration and system integration costs. The MDE construction permit was obtained in March 2011. The NTP 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.

COORDINATION

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	$3,510	20
Total Cost	$3,510	20
Impact on Water and Sewer Rate	$0.08	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 06
Intial Cost Estimate	6,325
Cost Estimate Last FY	47,591
Present Cost Estimate	53,950
Approved Request Last FY	24
Total Expense & Encumbrances	49,488
Approval Request Year 1	1,995

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	98%
Est Completion Date	FY 2019

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

H. Map

MAP NOT AVAILABLE

Western Branch WWTP Incinerator Emissions Control

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-57.94		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**6,075**	2,231	792	**3,052**	1,321	1,303	428				
Land											
Site Improvements & Utilities											
Construction	**17,117**		3,125	**13,992**	7,402	5,690	900				
Other	**2,096**		392	**1,704**	872	699	133				
Total	**25,288**	**2,231**	**4,309**	**18,748**	**9,595**	**7,692**	**1,461**				

C. Funding Schedule (000's)

WSSC Bonds	**25,288**	2,231	4,309	**18,748**	9,595	7,692	1,461				

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of the modifications required for the Western Branch WWTP incinerators to meet the US EPA Final Rule for compliance of existing and new sewage biosolids incinerators, which classified sewage biosolids as "solid waste" under the Clean Air Act, Section 129 regulations for solid waste incineration. The required emissions control equipment includes a Wet Electro-static Precipitator and a Regenerative Thermal Oxidizer.

JUSTIFICATION

The Western Branch WWTP produces approximately 30 dry tons per day of biosolids. The biosolids are thickened, dewatered and incinerated onsite. The existing biosolids facilities include five dissolved air flotation thickeners, two thickened biosolids storage tanks, three decant tanks, two high speed centrifuges, and two multiple hearth incinerators. The Final Rule sets limits for nine pollutants under Section 129 and they include Cadmium, Carbon Monoxide, Hydrogen Chloride, Lead, Mercury, Nitrogen-Oxides, Particulate Matter, Sulfur Dioxide, Polychlorinated dibenzo-p-dioxins, and Polychlorinated dibenzofurans. The limits for incineration vary depending upon whether the incinerator is categorized as "New" or "Existing". The determination is based on the amount of money (as a % of the original cost) spent on upgrading or repairing the facilities. The incinerators are currently out of service and sludge hauling will continue until this upgrade is complete.

Western Branch Incinerator Emissions Control Project - Phase 1 Final Technical Memorandum, HDR Engineering, Inc. (July 2013).

COST CHANGE

Costs increased due to added supervision costs for specialized inspection and incinerator start-up requirements.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are design level estimates and may change based upon the final engineer's estimate and actual bids. Final emission permit requirements have been obtained from the EPA and administered by MDE.

COORDINATION

Coordinating Agencies: Maryland Department of the Environment; Prince George's County Department of Environmental Resources; Prince George's County Government; U.S. Environmental Protection Agency, Region III;

Coordinating Projects: A-103.00-Energy Performance Program;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$1,645	21
Total Cost	$1,645	21
Impact on Water and Sewer Rate	$0.04	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	19,457
Cost Estimate Last FY	22,652
Present Cost Estimate	25,288
Approved Request Last FY	11,160
Total Expense & Encumbrances	2,231
Approval Request Year 1	9,595

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	99%
Est Completion Date	FY 2020

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Landover Mall Redevelopment

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

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	Prince George's Main HG320A;
Drainage Basins	Beaverdam Branch 3;
Planning Areas	Prince George's County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**223**	24	34	**165**	74	45	13	11	11	11	
Land											
Site Improvements & Utilities											
Construction	**891**	0	50	**841**	452	293	24	24	24	24	
Other	**164**		13	**151**	79	51	6	5	5	5	
Total	**1,278**	**24**	**97**	**1,157**	**605**	**389**	**43**	**40**	**40**	**40**	

C. Funding Schedule (000's)

Contribution/Other	**1,278**	24	97	**1,157**	605	389	43	40	40	40	

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

Hydraulic Planning Analysis (May 2009).

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 Government;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$70	24
Other Project Costs		
Debt Service		
Total Cost	$70	24
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

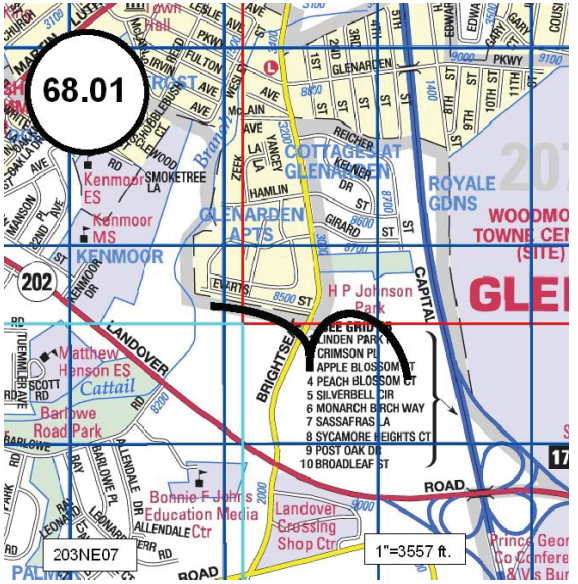
Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	1,108
Cost Estimate Last FY	1,241
Present Cost Estimate	1,278
Approved Request Last FY	621
Total Expense & Encumbrances	24
Approval Request Year 1	605

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	20%
Est Completion Date	Developer Dependent

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**54**	6	25	**23**	12	11					
Land											
Site Improvements & Utilities											
Construction	**213**		125	**88**	44	44					
Other	**41**		23	**18**	9	9					
Total	**308**	**6**	**173**	**129**	**65**	**64**					

C. Funding Schedule (000's)

Contribution/Other	**308**	6	173	**129**	65	64					

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
Intial Cost Estimate	247
Cost Estimate Last FY	302
Present Cost Estimate	308
Approved Request Last FY	63
Total Expense & Encumbrances	6
Approval Request Year 1	65

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**27**	12	7	**8**	5	3					
Land											
Site Improvements & Utilities											
Construction	**79**		24	**55**	28	27					
Other	**15**		6	**9**	5	4					
Total	**121**	**12**	**37**	**72**	**38**	**34**					

C. Funding Schedule (000's)

Contribution/Other	**121**	12	37	**72**	38	34					

D. Description & Justification

DESCRIPTION

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.

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-75.19-Brandywine Woods Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

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

F. Approval and Expenditure Data (000's)

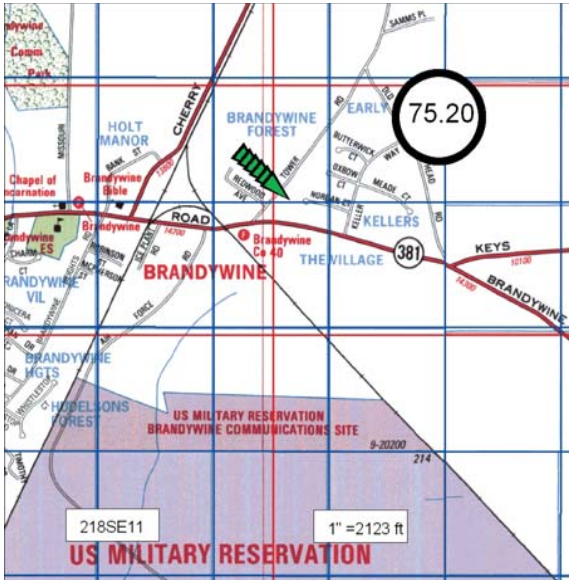
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	100
Cost Estimate Last FY	117
Present Cost Estimate	121
Approved Request Last FY	37
Total Expense & Encumbrances	12
Approval Request Year 1	38

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	0.28MGD

H. Map



Mattawoman WWTP Upgrades

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-75.21		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	**16,156**	5,978	1,309	**8,289**	3,633	2,596	854	398	404	404	580
Other											
Total	**16,156**	**5,978**	**1,309**	**8,289**	**3,633**	**2,596**	**854**	**398**	**404**	**404**	**580**

C. Funding Schedule (000's)

WSSC Bonds	**16,156**	5,978	1,309	**8,289**	3,633	2,596	854	398	404	404	580

D. Description & Justification

DESCRIPTION

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 Wastewater Treatment Plant. Current projects include: Influent/Effluent Pump Station Upgrades, Plant Automation, Electrical System Replacement, In-Plant Water System Improvement, Flow Equalization Study, Clarifier and Thickener Upgrades, Belt Filter Press Replacement, SCADA System Upgrade and Effluent PS Force Main Improvements.

JUSTIFICATION

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.

Agreement dated October 22, 1980; Agreement Addendum No. 1 dated April 15, 2004.

COST CHANGE

The expenditure schedule reflects the latest information provided by Charles County. The SCADA System project has been added.

OTHER

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 WWTP'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.

COORDINATION

Coordinating Agencies: Charles County Government; (Depts of Utilities, Planning & Growth Management, and Fiscal Services)

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$1,051	
Total Cost	$1,051	
Impact on Water and Sewer Rate	$0.02	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	760
Cost Estimate Last FY	14,323
Present Cost Estimate	16,156
Approved Request Last FY	3,305
Total Expense & Encumbrances	5,978
Approval Request Year 1	3,633

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

Karington Subdivision Sewer

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

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**100**	84	10	**6**	3	3					
Land											
Site Improvements & Utilities											
Construction	**482**	15	167	**300**	150	150					
Other	**73**		27	**46**	23	23					
Total	**655**	**99**	**204**	**352**	**176**	**176**					

C. Funding Schedule (000's)

Contribution/Other	**655**	99	204	**352**	176	176					

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	$16	20
Other Project Costs		
Debt Service		
Total Cost	$16	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

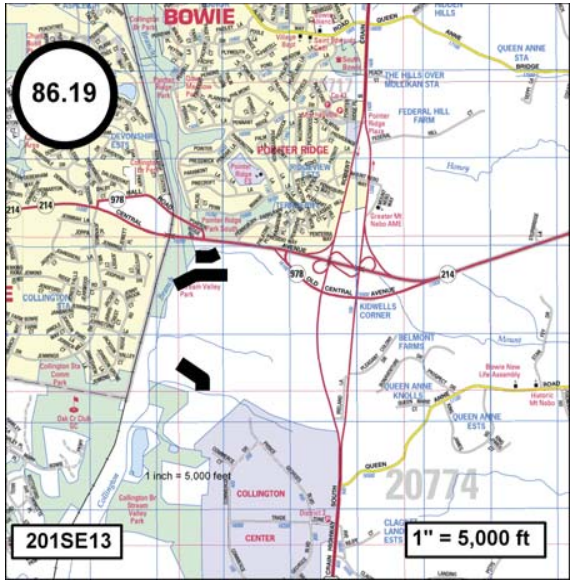
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	801
Cost Estimate Last FY	711
Present Cost Estimate	655
Approved Request Last FY	269
Total Expense & Encumbrances	99
Approval Request Year 1	176

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 WWTP Facility Upgrades

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-96.14		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**22,738**	4,588	4,681	**13,469**	3,742	3,666	4,113	1,705	125	118	
Land											
Site Improvements & Utilities											
Construction	**90,010**			**90,010**	2,918	30,908	38,414	15,260	1,325	1,185	
Other	**5,408**		234	**5,174**	333	1,729	2,126	848	73	65	
Total	**118,156**	**4,588**	**4,915**	**108,653**	**6,993**	**36,303**	**44,653**	**17,813**	**1,523**	**1,368**	

C. Funding Schedule (000's)

WSSC Bonds	**118,156**	4,588	4,915	**108,653**	6,993	36,303	44,653	17,813	1,523	1,368	

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of improvements at the Piscataway WWTP Facility 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.

JUSTIFICATION

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.

FY 2012 Piscataway WWTP Asset Management Plan, GHD, Inc. (March 2011); Piscataway WWTP Facility Plan, AECOM (January 2014).

COST CHANGE

Cost estimate has increased for the required electrical upgrades and raw wastewater pumping station upgrade.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B represent planning level estimates and may change based upon site conditions and design constraints. The Asset Management Group will determine the priority of the recommended projects.

COORDINATION

Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Prince George's County Department of Environmental Resources;

Coordinating Projects: S-43.02-Broad Creek WWPS Augmentation; S-170.08-Septage Discharge Facility Planning & Implementation;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$7,686	24
Total Cost	$7,686	24
Impact on Water and Sewer Rate	$0.17	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 12
Date First Approved	FY 12
Intial Cost Estimate	66,396
Cost Estimate Last FY	104,156
Present Cost Estimate	118,156
Approved Request Last FY	6,630
Total Expense & Encumbrances	4,588
Approval Request Year 1	6,993

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	5%
Est Completion Date	FY 2023

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

H. Map

MAP NOT AVAILABLE

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**157**	31	58	**68**	51	10	7				
Land											
Site Improvements & Utilities											
Construction	**585**		112	**473**	284	130	59				
Other	**107**		26	**81**	50	21	10				
Total	**849**	**31**	**196**	**622**	**385**	**161**	**76**				

C. Funding Schedule (000's)

Contribution/Other	**849**	31	196	**622**	385	161	76				

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	$45	21
Other Project Costs		
Debt Service		
Total Cost	$45	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

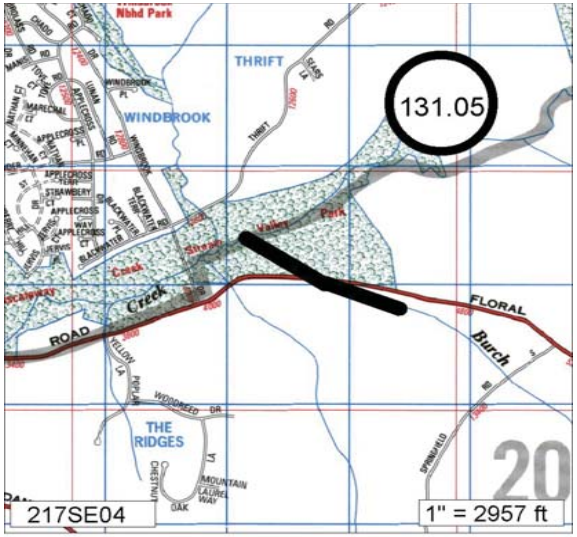
Date First in Program	FY 05
Date First Approved	FY 05
Intial Cost Estimate	586
Cost Estimate Last FY	825
Present Cost Estimate	849
Approved Request Last FY	375
Total Expense & Encumbrances	31
Approval Request Year 1	385

G. Status Information

Land Status	R/W acquired
Project Phase	Design
Percent Complete	60%
Est Completion Date	Developer Dependent

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**327**	50	151	**126**	105	21					
Land											
Site Improvements & Utilities											
Construction	**1,132**		245	**887**	722	165					
Other	**211**		59	**152**	124	28					
Total	**1,670**	**50**	**455**	**1,165**	**951**	**214**					

C. Funding Schedule (000's)

Contribution/Other	**1,670**	50	455	**1,165**	951	214					

D. Description & Justification

DESCRIPTION

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	$164	20
Other Project Costs		
Debt Service		
Total Cost	$164	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

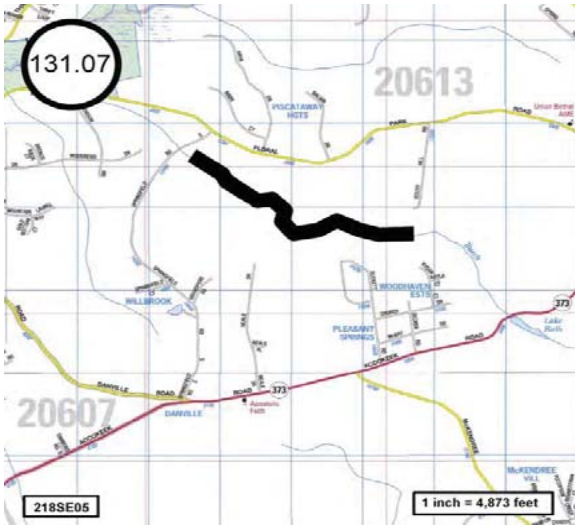
Date First in Program	FY 10
Date First Approved	FY 10
Intial Cost Estimate	1,303
Cost Estimate Last FY	1,623
Present Cost Estimate	1,670
Approved Request Last FY	923
Total Expense & Encumbrances	50
Approval Request Year 1	951

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**1,430**	1,040	97	**293**	234	59					
Land											
Site Improvements & Utilities											
Construction	**3,131**	1,350	462	**1,319**	1,044	275					
Other	**326**		84	**242**	192	50					
Total	**4,887**	**2,390**	**643**	**1,854**	**1,470**	**384**					

C. Funding Schedule (000's)

WSSC Bonds	**4,887**	2,390	643	**1,854**	1,470	384					

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 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

Costs were increased based on actual bid for Fort Washington Forest No. 1 WWPS.

OTHER

The project scope has remained the same. The expenditure and schedule projections shown above 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 2016. Land costs are included in WSSC project S-203.00.

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	$120	20
Other Project Costs		
Debt Service	$318	20
Total Cost	$438	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Intial Cost Estimate	1,454
Cost Estimate Last FY	4,575
Present Cost Estimate	4,887
Approved Request Last FY	1,547
Total Expense & Encumbrances	2,390
Approval Request Year 1	1,470

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Construction
Percent Complete	50%
Est Completion Date	March 2019

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

H. Map

MAP NOT AVAILABLE

PROJECTS PENDING CLOSE-OUT

Prince George's Sewer Projects

(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'16	Estimated Expenditures FY'17	Remarks
	S-57.93	Western Branch WWTP Enhanced Nutrient Removal	$42,399	$42,025	$374	Project completion expected in FY'17.
	S-77.19	Parkway WWTP Biosolids Facility Plan Implementation	32,535	32,381	154	Project completion expected in FY'17.
	S-87.15	Rodenhauser Wastewater Pumping Station	1,200	1,124	76	Project completion expected in FY'17.
	S-87.16	Rodenhauser WWPS Force Main	289	284	5	Project completion expected in FY'17.
	S-131.08	Preserves of Piscataway Wastewater Pumping Station	4	4	0	Project cancelled at the request of the Applicant.
	S-131.09	Preserves of Piscataway WWPS Force Main	6	6	0	Project cancelled at the request of the Applicant.
		TOTALS	$76,433	$75,824	$609	

Section 7 - Information Only Projects

DATE: October 1, 2016

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

INFORMATION ONLY PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 16	EST. EXPEND 17	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 18	YR 2 19	YR 3 20	YR 4 21	YR 5 22	YR 6 23		
W-1.00	Water Reconstruction Program	833,342	0	107,474	725,868	111,956	116,721	119,342	123,560	125,302	128,987	0	7-2
S-1.01	Sewer Reconstruction Program	465,315	0	57,066	408,249	63,114	65,009	66,957	68,967	71,034	73,168	0	7-3
A-102.00	Engineering Support Program	125,000	0	17,000	108,000	18,000	18,000	18,000	18,000	18,000	18,000	0	7-4
A-103.00	Energy Performance Program	34,288	0	9,194	24,764	18,249	6,075	110	110	110	110	330	7-5
A-104.00	Entrepreneurial Projects	40,629	0	23	12,553	2,386	1,723	194	3,956	770	3,524	28,053	7-7
A-105.00	Water Storage Facility Rehabilitation Program	54,000	0	6,000	48,000	8,000	8,000	8,000	8,000	8,000	8,000	0	7-8
A-107.00	Specialty Valve Vault Rehabilitation Program	35,495	17,849	8,364	7,678	1,898	1,935	1,097	1,152	1,079	517	1,604	7-9
A-109.00	Advanced Metering Infrastructure	92,105	875	500	90,730	6,950	27,151	27,151	27,151	2,327	0	0	7-10
A-145.01	Brighton Dam Operations & Maintenance Facility and Site Improvements	6,752	715	949	5,088	3,594	1,494	0	0	0	0	0	7-11
S-300.01	D'Arcy Park North Relief Sewer	874	90	253	531	268	263	0	0	0	0	0	7-12
	TOTAL INFORMATION ONLY PROJECTS	1,687,800	19,529	206,823	1,431,461	234,415	246,371	240,851	250,896	226,622	232,306	29,987	

Water Reconstruction Program

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-1.00		Change

PDF Date	October 1, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**155,005**		20,669	**134,336**	21,121	21,191	22,890	22,210	23,136	23,788	
Land	**0**		0								
Site Improvements & Utilities											
Construction	**528,304**		68,010	**460,294**	70,569	74,520	74,900	79,087	79,432	81,786	
Other	**150,033**		18,795	**131,238**	20,266	21,010	21,552	22,263	22,734	23,413	
Total	**833,342**		**107,474**	**725,868**	**111,956**	**116,721**	**119,342**	**123,560**	**125,302**	**128,987**	

C. Funding Schedule (000's)

WSSC Bonds	**833,342**		107,474	**725,868**	111,956	116,721	119,342	123,560	125,302	128,987	

D. Description & Justification

DESCRIPTION

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 services, 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.

JUSTIFICATION

The program's projected work units and expenditure levels for FY'18 (including overhead) are as follows: design and construction of main replacement and associated water house connection renewals, 55 miles - $99.3M; cathodic protection - $4.7M; design and construction of large water service replacements - $8.0M. 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.

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.

COST CHANGE

Not applicable.

OTHER

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'16 summarize the magnitude of the reconstruction effort: 1,722 miles rehabilitated or replaced; 176 large water service/meters replaced. It is anticipated water reconstruction activity will be a perpetual element of future work programs.

COORDINATION

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;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$54,210	24
Total Cost	$54,210	24
Impact on Water and Sewer Rate	$1.17	24

F. Approval and Expenditure Data (000's)

Date First in Program	
Date First Approved	
Intial Cost Estimate	
Cost Estimate Last FY	713,042
Present Cost Estimate	833,342
Approved Request Last FY	100,226
Total Expense & Encumbrances	
Approval Request Year 1	111,956

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

Sewer Reconstruction Program

A. Identification and Coding Information

Agency Number	Project Number	Update Code
S-1.01		Change

PDF Date	October 1, 2016
Date Revised	May 11, 2017

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**100,531**		12,413	**88,118**	13,623	14,032	14,452	14,886	15,332	15,793	
Land											
Site Improvements & Utilities											
Construction	**318,252**		38,946	**279,306**	43,180	44,476	45,809	47,184	48,599	50,058	
Other	**46,532**		5,707	**40,825**	6,311	6,501	6,696	6,897	7,103	7,317	
Total	**465,315**		**57,066**	**408,249**	**63,114**	**65,009**	**66,957**	**68,967**	**71,034**	**73,168**	

C. Funding Schedule (000's)

WSSC Bonds	**465,315**		57,066	**408,249**	63,114	65,009	66,957	68,967	71,034	73,168	

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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'18 (including overhead) are as follows: 20 miles of mainline construction - $31.0M; 6 miles of lateral line construction and associated sewer house connection renewals - $29.2M; emergency repairs - $2.9M. Note: The specific mix and type of sewer reconstruction may vary in any given year depending on identified system defects.

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 FY2018 Buried WasteWater Asset Systems Asset Management Plan (December 2015).

COST CHANGE

The overall program cost estimate reflects the current plan for the completion of Phase 2 (Priority 2 and Priority 3) Consent Decree work.

OTHER

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'16 summarize the magnitude of this reconstruction effort: sewer main reconstruction, 442 miles; and sewer house connection renewals, 20,402. It is anticipated that sewer reconstruction activity will be a perpetual element of future work programs.

COORDINATION

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;

Coordinating Projects: S-170.09-Trunk Sewer Reconstruction Program;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$30,269	24
Total Cost	$30,269	24
Impact on Water and Sewer Rate	$0.68	24

F. Approval and Expenditure Data (000's)

Date First in Program	
Date First Approved	
Intial Cost Estimate	
Cost Estimate Last FY	350,741
Present Cost Estimate	465,315
Approved Request Last FY	55,811
Total Expense & Encumbrances	
Approval Request Year 1	63,114

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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	**125,000**		17,000	**108,000**	18,000	18,000	18,000	18,000	18,000	18,000	
Other											
Total	**125,000**		**17,000**	**108,000**	**18,000**	**18,000**	**18,000**	**18,000**	**18,000**	**18,000**	

C. Funding Schedule (000's)

WSSC Bonds	**97,000**		13,000	**84,000**	14,000	14,000	14,000	14,000	14,000	14,000	
Water Operating Funds	**14,000**		2,000	**12,000**	2,000	2,000	2,000	2,000	2,000	2,000	
Sewer Operating Funds	**14,000**		2,000	**12,000**	2,000	2,000	2,000	2,000	2,000	2,000	

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

ESP projects may be identified in Asset Management Plans or result from direct requests from the Utility Services and Production Teams for engineering support. Support services are in the form of 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).

COST CHANGE

Annual funding level has been increased to address backlog of facilities requiring repair and rehabilitation.

OTHER

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.

COORDINATION

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	$6,310	24
Total Cost	$6,310	24
Impact on Water and Sewer Rate	$0.14	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 87
Date First Approved	FY 87
Intial Cost Estimate	
Cost Estimate Last FY	105,000
Present Cost Estimate	125,000
Approved Request Last FY	17,000
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

Energy Performance Program

A. Identification and Coding Information

Agency Number	Project Number	Update Code
A-103.00		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**6,067**		3,341	**2,426**	1,526	500	100	100	100	100	300
Land											
Site Improvements & Utilities											
Construction	**25,115**		5,023	**20,092**	15,069	5,023					
Other	**3,106**		830	**2,246**	1,654	552	10	10	10	10	30
Total	**34,288**		**9,194**	**24,764**	**18,249**	**6,075**	**110**	**110**	**110**	**110**	**330**

C. Funding Schedule (000's)

WSSC Bonds	**32,198**		8,619	**23,579**	17,674	5,905					
Contribution/Other	**1,200**		515	**685**	515	170					
Water Operating Funds	**344**		60	**188**	60		32	32	32	32	96
Sewer Operating Funds	**546**			**312**			78	78	78	78	234

D. Description & Justification

DESCRIPTION

This program provides for the engineering audit, design, construction, and measurement and verification necessary to replace and upgrade energy consuming equipment and systems at major Commission facilities. All projects included in the program will provide a reduction in energy and energy-related costs (electricity, fuel oil, natural gas, or other fuel). The program will maintain or enhance existing operating conditions and reliability while continuing to meet all permit requirements and ensuring a continued commitment to environmental stewardship at WSSC sites. Energy conservation measures may include, but are not limited to, the replacement or upgrade of water and wastewater process equipment, aeration equipment, mixers, piping, valves and motors, sludge dewatering/thickening equipment, grit removal, effluent disinfection systems, wastewater pumps, water pump/valve/motor replacement and rebuild, pump instrumentation, flow metering, power measurement, incinerator upgrades, peak shaving and backup power generation systems, variable speed drives, HVAC equipment/systems, and lighting. A baseline is established for each energy conservation measure to identify energy usage and costs before the energy conservation measures (equipment upgrades) are implemented. After all construction is completed and accepted by the WSSC, the combined baseline for all energy conservation measures will be compared annually to the actual energy savings to quantify the savings. The program will be completed in multiple phases. Additional details on each phase are included in the "Justification" section below.

JUSTIFICATION

Phases I-A and I-B of the Energy Performance Program were awarded to Constellation Energy Projects and Services (CEPS) in March 2001. Phase I-A included detailed engineering audits, supply analysis, engineering, and planning of equipment and operations upgrades to develop an energy efficient and guaranteed savings program Commission-wide. The Phase II-A implementation project, awarded in December 2002 and completed in May 2006, included detailed design, construction, maintenance, savings monitoring, and energy/energy-related savings guarantee at the Western Branch, Parkway, Piscataway, and Damascus WWTPs and the RGH Office Building. The Phase II-B implementation project was awarded to CEPS in August 2006, and included detailed design, construction, maintenance, savings monitoring, and energy/energy-related savings guarantee for incinerator upgrades at the Western Branch WWTP, backup engine-generation system at the Seneca WWTP, and the addition of smaller, more efficient pumps at the Anacostia No. 2 WWPS to handle average dry daily flows. The construction of the Seneca and Anacostia components were completed in October 2008. Incinerator upgrades at the Western Branch WWTP were completed in January 2011. Projects included in Phases II-A and II-B were guaranteed by CEPS to reduce energy-related costs. The guaranteed reduction included annual avoided energy costs as well as operations and maintenance, chemicals, and biosolids disposal cost savings. CEPS was responsible to pay the WSSC for any yearly shortfall if the total guaranteed savings figure was not achieved. If the actual savings exceeded the guaranteed amount, then WSSC would have retained the savings on a yearly basis. The energy savings for projects completed under Phase II-A and II-B have surpassed the contract's guaranteed amount of $1,000,000 per year.

Phase II-C, awarded in March 2004, included the supply of electricity generation and transmission for a period of 15 years. Phase II-C was amended in December 2006 to include 30% of generation from renewable wind power at a fixed price for a 10-year period under a Power Purchase Agreement (PPA), starting in 2008. Phase II-C, including the amendment for wind energy, did not involve any capital funds.

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$2,095	
Total Cost	$2,095	
Impact on Water and Sewer Rate	$0.05	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 03
Date First Approved	FY 03
Intial Cost Estimate	22,200
Cost Estimate Last FY	66,435
Present Cost Estimate	34,288
Approved Request Last FY	18,210
Total Expense & Encumbrances	
Approval Request Year 1	18,249

G. Status Information

Land Status	Public/Agency owned land
Project Phase	On-Going
Percent Complete	
Est Completion Date	(See "Specific Data" for details.)

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Energy Performance Program

Phase I-D, awarded to Energy Systems Group (ESG) in March 2009, provided for instrumentation, pump replacement, pump rebuild, and valve and piping modifications at the Raw Water Pumping and Main Zone Pumping Stations located within the Potomac Water Filtration Plant (WFP). Following completion of an initial engineering analysis and additional pump tests, the Commission accepted ESG's Phase II-D proposal in December 2010 for the rehabilitation of 5 raw water (RW) pumps and 1 Main Zone (MZ) pump, reconditioning of electric motors for the 6 pumps, new instrumentation for all the RW, MZ, and High Zone (HZ) pumps, commissioning, training, energy savings guarantee, and measurement and verification of energy savings for 10 years. Phase II-D total program cost (over 10 years) will be 100% paid from guaranteed energy savings, avoid future capital expenditures, and improve plant reliability. Construction was completed in April 2013. PEPCO contributed $465,000 in capital rebates over the two-year construction period as part of its Commercial & Industrial Energy Efficiency Program. The remaining pumps in the Main and High Zones Pumping Stations (as well as in the Raw Water Zone Pumping Station) are 30-50 years old and will have reached the end of their useful life in the next 5-10 years. New instrumentation included in Phase II-D (power monitors to measure amperage, voltage, power factor, kW, and discharge pressure transmitters for the RW pumps and differential pressure transmitters for the MZ and HZ pumps) will more accurately monitor and track pump efficiency, allowing WSSC to identify and prioritize the replacement of additional pumps, motors, and variable frequency drives based upon efficiency and reliability data.

Phase II-E provides for the supply of on-site generated photo-voltaic (PV) solar power at a rate competitive with conventional or "brown" power. A Solar PV Study completed in May 2010 concluded that the optimum form of constructing a Solar PV System at WSSC sites was through a Power Purchase Agreement (PPA), similar to WSSC's existing Wind Farm Agreement. PPA allows for tax benefits, shorter lead time, lower capital costs, and third party responsibility for operations, maintenance and repair. Under this arrangement, the WSSC negotiated a long-term (20 year) agreement with solar power provider Washington Gas Energy Systems to buy electricity at a fixed rate/kWh with a provision for annual escalation. Renewable Energy Credits (RECs) are transferred to the solar provider (as part of the fixed electricity price) to generate the revenue required for the solar provider to offer a low enough rate to the WSSC that would be competitive (lower than brown power). Under the agreement, the entire capital cost of the Solar PV System is the responsibility of the solar provider. The contract was awarded to Standard Solar and Washington Gas Energy Services in October 2012. Construction of the solar arrays at Seneca and Western Branch was completed in September 2013, and both solar sites became operational on October 1, 2013. Solar Phase 1 consisted of 2 MW each at Seneca and Western Branch WWTP; 21% of the total electric energy use at Seneca, and 12% of the total electric energy use at Western Branch. Solar Phase 2 is under review to add 2 MW at Seneca and 4 MW at two off-site locations, exported via aggregate net-energy metering, also via power purchase agreement.

The Phase I-F ESCO contract awarded in January 2014 provides for an engineering audit, feasibility, conceptual design and development of a comprehensive proposal for the programs and projects for energy efficient HVAC and lighting upgrades at field offices, upgrades to water distribution and wastewater pumps, and additional upgrades at water and wastewater treatment plants. Phase II-F will provide for the detailed design, construction, energy guarantee, maintenance, measurement and verification of energy efficiency programs and projects at various WSSC water and wastewater treatment facilities. The Phase II-F proposal resulting from the Phase I-F audit includes Energy Conservation Measures for replacement of the Potomac WFP Main Zone Pump #1, as well as replacement of the No. 7 and 8 High Zone Pump drives with variable frequency drives. Piscataway WWTP is recommended to receive new Train 1 & 2 aeration system blowers and diffusers, as well as new mixers. New utility water pumps are proposed for Parkway WWTP, and a jockey blower is recommended for Damascus WWTP to improve the efficiency of the aeration process. Additional proposed Energy Conservation Measures include lighting, building envelope upgrades, and HVAC controls tuning which have been recommended for WSSC's RGH Headquarters building, as well as for various field offices. Eligible energy efficient rebates from BGE, Pepco and SMECO totalling approximately $1.2 million are expected to subsidize the construction cost of the project. It is anticipated that Phase II-F will be awarded in late 2016.

Stearns & Wheler, Western Branch Study BNR Modifications (Cyclical Aeration) (June 1996); Water Environment Federation, Energy Conservation for Wastewater Treatment Facilities (1997); EMA, WSSC Operations Branch Competitiveness Assessment (January 1997); EMA, WSSC Adopt Best Practices Report, Competitive Action Plan, TPO Work Team (June 1999); Stearns & Wheler, Western Branch Aeration Study (July 2000); O'Brien & Gere Study, Potomac Filtration Plant Water Quality and Electric Reliability; Energy Information Administration (Department of Energy), Annual Energy Outlook 2002 with Projections to 2020 (December 2001); American Water Works Association Research Foundation, Best Practices for Energy Management; In-house Study (April 2002); 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. Expenditures shown for Planning, Design & Supervision include operating cost estimates for annual maintenance, warranty, performance bond, and monitoring and verification (M&V). The annual maintenance and M&V costs are estimated to continue for a period not exceeding 15 years. 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.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government;
Coordinating Projects: W-73.19-Potomac WFP Outdoor Substation No. 2 Replacement; S-96.14-Piscataway WWTP Facility Upgrades;

Entrepreneurial Projects

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-104.00		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Not Applicable;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	**36,935**		20	**11,411**	2,169	1,566	176	3,596	700	3,204	25,504
Other	**3,694**		3	**1,142**	217	157	18	360	70	320	2,549
Total	**40,629**		**23**	**12,553**	**2,386**	**1,723**	**194**	**3,956**	**770**	**3,524**	**28,053**

C. Funding Schedule (000's)

Contribution/Other	**40,629**		23	**12,553**	2,386	1,723	194	3,956	770	3,524	28,053

D. Description & Justification

DESCRIPTION

This project represents a consolidation of capital projects that generate additional revenues through the sale of products, services, and/or real property as part of an overall strategy to hold down rates for existing customers. Project currently reflects the Joint Base at Bolling (JBAB) Contract, No. SP0600-04-C-8250. Expenditures for renewal and replacement are expected to continue for the entire contract term.

JUSTIFICATION

Under the terms of the contract, the WSSC will own, operate and maintain the JBAB water and wastewater systems for a 50-year term (ending in June 2054); implement an Initial Capital Upgrades Plan to bring the systems up to WSSC standards; and then maintain that standard through a Renewals and Replacements Plan for the duration of the contract period.

"Replace/Add Water Mains and Valves, Project BXUR95-1042, Bolling Air Force Base" (July 1995); "Study Report for Project BXUR92-1221 Sanitary Sewer Main Study for Bolling Air Force Base" (March 1997); Bolling Infrastructure Master Plan; "Capital Upgrades and Renewals and Replacements Plan for Bolling AFB Water & Wastewater Systems," Malcolm Pirnie, Inc. (September 2000); WSSC Resolution Number 2003-1657 (October 2002); EPA Administrative Order (August 2012).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. All expenditures will be reimbursed in full by JBAB. Drinking water supply and wastewater treatment will continue to be supplied to JBAB by the District of Columbia Water and Sewer Authority. The project estimated completion date refers to the length of the contract - 50 years. Work associated with FS5294 (all sewer projects) has been postponed one year to FY'18 at the request of the Navy Facilities Command (NAVFAC) on JBAB.

COORDINATION

Coordinating Agencies: District of Columbia Water and Sewer Authority; Joint Base Anacostia-Bolling;
Coordinating Projects: Not Applicable

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 05
Date First Approved	FY 06
Intial Cost Estimate	3,900
Cost Estimate Last FY	45,023
Present Cost Estimate	40,629
Approved Request Last FY	2,891
Total Expense & Encumbrances	
Approval Request Year 1	2,386

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	10%
Est Completion Date	FY 2054

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	N/A

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, 2016
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	**54,000**		6,000	**48,000**	8,000	8,000	8,000	8,000	8,000	8,000	
Other											
Total	**54,000**		**6,000**	**48,000**	**8,000**	**8,000**	**8,000**	**8,000**	**8,000**	**8,000**	

C. Funding Schedule (000's)

WSSC Bonds	**54,000**		6,000	**48,000**	8,000	8,000	8,000	8,000	8,000	8,000	

D. Description & Justification

DESCRIPTION

The Water Storage Facility Rehabilitation Program provides for the comprehensive rehabilitation of the Commission's 59 water storage facilities located throughout the WSSC service area holding 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. EXPENDITURES FOR WATER STORAGE REHABILITATION ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION

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. It is expected that the old coatings will need to be completely removed and costly lead abatement techniques will be required in many cases. The recommended practice is to do this extra work every third re-coating to extend the service life of the structure. Today's coating systems should extend the length of service between coatings from the current 10 years to somewhere between 15 to 20 years.

COST CHANGE

Costs were increased to reflect the Strategic Sourcing Team's recommendation for a new Indefinite Delivery Indefinite Quantity (IDIQ) contract for project delivery. The new sourcing strategy, approved at the April 2016 Commission meeting, will shorten the turnaround time, accelerating the water storage rehabilitation projects to help reduce the current backlog.

OTHER

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'18 will address the following water storage facilities: Andrews, Bradley Hills, Brink, Greenbelt, North Woodside, St. Barnabas, Pointer Ridge, Camp Springs, Damascus, Wall Lane and Cedar Heights.

COORDINATION

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	$3,513	24
Total Cost	$3,513	24
Impact on Water and Sewer Rate	$0.08	24

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Intial Cost Estimate	18,000
Cost Estimate Last FY	35,000
Present Cost Estimate	54,000
Approved Request Last FY	5,000
Total Expense & Encumbrances	
Approval Request Year 1	8,000

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

Specialty Valve Vault Rehabilitation Program

A. Identification and Coding Information

Agency Number	Project Number	Update Code
A-107.00		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**8,662**	6,378	717	**1,408**	383	300	193	246	193	93	159
Land											
Site Improvements & Utilities											
Construction	**25,228**	11,471	6,887	**5,571**	1,342	1,459	804	801	788	377	1,299
Other	**1,605**		760	**699**	173	176	100	105	98	47	146
Total	**35,495**	**17,849**	**8,364**	**7,678**	**1,898**	**1,935**	**1,097**	**1,152**	**1,079**	**517**	**1,604**

C. Funding Schedule (000's)

WSSC Bonds	**35,495**	17,849	8,364	**7,678**	1,898	1,935	1,097	1,152	1,079	517	1,604

D. Description & Justification

DESCRIPTION

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.

JUSTIFICATION

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 Central Avenue Supply and Throttling Valves are currently in construction and will modify the valves and piping on 60-inch and 84-inch diameter mains at the Central Avenue Pumping Station which will improve operational flexibility and reliability at the pumping station.

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).

COST CHANGE

The cost increase reflects the bid price for work at the Central Avenue Vaults and the addition of another vault to the program.

OTHER

The project scope has remained the same; additional vaults may be added to or removed from the program. Land and rights-of-way costs are included in WSSC Project W-202.00. 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.

COORDINATION

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	$2,309	
Total Cost	$2,309	
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
Intial Cost Estimate	17,560
Cost Estimate Last FY	33,147
Present Cost Estimate	35,495
Approved Request Last FY	7,053
Total Expense & Encumbrances	17,849
Approval Request Year 1	1,898

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Construction
Percent Complete	30%
Est Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Advanced Metering Infrastructure

A. Identification and Coding Information

Agency Number	Project Number	Update Code
A-109.00		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	**92,105**	875	500	**90,730**	6,950	27,151	27,151	27,151	2,327		
Other											
Total	**92,105**	**875**	**500**	**90,730**	**6,950**	**27,151**	**27,151**	**27,151**	**2,327**		

C. Funding Schedule (000's)

WSSC Bonds	**92,105**	875	500	**90,730**	6,950	27,151	27,151	27,151	2,327		

D. Description & Justification

DESCRIPTION

This project provides for the implementation of a system-wide automated meter reading infrastructure system (System). 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.

JUSTIFICATION

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.

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 & 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).

COST CHANGE

Costs were increased for inflation.

OTHER

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; 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 and 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 upgrade of the Commission's Customer Service Information System (CSIS) is completed. Pilot testing of the latest technology is underway.

COORDINATION

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	$5,992	23
Total Cost	$5,992	23
Impact on Water and Sewer Rate	$0.13	23

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Intial Cost Estimate	86,000
Cost Estimate Last FY	89,500
Present Cost Estimate	92,105
Approved Request Last FY	960
Total Expense & Encumbrances	875
Approval Request Year 1	6,950

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	15%
Est Completion Date	FY 2022

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Brighton Dam Operations & Maintenance Facility and Site Improvements

A. Identification and Coding Information

Agency Number	Project Number	Update Code
A-145.01		Change

PDF Date	October 1, 2016
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Montgomery County PA;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**965**	715	75	**175**	125	50					
Land											
Site Improvements & Utilities											
Construction	**4,999**		750	**4,249**	3,000	1,249					
Other	**788**		124	**664**	469	195					
Total	**6,752**	**715**	**949**	**5,088**	**3,594**	**1,494**					

C. Funding Schedule (000's)

WSSC Bonds	**6,752**	715	949	**5,088**	3,594	1,494					

D. Description & Justification

DESCRIPTION

This project provides for the replacement of two existing facilities with a new ADA compliant 4,100 square foot facility with office space for 14 employees. The project also includes a new parking configuration to facilitate visiting groups, relocation of existing fuel facilities and a new underground water storage tank to provide fire protection for the new facility and nearby residents. Green initiatives such as water reclamation and LEED building guidelines are also being considered in the design.

JUSTIFICATION

The Patuxent Watershed Unit stationed at Brighton Dam has been staffed in a double wide trailer since the early 1990's. The existing facilities have several problems including but not limited to: the presence of mold, ventilation deficiencies and structural issues. The existing visitor center is subject to insect infestation and inadequate compliance with ADA standards. Traffic flow at the facility is constricted and unsafe during peak demand periods. The fuel pump location is highly visible and is not secured. The current state of the existing facilities necessitates replacement. In addition to facility replacement, the project includes comprehensive site improvement work to address septic/well system capacities, site access and traffic/parking, and relocation of the existing fueling station to a more secure location within the premises.

Memorandum from James Neustadt, Director of Communication to Gary Gumm, Chief Engineer, (July 28, 2011); Memorandum from Karen Wright, System Control Group Leader, to James Price, Chief of Plant Operations (May 12, 2012); Basis of Design Report, Mimar Architects (April, 2015).

COST CHANGE

Not applicable.

OTHER

The project scope remains the same. The expenditure and schedule projections shown in Block B above are design level estimates and may change based upon actual bid. The offices at Brighton Dam provide WSSC with high visibility for security of the dam, enhanced community engagement and education, efficient maintenance of the property and amenities, and rapid emergency response capabilities within the watershed. A study has confirmed the land is suitable for a new septic system utilizing Best Management Practices for Nitrogen removal and the adequacy of the existing well to meet occupancy and use demands.

COORDINATION

Coordinating Agencies: Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Montgomery County Government; (Anticipates Mandatory Referral Submissions); Howard County Government;

Coordinating Projects: W-139.02-Duckett & Brighton Dam Upgrades;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$439	20
Total Cost	$439	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 17
Date First Approved	FY 17
Intial Cost Estimate	6,448
Cost Estimate Last FY	6,448
Present Cost Estimate	6,752
Approved Request Last FY	1,357
Total Expense & Encumbrances	715
Approval Request Year 1	3,594

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	95%
Est Completion Date	April 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

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, 2016
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Suitland-District Heights & Vicinity PA

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'16	Estimate FY'17	Total 6 Years	Year 1 FY'18	Year 2 FY'19	Year 3 FY'20	Year 4 FY'21	Year 5 FY'22	Year 6 FY'23	Beyond 6 Years
Planning, Design & Supervision	**267**	90	91	**86**	45	41					
Land											
Site Improvements & Utilities											
Construction	**505**		129	**376**	188	188					
Other	**102**		33	**69**	35	34					
Total	**874**	**90**	**253**	**531**	**268**	**263**					

C. Funding Schedule (000's)

Contribution/Other	**874**	90	253	**531**	268	263					

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 planning level estimates and may change depending upon site-specific conditions and design constraints. 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; 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	$18	20
Other Project Costs		
Debt Service		
Total Cost	$18	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

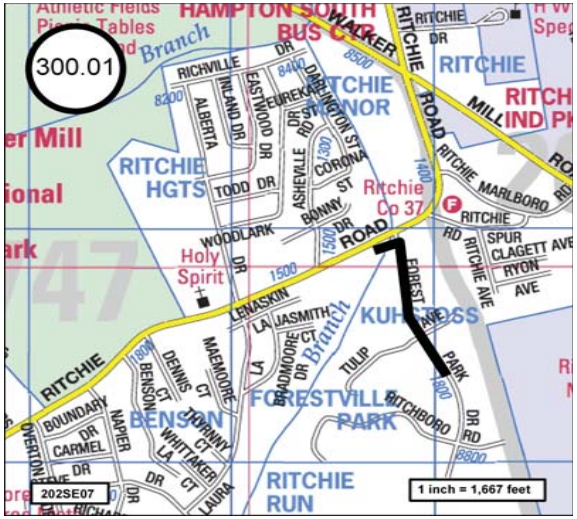
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	824
Cost Estimate Last FY	849
Present Cost Estimate	874
Approved Request Last FY	259
Total Expense & Encumbrances	90
Approval Request Year 1	268

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



Appendices

RESOLUTION NO. 2017-2157
Adopted: June 21, 2017
Effective Date: July 1, 2017

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 General Assembly enacted House Bill 883, Chapter 559, Laws of Maryland 1993, System Development Charge legislation during its 1993 Session, a bill which provides the enabling authority for the Montgomery and Prince George's County Councils to establish a fee which will be paid by applicants for new service; and

WHEREAS, the Maryland General Assembly enacted House Bill 832, Chapter 713, Laws of Maryland 1998, System Development Charge legislation during its 1998 Session, a bill which, among other things, alters the schedule for the payment of the System Development Charge to the Commission for certain properties; establishes a new maximum System Development Charge per fixture unit; allows for and limits the amount of certain exemptions; establishes a maximum System Development Charge based on the number of toilets per dwelling; authorizes a change in the maximum System Development Charge for certain residential units based on the number of toilets per dwelling; and

WHEREAS, the Maryland General Assembly enacted House Bill 636, Chapter 124, Laws of Maryland 2013, System Development Charge legislation during its 2013 session, a bill which allows partial exemptions to certain properties used primarily for recreational and educational programs and services to youth; 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

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Adopted: June 21, 2017
Effective Date: July 1, 2017

WHEREAS, the System Development Charge is a component of the Commission's Fiscal Year 2018 capital and operating budgets prepared pursuant to §17-202, Division II of the Public Utilities Article, Annotated Code of Maryland; and

WHEREAS, the Commission last modified the System Development Charge effective July 1, 2016 by Commission Resolution No. 2016-2127; 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, Chapter 713, 1998 Laws of Maryland 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, effective July 1, 1998; and

WHEREAS, Chapter 713, 1998 Laws of Maryland further 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 1.2% from November 2015 to November 2016; and

WHEREAS, the Commission recommends keeping the System Development Charge rates unchanged for FY'18. However, the Commission recommends increasing the maximum allowable charge by 1.2% from FY'17 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 have approved the modifications to the System Development Charge set forth below; and

WHEREAS, the Maryland General Assembly enacted HB 335, Chapter 563, Laws of Maryland 2017, that authorizes the County Councils of Prince George's County and Montgomery County to grant a system development charge exemption to property that is used primarily for child care or after-school care and primarily for programs and services for developmentally disabled individuals; and

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WHEREAS, the County Councils of Prince George's County and Montgomery County may adopt resolutions that would further define those child care or after-school care and developmentally disabled programs that would qualify for the exemptions; and

WHEREAS, the Commission will adopt a fee schedule for the new exemptions under HB 335 after adoption of those council resolutions.

NOW, THEREFORE, BE IT RESOLVED THIS 21st day of June, 2017, 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:

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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; 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.

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 exempt from taxation under § 501(c)(3) of the Internal Revenue Code; and as more fully 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) Public Sponsored or Affordable Housing means 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.

13) Residential Unit means any housing unit defined in Paragraphs 1, 5, and 8 above used as a residence.

14) 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.

15) System Development Charge means that charge imposed by the Commission pursuant to the provisions of §25-403, Division II of the Public Utilities Article, Annotated Code of Maryland. (Maximum allowable System Development Charge is the maximum charge authorized by law, but not necessarily imposed in a given year.)

16) Toilet is a water closet as set forth in the WSSC Plumbing and Fuel Gas Code; and

17) 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

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 between successive operations; and

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BE IT FURTHER RESOLVED, that the System Development Charge rates for FY'18 shall be as follows:

Property Type	FY'18 Charge	Maximum Allowable Charge
Apartment Unit		
Water	$896	$1,289
Sewer	1,140	1,643
1-2 Toilets / Residential		
Water	1,344	1,937
Sewer	1,710	2,461
3-4 Toilets / Residential		
Water	2,240	3,227
Sewer	2,850	4,105
5 Toilets / Residential		
Water	3,135	4,517
Sewer	3,991	5,749
6 or More Toilets / Residential*		
Water	88	128
Sewer	115	167
Non-Residential*		
Water	88	128
Sewer	115	167

*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

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

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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 System Development Charge shall be waived for any public sponsored or affordable housing as defined in Schedule A; and

BE IT FURTHER RESOLVED, that the System Development Charge shall, subject to the below provisions of this Resolution No. 2017-2157, be waived for Revitalization projects as defined in Schedule B; and

BE IT FURTHER RESOLVED, that the System Development Charge partial exemptions for Elderly Housing are established by Schedule E; and

BE IT FURTHER RESOLVED, that the System Development charge, subject to the below provisions of this Resolution No. 2017-2157, be waived, up to $80,000, 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 System Development Charge partial exemptions for Biotechnology Research and Development or Manufacturing shall be $18 per water supply fixture with an assigned fixture unit value of 1 and $25 per drainage fixture with an assigned drainage fixture unit value of 1, or $43 per combined fixture unit value; and

BE IT FURTHER RESOLVED, that the County Councils of Prince George's and Montgomery Counties may adopt implementing resolutions for System Development Charge partial exemptions for Biotechnology Research and Development or Manufacturing, Elderly Housing, and Property Used Primarily for Recreational and Educational Programs and Services to Youth as defined in Schedules C, D, and F and the System Development Charge full exemption for Revitalization as defined in Schedule B. The amount of the aforementioned full and partial exemptions authorized by this Resolution No. 2017-2157 for individual properties or projects may be limited by the provisions of the aforementioned Council resolutions. In addition, the aforementioned full and partial exemptions authorized by this Resolution No. 2017-2157, except those granted for affordable housing (as defined on Schedule A), shall not take effect unless and until the Council for the County in which the exempted project is located adopts the said implementing resolution; and

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

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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. 2016-2127 adopted June 15, 2016 on the same subject matter be, and the same is hereby superseded by this Commission Resolution No. 2017-2157; and

BE IT FURTHER RESOLVED, that the System Development Charge established herein shall take effect on July 1, 2017.

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

1) "Revitalization" a project any 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 4, 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:

(20.1) Assisted Living Facility
(54) Congregate Living Facility
(151.1) 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	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:

(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 56-32 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).

2.12 Residential Unit means any housing unit defined in Paragraphs 2.1, 2.4, and 2.6 above used as a residence.

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

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:

(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

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

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: _____ Date: _____
(Title)

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) (Seal)

Address

(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 Supercedes CUS 94-03	Lucretia Morris Acting Corp 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

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 Section3.6). 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

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

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

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

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

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

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.

Distribution List:

MASTER VOLUME LIST:

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Secretary's Office
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Project Delivery Group
Regulatory Services Group
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	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.

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 mgd [the capacity added by the new pumping station] plus 0.2 mgd [the amount of lost available capacity] divided by 1.5 mgd [the total capacity of the new pumping station] = 47%. (Step 3)

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)

DISTRIBUTION:
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Bureau of Operations
MBE Officer

WASHINGTON SUBURBAN SANITARY COMMISSION
ADOPTED FYS 2018 - 2023 CIP
SDC ELIGIBLE PROJECTS
SUMMARY
(In Thousands)

PROGRAM NAME	TOTAL COST	FY 2016	FY 2017	TOTAL 6 YEARS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	BEYOND 6 YEARS
MONTGOMERY COUNTY WATER PROJECTS											
Total Project Costs *	$17,411	$5,576	$2,496	$9,339	$7,159	$1,646	$534	$0	$0	$0	$0
SDC Eligible Costs	$17,411	$5,576	$2,496	$9,339	$7,159	$1,646	$534	$0	$0	$0	$0
BI-COUNTY WATER PROJECTS											
Total Project Costs *	$146,900	$140,254	$2,344	$4,302	$3,208	$896	$170	$18	$10	$0	$0
SDC Eligible Costs	$144,909	$139,554	$1,930	$3,425	$3,033	$392	$0	$0	$0	$0	$0
PRINCE GEORGE'S COUNTY WATER PROJECTS											
Total Project Costs *	$280,234	$50,468	$42,594	$175,936	$65,662	$50,509	$18,871	$14,485	$13,205	$13,204	$11,236
SDC Eligible Costs	$203,604	$32,590	$33,474	$130,525	$57,060	$45,283	$12,553	$6,106	$4,762	$4,761	$7,015
TOTAL WATER PROJECT COSTS	**$444,545**	**$196,298**	**$47,434**	**$189,577**	**$76,029**	**$53,051**	**$19,575**	**$14,503**	**$13,215**	**$13,204**	**$11,236**
TOTAL WATER SDC ELIGIBLE COSTS	**$365,924**	**$177,720**	**$37,900**	**$143,289**	**$67,252**	**$47,321**	**$13,087**	**$6,106**	**$4,762**	**$4,761**	**$7,015**
MONTGOMERY COUNTY SEWERAGE PROJECTS											
Total Project Costs *	$41,981	$5,976	$4,730	$31,275	$14,223	$13,776	$3,276	$0	$0	$0	$0
SDC Eligible Costs	$41,981	$5,976	$4,730	$31,275	$14,223	$13,776	$3,276	$0	$0	$0	$0
BI-COUNTY SEWERAGE PROJECTS											
Total Project Costs *	$405	$0	$220	$185	$95	$30	$15	$15	$15	$15	$0
SDC Eligible Costs	$195	$0	$165	$30	$15	$15	$0	$0	$0	$0	$0
PRINCE GEORGE'S COUNTY SEWERAGE PROJECTS											
Total Project Costs *	$188,577	$108,004	$39,116	$41,457	$20,650	$13,521	$6,061	$40	$675	$510	$0
SDC Eligible Costs	$158,660	$90,550	$32,740	$35,370	$17,623	$11,470	$5,052	$40	$675	$510	$0
TOTAL SEWERAGE PROJECT COSTS	**$230,963**	**$113,980**	**$44,066**	**$72,917**	**$34,968**	**$27,327**	**$9,352**	**$55**	**$690**	**$525**	**$0**
TOTAL SEWERAGE SDC ELIGIBLE COSTS	**$200,836**	**$96,526**	**$37,635**	**$66,675**	**$31,861**	**$25,261**	**$8,328**	**$40**	**$675**	**$510**	**$0**
TOTAL PROJECT COSTS	**$675,508**	**$310,278**	**$91,500**	**$262,494**	**$110,997**	**$80,378**	**$28,927**	**$14,558**	**$13,905**	**$13,729**	**$11,236**
TOTAL SDC ELIGIBLE COSTS	**$566,760**	**$274,246**	**$75,535**	**$209,964**	**$99,113**	**$72,582**	**$21,415**	**$6,146**	**$5,437**	**$5,271**	**$7,015**

*** 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).

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SDC ELIGIBLE PROJECTS
(In Thousands)

PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2016	FY 2017	TOTAL 6 YEARS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	BEYOND 6 YEARS
	WATER PROJECTS											
BI-COUNTY PROJECTS												
W-127.01	BI-COUNTY WATER TUNNEL	$142,371	$140,254	$1,284	$833	$833	$0	$0	$0	$0	$0	$0
	TOTAL GROWTH COSTS	141,671	139,554	1,284	833	833	0	0	0	0	0	0
W-202.00	LAND & RIGHTS-OF-WAY ACQUISITION - BI-COUNTY WATER	4,529	0	1,060	3,469	2,375	896	170	18	10	0	0
	TOTAL GROWTH COSTS	3,238	0	646	2,592	2,200	392	0	0	0	0	0
SUBTOTAL BI-COUNTY WATER PROJECTS		**$146,900**	**$140,254**	**$2,344**	**$4,302**	**$3,208**	**$896**	**$170**	**$18**	**$10**	**$0**	**$0**
SUBTOTAL BI-COUNTY SDC ELIGIBLE COSTS		**$144,909**	**$139,554**	**$1,930**	**$3,425**	**$3,033**	**$392**	**$0**	**$0**	**$0**	**$0**	**$0**
MONTGOMERY COUNTY PROJECTS												
W-46.14	CLARKSBURG AREA STAGE 3 WATER MAIN, PARTS 1, 2, & 3	$6,077	$2,890	$805	$2,382	$1,845	$469	$68	$0	$0	$0	$0
	TOTAL GROWTH COSTS	6,077	2,890	805	2,382	1,845	469	68	0	0	0	0
W-46.15	CLARKSBURG ELEVATED WATER STORAGE FACILITY	5,757	673	1,262	3,822	3,281	541	0	0	0	0	0
	TOTAL GROWTH COSTS	5,757	673	1,262	3,822	3,281	541	0	0	0	0	0
W-46.24	CLARKSBURG AREA STAGE 3 WATER MAIN, PART 4	3,905	2,013	429	1,463	569	483	411	0	0	0	0
	TOTAL GROWTH COSTS	3,905	2,013	429	1,463	569	483	411	0	0	0	0
W-46.25	CLARKSBURG AREA STAGE 3 WATER MAIN, PART 5	1,672	0	0	1,672	1,464	153	55	0	0	0	0
	TOTAL GROWTH COSTS	1,672	0	0	1,672	1,464	153	55	0	0	0	0
SUBTOTAL MONTGOMERY COUNTY WATER PROJECTS		**$17,411**	**$5,576**	**$2,496**	**$9,339**	**$7,159**	**$1,646**	**$534**	**$0**	**$0**	**$0**	**$0**
SUBTOTAL MONTGOMERY COUNTY SDC ELIGIBLE COSTS		**$17,411**	**$5,576**	**$2,496**	**$9,339**	**$7,159**	**$1,646**	**$534**	**$0**	**$0**	**$0**	**$0**
PRINCE GEORGE'S COUNTY PROJECTS												
W-34.02	OLD BRANCH AVENUE WATER MAIN	$23,510	$1,850	$62	21,598	$8,640	$8,638	$4,320	$0	$0	$0	$0
	TOTAL GROWTH COSTS	11,755	925	31	10,799	4,320	4,319	2,160	0	0	0	0
W-34.03	WATER TRANSMISSION IMPROVEMENTS 385B PRESSURE ZONE	30,240	1,200	220	28,820	13,365	11,055	3,300	1,100	0	0	0
	TOTAL GROWTH COSTS	30,240	1,200	220	28,820	13,365	11,055	3,300	1,100	0	0	0

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(In Thousands)

PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2016	FY 2017	TOTAL 6 YEARS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	BEYOND 6 YEARS
PRINCE GEORGE'S COUNTY PROJECTS (CONTINUED)												
W-34.04	BRANCH AVENUE WATER TRANSMISSION IMPROVEMENTS	54,033	5,338	11,524	37,171	13,604	20,306	3,261	0	0	0	0
	TOTAL GROWTH COSTS	54,033	5,338	11,524	37,171	13,604	20,306	3,261	0	0	0	0
W-62.05	CLINTON ZONE WATER STORAGE FACILITY IMPLEMENTATION	$15,482	$1,831	$1,337	7,474	$4,920	$2,115	$439	$0	$0	$0	$4,840
	TOTAL GROWTH COSTS	15,482	1,831	1,337	7,474	4,920	2,115	439	0	0	0	4,840
W-65.10	ST. BARNABAS ELEVATED TANK REPLACEMENT	11,382	726	5,422	5,234	4,724	510	0	0	0	0	0
	TOTAL GROWTH COSTS	5,691	363	2,711	2,617	2,362	255	0	0	0	0	0
W-84.02	RITCHIE MARLBORO ROAD TRANSMISSION MAIN & PRV	12,799	1,342	2,937	8,520	5,676	2,844	0	0	0	0	0
	TOTAL GROWTH COSTS	12,799	1,342	2,937	8,520	5,676	2,844	0	0	0	0	0
W-84.03	SMITH HOME FARMS WATER MAIN	2,549	772	559	1,218	409	407	402	0	0	0	0
	TOTAL GROWTH COSTS	2,549	772	559	1,218	409	407	402	0	0	0	0
W-84.04	WESTPHALIA TOWN CENTER WATER MAIN	1,497	552	41	904	302	357	245	0	0	0	0
	TOTAL GROWTH COSTS	1,497	552	41	904	302	357	245	0	0	0	0
W-93.01	KONTERRA TOWN CENTER EAST WATER MAIN	1,593	85	637	871	61	343	191	276	0	0	0
	TOTAL GROWTH COSTS	1,593	85	637	871	61	343	191	276	0	0	0
W-105.01	MARLTON SECTION 18 WATER MAIN, LAKE MARLTON AVENUE	2,480	29	1	2,450	386	413	413	413	413	412	0
	TOTAL GROWTH COSTS	2,480	29	1	2,450	386	413	413	413	413	412	0
W-111.05	HILLMEADE ROAD WATER MAIN	5,698	984	17	4,697	3,114	1,583	0	0	0	0	0
	TOTAL GROWTH COSTS	5,698	984	17	4,697	3,114	1,583	0	0	0	0	0
W-119.01	JOHN HANSON HIGHWAY WATER MAIN, PART 1	14,500	1,300	6,050	7,150	6,600	550	0	0	0	0	0
	TOTAL GROWTH COSTS	14,500	1,300	6,050	7,150	6,600	550	0	0	0	0	0
W-120.14	VILLAGES OF TIMOTHY WATER MAIN, PART 1	277	24	225	28	28	0	0	0	0	0	0
	TOTAL GROWTH COSTS	277	24	225	28	28	0	0	0	0	0	0

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SDC ELIGIBLE PROJECTS
(In Thousands)

PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2016	FY 2017	TOTAL 6 YEARS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	BEYOND 6 YEARS
PRINCE GEORGE'S COUNTY PROJECTS (CONTINUED)												
W-120.15	VILLAGES OF TIMOTHY WATER MAIN, PART 2	688	66	558	64	64	0	0	0	0	0	0
	TOTAL GROWTH COSTS	688	66	558	64	64	0	0	0	0	0	0
W-120.16	VILLAGES OF TIMOTHY WATER MAIN, PART 3	470	39	376	55	55	0	0	0	0	0	0
	TOTAL GROWTH COSTS	470	39	376	55	55	0	0	0	0	0	0
W-123.14	OLD MARLBORO PIKE WATER MAIN	1,748	1,262	118	368	202	166	0	0	0	0	0
	TOTAL GROWTH COSTS	1,748	1,262	118	368	202	166	0	0	0	0	0
W-123.20	OAK GROVE/LEELAND ROADS WATER MAIN, PART 2	$14,444	$8,842	$2,346	$3,256	$2,322	$934	$0	$0	$0	$0	$0
	TOTAL GROWTH COSTS	7,222	4,421	1,173	1,628	1,161	467	0	0	0	0	0
W-137.02	SOUTH POTOMAC SUPPLY IMPROVEMENT, PHASE 1	16,448	7,294	9,122	32	32	0	0	0	0	0	0
	TOTAL GROWTH COSTS	8,224	3,647	4,561	16	16	0	0	0	0	0	0
W-137.03	SOUTH POTOMAC SUPPLY IMPROVEMENT, PHASE 2	53,374	350	768	45,860	1,024	256	6,300	12,696	12,792	12,792	6,396
	TOTAL GROWTH COSTS	18,147	119	261	15,592	348	87	2,142	4,317	4,349	4,349	2,175
W-147.00	COLLINGTON ELEVATED WATER STORAGE FACILITY	17,022	16,582	274	166	134	32	0	0	0	0	0
	TOTAL GROWTH COSTS	8,511	8,291	137	83	67	16	0	0	0	0	0
SUBTOTAL PRINCE GEORGE'S COUNTY WATER PROJECTS		**$280,234**	**$50,468**	**$42,594**	**$175,936**	**$65,662**	**$50,509**	**$18,871**	**$14,485**	**$13,205**	**$13,204**	**$11,236**
SUBTOTAL PRINCE GEORGE'S COUNTY SDC ELIGIBLE COSTS		**$203,604**	**$32,590**	**$33,474**	**$130,525**	**$57,060**	**$45,283**	**$12,553**	**$6,106**	**$4,762**	**$4,761**	**$7,015**
TOTAL WATER PROJECTS COSTS		**$444,545**	**$196,298**	**$47,434**	**189,577**	**$76,029**	**$53,051**	**$19,575**	**$14,503**	**$13,215**	**$13,204**	**$11,236**
TOTAL WATER SDC ELIGIBLE COSTS		**$365,924**	**$177,720**	**$37,900**	**143,289**	**$67,252**	**$47,321**	**$13,087**	**$6,106**	**$4,762**	**$4,761**	**$7,015**

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SDC ELIGIBLE PROJECTS
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PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2016	FY 2017	TOTAL 6 YEARS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	BEYOND 6 YEARS
	SEWERAGE PROJECTS											
BI-COUNTY PROJECTS												
S-203.00	LAND & RIGHTS-OF-WAY ACQUISITION - BI-COUNTY SEWER	$405	$0	$220	$185	$95	$30	$15	$15	$15	$15	$0
	TOTAL GROWTH COSTS	195	0	165	30	15	15	0	0	0	0	0
SUBTOTAL BI-COUNTY SEWERAGE PROJECTS		**$405**	**$0**	**$220**	**$185**	**$95**	**$30**	**$15**	**$15**	**$15**	**$15**	**$0**
SUBTOTAL BI-COUNTY SDC ELIGIBLE COSTS		**$195**	**$0**	**$165**	**$30**	**$15**	**$15**	**$0**	**$0**	**$0**	**$0**	**$0**
MONTGOMERY COUNTY PROJECTS												
S-25.03	TWINBROOK COMMONS SEWER	$1,034	$607	$230	$197	$100	$97	$0	$0	$0	$0	$0
	TOTAL GROWTH COSTS	1,034	607	230	197	100	97	0	0	0	0	0
S-25.04	MID-PIKE PLAZA SEWER MAIN, PHASE 1	4,175	3,841	205	129	129	0	0	0	0	0	0
	TOTAL GROWTH COSTS	4,175	3,841	205	129	129	0	0	0	0	0	0
S-25.05	MID-PIKE PLAZA SEWER MAIN, PHASE 2	$6,278	$124	$1,477	$4,677	$3,200	$1,477	$0	$0	$0	$0	$0
	TOTAL GROWTH COSTS	6,278	124	1,477	4,677	3,200	1,477	0	0	0	0	0
S-84.47	CLARKSBURG TRIANGLE OUTFALL SEWER, PART 2	2,615	1,185	725	705	606	99	0	0	0	0	0
	TOTAL GROWTH COSTS	2,615	1,185	725	705	606	99	0	0	0	0	0
S-84.60	CABIN BRANCH WASTEWATER PUMPING STATION	3,000	0	350	2,650	1,325	1,325	0	0	0	0	0
	TOTAL GROWTH COSTS	3,000	0	350	2,650	1,325	1,325	0	0	0	0	0
S-84.61	CABIN BRANCH WWPS FORCE MAIN	436	0	17	419	147	247	25	0	0	0	0
	TOTAL GROWTH COSTS	436	0	17	419	147	247	25	0	0	0	0
S-84.65	TAPESTRY WASTEWATER PUMPING STATION	1,372	138	906	328	328	0	0	0	0	0	0
	TOTAL GROWTH COSTS	1,372	138	906	328	328	0	0	0	0	0	0
S-84.66	TAPESTRY WWPS FORCE MAIN	137	26	44	67	37	30	0	0	0	0	0
	TOTAL GROWTH COSTS	137	26	44	67	37	30	0	0	0	0	0
S-84.67	MILESTONE CENTER SEWER MAIN	504	0	0	504	483	21	0	0	0	0	0
	TOTAL GROWTH COSTS	504	0	0	504	483	21	0	0	0	0	0

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PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2016	FY 2017	TOTAL 6 YEARS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	BEYOND 6 YEARS
MONTGOMERY COUNTY PROJECTS (CONTINUED)												
S-84.68	CLARKSBURG WASTEWATER PUMPING STATION	3,393	0	0	3,393	290	2,592	511	0	0	0	0
	TOTAL GROWTH COSTS	3,393	0	0	3,393	290	2,592	511	0	0	0	0
S-84.69	CLARKSBURG WWPS FORCE MAIN	1,149	0	0	1,149	100	1,049	0	0	0	0	0
	TOTAL GROWTH COSTS	1,149	0	0	1,149	100	1,049	0	0	0	0	0
S-85.21	SHADY GROVE STATION SEWER AUGMENTATION	2,321	24	314	1,983	1,216	767	0	0	0	0	0
	TOTAL GROWTH COSTS	2,321	24	314	1,983	1,216	767	0	0	0	0	0
S-103.16	CABIN JOHN TRUNK SEWER RELIEF	$15,567	$31	$462	$15,074	$6,262	$6,072	$2,740	$0	$0	$0	$0
	TOTAL GROWTH COSTS	15,567	31	462	15,074	6,262	6,072	2,740	0	0	0	0
SUBTOTAL MONTGOMERY COUNTY SEWERAGE PROJECTS		**$41,981**	**$5,976**	**$4,730**	**$31,275**	**$14,223**	**$13,776**	**$3,276**	**$0**	**$0**	**$0**	**$0**
SUBTOTAL MONTGOMERY COUNTY SDC ELIGIBLE COSTS		**$41,981**	**$5,976**	**$4,730**	**$31,275**	**$14,223**	**$13,776**	**$3,276**	**$0**	**$0**	**$0**	**$0**
PRINCE GEORGE'S COUNTY PROJECTS												
S-27.08	WESTPHALIA TOWN CENTER SEWER MAIN	$828	$201	$451	$176	$122	$45	$9	$0	$0	$0	$0
	TOTAL GROWTH COSTS	828	201	451	$176	122	45	9	0	0	0	0
S-28.18	KONTERRA TOWN CENTER EAST SEWER	6,897	4,913	0	1,984	503	376	0	0	635	470	0
	TOTAL GROWTH COSTS	6,897	4,913	0	1,984	503	376	0	0	635	470	0
S-43.02	BROAD CREEK WWPS AUGMENTATION	175,971	102,668	37,503	35,800	17,805	12,062	5,933	0	0	0	0
	TOTAL GROWTH COSTS	146,054	85,214	31,127	29,713	14,778	10,011	4,924	0	0	0	0
S-68.01	LANDOVER MALL REDEVELOPMENT	1,278	24	97	1,157	605	389	43	40	40	40	0
	TOTAL GROWTH COSTS	1,278	24	97	1,157	605	389	43	40	40	40	0
S-75.19	BRANDYWINE WOODS WASTEWATER PUMPING STATION	308	6	173	129	65	64	0	0	0	0	0
	TOTAL GROWTH COSTS	308	6	173	129	65	64	0	0	0	0	0
S-75.20	BRANDYWINE WOODS WWPS FORCE MAIN	121	12	37	72	38	34	0	0	0	0	0
	TOTAL GROWTH COSTS	121	12	37	72	38	34	0	0	0	0	0
S-86.19	KARINGTON SUBDIVISION SEWER	655	99	204	352	176	176	0	0	0	0	0
	TOTAL GROWTH COSTS	655	99	204	352	176	176	0	0	0	0	0

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PROJECT NUMBER	PROJECT NAME	TOTAL COST	FY 2016	FY 2017	TOTAL 6 YEARS	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	BEYOND 6 YEARS
PRINCE GEORGE'S COUNTY PROJECTS (CONTINUED)												
S-131.05	PLEASANT VALLEY SEWER MAIN, PART 2	849	31	196	622	385	161	76	0	0	0	0
	TOTAL GROWTH COSTS	849	31	196	622	385	161	76	0	0	0	0
S-131.07	PLEASANT VALLEY SEWER MAIN, PART 1	$1,670	$50	$455	$1,165	$951	$214	$0	$0	$0	$0	$0
	TOTAL GROWTH COSTS	1,670	50	455	1,165	951	214	0	0	0	0	0
SUBTOTAL PRINCE GEORGE'S COUNTY SEWERAGE PROJECTS		**$188,577**	**$108,004**	**$39,116**	**$41,457**	**$20,650**	**$13,521**	**$6,061**	**$40**	**$675**	**$510**	**$0**
SUBTOTAL PRINCE GEORGE'S COUNTY SDC ELIGIBLE COSTS		**$158,660**	**$90,550**	**$32,740**	**$35,370**	**$17,623**	**$11,470**	**$5,052**	**$40**	**$675**	**$510**	**$0**
TOTAL SEWERAGE PROJECTS COSTS		**$230,963**	**$113,980**	**$44,066**	**$72,917**	**$34,968**	**$27,327**	**$9,352**	**$55**	**$690**	**$525**	**$0**
TOTAL SEWERAGE SDC ELIGIBLE COSTS		**$200,836**	**$96,526**	**$37,635**	**$66,675**	**$31,861**	**$25,261**	**$8,328**	**$40**	**$675**	**$510**	**$0**
TOTAL PROJECT COSTS		**$675,508**	**$310,278**	**$91,500**	**262,494**	**$110,997**	**$80,378**	**$28,927**	**$14,558**	**$13,905**	**$13,729**	**$11,236**
TOTAL SDC ELIGIBLE COSTS		**$566,760**	**$274,246**	**$75,535**	**209,964**	**$99,113**	**$72,582**	**$21,415**	**$6,146**	**$5,437**	**$5,271**	**$7,015**