

# ADOPTED 2018 WATER AND SEWER PLAN

## CHAPTER 4 SEWER PLAN FOR COMMUNITY SYSTEMS

The proper handling, treatment and disposal of wastewater are some of the primary goals of the Water and Sewer Plan. Wastewater or sewage is disposed in two ways, either through transmission conveyances to wastewater treatment plants or through individual septic systems. This chapter discusses the County's existing sewer system, treatment plants, future sewer needs, biosolids management and financial needs. It includes discharge permits for smaller plants that discharge treated wastewater into County streams or rivers. Individual septic systems are discussed in Chapter 5, Rural Sanitation.

### **4.1 EXISTING SEWER SYSTEM**

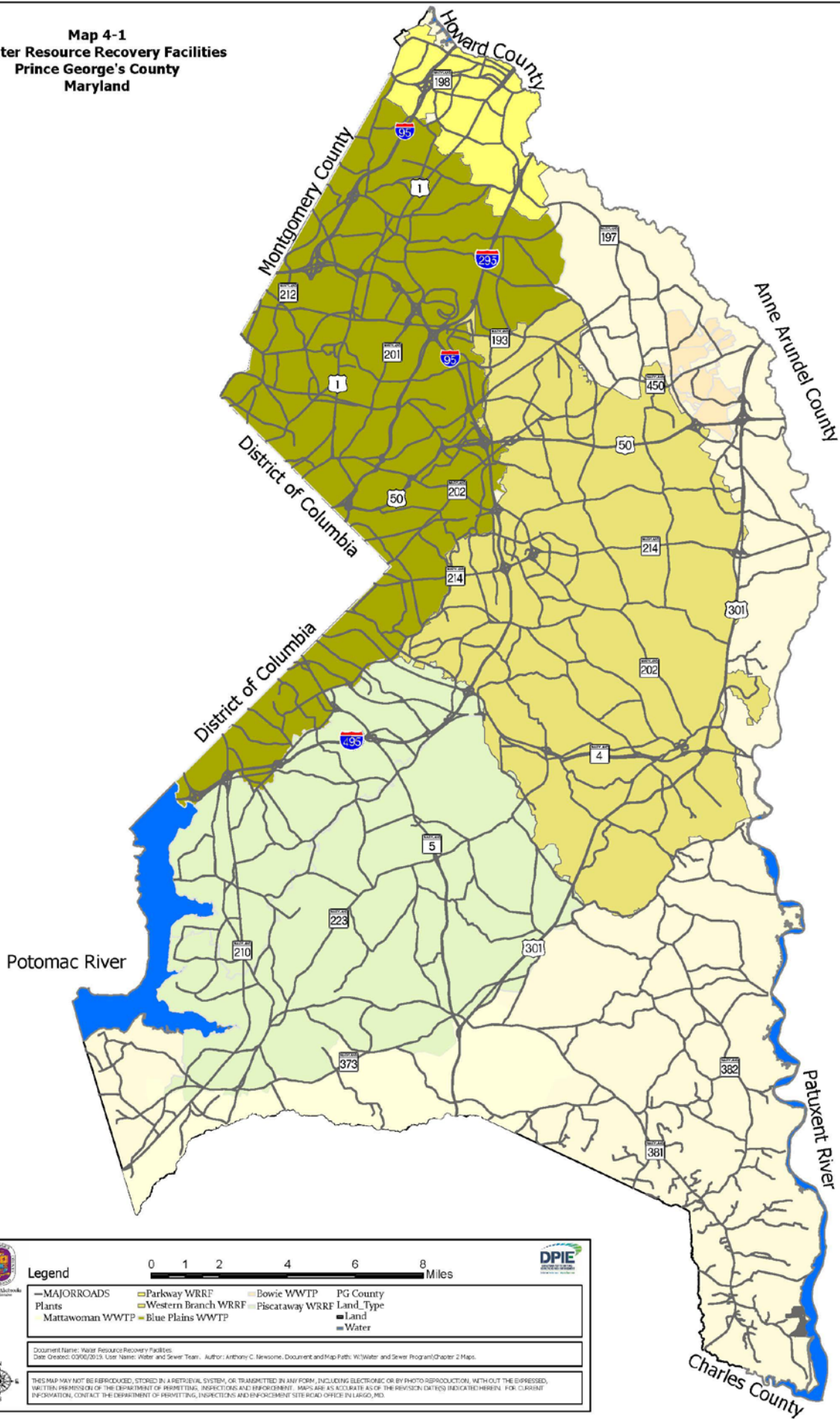
Six drainage basins in Prince George's County are served by public sewage treatment systems. **Map 4-1** identifies the six basins and locates the wastewater resource recovery facilities (WRRF). Four of these municipal plants are located in the County, whereas the Blue Plains WWTP is located in Washington, D.C., and is operated by the District of Columbia Water and Sewer Authority (DC Water). The Mattawoman WWTP is located in and operated by Charles County.

The Washington Suburban Sanitary Commission (WSSC) operates three of the four municipal WWTP located in Prince George's County. These include Parkway, Western Branch and Piscataway. As of 2018, these three WSSC wastewater treatment plants will now be referred to as Water Resource Recovery Facilities (WRRF). The City of Bowie operates a WWTP serving the northern portion of the city. A description of each of the plants is in Section 4.2. An inventory of municipal, industrial, community and institutional wastewater treatment plants located in Prince George's County can be found in **Table 4-1**.

Any treated wastewater discharge that exceeds an average of 5,000 gallons per day must be included in the County's Water and Sewer Plan and must have a State discharge permit issued by the Maryland Department of the Environment (MDE). A State discharge permit must be renewed every five years. A complete listing of discharge permits issued as new, renewal or pending is attached in **Appendix 4-1** of this chapter.

The County Health Department conducts sanitary surveys of areas served by septic systems by request. Occasionally, these surveys lead to a Health Department recommendation that public sewer service be extended to the properties in question to alleviate any health hazard. The Health Department is collaborating with other county agencies and WSSC to identify areas that are unserved or underserved by a public sewerage system. These areas are addressed in Section 4.3.6 of this chapter and as **Appendix G** of this plan.

**Map 4-1  
Water Resource Recovery Facilities  
Prince George's County  
Maryland**



**Legend**

0 1 2 4 6 8 Miles

— MAJORROADS  
 Plants  
 Mattawoman WWTP — Blue Plains WWTP

Parkway WRRF  
 Western Branch WRRF

Bowie WWTP  
 Piscataway WRRF

PG County  
 Land Type  
 Land  
 Water

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**Table 4-1. Inventory of Existing Wastewater Treatment Plants (WWTP) Located in Prince George’s County**

<u>Name</u>	<u>Location</u>	<u>Type Treatment</u>	<u>Point of Discharge</u>	<u>Existing Capacity (mgd)</u>	<u>Flows (mgd) Avg/Peak</u>	<u>Operating Agency</u>
<u>Municipal (Public)</u>						
Parkway	Bowie	Tertiary	Patuxent River	7.5	6.26	WSSC
Western Branch	Upper Marlboro	Tertiary	Western Branch	30.6	19.72	WSSC
Piscataway	Piscataway	Tertiary	Piscataway Creek	30.0	21.84	WSSC
Bowie	Bowie	Tertiary	Patuxent River	3.3	2.2	City of Bowie
<u>Industrial</u>						
PEPCO- Chalk Point	Aquasco	Package Plant Secondary Treatment Activated Sludge	Patuxent River		0.008	PEPCO
<u>Community/ Institutional</u>						
Brandywine E.S.	Brandywine	Septic Tank and Filter	Timothy Branch		0.01	County
Cheltenham Boys Village	Cheltenham	Secondary Trickling Filter	Piscataway Creek		0.18/0.085	State
Edgemeade School	Brandywine	Septic Tank and Filter	Tributary of Patuxent River			County
Edgemeade School – Adm.	Brandywine	Septic Tank and Filter	Tributary of Patuxent River			County
Bowie State University	Bowie	Secondary Treatment Trickling Filter/Sand	Patuxent River	0.08	0.08	State
Patuxent Wildlife Headquarters	Laurel	Secondary Treatment Activated Sludge	Pond Patuxent River	0.027		U.S.
Patuxent Research Refuge	Laurel	Tertiary	Patuxent River	0.0067		U.S.
Andrews AFB	Camp Springs	Septic Tank				U.S.
Andrews AFB Brandywine Housing	Brandywine	Septic Tank and Filter	Timothy			U.S.
Beltsville USDA Horticultural Station	Beltsville	Activated Sludge/ Overland Flow	Little Paint Branch	0.25	0.206	U.S.
Beltsville USDA Research Station	Beltsville	Activated Sludge/ Overland Flow	Beaverdam Creek	0.5	0.4	U.S.
Beltsville Pharmacological Lab	Beltsville	Secondary Treatment Activated Sludge	Beaverdam Creek	0.02	0.01	U.S.
Globecom Sewage Treatment Plant	Brandywine	Secondary Treatment Activated Sludge	Tributary of Mattawoman Creek	0.005		U.S.

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Marinas in Prince George's County require a wastewater collection and treatment system, or a pumpout station to connect the marina to a community sewer system. The County Health Department inspects and approves the wastewater treatment and sanitation facilities at all County marinas. The sanitation requirements are set in COMAR 26.24.04.03 and County Code Subtitle 22. The Fort Washington Marina meets these requirements. The Tantallon Marina is planning to provide the required facilities over the term of this plan. The Bladensburg Marina, while technically a marina, has no tie-up facilities or the ability to receive vessels large enough to have sanitary holding tanks and, therefore, shall not be required to have pumpout facilities.

### **4.2 WASTEWATER TREATMENT PLANTS SERVING THE COUNTY**

Each wastewater treatment plant in the County has specific capacity, wastewater flow and commitments of capacity for future flows authorized by MDE. The following subsections describe the statistics for each of the wastewater treatment plants. Capacity is defined as what is currently being treated and what is planned for in the future. Flow statistics are defined as base flow and peak flow.

A 1986 Agreement with the State of Maryland on Monitoring and Control of Sewage Flows and Allocations requires all treatment plants to prepare a quarterly report on existing flows and flow commitments. Quarterly, WSSC adds flow commitments from final plat recordation and subtracts flow figures from service hook-ups during the same period. The following sections include the quarterly reports for each of the basins.

WSSC also produces monthly reports on all service approvals and service hookups. These approvals are calculated into flow and are subtracted from the available capacity for each basin.

The growth and development in the County's Growth Policy Area has decreased the available capacity faster than expected at the Parkway, Western Branch and Piscataway WRRFs. However, based on WSSC's Wastewater Flow Projections and Demographic Analysis of 2017, the capacities of Parkway, Western Branch and Piscataway WRRFs should be adequate through 2045. The wastewater flow projections were updated with the Round 9.0 Metropolitan Washington Council of Government (MWCOG) and County Planning Department's cooperative demographic forecasts and the forecast updates that were forwarded to WSSC.

#### **4.2.1 Blue Plains Wastewater Treatment Plant**

Sewage originating in the Anacostia, Beaverdam and Oxon Run basins of Prince George's County is treated at the Blue Plains WWTP operated by DC Water. Blue Plains is located in southwest Washington, D.C., adjacent to the U.S. Naval Research Lab facilities on the Potomac River. The Blue Plains WWTP has been the principal wastewater treatment facility for the Washington Metropolitan area since its original construction in 1938. Service to Prince George's and Montgomery Counties is provided under the terms of the 2012 Blue Plains Intermunicipal Agreement (IMA). The updated 2012 IMA was signed by the regional jurisdictions and became effective in April 2013.

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The IMA provides for wastewater conveyance, treatment and biosolids management in the Blue Plains service area. As a signatory to the IMA, Prince George's County recognizes the shared duties and obligations that are essential elements for effective regional wastewater management including:

- Honoring the wastewater capacity limitations at the points of discharge into the DC Water collection and treatment system;
- Equitably sharing in the capital costs of regional wastewater treatment, collection and biosolids management;
- Equitably sharing in operation and maintenance costs;
- Serving on the DC Water Board of Directors and Regional Committees;
- Defining the process of making future planning decisions;
- Providing a mechanism for continuing coordination, cooperation and communication; and
- Supporting a continuing water quality monitoring and evaluation program.

The IMA allocates plant capacity to each user and defines capital and operating cost formulas. WSSC is allocated plant capacity for those portions of Prince George's and Montgomery Counties in the Blue Plains Service Area and by authority of the 1983 Bi-County Agreement, WSSC determines the amount of wastewater flows from these counties to Blue Plains on a first-come, first-served basis. Under the terms of the IMA, WSSC pays for a flow-proportionate share (approximately 40 percent) of the operating costs, and a capacity-proportionate share (approximately 46 percent) of the capital costs at Blue Plains and various shared conveyance and related facilities. The allocated capacity to WSSC is 169.6 mgd of the total 370-mgd plant capacity. Allocated capacity in the DC Water sewage collection and conveyance facilities varies depending on the share of capacity allocated to WSSC. **Table 4-2** reflects the daily average wastewater flows to the Blue Plains WWTP and the authorized IMA limitations for the year 2017.

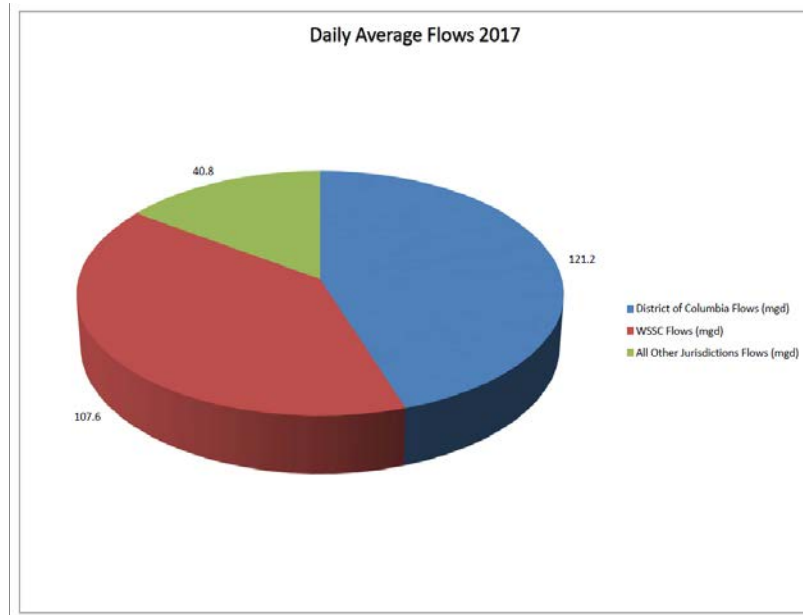
In 1996, Congress authorized the creation of the District of Columbia Water and Sewer Authority (then WASA, now DC Water) as an independent authority to operate the water and sewerage facilities within the District. The 11-member board includes six members from the District of Columbia and five members from the suburban users. Prince George's County has two representatives and two alternates on the Board. More than 318,000 Prince George's County residents, or 43 percent of its population, are served by Blue Plains through WSSC. The County's Board representatives are instrumental in setting policy, overseeing capital construction, and approving the operating and capital budgets of the water and wastewater facilities within the District.

Under the terms of the IMA that governs the County's use of the Blue Plains facility through WSSC, the District of Columbia is not currently obligated to expand the plant beyond the 370-mgd capacity. As such, planning is essential to manage available wastewater treatment and conveyance capacity.

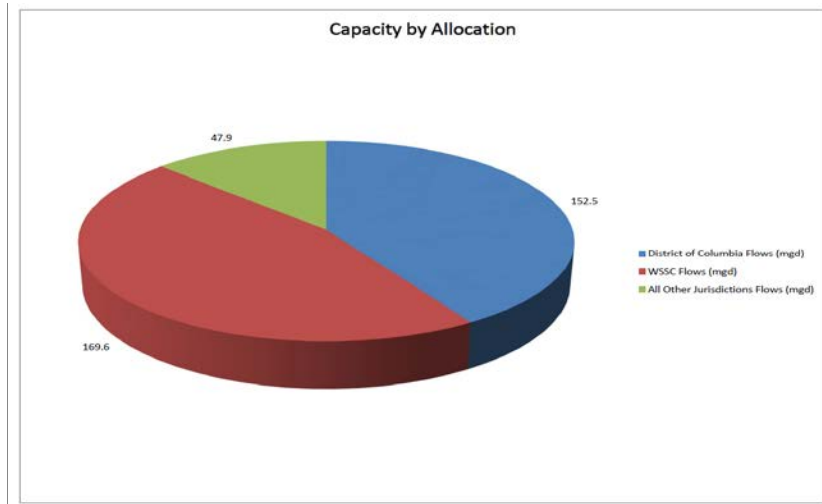
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**Table 4-2 2017 Actual Daily Average Wastewater Flows to the Blue Plains WWTP and Intermunicipal Agreement (IMA) Allocations**

Month	Total Flows to Blue Plains (mgd)	District of Columbia Flows (mgd)	WSSC Flows (mgd)	All Other Jurisdictions Flows (mgd)
Jan-16	260.5	111.7	109.0	39.83
Feb-16	244.2	100.9	104.3	38.90
Mar-16	271.5	122.2	107.9	41.42
Apr-16	290.5	133.4	113.9	43.16
May-16	310.0	147.1	118.2	44.76
Jun-16	267.8	117.3	108.7	41.77
Jul-16	282.4	129.3	110.2	42.89
Aug-16	288.5	132.5	113.8	42.23
Sep-16	269.1	123.0	106.6	39.53
Oct-16	258.6	118.5	100.5	39.63
Nov-16	253.7	113.5	101.1	39.10
Dec-16	238.3	105.0	97.3	36.01
Daily Average	269.6	121.2	107.6	40.8
Total Capacity	370	152.5	169.6	47.9



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### **4.2.2 Parkway Water Resource Recovery Facility**

The Parkway basin in the northern part of the County covers an area of approximately 14 square miles, including the City of Laurel. Ten square miles of the basin is sewered. The Parkway Wastewater Treatment Plant is located on the western shore of the Patuxent River, south of Laurel, adjacent to the Baltimore-Washington Parkway. It has a total capacity of 7.5 million gallons per day (mgd). It is owned and operated by WSSC.

### **Statistics of the Parkway Water Resource Recovery Facility (FY 2017)**

Existing capacity	7.5	mgd
County-approved expansion	2.9	mgd
Total capacity	10.4	mgd
Existing flow	6.26	mgd
Remaining capacity	1.24	mgd

Biosolids produced at the Parkway Branch are disposed of by offsite land application in Virginia and Maryland on permitted sites. Enhanced nutrient removal (ENR) facilities (denitrification filters) at the Parkway WWTP were completed in June 2013. The ENR process achieves a limit of less than four milligrams per liter of nitrogen in the effluent as an annual average.

### **4.2.3 Western Branch Water Resource Recovery Facility**

The Western Branch WRRF is located approximately one mile southeast of the Town of Upper Marlboro at the Patuxent River. It is owned and operated by WSSC. The WRRF serves an area of approximately 113 square miles. The majority of the service area is the natural drainage basin of the Western Branch. Horsepen Basin, north of Bowie, is connected to the Western Branch

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system through a pumping station and force main. There are no plans to expand the capacity of the plant which is an enhanced nutrient removal facility designed to achieve a limit of four milligrams per liter of nitrogen in the effluent as an annual average. Between April and October of every year, the discharge limit for nitrogen is further reduced to 3 milligrams per liter.

### **Statistics of the Western Branch Water Resource Recovery Facility (FY 2017)**

Existing capacity	30.6 mgd
Total planned capacity	30.6 mgd
Existing flow	19.72 mgd
Remaining capacity	10.88 mgd

<b>Transmission statistics (mgd)</b>	Peak	2017	
		Average	Maximum
	Capacity	Daily Flow	Daily Flow
Horsepen Pumping Station	4.0	1.006	1.643
Collington Branch Trunk Sewer	18.4	n/a	n/a
Charles Branch Trunk Sewer	n/a	n/a	n/a
Western Branch	n/a	n/a	n/a

Biosolids produced at the Western Branch WRRF are hauled to a landfill in Virginia.

### **4.2.4 Piscataway Water Resource Recovery Facility**

The Piscataway WRRF is located to the west of Indian Head Highway on the Piscataway Bay of the Potomac River and is owned and operated by WSSC. There are no plans for expansion of this plant which is an enhanced nutrient removal (ENR) facility. This ENR process achieves a limit of less than four milligrams per liter of nitrogen in the effluent as an annual average.

### **Statistics of the Piscataway Water Resource Recovery Facility (FY 2017)**

Existing capacity	30.0 mgd
Total planned capacity	30.0 mgd
Existing flow	21.84 mgd
Remaining capacity	8.16 mgd

<b>Transmission statistics (mgd)</b>	Peak	2017	
		Average	Maximum
	Capacity	Daily Flow	Daily Flow
Broad Creek Pumping Station	37.0	9.897	10.626
Tinkers Creek Trunk Sewer	21.1	-	-
Upper Piscataway Trunk Sewer	10.3	-	-
Lower Piscataway Trunk Sewer	-	-	-

The peak capacity of the Broad Creek Pumping Station was exceeded during extreme wet weather in July 2004. As a result of a facility plan for the Broad Creek Wastewater Pumping Station, a 4.2-million gallon onsite storage basin, located at WSSC's Piscataway WRRF and other



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related capacity enhancements for the Broad Creek Pumping Station and force main system, are currently under construction. Biosolids that are produced at the Piscataway Branch are land applied offsite in Maryland and Virginia on permitted sites.

On May 9, 2014, WSSC's general manager/CEO signed a long-term Agreement with Mattawoman Energy LLC that will allow them to purchase up to 5 million gallons a day (mgd) of treated effluent from the Piscataway Wastewater Resource Recovery Facility for use at their proposed 990- megawatt power plant in Brandywine, Maryland. The Commission adopted Resolution 2014-2043 on March 19, 2014, authorizing the general manager/CEO to finalize and execute the Agreement.

The initial term of this Agreement is for 30 years with five-year option terms after that. Mattawoman Energy is responsible for the design and construction of all required capital facilities as well as operation and maintenance of these facilities once they become operational. The Agreement requires Mattawoman Energy to pay WSSC an option fee until the facilities are operational. Thereafter, they will pay WSSC a fixed demand charge every month as well as commodity charges based on their actual usage of reclaimed water. These charges will also be escalated in the future based on the CPI for industrial commodities less fuel, and are expected to generate about \$1million annually based on their projected usage of reclaimed water. The option fee is payable every six months.

Plans and specifications for the treated effluent facilities, including the routing of the pipeline and location of the pumping station, has and continues to be coordinated with WSSC. However, the facility will be a private utility pipeline owned and maintained by Mattawoman Energy LLC for the sole purpose of routing purchased and reclaimed water to its energy plant in Brandywine. Construction of the first half-mile segment of the pipeline has been constructed. The design of the remaining 9 ½-mile segment has been approved but construction has not yet begun. Mattawoman Energy LLC began construction of the new power plant in 2016 and plans to have all related facilities constructed and operational in 2021.

### **4.2.5 Bowie Wastewater Treatment Plant**

The City of Bowie operates a WWTP in northern Bowie. The treatment plant is located north of Route 450, west of its intersection with Route 3. The drainage basin is mostly developed and there are no plans to extend the service area beyond its current limits.

#### **Statistics of the Bowie Wastewater Treatment Plant**

Existing capacity	3.3 mgd
Design capacity	3.3 mgd
Existing flow	2.2 mgd
Remaining capacity	1.1 mgd

Capital improvements to the Bowie WWTP include an electrical upgrade at Pump Station #1 and to replace impellers at Pump Station #5 and Pump Station #6. The following is contingent upon receiving State Revolving Loan Funds: construction and inspection of a 550 square-foot building addition; a 350 square-foot interior renovation of the administration building; replacement of main electrical switch gear; installation of wire covers; and construction of a sludge building.

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The biosolids process at the City of Bowie Plant consists of dewatering and lime stabilization. The biosolids are land applied on permitted agricultural properties in Virginia.

### **4.2.6 Mattawoman Wastewater Treatment Plant**

A portion of Prince George's County is located within the Mattawoman Creek watershed. By an agreement between WSSC and Charles County, 3 mgd at the 20-mgd Mattawoman Wastewater Treatment Plant is reserved for WSSC. Flows from Prince George's County discharge into the Mattawoman Creek interceptor and are conveyed to the treatment plant. Current average annual flows from Prince George's County amount to 1.25 mgd for an approximate population of 4,200. The Mattawoman WWTP is owned, operated by and located in Charles County. All operation and capital program management for this facility is the responsibility of Charles County. WSSC is responsible for paying its share of operating and capital costs in accordance with the inter-municipal agreement between the WSSC and Charles County (see Section 1.3.1).

The biosolids process at the Mattawoman Plant consists of dewatering and lime stabilization. The biosolids are either land applied on permitted sites where weather permits, or stored in a facility at King George County, Virginia, for later land application.

## **4.3 FUTURE SEWER NEEDS**

Each of the six sewersheds served by community systems in Prince George's County has adequate capacity to provide service into the future. The ultimate sewer service envelope, and the revision of sewer categories to match the envelope boundary, accurately delineates the area to be sewered in the foreseeable future. The current Water and Sewer Plan maps thus provide a better tool for land-use planning in the County.

In its Capital Improvement Program, WSSC has programmed certain relief and improvement projects for existing sewer lines, as well as numerous sections of developer extension projects, which add CIP-sized sewer lines to serve particular developments. The major challenges in future sewer system needs are, however, in maintaining the integrity of the aging system, meeting the enhanced environmental regulations, and optimizing the operations in a cost-effective manner.

Managing a wastewater collection, treatment and transmission system poses several challenges. Numerous health, regulatory, environmental and economic factors are under continual review at the State, County and regional levels. Some of these challenges are discussed further in this section.

### **4.3.1 Infiltration and Inflow**

Infiltration can be defined as groundwater that enters the sewer from the groundwater table through holes in the pipe, poor joints, cracked pipes, and manhole walls. During precipitation events, such as rainfall and snowfall, the groundwater table may rise above the elevation of the sewer allowing the water to seep into the pipe.

Inflow can be defined as flow that enters the sewer system during precipitation. Inflow can typically enter the sewer through perforated manhole covers, unsealed manhole covers, catch

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basins, areaways and roof drains. The WSSC wastewater system that serves Prince George's County is a separate system, meaning, that only wastewater is collected. Some other municipal systems convey combined wastewater and stormwater flows.

Elimination of the infiltration and inflow (I/I) is necessary so that the sewers can adequately convey only the collected wastewater to the wastewater treatment plant and, eventually, the treated effluent into local waters discharged at limits set by the federal government. This extraneous flow can significantly reduce the capacity of a sanitary sewer. Infiltration and inflow can also impact the capacity of other conveyance and treatment facilities. Simply stated, treatment of the wastewater that *needs* to be treated is the goal.

The Federal Water Pollution Control Act, (also known as the Clean Water Act), was established in 1948. In 1972, amendments to the Clean Water Act set objectives to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Other amendments to the Clean Water Act may be found in Section 2.4.1, Federal Law. The 1972 amendment to the Clean Water Act required that applicants for related grants perform an analysis demonstrating the existence or nonexistence of excessive I/I in each sewer system tributary. Each portion of the analysis is directed toward the acquisition of a federal construction grant for completion of the subsequent step. The federal government required that I/I studies be performed in three phases:

- The Infiltration/Inflow analysis must identify the presence, quantity and type of infiltration and inflow in a sewer system basin or service area. The analysis requires an overview of an entire basin to determine whether excessive infiltration/inflow conditions exist and, if so, whether they are cost effective to remove. Those areas determined to have excessive I/I conditions then proceed to the second phase of the study.
- The Sewer System Evaluation Survey (SSES) is used to more specifically isolate the individual sewer line sections and defects contributing to the extraneous flow. The SSES consists of several steps to narrow the search:
  1. Flow Monitoring
  2. Early morning isolation and measurement of the infiltration component
  3. Physical inspection of manhole structures
  4. Smoke testing and dyed water flooding of suspected inflow sources
  5. Subsequent cleaning and televising of qualifying sewers to inspect the I/I sources

The SSES will determine the location, flow rate and cost of correction for each definable element of the total I/I problem. A report on the Evaluation Survey and a program of rehabilitation to correct the excessive infiltration/inflow must then be submitted.

- As a result of the SSES, a cost-effective analysis determines recommendations for I/I source repairs under the third phase of the study. All of the grant-funded studies in the Prince George's County basins are completed through the Sewer System Evaluation Survey.

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Infiltration/Inflow Analyses and Sewer System Evaluation Surveys were conducted in the following basins of Prince George’s County between 1974 and 2019 (with the most recent studies in parentheses):

Oxon Run (2018)	Broad Creek II (2006)
Piscataway (2010)	Beaverdam Branch (2010)
Parkway (2012)	
Northeast Branch (2012)	
Western Branch (currently underway)	

### **4.3.2 Regional Water Quality Initiatives in the Chesapeake Bay Watershed**

Excess levels of nitrogen and phosphorus are the primary pollution problems facing the Chesapeake Bay. Reducing these pollutants has been a major focus of the multi-state Chesapeake Bay Program over the past two decades. The 1987 Chesapeake Bay Agreement, as amended in 1992, set a goal to reduce levels of nitrogen and phosphorus that are discharged to the Bay by 40% by 2000, and to maintain that reduction thereafter. The Chesapeake 2000 Bay Agreement reaffirmed the minimum commitment, and proposed to remove all nutrient and sediment impairments to the Bay by 2010. Despite significant efforts by federal, state, and local governments and other interested parties, pollution in the Chesapeake Bay prevents the attainment of existing water quality standards. The pollutants that are largely responsible for impairment of the Bay are nutrients, in the form of nitrogen and phosphorus, and sediment.

The United States Environmental Protection Agency (EPA), in coordination with the Bay watershed jurisdictions established a nutrient and sediment pollution diet for the Bay, consistent with Clean Water Act requirements, to guide and assist Chesapeake Bay restoration efforts. This pollution diet is known as the Chesapeake Bay Total Maximum Daily Load (TMDL), or Bay TMDL.

Concurrent with the development of the Bay TMDL, EPA charged the Bay watershed states and DC with developing watershed implementation plans (WIPs) in order to provide adequate “reasonable assurance” that the jurisdictions can and will achieve the nutrient and sediment reductions necessary to implement the TMDL within their respective boundaries.

MDE worked with the other Maryland Bay agencies and many partners in local jurisdictions to develop Phase II Watershed Implementation Plans with more detailed reduction targets and specific strategies to further ensure that the water quality goals of the Bay TMDL will be met. The Phase II Plan was completed, submitted to, and approved by EPA in 2012. (See Maryland's Development Support for the Chesapeake Bay Phase II WIP webpage.) To promote and measure progress for restoring the Chesapeake Bay, EPA requires states to identify milestones to be reached in two-year increments.

Prince George’s County is actively working with the area’s wastewater treatment plants, the Environmental Protection Agency’s Chesapeake Bay Program and the State of Maryland to develop policies to reduce the loadings of nitrogen and phosphorus to the Chesapeake Bay. These efforts continue to be the goal of the County through its participation in the Chesapeake Bay Agreements of 1987, 1992, 2000 and 2012.

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Consistent with the Maryland strategy for reducing nutrient loads from the treatment of wastewater, WSSC has upgraded all three of their major wastewater treatment plants to achieve enhanced nutrient reduction (ENR) and each is meeting the performance goals established by MDE for nitrogen and phosphorous. Western Branch was completed in 2015 and Parkway and Piscataway were completed in 2013.

The City of Bowie WWTP completed construction of its upgrade to achieve ENR performance in 2010. Similarly, the wastewater treatment facilities that treat County wastewater but are located outside of the County have been upgraded to ENR. The Mattawoman WWTP in Charles County was upgraded in 2007. The upgrade of the DC Water Blue Plains AWWTP to achieve enhanced nutrient removal is ongoing. As of 2017, major components of the ENR upgrade have been completed and the plant is meeting ENR performance requirements in accordance with its discharge permit.

Consistent with the County's Watershed Implementation Plans, further nutrient reductions will be necessary by reducing runoff from such non-point sources as highways, other developed areas, and agricultural sources; but, these efforts are beyond the scope of this Plan.

The 2012 legislative session, House Bill 446, doubled the Bay Restoration Fee for most users served by wastewater treatment plants and those on On-site sewage disposal (septic) systems to \$5.00 per month per household/equivalent dwelling unit (EDU). HB 446 also requires that BRF fee billing authorities develop a financial hardship fee waiver plan for low income households. See "*Guidance Documents*" and "*Frequently Asked Questions*" found at:

<http://mde.maryland.gov/programs/Water/BayRestorationFund/Pages/guidancedocs.aspx>

<http://mde.maryland.gov/programs/Water/BayRestorationFund/Pages/faqs.aspx>

Effective July 1, 2012 a \$5.00 monthly fee is collected from each home served by a wastewater treatment plant. Commercial and industrial users are charged at the rate of \$5.00 per month per equivalent dwelling unit (EDU). Fees from wastewater treatment plant users generate an estimated \$100 million per year. This fee will continue to be collected and used to finance the debt incurred to fund a portion of the ENR upgrade of major WWTPs and other programs related to nutrient reductions for the Bay such as septic tank upgrades to Best Available Technology (BAT) and the cover crop program. Moving forward the fee will also be used to fund the upgrade of certain minor wastewater treatment facilities, to support the connection of existing septic systems to ENR wastewater treatment plants and among other initiatives to reduce nutrients to the Bay.

### **4.3.3 Industrial Discharge**

The Federal Pretreatment Regulations (40 CFR Part 403) require the WSSC to operate a program to control industrial discharges to the sewage collection and treatment systems. The goal of these regulations is to prevent the introduction of pollutants to the sanitary sewer. The pollutants of special concern are those that will:

- Inhibit or interfere with the biological treatment processes employed at wastewater treatment plants;

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- Pass through the treatment plants, causing violations of NPDES permits and water quality standards, or otherwise be incompatible with the treatment plants; and
- Restrict biosolids disposal options and wastewater recycling options because of excessive levels of toxic substances.

WSSC requires industries comply with the requirements set forth in Chapter 8 – Industrial and Special Waste of WSSC’s Plumbing & Fuel Gas Code. If an industry’s wastewater is treated at a non-WSSC wastewater treatment plant, then the industry is required to comply with the more stringent discharge requirement. Industrial users that are classified as significant are also required to monitor their industrial discharges to determine compliance with discharge regulations. WSSC also performs its own monitoring of industrial discharges and inspection of industrial users to determine industry compliance independently.

The primary objective of the Industrial Discharge Control Program is to protect the overall integrity of the WSSC wastewater system through the systematic and equitable application of the WSSC Plumbing Regulations and specific administrative procedures. Nevertheless, the County and WSSC also receive benefits from the implementation of an industrial waste control program. These benefits are:

- More efficient operation of WSSC wastewater treatment plants and continued NPDES permit compliance by reducing toxic pollutants that inhibit and interfere with treatment processes.
- More numerous biosolids management and disposal alternatives because of a reduction of heavy metal concentrations and other toxic pollutants.
- The reduction of maintenance costs and manpower requirements for the upkeep of the WSSC wastewater system.
- The prevention of illegal discharges of industrial wastes to the wastewater systems through manholes and direct connections to the sanitary sewer.
- The recovery of maintenance and treatment costs in cases where an industrial user is responsible for pretreatment.
- Rapid response to industrial waste spills which have a potential to cause serious harm to the WSSC wastewater system, public health, or the environment.

### **4.3.4 Sanitary Sewer Overflows (SSO)**

A sanitary sewer overflow (SSO) occurs when sewers become blocked and wastewater backs up in the line and eventually overflows from a manhole. There are a number of other possible causes of SSOs, including pipe deterioration or a break in the sewer main, undersized sewer lines, excess infiltration or inflow of stormwater, naturally occurring problems such as tree roots and grease blockages, and power outages at sewage pumping stations. It is impossible to completely eliminate SSOs. Even in a properly designed, constructed, operated and maintained sewer system, there will always be a certain number of unavoidable overflows due to blockages, unusual natural events, and power failures.

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Historically, the U.S. Environmental Protection Agency (EPA) has worked with the municipal community and other groups to address SSOs. Draft regulations that would have required utilities to develop a “Capacity, Management, Operation, and Maintenance” (CMOM) program were released in 1999, but subsequently withdrawn in January 2001. Since then, the EPA has undertaken numerous enforcement actions nationwide to insure that utilities experiencing SSOs develop a comprehensive program for collection system operation, maintenance, rehabilitation, and capacity analysis to minimize future overflows. In August 2004, the EPA reported to Congress on the current extent of combined sewer overflows (CSOs) and SSOs, including the impact on environmental and human health, technologies used to address these problems, and resources spent by municipalities to address these impacts. The report also identifies many structural and non-structural technologies for CSO and SSO control.

In calendar year 2004, the peak capacity of the Anacostia pumping station was exceeded during extreme wet weather conditions on July 4 and July 27. WSSC contracted a hydraulic study, completed on October 31, 2005, that recommended improved operation of the station, sewer system rehabilitation and repair, and a capital project to address the overflow situation. Alternatives proposed include increased pumping and participation in the DC Water Long Term Control Plan, in-line storage and off-line storage. As a result of this hydraulic study, a new 7-million gallon capacity storage facility, located at WSSC’s Anacostia Number 2 Wastewater Storage Facility, was constructed and placed into service in June 2013. Its 2017 statistics are herein outlined:

<b>Transmission statistics (mgd)</b>	Peak	2017	2017
	Instantaneous	Average	Maximum
	Capacity	Daily Flow	Daily Flow
Anacostia Pumping Station	199.0	49.84	63.59

WSSC has re-evaluated the overall operations of its collection system in conjunction with discussions with the EPA regarding past SSOs (Note: WSSC does not have combined sewers in its service areas). In December 2005, WSSC entered into a Consent Decree after Clean Water Act litigation was brought by the United States, the State of Maryland, and a coalition of environmental groups as a result of the Anacostia pumping station overflow.

WSSC signed the Consent Decree on December 7, 2005 for its collection system with the Department of Justice, Environmental Protection Agency, Maryland Department of the Environment and four conservation groups. This Consent Decree addresses capacity, maintenance and operation of the WSSC collection system, fats, oils and grease (FOG) collection system evaluation and modeling, Sewer Basin Repair, Replacement, Rehabilitation, Performance Assessments and Emergency Response Plans, including all major transmission mains and wastewater pumping stations. WSSC is in year thirteen of the Consent Decree. The agreement estimates approximately \$1.6 billion in improvements to the WSSC’s wastewater collection system.

WSSC has allocated additional resources, developed a comprehensive schedule for future studies of the collection system, committed to improvements in operation and maintenance procedures, and identified related program enhancements to be initiated to minimize the number of SSOs that occur in the future.

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Beginning in 2006, WSSC developed, calibrated, and evaluated 21 sewer basin dynamic hydraulic models in its Sanitary District under the Consent Decree's Article V requirements. The calibrated models are used to evaluate capacity of the existing and future sanitary sewer system to convey flows under wet weather conditions under a 2-year (total storm volume of 3.11 inches over 24 hours) and a 10-year design storm (total storm volume of 4.78 inches over 24 hours) events.

The models were built using WSSC asset information in its Sewer Model Database and populated in its Geographic Information System. Once, the model network was verified, the models were calibrated for existing dry weather flows based on WSSC flow data. The model network flows were calibrated to two historic wet weather events and then verified using a third independent verification event. Future flows using dry weather conditions were developed based on demographic projections of sewer household and employment increases and applied WSSC unit wastewater flow factors. The models were then applied using the synthetic design storms as set in the Consent Decree requirements and the modeling reports noted the observed results from the model simulations.

In 2009, WSSC reevaluated the 21 sewer basin hydraulic models using an actual event storm distribution, from a wet weather event experienced in the WSSC Service Area occurring on May 8, 2008. This rainfall event caused significant flooding in various areas of the county and is currently being used for the 2-year and 10-year design storms of record for WSSC hydraulic modeling studies.

WSSC developed a procedure using the hydraulic model and "WSSC" design storms (Standard Procedure ENG 09-02) for reviews conducted as part of Hydraulic Planning Analyses (HPA) conducted under WSSC Development Services Process, effective May 2009. The procedure is used to evaluate the impact of significant development on the downstream capital size (15 inches in diameter and above) sewer system and wastewater conveyance facilities under significant wet weather conditions. This procedure was superseded in September 2016 by Regulation 11.165.

Currently, listed below are Prince George's County sewer basin model simulations indicating areas/locations increased risk of overflow:

1. Broad Creek (2-year WSSC design storm) - Henson Creek (projects upstream of the Broad Creek WWPS are dependent on completion of CIP project number S-43.02, the Broad Creek Sewer Augmentation currently under construction)
2. Northeast Branch (2-year WSSC design storm) - Greenbelt Branch

Other areas indicated in the model simulations for lower risk of overflows are being evaluated as development proposals are evaluated through Regulation 11.165 as part of the WSSC Development Services review process.

COMAR requires WSSC to report all SSOs to MDE and the respective County Health Department within 24 hours of occurrence, as well as the need to notify the public whenever an SSO has any significant potential to affect public health or the environment. MDE has drafted guidance suggesting that wastewater utilities work closely with local environmental and health departments to identify any such potential impacts and to notify the public when warranted.



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The parties to the Consent Decree have entered a Second Amendment to the Consent Decree to provide a schedule for completion of Delayed Rehabilitation work due to permitting issues with National Park Service, Army Corp of Engineers, County Agencies, MDE and Department of Natural Resources. The deadline for completion of delayed work is February 9, 2022. The Second Amendment was lodged with the U.S. District Court and approved on June 29, 2016.

In 2018, which was the wettest year of-record there were a total of 115 sanitary sewer overflows. Of these, 14 were caused by excess flow from infiltration and inflow. Some of WSSC's Consent Decree accomplishments include: 403 submissions to the Regulatory Agencies; completed 24 Collection System Evaluations (nine were Sewer System Evaluation Surveys); prepared 23 Sewer Repair, Replacement and Rehabilitation Plans; completed 1,876 miles of Trunk Walk; completed 2,685 miles of Sewer Cleaning and Closed Circuit Television; completed the Collection System Modeling; completed the Anacostia WWPS Storage Facility; completed five Performance Assessments; completed the Supplemental Environmental Improvement Projects; 21 rounds of Water Quality Monitoring; implemented a Modified FOG Program; and completed two rounds of WWPS Capacity Reevaluations.

### **4.3.5 Unserved and Underserved Areas**

Located within the defined Sewer Envelope in Prince George's County (and Montgomery County) are numerous properties served by septic systems – not connected to the public sewer system. Many of these unserved and underserved areas are within proximity to existing sewer mains, were approved for construction of sewer main extensions, and, were ultimately to be serviced by public sewer. However, the extensions of service to these properties – even in relatively short distances – are too expensive and “prohibitive” for individual, residential landowners to fund connection. These properties typically stock older homes that were constructed prior to development of modern design criteria and regulations. Consequently, individual interim septic systems were constructed on these lots.

The issue of unserved and underserved areas has been growing as septic systems age and fail. Typically, the operating life of septic systems is estimated to be 30+ years. In these areas, the homes average 50+ years; well over the lifespan of its septic system. The cost of extending new sewer mains to serve these properties is expensive, and in most cases, prohibitive to an individual homeowner. Prior to 2001, WSSC constructed and financed water and sewer lines via an assessed front foot benefit charge (FFBC) to homeowners. This system took advantage of “economies of scale” by spreading infrastructure costs over a large number of properties resulting in an average front foot benefit assessment that was affordable. Subsequent to 2001, construction and financing of public water and sewer lines became the obligation of developers of subdivisions and landowners. This shift eliminated the benefits of the “economies of scale,” and for those landowners (now homeowners) absent sewer lines, no public means to finance extensions, even when necessary to alleviate a failed septic system.

The Bi-County Infrastructure Working Group (the Working Group) was established in 2010 to identify alternatives or less costly sources of revenue or methods of funding for operational and capital requirements in the context of the growing need to rehabilitate, upgrade and replace water and wastewater infrastructure and related facilities. The Working Group is comprised of

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representatives from the executive and legislative branches of Prince George’s and Montgomery Counties, one WSSC Commissioner from each County, and WSSC managerial and finance staff. One of the policy issues identified for study by the Working Group is the extension of public water and sewer service to unserved and underserved areas in Prince George’s and Montgomery Counties. Excerpts of that study, including approximate data and mapping of identified areas, may be found as **Appendix G** to this plan. While no final outcomes have been determined, the study and its effects are still under assessment and evaluation.

### **4.4 BIOSOLIDS MANAGEMENT**

Biosolids are the solids recovered during the wastewater treatment process that contains nutrient-rich organic matter and micronutrients. Research supported by the EPA has determined that the land application of biosolids in accordance with regulations and in appropriate rates enriches the soil and is beneficial to the environment. Biosolids improve agricultural yields while reducing the need for chemical fertilizers that can be harmful when carried by rainfall into streams, rivers and the Chesapeake Bay.

The EPA has established regulations for the use of biosolids to protect human health, plant life, livestock, wildlife, and water quality. The Clean Water Act required that these regulations protect human health and the environment from any reasonably anticipated adverse effects of pollutants and pathogens in the biosolids. Biosolids generated from municipal wastewater treatment plants are monitored for pollutants and cannot be applied to the land if they exceed the EPA limits.<sup>1</sup>

#### **4.4.1 Biosolids Production**

The Blue Plains Wastewater Treatment Plant is the largest advanced wastewater treatment facility of its type in the United States. Although other plants may have larger capacities, Blue Plains provides the highest level of treatment with its nitrification and filtration processes. Treatment consists of preliminary treatment, primary treatment, secondary treatment, nitrification, denitrification, effluent filtration, chlorination/dechlorination and post-aeration. The solids treatment processes are comprised of thickening and dewatering for primary sludge, secondary waste activated sludge, and nitrification/denitrification waste activated sludge. This will result in approximately 50% solids reduction, a Class A pathogen-free product, and enough methane, after thermal hydrolysis and anaerobic digestion, to generate approximately one third of the plant’s electricity demand. Plants operated in Prince George’s County by WSSC use traditional methods for recovering and treating biosolids, although the Piscataway Water Resource Recovery Facility employs thermal hydrolysis and anaerobic digestion to generate electricity for plant demand after the Bio-Energy Project is completed at the facility tentatively by early 2023.

Once treated, biosolids become a viable product recycled in the form of natural fertilizers and land applied. It may also be disposed of at landfills. **Table 4-3** reflects the production, reuse, and disposal methods for biosolids from the Blue Plains WWTP and treatment facilities located in Prince George’s County.

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<sup>1</sup> District of Columbia Water and Sewer Authority, “Biosolids Recycling-Preserving Agriculture and Protecting the Chesapeake Bay”

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### **4.4.2 Regulatory Requirements**

MDE is the primary agency that regulates the application of biosolids. A biosolids contractor must file and be permitted by MDE in order to apply biosolids to any site approved by the County. The application and permitting process assures that all regulatory requirements are met, assuring that use on land is safe for humans and the environment.<sup>2</sup> MDE, WSSC, and the County's Health Department inspect the site both during and after biosolids applications. The following is a list of requirements and restrictions that relate to the land application of biosolids:

- Pathogen Control
- Heavy Metals
- Pretreatment
- Buffer Zones
- Slope Requirements
- Application Rates
- Frozen Ground Restrictions
- Nutrient Management Plans
- Time Restrictions
- Monitoring Records
- Site Inspections

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<sup>2</sup> Maryland Department of the Environment, Factsheet, Sewage Sludge, Website: [www.mde.state.md.us](http://www.mde.state.md.us), January, 2001.

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**Table 4-3 Biosolids Production and Reuse**

Treatment Plant Name (Existing or Planned)	Sludge Generation (Dry tons / Day)							Chemical Solids	Solids Contents	Biosolids Facility Planned Expansion and/or Upgrading: Dates and Processes	Present Utilization Method(s) and Site(s)	Site Life Expectancy	Future Plans for Sludge Management
	1985	1990	1995	2000	2005	2010	2015						
Blue Plains (Wash. D.C.) <sup>3</sup>	380	380	380	380	380	380	190	Ferric Cl. Polymer Lime	28%	Anaerobic Digestion and Combined Heat and Power, complete mid- 2014	Prince George's County Share- Land Application	Hauling Contract Renewed in 2014	Anaerobic Digestion Land Application
Prince George's County Pro-rata Share <sup>4</sup>	82.9	82.9	82.9	82.9	82.9	82.9	82.9						
Parkway	8.2	8.4	8.3	8.4	9.7	9.7	9.7	Polymer Aluminum Lime				2014	
Western	10.5	12.6	15.8	17.5	12.4	12.4	12.4	Polymer				N/A	
Piscataway	29.6	30.0	27.5	27.6	23.9	23.9	23.9	Lime	26%	Off-Site Land Application	5 Year Contract	2014	
Mattawoman (Charles Co., MD) <sup>5</sup>								Ferric Cl. Lime	20% 25%	201 Facilities Plan Study in	No biosolids have been received	N/A	Under Study

<sup>3</sup> The District of Columbia Government has completed a feasibility study for the attainment of effluent limitations continued in NPDES Permit No. DC0021199 and a long-range Blue Plains biosolids management plan.

<sup>4</sup> The Prince George's County pro-rata share is managed pursuant to the 1985 Blue Plains Intermunicipal Agreement.

<sup>5</sup> The operation of the Mattawoman Sewage Treatment Plant (STP) is the responsibility of the Charles County Government. The agreement between the WSSC and the Charles County Government governing the Mattawoman STP provides that the WSSC shall dispose of its proportionate share of the total sludge generated by the Plant outside the geographical boundaries of Charles County. The projection of the amount of sludge for the forecast period is under study by the WSSC. The results of this study will be incorporated at a later date.

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The land application of biosolids is considered an acceptable and beneficial management method and is now considered the centerpiece of a diverse management plan that also includes incineration and landfilling. The County Executive and County Council, pursuant to Section 21-108 of the County Code, must approve sites that are selected for the land application of stabilized biosolids. Land application sites need not be included in the County's Comprehensive Water and Sewer Plan, since the actual application of biosolids on a particular site is of short duration. **Table 4-4** lists companies permitted to apply biosolids in Prince George's County, the facility name, permit number and expiration dates for land application or site reclamation. The locations of the permitted land area sites are found on **Map 4-2**.

The land application contract requires the contractors to provide storage facilities to manage the disposal of biosolids produced daily at the Wastewater Treatment Plants. The storage facilities are used during inclement weather or other conditions that may prevent land application. One biosolids storage lagoon is located in Prince George's County. The Cedarville lagoon is operated by Synagro Central LLC and has a capacity of 8,750 dry tons. The lagoon must be emptied once a year.

### **4.4.3 Land Application**

Biosolids are applied to the land in amounts specific to the type of soil, crop to be grown and proximity to roads or streams. Subsurface soil injection involves injection, under pressure, of liquid biosolids beneath the soil surface. The second method, surface application with incorporation (tilling in), involves spreading the biosolids on the surface of the soil and tilling the soil to incorporate the biosolids with the soil.

The suitability of a site for biosolids land application is a function of potential crops, the physical, chemical and mineralogical characteristics of the soil as determined by laboratory analyses, and site considerations for each field. Nutrient level, texture, micronutrients and macronutrients, soil alkalinity (pH) and any other soil properties that will influence application rates are considered. Other factors considered are landscape features (e.g., slope), proximity to surface waters and groundwater, soil parent materials, density and moisture-holding capacity. Setback from these features are mandated by State law and strictly enforced by onsite inspection.

The annual rate of application for biosolids application is carefully determined and is usually based on meeting the nitrogen requirement of the crop to be grown. This avoids leaching of nitrate-nitrogen into groundwater and surface waters since the crop will quickly absorb the needed nitrogen contained in the biosolids. Silviculture is used in the County where biosolids are land applied. Fast-growing trees are planted above the biosolids, utilizing the nutrient to grow. The following biosolids parameters are required to develop recommendations for application rates on agricultural soils: percent solids, total nitrogen (N), ammonia (NH<sub>3</sub>), nitrate (NO<sub>3</sub>), phosphorus (P), potassium (K), copper (Cu), zinc (Zn), nickel (Ni), lead (Pb) and cadmium (Cd). With all nutrients, (except phosphorus), specific upper level limits of soil accumulation are avoided to protect both the environment and public health. Recent legislation by the State will implement phosphorus limits.

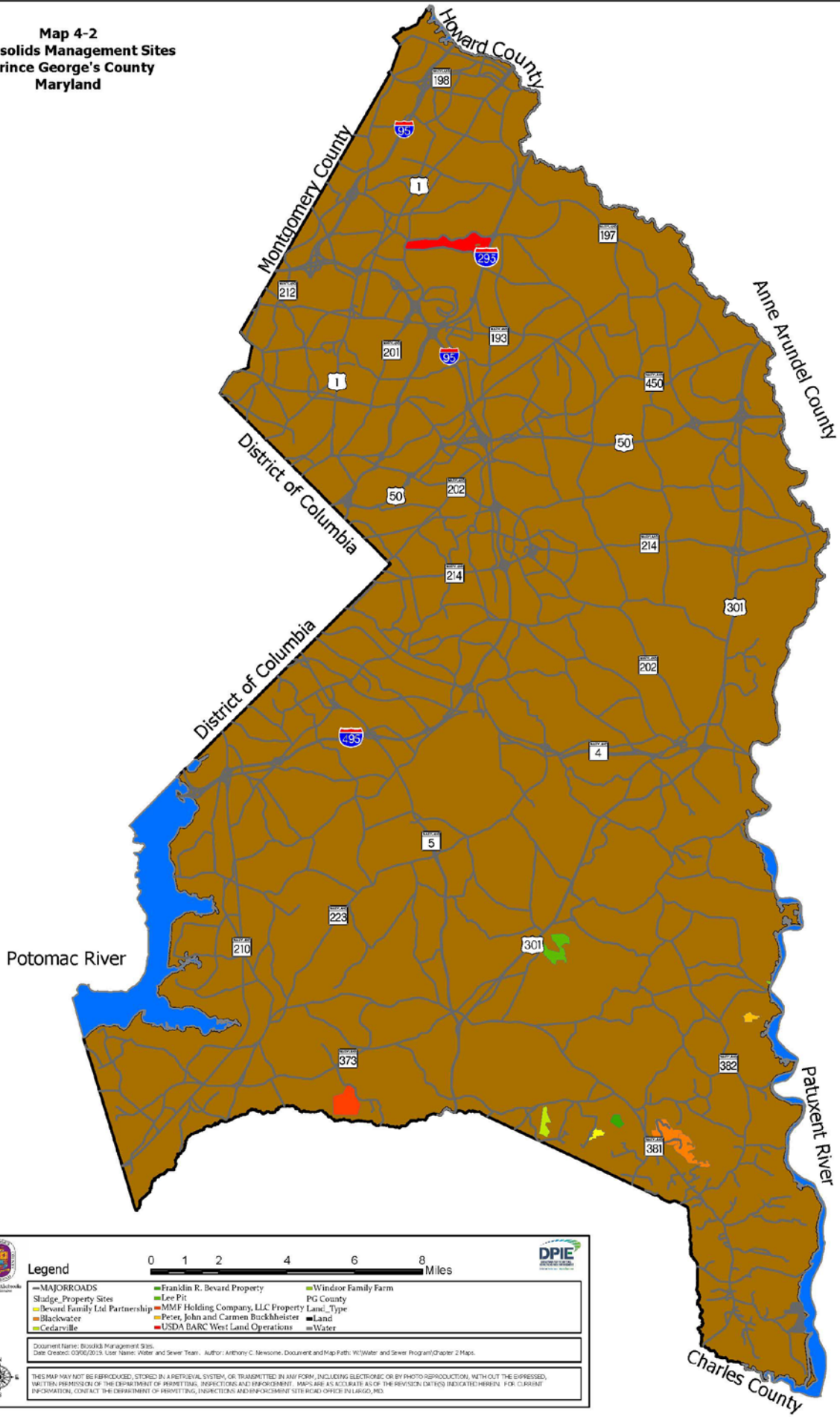
Sewage Sludge Utilization Permits  
Prince George's County Sites


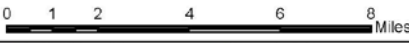

Table 4-4

Site Name	AKA	Site Number	Permit Number	Issue Date	Expir Date	Issued to:	Acres	Council Dist
A. H. Smith Jr. Property	Brandywine Farm	PG 137	S-02-16-4917-A	12/16/2002	12/15/2007	Synagro - WWTP, Inc.	0.00	9-
A.H. Smith Jr. Property	Percontee/Gudelski Materials and Rockhill Sand & Gravel	PG 187	2016-SAG-5940	3/7/2017	3/6/2022	Synagro Central, LLC	448.14	9-
A.H. Smith Property	AH Smith Bowie Farm		S-97-16-4232-A	5/12/1997	5/11/2002	Browning-Ferris, Inc.	448.14	9-
Andrew & Patricia Metroka Property	"No additional sludge may be applied" per ltr dated 7/18/2005	PG 192	S-04-16-5031-A	1/8/2004	1/7/2009	Synagro Mid-Atlantic, Inc	15.00	9-
Andrews Air Force Base	AAFB recvg sludge from Davidsonville Transmitter		S-05-16-5146-T	11/17/2005	11/16/2010	89 CES/CEV	49.50	9-
Associates Limited Partnership	Permit voided 1/31/01	PG 97A	S-96-16-4195-ABE			Synagro - WWTP, Inc	0.00	9-
At Last Farm, LLC		PG 191	S-04-16-5013-A	5/19/2004	5/18/2009	Synagro Mid-Atlantic, Inc	239.30	9-
Bardon/E.L. Gardner	Brandywine/North Keys Pit	PG 7	S-04-16-2888-M	5/21/2004	5/20/2009	Synagro - WWTP, Inc	450.00	9-
Bardon/H.P. Queen Estates	Queen Estates Acres	PG 189	S-03-16-4962-M	5/12/2003	5/11/2008	Synagro Mid-Atlantic, Inc.	1,284.30	9-
Beltsville Agricultural Research Center	BARC (Sludge Transport Permit)		2012-STR-4488	3/8/2013	3/7/2018	USDA	0.00	1-
Beltsville Agricultural Research Center	BARC		S-02-16-4345-A	7/27/2002	7/26/2007	USDA - BARC	22.00	1-
Bevard Family Limited Partnership	Bevard Pit/ Cedarville Compost Facility	PG 193	2012-SRC-50	6/13/2012	6/12/2017	Synagro Central, LLC	202.36	9-
Blackwater Preservation LLC Property		PG 200	2012-STR-5708	10/22/2012	10/21/2012	Synagro Central, LLC	548.40	9-
Brown Station Rd Municipal Landfill	Pre-treatment Facility		2012-STR-5709	11/7/2012	11/6/2017	MD Environmental Service	0.00	
Brown Station Rd Municipal Landfill	Pre-Treatment Facility		S-01-16-959-S	3/29/2001	3/28/2006	Synagro - WWTP, Inc.	5.20	9-
Cedarville Lagoon Storage Facility	The Lagoon	PG 186	S-01-16-4799-A	12/8/2014	12/7/2019	Synagro - WWTP, Inc.	95.50	9-
Cheltenham Property LLC	Application Inactive - no owner consent		2014-STR-5829	12/11/1995	7/30/2000	City of Bowie	0.00	4
City of Bowie/Entzian Farm	Entzian Tract		S-00-16-2994-A1	5/12/2005	5/11/2010	Maryland Envir. Service	94.90	4-
Dept. of Natural Resources	Downing Tract	PG 182	S-05-16-4550-A	3/22/2005	3/21/2010	Synagro Mid-Atlantic, Inc	81.60	9-
Dept. of Natural Resources	Merkle Trueman Wildlife Tract	PG 111	S-05-16-4554-A	5/11/2005	5/10/2005	Synagro Mid-Atlantic, Inc.	282.60	9-
Dept. of Natural Resources	Peed Tract	PG 37	S-05-16-4555-A1	2/22/1999	2/21/2004	Synagro - WWTP, Inc	89.20	9-
Dept. of Natural Resources	Sasser Tract	PG 154	S-01-16-809-H	1/8/2001	1/7/2006	ERCO, Incorporated	30.50	9-
ERCO, Inc.	ERCO Tree Farm		S-02-16-4863-R1	2/22/2002	2/21/2007	ERCO, Incorporated	122.00	
ERCO, Inc.	Rockhill Sand & Gravel	PG 180	2015-SAG-5934	8/9/2016	8/8/2021	Synagro Central, LLC	206.30	9-
Ford-Rooney Pit - Percontee, Inc	Applic filed 7/7/2010; ok for Field 2R (15 acres)	PG 198	2010-SRC-5576	6/11/2002	6/11/2012	Synagro Central, LLC	67.68	9-
Franklin B. Bevard Property		PG 185	S-01-16-4755-A	8/2/2006	8/1/2011	Synagro Mid-Atlantic, Inc	73.80	9-
George Windsor Property		PG 176	S-97-16-4294-M1			Synagro - WWTP, Inc	0.00	
John W. Bond Jr.		PG 190	Pending			Synagro - WWTP, Inc	51.20	9-
John, Peter & Carmen Buchheister Property	Buchheister Brothers Property		S-97-16-4114-A1			Synagro - WWTP, Inc	0.00	
Leonard F. Hanson	Limited Partnership Associates	PG 178	S-98-16-1142-M1			Synagro - WWTP, Inc	0.00	
Mirant Chalk Point LLC	**PENDING*** per ltr 1/14/2004	PG 97	S-01-16-4741-T			Mirant Chalk Point, LLC	0.00	9-
Mirant Chalk Point, LLC	Authorizing transport of sludge from Chalk Pt.		S-04-16-5040-T	1/30/2004	1/29/2009	Mirant Chalk Point, LLC	0.00	9-
Nancy Walker		PG 12	S-96-16-4182-A1	11/8/2013	11/7/2018	NRG Chalk Point LLC	0.00	
NRG Chalk Point LLC	Chalk Point Generating Station WWTP		2013-STR-5040	11/20/2015	11/19/2025	NRG Chalk Point, LLC	0.00	9-
NRG Chalk Point, LLC	Sludge transport from Chalk Pt to WSSC Ritchie Rd Sewage Pumping Station		2014-STR-5827	12/8/2014	12/7/2019	WSSC	0.00	1
Parkway WWTP	WSSC - Parkway WWTP		S-05-16-5111-T	4/15/2005	4/15/2010	U.S. Fish & Wildlife Service	0.00	1-
Patuxent Wildlife Research Center WWTP	U.S. Fish and Wildlife Service - to transport to WSSC Tanglewood Station		S-97-16-4209-M1			Synagro - WWTP, Inc	0.00	
PEPCO	Permit voided 1/31/01	PG 177	S-01-16-3782-M			Synagro - WWTP, Inc.	0.00	
Percontee, Inc - Benfield Pit		PG 172	S-96-16-4023-A			Synagro - WWTP, Inc	0.00	
Percontee, Inc.		PG 144	S-01-16-3781-M			Synagro - WWTP, Inc.	0.00	
Percontee, Inc. - Bryan Pit		PG 174	S-01-16-3801-M1			Synagro - WWTP, Inc.	0.00	
Percontee, Inc. - Duley Pit		PG 171	2016-SAG-5939	3/7/2017	3/6/2022	Synagro Central, LLC	251.00	9-
Percontee, Inc. - Lee Pit		PG 175	2014-STR-5828	12/8/2014	12/7/2019	WSSC	0.00	8
Piscataway WWTP	WSSC - Piscataway WWTP		S-00-16-4675-A1	5/10/2000	5/9/2005	Synagro - WWTP, Inc	30.30	9-
Preston Windsor		PG 184	S-00-16-4630-M1	3/20/2000	3/19/2000	Synagro - WWTP, Inc	0.00	
Reeder Corporation	Permit voided 1/31/01	PG 179	S-97-16-4344-A			Synagro - WWTP, Inc	0.00	
Robert & Tamara Petty		PG 52	S-97-16-4295-A1			Synagro - WWTP, Inc	0.00	
Robert Young		PG 124R	S-00-16-4654-AM2	6/11/2002	2/15/2005	Synagro - WWTP, Inc	170.36	9-
Smith, Alfred & Harry	AH Smith Assoc. Limited Partnership Property	PG 188	S-02-16-4890-M	8/26/2002	8/25/2007	Synagro - WWTP, Inc	70.72	9-
Southstar Limited Partnership	Chaney Enterprises		S-06-16-5131-M	4/7/2006	4/6/2011	Synagro	0.00	
Synagro Central	AH Smith Assoc.	PG 124R	2012-SRC-5156	6/15/2012	6/14/2017	Synagro Central, LLC	120.20	
Synagro4	Blackwater	PG 194				Synagro	196.31	
The MMF Holding Company LLC Property	Meinhardt/ Brandywine Properties	PG 147				Synagro Central, LLC		



**Map 4-2**  
**Biosolids Management Sites**  
**Prince George's County**  
**Maryland**



 <b>Legend</b>			
	<ul style="list-style-type: none"> <li>— MAJOR ROADS</li> <li>■ Sludge Property Sites</li> <li>■ Beward Family Ltd Partnership</li> <li>■ Blackwater</li> <li>■ Cedarville</li> </ul>	<ul style="list-style-type: none"> <li>■ Franklin R. Bevard Property</li> <li>■ Lee Pitt</li> <li>■ MFM Holding Company, LLC Property</li> <li>■ Peter, John and Carmen Buckhelter</li> <li>■ USDA BARC West Land Operations</li> </ul>	
<small>Document Name: Biosolids Management Sites                  Date Created: 03/06/2013, User Name: Water and Sewer Team, Author: Anthony C. Newsome, Document and Map Path: W:\Water and Sewer Program\Chapter 2 Maps</small>			
<small>THIS MAP MAY NOT BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM, INCLUDING ELECTRONIC OR BY PHOTO REPRODUCTION, WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE DEPARTMENT OF PERMITTING, INSPECTIONS AND ENFORCEMENT. MAPS ARE AS ACCURATE AS OF THE REVISION DATE(S) INDICATED HEREIN. FOR CLARITY INFORMATION, CONTACT THE DEPARTMENT OF PERMITTING, INSPECTIONS AND ENFORCEMENT SITE ROAD OFFICE IN LARGO, MD.</small>			

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Generally, biosolids produced in Prince George's County are extremely low in metals. As an extra precaution, however, MDE restricts the number of applications that can be made on agricultural land for any biosolids that contain heavy metals such as copper, zinc, nickel, lead or cadmium.

DC Water is participating in a pilot project for small scale composting technology. This pilot project, currently operating offsite from Blue Plains produces Class A product. DC Water unveiled the product and its new brand, Bloom™ in 2016, announcing a pilot program for distribution with local soil blenders and landscapers.

### **4.5 FINANCIAL PLANNING**

Financing of all WSSC CIP is reviewed by the two County Executives and approved annually by the Prince George's and Montgomery county councils. Each CIP covers a six-year period. The Prince George's County Council adopts the CIP as part of the County's Comprehensive Water and Sewer Plan. The CIP is divided into three categories for both water and sewer projects: Prince George's County projects, Montgomery County projects, and Bi-County projects. **Appendix 4-2** of this chapter lists the current sewer projects for the Bi-County area and for Prince George's County.

System improvement projects under the CIP are financed with funds from the Water Supply and Sewage Disposal Bond Funds. The funds are repaid to bond holders over a period of 30 years by annual principal and interest payments known as debt service. System improvement projects related to State environmental regulations are funded in part through grants from the regulatory agency. WSSC has also utilized the Water Quality State Revolving Loan Fund Program. Growth-related projects are paid through System Development Charges and developer contributions.

DC Water also submits a budget for review by Prince George's County as a signatory to the IMA. The DC Water budget includes costs related to the County's share of its allocated flow at the Blue Plains WWTP through WSSC. The DC Water Board of Directors is comprised of 11 members; two of the members are from Prince George's County. The Board sets policy, oversees bond issues, and approves the operating and capital budgets.

The City of Bowie is required to prepare and adopt a formal budget, appropriating funds for the operation, including plant improvements, of the water and sewer system. The City Council formally adopts the budget each year. Rates are established based upon the "cash needs approach." The rate structure must provide not only funds for operation and maintenance, but principal and interest payments on long-term debt, plant additions, and renewals and replacements.

In recent years, the City of Bowie has utilized the Water Quality State Revolving Loan Fund Program to finance its Wastewater Plant improvements. It has also used a pay as you go system to finance some of its improvements, as well as issuing general obligation bonds. Additional information concerning the financial management plan for the City of Bowie's Water and Sewer system may be obtained by contacting the finance director.



***MDE DISCHARGE PERMITS  
PRINCE GEORGES COUNTY***

**ADOPTED 2018 WATER AND SEWER PLAN**

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Prince George's County  
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Facility Name	Watershed	State Num.	NPDES Num.	Type	Last Issued	Effective End Date
A & B Trucking, LLC		12SW3157	MDR003157	General Permit	3/9/2017	12/31/2018
ABC Distribution LLC	Piscataway Creek - 02140203	12SR3062	MDR003062	General Permit	8/25/2015	12/31/2018
Accokeek Auto Parts	Mattawoman Creek - 02140111	12SW0667	MDR000667	General Permit	10/16/2014	12/31/2018
Aggregate & Dirt Solutions	Anacostia River - 02140205	10MM9920	MDG499920	General Permit	8/30/2016	12/24/2017
Aggregate Industries - Bladensburg Aggregate	Anacostia River - 02140205	10MM0772	MDG490772	General Permit	12/3/2010	12/15/2017
Aggregate Industries - Bladensburg Ready-Mix Concrete & Hot Mix Asphalt Plant	Anacostia River - 02140205	10MM3577	MDG493577	General Permit	8/21/2012	12/15/2017
Aggregate Industries - Kirby Road Asphalt Plant	Upper Tidal Potomac River - 02140201	10MM1036	MDG491036	General Permit	11/30/2010	12/15/2017
Aggregate Industries - Queen Sand & Gravel	Mattawoman Creek - 02140111	10MM9762	MDG499762	General Permit	12/8/2010	12/15/2017
Aggregate Industries-Accokeek (gaslight) Sand and Gravel	Mattawoman Creek - 02140111	10MM8011	MDG498011	General Permit	12/6/2010	12/15/2017
Airgas East, Inc.	Anacostia River - 02140205	12SR0008	MDR000008	General Permit	5/15/2015	12/31/2018
Aliant Techsystems Inc - Space Systems Division		12NE2087	MDR002087	General Permit	5/26/2015	5/25/2020
Allant Techsystems, Inc., Space Systems Div (ATK-SSD)		12NE2086	MDR002086	General Permit	5/26/2015	5/25/2020
Anchor Construction - 2300 Beaver Road		12SW3056	MDR003056	General Permit	8/5/2015	12/31/2018
Andrews Air Force Base	Piscataway Creek - 02140203	10MM8034	MDG498034	General Permit	11/10/2010	12/15/2017
Andrews Air Force Base Water Supply System	Piscataway Creek - 02140203	11HT9475	MDG679475	General Permit	4/15/2013	12/25/2017
Aquasco Materilas LLC	Patuxent River Area - 02131100	10MM8049	MDG498049	General Permit	10/24/2011	12/15/2017
Arcal Chemicals, Inc	Western Branch - 02131103	12SW2344	MDR002344	General Permit	9/16/2014	12/31/2018
ATK Space Systems, Inc		12NE2233	MDR002233	General Permit	5/21/2015	5/20/2020
Atlantic Contracting Batch Plant - AAFB		10MM8079	MDG498079	General Permit	3/11/2014	12/15/2017
B & B Auto Salvage, Ltd.	Upper Patuxent River - 02131104	12SR1120	MDR001120	General Permit	3/17/2015	12/31/2018
Bardon, Inc. - Kirby Road Sand And Gravel	Piscataway Creek - 02140203	10MM0511	MDG490511	General Permit	12/3/2010	12/15/2017
Barnabas Road Associates, LLC	Upper Tidal Potomac River - 02140201	10MM1720	MDG491720	General Permit	4/1/2015	12/15/2017
Belair Bath And Tennis		12SI6542	MDG766542	General Permit	4/5/2013	11/29/2017
Beltsville Ready-Mix Concrete (RMC)	Anacostia River - 02140205	10MM3602	MDG493602	General Permit	5/20/2013	12/15/2017
Beltway Used Auto Parts LLC	Anacostia River - 02140205	12SW1464	MDR001464	General Permit	11/20/2014	12/31/2018
Beretta U S A Corp	Mattawoman Creek - 02140111	12SR0590	MDR000590	General Permit	4/15/2015	12/31/2018
Best Western Capitol Beltway		12SI7140	MDG767140	General Permit	3/29/2013	11/29/2017
Bowie Sport Fit	Upper Patuxent River - 02131104	12SI6165	MDG766165	General Permit	1/16/2013	11/29/2017
Bowie Used Auto Parts, Inc	Upper Patuxent River - 02131104	12SR0846	MDR000846	General Permit	5/18/2015	12/31/2018
BRAC Administration Facility/Jones Bldg		12SW3055	MDR003055	General Permit	9/15/2015	12/31/2018
Brandywine Auto Parts, Inc.	Mattawoman Creek - 02140111	12SR0847	MDR000847	General Permit	5/19/2015	12/31/2018
Brandywine Ent/cross Trails Operation/	Patuxent River Middle - 02131102	10MM8042	MDG498042	General Permit	4/7/2011	12/15/2017
Brandywine Flyash Site	Patuxent River Middle - 02131102	07DP1389	MD0054836	Industrial Individual	11/1/2016	10/31/2021

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Brandywine Flyash Site	Patuxent River Middle - 02131102	12SR3258	MDR003258	General Permit	5/26/2017	12/31/2018
Brown Station Road Sanitary Landfill	Western Branch - 02131103	12SW0401	MDR000401	General Permit	7/14/2015	12/31/2018
Carrollon Manor		12SI7106	MDG767106	General Permit	3/25/2013	11/29/2017
Cedarville Mobile Home Park	Zekiah Swamp - 02140108	10DP3264	MD3264Q98	To Groundwater	12/1/2010	12/19/2017
Cedarville State Forest		11HT5139	MDG675139	General Permit	6/4/2012	12/25/2017
Central Small Car Salvage	Upper Patuxent River - 02131104	12SR0841	MDR000841	General Permit	3/30/2015	12/31/2018
Chaney Enterprises - Seat Pleasant	Anacostia River - 02140205	10MM9867	MDG499867	General Permit	11/23/2010	12/15/2017
Chaney Enterprises - Seat Pleasant	Anacostia River - 02140205	15MP9867	MDG499867	General Permit	11/2/2017	4/30/2022
Chaney Enterprises - Upper Marlboro	Western Branch - 02131103	10MM9873	MDG499873	General Permit	12/8/2010	12/15/2017
Chaney Enterprises - Upper Marlboro	Western Branch - 02131103	15MP9873	MDG499873	General Permit	11/3/2017	4/30/2022
Cheltenham Boy's Village WWTP & WTP	Piscataway Creek - 02140203	08DP0755	MD0023931	Municipal (Surface)	6/1/2010	12/16/2017
Cheltenham Boy's Village WWTP & WTP	Piscataway Creek - 02140203	11HT9452	MDG679452	General Permit	6/13/2012	12/25/2017
Chestnut Hill Apartments	Oxon Creek - 02140204	12SI6593	MDG766593	General Permit	3/20/2013	11/29/2017
Chuck's Used Auto Parts		12SW3123	MDR003123	General Permit	4/5/2016	12/31/2018
Chucks Used Auto Parts, Inc	Oxon Creek - 02140204	12SW1112	MDR001112	General Permit	9/17/2015	12/31/2018
City Of Bowie Ms4		12SW3250	MDR003250	General Permit	4/24/2017	12/31/2018
City Of Bowie Water System	Upper Patuxent River - 02131104	11HT9557	MDG679557	General Permit	2/15/2013	12/25/2017
City of Bowie WWTP	Upper Patuxent River - 02131104	12SW2525	MDR002525	General Permit	1/30/2015	12/31/2018
City of Bowie WWTP	Upper Patuxent River - 02131104	14DP0697	MD0021628	Municipal (Surface)	6/1/2016	5/31/2021
City of Bowie, Parks and Grounds Facility		12SW3251	MDR003251	General Permit	4/27/2017	12/31/2018
City of College Park DPW	Anacostia River - 02140205	12SW2148	MDR002148	General Permit	3/2/2015	12/31/2018
City of District Heights	Western Branch - 02131103	12NE3240	MDR003240	General Permit	3/23/2017	3/22/2022
City of Greenbelt-Greenbelt Lake		12SW2145	MDR002145	General Permit	2/27/2015	12/31/2018
City of Hyattsville	Anacostia River - 02140205	12SW2150	MDR002150	General Permit	3/2/2015	12/31/2018
City of Laurel DPW Maintenance Facility	Patuxent River Middle - 02131102	12SW1841	MDR001841	General Permit	3/2/2015	12/31/2018
City of Seat Pleasant	Upper Tidal Potomac River - 02140201	12SW2143	MDR002143	General Permit	3/2/2015	12/31/2018
Clagett Farm Chesapeake Bay Foundaton		13DP3784	MD3784Q13	To Groundwater	6/1/2013	5/31/2018
Clean Earth of Greater Washington, LLC		12SR2343	MDR002343	General Permit	4/27/2015	12/31/2018
Cohen Recycling		12SW3138	MDR003138	General Permit	3/2/2017	12/31/2018
Columbia Park	Anacostia River - 02140205	12SI6594	MDG766594	General Permit	3/20/2013	11/29/2017
Corporate Press		12NE3040	MDR003040	General Permit	6/9/2015	6/8/2020
D C Materials	Anacostia River - 02140205	12SW1745	MDR001745	General Permit	9/9/2014	12/31/2018
D.C. Materials Daisy Lane Yard		12SW2310	MDR002310	General Permit	9/18/2014	12/31/2018
Deerfield Run Apartments	Upper Patuxent River - 02131104	12SI6591	MDG766591	General Permit	3/14/2013	11/29/2017
DEiamond Transit - CSC #7044 Temple Hills		12SW3283	MDR003283	General Permit	8/31/2017	12/31/2018
East-West Motors	Anacostia River - 02140205	12SW3130	MDR003130	General Permit	4/20/2016	12/31/2018
Eaton Corporation	Anacostia River - 02140205	12SR0316	MDR000316	General Permit	1/16/2015	12/31/2018
EP Henry	Anacostia River - 02140205	12SR2155	MDR002155	General Permit	4/13/2015	12/31/2018

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Eppley Recreation Center		12SI7192	MDG767192	General Permit	4/15/2014	11/29/2017
Fairlands Sports & Aquatic Complex		12SI7250	MDG767250	General Permit	9/14/2017	11/29/2017
FDA - Center For Veterinary Medicine	Anacostia River - 02140205	08DP3215	MD3215Q03	Industrial Individual	12/1/2011	12/25/2017
First Transit, Inc #55440 - Capitol Heights		12SW2382	MDR002382	General Permit	10/17/2014	12/31/2018
Ford/Rooney Pit-Percontee	Lower Patuxent River - 02131101	10MM0171	MDG490171	General Permit	2/29/2012	12/15/2017
Foreign Car Parts, Inc.	Western Branch - 02131103	12SW0844	MDR000844	General Permit	2/25/2015	12/31/2018
Forest Hills Apts		12SI7141	MDG767141	General Permit	3/29/2013	11/29/2017
Forestville Asphalt Company	Western Branch - 02131103	10MM9911	MDG499911	General Permit	1/6/2016	12/27/2017
Forestville Asphalt Company	Western Branch - 02131103	15MP9911	MDG499911	General Permit	11/15/2017	4/30/2022
Fort Washington Marina	Piscataway Creek - 02140203	10MA9119	MDG999119	General Permit	7/15/2011	12/19/2017
Fort Washington Pool Association	Piscataway Creek - 02140203	12SI6265	MDG766265	General Permit	3/7/2013	11/29/2017
Gateway Square Apartments	Oxon Creek - 02140204	12SI6595	MDG766595	General Permit	3/25/2013	11/29/2017
Grant County Mulch Laurel Facility	Anacostia River - 02140205	12SR2125o	MDR002125	General Permit	4/9/2015	12/31/2018
Greyhound Lines, Inc #320012	Anacostia River - 02140205	12SW2330	MDR002330	General Permit	11/25/2014	12/31/2018
Griffith Energy Services, Inc. - Cheverly	Anacostia River - 02140205	12SW1380	MDR001380	General Permit	9/10/2014	12/31/2018
Halle Enterprises, Inc.	Anacostia River - 02140205	12SW1829	MDR001829	General Permit	1/7/2015	12/31/2018
Hampton Inn - Laurel	Upper Patuxent River - 02131104	12SI6698	MDG766698	General Permit	3/6/2013	11/29/2017
Hard Bargain Farm	Middle Tidal Potomac River - 02140102	12DP3515A	MD3515Q05A	To Groundwater	11/1/2013	12/25/2017
Heather Hills Apartments		12SI6875	MDG766875	General Permit	4/1/2014	11/29/2017
Heritage Square	Anacostia River - 02140205	12SI6596	MDG766596	General Permit	3/25/2013	11/29/2017
Howard Johnson's - Cheverly		12SI7149	MDG767149	General Permit	4/18/2013	11/29/2017
Huntsman Pigments	Anacostia River - 02140205	11HT5200	MDG675200	General Permit	12/17/2014	12/25/2017
Huntsman Pigments	Anacostia River - 02140205	12SW1926A	MDR001926	General Permit	2/1/2016	12/31/2018
Insurance Auto Auctions, Inc.	Patuxent River Middle - 02131102	12SR1750	MDR001750	General Permit	1/9/2015	12/31/2018
Intercounty Connector (ICC) Eastern Operations Facility		12SW2415	MDR002415	General Permit	8/20/2014	12/31/2018
Jiffy John Company, Inc.	Anacostia River - 02140205	12NE1299	MDR001299	General Permit	2/27/2015	2/26/2020
Joint Base Andrews Drainage Repair Plan		12SW3055	MDR003055	General Permit	9/15/2015	12/31/2018
Joint Base Andrews Drainage Repair Plan		12SW3066	MDR003066	General Permit	9/15/2015	12/31/2018
Joint Base Andrews Drainage Repair Plan		12SW3067	MDR003067	General Permit	9/15/2015	12/31/2018
Joint Base Andrews-Air Force Road		12SW3066	MDR003066	General Permit	9/15/2015	12/31/2018
Joseph Smith & Sons, Inc	Anacostia River - 02140205	12SR0654A	MDR000654	General Permit	10/5/2016	12/31/2018
Kenilworth Foreign Car Parts	Anacostia River - 02140205	12SW1366	MDR001366	General Permit	3/27/2015	12/31/2018
Kenilworth Towers East	Anacostia River - 02140205	12SI6597	MDG766597	General Permit	3/25/2013	11/29/2017
Keys Energy Center, LLC Facility and Natural Gas Pipeline		11HT9617	MDG679617	General Permit	9/13/2016	12/25/2017
KMC Thermo-Brandywine Power Facility	Mattawoman Creek - 02140111	12SR1173	MDR001173	General Permit	2/19/2015	12/31/2018
Landover Bus Garage & Maintenance Division	Anacostia River - 02140205	12SR2457	MDR002457	General Permit	7/25/2014	12/31/2018

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Laney Materials, LLC	Anacostia River - 02140205	10MM1754	MDG491754	General Permit	12/7/2010	12/15/2017
Laney Materials, LLC	Anacostia River - 02140205	15MP1754	MDG491754	General Permit	11/15/2017	4/30/2022
Lansdowne Village	Anacostia River - 02140205	12SI6599	MDG766599	General Permit	3/25/2013	11/29/2017
Laurel Asphalt Crushing Plant	Anacostia River - 02140205	10MM8039	MDG498039	General Permit	9/29/2011	12/15/2017
Laurel Concrete Crushing Plant	Anacostia River - 02140205	10MM8040	MDG498040	General Permit	9/29/2011	12/15/2017
Laurel Ready Mix Concrete	Anacostia River - 02140205	10MM9755	MDG499755	General Permit	11/30/2010	12/15/2017
Laurel Ready Mix Concrete	Anacostia River - 02140205	15MP9755	MDG499755	General Permit	10/16/2017	4/30/2022
Lawrence Street Industry, LLC	Anacostia River - 02140205	12SW1093	MDR001093	General Permit	3/10/2015	12/31/2018
Lee Pit, PG-175	Patuxent River Middle - 02131102	10MM0170	MDG490170	General Permit	2/29/2012	12/15/2017
Maier, Ernest, Inc.	Anacostia River - 02140205	10MM2092	MDG492092	General Permit	12/11/2014	12/15/2017
Marlboro Auto Parts	Western Branch - 02131103	12SW1933	MDR001933	General Permit	11/10/2014	12/31/2018
Marlton Community Pool		12SI7111	MDG767111	General Permit	2/27/2013	11/29/2017
Martz/GoldLine, Inc	Anacostia River - 02140205	12SR1083	MDR001083	General Permit	11/1/2016	12/31/2018
Marva Maid Landover, LLC	Anacostia River - 02140205	12SR2022	MDR002022	General Permit	4/23/2015	12/31/2018
Maryland Reclamation, LLC - Hammett Property	Western Branch - 02131103	10MM8014	MDG498014	General Permit	6/23/2011	12/15/2017
Megabus Northeast LLC		12SW3266	MDR003266	General Permit	7/10/2017	12/31/2018
Melwood Horticultural Training Center		12NE3072	MDR003072	General Permit	1/15/2016	1/14/2021
Meridian at Bowie		12SI6463	MDG766463	General Permit	3/18/2014	11/29/2017
Metro Re-Uz-It Company, Inc.	Anacostia River - 02140205	12SW1357	MDR001357	General Permit	1/12/2015	12/31/2018
Metropolitan Meat, Seafood and Poultry		12SR2559	MDR002559	General Permit	3/27/2015	12/31/2018
Missouri Avenue Convenience Center		12SW2466	MDR002466	General Permit	10/1/2015	12/31/2018
MNCPPC - J. Franklin Bourne Swimming Pool	Anacostia River - 02140205	12SI7005	MDG767005	General Permit	3/7/2013	11/29/2017
MNCPPC - Lane Manor Splash Pool	Anacostia River - 02140205	12SI6432	MDG766432	General Permit	3/7/2013	11/29/2017
Mount Vernon Printing		12NE3214	MDR003214	General Permit	1/10/2017	1/9/2022
Moyaone Community Swimming Pool	Upper Tidal Potomac River - 02140201	12SI6574	MDG766574	General Permit	12/1/2014	11/29/2017
Murray Tract		15MM9937	MDG499937	General Permit	10/25/2017	4/30/2022
NASA Goddard Space Flight Center	Anacostia River - 02140205	08DP3156A	MD0067482	Industrial Individual	5/1/2015	12/27/2017
NASA Goddard Space Flight Center	Anacostia River - 02140205	11HT5092	MDG675092	General Permit	5/21/2012	12/25/2017
National Wildlife Visitor Center	Upper Patuxent River - 02131104	09DP2831	MD0065358	Municipal (Surface)	5/1/2012	12/26/2017
Nestle Waters North America Home and Office Distribution		12SW3206	MDR003206	General Permit	1/3/2017	12/31/2018
New Carrollton Public Works	Anacostia River - 02140205	12SW2144	MDR002144	General Permit	3/2/2015	12/31/2018
New Carrollton Recreation Club, Inc.	Anacostia River - 02140205	12SI6884	MDG766884	General Permit	1/31/2013	11/29/2017
New Dawn Manufacturing		12NE3178	MDR003178	General Permit	11/2/2017	11/1/2022
NRG Chalk Point Generating Station	Lower Patuxent River - 02131101	06DP0627	MD0002658	Industrial Individual	7/1/2009	12/11/2017
NVA Properties, LLC	Patuxent River Middle - 02131102	13DP1143	MD0052680	Municipal (Surface)	9/1/2017	8/31/2022
O & A Used Auto Parts	Piscataway Creek - 02140203	12SW0981	MDR000981	General Permit	1/9/2015	12/31/2018
Oakcrest Towers		12SI7112	MDG767112	General Permit	3/29/2013	11/29/2017

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Office and Equipment Maintenance Facility		12SW2528	MDR002528	General Permit	1/29/2015	12/31/2018
Parkway WWTP	Upper Patuxent River - 02131104	12SR0118	MDR000118	General Permit	2/27/2015	12/31/2018
Parkway WWTP	Upper Patuxent River - 02131104	14DP0631	MD0021725	Municipal (Surface)	6/1/2016	5/31/2021
Patuxent River 4-H Center Foundation, Inc.	Upper Patuxent River - 02131104	09DP1499	MD1499Q84	To Groundwater	4/1/2012	12/26/2017
PCM Construction, Inc		12SW2221	MDR002221	General Permit	9/8/2014	12/31/2018
Pepsi Bottling Group, LLC	Anacostia River - 02140205	12SR1897	MDR001897	General Permit	3/11/2015	12/31/2018
Pg County Public Works-Northern Ave	Anacostia River - 02140205	12SW1222	MDR001222	General Permit	2/11/2015	12/31/2018
Piscataway Wastewater Treatment Plant	Upper Tidal Potomac River - 02140201	12SR0119	MDR000119	General Permit	3/2/2015	12/31/2018
Piscataway Wastewater Treatment Plant	Upper Tidal Potomac River - 02140201	14DP0667	MD0021539	Municipal (Surface)	7/1/2016	6/30/2021
Post Park		12SI7144	MDG767144	General Permit	3/29/2013	11/29/2017
Potomac Airfield	Piscataway Creek - 02140203	12SR0161	MDR000161	General Permit	10/7/2014	12/31/2018
Potomac Knolls Community Center		12SI7230	MDG767230	General Permit	6/17/2015	11/29/2017
Pr. Geo. County Dept. Of Public Works - Brandywine	Mattawoman Creek - 02140111	12SW1223	MDR001223	General Permit	2/11/2015	12/31/2018
Prince George's Community College	Western Branch - 02131103	12SI6058	MDG766058	General Permit	1/13/2014	11/29/2017
Prince George's County - Recycling Facility	Western Branch - 02131103	12SW1224	MDR001224	General Permit	7/14/2015	12/31/2018
Prince George's County Central Services - Fleet Vm	Middle Tidal Potomac River - 02140102	12SW2173	MDR002173	General Permit	7/18/2014	12/31/2018
Prince George's County DPW & Transportation	Western Branch - 02131103	12SW0521	MDR000521	General Permit	2/13/2015	12/31/2018
Prince George's County Vehicle Audit Unit	Western Branch - 02131103	12SW0312	MDR000312	General Permit	7/14/2015	12/31/2018
Prince George's County Yard Waste Composting Facility	Patuxent River Middle - 02131102	12DP2792	MD0065111	Industrial Individual	11/1/2015	10/31/2020
Prince George's Scrap, Inc.	Anacostia River - 02140205	12SR0648A	MDR000648	General Permit	2/28/2017	12/31/2018
Prince George's Sports & Learning Complex		12SI7098	MDG767098	General Permit	2/6/2013	11/29/2017
Princeton Estates Limited Partnership		12SI6390	MDG766390	General Permit	4/1/2013	11/29/2017
PSEG Keys Energy Center		11HT9622	MDG679622	General Permit	3/8/2017	2/28/2018
QTG CDS - Landover	Little Patuxent River - 02131105	12SW2246	MDR002246	General Permit	6/9/2014	12/31/2018
Ramblewood HOA		12SI7145	MDG767145	General Permit	3/29/2013	11/29/2017
Recycle One Processing & Transfer Station		12SW2352	MDR002352	General Permit	3/28/2014	12/31/2018
Reddy Ice Group #427 - Landover	Anacostia River - 02140205	12NE1901	MDR001901	General Permit	9/19/2014	9/18/2019
Republic Services of Washington Metro	Western Branch - 02131103	12SW1092	MDR001092	General Permit	7/15/2014	12/31/2018
Ripples Service, Inc.	Western Branch - 02131103	12SW1064A	MDR001064	General Permit	6/29/2017	12/31/2018
Ritchie Land Reclamation, LLC	Western Branch - 02131103	12SR3169	MDR003169	General Permit	7/13/2016	12/31/2018
Riverside Plaza Apartments		12SI6598	MDG766598	General Permit	3/25/2013	11/29/2017
Robin Dale Sand and Gravel	Zekiah Swamp - 02140108	10MM8033	MDG498033	General Permit	12/20/2010	12/15/2017
Rockhill Sand & Gravel Corp - Holsinger North Pit		10MM8068	MDG498068	General Permit	8/28/2013	12/15/2017
Rockhill Sand and Gravel Corp / Gudelsky Materials	Patuxent River Middle - 02131102	10MM3000A	MDG493000	General Permit	2/21/2013	12/15/2017



Prince George's County  
Discharge Permits 2017

Rockville Fuel & Feed Co., Inc		10MM8070	MDG498070	General Permit	9/9/2013	12/15/2017
Rockville Fuel & Feed Co., Inc		15MP8070	MDG498070	General Permit	11/1/2017	4/30/2022
Rodgers Brothers Service, Inc.	Anacostia River - 02140205	12SW2002	MDR002002	General Permit	9/1/2016	12/31/2018
Rolling Frito-Lay Sales - Beltsville DC	Anacostia River - 02140205	12SR1864	MDR001864	General Permit	1/14/2015	12/31/2018
Saddlebrook West	Upper Patuxent River - 02131104	12SI7076	MDG767076	General Permit	1/31/2013	11/29/2017
Safeway Eastern Distribution Center		12SR2499	MDR002499	General Permit	1/8/2015	12/31/2018
Sandy Hill Municipal Landfill	Upper Patuxent River - 02131104	12SW0314A	MDR000314	General Permit	4/11/2016	12/31/2018
Save More Used Parts, Inc	Upper Tidal Potomac River - 02140201	12SR0839	MDR000839	General Permit	6/19/2015	12/31/2018
Seven Knolls Gravel Pit		10MM9919	MDG499919	General Permit	8/30/2016	12/24/2017
SHA - Laurel Maintenance Facility		12SW1324	MDR001324	General Permit	8/12/2014	12/31/2018
SHA - Marlboro Shop	Western Branch - 02131103	11HT5093	MDG675093	General Permit	12/5/2012	12/25/2017
SHA - Marlboro Shop	Western Branch - 02131103	12SW1325	MDR001325	General Permit	8/14/2014	12/31/2018
Shadygrove Recycling		12NE3276	MDR003276	General Permit	8/3/2017	8/2/2022
Sheriff Road Asphalt		10MM8072	MDG498072	General Permit	12/30/2013	12/15/2017
Sheriff Road Processing Facility & Transfer Station	Anacostia River - 02140205	10MM9916	MDG499916	General Permit	8/3/2016	12/27/2017
Sheriff Road Processing Facility & Transfer Station	Anacostia River - 02140205	15MM9916	MDG499916	General Permit	10/4/2017	4/30/2022
Sherwin-Williams - Beltsville	Anacostia River - 02140205	12SR0466	MDR000466	General Permit	7/9/2015	12/31/2018
Silver Hill Materials II, LLC - Cedarville Sand & Gravel	Zekiah Swamp - 02140108	10MM9757	MDG499757	General Permit	12/3/2010	12/15/2017
Six Flags America	Western Branch - 02131103	12SI7093	MDG767093	General Permit	11/29/2012	11/29/2017
Six Flags America	Western Branch - 02131103	12SR2323	MDR002323	General Permit	5/20/2015	12/31/2018
Soil Safe, Inc.	Mattawoman Creek - 02140111	12SR1681	MDR001681	General Permit	1/29/2015	12/31/2018
Stephens Pipe & Steel		12NE3275	MDR003275	General Permit	8/2/2017	8/1/2022
Stone Industrial Precision Products	Anacostia River - 02140205	12NE0007	MDR000007	General Permit	2/5/2015	2/4/2020
Storm Oil, LLC		12SW3292	MDR003292	General Permit	11/20/2017	12/31/2018
Sun Services on Somerset Ave		12SW2530A	MDR002530	General Permit	11/2/2016	12/31/2018
Takoma Landing		12SI7114	MDG767114	General Permit	2/27/2013	11/29/2017
Temple Hills Swim Club	Upper Tidal Potomac River - 02140201	12SI6469	MDG766469	General Permit	3/29/2013	11/29/2017
The Bechdon Company, Inc	Upper Patuxent River - 02131104	12NE0511	MDR000511	General Permit	9/24/2014	9/23/2019
The Gardens Ice House	Anacostia River - 02140205	11HT5223	MDG675223	General Permit	9/28/2015	12/25/2017
The Hanover Apartments		12SI7248	MDG767548	General Permit	8/18/2017	11/29/2017
The Lighthouse At Twin Lakes	Anacostia River - 02140205	12SI6927	MDG766927	General Permit	3/29/2013	11/29/2017
The Ryland Group		12SI7218	MDG767218	General Permit	6/15/2015	11/29/2017
Theresa Banks Memorial Aquatic Center		12SI7099	MDG767099	General Permit	2/6/2013	11/29/2017
Top of The Hill Apartments		12SI7117	MDG767117	General Permit	3/25/2013	11/29/2017
Town of Cheverly	Anacostia River - 02140205	12SW0197	MDR000197	General Permit	2/11/2015	12/31/2018
Town of Riverdale Park DPW	Anacostia River - 02140205	12SW2146	MDR002146	General Permit	3/27/2015	12/31/2018
Tremendo Towing and Repair, LLC		12SW1393	MDR001393	General Permit	4/2/2015	12/31/2018



Prince George's County  
Discharge Permits 2017

U.S. Postal Service - Southern VMF	Western Branch - 02131103	12SW0937	MDR000937	General Permit	9/8/2014	12/31/2018
United Parcel Service	Upper Patuxent River - 02131104	12SW0857	MDR000857	General Permit	9/5/2014	12/31/2018
United Parcel Service	Upper Patuxent River - 02131104	12SR0859	MDR000859	General Permit	5/27/2015	12/31/2018
United Parcel Service - Landover	Anacostia River - 02140205	12SR0740	MDR000740	General Permit	5/27/2015	12/31/2018
United Parcel Service - Landover #2	Anacostia River - 02140205	12SR0858	MDR000858	General Permit	5/28/2015	12/31/2018
University of Maryland, College Park		12SW3281	MDR003281	General Permit	9/8/2017	12/31/2018
University of Maryland	Anacostia River - 02140205	08DP2618	MD0063801	Industrial Individual	11/1/2012	11/30/2017
UPS Freight	Anacostia River - 02140205	12SR1065	MDR001065	General Permit	5/27/2015	12/31/2018
US Postal Service - Riverdale VMF	Anacostia River - 02140205	12SW1103	MDR001103	General Permit	9/8/2014	12/31/2018
USDA East Side WWTP	Anacostia River - 02140205	15DP2525	MD0020842	Municipal (Surface)	9/1/2016	8/31/2021
USDA West Side WWTP	Anacostia River - 02140205	11DP2787	MD0020851	Municipal (Surface)	12/1/2012	11/30/2017
Veolia Transportation		12SR2432	MDR002432	General Permit	6/10/2014	12/31/2018
Walker Mill Business Park, Lot 4		12SW2561	MDR002561	General Permit	3/16/2015	12/31/2018
Western Branch WWTP	Patuxent River Middle - 02131102	12SR0121	MDR000121	General Permit	3/2/2015	12/31/2018
Western Branch WWTP	Patuxent River Middle - 02131102	15DP0632	MD0021741	Municipal (Surface)	9/1/2016	8/31/2021
Westland Printers		12NE3215	MDR003215	General Permit	1/10/2017	1/9/2022
White Glove Mchining Inc		12NE2507	MDR002507	General Permit	9/24/2014	9/23/2019
Whitehall Pool & Tennis Club	Patuxent River Middle - 02131102	12SI6138	MDG766138	General Permit	7/16/2014	11/29/2017
Whitehall Square Apartments		12SI6592	MDG766592	General Permit	3/20/2013	11/29/2017
Williams & Heintz Map Corporation		12NE2177	MDR002177	General Permit	7/31/2014	7/30/2019
WMATA - Carmen Turner Facility		12SR2534	MDR002534	General Permit	2/20/2015	12/31/2018
WMATA - Greenbelt Rail Yard	Anacostia River - 02140205	12SR1242	MDR001242	General Permit	2/20/2015	12/31/2018
WMATA - Largo Operations Building	Western Branch - 02131103	16DP3559	MD0069774	Industrial Individual	7/1/2017	6/30/2022
Wmata - New Carrollton Yard	Anacostia River - 02140205	12SR0328	MDR000328	General Permit	2/20/2015	12/31/2018
Wmata - Southern Avenue Annex	Oxon Creek - 02140204	12SR2458	MDR002458	General Permit	7/25/2014	12/31/2018
WMATA Branch Ave Rail Yard	Upper Tidal Potomac River - 02140201	12SR1709	MDR001709	General Permit	2/20/2015	12/31/2018
Woodmore Towne Center HOA		12SI7229	MDG767229	General Permit	7/16/2015	11/29/2017
World Recycling Company	Anacostia River - 02140205	12SW1365	MDR001365	General Permit	3/10/2015	12/31/2018
WSSC - Anacostia Equipment Shop	Anacostia River - 02140205	12SR1735	MDR001735	General Permit	3/2/2015	12/31/2018
WSSC - Anacostia Garage	Anacostia River - 02140205	12SR1736	MDR001736	General Permit	3/2/2015	12/31/2018
WSSC - Temple Hills Garage	Piscataway Creek - 02140203	12SR1740	MDR001740	General Permit	3/2/2015	12/31/2018
Yellow Transportation, Inc. - Landover	Anacostia River - 02140205	12SW1936	MDR001936	General Permit	7/15/2014	12/31/2018
Zantinger		10MM9918	MDG499918	General Permit	8/30/2016	12/24/2017

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***BI-COUNTY AND PRINCE GEORGE'S COUNTY  
SEWER PROJECTS  
2019 - 2024  
CAPITAL IMPROVEMENT PROGRAM***

**ADOPTED 2018 WATER AND SEWER PLAN**

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## Section 4 - Bi-County Sewer Projects

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## FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

DATE: October 1, 2017  
REVISED: February 21, 2018

### BI-COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	192,823	0	10,500	122,401	17,471	21,282	21,635	25,189	20,068	16,756	59,922	4-3
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	40,688	0	6,355	33,623	7,890	10,274	8,660	4,964	1,106	729	710	4-4
S-22.09	Blue Plains WWTP: Plant-wide Projects	110,265	0	6,616	82,112	8,206	9,815	17,829	18,969	16,660	10,633	21,537	4-5
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	404,480	340,782	30,335	13,779	8,345	1,563	869	758	1,159	1,085	19,584	4-6
S-22.11	Blue Plains: Pipelines & Appurtenances	147,842	0	22,173	108,360	23,393	14,408	22,805	17,104	16,064	14,586	17,309	4-7
S-103.02	Piscataway WWTP Bio-Energy Project	248,677	6,871	8,873	232,933	40,310	76,251	73,553	34,566	8,253	0	0	4-8
S-170.08	Septage Discharge Facility Planning & Implementation	30,494	4,492	382	25,620	5,229	15,136	5,255	0	0	0	0	4-10
S-170.09	Trunk Sewer Reconstruction Program	440,073	0	141,557	298,516	81,615	65,376	58,500	30,397	31,004	31,624	0	4-11
S-203.00	Land & Rights-Of-Way Acquisition - Bi-County Sewer	490	0	320	170	95	15	15	15	15	15	0	4-12
<b>TOTALS</b>		1,615,832	352,145	227,111	917,514	192,554	214,120	209,121	131,962	94,329	75,428	119,062	

BLUE PLAINS WASTEWATER TREATMENT PLANT PROJECTS  
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'18 TOTAL COST	ADOPTED FY'19 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	\$173,026	\$192,823	\$19,797	11.4%	\$122,401	On-Going
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	36,101	40,688	4,587	12.7%	33,623	On-Going
S-22.09	Blue Plains WWTP: Plant-wide Projects	98,436	110,265	11,829	12.0%	82,112	On-Going
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	381,788	404,480	22,692	5.9%	13,779	On-Going
S-22.11	Blue Plains: Pipelines & Appurtenances	98,924	147,842	48,918	49.5%	108,360	On-Going
	TOTALS	\$788,275	\$896,098	\$107,823	13.7%	\$360,275	

Summary: These five projects, with an estimated total cost of \$896.1 million, provide funding for the upgrade, expansion, and enhancement of wastewater treatment and solids handling facilities at the Regional Blue Plains Wastewater Treatment Plant, located in the District of Columbia. Whereas typical WSSC projects encompass planning, design, construction, and start-up for a single project, with defined starting and ending dates, the Blue Plains projects are comprised of many sub-projects and are “open-ended.” As the Blue Plains Facility Plans move forward and new sub-projects are approved, the costs of these new sub-projects are added to the appropriate existing Blue Plains project. The expenditures displayed represent the WSSC’s calculated share. There are four main funding divisions: liquid treatment train (S-22.06); biosolids management (S-22.07); plant-wide projects (S-22.09); and, pipelines & appurtenances (S-22.11). Project S-22.10 Enhanced Nutrient Removal (ENR) will achieve nutrient removal levels surpassing Biological Nutrient Removal (BNR) as determined in the Tributary Strategy process of 2005 in order to meet Chesapeake Bay water quality targets.

Cost Impact: These five Blue Plains projects, which comprise one of the largest groups of expenditures in the CIP, represent 18% of the Six-Year WSSC CIP program. The figures shown above are derived from the latest available spending projections provided by the District of Columbia Water and Sewer Authority (DCWASA). Spending at the DCWASA staff-proposed rate in future years may challenge the WSSC’s ability to stay within County-established spending affordability limits. It is, therefore, recommended that the coordination of development and approval of the DCWASA’s and WSSC’s CIPs be sustained in order that the economic development and environmental objectives of the region be met, without causing a rapid increase in WSSC customers’ bills. An explanation of the cost changes for each project is included on the individual project description forms that immediately follow this summary page.

**Blue Plains WWTP: Liquid Train Projects, Part 2**

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

PDF Date	October 1, 2017
Date Revised	Feb. 21, 2018

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

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

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	37,934		2,305	21,493	3,398	2,769	3,795	3,678	2,446	5,407	14,136
Land											
Site Improvements & Utilities											
Construction	152,980		8,091	99,696	13,900	18,302	17,626	21,262	17,423	11,183	45,193
Other	1,909		104	1,212	173	211	214	249	199	166	593
<b>Total</b>	<b>192,823</b>		<b>10,500</b>	<b>122,401</b>	<b>17,471</b>	<b>21,282</b>	<b>21,635</b>	<b>25,189</b>	<b>20,068</b>	<b>16,756</b>	<b>59,922</b>

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

WSSC Bonds	182,238	9,924	115,681	16,512	20,114	20,447	23,806	18,966	15,836	56,633
City of Rockville	10,585	576	6,720	959	1,168	1,188	1,383	1,102	920	3,289

**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 2018 Capital Improvements 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. The funding schedule also indicates the calculated Rockville share of the cost. Life to date expenditures for this program are approximately \$370 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	\$11,855	
Total Cost	\$11,855	
Impact on Water and Sewer Rate	\$0.27	

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

Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	
Cost Estimate Last FY	173,026
Present Cost Estimate	192,823
Approved Request Last FY	13,154
Total Expense & Encumbrances	
Approval Request Year 1	17,471

**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, 2017
Date Revised	Feb. 21, 2018

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

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

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	7,506		1,317	5,486	814	1,490	1,352	875	483	472	703
Land											
Site Improvements & Utilities											
Construction	32,779		4,975	27,804	6,998	8,682	7,222	4,040	612	250	0
Other	403		63	333	78	102	86	49	11	7	7
<b>Total</b>	<b>40,688</b>		<b>6,355</b>	<b>33,623</b>	<b>7,890</b>	<b>10,274</b>	<b>8,660</b>	<b>4,964</b>	<b>1,106</b>	<b>729</b>	<b>710</b>

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

WSSC Bonds	38,455	6,006	31,778	7,457	9,710	8,185	4,692	1,045	689	671
City of Rockville	2,233	349	1,845	433	564	475	272	61	40	39

**D. Description & Justification**

<p><b>DESCRIPTION</b></p> <p>This project provides funding for WSSC's share of the Blue Plains biosolids handling projects for which construction began after June 30, 1993. Major projects include: new Digestion Facilities; Gravity Thickener Facilities; and Solids Processing Building/Dewatered Sludge Loading Facility.</p> <p><b>JUSTIFICATION</b></p> <p>This project is needed to implement a set of facilities which will provide a permanent biosolids management program for Blue Plains.</p> <p>The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); EPMC IV Facility Plan, CH2MHILL (2001); the Biosolids Management at DCWASA Blue Plains Wastewater Treatment Plant Phase II - Design and Cost Considerations for Treatment Alternatives Report (December 2007); and the DCWASA Approved FY 2018 Capital Improvement Program.</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Project costs are derived from the DCWASA Capital &amp; Operating Budget 10-year forecast of spending and DCWASA's latest project management data, and fully reflect DCWASA's current cost estimates and expenditure schedules. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. Portions of the program have been financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. The funding schedule also indicates the calculated Rockville share of the cost. Life to date expenditures for this program are approximately \$410 million.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction)</p> <p>Coordinating Projects: Not Applicable</p>
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**E. Annual Operating Budget Impact (000's)**

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,502	
Total Cost	\$2,502	
Impact on Water and Sewer Rate	\$0.06	

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

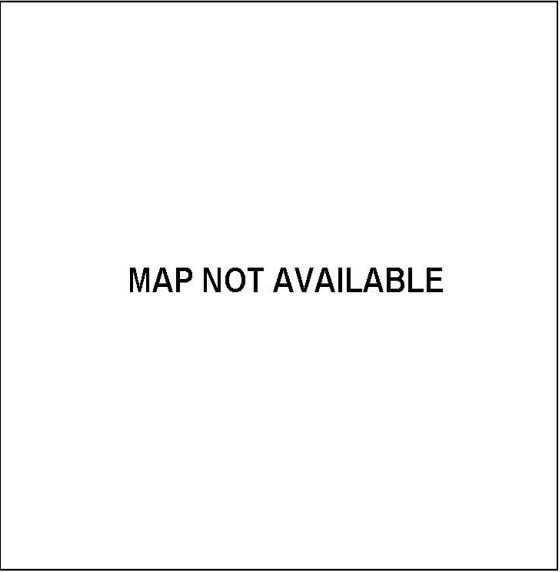
Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	
Cost Estimate Last FY	36,101
Present Cost Estimate	40,688
Approved Request Last FY	2,557
Total Expense & Encumbrances	
Approval Request Year 1	7,890

**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**



**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, 2017
Date Revised	Feb. 21, 2018

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

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

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	<b>22,038</b>		1,624	<b>17,552</b>	2,327	2,201	4,268	3,774	3,046	1,936	2,862
Land											
Site Improvements & Utilities											
Construction	<b>87,135</b>		4,926	<b>63,747</b>	5,798	7,517	13,384	15,007	13,449	8,592	18,462
Other	<b>1,092</b>		66	<b>813</b>	81	97	177	188	165	105	213
<b>Total</b>	<b>110,265</b>		<b>6,616</b>	<b>82,112</b>	<b>8,206</b>	<b>9,815</b>	<b>17,829</b>	<b>18,969</b>	<b>16,660</b>	<b>10,633</b>	<b>21,537</b>

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

WSSC Bonds	<b>104,212</b>	6,253	<b>77,604</b>	7,756	9,276	16,850	17,928	15,745	10,049	20,355
City of Rockville	<b>6,053</b>	363	<b>4,508</b>	450	539	979	1,041	915	584	1,182

**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 2018 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 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 \$210 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	\$6,779	
Total Cost	\$6,779	
Impact on Water and Sewer Rate	\$0.16	

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

Date First in Program	FY 95
Date First Approved	FY 02
Initial Cost Estimate	
Cost Estimate Last FY	98,436
Present Cost Estimate	110,265
Approved Request Last FY	7,021
Total Expense & Encumbrances	
Approval Request Year 1	8,206

**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, 2017
Date Revised	Feb. 21, 2018

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	108,555	88,248	8,280	9,848	5,224	888	848	746	1,083	1,059	2,179
Land											
Site Improvements & Utilities											
Construction	295,294	252,534	21,755	3,794	3,038	660	12	4	65	15	17,211
Other	631		300	137	83	15	9	8	11	11	194
<b>Total</b>	<b>404,480</b>	<b>340,782</b>	<b>30,335</b>	<b>13,779</b>	<b>8,345</b>	<b>1,563</b>	<b>869</b>	<b>758</b>	<b>1,159</b>	<b>1,085</b>	<b>19,584</b>

## C. Funding Schedule (000's)

WSSC Bonds	174,541	129,184	20,469	6,938	3,991	700	358	309	861	719	17,950
State Aid	221,703	205,998	8,677	6,437	4,122	822	490	431	248	324	591
City of Rockville	8,236	5,600	1,189	404	232	41	21	18	50	42	1,043

## 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 2018 Capital Improvement Program, and the Blue Plains Intermunicipal Agreement of 2012.

**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 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	\$11,354
Total Cost	\$11,354
Impact on Water and Sewer Rate	\$0.26

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

Date First in Program	FY 08
Date First Approved	FY 07
Initial Cost Estimate	648
Cost Estimate Last FY	381,788
Present Cost Estimate	404,480
Approved Request Last FY	28,619
Total Expense & Encumbrances	340,782
Approval Request Year 1	8,345

## G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	86%
Est Completion Date	FY 2026

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, 2017
Date Revised	Feb. 21, 2018

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	24,248		4,438	18,568	3,833	3,066	4,053	3,440	2,781	1,395	1,242
Land											
Site Improvements & Utilities											
Construction	122,130		17,515	88,719	19,328	11,199	18,526	13,495	13,124	13,047	15,896
Other	1,464		220	1,073	232	143	226	169	159	144	171
<b>Total</b>	<b>147,842</b>		<b>22,173</b>	<b>108,360</b>	<b>23,393</b>	<b>14,408</b>	<b>22,805</b>	<b>17,104</b>	<b>16,064</b>	<b>14,586</b>	<b>17,309</b>

## C. Funding Schedule (000's)

WSSC Bonds	140,202	21,329	104,118	22,573	14,076	22,393	16,426	15,146	13,504	14,755
City of Rockville	7,640	844	4,242	820	332	412	678	918	1,082	2,554

## D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides funding for WSSC's share of Blue Plains-associated projects which are "outside the fence" of the treatment plant. Major projects include: 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).</p> <p><b>JUSTIFICATION</b></p> <p>This is a continuation of DCWASA's upgrading of the Blue Plains-associated projects outside the fence.</p> <p>The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); Technical Memorandum No. 1, Multi-Jurisdictional Use Facilities Capital Cost Allocation, (June 2013); and the DCWASA Approved FY 2018 Capital Improvement Program.</p> <p><b>COST CHANGE</b></p> <p>The expenditure schedule has been updated to reflect the latest estimates for the Long Term Control Plan projects.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Project costs are derived from the DC-WASA Capital &amp; Operating Budget 10-year forecast and 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 \$125 million.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction)</p> <p>Coordinating Projects: Not Applicable</p>
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## E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$9,120	
Total Cost	\$9,120	
Impact on Water and Sewer Rate	\$0.21	

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

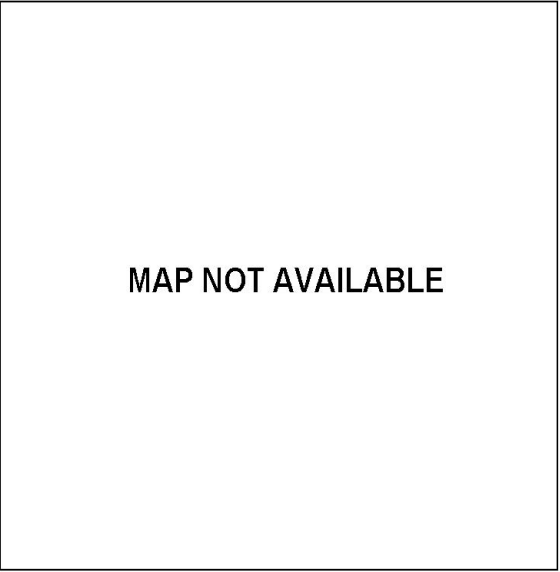
Date First in Program	FY 11
Date First Approved	FY 02
Initial Cost Estimate	
Cost Estimate Last FY	98,924
Present Cost Estimate	147,842
Approved Request Last FY	12,926
Total Expense & Encumbrances	
Approval Request Year 1	23,393

## 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



# 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, 2017
Date Revised	Feb. 21, 2018

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	41,161	6,871	6,250	28,040	12,700	9,820	4,550	920	50		
Land											
Site Improvements & Utilities											
Construction	196,000		2,200	193,800	25,700	62,800	65,500	32,000	7,800		
Other	11,516		423	11,093	1,910	3,631	3,503	1,646	403		
<b>Total</b>	<b>248,677</b>	<b>6,871</b>	<b>8,873</b>	<b>232,933</b>	<b>40,310</b>	<b>76,251</b>	<b>73,553</b>	<b>34,566</b>	<b>8,253</b>		

## C. Funding Schedule (000's)

WSSC Bonds	244,607	6,301	8,873	229,433	38,310	74,751	73,553	34,566	8,253		
Federal Aid	570	570									
State Aid	3,500			3,500	2,000	1,500					

## D. Description & Justification

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

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

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

The environmental benefits are estimated as follows: Recover approximately 2 MW of renewable energy from wastewater biomass; reduce Greenhouse Gas production by 11,800 tons/year; reduce biosolids output by 50 - 55% of current output; reduce lime demand by 4,100 tons/year; maintain permitted nutrient load limits to the Chesapeake Bay; reduce 5 million gallons/year of grease discharge to sewers; produce pathogen-free Class A Biosolids.

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

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

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$15,912	24
Total Cost	\$15,912	24
Impact on Water and Sewer Rate	\$0.37	24

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

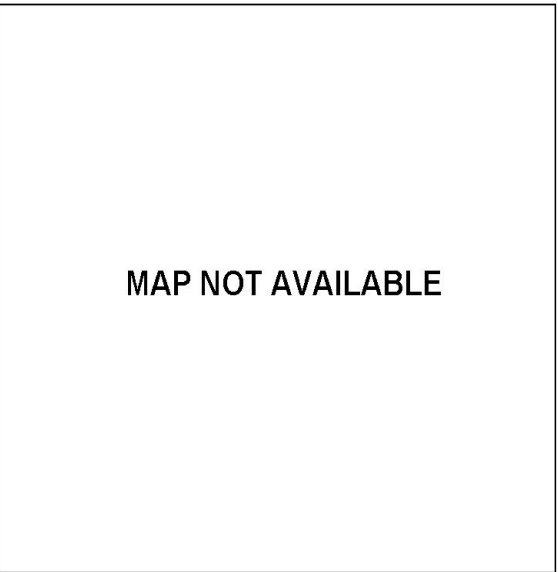
Date First in Program	FY 15
Date First Approved	FY 10
Initial Cost Estimate	345
Cost Estimate Last FY	162,190
Present Cost Estimate	248,677
Approved Request Last FY	3,990
Total Expense & Encumbrances	6,871
Approval Request Year 1	40,310

## G. Status Information

	Public/Agency owned land
Land Status	Design
Project Phase	10%
Percent Complete	July 2022
Est Completion Date	

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

## H. Map



**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). HDR Inc. Design Development Report (March 2017).

**COST CHANGE**

Cost increased to reflect early design level estimate and inclusion of FOG Facility and Utility Water Upgrades from Piscataway WWTP Facility Plant, and biosolids transported from Western Branch WWTP.

**OTHER**

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

**COORDINATION**

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Chesapeake Bay Critical Areas; Maryland Energy Administration Washington Gas Light Company;  
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, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	4,175	3,564	347	264	53	158	53				
Land											
Site Improvements & Utilities											
Construction	25,088	928		24,160	4,832	14,496	4,832				
Other	1,231		35	1,196	344	482	370				
<b>Total</b>	<b>30,494</b>	<b>4,492</b>	<b>382</b>	<b>25,620</b>	<b>5,229</b>	<b>15,136</b>	<b>5,255</b>				

## C. Funding Schedule (000's)

WSSC Bonds	30,494	4,492	382	25,620	5,229	15,136	5,255				
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## D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of a new Septage and Fats, Oils, Grease (FOG) discharge facility at the abandoned Rock Creek WWTP, and new Septage discharge facilities at Anacostia WWPS No 2 and Piscataway WWTP.</p> <p><b>JUSTIFICATION</b></p> <p>Currently septage waste is collected at three locations: Muddy Branch Road Disposal Site in Montgomery County, and Ritchie Road Disposal Site and Bladensburg Disposal Site in Prince George's County (the Temple Hills Road site was closed down on July 1, 2015). The types of waste collected are as follows: Septic Tank Pump-Out (Sludge), Waste Holding Tank Discharge (Gray Water); Grease Trap Pump Out (FOG), Bus Holding Tank Discharge (Sewage and Chemicals), and Small Food Service Providers (Low Volume FOG Waste). FOG wastes should not be discharged to the Commission's sewerage system without treatment.</p> <p>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).</p> <p><b>COST CHANGE</b></p> <p>The estimated construction cost of the three facilities has increased significantly based upon the final design submitted.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The expenditures and schedule projections shown in Block B are estimates at the 100% design stage and may change based upon actual bid. The design and construction of the FOG Discharge Facility at the Piscataway WWTP has been moved to the Piscataway WWTP Bio-Energy Project.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park &amp; Planning Commission; (Mandatory Referral) Montgomery County Department of Environmental Protection; Maryland Department of Natural Resources; Maryland Department of the Environment; Prince George's County Department of Environmental Resources;</p> <p>Coordinating Projects: S-103.02-Piscataway WWTP Bio-Energy Project;</p>
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## E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,984	22
Total Cost	\$1,984	22
Impact on Water and Sewer Rate	\$0.05	22

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

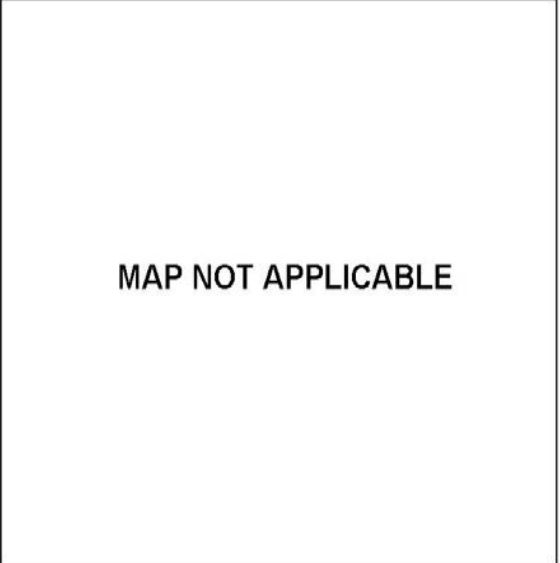
Date First in Program	FY 10
Date First Approved	FY 10
Initial Cost Estimate	10,835
Cost Estimate Last FY	14,344
Present Cost Estimate	30,494
Approved Request Last FY	2,521
Total Expense & Encumbrances	4,492
Approval Request Year 1	5,229

## G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	100%
Est Completion Date	FY 2021

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

## H. Map



# Trunk Sewer Reconstruction Program

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

PDF Date	October 1, 2017
Date Revised	Feb. 21, 2018

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	101,445		30,311	71,134	16,771	14,971	11,693	9,051	9,232	9,416	
Land											
Site Improvements & Utilities											
Construction	298,461		97,690	200,771	57,908	44,372	42,467	18,306	18,672	19,046	
Other	40,167		13,556	26,611	6,936	6,033	4,340	3,040	3,100	3,162	
<b>Total</b>	<b>440,073</b>		<b>141,557</b>	<b>298,516</b>	<b>81,615</b>	<b>65,376</b>	<b>58,500</b>	<b>30,397</b>	<b>31,004</b>	<b>31,624</b>	

## C. Funding Schedule (000's)

WSSC Bonds	440,073	141,557	298,516	81,615	65,376	58,500	30,397	31,004	31,624
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## D. Description & Justification

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

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

## COST CHANGE

Program costs reflect the latest expenditure and schedule estimates.

## OTHER

The project scope has remained the same. Reconstruction work will include: reduction of I/I; replacement of substandard sewer segments; in situ lining of sewer segments; pipeline and manhole protection; rebuilding of manholes; and correction of structural defects and poor alignment. The reconstruction work in each sewer basin will be prioritized to most effectively prevent SSOs and backups. A Second Amendment to the Consent Decree extending WSSC's deadline to FY 2022 was agreed to by the U.S. Environmental Protection Agency, U.S. Department of Justice, and Maryland Department of the Environment and was entered by the US District Court. All construction contracts for ESA work have been awarded and the approved amounts have been utilized in the current budget projections. As actual construction progresses the projections may be updated. Beginning in FY 2015, construction work increased in the ESAs as a majority of the work was released for construction. Most of the upfront costs are associated with the construction of access roads and by-pass pumping. After completion of a majority of the Priority 1 construction activities associated with the Consent Decree, Phase 2 work (Priority 2 & 3 plus any newly identified Priority 1) is programmed at roughly five miles per year beginning in FY 2022. Life to date expenditures for this program are approximately \$461 million. Land costs are included in WSSC Project S-203.00.

## COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Maryland-National Capital Park & Planning Commission; National Park Service; Maryland Department of the Environment; Maryland Department of Natural Resources; (Critical Area Commission, FSD Approval Forest Conservation/Reforestation Rare, Threatened or Endangered Species) Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III; Maryland Historical Trust;  
 Coordinating Projects: S-1.01-Sewer Reconstruction Program;

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

		FY of Impact
Staff		
Maintenance	\$459	25
Other Project Costs		
Debt Service	\$28,627	25
Total Cost	\$29,086	25
Impact on Water and Sewer Rate	\$0.67	25

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

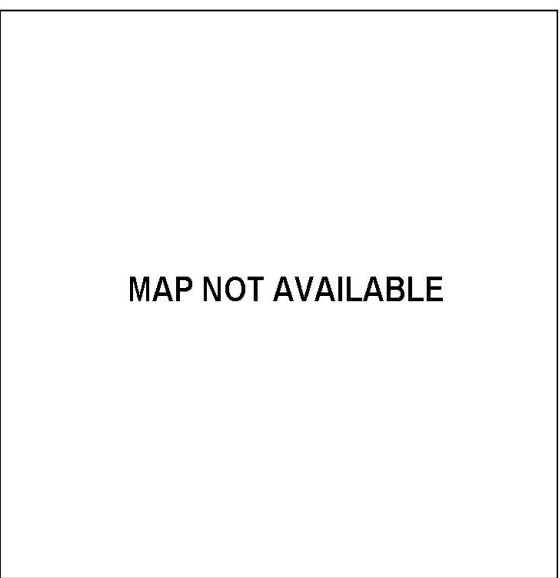
Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	
Cost Estimate Last FY	504,500
Present Cost Estimate	440,073
Approved Request Last FY	148,900
Total Expense & Encumbrances	
Approval Request Year 1	81,615

## G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

## H. Map





# 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, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land	490		320	170	95	15	15	15	15	15	
Site Improvements & Utilities											
Construction											
Other											
<b>Total</b>	<b>490</b>		<b>320</b>	<b>170</b>	<b>95</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	

## C. Funding Schedule (000's)

WSSC Bonds	250	95	155	80	15	15	15	15	15	
SDC	180	180								
Contribution/Other	60	45	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	\$16	25
Total Cost	\$16	25
Impact on Water and Sewer Rate		

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

Date First in Program	FY 98
Date First Approved	FY 98
Initial Cost Estimate	
Cost Estimate Last FY	405
Present Cost Estimate	490
Approved Request Last FY	95
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	49%
System Improvement	51%
Environmental Regulation	
Population Served	
Capacity	

## H. Map

MAP NOT APPLICABLE

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

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## FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

DATE: October 1, 2017

REVISED: May 10, 2018

### PRINCE GEORGE'S COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
S-27.08	Westphalia Town Center Sewer Main	850	207	460	183	124	47	12	0	0	0	0	6-3
S-28.18	Konterra Town Center East Sewer	7,211	5,189	0	2,022	513	385	0	0	642	482	0	6-4
S-43.02	Broad Creek WWPS Augmentation	182,490	143,172	17,325	21,993	15,225	6,768	0	0	0	0	0	6-5
S-57.92	Western Branch Facility Upgrade	56,419	50,905	2,128	3,386	3,150	236	0	0	0	0	0	6-6
S-68.01	Landover Mall Redevelopment	1,305	24	99	1,182	618	397	44	41	41	41	0	6-7
S-75.19	Brandywine Woods Wastewater Pumping Station	315	7	177	131	67	64	0	0	0	0	0	6-8
S-75.20	Brandywine Woods WWPS Force Main	123	15	41	67	67	0	0	0	0	0	0	6-9
S-75.21	Mattawoman WWTP Upgrades	19,449	0	5,911	12,958	4,049	2,783	1,928	1,897	1,897	404	580	6-10
S-77.20	Parkway North Substation Replacement	5,003	15	1,175	3,813	2,650	1,163	0	0	0	0	0	6-11
S-86.19	Karington Subdivision Sewer	672	102	210	360	181	179	0	0	0	0	0	6-12
S-96.14	Piscataway WWTP Facility Upgrades	143,294	8,241	4,290	130,763	31,115	39,591	24,810	24,278	10,969	0	0	6-13
S-131.05	Pleasant Valley Sewer Main, Part 2	877	43	199	635	393	165	77	0	0	0	0	6-14
S-131.07	Pleasant Valley Sewer Main, Part 1	1,750	98	464	1,188	970	218	0	0	0	0	0	6-15
S-131.10	Fort Washington Forest No. 1 WWPS Augmentation	4,775	2,558	342	1,875	1,275	600	0	0	0	0	0	6-16
	Projects Pending Close-Out	4,845	2,312	2,533	0	0	0	0	0	0	0	0	6-17
	<b>TOTALS</b>	429,378	212,888	35,354	180,556	60,397	52,596	26,871	26,216	13,549	927	580	

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

<b>Agency Number</b>	<b>Project Name</b>	<b>Total Project Cost</b>	<b>Budget Year Cost</b>	<b>Page Number</b>
S-77.20	Parkway North Substation Replacement	\$5,003	\$2,650	6-11
	<b>TOTALS</b>	\$5,003	\$2,650	

# Westphalia Town Center Sewer Main

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

PDF Date	October 1, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	88	22	32	34	19	10	5				
Land											
Site Improvements & Utilities											
Construction	678	185	368	125	89	31	5				
Other	84		60	24	16	6	2				
<b>Total</b>	<b>850</b>	<b>207</b>	<b>460</b>	<b>183</b>	<b>124</b>	<b>47</b>	<b>12</b>				

## C. Funding Schedule (000's)

Contribution/Other	850	207	460	183	124	47	12				
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## D. Description & Justification

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

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

**COST CHANGE**  
 Not applicable.

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

**COORDINATION**  
 Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Environmental Resources; Prince George's County Department of Permitting Inspection and Enforcement; Local Community Civic Associations; (Interaction with state, county and regulatory staff)  
 Coordinating Projects: Not Applicable

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

		FY of Impact
Staff		
Maintenance	\$79	22
Other Project Costs		
Debt Service		
Total Cost	\$79	22
Impact on Water and Sewer Rate		

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

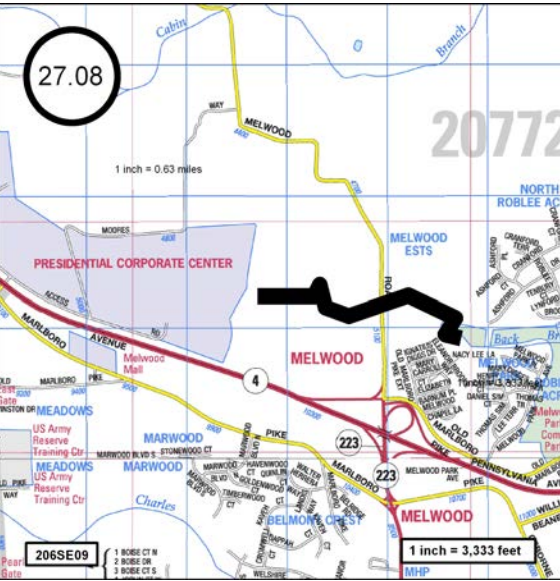
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	378
Cost Estimate Last FY	828
Present Cost Estimate	850
Approved Request Last FY	122
Total Expense & Encumbrances	207
Approval Request Year 1	124

## 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, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,634	2,404		230	58	44			73	55	
Land											
Site Improvements & Utilities											
Construction	4,313	2,785		1,528	388	291			485	364	
Other	264			264	67	50			84	63	
<b>Total</b>	<b>7,211</b>	<b>5,189</b>		<b>2,022</b>	<b>513</b>	<b>385</b>			<b>642</b>	<b>482</b>	

## C. Funding Schedule (000's)

Contribution/Other	7,211	5,189		2,022	513	385			642	482	
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## D. Description & Justification

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

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

**COST CHANGE**  
 Not applicable.

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

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

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

		FY of Impact
Staff		
Maintenance	\$252	21
Other Project Costs		
Debt Service		
Total Cost	\$252	21
Impact on Water and Sewer Rate	\$0.01	21

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

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	833
Cost Estimate Last FY	6,897
Present Cost Estimate	7,211
Approved Request Last FY	503
Total Expense & Encumbrances	5,189
Approval Request Year 1	513

## 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, 2017
Date Revised	

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

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

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	30,624	27,378	1,500	1,746	1,500	246					
Land	227	227									
Site Improvements & Utilities											
Construction	149,767	115,567	15,000	19,200	13,000	6,200					
Other	1,872		825	1,047	725	322					
<b>Total</b>	<b>182,490</b>	<b>143,172</b>	<b>17,325</b>	<b>21,993</b>	<b>15,225</b>	<b>6,768</b>					

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

WSSC Bonds	31,023	24,339	2,945	3,739	2,588	1,151					
SDC	151,467	118,833	14,380	18,254	12,637	5,617					

**D. Description & Justification**

<p><b>DESCRIPTION</b></p> <p>This project provides for modifications to the Broad Creek Wastewater Pumping Station and Force Main system for conveying Broad Creek sewerage basin flows to the Piscataway 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 was 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.</p> <p><b>JUSTIFICATION</b></p> <p>This project stems from the following litigation: Section V (Remedial Measures), Article 10, Section B.8 (Pump Stations - Broad Creek), Sanitary Sewer Overflows (SSO) Consent Order Decree (Civil Action PJM-04-3679), Judge Messite, December 7, 2005.</p> <p>The following plans/studies have been completed: Broad Creek Flow Monitoring and I/I Analysis (1996); Broad Creek SSES (1996 to 1999); Broad Creek I/I Analysis and SSES Phase II (2001 to 2005); Broad Creek Facility Plan, Delon Hampton &amp; Associates, Inc. (January 2007); FY2012 Broad Creek WWPS Asset Management Plan, GHD, Inc. (March 2011).</p> <p><b>COST CHANGE</b></p> <p>Costs were increased for inflation and to address issues with yard piping and vault construction due to potentially high ground water at the site.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The expenditures and schedule projections shown in Block B reflect the latest available estimates. Construction is being performed under four (4) contracts to expedite project completion. The National Park Service Permits, previously delaying the project, were obtained in April 2016. The final contract is in the construction phase.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park &amp; Planning Commission; National Park Service; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III;</p> <p>Coordinating Projects: Not Applicable</p>
--

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

		FY of Impact
Staff		
Maintenance	\$467	21
Other Project Costs		
Debt Service	\$2,018	21
Total Cost	\$2,485	21
Impact on Water and Sewer Rate	\$0.06	21

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

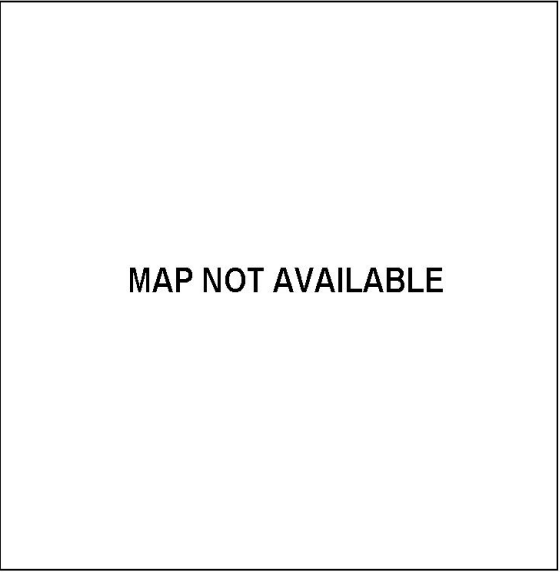
Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	80,850
Cost Estimate Last FY	175,971
Present Cost Estimate	182,490
Approved Request Last FY	17,805
Total Expense & Encumbrances	143,172
Approval Request Year 1	15,225

**G. Status Information**

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	70%
Est Completion Date	FY 2020

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

**H. Map**





# Western Branch Facility Upgrade

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

PDF Date	October 1, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	14,811	14,266	320	225	200	25					
Land											
Site Improvements & Utilities											
Construction	41,346	36,639	1,707	3,000	2,800	200					
Other	262		101	161	150	11					
<b>Total</b>	<b>56,419</b>	<b>50,905</b>	<b>2,128</b>	<b>3,386</b>	<b>3,150</b>	<b>236</b>					

## C. Funding Schedule (000's)

WSSC Bonds	56,419	50,905	2,128	3,386	3,150	236					
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## 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. Updated schedule and expenditure projections are shown in Block B. FY 19 and FY 20 cost projections are included as a placeholder for site restoration and projected system reliability and 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	\$3,670	21
Total Cost	\$3,670	21
Impact on Water and Sewer Rate	\$0.08	21

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

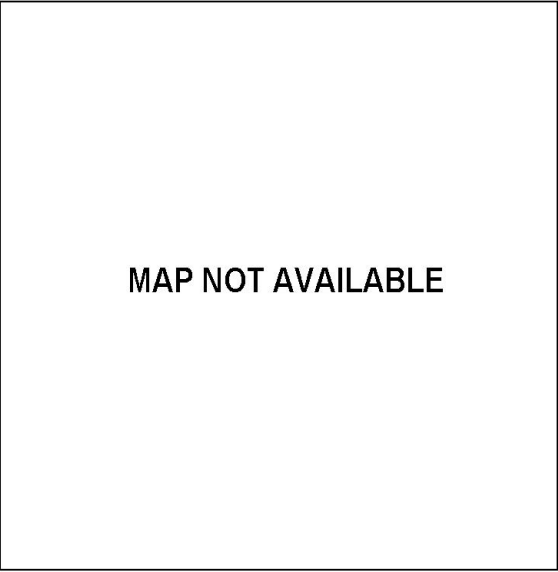
Date First in Program	FY 06
Date First Approved	FY 06
Initial Cost Estimate	6,325
Cost Estimate Last FY	53,950
Present Cost Estimate	56,419
Approved Request Last FY	1,995
Total Expense & Encumbrances	50,905
Approval Request Year 1	3,150

## G. Status Information

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

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

## H. Map



# Landover Mall Redevelopment

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

PDF Date	October 1, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	227	24	35	168	76	46	13	11	11	11	
Land											
Site Improvements & Utilities											
Construction	911	0	51	860	461	299	25	25	25	25	
Other	167		13	154	81	52	6	5	5	5	
<b>Total</b>	<b>1,305</b>	<b>24</b>	<b>99</b>	<b>1,182</b>	<b>618</b>	<b>397</b>	<b>44</b>	<b>41</b>	<b>41</b>	<b>41</b>	

## C. Funding Schedule (000's)

Contribution/Other	1,305	24	99	1,182	618	397	44	41	41	41
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## 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	\$74	25
Other Project Costs		
Debt Service		
Total Cost	\$74	25
Impact on Water and Sewer Rate		

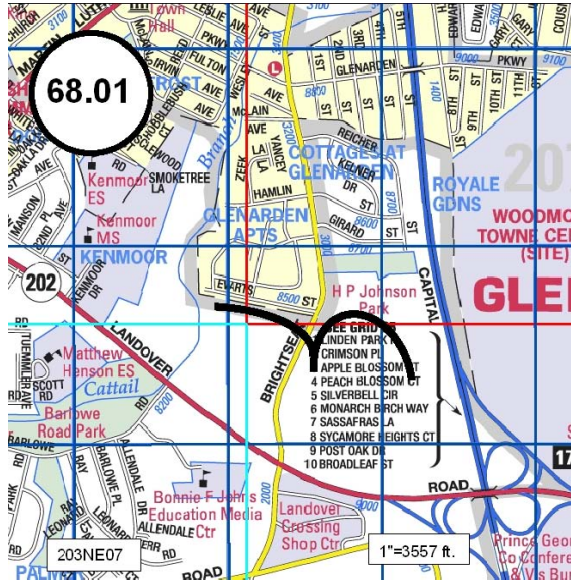
## F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	1,108
Cost Estimate Last FY	1,278
Present Cost Estimate	1,305
Approved Request Last FY	605
Total Expense & Encumbrances	24
Approval Request Year 1	618

## 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, 2017
Date Revised	

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

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

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	58	7	26	25	14	11					
Land											
Site Improvements & Utilities											
Construction	217	0	128	89	44	45					
Other	40		23	17	9	8					
<b>Total</b>	<b>315</b>	<b>7</b>	<b>177</b>	<b>131</b>	<b>67</b>	<b>64</b>					

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

Contribution/Other	315	7	177	131	67	64					
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### D. Description & Justification

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

**JUSTIFICATION**  
 Hydraulic Planning Analysis (March 2006).

**COST CHANGE**  
 Not applicable.

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

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

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

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

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

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	247
Cost Estimate Last FY	308
Present Cost Estimate	315
Approved Request Last FY	65
Total Expense & Encumbrances	7
Approval Request Year 1	67

### 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, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	28	13	7	8	8	0					
Land											
Site Improvements & Utilities											
Construction	81	2	29	50	50	0					
Other	14		5	9	9	0					
<b>Total</b>	<b>123</b>	<b>15</b>	<b>41</b>	<b>67</b>	<b>67</b>	<b>0</b>					

## C. Funding Schedule (000's)

Contribution/Other	123	15	41	67	67	0					
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## 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	\$28	20
Other Project Costs		
Debt Service		
Total Cost	\$28	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
Initial Cost Estimate	100
Cost Estimate Last FY	121
Present Cost Estimate	123
Approved Request Last FY	38
Total Expense & Encumbrances	15
Approval Request Year 1	67

## 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, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	19,449		5,911	12,958	4,049	2,783	1,928	1,897	1,897	404	580
Other											
<b>Total</b>	<b>19,449</b>		<b>5,911</b>	<b>12,958</b>	<b>4,049</b>	<b>2,783</b>	<b>1,928</b>	<b>1,897</b>	<b>1,897</b>	<b>404</b>	<b>580</b>

## C. Funding Schedule (000's)

WSSC Bonds	19,449		5,911	12,958	4,049	2,783	1,928	1,897	1,897	404	580
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## D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the WSSC's share of the evaluation, design, and construction of capital projects to upgrade and repair Charles County's Mattawoman Interceptor and 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.</p> <p><b>JUSTIFICATION</b></p> <p>Prior evaluations of equipment and structural facilities concluded the need existed for various upgrade, repair, and replacement projects. A further thorough evaluation of the Head Works, Influent/Effluent Pumps, and Influent Wet Well was also deemed necessary in order to identify the specific scope of hydraulic, control, capacity, and safety upgrades to the Influent/Effluent Pump Station. Plant automation will improve the efficiency of operation and maintenance, thereby minimizing resource utilization and avoiding costs.</p> <p>Agreement dated October 22, 1980; Agreement Addendum No. 1 dated April 15, 2004.</p> <p><b>COST CHANGE</b></p> <p>The expenditure schedule reflects the latest information provided by Charles County. A new project has been added "Primary Clarifiers #1-4 Demolition" and the estimated costs for the Influent/Effluent Pump Station Evaluation and the MWWTP Clarifier and Thickener Repairs have increased.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Under the terms of the 1980 Agreement with Charles County, the WSSC has the use of 3 MGD of the 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. Life to date expenditures for this project are approximately \$6 million.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Charles County Government; (Depts of Utilities, Planning &amp; Growth Management, and Fiscal Services)</p> <p>Coordinating Projects: Not Applicable</p>
--

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

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,265	
Total Cost	\$1,265	
Impact on Water and Sewer Rate	\$0.03	

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

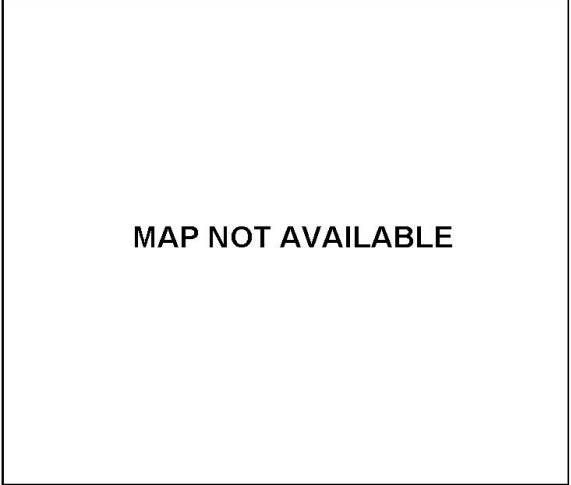
Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	760
Cost Estimate Last FY	16,156
Present Cost Estimate	19,449
Approved Request Last FY	3,633
Total Expense & Encumbrances	
Approval Request Year 1	4,049

## 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



# Parkway North Substation Replacement

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

PDF Date	October 1, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	642	15	195	432	300	132					
Land											
Site Improvements & Utilities											
Construction	3,710		830	2,880	2,000	880					
Other	651		150	501	350	151					
<b>Total</b>	<b>5,003</b>	<b>15</b>	<b>1,175</b>	<b>3,813</b>	<b>2,650</b>	<b>1,163</b>					

## C. Funding Schedule (000's)

WSSC Bonds	5,003	15	1,175	3,813	2,650	1,163					
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## D. Description & Justification

<p><b>DESCRIPTION</b>                  This project provides for the planning, design and construction of electrical upgrades for the Parkway WWTP including the full replacement of the North Substation, Motor Control Cabinet #1 (MCC1) and a 480 volt substation. Temporary facilities must be provided to maintain operation of the treatment plant during construction.</p> <p><b>JUSTIFICATION</b>                  Asset Management Program, CPNV #48, Business Case recommendation requires immediate replacement of electrical equipment to maintain level of services at the waste water treatment plant.</p> <p><b>COST CHANGE</b>                  Not applicable.</p> <p><b>OTHER</b>                  The present project scope was developed for the FY 2019 CIP and has a total estimated cost of \$5,003,000. The schedule and expenditure projections shown in Block B above are Order of Magnitude level estimates and may change based upon site conditions and design constraints. Preliminary planning work is currently underway under ESP project S-627.15, Parkway North Substation.</p> <p><b>COORDINATION</b>                  Coordinating Agencies: Maryland Department of the Environment; Prince George's County Government; Prince George's County Department of Environmental Resources;                  Coordinating Projects:</p>
--

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

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$325	21
Total Cost	\$325	21
Impact on Water and Sewer Rate	\$0.01	21

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

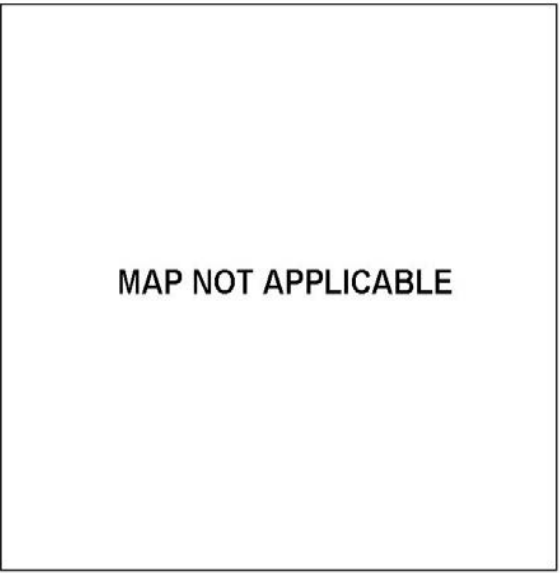
Date First in Program	FY19
Date First Approved	FY19
Initial Cost Estimate	5,003
Cost Estimate Last FY	
Present Cost Estimate	5,003
Approved Request Last FY	
Total Expense & Encumbrances	15
Approval Request Year 1	2,650

## G. Status Information

Land Status	Public/Agency owned land
Project Phase	Planning
Percent Complete	10%
Est Completion Date	March, 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

## H. Map





# Karington Subdivision Sewer

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

PDF Date	October 1, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	107	87	13	7	4	3					
Land											
Site Improvements & Utilities											
Construction	491	15	170	306	153	153					
Other	74		27	47	24	23					
<b>Total</b>	<b>672</b>	<b>102</b>	<b>210</b>	<b>360</b>	<b>181</b>	<b>179</b>					

## C. Funding Schedule (000's)

Contribution/Other	672	102	210	360	181	179					
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## D. Description & Justification

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

**JUSTIFICATION**  
 Karington Hydraulic Planning Analysis (May 2006).

**COST CHANGE**  
 Not applicable.

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

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

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

		FY of Impact
Staff		
Maintenance	\$17	21
Other Project Costs		
Debt Service		
Total Cost	\$17	21
Impact on Water and Sewer Rate		

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

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	801
Cost Estimate Last FY	655
Present Cost Estimate	672
Approved Request Last FY	176
Total Expense & Encumbrances	102
Approval Request Year 1	181

## 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, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	20,242	8,241	2,804	9,197	2,898	3,491	1,730	678	400		
Land											
Site Improvements & Utilities											
Construction	116,622		1,282	115,340	26,735	34,215	21,899	22,444	10,047		
Other	6,430		204	6,226	1,482	1,885	1,181	1,156	522		
<b>Total</b>	<b>143,294</b>	<b>8,241</b>	<b>4,290</b>	<b>130,763</b>	<b>31,115</b>	<b>39,591</b>	<b>24,810</b>	<b>24,278</b>	<b>10,969</b>		

## C. Funding Schedule (000's)

WSSC Bonds	143,294	8,241	4,290	130,763	31,115	39,591	24,810	24,278	10,969		
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## D. Description & Justification

<p><b>DESCRIPTION</b></p> <p>This project provides for the planning, design, and construction of improvements at the Piscataway 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.</p> <p><b>JUSTIFICATION</b></p> <p>In the Asset Management Plan the condition assessment process identified several areas of concern within the plant process trains that could potentially result in capacity or level of service failures during significant rainfall events. The Facility Plan provided a more detailed study that included the development of a plant-wide hydraulic and biological process model, CCTV inspection of buried piping, analysis of soil borings, and Level 3 Condition Assessment of electrical systems. Projects within the Facility Plan were justified and prioritized using WSSC's Asset Management Strategy guidelines, based on life cycle costs, business risk exposure, and needs prioritization.</p> <p>FY 2012 Piscataway WWTP Asset Management Plan, GHD, Inc. (March 2011); Piscataway WWTP Facility Plan, AECOM (January 2014); FY 2019 Wastewater Treatment System Asset Management Plan (December 2016).</p> <p><b>COST CHANGE</b></p> <p>Cost estimates have increased for the required Electrical upgrades, the Raw Wastewater Pumping Station, and Secondary Clarifiers. The Plant Utility Water Upgrade has been moved from this project to the Piscataway WWTP Bio-Energy Project.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B represent estimates at the 70% design stage for most projects, and may change based upon site conditions and design constraints. The Office of Asset Management has determined the priority of the recommended projects.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; Maryland Department of Natural Resources;</p> <p>Coordinating Projects: S-43.02-Broad Creek WWPS Augmentation; S-170.08-Septage Discharge Facility Planning &amp; Implementation; S-103.02-Piscataway WWTP Bio-Energy Project;</p>
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## E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$9,321	24
Total Cost	\$9,321	24
Impact on Water and Sewer Rate	\$0.21	24

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

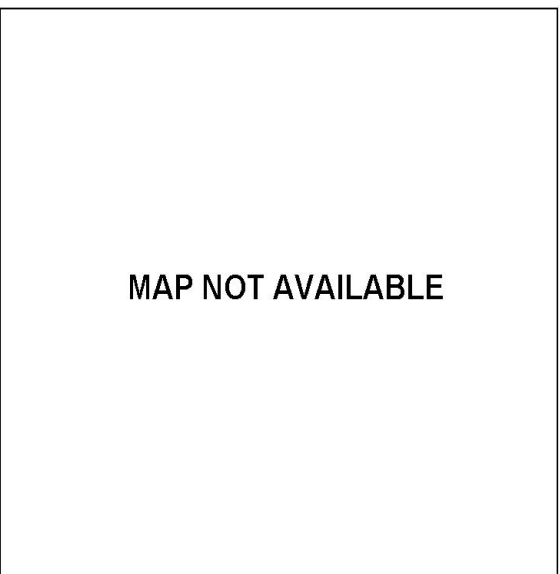
Date First in Program	FY 12
Date First Approved	FY 12
Initial Cost Estimate	66,396
Cost Estimate Last FY	118,156
Present Cost Estimate	143,294
Approved Request Last FY	6,993
Total Expense & Encumbrances	8,241
Approval Request Year 1	31,115

## G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	70%
Est Completion Date	FY 2023

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

## H. Map





# 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, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	171	43	59	69	52	10	7				
Land											
Site Improvements & Utilities											
Construction	597		114	483	290	133	60				
Other	109		26	83	51	22	10				
<b>Total</b>	<b>877</b>	<b>43</b>	<b>199</b>	<b>635</b>	<b>393</b>	<b>165</b>	<b>77</b>				

## C. Funding Schedule (000's)

Contribution/Other	877	43	199	635	393	165	77				
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## D. Description & Justification

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

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

**COST CHANGE**  
 Not applicable.

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

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

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

		FY of Impact
Staff		
Maintenance	\$48	22
Other Project Costs		
Debt Service		
Total Cost	\$48	22
Impact on Water and Sewer Rate		

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

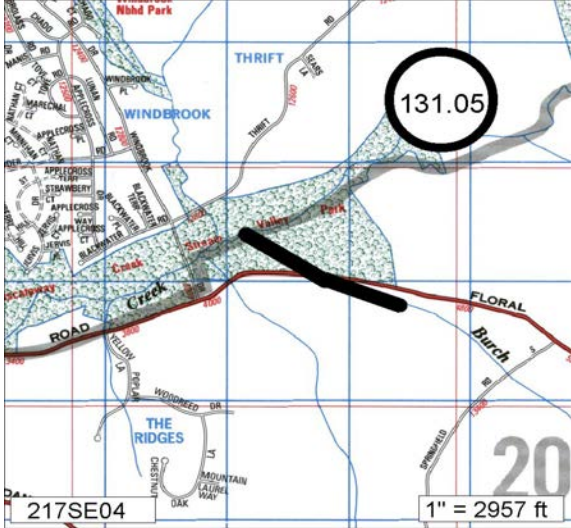
Date First in Program	FY 05
Date First Approved	FY 05
Initial Cost Estimate	586
Cost Estimate Last FY	849
Present Cost Estimate	877
Approved Request Last FY	385
Total Expense & Encumbrances	43
Approval Request Year 1	393

## 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, 2017
Date Revised	

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

## B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	381	98	154	129	107	22					
Land											
Site Improvements & Utilities											
Construction	1,154		250	904	736	168					
Other	215		60	155	127	28					
<b>Total</b>	<b>1,750</b>	<b>98</b>	<b>464</b>	<b>1,188</b>	<b>970</b>	<b>218</b>					

## C. Funding Schedule (000's)

Contribution/Other	1,750	98	464	1,188	970	218					
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## 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	\$174	21
Other Project Costs		
Debt Service		
Total Cost	\$174	21
Impact on Water and Sewer Rate		

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

Date First in Program	FY 10
Date First Approved	FY 10
Initial Cost Estimate	1,303
Cost Estimate Last FY	1,670
Present Cost Estimate	1,750
Approved Request Last FY	951
Total Expense & Encumbrances	98
Approval Request Year 1	970

## 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, 2017
Date Revised	

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

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

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,344	1,017	147	180	108	72					
Land											
Site Improvements & Utilities											
Construction	3,141	1,541	150	1,450	1,000	450					
Other	290		45	245	167	78					
<b>Total</b>	<b>4,775</b>	<b>2,558</b>	<b>342</b>	<b>1,875</b>	<b>1,275</b>	<b>600</b>					

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

WSSC Bonds	4,775	2,558	342	1,875	1,275	600					
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**D. Description & Justification**

<p><b>DESCRIPTION</b></p> <p>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.</p> <p><b>JUSTIFICATION</b></p> <p>There have been additional overflows at both pumping stations since the original 2005 study. On January 22, 2013, the EPA approved a 180-Day Report, making Fort Washington Forest No. 1 part of the Consent Decree. On July 2, 2015, the 180-Day Report and Schedule for Corrective Measures at Fort Washington Estates WWPS was approved by the EPA.</p> <p>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.</p> <p><b>COST CHANGE</b></p> <p>Not applicable.</p> <p><b>OTHER</b></p> <p>The project scope has remained the same. The 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 2018. Land costs are included in WSSC project S-203.00.</p> <p><b>COORDINATION</b></p> <p>Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park &amp; Planning Commission; Prince George's County Department of Environmental Resources; U.S. Environmental Protection Agency, Region III; Maryland Department of the Environment;</p> <p>Coordinating Projects: Not Applicable</p>
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**E. Annual Operating Budget Impact (000's)**

		FY of Impact
Staff		
Maintenance	\$127	21
Other Project Costs		
Debt Service	\$311	21
Total Cost	\$438	21
Impact on Water and Sewer Rate	\$0.01	21

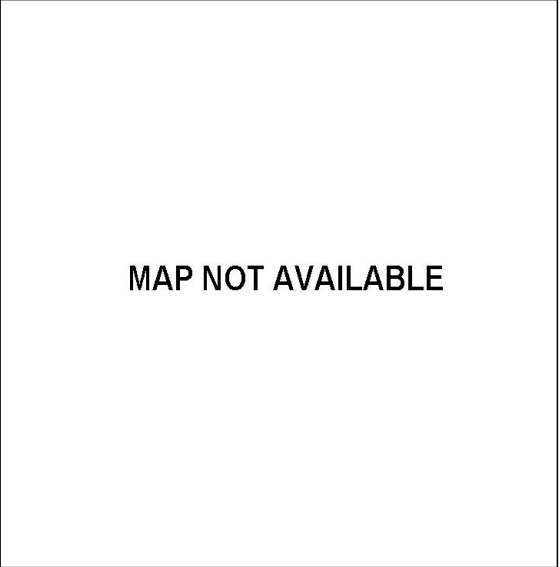
**F. Approval and Expenditure Data (000's)**

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	1,454
Cost Estimate Last FY	4,887
Present Cost Estimate	4,775
Approved Request Last FY	1,470
Total Expense & Encumbrances	2,558
Approval Request Year 1	1,275

**G. Status Information**

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	70%
Est Completion Date	March 2020
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	825
Capacity	0.7 MGD

**H. Map**



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

<b>Project Number</b>	<b>Agency Number</b>	<b>Project Name</b>	<b>Estimated Total Cost</b>	<b>Expenditures Thru FY'17</b>	<b>Estimated Expenditures FY'18</b>	<b>Remarks</b>
	S-57.94	Western Branch WWTP Incinerator Emissions Control	\$2,312	\$2,312	\$0	Project no longer needed.
	S-123.26	Marlboro Meadows Community System	\$2,533	\$0	\$2,533	Project completed.
		<b>TOTALS</b>	\$4,845	\$2,312	\$2,533	

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