SEWERAGE BI-COUNTY

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, 2015
Date Revised	April 29, 2016

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	145,464	133,741	4,946	6,080	1,158	832	572	1,086	1,547	885	697
Land											
Site Improvements & Utilities											
Construction	300,874	263,593	12,972	23,900	2,812	2,675	5,431	4,055	6,994	1,933	409
Other	489		179	299	40	35	60	51	85	28	11
Total	446,827	397,334	18,097	30,279	4,010	3,542	6,063	5,192	8,626	2,846	1,117

C. Funding Schedule (000's)

WSSC Bonds	422,300	375,523	17,104	28,617	3,790	3,348	5,730	4,907	8,152	2,690	1,056
City of Rockville	24,527	21,811	993	1,662	220	194	333	285	474	156	61

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC's share of the Blue Plains biosolids handling projects for which construction began after June 30, 1993. Major projects include: new Digestion Facilities; Gravity Thickener Facilities; and Solids Processing Building/Dewatered Sludge Loading Facility.

JUSTIFICATION

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

The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); EPMC IV Facility Plan, CH2MHILL (2001); the Biosolids Management at DCWASA Blue Plains Wastewater Treatment Plant Phase II - Design and Cost Considerations for Treatment Alternatives Report (December 2007); and the DCWASA Approved FY 2017 Capital Improvement Program.

COST CHANGE

Not applicable

OTHER

The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast of spending and DCWASA's latest project management data, and fully reflect DCWASA's current cost estimates and expenditure schedules. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. Portions of the program have been financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. The funding schedule also indicates the calculated Rockville share of the cost.

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	$29,057	
Total Cost	$29,057	
Impact on Water and Sewer Rate	$0.66	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	77,296
Cost Estimate Last FY	409,909
Present Cost Estimate	446,827
Approved Request Last FY	4,558
Total Expense & Encumbrances	397,334
Approval Request Year 1	4,010

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, 2015
Date Revised	April 29, 2016

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	107,503	74,524	11,140	20,994	8,613	6,376	2,848	2,097	805	255	845
Land											
Site Improvements & Utilities											
Construction	289,923	173,685	48,138	66,808	38,354	27,236	1,105	84	23	6	1,292
Other	1,493		593	879	470	336	40	22	8	3	21
Total	398,919	248,209	59,871	88,681	47,437	33,948	3,993	2,203	836	264	2,158

C. Funding Schedule (000's)

WSSC Bonds	173,373	80,028	33,662	57,743	30,964	23,838	1,586	847	324	184	2,040
State Aid	215,482	163,538	24,360	27,584	14,675	8,725	2,315	1,307	493	69	0
City of Rockville	10,064	4,643	1,949	3,354	1,798	1,385	92	49	19	11	118

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, and Wet Weather Mitigation; Diversion at Bolling and Tunnel Dewatering Pump Station.

JUSTIFICATION

1. The funding schedule reflects the final cost sharing agreement with the Maryland Department of the Environment.
2. Chesapeake Bay Program Tributary Strategies Process (2005); Blue Plains Strategic Process Study, Metcalf & Eddy (2005); Selection of the Enhanced Nitrogen Removal Process Alternative for the Blue Plains Advanced Wastewater Treatment Facility, Metcalf & Eddy (2009); DCWASA Approved FY 2017 Capital Improvement Program, and the Blue Plains Intermunicipal Agreement of 2012.

COST CHANGE

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	$11,929	
Total Cost	$11,929	
Impact on Water and Sewer Rate	$0.27	

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	386,171
Present Cost Estimate	398,919
Approved Request Last FY	65,284
Total Expense & Encumbrances	248,209
Approval Request Year 1	47,437

G. Status Information

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

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

H. Map

MAP NOT AVAILABLE

Blue Plains WWTP: Liquid Train Projects, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.08	954811	Change

PDF Date	October 1, 2015
Date Revised	April 29, 2016

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	118,987	99,143	4,313	14,361	2,952	3,314	2,810	2,495	1,690	1,100	1,170
Land											
Site Improvements & Utilities											
Construction	239,106	157,836	5,311	68,078	9,006	12,809	16,450	12,640	7,460	9,713	7,881
Other	1,012		96	825	120	161	193	151	92	108	91
Total	359,105	256,979	9,720	83,264	12,078	16,284	19,453	15,286	9,242	10,921	9,142

C. Funding Schedule (000's)

WSSC Bonds	339,392	242,872	9,186	78,694	11,415	15,390	18,386	14,447	8,735	10,322	8,640
City of Rockville	19,713	14,107	534	4,570	663	894	1,068	839	507	599	502

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, Headworks HVAC Rehabilitation, Raw Wastewater Pumping Station No. 2, Primary Treatment Facilities Phase II, and Grit Chamber Facilities Phase II.

JUSTIFICATION

This is a continuation of the DCWASA's upgrading of the Blue Plains Wastewater Treatment Plant.

The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); and the DCWASA Approved FY 2017 Capital Improvements Program.

COST CHANGE

Cost increase is primarily due to the addition of new projects for Replace/Upgrade Primary Treatment Mechanisms, Grit Chambers 1 & 2 Upgrades, Secondary East & West Upgrades, and Nitrification Reactor/Sedimentation Upgrades.

OTHER

The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast of spending and DCWASA's latest project management data, and fully reflect DCWASA's current cost estimates and expenditure schedules. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost.

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	$23,352	
Total Cost	$23,352	
Impact on Water and Sewer Rate	$0.52	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	69,745
Cost Estimate Last FY	345,636
Present Cost Estimate	359,105
Approved Request Last FY	8,008
Total Expense & Encumbrances	256,979
Approval Request Year 1	12,078

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: Pipelines & Appurtenances

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

PDF Date	October 1, 2015
Date Revised	April 29, 2016

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	40,382	16,986	4,565	16,896	4,683	3,463	1,632	1,171	2,906	3,041	1,935
Land											
Site Improvements & Utilities											
Construction	135,066	53,034	8,822	58,739	12,242	9,752	8,249	8,545	9,177	10,774	14,471
Other	1,054		134	756	169	132	99	97	121	138	164
Total	176,502	70,020	13,521	76,391	17,094	13,347	9,980	9,813	12,204	13,953	16,570

C. Funding Schedule (000's)

WSSC Bonds	168,977	67,219	13,205	73,644	16,575	12,850	9,489	9,499	11,759	13,472	14,909
City of Rockville	7,525	2,801	316	2,747	519	497	491	314	445	481	1,661

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC's share of Blue Plains-associated projects which are "outside the fence" of the treatment plant. Major projects include: A new headquarters building; Potomac Interceptor Rehabilitation; Upper Potomac Interceptor; Potomac Sewage Pumping Station Rehabilitation; Influent Sewers Rehabilitation; and projects associated with the Combined Sewer Overflow (CSO) Long Term Control Plan (e.g. Anacostia Tunnel).

JUSTIFICATION

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

The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); Technical Memorandum No. 1, Multi-Jurisdictional Use Facilities Capital Cost Allocation, (June 2013); and the DCWASA Approved FY 2017 Capital Improvement Program.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Project costs are derived from the DC-WASA Capital & Operating Budget 10-year forecast and latest project management data, and reflect WASA's current expenditure estimates and schedules. Given the open-ended nature of the project, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost which varies by project based on the City's relative share of WSSC's flow as derived in the Multijurisdiction Use Facilities Study.

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	$11,627	
Total Cost	$11,627	
Impact on Water and Sewer Rate	$0.26	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 02
Intial Cost Estimate	102,833
Cost Estimate Last FY	178,731
Present Cost Estimate	176,502
Approved Request Last FY	22,007
Total Expense & Encumbrances	70,020
Approval Request Year 1	17,094

G. Status Information

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

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

H. Map

MAP NOT AVAILABLE

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, 2015
Date Revised	April 29, 2016

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	95,747	74,388	2,427	16,021	2,396	1,547	1,335	4,105	4,018	2,620	2,911
Land											
Site Improvements & Utilities											
Construction	206,640	118,074	6,270	55,872	5,764	6,728	9,142	14,757	10,197	9,284	26,424
Other	1,100		87	720	82	83	105	189	142	119	293
Total	303,487	192,462	8,784	72,613	8,242	8,358	10,582	19,051	14,357	12,023	29,628

C. Funding Schedule (000's)

WSSC Bonds	286,828	181,897	8,302	68,627	7,790	7,899	10,001	18,005	13,569	11,363	28,002
City of Rockville	16,659	10,565	482	3,986	452	459	581	1,046	788	660	1,626

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: New Warehouse/Visitor Center/Security Facility, Electrical Power System, and Instrumentation and Control Engineering Program Management.

JUSTIFICATION

This is a continuation of the DCWASA's upgrading of the Blue Plains Wastewater Treatment Plant.

The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); and the DCWASA Approved FY 2017 Capital Improvement Program.

COST CHANGE

Cost increased for new major projects including Hydrogen Sulfide Mitigation, Roofing Upgrades, and Chemical System/Building Upgrades.

OTHER

The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast 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.

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	$19,735	
Total Cost	$19,735	
Impact on Water and Sewer Rate	$0.44	

F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 02
Initial Cost Estimate	84,650
Cost Estimate Last FY	286,513
Present Cost Estimate	303,487
Approved Request Last FY	5,977
Total Expense & Encumbrances	192,462
Approval Request Year 1	8,242

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

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, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision											
Land	204		20	184	122	22	10	10	10	10	
Site Improvements & Utilities											
Construction											
Other											
Total	204		20	184	122	22	10	10	10	10	

C. Funding Schedule (000's)

WSSC Bonds	180		20	160	110	10	10	10	10	10	
Contribution/Other	24			24	12	12					

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	$12	23
Total Cost	$12	23
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 98
Date First Approved	FY 98
Intial Cost Estimate	
Cost Estimate Last FY	424
Present Cost Estimate	204
Approved Request Last FY	112
Total Expense & Encumbrances	
Approval Request Year 1	122

G. Status Information

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

Growth	12%
System Improvement	88%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

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, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	23,922	1,362	950	21,610	4,050	4,120	6,150	6,300	990		
Land											
Site Improvements & Utilities											
Construction	113,300			113,300		8,500	39,500	46,500	18,800		
Other	6,798		48	6,750	204	632	2,284	2,640	990		
Total	144,020	1,362	998	141,660	4,254	13,252	47,934	55,440	20,780		

C. Funding Schedule (000's)

WSSC Bonds	72,120	791	499	70,830	2,127	6,626	23,967	27,720	10,390		
Federal Aid	71,900	571	499	70,830	2,127	6,626	23,967	27,720	10,390		

D. Description & Justification

DESCRIPTION

This project will develop a comprehensive program for the engineering, design, construction, maintenance, and monitoring and verification necessary to add sustainable energy equipment and systems to produce biogas and electricity at Piscataway WWTP. The program will provide a reduction in energy and energy-related costs (electricity, natural gas, transportation, and disposal of biosolids) which may in part be guaranteed by the contractor. The potential guaranteed reduction component includes annual avoided energy costs as well as operations and maintenance, chemicals, and biosolids transportation and disposal costs. The program will enhance existing operating conditions and reliability while continuing to meet all permit requirements, and ensure a continued commitment to environmental stewardship at WSSC sites. The scope of work will include, but is not limited to, the addition of anaerobic digestion equipment, thermal hydrolysis pretreatment equipment, gas cleaning systems, hydrogen sulfide and siloxane removal, tanks, piping, valves, pumps, sludge dewatering/thickening equipment, grit removal, effluent disinfection systems, instrumentation, flow metering, power measurement, and combined heat and power generation systems.

JUSTIFICATION

In March 2009, the WSSC received approval for a federal Department of Energy grant of $570,900 for the feasibility study/conceptual design phase. On June 16, 2010, the WSSC awarded the study contract to AECOM Technical Services, Inc., of Laurel, Maryland. The study was completed in December 2011, and the Thermal Hydrolysis/Mesophilic Anaerobic Digestion/Combined Heat & Power facility was recommended to be constructed and was presented to the Commission in April 2012. Since April 2012 WSSC staff members have met with and made presentations to Montgomery County Department of Environmental Protection Prince George's County Department of Environmental Resources staff both County Councils and DC Water in order to gain support for the project.

Since April 2012, WSSC staff members have met with and made presentations to Montgomery County Department of Environmental Protection, Prince George's County Department of Environmental Resources staff, both County Councils, and DC Water, in order to gain support for the project.The EPA is urging wastewater utilities to utilize this commercially available technology (anaerobic digestion) to produce power at a cost below retail electricity, displace purchased fuels for thermal needs, produce renewable fuel for green power programs, enhance power reliability for the wastewater treatment plant to prevent sanitary sewer overflows, reduce biosolids production and improve the health of the Chesapeake Bay, and to reduce greenhouse gas (GHG) and other air pollutants. In April 2009, the EPA announced that greenhouse gases contributed to air pollution that may endanger public health or welfare, and began proceedings to regulate CO2 under the Clean Air Act. In June 2014, the EPA announced a proposed rule to reduce carbon emissions from power plants by 30% by 2030, compared to the levels in 2005. Based on AECOM's feasibility study work as of May 2011, a regional/centralized plant at a location to be determined based on a Thermal Hydrolysis/Mesophillic Anaerobic Digestion/Combined Heat & Power (TH/MAD/CHP) process supplemented by restaurant grease fuel design was recommended.

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

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$4,962	22
Total Cost	$4,962	22
Impact on Water and Sewer Rate	$0.11	22

F. Approval and Expenditure Data (000's)

Date First in Program	FY 15
Date First Approved	FY 10
Intial Cost Estimate	345
Cost Estimate Last FY	144,019
Present Cost Estimate	144,020
Approved Request Last FY	14,276
Total Expense & Encumbrances	1,362
Approval Request Year 1	4,254

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Piscataway WWTP Bio-Energy Project

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

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Now that the feasibility study has been completed, the Commission has a defined scope, capital cost, and energy and energy-related cost savings estimates to be able to proceed with the detailed design and construction of the anerobic digestion, biomass, and combined heat and power generation system facilities for treating all biosolids from WSSC's Damascus, Seneca, Parkway and Piscataway WWTPs. The Montgomery and Prince George's County Councils have been briefed on the project and approved by resolution on November 25, 2014, and September 9, 2014, respectively, so the project can proceed. It is envisioned that either the entire project, or only portions of the project that include the thermal hydrolysis, anaerobic digestion or combined heat and power, include a guarantee by the contractor that the capital cost will be paid back 100% from energy and energy-related cost savings over time. The energy savings for other completed WSSC Energy Performance projects have surpassed the contracts' guaranteed amount every year of the monitoring and verification period. The WSSC will continue to pursue federal capital funding as a source of cost sharing as the project develops. Any Federal Aid received would shorten the payback period. The funding schedule reflects 50% Federal participation. The project name was updated to reflect the final site location at the Piscataway WWTP.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Chesapeake Bay Critical Areas;
Coordinating Projects: S-96.14-Piscataway WWTP Facility Upgrades;

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, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	3,965	919	683	2,363	440	999	587	253	84		
Land											
Site Improvements & Utilities											
Construction	9,280			9,280	1,792	2,390	2,848	1,688	562		
Other	1,233		68	1,165	223	339	344	194	65		
Total	14,478	919	751	12,808	2,455	3,728	3,779	2,135	711		

C. Funding Schedule (000's)

WSSC Bonds	14,478	919	751	12,808	2,455	3,728	3,779	2,135	711		

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

Currently septage waste is collected at four locations: Muddy Branch Road Disposal Site in Montgomery County, Temple Hill Road Disposal Site, Ritchie Road Disposal Site and Bladensburg Disposal Site in Prince George's County. The types of waste collected are as follows: Septic Tank Pump-Out (Sludge), Waste Holding Tank Discharge (Gray Water); Grease Trap Pump Out (FOG), Bus Holding Tank Discharge (Sewage and Chemicals), Small Food Service Providers (Low Volume FOG Waste), and Hazardous Materials. FOG wastes should not be discharged to the Commission's sewerage system without treatment.

Septage Discharge Facility Study for Montgomery County: Final Report, JMT (July 2012); Septage Discharge Facility Study for Prince George's County: Final Report, JMT (July 2012).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are planning level estimates and may change depending on site-specific conditions and design constraints. The design of the facilities at the Piscataway WWTP will be delayed until the design of the Piscataway WWTP Bio-Energy project is 30% complete.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral) Montgomery County Department of Environmental Protection; Prince George's County Department of Environmental Resources; Prince George's County Health Department;
Coordinating Projects: S-103.02-Piscataway WWTP Bio-Energy Project;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff	$750	22
Maintenance		
Other Project Costs	$482	22
Debt Service	$996	22
Total Cost	$2,228	22
Impact on Water and Sewer Rate	$0.05	22

F. Approval and Expenditure Data (000's)

Date First in Program	FY 10
Date First Approved	FY 10
Intial Cost Estimate	10,835
Cost Estimate Last FY	14,374
Present Cost Estimate	14,478
Approved Request Last FY	758
Total Expense & Encumbrances	919
Approval Request Year 1	2,455

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	15%
Est Completion Date	July 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Trunk Sewer Reconstruction Program

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	174,416	50,830	20,571	103,015	30,769	31,598	12,855	12,026	8,712	7,055	
Land											
Site Improvements & Utilities											
Construction	563,645	150,745	74,500	338,400	102,000	89,900	49,800	46,900	35,300	14,500	
Other	51,999		10,286	41,713	12,752	13,166	5,295	4,881	3,224	2,395	
Total	790,060	201,575	105,357	483,128	145,521	134,664	67,950	63,807	47,236	23,950	

C. Funding Schedule (000's)

WSSC Bonds	790,060	201,575	105,357	483,128	145,521	134,664	67,950	63,807	47,236	23,950	

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

COST CHANGE

The increase in the overall program costs is attributed to the addition of the 102-inch diameter Anacostia pressure sewer rehabilitation project, partially offset by revised lower estimates for work within the ESA and a reduction in the Other cost calculation. An assessment of the pressure sewer first began in 2011 following an inquiry from Prince George's County and the Army Corps of Engineers due to its crossing a levee under their jurisdiction.

OTHER

The project scope has remained the same. Reconstruction work will include: reduction of I/I; replacement of substandard sewer segments; in situ lining of sewer segments; pipeline and manhole protection; rebuilding of manholes; and correction of structural defects and poor alignment. The reconstruction work in each sewer basin will be prioritized to most effectively prevent SSOs and backups. The Consent Decree requires that all rehabilitation work be substantially complete by December 5, 2015. WSSC is negotiating with U.S. Environmental Protection Agency, U.S. Department of Justice, and Maryland Department of the Environment on a Consent Decree extension. 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 has 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. Land costs are included in WSSC Project S-203.00.

COORDINATION

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$54,360	23
Total Cost	$54,360	23
Impact on Water and Sewer Rate	$1.21	23

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	504,993
Cost Estimate Last FY	747,314
Present Cost Estimate	790,060
Approved Request Last FY	191,866
Total Expense & Encumbrances	201,575
Approval Request Year 1	145,521

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Construction
Percent Complete	31%
Est Completion Date	See Block D

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

SEWARAGE MONTGOMERY COUNTY

Cabin Branch Wastewater Pumping Station

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	483	12	11	460	75	315	70				
Land											
Site Improvements & Utilities											
Construction	1,555			1,555	315	1,047	193				
Other	304		2	302	59	204	39				
Total	2,342	12	13	2,317	449	1,566	302				

C. Funding Schedule (000's)

Contribution/Other	2,342	12	13	2,317	449	1,566	302				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

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

Coordinating Projects: S-84.61-Cabin Branch WWPS Force Main;

E. Annual Operating Budget Impact (000's)

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

F. Approval and Expenditure Data (000's)

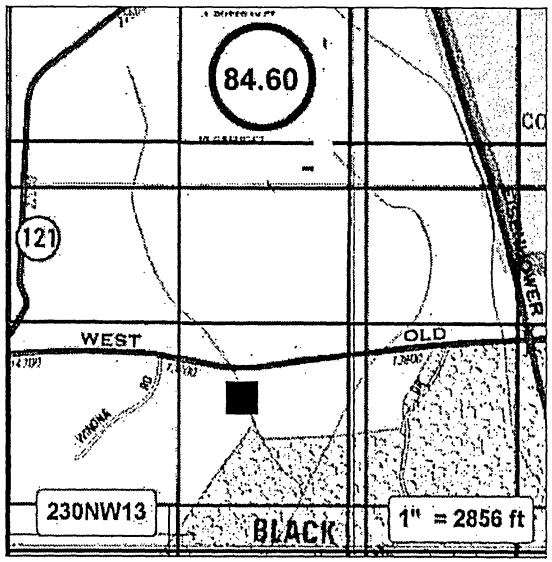
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	22
Cost Estimate Last FY	2,342
Present Cost Estimate	2,342
Approved Request Last FY	449
Total Expense & Encumbrances	12
Approval Request Year 1	449

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	95%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	1,550
Capacity	0.9 MGD

H. Map



Cabin Branch WWPS Force Main

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	90		15	75	27	45	3				
Land											
Site Improvements & Utilities											
Construction	279			279	97	164	18				
Other	55		2	53	19	31	3				
Total	424		17	407	143	240	24				

C. Funding Schedule (000's)

Contribution/Other	424		17	407	143	240	24				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC Project S-203.00.

COORDINATION

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

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$29	20
Other Project Costs		
Debt Service		
Total Cost	$29	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

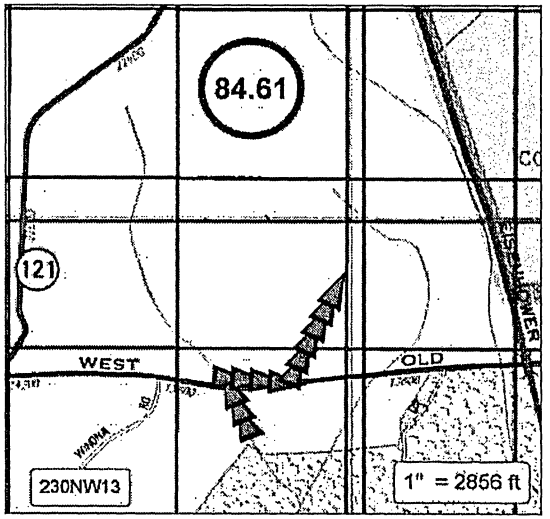
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	22
Cost Estimate Last FY	424
Present Cost Estimate	424
Approved Request Last FY	143
Total Expense & Encumbrances	
Approval Request Year 1	143

G. Status Information

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

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	1,550
Capacity	0.9 MGD

H. Map



Cabin John Trunk Sewer Relief

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	621	21	390	210	180	20	10				
Land											
Site Improvements & Utilities											
Construction	13,120			13,120	5,352	5,352	2,416				
Other	1,372		39	1,333	553	537	243				
Total	15,113	21	429	14,663	6,085	5,909	2,669				

C. Funding Schedule (000's)

Contribution/Other	15,113	21	429	14,663	6,085	5,909	2,669				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

COST CHANGE

~~C~~Cost were increased based upon information provided by the developer.

OTHER

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

COORDINATION

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$49	20
Other Project Costs		
Debt Service		
Total Cost	$49	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

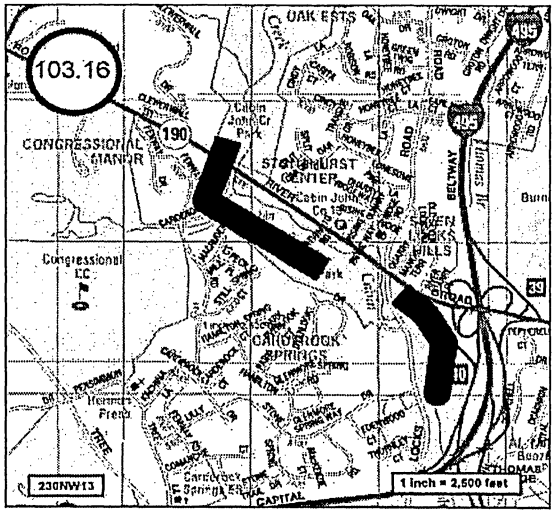
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	7,999
Cost Estimate Last FY	7,999
Present Cost Estimate	15,113
Approved Request Last FY	2,662
Total Expense & Encumbrances	21
Approval Request Year 1	6,085

G. Status Information

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

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	29.37 to 36.74 MGD

H. Map



Clarksburg Triangle Outfall Sewer, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.47	023811	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	470	226	230	14	12	2					
Land											
Site Improvements & Utilities											
Construction	1,885	900	450	535	471	64					
Other	184		102	82	72	10					
Total	2,539	1,126	782	631	555	76					

C. Funding Schedule (000's)

Contribution/Other	2,539	1,126	782	631	555	76					

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

Clarksburg Master Plan and Hyattstown Special Study Area (1994); Montgomery County Council Resolution Number 14-772; Water and Sewer Plan Service Area Map Amendments for the Clarksburg Master Plan Area (Adopted February 13, 2001); Clarksburg Stages 3 and 4 Area Facility Plan, Rodgers Consulting (December 2004); Ten Mile Creek Area Limited Master Plan (2014).

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

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

Coordinating Projects: W-46.14-Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3; S-84.46-Clarksburg Triangle Outfall Sewer, Part 1;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$113	19
Other Project Costs		
Debt Service		
Total Cost	$113	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

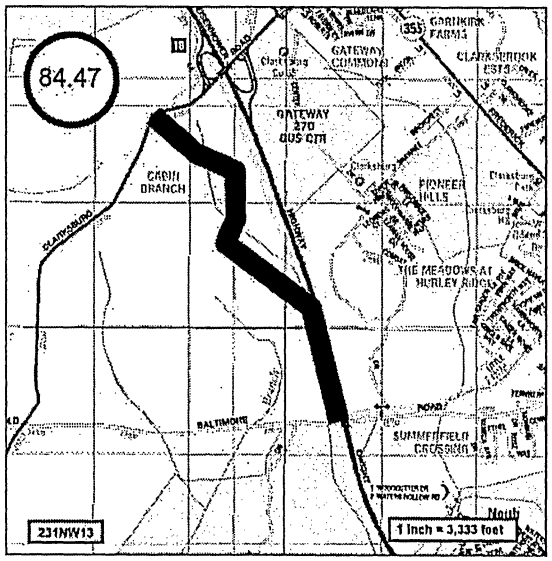
Date First in Program	FY 02
Date First Approved	FY 02
Intial Cost Estimate	22
Cost Estimate Last FY	2,539
Present Cost Estimate	2,539
Approved Request Last FY	555
Total Expense & Encumbrances	1,126
Approval Request Year 1	555

G. Status Information

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

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

H. Map



Mid-Pike Plaza Sewer Main, Phase 1

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-25.04	123801	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	343	330	5	8	8						
Land											
Site Improvements & Utilities											
Construction	3,668	3,400	168	100	100						
Other	42		26	16	16						
Total	4,053	3,730	199	124	124						

C. Funding Schedule (000's)

Contribution/Other	4,053	3,730	199	124	124						

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

COST CHANGE

Total project cost has increased based on updated construction cost estimate.

OTHER

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

COORDINATION

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

Coordinating Projects: S-103.16-Cabin John Trunk Sewer Relief; S-25.05-Mid-Pike Plaza Sewer Main, Phase 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$57	18
Other Project Costs		
Debt Service		
Total Cost	$57	18
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

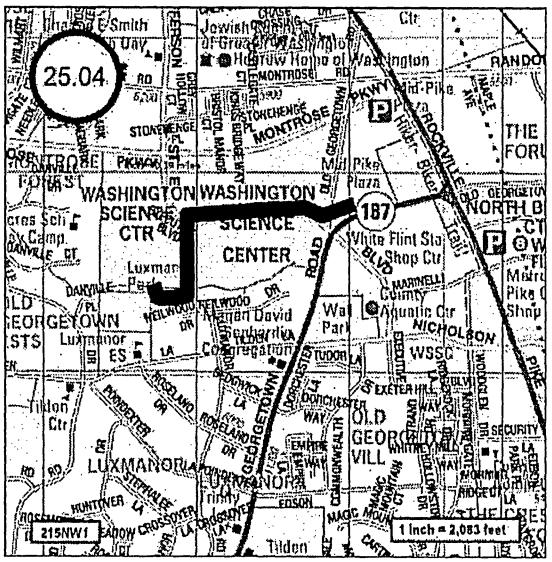
Date First in Program	FY 12
Date First Approved	FY 12
Intial Cost Estimate	1,488
Cost Estimate Last FY	3,874
Present Cost Estimate	4,053
Approved Request Last FY	37
Total Expense & Encumbrances	3,730
Approval Request Year 1	124

G. Status Information

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

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

H. Map



Mid-Pike Plaza Sewer Main, Phase 2

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	860	119	247	494	247	247					
Land											
Site Improvements & Utilities											
Construction	4,455		1,000	3,455	2,455	1,000					
Other	779		187	592	405	187					
Total	6,094	119	1,434	4,541	3,107	1,434					

C. Funding Schedule (000's)

Contribution/Other	6,094	119	1,434	4,541	3,107	1,434					

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

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

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$51	19
Other Project Costs		
Debt Service		
Total Cost	$51	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

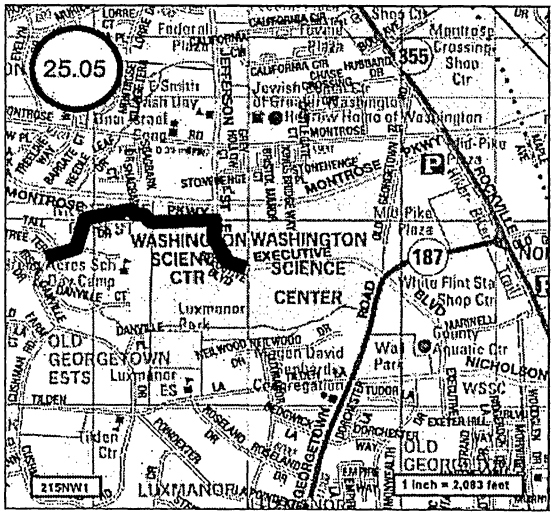
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	5,917
Cost Estimate Last FY	6,094
Present Cost Estimate	6,094
Approved Request Last FY	3,107
Total Expense & Encumbrances	119
Approval Request Year 1	3,107

G. Status Information

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

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Seneca WWTP Enhanced Nutrient Removal

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-53.21	073800	Change

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Lower Seneca PA 18;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	6,958	6,956	1	1	1						
Land											
Site Improvements & Utilities											
Construction	7,000	6,877	103	20	20						
Other	17		16	1	1						
Total	13,975	13,833	120	22	22						

C. Funding Schedule (000's)

WSSC Bonds	7,755	7,613	120	22	22						
State Aid	6,220	6,220									

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of improvements at the Seneca WWTP necessary to meet the requirements of the Maryland Department of the Environment (MDE) Enhanced Nutrient Removal (ENR) Program at 20 MGD. The recommendations include modification of the existing basins to Flexible Modified Ludzack-Ettinger (MLE) mode, methanol storage and distribution system, upgrade of the existing 13 filters, and expansion of the filter gallery to include 3 new sand filters designed for phosphorous removal down to the permit goal of 0.18 mg/l at the maximum month flow of 33 MGD (design flow is 26 MGD).

JUSTIFICATION

The Bay Restoration Fund Enhanced Nutrient Removal (ENR) Program's purpose is to meet the commitments under the 2000 Chesapeake Bay Agreement. Reductions of nutrient pollutants from all sources including sewage treatment plants are necessary. The ENR strategy builds on the success of the Biological Nutrient Removal (BNR) Program already in place. The MDE is using the Bay Restoration Fund to upgrade the 66 major wastewater treatment plants which discharge to the Chesapeake Bay with ENR technologies. Once upgraded, these plants are expected to reduce nitrogen and phosphorus in the wastewater down to 3 mg/l total nitrogen and 0.3 mg/l total phosphorus, achieving approximately one-third of the needed reduction under the Chesapeake Bay 2000 Agreement. Other pollutants will continue to be reduced by more than 90%.

ENR Alternatives for the Seneca Wastewater Treatment Plant, Gannett Fleming (June 2005); Maryland Department of the Environment, Feasibility Study Approval Letter (July 27, 2005); WSSC Preliminary Engineering Report (September 2008); Design Criteria Report (November 2008).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon the actual bid and future change orders. The funding schedule reflects the final cost sharing agreement with MDE. WSSC's share of the project will be financed through a low interest loan from the MDE's Water Quality Administration State Revolving Loan Program. WSSC and MDE have negotiated a consent agreement for this project. The currently proposed date for the ENR substantial completion is January 1, 2016 and effluent discharge compliance by January 1, 2017. Funds are shown beyond FY16 for project closeout.

COORDINATION

Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection; Maryland Department of the Environment;
Coordinating Projects: S-53.22-Seneca WWTP Expansion, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$534	18
Total Cost	$534	18
Impact on Water and Sewer Rate	$0.01	18

F. Approval and Expenditure Data (000's)

Date First in Program	FY 07
Date First Approved	FY 07
Intial Cost Estimate	22,862
Cost Estimate Last FY	13,972
Present Cost Estimate	13,975
Approved Request Last FY	22
Total Expense & Encumbrances	13,833
Approval Request Year 1	22

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	95%
Est Completion Date	September 2015

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Seneca WWTP Expansion, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-53.22	083802	Change

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Lower Seneca PA 18;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	7,006	6,897	108	1	1						
Land											
Site Improvements & Utilities											
Construction	23,425	23,058	347	20	20						
Other	53		52	1	1						
Total	30,484	29,955	507	22	22						

C. Funding Schedule (000's)

SDC	30,484	29,955	507	22	22						

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of improvements at the Seneca WWTP necessary to meet the projected growth in this service area while adhering to the requirements of the Maryland Department of the Environment (MDE) Enhanced Nutrient Removal (ENR) Program at 26 MGD (an increase from 20 MGD). The project will provide an additional aeration basin, an additional 150-foot clarifier, expansion of the filter gallery to include 4 new sand filters designed for phosphorous removal down to the permit goal of 0.18 mg/l at the maximum month flow of 33 MGD (design flow is 26 MGD), and biosolids handling system improvements. The biosolids handling improvements consist of an additional centrifuge and biosolids conveyance modifications which will provide system redundancy. The electrical distribution system will also be evaluated.

JUSTIFICATION

The planned improvements at the Seneca WWTP will adhere to the requirements of MDE's ENR Program at 26 MGD in accordance with the reduction goals under the Chesapeake Bay 2000 Agreement. The design provides for phosphorous removal down to the permit goal of 0.18 mg/l at the maximum month flow of 33 MGD (design flow is 26 MGD).

ENR Alternatives for the Seneca Wastewater Treatment Plant, Gannett Fleming (June 2005); Maryland Department of the Environment, Feasibility Study Approval Letter (July 27, 2005); WSSC Preliminary Engineering Report (September 2008); Design Criteria Report (November 2008).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon actual bid. Funds are shown beyond FY16 for project closeout.

COORDINATION

Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection; Maryland Department of the Environment;

Coordinating Projects: S-53.21-Seneca WWTP Enhanced Nutrient Removal;

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 07
Intial Cost Estimate	16,478
Cost Estimate Last FY	28,990
Present Cost Estimate	30,484
Approved Request Last FY	22
Total Expense & Encumbrances	29,955
Approval Request Year 1	22

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	95%
Est Completion Date	September 2015

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	6 MGD

H. Map

MAP NOT AVAILABLE

Shady Grove Station Sewer Augmentation

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	59	23	15	21	11	10					
Land											
Site Improvements & Utilities											
Construction	1,904		250	1,654	1,016	638					
Other	291		40	251	154	97					
Total	2,254	23	305	1,926	1,181	745					

C. Funding Schedule (000's)

Contribution/Other	2,254	23	305	1,926	1,181	745					

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

The new 15-inch and 18-inch diameter sewers will serve the area encompassed by Shady Grove Road, I-370 and CSX Railroad.

Due to development density proposed in DA5409Z12, the projected peak wastewater flow exceeds the capacity of existing sewers.

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$57	19
Other Project Costs		
Debt Service		
Total Cost	$57	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

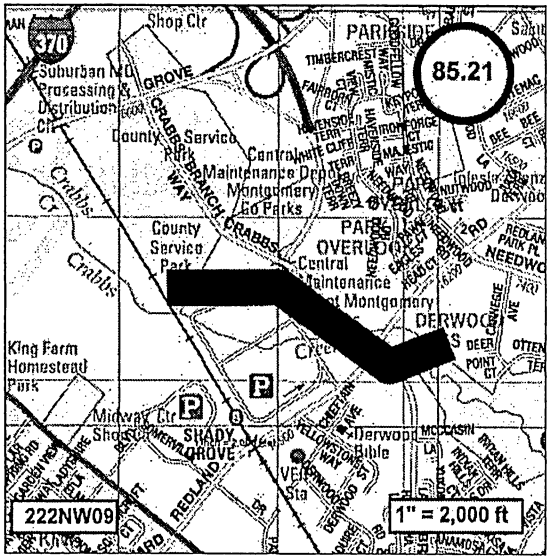
Date First in Program	FY 15
Date First Approved	FY 15
Intial Cost Estimate	2,254
Cost Estimate Last FY	2,254
Present Cost Estimate	2,254
Approved Request Last FY	1,188
Total Expense & Encumbrances	23
Approval Request Year 1	1,181

G. Status Information

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

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

H. Map



Tapestry Wastewater Pumping Station

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.65	083803	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	338	65	120	153	103	50					
Land											
Site Improvements & Utilities											
Construction	848	0	315	533	298	235					
Other	168		65	103	60	43					
Total	1,354	65	500	789	461	328					

C. Funding Schedule (000's)

Contribution/Other	1,354	65	500	789	461	328					

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

COST CHANGE

Cost increase is based upon more definitive design information provided by Developer.

OTHER

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

COORDINATION

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

E. Annual Operating Budget Impact (000's)

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

F. Approval and Expenditure Data (000's)

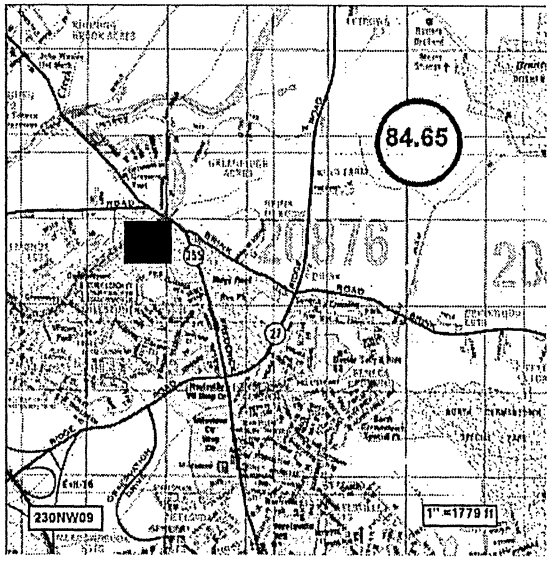
Date First in Program	FY08
Date First Approved	FY08
Intial Cost Estimate	552
Cost Estimate Last FY	683
Present Cost Estimate	1,354
Approved Request Last FY	223
Total Expense & Encumbrances	65
Approval Request Year 1	461

G. Status Information

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

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	590
Capacity	0.23 MGD

H. Map



Tapestry WWPS Force Main

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	26	13	13	0	0	0					
Land											
Site Improvements & Utilities											
Construction	92		34	58	32	26					
Other	16		7	9	5	4					
Total	134	13	54	67	37	30					

C. Funding Schedule (000's)

Contribution/Other	134	13	54	67	37	30					

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process) Local Community Civic Associations;
Coordinating Projects: S-84.65-Tapestry Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$31	19
Other Project Costs		
Debt Service		
Total Cost	$31	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

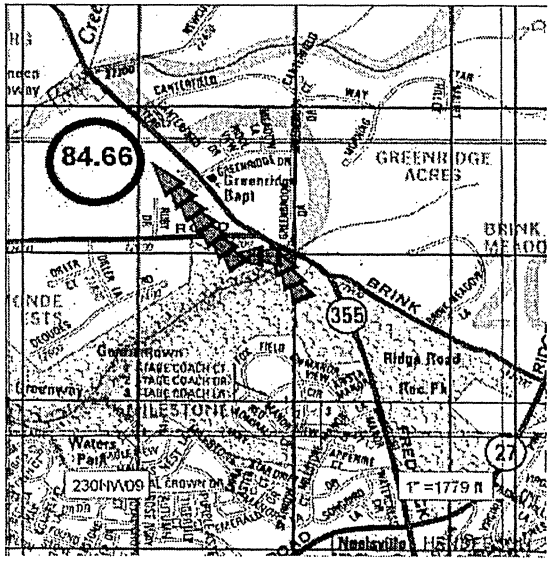
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	110
Cost Estimate Last FY	134
Present Cost Estimate	134
Approved Request Last FY	46
Total Expense & Encumbrances	13
Approval Request Year 1	37

G. Status Information

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

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	590
Capacity	

H. Map



Twinbrook Commons Sewer

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	417	380	10	27	8	7	6	6			
Land											
Site Improvements & Utilities											
Construction	535	227	41	267	130	69	34	34			
Other	52		8	44	21	11	6	6			
Total	1,004	607	59	338	159	87	46	46			

C. Funding Schedule (000's)

Contribution/Other	1,004	607	59	338	159	87	46	46			

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

Phase I Letter of Findings (April 2006).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. This project will be completed in two phases. The first phase, Contract No. DA4159A05, was completed in January 2010. The second phase, Contract No. DA4159B05, is in the construction stage. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$19	21
Other Project Costs		
Debt Service		
Total Cost	$19	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

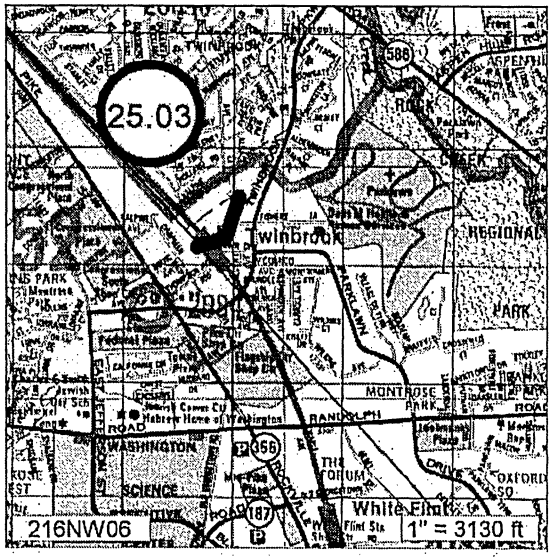
Date First in Program	FY 08
Date First Approved	FY 08
Intial Cost Estimate	677
Cost Estimate Last FY	1,004
Present Cost Estimate	1,004
Approved Request Last FY	159
Total Expense & Encumbrances	607
Approval Request Year 1	159

G. Status Information

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

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	3.26 to 4.33 MGD

H. Map



WATER BI-COUNTY

Bi-County Water Tunnel

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-127.01	934855	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	**28,295**	26,455	1,830	**10**	10						
Land											
Site Improvements & Utilities											
Construction	**115,358**	113,170	2,168	**20**	20						
Other	**202**		200	**2**	2						
Total	**143,855**	**139,625**	**4,198**	**32**	**32**						

C. Funding Schedule (000's)

WSSC Bonds	**700**	700									
SDC	**143,155**	138,925	4,198	**32**	32						

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

COST CHANGE

Not applicable.

OTHER

The project scope remains the same. Expenditures shown in Block B above are definitive and are the sum of the design services, construction management services and construction contract amounts. In late 2005, both Councils reviewed the results of the detailed alignment study and agreed upon the final alignment and construction method. The tunnel was substantially completed and the Commission received beneficial use of the main on February 12, 2015. Final restoration is expected to be completed in the fall 2015 planting season. As part of the permit requirements for work within Cabin John and Rock Creek Parks, M-NCP&PC calls for stream restoration along Old Farm Creek. This work will be handled under a separate contract with costs extending into FY'17. The relining of 450 feet of existing 96-inch diameter PCCP was completed in FY'14 at a cost of $700,000 and is not subject to SDC funding.

COORDINATION

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

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$531	18
Other Project Costs		
Debt Service	$48	18
Total Cost	$579	18
Impact on Water and Sewer Rate	$0.01	18

F. Approval and Expenditure Data (000's)

Date First in Program	FY 93
Date First Approved	FY 93
Intial Cost Estimate	63,000
Cost Estimate Last FY	144,258
Present Cost Estimate	143,855
Approved Request Last FY	1,123
Total Expense & Encumbrances	139,625
Approval Request Year 1	32

G. Status Information

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

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

H. Map

SEE ATTACHED MAP

Duckett & Brighton Dam Upgrades

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

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	7,471	6,021	362	1,088	725	363					
Land											
Site Improvements & Utilities											
Construction	20,605	5,905	3,825	10,875	7,250	3,625					
Other	1,616		419	1,197	798	399					
Total	29,692	11,926	4,606	13,160	8,773	4,387					

C. Funding Schedule (000's)

WSSC Bonds	29,692	11,926	4,606	13,160	8,773	4,387					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design and construction of the upgrades required to enable the T. Howard Duckett Dam to meet current Maryland Department of the Environment (MDE) dam safety standards including the Probable Maximum Flood (PMF) criteria and maximum credible earthquake loadings. The upgrades include parapet walls on both embankments of the dam and three foot thick scour slabs tied into the rock on the downstream side of the dam. This project also includes improvements to the Brighton Dam to assure continued safe operation.

JUSTIFICATION

The MDE requested that WSSC perform a safety analysis of the T. Howard Duckett Dam to ensure that the dam can safely pass the Probable Maximum Flood criteria. MDE also requested that the evaluation include an analysis of the dam's ability to withstand the maximum credible earthquake loadings. The safety analysis includes geotechnical and structural evaluations.

December 13, 2004 letter from MDE; "Comprehensive Safety Evaluation of the T. Howard Duckett Dam", URS Corporation (January 2007); June 28, 2007 letter from MDE.

COST CHANGE

Costs were increased based on the Engineer's estimate for the work required for the Brighton Dam part of the project.

OTHER

The project scope has remained the same. Expenditures and schedule projections shown in Block B above reflect design level estimates (Brighton Dam) and actual bids (Duckett Dam). A report with a presentation of alternatives to enable the dam to safely pass the PMF and any other safety requirements was delivered to MDE in January 2007. In June 2007, MDE formally concurred with the recommended alternative. Construction work at Duckett Dam is approximately 95% complete. Brighton Dam is currently in design.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Prince George's County Government; Howard County Government; City of Laurel; Maryland Department of the Environment; U.S. Army Corps of Engineers;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$2,043	19
Total Cost	$2,043	19
Impact on Water and Sewer Rate	$0.04	19

F. Approval and Expenditure Data (000's)

Date First in Program	FY 07
Date First Approved	FY 07
Intial Cost Estimate	575
Cost Estimate Last FY	16,950
Present Cost Estimate	29,692
Approved Request Last FY	670
Total Expense & Encumbrances	11,926
Approval Request Year 1	8,773

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	90%
Est Completion Date	January 2018

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

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

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

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision											
Land	2,120		697	1,423	425	550	20	418	10		
Site Improvements & Utilities											
Construction											
Other											
Total	**2,120**		**697**	**1,423**	**425**	**550**	**20**	**418**	**10**		

C. Funding Schedule (000's)

WSSC Bonds	**857**		234	**623**	325	250	20	18	10		
SDC	**1,263**		463	**800**	100	300		400			

D. Description & Justification

DESCRIPTION

This PDF provides a consolidated estimate of funding for the acquisition of land and rights-of-way for water projects and for easement and land acquisitions for watershed protection. Expenditures are programmed based upon anticipated schedules and are required for the completion of those specific projects. These costs do not include purchases which have already been completed.

JUSTIFICATION

Consolidation of expenditures for land and rights-of-way acquisitions provides flexibility in expending funds in a specific fiscal year and permits the WSSC to respond to the uncertainty of project-specific implementation schedules. Other considerations include the accomodation of unpredictable delays which impact the timing of a planned purchase, unanticipated rights-of-way requirements due to minor alignment changes identified late in the design phase, and the need to assure the WSSC an equitable negotiation position by avoiding project-specific cost displays prior to contacting property owners.

Acquisition needs are determined by the WSSC and are based upon facility planning efforts, alignment studies, field surveys, realignments required by other agencies, or requirements identified within the Development Services Process (DSP).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are Order of Magnitude estimates only and may change based upon actual negotiations. When purchases are complete, the actual cost will be displayed in the expenditure schedule on the appropriate project.

COORDINATION

Coordinating Agencies: Not Applicable
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$59	22
Total Cost	$59	22
Impact on Water and Sewer Rate		22

F. Approval and Expenditure Data (000's)

Date First in Program	FY 98
Date First Approved	FY 98
Intial Cost Estimate	
Cost Estimate Last FY	5,676
Present Cost Estimate	2,120
Approved Request Last FY	1,125
Total Expense & Encumbrances	
Approval Request Year 1	425

G. Status Information

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

Growth	60%
System Improvement	40%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Large Diameter Water Pipe & Large Valve Rehabilitation Program

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

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	34,395	7,818	3,261	23,316	3,842	3,710	3,743	3,842	3,842	4,337	
Land											
Site Improvements & Utilities											
Construction	366,662	72,023	24,241	270,398	41,960	45,283	46,496	45,553	45,553	45,553	
Other	16,112		1,425	14,687	2,290	2,450	2,512	2,470	2,470	2,495	
Total	417,169	79,841	28,927	308,401	48,092	51,443	52,751	51,865	51,865	52,385	

C. Funding Schedule (000's)

WSSC Bonds	417,169	79,841	28,927	308,401	48,092	51,443	52,751	51,865	51,865	52,385	

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

In July 2013, WSSC's Acoustic Fiber Optic monitoring system identified breaking wires in a 54-inch diameter PCCP water transmission main in the Forestville area of Prince George's County. Upon attempting to close nearby valves to isolate the failing pipe for repair, WSSC crews encountered an inoperable valve with a broken gear, requiring the crew to drop back to the next available valve. This dropping-back to another valve would block one of the major water mains serving Prince George's county, significantly enlarging the shutdown area and reduce our capacity to supply water to over 100,000 residents. In order to minimize the risk associated with inoperable large valves and possible water outages, the large valve inspection and repair program was initiated to systematically inspect, exercise, repair and replace (when necessary) any of the 1500 large diameter valves and vaults located throughout the system.
Utility Wide Master Plan, (December 2007); 30 Year Infrastructure Plan (2007); FY2016 Water Transmission System Asset Management Plan (February 2014); WSSC FY 2017 Buried Water Asset Systems Asset Management Plan (December 2014);

COST CHANGE

Not applicable.

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$28,703	23
Total Cost	$28,703	23
Impact on Water and Sewer Rate	$0.58	23

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	60,000
Cost Estimate Last FY	411,331
Present Cost Estimate	417,169
Approved Request Last FY	48,293
Total Expense & Encumbrances	79,841
Approval Request Year 1	48,092

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Large Diameter Water Pipe & Large Valve Rehabilitation Program

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are Order of Magnitude estimates and are expected to change based upon the results of the inspections and condition assessments. Additional costs associated with PCCP inspection/condition assessment, large valve inspection/repairs and emergency repairs are included in the Operating Budget.

COORDINATION

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

Coordinating Projects: W-1.00-Water Reconstruction Program; A-107.00-Specialty Valve Vault Rehabilitation Program;

Patuxent WFP Phase II Expansion

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-172.05	033807	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	14,704	7,655	2,178	4,871	2,231	1,742	898				
Land	34	34									
Site Improvements & Utilities											
Construction	47,534	3,289	13,499	30,746	14,700	12,300	3,746				
Other	2,566		789	1,777	847	702	228				
Total	64,838	10,978	16,466	37,394	17,778	14,744	4,872				

C. Funding Schedule (000's)

WSSC Bonds	64,838	10,978	16,466	37,394	17,778	14,744	4,872				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

COST CHANGE

Slight decrease reflects actual construction bid price.

OTHER

The project scope has remained the same. In the event of an outage at the Potomac WFP, additional capacity at the Patuxent WFP will reduce customer impact. However, emergency conservation measures will still be required.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Maryland State Department of Transportation; Baltimore Gas & Electric;
Coordinating Projects: W-12.02-Prince George's County HG415 Zone Water Main; W-172.07-Patuxent Raw Water Pipeline; W-172.08-Rocky Gorge Pump Station Upgrade;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$4,461	20
Total Cost	$4,461	20
Impact on Water and Sewer Rate	$0.09	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 04
Date First Approved	FY 03
Intial Cost Estimate	33,002
Cost Estimate Last FY	65,611
Present Cost Estimate	64,838
Approved Request Last FY	14,372
Total Expense & Encumbrances	10,978
Approval Request Year 1	17,778

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	10%
Est Completion Date	FY 2019

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

H. Map

MAP NOT AVAILABLE

Patuxent Raw Water Pipeline

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

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	4,667	4,329	38	300	100	100	100				
Land											
Site Improvements & Utilities											
Construction	25,935	7,935		18,000	5,000	8,000	5,000				
Other	1,834		4	1,830	510	810	510				
Total	32,436	12,264	42	20,130	5,610	8,910	5,610				

C. Funding Schedule (000's)

WSSC Bonds	32,436	12,264	42	20,130	5,610	8,910	5,610				

D. Description & Justification

DESCRIPTION

This project provides for planning, design and construction of approximately 2.5 miles of new 48-inch diameter raw water pipeline from the Rocky Gorge Raw Water Pumping Station to the Patuxent Water Filtration Plant, cleaning of the existing water lines and replacement of valves.

JUSTIFICATION

The existing raw water supply facilities are hydraulically limited to 72 MGD with all pumps running at the Rocky Gorge Pumping Station. In order to convey more than 72 MGD of raw water, a new raw water pipeline is required. A fourth raw water pipeline from Rocky Gorge Pumping Station to the Patuxent Plant and modification/expansion of the Rocky Gorge Pumping Station will provide a firm raw water pumping transmission capacity of 110 MGD. These improvements, in conjunction with expansion of the Patuxent Water Filtration Plant, will give the Plant a firm nominal capacity of 72 MGD, with an emergency capacity of 110 MG.

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

COST CHANGE

The cost was increased based on a change in alignment needed to avoid BGE gas line relocations. The new pipeline design includes added air release vacuum/entry port valve vaults, enhanced cathodic protection including Pritech coating, anodes, and test stations.

OTHER

The project scope has remained the same. The Rocky Gorge Valve Replacement and the cleaning of existing raw water pipelines are 100% complete. The new raw water pipeline is currently in design. Expenditure and schedule estimates for the new raw water pipeline may change based upon design constraints and permitting issues. The project has been delayed due to a lengthy permit and right-of-way acquisition process. As with any construction project, areas disturbed by construction will be restored. This restoration includes paving of impacted roads in accordance with Prince George's County Policy and Specifications for Utility Installation and Maintenance Manual (Section 4.7.2). Land costs are included in WSSC Project W-202.00.

COORDINATION

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

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$242	20
Other Project Costs		
Debt Service	$2,232	20
Total Cost	$2,474	20
Impact on Water and Sewer Rate	$0.05	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 03
Intial Cost Estimate	18,750
Cost Estimate Last FY	23,616
Present Cost Estimate	32,436
Approved Request Last FY	3,095
Total Expense & Encumbrances	12,264
Approval Request Year 1	5,610

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	90%
Est Completion Date	FY 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Potomac WFP Consent Decree Program

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

PDF Date	April 29, 2016
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	10,000			10,000	2,000	2,000	2,000	2,000	2,000		
Land	1,000			1,000	600	400					
Site Improvements & Utilities											
Construction	15,000			15,000		3,000	4,000	4,000	4,000		
Other	1,250			1,250	100	250	300	300	300		
Total	27,250			27,250	2,700	5,650	6,300	6,300	6,300		

C. Funding Schedule (000's)

WSSC Bonds	27,250			27,250	2,700	5,650	6,300	6,300	6,300		

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

The Consent Decree (CD) was lodged with the U.S. District Court of Maryland on October 29, 2015 and is pending for approval and Entry by the Court. Under the terms of the CD the Commission is required to "undertake short-term operational changes and capital improvements at the Potomac WFP that will enable WSSC to reduce significantly the pounds per day of solids discharged to the River" (CD Section II. Paragraph 6.i); and to plan, design, and implement long term "upgrades to the existing Plant or to design and construct a new plant to achieve the effluent limits, conditions, and waste load allocations established by the Maryland Department of the Environment (the Department) and/or in this Consent Decree and incorporated in a new discharge permit to be issued by the Department" (CD Section II. Paragraph 6.ii). The CD requires the Commission to submit a Draft Audit Report and Draft Long-Term Upgrade Plan to the Citizens and the Department by November 15, 2016, and final reports to be submitted to the Citizens and the Department by January 1, 2017. Upon receipt the Department will review the Audit Report and select improvements in operations, monitoring, and waste tracking recommended in the Audit Report and select capital projects that can be completed no later than April 1, 2020 and that are necessary to achieve the goals identified in CD Section IV. Paragraph 24. Additionally, the work required to implement the Long-Term Capital Improvements Project(s) shall be fully implemented in accordance with the schedule set forth in the Long Term Upgrade Plan. The Commission shall be subjected to a lump-sum stipulated penalty in accordance with the CD for failure to implement the Long Term Capital Improvement Project(s) by January 1, 2026.

COST CHANGE

Not applicable.

OTHER

The project scope was developed for the FY 2017 CIP and has a preliminary cost estimate of approximately $27,250,000. Expenditure and schedule projections shown above are Order of Magnitude level estimates. The construction estimate is expected to increase significantly once the Short-Term (Audit Report) and Long-Term Capital Improvements plans are completed and approved by the Maryland Department of the Environment. The expenditure and schedule projections shown above also include $1,000,000 for Supplemental Environmental Projects included under CD Section IX. Paragraph 50. Preliminary planning work is currently underway in FY'16 under ESP project W-708.48, Potomac WFP Consent Decree Projects. In addition, operational requirements identified in CD Section IV. Interim Performance Measures and Plant Improvements are currently underway under ESP project W-708.47, Potomac WFP Turbidity Monitoring.

COORDINATION

Coordinating Agencies: Maryland Department of the Environment; Montgomery County Government; Prince George's County Government; National Park Service; U.S. Environmental Protection Agency, Region III;
Coordinating Projects: W-73.21-Potomac WFP Corrosion Mitigation; W-73.30-Potomac WFP Submerged Channel Intake;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$1,875	22
Total Cost	$1,875	22
Impact on Water and Sewer Rate	$0.04	22

F. Approval and Expenditure Data (000's)

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

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	0%
Est Completion Date	January 2026

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

7-30

Potomac WFP Corrosion Mitigation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.21	143802	Change

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	1,210	985	190	35	35						
Land											
Site Improvements & Utilities											
Construction	13,000	250	10,750	2,000	2,000						
Other	1,298		1,094	204	204						
Total	15,508	1,235	12,034	2,239	2,239						

C. Funding Schedule (000's)

WSSC Bonds	15,508	1,235	12,034	2,239	2,239						

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditures and schedule projections shown in Block B above are based on approved construction contract BF5250A11.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland Department of the Environment;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$1,067	18
Total Cost	$1,067	18
Impact on Water and Sewer Rate	$0.02	18

F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	7,443
Cost Estimate Last FY	15,556
Present Cost Estimate	15,508
Approved Request Last FY	5,165
Total Expense & Encumbrances	1,235
Approval Request Year 1	2,239

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	5%
Est Completion Date	December 2016

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Potomac WFP Main Zone Pipeline

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	1,862	397	365	1,100	321	550	229				
Land											
Site Improvements & Utilities											
Construction	30,000			30,000			18,000	12,000			
Other	3,147		37	3,110	32	55	1,823	1,200			
Total	**35,009**	**397**	**402**	**34,210**	**353**	**605**	**20,052**	**13,200**			

C. Funding Schedule (000's)

WSSC Bonds	**35,009**	397	402	**34,210**	353	605	20,052	13,200			

D. Description & Justification

DESCRIPTION

This project provides for the planning, design and construction of an 84-inch diameter redundancy main from the Main Zone pumping station to the 96-inch diameter and 66-inch diameter main wye connections on River Road. The project will include a rock tunnel segment.

JUSTIFICATION

The existing 78-inch diameter PCCP pipeline is the major feed to the 96-inch diameter Montgomery County Main Zone pipeline and the 66-inch diameter River Road pipeline. The primary purpose of this project is to provide redundancy for the existing line. The Business Case recommended a new 84-inch diameter main be installed from the Main Zone pumping station to the 66-inch diameter and 96-inch diameter wye connection. In addition the wye connection will be replaced as part of this project.

Email from M. Woodcock to C. Fricke and E. Betanzo dated April 27, 2011; "Business Case Evaluation for Potomac Water Treatment Plan - 78 inch finished water main redundancy", O'Brien and Gere Engineers, Inc. (October 2013)

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are Order of Magnitude estimates and may change based upon site specific conditions and design constraints. Land acquisition costs are included in WSSC Project W-202.00

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; Maryland Department of the Environment; Maryland Department of Natural Resources; U.S. Army Corps of Engineers; Maryland-National Capital Park & Planning Commission;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$28	21
Other Project Costs		
Debt Service	$2,409	21
Total Cost	$2,437	21
Impact on Water and Sewer Rate	$0.05	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Intial Cost Estimate	330
Cost Estimate Last FY	34,670
Present Cost Estimate	35,009
Approved Request Last FY	440
Total Expense & Encumbrances	397
Approval Request Year 1	353

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	10%
Est Completion Date	FY 2020

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

H. Map

MAP NOT AVAILABLE

Potomac WFP Outdoor Substation No. 2 Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.19	113802	Change

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	3,292	1,599	564	1,129	847	282					
Land											
Site Improvements & Utilities											
Construction	11,000		3,667	7,333	5,500	1,833					
Other	1,270		423	847	635	212					
Total	15,562	1,599	4,654	9,309	6,982	2,327					

C. Funding Schedule (000's)

WSSC Bonds	15,562	1,599	4,654	9,309	6,982	2,327					

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

COST CHANGE

Total project cost has increased based on updated construction supervision cost estimate.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are preliminary estimates and may change based upon final bid.

COORDINATION

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$1,071	19
Total Cost	$1,071	19
Impact on Water and Sewer Rate	$0.02	19

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Intial Cost Estimate	7,934
Cost Estimate Last FY	14,636
Present Cost Estimate	15,562
Approved Request Last FY	5,258
Total Expense & Encumbrances	1,599
Approval Request Year 1	6,982

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	100%
Est Completion Date	December 2017

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Potomac WFP Pre-Filter Chlorination & Air Scour Improvements

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

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	1,472	665	307	500	139	333	28				
Land											
Site Improvements & Utilities											
Construction	8,807	405	512	7,890	2,192	5,260	438				
Other	921		82	839	233	559	47				
Total	11,200	1,070	901	9,229	2,564	6,152	513				

C. Funding Schedule (000's)

WSSC Bonds	11,200	1,070	901	9,229	2,564	6,152	513				

D. Description & Justification

DESCRIPTION

This project provides for the planning, design and construction of a pre-filter chlorination system for the Potomac Water Filtration Plant. It also includes evaluation of retrofitting an air scour system into the existing plant filters, and the planning, design and construction of an appropriate system if the evaluation deems it favorable for implementation.

JUSTIFICATION

The Potomac Water Filtration Plant has experienced six separate incidents of catastrophic filter underdrain failures since October 2006. Subsequent investigation conducted by WSSC and ITT Leopold, suppliers of the failed underdrain systems, revealed that the ITT Leopold underdrain system with an Integral Media Support (IMS) cap is not compatible with the biologically active filters at the Potomac WFP.

Engineering Standard - I. M. S. Cap Monitoring Operation, and Maintenance Instructions, ITT Water & Wastewater, Leopold, Inc., (April 2009). Memo from John Geibel, P.E., Sr. Product Engineer @ ITT Water & Wastewater, Leopold, Inc. - Potomac Filtration Plant Visit April 2009 - to Joseph Johnson, Potomac Plant Superintendent, (May 2010);

COST CHANGE

Total project cost has increased based on an updated cost estimate for construction of the new air scour system.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are preliminary design level estimates, and may change based on site-specific conditions and design constraints. It was originally planned to design and construct both pre-filter chlorination and air scour systems as one deliverable. However, due to the more critical need to implement pre-filter chlorination at the Potomac plant, this portion of the project was placed on an accelerated schedule for design and construction, separate from that of the air scour system.

COORDINATION

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$771	20
Total Cost	$771	20
Impact on Water and Sewer Rate	$0.02	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	5,602
Cost Estimate Last FY	7,176
Present Cost Estimate	11,200
Approved Request Last FY	253
Total Expense & Encumbrances	1,070
Approval Request Year 1	2,564

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	30%
Est Completion Date	July 2018

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Potomac WFP Submerged Channel Intake

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	10,188	3,938	300	5,950	1,000	1,250	1,200	1,150	1,100	250	
Land											
Site Improvements & Utilities											
Construction	66,700			66,700		1,700	22,000	22,000	18,000	3,000	
Other	3,649		15	3,634	50	148	1,160	1,158	955	163	
Total	80,537	3,938	315	76,284	1,050	3,098	24,360	24,308	20,055	3,413	

C. Funding Schedule (000's)

WSSC Bonds	80,537	3,938	315	76,284	1,050	3,098	24,360	24,308	20,055	3,413	

D. Description & Justification

DESCRIPTION

This project includes planning, which involves community outreach and coordination with elected officials, design and construction of a submerged channel intake to provide an additional barrier against drinking water contamination (particularly Giardia cysts and Cryptosporidium oocysts), as well as to enhance reliability and reduce treatment costs by drawing water from a location with cleaner, more stable water quality.

JUSTIFICATION

The project is expected to pay for itself over time based upon the reduced chemical and solids handling costs resulting from the cleaner raw water source. It also provides for a more reliable supply by eliminating the current problems associated with ice and vegetation blocking the existing bank withdrawal. This project is consistent with the industry's recommended multiple barrier approach.

Technical Memorandum No. 2 Water Quality Needs Assessment," O'Brien & Gere Engineers, Inc. (November 2001); "Draft Source Water Assessment Study," Maryland Department of the Environment (April 2002); "Potomac WFP Facility Plan," O'Brien & Gere Engineers, Inc. (September 2002). "Draft Feasibility Study Report", Black & Veatch (November 2013).

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; National Park Service; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; Maryland-National Capital Park & Planning Commission;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$5,541	23
Total Cost	$5,541	23
Impact on Water and Sewer Rate	$0.11	23

F. Approval and Expenditure Data (000's)

Date First in Program	FY 04
Date First Approved	FY 03
Intial Cost Estimate	936
Cost Estimate Last FY	82,638
Present Cost Estimate	80,537
Approved Request Last FY	1,100
Total Expense & Encumbrances	3,938
Approval Request Year 1	1,050

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	95%
Est Completion Date	FY 2022

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

Rocky Gorge Pump Station Upgrade

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-172.08	063805	Change

PDF Date	October 1, 2015
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	4,828	2,961	467	1,400	934	466					
Land											
Site Improvements & Utilities											
Construction	13,378	1,494	2,971	8,913	5,942	2,971					
Other	1,376		344	1,032	688	344					
Total	19,582	4,455	3,782	11,345	7,564	3,781					

C. Funding Schedule (000's)

WSSC Bonds	19,582	4,455	3,782	11,345	7,564	3,781					

D. Description & Justification

DESCRIPTION

This project provides for the modification and/or expansion of the Rocky Gorge Pump Station to allow the station to provide up to 110 MGD of raw water to the Patuxent Water Filtration Plant.

JUSTIFICATION

The modification and expansion of the Rocky Gorge Raw Water Pumping Station will provide a firm raw water pumping capacity of 110 MGD. The improvements to the pump station, along with a fourth water pipeline (W-172.07) and expansion of the Patuxent Plant (W-172.05) will give the Patuxent Plant a firm nominal capacity of 72 MGD, with emergency capacity of 110 MGD.

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

COST CHANGE

Costs increased based upon revised construction estimates and increased estimates for construction supervision.

OTHER

The project scope remains the same. Expenditure and schedule projections shown in Block B above are design level estimates and may change based upon actual bids. The current plan calls for construction to begin in December 2015, following completion of the Prince George's side of the Duckett Dam upgrade. The construction expenditures through FY'15 include the upgrade of the station's existing turbines, which were part of the overall station upgrade, but were contracted separately.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Prince George's County Government; Maryland Department of the Environment; Baltimore Gas & Electric;

Coordinating Projects: W-172.05-Patuxent WFP Phase II Expansion; W-172.07-Patuxent Raw Water Pipeline; W-139.02-Duckett & Brighton Dam Upgrades;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$1,347	19
Total Cost	$1,347	19
Impact on Water and Sewer Rate	$0.03	19

F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 03
Intial Cost Estimate	12,930
Cost Estimate Last FY	17,932
Present Cost Estimate	19,582
Approved Request Last FY	6,205
Total Expense & Encumbrances	4,455
Approval Request Year 1	7,564

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	99%
Est Completion Date	December 2017

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

WATER MONTGOMERY COUNTY

Brink Zone Reliability Improvements

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-90.04	143800	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	1,715	295	460	960	250	600	110				
Land											
Site Improvements & Utilities											
Construction	4,300			4,300	1,000	3,000	300				
Other	859		69	790	188	540	62				
Total	6,874	295	529	6,050	1,438	4,140	472				

C. Funding Schedule (000's)

WSSC Bonds	6,874	295	529	6,050	1,438	4,140	472				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

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

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

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are planning level estimates derived from the Business Case Analysis.

COORDINATION

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

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$473	20
Total Cost	$473	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

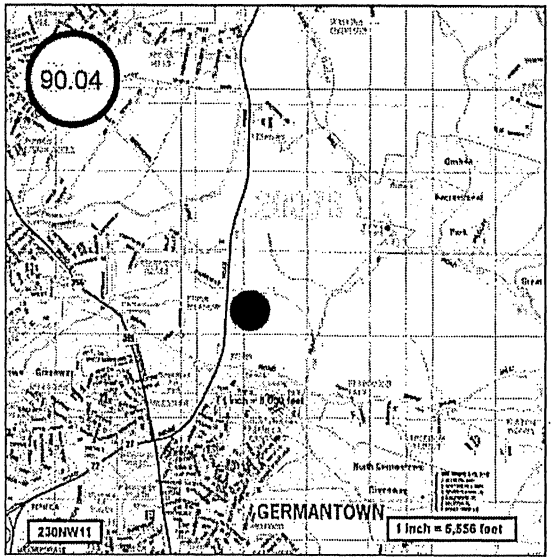
Date First in Program	FY 14
Date First Approved	FY 14
Intial Cost Estimate	345
Cost Estimate Last FY	6,909
Present Cost Estimate	6,874
Approved Request Last FY	673
Total Expense & Encumbrances	295
Approval Request Year 1	1,438

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	10%
Est Completion Date	September 2018

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

H. Map



Clarksburg Area Stage 3 Water Main, Part 4

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	455	134	150	171	120	45	6				
Land											
Site Improvements & Utilities											
Construction	3,028	1,300	280	1,448	879	503	66				
Other	308		65	243	150	82	11				
Total	3,791	1,434	495	1,862	1,149	630	83				

C. Funding Schedule (000's)

Contribution/Other	3,791	1,434	495	1,862	1,149	630	83				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

This water main is planned to serve the area designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area, approved and adopted in June 1994.

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

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

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

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$120	20
Other Project Costs		
Debt Service		
Total Cost	$120	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

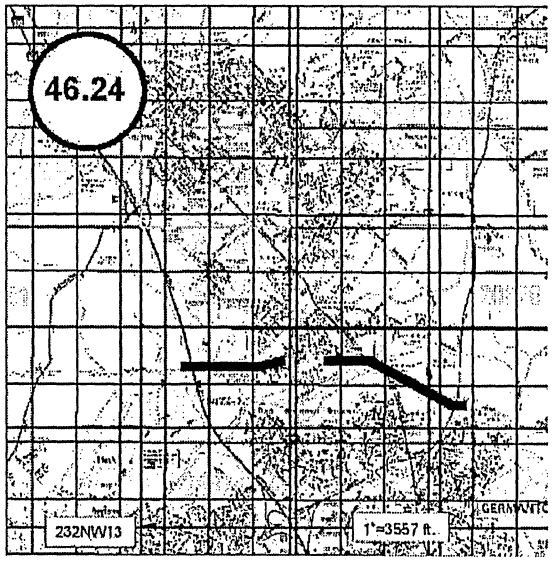
Date First in Program	FY 11
Date First Approved	FY 97
Intial Cost Estimate	1,954
Cost Estimate Last FY	3,789
Present Cost Estimate	3,791
Approved Request Last FY	1,149
Total Expense & Encumbrances	1,434
Approval Request Year 1	1,149

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	35%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



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

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-46.14	973818	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	1,040	300	200	540	451	78	11				
Land											
Site Improvements & Utilities											
Construction	4,460	2,532	500	1,428	1,072	310	46				
Other	400		105	295	228	58	9				
Total	**5,900**	**2,832**	**805**	**2,263**	**1,751**	**446**	**66**				

C. Funding Schedule (000's)

Contribution/Other	5,900	2,832	805	2,263	1,751	446	66				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

This water main is planned to serve the area designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area, approved and adopted in June 1994.

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

COST CHANGE

Not applicable.

OTHER

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

COORDINATION

Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission;
Coordinating Projects: W-46.15-Clarksburg Elevated Water Storage Facility; S-84.47-Clarksburg Triangle Outfall Sewer, Part 2; W-46.24-Clarksburg Area Stage 3 Water Main, Part 4;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$331	20
Other Project Costs		
Debt Service		
Total Cost	$331	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

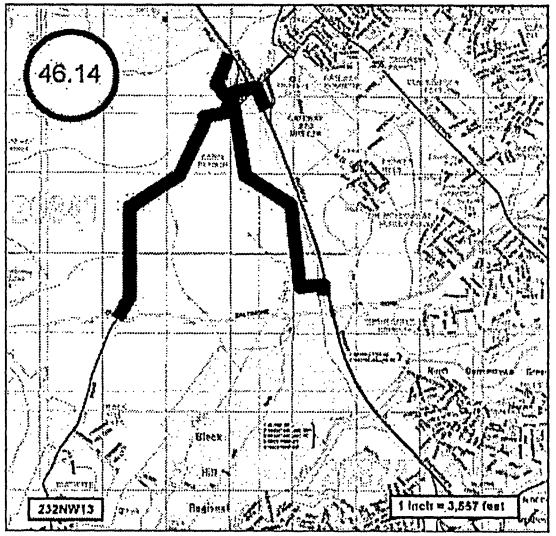
Date First in Program	FY 97
Date First Approved	FY 97
Intial Cost Estimate	3,376
Cost Estimate Last FY	5,900
Present Cost Estimate	5,900
Approved Request Last FY	1,751
Total Expense & Encumbrances	2,832
Approval Request Year 1	1,751

G. Status Information

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

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Clarksburg Area Stage 3 Water Main, Part 5

A. Identification and Coding Information

Agency Number	Project Number	Update Code
W-46.25	163801	Change

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	182		160	22	15	7					
Land											
Site Improvements & Utilities											
Construction	1,230		1,079	151	113	38					
Other	212		186	26	19	7					
Total	1,624		1,425	199	147	52					

C. Funding Schedule (000's)

SDC	1,624		1,425	199	147	52					

D. Description & Justification

DESCRIPTION

This project provides for the design and construction of 2,700 feet of 24-inch diameter water main along Route 355 and West Old Baltimore Road.

JUSTIFICATION

This water main is planned to serve the area designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area, approved and adopted in June, 1994.

~~G~~eneral Plan and M-NCPPC Round 6 growth forecasts.

COST CHANGE

~~N~~ot applicable.

OTHER

The project scope has remained the same. Pending area road projects had resulted in the need to accelerate portions of the 24-inch water project separate from developer-built project W-46.24. The WSSC-built portions will now be completed under Project W-46.25 in conjunction with Montgomery County and Maryland State Highway Administration road projects. No rate supported debt will be used for this project.

COORDINATION

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	$50	19
Other Project Costs		
Debt Service		
Total Cost	$50	19
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

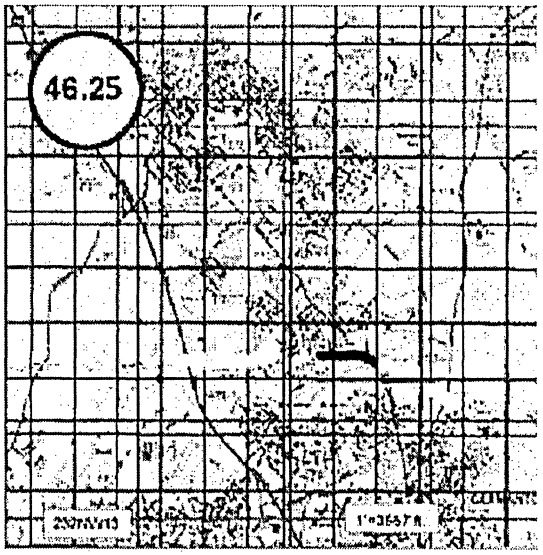
Date First in Program	FY16
Date First Approved	FY97
Intial Cost Estimate	1,624
Cost Estimate Last FY	1,624
Present Cost Estimate	1,624
Approved Request Last FY	147
Total Expense & Encumbrances	
Approval Request Year 1	147

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	20%
Est Completion Date	FY 2018

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Clarksburg Elevated Water Storage Facility

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	829	311	240	278	134	123	21				
Land											
Site Improvements & Utilities											
Construction	4,413			4,413	983	2,940	490				
Other	740		36	704	168	459	77				
Total	5,982	311	276	5,395	1,285	3,522	588				

C. Funding Schedule (000's)

SDC	5,982	311	276	5,395	1,285	3,522	588				

D. Description & Justification

DESCRIPTION

This project provides for the community outreach, site selection, planning, design, and construction for a 1 million gallon (MG) elevated storage facility in the HG760 water pressure zone.

JUSTIFICATION

This project is required to meet projected future growth in the HG760 pressure zone. Reevaluation of this project with Round 6.2 growth forecasts indicates a storage deficit for this zone. The facility plan identified the preferred location for the water storage facility. As noted in the facility plan, public meetings were held to obtain comments concerning the location.

Montgomery County High Zone Supply Facility Plan, WSSC; M-NCP&PC Round 6.2 growth forecasts; Western Clarksburg Facility Plan, Rogers Associates (December 2004); Water Storage Volume Criteria Report (November 2005); Finished Water Storage Analysis (December 2013).

COST CHANGE

Costs increased due to the increased storage capacity of the facility, resulting in a revised construction estimate.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are planning level estimates and may change based upon site-specific conditions and design constraints. The resulting decision of the Montgomery County Planning Board Mandatory Referral is for WSSC to hold a design charrette to address the aesthetic and landscaping concerns and submit details of the final landscaping surrounding the facility before going into final design. Land costs are included in WSSC Project W-202.00.

COORDINATION

Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Hearing was held on April 3, 2008)

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

E. Annual Operating Budget Impact (000's)

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

F. Approval and Expenditure Data (000's)

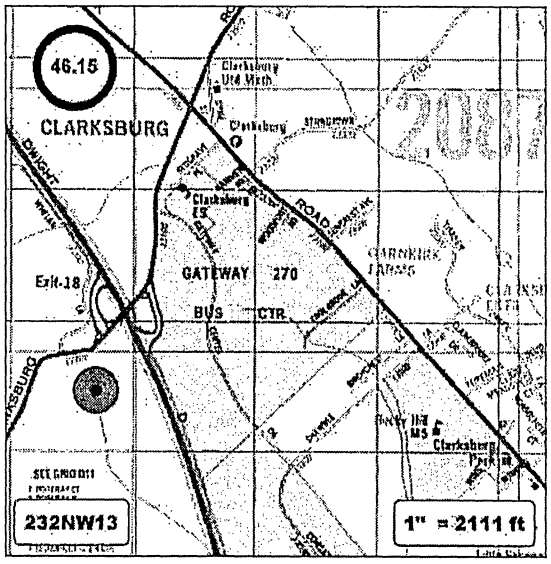
Date First in Program	FY 97
Date First Approved	FY 97
Intial Cost Estimate	138
Cost Estimate Last FY	4,836
Present Cost Estimate	5,982
Approved Request Last FY	127
Total Expense & Encumbrances	311
Approval Request Year 1	1,285

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	10%
Est Completion Date	FY 2019

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

H. Map



Olney Standpipe Replacement

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	2,169	1,305	230	634	304	304	26				
Land	25	25									
Site Improvements & Utilities											
Construction	6,054	4	233	5,817	2,792	2,792	233				
Other	1,036		69	967	464	464	39				
Total	9,284	1,334	532	7,418	3,560	3,560	298				

C. Funding Schedule (000's)

WSSC Bonds	9,284	1,334	532	7,418	3,560	3,560	298				

D. Description & Justification

DESCRIPTION

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

JUSTIFICATION

The efforts of the Systems Control Group have improved the minimum chlorine residual concentrations and appear to have lowered the THM concentrations in the distribution system. However, these efforts still leave the Olney area with troublesome chlorine residuals and result in low-pressure complaints during the drawdown efforts. The existing Olney Standpipe with 1.8 million gallons of non-usable storage requires constant attention to maintain acceptable water quality.

Montgomery County High Zone Facility Plan, Boyle Engineering (1991); Memorandum from Jeff Asner to Karen Wright dated March 22, 2004; Water Storage Volume Criteria Report (November 2005).

COST CHANGE

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

OTHER

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

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Maryland-National Capital Park & Planning Commission; (anticipates receiving Mandatory Referral submissions); Maryland Department of the Environment;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$639	20
Total Cost	$639	20
Impact on Water and Sewer Rate	$0.01	20

F. Approval and Expenditure Data (000's)

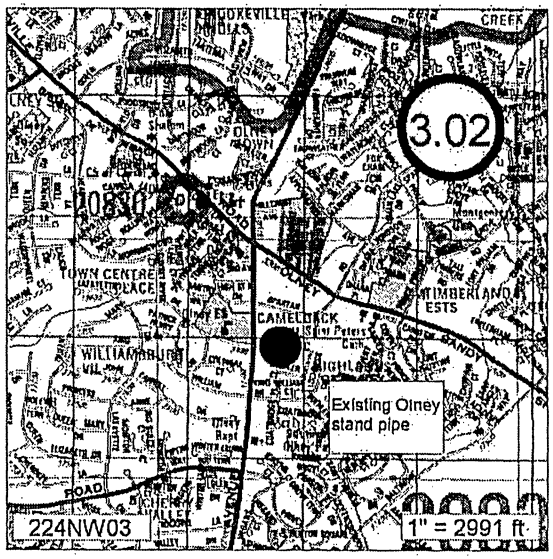
Date First in Program	FY 06
Date First Approved	FY 06
Intial Cost Estimate	3,911
Cost Estimate Last FY	8,079
Present Cost Estimate	9,284
Approved Request Last FY	2,286
Total Expense & Encumbrances	1,334
Approval Request Year 1	3,560

G. Status Information

Land Status	Land acquired
Project Phase	Design
Percent Complete	100%
Est Completion Date	FY 2019

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

H. Map



Shady Grove Standpipe Replacement

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

PDF Date	October 1, 2015
Date Revised	

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

B. Expenditiure Schedule (000's)

Cost Elements	Total	Thru FY'15	Estimate FY'16	Total 6 Years	Year 1 FY'17	Year 2 FY'18	Year 3 FY'19	Year 4 FY'20	Year 5 FY'21	Year 6 FY'22	Beyond 6 Years
Planning, Design & Supervision	2,137	1,368	175	594	309	285					
Land											
Site Improvements & Utilities											
Construction	5,923		472	5,451	2,844	2,607					
Other	1,004		97	907	473	434					
Total	9,064	1,368	744	6,952	3,626	3,326					

C. Funding Schedule (000's)

WSSC Bonds	9,064	1,368	744	6,952	3,626	3,326					

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 3.0 million gallons (MG) of elevated storage to replace the existing Shady Grove Standpipe.

JUSTIFICATION

The existing 5.0 MG standpipe is in need of extensive repairs. Replacing the standpipe with a smaller elevated storage facility will provide the same level of service while helping to meet U.S. Environmental Protection Agency regulations for disinfectant by-products and improving water quality.

Water Storage Volume Criteria Report (November 2005); 2006 Water Production Projections; WSSC Memorandum dated May 7, 2007, from Karen Wright, Systems Control Group Leader; WSSC Memorandum dated May 24, 2007, from Tim Hirrel, Planning Group.

COST CHANGE

Costs increased due to additional inspection and project management services.

OTHER

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

COORDINATION

Coordinating Agencies: Montgomery County Government; City of Rockville; Maryland Department of the Environment; Maryland Department of Natural Resources; Maryland-National Capital Park & Planning Commission;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	$624	19
Total Cost	$624	19
Impact on Water and Sewer Rate	$0.01	19

F. Approval and Expenditure Data (000's)

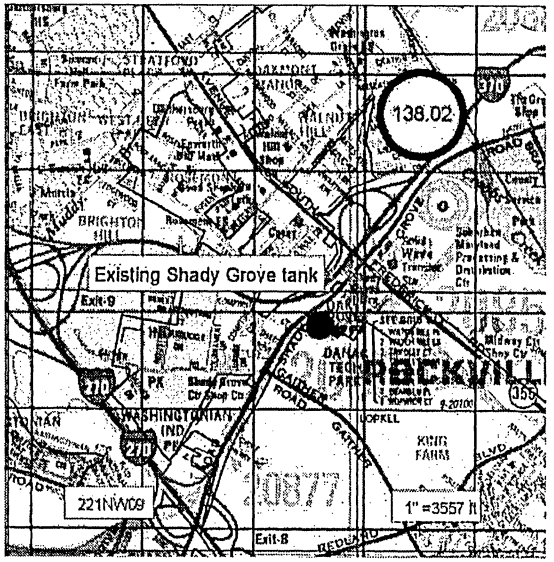
Date First in Program	FY 09
Date First Approved	FY 09
Intial Cost Estimate	7,475
Cost Estimate Last FY	8,088
Present Cost Estimate	9,064
Approved Request Last FY	3,363
Total Expense & Encumbrances	1,368
Approval Request Year 1	3,626

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	98%
Est Completion Date	FY 2018

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

H. Map



Expenditure Detail by Category, Sub-Category, and Project ($000s)

Run Date: 06/14/2016 11:55 AM

		Total	Thru FY15	Est FY16	6 Year Total	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Beyond 6 Yrs	Approp.
WSSC													
Sewerage Bi-County													
Land & Rights-of-Way Acquisition - Bi-County (S) (P163800)		204	0	20	184	122	22	10	10	10	10	0	122
Blue Plains WWTP:Plant Wide Projects (P023805)		303,487	192,462	8,784	72,613	8,242	8,358	10,582	19,051	14,357	12,023	29,628	8,242
Blue Plains WWTP: Enhanced Nutrient Removal (P083800)		398,919	248,209	59,871	88,681	47,437	33,948	3,993	2,203	836	264	2,158	47,437
Septage Discharge Facility Planning & Implement. (P103802)		14,478	919	751	12,808	2,455	3,728	3,779	2,135	711	0	0	2,455
Blue Plains: Pipelines and Appurtenances (P113804)		176,502	70,020	13,521	76,391	17,094	13,347	9,980	9,813	12,204	13,953	16,570	17,094
Trunk Sewer Reconstruction Program (P113805)		790,060	201,575	105,357	483,128	145,521	134,664	67,950	63,807	47,236	23,950	0	145,521
Blue Plains WWTP: Liquid Train PT 2 (P954811)		359,105	256,979	9,720	83,264	12,078	16,284	19,453	15,286	9,242	10,921	9,142	12,078
Blue Plains WWTP: Biosolids Mgmt PT2 (P954812)		446,827	397,334	18,097	30,279	4,010	3,542	6,063	5,192	8,626	2,846	1,117	4,010
Piscataway WWTP Bio-Energy Project(P063808)		144,020	1,362	998	141,660	4,254	13,252	47,934	55,440	20,780	0	0	4,254
Sewerage Bi-County		**2,633,602**	**1,368,860**	**217,119**	**989,008**	**241,213**	**227,145**	**169,744**	**172,937**	**114,002**	**63,967**	**58,615**	**241,213**
Sewerage Montgomery County													
Cabin Branch WWPS (P023807)		2,342	12	13	2,317	449	1,566	302	0	0	0	0	449
Cabin Branch WWPS Force Main (P023808)		424	0	17	407	143	240	24	0	0	0	0	143
Clarksburg Triangle Outfall Sewer, Part 2 (P023811)		2,539	1,126	782	631	555	76	0	0	0	0	0	555
Seneca WWTP Enhanced Nutrient Removal (P073800)		13,975	13,833	120	22	22	0	0	0	0	0	0	22
Twinbrook Commons Sewer (P083801)		1,004	607	59	338	159	87	46	46	0	0	0	159
Seneca WWTP Expansion, Part 2 (P083802)		30,484	29,955	507	22	22	0	0	0	0	0	0	22
Tapestry Wastewater Pumping Station (P083803)		1,354	65	500	789	461	328	0	0	0	0	0	461
Tapestry WWPS Force Main (P083804)		134	13	54	67	37	30	0	0	0	0	0	37
Preserve at Rock Creek Wastewater Pumping Station (P103800)	*	1,967	1,275	692	0	0	0	0	0	0	0	0	0
Preserve at Rock Creek WWPS Force Main (P103801)	*	391	324	67	0	0	0	0	0	0	0	0	0
Mid-Pike Plaza Sewer Main, Phase 1 (P123801)		4,053	3,730	199	124	124	0	0	0	0	0	0	124
Mid-Pike Plaza Sewer Main, Phase 2 (P143801)		6,094	119	1,434	4,541	3,107	1,434	0	0	0	0	0	3,107
Cabin John Trunk Sewer Relief (P063807)		15,113	21	429	14,663	6,085	5,909	2,669	0	0	0	0	6,085
Shady Grove Station Sewer Augmentation (P063806)		2,254	23	305	1,926	1,181	745	0	0	0	0	0	1,181
Sewerage Montgomery County		**82,128**	**51,103**	**5,178**	**25,847**	**12,345**	**10,415**	**3,041**	**46**	**0**	**0**	**0**	**12,345**
Water Bi-County													
Patuxent WFP Phase II Expansion (P033807)		64,838	10,978	16,466	37,394	17,778	14,744	4,872	0	0	0	0	17,778
Potomac WFP Submerged Channel Intake (P033812)		80,537	3,938	315	76,284	1,050	3,098	24,360	24,308	20,055	3,413	0	1,050
Patuxent Raw Water Pipeline (P063804)		32,436	12,264	42	20,130	5,610	8,910	5,610	0	0	0	0	5,610
Rocky Gorge Pump Station Upgrade (P063805)		19,582	4,455	3,782	11,345	7,564	3,781	0	0	0	0	0	7,564
Duckett and Brighton Dam Upgrades (P073802)		29,692	11,926	4,606	13,160	8,773	4,387	0	0	0	0	0	8,773
Potomac WFP Outdoor Substation No. 2 Replacement (P113802)		15,562	1,599	4,654	9,309	6,982	2,327	0	0	0	0	0	6,982
Large Diameter Water Pipe Rehabilitation Program (P113803)		417,169	79,841	28,927	308,401	48,092	51,443	52,751	51,865	51,865	52,385	0	48,092
Potomac WFP Main Zone Pipeline (P133800)		35,009	397	402	34,210	353	605	20,052	13,200	0	0	0	353
Bi-County Water Tunnel (P934855)		143,855	139,625	4,198	32	32	0	0	0	0	0	0	32
Land & Rights-of-Way Acquisition - Bi-County (P983857)		2,120	0	697	1,423	425	550	20	418	10	0	0	425
Potomac WFP Corrosion Mitigation (P143802)		15,508	1,235	12,034	2,239	2,239	0	0	0	0	0	0	2,239

17-44

*** = Closeout or Pending Closeout**

		Total	Thru FY15	Est FY16	6 Year Total	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Beyond 6 Yrs	Approp.
Potomac WFP Pre-Filter Chlorination & Air Scour Improvements (P143803)		11,200	1,070	901	9,229	2,564	6,152	513	0	0	0	0	2,564
Potomac WFP Consent Decree Program (P173801)		27,250	0	0	27,250	2,700	5,650	6,300	6,300	6,300	0	0	2,700
Water Bi-County		**894,758**	**267,328**	**77,024**	**550,406**	**104,162**	**101,647**	**114,478**	**96,091**	**78,230**	**55,798**	**0**	**104,162**
Water Montgomery County													
Newcut Road Water Main, Part 2 (P013802)	*	1,417	1,204	213	0	0	0	0	0	0	0	0	0
Olney Standpipe Replacement (P063801)		9,284	1,334	532	7,418	3,560	3,560	298	0	0	0	0	3,560
Shady Grove Standpipe Replacement (P093801)		9,064	1,368	744	6,952	3,626	3,326	0	0	0	0	0	3,626
Clarksburg Area Stage 3 Water Main, Part 4 (P113800)		3,791	1,434	495	1,862	1,149	630	83	0	0	0	0	1,149
Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3 (P973818)		5,900	2,832	805	2,263	1,751	446	66	0	0	0	0	1,751
Clarksburg Elevated Water Storage Facility (P973819)		5,982	311	276	5,395	1,285	3,522	588	0	0	0	0	1,285
Brink Zone Reliability Improvements (P143800)		6,874	295	529	6,050	1,438	4,140	472	0	0	0	0	1,438
Clarksburg Area Stage 3 Water Main, Part 5 (P163801)		1,624	0	1,425	199	147	52	0	0	0	0	0	147
Water Montgomery County		**43,936**	**8,778**	**5,019**	**30,139**	**12,956**	**15,676**	**1,507**	**0**	**0**	**0**	**0**	**12,956**
WSSC		**3,654,424**	**1,696,069**	**304,340**	**1,595,400**	**370,676**	**354,883**	**288,770**	**269,074**	**192,232**	**119,765**	**58,615**	**370,676**
WSSC		**3,654,424**	**1,696,069**	**304,340**	**1,595,400**	**370,676**	**354,883**	**288,770**	**269,074**	**192,232**	**119,765**	**58,615**	**370,676**

*** = Closeout or Pending Closeout**

Funding Summary by Category, Sub-Category and Revenue Source ($000s)

Run Date: 06/14/2016 11:56 AM

Project	Funding Source	Total	Thru FY15	Est FY16	6 Year Total	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Beyond 6 Yrs
WSSC	Contributions - Other (WSSC only)	48,801	12,785	6,064	29,952	15,213	11,503	3,190	46	0	0	0
	Federal Aid	71,900	571	499	70,830	2,127	6,626	23,967	27,720	10,390	0	0
	Municipal (WSSC only)	78,488	53,927	4,274	16,319	3,652	3,429	2,565	2,533	2,233	1,907	3,968
	State Aid	221,702	169,758	24,360	27,584	14,675	8,725	2,315	1,307	493	69	0
	System Development Charge	182,508	169,191	6,869	6,448	1,586	3,874	588	400	0	0	0
	WSSC Bonds	3,051,025	1,289,837	262,274	1,444,267	333,423	320,726	256,145	237,068	179,116	117,789	54,647
	Total Funding Sources	3,654,424	1,696,069	304,340	1,595,400	370,676	354,883	288,770	269,074	192,232	119,765	58,615
Sewerage Bi-County	Contributions - Other (WSSC only)	24	0	0	24	12	12	0	0	0	0	0
	Federal Aid	71,900	571	499	70,830	2,127	6,626	23,967	27,720	10,390	0	0
	Municipal (WSSC only)	78,488	53,927	4,274	16,319	3,652	3,429	2,565	2,533	2,233	1,907	3,968
	State Aid	215,482	163,538	24,360	27,584	14,675	8,725	2,315	1,307	493	69	0
	WSSC Bonds	2,267,708	1,150,824	187,986	874,251	220,747	208,353	140,897	141,377	100,886	61,991	54,647
	Total Funding Sources	2,633,602	1,368,860	217,119	989,008	241,213	227,145	169,744	172,937	114,002	63,967	58,615
Sewerage Montgomery County	Contributions - Other (WSSC only)	37,669	7,315	4,551	25,803	12,301	10,415	3,041	46	0	0	0
	State Aid	6,220	6,220	0	0	0	0	0	0	0	0	0
	System Development Charge	30,484	29,955	507	22	22	0	0	0	0	0	0
	WSSC Bonds	7,755	7,613	120	22	22	0	0	0	0	0	0
	Total Funding Sources	82,128	51,103	5,178	25,847	12,345	10,415	3,041	46	0	0	0
Water Bi-County	System Development Charge	144,418	138,925	4,661	832	132	300	0	400	0	0	0
	WSSC Bonds	750,340	128,403	72,363	549,574	104,030	101,347	114,478	95,691	78,230	55,798	0
	Total Funding Sources	894,758	267,328	77,024	550,406	104,162	101,647	114,478	96,091	78,230	55,798	0
Water Montgomery County	Contributions - Other (WSSC only)	11,108	5,470	1,513	4,125	2,900	1,076	149	0	0	0	0
	System Development Charge	7,606	311	1,701	5,594	1,432	3,574	588	0	0	0	0
	WSSC Bonds	25,222	2,997	1,805	20,420	8,624	11,026	770	0	0	0	0
	Total Funding Sources	43,936	8,778	5,019	30,139	12,956	15,676	1,507	0	0	0	0
WSSC	Funding Sources	3,654,424	1,696,069	304,340	1,595,400	370,676	354,883	288,770	269,074	192,232	119,765	58,615