

Resolution No:	<u>17-768</u>
Introduced:	<u>May 23, 2013</u>
Adopted:	<u>May 23, 2013</u>

**COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND**

By: County Council

SUBJECT: Approval of the FY 2014-2019 Capital Improvements Program for the Washington Suburban Sanitary Commission

Background

1. As required by Section 23-304 of the Public Utilities Article of the Maryland Code, before October 1 of each year, the Washington Suburban Sanitary Commission (WSSC) must prepare and submit to the County Executive and County Council of Montgomery County a 6-year Capital Improvements Program (CIP) for water and sewer facilities.
2. On September 27, 2012, WSSC transmitted its Proposed CIP for Fiscal Years 2014-2019.
3. On January 15, 2013, the County Executive transmitted his recommendations regarding the FY 2014-2019 WSSC CIP.
4. Section 23-306 of the Public Utilities Article of the Maryland Code authorizes the Council to approve, disapprove, or modify the WSSC CIP.
5. Section 23-305 of the Public Utilities Article of the Maryland Code requires that before final action on the WSSC CIP is taken, public hearings must be held on the Program. The Council held public hearings on the CIP on April 9, 10, and 11, 2013.
6. The Council considered the recommendations of the Executive and the Montgomery County Planning Board regarding the CIP and reviewed the project description forms.
7. The Council recognizes that the information and documentation contained in the CIP are an integral part of the Comprehensive Water Supply and Sewerage Systems Plan which must be submitted to the State Department of the Environment in accordance with Section 9-501 et seq. of the Environment Article of the Maryland Code.
8. On May 9, 2013, the Montgomery County and Prince George's County Councils jointly reviewed their respective proposed additions to, deletions from, increases to, and decreases in the WSSC capital and operating budgets and further considered all proposed changes. The Councils agree on changes to the WSSC Proposed CIP.

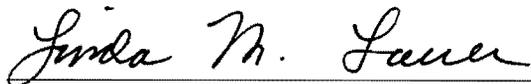
Action

The County Council for Montgomery County, Maryland approves the following resolution for the Washington Suburban Sanitary Commission:

1. The Council approves the projects in the WSSC Proposed CIP for FY 2014-2019 as transmitted on September 27, 2012, except those projects which are approved as modified by the Montgomery and Prince George's County Councils. Amended project description forms are attached to this resolution and are identified by the following WSSC project numbers:

S-22.06, S-22.07, S-22.08, S-22.09, S-22.10, S-22.11, S-300.01, A-103.01

This is a correct copy of Council action.



Linda M. Lauer, Clerk of the Council

A. Identification and Coding Information

2. Date: October 1, 2012 7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

1. Project Number	Agency Number	Update Code
954811	S-22.06	Change

Revised: May 9, 2013

3. Project Name: Blue Plains WWTP: Liquid Train Projects, Part 2 5. Agency: **WSSC**

4. Program: **Sanitation** 6. Planning Area: Bi-County

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	57,204	42,031	1,816	12,649	2,158	4,226	2,032	1,879	1,519	835	708
Land											
Site Improvements & Utilities											
Construction	216,787	185,493	5,196	25,681	3,097	4,855	3,558	4,582	5,146	4,443	417
Other	466		70	385	53	91	56	65	67	53	11
Total	274,457	227,524	7,082	38,715	5,308	9,172	5,646	6,526	6,732	5,331	1,136

C. Funding Schedule (000's)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
WSSC Bonds	259,391	215,034	6,693	36,590	5,017	8,669	5,336	6,168	6,362	5,038	1,074
City of Rockville	15,066	12,490	389	2,125	291	503	310	358	370	293	62

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: Filtration and Disinfection Rehabilitation, Raw Wastewater Pumping Station No. 2, Dual Purpose Sedimentation Basins Rehabilitation, and Primary Treatment Facilities Upgrade Phase II.

Service Area Bi-County Area Capacity 370 MGD

JUSTIFICATION

Plans & Studies
The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); and the DCWASA Approved FY 2013 Capital Improvements Program.

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

Cost Change
Cost increase is primarily due to further revised higher estimates for the Dual Purpose Sedimentation Basins Rehab, Filtration/Disinfection Facilities Rehab Phase II, and Effluent Disinfection Upgrades in later years.

STATUS Not Applicable

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

COORDINATION
City of Rockville (responsible for a share of funding), District of Columbia Water & Sewer Authority (responsible for design and construction) and WSSC Projects S-22.08, Blue Plains WWTP: Biological Nutrient Removal and S-22.10, Blue Plains WWTP: Enhanced Nutrient Removal.

NOTE This project supports 100% System Improvement.

E. Annual Operating Budget Impact (000's) FY of Impact

Program Costs	Staff	.....	.....
	Other	.....	.....
Facility Costs	Maintenance	.....	.....
	Debt Service	.....	21923
Total Costs			21923
Impact on Water or Sewer Rate.....			47¢

F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	69,745
Cost Estimate Last FY	267,346
Present Cost Estimate	274,457
Approved Request, Last FY	9,458
Total Expenditures & Encumbrances	227,524
Approval Request FY 14	5,308
Supplemental Approval Request Current FY (13)	

G. Status Information

Land Status: Not applicable
% Project Completion: On-Going
Est. Completion Date: On-Going

H. Map Map Reference Code:

MAP NOT AVAILABLE

Attachment to Resolution No.: 17-768

A. Identification and Coding Information

2. Date: October 1, 2012 7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

1. Project Number	Agency Number	Update Code
954812	S-22.07	Change

Revised: May 9, 2013

3. Project Name: Blue Plains WWTP: Biosolids Management, Part 2 5. Agency: **WSSC**

4. Program: **Sanitation** 6. Planning Area: Bi-County

E. Annual Operating Budget Impact (000's) FY of Impact

Program Costs	Staff .....	.....
	Other .....	.....
Facility Costs	Maintenance .....	.....
	Debt Service	30896	20
Total Costs.....		30896	20
Impact on Water or Sewer Rate.....		67¢	20

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	91,002	63,826	9,079	18,097	9,090	5,524	1,152	1,388	940	3	
Land											
Site Improvements & Utilities											
Construction	294,305	120,714	80,399	93,192	62,696	19,239	5,743	4,434	1,038	42	
Other	2,008		895	1,113	718	248	69	58	20		
Total	387,315	184,540	90,373	112,402	72,504	25,011	6,964	5,880	1,998	45	

F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	77,296
Cost Estimate Last FY	371,661
Present Cost Estimate	387,315
Approved Request, Last FY	110,339
Total Expenditures & Encumbrances	184,540
Approval Request FY 14	72,504
Supplemental Approval Request Current FY (13)	

C. Funding Schedule (000's)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
WSSC Bonds	366,054	174,410	85,412	106,232	68,524	23,638	6,582	5,557	1,888	43	
City of Rockville	21,261	10,130	4,961	6,170	3,980	1,373	382	323	110	2	

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.

Service Area Bi-County Area **Capacity** 370 MGD

JUSTIFICATION

Plans & Studies

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 2013 Capital Improvement Program.

Specific Data

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

Cost Change

Cost increase is primarily due to revised estimates for the New Digestion Facilities and Gravity Thickening Facilities.

STATUS Not Applicable

OTHER

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

COORDINATION

City of Rockville (responsible for a share of funding) and District of Columbia Water & Sewer Authority (responsible for design and construction).

NOTE This project supports 100% System Improvement.

G. Status Information

Land Status: Not applicable

% Project Completion: On-Going

Est. Completion Date: On-Going

H. Map Map Reference Code:

MAP NOT AVAILABLE

A. Identification and Coding Information

1. Project Number	Agency Number	Update Code
973817	S-22.08	Change

2. Date: October 1, 2012

7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

Revised: May 9, 2013

3. Project Name: Blue Plains WWTP: Biological Nutrient Removal

5. Agency: **WSSC**

4. Program: **Sanitation** 6. Planning Area: Bi-County

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	19,252	16,673	1,192	1,387	807	258	233	89			
Land											
Site Improvements & Utilities											
Construction	63,519	51,334	5,179	7,006	3,130	785	2,070	1,017	4		
Other	147		64	83	39	10	23	11			
Total	82,918	68,007	6,435	8,476	3,976	1,053	2,326	1,117	4		

C. Funding Schedule (000's)

WSSC Bonds	46,229	32,136	6,082	8,011	3,758	995	2,198	1,056	4		
State Aid	34,004	34,004									
City of Rockville	2,685	1,867	353	465	218	58	128	61			

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC's share of the Blue Plains Biological Nutrient Removal Pilot Project and BNR Permanent Facility design and construction. The project includes modifications to the nitrification basins, methanol storage and feed facilities, a control building, addition of fine bubble diffusers, and improvements to the nitrification facilities (Phase II). This project is stipulated in the 1995 Consent Decree signed by the District of Columbia and the United States Department of Justice.

Service Area Bi-County Area

Capacity 370 MGD

JUSTIFICATION

Plans & Studies

Porter, MacNamee & Seely Study (1992); Civil Action No. 90-163; Civil Action No. 84-2842 JGP; the DCWASA Master Plan (1998); the Blue Plains Intermunicipal Agreement of 2012; and the DCWASA Approved FY 2013 Capital Improvement Program.

Specific Data

The initial \$12.1 million Pilot Project was planned as a phased, four year, half-plant trial. For the Pilot, portions of the nitrification basins were converted to anoxic zones with methanol added as the carbon source. After the Pilot Project proved successful in the first two years, the third and fourth years were not required and the design and construction of permanent BNR facilities commenced. The Consent Decree acknowledged that applying this technology was experimental.

Cost Change

Cost decrease is due to lower estimates as Nitrification/Denitrification Facilities progress through construction.

STATUS Under Construction

OTHER

The project scope has remained the same. The expenditure schedule shown above reflects the cost of permanent BNR facilities as required under the Consent Decree. Phase I and portions of Phase II are complete. The Maryland Department of the Environment (MDE) has, by agreement, committed to providing 50% grant funding for eligible costs.

COORDINATION

City of Rockville (responsible for a share of funding), Maryland Department of the Environment and District of Columbia Water & Sewer Authority (responsible for design and construction).

NOTE This project supports 100% Environmental Regulation.

E. Annual Operating Budget Impact (000's) FY of Impact

Program Costs	Staff		
	Other		
Facility Costs	Maintenance		
	Debt Service	3628	19
Total Costs		3628	19
Impact on Water or Sewer Rate		8¢	19

F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 96
Date First Approved	FY 96
Initial Cost Estimate	12,189
Cost Estimate Last FY	86,975
Present Cost Estimate	82,918
Approved Request, Last FY	10,559
Total Expenditures & Encumbrances	68,007
Approval Request FY 14	3,976
Supplemental Approval Request Current FY (13)	

G. Status Information

Land Status: Not applicable
 % Project Completion: C-93%
 Est. Completion Date: FY 2018

H. Map Map Reference Code:

MAP NOT AVAILABLE

A. Identification and Coding Information

1. Project Number	Agency Number	Update Code
023805	S-22.09	Change

2. Date: October 1, 2012

7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

Revised:

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3. Project Name: Blue Plains WWTP: Plant-wide Projects

5. Agency: **WSSC**

4. Program: **Sanitation** 6. Planning Area: Bi-County

E. Annual Operating Budget Impact (000's)

FY of Impact

Program Costs	Staff .....	.....
	Other .....	.....
Facility Costs	Maintenance .....	.....
	Debt Service	16643
Total Costs.....		16643
Impact on Water or Sewer Rate.....		36¢

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	57,389	42,656	2,877	10,075	2,296	1,680	1,529	2,039	1,449	1,082	1,781
Land											
Site Improvements & Utilities											
Construction	156,706	121,060	11,367	23,281	6,012	4,216	1,999	1,720	6,211	3,123	998
Other	504		142	334	83	59	35	38	77	42	28
Total	214,599	163,716	14,386	33,690	8,391	5,955	3,563	3,797	7,737	4,247	2,807

C. Funding Schedule (000's)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
WSSC Bonds	202,818	154,729	13,596	31,840	7,930	5,628	3,367	3,589	7,312	4,014	2,653
City of Rockville	11,781	8,987	790	1,850	461	327	196	208	425	233	154

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: Electrical Power Systems - Switch Gear; Instrumentation, Control, and Electric Engineering Project Management Consultant; New Warehouse Facility; and Central Office Facility Renovations and Additions.

Service Area Bi-County Area

Capacity 370 MGD

JUSTIFICATION

Plans & Studies

The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); and the DCWASA Approved FY 2013 Capital Improvement Program.

Specific Data

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

Cost Change

Cost increase is primarily due to increased Program Management Consultant, New Warehouse Facility, and New Flood Sea Wall.

STATUS Not Applicable

OTHER

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

COORDINATION

City of Rockville (responsible for a share of funding) and District of Columbia Water & Sewer Authority (responsible for design and construction).

NOTE This project supports 100% System Improvement.

F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 95
Date First Approved	FY 02
Initial Cost Estimate	84,650
Cost Estimate Last FY	206,209
Present Cost Estimate	214,599
Approved Request, Last FY	10,166
Total Expenditures & Encumbrances	163,716
Approval Request FY 14	8,391
Supplemental Approval Request Current FY (13)	

G. Status Information

Land Status: Not applicable
 % Project Completion: On-Going
 Est. Completion Date: On-Going

H. Map Map Reference Code:

MAP NOT AVAILABLE

A. Identification and Coding Information

1. Project Number	Agency Number	Update Code
083800	S-22.10	Change

2. Date: October 1, 2012

7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

Revised: May 9, 2013

3. Project Name: Blue Plains WWTP: Enhanced Nutrient Removal

5. Agency: **WSSC**

4. Program: **Sanitation** 6. Planning Area: Bi-County

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	103,294	46,850	18,342	35,715	12,038	9,260	5,588	4,244	3,537	1,048	2,387
Land											
Site Improvements & Utilities											
Construction	297,648	43,005	64,497	187,803	48,324	51,079	39,717	35,022	13,650	11	2,343
Other	3,111		828	2,236	604	603	453	393	172	11	47
Total	404,053	89,855	83,667	225,754	60,966	60,942	45,758	39,659	17,359	1,070	4,777

C. Funding Schedule (000's)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
WSSC Bonds	180,016	10,846	30,263	135,051	22,089	26,067	38,199	33,395	14,574	727	3,856
State Aid	213,580	78,379	51,646	82,858	37,594	33,361	5,340	4,324	1,938	301	697
City of Rockville	10,457	630	1,758	7,845	1,283	1,514	2,219	1,940	847	42	224

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 Strategy process. Sub-projects include: Nitrogen Removal Facilities, Centrate Treatment, Enhanced Clarification Facility, and Blue Plains Tunnel and Dewatering Pumping Station.

Service Area Bi-County Area

Capacity 370 MGD

JUSTIFICATION

Plans & Studies

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 2013 Capital Improvement Program, and the Blue Plains Intermunicipal Agreement of 2012.

Specific Data

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

Cost Change

Total project cost increase is based on revised construction cost estimates from DCWASA. Projects extending beyond those supported by State Aid include rehabilitation and upgrades to older projects.

STATUS Not Applicable (WSSC Contract Nos. CB4168L05, CB4168Q05).

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.

COORDINATION

Maryland Department of the Environment, U.S. Environmental Protection Agency, Region III and District of Columbia Water & Sewer Authority (responsible for design and construction).

NOTE This project supports 100% Environmental Regulation.

E. Annual Operating Budget Impact (000's)

FY of Impact

Program Costs	Staff		
	Other		
Facility Costs	Maintenance		
	Debt Service	14917	
Total Costs		14917	
Impact on Water or Sewer Rate			32¢

F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 08
Date First Approved	FY 07
Initial Cost Estimate	648
Cost Estimate Last FY	395,287
Present Cost Estimate	404,053
Approved Request, Last FY	73,377
Total Expenditures & Encumbrances	89,855
Approval Request FY 14	60,966
Supplemental Approval Request Current FY (13)	

G. Status Information

Land Status:	Not applicable
% Project Completion:	On-Going
Est. Completion Date:	On-Going

H. Map Map Reference Code:

MAP NOT AVAILABLE

A. Identification and Coding Information

2. Date: October 1, 2012 7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

1. Project Number	Agency Number	Update Code
113804	S-22.11	Change

Revised: May 9, 2013

3. Project Name: Blue Plains: Pipelines & Appurtenances

4. Program: **Sanitation** 6. Planning Area: Bi-County

5. Agency: **WSSC**

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	33,355	8,672	3,502	16,556	3,192	2,732	3,025	2,555	2,389	2,663	4,625
Land											
Site Improvements & Utilities											
Construction	90,442	22,729	8,335	54,293	11,119	14,417	14,713	6,953	4,604	2,487	5,085
Other	923		118	708	143	171	177	95	70	52	97
Total	124,720	31,401	11,955	71,557	14,454	17,320	17,915	9,603	7,063	5,202	9,807

C. Funding Schedule (000's)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
WSSC Bonds	119,766	29,677	11,447	69,418	13,807	16,914	17,569	9,290	6,785	5,053	9,224
City of Rockville	4,954	1,724	508	2,139	647	406	346	313	278	149	583

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: 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).

Service Area Bi-County Area **Capacity** Various

JUSTIFICATION

Plans & Studies
The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); and the DCWASA Approved FY 2013 Capital Improvement Program.

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

Cost Change
Cost increase is due to a number of new projects to rehabilitate DCWASA interceptor sewers and pumping stations that carry WSSC wastewater from their points of connection at the MD/DC boundary to the Blue Plains WWTP; including: Creekbed Sewer Rehabilitation and Long-term Rehabilitation of Main and O Pumping Station.

STATUS 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
City of Rockville (responsible for a share of funding) and District of Columbia Water & Sewer Authority (responsible for design and construction).

NOTE This project supports 45% System Improvement and 55% Environmental Regulation.

E. Annual Operating Budget Impact (000's) FY of Impact

Program Costs	Staff	.....	....
	Other	.....	....
Facility Costs	Maintenance	.....	....
	Debt Service	.....	9351
Total Costs			9351
Impact on Water or Sewer Rate			20¢

F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 11
Date First Approved	FY 02
Initial Cost Estimate	102,833
Cost Estimate Last FY	112,349
Present Cost Estimate	124,720
Approved Request, Last FY	12,857
Total Expenditures & Encumbrances	31,401
Approval Request FY 14	14,454
Supplemental Approval Request Current FY (13)	

G. Status Information

Land Status: Not Applicable
 % Project Completion: On-Going
 Est. Completion Date: On-Going

H. Map Map Reference Code:

A. Identification and Coding Information

1. Project Number	Agency Number	Update Code
	S-300.01	Add

2. Date: May 9, 2013

7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

Revised:

3. Project Name: D'Arcy Park North Relief Sewer

5. Agency: **WSSC**

4. Program: **Sanitation** 6. Planning Area: Suitland-District Heights & Vicinity P.A. 75A

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	243		73	170	88	41	41				
Land											
Site Improvements & Utilities											
Construction	473			473	103	185	185				
Other	108		11	97	29	34	34				
Total	824		84	740	220	260	260				

C. Funding Schedule (000's)

Contribution/Other	824		84	740	220	260	260				
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D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of 1,110 feet of 12-inch diameter (non-SDC eligible) PVC relief sewer to provide service to D'Arcy Park North.

Service Area Western Branch Drainage Basin

Capacity 1.6 mgd

JUSTIFICATION

Plans & Studies

D'Arcy Park North Hydraulic Planning Analysis, (September 2008)

Cost Change

Not applicable.

STATUS Planning (WSSC Contract No. DA4850Z08,).

OTHER

The project scope for this Developer project was developed in FY2013 and has an estimated total cost of \$824,000. The expenditures and schedule projections shown in Block B are planning level estimates and may change depending upon site-specific conditions and design constraints. Expenditures shown in prior years are for the Hydraulic Planning Analysis costs for the project. Estimated completion date is developer dependent. No WSSC rate supported debt may be used for this project.

COORDINATION

Prince George's County Government, Prince George's County Department of Environmental Resources and Local Community Civic Associations.

E. Annual Operating Budget Impact (000's)

FY of Impact

Program Costs	Staff .....	.....
	Other .....	.....
Facility Costs	Maintenance	20	17
	Debt Service .....	.....
Total Costs.....		20	17
Impact on Water or Sewer Rate.....			

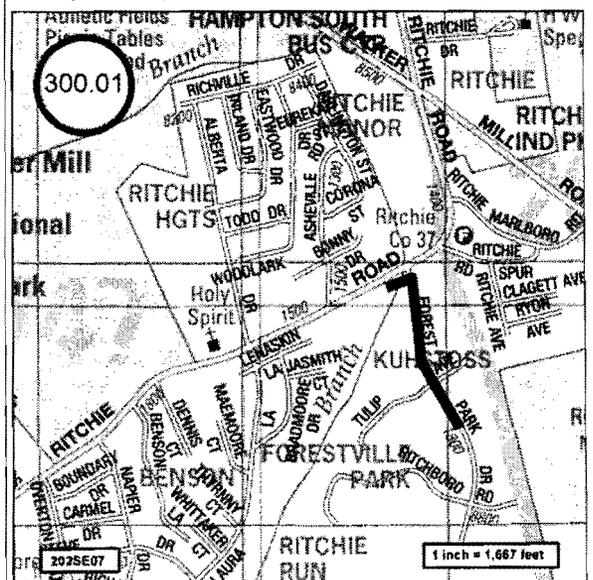
F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	824
Cost Estimate Last FY	
Present Cost Estimate	824
Approved Request, Last FY	
Total Expenditures & Encumbrances	
Approval Request FY 14	220
Supplemental Approval Request Current FY (13)	

G. Status Information

Land Status: RAW required
 % Project Completion: P-100%
 Est. Completion Date: Developer Dependent

H. Map Map Reference Code:



A. Identification and Coding Information

2. Date: October 1, 2012 7. Pre PDF Pg.No.: 8. Req. Adeq. Pub. Fac.

1. Project Number	Agency Number	Update Code	
	A-103.01	Change	

Revised: May 9, 2013

3. Project Name: Anaerobic Digestion/Combined Heat & Power 5. Agency: **WSSC**

4. Program: **Sanitation** 6. Planning Area: Bi-County

E. Annual Operating Budget Impact (000's) FY of Impact

Program Costs	Staff .....	.....
	Other .....	.....
Facility Costs	Maintenance .....	.....
	Debt Service	3425	20
Total Costs.....		3425	20
Impact on Water or Sewer Rate.....		7¢	20

B. Expenditure Schedule (000's)

Cost Elements	(8) Total	(9) Thru FY '12	(10) Estimate FY '13	(11) Total 6 Years	(12) Year 1 FY '14	(13) Year 2 FY '15	(14) Year 3 FY '16	(15) Year 4 FY '17	(16) Year 5 FY '18	(17) Year 6 FY '19	(18) Beyond 6 Years
Planning, Design & Supervision	23,197	1,177	20	22,000	4,400	6,600	600	3,600	3,600	3,200	
Land											
Site Improvements & Utilities											
Construction	110,000			110,000			6,000	36,000	36,000	32,000	
Other	13,202		2	13,200	440	660	660	3,960	3,960	3,520	
Total	146,399	1,177	22	145,200	4,840	7,260	7,260	43,560	43,560	38,720	

F. Approval and Expenditure Data (000's)

Date First in Capital Program	FY 10
Date First Approved	FY 10
Initial Cost Estimate	345
Cost Estimate Last FY	79,258
Present Cost Estimate	146,399
Approved Request, Last FY	3,300
Total Expenditures & Encumbrances	1,177
Approval Request FY 14	4,840
Supplemental Approval Request Current FY (13)	

C. Funding Schedule (000's)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
WSSC Bonds	73,228	606	22	72,600	2,420	3,630	3,630	21,780	21,780	19,360	
Federal Aid	73,171	571		72,600	2,420	3,630	3,630	21,780	21,780	19,360	

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 at a location(s) to be determined. 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.

In March 2009, the WSSC received approval for a federal Department of Energy grant of \$570,900 for the feasibility study/conceptual design phase. This amount has been supplemented by \$362,765 from the WSSC toward the feasibility study. 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 a Thermal Hydrolysis/Mesophilic Anaerobic Digestion/Combined Heat & Power facility was recommended to be constructed and was presented to the Commission in April 2012. The WSSC will continue to pursue federal capital funding as a source of cost sharing as the project develops.

G. Status Information

Land Status: No land or R/W required
 % Project Completion: P-100%
 Est. Completion Date: (See "Specific Data" for details.)

JUSTIFICATION

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).

H. Map Map Reference Code:

MAP NOT APPLICABLE

D. DESCRIPTION & JUSTIFICATION (CONT.)

Agency Number: A - 103.01

Project Name: Anaerobic Digestion/Combined Heat & Power

Specific Data

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.

Based on AECOM's feasibility study work as of May 2011, the capital cost (detail design + construction) estimate for a regional/centralized plant at a location to be determined based on a Thermal Hydrolysis/Mesophilic Anaerobic Digestion/Combined Heat & Power (TH/MAD/CHP) process supplemented by restaurant grease fuel design is \$110 million, with a 36 month construction period. Environmental benefits (to be verified prior to completion of the Concept Development Phase) and the potential outcomes are estimated as follows:

1. Recover 1.7 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 (to be verified prior to completion of the Concept Development Phase) are 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 ~ \$400,000/year
4. Hedge against rising costs of power, fuel, and chemicals
5. Net Payback of 15 to 18 years (net based on capital cost of TH/MAD/CHP minus capital cost of lime stabilization upgrade of WSSC WWTP facilities through 2030)

Cost Change

Order of Magnitude cost estimates were increased due to a higher degree of accuracy inherent in the conceptual design that was completed as part of the final component of the feasibility study. The cost increase also includes adequate redundancy for additional thermal hydrolysis pretreatment trains to operate in the event one or more trains are down due to unforeseen circumstances or maintenance.

STATUS Planning

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 anaerobic digestion, biomass, and combined heat and power generation system facilities. Both Councils will review the results of WSSC's feasibility study and must approve continuing with the project before design and construction may 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 with the payback period not exceeding 15 years. The energy savings for other completed WSSC Energy Performance projects have surpassed the contracts' guaranteed amount every year of the monitoring and verification period.

COORDINATION

Montgomery County Government, Prince George's County Government, Montgomery County Department of Environmental Protection, Maryland Department of the Environment, Prince George's County Department of Environmental Resources and WSSC Projects S-53.21, Seneca WWTP Enhanced Nutrient Removal, S-53.22, Seneca WWTP Expansion, Part 2, S-96.12, Piscataway WWTP Enhanced Nutrient Removal and S-96.14, Piscataway WWTP Facility Upgrades.

NOTE This project supports 100% System Improvement.