



**DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY**
Serving the Public • Protecting the Environment

**Monthly Operations Report
For
Combined Sewer System
Month: July 2017**

Prepared By:
District of Columbia
Water and Sewer Authority
Department of Sewer Services
Washington, D.C. 20003

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Month: July 2017

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1. INTRODUCTION

The District of Columbia Water and Sewer Authority (DC Water) operates a wastewater collection system comprised of separate and combined sewers. Separate storm and sanitary sewers serve two-thirds of the District. In the combined sewer system (CSS), there is a single sewer to convey storm water and sanitary wastes. The area served by combined sewers comprises about one-third of the District.

During dry weather, sanitary wastes collected in the CSS are conveyed to the DC Water's advanced wastewater treatment plant at Blue Plains (BPAWWTP or the Blue Plains AWWTP). During periods of rainfall, the capacity of a combined sewer may be exceeded and the excess flow, which is a mixture of storm water and sanitary wastes, is discharged directly to the Anacostia River, Rock Creek or the Potomac River or their tributary waters. This report summarizes the operations of the combined sewer system for the month indicated.

2. OPERATION AND MAINTENANCE

2.1 Regulators

Regulators divert combined sewage to interceptors, which convey flow to BPAWWTP for treatment. When flows exceed the capacities of the systems such as during significant rain events, regulators divert excess flow to CSO outfalls which discharge to receiving waters. The following table summarizes inspections of CSO regulators in the collection system.

**Table 2-1
Regulator Structures**

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
2	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	07/17/17	*			
4	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	07/17/17	*			
5	Poplar Point Pumping Station	004	07/26/17	*			
6	Chicago Street and Railroad Ave, SE	005	07/07/17	*			
7	W Street and Railroad Ave, SE	005	07/07/17	*			
8 ¹	Good Hope Rd, west of Nichols Ave, SE	006	N/A				
9	13 th Street and Ridge Place, SE	007	07/07/17	*			
11	"O" Street Pumping Station	011(a)	07/26/17	*			
12	Storm Pump Discharge at Main Pumping Station	011	07/24/17	*			
13	2 nd Street, 300 ft. north of N Place, SE	009	07/26/17	*			
14	2 nd Street, 250 ft. north of N Place, SE	011(a)	07/26/17	*			
15	South Capitol and E Streets	010	07/18/17	*			
15a	Half and L Streets, SE	010	07/18/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
15b	South Capitol and I Streets	010	07/21/17	*			
15c	South Capitol and I Streets	010	07/21/17	*			
16	North of Main Sewage Pumping Station	012	07/26/17	*			
17	4 th and N Streets, SE, Both Extended	013	07/19/17	*			
17a	K Street between 6 th Street and 7 th Street, SE	013	07/27/17	*			
18	6 th and M Streets, SE	014	07/19/17	*			
19	9 th and M Streets, SE	015	07/10/17	*			
19a	9 th and M Streets, SE	015	07/10/17	*			
20	12 th and M Streets, SE	016	07/10/17	*			
20a	12 th and M Streets, SE	016	07/10/17	*			
21	14 th and M Streets, SE	017	07/10/17	*			
22a	Barney Circle and Pennsylvania Ave, SE	018	07/11/17	*			
22b	Barney Circle and Pennsylvania Ave, SE	018	07/11/17	*			
22c	Barney Circle and Pennsylvania Ave, SE	018	07/11/17	*			
22d	Kentucky Ave and Potomac Street, SE	018	07/10/17	*			
22e	14 th Street and Kentucky Ave, SE	018	07/10/17	*			
23	Independence Ave, 21 st Street, SE, Extended	019	07/05/17	*			
24a	East Capitol St, west of RFK stadium	019	07/05/17	*			
28	21 st and Constitution Ave, NW	020	07/19/17	*			
29	22 nd Street, between Constitution Ave and C St, NW	020	07/19/17	*			
30	17 th and D Streets, NW	020	07/19/17	*			
31	15 th Street and Pennsylvania Ave, NW	020	07/19/17	*			
33	10 th and F Streets, NW	020	07/19/17	*			
34	23 rd Street, north of Constitution Ave, NW	020	07/18/17	*			
34a	23 rd Street near C Street, NW	020	07/19/17	*			
35	Northeast of Roosevelt Bridge, NW	021	07/18/17	*			
36	27 th and I Streets, NW	022	07/14/17	*			
36a	New Hampshire Ave and Eye Street, NW	022	07/14/17	*			
36b	19 th and L Streets, NW	022, 034	07/11/17	*			
36d	17 th and L Streets, NW	022, 034	07/11/17	*			
36g	18 th and M Streets, NW	022, 034	07/11/17	*			
36h	18 th and M Streets, NW	022, 034	07/11/17	*			
37	27 th and Eye Streets, NW	022	07/14/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
38	29 th and K Streets, NW	024	07/10/17	*			
38a	30 th Street, south of K Street, NW	024	07/10/17	*			
39a	30 th and K Streets, NW	024	07/10/17	*			
39b	30 th and K Streets, NW	024	07/10/17	*			
41b	31 st and K Streets, NW	025	07/10/17	*			
41c	31 st and K Streets, NW	025	07/10/17	*			
42	Wisconsin Ave and K Street, NW	026	07/14/17	*			
43	Potomac and Water Streets, NW	027	07/14/17	*			
43a	Potomac and Water Streets, NW	027	07/14/17	*			
44	Water Street, west of Potomac St, NW	027	07/14/17	*			
45	36 th and M Streets, NW	028	07/14/17	*			
46	Canal Rd, 1000ft. east of Foxhall Rd, NW	029	07/14/17	*			
47	38 th Street and Reservoir Road, NW	029	07/14/17	*			
47a	37 th and T Streets, NW	029	07/14/17	*			
47b	37 th and T Streets, NW	029	07/14/17	*			
47c	38 th and W Streets, NW	029	07/14/17	*			
49 ^l	Pennsylvania Ave, east side of Rock Creek, NW	031	N/A				
50	26 and M Streets, NW	032	07/21/17	*			
51	N Street Extended, west of 25 th Street, NW	033	07/21/17	*			
52	22 nd Street between M and N Streets, NW	034	07/25/17	*			
52a	N Street between 22 nd and 23 rd Streets, NW	034	07/25/17	*			
53	22 nd and M Streets, NW	022, 034	07/21/17	*			
53a	22 nd and M Streets, NW	022, 034	07/21/17	*			
53b	L Street between 21 st Street and New Hampshire Ave, NW	022, 034	07/21/17	*			
53c	L and 22 nd Streets, NW	022	07/21/17	*			
54	23 rd and O Streets, NW	034	07/17/17	*			
55	22 nd Street, south of Q Street, NW	035	07/17/17	*			
55a	22 nd Street, south of Q Street, NW	035	07/17/17	*			
56	23 rd and Massachusetts Ave, NW	036	07/17/17	*			
57	23 rd Street, south of Q Street, NW	036	07/17/17	*			
58 ^l	Northwest of Belmont Road and Rock Creek and Potomac Parkway, NW	037	N/A				
59	North of Belmont Rd, east of Kalorama Cir, NW	038	07/05/17	*			
60	Connecticut Ave, east of Rock Creek, NW	039	07/05/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
61	Biltmore St, Extended, east of Rock Creek, NW	040	07/05/17	*			
62	Ontario Rd, Extended, and Rock Creek Pkwy, NW	041	07/12/17	*			
63	Harvard Street and Rock Creek Parkway, NW	042	07/12/17	*			
64	Adams Mill Road, south of Irving Street, NW	043	07/12/17	*			
65	Kenyon Street and Adams Mill Road, NW	044	07/12/17	*			
65a	Kenyon Street and Adams Mill Road, NW	044	07/12/17	*			
66	Adams Mill Road and Lamont Street, NW	045	07/12/17	*			
67	Park Rd , south of Piney Branch Pkwy, NW	046	07/12/17	*			
68	Ingleside Terrance, Extended and Piney Branch Parkway, NW	047	07/12/17	*			
69	Mt. Pleasant Street, Extended and Piney Branch Parkway, NW	048	07/12/17	*			
70	Piney Branch Parkway, west of 16 th Street, NW	049	07/12/17	*			
70i	5 th and Quackenbos Streets, NW	049	07/21/17	*			
71	28 th Street, west of Rock Creek Parkway, NW	050	07/05/17	*			
72	Olive Street Extended and Rock Creek Pkwy, NW	051	07/17/17	*			
72a	Olive Street Extended and Rock Creek Pkwy, NW	051	07/17/17	*			
73	O Street Extended and Rock Creek Parkway, NW	052	07/17/17	*			
74 ¹	Q Street, west of Rock Creek, NW	053	N/A				
75	West side of Rock Creek, 300 ft. south of Massachusetts Ave, NW	054	07/11/17	*			
77	Normanstone Dr Extended, west of Rock Creek, NW	056	07/11/17	*			
77a	Normanstone Dr and Normanstone Lane, NW	056	07/11/17	*			
78 ¹	28th Street Extended, west of Rock Creek, NW	057	N/A				
79 ¹	Connecticut Ave and Rock Creek Parkway, NW	058	N/A				
84	26 th and P Streets, NW	060	07/17/17	*			
84a	26 th and P Streets, NW	060	07/17/17	*			
86 ²	Diversion Chamber at First and Channing St, NW	019	07/27/17	*			
87 ²	Vortex Drop at Shaft at First and Channing St, NW	019	07/27/17	*			
88 ²	Flagler and Adams St. NW	019	07/27/17	*			
89 ²	First and V St, NW	019	07/27/17	*			
90 ²	First and V St, NW	019	07/27/17	*			
91 ²	First and V St, NW	019	07/27/17	*			

Notes:

1. Structure no longer functions as a combined sewer overflow regulator structure.
2. Newly acquired First Street Tunnel regulator structures.

2.2 Outfalls, Tide Gates and CSO Signs

The following table summarizes inspections, maintenance and work performed on outfall structures, tide gates and CSO signs in the collection system.

**Table 2-2
Outfalls and Tide Gates**

NPDES Outfall	Location	Date Inspected	Outfall Condition		Tide Gate Present?		Tide Gate Condition		CSO Sign		Notes, Work Needed or Performed
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
003	Bolling Air Force Base, at Giavanolli and Chanute, SW	07/17/17	*		*		*		*		
005	Across from Navy Yard, aligned with Parsons Ave., SE	07/25/17	*		*		*		*		
006 ¹	Good Hope Road and Welsh Memorial Bridge	N/A									
007	Between 11 th St. and Anacostia Bridges, SE	07/25/17	*		*		*		*		
009	O St. Sewage Pumping Station, SE	07/24/17	*		*		*		*		
010	O St. Sewage Pumping Station, SE	07/24/17	*			*			*		
011	Main Sewage Pumping Station, SE	07/24/17	*			*			*		
011(a)	Main Sewage Pumping Station, SE	07/24/17	*		*		*		*		
012	Main Sewage Pumping Station, SE	07/24/17	*		*		*		*		
013	Southeast Federal Center, aligned with 4 th St.	07/24/17	*		*		*		*		
014	Navy Yard, aligned with 6 th St., SE	07/24/17	*		*		*		*		
015	Navy Yard, aligned with 9th Street, SE	07/24/17	*			*			*		
016	12th and O Streets, SE	07/24/17	*		*		*		*		
017	M and Water Street, SE	07/24/17	*		*		*		*		
018	East of Barney Circle & South of Pennsylvania Avenue Bridge, SE	07/24/17	*		*		*		*		
019	Adjacent to Service Drive behind swirl facility & D.C. General Hospital	07/06/17	*		*		*		*		
020	Rock Creek Parkway and Independence, NW	07/25/17	*		*		*		*		
021	Rock Creek Parkway and C St., NW	07/25/17	*		*		*		*		
022	Rock Creek Parkway and G St., NW	07/25/17	*		*		*		*		
024	South of 30 th and K Streets, NW ¹	07/25/17	*		*		*		*		
025	South of 31st and K Streets, NW	07/25/17	*		*		*		*		
026	Wisconsin Avenue and Water Street, NW	07/25/17	*		*		*		*		
027	33 rd and Water Sts., NW	07/25/17	*			*			*		
028	Key Bridge and Whitehurst Freeway, NW	07/25/17	*			*			*		
029	Adjacent to C&O Canal, aligned with 38 th St. NW	07/25/17	*			*			*		
031 ¹	Rock Creek Pkwy & Pennsylvania Avenue, NW	N/A									
032	26th and M Street, NW.	07/21/17	*			*			*		

NPDES Outfall	Location	Date Inspected	Outfall Condition		Tide Gate Present?		Tide Gate Condition		CSO Sign		Notes, Work Needed or Performed
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
033	Across street from St. Francis Jr. High and aligned with N St., NW.	07/21/17	*		*		*		*		
034	Just west of St. Francis Jr. High and north of N St., NW	07/17/17	*			*			*		
035	P St. Bridge and Rock Creek Parkway	07/17/17	*			*			*		
036	22nd Street, South of Q Street NW.	07/27/17	*		*		*		*		
037 ¹	Waterside Dr. and Rock Creek Parkway	N/A									
038	Between arch footbridge and Connecticut Ave., north of Kalorama Circle, NW.	07/05/17	*		*		*		*		
039	Connecticut Avenue Bridge and Rock Creek Parkway, NW.	07/05/17	*		*		*		*		
040	Aligned with Biltmore Rd., between Connecticut Ave and Ellington Bridge.	07/05/17	*		*		*		*		
041	Beach Dr. and Ontario Pl., NW	07/06/17	*		*		*		*		
042	Harvard St. and Beach Dr NW.	07/06/17	*		*		*		*		
043	Upstream of Harvard St. and Beach Dr NW.	07/06/17	*		*		*		*		
044	Kenyon Street and Beach Dr., NW.	07/06/17	*		*		*		*		
045	North of Beach Dr. and Walbridge Pl, NW.	07/06/17	*		*		*		*		
046	Piney Branch Parkway and Park Road, NW.	07/12/17	*			*			*		
047	Piney Branch Parkway and Ingleside Terrace	07/12/17	*		*		*		*		
048	South of Piney Branch Parkway and 17 th St.	07/12/17	*		*		*		*		
049	North of Piney Branch Parkway and 17 th St.	07/12/17	*		*		*		*		
050	Rock Creek Parkway and L St., NW	07/05/17	*		*		*		*		
051	Across Rock Creek Pkwy, aligned with Olive St., NW.	07/27/17	*		*		*		*		
052	Between P & Penna. Ave Bridges, aligned with O Street, NW.	07/27/17	*		*		*		*		
053 ¹	Q St. Bridge and Rock Creek Parkway, NW.	N/A									
054	Massachusetts Ave & Rock Creek Parkway, NW.	07/11/17	*		*		*		*		
056	Normanstone Dr. and Rock Creek Parkway, NW.	07/11/17	*		*		*		*		
057 ¹	28th Street and Rock Creek Parkway, NW	N/A									
058 ¹	Connecticut Ave & Rock Creek Parkway, NW.	N/A									
060	North of P St. Bridge & Rock Creek Pkwy, NW	07/27/17	*		*		*		*		

Notes:

1. Outfall no longer functions as a combined sewer outfall.

2.3.1 Pumping Stations

Pumping station operations are summarized in the table below.

**Table 2-3
Pumping Stations – Inspections and Equipment in Service**

<i>Pumping Station</i>	<i>No. of Inspections</i>	<i>No. Screens</i>	<i>No. Pumps</i>	<i>Screens or Pumps Out of Service</i>	<i>Dates</i>	<i>Reason</i>	<i>Work Order Number</i>	<i>Schedule to Restore to Service¹</i>
Main	31	3	4	Pump #2	07/01/17-07/31/17	Motor problem	17-359642	Anticipated 08/03/17
				Screen #1	07/05/17-07/12/17	Broken sprocket	17-565475	Returned to service on 07/12/17
				Screen #2	07/06/17-07/09/17	Broken bearing	17-566512	Returned to service on 07/09/17
				Screen #2	07/23/17-07/24/17	Broken link from debris	17-586794	Returned to service on 07/24/17
				Screen #2	07/28/17-07/31/17	Debris caught in rakes	17-589114	Anticipated 08/02/17
				Screen #1	07/30/17-07/31/17	Bent bars	17-589438	Anticipated 10/31/17
Eastside	1	2	4	Screen #2	07/06/17-07/28/17	Rake problem	17-566510	Returned to service on 07/28/17
Poplar Point	1	2	3	None	N/A	N/A	N/A	N/A
Potomac ³	31	4	5	Pump #2	07/01/17-07/08/17	Phase 3 upgrade work ²	Contractor	Returned to service on 07/08/17
				Pump #1 ³	07/23/17	Vibration trip	N/A	Returned to service on 07/23/17
				Pump #3 ³	07/23/17-07/24/17	Vibration trip	N/A	Returned to service on 07/24/17
				Pump #2	07/28/17-07/31/17	Motor burn out	17-589354	Anticipated 9/18/17

Notes:

1. The schedule to restore to service is impacted by the type and age of equipment. In some cases, the condition of equipment and the lack of availability of replacement parts necessitate complete replacement of the unit or element or custom fabrication of needed parts to return the units to service. For these and other reasons, projects are underway for the rehabilitation of the pumping stations, including replacement of mechanical screens. The Potomac Pumping Station Phase 3 upgrade project is currently ongoing and replacement of the mechanical screens, sluice gates, and discharge isolations valves began in September 2016 and is anticipated to be completed by December 2017.
2. This is part of the Potomac Pump Station Phase 3 upgrade project.
3. On July 23rd 2017, shutdowns on Pump #1 and Pump #3 due to vibration occurred, and Potomac Pumping Station could not meet firm capacity during wet weather. See separate letter to EPA dated July 28th 2017.

**Table 2-4
Pumping Stations – Preventive Maintenance**

<i>Pumping Station</i>	<i>Date Performed</i>	<i>Type of Preventive Maintenance Performed¹</i>	<i>Work Order Number</i>	<i>Comments</i>
Main	07/01/17	Group A	17-465843	Add oil, grease bearings and replace packing if needed.
O St	07/01/17	Group A	17-531623	Add oil, grease bearings and replace packing if needed.
Eastside	07/08/17	Group A	17-497356	Add oil, grease bearings and replace packing if needed.
Poplar Point	07/09/17	Group A	17-464270	Add oil, grease bearings and replace packing if needed.
Potomac	07/01/17	Group A	17-497480	Add oil, grease bearings and replace packing if needed.
Rock Creek	07/08/17	Group A	17-457004	Add oil, grease bearings and replace packing if needed.
Upper Anacostia	07/08/17	Group A	17-465857	Add oil, grease bearings and replace packing if needed.
Earl Place	07/08/17	Group A	17-439913	Add oil, grease bearings and replace packing if needed.
1 st Street Tunnel Dewatering	07/08/17	Group B	N/A	

Notes:

1. Group A consists of:
 - Exercise bar screens
 - Exercise all sump pumps
 - Drain condensation from air compressor storage tank
 - Check depth of screening in the screen room and schedule Vactor truck as required
 - Check all safety equipment
 - Issue work order requests as required
2. Group B consists of:
 - a. Inspect and manually run CSO Pumps
 - b. Generator:
 - i. Inspection operation and test, inspect oil level, inspect coolant level
 - c. MCC:
 - i. Test gas monitoring system
 - ii. Inspect and test level indicators
 - d. Valve Vault
 - i. Lubricate knife gate valve stem and stem nut
 - ii. Flush air and vacuum release valve

**Table 2-5
Pumping Stations – Pumpage**

<i>Pumping Station</i>	<i>Sanitary Pumpage</i>		<i>Storm Water/CSO Pumped To Anacostia River</i>			<i>Pumpage of CSO from First Street Tunnel back to Sewer System</i>	
	<i>Total Wastewater (mg)</i>	<i>Daily Average Wastewater (mg)</i>	<i>Date</i>	<i>Volume (mg)</i>	<i>Screenings Collected (units)¹</i>	<i>Date</i>	<i>Volume (mg)</i>
Main	1786.81	57.64	N/A	N/A	N/A	N/A	N/A
O St	158.19	5.10	07/01/17	5.32	Normal	N/A	N/A
			07/05/17	12.74	Normal		
			07/06/17	55.93	Normal		
			07/14/17	19.04	Normal		
			07/23/17	19.25	Normal		
			07/24/17	37.80	Normal		
			07/28/17	120.05	Normal		
			07/29/17	67.76	Normal		
Eastside	220.66	7.12	N/A	N/A	N/A	N/A	N/A
Poplar Point ²	543.51	17.53	N/A	N/A	N/A	N/A	N/A
Potomac	3331.84	107.48	N/A	N/A	N/A	N/A	N/A
Rock Creek	224.37	7.24	N/A	N/A	N/A	N/A	N/A
Upper Anacostia	40.35	1.30	N/A	N/A	N/A	N/A	N/A
Earl Place	0.167	0.005	N/A	N/A	N/A	N/A	N/A
1 st Street Tunnel Dewatering	N/A	N/A	N/A	N/A	N/A	07/01/17	0.20
			07/14/17	0.20			
			07/22/17	0.16			
			07/24/17	1.25			
			07/28/17	0.43			
			07/29/17	0.47			

Notes:

1. Screening consists of vertical trash racks, with no mechanical cleaning. Quantification of captured materials is not possible on monthly basis.
2. On July 14th 2017, bypass pumping began at Poplar Point Pumping Station, in connection with the replacement of this station. Pumping totals are estimated for this station based on typical flows.

2.4 Northeast Boundary Swirl Facility

The Northeast Boundary Swirl Facility provides screening, swirl concentration, chlorination and dechlorination of CSO overflow from CSO 019. The capacity of the facility is 400 MGD. Facility operations are summarized below:

**Table 2-6
Northeast Boundary Swirl Facility – Inspections and Equipment in Service**

<i>Date Inspected</i>	<i>No. Screens</i>	<i>No. Swirls</i>	<i>Screens or Swirls Out of Service</i>	<i>Dates</i>	<i>Reason</i>	<i>Schedule to Restore to Service</i>
07/08/17	3	3	Screen #3 Screen #1	07/01/17-07/31/17 07/29/17-07/31/17	Bent bars & back plate Chain separated	Anticipated 11/30/17 Anticipated 08/04/17

**Table 2-7
Northeast Boundary Swirl Facility – Preventive Maintenance**

<i>Date Performed</i>	<i>Type of Preventive Maintenance Performed¹</i>	<i>Work Order Number</i>	<i>Comments</i>
07/08/17	Group A	17-498644	

Notes:

1. Group A consists of:
 Exercise bar screens
 Exercise wash down system
 Exercise knife gates full travel both directions
 Check depth of grit in grit channel and schedule Vactor truck as required
 Change chart paper on strip chart recorders at the end of each month
 Thoroughly clean each Swirl tank and channels
 Issue work order requests as required
 Drain condensation from air compress
 Check all safety equipment

**Table 2-8
Northeast Boundary Swirl Facility – Wet Weather Operations**

<i>Date</i>	<i>Approx. Storm Duration (hrs)¹</i>	<i>Total Influent Volume (mg)</i>	<i>Total Foul Sewer Volume (mg)</i>	<i>Total Effluent Volume (mg)</i>	<i>Approx. Screenings Volume (Cu. ft)</i>
07/01/17	2.45	8.6	3.68	4.92	84
07/05/17	4	4.33	3.45	0.88	64
07/06/17	2.5	4.36	3.35	1.01	32
07/06/17	6	7.70	4.97	2.73	16
07/14/17	4.8	7.69	3.54	4.15	80
07/18/17	4	7.66	3.49	4.17	80
07/22/17	2.8	1.29	1.27	0.02	24
07/22/17	4	5.30	4.39	0.91	24
07/23/17	2.25	9.57	2.84	6.73	72
07/24/17	6	23.68	5.23	18.45	80
07/28/17-07/29/17	18.3	108.81	13.40	95.41	116

Notes:

1. Approx. length of time influent flow rate was above the 15 mgd threshold but does not reflect the discharge duration through outfall 019.

Chlorination/Dechlorination Systems.

The table below summarizes the information about operation of Swirl Facility chlorination and dechlorination systems during storm events. Chemical feed systems were activated during the storms in which flows were substantial enough to overflow the mix chamber weir. Included in the table are results of residual chlorine and fecal coliform testing for samples taken in the Swirl Facility mix chamber and at the facility effluent outfall to the Anacostia River.

A grab sample is collected and immediately tested with an AutoCat 9000 chlorine residual titrator to obtain test results for residual chlorine. Samples for fecal coliform are taken from the designated sample point, treated with sodium bisulfite to remove any residual chlorine, and conveyed to the Blue Plains Wastewater Treatment Plant Laboratory for testing.

**Table 2-9
Northeast Boundary Swirl Facility – Disinfection Performance**

Date	Chlor/ Dechlor System Used?	Dosage		Residual Chlorine Test Results		E. Coli Test Results	
		NaOCl (mg/l)	NaHSO ₃ (mg/l)	Location	Conc. (mg/l)	Site	Count Per 100ml
07/01/17	Yes	6.4	47.3	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
07/05/17	Yes	76.0	110.1	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
07/06/17	Yes	15.6	36.8	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
07/06/17	Yes	15.6	36.8	Mix Chamber	0.3	Mix Chamber	36
				Anacostia River ¹	0	Anacostia River ¹	6,100
07/14/17	Yes	8.3	20.4	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
07/18/17	Yes	8.2	5.0	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
07/22/17	Yes	13.9	64.5	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
07/22/17	Yes	13.9	64.5	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
07/23/17	Yes	1.9	3.9	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A

07/24/17	Yes	3.1	6.7	Mix Chamber	2.2	Mix Chamber	72
				Anacostia River ¹	0	Anacostia River ¹	5,700
07/28/17	Yes	2.7	12.9	Mix Chamber	0.41	Mix Chamber	2,400
				Anacostia River ¹	0	Anacostia River ¹	260,000
07/28/17	Yes	2.7	12.9	Mix Chamber	0.3	Mix Chamber	<10
				Anacostia River ¹	0	Anacostia River ¹	510

Notes:

1. River: River Outfall
2. Sample results marked as N/A are for discharge events lasting less than two hours.

**Table 2-10
Northeast Boundary Swirl Facility – Effluent Sampling Results**

<i>Date</i>	<i>Flow Composited Sample Results</i>						
	<i>Total suspended solids (mg/L)</i>	<i>Nitrite (NO₂-N) mg/L</i>	<i>Nitrate (NO₃-N) mg/L</i>	<i>Total Kjeldahl Nitrogen (mg/L as N)</i>	<i>Total Nitrogen (mg/L)</i>	<i>Total Phosphorus (mg/L)</i>	<i>Carbonaceous Biological Oxygen Demand (mg/L)</i>
7/06/17	21.0	0.03	0.46	0.87	1.36	< 0.04	7.88
7/24/17	33.0	0.00	0.67	1.57	2.24	0.17	LE
07/28/17-07/29/17	54.0	0.00	1.19	1.13	2.32	0.24	10.2

Notes:

Effluent samples taken every two hours and flow composited for a maximum of 24 hours per storm.
LE – Lab Error.

2.5 Inflatable Dams and SCADA System

DC Water operates and maintains twelve inflatable dams at eight different locations. The structure number, location and number of dams per site are presented in Table 2-11. The inflatable dams consist of multi-ply elastomeric (i.e., “rubber”) fabric dams installed in major overflow conduits within the combined sewer system. The objective of the inflatable dam installation is to increase the effective depth to which the sewage must rise in the combined sewer before overflows occur. The effect of the installation is to retain a greater volume of combined sewage flow resulting from low to moderate intensity storms by maximizing storage within the CSS. During higher intensity storms, when the full carrying capacity of the overflow conduit is required to prevent upstream flooding, the dam is deflated automatically. Inflatable dam operations are summarized below:

**Table 2-11
Inflatable Dams – Inspections and Equipment in Service**

<i>Inflatable Dam Structure No</i>	<i>Date Inspected</i>	<i>Was Dam Out of Service During the Month?</i>	<i>Dates out of Service</i>	<i>Reason</i>	<i>Schedule to Restore to Service</i>
14 - East	07/31/17	No	N/A	N/A	N/A
14 - West	07/31/17	No	N/A	N/A	N/A
15	07/18/17	No	N/A	N/A	N/A
15A	07/18/17	No	N/A	N/A	N/A
16 - East	07/31/17	No	N/A	N/A	N/A
16 - West	07/31/17	No	N/A	N/A	N/A
24 - North	07/25/17	No	N/A	N/A	N/A
24 - Middle	07/25/17	No	N/A	N/A	N/A
24 - South	07/25/17	No	N/A	N/A	N/A
34	07/18/17	No	N/A	N/A	N/A
35	07/18/17	No	N/A	N/A	N/A
52	07/25/17	No	N/A	N/A	N/A

**Table 2-12
Inflatable Dams & SCADA Sites - Wet Weather Operations**

<i>Inflatable Dam Structure No.</i>	<i>Overflow Dates</i>	<i>Estimated Duration of Overflow</i>
14 (E & W)	7/28/17	2 hrs 20 mins
15	7/05/17	18 mins
	7/14/17	20 mins
	7/23/17	1 hr 9 mins
	7/24/17	1 hr 56 mins
	7/28/17	11 hrs 10 mins
	7/29/17	4 hrs 22 mins
15A	7/01/17	1 hr 46 mins
	7/05/17	2 hrs 22 mins
	7/06/17	6 hrs 51 mins
	7/14/17	2 hrs 16 mins
	7/22/17	1 hr 9 mins
	7/23/17	2 hrs 8 mins
	7/24/17	2 hrs 57 mins
	7/28/17	11 hrs 16 mins
7/29/17	8 hrs 34 mins	
16 (E & W)	7/01/17	32 mins
	7/14/17	27 mins
	7/23/17	19 mins ¹
	7/24/17	25 mins
	7/28/17	6 hrs 4 mins
	7/29/17	3 hrs 18 mins
24	7/01/17	36 mins
	7/05/17	11 mins
	7/14/17	28 mins
	7/18/17	43 mins
	7/22/17	28 mins
	7/23/17	56 mins
	7/24/17	39 mins
	7/28/17	6 hrs 19 mins
	7/29/17	3 hrs 34 mins
34	7/28/17	27 mins
35	7/01/17	28 mins
	7/14/17	40 mins
	7/22/17	23 mins
	7/23/17	59 mins
	7/24/17	1 hr 11 mins
	7/28/17	6 hrs 2 mins
	7/29/17	2 hrs 27 mins
52	None	N/A

<i>Structures on Outfall Sewers</i>	<i>Overflow Dates</i>	<i>Estimated Duration of Overflow</i>
Outfall Structure 1	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 1A	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 2	7/29/17	1 hr 46 mins
<i>Outfall Sewer Control Gates</i>	<i>Operational Status</i>	<i>Position</i>
Outfall Sewer Control Gate No.1	Operational	Open
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible

Notes:

1. Overflow was caused due to equipment malfunction at Structure 16. See separate letter to EPA dated July 28th 2017.

3. DRY WEATHER OVERFLOWS

There were no dry weather combined sewer overflow during July 2017.

4. **SOLIDS AND FLOATABLES CONTROL**

4.1 **Catch Basin Cleaning**

The following tables summarize catch basin cleaning in the Anacostia CSO area and in the entire sewer system:

**Table 4-1
Catch Basin Cleaning**

Ward	Total CBs	CBs in CSS	Inspections			Cleaning					
			CBs in Anacostia CSS	Total Anacostia CBs Inspected Once this Year	Total Anacostia CBs Inspected Twice this Year	CBs Cleaned Thru Last Month		CB's Cleaned This Month		Total CBs Cleaned This Year to Date	
						Total	In CSS	Total	In CSS	Total	In CSS
1	1457	1430	608	279	2	132	131	570	560	702	691
2	2937	2742	558	191	2	413	400	274	274	687	674
3	3677	186	0	0	0	707	12	1570	2	2277	14
4	3453	1710	0	0	0	2735	1516	255	117	2990	1633
5	3892	1782	1724	618	3	786	156	503	501	1289	657
6	3516	2902	2894	1258	14	1224	1104	174	171	1398	1275
7	3456	37	33	0	0	3179	5	7	1	3186	6
8	2672	204	202	149	3	1776	154	9	2	1785	156
Grand Total	25060	10993	6019	2495	24	10952	3478	3362	1628	14314	5106
% Cleaned/Inspected to Date				41%	<1%	43%	32%			57%	46%

Note: The totals have changed due to information that is more accurate. The Catch Basin Application was deployed in May 2016. We are now just completing a full cleaning cycle of the entire city using the Catch Basin Application. The Engineering/GIS process verifying the information regarding catch basins identified as being removed and new catch basins identified will change as required.

4.2 BMP Demonstration for Solid and Floatable Control

DC WATER operates the following demonstration projects designed to remove solids and floatables from CSO prior to discharge.

- Netting system at CSO 018 to Anacostia River
- Bar Rack at CSO 040 and 041 to Rock Creek

**Table 4-2
BMP Demonstration Projects – Report**

<i>Facility</i>	<i>Date Inspected</i>	<i>Condition</i>	<i>Work Needed</i>	<i>Work performed</i>	<i>Material Removed (LB)</i>
Netting System CSO 018	7/3/2017	Good	Routine cleaning	Routine cleaning	5 pounds
Bar Rack CSO 040	7/5/2017	Good	None	Routine Cleaning	(1)
Bar Rack CSO 041	7/6/2017	Good	None	Routine Cleaning	(1)

Notes:

(1) System was designed so that captured solids and floatable are conveyed to Blue Plains for treatment.

4.3 Anacostia River Floating Debris Removal Program

This program was initiated in October 1992 to remove floating debris from Anacostia and Potomac Rivers on a routine basis. The program has continued from that time and is now under the auspices of DC WATER, Department of Sewer Services. The floating debris removal program utilizes a skimmer boat and support boats to remove floatable debris from the Rivers as well as trash, which accumulates on the riverbanks and in the mud flats at low tides. Work for the most part is directed toward the Anacostia River. The boats pick up debris five days a week. Operations are summarized as follows:

**Table 4-3
Anacostia River Floating Debris Removal Program – Summary**

<i>Program Operation</i>	5-day work week, excluding holidays, weather permitting
<i>Work Days this month:</i>	20
<i>Days not Operating</i>	1
<i>Reason not Operating</i>	Maintenance, wind, low water levels, lightning.
<i># Skimmer in Fleet</i>	5 Skimmers
<i># Skimmers Out of Service</i>	3 Skimmers (on the last day of the month)
<i>Dates</i>	B28: 7/1 - 7/31 B29: 7/12 - 7/31 B33: 7/12 - 7/25 & 7/28 - 7/31 B34: 7/11 - 7/25.
<i>Reason</i>	B28: Front assembly catching on hull. B29: Wing broke off and AC system burning. B33: High hydraulic oil temperature and wing screen damage. B34: High hydraulic oil temperature.
<i>Plan to Restore to Service</i>	B28: Sent to contractors for repair, ETR unknown. B29: Waiting for parts. ETR August 2017. B33: Waiting for parts. ETR August 2017.
<i>Amount Material Collected</i>	50 tons this month. Calendar year to date 320 tons.
<i>Nature of Material</i>	Bottles, cans, natural debris and plastics.

4.4 CSS Litter Control

This section describes DC WATER’s efforts to coordinate litter control efforts with the National Park Service and D.C. Department of Public Works to maximize litter control efforts in the combined sewer system.

Status: no activities this month.

5. MONITORING

5.1 Condition Report Bar Racks at Main and O Street Storm Pumps

DC Water performs visual surveys of the bar racks at Main and O Street Pumping Stations to characterize the quantity and nature of floatable discharge. The physical condition of the bar racks and any maintenance requirements are also noted.

**Table 5-1
Bar Racks at Main & O Street Pumping Stations**

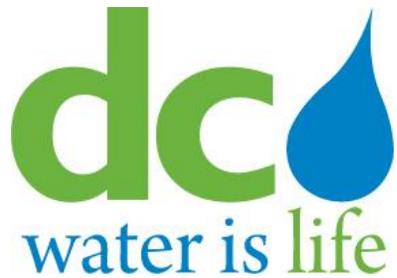
Inspector: Keith Watts

Pumping Station	Inspector	Date Inspected	Condition		Work Needed	Work Performed or Schedule for Completion
			Good	Needs Work		
Bar Racks at O Street Storm Pumps (CSO 010)	KW	07/22/17	X			
Bar Racks at Main Storm Pumps (CSO 011)	KW	07/22/17	X			

5.2 Rain Data

Rain data from National Airport and from the rain gauges installed in the CSS are summarized below.

Date	Brentwood Pumping Station	Bryant Street Pumping Station	Main Pumping Station	Rock Creek Pumping Station	National Airport
7/1/2017	0.40	0.42	0.40	0.34	0.65
7/2/2017	0	0.01	0.01	0	0
7/3/2017	0	0	0	0	0
7/4/2017	0	0	0	0.02	0.04
7/5/2017	0.31	0.24	0.26	0.23	0.70
7/6/2017	0.75	0.78	0.58	0.84	0.87
7/7/2017	0.01	0	0	0.01	0.01
7/8/2017	0	0	0	0	0
7/9/2017	0	0	0	0	0
7/10/2017	0	0	0	0	0
7/11/2017	0	0	0	0	0
7/12/2017	0	0	0	0	0
7/13/2017	0	0	0	0	0
7/14/2017	0.34	0.57	1.05	0.65	0.73
7/15/2017	0	0	0	0	0
7/16/2017	0	0	0	0	0
7/17/2017	0.01	0.03	0.06	0.18	0
7/18/2017	0.46	0.05	0	0	0
7/19/2017	0.01	0	0	0	0
7/20/2017	0	0	0	0	0
7/21/2017	0	0	0	0	0
7/22/2017	0.60	0.53	0.50	0.45	0.98
7/23/2017	1.64	1.61	0.83	1.90	1.39
7/24/2017	0.16	0.19	0.02	0.06	0
7/25/2017	0	0	0	0	0
7/26/2017	0	0	0	0	0
7/27/2017	0	0	0	0	0
7/28/2017	3.13	3.16	3.17	3.03	3.31
7/29/2017	1.27	1.07	1.01	0.87	0.47
7/30/2017	0	0	0	0	0
7/31/2017	0	0	0	0	0
TOTAL	9.09	8.66	7.89	8.58	9.15



**DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY**
Serving the Public • Protecting the Environment

**Monthly Operations Report
For
Combined Sewer System
Month: August 2017**

Prepared By:
District of Columbia
Water and Sewer Authority
Department of Sewer Services
Washington, D.C. 20003

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

Monthly Operations Report for Combined Sewer System
Month: August 2017

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1. INTRODUCTION

The District of Columbia Water and Sewer Authority (DC Water) operates a wastewater collection system comprised of separate and combined sewers. Separate storm and sanitary sewers serve two-thirds of the District. In the combined sewer system (CSS), there is a single sewer to convey storm water and sanitary wastes. The area served by combined sewers comprises about one-third of the District.

During dry weather, sanitary wastes collected in the CSS are conveyed to the DC Water's advanced wastewater treatment plant at Blue Plains (BPAWWTP or the Blue Plains AWWTP). During periods of rainfall, the capacity of a combined sewer may be exceeded and the excess flow, which is a mixture of storm water and sanitary wastes, is discharged directly to the Anacostia River, Rock Creek or the Potomac River or their tributary waters. This report summarizes the operations of the combined sewer system for the month indicated.

2. OPERATION AND MAINTENANCE

2.1 Regulators

Regulators divert combined sewage to interceptors, which convey flow to BPAWWTP for treatment. When flows exceed the capacities of the systems such as during significant rain events, regulators divert excess flow to CSO outfalls which discharge to receiving waters. The following table summarizes inspections of CSO regulators in the collection system.

**Table 2-1
Regulator Structures**

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
2	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	08/11/17	*			
4	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	08/11/17	*			
5	Poplar Point Pumping Station	004	08/11/17	*			
6	Chicago Street and Railroad Ave, SE	005	08/04/17	*			
7	W Street and Railroad Ave, SE	005	08/04/17	*			
8 ¹	Good Hope Rd, west of Nichols Ave, SE	006	N/A				
9	13 th Street and Ridge Place, SE	007	08/04/17	*			
11	"O" Street Pumping Station	011(a)	08/11/17	*			
12	Storm Pump Discharge at Main Pumping Station	011	08/14/17	*			
13	2 nd Street, 300 ft. north of N Place, SE	009	08/09/17	*			
14	2 nd Street, 250 ft. north of N Place, SE	011(a)	08/09/17	*			
15	South Capitol and E Streets	010	08/17/17	*			
15a	Half and L Streets, SE	010	08/17/17	*			
15b	South Capitol and I Streets	010	08/04/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
15c	South Capitol and I Streets	010	08/04/17	*			
16	North of Main Sewage Pumping Station	012	08/09/17	*			
17	4 th and N Streets, SE, Both Extended	013	08/01/17	*			
17a	K Street between 6 th Street and 7 th Street, SE	013	08/16/17	*			
18	6 th and M Streets, SE	014	08/01/17	*			
19	9 th and M Streets, SE	015	08/04/17	*			
19a	9 th and M Streets, SE	015	08/04/17	*			
20	12 th and M Streets, SE	016	08/04/17	*			
20a	12 th and M Streets, SE	016	08/04/17	*			
21	14 th and M Streets, SE	017	08/04/17	*			
22a	Barney Circle and Pennsylvania Ave, SE	018	08/02/17	*			
22b	Barney Circle and Pennsylvania Ave, SE	018	08/02/17	*			
22c	Barney Circle and Pennsylvania Ave, SE	018	08/02/17	*			
22d	Kentucky Ave and Potomac Street, SE	018	08/02/17	*			
22e	14 th Street and Kentucky Ave, SE	018	08/02/17	*			
23	Independence Ave, 21 st Street, SE, Extended	019	08/08/17	*			
24a	East Capitol St, west of RFK stadium	019	08/08/17	*			
28	21 st and Constitution Ave, NW	020	08/02/17	*			
29	22 nd Street, between Constitution Ave and C St, NW	020	08/02/17	*			
30	17 th and D Streets, NW	020	08/04/17	*			
31	15 th Street and Pennsylvania Ave, NW	020	08/04/17	*			
33	10 th and F Streets, NW	020	08/04/17	*			
34	23 rd Street, north of Constitution Ave, NW	020	08/17/17	*			
34a	23 rd Street near C Street, NW	020	08/02/17	*			
35	Northeast of Roosevelt Bridge, NW	021	08/17/17	*			
36	27 th and I Streets, NW	022	08/02/17	*			
36a	New Hampshire Ave and Eye Street, NW	022	08/02/17	*			
36b	19 th and L Streets, NW	022, 034	08/08/17	*			
36d	17 th and L Streets, NW	022, 034	08/08/17	*			
36g	18 th and M Streets, NW	022, 034	08/08/17	*			
36h	18 th and M Streets, NW	022, 034	08/08/17	*			
37	27 th and Eye Streets, NW	022	08/02/17	*			
38	29 th and K Streets, NW	024	08/02/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
38a	30 th Street, south of K Street, NW	024	08/02/17	*			
39a	30 th and K Streets, NW	024	08/02/17	*			
39b	30 th and K Streets, NW	024	08/02/17	*			
41b	31 st and K Streets, NW	025	08/02/17	*			
41c	31 st and K Streets, NW	025	08/02/17	*			
42	Wisconsin Ave and K Street, NW	026	08/08/17	*			
43	Potomac and Water Streets, NW	027	08/08/17	*			
43a	Potomac and Water Streets, NW	027	08/08/17	*			
44	Water Street, west of Potomac St, NW	027	08/08/17	*			
45	36 th and M Streets, NW	028	08/01/17	*			
46	Canal Rd, 1000ft. east of Foxhall Rd, NW	029	08/01/17	*			
47	38 th Street and Reservoir Road, NW	029	08/01/17	*			
47a	37 th and T Streets, NW	029	08/01/17	*			
47b	37 th and T Streets, NW	029	08/01/17	*			
47c	38 th and W Streets, NW	029	08/01/17	*			
49 ^l	Pennsylvania Ave, east side of Rock Creek, NW	031	N/A				
50	26 and M Streets, NW	032	08/10/17	*			
51	N Street Extended, west of 25 th Street, NW	033	08/10/17	*			
52	22 nd Street between M and N Streets, NW	034	08/18/17	*			
52a	N Street between 22 nd and 23 rd Streets, NW	034	08/17/17	*			
53	22 nd and M Streets, NW	022, 034	08/17/17	*			
53a	22 nd and M Streets, NW	022, 034	08/17/17	*			
53b	L Street between 21 st Street and New Hampshire Ave, NW	022, 034	08/02/17	*			
53c	L and 22 nd Streets, NW	022	08/02/17	*			
54	23 rd and O Streets, NW	034	08/07/17	*			
55	22 nd Street, south of Q Street, NW	035	08/07/17	*			
55a	22 nd Street, south of Q Street, NW	035	08/07/17	*			
56	23 rd and Massachusetts Ave, NW	036	08/07/17	*			
57	23 rd Street, south of Q Street, NW	036	08/07/17	*			
58 ^l	Northwest of Belmont Road and Rock Creek and Potomac Parkway, NW	037	N/A				
59	North of Belmont Rd, east of Kalorama Cir, NW	038	08/10/17	*			
60	Connecticut Ave, east of Rock Creek, NW	039	08/10/17	*			
61	Biltmore St, Extended, east of Rock Creek, NW	040	08/10/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
62	Ontario Rd, Extended, and Rock Creek Pkwy, NW	041	08/09/17	*			
63	Harvard Street and Rock Creek Parkway, NW	042	08/09/17	*			
64	Adams Mill Road, south of Irving Street, NW	043	08/09/17	*			
65	Kenyon Street and Adams Mill Road, NW	044	08/09/17	*			
65a	Kenyon Street and Adams Mill Road, NW	044	08/09/17	*			
66	Adams Mill Road and Lamont Street, NW	045	08/09/17	*			
67	Park Rd , south of Piney Branch Pkwy, NW	046	08/09/17	*			
68	Ingleside Terrance, Extended and Piney Branch Parkway, NW	047	08/09/17	*			
69	Mt. Pleasant Street, Extended and Piney Branch Parkway, NW	048	08/09/17	*			
70	Piney Branch Parkway, west of 16 th Street, NW	049	08/09/17	*			
70i	5 th and Quackenbos Streets, NW	049	08/01/17	*			
71	28 th Street, west of Rock Creek Parkway, NW	050	08/14/17	*			
72	Olive Street Extended and Rock Creek Pkwy, NW	051	08/07/17	*			
72a	Olive Street Extended and Rock Creek Pkwy, NW	051	08/07/17	*			
73	O Street Extended and Rock Creek Parkway, NW	052	08/07/17	*			
74 ¹	Q Street, west of Rock Creek, NW	053	N/A				
75	West side of Rock Creek, 300 ft. south of Massachusetts Ave, NW	054	08/14/17	*			
77	Normanstone Dr Extended, west of Rock Creek, NW	056	08/14/17	*			
77a	Normanstone Dr and Normanstone Lane, NW	056	08/14/17	*			
78 ¹	28th Street Extended, west of Rock Creek, NW	057	N/A				
79 ¹	Connecticut Ave and Rock Creek Parkway, NW	058	N/A				
84	26 th and P Streets, NW	060	08/07/17	*			
84a	26 th and P Streets, NW	060	08/07/17	*			
86 ²	Diversion Chamber at First and Channing St, NW	019	08/16/17	*			
87 ²	Vortex Drop at Shaft at First and Channing St, NW	019	08/16/17	*			
88 ²	Flagler and Adams St. NW	019	08/16/17	*			
89 ²	First and V St, NW	019	08/16/17	*			
90 ²	First and V St, NW	019	08/16/17	*			
91 ²	First and V St, NW	019	08/16/17	*			

Notes:

1. Structure no longer functions as a combined sewer overflow regulator structure.
2. Newly acquired First Street Tunnel regulator structures.

2.2 Outfalls, Tide Gates and CSO Signs

The following table summarizes inspections, maintenance and work performed on outfall structures, tide gates and CSO signs in the collection system.

**Table 2-2
Outfalls and Tide Gates**

NPDES Outfall	Location	Date Inspected	Outfall Condition		Tide Gate Present?		Tide Gate Condition		CSO Sign		Notes, Work Needed or Performed
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
003	Bolling Air Force Base, at Giavanolli and Chanute, SW	08/11/17	*		*		*		*		
005	Across from Navy Yard, aligned with Parsons Ave., SE	08/08/17	*		*		*		*		
006 ¹	Good Hope Road and Welsh Memorial Bridge	N/A									
007	Between 11 th St. and Anacostia Bridges, SE	08/08/17	*		*		*		*		
009	O St. Sewage Pumping Station, SE	08/14/17	*		*		*		*		
010	O St. Sewage Pumping Station, SE	08/14/17	*			*			*		
011	Main Sewage Pumping Station, SE	08/14/17	*			*			*		
011(a)	Main Sewage Pumping Station, SE	08/14/17	*		*		*		*		
012	Main Sewage Pumping Station, SE	08/14/17	*		*		*		*		
013	Southeast Federal Center, aligned with 4 th St.	08/14/17	*		*		*		*		
014	Navy Yard, aligned with 6 th St., SE	08/14/17	*		*		*		*		
015	Navy Yard, aligned with 9th Street, SE	08/14/17	*			*			*		
016	12th and O Streets, SE	08/10/17	*		*		*		*		
017	M and Water Street, SE	08/10/17	*		*		*		*		
018	East of Barney Circle & South of Pennsylvania Avenue Bridge, SE	08/10/17	*		*		*		*		
019	Adjacent to Service Drive behind swirl facility & D.C. General Hospital	08/08/17	*		*		*		*		
020	Rock Creek Parkway and Independence, NW	08/03/17	*		*		*		*		
021	Rock Creek Parkway and C St., NW	08/03/17	*		*		*		*		
022	Rock Creek Parkway and G St., NW	08/03/17	*		*		*		*		
024	South of 30 th and K Streets, NW ¹	08/03/17	*		*		*		*		
025	South of 31st and K Streets, NW	08/03/17	*		*		*		*		
026	Wisconsin Avenue and Water Street, NW	08/03/17	*		*		*		*		
027	33 rd and Water Sts., NW	08/03/17	*			*			*		
028	Key Bridge and Whitehurst Freeway, NW	08/03/17	*			*			*		
029	Adjacent to C&O Canal, aligned with 38 th St. NW	08/03/17	*			*			*		
031 ¹	Rock Creek Pkwy & Pennsylvania Avenue, NW	N/A									
032	26th and M Street, NW.	08/10/17	*			*			*		

NPDES Outfall	Location	Date Inspected	Outfall Condition		Tide Gate Present?		Tide Gate Condition		CSO Sign		Notes, Work Needed or Performed
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
033	Across street from St. Francis Jr. High and aligned with N St., NW.	08/10/17	*		*		*		*		
034	Just west of St. Francis Jr. High and north of N St., NW	08/07/17	*			*			*		
035	P St. Bridge and Rock Creek Parkway	08/07/17	*			*			*		
036	22nd Street, South of Q Street NW.	08/03/17	*		*		*		*		
037 ¹	Waterside Dr. and Rock Creek Parkway	N/A									
038	Between arch footbridge and Connecticut Ave., north of Kalorama Circle, NW.	08/10/17	*		*		*		*		
039	Connecticut Avenue Bridge and Rock Creek Parkway, NW.	08/10/17	*		*		*		*		
040	Aligned with Biltmore Rd., between Connecticut Ave and Ellington Bridge.	08/10/17	*		*		*		*		
041	Beach Dr. and Ontario Pl., NW	08/03/17	*		*		*		*		
042	Harvard St. and Beach Dr NW.	08/03/17	*		*		*		*		
043	Upstream of Harvard St. and Beach Dr NW.	08/03/17	*		*		*		*		
044	Kenyon Street and Beach Dr., NW.	08/03/17	*		*		*		*		
045	North of Beach Dr. and Walbridge Pl, NW.	08/03/17	*		*		*		*		
046	Piney Branch Parkway and Park Road, NW.	08/09/17	*			*			*		
047	Piney Branch Parkway and Ingleside Terrace	08/09/17	*		*		*		*		
048	South of Piney Branch Parkway and 17 th St.	08/09/17	*		*		*		*		
049	North of Piney Branch Parkway and 17 th St.	08/09/17	*		*		*		*		
050	Rock Creek Parkway and L St., NW	08/14/17	*		*		*		*		
051	Across Rock Creek Pkwy, aligned with Olive St., NW.	08/22/17	*		*		*		*		
052	Between P & Penna. Ave Bridges, aligned with O Street, NW.	08/22/17	*		*		*		*		
053 ¹	Q St. Bridge and Rock Creek Parkway, NW.	N/A									
054	Massachusetts Ave & Rock Creek Parkway, NW.	08/14/17	*		*		*		*		
056	Normanstone Dr. and Rock Creek Parkway, NW.	08/14/17	*		*		*		*		
057 ¹	28th Street and Rock Creek Parkway, NW	N/A									
058 ¹	Connecticut Ave & Rock Creek Parkway, NW.	N/A									
060	North of P St. Bridge & Rock Creek Pkwy, NW	08/03/17	*		*		*		*		

Notes:

1. Outfall no longer functions as a combined sewer outfall.

2.3.1 Pumping Stations

Pumping station operations are summarized in the table below.

**Table 2-3
Pumping Stations – Inspections and Equipment in Service**

<i>Pumping Station</i>	<i>No. of Inspections</i>	<i>No. Screens</i>	<i>No. Pumps</i>	<i>Screens or Pumps Out of Service</i>	<i>Dates</i>	<i>Reason</i>	<i>Work Order Number</i>	<i>Schedule to Restore to Service¹</i>
Main	31	3	4	Pump #2	08/01/17-08/03/17	Motor problem	17-359642	Returned to service on 08/03/17
				Screen #2	08/01/17-08/02/17	Debris caught in rakes	17-589114	Returned to service on 08/02/17
				Screen #1	08/01/17-08/31/17	Bent bars	17-589438	Anticipated 10/31/17
Eastside	1	2	4	Screen #2	08/11/17-08/31/17	Bent bars	17-643853	Anticipated 11/30/17
Poplar Point	2	2	3	None	N/A	N/A	N/A	N/A
Potomac	31	4	5	Pump #2	08/01/17-08/31/17	Motor burn out	17-589354	Anticipated 9/18/17

Notes:

1. The schedule to restore to service is impacted by the type and age of equipment. In some cases, the condition of equipment and the lack of availability of replacement parts necessitate complete replacement of the unit or element or custom fabrication of needed parts to return the units to service. For these and other reasons, projects are underway for the rehabilitation of the pumping stations, including replacement of mechanical screens. The Potomac Pumping Station Phase 3 upgrade project is currently ongoing and replacement of the mechanical screens, sluice gates, and discharge isolations valves began in September 2016 and is anticipated to be completed by December 2017.

**Table 2-4
Pumping Stations – Preventive Maintenance**

<i>Pumping Station</i>	<i>Date Performed</i>	<i>Type of Preventive Maintenance Performed¹</i>	<i>Work Order Number</i>	<i>Comments</i>
Main	08/01/17	Group A	17-575491	Add oil, grease bearings and replace packing if needed.
O St	08/01/17	Group A	17-592935	Add oil, grease bearings and replace packing if needed.
Eastside	08/19/17	Group A	17-579686	Add oil, grease bearings and replace packing if needed.
Poplar Point	08/05/17	Group A	17-574343	Add oil, grease bearings and replace packing if needed.
Potomac	08/01/17	Group A	17-579795	Add oil, grease bearings and replace packing if needed.
Rock Creek	08/05/17	Group A	17-562078	Add oil, grease bearings and replace packing if needed.
Upper Anacostia	08/06/17	Group A	17-575505	Add oil, grease bearings and replace packing if needed.
Earl Place	08/06/17	Group A	17-557530	Add oil, grease bearings and replace packing if needed.
1 st Street Tunnel Dewatering	08/29/17	Group B	N/A	

Notes:

1. Group A consists of:
 - Exercise bar screens
 - Exercise all sump pumps
 - Drain condensation from air compressor storage tank
 - Check depth of screening in the screen room and schedule Vector truck as required
 - Check all safety equipment
 - Issue work order requests as required
2. Group B consists of:
 - a. Inspect and manually run CSO Pumps
 - b. Generator:
 - i. Inspection operation and test, inspect oil level, inspect coolant level
 - c. MCC:
 - i. Test gas monitoring system
 - ii. Inspect and test level indicators
 - d. Valve Vault
 - i. Lubricate knife gate valve stem and stem nut
 - ii. Flush air and vacuum release valve

**Table 2-5
Pumping Stations – Pumpage**

<i>Pumping Station</i>	<i>Sanitary Pumpage</i>		<i>Storm Water/CSO Pumped To Anacostia River</i>			<i>Pumpage of CSO from First Street Tunnel back to Sewer System</i>	
	<i>Total Wastewater (mg)</i>	<i>Daily Average Wastewater (mg)</i>	<i>Date</i>	<i>Volume (mg)</i>	<i>Screenings Collected (units)¹</i>	<i>Date</i>	<i>Volume (mg)</i>
Main	1725.60	55.66	N/A	N/A	N/A	N/A	N/A
O St	141.93	4.58	08/03/17	22.89	Normal	N/A	N/A
			08/07/17	91.77	Normal		
			08/11/17	6.93	Normal		
			08/12/17	67.76	Normal		
			08/13/17	10.64	Normal		
			08/18/17	7.56	Normal		
			08/29/17	51.52	Normal		
Eastside	216.72	6.99	N/A	N/A	N/A	N/A	N/A
Poplar Point ²	539.03	17.39	N/A	N/A	N/A	N/A	N/A
Potomac	3451.07	111.32	N/A	N/A	N/A	N/A	N/A
Rock Creek	234.73	7.57	N/A	N/A	N/A	N/A	N/A
Upper Anacostia	43.71	1.41	N/A	N/A	N/A	N/A	N/A
Earl Place	0.142	0.005	N/A	N/A	N/A	N/A	N/A
1 st Street Tunnel Dewatering	N/A	N/A	N/A	N/A	N/A	08/03/17	0.84
						08/04/17	0.42
						08/12/17	0.60
						08/13/17	1.21
						08/18/17	0.15
						08/27/17	0.18

Notes:

1. Screening consists of vertical trash racks, with no mechanical cleaning. Quantification of captured materials is not possible on monthly basis.
2. On July 14th 2017, bypass pumping began at Poplar Point Pumping Station, in connection with the replacement of this station. Pumping totals are estimated for this station based on typical flows.

2.4 Northeast Boundary Swirl Facility

The Northeast Boundary Swirl Facility provides screening, swirl concentration, chlorination and dechlorination of CSO overflow from CSO 019. The capacity of the facility is 400 MGD. Facility operations are summarized below:

**Table 2-6
Northeast Boundary Swirl Facility – Inspections and Equipment in Service**

<i>Date Inspected</i>	<i>No. Screens</i>	<i>No. Swirls</i>	<i>Screens or Swirls Out of Service</i>	<i>Dates</i>	<i>Reason</i>	<i>Schedule to Restore to Service</i>
08/09/17	3	3	Screen #3	08/01/17-08/31/17	Bent bars & back plate	Anticipated 11/30/17
			Screen #1	08/01/17-08/04/17	Chain separated	Returned to service on 08/04/17
			Screen #1	08/13/17-08/31/17	Chain tangled and off frame; Influent gate damaged	Anticipated 09/01/17
			Screen #2	08/13/17-08/15/17	Bent rake & bars	Returned to service on 08/15/17

**Table 2-7
Northeast Boundary Swirl Facility – Preventive Maintenance**

<i>Date Performed</i>	<i>Type of Preventive Maintenance Performed¹</i>	<i>Work Order Number</i>	<i>Comments</i>
08/09/17	Group A	17-583063	

Notes:

- Group A consists of:
 Exercise bar screens
 Exercise wash down system
 Exercise knife gates full travel both directions
 Check depth of grit in grit channel and schedule Vactor truck as required
 Change chart paper on strip chart recorders at the end of each month
 Thoroughly clean each Swirl tank and channels
 Issue work order requests as required
 Drain condensation from air compress
 Check all safety equipment

**Table 2-8
Northeast Boundary Swirl Facility – Wet Weather Operations**

<i>Date</i>	<i>Approx. Storm Duration (hrs)¹</i>	<i>Total Influent Volume (mg)</i>	<i>Total Foul Sewer Volume (mg)</i>	<i>Total Effluent Volume (mg)</i>	<i>Approx. Screenings Volume (Cu. ft)</i>
08/03/17	2.8	10.60	1.61	8.99	16
08/07/17	2	3.02	1.60	1.42	16
08/07/17	9	23.23	5.65	17.58	64
08/11/17	2.5	9.20	3.35	5.85	32
08/12/17 ²	2	10.3	2.0	8.3	32
08/15/17	1.7	4.70	2.76	1.94	40
08/18/17	6	6.17	1.02	5.15	24

Notes:

1. Approx. length of time influent flow rate was above the 15 mgd threshold but does not reflect the discharge duration through outfall 019.
2. Due to flash flooding at the Swirl Facility on 08/12/17 flow metering data was lost. Flow volumes for this event have been estimated.

Chlorination/Dechlorination Systems.

The table below summarizes the information about operation of Swirl Facility chlorination and dechlorination chemical feed systems during storm events. Except as noted below, the chemical feed systems were activated during the storms in which flows were substantial enough to overflow the mix chamber weir. Included in the table are results of residual chlorine and fecal coliform testing for samples taken in the Swirl Facility mix chamber and at the facility effluent outfall to the Anacostia River.

A grab sample is collected and immediately tested with an AutoCat 9000 chlorine residual titrator to obtain test results for residual chlorine. Samples for fecal coliform are taken from the designated sample point, treated with sodium bisulfite to remove any residual chlorine, and conveyed to the Blue Plains Wastewater Treatment Plant Laboratory for testing.

**Table 2-9
Northeast Boundary Swirl Facility – Disinfection Performance**

Date	Chlor/ Dechlor System Used?	Dosage		Residual Chlorine Test Results		E. Coli Test Results	
		NaOCl (mg/l)	NaHSO ₃ (mg/l)	Location	Conc. (mg/l)	Site	Count Per 100ml
08/03/17	Yes	1.3	4.4	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
08/07/17	Yes	5.6	28.6	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
08/07/17	Yes	5.6	28.6	Mix Chamber	0.59	Mix Chamber	210
				Anacostia River ¹	0.0	Anacostia River ¹	34,000
08/11/17	Yes	3.4	18.3	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
08/12/17	No ³	N/A	N/A	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
08/15/17	Yes	6.8	53.0	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A
08/18/17	Yes	2.9	19.2	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River ¹	N/A	Anacostia River ¹	N/A

Notes:

1. River: River Outfall
2. Sample results marked as N/A are for discharge events lasting less than two hours.
3. Due to flash flooding at the Swirl Facility on 08/12/17, the chemical feed systems were not activated during the event.

Table 2-10
Northeast Boundary Swirl Facility – Effluent Sampling Results

<i>Date</i>	<i>Flow Composited Sample Results</i>						
	<i>Total suspended solids (mg/L)</i>	<i>Nitrite (NO₂-N) mg/L</i>	<i>Nitrate (NO₃-N) mg/L</i>	<i>Total Kjeldahl Nitrogen (mg/L as N)</i>	<i>Total Nitrogen (mg/L)</i>	<i>Total Phosphorus (mg/L)</i>	<i>Carbonaceous Biological Oxygen Demand (mg/L)</i>
8/07/17	LE	0.07	0.29	2.46	2.82	0.45	LE

Notes:

Effluent samples taken every two hours and flow composited for a maximum of 24 hours per storm.

LE – Lab Error.

2.5 Inflatable Dams and SCADA System

DC Water operates and maintains twelve inflatable dams at eight different locations. The structure number, location and number of dams per site are presented in Table 2-11. The inflatable dams consist of multi-ply elastomeric (i.e., “rubber”) fabric dams installed in major overflow conduits within the combined sewer system. The objective of the inflatable dam installation is to increase the effective depth to which the sewage must rise in the combined sewer before overflows occur. The effect of the installation is to retain a greater volume of combined sewage flow resulting from low to moderate intensity storms by maximizing storage within the CSS. During higher intensity storms, when the full carrying capacity of the overflow conduit is required to prevent upstream flooding, the dam is deflated automatically. Inflatable dam operations are summarized below:

**Table 2-11
Inflatable Dams – Inspections and Equipment in Service**

<i>Inflatable Dam Structure No</i>	<i>Date Inspected</i>	<i>Was Dam Out of Service During the Month?</i>	<i>Dates out of Service</i>	<i>Reason</i>	<i>Schedule to Restore to Service</i>
14 - East	08/17/17	No	N/A	N/A	N/A
14 - West	08/17/17	No	N/A	N/A	N/A
15	08/17/17	No	N/A	N/A	N/A
15A	08/17/17	No	N/A	N/A	N/A
16 - East	08/22/17	No	N/A	N/A	N/A
16 - West	08/22/17	No	N/A	N/A	N/A
24 - North	08/17/17	Yes	08/03/17-08/05/17 08/28/17-08/31/17	Flooding Control System Upgrades ¹	Returned to service 08/05/17 10/31/17
24 - Middle	08/17/17	Yes	08/03/17-08/05/17 08/28/17-08/31/17	Flooding Control System Upgrades ¹	Returned to service 08/05/17 10/31/17
24 - South	08/17/17	Yes	08/03/17-08/05/17 08/28/17-08/31/17	Flooding Control System Upgrades ¹	Returned to service 08/05/17 10/31/17
34	08/17/17	No	N/A	N/A	N/A
35	08/18/17	No	N/A	N/A	N/A
52	08/31/17	No	N/A	N/A	N/A

Notes:

1. Structure 24 was taken out of service on 08/28/17 for upgrades to the control system and instrumentation in response to flash flooding at the Structure and the Swirl Facility on 08/03/17 and 08/12/17. See separate letter to EPA dated August 28th 2017.

**Table 2-12
Inflatable Dams & SCADA Sites - Wet Weather Operations**

<i>Inflatable Dam Structure No.</i>	<i>Overflow Dates</i>	<i>Estimated Duration of Overflow</i>
14 (E & W)	08/12/17	1 hr 44 mins
15	08/03/17	3 hrs 38 mins
	08/07/17	4 hrs 47 mins
	08/11/17	1 hr 16 mins
	08/12/17	4 hrs 29 mins
	08/13/17	2 hrs 53 mins
	08/18/17	2 hrs 47 mins
	08/29/17	6 hrs 31 mins
15A	08/03/17	4 hrs 47 mins
	08/04/17	5 hrs 28 mins
	08/07/17	5 hrs 46 mins
	08/11/17	1 hr 22 mins
	08/12/17	5 hrs 51 mins
	08/13/17	2 hrs 31 mins
	08/15/17	7 hrs 59 mins
	08/18/17	4 hrs 50 mins
	08/19/17	2 hrs 19 mins
	08/29/17	11 hrs 47 mins
08/30/17	15 mins	
16 (E & W)	08/07/17	31 mins
	08/12/17	1 hr 1 min
24	08/03/17	2 hrs 2 mins ¹
	08/07/17	1 hr 24 mins
	08/11/17	24 mins
	08/12/17	2 hrs 6 mins ²
	08/15/17	12 mins
	08/18/17	35 mins
08/29/17	6 hrs 44 mins ³	
34	08/03/17	50 mins
	08/12/17	59 mins
35	08/01/17	33 mins
	08/03/17	1 hr 12 mins
	08/07/17	1 hr 21 mins
	08/11/17	45 mins ⁴
	08/12/17	1 hr 51 mins ⁴
	08/15/17	1 hr 8 mins
08/18/17	27 mins	
52	None	N/A

<i>Structures on Outfall Sewers</i>	<i>Overflow Dates</i>	<i>Estimated Duration of Overflow</i>
Outfall Structure 1	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 1A	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 2	None	N/A
<i>Outfall Sewer Control Gates</i>	<i>Operational Status</i>	<i>Position</i>
Outfall Sewer Control Gate No.1	Operational	Open
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible

Notes:

1. Overflow was extended due to failure of Structure 24 due to flooding. See separate letter to EPA dated August 8th 2017.
2. Overflow was extended due to failure of Structure 24 due to flooding. See separate letter to EPA dated August 17th 2017.
3. Structure 24 was taken out of service on 08/28/17 for upgrades to the control system and instrumentation in response to flash flooding at the Structure and the Swirl Facility on 08/03/17 and 08/12/17. This overflow occurred while the site was out of service. See separate letter to EPA dated August 28th 2017
4. Times were estimated due to data loss.

3. DRY WEATHER OVERFLOWS

There were no dry weather combined sewer overflow during August 2017.

4. SOLIDS AND FLOATABLES CONTROL

4.1 Catch Basin Cleaning

The following tables summarize catch basin cleaning in the Anacostia CSO area and in the entire sewer system:

**Table 4-1
Catch Basin Cleaning**

Ward	Total CBs	CBs in CSS	Inspections			Cleaning					
			CBs in Anacostia CSS	Total Anacostia CBs Inspected Once this Year	Total Anacostia CBs Inspected Twice this Year	CBs Cleaned Thru Last Month		CB's Cleaned This Month		Total CBs Cleaned This Year to Date	
						Total	In CSS	Total	In CSS	Total	In CSS
1	1457	1430	608	579	13	1279	1266	21	21	1300	1287
2	2937	2742	558	415	7	935	919	113	111	1048	1030
3	3677	189	0	0	0	2282	14	337	4	2619	18
4	3453	1710	0	0	0	3002	1640	263	37	3265	1677
5	3892	1785	1724	1537	23	1979	1341	1347	270	3326	1611
6	3516	2901	2893	2375	32	2037	1912	518	501	2555	2413
7	3456	37	33	31	11	3207	18	41	30	3248	48
8	2672	205	202	197	4	1795	156	91	49	1886	205
Grand Total	25060	10999	6019	5134	90	16516	7266	2731	1023	19247	8289
% Cleaned/Inspected to Date				85%	1%	66%	66%			77%	75%

Note: The totals have changed due to information that is more accurate. The Catch Basin Application was deployed in May 2016. We are now just completing a full cleaning cycle of the entire city using the Catch Basin Application. The Engineering/GIS process verifying the information regarding catch basins identified as being removed and new catch basins identified will change as required.

4.2 BMP Demonstration for Solid and Floatable Control

DC WATER operates the following demonstration projects designed to remove solids and floatables from CSO prior to discharge.

- Netting system at CSO 018 to Anacostia River
- Bar Rack at CSO 040 and 041 to Rock Creek

**Table 4-2
BMP Demonstration Projects – Report**

<i>Facility</i>	<i>Date Inspected</i>	<i>Condition</i>	<i>Work Needed</i>	<i>Work performed</i>	<i>Material Removed (LB)</i>
Netting System CSO 018	08/7/217 08/24/17	Good Damaged	Routine cleaning Deck grating – needs repair and/or replacement.	Routine cleaning Estimate for repairs requested from vendor.	None. (2)
Bar Rack CSO 040	08/10/17	Good	None	Routine Cleaning	(1)
Bar Rack CSO 041	08/03/17	Good	None	Routine Cleaning	(1)

Notes:

(1) System was designed so that captured solids and floatable are conveyed to Blue Plains for treatment.

(2) CSO 018 netting system is currently unsafe to access to replace the nets so no material was removed. The skimmer program continues to function collecting the floating debris that comes through the CSO unto the river.

4.3 Anacostia River Floating Debris Removal Program

This program was initiated in October 1992 to remove floating debris from Anacostia and Potomac Rivers on a routine basis. The program has continued from that time and is now under the auspices of DC WATER, Department of Sewer Services. The floating debris removal program utilizes a skimmer boat and support boats to remove floatable debris from the Rivers as well as trash, which accumulates on the riverbanks and in the mud flats at low tides. Work for the most part is directed toward the Anacostia River. The boats pick up debris five days a week. Operations are summarized as follows:

**Table 4-3
Anacostia River Floating Debris Removal Program – Summary**

<i>Program Operation</i>	5-day work week, excluding holidays, weather permitting
<i>Work Days this month:</i>	23
<i>Days not Operating</i>	2
<i>Reason not Operating</i>	Maintenance, wind, low water levels, lightning.
<i># Skimmer in Fleet</i>	4 Skimmers
<i># Skimmers Out of Service</i>	None (on the last day of the month)
<i>Dates</i>	B29: 8/1-8/8 B33: 8/1-8/3 and 8/23-8/29
<i>Reason</i>	B29: AC compressor burning. B33: Wing screen loose and AC system down.
<i>Plan to Restore to Service</i>	B29: Returned to operations on 8/9. B33: Returned to operations on 8/4 and 8/30.
<i>Amount Material Collected</i>	140 tons this month. Calendar year to date 460 tons.
<i>Nature of Material</i>	Bottles, cans, natural debris and plastics.

4.4 CSS Litter Control

This section describes DC WATER’s efforts to coordinate litter control efforts with the National Park Service and D.C. Department of Public Works to maximize litter control efforts in the combined sewer system.

Status: no activities this month.

5. MONITORING

5.1 Condition Report Bar Racks at Main and O Street Storm Pumps

DC Water performs visual surveys of the bar racks at Main and O Street Pumping Stations to characterize the quantity and nature of floatable discharge. The physical condition of the bar racks and any maintenance requirements are also noted.

**Table 5-1
Bar Racks at Main & O Street Pumping Stations**

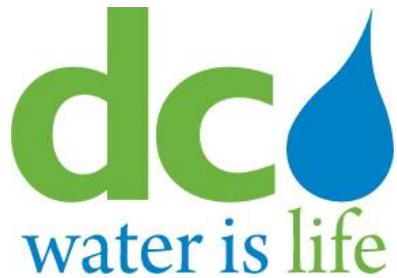
Inspector: Keith Watts

Pumping Station	Inspector	Date Inspected	Condition		Work Needed	Work Performed or Schedule for Completion
			Good	Needs Work		
Bar Racks at O Street Storm Pumps (CSO 010)	KW	08/22/17	X			
Bar Racks at Main Storm Pumps (CSO 011)	KW	08/22/17	X			

5.2 Rain Data

Rain data from National Airport and from the rain gauges installed in the CSS are summarized below.

Date	Brentwood Pumping Station	Bryant Street Pumping Station	Main Pumping Station	Rock Creek Pumping Station	National Airport
8/1/2017	0	0.02	0	0.01	0
8/2/2017	0	0	0	0	0
8/3/2017	0.68	0.99	0.17	1.12	0.06
8/4/2017	0	0	0	0	0
8/5/2017	0	0	0	0	0
8/6/2017	0	0	0	0	0
8/7/2017	1.20	1.49	1.48	1.46	1.47
8/8/2017	0.03	0.06	0.03	0.03	0.04
8/9/2017	0	0	0	0	0
8/10/2017	0	0	0	0	0
8/11/2017	0.34	0.46	0.72	0.48	0.76
8/12/2017	1.21	1.09	0.81	0.91	0.52
8/13/2017	0	0.01	0	0	0
8/14/2017	0	0	0	0	0
8/15/2017	0.16	0.33	0.16	0.22	0.17
8/16/2017	0	0	0	0	0
8/17/2017	0	0	0	0	0
8/18/2017	0.25	0.35	0.30	0.39	0.51
8/19/2017	0	0	0	0	0.01
8/20/2017	0	0	0	0	0
8/21/2017	0	0	0	0.01	0.01
8/22/2017	0	0.01	0	0	0
8/23/2017	0	0	0	0	0
8/24/2017	0	0	0	0	0
8/25/2017	0.03	0.07	0.02	0.03	0.05
8/26/2017	0	0	0	0	0
8/27/2017	0	0	0	0	0
8/28/2017	0	0	0.02	0	0
8/29/2017	0.99	0.88	0.96	0.83	0.98
8/30/2017	0	0.01	0	0	0
8/31/2017	0	0	0	0	0
TOTAL	4.89	5.77	4.67	5.49	4.58



**DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY**
Serving the Public • Protecting the Environment

**Monthly Operations Report
For
Combined Sewer System
Month: September 2017**

Prepared By:
District of Columbia
Water and Sewer Authority
Department of Sewer Services
Washington, D.C. 20003

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

Monthly Operations Report for Combined Sewer System
Month: September 2017

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1. INTRODUCTION

The District of Columbia Water and Sewer Authority (DC Water) operates a wastewater collection system comprised of separate and combined sewers. Separate storm and sanitary sewers serve two-thirds of the District. In the combined sewer system (CSS), there is a single sewer to convey storm water and sanitary wastes. The area served by combined sewers comprises about one-third of the District.

During dry weather, sanitary wastes collected in the CSS are conveyed to the DC Water's advanced wastewater treatment plant at Blue Plains (BPAWWTP or the Blue Plains AWWTP). During periods of rainfall, the capacity of a combined sewer may be exceeded and the excess flow, which is a mixture of storm water and sanitary wastes, is discharged directly to the Anacostia River, Rock Creek or the Potomac River or their tributary waters. This report summarizes the operations of the combined sewer system for the month indicated.

2. OPERATION AND MAINTENANCE

2.1 Regulators

Regulators divert combined sewage to interceptors, which convey flow to BPAWWTP for treatment. When flows exceed the capacities of the systems such as during significant rain events, regulators divert excess flow to CSO outfalls which discharge to receiving waters. The following table summarizes inspections of CSO regulators in the collection system.

**Table 2-1
Regulator Structures**

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
2	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	09/12/17	*			
4	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	09/12/17	*			
5	Poplar Point Pumping Station	004	09/20/17	*			
6	Chicago Street and Railroad Ave, SE	005	09/05/17	*			
7	W Street and Railroad Ave, SE	005	09/05/17	*			
8 ¹	Good Hope Rd, west of Nichols Ave, SE	006	N/A				
9	13 th Street and Ridge Place, SE	007	09/05/17	*			
11	"O" Street Pumping Station	011(a)	09/20/17	*			
12	Storm Pump Discharge at Main Pumping Station	011	09/20/17	*			
13	2 nd Street, 300 ft. north of N Place, SE	009	09/20/17	*			
14	2 nd Street, 250 ft. north of N Place, SE	011(a)	09/20/17	*			
15	South Capitol and E Streets	010	09/14/17	*			
15a	Half and L Streets, SE	010	09/14/17	*			
15b	South Capitol and I Streets	010	09/11/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
15c	South Capitol and I Streets	010	09/11/17	*			
16	North of Main Sewage Pumping Station	012	09/20/17	*			
17	4 th and N Streets, SE, Both Extended	013	09/11/17	*			
17a	K Street between 6 th Street and 7 th Street, SE	013	09/19/17	*			
18	6 th and M Streets, SE	014	09/15/17	*			
19	9 th and M Streets, SE	015	09/18/17	*			
19a	9 th and M Streets, SE	015	09/18/17	*			
20	12 th and M Streets, SE	016	09/18/17	*			
20a	12 th and M Streets, SE	016	09/18/17	*			
21	14 th and M Streets, SE	017	09/18/17	*			
22a	Barney Circle and Pennsylvania Ave, SE	018	09/18/17	*			
22b	Barney Circle and Pennsylvania Ave, SE	018	09/18/17	*			
22c	Barney Circle and Pennsylvania Ave, SE	018	09/18/17	*			
22d	Kentucky Ave and Potomac Street, SE	018	09/08/17	*			
22e	14 th Street and Kentucky Ave, SE	018	09/08/17	*			
23	Independence Ave, 21 st Street, SE, Extended	019	09/12/17	*			
24a	East Capitol St, west of RFK stadium	019	09/12/17	*			
28	21 st and Constitution Ave, NW	020	09/15/17	*			
29	22 nd Street, between Constitution Ave and C St, NW	020	09/15/17	*			
30	17 th and D Streets, NW	020	09/05/17	*			
31	15 th Street and Pennsylvania Ave, NW	020	09/05/17	*			
33	10 th and F Streets, NW	020	09/05/17	*			
34	23 rd Street, north of Constitution Ave, NW	020	09/14/17	*			
34a	23 rd Street near C Street, NW	020	09/15/17	*			
35	Northeast of Roosevelt Bridge, NW	021	09/14/17	*			
36	27 th and I Streets, NW	022	09/05/17	*			
36a	New Hampshire Ave and Eye Street, NW	022	09/05/17	*			
36b	19 th and L Streets, NW	022, 034	09/05/17	*			
36d	17 th and L Streets, NW	022, 034	09/05/17	*			
36g	18 th and M Streets, NW	022, 034	09/05/17	*			
36h	18 th and M Streets, NW	022, 034	09/05/17	*			
37	27 th and Eye Streets, NW	022	09/05/17	*			
38	29 th and K Streets, NW	024	09/06/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
38a	30 th Street, south of K Street, NW	024	09/06/17	*			
39a	30 th and K Streets, NW	024	09/06/17	*			
39b	30 th and K Streets, NW	024	09/06/17	*			
41b	31 st and K Streets, NW	025	09/06/17	*			
41c	31 st and K Streets, NW	025	09/06/17	*			
42	Wisconsin Ave and K Street, NW	026	09/06/17	*			
43	Potomac and Water Streets, NW	027	09/06/17	*			
43a	Potomac and Water Streets, NW	027	09/06/17	*			
44	Water Street, west of Potomac St, NW	027	09/06/17	*			
45	36 th and M Streets, NW	028	09/01/17	*			
46	Canal Rd, 1000ft. east of Foxhall Rd, NW	029	09/01/17	*			
47	38 th Street and Reservoir Road, NW	029	09/01/17	*			
47a	37 th and T Streets, NW	029	09/01/17	*			
47b	37 th and T Streets, NW	029	09/01/17	*			
47c	38 th and W Streets, NW	029	09/01/17	*			
49 ^l	Pennsylvania Ave, east side of Rock Creek, NW	031	N/A				
50	26 and M Streets, NW	032	09/15/17	*			
51	N Street Extended, west of 25 th Street, NW	033	09/15/17	*			
52	22 nd Street between M and N Streets, NW	034	09/14/17	*			
52a	N Street between 22 nd and 23 rd Streets, NW	034	09/14/17	*			
53	22 nd and M Streets, NW	022, 034	09/15/17	*			
53a	22 nd and M Streets, NW	022, 034	09/15/17	*			
53b	L Street between 21 st Street and New Hampshire Ave, NW	022, 034	09/11/17	*			
53c	L and 22 nd Streets, NW	022	09/11/17	*			
54	23 rd and O Streets, NW	034	09/08/17	*			
55	22 nd Street, south of Q Street, NW	035	09/08/17	*			
55a	22 nd Street, south of Q Street, NW	035	09/08/17	*			
56	23 rd and Massachusetts Ave, NW	036	09/08/17	*			
57	23 rd Street, south of Q Street, NW	036	09/08/17	*			
58 ^l	Northwest of Belmont Road and Rock Creek and Potomac Parkway, NW	037	N/A				
59	North of Belmont Rd, east of Kalorama Cir, NW	038	09/01/17	*			
60	Connecticut Ave, east of Rock Creek, NW	039	09/01/17	*			
61	Biltmore St, Extended, east of Rock Creek, NW	040	09/01/17	*			

Structure Number	Location	Associated NPDES Outfall	Date Inspected	Condition		Work Needed	Work performed
				Good	Needs Work		
62	Ontario Rd, Extended, and Rock Creek Pkwy, NW	041	09/13/17	*			
63	Harvard Street and Rock Creek Parkway, NW	042	09/13/17	*			
64	Adams Mill Road, south of Irving Street, NW	043	09/13/17	*			
65	Kenyon Street and Adams Mill Road, NW	044	09/13/17	*			
65a	Kenyon Street and Adams Mill Road, NW	044	09/13/17	*			
66	Adams Mill Road and Lamont Street, NW	045	09/13/17	*			
67	Park Rd , south of Piney Branch Pkwy, NW	046	09/13/17	*			
68	Ingleside Terrance, Extended and Piney Branch Parkway, NW	047	09/13/17	*			
69	Mt. Pleasant Street, Extended and Piney Branch Parkway, NW	048	09/13/17	*			
70	Piney Branch Parkway, west of 16 th Street, NW	049	09/13/17	*			
70i	5 th and Quackenbos Streets, NW	049	09/11/17	*			
71	28 th Street, west of Rock Creek Parkway, NW	050	09/11/17	*			
72	Olive Street Extended and Rock Creek Pkwy, NW	051	09/08/17	*			
72a	Olive Street Extended and Rock Creek Pkwy, NW	051	09/08/17	*			
73	O Street Extended and Rock Creek Parkway, NW	052	09/08/17	*			
74 ¹	Q Street, west of Rock Creek, NW	053	N/A				
75	West side of Rock Creek, 300 ft. south of Massachusetts Ave, NW	054	09/11/17	*			
77	Normanstone Dr Extended, west of Rock Creek, NW	056	09/11/17	*			
77a	Normanstone Dr and Normanstone Lane, NW	056	09/11/17	*			
78 ¹	28th Street Extended, west of Rock Creek, NW	057	N/A				
79 ¹	Connecticut Ave and Rock Creek Parkway, NW	058	N/A				
84	26 th and P Streets, NW	060	09/08/17	*			
84a	26 th and P Streets, NW	060	09/08/17	*			
86 ²	Diversion Chamber at First and Channing St, NW	019	09/26/17	*			
87 ²	Vortex Drop at Shaft at First and Channing St, NW	019	09/26/17	*			
88 ²	Flagler and Adams St. NW	019	09/26/17	*			
89 ²	First and V St, NW	019	09/26/17	*			
90 ²	First and V St, NW	019	09/26/17	*			
91 ²	First and V St, NW	019	09/26/17	*			

Notes:

1. Structure no longer functions as a combined sewer overflow regulator structure.
2. Newly acquired First Street Tunnel regulator structures.

2.2 Outfalls, Tide Gates and CSO Signs

The following table summarizes inspections, maintenance and work performed on outfall structures, tide gates and CSO signs in the collection system.

**Table 2-2
Outfalls and Tide Gates**

NPDES Outfall	Location	Date Inspected	Outfall Condition		Tide Gate Present?		Tide Gate Condition		CSO Sign		Notes, Work Needed or Performed
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
003	Bolling Air Force Base, at Giavanolli and Chanute, SW	09/12/17	*		*		*		*		
005	Across from Navy Yard, aligned with Parsons Ave., SE	09/17/17	*		*		*		*		
006 ¹	Good Hope Road and Welsh Memorial Bridge	N/A									
007	Between 11 th St. and Anacostia Bridges, SE	09/07/17	*		*		*		*		
009	O St. Sewage Pumping Station, SE	09/20/17	*		*		*		*		
010	O St. Sewage Pumping Station, SE	09/20/17	*			*			*		
011	Main Sewage Pumping Station, SE	09/20/17	*			*			*		
011(a)	Main Sewage Pumping Station, SE	09/20/17	*		*		*		*		
012	Main Sewage Pumping Station, SE	09/20/17	*		*		*		*		
013	Southeast Federal Center, aligned with 4 th St.	09/20/17	*		*		*		*		
014	Navy Yard, aligned with 6 th St., SE	09/20/17	*		*		*		*		
015	Navy Yard, aligned with 9th Street, SE	09/20/17	*			*			*		
016	12th and O Streets, SE	09/19/17	*		*		*		*		
017	M and Water Street, SE	09/19/17	*		*		*		*		
018	East of Barney Circle & South of Pennsylvania Avenue Bridge, SE	09/19/17	*		*		*		*		
019	Adjacent to Service Drive behind swirl facility & D.C. General Hospital	09/09/17	*		*		*		*		
020	Rock Creek Parkway and Independence, NW	09/07/17	*		*		*		*		
021	Rock Creek Parkway and C St., NW	09/07/17	*		*		*		*		
022	Rock Creek Parkway and G St., NW	09/07/17	*		*		*		*		
024	South of 30 th and K Streets, NW ¹	09/07/17	*		*		*		*		
025	South of 31st and K Streets, NW	09/07/17	*		*		*		*		
026	Wisconsin Avenue and Water Street, NW	09/07/17	*		*		*		*		
027	33 rd and Water Sts., NW	09/07/17	*			*			*		
028	Key Bridge and Whitehurst Freeway, NW	09/07/17	*			*			*		
029	Adjacent to C&O Canal, aligned with 38 th St. NW	09/07/17	*			*			*		
031 ¹	Rock Creek Pkwy & Pennsylvania Avenue, NW	N/A									
032	26th and M Street, NW.	09/15/17	*			*			*		

NPDES Outfall	Location	Date Inspected	Outfall Condition		Tide Gate Present?		Tide Gate Condition		CSO Sign		Notes, Work Needed or Performed
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
033	Across street from St. Francis Jr. High and aligned with N St., NW.	09/15/17	*		*		*		*		
034	Just west of St. Francis Jr. High and north of N St., NW	09/08/17	*			*			*		
035	P St. Bridge and Rock Creek Parkway	09/08/17	*			*			*		
036	22nd Street, South of Q Street NW.	09/18/17	*		*		*		*		
037 ¹	Waterside Dr. and Rock Creek Parkway	N/A									
038	Between arch footbridge and Connecticut Ave., north of Kalorama Circle, NW.	09/01/17	*		*		*		*		
039	Connecticut Avenue Bridge and Rock Creek Parkway, NW.	09/01/17	*		*		*		*		
040	Aligned with Biltmore Rd., between Connecticut Ave and Ellington Bridge.	09/01/17	*		*		*		*		
041	Beach Dr. and Ontario Pl., NW	09/12/17	*		*		*		*		
042	Harvard St. and Beach Dr NW.	09/12/17	*		*		*		*		
043	Upstream of Harvard St. and Beach Dr NW.	09/12/17	*		*		*		*		
044	Kenyon Street and Beach Dr., NW.	09/12/17	*		*		*		*		
045	North of Beach Dr. and Walbridge Pl, NW.	09/12/17	*		*		*		*		
046	Piney Branch Parkway and Park Road, NW.	09/13/17	*			*			*		
047	Piney Branch Parkway and Ingleside Terrace	09/13/17	*		*		*		*		
048	South of Piney Branch Parkway and 17 th St.	09/13/17	*		*		*		*		
049	North of Piney Branch Parkway and 17 th St.	09/13/17	*		*		*		*		
050	Rock Creek Parkway and L St., NW	09/11/17	*		*		*		*		
051	Across Rock Creek Pkwy, aligned with Olive St., NW.	09/18/17	*		*		*		*		
052	Between P & Penna. Ave Bridges, aligned with O Street, NW.	09/18/17	*		*		*		*		
053 ¹	Q St. Bridge and Rock Creek Parkway, NW.	N/A									
054	Massachusetts Ave & Rock Creek Parkway, NW.	09/11/17	*		*		*		*		
056	Normanstone Dr. and Rock Creek Parkway, NW.	09/11/17	*		*		*		*		
057 ¹	28th Street and Rock Creek Parkway, NW	N/A									
058 ¹	Connecticut Ave & Rock Creek Parkway, NW.	N/A									
060	North of P St. Bridge & Rock Creek Pkwy, NW	09/18/17	*		*		*		*		

Notes:

1. Outfall no longer functions as a combined sewer outfall.

2.3.1 Pumping Stations

Pumping station operations are summarized in the table below.

**Table 2-3
Pumping Stations – Inspections and Equipment in Service**

<i>Pumping Station</i>	<i>No. of Inspections</i>	<i>No. Screens</i>	<i>No. Pumps</i>	<i>Screens or Pumps Out of Service</i>	<i>Dates</i>	<i>Reason</i>	<i>Work Order Number</i>	<i>Schedule to Restore to Service¹</i>
Main	30	3	4	Pump #1	09/03/17-09/06/17	VFD Fault	17-644199	Returned to service on 09/06/17
				Pump #1	09/18/17-09/30/17	Motor Rehab	17-686275	Anticipated 12/22/17
				Pump #4	09/06/17-09/15/17	VFD Fault	17-644229	Returned to service on 09/15/17
				Screen #1	09/01/17-09/30/17	Bent bars	17-643853	Anticipated 10/31/17
Eastside	1	2	4	Screen #2	09/01/17-09/30/17	Bent bars	17-566510	Anticipated 11/30/17
Poplar Point	1	2	3	None	N/A	N/A	N/A	N/A
Potomac	30	4	5	Pump #2	09/01/17-09/18/17	Motor burn out	17-589354	Returned to service on 09/18/17
				Screen #3	09/08/17-09/11/17	Missing bolts	17-654078	Returned to service on 09/11/17
				Screen #4	09/09/17-09/11/17	Shear pin	17-654079	Returned to service on 09/11/17

Notes:

- The schedule to restore to service is impacted by the type and age of equipment. In some cases, the condition of equipment and the lack of availability of replacement parts necessitate complete replacement of the unit or element or custom fabrication of needed parts to return the units to service. For these and other reasons, projects are underway for the rehabilitation of the pumping stations, including replacement of mechanical screens. The Potomac Pumping Station Phase 3 upgrade project is currently ongoing and replacement of the mechanical screens, sluice gates, and discharge isolations valves began in September 2016 and is anticipated to be completed by December 2017.

**Table 2-4
Pumping Stations – Preventive Maintenance**

<i>Pumping Station</i>	<i>Date Performed</i>	<i>Type of Preventive Maintenance Performed¹</i>	<i>Work Order Number</i>	<i>Comments</i>
Main	09/01/17	Group A	17-614651	Add oil, grease bearings and replace packing if needed.
O St	09/01/17	Group A	17-634479	Add oil, grease bearings and replace packing if needed.
Eastside	09/02/17	Group A	17-618325	Add oil, grease bearings and replace packing if needed.
Poplar Point	09/16/17	Group A	17-612151	Add oil, grease bearings and replace packing if needed.
Potomac	09/01/17	Group A	17-618670	Add oil, grease bearings and replace packing if needed.
Rock Creek	09/16/17	Group A	17-592949	Add oil, grease bearings and replace packing if needed.
Upper Anacostia	09/02/17	Group A	17-614665	Add oil, grease bearings and replace packing if needed.
Earl Place	09/02/17	Group A	17-589533	Add oil, grease bearings and replace packing if needed.
1 st Street Tunnel Dewatering	09/24/17	Group B	N/A	

Notes:

1. Group A consists of:
 - Exercise bar screens
 - Exercise all sump pumps
 - Drain condensation from air compressor storage tank
 - Check depth of screening in the screen room and schedule Vactor truck as required
 - Check all safety equipment
 - Issue work order requests as required
2. Group B consists of:
 - a. Inspect and manually run CSO Pumps
 - b. Generator:
 - i. Inspection operation and test, inspect oil level, inspect coolant level
 - c. MCC:
 - i. Test gas monitoring system
 - ii. Inspect and test level indicators
 - d. Valve Vault
 - i. Lubricate knife gate valve stem and stem nut
 - ii. Flush air and vacuum release valve

**Table 2-5
Pumping Stations – Pumpage**

<i>Pumping Station</i>	<i>Sanitary Pumpage</i>		<i>Storm Water/CSO Pumped To Anacostia River</i>			<i>Pumpage of CSO from First Street Tunnel back to Sewer System</i>	
	<i>Total Wastewater (mg)</i>	<i>Daily Average Wastewater (mg)</i>	<i>Date</i>	<i>Volume (mg)</i>	<i>Screenings Collected (units)¹</i>	<i>Date</i>	<i>Volume (mg)</i>
Main	1564.11	52.14	N/A	N/A	N/A	N/A	N/A
O St	121.12	4.04	09/02/17	34.58	Normal	N/A	N/A
			09/06/17	19.46	Normal		
			09/07/17	9.38	Normal		
Eastside	138.01	4.60	N/A	N/A	N/A	N/A	N/A
Poplar Point ²	502.66	16.76	N/A	N/A	N/A	N/A	N/A
Potomac	3095.90	103.20	N/A	N/A	N/A	N/A	N/A
Rock Creek	209.91	7.00	N/A	N/A	N/A	N/A	N/A
Upper Anacostia	41.78	1.39	N/A	N/A	N/A	N/A	N/A
Earl Place	0.124	0.004	N/A	N/A	N/A	N/A	N/A
1 st Street Tunnel Dewatering	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1. Screening consists of vertical trash racks, with no mechanical cleaning. Quantification of captured materials is not possible on monthly basis.
2. On July 14th 2017, bypass pumping began at Poplar Point Pumping Station, in connection with the replacement of this station. Pumping totals are estimated for this station based on typical flows.

2.4 Northeast Boundary Swirl Facility

The Northeast Boundary Swirl Facility provides screening, swirl concentration, chlorination and dechlorination of CSO overflow from CSO 019. The capacity of the facility is 400 MGD. Facility operations are summarized below:

**Table 2-6
Northeast Boundary Swirl Facility – Inspections and Equipment in Service**

<i>Date Inspected</i>	<i>No. Screens</i>	<i>No. Swirls</i>	<i>Screens or Swirls Out of Service</i>	<i>Dates</i>	<i>Reason</i>	<i>Schedule to Restore to Service</i>
09/02/17	3	3	Screen #3 Screen #1	09/01/17-09/30/17 09/01/17	Bent bars & back plate Chain tangled and off frame; Influent gate damaged	Anticipated 11/30/17 Returned to service on 09/01/17

**Table 2-7
Northeast Boundary Swirl Facility – Preventive Maintenance**

<i>Date Performed</i>	<i>Type of Preventive Maintenance Performed¹</i>	<i>Work Order Number</i>	<i>Comments</i>
09/02/17	Group A	17-622778	

Notes:

- Group A consists of:
 Exercise bar screens
 Exercise wash down system
 Exercise knife gates full travel both directions
 Check depth of grit in grit channel and schedule Vector truck as required
 Change chart paper on strip chart recorders at the end of each month
 Thoroughly clean each Swirl tank and channels
 Issue work order requests as required
 Drain condensation from air compress
 Check all safety equipment

**Table 2-8
Northeast Boundary Swirl Facility – Wet Weather Operations**

<i>Date</i>	<i>Approx. Storm Duration (hrs)¹</i>	<i>Total Influent Volume (mg)</i>	<i>Total Foul Sewer Volume (mg)</i>	<i>Total Effluent Volume (mg)</i>	<i>Approx. Screenings Volume (Cu. ft)</i>
N/A ²					

Notes:

1. Approx. length of time influent flow rate was above the 15 mgd threshold but does not reflect the discharge duration through outfall 019.
2. Structure 24 was taken out of service on 08/28/17 for upgrades to the control system and instrumentation in response to flash flooding at the Structure and the Swirl Facility on 08/03/17 and 08/12/17. During this time, the Swirl Facility is being bypassed. See separate letter to EPA dated August 28th 2017.

Chlorination/Dechlorination Systems.

The table below summarizes the information about operation of Swirl Facility chlorination and dechlorination systems during storm events. Chemical feed systems were activated during the storms in which flows were substantial enough to overflow the mix chamber weir. Included in the table are results of residual chlorine and fecal coliform testing for samples taken in the Swirl Facility mix chamber and at the facility effluent outfall to the Anacostia River.

A grab sample is collected and immediately tested with an AutoCat 9000 chlorine residual titrator to obtain test results for residual chlorine. Samples for fecal coliform are taken from the designated sample point, treated with sodium bisulfite to remove any residual chlorine, and conveyed to the Blue Plains Wastewater Treatment Plant Laboratory for testing.

**Table 2-9
Northeast Boundary Swirl Facility – Disinfection Performance**

<i>Date</i>	<i>Chlor/ Dechlor System Used?</i>	<i>Dosage</i>		<i>Residual Chlorine Test Results</i>		<i>E. Coli Test Results</i>	
		<i>NaOCl (mg/l)</i>	<i>NaHSO₃ (mg/l)</i>	<i>Location</i>	<i>Conc. (mg/l)</i>	<i>Site</i>	<i>Count Per 100ml</i>
N/A ³				Mix Chamber		Mix Chamber	
				Anacostia River ¹		Anacostia River ¹	

Notes:

1. River: River Outfall
2. Sample results marked as N/A are for discharge events lasting less than two hours.
3. Structure 24 was taken out of service on 08/28/17 for upgrades to the control system and instrumentation in response to flash flooding at the Structure and the Swirl Facility on 08/03/17 and 08/12/17. During this time, the Swirl Facility is being bypassed. See separate letter to EPA dated August 28th 2017.

**Table 2-10
Northeast Boundary Swirl Facility – Effluent Sampling Results**

<i>Date</i>	<i>Flow Composited Sample Results</i>						
	<i>Total suspended solids (mg/L)</i>	<i>Nitrite (NO₂-N) mg/L</i>	<i>Nitrate (NO₃-N) mg/L</i>	<i>Total Kjeldahl Nitrogen (mg/L as N)</i>	<i>Total Nitrogen (mg/L)</i>	<i>Total Phosphorus (mg/L)</i>	<i>Carbonaceous Biological Oxygen Demand (mg/L)</i>
N/A ²							

Notes:

1. Effluent samples taken every two hours and flow composited for a maximum of 24 hours per storm.
2. Structure 24 was taken out of service on 08/28/17 for upgrades to the control system and instrumentation in response to flash flooding at the Structure and the Swirl Facility on 08/03/17 and 08/12/17. During this time, the Swirl Facility is being bypassed. See separate letter to EPA dated August 28th 2017.

2.5 Inflatable Dams and SCADA System

DC Water operates and maintains twelve inflatable dams at eight different locations. The structure number, location and number of dams per site are presented in Table 2-11. The inflatable dams consist of multi-ply elastomeric (i.e., “rubber”) fabric dams installed in major overflow conduits within the combined sewer system. The objective of the inflatable dam installation is to increase the effective depth to which the sewage must rise in the combined sewer before overflows occur. The effect of the installation is to retain a greater volume of combined sewage flow resulting from low to moderate intensity storms by maximizing storage within the CSS. During higher intensity storms, when the full carrying capacity of the overflow conduit is required to prevent upstream flooding, the dam is deflated automatically. Inflatable dam operations are summarized below:

**Table 2-11
Inflatable Dams – Inspections and Equipment in Service**

<i>Inflatable Dam Structure No</i>	<i>Date Inspected</i>	<i>Was Dam Out of Service</i>		<i>Reason</i>	<i>Schedule to Restore to Service</i>
		<i>During the Month?</i>	<i>Dates out of Service</i>		
14 - East	09/14/17	No	N/A	N/A	N/A
14 - West	09/14/17	No	N/A	N/A	N/A
15	09/12/17	No	N/A	N/A	N/A
15A	09/14/17	No	N/A	N/A	N/A
16 - East	09/14/17	No	N/A	N/A	N/A
16 - West	09/14/17	No	N/A	N/A	N/A
24 - North	09/19/17	Yes	09/01/17-09/30/17	Control System Upgrades ¹	10/31/17
24 - Middle	09/19/17	Yes	09/01/17-09/30/17	Control System Upgrades ¹	10/31/17
24 - South	09/19/17	Yes	09/01/17-09/30/17	Control System Upgrades ¹	10/31/17
34	09/12/17	No	N/A	N/A	N/A
35	09/12/17	No	N/A	N/A	N/A
52	09/12/17	No	N/A	N/A	N/A

Notes:

1. Structure 24 was taken out of service on 08/28/17 for upgrades to the control system and instrumentation in response to flash flooding at the Structure and the Swirl Facility on 08/03/17 and 08/12/17. See separate letter to EPA dated August 28th 2017.

**Table 2-12
Inflatable Dams & SCADA Sites - Wet Weather Operations**

<i>Inflatable Dam Structure No.</i>	<i>Overflow Dates</i>	<i>Estimated Duration of Overflow</i>
14 (E & W)	None	N/A
15	09/02/17 09/06/17	4 hrs 46 mins 2 hrs 43 mins
15A	09/02/17 09/06/17 09/07/17 09/14/17 09/15/17	9 hrs 40 mins 8 hrs 16 mins 2 hrs 5 mins 21 mins 2 hrs 4 mins
16 (E & W)	None	N/A
24	09/02/17 09/05/17 09/06/17 09/14/17	3 hrs 32 mins ¹ 45 mins ¹ 2 hrs 6 mins ¹ 1 hr 36 mins ¹
34	None	N/A
35	None	N/A
52	None	N/A
<i>Structures on Outfall Sewers</i>	<i>Overflow Dates</i>	<i>Estimated Duration of Overflow</i>
Outfall Structure 1	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 1A	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 2	None	N/A
<i>Outfall Sewer Control Gates</i>	<i>Operational Status</i>	<i>Position</i>
Outfall Sewer Control Gate No.1	Operational	Open
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible

Notes:

- Structure 24 was taken out of service on 08/28/17 for upgrades to the control system and instrumentation in response to flash flooding at the Structure and the Swirl Facility on 08/03/17 and 08/12/17. The overflows listed occurred while the site was out of service. See separate letter to EPA dated August 28th 2017.

3. DRY WEATHER OVERFLOWS

There were no dry weather combined sewer overflow during September 2017.

4. SOLIDS AND FLOATABLES CONTROL

4.1 Catch Basin Cleaning

The following tables summarize catch basin cleaning in the Anacostia CSO area and in the entire sewer system:

**Table 4-1
Catch Basin Cleaning**

Ward	Total CBs	CBs in CSS	Inspections			Cleaning					
			CBs in Anacostia CSS	Total Anacostia CBs Inspected Once this Year	Total Anacostia CBs Inspected Twice this Year	CBs Cleaned Thru Last Month		CB's Cleaned This Month		Total CBs Cleaned This Year to Date	
						Total	In CSS	Total	In CSS	Total	In CSS
1	1460	1433	606	584	21	1300	1287	134	125	1434	1412
2	2925	2725	546	442	10	1048	1030	868	822	1916	1852
3	3668	189	0	0	0	2619	18	690	151	3309	169
4	3450	1711	0	0	0	3266	1677	17	8	3283	1685
5	3865	1766	1705	1569	37	3326	1611	288	20	3614	1631
6	3467	2858	2848	2478	49	2555	2413	120	61	2675	2474
7	3482	36	32	31	11	3249	48	156	0	3405	48
8	2726	201	198	202	4	1886	205	43	7	1929	212
Grand Total	25043¹	10919	5935	5306²	132	19249	8289	2316	1194	21565	9483
% Cleaned/Inspected to Date				89%	2%	77%	75%			86%	87%

1. The totals have changed due to information that is more accurate. The Catch Basin Application was deployed in May 2016. We are now just completing a full cleaning cycle of the entire city using the Catch Basin Application. The Engineering/GIS process verifying the information regarding catch basins identified as being removed and new catch basins identified will change as required.
2. There are approximately 171 catch basins blocked by long-term construction projects, of these, 39 flow to the Anacostia River. There are approximately 297 catch basins obstructed by either a parked car or security restrictions instituted by Capitol Police, of these, 105 flow to the Anacostia River.

4.2 BMP Demonstration for Solid and Floatable Control

DC WATER operates the following demonstration projects designed to remove solids and floatables from CSO prior to discharge.

- Netting system at CSO 018 to Anacostia River
- Bar Rack at CSO 040 and 041 to Rock Creek

**Table 4-2
BMP Demonstration Projects – Report**

<i>Facility</i>	<i>Date Inspected</i>	<i>Condition</i>	<i>Work Needed</i>	<i>Work performed</i>	<i>Material Removed (LB)</i>
Netting System CSO 018	9/21/2017	Damaged	Deck grating – needs repair and/or replacement.	Vender inspected site. Waiting for repair estimate.	None.(2)
Bar Rack CSO 040	09/01/17	Good	None	Routine Cleaning	(1)
Bar Rack CSO 041	09/12/17	Good	None	Routine Cleaning	(1)

Notes:

(1) System was designed so that captured solids and floatable are conveyed to Blue Plains for treatment.

(2) CSO 018 netting system is currently unsafe to access to replace the nets so no material was removed. The skimmer program continues to function collecting the floating debris that comes through the CSO unto the river.

4.3 Anacostia River Floating Debris Removal Program

This program was initiated in October 1992 to remove floating debris from Anacostia and Potomac Rivers on a routine basis. The program has continued from that time and is now under the auspices of DC WATER, Department of Sewer Services. The floating debris removal program utilizes a skimmer boat and support boats to remove floatable debris from the Rivers as well as trash, which accumulates on the riverbanks and in the mud flats at low tides. Work for the most part is directed toward the Anacostia River. The boats pick up debris five days a week. Operations are summarized as follows:

**Table 4-3
Anacostia River Floating Debris Removal Program – Summary**

<i>Program Operation</i>	5-day work week, excluding holidays, weather permitting
<i>Work Days this month:</i>	20
<i>Days not Operating</i>	2
<i>Reason not Operating</i>	Maintenance, wind, low water levels, lightning.
<i># Skimmer in Fleet</i>	4 Skimmers
<i># Skimmers Out of Service</i>	1 Skimmer (on the last day of the month)
<i>Dates</i>	B33: 9/20 - 9/30.
<i>Reason</i>	B33: waiting for hydraulic oil change out and tank seal replacement.
<i>Plan to Restore to Service</i>	B33: change out hydraulic oil and replaced tank seal. ETR: Oct 2017.
<i>Amount Material Collected</i>	30 tons this month. Calendar year to date 490 tons.
<i>Nature of Material</i>	Bottles, cans, natural debris and plastics.

4.4 CSS Litter Control

This section describes DC WATER’s efforts to coordinate litter control efforts with the National Park Service and D.C. Department of Public Works to maximize litter control efforts in the combined sewer system.

Status: no activities this month.

5. MONITORING

5.1 Condition Report Bar Racks at Main and O Street Storm Pumps

DC Water performs visual surveys of the bar racks at Main and O Street Pumping Stations to characterize the quantity and nature of floatable discharge. The physical condition of the bar racks and any maintenance requirements are also noted.

**Table 5-1
Bar Racks at Main & O Street Pumping Stations**

Inspector: Keith Watts

Pumping Station	Inspector	Date Inspected	Condition		Work Needed	Work Performed or Schedule for Completion
			Good	Needs Work		
Bar Racks at O Street Storm Pumps (CSO 010)	KW	09/19/17	X			
Bar Racks at Main Storm Pumps (CSO 011)	KW	09/19/17	X			

5.2 Rain Data

Rain data from National Airport and from the rain gauges installed in the CSS are summarized below.

Date	Brentwood Pumping Station	Bryant Street Pumping Station	Main Pumping Station	Rock Creek Pumping Station	National Airport
9/1/2017	0	0	0	0	0
9/2/2017	0.78	0.62	0.68	0.67	0.77
9/3/2017	0	0	0	0	0
9/4/2017	0	0	0	0	0
9/5/2017	0.15	0.20	0.14	0.14	0.07
9/6/2017	0.58	0.66	0.44	0.53	0.55
9/7/2017	0	0	0	0.01	0
9/8/2017	0	0	0	0	0
9/9/2017	0	0	0	0	0
9/10/2017	0	0	0	0	0
9/11/2017	0	0	0	0	0
9/12/2017	0	0	0	0	0
9/13/2017	0.03	0.05	0.03	0.09	0.04
9/14/2017	0.16	0.07	0.12	0.21	0
9/15/2017	0	0	0	0.01	0
9/16/2017	0	0	0	0	0
9/17/2017	0	0	0	0	0
9/18/2017	0	0	0	0	0
9/19/2017	0	0	0	0	0
9/20/2017	0	0	0	0	0
9/21/2017	0	0	0	0	0
9/22/2017	0	0	0	0	0
9/23/2017	0	0	0	0	0
9/24/2017	0	0	0	0	0
9/25/2017	0	0	0	0	0
9/26/2017	0	0	0	0	0
9/27/2017	0	0	0	0	0
9/28/2017	0	0	0	0	0
9/29/2017	0	0	0	0	0
9/30/2017	0	0	0	0	0
TOTAL	1.70	1.60	1.41	1.66	1.43

5.3 Wet Weather Overflows

Combined Sewer System Model Results are summarized below.

District of Columbia Water and Sewer Authority

Combined Sewer System Model Results
Period: July, August, September 2017

SCENARIO: PCCM_QuarterlyReport_2017Q3, produced October 9, 2017

NPDES No.	Description	Number of Overflows (Occurrences)	CSO Overflow Volume (mg)	Total Duration of Overflow (hrs)	Avg Duration of Overflow (hrs)	Maximum Duration of Overflow (hrs)	Minimum Duration of Overflow (hrs)
Anacostia CSOs							
005	Chicago St and Railroad Station SE	16	8.13	56.75	3.55	12.00	0.25
006	Good Hope Road, West of Nichols Ave., SE	separated					
007	13 th Street and Ridge Place, SE	12	14.82	25.25	2.10	13.00	0.25
009	2nd Street, 300 feet North of N Place, SE	12	5.41	25.50	2.13	9.25	0.25
010	O Street Sewage Pumping Station, SE (pumped Overflow)	12	80.00	17.00	1.42	10.50	0.25
011	South of Main Sewage Pumping Station, SE (pumped overflow)	2	1.67	0.50	0.25	0.25	0.25
011a	South of Main Sewage Pumping Station, SE (gravity overflow)	0	0.00	0.00	0.00	0.00	0.00
012	North of Main Sewage Pumping Station, SE (Tiber Creek)	3	32.31	8.50	2.83	6.75	0.75
013	4th and N Streets, SE	11	5.70	32.25	2.93	13.50	0.25
014	6th and M Streets, SE	14	15.94	34.25	2.45	13.75	0.25
015	9th and M Streets, SE	12	3.16	16.75	1.40	7.25	0.25
016	12th and M Streets, SE	11	10.24	21.75	1.98	10.25	0.25
017	14th and M Streets, SE	14	22.24	62.25	4.45	16.00	1.25
018	Barney Circle and Pennsylvania Ave, SE	12	14.92	34.25	2.85	13.25	0.50
019	Northeast Boundary - Swirl Effluent	16	316.38	144.75	9.05	45.00	0.25
019	Northeast Bound. - Swirl Bypass	8	223.61	18.50	2.31	7.00	0.25
	SUBTOTAL		754.54				
Potomac CSOs							
003	Bolling AFB	0	0.00	0.00	0.00	0.00	0.00
020	23rd Street, North of Constitution Ave, NW (Easby Point)	9	2.04	25.00	2.78	12.25	0.25
021	Northeast of Roosevelt Bridge, NW	14	299.88	50.50	3.61	14.00	1.00
022	27th and K Streets, NW	18	40.10	46.75	2.60	12.25	0.25
024	30th and K Streets, NW	12	19.61	32.50	2.71	16.25	0.25
025	31st & K St NW	9	0.74	7.75	0.86	2.75	0.25
026	Wisconsin Avenue and K St., NW	0	0.00	0.00	0.00	0.00	0.00
027	Water Street West of Street, NW	10	11.05	17.75	1.78	8.00	0.25
028	36th and M Streets, NW	15	2.96	25.75	1.72	8.75	0.25
029	Canal Road 1000 feet east of Rock Creek, NW	12	13.46	18.50	1.54	8.00	0.25
	SUBTOTAL		389.85				
Rock Creek							
031	Pennsylvania Avenue, East Rock Creek, NW	separated					
032	26th and M Streets, NW	0	0.00	0.00	0.00	0.00	0.00
033	N Street extended west of 25th Street, NW	2	0.23	1.50	0.75	1.25	0.25
034	23rd and O Streets, SW	0	0.00	0.00	0.00	0.00	0.00
035	22nd Street south of Q Street, NW	0	0.00	0.00	0.00	0.00	0.00
036	22nd Street South of Q Street, NW	12	0.989	21.50	1.79	9.00	0.50
037	Northwest of Belmont and Rock Creek and Potomac Parkway	separated					
038	North of Belmont Road, east of Kalorama Circle, NW	0	0.00	0.00	0.00	0.00	0.00
039	Connecticut Avenue east of Rock Creek, NW	0	0.00	0.00	0.00	0.00	0.00
040	Biltmore Street extended east of Rock Creek, NW	0	0.00	0.00	0.00	0.00	0.00
041	Ontario extended and Rock Creek Parkway	0	0.00	0.00	0.00	0.00	0.00
042	Harvard Street and Rock Creek Parkway, NW	1	0.03	0.25	0.25	0.25	0.25

District of Columbia Water and Sewer Authority

Combined Sewer System Model Results
Period: July, August, September 2017

SCENARIO: PCCM_QuarterlyReport_2017Q3, produced October 9, 2017

NPDES No.	Description	Number of Overflows (Occurrences)	CSO Overflow Volume (mg)	Total Duration of Overflow (hrs)	Avg Duration of Overflow (hrs)	Maximum Duration of Overflow (hrs)	Minimum Duration of Overflow (hrs)
043	Adams Mill Road South of Irving Street, NW	5	1.31	3.50	0.70	1.25	0.25
044	Kenyon Street and Adams Mill Road, NW	2	0.034	0.50	0.25	0.25	0.25
045	Adams Mill Road and Lamont Street, NW	4	0.16	3.00	0.75	1.50	0.25
046	Park Road south of Piney Branch Parkway, NW	4	0.03	1.25	0.31	0.50	0.25
047	Ingleside Terrace extended and Piney Branch Parkway	4	0.004	1.25	0.31	0.50	0.25
048	Mt. Pleasant Street extended and Piney Branch Parkway	4	0.28	2.75	0.69	1.25	0.25
049	Piney Branch and Lamont Street, NW	12	40.97	29.75	2.48	11.75	0.50
050	28th Street west of 16th Street, NW	0	0.00	0.00	0.00	0.00	0.00
051	Olive Street extended and Rock Creek Parkway, NW	0	0.00	0.00	0.00	0.00	0.00
052	O Street extended and Rock Creek Parkway, NW	0	0.00	0.00	0.00	0.00	0.00
053	O Street west of Rock Creek Parkway, NW	separated					
054	West Side of Rock Creek 300 ft. south of Mass. Ave, NW	0	0.00	0.00	0.00	0.00	0.00
056	Normanstone Drive extended west of Rock Creek, NW	0	0.00	0.00	0.00	0.00	0.00
057	28th Street extended west of Rock Creek, NW	separated					
058	Connecticut Avenue and Rock Creek Parkway, NW	separated					
060	P St and 26 th St, NW	0	0.00	0.00	0.00	0.00	0.00
	SUBTOTAL		44.03				
	TOTAL		1,188.42				

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Prepared by: Greeley and Hansen LLC and Limno-Tech, Inc.