BUFFALO
SEWER AUTHORITY

ADMINISTRATIVE OFFICES
1038 CITY HALL
65 NIAGARA SQUARE
BUFFALO, NY 14202-3378
PHONE: (716) 851-4664
FAX: (716) 856-5810

WASTEWATER TREATMENT PLANT
FOOT OF WEST FERRY
90 WEST FERRY STREET
BUFFALO, NY 14213-1799
PHONE: (716) 851-4664
FAX: (716) 883-3789

January 30, 2015

Bureau of Water Permits
Attn: Cheri Jamison
625 Broadway
Albany, New York 1233-3505

RE: Buffalo Sewer Authority SPDES Permit # NY 002 8410,
Submission of Annual Report

Dear Ms. Jamison:

Enclosed herewith, please find the "Combined Sewer Overflows Annual Report" for the Buffalo Sewer Authority's Bird Island Sewage Treatment Plant and Combined Sewer System as required under SPDES Permit No. 002 8410.

Please note, this year's report reflects the contents of the March 18, 2014 DEC and EPA approved Long Term Control Plan. Baseline CSO events and volumes reflect baseline conditions reported in Table 12-3 of the LTCP. Current CSO events and volumes estimates were generated utilizing the approved system model, as-built project data, and the typical year.

Should you have any questions, please contact Oluwole McFoy, P.E. at (716) 851-4664.

Very truly yours,

BUFFALO SEWER AUTHORITY

David P. Comerford
General Manager

Enc.
Cc: O.McFoy
M. Letina
R. Gaiek
R. Nogle
J. O'Neill

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

COMBINED SEWER OVERFLOWS ANNUAL REPORT

PART I. GENERAL INSTRUCTIONS: The Combined Sewer Overflows (CSO) Annual Report is consistent with the EPA CSO Long-Term Control Policy requiring permitting authorities to report "Measures of Success" of the policy implementation. Hence, the goal of this report is to obtain information regarding:

1. Compliance with the 15 CSO Best Management Practices;
2. The condition and operation of the combine sewer system (CSS) components. Most importantly, the end-of-pipe measures that show trends in the discharge of CSS flows to the receiving water body, such as reduction of pollutant loadings, the frequency of CSOs, and the duration of CSOs;
3. Receiving water body measures that show trends of the conditions in the water body to which the CSO occurs;
4. Overall status of the CSO LTCP, if applicable;
5. Key CSO control accomplishments and design and construction progress in the previous year

Permittee must complete ALL parts of the form and must attach all supporting documents. Please be aware that this annual report form template highlights the minimum requirement a permittee is expected to submit. Permittee is obligated to complete abatement activities to ensure compliance with the Clean Water Act. This report is also consistent with NYS *6 NYCRR 750-2.1(i)*.

Special Instructions:

1. Multiple permittees (for instance NYC and Albany Pool) responsible to develop a single LTCP can submit one form and also complete Section D of this form.
2. **ALL SECTIONS OF THIS REPORT MUST BE COMPLETED.**

Part II - CSO LTCP Control Information

CSO Facility: Bird Island Wastewater Treatment Facility	Flow: 560 MGD

SECTION A: CSO LTCP GENERAL INFORMATION

LTCP Development/Implementation:

Check all that apply:		*Describe other controls currently being used or planned. Also describe how the objectives of the CSO Control Policy have been met.*
In Development	☐	The Buffalo Sewer Authority's Long Term Control Plan was approved by the EPA on March 18, 2014 and is scheduled for completion on March 18, 2034.
Submitted	☐	
Approved	☑	
In Progress	☐	
Completed	☐	
Not Required	☐	

CSO Controls:

Check all that apply:		*Describe other controls currently being used or planned. Also describe how the objectives of the CSO Control Policy have been met under the selected controls*
Source Controls	☑	The Buffalo Sewer Authority's Long Term Control Plan was approved on March 18, 2014 and incorporates gray infrastructure projects such as weir raising, floatable control facilities, a new relief sewer, in-line storage facilities and off-line storage facilities and green infrastructure projects such as removal of impervious surface, pervious pavement and bio-retention facilities.
Collection System Controls	☑	
Storage Technologies	☑	
Treatment Technologies	☑	
Floatable Controls	☑	
Disinfection	☐	
Type:		

Post-Construction Compliance Monitoring (PCCM) Program:

Check all that apply:		*Describe PCCM findings, status, updates, and future plan. Attach a separate sheet if necessary and describe if the PCCM confirms that LTCP is meeting the t objectives of the CSO Control Policy*
In Development	☑	In accordance with the Section 3 of EPA Amended Administrative Order CWA-02-2014-3033 the Post-Construction Monitoring Plan will be submitted to the EPA and NYSDEC by March 18, 2015.
Submitted	☐	
Approved	☐	
In Progress	☐	
Completed	☐	
Not Required	☐	

Part II - CSO LTCP Control Information

SECTION B: OUTFALL INFORMATION

List all existing and active CSO the outfalls. Attach extra sheets, if necessary.

Outfall #	Latitude	Longitude	Receiving Water/Classification	# of Regulators Associated with this Outfall	Type of Regulator(s) Associated with this Outfall (Fixed Dam, Float / Dynamic, Elevated Pipe, Wet Well Overflow, etc.)
003	42.9372	-78.9072	Black Rock Canal/C	11	Weir & Orifice
004	42.9261	-78.8992	Black Rock Canal/C	1	Leaping Weir
005	42.9242	-78.8908	Black Rock Canal/C	2	Elevated Pipe
006	42.9222	-78.8914	Black Rock Canal/C	7	Weir & Orifice
007	42.9222	-78.9222	Black Rock Canal/C	1	Weir & Orifice
008	42.9208	-78.9000	Black Rock Canal/C	1	Leaping Weir
009	42.9189	-78.9008	Black Rock Canal/C	1	Leaping Weir
010	42.9172	-78.9014	Black Rock Canal/C	1	Leaping Weir
011	42.9136	-78.9033	Niagara River/ A-Special	1	Weir & Orifice
012	42.9133	-78.9019	Black Rock Canal/C	1	Weir & Orifice
013	42.8889	-78.8936	Buffalo Inner Harbor/C	1	Weir & Orifice
014	42.8836	-78.8867	Erie Basin/C	2	Weir
015	42.8828	-78.8853	Erie Basin/C	2	Leaping Weir
016	42.8819	-78.8825	Erie Basin/C	2	Weir & Orifice
017	42.8772	-78.8797	Buffalo River/C	20	Weir, Orifice, Elevated Pipe
022	42.8731	-78.8747	Buffalo River/C	4	Weir, High Pt Sewer, Elevated Pipe
023	42.8669	-78.8681	Buffalo River/C	1	Weir
025	42.8642	-78.8603	Buffalo River/C	1	Weir
026	42.8636	-78.8508	Buffalo River/C	44	Weirs & Leaping Weirs
027	42.8633	-78.8378	Buffalo River/C	2	Weir & Orifice
028	42.8606	-78.8322	Buffalo River/C	6	Weirs & Elevated Pipe
029	42.8606	-78.8322	Buffalo River/C	3	Weir & Orifice
031	42.8603	-78.8247	Cazenovia Creek/C	1	Weir
032	42.8619	-78.8264	Buffalo River/C	1	Leapin Weir
033	42.8633	-78.8258	Buffalo River/C	5	Leaping Weir

Part II - CSO LTCP Control Information

SECTION B: OUTFALL INFORMATION

List all existing and active CSO the outfalls. Attach extra sheets, if necessary.

Outfall #	Latitude	Longitude	Receiving Water/Classification	# of Regulators Associated with this Outfall	Type of Regulator(s) Associated with this Outfall (Fixed Dam, Float / Dynamic, Elevated Pipe, Wet Well Overflow, etc.)
035	42.8506	-78.8086	Cazenovia Creek/B	2	Weir & Orifice
037	42.8525	-78.8114	Cazenovia Creek/C	1	Weir
038	42.8528	-78.8111	Cazenovia Creek/C	3	Weir
039	42.8536	-78.8128	Cazenovia Creek/C	1	Leaping Weir
040	42.8542	-78.8128	Cazenovia Creek/C	3	Weir
042	42.8553	-78.8142	Cazenovia Creek/C	4	Weir & Elevated Pipe
044	42.8575	-78.8183	Cazenovia Creek/C	1	Leaping Weir
046	42.8589	-78.8203	Cazenovia Creek/C	5	Leaping Weir
047	42.8597	-78.8228	Cazenovia Creek/C	2	Weir
048	42.8606	-78.8247	Cazenovia Creek/C	1	Weir & Orifice
049	42.8617	-78.8267	Buffalo River/C	1	Weir & Orifice
050	42.8556	-78.8211	Buffalo River/C	1	Weir & Orifice
051	42.8619	-78.8106	Buffalo River/C	1	Weir & Orifice
052	42.8650	-78.8022	Buffalo River/C	2	Weir & Orifice
053	42.9239	-78.8572	Scajaquada Creek/A	42	Weir & Gate
054	42.9519	-78.9100	Niagara River/ A-Special	7	Weir
055	42.9431	-78.9097	Niagara River (Cornelius Creek)	1	Weir
056	42.9350	-78.8775	Scajaquada Creek/A	2	Weir
057	42.9286	-78.8978	Scajaquada Creek/A	1	Weir
058	42.9303	-78.8958	Scajaquada Creek/A	3	Weir
059	42.9308	-78.8942	Scajaquada Creek/A	3	Weir
060	42.9344	-78.8783	Scajaquada Creek/A	12	Weir
061	42.9208	-78.9003	Black Rock Canal/C	1	Weir
062	42.9153	-78.9019	Black Rock Canal/C	1	Weir
063	42.9028	-78.9019	Black Rock Canal/C	1	Weir

Part II - CSO LTCP Control Information

SECTION B: OUTFALL INFORMATION

List all existing and active CSO the outfalls. Attach extra sheets, if necessary.

Outfall #	Latitude	Longitude	Receiving Water/Classification	# of Regulators Associated with this Outfall	Type of Regulator(s) Associated with this Outfall (Fixed Dam, Float / Dynamic, Elevated Pipe, Wet Well Overflow, etc.)
064	42.8517	-78.8683	Buffalo River/C	7	Weir
066	42.8558	-78.8225	Buffalo River/C	9	Weir

Part II - CSO LTCP Control Information

List all CSO the outfalls that have been closed or separated since LTCP development. Attach extra sheets, if necessary.

Outfall #	Latitude	Longitude	Receiving Water/Classification	Indicate Reason for Closure

Part II - CSO LTCP Control Information

SECTION C: CSO EVENTS, DISCHARGE VOLUME, ETC. Provide an estimate or actual data on overflow events. If necessary, use a separate spreadsheet to report all CSO outfalls

CSO Outfall #	No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG) *Assuming a Baseline Condition of 0.0 MG*		# of CSO Outfalls		Indicate Type of Overflow Measurements (e.g. metered, estimated or modeled). If other, please describe
	Revised Baseline	Current	Revised Baseline	Current	Revised Baseline	Current	Revised Baseline	Current	
003	6	5	0.11	0.10	0	0	1	1	All flow volumes and event frequencies in this table represent the predicted combined sewer overflows only (excluding stormwater and stream inflows) utilizing the combined system model from the approved Long Term Control Plan. Values are based on the Modified 1993 Typical Year Precipitation. Current conditions reflect As-Built Data for projects completed to date for conformance with the Administrative Order and design flows for the planned development at RiverBend.
004	5	4	11.25	10.75	0	0.50	1	1	
005	4	4	0.08	0.08	0	0	1	1	
006	65	65	198.92	174.52	0	24.40	1	1	
007*	0	0	0	0	0	0	1	1	
008	39	37	6.11	5.85	0	0.26	1	1	
009*	0	0	0	0	0	0	1	1	
010	44	44	11.85	11.01	0	0.84	1	1	
011	41	41	134.29	126.33	0	7.97	1	1	
012	42	41	52.48	51.65	0	0.83	1	1	
013	7	7	6.75	6.72	0	0.03	1	1	
014	4	4	4.19	7.11	0	-2.91	1	1	
015	12	0	6.14	0	0	6.14	1	1	
016	0	0	0	0	0	0	1	1	
017	49	49	71.26	36.23	0	35.03	1	1	
022	49	49	29.79	18.89	0	10.89	1	1	
023*	0	0	0	0	0	0	1	1	
025	11	6	1.44	1.51	0	-0.08	1	1	
026	63	63	124.16	97.08	0	27.08	1	1	
027	36	36	31.67	36.16	0	-4.49	1	1	
028	69	68	45.54	57.96	0	-12.42	1	1	
029	0	0	0	0	0	0	1	1	
031*	0	0	0	0	0	0	1	1	
032	0	0	0	0	0	0	1	1	
033	9	9	37.77	36.24	0	1.53	1	1	
035	0	0	0	0	0	0	1	1	
037	13	13	23.30	23.62	0	-0.32	1	1	
038*	0	0	0	0	0	0	1	1	
039	0	0	0	0	0	0	1	1	
040*	0	0	0	0	0	0	1	1	
042*	0	0	0	0	0	0	1	1	
044	7	9	2.32	2.49	0	-0.17	1	1	
046	1	1	1.31	1.29	0	0.02	1	1	
047	44	44	8.65	8.99	0	-0.34	1	1	
048	0	0	0	0	0	0	1	1	
049	0	0	0	0.00	0	0	1	1	
050	14	15	3.17	3.24	0	-0.07	1	1	
051	4	5	1.22	1.22	0	0	1	1	
052	10	10	10.87	11.94	0	-1.07	1	1	
053	65	65	268.00	254.41	0	13.59	1	1	
054	0	0	0	0	0	0	1	1	
055	41	41	601.09	582.26	0	18.83	1	1	
056	5	5	0.04	0.04	0	0	1	1	
057	0	0	0	0	0	0	1	1	
058	0	0	0	0	0	0	1	1	
059	0	0	0	0	0	0	1	1	
060	5	5	0.66	0.66	0	0	1	1	
061	10	9	31.19	29.23	0	1.96	1	1	
062*	0	0	0	0	0	0	1	1	
063	13	13	0.63	0.63	0	0	1	1	
064	56	56	21.11	16.45	0	4.66	1	1	
066	10	10	1.72	1.54	0	0.19	1	1	
TOTAL	**853**	**833**	**1749.1**	**1616.2**	**0**	**132.88**	**52**	**52**	

*These CSOs were excluded from the model due to lack of hydraulic significance and negligible CSO discharge volume.

Part II - CSO LTCP Control Information

SECTION D: Collection System Information

	Baseline	After CSO BMP and/or LTCP Implementation	Current
Percentage of the collection system owned by the permittee that is combined.	93	93	93
Approximate no. of miles of combined sewers in the permittee owned system	790	790	790
Number of combined sewer outfalls in the permittee owned system	52	52	52
Average annual no. of CSO events in the permittee owned system	853	117	833
Average annual CSO volume discharged from the permittee owned system (MG)	1749.1	486.3	1616.2
Population served by the permittee's owned system	261,310	261,310	258,959
Number of satellite system connections	7	7	7

Use the space below to provide any further relevant information on the collection system. This should include a description of any unique ownership, operation and maintenance agreements or further explanation and description of satellite system connections. (Attach extra sheets, if necessary):

Discharges to the Buffalo Sewer Authority's Combined Sewer System from satellite sanitary sewer districts are restricted through inter-municipal agreements, these values were utilized in constructing the flow model for the LTCP:

1. Town of Cheektowaga: 45 MGD
2. Erie County Sewer District #4: 20.00 MGD
3. Erie County Sewer District #1: 17.82 MGD
4. West Seneca Town Sewer Districts #5, 13, & 14: 12.8 MGD
5. Village of Sloan: 5.18 MGD
6. West Seneca Town Sewer Districts #1, 2, 3, 4, 9, &10: 3.49 MGD
7. West Seneca Town Sewer District #15: 0.39 MGD

In 2014, BSA and the Town of Cheektowaga began studying opportunities to reduce sanitary sewer overflows to Scajaquada Creek through increased flow to the BSA. Any such proposed increased flows will be submitted to the NYSDEC for review and approval prior to the finalization of amended inter-municipal agreements.

Part II - CSO LTCP Control Information

SECTION F: Use this section to describe how the implementation of the LTCP development and implementation have met the water quality standards of the receiving stream(s) and also objectives of the EPA CSO Control Policy (attach extra sheets as necessary):

The approved Long Term Control Plan utilizes a careful balance of traditional gray infrastructure as well as innovative green solutions. The LTCP is the right approach for this community, and although it is financially burdensome, it is designed to protect the environment and address water quality in receiving streams in the most affordable and cost-effective manner possible. During the development of the LTCP the BSA conducted a careful analysis of detailed receiving stream water quality modeling results. This analysis revealed that a uniform level of CSO control for all BSA receiving water bodies would be neither cost effective nor necessary to meet the established WQS in each water body in large part due to the extremely varied nature of the CSO receiving waters. The evaluation results showed that the knee of the curve point for the approved plan for each receiving water body is designed to provide 100% attainment of the New York State (NYS) recreational (bacterial) WQS. Therefore, the BSA's approved alternative was assembled with a primary focus on providing a cost-effective attainment of the current NYS bacteria WQS in each water body and the associated frequency of activation necessary to accomplish those WQS. This frequency of activation performance measure corresponds to the USEPA CSO Control Policy presumptive approach. Following implementation of the Recommended Plan, subject to force majeure, all water bodies in the BSA system will be positioned to produce less than or equal to 6 events per typical year level of control with the exception of the Niagara River (less than or equal to 9 events per year). The LTCP approved plan will have a probable project cost of $380 million, and will be implemented over a 20 year period.

SECTION G: Use the following space to summarize other planned CSO control projects (attach extra sheets as necessary):

See the attached BSA Approved CSO LTCP Implementation Schedule from the EPA's Amended Administrative Order CWA-02-2014-3033.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: David P. Comerford	**Official Title:** General Manager	**Phone:** 716-851-4664
Signature: 	**Date Signed:** 1/30/15	**Email:** dcomerford@sa.ci.buffalo.ny.us

PERMITTEE NAME: Buffalo Sewer Authority SPDES PERMIT NO.: NY-0028410

PART III - CSO BEST MANAGEMENT PRACTICES

Check N/A if not required in the permit, consent order, or LTCP:

1. **CSO Maintenance/Inspection** *6 NYCRR 750-2.8(a)(2) (EPA NMC: Proper Operation and Maintenance)*	YES	NO	N/A
Is there a written program for the operation, inspection and maintenance of the CSS?	✓		
Does the program include procedures for ALL outfalls in the permit?	✓		
Does the program include procedures for ALL regulators in the permit?	✓		
Are inspections conducted at least as frequently as required in the permit (weekly or monthly)?	✓		
Are inspections conducted during dry and wet weather?	✓		
Do the inspection reports indicate visual inspection, any observed flows, incidence of rain or snowmelt, condition of equipment, and any work required?	✓		
Are inspection reports submitted to the DEC regional office with the monthly operating reports?	✓		
Is the written program sufficiently detailed? Indicate which of the following additional components are included in the plan.	✓		
Pump Stations	✓		
Sewer cleaning	✓		
Sewer Manholes and Catch Basins	✓		
Outfalls	✓		
CSO Controls	✓		
Are there inter-municipal agreements which require inspection and maintenance?	✓		
Are any changes planned in the upcoming year for the agreements to make them more effective?	✓		
Is the collection system mapped using GIS?	✓		
Entire system, including manholes and catch basins?	✓		
In the past year, was significant mapping progress accomplished?		✓	
In the upcoming year, is GIS mapping planned?		✓	
Is the collection system monitored using a SCADA system?		✓	
In the past year, was significant progress accomplished in installing or expanding monitoring with a SCADA system?		✓	
In the upcoming year, is installation of a SCADA system planned or being expanded?		✓	
Does the municipality have an asset management plan that includes the collection system?	✓		
Are funds available to carry out the BMP requirements?	✓		
Are any major equipment purchases planned or expected in the next five years related to the BMP requirements? If yes, describe below	✓		
Is the pump inventory, including spare parts, adequate for the upcoming year?	✓		
Is sufficient staff training available?	✓		

PERMITTEE NAME: Buffalo Sewer Authority SPDES PERMIT NO.: NY- 0028410

PART III - CSO BEST MANAGEMENT PRACTICES

	YES	NO	N/A
Is funding for training adequate and available?	✓		
Is sufficient staff training available?	✓		
Is funding for training adequate and available?	✓		
Have any work efforts or problems in the past year resulted in changes in overflows? If yes, describe below	✓		
Fewer events	✓		
Less volume	✓		
Reduction in floatables, settleable solids or oil and grease discharged	✓		
Reduction in industrial pollutants (chemicals)	✓		
Improvement in water quality of receiving waterbody	✓		
In the past year, was the inspection and maintenance program mostly:			
Reactive (responding to problems)		✓	
Proactive (focusing on preventative maintenance to avoid problems)?	✓		
If the program is mostly reactive, describe below any plans to shift the emphasis to prevention			✓

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

A vactor truck is scheduled to be purchased this year. A CCTV truck was purchased last year.
2014 Improvements:
1. The weir associated with SPP 1 located at Cornelius Creek and tributary to CSO 055 has been raised 1 foot to reduce CSOs.
2. The weir associated with SPP 165A located at the intersections of Fillmore and Kensington Avenues has been raised 9 inches and 675 Linear Feet of 15 inch pipe was upsized to 18" pipe to reduce CSOs in association with CSO 053.
3. The Hamburg Drain Floatables Control Facility became fully operational in 2014 providing a reduction in floatables associated with CSO 017.
4. A new 113,000 gallon offline storage facility was constructed in association with SPP 206 A&B to reduce CSOs at CSO 014.
5. A new 50,000 gallon inline storage facility was constructed between the Genesee Trunk and Swan Trunk sewers to create additional storage capacity in association with SPP 35 (CSO 015).
6. Reconstruction of 35 linear feet of 30" sewer associated with SPP 36 to reverse the slope and reduce overflows of CSO 014 was completed.
7. The Fillmore Avenue Green Infrastructure project was completed
8. The Carlton Street Green Infrastructure project was completed.
9. The Ohio Street Green Infrastructure project was completed.
10. 330 demolitions at various locations were completed thereby reducing impervious surface.
2015 Planned Improvements:
1. Design of the Smith Street Storage project is expected to be completed by March 18, 2015 in conformance with the LTCP.
2. Construction of the SPP 163 Weir Optimization project to divert flows from a 30 inch to a 60 inch sewer is expected to be completed in 2015 and reduce overflows of CSO 53.
3. In 2015 Real Time Control projects located on Bird Avenue and Lang Avenue are expected to be completed utilizing existing capacity within large mains to detain flows and reduce CSOs to CSO 53 and CSO 004.
4. Design of the remaining SPP Optimization projects noted under Foundation 2 of the LTCP is expected to be completed in 2015.
5. Multiple Green Infrastructure projects are scheduled for completion in association with the City of Buffalo's street reconstruction projects in 2015.
6. Impervious surface reductions in association with the City's demolition program will occur. Additionally, green post-demolition treatment will be applied to lots utilizing a grant from the Environmental Facilities Corporation.
7. Engineering for WWTP Improvements Project- Alternative C2 will commence in 2015.

PERMITTEE NAME: Buffalo Sewer Authority SPDES PERMIT NO.: NY- 0028410

PART III - CSO BEST MANAGEMENT PRACTICES

2. Maximum Use of Collection System for Storage *6 NYCRR 750-2.7(f), 750-2.8(a)(2), 750-2.8(a)(5) (EPA NMC: Maximum Use of Collection System for Storage)*	Yes	No	N/A
Are CSOs minimized, and flow to the treatment plant maximized?	✓		
Has the hydraulic capacity of the system been evaluated?	✓		
Is there a continuous program of flushing and cleaning to prevent deposition of solids?	✓		
Have regulators and weirs been adjusted to maximize storage without causing service backups?	✓		
In the past year or the upcoming year, have any changes to structures or procedures been made or planned that will improve use of the collection system for storage? Describe below	✓		
Tidegates maintenance/repairs/replacement			✓
FOG program			✓
Removal of small systems bottlenecks	✓		
Sewer cleaning and sediment removal	✓		
Removal of flow obstructions	✓		
Regulator or weir adjustment - list locations below	✓		
In-line storage: Inflatable dams or sluice gates	✓		
Wet Weather Operating Plan		✓	
Do the municipalities within the combined sewer system have a water conservation program for homeowners?	✓		
In the upcoming year are there any studies, work, or projects planned (other than routine activities) to improve use of collection system for storage? Describe below.	✓		

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

2014 Improvements:
1. The weir associated with SPP 1 located at Cornelius Creek and tributary to CSO 055 has been raised 1 foot to reduce CSOs.
2. The weir associated with SPP 165A located at the intersections of Fillmore and Kensington Avenues has been raised 9 inches and 675 Linear Feet of 15 inch pipe was upsized to 18" pipe to reduce CSOs in association with CSO 053.
3. The Hamburg Drain Floatables Control Facility became fully operational in 2014 providing a reduction in floatables associated with CSO 017.
4. A new 113,000 gallon offline storage facility was constructed in association with SPP 206 A&B to reduce CSOs at CSO 014.
5. A new 50,000 gallon inline storage facility was constructed between the Genesee Trunk and Swan Trunk sewers to create additional storage capacity in association with SPP 35 (CSO 015).
6. Reconstruction of 35 linear feet of 30" sewer associated with SPP 36 to reverse the slope and reduce overflows of CSO 014 was completed.
7. The Fillmore Avenue Green Infrastructure project was completed
8. The Carlton Street Green Infrastructure project was completed.
9. The Ohio Street Green Infrastructure project was completed.
10. 330 demolitions at various locations were completed thereby reducing impervious surface.

2015 Planned Improvements:
1. Design of the Smith Street Storage project is expected to be completed by March 18, 2015 in conformance with the LTCP.
2. Construction of the SPP 163 Weir Optimization project to divert flows from a 30 inch to a 60 inch sewer is expected to be completed in 2015 and reduce overflows of CSO 53.
3. In 2015 Real Time Control projects located on Bird Avenue and Lang Avenue are expected to be completed utilizing existing capacity within large mains to detain flows and reduce CSOs to CSO 53 and CSO 004.
4. Design of the remaining SPP Optimization projects noted under Foundation 2 of the LTCP is expected to be completed in 2015.
5. Multiple Green Infrastructure projects are scheduled for completion in association with the City of Buffalo's street reconstruction projects in 2015.
6. Impervious surface reductions in association with the City's demolition program will occur. Additionally, green post-demolition treatment will be applied to lots utilizing a grant from the Environmental Facilities Corporation.
7. Engineering for WWTP Improvements Project- Alternative C2 will commence in 2015.

PERMITTEE NAME: Buffalo Sewer Authority SPDES PERMIT NO.: NY- 0028410

PART III - CSO BEST MANAGEMENT PRACTICES

3. Industrial Pretreatment *6 NYCRR 750-2.7(f) and 2.9(a)(4)* *(EPA NMC: Review and Modify Pretreatment Requirements)* ☐ N/A	YES	NO	N/A
Has the impact on CSOs from nondomestic users that discharge toxic pollutants been evaluated, and steps taken to minimize such impacts?	✓		
Is there an approved pretreatment or mini-pretreatment program?	✓		
If there is no pretreatment or min-pretreatment program, are there any nondomestic users? If No to both of the previous questions, go to BMP 4			✓
Is there an inventory of industrial dischargers? Is the following information included?	✓		
Volume of discharge?	✓		
Pollutants in discharge?	✓		
Are any pollutants classified as "persistent toxics" or bioaccumulative?	✓		
Is the location included on the collection system map?	✓		
Are there any industrial discharges that could reach CSO outfalls?	✓		
If yes, have any industrial dischargers been identified as contributing to a water quality impairment?	✓		
If yes, does the industry have a holding tank or EQ tank to store wastewater prior to discharge to the collection system?	✓		
If yes, does the industry have a written plan to store or hold discharges during rain events?	✓		
If yes, has the industry been asked to prepare a written plan to store or hold discharges?	✓		
In the past year, have there been negotiations or changes to agreements with industrial dischargers which will potentially reduce impacts during CSO events? Describe below.	✓		
In the upcoming year, are any negotiations or changes to agreements with industrial dischargers planned which will potentially reduce impacts during CSO events? Describe below.	✓		

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

Industrial dischargers who violate their permits are cited by the Buffalo Sewer Authority and are required to come into compliance or face revocations of their permits. Permits are reviewed and renewed with any changes required to comply with EPA and NYSDEC regulations incorporated into the new permit on a three year cycle. All permits which expire in the next year will be reviewed for compliance with 40 CFR Part 403 and sewer use laws.

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PART III - CSO BEST MANAGEMENT PRACTICES

4. Maximize Flow to POTW *6 NYCRR 750-2.7(f), 2.8(a)(2), and 2.8(a)(5)* *(EPA NMC: Maximum Flow to POTW for Treatment)* ☐ **N/A**	YES	NO	N/A
In the past year, were the headworks, primary treatment works and disinfection works able to pass the flows specified in the permit for all wet weather flows?	✓		
In the past year, was the secondary treatment works able to treat the flows specified in the permit for all wet weather flows?	✓		
If the answer to either of the above questions was No, has a plan and schedule to accomplish this been submitted to the Department?			✓
In the past year have there been any physical modifications to the collection system which have allowed more flow to reach the POTW? Describe below.	✓		
Are any physical modifications planned for the upcoming year?	✓		
Are there areas of the collection system, including pump stations that need additional study to evaluate capacity, condition, or to determine if illegal connections (i.e. inflow) exist? List below		✓	
In the past year, have any new problem areas been identified that restrict flow to the plant? List locations below		✓	
In the upcoming year, are there plans to address hydraulic restrictions or bottlenecks?	✓		
Pipe replacement	✓		
Construction of relief sewer	✓		
Construction of overflow tank		✓	
Pump station improvements		✓	
Pump replacement		✓	
Weir adjustment	✓		
Smoke testing, dye testing to identify illicit connections		✓	
Other:	✓		

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

2014 Improvements:
1. The weir associated with SPP 1 located at Cornelius Creek and tributary to CSO 055 has been raised 1 foot to reduce CSOs.
2. The weir associated with SPP 165A located at the intersections of Fillmore and Kensington Avenues has been raised 9 inches and 675 Linear Feet of 15 inch pipe was upsized to 18" pipe to reduce CSOs in association with CSO 053.
3. The Hamburg Drain Floatables Control Facility became fully operational in 2014 providing a reduction in floatables associated with CSO 017.
4. A new 113,000 gallon offline storage facility was constructed in association with SPP 206 A&B to reduce CSOs at CSO 014.
5. A new 50,000 gallon inline storage facility was constructed between the Genesee Trunk and Swan Trunk sewers to create additional storage capacity in association with SPP 35 (CSO 015).
6. Reconstruction of 35 linear feet of 30" sewer associated with SPP 36 to reverse the slope and reduce overflows of CSO 014 was completed.
7. The Fillmore Avenue Green Infrastructure project was completed
8. The Carlton Street Green Infrastructure project was completed.
9. The Ohio Street Green Infrastructure project was completed.
10. 330 demolitions at various locations were completed thereby reducing impervious surface.

2015 Planned Improvements:
1. Design of the Smith Street Storage project is expected to be completed by March 18, 2015 in conformance with the LTCP.
2. Construction of the SPP 163 Weir Optimization project to divert flows from a 30 inch to a 60 inch sewer is expected to be completed in 2015 and reduce overflows of CSO 53.
3. In 2015 Real Time Control projects located on Bird Avenue and Lang Avenue are expected to be completed utilizing existing capacity within large mains to detain flows and reduce CSOs to CSO 53 and CSO 004.
4. Design of the remaining SPP Optimization projects noted under Foundation 2 of the LTCP is expected to be completed in 2015.
5. Multiple Green Infrastructure projects are scheduled for completion in association with the City of Buffalo's street reconstruction projects in 2015.
6. Impervious surface reductions in association with the City's demolition program will occur. Additionally, green post-demolition treatment will be applied to lots utilizing a grant from the Environmental Facilities Corporation.
7. Engineering for WWTP Improvements Project- Alternative C2 will commence in 2015.

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PART III - CSO BEST MANAGEMENT PRACTICES

5. Wet Weather Operating Plan (WWOP) *6 NYCRR 750-2.8(a) (EPA NMC: None)* **N/A**	**YES**	**NO**	**N/A**
Has a WWOP been developed, specifying procedures for unit operations, to maximize treatment during wet weather events while not diminishing effluent quality or destabilizing treatment upon return to dry weather operation?	☑	☐	
In the past year, did treatment of wet weather flows cause any effluent violations or destabilize treatment upon return to normal service?	☐	☑	☐
Has the WWOP been developed in accordance with the DEC guidance, "Wet Weather Operating Practices for POTWs with Combined Sewers"? If no, describe changes needed.	☑	☐	
Has the WWOP been submitted to the Regional Office and Bureau of Water Permits (Albany) for review and approval?	☑	☐	☐
If the collection system or plant has been modified or upgraded, has the WWOP been modified to reflect new flow rates or new procedures?	☑	☐	☐
If yes, has the revised plan been submitted to the Regional Office for approval?	☐	☑	
Does the plan identify the maximum flows through preliminary, primary, secondary treatment, tertiary, and disinfection units?	☑	☐	☐
In the upcoming year, are changes to the plan expected?	☑	☐	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

The Wet Weather Operating Plan was submitted to the NYSDEC in September 2007 and an updated version was submitted in May 2008. The Primary Bypass Improvements Project was completed in 2014. The Wet Weather Operating Plan is currently being updated to reflect changes associated with distribution of wet weather flow through the WWTP that have resulted from this project. The Updated WWOP will be submitted to the NYSDEC Regional Office.

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PART III - CSO BEST MANAGEMENT PRACTICES

6. **Prohibition of Dry Weather Overflows** *6 NYCRR 750-2.7 and 2.8(b)(2)* *(EPA NMC: Eliminate Dry Weather Overflows)* ☐ **N/A**	YES	NO	N/A
In the past year, were there any dry weather overflows? If no, skip to BMP 7.	✓		
Were all dry weather overflows reported in accordance with 6 NYCRR Part 750-2.7 (incident reporting)?	✓		
If dry weather overflows occurred, indicate which procedures or equipment have been improved or replaced			
Schedule for routine inspections		✓	
Management, operation and maintenance program		✓	
Modification of existing or issuance of new inter-municipal agreements		✓	
FOG program		✓	
Removal of illicit connections		✓	
I/I Control program		✓	
Leaky tidegates		✓	
Adjustment and/or repair of regulators		✓	
Pumps		✓	
Auxiliary power		✓	
Elimination of hydraulic bottlenecks		✓	
Adequate dry weather flow capacity at the treatment plant		✓	
Other, list below	✓		
Has additional staff training been provided?		✓	
Has the likelihood of future dry weather overflows been eliminated? If not, describe additional information below.		✓	

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

Two dry weather overflows were reported in 2014 (copies are attached).
On February 5, 2014 a dry weather overflow occurred due to a pump station power failure. The cause of this power failure was found to be a short circuit in National Grid's metering cabinet. National Grid repaired the circuit; no further action by the BSA is anticipated to prevent recurrence.
On May 9, 2014 a dry weather overflow occurred due to vandalism, namely a four foot diameter iron manhole cover was stolen and debris was deliberately deposited into the sewer. Debris and foliage in this area has been removed to deter future occurrences of vandalism.

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PART III - CSO BEST MANAGEMENT PRACTICES

7. **Control of Floatables and Settleable Solids** *6 NYCRR 750-2.8(a)(4)* *(EPA NMC: Control of Solid and Floatable Materials in CSOs)* N/A	YES	NO	N/A
In the past year, were did any outfalls discharge floating solids, oil and grease, or solids of sewage origin?	✓		
Have BMPs been implemented to eliminate or minimize the discharge of floatables and settleable solids?	✓		
Have any of the following measures been implemented (either existing from previous years, in the past year) or will any be implemented in the upcoming year? If significant progress has been made in implementing these, or if significant improvements have occurred, describe below.	✓		
Floatables quantification	✓		
Booming and skimming of open waters	✓		
Source controls (street cleaning, public education, household hazardous waste collection, solid waste collection, recycling, and/or composting of lawn/leaf/roadkill deer)	✓		
In-line netting		✓	
Screens	✓		
Catch basin hoods	✓		
Other:	✓		
Are any changes needed or planned for the upcoming year? Describe additional information below.		✓	

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

The Hamburg Drain Floatables Control Facility became fully operational in 2014. Floatables captured by the facility are quantified prior to disposal.
Hoods have long been installed on catch basins in the Buffalo Sewer Authority's combined sewer system.
Booming of significant outlets and source controls (see BMP 12 for more details) have also been implemented for some time within the Buffalo Sewer Authority's jurisdiction.

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PART III - CSO BEST MANAGEMENT PRACTICES

8. **Combined Sewer System Replacement** *6 NYCRR 750-2.10(i) (EPA NMC: None)* **N/A**	YES	NO	N/A
In the past year, were any combined sewers designed or constructed that were not approved by DEC?			✓
If yes, was the combined sewer replaced by separate sanitary and storm sewers to the greatest extent possible?			✓
If yes, were the separate sanitary and storm sewers designed and constructed simultaneously but without interconnections to the maximum extent practicable?			✓
Is the combined portion of the collection system completely identified on maps or GIS?	✓		
Are there any plans or current projects to separate combined sewers into sanitary and storm sewers?		✓	
Is there an approved engineering plan for this project?			✓
In the past year, how many areas of combined sewer were separated? acres			
In the upcoming year, how many areas of combined sewer are scheduled to be separated? acres			
Are the sewer replacement projects on schedule? If no, describe below.			✓
Overall, has the implementation of this BMP resulted in fewer overflow events and/or less volume discharged? Describe below.			✓

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

Plans do currently exist to install storm overflow sewers to partially separate flows in an area tributary to the Smith Street Drain; however the existing combined sewer will continue to carry stormwater flows from properties.

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PART III - CSO BEST MANAGEMENT PRACTICES

9. **Combined Sewer Extension** *6 NYCRR 750-2.10(i) (EPA NMC: None)* **N/A**	YES	NO	N/A
In the past year, were any combined sewers extended not using separate sewers?		✓	
Were sanitary and storm sewers extensions designed and constructed simultaneously but without interconnections?		✓	
Were any new sources of stormwater added to a separate sewer anywhere in the collection system?		✓	
If separate sewers were extended from combined sewers, was it demonstrated that the sewerage system had the ability to convey, and the treatment plant had the ability to adequately treat, the increased dry-weather flows?			✓
If determined necessary by the Regional Water Engineer, was an assessment made of the effects of the increased flow of sanitary sewage or industrial waste on the strength of CSOs and their frequency of occurrence, including the impacts upon best usage of the receiving water?			✓
Has a recent combined sewer extension resulted in increased discharge from a CSO?		✓	
Has a recent combined sewer extension resulted in increased flow to the POTW? Describe any CSO impacts below.		✓	
Is any development planned upstream of a combined sewer?	✓		
If yes, has a sewer extension plan been submitted for review and approval?			✓
If the approval contained a flow credit requiring removal of I/I, what was the requirement or ratio?			✓
Does the plan include any flow retention structures?	✓		

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

Currently planned development upstream of the combined sewer system involves private connections to the existing Buffalo Sewer Authority public combined sewer system. The Erie County Health Department as agent of the NYSDEC does not review private sewer extensions/ connections to the Buffalo Sewer Authority's combined system in areas with previously disturbed land. If any public sewer extensions are proposed they will be submitted to the Erie County Health Department and/or the NYSDEC for approval.
As part of the Buffalo Sewer Authority's sewer service permitting process for storm discharges, new development which involves the disturbance of 0.25 acres or more of soil which are upstream of or discharge directly to the combined sewer system detain/retain on site post-construction peak flows during a 25 year storm in excess of pre-construction peak flows during a 2 year storm. New development which disturbs 0.25 acres or more of soil and discharges downstream of any regulators or directly to the MS4 system comply with the post-construction standards as outlined in GP-0-10-002 (starting January 29, 2015 with GP-0-15-002).

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PART III - CSO BEST MANAGEMENT PRACTICES

10. **Connection Prohibitions** *6 NYCRR750-2.9(a)(5) (EPA NMC: None)* **N/A**	YES	NO	N/A
In the past year, were any sewer connections approved, in spite of a notice from DEC to prohibit further connections due to documented, recurrent instances of sewage backing up into house(s) or discharges of raw sewage onto the ground surface from surcharging manholes?	☐	☐	☑
Are new connections prohibited by the DEC? If no, skip to BMP 11.	☐	☑	☐
Is this due to basement backups?	☐	☐	☐
Is this due to surcharging manholes?	☐	☐	☐
In the upcoming year, is any work planned to either increase capacity or reduce hydraulic loading? Describe below.	☐	☐	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

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PART III - CSO BEST MANAGEMENT PRACTICES

11. **Septage and Hauled Waste** *6 NYCRR750-2.7(f) and 2.8(a)(1) (EPA NMC: None)* **N/A**	YES	NO	N/A
In the past year, has there been any discharge or release of septage or hauled waste into the collection system upstream of a CSO?		✓	
Does the facility have authorization from DEC to accept hauled waste or septage at a location other than the POTW? Describe below.		✓	
Are any of these locations upstream of a CSO?			✓
Are there any agreements with haulers to accept waste at a location other than at the POTW?		✓	
In the past year, was any hauled waste or septage accepted at a location other than at the POTW?		✓	
What was the total volume received at locations other than the POTW? 0.0 MGD			
Is there a dedicated location to discharge septage at the POTW?	✓		
Are there restrictions on when the plant accepts hauled waste or septage?	✓		
Have there been any changes to the POTW's policy on septage and hauled waste in the past year? Are any changes needed or planned in the upcoming year?		✓	

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

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PART III - CSO BEST MANAGEMENT PRACTICES

12. **Control of Run-off** *6 NYCRR750- 2.1(e) (EPA NMC: None)* **N/A**	YES	NO	N/A
Is sediment in runoff from construction zones entering catch basins in the combined sewer system?	✓		
Is there adequate communication between the local municipal department that enforces local stormwater codes and ordinances and the collection system staff regarding stormwater runoff?	✓		
Do the municipalities within the combined sewer system have adequate storm water pollution prevention programs to reduce pollutants in stormwater?	✓		
Annual household hazardous waste collection	✓		
Autumn leaf collection	✓		
Lawn clippings	✓		
Christmas tree pickup	✓		
Roadkill deer composting			✓
Fertilizer and pesticide management	✓		
Enforcement of litter laws	✓		
Public education programs on composting	✓		
Are any changes needed in the implementation of this BMP to reduce the number of CSO events, the volume discharged, or pollutants in the discharge? If yes, describe below.		✓	

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

The Buffalo Sewer Authority under MS4 Permit #NYR20A461 is regulated as a non-traditional MS4. As such those projects which involve the disturbance of one acre or more of soil and which discharge to sewers that drain directly to the waters of the United States rather than potentially draining to the WWTF are subject to NYSDEC SPDES General Permit for Construction Activity Permit No. GP-0-10-001 (GP-0-15-002 beginning January 29, 2015). This includes routine inspection of construction sites for compliance with the permit. For those sites of 0.25-1.0 acre, a sediment and erosion control plan is created; however inspections are only conducted upon receipt of a complaint.

Traditionally, for areas of the Buffalo Sewer Authority's system which discharge upstream of or directly to the combined sewer system, construction projects were only restricted in the final peak flow which could be discharged to the sewer thereby reducing the peak flow input into the system and allowing flows to potentially reach the WWTF for treatment rather than discharging through CSOs. In the past year, in addition to the post-construction flow standards, developers of sites of 0.25 - 1 acre have created sediment and erosion control plans. Inspections in these cases are only conducted upon receipt of a complaint. For sites of 1 acre or more weekly inspections are conducted by the owner/operator and the BSA verifies these inspections on a routine basis.

However, it is expected that sediment is still entering the system through smaller construction sites or between inspections.

Regarding road kill deer composting, the City of Buffalo has not traditionally had an issue with road kill deer. When smaller road kill animals are reported, the Department of Public Works informs the Buffalo Animal Shelter which transports the animal to the Erie County SPCA for incineration. Due to the safety and health risks associated with a large decaying animal in a high density population center it is expected that a road kill deer would be disposed of promptly.

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PART III - CSO BEST MANAGEMENT PRACTICES

13. **Public Notification** *6 NYCRR 750-1.12 (EPA NMC: Public Notification)* **N/A**	YES	NO	N/A
Have identification signs been installed and maintained at all CSO outfalls owned and operated by the permittee?	✓		
Are all signs placed at or near the outfall?	✓		
Are the signs easily readable by the public?	✓		
Are the signs a minimum size of 18" by 24"?	✓		
Do the signs have white letters on a green background?	✓		
Do all the signs contain the following information:	✓		
SPDES permit number	✓		
Outfall number	✓		
Permittee name, contact name and phone number at business office or NYSDEC Division of Water regional contact address and phone number	✓		
For waters that are Class B or higher, is a public notification program implemented to inform citizens of the location and occurrence of CSO events?	✓		
Does this program include a mechanism (public media broadcast, standing beach advisories, newspaper notice, etc) to alert potential users of the receiving waters affected by CSOs?			✓
Does this program include a system to determine the nature and duration of conditions that are potentially harmful to users of these receiving waters due to CSOs?			✓
Were there any problems in the past year with missing or damaged signs? Describe below.		✓	
Is there a written public notification plan?	✓		
Does the plan list all methods used to notify the public of CSO events?	✓		
Does the plan list outfalls where signs are posted?	✓		

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

In compliance with Chapter 368 of the Laws of New York, the BSA informs the New York State Department of Conservation, the Erie County Department of Health and the chief elected officials or designees of the City of Buffalo and the adjoining municipality of non-permitted discharges.

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PART III - CSO BEST MANAGEMENT PRACTICES

14. **Characterization and Monitoring** (*6 NYCRR 750-1.11(a), 2.5(a) and 2.7(g)) (EPA NMC: Monitoring*)	YES	NO	N/A
If required in the permit, has the combined sewer system been characterized to determine the frequency of overflows, and identify CSO impacts?	✓		
Was a baseline sampling program established as part of the LTCP development?	✓		
Are all outfalls monitored during discharge events for:		✓	
Flow Volume:		✓	
Frequency:		✓	
Duration:		✓	
If all outfalls are not monitored, explain how sufficient data is obtained to document the success of the BMPs.			
List locations of rain gauges or the source of data, below.			
Has a Post Construction Modeling and Monitoring plan been submitted to the Department for review and approval?		✓	
Has the Department approved the Post Construction Modeling and Monitoring plan?			✓
Has post construction monitoring and modeling of the receiving water begun? Attach results if this has not already been provided.			✓

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

Extensive characterization and monitoring were undertaken during the development of the Buffalo Sewer Authority's Combined Sewer Overflow Long Term Control Plan. As many of the BSA's CSO outfalls are submerged we achieve CSO outfall monitoring through bimonthly inspections of regulators. Moreover, we have developed a system-wide hydraulic model which we can use to estimate CSO frequency and volume and a water quality model which can predict pollutant impacts based on a "typical year" which has been reviewed and approved by the regulating agencies. In developing the "typical year" twelve rain gauges were installed throughout the City at Public School 66 (North Drive and Cunard), Public School 81 (Delaware and Tacoma), West Hertel Elementary School (Hertel Ave.), Public School 60 (Ontario Street), Cazenovia Park (Tosh Collins Community Center), Colonel Ward Pumping Station (Foot of Porter Ave.), U.S. Coast Guard Station (Fuhrmann Boulevard), the metering station at Lafayette Street, the Police Station at Glenwood and Main Street, the City Department of Public Works Garage (Burbank and Delaware Park), and the gauge located at the Buffalo Niagara airport. The post-construction monitoring plan will specify the intervals at which any physical metering and/or monitoring will occur to confirm the results that have been predicted by the model. Submission of the post-construction monitoring plan, in accordance with the LTCP is required on or before March 18, 2015.

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PART III - CSO BEST MANAGEMENT PRACTICES

15. **Annual report** *6 NYCRR 750-2.1(i)* **N/A** *(EPA NMC: None; Required in LTCP permit)*	YES	NO	N/A
Is this report being used to satisfy BMP 15, Annual report, and the BMP checklist?	☑	☐	☐
Is existing documentation of implementation of the BMPs included?	☑	☐	☐
Is this annual report submitted by January 31 to the Regional Office and the Bureau of Water Permits (Albany)?	☑	☐	☐
Attach any additional information necessary to document the implementation of BMPs in the past year or list plans for the upcoming year.	☐	☐	☐
Overall, was implementation of the BMPs effective in controlling and minimizing CSO discharges?	☑	☐	☐
If no, list any improvements needed that have not been described elsewhere	☐	☐	☑

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PART III - CSO BEST MANAGEMENT PRACTICES

ADDITIONAL INFORMATION:

DESCRIBE BELOW IN DETAIL OTHER "MEASURE OF SUCCESS" ABOVE AND BEYOND THE REQUIREMENTS OF THE SPDES PERMIT. DESCRIBE HOW ADDITIONAL PROJECT(S) HAS HELPED TO MEET THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS POLICY. (Attach extra sheet if necessary)

PERMITTEE NAME: Buffalo Sewer Authority SPDES PERMIT NO.: NY-0028410

PART III - CSO BEST MANAGEMENT PRACTICES

SECTION D: For Multiple Permittees Only

Permittee Name	SPDES Permit Name	SPDES Permit No

SECTION E: GLOSSARY/ACCRONYMS

For the purposes of this annual report, the following terms and acronyms are described below:

Baseline: Conditions before the development and/or implementation of CSO BMPs and/or LTCP.

Best Management Practice (BMP): Permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. May include schedule of activities, prohibition of practices, maintenance procedure, or other management practice. BMPs may include, but are not limited to, treatment requirements, operating procedures, or practices to control plant site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage.

Bypass: A discharge of wastewater, stormwater, or combination of both, around a treatment unit designed for the removal of pollutants.

Catch Basin: A chamber usually built at the curbline of a street, which admits surface water for discharge into a storm drain

Collection System: A wastewater collection system which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and stormwater through a single pipe to a publicly owned treatment works for treatment prior to discharge to surface waters.

Combined Sewer: A sewer designed to carry wastewater and stormwater runoff.

Combined Sewer Overflows (CSO): A discharge of untreated wastewater from a combined sewer system at a point prior to the headworks of a publicly owned treatment works. CSOs generally occur during wet weather (rainfall or snowmelt). During periods of wet weather, these systems become overloaded, bypass treatment works, and discharge directly to receiving waters.

Combined Sewer System (CSS): A wastewater collection system that conveys sanitary wastewaters and storm water through a single pipe to a publicly owned treatment works for treatment prior to discharge to surface waters.

Demonstrative Regulatory Approach: Control approach where a permittee develops and implement an LTCP that meets the state water quality standards. A permittee could develop an LTCP that would provide for attainment of water quality standards, or it could use a total maximum daily load (TMDL) to *demonstrate* that water quality standards can be attained through a combination of CSO controls and other controls.

EPA: Environmental Protection Agency

EQ Tank: Equalization Tank often used to smooth hydraulic peaks to a POTW or WWTP.

Fats Oil & Grease (FOG)

Geographic Information System (GIS) is a computer-based tool for mapping and analyzing features in the environment. GIS support a wide range of activities including water quality modeling, watershed planning, and wetlands permitting and mitigation.

GI: Green" Infrastructure

Infiltration/Inflow (I/I): Rainwater, snowmelt, or groundwater flowing into separate sanitary or combined sewers, typically introduced via connected roof downspouts and/or building footing drains or infiltrating into the pipe through cracks in the pipe walls or joints.

This Period: Period covering the last 12 months from January to December

Last Period: Activities covering the 12 calendar months prior to the end of the current period

PERMITTEE NAME: Buffalo Sewer Authority SPDES PERMIT NO.: NY- 0028410

PART III - CSO BEST MANAGEMENT PRACTICES

Long Term Control Plan (LTCP): An engineering document that characterizes and assesses CSO discharge to a receiving waterbody. The goal of the Plan is to comply with the water quality standards of the receiving waterbody.

Million Gallons per Day (MGD) is a unit of flow commonly used for wastewater discharges. One mgd is equivalent to 1.547 cubic feet per second.

Multiple Permittees here is described as when a group of permittees (e.g. Albany Pool) is responsible to develop a single LTCP or when a single LTCP is required for multiple SPDES permit under a single permittee (e.g. NYC).

Nine Minimum Controls (NMC) provide information on nine minimum technology-based controls that permittees are expected to use to address CSO problems, without extensive engineering studies or significant construction costs, before long-term measures are taken.

NYSDEC: New State Department of Environmental Conservation (interchangeably uses as DEC)

Publicly Owned Treatment Works (POTW): Also commonly referred to as "treatment facility, WWTP (Wastewater Treatment Plant)

SPDES Permit: State Pollutant Discharge Elimination System Permit. A permit issued by DEC, authorized under the federal Clean Water Act, to discharge treated wastewater to waters of the United States.

Overflow Events: An event starts once an overflow starts from an outfall, and ends once the overflow stops and the pumpback to treatment facility have ended.

Presumptive Approach: The presumption approach is based on the assumption that an LTCP that meets certain minimum defined performance criteria. The "presumption approach," under which achievement of certain performance criteria (i.e., 4-6 untreated overflow events or 85 percent by volume capture) would be presumed to provide an adequate level of control to attain water quality standards

Raw Sewage: Untreated sanitary sewage.

Sanitary Sewer Overflow (SSO) is an untreated or partially treated sewage discharge from the sanitary sewer collection system.

Separate Sewer (SS): A pipe or conduit intended to convey only sanitary sewage to a wastewater treatment facility.

SPDES: State Pollutant Discharge Elimination System

Sewer System: A public or privately owned wastewater collection facility designed and used to convey or treat sanitary sewage or sanitary sewage and storm water. Sewer system does not include an on-site wastewater treatment system serving one residential unit or duplex.

Supervisory Control and Data Acquisition (SCADA) is a complex computer system that provides automatic control of stormwater storage and overflows at various locations within the sewer system.

Volume Discharged: Total discharge volume for the event (in millions of gallons) from each CSO outfall within this reporting period.

Volume Captured: Total discharge volume for the event (in millions of gallons) that were either captured via an offline treatment facility before discharge or diverted to the WWTP for treatment.

WWOP: Wet Weather Operating Plan

Water Quality Standards (WQS) are regulations that establish the uses for which surface waters of the state are protected and include numeric and narrative criteria to protect those uses.

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City, State, ZIP: Buffalo, New York 14203-2999

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270 Michigan Ave.
Buffalo, New York 14203-2999

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X Helen S. Sheran ☐ Agent ☐ Addressee

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SECTION 1

New York State Department of Environmental Conservation
Division of Water

Report of Noncompliance Event

To: DEC Water Contact JEFFREY KONSELLA **DEC Region:** 9

Report Type: ___ *5 Day* ___ *Permit Violation* ___ *Order Violation* ___ *Anticipated Noncompliance* ___ *Bypass/Overflow* ✓ *Other*

SECTION 2

SPDES #: NY- 0028410 **Facility:** BUFFALO SEWER AUTHORITY

Date of noncompliance: 02 / 05 / 14 **Location (Outfall, Treatment Unit, or Pump Station):** HAMBURG STREET PUMP

Description of noncompliance(s) and cause(s): DRY WEATHER OVERFLOW OCCURRED AT 11:15 AM ON 02/06/14 SPP # 129 & 131 THROUGH OUTFALL#64 AND SPP #209 THROUGH OUTFALL #25. PUMP STATION EXPERIENCED POWER FAILURE.

Has event ceased? (Yes) (No) **If so, when?** 02 / 05 / 14 **Was event due to plant upset?** (Yes) (No) **SPDES limits violated?** (Yes) (No)

Start date, time of event: 02 / 05 / 14 , 11 : 15 (AM) (PM) **End date, time of event:** 02 / 05 / 14 , 11 : 45 (AM) (PM)

Date, time oral notification made to DEC? 02 / 05 / 14 , 12 : 13 (AM) (PM) **DEC Official contacted:** ROBERT SMYTHE(EMAIL)

Immediate corrective actions: ELECTRICIANS FROM O'CONNELL ELECTRIC AND NATIONAL GRID RESTORED POWER.

Preventive (long term) corrective actions: CAUSE WAS DETERMINED TO BE A SHORT IN NATIONAL GRID'S METERING CABINET NATIONAL GRID REPAIRED FAILED CABLES.

SECTION 3

Complete this section if event was a bypass:

Bypass amount: _____ Was prior DEC authorization received for this event? (Yes) (No)

DEC Official contacted: _____ Date of DEC approval: ___ / ___ / ___

Describe event in "Description of noncompliance and cause" area in Section 2. Detail the start and end dates and times in Section 2 also.

SECTION 4

Facility Representative: MICHAEL LETINA **Title:** TREATMENT PLANT SUPT. **Date:** 02 / 06 / 14

Phone #: (716) 851 - 46644 X5201 **Fax #:** (716) 883 - 3789

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

x Michael Letina

Signature of Principal Executive Officer or Authorized Agent

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City, State, ZIP: 270 Michigan Ave. Buffalo, New York 14203-2999

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Regional Water Engineer
NYSDEC
270 Michigan Ave.
Buffalo, New York 14203-2999

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x D. Gill ☐ Agent ☐ Addressee

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SECTION 1

New York State Department of Environmental Conservation
Division of Water

Report of Noncompliance Event

To: DEC Water Contact JEFFREY KONSELLA **DEC Region:** 9

Report Type: ___ *5 Day* ___ *Permit Violation* ___ *Order Violation* ___ *Anticipated Noncompliance* ___ *Bypass/Overflow* ✓ *Other*

SECTION 2

SPDES #: NY- 0028410 **Facility:** BUFFALO SEWER AUTHORITY

Date of noncompliance: 05 / 09 / 14 **Location (Outfall, Treatment Unit, or Pump Station):** OUTFALL

Description of noncompliance(s) and cause(s): DRY WEATHER OVERFLOW OCCURRED AT 10:30 AM ON 05/09/14 SPP # 23 & 24 & 296 THROUGH OUTFALL#12. LINE WAS PLUGGED WITH DEBRIS

Has event ceased? (Yes) (No) **If so, when?** 05 / 09 / 14 **Was event due to plant upset?** (Yes) (No) **SPDES limits violated?** (Yes) (No)

Start date, time of event: 05 / 09 / 14 , 10 : 30 (AM) (PM) **End date, time of event:** 05 / 09 / 14 , 11 : 40 (AM) (PM)

Date, time oral notification made to DEC? 05 / 09 / 14 , 11 : 33 (AM) (PM) **DEC Official contacted:** ROBERT SMYTHE(EMAIL)

Immediate corrective actions: BSA STAFF CLEANED CHAMBER OF ALL DEBRIS

Preventive (long term) corrective actions:

SECTION 3

Complete this section if event was a bypass:

Bypass amount: _____ **Was prior DEC authorization received for this event?** (Yes) (No)

DEC Official contacted: _____ **Date of DEC approval:** ___ / ___ / ___

Describe event in "Description of noncompliance and cause" area in Section 2. Detail the start and end dates and times in Section 2 also.

SECTION 4

Facility Representative: MICHAEL LETINA **Title:** TREATMENT PLANT SUPT. **Date:** 05 / 12 / 14

Phone #: (716) 851 - 4664 X5201 **Fax #:** (716) 883 - 3789

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

x Michael Letina

Signature of Principal Executive Officer or Authorized Agent

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APPENDIX

BSA Approved CSO LTCP Implementation Schedule

Project Name	Project Milestones/Deadlines
Phase I Projects (see Table 11-11)	
Bird/Lang RTC Projects	Construction Start and Completion Dates: 3/17/2014 – 9/2/2014 Operations/Optimization (RTC): 9/3/2014 – 9/3/15
Foundation Projects (see Table 11-11)	
Foundation 1 - Smith Street Storage	Engineering Start: 3/18/2014 Engineering Completion: 3/18/2015 Notice to Proceed3/18/2015 Substantial Completion: 3/18/2017
Foundation 2 - SPP Optimization (20 projects)	Engineering Start: 3/1/14 Engineering Completion: 3/18/2015[1] Notice to Proceed: 3/1/14 Substantial Completion: 3/18/2017[1]
Foundation 3 - Remaining RTC (14 sites)	Engineering Start: 3/18/2016 Engineering Completion: 3/18/2023[1] Notice to Proceed: 3/18/2017 Substantial Completion: 3/18/2024[1]
Foundation 4 - Hamburg Drain Optimizations	Engineering Start: 3/18/2015 Engineering Completion: 3/18/2017[1] Notice to Proceed: 3/18/2016 Substantial Completion: 3/18/2018[1]
Foundation 4 – Hamburg Drain Storage	Engineering Start: 3/18/2028 Engineering Completion: 3/18/2030 Notice to Proceed: 3/18/2030 Substantial Completion: 3/18/2032
Green Projects (see GI Master Plan)	
Green Pilot Projects – 267-acres of GI control	Engineering Start:3/1/14 Engineering Completion: 3/18/2016[2] Construction Completion Date: 3/18/2018[2] PCM Start and Completion Dates: 3/18/2016 – 3/18/2019[2] Construction of controls for at least 134 acres will have started by 9/18/2017
Green 2 – 410-acres of GI control	Engineering Start: 3/18/2019 Engineering Completion: 3/18/2023[2] Construction Completion Date: 3/18/2024[2] Construction of controls for at least 205 acres will have started by 3/18/2022[2]

Green 3 – 375-acres of GI control	Engineering Start: 3/18/2023 Engineering Completion: 3/18/2028[2] Construction Completion Date:3/18/2029[2] Construction of controls for at least 188 acres will have started by 9/18/2026[2]
Green 4 – 263-acres of GI control	Engineering Start: 3/18/2028 Engineering Completion: 3/18/2033[2] Construction Completion Date:3/18/2034[2] Construction of controls for at least 132 acres will have started by 9/18/2031[2]
WWTP	
WWTP Improvements Project – Alternative C2 (two consecutive projects)	Engineering Start: 3/18/2015 Engineering Completion: 3/18/2019[1] Notice to Proceed: 3/18/2017 Substantial Completion 3/18/2022[1]
Gray Projects (see Section 12.3)	
CSOs 014/15 – In-line storage and optimization	Construction Start: 3/18/14 Substantial Completion: 3/18/15
CSO 013 – Satellite storage, conveyance, FM & PS	Engineering Start: 3/18/2019 Engineering Completion: 3/18/2020 Notice to Proceed: : 3/18/2020 Substantial Completion: 3/18/2022
North Relief – Interceptor	Engineering Start: 3/18/2019 Engineering Completion: 3/18/2022 Notice to Proceed: 3/18/2022 Substantial Completion: 3/18/2026
CSOs 010, 008/010, 061, 004 – Underflow capacity upsizing	Engineering Start: 3/18/2021 Engineering Completion: 3/18/2023 Notice to Proceed: 3/18/2023 Substantial Completion: 3/18/2024
SPP 337 (CSO 053) – Satellite storage, conveyance, FM & PS	Engineering Start: 3/18/2023 Engineering Completion: 3/18/2025 Notice to Proceed: 3/18/2025 Substantial Completion: 3/18/2027
SPP 336 a+b (CSO 053) – Satellite storage, conveyance, FM & PS	Engineering Start: 3/18/2024 Engineering Completion: 3/18/2026 Notice to Proceed: 3/18/2026 Substantial Completion: 3/18/2029

Jefferson & Florida (SPP 170B – CSO 053) – Satellite storage, conveyance and FM	Engineering Start: 3/18/2025 Engineering Completion: 3/18/2027 Notice to Proceed: 3/18/2027 Substantial Completion: 3/18/2030
CSO 055 – Satellite storage, conveyance, FM & PS	Engineering Start: 3/18/2027 Engineering Completion: 3/18/2030 Notice to Proceed: 3/18/2030 Substantial Completion: 3/18/2034
CSOs 028/044/047 - Satellite storage, conveyance, FM & PS (storage at Tops from CSO 47 west)	Engineering Start: 3/18/2028 Engineering Completion: 3/18/2031 Notice to Proceed: 3/18/2031 Substantial Completion: 3/18/2034
CSO 052 – Satellite storage, conveyance, FM & PS	Engineering Start: 3/18/2030 Engineering Completion: 3/18/2032 Notice to Proceed: 3/18/2032 Substantial Completion: 3/18/2034
CSO 064 – Satellite storage, conveyance, FM & PS	Engineering Start: 3/18/2030 Engineering Completion: 3/18/2032 Notice to Proceed: 3/18/2032 Substantial Completion: 3/18/2034
Post Construction Monitoring	
Submit PCM Plan	3/18/2015
Implement PCM	Per approved PCM Plan

NOTES:

References specified in the Implementation Schedule above refer to the Approved BSA CSO LTCP, including the Green Infrastructure Master Plan, approved by EPA and NYSDEC on March 18, 2014.

Engineering timeframes (from start to completion) include planning, design, permitting/SEQRA/Public Notice, regulatory review and approval, land/easement acquisition, funding, and bidding/award.

Substantial Completion is defined as the time at which the Project has progressed to the point where, in the opinion of Engineer, the Work is sufficiently complete, in accordance with the Contract Documents, so that the Project can be utilized for the purposes for which it is intended.

(1) Project consists of multiple smaller projects that will overlap in engineering and construction. Specific engineering completion and construction dates for each project site will determined and submitted to the Agencies as they are developed. In any case, all work associated with these blocks of projects will be completed within the overall timeframe shown.

(2) GI projects will consist of multiple smaller projects including building demolitions that will overlap in engineering and construction during a given GI phase. For each phase, the BSA will achieve the start of construction for at least 50 percent of the required acreage by the mid-point of each phase.