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MAYOR

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
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January 28, 2019

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Division of Water Resources
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Re: DOJ Case No. 90-5-1-1-09000
Submittal of Quarterly Progress Report

Gentlemen and Madam:

In accordance with the provisions of the Consent Decree, Section XIX (Reporting Requirements), Subsection B, herewith we are transmitting the 2018 Annual Report, which covers the time period from January 1, 2018 through December 31, 2018.

In addition, in accordance with the provisions of the Consent Decree, Section XIX (Reporting Requirements), Subsection A, herewith we are transmitting the Quarterly Progress report which covers the time period from October 1, 2018 through December 31, 2018.

A copy of each of these reports is concurrently being placed in the Public Document Repository (PDR).

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 such 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.

If you have any questions concerning this report please contact me.

Sincerely,

Scott A. Potter, P.E.
Director

Ron C. Taylor, P.E.
Overflow Abatement Program Director
Engineering Division

Cc: Mr. David Tucker, Assistant Director, Operations
Mr. Cyrus Q. Toosi, P.E., Assistant Director / Chief Engineer, Engineering
Mr. Gregory A. Ballard, P.E., Engineer 3
Mr. Thomas G. Cross, Associate Director, Metropolitan Department of Law

Clean Water Nashville Overflow Abatement Program

Metropolitan Government of Nashville and Davidson County
Department of Water and Sewerage Services

CONSENT DECREE

2018 ANNUAL REPORT

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 such 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.

Ron C. Taylor, P.E., Program Director

1/29/19
Date

cleanwater NASHVILLE
OVERFLOW ABATEMENT PROGRAM

Table of Contents

Consent Decree 2018 Annual Report **1**

1. CMOM Programs 1
2. Project Updates 1
3. Sanitary Sewer Overflow Trends 2
4. Combined Sewer Overflow Trends 6

List of Figures

Figure 1 – SSO Events by Cause 3
Figure 2 – Monthly SSO Volumes 4
Figure 3 – Monthly SSO Durations 5

List of Tables

Table 1 – Summary of CMOM Programs 7
Table 2 – Design/Construction Project Updates 11

Consent Decree 2018 Annual Report

On March 12, 2009, the Metropolitan Government of Nashville and Davidson County, Tennessee (Metro), entered into a Consent Decree with the United States and the State of Tennessee. As required by Section XIX.B. of the Consent Decree, Metro has prepared this *Annual Report* covering the period from January 1 through December 31, 2018, which includes the following information:

1. Summary of the Capacity, Management, Operation, and Maintenance (CMOM) programs implemented
2. List of projects required by the Consent Decree
3. Trend analysis of Sanitary Sewer Overflows (SSOs) for 2017 and 2018
4. Trend analysis of dry weather Combined Sewer Overflows (CSOs) for 2017 and 2018

Each of these items is discussed in the following sections.

1. CMOM Programs

As described in the Consent Decree, in addition to items identified through Metro's CMOM Self-Assessment, the following programs are elements of Metro's CMOM program:

- *Spill and Overflow Response Plan* (Section VII.C.2) – MWS continues to operate under the current *Spill and Overflow Response Plan* (SORP). A review of the SORP is conducted annually with any proposed changes submitted to EPA prior to June 1 each year. No changes were requested in 2018.
- Inter-jurisdictional Agreement Program (Section VII.C.3) – All required inter-jurisdictional agreements are in place, and Metro will continue to operate under these agreements, including monitoring peak flows received.
- *Capacity Assurance Plan* (Section VII.C.4) – The *Capacity Assurance Plan* will continue to be applied as a tracking/approval tool for new development/flow in the sanitary sewer system (SSS).
- *Pump Station Operation Plan for Power Outages* (Section VII.C.5) – All projects identified in the *Pump Station Operation Plan for Power Outages* were completed prior to 2018.

In addition to these programs, Metro's CMOM Self-Assessment established multiple recommendations and performance measures that Metro continues to track. A summary of these activities, including a review of the actual performance over the previous year, is included in **Table 1.**

2. Project Updates

Approval of the *Corrective Action Plan / Engineering Report* (CAP/ER) was granted by the U.S. Environmental Protection Agency (EPA) on August 10, 2017, with the Tennessee Department of Environment and Conservation (TDEC) copied on the approval. Since submittal of the CAP/ER in 2011, information from additional flow monitoring data collection, constructability reviews, and hydraulic analysis has resulted in adjustments to several CAP/ER projects, as well as the identification

of additional projects to remediate SSOs. A summary of those changes was presented to EPA and TDEC in the *Addendum to the CAP/ER*, dated September 27, 2017.

Metro continues to work with EPA and TDEC to obtain approval of the LTCP.

Milestone dates for projects and activities associated with the CAP/ER and the LTCP achieved during 2018 and those anticipated to occur during 2019 are shown in **Table 2.**

3. Sanitary Sewer Overflow Trends

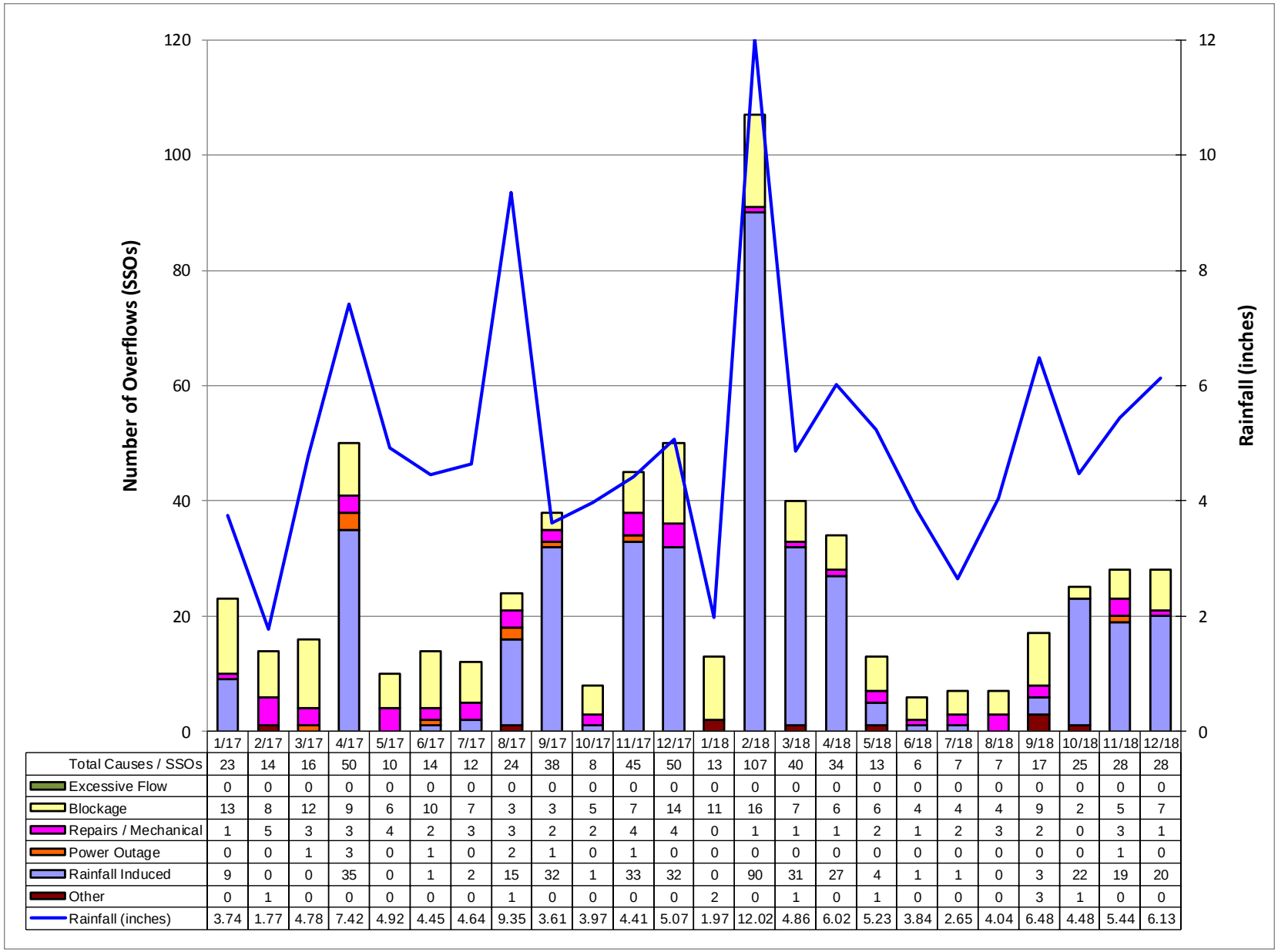
The trend analysis for SSOs includes three graphs, each with the average rainfall from all the Metro rain gauges included. **Figure 1** shows monthly SSO events in the system as a result of the following causes:

- Excessive flow
- Blockage
- Repairs/Mechanical Problems
- Power Outage
- Rainfall Induced
- Other

The following months each experienced more than 40 SSO events: April 2017, November 2017, December 2017, and February 2018. In each of the months experiencing more than 40 events, the majority of SSOs were the result of significant rainfall events. The majority of non-rainfall induced SSOs were caused by blockages from roots, grease, and debris.

Figure 2 shows monthly SSO volumes within the system from 2017 through 2018 reported in million gallons (MG), while **Figure 3** shows monthly SSO durations within the system from 2017 through 2018. The durations shown are a summation of the total amount of time overflows were occurring within the system at all overflow locations. This data is provided in the units of overflow equivalent hours, meaning that, for any month, the total number of hours for the duration of overflows could exceed the actual number of hours in a given month. For instance, if a rainfall event results in three overflows that occur concurrently for two hours each, the overflow duration for that day is six overflow equivalent hours.

The data in **Figures 2** and **3** indicates large overflow volumes and durations during months with significant rainfall events. The average rainfall, as measured within the Metro system, is included on both graphs to show the relationship between rainfall and overflow events.



	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17	12/17	1/18	2/18	3/18	4/18	5/18	6/18	7/18	8/18	9/18	10/18	11/18	12/18
Total Causes / SSOs	23	14	16	50	10	14	12	24	38	8	45	50	13	107	40	34	13	6	7	7	17	25	28	28
Excessive Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blockage	13	8	12	9	6	10	7	3	3	5	7	14	11	16	7	6	6	4	4	4	9	2	5	7
Repairs / Mechanical	1	5	3	3	4	2	3	3	2	2	4	4	0	1	1	1	2	1	2	3	2	0	3	1
Power Outage	0	0	1	3	0	1	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Rainfall Induced	9	0	0	35	0	1	2	15	32	1	33	32	0	90	31	27	4	1	1	0	3	22	19	20
Other	0	1	0	0	0	0	0	1	0	0	0	0	2	0	1	0	1	0	0	0	3	1	0	0
Rainfall (inches)	3.74	1.77	4.78	7.42	4.92	4.45	4.64	9.35	3.61	3.97	4.41	5.07	1.97	12.02	4.86	6.02	5.23	3.84	2.65	4.04	6.48	4.48	5.44	6.13

Figure 1 – SSO Events by Cause

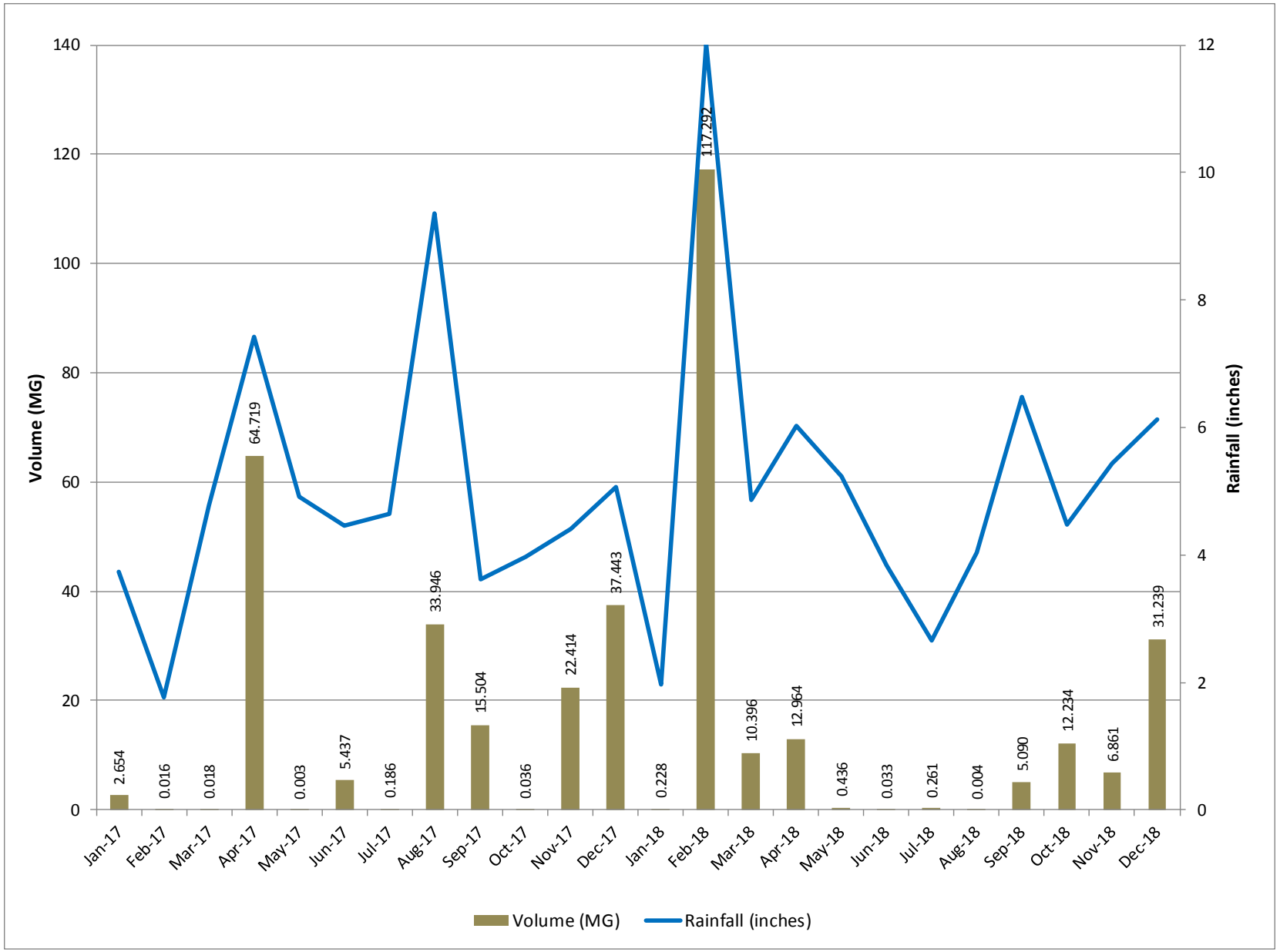


Figure 2 – Monthly SSO Volumes

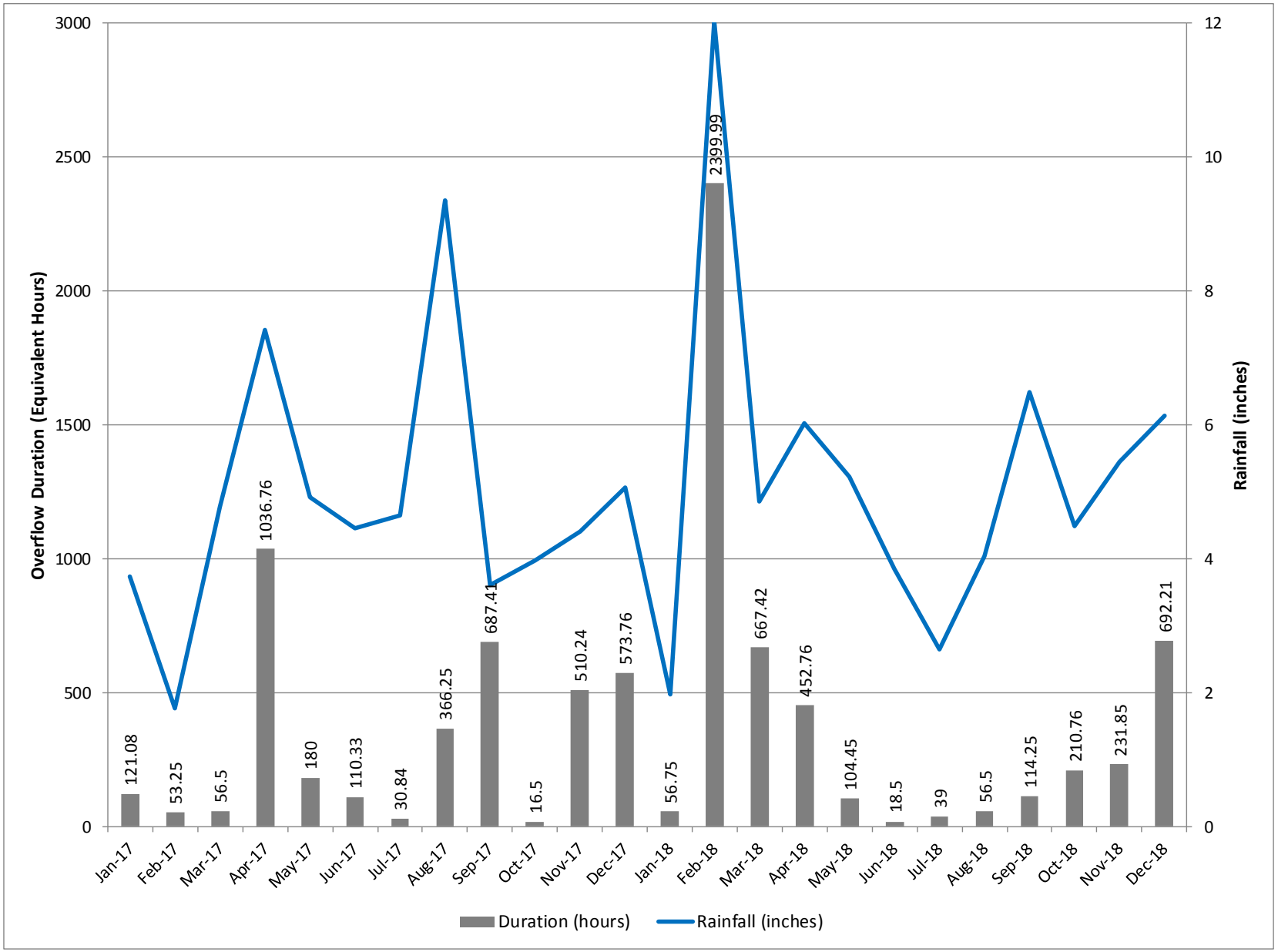


Figure 3 – Monthly SSO Durations

4. Combined Sewer Overflow Trends

There is not a trend analysis in this report for the dry weather combined sewer overflows (CSOs). No dry weather CSOs occurred in 2017 and 2018.

Table 1 – Summary of CMOM Programs

CMOM Report Section	CMOM Program	Recommendation	Implementation Deadline	Status	Performance Measure	Actual Performance
Section 4, II.b.	Skills Training	MWS will conduct periodic testing, drills and demonstrations of competency of skills.	7/08	Ongoing. Metro is tracking all required training for skills needed to perform duties related to CMOM.	Number of employees who were targeted for and received promotions if competencies demonstrated	Seventeen (17) employees were promoted in 2018. Rotated staff for broadening functional capability of repair crews to assist with other assignments.
Section 4, IV.	Information Management System	MWS will develop and implement a process for reviewing all inspection, maintenance, operations, and customer complaint records to identify recurring problems. A Corrective Action Plan to address recurring problems that develop will be included.	1/08	Sewer Service Requests (customer calls concerning sewer service problems) have been reviewed and corrected as planned. During responses to customer requests, MWS educates customers about how MWS may assist them with private sewer service line problems. Also, MWS conducted monthly reviews of sewer problems and strategy to correct sewer deficiencies. MWS continued to utilize information sheets for customers regarding property damage and 48-hour checklists for use of supervisors in the event of property damage. MWS also utilizes complaints and/or discoveries of system irregularities (from CCTV) as a basis for preventive and scheduled maintenance activities.	Number of service requests received, reviewed, and resolved	100% received, reviewed, and resolved. MWS continues to distribute a brochure detailing the Private Sewer Service Line Policy, both in person and on the MWS web page. (For more information: http://www.nashville.gov/Water-Services/Customers/Services.aspx)
Section 4, V.d.	New Construction and Rehabilitation Inspection	MWS will develop Standard Operating Procedures (SOPs) for conducting construction inspections that include methods for documenting inspections and maintaining the documentation. Include training requirements for all inspectors. Other means for managing data to closeout projects will be evaluated.	6/08	Handbook has been developed and will be regularly updated.	No update is necessary at this time.	Handbook is in use.
Section 4, V.e.	Acquisition Considerations	MWS will develop and implement a standard policy for the acquisition of existing sewer systems. This policy will include a plan for bringing sewer systems to MWS's requirements, standards that must be met of the design of the existing sewer before acceptance by MWS, and the criteria that will be used for the determination of the financial aspects of the acquisition.	1/08	Policy has been developed. Implementation is pending acquisition activity.	N/A	There were no acquisitions in 2018.

CMOM Report Section	CMOM Program	Recommendation	Implementation Deadline	Status	Performance Measure	Actual Performance
Section 4, V.f.x.	Continuous Sewer System Assessment	MWS will develop and implement SOPs for all assessment practices including technical procedures for carrying out each practice and a means to ensure follow-up on information that is documented during any of the assessment practices. All current forms will be reviewed that are used to determine if the appropriate information is obtained and develop new forms as necessary. A written standard method of prioritization of all assessment practices will be developed.	1/08	Continued periodic reviews of chronic or newly identified sewer defects. Continued to utilize the calibrated MIKE URBAN (SWMM) sewer system model to better evaluate observed overflows as needed.	Review SOPs annually	The SOPs are currently in use.
Section 4, V.g.	Infrastructure Rehabilitation Program (OAP)	MWS will develop and implement a management plan to address wet weather conditions once the sewer model is completed.	12/08* *will be updated by CAP/ER	Complete	CAP/ER must be completed by September 12, 2011.	The CAP/ER was submitted on September 9, 2011 and was approved by EPA on August 10, 2017. An Addendum to the CAP/ER was submitted on September 28, 2017. The Addendum summarizes the updates, modifications, and additions to projects described in the CAP/ER. As part of the Clean Water Nashville Overflow Abatement Program, a methodology to prioritize sewers (outside of CAP/ER rehabilitation areas) for repair has been established. Construction of the 2016 Annual Rehabilitation – South Hurricane Creek project began in May 2017 and achieved substantial Completion in late 2017. Design of the 2017 Annual Rehabilitation – Dry Creek and the 2017 Annual Rehabilitation – Shepherd Hills projects were initiated in 2017 and are now complete. Construction for both projects is anticipated to begin in 2021.
Section 4, V.h.	System Capacity Assurance	MWS will complete the conversion of the sewer model into MIKE URBAN software.	4/07	Complete	Number of model runs since date of entry	There were 276 model runs for capacity analysis from January 1 through December 31, 2018.
Section 4, V.h.	System Capacity Assurance	The *Master Sewer Growth Plan* will be renewed and updated every five years.	12/08	Complete	Update every 5 years	Population projections are being reviewed and updated to reflect the recent growth in the service area. These projections will be incorporated into the hydraulic model to assess the impact on existing infrastructure and future projects.
Section 5	Operations	MWS will develop and implement SOPs for critical operations programs. The SOPs shall include a means for follow-up on any items noted.	12/08	Complete	Review SOPs annually	The 2018 review has been completed.

CMOM Report Section	CMOM Program	Recommendation	Implementation Deadline	Status	Performance Measure	Actual Performance
Section 5, I.a.i.	Pump Station Monitoring	The integration of HSQ and Intrac into a consolidated system will be completed.	10/07	The Citect SCADA system is in operation. All pump station telemetry is now consolidated into one system.	Receive 100% information on all data points	All critical data points are being received. The current system will continue to be reviewed and improved, as needed.
Section 5, I.a.iii.	Operation and Maintenance Manuals	The feasibility of implementing electronic O&M manuals will be investigated. If it is determined that this is feasible, a new goal will be established for implementation.	12/07	All new facility O&M manuals will be electronic. Operating parameters and equipment at all facilities are updated as modifications are made electronically.	Require all new O&M manuals to be submitted in electronic format. All modifications to be updated electronically.	All new O&M manuals are received in electronic format. Modifications are made electronically as needed.
Section 5, I.b.i.	Reactive Operations	MWS will develop and implement an SOP for tracking the inventory of spare pumps for the smaller pump stations. It will be determined if tracking through CMMS is possible.	12/07	Tracking through CMMS was determined to be impractical. A new spreadsheet-based system for tracking the inventory of spare parts for smaller pump stations has been developed.	Review SOPs annually	The 2018 review has been completed.
Section 5, IV.	Fats, Oils, and Grease Control	A mailing system will be implemented to distribute a notification to all residential customers in a specific area where fats, oils, and grease (FOG) interference has been a problem. An English/Spanish notification is being developed currently.	2/07	Use Integrated Voice Response outbound calling for notification in problem areas, where warranted. Written notifications are provided in English and Spanish.	Notifications mailed, distributed, and/or called out as needed	In 2018, 2975 notifications were distributed for grease blockages and/or overflows of the sanitary sewer.
Section 6, II.a.	Gravity Line Preventative Maintenance	MWS will develop a method to track the actual footage cleaned from manhole to manhole that does not include footage from multiple passes. This will provide a more accurate measure of the actual footage of the system being cleaned each year.	10/07	MWS modified their cleaning goals based on cleaning as a result of discovered debris or locations on chronic grease/roots lists. Resources are focusing more on inspection.	16,250 LF/month and 750 LF/day (actual footage)	In 2018, MWS and/or contractors cleaned 245,293 linear feet which included the removal of 658 tons of debris. MWS continues to periodically inspect and clean sewer segments that have had previous problems with roots or grease and update lists. Currently MWS has 166 sewer segments on roots list and 179 sewer segments on grease list for periodic inspection and cleaning.
Section 6, II.a.	Gravity Line Preventative Maintenance	MWS will develop goals for the actual footage to be cleaned that reflect an analysis of past CMMS cleaning data to determine the actual footage of sewers cleaned.	11/07	New goals established to emphasize quality and investigative cleaning and de-emphasize non-directed cleaning.	See above for performance measure under first recommendation for this program.	See above for actual performance under first recommendation for this program.
Section 6, II.a.	Gravity Line Preventative Maintenance	MWS will evaluate daily goals based on 210 working days per year or 17.5 days/month, which includes estimates for the many reasons crew members would not be available. Goals will be reviewed to reflect potential improvements in planning, scheduling, and record keeping, along with fundamentals of continuous improvement. Also, goals will consider that there are certain segments that require more frequent cleaning.	1/08	New goals established to optimize use of resources.	See above for performance measure under first recommendation for this program.	See above for actual performance under first recommendation for this program.

CMOM Report Section	CMOM Program	Recommendation	Implementation Deadline	Status	Performance Measure	Actual Performance
Section 6, II.a.	Gravity Line Preventative Maintenance	MWS will evaluate ways to set priority on how often various groupings of sewer categories should be inspected with television. Examples, new PVC or recently lined sewers may not be inspected for another 5 to 10 years. However, clay or sewers older than 20 years or large diameter brick sewers would have priority to inspect them within the next five years.	12/07	Investigations are based on priorities for directing cleaning (restricted flow due to nonstructural issues), complaints, NPDES needs, flow monitoring irregularities, etc. MWS continues to contract with a firm to conduct inspections and cleaning of sewers. MWS continued using Mobile Dispatch and Hansen Planning (Group Work Orders). This allows for a standardization of processes and reduced the risk of missing locations under review/report.	Original CMOM Self-Assessment established a goal for inspection of 360,000 linear feet per year per crew.	A total of 263,422 linear feet of sewer was inspected in 2018. This includes inspections completed by MWS and contractors. Based on structural deficiencies discovered, projects will be initiated to correct defects.
Section 6, II.a.	Gravity Line Preventative Maintenance	MWS has recently purchased three new CCTV cameras to inspect and to televise the 224 miles of CSO lines and the other large diameter sewers. Three crews began using the cameras in August 2006. As experience is gained and the process refined of using these cameras, MWS will develop a plan and SOPs to inspect a certain amount of large diameter sewers over a projected period of time. The CSO and large diameter sewer televising will be incorporated into the goals for sewer televising for the entire system.	1/08	Large diameter sewer inspection contract established. In 2010, contracted with two national firms to conduct CCTV inspections and cleaning of sewers affected by the May 2010 flood. In 2014, a new contract was initiated with a single firm to continue inspections and cleaning in other areas of the system, and the firm continues to operate under that contract.	Complete inspection of large diameter sewers in the next 5 years.	A total of 263,422 linear feet of sewer was inspected in 2018. Of this, 13,749 linear feet of sewers 24-inches or greater in diameter were inspected.
Section 6, II.b.	Root Control	MWS will consider development of a policy for resolving root intrusion in service lines with a customer.	10/07	Updated in SORP. Submitted on May 27, 2009, to TDEC/EPA. Approved on August 18, 2009. When, during inspections of the main, roots are observed in service lines, MWS sends the customer a letter with photo of the inspection, a sewer map, and an illustrated copy of the Private Sewer Service line policy that includes information about the customer's responsibility and how MWS will assist in removing the roots, if requested.	N/A	MWS continued to send "root letters" to customers with service lines where roots were observed. However, in 2018, no root letters were sent to customers.
Section 6, III.	Air Valve Preventative Maintenance	MWS will develop standard operating procedures for inspection and replacement of air/vacuum valves.	12/07	Complete	Review SOPs annually	Review of the Air Release Valve (ARV) Program was completed in November 2018.
General	All	MWS will develop performance measures for all programs that do not have current measures in place.	12/07	Ongoing; pertinent items developed for all items above.	N/A	No new performance measures were implemented in 2018. MWS intends to review existing CMOM performance measures in 2019 and anticipates that new and revised metrics will be established.

Table 2 – Design/Construction Project Updates

Project Number	Project Name	Design Start Date	Design End Date	Construction Start Date	Construction Substantial Completion
93-SC-34T	Whites Creek Pump Station Improvements	11/2009	3/2011	2/2012	11/2013
10-SG-0083	Lakewood Rehabilitation - Area 1 - Sewer	4/2010	8/2013	1/2014	3/2016
11-SG-0078	2011 Collection System Structural Defect Repair	6/2011	9/2012	2/2013	8/2013
11-SC-0067	Driftwood Equalization Facility	8/2011	4/2012	7/2012	6/2013
99-SC-009L	Dodson Chapel Equalization Facility	9/2011	1/2012	5/2012	11/2013
11-SC-0101	West Park Equalization Facility Phase II	5/2012	12/2014	4/2015	8/2018
11-SC-0102	Mill Creek / Opryland Equalization Facility - Phase II	8/2012	5/2013	1/2014	5/2015
11-SC-0106	Neely's Bend Rehabilitation	9/2012	6/2013	12/2013	12/2014
11-SC-105A	Shelby Park Rehabilitation - Area 1 - Virginia Avenue	10/2012	6/2013	1/2014	4/2015
11-SC-0104	Dodson Chapel Pipe Improvements	10/2012	10/2014	1/2015	11/2015
11-SC-0148	Joelton Rehabilitation	1/2013	6/2013	10/2013	6/2014
11-SC-103A	Cowan Riverside Rehabilitation - Area 1 - Jones Avenue	2/2013	9/2013	1/2014	4/2015
11-SC-0121	Apex Sewer Corrections	3/2013	10/2013	2/2014	7/2014
13-SC-0001	Annual Rehabilitation FY2013	6/2013	6/2014	10/2014	1/2016
11-SC-105B	Shelby Park Rehabilitation - Area 2 - Norvel Avenue	7/2013	1/2014	5/2014	10/2015
11-SC-103B	Cowan Riverside Rehabilitation - Area 2 - Dickerson Pike	7/2013	3/2014	7/2014	9/2015
11-SC-144C	Westchester Drive Rehabilitation	7/2013	3/2015	7/2015	11/2015
11-SC-144A	Brick Church Pike Pipe Improvements	7/2013	4/2016	8/2016	2/2018
11-SC-147A	Highway 100 / Tyne Boulevard - Trimble Rehabilitation	9/2013	4/2014	8/2014	9/2015
11-SC-105C	Shelby Park Rehabilitation - Area 3 - Greenland Avenue	12/2013	8/2014	2/2015	4/2016
11-SC-0143	Davidson and Brook Hollow Sewer Improvements	4/2014	6/2015	10/2015	8/2016
14-SC-0041	Annual Rehabilitation FY2014 - Whites Creek Trunk	10/2014	8/2015	1/2016	11/2017
11-SC-105D	Shelby Park Rehabilitation - Area 4 - Brush Hill Road	10/2014	4/2015	7/2015	6/2016
11-SC-103C	Cowan Riverside Rehabilitation - Area 3 - West Trinity Lane	11/2014	5/2015	10/2015	8/2016
11-SC-103D	Cowan Riverside Rehabilitation - Area 4 - Pages Branch	1/2015	2/2016	8/2016	12/2017
11-SC-120A	Smith Springs Rehabilitation - Area 1 - Priest Lake Meadows	2/2015	10/2015	2/2016	1/2017

Project Number	Project Name	Design Start Date	Design End Date	Construction Start Date	Construction Substantial Completion
11-SC-135A	28th Avenue Rehabilitation - Area 1 - Clifton Avenue	2/2015	12/2015	4/2016	3/2017
11-SC-0111	Davidson Branch Pump Station and Equalization Facility	5/2015	12/2017	8/2020	5/2022
14-SC-153A	Central WWTP Capacity Improvements and CSO Reduction – A	9/2015	See note 2	See note 2	See note 2
14-SC-153B	Central WWTP Capacity Improvements and CSO Reduction – B	9/2015	See note 2	See note 2	See note 2
11-SC-0110	Ewing Creek – Brick Church Pike Equalization Facility	8/2015	12/2016	5/2017	12/2018
11-SC-0140	Gibson Creek Rehabilitation - Area 1 - Dupont Avenue	7/2015	4/2016	9/2016	10/2017
11-SC-0117	Langford Farms - Madison Heights Rehabilitation	2/2016	9/2016	2/2017	12/2017
11-SC-120B	Smith Springs Rehabilitation - Area 2 - Castlegate	2/2016	8/2016	1/2017	6/2018
16-SC-0009	Annual Rehabilitation FY2016 - South Hurricane Creek	3/2016	12/2016	5/2017	12/2017
11-SC-0116	Hurricane Creek Pipe Improvements	7/2016	11/2019	2/2021	10/2022
11-SC-105E	Shelby Park Rehabilitation - Area 5 – Cooper Lane	6/2016	3/2017	8/2017	11/2018
11-SC-0139	Gibson Creek Equalization Facility	9/2016	6/2019	11/2020	5/2022
11-SC-108A	Loves Branch Rehabilitation	10/2016	6/2017	12/2017	1/2019
11-SC-141A	Hidden Acres Rehabilitation	10/2016	8/2017	4/2018	11/2018
11-SC-109A	Vandiver Rehabilitation	12/2016	8/2017	3/2018	4/2019
11-SC-105F	Shelby Park Rehabilitation - Area 6 - Shelby Trunk	2/2017	12/2017	9/2020	12/2021
17-SC-017A	Annual Rehabilitation FY2017 - Dry Creek	3/2017	9/2017	3/2021	3/2022
11-SC-120B	Smith Springs Rehabilitation - Area 3 – Harbour Town	6/2017	11/2017	11/2020	11/2021
11-SC-017B	Annual Rehabilitation FY2017 - Shepherd Hills	8/2017	10/2017	2/2021	12/2021
11-SC-118A	Mill Creek / Seven Mile Creek Rehabilitation - Area 1	7/2018	4/2019	12/2020	2/2022
11-SC-135B	28th Avenue Rehabilitation - Area 2	12/2019	5/2020	5/2021	7/2022

Note:

1. Design phase shown includes activities associated with permitting and easement acquisition.
2. Metro is completing the Central WWTP Capacity Improvements and CSO Reduction project via a Construction Manager at Risk, which is underway. Numerous design and construction packages are anticipated to complete this work.