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December 22, 2015

Via Federal Express

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Director
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

Re: United States of America and State of Arkansas v. City of Fort Smith, Arkansas,
United States District Court, Western District of Arkansas – Case No. 2:14-cv-2266-PKH

Greetings:

Regarding the Sanitary Sewer Overflow Emergency Response component of CMOM (paragraph 48 of the Consent Decree), the City of Fort Smith hereby submits its Sanitary Sewer Overflow Emergency Response Plan for EPA review and approval. As a deliverable under paragraph 89 of

the Consent Decree, the Plan is also submitted to ADEQ. The submission is made in hard copy as well as in electronic and searchable text format.

Thank you for your attention to this matter.

Very truly yours,

Jerry L. Canfield
cmm

Enclosures
cc: Chief, Environmental Enforcement Section (Via Federal Express)
Environment and Natural Resources Division
U.S. Department of Justice
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Re: DOJ No. 90-5-1-1-08677

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CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

Sanitary Sewer Overflow Emergency Response Program Plan

December 2015

CITY OF FORT SMITH, ARKANSAS

Capacity, Management, Operation, and Maintenance Program

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 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.

Steve Parke, Director of Utilities
City of Fort Smith, AR
Utility Department

12/22/2015
Date

Sanitary Sewer Overflow Emergency Response Program Plan

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List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
CMOM	Capacity, Management, Operations, & Maintenance
CSSA	Continuing Sewer System Assessment
CTP	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

Definitions

Unless otherwise defined herein, or expressly stated in the City of Fort Smith Sewer Use Ordinance, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

ADEQ shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

Annual Report shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

Article shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

Basin shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

Building/Private Property Backup shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup'' does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

Calendar Year shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

Capacity Constraint shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or **Fort Smith** shall mean the City of Fort Smith, Arkansas.

Clean Water Act or **CWA** shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251- 1387.

CMOM or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

Consent Decree or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

Consultant shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

Contractor shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

Critical Response Time shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

Cross-Connection shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

Date of Lodging shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

Day or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

Deliverable shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

Direct Discharge shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

Environmental Protection Agency or **EPA** shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

Equalization Facilities or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

Fats, Oil and Grease or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

FOG Control Device shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

FOG Control Program Plan or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V, Article Seven, Paragraph 37** of the Consent Decree.

FOG Generator shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

Force Main shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

Gravity Sewer Line shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, but intended to flow unassisted under the influence of gravity.

Small-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

Large-Diameter Gravity Sewer Lines shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

Infiltration as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

Inflow as defined by 40 C.F.R. § 35.2005(b) (21) shall mean water other than wastewater that enters a WCTS (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

Infiltration and Inflow or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or **MACP** shall mean the **National Association of Sewer Service Companies (NASSCO)** Manhole Assessment and Certification Program.

Massard Permit shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

Massard WWTP shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9th Terrace, Barling, Arkansas**.

Month shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

P Street Permit shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

P Street WWTP shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

Pipe Assessment and Certification Program or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

Private Service Line shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

Private Service Line Release shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

Pump Station or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

Recurring Private Service Line Release shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

Recurring SSO, Recurring Dry-Weather SSO, and **Recurring Wet-Weather SSO.** A “Recurring SSO” shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during wet weather within three (3) Years of a prior SSO at the same location that also occurred during wet weather.

Remedial Measures shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

Sanitary Sewer Overflow or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

Sewershed shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or **State** shall mean the State of Arkansas acting on behalf of ADEQ.

Sub-basin shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

Tabulation shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

Wastewater Treatment Plant or WWTP shall mean the Massard or P Street wastewater treatment plants and components thereof.

Wastewater Collection and Transmission System or WCTS shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

Waters of the State shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

Year shall mean a twelve month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than two (2) years from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of 13 separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the long-term requirements of EPA and promote compliance with the Clean Water Act (CWA).

Section 1
Consent Decree Requirements of the Sanitary Sewer Overflow Emergency Response Program Plan

The Sanitary Sewer Overflow Emergency Response Program (OERP) Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraphs 48 and 49 of the Consent Decree and must be submitted to EPA for review no later than twelve (12) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2015). Following EPA's approval, the City will initiate the implementation of the plan. **Table 1-1** shows a list of the Consent Decree requirements for the OERP and the corresponding section of this document that addresses each requirement.

Table 1-1 Summary of Consent Decree Requirements for the OERP

Consent Decree Paragraph		Consent Decree Requirement	OERP Plan Section
48.a		The execution of the OERP shall, at a minimum, result in:	
48.a.	i.	All Sanitary Sewer Overflows (SSOs) being responded to and halted as rapidly as technically feasible, consistent with safety and other legal requirements	Section 3
	ii.	SSO mitigation measures being employed whenever appropriate to minimize human health and environmental risks	Section 3
	iii.	Appropriate steps being implemented to prevent SSO recurrence	3.3
	iv.	Timely and complete reporting of all SSOs in accordance with the SSO reporting requirements presented in Paragraph 47 of this Consent Decree	Section 4
48.b		Regarding the response procedures for SSOs the OERP shall include, at a minimum:	
48.b.	i.	An adequate methodology for estimating the volume of SSOs, including but not limited to, using the earliest start time when City learned of the SSO and using the known end time of the SSO;	Appendix A
	ii.	A description on the methods the City shall use, when required by a permit or applicable law, to notify the public (through local new media or other means, including signs or barricades to restrict access) or any applicable governmental authorities of the occurrence of an SSO;	3.2.5
	iii.	A detailed description of the steps to be taken to minimize the volume and/or duration of the SSO;	3.2
	iv.	A description of the City's follow-up process for SSO cleanup	3.2.2

Consent Decree Paragraph		Consent Decree Requirement	OERP Plan Section
	v.	A description of the WCTS investigation efforts that the City shall perform to determine the cause(s) of each SSO after its cessation. Investigations shall commence as soon as technically feasible, but not later than seven (7) days after cessation of the SSO. No WCTS investigations are required for Recurring Wet-Weather SSOs if the City believes they are caused solely by previously-documented Capacity Constraints in the Pipe Segments downstream from the SSO locations, and if no sewer system cleaning or other maintenance activities are required to stop the prior SSOs at that location.	3.3
	vi.	A description of response procedures for SSOs that occur at Pump Stations or Force Mains. In the event that a repair at a Pump Station or Force Main may cause or lengthen the time of an SSO, the OERP shall provide a procedure for determining when a wastewater pump-around is required	3.2 3.2.3
	vii.	A provision that the Information Management System (IMS) maintain records on SSOs for a minimum of ten (10) Years after their occurrence	4.1
	viii.	A detailed plan describing the procedures that the City shall follow in responding to a Building/Private Property Backup, including: The timeframe objectives for responding to calls reporting potential backups; The process used to determine whether a reported backup was caused by conditions in the Private Service Line or in the WCTS into which the Private Service Line connects; The methods for communicating with customers about how and where to report potential backups; A description of the methods for communicating with customers the results of City's investigation into whether the backup was caused by conditions in a Private Service Line or whether the backup was a Building/Private Property Backup; and A description of the methods for communicating with customers about how to obtain clean up support from City if City determines that a backup was a Building/Private Property Backup.	3.2.1, 3.2.4
49.		The City shall submit a Tabulation of the OERP activities performed in each Calendar Year as part of the Annual Report for that Calendar Year in accordance with Section X "Reporting" of the Consent Decree.	4.2

Section 2
Purpose and Goals of the OERP

The OERP is a component of the City's comprehensive CMOM Program and is intended to provide a standardized set of procedures for the City of Fort Smith staff to follow in the event of a sanitary sewer overflow (SSO). The OERP identifies the response measures to protect the public and the environment from SSO events.

The OERP is comprised of the following elements:

- Resources, including response personnel and equipment
- Overflow response procedures, including initial notification, confirmation of the SSO, correction, containment, and cleanup
- Public and applicable governmental agency notification process
- Post-SSO WCTS investigations

The OERP is coordinated with the SSO Documentation and Reporting Program which includes SSO reporting procedures for both EPA and the Arkansas Department of Environmental Quality (ADEQ); thereby, ensuring both regulatory agencies are informed of all SSOs and resulting response measures in a timely manner.

Section 3
OERP Resources and Procedures

The administration and implementation of an OERP requires adequate staff, equipment, software/hardware resources, and pre-planning. This section discusses the resources available and the general procedures associated with the SSO response.

3.1 Resources

The City of Fort Smith maintains resources, in terms of personnel, equipment, and access to outside contractors, to safely respond to and halt SSOs.

The City of Fort Smith maintains a staff of response personnel ready to respond to SSO events, 24 hours a day, 365 days per year. SSO response activities are primarily the responsibility of the Sewer System Program Manager and his/her staff; although support from other Utility Department divisions may be necessary depending upon the location and cause of the SSO. The primary roles and responsibilities for the procedures associated with the OERP are as follows:

- The System Control Operator is responsible for receiving notification calls and initiating the SSO response, including opening of a work order for the reported event and dispatching response personnel to the subject site.
- The response personnel arrive on-site and act as "first responders" to potential SSO occurrences. Response personnel are tasked with first evaluating the safety of the situation, then determining if a reported issue is indeed an SSO, and whether the response to the overflow is the responsibility of the City of Fort Smith. If the SSO is the responsibility of the City of Fort Smith, the response personnel will assess the apparent cause of the SSO, identify the impacted area, establish a control zone, determine whether additional resources are needed, and take actions to halt or contain the overflow, as necessary.
- The Supervisor is responsible for oversight and guidance of the response personnel. The Supervisor works with the response personnel to provide resources to halt and remediate the SSO. The Supervisor confirms the findings of the response personnel and provides information to the Sewer System Program Manager for reporting to ADEQ.
- The Sewer System Program Manager, or his/her supervisors, is responsible for submitting reports to ADEQ, providing general oversight to the Supervisor responding to the SSO, and identifying the necessary post-SSO WCTS investigations.

The City's response personnel have the necessary equipment available to respond to SSOs, including a jet-vacuum combination truck, a power rodder, and miscellaneous supporting equipment (sand bags, signage, public access restriction rope/tape, disinfectant, etc.). The response personnel may request assistance from other City personnel with the following equipment as needed:

- CCTV inspection truck
- Backhoe
- Dump truck
- By-pass pumping equipment
- Repair parts and materials

The Supervisor will identify the necessary resources and techniques based on site accessibility, location of the sewage spill, size of impacted area, the need to minimize impact on the environment, and the risk of hazards to the public.

In the event that a SSO occurrence cannot be halted by City personnel, the City will enlist services of a private contractor to assist in the cessation of the SSO.

3.2 Overflow Response Procedures

For each active SSO to which the City responds, the primary objective, first and foremost, is to halt the release of sewage. This objective is particularly applicable for SSOs with higher flow rates. There may be cases where a very quick containment action may prevent significant impacts; however, halting the actual SSO will typically result in the least overall impact. Field conditions, along with the experience and judgment of the response personnel, must drive the actions of the personnel to protect public health and minimize environmental impacts.

The City of Fort Smith's investigation of a possible SSO begins when a customer, a City employee, supervisory control and data acquisition (SCADA) system, or outside party reports a possible overflow. The response activities will continue, as needed, through assessment, cleanup, reporting, and additional investigations. The SSO response procedures apply whether the SSO is from a gravity sewer, pump station, or force main. Any special direction or conditions required for pump station and force main SSOs are noted within the text of each step.

3.2.1 Initial Notification

Notifications of possible SSOs may originate from multiple sources such as the City of Fort Smith personnel, SCADA, or the public. Any person with a potential SSO, including customers with potential Building/Private Property Backups, should call the System Control Operator phone line at (479)784-2342 to report the situation.

The steps associated with receipt of the initial notification are described as follows:

- **First Communication** – To ensure that the City is made aware of each SSO as expeditiously as possible, there are several methods by which a potential SSOs may be reported. City personnel or the public may detect an overflow or report suspicious circumstances which indicate the possibility of an overflow.

  During business hours, SSO-related calls are normally received and managed by the System Control Operators. Should an SSO-related call be received by the City by someone other than the System Control Operator during normal business hours, the call will be forwarded

to the appropriate System Control Operator. During non-business hours, calls are taken by the System Control Operator, who reports any potential SSOs to the response personnel.

System Control Operators create a work order documenting the caller identification, location of the problem, general nature of the problem, contact information, and, if acceptable to the caller, a callback number. Once notified, the City of Fort Smith will make reasonable efforts to respond quickly to SSOs.

- **SSO Classifications** – Based on the information available at the time of the first communication, the System Control Operator will make the initial determinations on the classification of the overflow. Initial factors in determining the classification of an event will include whether the overflow is influenced by a wet weather event and the appropriate personnel for dispatch (i.e. pump station or gravity main/force main response personnel). These determinations may be reevaluated later in the SSO response process if the initial information was deemed misleading or incorrect. In the case of potential SSOs associated with pump stations, pump station personnel will be dispatched to address the issue at the pump station while gravity main personnel may be required to conduct SSO remediation activities, such as containment and cleanup.

- **Response Personnel** – The System Control Operator will inform the appropriate Supervisor and response personnel of a possible SSO. The response personnel will investigate and determine the extent of the problem. The System Control Operator will also issue the SSO tracking number for record keeping purposes.

3.2.2 On-site Response Activities

Although the details of the SSO response activities may vary based upon the field conditions encountered, the following activities are typically conducted by personnel at the site of the potential SSO:

- **SSO Confirmation** – The response personnel are responsible for confirming that there is a release of wastewater at the site, as opposed to another issue such as a water main break. If release of wastewater is not confirmed, then the work order will be closed or re-classified, as required.

  The response personnel are also responsible for determining if the release of wastewater is the responsibility of the City or if it is the result of a failure on the customer's private service line. If release of wastewater is not determined to be the responsibility of the City, then the work order is closed. Additional information regarding the process for this determination and resulting activities are presented in **Section 3.2.4.**

  When the response personnel confirms the SSO is the responsibility of the City of Fort Smith, they will contact the appropriate Supervisor (if not already at the scene), contact the System Control Operator to make note in the record, and proceed with the SSO response.

- **Safety Assessment** – The response personnel will assess the safety of the SSO location, including observations of an oily sheen, foaming, chemical smell, or other potential risks. If

any safety-averse conditions are noted, the response personnel will contact their Supervisor for guidance prior to proceeding with the response process.

- **Initial Diagnosis of SSO** – Once an SSO is confirmed and the situation is determined to be safe, the Supervisor and/or response personnel will begin to ascertain the source of the discharge or the flow's origin and determine the cause of the discharge. This determination may vary depending on the type of SSO. The Supervisor and response personnel will also determine if the overflow can be contained or controlled to minimize the amount of flow released. The cause of the overflow will determine the type of mitigation or remediation that is most appropriate. Additional resources or assistance will be requested as required.

- **More Resources Needed to Diagnose or Remedy** – The response personnel will initiate immediate response activities that should be applied if the SSO is active at the time the response personnel arrives on site. If active flow can be halted, then response personnel should proceed with the remedy; however, if additional resources are required, they should be requested. Additional resources may include additional personnel, a CCTV inspection truck, backhoe, bypass pumping equipment, etc. Additional information on the decision-making process to establish a wastewater pump-around is described in **Section 3.2.3**.

  Additional resources may be requested at any time during the SSO response. In particular, if the SSO is related to a pump station or force main, the response personnel will request assistance from the Operations Division to coordinate activities to minimize the impact of the SSO event, such as temporarily shutting down a pump station to address a break on the force main.

- **Identification of Impacted Area** – When evaluating the potential impact of an SSO on the public health and environment, the response personnel will identify any sensitive issues in the area. These issues will determine the level of public notification and cleanup activity required. These sensitive issues may include the proximity of the SSO location to a receiving water, a public area such as a park or school, or other factors which may necessitate additional response activities. Additional information on public notifications is provided in **Section 3.2.5**.

- **Establishment of a Control Zone** – Control zones are established to help prevent public access around the perimeter of the affected area by using signs and barricading practices, when deemed appropriate due to the nature of the SSO. After the response personnel identify the area impacted by the SSO, the next step is to develop and implement a control zone around the impacted area, as necessary. The control zone may utilize temporary flow diversions (sand bags, etc.), as appropriate, to restrict flow from spreading further, reaching waters of the United States, or causing additional damage.

  If the control zone includes roadways, then appropriate traffic control measures are taken to protect the public and the City personnel, as necessary. If the control zone includes areas that could be accessed by the public, then safety tape or other appropriate measures are used to warn the public to avoid entering these areas.

- **SSO Remediation** – Following establishment of a control zone, as needed, the response personnel will proceed with stopping the SSO and correcting its cause. Activities required to remedy the SSO are dependent upon the cause of the SSO, field conditions, etc. Appropriate activities will be selected by the response personnel with input from the Supervisor, as needed.

  Following remediation activities, the response personnel will confirm that the overflow has ceased. If overflow has not ceased, then personnel should revisit the assessment phase of the decision process.

- **Check Time verses SSO Start** and **Issue twenty-four (24) hour report if needed** – Initial reporting to ADEQ is required within twenty-four (24) hours of notification of a confirmed SSO. The response personnel and Supervisor should be aware of the reporting requirements; such that the appropriate information is provided to the Sewer System Program Manager prior to when the twenty-four (24) hour timeframe is reached. This initial documentation should not interfere with correcting the cause of the SSO but should occur concurrently. See SSO Documentation and Reporting Program Plan for detailed information on this process.

- **Site Cleanup and Disinfection** – After an SSO is stopped and contained, the response personnel will perform site cleanup to restore the impacted area, as necessary. The personnel should consider site specific remedies depending on location and public access to the affected area. In general, the response personnel will attempt to remove as much debris, as reasonably possible, from the site for proper disposal. Personnel will then apply disinfectant in areas where human contact may occur. If the overflow has entered, or has the potential to enter, receiving waters, the response personnel will consult with the Supervisor to collaboratively identify the scope of the cleanup.

- **Documentation and Reporting of SSO Activities** – The response personnel will work with the Supervisor to complete required documentation of the SSO. This documentation will include all information required for the final report to ADEQ, as discussed in detail in the SSO Documentation and Reporting Program Plan. Documentation activities will also capture pertinent information about the SSO response, including photographs before and after cleaning (if possible). The SSO volume will be estimated by response personnel in accordance with the guidelines presented in **Appendix A**.

- **Post-SSO WCTS Investigations** – The City shall perform investigations to determine the primary causes of each SSO after its cessation (See **Section 3.3**). Investigations shall commence as soon as technically feasible but will occur no later than seven days after the cessation of the SSO. No WCTS investigations are requiring for Recurring Wet-Weather SSOs if the City believes they are caused solely by previously-documented capacity constraints and if no sewer system cleaning or other maintenance activities were required to stop the prior SSOs at that location.

- **Close Work Order**- Following completion of SSO response activities, the Supervisor will notify the System Control Operator to close the active work order.

3.2.3 Wastewater Pump-Around Determination and Procedure

If an active SSO is caused by a gravity sewer main collapse, a broken force main, or the failure of a pump station, such as pump failure or loss of power to the station, the location will be evaluated for the need to establish a wastewater pump-around. Wet-weather SSOs that are caused by a lack of pump station capacity will typically not have a pump-around operation established, as these are expected to subside as flows return to normal, dry-weather flows.

When appropriate, portable bypass pumps can be used to collect overflow from the area and convey it back into the sanitary sewer system beyond the disruption of service. The overflow is typically directed to the next downstream manhole or force main connection point. The pump-around equipment can be used in conjunction with other containment measures or may be used independently.

The determination to deploy a wastewater pump-around will be made by the Supervisor (based on the information available). In general, the decision to deploy a pump-around operation will consider the following:

1. What is the anticipated duration for reinstating the pump station or force main's operation?
2. Can the total anticipated SSO volume be adequately contained?
3. Can a vacuum or pump truck be utilized to capture the SSO volume for discharge downstream and/or at the treatment plant?
4. Is the SSO located in a sensitive area, such as a receiving water or public area that requires special consideration?

3.2.4 Response to Releases on Private Property

In the event of a sewage release onto private property or one that causes a building backup, the City will make all reasonable efforts to respond quickly. The response personnel will evaluate the release of wastewater, i.e., a potential SSO, including whether the backup was caused by conditions in the Private Service Line or in the WCTS into which the Private Service Line connects. The process used to determine whether a release of wastewater was caused by conditions in the Private Service Line or within the WCTS system begins with the initial evaluation of the release's location and the location of the potential disruption. This evaluation is typically accomplished by first checking manholes upstream and downstream of the location of the potential SSO. If the potential SSO is active and both manholes appear to be flowing freely with no evidence of surcharging, the cause is likely the Private Service Line. If either manhole shows evidence of surcharging or restricted flow, the conditions causing the SSO are likely in the WCTS and the response personnel should proceed with their SSO response activities.

If the results of City's investigation indicate the release of wastewater was caused by conditions in a Private Service Line, the response personnel will notify the homeowner that the blockage or other defect is in their Private Service Line or building's plumbing. The City will not report these releases of wastewater to ADEQ but will follow up on these occurrences as part of the Private Service Line Defect Remediation Program.

If the results of City's investigation indicate the release of wastewater was caused by conditions in the WCTS, i.e., it is a Building/Private Property Backup, the response personnel will notify the homeowner of the results of the investigation and will provide information to the homeowner about available cleanup support from the City.

3.2.5 Public Notifications

Where applicable, the City will notify the public of the occurrence of an SSO via signs, door hangers, or press releases.

- **Signs** – Sign posting provides a warning of potential public health risks due to sewage contamination. Contamination warning signs will be posted at sewer overflow sites when the overflow is in a public area and/or enters a waterway until the site is determined to be clean. Access to the affected area will be restricted to authorized personnel only. The Supervisor will make final decision about posting signs.

- **Door Hangers** – Where warranted, the City may use a door hanger to notify customers that an SSO has occurred in their area. The door hanger includes contact information for the City of Fort Smith and blank fields where the date and location of the overflow can be filled in as needed. The Supervisor will decide if distributing door hangers is warranted.

- **Press Releases** – The City may issue a press release to notify the public or applicable governmental agencies of the occurrence of an SSO and its impacts in instances required by permit or law. This decision will be made by the Director of Utilities.

3.3 Post-SSO WCTS Investigations

The City shall perform investigations to determine the primary cause of each SSO after its cessation in order to implement appropriate measures to reduce the risk of reoccurrence. Post-SSO WCTS investigation activities are completed based on the SSO's reported cause using appropriate equipment, mapping, and observation techniques.

Each post-SSO investigation begins with a review of information collected during the SSO response, work order history, customer complaint history, available CCTV inspection data, and other applicable information. This information will be reviewed to further assess the primary cause of the SSO and determine what additional investigations are required. In limited scenarios, the review of available information may provide adequate information to determine the primary cause of the SSO and assess the need for additional corrective measures (implemented through other Consent Decree programs). For instance, an SSO resulting from a power outage at a pump station may not warrant additional field investigations.

The Sewer System Program Manager will determine the type(s) of field investigations that will be conducted based upon information available. For SSOs related to blockages, the sewer segment will typically undergo CCTV inspection in order to assess the cause of the blockage, e.g. roots, protruding service tap, etc. The additional information obtained via the field investigations will aid in the identification of corrective measures to reduce the risk of reoccurrence.

Post-SSO WCTS investigations will commence as soon as technically feasible, but no later than seven (7) days after the cessation of the SSO. No WCTS investigations are required for Recurring

Wet-Weather SSOs if the City believes they are caused solely by previously-documented capacity constraints in the pipe segments downstream of the SSO location and if no sewer system cleaning or other maintenance activities were required to stop the prior SSOs at that location.

Section 4
Record Keeping and Reporting

4.1 Record Keeping

As required by the Consent Decree, records associated with the OERP will be saved in the City's document management system and maintained as required under the records retention policy. This includes maintaining records of SSOs for a minimum of ten (10) years after the date that the SSO occurred.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its Information Management System (IMS), as described in Article Seven, Paragraph 50 of the Consent Decree, will be submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

4.2 Reporting

Per Article Seven, Paragraph 49 of the Consent Decree the City must submit a tabulation of the OERP activities performed in each Calendar Year in the Annual Report for that Calendar Year as described in Section X of the Consent Decree. Additional information on the immediate, monthly, and annual SSO reporting requirements are described in the SSO Documentation and Reporting Program Plan.

Section 5
Training and Standard Operating Procedures

5.1 Training

Per Article Seven, Paragraph 55 of the Consent Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the City's employees. The City's CTP plan will be submitted to EPA for approval within eighteen (18) months of the Date of Lodging (i.e., by July 1, 2016). The CTP will be directly related to the operation and maintenance of the WCTS for the purpose of responding to and preventing SSOs.

5.2 Standard Operating Procedures (SOPs)

The plan and schedule for developing Standard Operating Procedures (SOPs) for general operation and maintenance of all components of the WCTS will be detailed in a report submitted to EPA within eighteen (18) months of the Date of Lodging (i.e., by July 1, 2016) per the Consent Decree.

Appendix A
SSO Volume Estimation Method

The volume of sewage discharged from the system will be initially estimated by the response personnel. Final estimates will be used for reporting purposes. The individual preparing the estimate should determine the most appropriate estimation method from the following:

1. Duration and flow rate: By this method, the flow rate is determined by estimating the flow rate and multiplying that rate by the duration that the SSO occurred. Flow rate may be determined by flow meter data (if available) or estimated by correlating field observations to the photographs shown in **Example 1**. For instance, an SSO that occurs for 90 minutes at an estimated rate of 50 gallons per minute would have an estimated volume of 4,500 gallons. For SSOs observed to have variable flow rates, the response personnel should use their best effort to determine the average flow rate for a given duration of time, and make additional observations, as needed to estimate the SSO volume.

2. Measured Volume: This method is appropriate when the volume of an SSO is contained, and the shape and dimensions of the contained volume can be measured. The area can be obtained by estimating the length and width of the contained SSO volume (typically square feet, ft2). That area is then multiplied by the average depth of the SSO pool to obtain a volume (typically cubic feet, ft3). This number should then be converted to gallons by multiplying by a conversion factor of 7.48 (gal= ft3 * 7.48)

3. Visual Method: This method involves performing a visual estimate by mentally comparing the observed SSO volume to a known volume, such as a 5 gallon bucket or 50 gallon barrel. This method is typically only appropriate for relatively small SSO volumes (100 gallons or less).

4. Pump Station Estimates: When an SSO occurs because of a force main or pump station failure, available pump station operating data (when the station is operating normally) may be used to support the estimate of the SSO volume. This may include the rated capacity of the pump station, metered data, pump runtimes, etc.

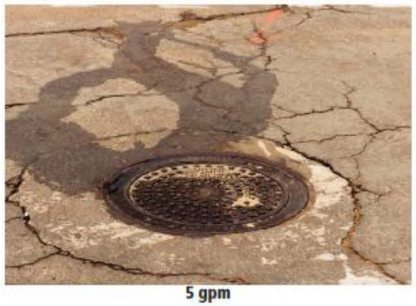
Estimates shall use the earliest start time, when the City learned of the SSO, and the known end time.

Example 1 Calculation of SSO Flow Rate from Manhole

City of San Diego
Metropolitan Wastewater Department

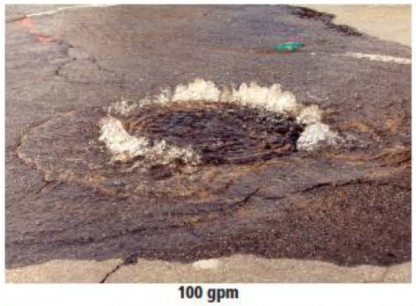
Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

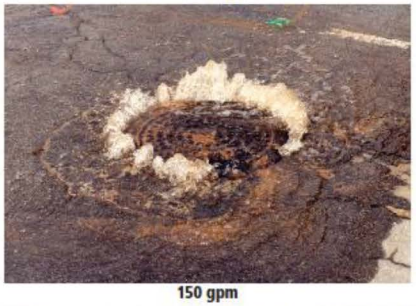
All estimates are calculated in gallons per minute (gpm)


5 gpm


25 gpm


50 gpm


100 gpm


150 gpm


200 gpm


225 gpm


250 gpm


275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

rev. 4/99