

Spill and Overflow Response Plan Metro Water Services, Nashville May 2022



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.

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5-23-2022

Date

Executive Summary

This Spill and Overflow Response Plan (SORP) details how Metro Water Services (MWS) responds to and mitigates the impacts of sewer overflows on its customers and the environment. The outline below summarizes the sections of this report in which further details are given.

1. Types of Sewer Overflows

Sewer overflows are categorized primarily by flow composition and cause. These categories include sanitary sewer overflows (SSOs), combined sewer overflows (CSOs), and wet- and dry-weather overflows.

2. MWS Organization & Resources

Metro Water Services is a local water, wastewater, and stormwater utility serving Nashville and Davidson County, Tennessee. The structural organization and numerous resources of this department allow it to quickly and effectively respond to sewer overflows and mitigate their impacts. This section includes organizational information, system data, and details on employee and equipment resources.

3. Sewer Overflow Response Standard Operating Procedure (SOP)

This section provides details on the progression of a sewer overflow from initial detection through correction, including the steps listed below:

- Detection of sewer overflow
- Notification of MWS personnel
- Field mitigation activities
- Regulatory reporting
- Follow-up measures

4. Preventive Measures

MWS utilizes numerous measures to help prevent sewer overflows in the future. These measures include preventive inspections and line cleaning, public education, field inspections, and infrastructure rehabilitation efforts by the Clean Water Nashville (CWN) program.

Appendix

This section includes examples of typical standard documents and other information.

1. Types of Sewer Overflows

The MWS service area includes both a combined sewer system (CSS) and a sanitary sewer system (SSS). The CSS collects and conveys both stormwater and sanitary sewage combined in the same pipes, while the SSS collects only sanitary sewage. In the SSS stormwater is collected in separate pipes.

Sewer overflows are categorized by flow composition and primary cause. A sanitary sewer overflow (SSO) is a discharge of sanitary sewage from any unpermitted location as a result of a problem in the public sewer system. This report further categorizes SSOs into either wet-weather or dry-weather overflows.

Wet-weather overflows result from excessive flows during significant rain events and/or elevated ground and surface water conditions. Specific sources include:

- Illicit cross-connections from downspouts, roof drains, or sump pumps
- Groundwater infiltration at pipe joints or other openings
- Inflow from bodies of water into defective or missing manhole covers

Overflows during dry weather are often caused by obstructions or flow restrictions in the line or sewer system. These blockages may be due to one or more of the following causes:

- Damaged or collapsed sewer line
- Fats, oils, and/or grease (FOG)
- Root intrusion
- Excessive sewer debris
- Other debris, including illicit materials
- Pump station and/or force main problems

A combined sewer overflow (CSO) is a discharge of a combination of stormwater and sanitary sewage at a permitted location such as outfall sites during wet weather. Wet-weather CSOs are allowed under the Central WWTP NPDES permit and are not violations. All of the MWS CSO outfall sites discharge directly to the Cumberland River. A discharge from the Combined Sewer System during dry weather is a violation and may require additional response depending on the impacts. MWS responds to dry-weather CSOs in a manner similar to SSOs under this SORP.

2. MWS Organization & Resources

Metro Water Services is a local water, wastewater, and stormwater utility serving Nashville and Davidson County, Tennessee. The wastewater system serves over 800,000 customers throughout a service area covering over 500 square miles. The system is comprised of:

- Over 3000 miles of gravity main lines
- Over 160 miles of force main lines
- 118 pump stations (as of 2021)
- 3 wastewater treatment plants

At the time of this report MWS has over 900 employees over multiple divisions:

- Accounting
- Administration
- Customer Service
- Development Services
- Engineering
- Human Resources & Safety

- Laboratory
- Operations / Plants
- Route Services
- Stores
- Stormwater
- System Services
- Waste Services

Sewer overflow response requires coordination among employees in all divisions of MWS utilizing available equipment. In addition to these MWS divisions, the System Services Division also maintains a multiyear contract with a sewer maintenance contractor to supplement its manpower and equipment. A list of equipment used in the correction and mediation of sewer overflows can be found in the Appendix. MWS also holds a contract with a sewer maintenance contractor to provide additional equipment and services as needed.

3. Sewer Overflow Response Standard Operating Procedure (SOP)

MWS follows a standard operating procedure (SOP) to respond to sewer overflows from the initial detection through follow-up measures after correction. This section details these phases and procedures.

Detection of sewer overflow

MWS's response to an SSO begins when a possible overflow is reported by telemetric equipment, routine inspection, or an eyewitness. The latter is typically reported by calling the 24/7 MWS Dispatch number (615-862-4600). Once a Dispatch employee receives notification, he or she records the details and customer information into the computerized maintenance management system (CMMS), currently Infor Public Sector (IPS).

Notification of MWS personnel

After the report of an overflow is recorded in the CMMS, the MWS Dispatch representative initiates a service request (SR) and dispatches it to a first responder. The role of first responder may apply to multiple job classifications but refers to the MWS employee who reports to the site for the purpose of confirming or refuting the presence of a sewer overflow and initiating further mitigation measures as needed.

Field mitigation activities

The MWS first responder uses system maps in GIS to locate the site of the reported overflow. Upon arrival at the site, he or she inspects the area for signs of an overflow. Some reported sewer overflows are actually due to other causes such as groundwater, and in these cases the first responder notifies the appropriate party accordingly. He or she also checks the upstream and downstream manholes on the public sewer main for any signs of overflow or blockage. If there is no evidence of blockage in the public sewer main, the first responder diagnoses the problem as "private trouble," or an issue resulting from trouble with private infrastructure such as the private sewer lateral or indoor plumbing. In this situation, the first responder attempts to contact the customer or leaves a brochure detailing the MWS sewer service line policy with the customer informing them of their next steps to resolve the problem. A copy of this brochure is included in the Appendix.

However, if the first responder sees evidence of a blockage in the public sewer main (typically a sluggish flow or manhole holding sewage), he or she will create a work order for sewer line cleaning and request a sewer cleaning crew with a jet/vacuum truck on site. The sewer cleaning crews work in the Sewer Maintenance Section within the System Services Division of MWS.

Once the sewer cleaning crew arrives on the site, they attempt to clean the line by inserting into the manhole a hose with a high-pressure nozzle and connected to the water tank on the truck. If they are unable to re-establish flow because the line is collapsed, they work with TV inspection personnel to mark the location and contact the Repair Section to initiate a repair on the line. If the overflow cannot be resolved within a timely manner, the crew may set up bypass pumping equipment on site to pump the sewage into a downstream manhole until the overflow can be resolved. If necessary, containment measures such as sandbags or filter devices may be set up on site to protect stormwater inlets or private property. If the overflow is significantly impacting the stormwater system, a body of water, or other stormwater infrastructure, the sewer cleaning crew will contact the Stormwater-NPDES Section for evaluation and further assistance.

If the overflow is impacting an area of public use and/or significant pedestrian activity, the sewer cleaning crew may need to set up a control zone with cones, stakes, caution tape, or similar materials to protect the area from human contact. In this case coordination with the MWS Public Information Officer will be initiated for assessment and any public communication necessary.

If there is evidence that a sewer overflow from the public sewer infrastructure has damaged private property or that conditions in the public sewer infrastructure have resulted in a building backup, the sewer cleaning crew may refer the customer(s) to the Claims Division of the Metro Legal Department to discuss the claims process for possible reimbursement for damages.

Regulatory reporting

Within 24 hours of observation of an unpermitted sewer overflow, MWS reports the overflow to TDEC with a standard form via email. An example of this form including required information is included in the Appendix. Each month personnel from multiple MWS divisions meet to review the previous month's reported overflows. Following this meeting, the monthly report is submitted to TDEC as well.

Follow-up measures

Following reportable SSOs personnel from MWS perform cleanup measures if necessary. These measures may include removal of waste and debris by vacuum, backhoe, and/or hand tools, as well as treating the site with lime and/or straw. If repair work is required on any of the infrastructure, it will be completed and the site will be restored to grade as necessary.

MWS follows up dry-weather SSOs with CCTV inspection to confirm that no obstructions remain that may significantly block flow in the sewer line. Any remaining blockage or damage can be addressed by MWS personnel with additional cleaning or repair efforts as necessary.

MWS reports private sewer overflows not due to problems in public infrastructure to the Metro Codes Department for further investigation and enforcement as necessary. Sewer maintenance personnel also notify the Stormwater NPDES Division if a substantial amount of sewage material is exposed on private property that could flow into the public drainage system during a storm event. Metro Nashville Davidson County Code 15.40.050 details the responsibilities of both the customer and MWS with regard to sewer service connections. A copy of the text of this Code is included in the Appendix.

4. Preventive Measures

MWS has several practices in place in order to be proactive in the prevention of future sewer overflows. Periodic walking of larger trunk lines helps identify system defects like missing manhole covers or cleanout caps that can allow stormwater inflow into the sanitary sewer system. Once identified these defects can be corrected by MWS personnel or customers as needed.

In addition to follow-up CCTV inspections following sewer overflows, MWS also performs routine system CCTV inspections with cleaning as needed. MWS maintains a list of sewer line segments that have records of frequent blockage due to roots or grease/FOG and performs routine preventive cleaning and inspection as necessary. These lists are updated as necessary with sewer line segments added or deleted based on current conditions.

Similarly, MWS maintains a watch list of sewer manholes with records of multiple previous wet-weather overflows. During significant wet weather events, an inspector from MWS visits these manholes for visual observation. If such a wet-weather overflow is observed, the inspector records all relevant data for regulatory reporting and an overflow report is submitted to TDEC. Wet-weather SSO mitigation may not be possible until the overflow subsides. Reports and data on these frequently overflowing manholes help the Clean Water Nashville program identify areas of the collection system prone to overflows and design and implement improvements accordingly.

The Clean Water Nashville Overflow Abatement Program (CWNOAP or CWN) is the MWS capital improvement program to comply with the Consent Decree against the Metropolitan Government of Nashville and Davidson County. The objective of CWN is to implement the system improvements included in the Corrective Action Plan/Engineering Report (CAP/ER) to mitigate SSOs and in the Long Term Control Plan (LTCP) to mitigate CSOs. The program also includes sewer rehabilitation of other areas to further improve the collection system and prevent sewer overflows. These and other documents, as well as information on the program and its improvement projects, are included on the CWN web page at www.cleanwaternashville.org.

A common cause of sewer overflows is the discharge of fats, oils, and/or grease (FOG) by customers. In order to help prevent these overflows, the Environmental Compliance Section (ECS) of MWS performs additional activities. ECS routinely inspects food service establishments and other FOG-producing customers to ensure proper pretreatment including grease traps. This section also investigates FOG-related sewer overflows and sends brochures to customers in areas of FOG-caused overflows to educate them on these impacts. A copy of one of these brochures is included in the Appendix.

Appendix

**Sewer Overflow Notification Form
(Revised 2022)**

**From: Metro Water Services – Nashville
MWS TELEPHONE NUMBER: 615-862-4600**

Date of this report (Today's date) _____
Reported by _____
Supervisor on Duty _____
Date overflow was observed on site _____
Time overflow was observed on site _____
Date overflow ended _____
Time overflow ended _____
MH number (XXX-XX-XXX) _____
Address nearest to the overflow _____
Volume (Seep, Over 100 gal, or Over 1000 gal) _____
Did sewage reach a body of water? _____
 IF Yes, which body of water? _____
Did sewage enter the stormwater system? _____
 IF Yes, which body of water does it flow to? _____
Corrective action taken (Removed blockage, etc.) _____
Cause of overflow (see list) _____
Is any site clean-up necessary? _____
Will the line be reported for follow-up televising? _____
Did the customer report a building backup? _____
Basin (Central, Dry Creek, Whites Creek) _____
Downstream PS _____
Additional Notes _____

If you have sewage backup and a plumber is unable to solve the problem, call Metro Water Services (MWS) at 862-4600 and ask for Emergency Service.

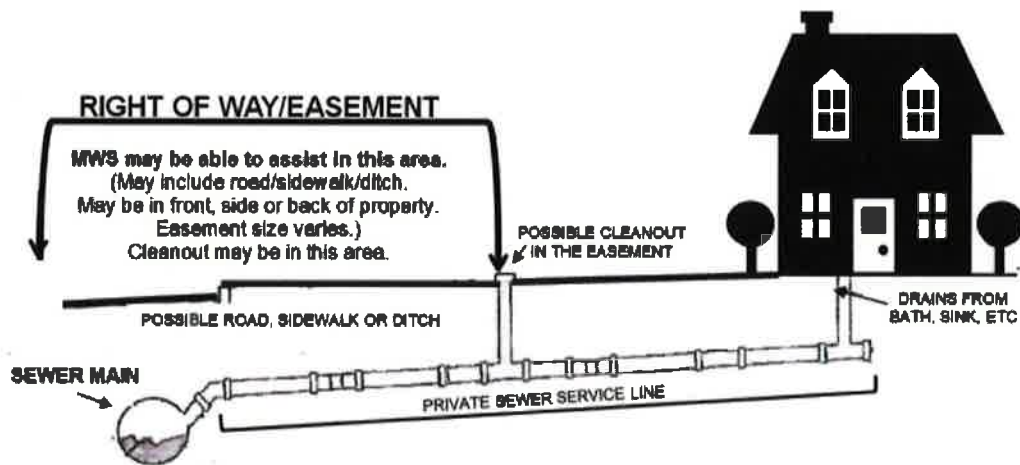
After having a plumber attempt to correct your problem, MWS may be able to assist you.

Please note that the property owner owns, and is responsible for, the service line from the building to the sewer main. However, if the problem is in your service line within the sewer easement (see drawing) we may be able to use our equipment and labor to provide assistance by inspecting, cleaning, and/or repairing the pipe as necessary using the procedure detailed below.

1. The property owner must sign a waiver form requesting MWS assistance and allowing our personnel permission to work on the service line.
2. If you have a cleanout within the sewer easement, we may be able to use it to access your service line to inspect and clean toward the main as necessary.
3. If further assistance is needed, the property owner or their plumber must excavate the service line and cut a 2-foot opening in the pipe at the sewer easement line. Prior to digging, call MWS to Schedule MWS crew at the number shown above. Tennessee One-Call Service (1-800-351-1111) must be notified prior to any digging.

We can inspect the service line from the opening toward the main line and clean or repair as necessary. The property owner bears the expense for cutting/reattaching the pipe and filling in the hole afterward, unless Metro Water Services makes repairs to the pipe(s). Only when we must repair or replace the pipe within the easement will Metro Water Services reattach the pipe and fill the hole. We will also repair the road and sidewalk, if needed. (No charge for residential customer. Commercial Customers will be billed.)

Please note that we do not clean or televise directly toward the building served. MWS is not liable for plants or structures removed during inspection, cleaning, and/or repair. All cleanout caps must remain on at all times, except during inspection or cleaning.



METRO WATER SERVICES PRIVATE SEWER SERVICE POLICY DETAIL
METRO ORDINANCE BILL #2006-1239 15.40.050 Maintenance of service connection

- A. The owner will own and maintain his sewer service line from the public sewer main to the structure served
- B. If the owner experiences sewer service interruption as a result of a sewer service line failure and has demonstrated a good faith effort to remedy the problem, the department shall make any necessary repair on the portion of sewer service line inside the public right-of-way or easement from the main to the boundary of right-of-way or easement. Provided, however, that before the department will make such repairs, the owner must provide an excavated clear and open access to the sewer service line at the right-of-way or easement boundary. Residential customers will not be billed. Commercial customers shall pay all costs of repair incurred by the department.

Equipment used in the correction and mediation of sewer overflows:

- Closed-circuit television (CCTV) equipment and vehicles
- Combination jet/vacuum trucks with various nozzles
- Pickup trucks
- Dump trucks
- Backhoes
- Trailers
- Excavators
- Generators
- Bypass pumps
- Hand tools, including shovels and rakes



NOTIFICATION

Your residential area was recently identified as causing obstruction to the sanitary sewer system due to Fats, Oils and Grease (FOG) discharged from houses in your neighborhood. FOG obstruction and interference to the sanitary sewer system can cause sanitary sewer overflows which pollute Nashville's streams. The United States Environmental Protection Agency (EPA) and the Tennessee Department of Environment & Conservation require Metro Water Services to take action to prevent sanitary sewer overflows. This notification is to make you aware of fats, oils and grease pollution prevention actions you should take to prevent sewer line blockages and sanitary sewer overflows.



Sanitary Sewer Overflows caused by fats, oils and grease.



Sewer line blockage from grease.



Metro has to clean grease from sewer lines to prevent overflows.



Fats, oils & grease can cause blockage in your home's sewer system too.



Implement the following Best Management Practices to Prevent Fats, Oils & Grease Blockages & Problems:



1. Do **NOT** pour any cooking oils or grease into your kitchen sink, bathroom sink, toilet or other drain lines.
2. Pour all used cooking oils and grease into a small container so it can cool and harden. When the container is full, cap the container or cover it tightly, place in a bag to prevent leakage and put in garbage container.
3. Dry wipe all pots, pans and plates before washing in sink or dishwasher. Use paper towels and wipe grease and food contents into a garbage container.
4. If you have a kitchen sink garbage grinder, use this as little as possible since food particles and grease from the grinded material will still clog your pipes and affect the downstream sewer system.



SEE Reverse Side of this Handout for "Wipes" and other items not to flush down toilet or house drains 



Welcome to the “No Flush” Zone!

RESIDENTIAL NOTIFICATION: Sewer line backup, blockage and overflow can occur if you flush or put any items in your toilet or drains other than human waste and toilet paper. **Don't be lazy!** Put all of the following items in the trash, NOT the toilet! This will prevent sewer line blockage problems in your house and neighborhood.

Make your home a “No Flush” zone. Items NOT to flush down any toilet or drain in your house:



1.WIPES: DO NOT flush, even if it says “flushable” because they can still cause sewer blockage. This includes baby wipes, disinfectant wipes, facial wipes and cleaning wipes.



2.COTTON BALLS, SWABS & PADS



3.ADHESIVE BANDAGES

4.HAIR



5.DENTAL FLOSS & WHITENING STRIPS



6.DISPOSABLE DIAPERS



8.MEDICATION including expired or unused prescriptions AND over-the-counter medicine. Expired or unused medicines should go back to the pharmacy or put into the trash.



7.KITTY LITTER & BOX LINERS

For more information please visit – <http://www.nashville.gov/Water-Services/Environmental-Compliance.aspx>