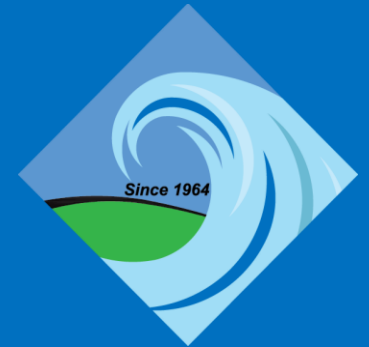




**ST. MARY'S COUNTY
METROPOLITAN
COMMISSION**

ERP



**Case No:
C-18-CV-22-000364**

**MDE v. St. Mary's County
Metropolitan Commission**

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CERTIFICATION

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 directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.



11-7-2024

George A. Erichsen, P.E.,
Executive Director

CONSENT DECREE REQUIREMENTS

Article Eight – Emergency Response Plan

A. General Requirements. MetCom shall develop and implement an Emergency Response Plan to respond to SSO events and to protect public health and the environment if an SSO occurs.

B. Specific Requirements. **Within 90 days** of the Date of Entry, MetCom shall submit the Emergency Response Plan for review and approval in accordance with Section VI (Review and Approval Procedures).

1. For SSOs, the Emergency Response Plan shall include, but not be limited to, the following:
 - a. A description of the actions MetCom shall undertake to provide notice to the public in accordance with Envir. § 9-331.1 and the regulations established thereunder, as amended, including a timeframe to post SSO notifications on the homepage of MetCom’s website and its social media platform(s) for at least 10 days following approval by the St. Mary’s County Health Department;
 - b. A description of how MetCom shall notify the Department and the St. Mary’s County Health Department when SSOs occur;
 - c. A description of how MetCom shall coordinate with the St. Mary’s County Health Department to post areas using visible signage and test surface water where an SSO has occurred in accordance with Envir. § 9-331.1 and the regulations established thereunder, as amended;
 - d. A detailed plan describing the standard operating procedures to be followed by MetCom personnel in responding to an SSO event, including the steps to be taken to minimize the volume of unpermitted wastewater discharge as a result of an SSO, to clean the affected area, and to follow directives from the St. Mary’s County Health Department;

- e. A detailed plan describing the post-SSO analysis that MetCom shall implement to determine the root cause of each SSO and to prevent future SSOs, including the CCTV analysis that is required in Article Eight B.1.f., the process by which MetCom shall analyze that data and any related information to determine the root cause and ensure that the repairs made will prevent future SSOs, and the process by which MetCom shall implement the recommendations of that root cause analysis to prevent future SSOs, if applicable;
- f. CCTV in accordance with the NASSCO PACP Standards of any Gravity Sewer Segment where an SSO event has occurred within 10 days after the SSO event, unless the SSO was caused by a Pump Station failure that was un-related to the Gravity Sewer Segment;
- g. Identification of those locations at which an SSO is likely to occur first in the event of Pump Station failure for each Pump Station. The Emergency Response Plan shall identify existing Pump Station operating wet well capacity, additional onsite storage capacity, if any, and any in-line storage capacity. In addition, any annual updates to the Emergency Response Plan shall reflect the findings of, and improvements made pursuant to the SSES or the CAP Analysis. The Emergency Response plan shall include Pump station-specific emergency procedures and bypass strategies and estimated storage capacity (i.e., maximum volume of sewage that can be stored or pumped and hauled in the event of a Pump Station failure without causing an SSO and the estimated time, average flow rate, and maximum flow rate during which sewage can be stored or pumped and hauled before an SSO will occur);
- h. A general identification of resources that MetCom shall make available to correct or repair conditions causing or contributing to the SSO; and

- i. A plan to ensure annual training of MetCom personnel who respond to SSOs on their role(s) in the Emergency Response Plan, the importance of preventing SSOs, and adverse impacts of SSOs on public health and the environment (e.g., shellfish harvesting, water contact recreation, aquatic life, etc.)
2. In the event of an SSO, MetCom shall perform monitoring, sampling, and analysis in accordance with Envir. § 9-331.1 and the regulations established thereunder, as amended. MetCom shall provide copies of field reports and laboratory analysis results to the Department upon request.

C. Annual Review. MetCom shall review the Emergency Response Plan by **December 31** each year following the Date of Entry and update the plan as necessary until termination of this Consent Decree in accordance with Section XXIV (Termination). Updates or revisions to the Emergency Response Plan shall be subject to Section VI (Review and Approval Procedures).

D. Public Access. MetCom shall post the approved Emergency Response Plan, and any approved update(s) to the Emergency Response Plan, to its website within 10 days after approval by the Department. MetCom shall ensure that the approved Emergency Response Plan remains accessible to the public through MetCom's website until termination of this Consent Decree in accordance with Section XXIV (Termination).

Sanitary Sewer Overflow Emergency Response Plan

(SSO ERP)

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Introduction

1. **Objectives.** The objective of this Sanitary Sewer Overflow Emergency Response Plan (SSOERP) is to provide a standardized set of actions for the St Mary's County Metropolitan Commission (MetCom) staff to follow in the event of an unpermitted discharge (overflow) from the sanitary and combined sewer system. In addition, the adoption and implementation of the SSOERP should accomplish four (4) objectives:

- To provide adequate response to SSO's.
- To minimize an SSO's impact on public health, public safety, and property damage.
- To comply with regulatory and enforcement reporting and public notification requirements.
- To minimize the reoccurrence of SSOs.
- To minimize the Commission's liability.

2. **Distribution and Maintenance of Sanitary Sewer Overflow Emergency Response Procedure ("SSOERP").** The SSOERP is meant to be a dynamic document and will be updated at least once every year and as necessary to reflect any changes in staffing, equipment, response procedures or notification requirements. A hard copy of the SSOERP will be maintained at 43990 Commerce Avenue, Hollywood Maryland and an electronic copy will be online, on the MetCom web site at www.metcom.org and internally on MetCom common drives.

3. **Definitions.** For the purposes of the is SSOERP, the following definitions shall apply:

SSO shall mean *"any loss of wastewater or discharge from the Collection System which results in the direct or potential discharge of raw, partially treated, or diluted sewage into waters of the State, including any overflow or discharge of raw or diluted sewage onto the surface of the ground, into waterways, storm drains, ditches, or other manmade or natural drainage conveyances to surface or ground waters, except:*

- *An SSO of fifty (50) gallons or less to the ground that is cleaned up within one (1) hour of its occurrence; or*
- *An SSO to an impervious surface that is contained effectively and cleaned up so there is no direct or potential pollution of waters of the State from the SSO."*

Collection System shall mean *"the collection and conveyance system in Sanitary District 5 and Sanitary District 8 (including all pipes, Public Connections, Force Mains, Gravity Sewer Segments, Low Pressure Systems, Pump Stations, storage systems, manholes, and other components) owned by MetCom...that is designed to store or convey sewage to the Marlay-Taylor Water Reclamation Facility.*

Public Access

MetCom shall post the approved Sanitary Sewer Overflow Emergency Response Plan, and any approved update(s) to the Emergency Response Plan, on its website. If State review and approval is required, MetCom shall post within 10 days after approval by the Department. MetCom shall ensure that the approved Emergency Response Plan remains accessible to the public through MetCom's website.

SSO Detection

The processes that are employed to notify MetCom of the occurrence of an SSO include:

observation by the public, receipt of an alarm, or observation by staff during the normal course of their work. MetCom operates several wastewater pumping stations and lift stations. In the event of any pump failure, the high-level sensor should activate the SCADA alarm system, and the Operator (standby, if after hours) is contacted. To prevent overflow, wastewater from the wet well can either be pumped into a vacuum truck for disposal to a nearby sanitary sewer manhole or bypassed around the station into the sanitary sewer system.

Public observation. Public observation is the most common way that MetCom is notified of blockages and spills. Contact numbers and information for reporting sewer spills and backups are on MetCom's website which includes the corresponding telephone numbers for reporting sewer problems during and after normal business hours. The public may also utilize the online **311 Reporting System** to report SSO's at any time.

Staff Observation. MetCom staff conducts periodic inspections of various components of its public sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate staff that in turn respond to any emergency situations. Work orders are issued to correct non-emergency conditions as part of the Computerized Maintenance Management System.

Contractor Observation. The following procedures are to be followed in the event that a contractor causes or witnesses a Sanitary Sewer Overflow. If the contractor causes or witnesses an SSO they should:

1. Immediately notify MetCom Operations Department at 301.737.7400
2. Protect area storm drains, and
3. Protect the surrounding public, and
4. Provide Information to MetCom such as start time, appearance point, suspected cause, weather conditions, etc., and
5. Direct ALL media and public relations requests to MetCom staff.

First Responder Priorities

The first responder's priorities are:

- To follow safe work practices and accepted Standard Operating Procedures
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Wastewater Collections Superintendent, or his/her designee.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).

Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work. There may be times when MetCom personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

Initial Response

When an SSO occurs, MetCom shall notify the Department and the St. Mary's County Health Department in accordance *OPS-11-02 Sanitary Sewer Overflows* (found in **Appendix A**). In addition, the first responder must respond to the reporting party/problem site and visually check for potential sewer stoppages or overflows. The first responder should:

- Check for any non-sewer hazards (e.g., if the overflow/backup coincides with a storm, downed power lines could pose a hazard to the first responder.)
- Note arrival time at the site of the overflow/backup.
- Verify the existence of a sewer system spill or backup.
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- If the spill is large or in a sensitive area, document conditions upon arrival with photographs. Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
 - Small spills (i.e., spills that are easily contained) – proceed with clearing the blockage.

- o Moderate or large spill where containment is anticipated to be simple. Proceed with the containment measures.
- o Moderate or large spills where containment is anticipated to be difficult. Proceed with clearing the blockage; however, whenever deemed necessary, call for additional assistance and implement containment measures.

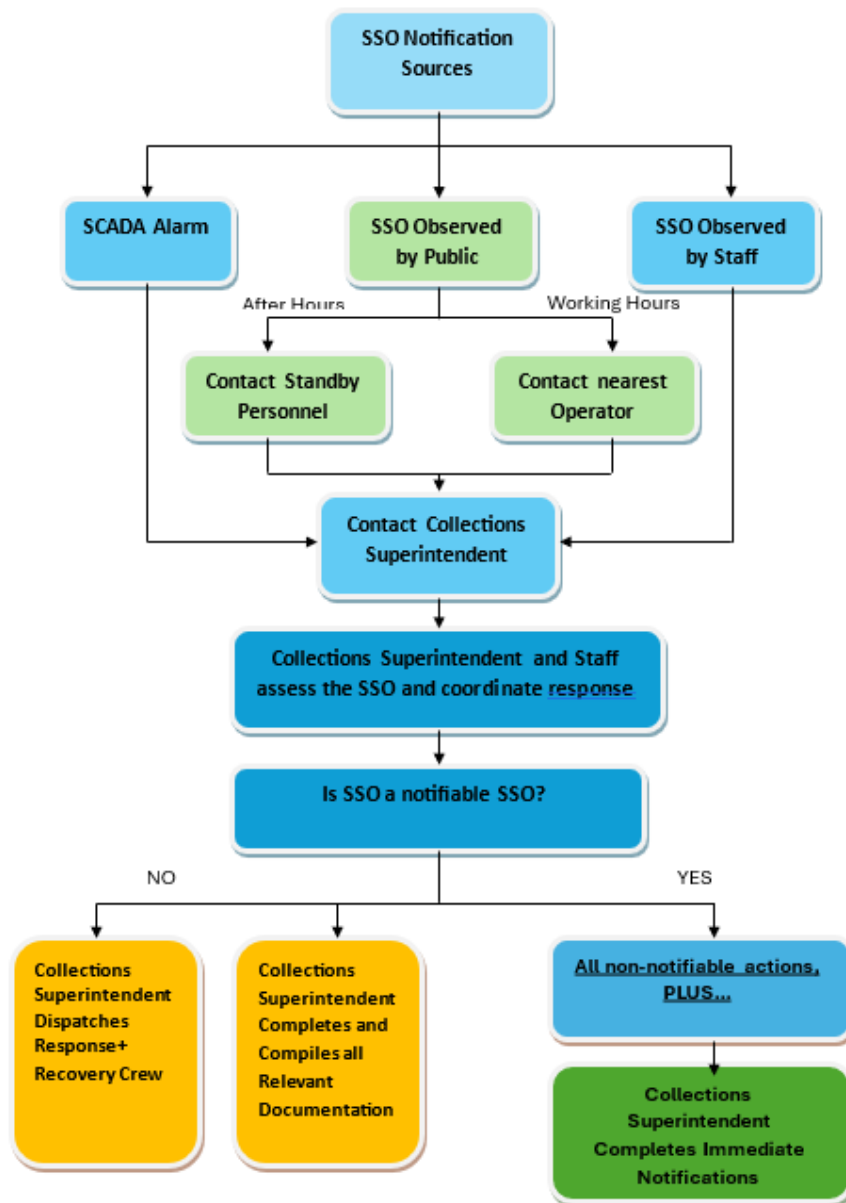


Figure 1 Flow chart for Sanitary Sewer Overflow responses and actions.

Restoration of Flow

Using the appropriate cleaning equipment, set up downstream of the blockage and hydro-clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream. If the blockage cannot be cleared within a reasonable time from arrival, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact other employees, contractors, and equipment suppliers.

Initiate Spill Containment Measures

The standard operating procedures to be followed by MetCom personnel in responding to an SSO event, including the steps to be taken to minimize the volume of unpermitted wastewater discharge as a result of an SSO is shown in **Appendix A**.

The first responder should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- If possible, plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with or may go into the storm water drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.
- Pump around the blockage/pipe failure/pump station.
- Standard Operating Procedures/Emergency Operating Procedures (see **Appendix B**) identifies existing wastewater pump station operating wet well capacity, additional onsite storage capacity, if any, and any in-line storage capacity to help identify those locations at which an SSO is likely to occur first in the event of Pump Station failure for each Pump Station. The appendix also includes pump station-specific operations and emergency procedures as well as bypass strategies and estimated storage capacity (i.e., maximum volume of sewage that can be stored or pumped and hauled in the event of a Pump Station failure without causing an SSO and the estimated time, average flow rate, and maximum flow rate during which sewage can be stored or pumped and hauled before an SSO will occur).

Technical Report(s)

MetCom will submit the required reports to the State and local Health Department in accordance with the Appendices contained herein.

Recovery and Cleanup

A detailed plan describing the standard operating procedures to be followed by MetCom personnel in responding to an SSO event, including the steps necessary to clean the affected area, and to follow directives from the St. Mary's County Health Department and is also shown in *OPS-22-01 Sanitary Sewer Overflows (SSO) Public/Code Red Announcements (Appendix C)*.

The recovery and cleanup phase immediately begins when the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and cleanup procedures include:

Estimate the Volume of Spilled Sewage. Use the methods outlined in section “*Methods for Estimating Spill Volume*” to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation.

Recovery of spilled sewage. Vacuum up and/or pump the spilled sewage and discharge any recovered wastewater back into the sanitary sewer system.

Cleanup and Disinfection. Clean up, disinfection or any other remediation procedures should be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event and should be coordinated with the St. Mary's County Health Department. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of MetCom staff, a cleanup contractor will be used. For hard surface areas, collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wash water. Allow area to dry. Repeat the process if additional cleaning is required.

Public Notification

A description of the actions MetCom shall undertake to provide notice to the public in accordance with Envir. § 9-331.1 and the regulations established thereunder, as amended, including a timeframe to post SSO notifications on the homepage of MetCom's website and its social media platform(s) for at least 10 days following approval by the St. Mary's County Health Department (further information found in *OPS-22-01 Sanitary Sewer Overflows (SSO) Public/Code Red Announcements, Appendix C*).

OPS – 11 – 02 Sanitary Sewer Overflows – Public Notification Protocols (Appendix A) also includes a description of how MetCom shall coordinate with the St. Mary’s County Health Department to post areas using visible signage and test surface water where an SSO has occurred in accordance with Envir. § 9-331.1 and the regulations established thereunder, as amended. In general, signs will be posted and, if required, barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage in accordance with the Appendices contained herein. County Environmental Health instructions and directions regarding placement and language of public warnings will be followed. MetCom shall utilize its website and post SSO’s for a minimum of ten (10) days and utilize social media (e.g. Facebook) for public notifications.

Equipment and Resources

The following is a general identification of resources that MetCom shall make available to correct or repair conditions causing or contributing to the SSO. In general, this equipment is that which may be required to support this Overflow Emergency Response Plan.

- Closed Circuit Television (CCTV) Inspection Unit – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.
- Camera -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- Emergency Response Trucks -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include containment and clean up materials.
- Portable Generators, Portable Pumps, Piping, and Hoses – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- Combination Sewer Cleaning Trucks -- Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- Computerized Maintenance Management System (CMMS) will track and store maintenance and work order information including preventative and corrective maintenance.
- Geographical Information Systems (GIS) will spatially map and digitally maintain asset attributes for the sanitary sewer collection system.

On the next page is a list of companies that MetCom has under contract for various work. The contracts all have response and availability requirements. All contact information is included in the table.

Contract	Company	Contact Info	Contract Manager
Emergency Repairs and Scheduled Construction	AB&H Excavating, Incorporated	1(301)994-0354	Construction and Inspection Manager
Emergency Repairs and Scheduled Construction	Great Mills Trading Post	1(301)994-0300	Construction and Inspection Manager
Emergency Repairs and Scheduled Construction	Hollywood Contracting, LLC	1(410)414-7090	Construction and Inspection Manager
Engineering Services	AECOM Technical Services, Incorporated	Contact Chief Engineering Officer	Chief Engineering Officer
Engineering Services	Dewberry Engineers, Incorporated	Contact Chief Engineering Officer	Chief Engineering Officer
Engineering Services	Jacobs Engineering Group, Incorporated	Contact Chief Engineering Officer	Chief Engineering Officer
Engineering Services	Rummel, Klepper & Kahl, LLP	Contact Chief Engineering Officer	Chief Engineering Officer
Engineering Services	Whitman, Requardt & Associates, LLP	Contact Chief Engineering Officer	Chief Engineering Officer
Electrical Services	Larry's Acquisition LLC	1(410)586-1715	Chief Facilities and Operations Officer
Electrical Services	Ryce Electric	1(301)884-3126	Chief Facilities and Operations Officer
Generator PM and Repair Services	Kelly Generator & Equipment, Incorporated	1(410)257-5225	Chief Facilities and Operations Officer
Laboratory Services	Martel Laboratories	1(410)825-7790	Chief Facilities and Operations Officer
Water and Wastewater Utility Locating Services	Maryland Broadband Cooperative, Inc	1(410)341-6322	Chief Engineering Officer
Operations, Maintenance and Construction	Maryland Environmental Services	Contact Executive Director	Executive Director
Septage Hauling	Cullison's Excavating	1(301)994-1616	Chief Facilities and Operations Officer
Septage Hauling	Outback Porta-Jon	1(410)984-6122	Chief Facilities and Operations Officer
Septage Hauling	Bowe's and Sons	1(301)904-3458	Chief Facilities and Operations Officer

SSO Reporting and Record Keeping

- A. **General Requirements.** MetCom shall report information to the Department about SSOs and shall keep records as set forth below.
- B. **Specific Requirements for SSOs.**
1. MetCom shall continue to orally report SSO events to the Department in accordance with Maryland Environment Title § 9-331.1 and the regulations established thereunder, MetCom's NPDES Discharge Permit(s), and applicable federal law, as amended.
 2. MetCom shall continue to submit written reports on SSO events to the Department in accordance with Maryland Environment Title § 9-331.1 and the regulations established thereunder, MetCom's NPDES Discharge Permit(s), and applicable federal law, as amended.
- C. **Record Retention.** MetCom shall maintain the following records until termination of this Consent Decree in accordance with Section XXIV of the Consent Decree (Termination):
1. Written SSO reports required by Article Eight; and
 2. List and description of any complaints from customers or others related to reported SSOs.
- D. **Semi-Annual SSO Map and Report.** Until this Consent Decree is terminated in accordance with Consent Decree Section XXIV (Termination), MetCom shall submit an SSO Map and Report for the preceding Semi-Annual Period with each Semi-Annual Report that provides:
1. **Map Required:** A map of the Collection System that identifies the known location of all SSOs that occurred during the Semi-Annual Period for which the Semi-Annual Report is being submitted, with a coding system identifying the cause(s), if known, of each SSO;
 2. **Report Requirement:** A report listing all SSOs that occurred during the Semi-Annual Period for which the Semi-Annual Report is being submitted that includes, at minimum, the following information for each SSO:
 - a. Date(s) of occurrence;
 - b. Location(s) (e.g., nearest street address and longitude/latitude);
 - c. Duration (e.g., number of hours or minutes, if applicable);
 - d. Volume (e.g., estimated number of gallons discharged);
 - e. Affected area(s) (e.g., paved or unpaved ground surface, ditch, storm drain, receiving waterbody);
 - f. Weather conditions (e.g., wet weather, wet weather within past 12 hours, dry);

- g. Cause(s), if known (e.g., blockage caused by rags/debris, roots, fat/oil/grease, corrosion, cracked pipe);
 - h. Point(s) of failure, if known (e.g., Gravity Sewer Segment, Public Connection, Force Main, Low Pressure System, valve, Pump Station);
 - i. Method(s) of abatement (e.g., point repair, pipe replacement, flushing);
 - j. Which area(s) affected by the SSO were posted with signage to alert the public, if any;
 - k. Summary of conclusion(s) from root cause analysis required in Article Eight; and
 - l. What specific action(s), if any, MetCom is performing to prevent reoccurrence of an SSO in that location.
- E. **Semi-Annual Reporting Requirements for SSOs.** MetCom shall certify that it has reported all SSOs in the preceding Semi-Annual Period in accordance with this Article in each Semi-Annual Report.

Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This appendix documents the three methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available. Photographs are critical in using any of the spill volume methods.

Method 1 Eyeball Estimate

The volume of small spills can be estimated using an “eyeball estimate.” To use this method, imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons, and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 200 gallons.

Method 2 Area/Volume Calculations

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills, and the depth is used to calculate the volume.

- Step 1 Identify the area affected by the sanitary sewer spill.
- Step 2 Measure, sketch or pace off the dimensions.
- Step 3 Measure the depth at several locations and select an average.
- Step 4 Convert the dimensions, including depth, to feet.
- Step 5 Calculate the area in square feet using the following formulas:
 - a. Rectangle: Area = length (feet) x width (feet)
 - b. Circle: Area = diameter (feet) x diameter (feet) x .785
 - c. Triangle: Area = base (feet) x height (feet) x 0.5

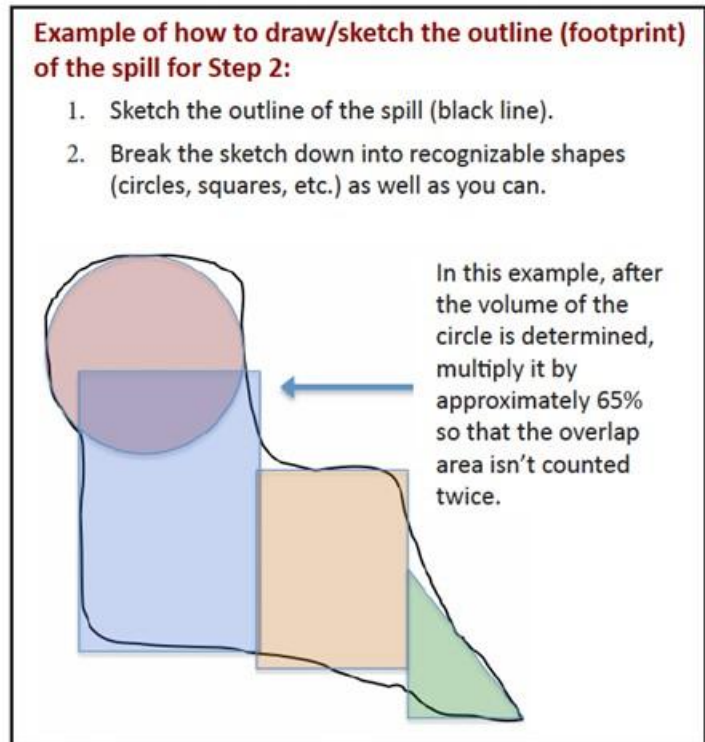


Figure 2 Directions for estimating Sanitary Sewer Overflow volumes

- Step 6 Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.
- Step 7 Multiply the volume in cubic feet by 7.5 to convert it to gallons.

Method 3 Duration and Flowrate

Calculating the volume of larger spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, the separate estimates are made of the duration of the spill and the flowrate. The methods of estimating duration and flowrate are:

Duration: The duration is the elapsed time from the time the spill started to the time that the flow was restored.

Start time: The start time is sometimes difficult to establish. Here are some approaches:

- Local residents can be used to establish a start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g., water running in a normally dry creek bed) can be used to estimate the start time.

- Changes in flow on a downstream flowmeter can be used to establish the start time. Typically, the daily flow peaks are “cut off” or flattened by the loss of flow. This can be identified by comparing hourly flow data during the spill event with flow data from prior days.
- Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.
- It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall.

Miscellaneous Computations

To convert inches to feet	Divide the inches by 12 or use the chart on the bottom right of this page.
Volume of one cubic foot	7.48 gallons of water
Area: Two-dimensional measurement represented in square feet	Square/rectangle: Area = Length x Width Circle: Area = πr^2 (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$) Triangle: Area = $\frac{1}{2} (\text{Base} \times \text{Height})$
Volume: Three-dimensional measurement represented in cubic feet	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = $\pi r^2 \times \text{Depth}$ (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$) Triangle footprint: Volume = $\frac{1}{2} (\text{Base} \times \text{Height}) \times \text{Depth}$
Depth: Contained or “Ponded” sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Add the depth of the sample points and then divide that total by the number of sample points. If the depth is not measurable because it is only a wet stain, consider using the following estimated depths: <ul style="list-style-type: none"> • Depth of a wet stain on concrete surface: 0.0026' (1/32") • Depth of a wet stain on asphalt surface: 0.0013' (1/64")

Figure 3 Table of various useful calculations used when estimating Sanitary Sewer Overflows.

End time: The end time is usually much easier to establish. Field crews on-site observe the “blow down” that occurs when the blockage has been removed. The “blow down” can also be observed in downstream flowmeters.

Flow Rate: The flowrate is the average flow that left the sewer system during the time of the spill. There are three common ways to estimate the flowrate:

The Manhole Flowrate Chart: As shown in Figure 4, which shows sewage flowing from manhole covers at a variety of flowrates. The observations of the field crew can be used to select the appropriate flowrate from the chart. If possible, photographs are useful in documenting basis for the flowrate estimate.

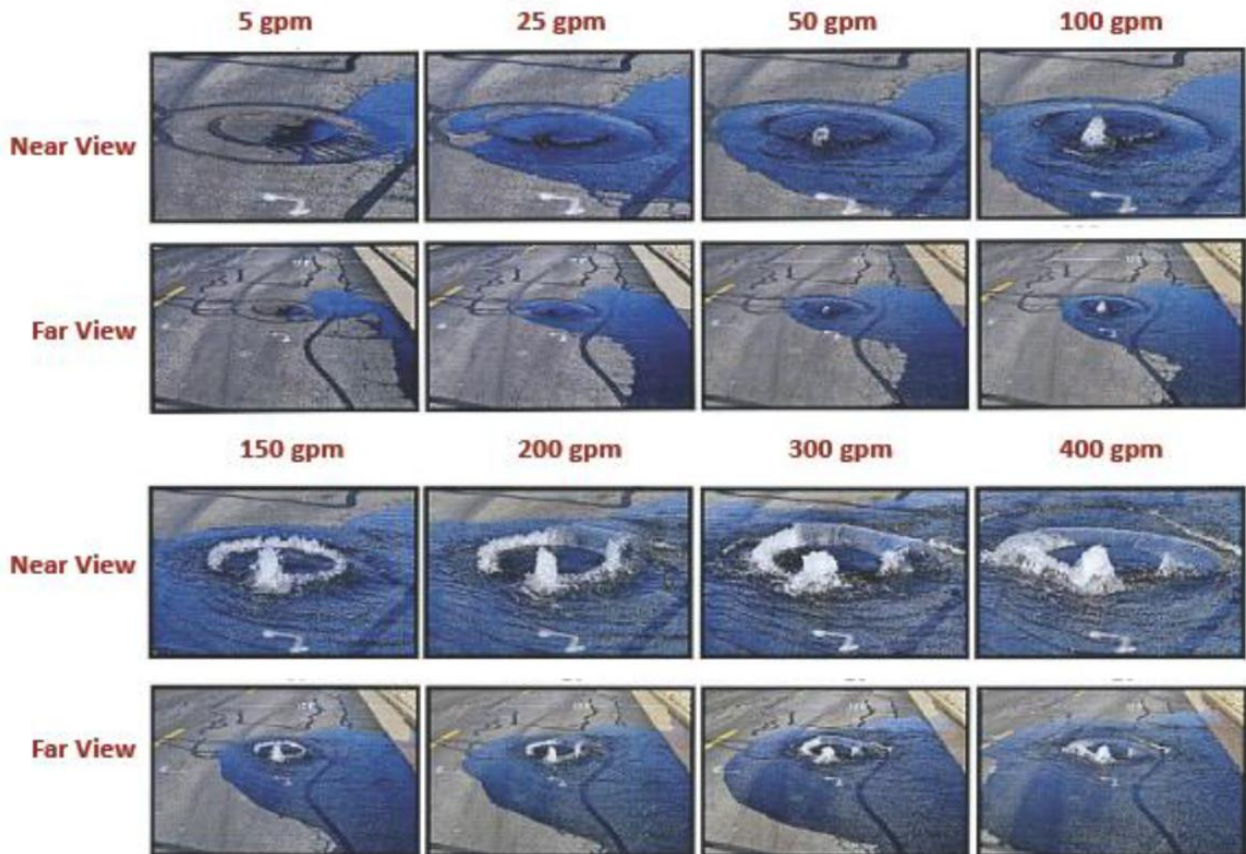


Figure 4 Chart showing various flow rates of different Sanitary Sewer Overflows. These pictures may be utilized when estimating flow rates of different Sanitary Sewer Overflows.

- Flowmeter: Changes in flows in downstream flowmeters can be used to estimate the flowrate during the spill.
- Counting Connections: Once the location of the spill is known, the number of upstream connections can be determined from the sewer maps. Multiply the number of connections by 200 to 250 gallons per day per connection or 8 to 10 gallons per hour per connection.

For example: 22 upstream connections x 9 gallons per hour per connection
= 198 gallons per hour / 60 minutes per hour
= 3.3 gallons per minute

Spill Volume: Once duration and flowrate have been estimated, the volume of the spill is the product of the duration in hours or days and the flowrate in gallons per hour or gallons per day.

For example:

Spill start time = 11:00

Spill end time = 14:00

Spill duration = 3 hours

3.3 gallons per minute X 3 hours X 60 minutes per hour = 594 gallons

Post-SSO Analysis

A detailed plan describing the post-SSO analysis that MetCom shall implement to determine the root cause of each SSO and to prevent future SSOs, including the CCTV analysis that is required in Article Eight B.1.f., the process by which MetCom shall analyze that data and any related information to determine the root cause and ensure that the repairs made will prevent future SSOs, and the process by which MetCom shall implement the recommendations of that root cause analysis to prevent future SSOs, if applicable (See *OPS – 24 – 073 Post Remediation SSO Investigations and Tracking, Appendix D*).

In the event of an SSO, MetCom shall perform monitoring, sampling, and analysis in accordance with Envir. § 9-331.1 and the regulations established thereunder, as amended. MetCom shall provide copies of field reports and laboratory analysis results to the State upon request.

MetCom shall CCTV in accordance with the NASSCO PACP Standards of any Gravity Sewer Segment where an SSO event has occurred within 10 days after the SSO event, unless the SSO was caused by a Pump Station failure that was un-related to the Gravity Sewer Segment. (See *OPS – 11 – 06 Sanitary Sewer Televising Operating Guidelines, Appendix E*).

Training and Rehearsals

Emergency response training, which may include table-top exercises are essential. MetCom’s annual training educates system personnel about emergency situations and resulting effects on our wastewater system, public health and environmental impacts, and also provides an opportunity to practice responses. This includes the training of MetCom personnel who respond to SSOs in their role(s) in the SSO Emergency Response Plan, the importance of preventing SSOs, and adverse impacts of SSOs on public health and the environment (e.g., shellfish harvesting, water contact recreation, aquatic life, etc.). (See *OPS – 24 – 074 Sanitary Sewer Overflow Response Annual Training and SSO Training, Appendix F*).

Other training may include training on State required Certification processes for Wastewater Collection Operators and Wastewater Treatment Plant Operators. (See *Certification Training, Appendix F*).

Staff position training needs and expectations.

Position	Training needs and expectations
Department Manager	Response communications, emergency response planning, issuing health advisories
System Operators	Response communications, emergency response planning, suspicious activity training
Field support	Response communications, suspicious activity training
Administrative Support	Response communications, emergency response planning

Annual Review

MetCom shall review the Sanitary Sewer Overflow Emergency Response Plan by **December 31** each year and update the plan as necessary. Updates or revisions to the Emergency Response Plan may be submitted to the State, if required (*i.e., subject to remedial actions, consent decree, etc.*). In addition, any annual updates to the Emergency Response Plan shall reflect the findings of, and improvements made pursuant to any Sanitary Sewer Evaluation Surveys (SSES) or Hydraulic Capacity Assessments (CAP) Analysis.

Beginning with the first full Semi-Annual Period after the Date of Entry and continuing with each Semi-Annual Period thereafter until termination of this Consent Decree, MetCom shall submit a Semi-Annual Report to MDE and the Citizen Groups at the address provided in the Consent Decree, Section XXIII (Form of Notice). Semi Annual updates are due on June 30, 2024. At minimum, the Semi-Annual Report shall include the information specified in the Consent Decree, Section V (Remedial Measures).

LIST OF APPENDICIES

Appendix A

1. OPS – 11 – 02 Sanitary Sewer Overflows
2. OPS – 11 – 02 Sanitary Sewer Overflows – Public Notification Protocols

Appendix B

1. OPS – 24 – 001 ERP SOP California Run Wastewater Pump Station
2. OPS – 24 – 002 ERP SOP Piney Point Wastewater Pump Station
3. OPS – 24 – 003 ERP SOP St. Georges’ Peninsula Wastewater Pump Station
4. OPS – 24 – 004 ERP SOP St. Mary’s City Wastewater Pump Station
5. OPS – 24 – 005 ERP SOP Forrest Run Wastewater Pump Station
6. OPS – 24 – 006 ERP SOP Dunleigh Wastewater Pump Station
7. OPS – 24 – 007 ERP SOP St. Mary’s Square Wastewater Pump Station
8. OPS – 24 – 008 ERP SOP Essex South Wastewater Pump Station
9. OPS – 24 – 009 ERP SOP Lynn Drive Wastewater Pump Station
10. OPS – 24 – 010 ERP SOP Joy Chapel Wastewater Pump Station
11. OPS – 24 – 011 ERP SOP Spring Valley Wastewater Pump Station
12. OPS – 24 – 012 ERP SOP Glebe Run Wastewater Pump Station
13. OPS – 24 – 013 ERP SOP St. Clements Shores Wastewater Pump Station
14. OPS – 24 – 014 ERP SOP Evergreen Park Wastewater Pump Station
15. OPS – 24 – 015 ERP SOP Great Mills Wastewater Pump Station
16. OPS – 24 – 016 ERP SOP Patuxent Park West Wastewater Pump Station
17. OPS – 24 – 017 ERP SOP Hilton Run Wastewater Pump Station
18. OPS – 24 – 018 ERP SOP Bradley Boulevard Wastewater Pump Station
19. OPS – 24 – 019 ERP SOP Water’s Edge Wastewater Pump Station
20. OPS – 24 – 020 ERP SOP Rosebank Wastewater Pump Station
21. OPS – 24 – 021 ERP SOP Southgate Wastewater Pump Station
22. OPS – 24 – 022 ERP SOP Hickory Hills Wastewater Pump Station
23. OPS – 24 – 023 ERP SOP Wicomico Shores #1 Wastewater Pump Station
24. OPS – 24 – 024 ERP SOP Pickett’s Harbor Wastewater Pump Station
25. OPS – 24 – 025 ERP SOP Piney Point Landings Wastewater Pump Station

26. OPS – 24 – 026 ERP SOP Wildewood #2 Wastewater Pump Station
27. OPS – 24 – 027 ERP SOP St. Mary’s Industrial Park Wastewater Pump Station
28. OPS – 24 – 028 ERP SOP Moorings Wastewater Pump Station
29. OPS – 24 – 029 ERP SOP Greenbrier Wastewater Pump Station
30. OPS – 24 – 030 ERP SOP St. Georges Island Wastewater Pump Station
31. OPS – 24 – 031 ERP SOP Laurel Glen Wastewater Pump Station
32. OPS – 24 – 032 ERP SOP Wildewood #3 Wastewater Pump Station
33. OPS – 24 – 033 ERP SOP Cedar Cove Wastewater Pump Station
34. OPS – 24 – 034 ERP SOP Hunting Quarters Wastewater Pump Station
35. OPS – 24 – 035 ERP SOP Planters Court Wastewater Pump Station
36. OPS – 24 – 036 ERP SOP Black Duck Wastewater Pump Station
37. OPS – 24 – 037 ERP SOP Breton Bay Wastewater Pump Station
38. OPS – 24 – 038 ERP SOP Piney Point Influent Wastewater Pump Station
39. OPS – 24 – 039 ERP SOP Wicomico Shores #2 Wastewater Pump Station
40. OPS – 24 – 040 ERP SOP Esperanza Farms Wastewater Pump Station
41. OPS – 24 – 041 ERP SOP Sheehan Wastewater Pump Station
42. OPS – 24 – 042 ERP SOP Widgeon Wastewater Pump Station
43. OPS – 24 – 043 ERP SOP First Colony #2 Wastewater Pump Station
44. OPS – 24 – 044 ERP SOP Rue Woods Wastewater Pump Station
45. OPS – 24 – 045 ERP SOP First Colony #1 Wastewater Pump Station
46. OPS – 24 – 046 ERP SOP Elizabeth Hills Wastewater Pump Station
47. OPS – 24 – 047 ERP SOP Pegg Road Wastewater Pump Station
48. OPS – 24 – 048 ERP SOP Meadow Lake Wastewater Pump Station
49. OPS – 24 – 049 ERP SOP Wicomico Shores #3 Wastewater Pump Station
50. OPS – 24 – 050 ERP SOP Villages at Leonardtown Wastewater Pump Station
51. OPS – 24 – 051 ERP SOP Willow Woods Wastewater Pump Station
52. OPS – 24 – 052 ERP SOP River Bay Wastewater Pump Station
53. OPS – 24 – 053 ERP SOP Airport Drive Wastewater Pump Station
54. OPS – 24 – 054 ERP SOP Pembroke #1 Wastewater Pump Station
55. OPS – 24 – 055 ERP SOP Cecil’s Mill Wastewater Pump Station
56. OPS – 24 – 056 ERP SOP Westbury Wastewater Pump Station
57. OPS – 24 – 057 ERP SOP Kingston Wastewater Pump Station
58. OPS – 24 – 058 ERP SOP Hunting Creek Wastewater Pump Station
59. OPS – 24 – 059 ERP SOP Wildwood #1 Wastewater Pump Station
60. OPS – 24 – 060 ERP SOP Myrtle Point #5 Wastewater Pump Station
61. OPS – 24 – 061 ERP SOP Pembroke #2 Wastewater Pump Station
62. OPS – 24 – 062 ERP SOP Abberly Wastewater Pump Station
63. OPS – 24 – 064 ERP SOP Broad Creek Wastewater Pump Station

64. OPS – 24 – 067 ERP SOP Woodmore Wastewater Pump Station
65. OPS – 24 – 068 ERP SOP Oak Crest Wastewater Pump Station
66. OPS – 24 – 069 ERP SOP Camp Merrylande Wastewater Pump Station
67. OPS – 24 – 070 ERP SOP Myrtle Point #4 Wastewater Pump Station
68. OPS – 24 – 071 ERP SOP Charlotte Hall Wastewater Pump Station
69. OPS – 24 – 099 ERP SOP Davnor Wastewater Pump Station

Appendix C

1. OPS – 22 – 01 Sanitary Sewer Overflow (SSO) Public/Code Red Announcements
2. MDE Five Day Report

Appendix D

1. OPS – 24 – 073 Post Remediation SSO Investigations and Tracking

Appendix E

1. OPS – 11 – 06 Sanitary Sewer Televising Operating Guidelines

Appendix F

1. OPS – 24 – 074 Sanitary Sewer Overflow Response Annual Training
2. SSO Training (PowerPoint Training Presentation)
3. Certification Training (PowerPoint Training Presentation)