Sanitary Sewer Overflow (SSO) Contingency and Emergency Response Plan (CERP)

Department of Watershed Management (DWM) Capacity, Management, Operations, and Maintenance (CMOM) Program

December 2012 Version 3 2015 Revision

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Acronyms

APWA	American Public Works Association
AWTF	Advanced Wastewater Treatment Facility
BMP	Best Management Practice
C&M	Construction and Maintenance
CCTV	Closed Circuit Television
CDPMT	Consent Decree Program Management Team
CERP	Contingency and Emergency Response Plan
CMMS	Computerized Maintenance Management System
CMOM	Capacity, Management, Operations, and Maintenance
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DWM	Department of Watershed Management
FOG	Fats, Oil, and Grease
EPD	Georgia Environmental Protection Division
GAWP	Georgia Association of Water Professionals
GIS	Geographical Information System
GUPC	Georgia Utility Protection Center
GWEF	Georgia Water Environment Federation
I/I	Infiltration/Inflow
KPI	Key Performance Indicator
MNGWPD	Metropolitan North Georgia Water Planning District
NPDES	National Pollutant Discharge Elimination Systems
POTW	Publicly Owned Treatment Works
SOP	Standard Operating Procedure
SR	Service Request
SSO	Sanitary Sewer Overflow

EPA	U.S. Environmental Protection Agency
WCTS	Wastewater Collection and Treatment System
WO	Work Order
WQC	Water Quality Control

Definitions

"Building Backup" shall mean a wastewater backup into a building that is caused by blockages, malfunctions, or flow conditions in the WCTS; provided, however, that a wastewater backup into a building that is caused by a blockage or other malfunction of a Private Lateral, or other piping or conveyance system that the County does not own or operate is not a Building Backup.

"Bypass" shall have the meaning set forth at 40 C.F.R. § 122.41(m).

"County" shall mean DeKalb County, Georgia.

"Downstream User" shall mean any county, municipality or other public agency whose public water supply is located within a distance of 20 miles downstream of a spill.

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

"EPD" shall mean the Georgia Department of Natural Resources, Environmental Protection Division.

"Excessive Infiltration/Inflow" or "Excessive I/I" as defined by 40 C.F.R. § 35.2005(b)(16) shall mean the quantities of infiltration/inflow which can be economically eliminated from a sewer system as determined in a cost-effectiveness analysis that compares the costs for correcting the infiltration/inflow conditions to the total costs for transportation and treatment of the infiltration/inflow.

"Force Main" shall mean all sanitary sewer lines that operate under pressure due to pumping of sanitary wastewater at a lift station except for those sanitary sewer lines that serve a private lift station or a single structure or building.

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

"I/I" shall mean Infiltration and Inflow.

"Infiltration" as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a sanitary sewer system (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 sanitary sewer system (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.

"Major Gravity Sewer Line" shall mean Gravity Sewer Lines which are eighteen (18) inches or greater in diameter.

"Major Lift Station" shall mean a lift station that has at least one mechanical pump with greater than 99 horsepower and a force main diameter of six (6) inches or greater.

"Major Spill" shall mean any discharges of raw sewage that is in excess of 10,000 gallons or results in water quality violations in the waters of the State such as a fish kill, etc., but not including other discharges from a point source that is specified in the NPDES Permits.

"NPDES Permits" shall mean the most recently issued National Pollutant Discharge Elimination System Permits issued to the County for the Pole Bridge WWTF and the Snapfinger WWTF.

"Overflow" shall mean a release of wastewater from the WCTS, or from a WWTF caused by problems in the WCTS, that does not reach waters of the United States or the State.

"Private Lateral" shall mean that portion of a sanitary sewer conveyance pipe, including that portion in the public right of way, that extends from the wastewater main to the single-family, multi-family, apartment or other dwelling unit or commercial or industrial structure to which wastewater service is or has been provided.

"Private Spill" shall mean a spill that is from a private system not controlled, owned, or originating from County sewer line. This includes the portion of the individual building sewer connection from the property line cleanout or other authorized connection point typically located at the property line or easement.

"Public Document Repository" shall include the County's Watershed Management Administration Building located at 1580 Roadhaven Drive, Stone Mountain, Georgia 30083; the County's website (www.dekalbwatershed.com); or any other place agreed upon in writing by EPA/EPD.

"'R' Value" shall mean the fraction (sometimes reported as a percentage) of rainfall falling within a given sewershed area that enters a sanitary sewer collection system as rainfall dependent I/I.

"Sanitary Sewer Overflow" or "SSO" shall mean all Spills, Overflows, and Building Backups.

"Service Request" or "SR" shall mean the initial form generated in the County Computerized Maintenance Management System (CMMS) to capture caller details, problem address, problem description and problem resolution information.

"Sewershed" shall mean the subdivisions of the County's WCTS containing sewers that are primarily hydraulically linked.

"Spill" shall mean a discharge of wastewater from the WCTS, or from a WWTF caused by problems in the WCTS, which reaches waters of the United States or the State, including a prohibited Bypass, but not including other discharges from a point source that is specified in the NPDES Permits.

"State" shall mean the State of Georgia.

"Wastewater Collection and Transmission System" or "WCTS" shall mean all wastewater collection and transmission systems, including all pipes, lift stations, Force Mains, Gravity Sewer Lines, manholes and other appurtenances thereto which are owned or operated by the County, except for those portions of a system or systems for which another entity is legally responsible for maintenance.

"Wastewater Treatment Facility" or "WWTF" shall mean devices or systems used in the storage, treatment, recycling, and reclamation of municipal sewage. For purposes of this Consent Decree, this definition includes the following facilities owned, managed, operated, and maintained by the County: the Pole Bridge Creek WWTF and the Snapfinger WWTF.

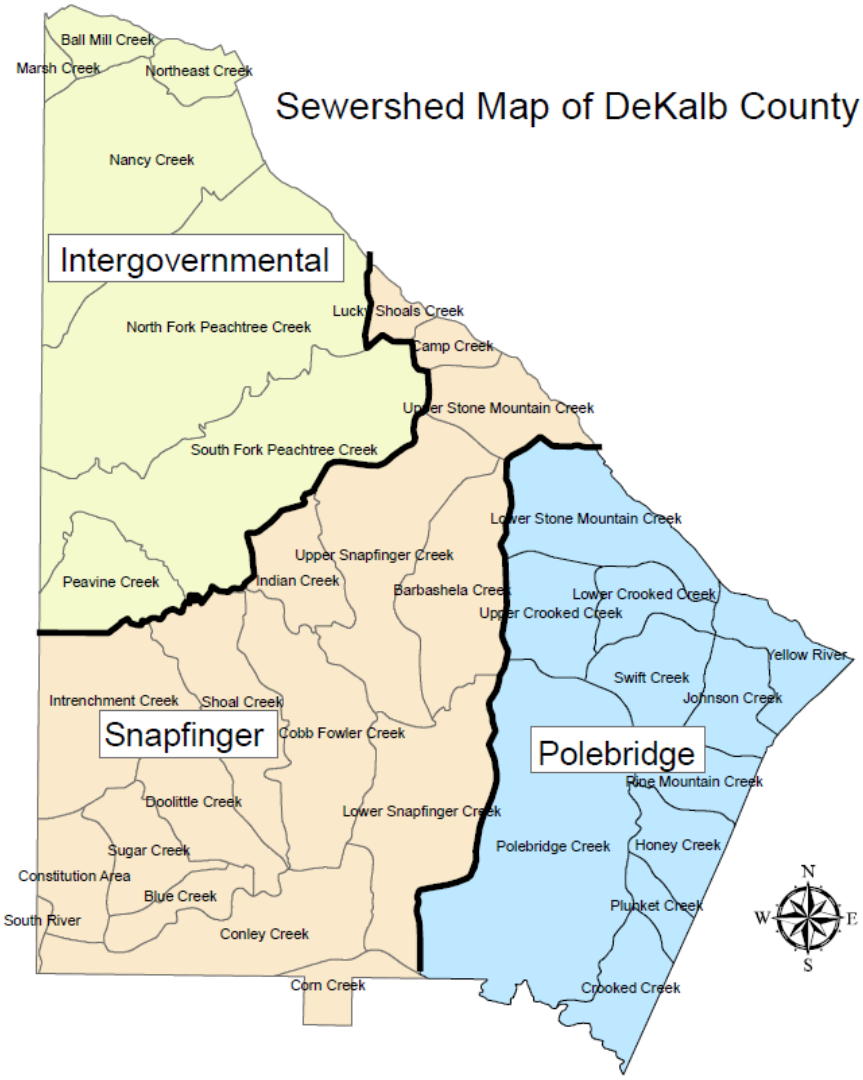
"Water" or "Waters of the State" shall mean any and all rivers, streams, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, and all other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

1. Introduction

1.1 Overview

The DeKalb County Department of Watershed Management (DWM) wastewater treatment and collection system consists of two wastewater treatment plants [Snapfinger Advanced Water Treatment Facility (AWTF) and Pole Bridge AWTF], approximately 2,400 miles of gravity lines, force mains, 66 lift stations, and 55,000 manholes. DeKalb County's wastewater collection and treatment system (WCTS) is divided into three sewer basins: Inter-Governmental, Snapfinger, and Pole Bridge. Each of these sewer basins is further divided into multiple sewersheds. There are a total of 35 sewersheds within DeKalb County, as depicted in Figure 1-1.

FIGURE 1-1
DeKalb County's Sewersheds



This Sanitary Sewer Overflow (SSO) Contingency and Emergency Response Plan (CERP) presents a strategy for DeKalb County DWM to mobilize labor, materials, tools, and equipment to respond to and appropriately remedy any conditions which may cause or contribute to a SSO. DWM considered a wide range of potential system failures that could create an SSO to surface waters, land, or buildings to develop a plan that proposes a corresponding response to the system failures. A SSO receives the highest priority response within the DeKalb County DWM operations.

The SSO CERP is divided into six sections and includes procedures to expediently notify and protect the health and welfare of the potentially affected public and the environment and to comply with EPD Rules and Regulations for Water Quality Control Chapter 391-3-6-.05 (Appendix A). The following lists the six sections and summarizes the focus of each section:

1. Introduction
    a. Purpose.
    b. Regulatory Drivers.
    c. Overview of DWM's roles and responsibilities.
    d. Flowcharts detailing the types of SSOs and the response process.
2. Occurrence of SSO and Field Response Activities
    a. How DWM becomes informed of a SSO.
    b. Rapid dispatch of personnel and equipment to expediently respond to and cleanup all SSOs and for minimizing any further adverse impact to human health or the environment.
    c. Gathering overflow and building backup information required to be included in Quarterly SSO Reports to EPA/EPD.
    d. Minimize, where feasible and appropriate, utilizing conventional wastewater bypass equipment and materials, the volume of untreated wastewater transmitted to the sewer pipe directly involved in a SSO.
3. Public Notifications and Agency Reporting
    a. Expedient notice to the public potentially affected by a SSO.
    b. Limiting public access to and contact with areas affected by a SSO.
    c. Providing timely notice to EPD and other appropriate State and local agencies of the occurrence of SSOs, consistent with the State's Rules and Regulations for Water Quality Control and NPDES Permits.
    d. Reporting, where appropriate and if otherwise required by law, to appropriate federal agencies of the occurrence of SSOs.
4. Monitoring and Reporting
    a. Monitoring, sampling and analysis, and program reporting consistent with the State's Rules and Regulations for Water Quality Control and the NPDES Permits, to determine the level of fecal coliform bacteria, pH, temperature, and dissolved oxygen in the receiving waters immediately following a spill.
5. Investigation, Assessment and Mitigation

a. An investigative approach for field personnel to determine the (1) the cause(s) of a SSO; (2) the extent of the problem through the inspection of the right-of-ways and manholes within a reasonable distance upgradient and downgradient for a minimum of one-eighth mile; and the likely recurrence of the problem at the location of the SSO through appropriate inspections to ensure repairs taken were effective.
b. Methods and procedure the County shall use to assess and mitigate (including appropriate training) where feasible the potential likelihood of the cause of a SSO to occur elsewhere.

6. Training/Preparedness
    a. Preparedness, including responsiveness training, of the County's employees and/or contractors necessary for the effective implementation of the CERP in the event of a SSO.

1.1.1 Purpose

The purpose of this document is to provide appropriate guidelines to respond to and address SSOs so as to implement a SSO CERP that will protect public health and the environment.

Goals of the SSO CERP are to:

- Protect public health and safety
- Achieve timely and expeditious response to reports of all potential SSOs
- Provide prompt containment of SSOs and effective clean up and remediation.
- Prevent adverse impacts to the environment, waters of the State, and their beneficial uses
- Prevent the re-occurrence SSOs

Objectives of the SSO CERP are to:

- Minimize adverse impacts of SSOs
- Ensure corrective action is taken in a timely manner
- Identify and implement measures to prevent the occurrence of preventable SSOs
- Ensure compliance with current regulatory requirements and NPDES permits
- Document and define procedures to address SSO response and remediation

1.1.2 Regulatory Drivers

The SSO CERP is a major component of a series of programmatic improvements intended to ensure the County meets its regulatory obligations under the Clean Water Act, the Georgia Water Quality Control Act and implementing regulations, the County's NPDES permits, the

Consent Decree and, as appropriate, the guidance documents from the Metropolitan North Georgia Water Planning District.

SSOs to waters of the State have the potential of polluting the water and affecting aquatic communities that are essential to preserving and protecting the natural life of streams and rivers. In addition, pollution, caused by SSOs, can render public water bodies temporarily unsafe for human consumption and contact.

The DWM Operations and Engineering and Asset Management Divisions collaborate strategically to comply with EPD regulations and NPDES permit requirements to effectively respond to SSOs in conjunction with the CMOM Coordinator. The procedures outlined in this document apply to all operations involving SSOs throughout DWM and to any contractors employed by DWM.

The following regulations, guidance, and references were consulted in development of this SSO CERP:

- Consent Decree – DeKalb County, Civil Action File No. 1:10-cv-4039-WSD
- *Clean Water Act* (CWA), 33 U.S.C. §1251 et seq. (1972) and subsequent amendments
- *Georgia Water Quality Control Act*, OCGA 12-5-20
- *Georgia Rules and Regulations for Water Quality Control* (391-3-6-.05) Emergency Actions
- *Georgia River Basin Management Planning Act*, OCGA 12-5-520
- *Georgia Erosion and Sedimentation Act* [amended 2003], OCGA 12-7-1
- *Georgia Erosion and Sedimentation Rules and Regulations* (391-3-7)
- U.S. Environmental Protection Agency (EPA) *Guide for Evaluating Capacity, Management, Operations, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems*, 2005; EPA *Region 4 Guide to Collection and Transmission System Management, Operation, and Maintenance Programs* 2003
- Georgia Association of Water Professionals (GAWP) and Georgia Water Environment Federation (GWEF), Guidance for the Georgia Environmental Protection Division (EPD) Zero Tolerance Strategy entitled *Capacity, Management, Operations, and Maintenance (CMOM) Consent Agreement Guidance*, 2006
- Metropolitan North Georgia Water Planning District (MNGWPD) *Wastewater Management Plan*, 2009
- American Public Works Association (APWA) guidance entitled *Preparing Sewer Overflow Response Plans: A Guide for Local Governments*
- Code of DeKalb County, as Revised 1988; *Ordinance Number 35, Article IV, Number 25 – Discharge Regulations, Division 5*
- DWM *Potable Water Main, Gravity Sanitary Sewer, and Sanitary Sewer and Force Main Design Standards* (2009 Edition Version 1.0)

- DWM *NPDES permits for Pole Bridge AWTF (*NPDES - GA0026816) *and Snapfinger AWTF (*NPDES - GA0024147)
- DWM *Safety Manual*
- Georgia Utilities Protection Center (GUPC) Rules and Regulations (http://www.gaupc.com)

1.2 Roles and Responsibilities

The SSO CERP Management is coordinated between the Consent Decree Administrator, CMOM Coordinator, Operations, Engineering and Finance Divisions in the DWM. Periodic reviews of the CERP are conducted by the DWM Assistant Directors or Managers along with relevant DWM personnel in order to confirm that programs are up-to-date with current practices and activities. This periodic review may lead to additional training intended to reinforce the practices outlined in the CERP with the appropriate DWM resources. In addition, the SSO CERP is reviewed and updated when issuance or revisions of DWM NPDES permits occur.

The roles and responsibilities within the DWM for responding to SSOs are shown in Figure 1-2 and the summary of the SSO CERP process detailing departmental and managerial responsibilities is provided below.

1.2.1 Director, Department of Watershed Management

The Director is responsible for the overall Spill Response Program for the DWM and promotes compliance, reviews programs, establishes various programs and staff assignments as required to effectively deliver the safe and compliant operations within the DWM.

The Director reviews spill report actions or recommendations; makes needed Spill Response Program changes; takes appropriate disciplinary action; signs reports; supervises the Assistant Directors; and reports to the DeKalb County, Deputy Chief Operating Officer, State, and Federal agencies as required.

1.2.2 Operations

The Operations Division includes actual operations as well as construction and maintenance (C&M). The Assistant Director as well as the Managers, Supervisors, Crew Leaders and Employees play an active role in the CERP.

The Assistant Director is responsible for the portion of the CERP which includes promotion of DWM responsibilities, program development, program review, records retention, training administration and review, review of changes in the rules and regulations governing the program, program and staffing augmentation, and administration of the CERP. The Assistant Director reviews spill reports and investigations and makes recommendations to the DWM Director for any specific action. The Assistant Director acts for the DWM Director in his/her absence to assure a timely and continuous response for the CERP.

Managers, Supervisors and Crew Leaders are responsible for employee training in the principles of first response to SSOs, the CERP and maintaining a compliant system.

Managers, Supervisors, and Crew Leaders are responsible for assuring that employees are active participants in any SSO response that requires their assistance and such assistance is rendered in a timely manner.

Managers, Supervisors and Crew Leaders actively participate in the CERP by taking part in training, program review, making suggestions for improvement, administering the proper spill response, reporting work practices, record keeping, scheduling employees and assuring attendance in training, securing and maintaining adequate spill response equipment, performing job site inspections, and other duties as required to administer the CERP.

Employees are responsible for:

- Practicing safe and compliant work methods.
- Properly wearing and maintaining safety equipment, tools and equipment.
- Attending and learning from training sessions.
- Reporting all spills and incidents immediately, not to exceed 24 hours, to the Dispatch Office.
- Quickly responding to and controlling spills to minimize public health and environmental impacts.
- Properly storing, maintaining and operating spill response related equipment and vehicles.
- Following all County, Department and Division safety and regulatory compliance requirements.
- Asking for directions if there is ever any question regarding a site-specific spill issue or concern.

1.2.3 Engineering

The Engineering and Asset Management Division provides technical assistance with sewer mapping, equipment analysis, capacity analysis, modeling and engineering system reviews.

The Assistant Director and staff is responsible for investigating capacity issues of the sewer system that could potentially affect the occurrence of future spills and recommending actions that could assist in reducing the number or volume of future spills. This role drives the quality assurance/quality control portion of the CERP and ensures that best practices are implemented.

1.2.4 Finance

The Finance Division ensures that recommendations for equipment and programs within the CERP are fully funded. The Finance Division works with both Operations and Engineering in performing long term capital projections to ensure a properly functioning DWM and thus reducing the risk of SSOs.

1.2.5 CMOM Coordinator

CMOM Coordinator is responsible for the overall management of the CMOM program and specifically with the CERP reporting and compliance. The CMOM Coordinator will manage the overall process in conjunction with all Divisions and groups that are and could be required to assure the goals and objectives of the CERP are met.

1.2.6 Consent Decree Administrator

The Consent Decree Administrator is responsible for the overall management of the Consent Decree program and is a direct report to the Director. The CMOM Coordinator and the Consent Decree Program Management Team report directly to the Consent Decree Administrator. All program areas are reviewed for compliance with the Consent Decree, reports, meetings and communications related to the overall Consent Decree are also prepared and administered.

FIGURE 1-2
Summary Flow Chart of DWM Roles and Responsibilities

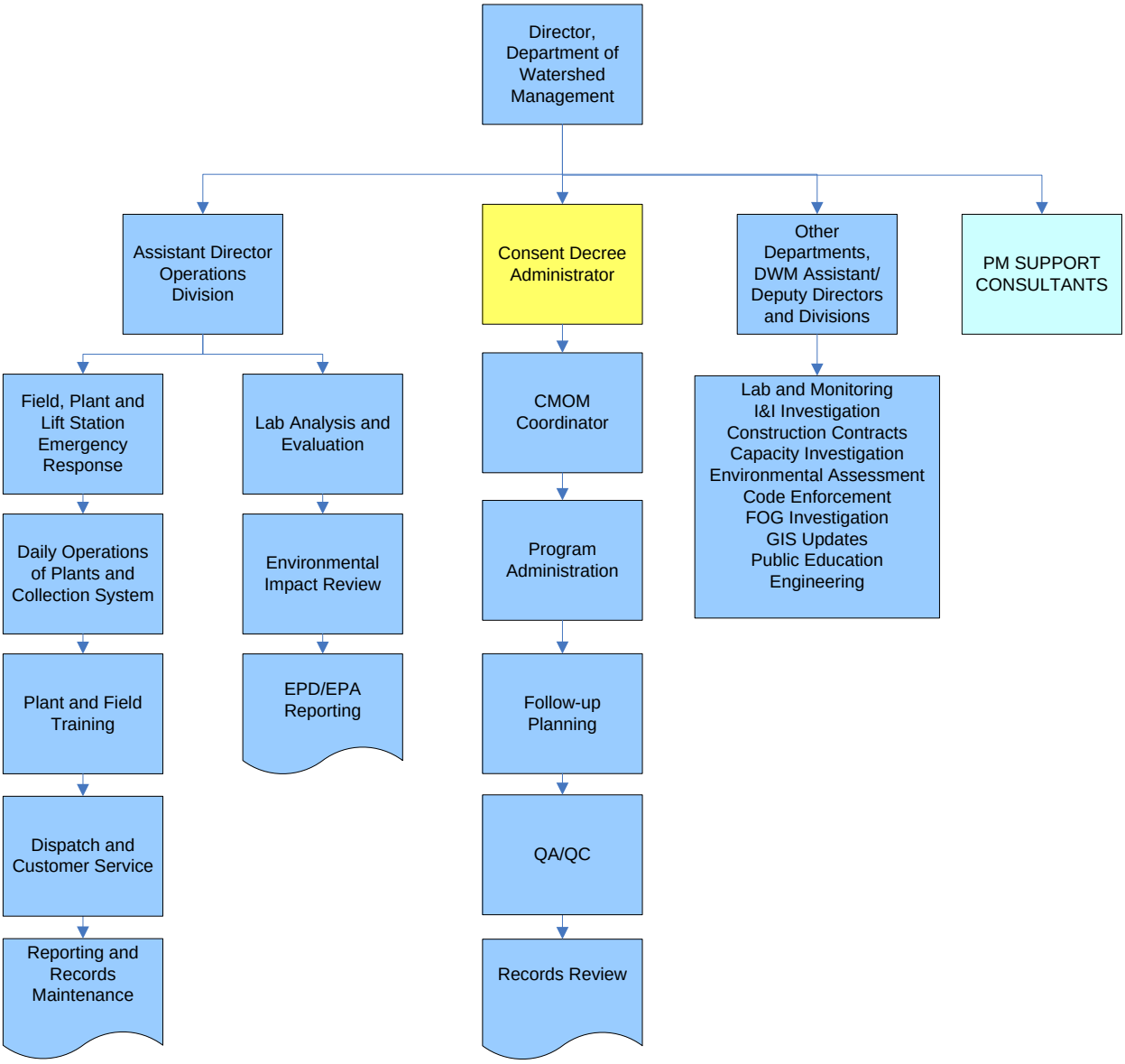


FIGURE 1-3
Summary of Actions Based on SSO Type

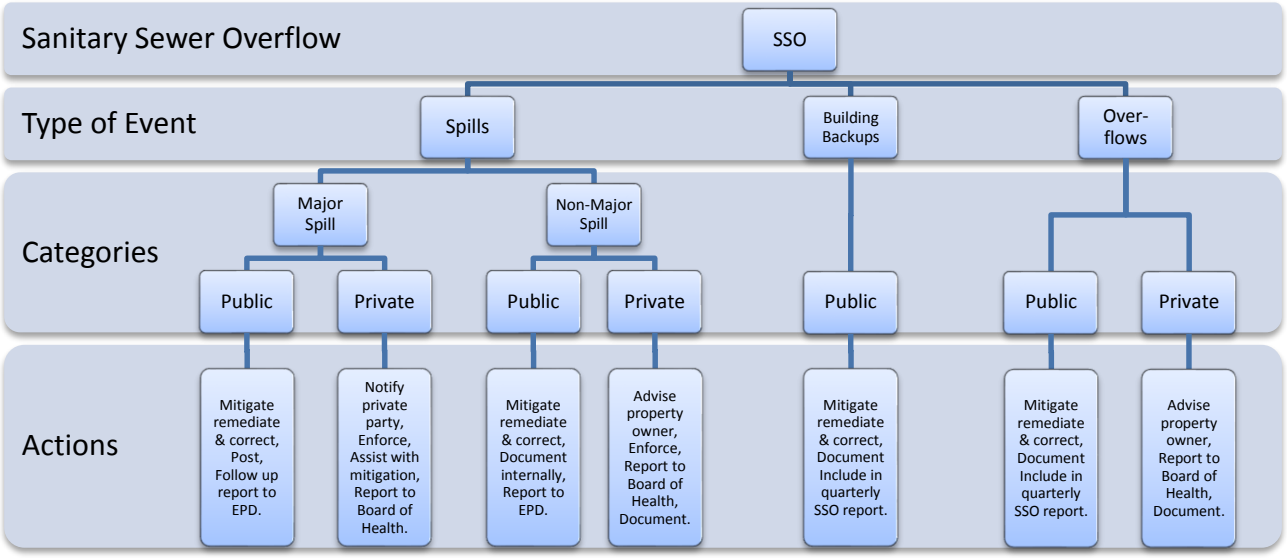


Figure 1-3 above provides a summary flow chart of response actions based on SSO type.

All "Private Property SSOs" sections are not considered to be a part of the Consent Decree and, as such, are not enforceable by EPA or EPD. These sections are only included in this document for the convenience of the County in maintaining one document for SSO CERP.

SSO types include the following:

- Overflows (a release of wastewater from the WCTS, or from a WWTF caused by problems in the WCTS, that does not reach waters of the United States or the State)
- Building Backup (a wastewater backup into a building that is caused by blockages, malfunctions, or flow conditions in the WCTS; provided, however, that a wastewater backup into a building that is caused by a blockage or other malfunction of a Private Lateral, or other piping or conveyance system that the County does not own or operate is not a Building Backup)
- Private Spill (a spill that is from a private system not controlled, owned, or originating from County sewer line; this includes the portion of the individual building sewer connection from the property line cleanout or other authorized connection point typically located at the property line or easement)
- Major spills (any discharges of raw sewage that is in excess of 10,000 gallons or results in water quality violations in the waters of the State such as a fish kill, etc., but not including other discharges from a point source that is specified in the NPDES Permits)

A summary flow chart of DeKalb County's SSO response and investigation procedures, as discussed in this CERP, is provided in Figure 1-4.

FIGURE 1-4
Overview of the SSO CERP - Notifications

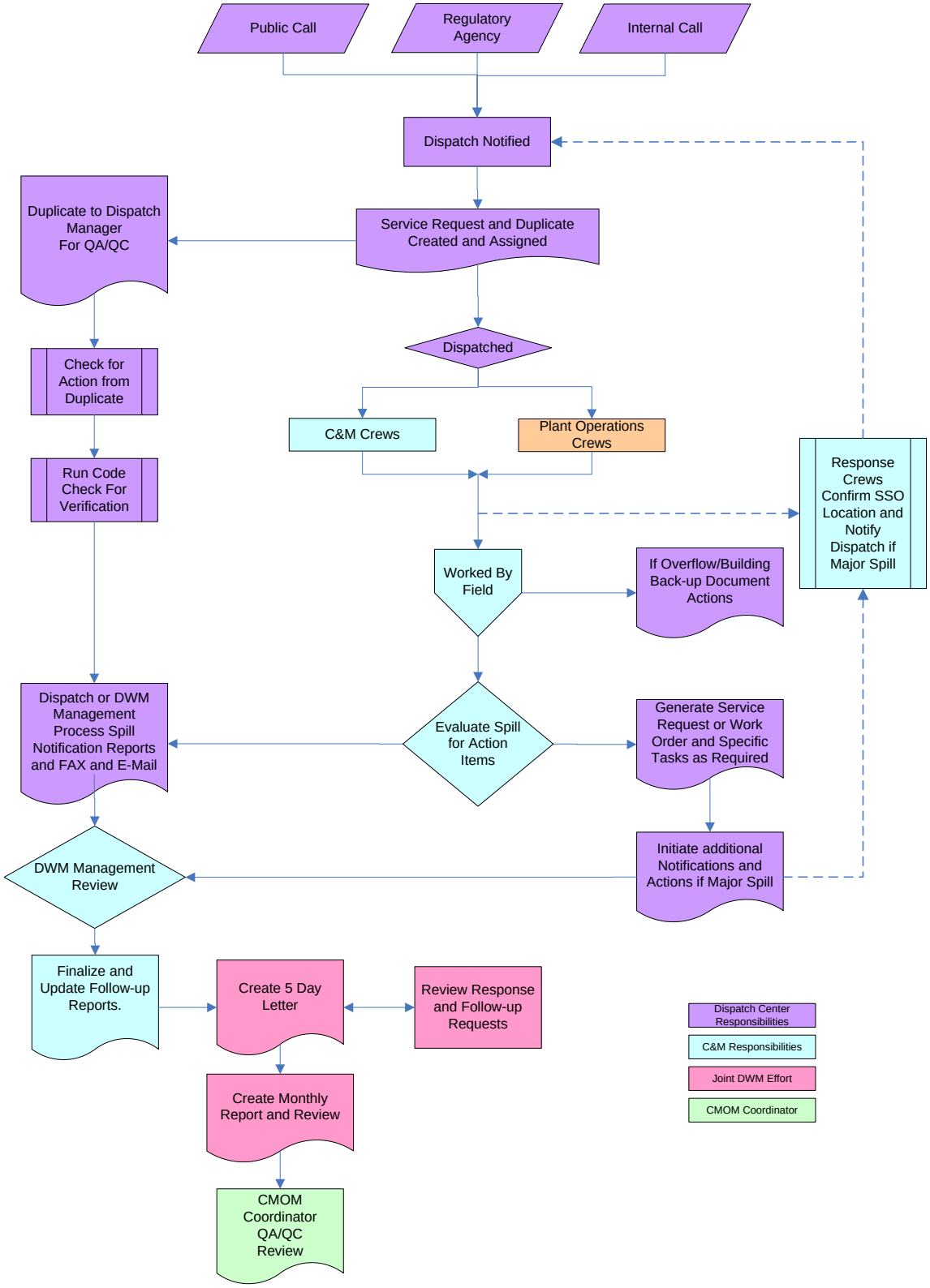
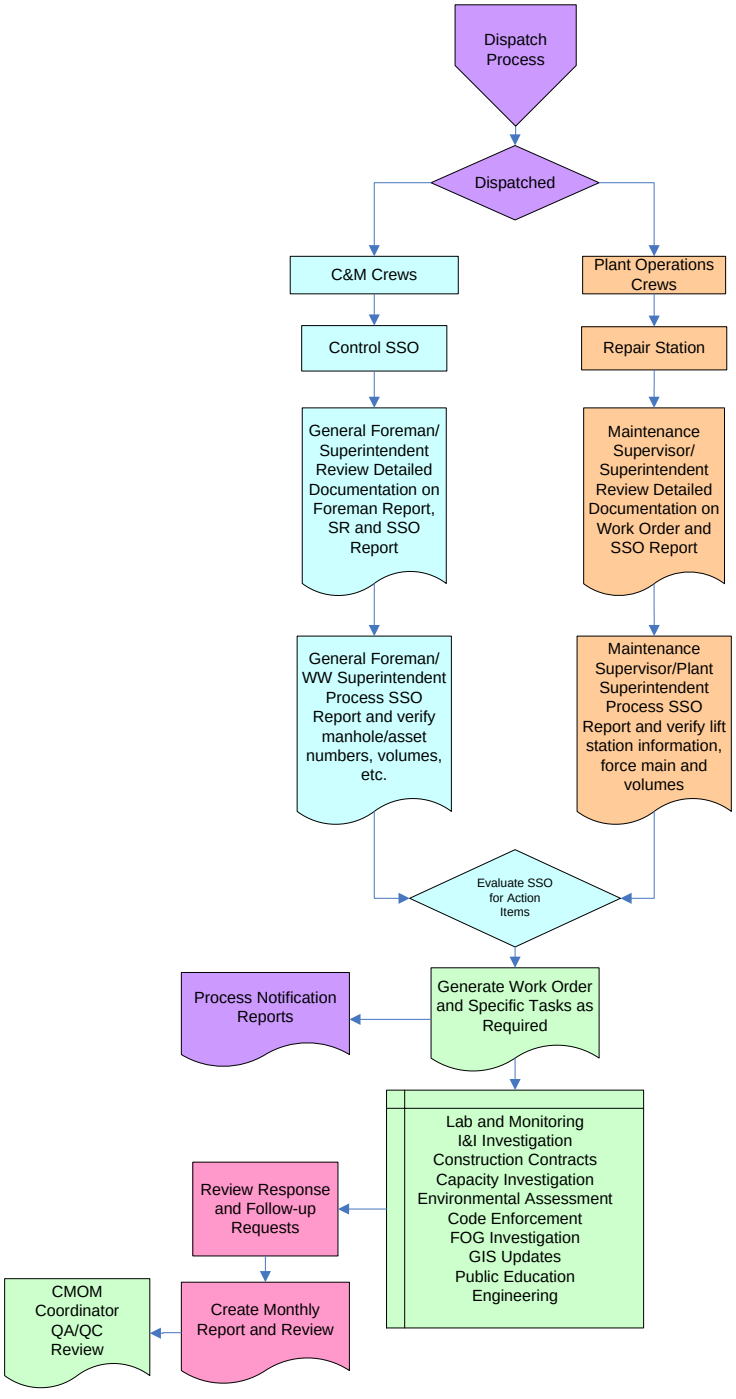


Figure 1-5

Overview of the SSO CERP - Dispatch



2. Occurrence of SSO and Field Response Activities

2.1 Overview

This section describes how DWM becomes informed of a SSO and describes DWMs responses, including specific actions to be conducted by DWM crews in response to an SSO. Initial SSO response actions, based on Dispatch issued Service Requests (SR), are the responsibility of C&M field crews (collection system) or Plant Operations (lift station or treatment plants). A summary of overall response actions is provided in Figure 2-1.

2.2 SSO Occurrence and Crew Dispatch

2.2.1 Overview

This section describes how DWM learns of a SSO and the immediate actions of DWM Central Dispatch (Dispatch) to engage the first response crew and DWM management.

2.2.2 DWM is Informed of SSO Occurrence

1) Intake information regarding SSOs is routed to the DWM Dispatch Center.
    a) SSOs are primarily initially reported to Dispatch through:
        i) Public Communications (e.g., a resident calls DWM regarding SSO)
        ii) Internal Communications (e.g., a DWM employee discovers the SSO)
        iii) Regulatory Agency Communications (e.g., EPD informs DWM of SSO)
2) Dispatch documents the following information in a SR for each SSO, as appropriate.
    a) Time and date call was received
    b) Specific location
    c) Description of problem
    d) Time possible overflow was noticed by the caller
    e) Caller's name and phone number
    f) Observations of the caller
    g) Other relevant information that will enable DeKalb County DWM to quickly locate, assess and stop the SSO
3) After obtaining initial information regarding a SSO, the Dispatch Center generates a SR and contacts the first response crew, which could be either the C&M field crews (for

collection system SSOs) or Plant Operations (for lift station or treatment plants SSOs) for immediate action.

Dispatch also informs the on-duty DWM management of the SSO.

4) A duplicate SR is completed and forwarded to the Dispatch Center Manager. If the manager is unavailable, the duplicate SR is forwarded to C&M or Plant Operations management. This duplicate SR serves as a quality assurance/quality control tool where the manager receiving the SR will check back with the first response crews, verify the status of the field response activities and address any reporting requirements.

5) After arriving at the SSO site, the first response crew calls Dispatcher to confirm they are at the site and to confirm the existence of a SSO.

6) As soon as the response crew determines that the SSO is a Major Spill, the response crew shall inform Dispatch who shall then inform EPD (see Section 3.3.2 –DWM management may decide to take the lead in informing EPD).

7) Also, upon being informed of a Major Spill, Dispatch Center shall inform the Water Quality Control (WQC) Laboratory and Monitoring Branch.

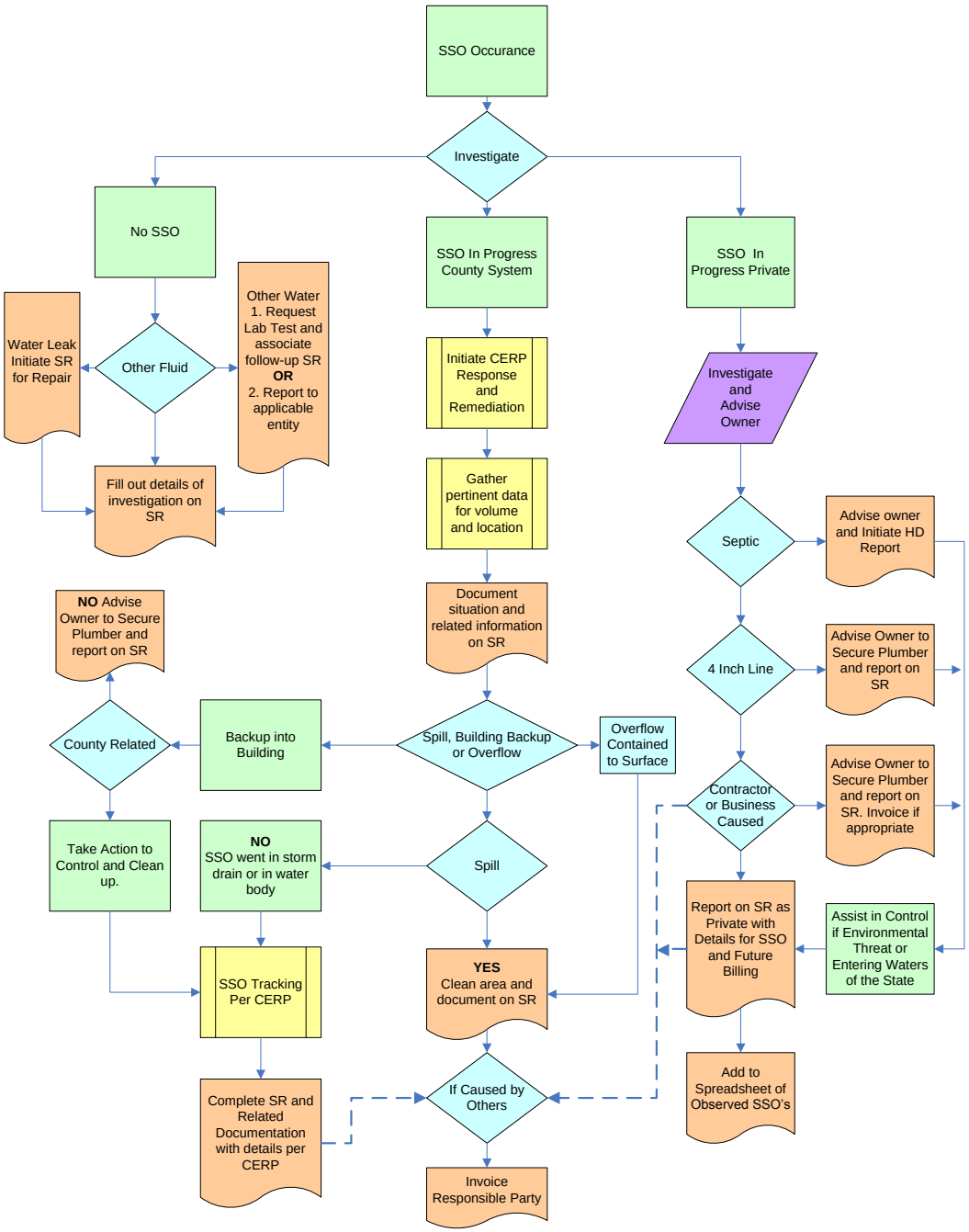
2.3 Response, Mitigation, and Clean-Up

It is the responsibility of the first response crew who arrive at the SSO site to protect the health and safety of the public by mitigating the impact of the SSO to the maximum extent possible. This includes initiating measures to contain the spill and recover, where possible, sewage that has already been discharged. In addition, crews must determine the immediate destination of the SSO (e.g. storm drain, street curb gutter, body of water, creek bed, etc.) and take immediate action to contain the overflow (e.g. block or bag sewer drains, recover through vacuum truck, divert into downstream manhole, etc.).

Upon arrival at the scene of a SSO, should a suspicious substance (e.g. oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g. gasoline) not common to the sewer system be detected, the DWM response crew immediately contacts their Supervisor for guidance before taking further action.

Should the Supervisor determine the need to alert the County hazardous material response team, crew personnel await the arrival of the team prior to taking any action. Upon arrival of the hazardous material response team, crew personnel take direction from the lead authority of the team. Only when the hazardous material team determines it is safe and appropriate for the crew to take action will spill response and clean-up actions take place.

FIGURE 2-1
Summary of Response Actions



SR = Service Request; SSO = Spill, Overflow and Building backup; CERP = Contingency and Emergency Response Plan

2.3.1 Collection System Response and Mitigation

The sanitary sewer collection system includes manholes, clean-outs, and gravity lines/mains. The DWM C&M Division is responsible for SSO response involving the collection system.

2.3.1.1 C&M First Responders

1) C&M first responders are comprised of existing C&M staff including supervisors, equipment operators, crew workers, etc., with the capacity to respond to all SSOs occurring within the County.

2) When first responders are dispatched to a SSO site, they can call for additional resources, as needed, to determine spill cause, extent of spill [through the inspection of the right-of-ways and manholes within a reasonable distance upgradient and downgradient for a minimum of one eighth (1/8) mile], for mitigation, and determination of repairs or other measures to prevent future SSOs at the site.

3) Appendix B provides the contact information for vendors that are on-call to provide the Department any additional equipment that would be required to mitigate spills.

4) As noted in Section 2.2.2, Dispatch will be notified by the First Response crew if a Major Spill occurs. Dispatch or DWM Management then contacts the Water Quality Control (WQC) Laboratory/Monitoring Branch Supervisor immediately at 770-981-0220 office or 678-758-4926 (Cell and PTT) to conduct sampling in accordance with EPD guidance if a fish kill is involved. Refer to Section 4 for parameters, days of sampling, sample monitoring form, and reporting requirements. Major spill only notification is by e-mail.

2.3.1.2 Manhole/Cleanout Overflow

1) When locating a manhole or cleanout overflow, document the spill condition at the site including locations of County cleanouts.

   a) Dispatch crew workers to investigate downstream of the spill site for any impact to water quality or possible fish kill and conduct "posting" activities as noted in 3.1.4.

   b) If the spill can be contained with minimal resources and support, do so immediately. Also if accessible, make arrangement for vacuum-jet truck(s) to pick up the spill and clean/disinfect the ground surface at the spill site or arrange for manual clean-up of the area.

2) Digital pictures of the event may be recorded to assist in follow-up investigations.

3) If a spill from a manhole or cleanout is continuous:

   a) Attempt to unblock the line; if the situation warrants, setup a by-pass pumping system immediately to divert flow around the blocked area (Appendix C).

   b) Perform rodding and pressure washing as required to unclog the existing sanitary sewer main.

c) If the situation warrants, schedule delivery of vacuum-jet truck(s) to support the spill response actions and to clean/disinfect the ground surface at the spill site or arrange for manual clean-up of the area.

2.3.1.3 Sanitary Sewer Line/Main Break

1) If the spill is a result of a sanitary sewer main break:

   a) First responders should arrange for manpower and equipment, including a backhoe or excavator, as required, to repair the break.

   b) If the pipe is greater than 20" or in a location where an excavator is required to access the sanitary sewer main break, call the C&M Service Center 770-621-7254 and/or General Foreman at 678-201-2275 or 404-569-4014 (Cells and PTT), to arrange for transportation of excavator(s) and by-pass pumping system to properly address the spill.

   c) First responders should get support as needed.

      i) Inform the Service Center and General Foreman of the number of pumps required.

      ii) If the pumps are unavailable in-house, call one or more of the on-call pump rental companies for immediate delivery listed in Appendix B.

      iii) Prior to arrival of the excavator(s), establish a containment system to help supplement the by-pass system.

      iv) Call the Material Warehouse Supervisor at 770-621-7240 or 404-472-4029 (cell and PTT), and make arrangement for delivery of materials required to restore the sanitary sewer main.

      v) If required, call the Superintendent to arrange for additional crews.

      vi) Identify upstream and downstream manholes to conduct applicable proposed by-pass pumping.

         (1) Sewer pipe bypass procedures are provided in Appendix C.

2) Digital pictures of the event may be recorded to assist in follow-up investigations.

2.3.2 Wastewater Treatment Plant and Transmission System Response and Mitigation

The sanitary sewer transmission system includes lift stations, force mains, and air valves. The DWM Plant Operations Division is responsible for SSO response involving wastewater treatment plants and the transmission system.

2.3.2.1 Lift Station/Treatment Plant Overflow

1) When Plant Operations is notified by Dispatch of a SSO at a lift station/plant, take the following actions:

   a) Arrange for the required vacuum-jet truck(s) to provide backup support for the Plant Operations Division.

b) If containment of the SSO requires continuous pumping, make arrangement for the by-pass pumping system to be mobilized immediately to the SSO site.

   i) Lift station bypass procedures are provided in the DeKalb Maintenance Management Program.

c) Digital pictures of the event may be recorded to assist in follow-up investigations.

d) Plant Operations Division coordinates dispatching staff to investigate downstream for possible fish kill.

2) After remediation of the lift station/treatment plant overflow:

   a) All pumps, hoses, and equipment will be collected, cleaned by the users, and returned to the Equipment Maintenance Center for proper inspection, repair (if necessary) and storage.

2.3.3 Collection System Private SSOs

All "Private Property SSOs" sections are not considered to be a part of the Consent Decree and, as such, are not enforceable by EPA or EPD. These sections are only included in this document for the convenience of the County in maintaining one document for SSO CERP.

1) Use available maps and site investigation to determine if the SSO is occurring on a County-owned property or privately held property and if it is flowing into the waters of the State. If it is a private SSO, take the following actions:

   a) Digital pictures of the event may be recorded to assist in follow-up investigations.

   b) If SSO is identified as entering the waters of the State, perform an assessment to see if work on the County owned property could resolve the Spill. This may include inspecting the existing sanitary sewer main in the vicinity of the on-going Spill and arranging for support equipment such as vacuum jet and/or rod trucks, etc. as necessary. If a related cleanout is available, rod the existing service line to the sanitary sewer main as necessary to abate the Spill.

      i) If a County line is blocked or causing the Spill, handle and report as a County (public) Spill.

      ii) If no blockage or damage is found in County system report as Private spill.

   c) If no Property Line Cleanout is available, advise the owner of the code violation so the owner can install new cleanout(s) as applicable. Document as repair code M85 and include the name of the party you gave the Property Line Cleanout letter.

   d) If onsite inspection reveals that a private Spill is entering the waters of the State, perform work to prevent the Spill from entering the waters of the State, providing such work would not result in the County taking ownership of the infrastructure, and notify the property owner immediately to secure private resources to remedy the problem.

i) If owner is resistant to action notify a Compliance inspector or the Health Department to issue a citation, shut off water to the site at the meter and follow-up to assure problem has been corrected before restoring water service.

ii) If it is not possible to measure the Spill volume due to system configuration, place an estimated quantity on the reporting form with an explanation of the circumstances.

iii) Note all times for each action on the report so that the timeline is complete.

e) If a private SSO is not immediately impacting waters of the State, notify the property owner of their obligations to rectify the SSO immediately.

f) If the SSO involves a septic tank, advise the owner of the situation and provide a contact number for the Board of Health (404-508-7900) for them to call. Document as repair code M99 and include the name of the party you gave the Property Line Cleanout letter.

i) Initiate follow-up D06 to notify the health department

ii) Follow-up investigation should determine if County sewer is available and initiate enforcement action through the appropriate regulatory agency to tie the citizen into the sewer system.

g) Request the Spill location be identified with appropriate private property signage.

2) Section 3.1.5 provides a sample letter that is sent to the private property owners when a SSO occurs on their property.

2.3.4 SSO Clean-up

Clean-up of SSO sites must be thorough with no readily identified residue (e.g. sewage solids, papers, rags, plastics, rubber products) remaining. Whenever possible, digital photos may be taken of the area before and after clean-up activities.

2.3.4.1 DeKalb County System (Public) SSOs

1) If the spill is the responsibility of the County the following procedure will be used for clean-up activities:

a) Visible debris is to be removed (solids and debris are to be flushed, swept, raked, picked-up, and transported for proper disposal)

b) Areas where sewage or solids have collected are to be manually removed and/or pumped back to the sewerage system or vacuumed and disposed of at the septage receiving station.

c) Site is to be deodorized and disinfected as soon as possible through appropriate to the situation use of absorbent material; excavation and disposal of affected soil; flushing with potable water, application, containment, and recovery of any chlorinated wash-down water and return of wash-down water to the sewer and/or lime application appropriate to the site .

i) If soil conditions do not allow immediate clean-up after the area is deodorized/disinfected, then a covering of straw is to be placed over the area and clean-up to follow as soon as soil conditions allow.

ii) Sewage discharge into a body of water that may contain fish or other aquatic life must not be disinfected through application of chlorinated products or water. DWM will coordinate with EPD and/or the County Board of Health regarding clean-up of sewage in bodies of water.

d) Areas below the spill, including areas of any creek banks impacted by the spill, are to be cleaned. Deodorant and disinfection is used as needed.

e) Documentation of clean-up and any follow-up SRs issued and completed.

2.3.4.2 Private SSOs

All "Private Property SSOs" sections are not considered to be a part of the Consent Decree and, as such, are not enforceable by EPA or EPD. These sections are only included in this document for the convenience of the County in maintaining one document for SSO CERP.

1) Entity to be advised clean-up is their responsibility and the County must follow the guidelines listed in 2.3.3 and 2.3.4.

2) Inspection to be made by Operations Division inspectors and/or Health Department inspectors to assure compliance.

3) Expenses incurred by the County in responding to a private SSO may be recoverable from the property owner or entity that damaged the County sewerage system that caused the leak.

a) If it is determined the SSO has caused an elevated response or action from the County then such expenses will be invoiced at the then current County cost to the responsible party.

b) If the SSO becomes reportable under the County responsibility, but was caused by a third party, and a fine is levied against the County, such fine will also be invoiced to the responsible party.

2.4 Response Documentation and Volume Calculations

2.4.1 Response Documentation

2.4.1.1 Response Service Request/Work Order Close-Out

1) Proper closeout of all service and work requests within the Computerized Maintenance Management System (CMMS) is essential for proper historical records. Adequate detail from the field notes is to be included along with employee time, supplies, and proper closeout codes.

2) If the SSO address is different than the original problem address, an associated SR is to be created for any different address and details of how it is related to the spill incident.

3) Each request related to a spill response will include whether a spill actually occurred, along with details about location, and if the spill reached the waters of the state and/or if it was private in nature.

4) Each request will have two codes entered on it. The first code is the dispatched problem code describing the problem as relayed to the dispatcher. The second code is the resolution or repair code, which describes what actions the service crew completed. Typically, these repair codes are not the same as the problem code.

5) Current Codes are:

   a) M80 Sewer Spill, Private Business, School, Other

   b) M81 Lateral Blocked From Owner, County System OK

   c) M82 Sewer Spill, Private Residential

   d) M83 Sewer Spill, Private Multi-Family

   e) M84 Health Department Notification of Spill Related Item

   f) M85 Cleanout/Dual Connection/Issue Policy Letter Given

   g) M86 Sewer Spill, Building Back-up

   h) M87 Manhole Surcharge

   i) M88 Constructed Overflow Repair

   j) M89 Sewer Spill, Main Line Blockage

   k) M90 Sewer Spill, Other

   l) M91 Sewer Spill, Manhole Overflow

   m) M92 Sewer Spill, Cleanout Overflow

   n) M93 Sewer Spill, Creek Crossing Leaking

   o) M94 Sewer Spill, Sewer Main Leak

   p) M95 Sewer Spill, Lift Station

   q) M96 Sewer Spill, Force Main

   r) M97 Sewer Spill, Grease Trap Overflow

   s) M98 Sewer Spill, Surface – (Overflow was contained to an area and did not enter State Waters or Storm Drain)

   t) M99 Sewer Spill, Septic

      i) If entered State Waters or Storm Drain report as Private spill, post as private spill, notify Health Department and EPD

      ii) If contained to surface only do not report as spill, record only and follow SOP

iii) Report both (i) and (ii) above to County Board of Health (Appendix B)

2.4.1.2 Field Notes

1) Field notes detail actions taken, methods used to calculate volumes, manpower involved, any contact information, and any other detail relative to the response.

   a) Notes may include:

   - Notification Time
   - Dispatch Time
   - Site Arrival Time
   - Work Performed as a detailed narrative
   - Additional Support Called
   - SSO stopped time
   - Site work completed time
   - SSO Cause
   - Infrastructure damage, if present
   - Work performed to mitigate the issue
   - Work performed during clean-up
   - Actual SSO address, updated if different than initial call address and directions to get to site of SSO
   - Photographic history of the site and mitigation efforts, initial response and post clean up
   - Posting information
   - Final job completion time
   - Associated work required

2) Upstream and downstream manhole numbers and main IDs are to be included as soon as they are determined.

3) In addition, a Spill Evaluation Checklist (Appendix G) is completed as part of the field notes.

4) Field notes and the Spill Evaluation Checklist are provided to the Manager in charge for inclusion in the DWM Spill Response Package.

2.4.1.3 Spill Report Form

1) Internal DWM personnel are notified by email and/or telephone as listed in the Spill Notification Directory (Appendix B: Internal All Spills, Internal All Plant, and Lift Station Spills).

2) For each Spill, a Spill Report Form (Appendix D) is completed based on field operational knowledge and actions.

3) Copies of current Spill Report Form (Appendix D) are delivered to Dispatch and to the Manager in charge or Assistant Director (as a backup) for reporting requirements and for timely implementation of follow-up actions (external notification, investigation, and tracking). A Spill Report Form shall not be left at a workstation without informing the person orally that it is a Spill Report Form.

4) If there is an indication that a fish kill may have occurred, the first responders will note this situation on the Spill Report Form. The Assistant Director of Operations will request a stream analysis immediately (Section 4.2) as well as assure Georgia Fish and Wildlife Department is notified.

5) A copy of the spill reporting documentation will also be provided to Customer Service Manager or Customer Support Assistant, C&M Section, within 5 working days from the reported spill.

   a) Customer Service Manager or Customer Support Assistant will be responsible to contact the citizen that initially reported the spill to the Dispatch Center and follow up to make sure that the response from the DWM was satisfactory. Documentation of the contact will be included in the reporting documentation.

6) The Spill Report Form is also provided to the Manager in charge for inclusion in the DWM Spill Response Package. The Spill Response Package is retained for internal DWM record keeping purposes.

2.4.2 Volume Calculations

1) Start Time is the initial time DWM was notified of the potential SSO as noted by the Dispatch Center.

2) End Time for Spill calculations is the time the Spill was controlled and no longer entering the Waters of the State. (For Building Backups and Overflows, the end time is when the SSO was controlled)

3) If field actions contribute to changing the SSO flow volume then those times that the flow volume changes will be documented with a start and end time for the change including how the change was determined to occur and the volume of the change.

4) All calculations and assumptions are to be documented in the field notes (Section 2.4.1.2).

5) Spill rates may vary based on line conditions and the field staff will use their best judgment in determining what the "average conditions" are during the spill event so that calculations will not be based on either the minimum or maximum rate.

6) If possible a volume will be determined by a timed fill measurement.

2.4.2.1 Manhole Overflow Line Calculation Method

1) Locate spill site, and go to the downstream manhole.

2) Use the Sludge Judge or tape measure to measure the level of flow at that manhole

a) Add one inch to your measurement due to tool calibration if using the Sludge Judge

i) Most of the time this value will be zero

ii) If there is no flow or minimal flow record the depth measurement as zero value.

3) Record the downstream level and the pipe size.

4) Record the time the blockage is removed and/or normal flow is restored.

5) Measure the level at the spill manhole.

a) Use the Sludge Judge or tape measure to measure the level of flow and add one inch to your measurement due to tool calibration if using the Sludge Judge.

6) Record the level at the spill manhole and pipe size when flow returns to a normal rate.

7) Using the chart in Appendix E, find the pipe size and go down its column to the depth of flow at the spill manhole

a) The number that is in the column and row intersection is the flow.

8) Repeat step 7 above for the measurements at the downstream manhole.

a) The number that is in the column and row intersection is the flow.

9) Once you have the two flow rates, subtract the downstream number from the upstream number and record.

a) If this number is negative or zero investigate further for additional flow sources or conditions.

i) Make a field note entry of how you determined the flow rate if system configuration does not allow use of this method

10) Determine the number of minutes from the time the call came into dispatch until the time the spill was stopped.

11) Multiply the minutes from step 10 above by the flow rate number from step 7 above.

12) Record this number as the spill volume.

2.4.2.2 Manhole Overflow Visual Calculation

1) Refer to Appendix E for a visual guide for solid top manholes under normal conditions

a) If manhole is at the bottom of a slope determine another calculation method, as appropriate

b) If manhole is perforated refer to Appendix E for the calculation method or determine another method as appropriate

c) If manhole has no top refer to Appendix E for method or determine another method, as appropriate

2.4.2.3 Line Break Calculations

1) Observe the flow at an upstream and downstream manhole and use the calculation sheet to determine volume and note your assumptions

    a) If in a creek determine and note if flow is going out of pipe or into pipe using visual means or dye test. Note appropriately in field notes.

    b) If flow is minor in nature, use a bucket and watch to calculate the volume.

2.4.2.4 Lift Station and Force Mains Calculations

1) Volume will be calculated by plant operations staff utilizing the appropriate pump run times, meters, flow differences, etc. based on the circumstances of the overflow.

    a) All calculations and assumptions are documented and forwarded along with the Spill Report Form to the Manager in charge.

2.4.2.5 Cleanout Calculations

1) Utilization of the formula in this section will help in calculating the volume from a standard 6 inch and 4 inch open cleanout.

    a) Use the number (in ft/sec) from the Velocity Plume Guide in Appendix E

2) 6 inch cleanout

    a) $\pi((0.5)^2/4)$(# from Chart ft/sec)(minutes)

    b) $\pi((0.5)^2/4) = 0.195$

    c) (0.195)(# ft/sec)(minutes)=Gallons

3) 4 inch cleanout

    a) $\pi((0.33)^2/4)$(# from Chart ft/sec)(minutes)

    b) $\pi((0.33)^2/4) = 0.085$

    c) (0.085)(# ft/sec)(minutes)=Gallons

3. Public Notifications and Agency Reporting

3.1 Public Notification

Public notification provides expedient notice to the public potentially affected by a SSO. The form and manner that is used to notify the public is targeted to fit the specific situation and designed to reach the public reasonably likely to be affected by the SSO. Notification methods include, but are not to be limited to, television, radio, newspapers, emails or other electronic communications, and signs posted at conspicuous public places.

3.1.1 Email Notification or Facsimile

1) Dispatch or DWM management provides the Spill Report Form for all reported Spills in an email to the public entities (radio stations, television stations, and newspapers, in addition to regulatory entities and downstream users) as soon as possible, but within 24 hours of DWM learning of a SSO (i.e., at the time the SSO is relayed to Dispatch). Email information includes the following:

   a) Entities notified, and contact information, for all spills is provided in Appendix B.

   b) For all spills, the following information is provided through email to public entities:

      i) Date of the spill

      ii) Location and cause of spill

      iii) Estimated volume discharged and name of receiving waters

      iv) Corrective action taken to mitigate or reduce the adverse effects of the spill

3.1.2 Legal Organ Newspaper Publication

1) Major Spills are published through advertisement placement in the DeKalb County legal organ, *The Champion*, in the next available addition after the date of the spill. A copy of the advertisement is forwarded to the CMOM Coordinator for inclusion in the official record.

2) The following information, at a minimum, is provided for publication in *The Champion*:

   b) Date of the Spill

   c) Location and cause of Spill

   d) Estimated volume discharged and name of receiving waters

   e) Corrective action taken to mitigate or reduce the adverse effects of the spill

3.1.3 Press Release

Should additional media/press notification and status updates be deemed necessary for major spills, DWM uses pre-scripted notices that are made available to printed and

electronic news media for immediate publication or airing in coordination with the County's Communication Office.

3.1.4 Sign Posting/Removal for Spills that Reach the Waters of the State

The intent of posting signs at the site of a Spill by field crews is to notify citizens, who may come into contact with the affected water that a Spill or a Major Spill has occurred. Signs are posted at the site of the Spill and upstream/downstream of the site as soon as practical. If a SSO does not reach waters of the State or enter a storm drain, postings are not completed unless there is an immediate threat to human health or the environment.

1) In order to cover the entire area, a minimum of four (4) signs are immediately posted upstream and downstream of a Spill.
2) Signs will be posted by the response crew at the site of the Spill, entry into the waters of the State and upstream/downstream of the site.
3) Additional signs will be posted at regular intervals at portions of the waterway affected by the flow of the contaminant.
4) Sign locations include but are not limited to bridge crossings, trails, boat ramps, recreation areas, and other points of public access of the affected area.
5) All posting locations should be photo documented, location listed on the SR, and removed seven (7) days after the spill has ceased.
    a) Documentation should be included for any missing signs during the required posting time and when they are picked up.
6) Signs posted should contain at least the following information:
    a) Spill Date
    b) Spill Location
    c) Spill Cause
    d) Estimated Volume of the Spill
        i) If not known "To Be Determined" should be entered on the sign and all signs should be remarked when the volume is determined.
    e) Receiving Stream
    f) Corrective Action Taken

3.1.5 Private Property Notification

All "Private Property SSOs" sections are not considered to be a part of the Consent Decree and, as such, are not enforceable by EPA or EPD. These sections are only included in this document for the convenience of the County in maintaining one document for SSO CERP.

1) Post the spill location with appropriate private spill signage.

2) Exhibit 3-1 is a sample letter that is sent to the private property owners when a spill occurs on their property. Document on service request with repair code C20.

3) If the spill involves a septic tank, advise the owner of the situation and provide the contact number for the Board of Health (404-508-7900)for them to call. If a spill involves a septic tank, whether reportable, surface spill or private, a separate report is sent by email to the Board of Health, which has regulatory authority over all septic tanks.

EXHIBIT 3.1
Example Private Property Letter

Language for Private Property Letter

PRIVATE PROPERTY NOTIFICATION

The DeKalb County DWM has responded to a sewer spill complaint and discovered the source is not caused by or from County owned or operated property. The State of Georgia Environmental Protection Division (EPD) has regulations against any spills of sewage or other substances that may impact the environment. Immediate action is required on your part to eliminate and clean the area of the spill on your property and to notify the EPD.

The County will respond to spills to prevent environmental damage and invoice the County costs to the property owner. This response is minimal and is designed only to prevent spillage into the waters of the state. The County will not undertake repairs on private property since this is the property owner's responsibility.

If the spill is caused by construction activity, the party doing the construction will be held liable for the spill in addition to the owner. Enforcement action may be taken under the State *Call Before You Dig* rules if applicable, County Codes and ordinances and current EPD rules. All costs associated with the repair and corrective actions will be invoiced to the owner and/or the entity that caused the problem.

If a commercial establishment under the FOG Program causes the spill, the County FOG Program administrators will take enforcement actions.

If a multi-family establishment is involved the property managers/owners will be notified of their responsibility to mitigate, remediate, and eliminate current or future spills.

If a Septic Tank is involved, the State Health Department will be notified to take enforcement action. Contact number is (404-508-7900).

If the problem is a private house line the homeowner is responsible for corrective action and repairs to prevent future problems. A private house line is defined as that portion of the sewer system from the Property Line Cleanout to the house and any related plumbing in, on, or under the private house. Enforcement action may be taken if the mitigation is not undertaken in a timely manner.

For purposes of backups, the Homeowner/Property Owner is further responsible for their expenses if the blockage occurred from the cleanout to the main as they are the only contributor to this line without a defect being located in a county maintained line in a dedicated easement.

3.1.6 Documentation

All SSOs are documented and, as appropriate, included in a Spill Response Package for DWM record keeping purposes by the Manager in charge.

3.1.7 Public Education

All SSOs that have a documented cause were public education will help prevent spills will be provided the appropriate education materials and instructions by DWM staff where possible. The education can include FOG, medical waste, school best practices, or other appropriate materials based on cause. In some cases a formal letter will be sent to the entity to help assure spill prevention activities are undertaken.

3.2 Public Access

The geographic extent and duration of a public access limitation due to a SSO event is determined based on the field conditions and investigations. Consultation with EPD and/or the County Board of Health will be sought where appropriate. The DWM will keep traffic and public access control equipment (such as signs and barricade tape) available during SSO response activities. At a minimum, temporary signage (to provide notification for impacted surface water bodies, ground surfaces or other areas) will be placed around the impacted area to caution the public against access.

3.3 Notification to the EPD, Other Agencies & Downstream Users

3.3.1 Overview

Employees responding to the SSO (C&M or Plant Operations personnel), in cooperation with the Dispatch Center, will provide copies of all spill information and the Spill Response Form to the CMOM Coordinator.

External notification of SSOs is the responsibility of the Manager in charge of the spill response activities. External notification includes regulator, public, and private notification of spills and are completed upon receipt of the Spill Response Form from C&M and/or Plant Operations (Section 3.3.1.3). If, during the course of review of external notification reporting, any updated or erroneous information is presented, an appropriate corrected report is sent to the original parties reported to.

3.3.2 Georgia Environmental Protection Division

Non-major spills are reported immediately by fax and any Major Spill is reported to the EPD hotline immediately (as soon as possible, but within 24 hours) by Dispatch or DWM management.

3.3.2.1 EPD Notification

1) Depending on the magnitude of the Spill, the immediate response activities and when a determination is made that a Major Spill has occurred, DWM management may notify EPD. However, the general approach is to have Dispatch make the EPD notification. Dispatch can, depending on the timeframe, make the initial phone call notification.

2) Dispatch or DWM management provides a facsimile or telephone notification (provision of Spill Report Form) for all Spills (Appendix B) and if requested will provide an email notice.

3.3.2.2 Five Day Report

1) The CMOM Coordinator, Assistant Director of Operations, or, if unavailable, the Operations Division staff mails a written report to EPD (Appendix B) that includes, but is not limited to, the following information:

   a) Date of the spill

   b) Report address, spill location, and cause of spill

   c) Estimated volume discharged and name of receiving waters

   d) Corrective action taken to mitigate or reduce the adverse effects of the spill

   e) Updates based on further evaluation since initial report

3.3.2.3 Environmental Reports

1) For Major Spills, stream monitoring and reporting is completed over a one-year period by the WQC Laboratory and Monitoring Branch. Refer to Section 4 for specific details regarding water quality and biological monitoring actions and reporting to EPD.

2) Documentation based on SSO investigations and follow-up actions, such as SRs completed, are provided to EPD as completed over short and long term periods (2 weeks to one month), as applicable, by the Operations Division staff. Refer to Section 5 for specific details regarding short and long term follow-up reporting to EPD.

3) EPD will make any decisions regarding additional notification of a spill to other local, State, and/or Federal agencies/entities.

3.3.2.4 Repairs Lasting Over 60 Days

The Operations Division staff (C&M) in coordination with the Engineering and Asset Management Division staff will devise a work plan, if a repair to the system or a resolution of a spill that will last for over 60 days. This work plan is to be submitted to the EPD within 30 days of the occurrence of the spill by the CMOM Coordinator.

3.3.2.5 Project Escalation

The Assistant Director of Operations in coordination with other key staff (if needed) reviews each SSO for determination if the SSO cause needs to be evaluated in greater detail by the CDPMT by completing an escalation form and forwarding to the Consent Decree Administrator for processing and assignment.

3.3.3 Board of Health and Downstream Users

1) For all spills, a copy of the Spill Report Form is emailed by Dispatch or DWM management to the DeKalb County Board of Health (Appendix B).

   a) Board of Health notification is completed within 24 hours of DWM spill notification.

2) For Major Spills, the Operations Division staff emails a written report to the Board of Health (Appendix B) that includes, but is not limited to, the following information:
   a) Date of the spill
   b) Location and cause of spill
   c) Estimated volume discharged and name of receiving waters
   d) Corrective action taken to mitigate or reduce the adverse effects of the spill
3) For Major Spills, notification of downstream users (Water Treatment Plants) is provided by email and/or telephone (Appendix B) by the Operations Division staff.
4) The County Board of Health will make any decisions regarding additional notification requirement of a spill to other entities and/or additional actions such as issuance of a public health alert as a result of a spill.

3.3.4 Georgia Fish and Wildlife Service

3.3.4.1 If a Fish Kill is part of the spill event then Georgia Fish and Wildlife Service will be notified with the initial spill reporting via the current contact information on the Spill Reporting Form.

4. Monitoring and Reporting

4.1 Overview

Stream monitoring and reporting is conducted by the WQC Laboratory and Monitoring Branch for Major Spills, spills with a volume greater than 10,000 gallons. Stream monitoring includes water quality monitoring, biological monitoring (if required and specifically directed by EPD), and monitoring reports.

Current EPD sampling and reporting requirements are provided in Appendix A. Appendix F also provides procedures and forms for Stream Water Quality.

4.2 Water Quality Monitoring and Reporting

4.2.1 Water Quality Monitoring

1) In the event of a spill where there is an indication of a fish kill and/or any spill with a volume greater than 10,000 gallons, DWM Dispatch or DWM management notifies the following WQC Laboratory and Monitoring Branch personnel in the following order of succession:
    a) WQC Laboratory and Monitoring Branch Supervisor at (770) 981-0223;
    b) Senior Environmentalist; or
    c) Environmentalist.
2) A water quality monitoring team (equipped with a sampling unit and sample collection containers) is sent to the spill site for sampling and analysis immediately or as soon as practical if personal safety would be compromised by site constraints.
    a) The monitoring team establishes upstream and downstream sampling sites as appropriate based on site conditions (location of safe site access).
        i) The following physical stream analyses are completed for each sample site using the sampling unit:
            (1) pH
            (2) Dissolved Oxygen (DO)
            (3) temperature
        ii) Results are recorded in a field notebook.
        iii) One grab sample is collected from each site for laboratory analysis of fecal coliform bacteria (also referred to as Bac-t).
    b) Samples are assigned chain of custody cards that are completed throughout the sampling, analysis, and reporting process.

c) If necessary, a visual assessment of detrimental impacts such as fish kill, odor, and presence of visual spill material will be conducted. Follow procedures provided in the Fish Kill Response - Standard Operating Procedure (SOP) (Appendix F). Complete Fish Kill Investigation Report Form (Appendix F).

3) Samples and physical analysis results are brought to the WQC Laboratory and Monitoring Branch laboratory located at Snapfinger AWT.

   a) Results of physical monitoring analyses are logged into LIMS® once a location code for the sampling sites has been established.

   b) Bac-t samples are analyzed and results are provided within 24 hours of test completion. Bac-t analysis procedures are maintained at the laboratory.

4) Additional sampling of the sites is completed, as described above, based on the following frequencies.

   a) Each day following the spill for one week (total of 7 days, including the first sampling event within 24 hours of the spill event).

      i) A geometric mean of these samples is calculated and used for data reporting purposes.

   b) One time a week for 3 weeks total.

      i) A geometric mean of these samples is calculated and used for data reporting purposes.

   c) Within 3 months, sampling is conducted each week for a total of 4 weeks.

      i) A geometric mean of these samples is calculated and used for data reporting purposes.

   d) Within one year, sampling is conducted each week for a total of 4 weeks.

      i) A geometric mean of these samples is calculated and used for data reporting purposes.

4.2.2 Water Quality Monitoring Report

1) For a Major Spill, the first week of daily water quality monitoring results is reported to EPD within 5 days of completion of these samples in coordination with the CMOM Coordinator.

2) A monthly Water Quality Report is completed each month

   a) Data from LIMS is transcribed to a Stream Monitoring Program Report Form for a Major Spill Form for each spill event/site (Appendix F).

   b) These Forms are submitted by the WQC Laboratory and Monitoring Branch to EPD by the 15th day of each month.

      i) Spill event/site forms are submitted for each spill event, with updated data since the last monthly report, on a monthly basis over a one-year period.

ii) For spill events/sites for which there is no updated data to report since the last monthly report, these are noted with an asterisk in the report.

iii) Current required sampling dates are located on the form on page F-3 which included the following information:

(1) 1st Month

(a) Samples collected on Day 1 to Day 7 and a geometric mean is calculated for the seven day period.

(b) Samples are collected each week from week 2 through week 4 and a geometric mean is calculated for the three week period (Month)

(2) 3rd Month

(a) Samples are collected each week for a four week period and geometric mean is calculated for the month.

(3) 12th Month

(a) Samples are collected for a four week period and a geometric mean is calculated for the month.

3) For all applicable spills, water quality monitoring forms and reports are retained for DWM records as part of the Spill Response Package and forwarded to the CMOM Coordinator for inclusion in the official record.

5. Investigation, Assessment and Mitigation of SSOs

5.1 Overview

SSO investigation, tracking, and trend analysis are the responsibility of the DWM Operations Division Spill Response Program Manager and Assistant Director in conjunction with the CMOM Coordinator and his directions.

5.2 Investigation

SSO Investigations are completed by the assigned SSO Investigators, based on the cause of the spill event.

5.2.1 Investigation of Spill Cause

1) Assigned SSO Investigation crews are responsible for investigation of all SSO types.
2) SSO Investigations are completed based on spill cause such as:
    a) I/I
    b) FOG
    c) Third Party Contractors
    d) Inadequate capacity
    e) Roots
    f) Debris
    g) Vandalism
    h) System failures
3) SSO investigation activities are completed based on spill cause using appropriate equipment, mapping, and observation techniques. The investigation shall include an assessment of the likelihood of similar SSOs elsewhere in the system.
4) Investigation results are documented on SSO Investigation Form and follow a Spill Report Checklist (Appendix G).
5) Educational materials are distributed or presented in person, as appropriate, based on the spill event cause.
6) A summary of SSO Investigations with short and long-term recommendations.

5.2.1.1 Service Requests/Work Orders

1) Operations Division conducts an investigation to identify the root cause of the blockage in the sewerage piping system in coordination with C&M and other County resources, as required. Based on the investigation, a SR/WO may be generated to perform the following work activities:

   - Point Repair/line replacement
   - Relining
   - Pipe bursting
   - Closed Circuit Television (CCTV) inspection
   - Manhole/cleanout repair
   - Replace or seal perforated manhole lids
   - Regularly scheduled root cutting or rodding/jet cleaning
   - New Line Installation
   - Enforcement action for FOG
   - Capacity review
   - Legal and code enforcement

2) Close out of SR/WO related to a spill event includes addition of the actions completed to the Spill Report Form.

5.2.1.2 Short and Long Term SSO Investigation Reporting

1) Documentation based on SSO Investigations and SRs are provided to EPD as completed.

   a) Additional actions completed are recorded.

   b) Results of SSO Investigations (Forms and Reports), including short and long term recommendations for follow-up actions are recorded.

2) All documentation related to SSO Investigation, SRs, and reporting to EPD is provided to the CMOM Coordinator for inclusion in the appropriate Spill Response Package for DWM recordkeeping purposes. Records are kept for 3 years after the Consent Decree Period ends.

5.3 Tracking

1) All SSOs are tracked by the Operations Division in a Microsoft® Excel® spreadsheet for one year periods.

2) Information recorded for each spill by the Operations Division is based primarily on completed Spill Report Forms and includes, and is not limited to:

   - Number (based on date of occurrence)

- Date Reported
- Time Reported
- Time Cause Corrected
- Fish Kill
- Type of spill
- Private (denoted as P)
- Quantity (gallons)
- Address
- Manhole # or Structure #
- Pipe size, material of construction
- Repeat (R); within 6 months (RR)
- Cause
- Waterway/Nearest Named Stream
- Tributary to Creek (Y, N)
- Associated Wastewater Treatment Facility
- Sewershed (sub-basin)
- Date and Corrective Action by C&M
- FOG Education
- WO #
- SR #
- District
- Landlot
- Clean-out
- 5-Day Letter Mailed
- Additional Letter Mailed
- Long-term Preventive Measures

3) An example SSO Tracking Sheet is provided in Appendix G.

5.4 SSO Assessment and Mitigation

Spill (SSO) data analysis is completed to review the location, cause, frequency, potential corrective actions and effect of the various spills that may occur in the County. This trend analysis of SSOs is completed on a monthly, quarterly, and annual basis. An internal report is completed for review at monthly meetings held by the CMOM Coordinator in coordination with other Divisions.

Results of these analyses, coordination, and meetings are used to determine potential repair, rehabilitation locations, new line installations, septic tank elimination/connection to sewer system, and/or maintenance frequencies to utilize in directing County spill reduction efforts. SSO data/trend analyses completed are summarized below. CMOM Coordinator conducts data analysis in coordination with Operations and other DWM Divisions as required.

Copies of all Data Analysis, Summary Reports (Appendix G), graphs, charts, and drawings are available from the CMOM Coordinator.

5.4.1 Data and Trend Analysis

1) Data from SSO Tracking and Flood Events is used to complete data analysis.

2) SSO data graphs and charts are compiled to produce a Spill Assessment Summary. Summary elements are compared based on changes from past months and current months.

3) Trends such as seasonal, wet weather, temperature, causes, pipe sizes, sewersheds and sub-basins, etc. are evaluated. Geographical analysis of parameters is also used to evaluate trends.

4) DWM produces a variety of maps using different layers of data to assist in data analysis. The Sewer Mapping and Modeling sections of the CMOM programs will be used in conjunction with each other to map and/or predict potential SSOs based on current conditions. The modeling will help assess the likelihood of a SSO occurring somewhere else in the system. Areas with the potential for SSOs, based on parameters of the modeling, will have preventative maintenance work orders submitted to mitigate the possibility of another SSO occurring.

5) The CMOM Coordinator schedules and conducts SSO response meetings with other DWM Division representatives.

    a) The SSOs and SSO responses are discussed as well as practices that can be improved or added to help reduce and/or prevent future spills.

6) Analyses of data and maps are completed by the Engineering and Asset Management staff in coordination with the Operations staff using the InfoWorks™ modeling and the InfoNet™ databases.

    a) The Engineering and Asset Management staff or contractors performs analysis of variables for spill cause and recommends actions to reduce number and amount of spills; analysis may consider conditions such as clustered spill events, land use,

temperature, rainfall, new development, maintenance activities, age of pipe, slope of pipe, pipe size, condition of pipe and manhole, and utilized capacity of pipe.

7) The DMW will take additional measures to address each major spill as follows:

   a) Trend Analyses by total causes and sub-basin cluster maps are compared to C&M preventive maintenance activities, repairs, and rehabilitation activities.

   b) Consideration is also given to other efforts such as grease producer education and regulatory compliance.

   c) This information is reviewed during the monthly trend analysis meetings to determine effectiveness of efforts over time.

8) Additional strategies are identified for implementation to further increase effectiveness of DWM actions to prevent SSOs and resolve specific SSO causes and cluster SSO areas within sub-basins.

6. CERP Training/Preparedness

6.1 Training and Duties

The following training is provided on an ongoing basis for all employees involved in SSO CERP activities:

- Biannual training of staff, as needed, on the SSO CERP;
- Refresher training of staff annually; and
- Ongoing refresher training as events or issues dictate.

6.1.1 Training and Duties of Program Participants

1) A review of all training materials will take place with the CMOM Coordinator to assure the information is current.
2) All personnel involved in the SSO CERP including Dispatch, response crews, monitoring crews, shall be trained in the requirements of this program.
3) Training shall be performed before the employee is assigned specific reporting duties.
4) Retraining will be performed whenever inspections indicate that an employee does not have the necessary knowledge or skills to work in the SSO CERP.
5) The Operations Division Administrative Assistant will maintain training records in coordination with the Knowledge Retention Officer.

6.1.2 Training and Duties of Workers

1) All personnel that perform work in the SSO CERP shall comply with the requirements of this program. These personnel shall receive appropriate training that shall include, at a minimum:
    a) The work practices that must be followed during the SSO CERP;
    b) The use of tools and reporting documents that will typically be required during work in the SSO CERP;
    c) The requirements of the SSO CERP.

6.1.3 Training and Duties of the Supervisors

1) All personnel that may be responding to a SSO in any capacity shall receive the training detailed above and shall, in addition, receive training requirements detailed in all Sections and Appendices of the SSO CERP.
2) These personnel shall:
    a) Coordinate and actively participate in the training of departmental employees.

b) Ensure on a daily basis, or more often as detailed in this program, that the intent of the SSO CERP is met.

6.1.4 Contractor Awareness, Duties, and Responsibilities

1) A County contractor that is performing work on DeKalb County managed property will coordinate activities with the assigned DeKalb County staff to assure the coordination of the work meets the requirements of the program and is performed in a safe manner.

   a) Any contractor of the DWM will have language in the contract related to their duties and responsibilities as it relates to spill prevention and control.

      i) DWM will encourage changes in other County construction contracts to include similar language.

   b) Any damages caused by the contractor and repaired by the County or that result in a fine will be reimbursed to the County.

   c) Contractors are to follow GUPC, erosion control, and other regulations as it pertains to their work.

   d) This section shall not apply to contractors employed by other entities from either other government agencies or private sources.

6.1.5 Preparedness Activities with Other Agencies and Jurisdictions

1) The Operations Division of DWM is an active participant with the DeKalb Emergency Management Agency (DEMA), the Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA).

2) Under the auspices of the National Incident Management System (NIMS), the DWM will participate with the various agencies during emergency situations (floods, ice storms, severe thunderstorms, tornadic activity and water outages).

3) As training is made available by other agencies and jurisdictions, the Division will participate. In the past, the Division has participated in Sewer Response Training for large system issues from accidents and/or terrorism activities from FEMA, Regional Power Outage Response training during major ice storms from GEMA/FEMA, and local planning activities from DEMA.

4) The Division also will prepare with DEMA and GEMA, as it has done in the past, for back-up power systems and inventory planning activities.

5) For mass communication and emergency supply coordination in the event of large water system disruption, the Division has and will continue to participate with the Centers for Disease Control.

6.1.6 Document Control Distribution

Master document is kept by Operations Deputy Director as the author of the document and reviewer of requested changes and updates. Copy is on file in the public document repository for submittals. Senior Management and key upper managers like CMOM manager and GIS manager receive a PDF copy for record, field managers and supervisors

receive a PDF and paper copy, reference copy is available in dispatch for use. Once finalized, any employee can request a PDF copy. Extracts key to the job like the manhole overflow chart and key response areas are laminated and placed in the first responder trucks and periodically checked as a piece of equipment required to be on the truck.

Appendices

APPENDIX A
EPD Spill Regulations

The following EPD Spill Regulations are provided in Appendix A:

- 391-3-6-.05 Rules and Regulations for Water Quality Control, Emergency Actions
- EPD Rules 391-3-06 (Applicable Sections)
- EPD sampling and reporting requirements

391-3-6-.05 Rules and Regulations for Water Quality Control, Emergency Actions.

(1) Purpose. The purpose of Paragraph 391-3-6-.05 is to provide procedures to handle any emergency which endangers the waters of the State.

(2) Definitions. All terms used in this Paragraph shall be interpreted in accordance with the definitions as set forth in the Act unless otherwise defined in this Paragraph or in any other Paragraph of these Rules.

(a) "Spill means any discharge of raw sewage by a Publicly Owned Treatment Works (POTW) to the waters of the State.

(b) "Major Spill" means:

1. The discharge of pollutants into the waters of the State by a POTW that exceeds the weekly average permitted effluent limit for biochemical oxygen demand (5-day) or total suspended solids by 50 percent or greater for any one day.

2. Any discharge of raw sewage that (1) is in excess of 10,000 gallons or (2) results in water quality violations in the waters of the State.

(c) "Consistently exceeding an effluent limitation" means a POTW exceeding the 30 day average limit for biochemical oxygen demand or total suspended solids for at least five days out of each seven day period during a total period of 180 consecutive days.

(3) Notice Concerning Endangering Waters of the State.

Whenever, because of an accident or otherwise, any toxic or taste-and color producing substance, or any other substance which would endanger downstream users of the waters of the State or would damage property, is discharged into such waters, or is so placed that it might flow, be washed, or fall into them, it shall be the duty of the person in charge of such substances at the time to forthwith notify the Division in person or by telephone of the location and nature of the danger, and it shall be such person's further duty to immediately take all reasonable and necessary steps to prevent injury to property and downstream users of said water. The following specific requirements shall apply to POTWs:

(a) The owner of a POTW shall immediately notify the Division, in person or by telephone, when a spill or a major spill occurs in the system. Within five (5) days of the incident, the owner of the POTW shall submit a written report to the Division which includes, at a minimum, the information required in (3) (e) below.

(b) The owner of a POTW responsible for a major spill shall publish a notice of the major spill in the legal organ of the County where the incident occurred. The notice shall be published within seven days after the date of the major spill. The notice as a minimum shall include the following:

1. Date of the major spill
2. Location and cause of major spill
3. Estimated volume discharged and name of receiving waters
4. Corrective action taken to mitigate or reduce the adverse effects of the major spill.

(c) The owner of a POTW shall immediately establish a monitoring program of the waters affected by a major spill or by consistently exceeding an effluent limit, with such monitoring being at the expense of the POTW for at least one year. The monitoring program shall include an upstream sampling point as well as sufficient downstream locations to accurately characterize the impact of the major spill or the consistent exceedence of effluent limitations as described in (2)(c) above. As a minimum the following parameters shall be monitored in the receiving stream:

1. Dissolved Oxygen
2. Fecal Coliform Bacteria
3. pH
4. Temperature

The monitoring and reporting frequency as well as the need to monitor additional parameters will be determined by the Division. The results of the monitoring will be provided by the POTW owner to the Division and all downstream public agencies using the affected waters as a source of a public water supply.

(d) The Division and the owner of a POTW will provide notice of a major spill within 24-hours of becoming aware of the major spill to every county, municipality or other public agency whose public water supply is within a distance of 20 miles downstream and to any others which could potentially be affected by the major spill.

(e) The owner of a POTW responsible for a spill or a major spill shall report the incident to the local media (television, radio and print media) within 24 hours of becoming aware of the incident. The report shall include at a minimum the following:

1. Date of the spill or major spill
2. Location and cause of spill or major spill
3. Estimated volume discharged and name of receiving waters
4. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.

(f) The owner of a POTW responsible for a spill or a major spill shall immediately report the incident to the local health department(s) for the area affected by the incident. The report shall include at a minimum the same information required in (3) (e) above.

(g) The owner of a POTW responsible for a spill or a major spill shall immediately post a notice as close as possible to where the spill or major spill occurred and where the spill or major spill entered State waters. The notice shall include at a minimum the same information required in (3) (e) above. The intent of this requirement is for the POTW to notify citizens, who may come into contact with the affected water that the spill or the major spill has occurred. The owner shall also post additional notices of the spill or major spill along the portions of the waterway affected by the incident (i.e. at bridge crossings, trails, boat ramps, recreational areas, and other points of public access to the affected waterway). These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.

(4) **Noncompliance Notification.** If, for any reason, the permittee does not comply with, or will be unable to comply with any effluent limitations specified in the permittee's NPDES permit, the permittee shall provide the Division with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

(a) A description of the noncompliance and its cause; and

(b) The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-complying discharge.

(5) **Emergency Orders.** The Director shall have the authority to issue an emergency order pursuant to Section 20 of the Act, and Section 17(a) of the Executive Reorganization Act of 1972, as amended.

(6) **Effective Date.** This Rule shall become effective twenty days after filing with the Secretary of State's Office.

EPD Rules 391-3-06 (Applicable Sections)

391-3-6-.03 Water Use Classifications and Water Quality Standards.* Amended.

(1) Purpose. The establishment of water quality standards.

(2) **Water Quality Enhancement.**

(a) The purposes and intent of the State in establishing Water Quality Standards are to provide enhancement of water quality and prevention of pollution; to protect the public health or welfare in accordance with the public interest for drinking water supplies, conservation of fish, wildlife and other beneficial aquatic life, and agricultural, industrial, recreational, and other reasonable and necessary uses and to maintain and improve the biological integrity of the waters of the State.

(b)(i) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(ii) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the division finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the division's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the division shall assure water quality adequate to protect existing uses fully. Further, the division shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(c) Outstanding National Resource Waters (ONRW). This designation will be considered for an outstanding national resource waters, such as waters of national or State parks and wildlife refuges and waters of exceptional recreational or ecological significance. For waters designated ONRW, existing water quality shall be maintained and protected.

(i) No new point source discharges or increases in the discharge of pollutants above permitted level from existing point source discharges to ONRW shall be allowed.

(ii) Existing point source discharges to ONRW shall be allowed provided they are treated or controlled in accordance with applicable laws and regulations.

(iii) New point source discharges or expansions of existing point source discharges to waters upstream of, or tributary to, ONRW shall be regulated in accordance with applicable laws and regulations, including compliance with water quality criteria for the use classification applicable to the particular water. However, no new point source discharge or expansion of an existing point source discharge to waters upstream of, or tributary to, ONRW shall be allowed if such discharge would not maintain and protect water quality within the ONRW.

(d) In applying these policies and requirements, the division will recognize and

protect the interest of the Federal Government in interstate and intrastate (including coastal and estuarine) waters. Toward this end, the division will consult and cooperate with the Environmental Protection Agency on all matters affecting the Federal interest.

(e) In those cases where potential water quality impairment associated with a thermal discharge is involved, the division's actions shall be consistent with Section 316 of the Federal Clean Water Act.

(3) **Definitions.** All terms used in this paragraph shall be interpreted in accordance with definitions as set forth in the Act and as otherwise herein defined:

(a) "Acute criteria" corresponds to EPA's definition for Criteria Maximum Concentration which is defined in 40 CFR 131.36 as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time (1-hour average) without deleterious effects.

(b) "Biological integrity" is functionally defined as the condition of the aquatic community inhabiting least impaired waterbodies of a specified habitat measured by community structure and function.

(c) "Chronic criteria" corresponds to EPA's definition for Criteria Continuous Concentration which is defined in 40 CFR 131.36 as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

(d) "Coastal waters" are those littoral recreational waters on the ocean side of the Georgia coast.

(e) "Existing instream water uses" include water uses actually attained in the waterbody on or after November 28, 1975.

(f) "Intake temperature" is the natural or background temperature of a particular waterbody unaffected by any man-made discharge or thermal input.

(g) "Critical conditions" are the collection of conditions for a particular waterbody used to develop Total Maximum Daily Loads (TMDLs), determine NPDES permit limits, or assess the protection of water quality standards. The Division considers appropriate critical conditions to represent the event that would occur once in ten years on the average or less often, unless otherwise stated.

(h) "Natural conditions" are the collection of conditions for a particular waterbody used to develop numeric criteria for water quality standards which are based on natural conditions. This is commonly the case for temperature and natural dissolved oxygen standards. For this purpose the Division defines "natural conditions" as those that would remain after removal of all point sources and water intakes, would remain after removal of manmade or induced nonpoint sources of pollution, but may include irretrievable effects of man's activities, unless otherwise stated. Natural conditions shall be developed by an examination of historic data, comparisons to reference watersheds, application of

mathematical models, or any other procedure deemed appropriate by the Director.

(i) "Reasonable and necessary uses" means drinking water supplies, conservation, protection, and propagation of fish, shellfish, wildlife and other beneficial aquatic life, agricultural, industrial, recreational, and other legitimate uses.

(j) "Secondary contact recreation" is incidental contact with the water, wading, and occasional swimming.

(k) "Shellfish" refers to clams, oysters, scallops, mussels, and other bivalve mollusks.

(l) "Water" or "waters of the State" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, and all other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

(m) "Areas where salt, fresh and brackish waters mix" are those areas on the coast of Georgia having a salinity of 0.5 parts per thousand and greater. This includes all of the creeks, rivers, and sounds of the coastal areas of Georgia and portions of the Savannah, Ogeechee, Altamaha, Satilla and St. Mary's Rivers where those rivers flow into coastal sounds. Mixing areas are generally maintained by seawater transported through the sounds by tide and wind which is mixed with fresh water supplied by land runoff, subsurface water and river flow. Mixing areas have moving boundaries based upon but not limited to river stage, rainfall, moon phase and water use. (For the purposes of this rule salinity shall be analyzed by in situ measurement using a properly calibrated multi-parametric probe connected by hard line to a deck display or by measuring electrical conductivity according to one of the methods specified in *Title 40, Code of Federal Regulations, Part 136* and applying the guidance for conversion to salinity in the same volume. Collection of salinity samples must consider riverflow, precipitation, tidal influences and other variables of the estuarine environment and must conform to the *National Coastal Assessment-Quality Assurance Project Plan 2001-2004* (EPA/620/R01/002). Measurements at each sampling location must be made in a distribution in the water column according to the *Quality Assurance Project Plan*, with the minimum observations at each station including surface, mid-depth, and nearbottom readings. In situ salinity analysis must comply with the *Quality Assurance Project Plan* and the manufacturer's guidance for the specific instrument used.)

(4) **Water Use Classifications.** Water use classifications for which the criteria of this Paragraph are applicable are as follows:

(a) Drinking Water Supplies;

(b) Recreation;

(c) Fishing, Propagation of Fish, Shellfish, Game and Other Aquatic Life;

(d) Wild River;

(e) Scenic River;

(f) Coastal Fishing.

(5) General Criteria for All Waters. The following criteria are deemed to be necessary and applicable to all waters of the State:

(a) All waters shall be free from materials associated with municipal or domestic sewage, industrial waste or any other waste which will settle to form sludge deposits that become putrescent, unsightly or otherwise objectionable.

(b) All waters shall be free from oil, scum and floating debris associated with municipal or domestic sewage, industrial waste or other discharges in amounts sufficient to be unsightly or to interfere with legitimate water uses.

(c) All waters shall be free from material related to municipal, industrial or other discharges which produce turbidity, color, odor or other objectionable conditions which interfere with legitimate water uses.

(d) Turbidity. The following standard is in addition to the narrative turbidity standard in Paragraph 391-3-6-.03(5)(c) above: All waters shall be free from turbidity which results in a substantial visual contrast in a water body due to a man-made activity. The upstream appearance of a body of water shall be as observed at a point immediately upstream of a turbidity-causing man-made activity. That upstream appearance shall be compared to a point which is located sufficiently downstream from the activity so as to provide an appropriate mixing zone. For land disturbing activities, proper design, installation, and maintenance of best management practices and compliance with issued permits shall constitute compliance with Paragraph 391-3-6-.03(5)(d).

(e) All waters shall be free from toxic, corrosive, acidic and caustic substances discharged from municipalities, industries or other sources, such as nonpoint sources, in amounts, concentrations or combinations which are harmful to humans, animals or aquatic life.

EPD Sampling and Reporting Requirements

Georgia Department of Natural Resources
GEORGIA ENVIRONMENTAL PROTECTION DIVISION
Permitting, Compliance and Enforcement Program
4220 International Parkway, Suite 101
Atlanta, Georgia 30354
404/362-2680
FAX 404/362-2691

December 28, 1999

RE: Reporting Major Spills

Dear Mayor Penson:

The Environmental Protection Division (EPD) is revising the sampling and reporting requirements when you have a major spill. Primarily, the modification involves changing the months that the monitoring will be conducted. Also, the municipality must continue to meet the other publishing and reporting requirements related to major spills.

In the past, EPD has required municipalities to submit data every month for a twelve-month period. This is being changed to require data during the first month, third month, and twelfth month only. Similar to the previous reporting requirements, sampling for the first month will include daily samples for the first week and weekly samples for the next 3 weeks. Month 3 and month 12 will consist of samples collected once per week for the month. The monitoring will apply to dissolved oxygen, temperature, pH and fecal coliform bacteria. The geometric mean for the fecal coliform bacteria samples will be calculated for week one, month one, month three, and month twelve. The first week's daily samples are to be reported to EPD within 5 days after completion of these samples. The remainder of the reports are to be submitted to EPD by the 15th day of the month following the sampling period.

Enclosed with this letter is a copy of the stream monitoring report form. If you choose to create your own form, please ensure that, at a minimum, the information on EPD's report form is included. The stream monitoring report form should be filled out and updated each time sampling results are being submitted to EPD. In addition to submitting the report form, please submit an 8 x 11 (approximate size) copy of a county map indicating the upstream and downstream sampling locations as well as the location of where the major spill occurred.

If you have any questions regarding this correspondence, please contact Joe Fievet at (404) 362-2680.

Sincerely,

Jeffrey H. Larson, Manager
Permitting, Compliance and Enforcement Program

JHL/lll

Attachment

APPENDIX B
Notification Contact Lists

The following notification contact lists are provided in Appendix B:

- Spill Notification Directory
- Vendor Contact List

First Name	Last Name	Title	Organization Name	Phone Number	E-Mail
External ALL SPILLS					
		Manager	EPD	(404) 362-2680	FAX (404) 362-2691
Mohamed	Koita	GIS Specialist	DeKalb County Health Dept.	(404) 294-3700	mlkoita@dhr.state.ga.us
Ryan	Cira	Program Manager	DeKalb County Health Dept.	(404) 294-3700	rxcira@dhr.state.ga.us
Aileen	Harris	Co-founder	GoDekalb.com	(770) 310-1773	aileen@GoDekalb.com
Bruce	Dortin	News Assignment Editor	WABE 90.1 FM	(678) 686-0321	bruce_dortin@wpba.pbs.org
Budd	McEntee	News Director	WAGA-TV (FOX)	(404) 898-0110	newstipsatlanta@foxtv.com
Chris	Camp	News Director	WSB 750 AM	(404) 897-7333	chris.camp@wsbradio.com
Dick	Williams	Editor	Dunwoody Crier	(770) 451-4147	thecrier@mindspring.com
Erica	Palmer	News Desk	WXIA-TV (NBC)	(404) 873-9189	news11alive@yahoo.com
Jennifer	Parker	News Reporter	Crossroads News	(404) 284-1888	editor@crossroadsnews.com
Kathy	Mitchell	Editor	The Champion Newspaper	(404) 373-7779 (ext. 104)	kathym80@hotmail.com
Kurt	Davis	Manager, Content/Coverage	WSB-TV 2 (ABC)	(404) 897-6276	assignmentdesk@wsbtv.com
Robin	Yamakala	Editor	The DeKalb/Doraville Neighbor	(770) 454-9388	dekalb@neighbornewspapers.com
Tyonnia	Thackston	Assignment Editor	WGCL TV CBS 46	404-327-3200	cbs46news@cbs46.com
Alan	Gaines	E.H. County Manager	DC Health Department	(404) 508-7900	amgaines@gdph.state.ga.us
Dr. S. E.	Bouchelion	Director	DC Health Department	(404) 294-3700	sebouchelion@gdph.state.ga.us
Danny	Friend	Superintendent	Hemphill Water Treatment Plant	(404) 982-1450	danny.friend@atlwater.com
Stanley	Brinkley	Plant Manager	Quarles Water Treatment Plant	(770) 971-1911	sbrinkley@ccmwa.org
Thomas	Kopanski	Water Complex Superintendent	Chattahoochee Treatment Plant	(404) 982-1480 or 1496	Thomas.Kopanski@atlwater.com
Internal All Spills (Field and Plant)					
Charles	Lambert	Assistant Director	DeKalb County DWM	770-621-7231	cllambert@dekalbcountyga.gov
	Vacant	Director	DeKalb County DWM	(770) 621-7234	
Darren	Eastall	CD Administrator	DeKalb County DWM	770-621-7214	dseast@dekalbcountyga.gov
Merat	Zarreii	CMOM Coordinator	DeKalb County DWM	770-621-3526	mzarreii@dekalbcountyga.gov
Shon	Cardwell	Superintendent	DeKalb County DWM	770-621-7201	mscardwell@dekalbcountyga.gov
Edgar	Smith	Superintendent	DeKalb County DWM	770-621-7283	edsmith@dekalbcountyga.gov
Allen	Moore	Superintendent	DeKalb County DWM	770-621-7210	almoore@dekalbcountyga.gov
Brian	Robinson	Customer Support Administrator	DeKalb County DWM	(770) 621-7226	bdrobinson@dekalbcountyga.gov
Erica	King	Customer Service	DeKalb County DWM	770-724-1410	edking@dekalbcountyga.gov
Vickie	Saunders	Dispatch Manager	DeKalb County DWM	770-270-6243	vsaunders@dekalbcountyga.gov
	Vacant	Deputy COO	DeKalb County	404-371-2883	
Burke	Brennan	PIO	DeKalb County	404-371-6305	bbrennan@dekalbcountyga.gov

ADDITIONAL CONTACT NUMBERS		
ENTITY	PHONE	FAX
EPD	404-463-1511	404-656-2453
EPD MAJOR	1-800-241-4113	
F&W	770-535-5498	
DEKALB COUNTY HD	404-294-3700	404-508-7979

UPDATED 4-28-14

VENDOR CONTACT LIST

Pump Rentals

Service Pump & Compressor (Hertz)

Darren DeSautell
(678) 581-9768
Mobile: (678) 858-5972
Nextel: 155*139664*1

Rain for Rent

Brett Stitt
(678) 594-6601
Mobile: (404) 516-5566
Nextel: 155*33309*5

Godwin Pumps

John Sybrandt
(770) 529-7559
Mobile: (678) 429-9104
Beeper: (800) 946-4646 #1097618

Neff Rental

Al Sanabria
(770) 936-0237
Mobile: (678) 898-0789
Nextel: 154*22*22067

APPENDIX C
Bypass Pumping Procedure

Bypass Pumping Procedure

I. Secure work site by placing traffic control signs and safety devices at the work site.

(1) Follow Traffic Safety Procedures.

(2) Don safety vests, hardhats, safety glasses, etc.

(3) Isolate one or more lanes of traffic with flags, cones, traffic control signs, etc. where work in or immediately adjacent to roads exposes a crew member to traffic injuries.

(4) Look for overhead power lines that may hit the truck or equipment. If lines are above the work area, contact Georgia Power at (888) 850-4551 to de-energize or shield the lines. Equipment must be kept at least 10 feet from the overhead lines.

II. Determine the location of manhole

(1) Locate manhole location on city map and identify GIS location number.

(2) If manhole is not visible, use metal detection or other equipment to locate it.

(3) Check sewer main by removing manhole lids in vicinity of home/business until a free flowing manhole is found.

(4) Lift the manhole cover using the hook. Drag the cover with the hook, avoid bending over and using hand whenever possible.

(5) For heavier manholes, use a truck-mounted winch.

(6) Follow Confined Space Procedures.

(7) Follow Personal Protection Equipment (PPE) Program.

(8) DO NOT place your face near the manhole opening. Let the manhole 'breathe" for 10 minutes before looking in.

(9) DO NOT SMOKE near manholes regardless of whether the cover is on or off.

(10) DO NOT STAND on the removed manhole cover.

(11) USE IMPERVIOUS GLOVES when working with an open manhole.

(12) USE DISPOSABLE TYVEK COVERALLS to keep sewage off of your uniform.

III. Prepare the pumping equipment for the bypass operation.

(1) Locate the pumping equipment where the hoses are within reach of the manhole upstream of the stoppage and capable of pumping to the next free-flowing point in the gravity line.

IV. Attach suction hose and discharge hose to pumping equipment.

(1) Two employees are needed to position hoses.

(2) Determine length of suction hose needed by measuring depth from pump suction inlet to bottom of manhole.

(3) Determine length of discharge pipe needed by measuring distance from upstream manhole to downstream manhole.

V. Insert free end of hoses into appropriate manholes.

(1) Insert suction hose into manhole upstream of stoppage.

(2) Insert discharge hose into manhole downstream of stoppage where free-flow of sanitary sewer is restored.

(3) Depending on the nature of the stoppage and repairs needed, a plug may be required to completely isolate the blocked area so that appropriate remedial action can occur.

VI. Check location of hoses in between manholes.

(1) If hoses need to be below street/ground level, trenches may be made using a jackhammer or cement saw. Take the following precautions:

(a) Check underground utilities prior to starting work.

(b) Ensure that hose fittings are not in-line with driveways.

(c) If necessary, protect hoses by building protective covers over hoses or saw cutting ditches in the street in which to put hoses.

VII. Start the pumping equipment.

(1) Routinely monitor pumping equipment during entire bypass pumping process.

(2) Continue bypass pumping process until necessary repairs are made to the sewer line.

VIII. Break down work site and report the work completed.

(1) Replace manhole cover by dragging it with the hook if possible.

(2) When manhole cover is in place, remove Tyvek coveralls and place in garbage bag for disposal.

(3) Remove disposable respirator and place in plastic bag for reuse (refer to PPE Program).

(4) Clean up work site, disinfect, sanitize.

APPENDIX D
EPD Spill Report Instructions and Form

DeKalb County Department of Watershed Management

E.P.D. SEWER SPILL/OVERFLOW REPORT

Today's Date: _____ Initial ☐ Updated ☐

Weather conditions: _____ District 1 2 3 Section A B C D E F G H I

Who reported spill/overflow: _____

Address of Caller Reporting Spill/Overflow: _____ City: _____

Date & time Spill/Overflow reported to us: _____ Private Spill? : Yes ☐ No ☐

Address of Spill/Overflow: _____ City: _____

Date and time Spill/Overflow was stopped: _____

Estimated amount that entered waterway, gallons: _____

Reporting Foreman & #_____ Service Request #_____

Did Spill/Overflow Enter Waterway ☐ Storm Drain ☐ Building ☐

Name of waterway/tributary that spill entered: _____ Tributary _____

Were signs posted at site, upstream and entry to State waters, and along/at bridge crossings, trails, boat ramps, recreation areas and other points of public access? Yes ☐ No ☐ How many signs were posted? _____ (Minimum of 4 for Minor and 6 for Major)

Lift Station/Plant Spill: Yes ☐ No ☐ If yes, List Station Name/called in by: _____

Cause of Spill/Overflow

Grease ☐ Roots ☐ Debris ☐ Broken Main ☐ Storm Event ☐ Manhole Damage ☐

Roots & Debris ☐ Grease & Debris ☐ Grease & Roots ☐ Grease, Roots & Debris ☐

Unknown ☐ Vandalism ☐ Outside Contractor ☐ Private Lateral Issues ☐ Creek Crossing ☐

Other ☐ _____ Line Size _____ Inches

Spill Cause Explanation: _____

_____

_____

Type of Debris _____

Action taken to correct problem: _____

_____

_____

Date & time Infrastructure Defect was repaired: _____

Spilling Manhole # _____ and Highlighted map attached? Yes ☐ No ☐

INITIATE MAJOR SPILL/OVERFLOW REPORTING IF

Fish Kill ☐ or Water Quality Impact ☐ Observed? Yes ☐ No ☐

Volume Greater than 10,000 Gallons Yes ☐ Reviewed By _____ Date _____

Revision 04-24-2014 C & M Dispatch phone #: 770-270-6243 fax#: 770-724-1400

DeKalb County Department of Watershed Management

C & M Dispatch phone #: 770-270-6243 fax#: 770-724-1400

E.P.D. SEWER SPILL/OVERFLOW REPORT NOTIFICATION

REPORTING PROCESS: SPILLS/OVERFLOWS THAT ENTER STATE WATERS - REPORT IMMEDIATELY

****DURING NORMAL WORK WEEK****

Deliver information to the SSO General Foreman or Assistant Director for reporting. If not available take to Dispatch Manager.

****WEEKENDS: (Friday 4:00pm - Monday 8:00am) and Holidays****

Deliver information to the C&M Dispatcher on Duty for reporting.

NOTIFICATION LIST

All Spills:

FAX single sheet spill report to: EPD, Health Department AND email Initial Spill Report List

EPD - phone 404-463-1511; fax 404-656-2453 Fax confirmation attached Yes☐ No☐

Health Department - 404-508-7979 (fax) SSO Fax confirmation attached Yes☐ No☐

Initial Spill Notification List * Email confirmation attached Yes ☐ No☐

If Plant/Lift Station Involved Notify that list Email confirmation attached Yes ☐ No☐

Major Spills Additional Procedures:

EPD MAJOR SPILL: (Over 10,000 Gallons and/or fish kill and/or water quality impact)

CALL EPD at 1-800-241-4113

EPD Report No.: _____ EPD Contact Person: _____

Comments from EPD: _____

_____

Water Suppliers Notification List Email confirmation attached Yes ☐ No☐

External Major Spills Notification List Email confirmation attached Yes ☐ No☐

C&M Assistant Director Confirmation Time _____

Who sent faxes? _____

Fish Kills Only call GA Fish and Wildlife at 770-535-5498

F&W Report No.: _____ F&W Contact Person: _____

*Initial notification list includes Internal Staff, media, and other County Staff

Revision 04-24-2014 C & M Dispatch phone #: 770-270-6243 fax#: 770-724-1400

DeKalb County Department of Watershed Management

BUILDING BACK-UP REPORT

Today's Date: _____ Initial ☐ Updated ☐

Weather conditions: _____ District 1 2 3 Section A B C D E F G H I

Who reported back-up: _____

Address of Caller Reporting Back-up: _____ City: _____

Date & time Back-up reported to us: _____ Private Spill? : Yes ☐ No ☐

Address of Back-up: _____ City: _____

Date and time Back-up was stopped: _____

Estimated amount that entered building, gallons: _____

Reporting Foreman & #_____ Service Request #_____

Associated to other spill: Yes ☐

Cause of Back-up

Grease ☐ Roots ☐ Debris ☐ Broken Main ☐ Storm Event ☐ Manhole Damage ☐

Roots & Debris ☐ Grease & Debris ☐ Grease & Roots ☐ Grease, Roots & Debris ☐

Unknown ☐ Vandalism ☐ Outside Contractor ☐ Private Lateral Issues ☐ Creek Crossing ☐

Lateral Issue ☐ Other ☐ _____

Explanation: _____

_____

_____

Action taken to correct problem: _____

_____

_____

Disaster Cleaning Service Called: _____ Arrived on Site: _____

Date & time Infrastructure Defect was repaired: _____

Spilling/blocked Manhole # _____ Clean out Overflow Y N Size _____

Property Line Cleanout Present Y ☐ N ☐ Size _____ Backwater Valve Installed Y ☐ N ☐

Highlighted map attached? Yes ☐ No ☐ Reviewed By _____ Date_____

SUBMIT COMPLETED REPORT WITHIN 24 HOURS

COPY TO: Customer Service (Brian)
Spill Coordinator (T Perdue)
Assistant Director

Revision 04-24-2014 C & M Dispatch phone #: 770-270-6243 fax#: 770-724-1400

DeKalb County Department of Watershed Management

E.P.D. SURFACE OVERFLOW REPORT

Today's Date: _____ Initial ☐ Updated ☐

Weather conditions: _____ District 1 2 3 Section A B C D E F G H I

Who reported spill/overflow: _____

Address of Caller Reporting Spill/Overflow: _____ City: _____

Date & time Spill/Overflow reported to us: _____ Private Spill: Yes ☐ No ☐

Address of Spill/Overflow: _____ City: _____

Date and time Spill/Overflow was stopped: _____

Estimated amount that spilled on surface, gallons: _____

Reporting Foreman & #_____ Service Request #_____

If entered storm drain, waterway or water body report as SPILL

Lift Station/Plant Surface Overflow: Yes ☐ No ☐ If yes, List Station Name: _____

Cause of Surface Overflow

Grease ☐ Roots ☐ Debris ☐ Broken Main ☐ Storm Event ☐ Manhole Damage ☐

Roots & Debris ☐ Grease & Debris ☐ Grease & Roots ☐ Grease, Roots & Debris ☐

Unknown ☐ Vandalism ☐ Outside Contractor ☐ Private Lateral Issues ☐ Creek Crossing ☐

Property Line Cleanout ☐ Other ☐ _____

Line Size _____ inches Debris Type _____

Overflow Cause Explanation: _____

_____

_____

Action taken to correct problem: _____

_____

_____

Date & time Infrastructure Defect was repaired: _____

Manhole #'s _____ and Highlighted map attached? Yes ☐ No ☐

REVIEW STATUS

Historical Issues Yes ☐ No ☐ Describe _____
Follow-up actions ordered? Yes ☐ No ☐ Describe _____
Follow-up actions Completed? Yes ☐ No ☐ Describe _____
Reviewed by _____ Date _____

COMPLETE AND REPORT WITHIN 24 HOURS

Revision 04-24-2014 C & M Dispatch phone #: 770-270-6243 fax#: 770-724-1400

APPENDIX E
Spill Volume Calculations

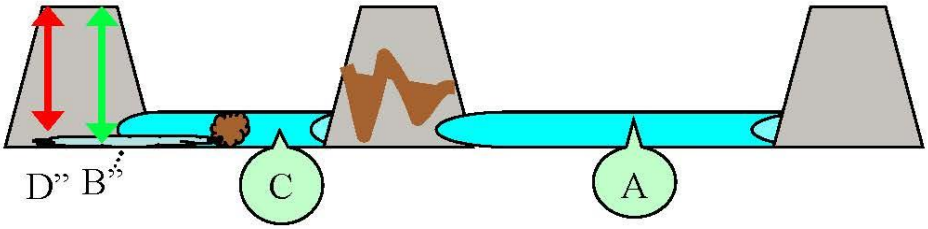
The following Spill Volume Calculation Information is provided in Appendix E:

- Sanitary Sewer Flow Rates
- Manhole Visual Volume Estimation
- Wet Weather Overflow Calculation

Overflow Calculation Sheet

Date _____

Spill Manhole # _____ CMMS# _____ Foreman _____



_____ A is downstream line size in inches

_____ B is flow depth past blockage

_____ ***(#1)*** Down stream flow amount from Chart in GPM

_____ C is line size of blockage

_____ D is "Normal" flow after blockage cleared

_____ ***(#2)*** Normal Flow amount at spill from Chart in GPM

_____ Notification Time

_____ Overflow Stopped Time

_____ ***(#3)*** Time in minutes

Repair Code	
Code	**Type**
M80	Private Business School Other
M81	Private Lateral Blocked by Owner
M82	Private Residential
M83	Private Multi-Family
M84	Health Dept. Notice
M85	Cleanout Letter
M86	Building Back-up
M87	Surcharging Manhole
M88	Constructed Overflow Repair
M89	Main Blocked
M90	Other
M91	Manhole
M92	Cleanout Overflow
M93	Creek Crossing
M94	Sewer Main Leak
M95	Lift Station
M96	Force Main
M97	Grease Trap
SURFACE ONLY Did not enter State Waters or Storm Drain	
M98	Surface Only
M99	Septic

Formula From Chart

(If #2-#1 is 0 use #2 X #3 for Flow)

{(#2) ____ - ***(#1)*** _____}= _____ X ***(#3)*** _____ = Volume in gallons _____

Volume from Manhole Chart _____

Formula From Area

Length X Width X Depth = Volume in Cubic Feet {measurements are in feet}

(L ___ ft) X (W ___ ft) X (D ___ ft) X (7.48 gal/sq ft) X (#3 Time) = Volume _____ gallons

Radius X Radius X Depth X pi = Volume in Cubic Feet {Radius is ½ the distance across}

(R ___ ft) X (R ___ ft) X (D ___ ft) X (3.14) X (7.48 gal/sq ft) X (#3 Time) = Volume ___ gals

Revision 04-24-2014

DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT
SANITARY SEWER FLOW RATES FOR SPILL VOLUME DETERMINATIONS

Revised Table to be provided by DWM (Gallons per Minute @ v = 2.0 fps & n = 0.013)

1. Determine time of initial caller notification of sewer spill.

2. Measure the flow, if any, in inches in sewer immediately downstream of blockage and determine flow rate from table.

3. Clear obstacles from blocked sewer, allow free & steady flow to stabilize, and note the time.

4. Measure the flow in inches in the previously blocked sewer and determine flow rate from the table.

5. Subtract the flow rate from the downstream sewer determined in 2 above, if any, from the flow rate from the previously blocked sewer determined in 4 above and multiply by the elapsed minutes from notification to clearance.

6. Report total amount spilled to General Foreman and Superintendent.

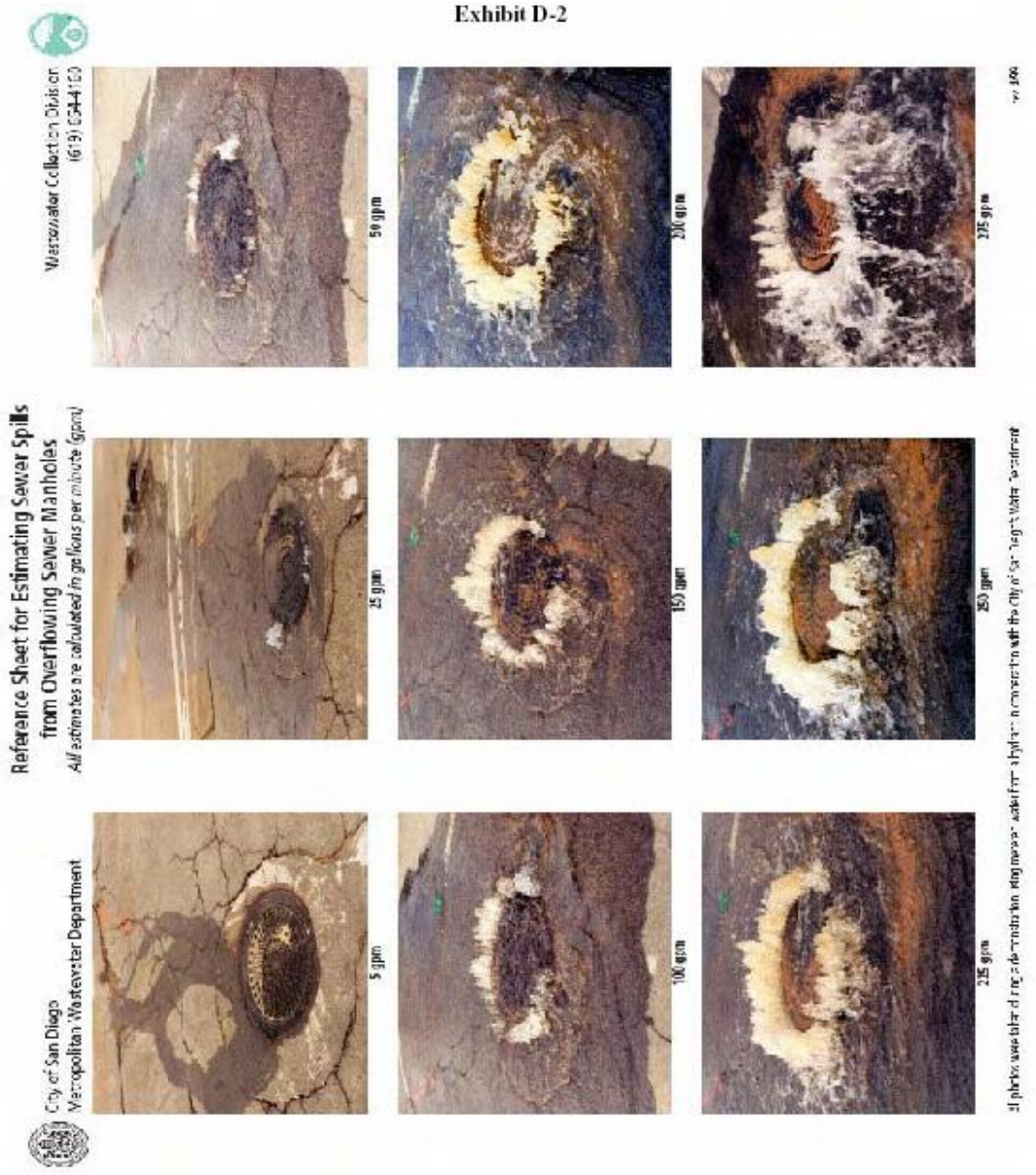
Depth of Flow (in)	Pipe Size (in)								
	6	8	10	12	15	18	21	24	30
1	20	20	25	30	30	35	35	35	50
2	50	60	70	75	90	95	105	115	120
3	90	105	125	135	155	170	185	205	230
4	125	155	180	205	235	260	285	305	355
5	155	205	245	275	325	355	400	430	475
6	175	250	305	350	410	465	505	550	625
7		290	365	425	500	570	635	680	955
8		315	420	495	600	680	750	830	935
9			465	565	690	795	885	965	1110
10			490	630	775	905	1010	1105	1295
11				675	865	1015	1150	1265	1455
12				705	945	1120	1270	1410	1645
13					1010	1220	1405	1555	1840
14					1070	1320	1525	1715	2005
15					1100	1415	1650	1855	2205
16						1490	1760	1990	2400
17						1550	1875	2140	2565
18						1585	1965	2270	2760
19							2055	2390	2950
20							2120	2515	3110
21							2160	2615	3295
22								2705	3470
23								2780	3615
24								2820	3780
25									3930
26									4050
27									4175
28									4285
29									4355
30									4405

Depth of Flow (in)	Pipe Size (in)				
	36	42	48	54	60
1	40	60	55	65	55
2	135	140	150	160	195
3	260	265	275	305	330
4	380	415	460	485	485
5	540	585	460	635	720
6	685	735	815	855	915
7	870	930	1010	1090	1125
8	1035	1140	1215	1280	1420
9	1240	1365	1435	1540	1660
10	1420	1595	1720	1815	1900
11	1640	1785	1960	2105	2244
12	1865	2030	2205	2330	2510
13	2055	2280	2455	2635	2780
14	2290	2535	2715	2950	3155
15	2490	2745	2980	3190	3445
16	2730	3010	3315	3520	3740
17	2930	3280	3585	3855	4140
18	3170	3550	3865	4195	4445
19	3375	3770	4145	4455	4760
20	3615	4045	4425	4800	5180
21	3855	4315	4710	5155	5495
22	4055	4590	5065	5420	5820
23	4290	4810	5350	5780	6255
24	4480	5085	5640	6140	6585
25	4705	5355	5925	6500	6915
26	4890	5625	6215	6775	7355
27	5105	5835	6500	7135	7690
28	5275	6100	6855	7500	8025
29	5475	6355	7135	7775	8475
30	5660	6605	7415	8135	8810

Depth of Flow (in)	Pipe Size (in)				
	36	42	48	54	60
31	5805	6850	7690	8495	9150
32	5965	7040	7965	8765	9595
33	6085	7270	8235	9120	9930
34	6205	7495	8565	9475	10265
35	6290	7705	8820	9820	10710
36	6345	7860	9075	10080	11040
37		8050	9320	10420	11370
38		8220	9555	10755	11805
39		8370	9785	11005	12125
40		8475	10060	11325	12445
41		8575	10270	11640	12865
42		8635	10465	11870	13175
43			10650	12170	13485
44			10815	12460	13885
45			10965	12735	14175
46			11100	12930	14465
47			11225	13185	14840
48			11280	13420	15115
49				13585	15380
50				13790	15720
51				13965	15965
52				14115	16200
53				14205	16495
54				14275	16705
55					16900
56					17135
57					17295
58					17430
59					17565
60					17625

Manhole Visual Volume Estimation

Exhibit D-2



D.2.3 WET WEATHER OVERFLOW CALCULATION:

The following can be used to help in estimating the rate of loss of flow out of manholes. As this is an estimate, judgment by the observing person and/or estimator must always be used.

All calculations are based on an estimate of the size of the opening involved, the velocity of flow through the opening, and the duration of time the overflow occurred. In most all occurrences, the opening size and velocity will change over an event from low to high back to low. Judgment on an average condition must thus be attempted to reach a realistic rate of loss.

D.2.3.A. Loss through vent holes

1. Size of opening:
   Assume holes at 1- inch diameter

   Area = (number of holes) (π) ($D^2/4$) ($1ft^2/144$)
   Area = (number of holes) (3.14) (1/4) (1/144)

   Area = (number of holes) ($0.0055ft^2$/hole)

2. Velocity Plume Guide

   Velocity through holes, based on Velocity Head = ($Velocity^2/2g$)

Plume height	Velocity
1-inch	2.0 ft/sec
2-inch	3.3 ft/sec
3-inch	4.0 ft/sec
4-inch	4.6 ft/sec
5-inch	5.2 ft/sec
6-inch	5.7 ft/sec

3. Time = convert to minutes

Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)

Example: Top with six hole, flow through holes makes a one-inch high plume, last for 4 hours, 15 minutes

Volume = (6 holes × 0.0055 ft²/hole) (2ft/sec) (255 min) (448 gpm/cfs)
Volume = (0.033) (2) (255) (448) = 7540 gallons

D.2.3.B. Loss around edge of non-vented cover

1. Size of opening:

As the weight of manhole lid will generally hold it in place until internal pressures exceed 0.4 pounds/sq. in., loss occurs through imperfections, grit, etc. between the lid and manhole frame. Observations are generally a vertical ring of water from side gap between the lid and frame of approximately ¼ inch width.

Area = (π) (D) (¼ inch) (1/12 in/ft)
= (3.14) (2ft) (1/4) (1/12)

Area = 0.131 ft²

2. Velocity through gap
(see vertical plume guide above, D.3.A.2.)

3. Time – convert to minutes

Example: Manhole with 4-inch plume around edge for 2 hours, 15 minutes

Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)
= (0.131 ft²) (4.6 ft/sec) (135) (448)
= 36,445 gallons

D.2.3.C. Loss from tilted cover

1. Size of opening:

Some estimate has to be made in the field concerning how much gap exists in order to do this calculation. For the following amounts of lift of one side, the areas are as follows:

A = (π) (D) (in of lift) (1/12 ft/in) (1/2)
A = (3.14) (2ft) (in. of lift) (1/12) (1/2)
A = 0.262 (in. of lift)

Lift (inches)	Area (ft²)
1	0.262
2	0.524
3	0.786
4	1.048

2. Velocity through opening

This must be estimated from visual observation. A low rate would be 2/ft/sec, moderate rate at 4 to 5 ft/sec, high rates up to 7 ft/sec. Over 7 ft/sec, the lid will

probably blow off the manhole. The gap (lift) will generally increase with higher velocity as well.

3. Time – convert to minutes

Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)

Example: Field observation of 2-inch gap and velocity of 4 ft/sec for a period of 3 hours, 30 minutes.

Volume (Gal.) = (0.524 ft^2) (4ft/sec) (210min) (448)
= 197,192 gallons

D.2.3.D. Loss from Manhole without a lid in place

If no cover exists, an estimate of the average height the water column (plume) extends above the top of the manhole frame must be made. Use the height to velocity estimate from (A) above to estimate the velocity. Be sure to adjust the height estimate downward for the affects of debris around the edge of the rim which will cause the height to be incorrectly high.

Area = (π) ($D^2/4$) = (3.14) ($2^2/4$) = 3.14 ft^2

Velocity – from field observation of water column height

Time - convert to minutes

Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)

Example: A manhole without a lid was observed to have an overflow with a 3 – inch high column of water for a period of 6 hours, 10 minutes

Volume (Gal.) = (3.14) (4.0 ft /sec) (370) (448)
Volume = 2,081,946 gallons

D.2.3.E. Other

1. Generally approach of estimating a cross sectional area where the flow is leaving and a velocity of flow can be used to determine a rate. This can be applied to any situation.
2. Several observations over an event to estimate the area and velocity are better than a single observation. The overflow examples above assume a constant rate over the period which will estimate volumes too high. As an example, if an hour at the beginning and end of each event is assumed for the flow to build up from zero to maximum and back to zero, a calculation could be done as follows:

probably blow off the manhole. The gap (lift) will generally increase with higher velocity as well.

3. Time – convert to minutes

Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)

Example: Field observation of 2-inch gap and velocity of 4 ft/sec for a period of 3 hours, 30 minutes.

Volume (Gal.) = (0.524 ft^2) (4ft/sec) (210min) (448)
= 197,192 gallons

D.2.3.D. Loss from Manhole without a lid in place

If no cover exists, an estimate of the average height the water column (plume) extends above the top of the manhole frame must be made. Use the height to velocity estimate from (A) above to estimate the velocity. Be sure to adjust the height estimate downward for the affects of debris around the edge of the rim which will cause the height to be incorrectly high.

Area = (π) ($D^2/4$) = (3.14) ($2^2/4$) = 3.14 ft^2

Velocity – from field observation of water column height

Time - convert to minutes

Volume (Gal.) = (Area) (Velocity) (Time) (448 gpm/cfs)

Example: A manhole without a lid was observed to have an overflow with a 3 – inch high column of water for a period of 6 hours, 10 minutes

Volume (Gal.) = (3.14) (4.0 ft /sec) (370) (448)
Volume = 2,081,946 gallons

D.2.3.E. Other

1. Generally approach of estimating a cross sectional area where the flow is leaving and a velocity of flow can be used to determine a rate. This can be applied to any situation.
2. Several observations over an event to estimate the area and velocity are better than a single observation. The overflow examples above assume a constant rate over the period which will estimate volumes too high. As an example, if an hour at the beginning and end of each event is assumed for the flow to build up from zero to maximum and back to zero, a calculation could be done as follows:

APPENDIX F
Stream Monitoring and Analysis Forms

The following Stream Monitoring and Analysis Information is provided in Appendix F:

- Stream Quality Survey
- Stream Monitoring Program Report Form for a Major Spill
- Fish Kill Response - Standard Operating Procedure (SOP)

Stream Quality Survey

DeKalb County Department of Watershed Management

Natural Resources Section

STREAM NAME _____ DATE _____

INVESTIGATOR _____ TIME _____

COUNTY _____ SITE LOCATION _____

WEATHER CONDITION _____

STREAM QUALITY SURVEY REPORT

1. **STREAM REACH SAMPLE:** BANKFULL WIDTH ____ x12 = STREAM REACH
2. **WATER FLOW:** PRESENT CONDITIONS

IN CHANNEL

☐ FLOODING OVER BANKS
☐ DRY / NO FLOW

3. **EMBEDDEDNESS:** EXTENT COBBLES OR ROCKS ARE EMBEDDED IN SILT.

☐ SOMEWHAT / NOT EMBEDDED 0-25%
☐ HALFWAY EMBEDDED 50%
☐ MOSTLY EMBEDDED 75%
☐ TOTALLY EMBEDDED 100%

4. **ORGANIC MATERIAL IN STREAM:**

☐ NONE ☐ OCCASIONAL ☐ PLENTIFUL

5. **WATER ODOR:**

☐ NONE ☐ CHEMICAL
☐ SEWAGE ☐ CHLORINE
☐ ROTTEN EGG

6. **WATER SURFACE:**

☐ CLEAR ☐ FOAMY
☐ OIL SHEEN ☐ OTHER

7. **STREAM SHADE COVER:**

TOTAL SHADING NO SHADING

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

8. **WATER CLARITY:**

☐ TURBID – SUSPENDED SOLIDS

☐ NOT TURBID – NO SUSPENDED SOLIDS

9. **BANK EROSION:**

HOW VEGETATED IS THE LEFT BANK / LOOKING DOWNSTRAM / FOR THE LENGTH OF THE REACH?

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

HOW VEGETATED IS THE LEFT BANK / LOOKING DOWNSTRAM / FOR THE LENGTH OF THE REACH?

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

10. **ADDITIONAL COMMENTS AND OBSERVATIONS:**

_____

_____

_____

_____

_____

_____

_____

STREAM MONITORING PROGRAM REPORT FORM FOR A MAJOR SPILL

{Attn: [Wastewater Regulatory Program] Fax No. 404-362-2691}

Name of City/County: _____ **Spill Amount:** _____

Date Spill Occurred: _____ **Date Spill Reported to EPD:** _____

Spill Location: _____ **Date of Public Notice (PN):** _____

_____

Name of Receiving Stream Affected: _____

Upstream Sampling Location: *Above Spill:* **Written Report Submitted to EPD:**

Downstream Sampling Location: *Below Spill:* **Copy of PN Submitted to EPD:**

		ABOVE				BELOW			
	DATE	DO	TEMP	pH	#/100 mL Fecal Coliform	DO	TEMP	pH	#/100 mL Fecal Coliform
DAY 1									
DAY 2									
DAY 3									
DAY 4									
DAY 5									
DAY 6									
DAY 7									
WEEK 1 Geometric Mean:									
WEEK 2									
WEEK 3									
WEEK 4									
Month 1 Geometric Mean:(Use all 10 data points)									
Month 3									
WEEK 1									
WEEK 2									
WEEK 3									
WEEK 4									
Month 3 Geometric Mean:									
MONTH 12									
WEEK 1									
WEEK 2									
WEEK 3									
WEEK 4									
MONTH 12 Geometric Mean:									

***Submit Site Location Map**

Wastewater Regulatory Program
4220 International Parkway, Suite 101
Atlanta, Georgia 30354 **404/362/2680**
FAX 404/362/2691

Fish Kill Response - Standard Operating Procedure (SOP)

This SOP is a guide for Fisheries staff in responding to reports of fish kills, and will be applicable to all fish, shellfish and other invertebrates found within DeKalb County waters.

Definition of a fish kill:

A 'fish kill' is a significant and sudden death of fish, shellfish and other aquatic animals. Such events are characterized by large numbers of animals dying over a short time, usually in a defined area.

Initial Notification

1. Based on the initial report, proper staff should be notified to respond.
2. The number of staff to respond will be determined by the size/severity of the kill.
3. Responding staff should locate proper forms, equipment and ice (located in dry lab freezer), and proceed to the site.

Once on location:

1. Talk to any witnesses/observers. Take a statement from any person at the scene who may have pertinent information. Their identity should be established, and statements should be signed and witnessed.
2. Any information recorded during an inspection should be written in pen. Do NOT use pencil!
3. Determine the extent of the kill by walking the length of shoreline or accessing the site by boat.
4. If a fish kill is observed, proceed with an investigation. Fill out the **Fish Kill Investigation Report Form** and continue to use it throughout site inspection. Information should include, but is not limited to:

    - # of fish - Symptoms/ conditions
    - Weather - Dimensions
    - Species affected - Water quality

5. Photographs should be taken of the entire site. Evidence of dead or affected fish and any other materials suspected of being associated with the fish kill should also be photographed. The date, time and location of sequential photographs and the name of the photographer should be recorded in the field notebook.
6. Make physical observations; look for any abnormalities which could lead to a possible explanation of the fish kill. Record any relevant information in field notebook and data sheets. Photographs SHOULD be taken of dead or affected fish and any other affected organisms.
7. Based on the type of kill and/or location, the most accurate counting method should be determined by using one of the following:

    a. Shoreline Count

    - Determine the length of the affected shoreline by subdividing the shoreline into equal segments of a fixed length.
    - Count the total number of segments in the affected shoreline.

- Then randomly select at least 3 segments.
- Multiply the average or total count of fish in each segment by the appropriate expansion factor.
- Hence: (# of fish/segment) x (total number of segments in fish kill zone) = Estimate of total population killed

b. Area sampling (lakes)

- Total Number = (# fish counted) x EV
- EV = (Total area effected)/(area sampled)
- For example: 100 fish were counted in an area of 10 acres2. The lake was 100 acres2. Hence: Total number = 100 x (100/10) = 1000 fish

c. Complete Count

- Count all fish over the entire extent of the kill. (This method is appropriate for a relatively small kill.)

…

FISH KILL INVESTIGATION FORM

Department of Watershed Management
1580 Roadhaven Drive / Stone Mountain, Georgia 30083

FISH KILL INVESTIGATION

DATE:_____

TIME: _____ AM↑ PM ↑

LOCATION: _____
INVESTIGATORS: _____

# of FISH KILLED: _____↑ Count ↑ Estimated

SPECIES: _____

POTENTIAL CAUSES:

↑ Pollution ↑ Oxygen Deprivation ↑ Citizen Activity ↑ Unknown

↑ OTHER _____

SUMMARY:

- Initial date and time reported
- Weather
- Size of Fish Kill Area Impacted
- Stream conditions
  - Flowing
  - Color
  - Clarity
- Site Conditions
  - Overall Conditions
  - Describe area of fish kill
  - Sewer In area
  - Storm Drains in area
  - Industry in area
  - Urban Runoff
- Potential Cause
  - Explain
- Overall Explanation
- Remedial Actions Needed

ATTACHMENTS:

- Statements from Witnesses
    - Written in ink and signed
- Pictures
    - Taken by _____
    - Number of Pictures _____
        - Date, Time, Location, Description noted on each
- Laboratory Data
    - Field Tests
    - Laboratory Bench Tests

APPENDIX G
Investigation, Tracking, and Trend Analysis

The following Investigation, Tracking, and Trend Analysis are provided in Appendix G:

- SSO Evaluation Checklist
- SSO Tracking Sheets

01312012

SSO Evaluation Checklist

SSO Address _____ District _____ Section _____

SSO Date _____ Final Spill Volume _____

Weather _____Rainfall _____ Temperature _____

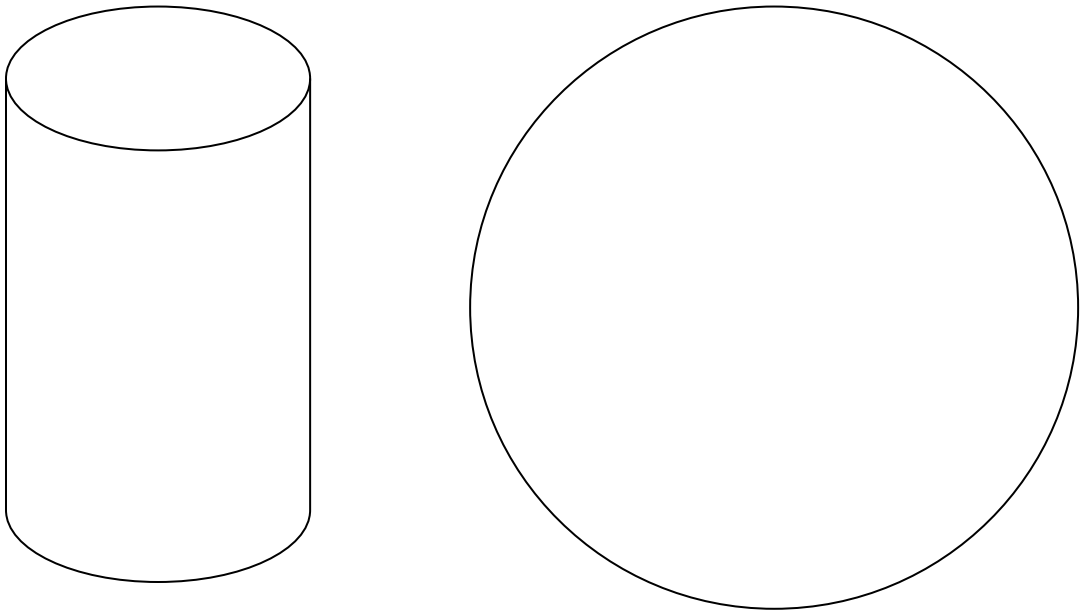
Superintendent Worked _____ Superintendent Follow-up _____

Site Inspection

Line Conditions			
		Initials	Service Request #
Size			
Material of Construction			
Slope	Flat ☐ Normal ☐ Steep ☐		
Age			
Upstream Manhole #			
Downstream Manhole #			
Collapsed			
Cracked			
Offset Joint			
Corrosion			
FOG Amount in pipe	< ¼ ¼ ½ ¾ Full		
FOG Source			
Roots	Removal: Mechanical ☐ Chemical ☐		
Debris	Source:		
Debris Removed			
Other Blockage Source			
Visual Pipe Capacity	< ¼ ¼ ½ ¾ Full		

Manhole Conditions			
		Initials	Service Request #
Manhole Number			
Interior Shaft Size			
Material of Construction			
Age			
Depth			
Invert Condition			
Wall Condition, Interior			
Wall Condition, Exterior			
Ring Condition			
Covers	Perforated ☐ Solid ☐ Seal Insert ☐ Bolted ☐ Replace ☐		
FOG Amount in manhole	< ¼ ¼ ½ ¾ Full		
FOG Source			
Roots	Removed: Mechanical ☐ Chemical ☐		
Debris	Source:		
Other Blockage Source			
Rehabilitation SR			

Diagram of Invert and Connections



Site Conditions			
		Initials	Service Request #
Partial clean-up			
Clean-up Completed			
Disinfectant/Deodorant			
Trash Removed			
Straw Spread			
New top soil			
Signs Posted (Date and Number)			
Signs Removed (Date and Number)			
ROW/Easements	Clear ☐ Needs Clearing ☐ Needs Access ☐		
Area Map Accurate			
GIS Coordinates	X Y		
Grease Map			
Spill Cluster Map Update			
Photos			

Waterway Conditions			
		Initials	Service Request #
Receiving Stream Name			
Banks Clean			
Water Clean			
Downstream Clean			
Water Color			
Any Sewer Odor Noticed			
Erosion Inspection			
Bank Rebuild/Stabilization			
Super Phosphate Spread			
Storm Drain Flushed			
Street Drainage Working			
Creek Crossing Inspected			
Debris Removal			

Follow-up Requests				
			Initials	Service Request #
CCTV Line, Large	___Upstream Segments	___Downstream Segments		
CCTV Lateral				
Capacity Evaluation				
Education				
Enforcement	FOG ☐ Building ☐ Private ☐ IPT ☐ Health Department ☐ Environmental ☐ Stormwater ☐			
Smoke Test				
Dye Test				
Infiltration				
Industrial Pretreatment				
Septic Tank				
Private Lift Station				
Private System				
5 Day Letter Sent				
Follow-Up Letters				
Remaining Time Frame				
Closed				

Spills that entered the Waters of the US/State Tracking Form

DeKalb County Department of Watershed Management Consent Decree SSO Tracking Sheet

Spills that Entered Waters of the US/State

	Date/Time		Type & Volume			Location		MH/Line		Cause/Source		Water Body	Flow Restoration			Notification Dates			Update Comments
SSO NO.	Date Spill Reported to DWM	Time Spill Reported to DWM	Fish Kill	Major Spill	Estimated Quantity, gals	Address of Spill	City	Manhole/Structure #	Pipe Size	Cause	Source	Receiving Stream or Waterbody	Restoration Date	Restoration Time	Flow Restoration Action	24 hour Notice	5 Day Letter	Additional Follow-up	
1	12/20/2011	9:41	n		8,360	4502 Flair Knoll Ct	Atlanta	233-s032	8	BRK LN/STR	Broken Bell on Concrete Line	North Fork Peachtree Creek	12/20/2011	13:10	Replaced Line segment with PVC	12/20/11	12/28/11	No	

Building Back-up Tracking Form

DeKalb County Department of Watershed Management Consent Decree SSO Tracking Sheet

Building Back-up Report

	Date/Time			Location		Cause/Source		Flow Restoration			Actions		
Building Back-up #	Date Spill Reported to DWM	Time Spill Reported to DWM	Quantity in Gallons (est)	Address of Spill	City	Cause	Source/Additional Description	Restoration Date	Restoration Time	Flow Restoration Action	Cleaning Service	Additional Follow-up	Update Comments
1	1/2/2012	15:38	50	2042 Countydown Lane	Stone Mountain	OTH	Unknown cause at time of event	1/2/2012	20:00	Rodded main 100 feet to clear blockage	Yes	CCTV	Found roots in line and cut out. Sent backwater valve letter

SSO-Surface Spills Tracking Form

DeKalb County Department of Watershed Management Consent Decree SSO Tracking Sheet

Overflows (Surface Spills)

	CD Date/Time			Address		Cause		Flow Restoration			Update Comments
Overflow #	Date Spill Reported to DWM	Time Spill Reported to DWM	Quantity in Gallons	Address of Spill	City	Cause/Source	Description	Restoration Date	Restoration Time	Flow Restoration Action	
1	01/13/12	9:09	200	1817 CLIFTON ROAD	Atlanta	Unknown	Blocked line	1/13/2012	10:30	Pressure washed main and cleared blockage	