

# Sanitary Sewer Overflow Response Plan

## Table of Contents

---

AUTHORITY .....	31
PLAN OVERVIEW .....	32
SSORP Objectives .....	32
ORGANIZATION OF PLAN.....	32
SANITARY SEWER OVERFLOW (SSO) RESPONSE TRACKING .....	32
Section 1: OVERFLOW RESPONSE PROCEDURE .....	33
Subsection 1.A. Responding to a Report of Possible Overflow.....	33
Subsection 1.A.(a) Possible SSO Reported by a Member of the Public.....	31
Subsection 1.A.(b) Possible or Confirmed SSO Reported by Treatment Plant.....	32
Subsection 1.A.(c) Possible or Confirmed SSO Reported by Other LRWRA Personnel.....	32
Subsection 1.B. Confirming a Reported Spill as an SSO.....	35
Subsection 1.C. Dispatching Maintenance Crews for SSO Response.....	39
Subsection 1.D. Dispatching Crews .....	39
Subsection 1.E. Crew Instructions and Work Orders.....	39
Subsection 1.F. Additional Resources.....	40
Subsection 1.G. Preliminary Assessment of Damage to Private and Public Property.....	40
Subsection 1.H. Field Supervision and Inspection.....	40
Subsection 1.I. Coordination with Hazardous Material Response .....	40
Subsection 1.J. SSO Correction, Containment, and Clean-Up.....	41
Overflow Response Objectives: .....	41
Subsection 1.K. Maintenance Crew Responsibilities Upon Arrival .....	42
Upon Arrival at an SSO, the Initial Response Crew: .....	42
Subsection 1.K.(a) Containing the SSO .....	43
Subsection 1.K.(b) Additional Measures for <i>Prolonged</i> Overflow Conditions.....	43

Subsection 1.K.(c) Cleanup.....	44
Subsection 1.L. Overflow Report Form .....	44
Subsection 1.M. Completing the SSO Report Form.....	45
Subsection 1.M.(a)Environmental Damage / Impact of SSO: .....	45
Subsection 1.M.(b) "TIME" of SSO.....	48
Subsection 1.M.(c). "COMPLETED DATE" & "COMPLETETD TIME" of SSO .....	49
Subsection 1.M.(d) "ESTIMATED VOLUME" of SSO .....	49
Subsection 1.N. PHOTOGRAPHS of SSO .....	49
Subsection 1.O. ASSESSMENT of ANY DAMAGE.....	46
Subsection 1.P. Customer Satisfaction .....	50
Subsection 1.Q. Responding to Overflow Locations Where an SSO has Reoccurred Prior to the Initial SSO Being Completed .....	50
Section 2: PUBLIC ADVISORY PROCEDURE.....	51
Subsection 2.A. Temporary public notice for polluted surface water bodies or ground surfaces that result from uncontrolled discharges from LRWRA facilities .....	51
Subsection 2.B. Permanent Public Notice .....	53
Subsection 2.C. Other Public Notification .....	53
Section 3: REGULATORY AGENCY NOTIFICATION PLAN .....	54
Subsection 3.A. Immediate Notification .....	54
Subsection 3.B. Secondary Notification.....	55
Section 4: MEDIA NOTIFICATION PROCEDURE .....	56
Section 5: DISTRIBUTION AND MAINTENANCE OF SSORP.....	57
Subsection 5.A. Submittal and Availability of SSORP .....	57
Subsection 5.B. Review and Update of SSORP.....	57
Subsection 5.C. Practical Resources .....	56
Subsection 5.D. Training.....	56
Appendix List.....	59
<b>Appendix A: Sanitary Sewer Overflow (SSOs) Tracking Procedure.....</b>	<b>60</b>

**Appendix B: SSO Action Plan .....66**  
**Appendix C: Collection System Spill Contacts .....68**  
**Appendix D: Detecting Hazardous Atmospheres.....69**  
**Appendix E: SSO Permanent & Temporary Signage - Verbiage.....69**  
**Appendix F: SSO Flow & Volume Determination .....69**  
**Appendix G: Flowchart Process for SSO Reporting (External Source) .....75**  
**Appendix H: Flowchart Process for SSO Reporting (Internal Source).....76**

## LRWRA: SANITARY SEWER OVERFLOW RESPONSE PLAN

The LRWRA Sanitary Sewer Overflow Response Plan (SSORP), or 'Plan', became effective on **September 30, 2002**. This plan is designed to ensure that every report of a confirmed sanitary sewer overflow (SSO) - also referred to as confirmed sewage spill, sewer overflow, overflow, or SSO - is immediately dispatched to the appropriate maintenance crew personnel so that the effects of the overflow can be minimized, with respect to the impacts on the environment, public health, integrity of the sewer collection system and treatment facilities, quality of surface waters, as well as customer service.

This plan further includes provisions to ensure safety, pursuant to the directions provided by the Arkansas Division of Environmental Quality (DEQ), LRWRA's regulating agency/authority, and that proper notification and reporting is made to all appropriate levels of authority (local, state, and federal) in order to remain within compliance of all permit limits issued by DEQ for the three (3) LRWRA Treatment Plants. For purposes of this SSORP document, *confirmed sewage spill*' is also sometimes referred to as *sewer overflow, overflow, or sanitary sewer overflow* or *SSO*.

### AUTHORITY

The Arkansas Division of Environmental Quality is the regulatory agency/authority that issues, monitors, regulates, and outlines the conditions of the National Pollutant Discharge Elimination System (NPDES) Permits for each of the three (3) LRWRA Facilities. The NPDES/AFIN information for each LRWRA facility is as follows:

	<i>NPDES PERMIT ID</i>	<i>AFIN</i>
<i>AFWRF (ADAM'S FIELD)</i>	<i>AR0021806</i>	<i>60-00409</i>
<i>FCWRF (FOURCHE CREEK)</i>	<i>AR0040177</i>	<i>60-01021</i>
<i>LMWRF (LITTLE MAUMELLE)</i>	<i>AR0050849</i>	<i>60-04200</i>

## PLAN OVERVIEW

---

### SSORP Objectives

The primary objectives of the SSORP are to protect public health and the environment, as well as to satisfy regulatory agencies and waste discharge permit (NPDES) conditions which address procedures. Additional objectives of the Plan are to:

- Provide appropriate and best practices customer service
- Protect water reclamation treatment plant and collection system personnel;
- Protect the collection system, water reclamation treatment facilities, and all LRWRA assets
- Protect private property as well as public property expanding beyond the collection system and water reclamation treatment facilities

This Plan shall not supersede existing emergency plans nor Standard Operating Procedures (SOPs), unless directed by the LRWRA Chief Executive Officer (C.E.O.) for managing SSOs, and to minimize risk of enforcement actions against Little Rock Water Reclamation Authority ("LRWRA").

### ORGANIZATION OF PLAN

The key elements of the LRWRA Sanitary Sewer Overflow Response Plan are addressed individually within the following section of this document:

- Section 1: Overflow Response Procedure
- Section 2: Public Advisory Procedure
- Section 3: Regulatory Agency Notification Plan
- Section 4: Media Notification Procedure
- Section 5: Distribution & Maintenance of SSORP

### SANITARY SEWER OVERFLOW (SSO) RESPONSE TRACKING

A procedure to track the frequency, type, and location of SSOs has been prepared and can be found in Appendix A of this SSORP document, entitled *Appendix A – Procedure to Track an SSO*.

Data on each SSO occurrence is maintained in a database that can be analyzed, based on any recorded SSO parameter(s). The database is maintained and backed up on a regular basis by the LRWRA Information Services Department.

## Section 1: OVERFLOW RESPONSE PROCEDURE

---

The Sanitary Sewer Overflow Response Procedure (SSORP), or “Plan”, presents a strategy for LRWRA to mobilize labor, materials, tools, and equipment to correct or repair any condition which may cause or contribute to an unpermitted discharge. The Plan considers a wide range of potential system failures that could create an overflow to surface waters, land, or buildings.

### Subsection 1.A. Responding to a Report of Possible Overflow

An SSO may be detected by LRWRA employees or by others, such as members of the public, including, but not limited to, the citizens of Little Rock, guests of Little Rock, and other Little Rock utility organizations. The Collection System Maintenance Dispatchers are primarily responsible for receiving phone calls from the public reporting possible SSO occurrences within the water reclamation collection system and are also responsible for forwarding Work Requests Numbers and details to the Responding Maintenance Crew personnel.

Generally, Dispatchers in the Collection System Maintenance Division receive telephone calls from the public reporting possible SSOs. The emergency phone line is staffed 24 hours per day, every day of the year, with Emergency On-Call Response Crews responding to calls received after normal business hours. The Communications Department has a program in place for educating the public to report SSOs that they observe by providing a contact phone number for reporting the occurrence.

#### *Subsection 1.A (a). Possible SSO Reported by a Member of the Public*

LRWRA Collection System Maintenance Dispatchers obtain all relevant information available regarding the possible overflow from the member of the public reporting the possible SSO, to include the following details, if possible:

- When?
  - Date/Time the call was received
  - Date/Time reported spill was discovered
- Where?
  - Nearest Address/Intersection to the location of the spill
  - Specifics of spill location (i.e. front vs rear of property, etc.)
  - Ground surface type for reported spill (street; yard, drainage ditch etc.)

- Manhole spill vs. spill between manholes
  
- What?
  - Description of reported spill, with documentation of all observations described
  - Confirmation & description of any present odor
  - Duration of reported spill (active spill vs. inactive spill)
  
- Who?
  - Caller details to include name & telephone number at minimum
  
- Additional Details Reported
  - Documentation of any other relevant information that may enable the Responding Maintenance Crew(s) to quickly locate, assess, and determine if the spill is an SSO, and to take measures necessary to correct and contain a possible SSO

*Subsection 1.A.(b). Possible or Confirmed SSO Reported by Treatment Plant*

Pump station failures are monitored and received by Operators-on-Duty at the Adams Field, Fourche Creek, and Little Maumelle Water Reclamation Facilities. The Operator-On-Duty immediately conveys all information regarding alarms to the Superintendent of Facilities and Equipment to initiate the investigation. Water Reclamation Facilities Investigating Crew determines if the failure resulted in an overflow and then reports the findings to the Collection System Maintenance Dispatchers if an SSO has occurred. For proper documentation, a completed LRWRA Overflow Report Form shall be sent via e-mail to the 'OVERFLOWS' email group at [Overflows@lrwra.com](mailto:Overflows@lrwra.com) email address and the Collection System Maintenance Dispatch should be copied on all emails.

*Subsection 1.A.(c). Possible or Confirmed SSO Reported by Other LRWRA Personnel*

SSOs detected by any LRWRA personnel during their normal duties are reported immediately to the Collection System Maintenance Dispatchers who record all relevant SSO information and immediately dispatch the proper Maintenance Response Crew(s), as well as any additional Maintenance Crews as needed. The Response Crew may also contact additional maintenance crews identified to assist in the correction, containment, and/or cleanup of an SSO.

## Subsection 1.B. Confirming a Reported Spill as an SSO

Collection System Maintenance Crews confirm reported spills to be SSOs. Until verified, the report of a possible spill is not referred to as a sewer overflow, overflow, nor SSO. If an overflow has in fact occurred, the Maintenance Crew Leader is responsible for completing the proper LRWRA Overflow Report Form and for ensuring all maintenance personnel follow the guidelines outlined in the Plan. *See Figure 1.B.-1: SSO Response Tracking Protocol.*

If the reported spill is confirmed to be an SSO by the Responding Maintenance Crew(s), the SSO confirmation and all related details of the SSO are reported back to the Dispatchers who record and input the SSO information into the LRWRA EAM database Work Request module. A Work Request number is created and communicated back to the Responding Crew(s) who will record the number on all SSO-related paperwork to track all response efforts and labor and to log all information relevant to the specific SSO occurrence.

The Dispatchers use various waterway-type layers within the GIS program to identify bodies of water to determine if an impacted waterway is an unnamed drainage ditch or a named waterway, which is necessary for determining the proper LRWRA Overflow Report Form to be completed and if an email notification to DEQ within 24 hours is required. Some Response Crews also now have access to electronic tablets and/or Smart Phone apps with mapping capabilities that can aid in making such determinations.

A **Red** Overflow Report Form is used when an impacted drainage area is determined to be a named waterway (creek/stream/river), indicating environmental impact (DEQ Environmental Damage Code of OEEI) or when the SSO involves observed or evidence of human contact (Environmental Damage Code of OEHC). A Black Overflow Report Form is used whenever there is NO evidence of environmental impact nor human contact evidenced or observed. *See Figures 1.A.-1: LRWRA (Black) SSO Report Form (revised 2/2/2018) & 1.A.-2: LRWRA (Red) SSO Report Form (revised 2/2/2018).*



Figure 1.A.-1 LRWRA SSO Report Form (Black)\_Revised 2/2/2018

*Revision Date: February 2, 2018*

**LITTLE ROCK WATER  
RECLAMATION AUTHORITY  
SANITARY SEWER OVERFLOW OR BYPASS REPORTING FORM**

SERVICE REQUEST NUMBER: \_\_\_\_\_

REPORTED \_\_\_\_\_ ADDRESS: \_\_\_\_\_

BY: \_\_\_\_\_

CALL TIME: \_\_\_\_\_ **AM or PM** (circle one) CALL DATE: \_\_\_\_\_

---

**RESPONSE DATA:**

CREW LEADER: \_\_\_\_\_

ARRIVAL TIME \_\_\_\_\_ **AM or PM** DATE: \_\_\_\_\_

COMPLETED TIME: \_\_\_\_\_ **AM or PM** DATE: \_\_\_\_\_

**ACTION(S) TAKEN:**

\_\_\_\_\_ **HC** = Hydro-cleaned/Jet-Vac.      \_\_\_\_\_ **DD** = Disinfected & Deodorized/Environmental Cleanup

\_\_\_\_\_ **HR** = Hand/Machine Rodded      \_\_\_\_\_ **LIME** = Lime Applied to Affected Area/Environmental Cleanup

\_\_\_\_\_ **PN** = Public Notification      \_\_\_\_\_ **GPPE** = Generator Used to Power Pumps/Equipment

\_\_\_\_\_ **WO** = Work Order      \_\_\_\_\_ **EN** = Notify Engineering

**SSO DATA:**

DATE OF SSO: \_\_\_\_\_ TIME OF SSO: \_\_\_\_\_ **AM or PM**

LOCATION: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

**CAUSE:**

\_\_\_\_\_ **RO** = Root(s)      \_\_\_\_\_ **D** = Debris      \_\_\_\_\_ **EF** = Equipment Failure

\_\_\_\_\_ **G** = Grease      \_\_\_\_\_ **LF** = Line Failure/Break      \_\_\_\_\_ **PF** = Power Failure

\_\_\_\_\_ **R** = Rainfall/I&I      \_\_\_\_\_ **HC** = Hydro Cleaning

\_\_\_\_\_ **CO** = Construction      \_\_\_\_\_ **VA** = Vandalism

**IMPACT OF SSO INCIDENT:**

\_\_\_\_\_ **GRPUB** = SSO Reached Public Land Only      \_\_\_\_\_ **GRPVT** = SSO Reached Private Property

\_\_\_\_\_ **TP** = SSO Occurred at Treatment Plant

**ACTIVE DISCHARGE:** \_\_\_\_\_ YES      \_\_\_\_\_ NO (Evidence of Discharge)

OBSERVED FLOWRATE: \_\_\_\_\_ **GALLONS PER MINUTE**      *NOTE: IF SSO is active when found, the actual volume may be greater than the known volume.*

ESTIMATED DURATION: \_\_\_\_\_ **MINUTES**

ESTIMATED VOLUME: \_\_\_\_\_ **GALLONS**

**ENVIRONMENTAL DAMAGE:** \_\_\_\_\_ **NEAH** = No Evidence of Adverse Health or Environmental Impacts

Figure 1.A.-2 LRWRA SSO Report Form (Red)\_Revised 2/2/2018

Revision Date: February 2, 2018

**LITTLE ROCK WATER  
RECLAMATION AUTHORITY  
SANITARY SEWER OVERFLOW OR BYPASS REPORTING FORM**

**WHEN USING THIS FORM, SEND AN EMAIL WITH THE SSO DATE AND LOCATION TO  
SSOADEQ@adeq.state.ar.us WITHIN 24 HOURS!**

SERVICE REQUEST NUMBER: \_\_\_\_\_

REPORTED BY: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

CALL TIME: \_\_\_\_\_ **AM or PM** CALL DATE: \_\_\_\_\_  
(circle one)

---

**RESPONSE DATA:**

CREW LEADER: \_\_\_\_\_

ARRIVAL TIME: \_\_\_\_\_ **AM or PM** DATE: \_\_\_\_\_

COMPLETED TIME: \_\_\_\_\_ **AM or PM** DATE: \_\_\_\_\_

**ACTION(S) TAKEN:**

\_\_\_\_\_ **HC** = Hydro-cleaned/Jet-Vac      \_\_\_\_\_ **DD** = Disinfected & Deodorized/Environmental Cleanup  
 \_\_\_\_\_ **HR** = Hand/Machine Rodded      \_\_\_\_\_ **LIME** = Lime Applied to Affected Area/Environmental Cleanup  
 \_\_\_\_\_ **PN** = Public Notification      \_\_\_\_\_ **GPPE** = Generator Used to Power Pumps/Equipment  
 \_\_\_\_\_ **WO** = Work Order      \_\_\_\_\_ **EN** = Notify Engineering

**SSO DATA:**

DATE OF SSO: \_\_\_\_\_ TIME OF SSO: \_\_\_\_\_ **AM or PM**  
(circle one)

LOCATION: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

CAUSE:      \_\_\_\_\_ **RO** = Root      \_\_\_\_\_ **D** = Debris      \_\_\_\_\_ **EF** = Equipment Failure  
 \_\_\_\_\_ **G** = Grease      \_\_\_\_\_ **LF** = Line Failure/Break      \_\_\_\_\_ **PF** = Power Failure  
 \_\_\_\_\_ **R** = Rainfall/I&I      \_\_\_\_\_ **HC** = Hydrocleaning  
 \_\_\_\_\_ **CO** = Construction      \_\_\_\_\_ **VA** = Vandalism

**IMPACT OF SSO INCIDENT:**

\_\_\_\_\_ **CR** = SSO Reached Receiving Water (creek/stream/river)      \_\_\_\_\_ **GRPUB** = SSO Reached Public Land Only  
 \_\_\_\_\_ **CB** = SSO Contained in Building/Basement Backup      \_\_\_\_\_ **GRPVT** = SSO Reached Private Property  
 \_\_\_\_\_ **GRCB** = SSO Reach Ground Surface AND Building      \_\_\_\_\_ **TP** = SSO Occurred at Treatment Plant

If **CR**, provide name of waterway: \_\_\_\_\_

**ACTIVE DISCHARGE:**      \_\_\_\_\_ YES      \_\_\_\_\_ NO (Evidence of Discharge)

OBSERVED FLOWRATE:      \_\_\_\_\_ **GALLONS PER MINUTE**

ESTIMATED DURATION:      \_\_\_\_\_ **MINUTES**

ESTIMATED VOLUME:      \_\_\_\_\_ **GALLONS**

IF "GRCB" IS CHECKED, ESTIMATE GALLONS WITHIN BUILDING: \_\_\_\_\_

**ENVIRONMENTAL DAMAGE:**      \_\_\_\_\_ **OEHC** = Observed or Evidence of Human Contact  
 \_\_\_\_\_ **OEEI** = Observed or Evidence of Environmental Impact  
 \_\_\_\_\_ **EFK** = Evidence of Fish Kill

Figure 1.B.-1. SSO Response Tracking Protocol (“Overflow Response Procedures”)

---

## SSO RESPONSE TRACKING PROTOCOL

### When Maintenance Crew Confirms an SSO:

(Response Crew for Non-Capacity SSO + any crew that has the capability to open main line stoppages & stop the SSO)

---

- 1) Crew that locates overflow fills out Overflow Report Form:
  - a. **RED FORMS** are used when there is evidence of human contact or environmental impact (named waterway). When using this form, the responding crew leader shall send an email to [SSOADEQ@adeq.state.ar.us](mailto:SSOADEQ@adeq.state.ar.us) within 24 hours, stating the date and location of the SSO (per revised AFWWTP permit language). Dispatcher will use the Arc Map database to assist Responding Crew in determining if an SSO in a drainage area is either a ditch or a named waterway (creek/stream/river). If it is determined the fate is a named waterway, the SSO shall be reported on a **RED OVERFLOW REPORT FORM**.
  - b. **BLACK FORMS** are used when there is NO evidence of human contact and/or environmental impact (unnamed waterway).
- 2) Crew that locates overflow notifies Dispatch. Dispatch assigns a Service Number for tracking.
- 3) Response Crew (or Locating Crew) installs warning signs.
- 4) Response Crew (or Locating Crew) takes photographs *before* cleanup.
- 5) Response Crew cleans and sanitizes.
- 6) Response Crew verifies cleanup is done correctly. *If within a structure*, assures photos are taken within the structure, volume is estimated, **Customer Flood Report** is properly completed, and contact information for the Safety & Risk Administrator is provided if applicable (i.e. damage claims).
- 7) Response Crew removes warning signs.
- 8) Response Crew (or Emergency Crew) takes photographs *after* cleanup.
- 9) Response Crew verifies that Overflow Report Form is turned in to Dispatch on the same day.
- 10) Dispatch downloads photographs into database.
- 11) Dispatch enters overflow information into the SSO event database.
- 12) Plant Superintendent reports SSO data to DEQ and other departments as required by the NPDES Permits.

---

## OVERFLOW ACTIVITY CODES

---

- > **SONC** → Sewer overflow out of manhole or broken line *between manholes*
  - > **SONCP** → Sewer overflow out of *private* facility (private manhole; building; service line; cleanout)
  - > **SONCO** → Sewer overflow due to vandalism or broken by another utility
  - > **SOC** → Sewer overflow due to a rain event
  - > **SOC** → Sewer overflow at private structure or private manhole due to a rain event
-

## Subsection 1.C. Dispatching Maintenance Crews for SSO Response

Failure of any element within the water reclamation collection system that threatens to cause or causes an SSO triggers an immediate response to isolate and correct the problem. Maintenance Crews and equipment are available for response to any SSO location 24-hours/day, 7 days/week. Additional Maintenance Crews are designated "On Call" if additional support is needed. (See "Appendix B: SSO Action Plan".)

## Subsection 1.D. Dispatching Crews

Dispatchers receive notification of possible SSOs (as outlined in *Section 1.A Responding to a Report of a Possible SSO*) and dispatch an Emergency Crew or the appropriate area Response Crew as required.

Dispatchers notify the appropriate Manager(s) by phone regarding SSO details and field crew locations.

## Subsection 1.E. Crew Instructions and Work Orders

Responding Crews are dispatched by phone, and in some cases, the Work Request details are emailed to the Responding Maintenance Crew. The Dispatchers receive instructions from the Responding Crew(s) or their Manager(s) regarding the necessary additional crews/type of crews, and proper materials, supplies, & equipment needed to resolve the SSO and complete proper cleanup procedures.

Dispatchers verify that the entire message has been received and acknowledged by the additional dispatched Maintenance Crews. All standard communication procedures are followed. All employees being dispatched to the site of an SSO proceed immediately to the site of the overflow. Any delays or conflicts in assignments are reported immediately to the Manager for resolution.

In all cases, Response Crews report their findings to the available Manager immediately upon concluding their investigation findings. Information should include any and all possible damage to private and public property. If the Manager has not received findings from the Response Crew within one (1) hour, the Manager contacts the Response Crew to determine the status of the investigation.

## Subsection 1.F. Additional Resources

The Manager receives requests for additional personnel, material, supplies, and equipment from crews working at the site of an SSO and conveys the requests to the appropriate parties.

## Subsection 1.G. Preliminary Assessment of Damage to Private and Public Property

The focus is to resolve the problem. The Response Crews use discretion in assisting the property owner/occupant as reasonably as they can. Be aware that LRWRA could face increased liability for any further damages inflicted to private property during such assistance. In the event the SSO occurs inside a structure, the Environmental, Safety & Risk Supervisor shall be notified and shall personally assess and document all damages as well as notify the Manager of the event. The Response Crew shall enter private property for purposes of overflow reporting.

**NOTE:** A Collections System Maintenance Manager can take the place of the Safety & Risk Administrator in damage assessment activities relating to the time-sensitive information in the case that the Environmental Safety & Risk Supervisor is unable to be on site at that time. In this case, the Collection System Maintenance Manager will provide the customer with the Safety & Risk Administrator's business card. All communication regarding damage claims will take place between the property owner and the Environmental Safety & Risk Supervisor. The crew shall take appropriate still photographs, if possible, of the area of the SSO and the impacted area to thoroughly document the nature and extent of impact.

## Subsection 1.H. Field Supervision and Inspection

The Responding Crew (or whomever confirmed the SSO), visits the site of the SSO, if possible, and takes photos before cleanup begins and installs temporary LRWRA warning signage to ensure that provisions of this LRWRA Overflow Response Plan and other directives are met.

## Subsection 1. I. Coordination with Hazardous Material Response

Upon arrival at the scene of an 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) that is uncommon to the sewer system be detected. The Responding Crew should secure the immediate area and should contact the Dispatcher or Environmental Safety & Risk Department (*See Appendix D: Collection System Spill Contacts*)



**!! REMEMBER !!** Keep a safe distance and observe caution until assistance arrives: Any vehicle engine, portable pump, and/or open flame (e.g., cigarette lighter) can provide ignition for an explosion or fire, should flammable fluids/vapors be present.

Subsequent response actions should follow existing LRWRA procedures for **DETECTING HAZARDOUS ATMOSPHERES**. These procedures are outlined within the LRWRA Safety Manual & are also attached to this LRWRA SSORP (*Appendix C: Detecting Hazardous Atmospheres*). Only when the Safety & Risk Department deems it safe for personnel to resume activities can they proceed with SSO containment, clean-up, and correction activities.

## Subsection 1. J. SSO Correction, Containment, and Clean-Up

This section describes specific actions to be performed by Maintenance Crews during a confirmed SSO occurrence.

SSOs of various volumes occur from time to time despite concerted prevention efforts. Spills may result from blocked sewer lines, pipe failures, or mechanical malfunctions among other natural or manmade causes. LRWRA is constantly on alert and ready to respond upon notification and confirmation of an overflow.

### *Overflow Response Objectives:*

- Protect public health, the environment, and property from sewage overflows and to restore the surrounding area back to normal as soon as possible;
- Promptly notify the regulatory agency of preliminary overflow information and potential impacts (within 24-hours if human contact or environmental impact apply);
- Contain the SSO to the maximum extent possible, including preventing the discharge of sewage into surface waters as possible; and
- Minimize LRWRA's exposure to any regulatory agency penalties and fines

Under most circumstances, LRWRA handles all response actions with its own Maintenance Department forces. Maintenance personnel are equipped with the skills and experience to respond rapidly and in the most appropriate and efficient manner. An important issue with respect to emergency response is to ensure that the temporary actions necessary to divert flows and repair the problem are methodical and do not produce a problem elsewhere in the system. (For example, repair of a force main could require the temporary shutdown of the pump station and

diversion of the flow at an upstream location. If the closure is not handled properly, sewage system backups may create other overflows.)

Circumstances may arise when LRWRA could benefit from the support of private-sector construction assistance. This may be true in the case of large diameter pipes (e.g.  $\geq 18''$ ) buried to depths requiring sheet piling and dewatering should excavation be required. LRWRA may also choose to use private-sector contractors to complete open excavation operations that might exceed one (1) day to complete.

## Subsection 1.K. Maintenance Crew Responsibilities Upon Arrival

It is the responsibility of the initial Responding Crew (or Locating Crew that finds and confirms the SSO) that first arrives at the site of an SSO to protect the health and safety of the public by mitigating the impact of the SSO to the extent possible. Should the SSO not be the responsibility of LRWRA, LRWRA shall notify Little Rock Code Enforcement of the incident.

*Upon Arrival at an SSO, the Initial Response Crew:*

- Determines the cause of the overflow (e.g. sewer line blockage, pump station mechanical or electrical failure, sewer line break, etc.), if possible
- Identifies and requests, if necessary, required assistance or additional resources to correct the overflow or to assist in the determination of its cause;
- Takes immediate steps to stop the overflow (e.g. relieves pipeline blockage, manually operates pump station controls, repairs pipe, etc.) Extraordinary steps may be considered where overflows from private property threaten public health and safety (e.g., an overflow running off private property into the public right-of-way); and

**Note:** *If Initial Response Crew confirms the SSO (i.e. Inspection Crew), it is their duty to contact the appropriate Response Crew (i.e. area Hand Rod Crew; area Hydro Clean Crew; Hydro Clean Rover Crew; Daytime Emergency Crew) for immediate arrival onsite so steps can be taken to stop the overflow, relieve pipeline blockage, etc.*

- Requests additional personnel, materials, supplies, and/or equipment to best expedite minimizing the impact of the SSO.

### *Subsection 1.K.(a) Containing the SSO*

The following measures serve to contain and/or recover the overflowing sewage, and are initiated to minimize the impact to public health or the environment:

- Determine the immediate destination of the SSO. Dispatchers can use the GIS program to assist in determining if the impact of the SSO is a named waterway (creek/stream/river).
- Identify and request the necessary materials and equipment to contain or isolate the overflow (if not readily available); and
- Take immediate steps to contain the overflow (e.g., block or bag storm drains, recover through vacuum truck, divert SSO into downstream manhole, etc.) if conditions allow, as determined by the LRWRA Maintenance Department.
- In the event an SSO has discharged into a creek, stream, or river, the following immediate measures to eliminate and contain the discharge and eliminate the chances as best possible from the SSO discharging into a creek/stream/river will be taken, which include:
  - Establishing bypass pumping of sewer to other areas of the collection system; or
  - Implement holding tanks until repairs can be made.

Be sure to utilize equipment that can vacuum sewer to eliminate or contain overflow until repairs can be made!

Once corrective action has been taken to restore flow to the collection system, immediate measures will be taken to contain and remove contaminants from the waterway as feasible. The focus is to remove oxygen-depleting solids from water, returning it back into the collection system. Efforts can include the following:

- Establishing strategic points of containment along the waterway and removing contaminants through pumping, vacuuming, sweeping, etc.
- Applying disinfectants as feasible along edges of waterway to eliminate contamination.
- Utilize portable aerators (as feasible) along edges of waterways to maintain adequate oxygen levels to preserve aquatic life until proper removal of contaminants is achieved.

### *Subsection 1.K.(b) Additional Measures for Prolonged Overflow Conditions*

In the event of a prolonged sewer line blockage or a sewer line collapse, a portable bypass pumping operation should be set up around the obstruction.



- Take appropriate measures to determine the proper size and number of pumps required to effectively handle sewage flow.
- Implement continuous or periodic monitoring of the bypass pumping operation as required.
- Address regulatory agency-related issues in conjunction with making any emergency repairs.

#### *Subsection 1.K.(c) Cleanup*

SSO sites are to be thoroughly cleaned after an overflow. No readily identified residue (e.g., sewage solids, papers, rags, plastics, rubber products) is to remain.

- Where practical, thoroughly flush the area and clean of any sewage or wash-down water. Solids and debris are to be flushed, swept, raked, picked-up, and transported for proper disposal.
- Secure the overflow to prevent contact by members of the public until the site has been thoroughly cleaned. If posting is required, see *Appendix E: SSO Permanent & Temporary Signage – Verbiage* for examples of postings.
- Where appropriate, disinfect and deodorize the overflow site.
- Where sewage has resulted in ponding, pump the pond dry and dispose of the residue in accordance with applicable regulations and policies.

If a ponded area contains sewage which cannot be pumped dry, it may be treated with approved waterway application that is designed to kill bacteria. If sewage has discharged into a body of water that may contain fish or other aquatic life, do not use bleach or other disinfectants and contact the Arkansas Game & Fish Commission.

Use of portable aerators may be required where complete recovery of sewage is not practical and where severe oxygen depletion in existing surface water is expected.



Do **not** use enzymes in flowing creeks, streams, or waterways

## Subsection 1.L. Overflow Report Form

Emergency Crew, Locating Crew, or Response Crew completes a LRWRA Sanitary Sewer Overflow or Bypass Report Form (*See Figure 1.A.-1 and Figure 1.A.-2*). The Crew promptly notifies Dispatcher when the SSO is eliminated.

There are two (2) types of LRWRA internal Overflow Report Forms: a **RED** Sanitary Sewer Overflow or Bypass Report Form & a **BLACK** Sanitary Sewer Overflow or Bypass Report Form (commonly referred to Overflow Report Forms). The impact of the SSO and/or the proper DEQ environmental damage code that best describes the SSO at hand are used to determine the proper Overflow Report Form when reporting each SSO. DEQ environmental damage codes and associated proper LRWRA internal Overflow Report Form are listed next for reference.

## Subsection 1.M. Completing the SSO Report Form

### *Subsection 1.M.(a)Environmental Damage / Impact of SSO:*

**RED** LRWRA Overflow Report Forms are used to report SSOs involving the following impacts:

Observation or Evidence of Environmental Impact (DEQ Environmental Damage Code OEEI): for example, an overflow that has reached / impacted a named waterway such as a named creek, stream, pond, or river. This includes all SSOs where there is indication that the SSO reached surface waters. For SSOs where sewage was observed running to surface waters, Emergency Crew / Response Crew / Locating Crew should complete a **RED** SSO Report Form (indicating DEQ code "OEEI" – observed or evidence of environmental impact); this indicates all SSOs where sewage was observed running to surface waters, or where there was obvious indication (e.g. sewage residue) that sewage had flowed to surface waters.

If the overflow was contained in a named creek/stream/river/pond, the name of the waterway must be supplied. Dispatchers can utilize the GIS program to help in determining if the SSO reached a named waterway (creek/stream/river). There is a blank on the **RED** Overflow Report Form where the name of the waterway should be entered; this information is required for SSO entry in the EAM database when the fate of named waterway (CR) is selected.

Observation or Evidence of Human Contact (DEQ Environmental Damage Code OEHC): for example, a building backup where sewer has reached / impacted the inside of a residence of business; or an overflow where person/persons were observed to have come in contact/ been impacted with the overflow

Evidence of Fishkill (DEQ Environmental Damage Code EFK): for example, an SSO that reached /impacted a waterway where it is observed that there was Fishkill as a result (aquatic life was impacted as a result)

**BLACK** LRWRA Overflow Report Forms are used to report SSO impacts involving:

**NO** Evidence of Human Contact of Environment Impact (DEQ Environmental Damage Code NEAH): for example, an SSO that did not reach a named waterway nor had any evidence of or observations of human contact involved such as most ground surface areas or drainage areas that are not named waterways.

This includes:

- SSOs where there is indication that the SSO had **not** reached surface waters. These include SSO occurrences such as the following, indicating DEQ code NEAH – evidence of environmental impact or human contact & thus can be used a guide to characterize such occurrences:
- SSO that runs to covered storm drains (with no public access) where personnel verify, by inspection, that the entire volume is contained in a sump or impoundment and where complete clean up occurs leaving no residue.
- SSOs where observation or on-site evidence clearly indicates that all sewage was retained on land and did not reach surface water and where complete cleanup occurs leaving no residue.

**NOTE:** *The Below Scenario is NOT an SSO:*

*Preplanned or emergency maintenance jobs involving bypass pumping (if access by the public to a bypass channel is restricted) and subsequent complete cleanup occurs leaving no residue.*

*Any preplanned bypass under these circumstances will not be considered an overflow.*

The summary table below can be used to help in determining when to use a **RED** LRWRA Overflow Report Form vs. a **BLACK** LRWRA Overflow Report Form.

DEQ Environmental Damage Code:	DEQ Environmental Code Definition & SSO Description(s):	Type of LRWRA SSO FORM
<b>OEEI</b>	<p>Observation or Evidence of Environmental Impact</p> <p><i>* Description of SSO:</i></p> <p>An overflow where the sewer spill has reached a named waterway (pond/ creek / stream / river, etc.)</p>	<p><b>RED</b></p> <p>Overflow Report Form</p>
<b>OEHC</b>	<p>Observation or Evidence of Human Contact</p> <p><i>*Description of SSO:</i></p> <p>an overflow where the sewer spill has reached the inside of a building structure such as a residence or a business or where it was observed that there were people walking / riding bicycles through the overflow area</p>	<p><b>RED</b></p> <p>Overflow Report Form</p>
<b>EFK</b>	<p>Evidence of Fishkill</p> <p><i>*Description of SSO:</i></p> <p>an overflow where the sewer spill has reached a waterway and aquatic life was impacted as a result / there was Fishkill present</p>	<p><b>RED</b></p> <p>Overflow Report Form</p>
<b>NEAH</b>	<p>NO Evidence of Environmental Impact or Human Contact</p> <p><i>*Description of SSO:</i></p> <p>an overflow where the sewer spill did not reach a named waterway nor had any evidence of human contact such as most ground surface areas or drainage areas that are not named waterways</p>	<p><b>BLACK</b></p> <p>Overflow Report Form</p>

### *Subsection 1.M.(b) TIME of SSO*

The *TIME of SSO* field is a reporting requirement for all SSOs. It is a required field for completion on both types of internal Overflow Report Forms (Red and Black), as well as within the EAM database. There are differing ways to determine the *TIME of SSO*, and it is dependent upon if the SSO is capacity-related (wet weather; due to rainfall; main line is at capacity) or non-capacity related (dry weather; due to blockage or structural issue; main line is not at capacity and is surcharging for some other reason).

Thus, the *TIME of SSO* is determined one (1) of the following methods, depending on whether the SSO is capacity-related or non-capacity related:

#### *Capacity-Related Overflows:*

A Rain Intensity Dashboard has been developed and will be utilized in determining the storm event category as well as the peak time of the event. This Rain Intensity Dashboard has been developed using the SCADA rainfall and historical rainfall intensity-duration-frequency (IDF) to depict each rainfall event. Engineering and Maintenance will be responsible for monitoring rain events. Events are categorized as Under 2-year Storm and Exceeds 2-year Storm. The Rain Intensity Dashboard shall be monitored during any rainfall and will be utilized to prompt SSORP protocol as well.

The determined *TIME of SSO* is sent via email to Collection System Maintenance Response Crews who begin checking manhole locations identified by Engineering personnel and are listed in *Appendix A: SSO Response Tracking Protocol Table A-2* of the SSORP. The *Time of SSO* is also communicated to Dispatchers and Maintenance Manager, Cleaning and Inspection Divisions.

The determined *TIME OF SSO* is consistently used by Response Crews on the LRWRA Overflow Report Form in the *DATE of SSO* and *TIME of SSO* fields for each SSO found that is related to the corresponding rain event.

#### *Non-Capacity-Related Overflows:*

The *TIME OF SSO* is when the Response Crew arrives on site and confirms that the reported sewage spill is an actual overflow. Thus, the *TIME of SSO* and the *ARRIVAL TIME* fields will be identical and will be recorded as such on the Overflow Report Forms as well as in the EAM database.

#### *Subsection 1.M.(c). COMPLETED DATE & COMPLETETD TIME of SSO*

The date and time at which the SSO cleanup efforts have been completed and the after cleanup photo has been taken is the date and time information that should be entered in the *COMPLETED TIME* and *DATE* fields in the EAM database (and on the Overflow Report Form if available and not yet submitted to Dispatch, meaning the cleanup was completed the same day the SSO was reported.)

#### *Subsection 1.M.(d) ESTIMATED VOLUME of SSO*

The *VOLUME of SSO* is figured by multiplying the *FLOWRATE of SSO (GPM – gallons per minute)* with the *ESTIMATED DURATION OF SSO (MINUTES)*.

To establish the *FLOWRATE OF SSO*, one (1) of the flowing methods should be applied:

- Direct observation of the overflow: *See Appendix F: SSO Flow & Volume Determination* for guidance on estimating sewer overflow rates using visual indicators of the asset and SSO area.
- Measurement of actual overflow from the sewer main.
- Visual Observations.
- Pump Station and Lift Station flow charts and other recorded data that is available.

When the rate of the overflow is known, multiply the duration of the overflow by the overflow rate. When the rate of the overflow *not known*, investigate the surrounding area for evidence of ponding or other indications of overflow volume to obtain an *ESTIMATED FLOWRATE of SSO* and, thus, an *ESTIMATE VOLUME of SSO*.

## Subsection 1.N. Photographs of SSO

Maintenance Response Crew takes photographs of the SSO area before cleanup AND after cleanup, when possible. These are submitted to Dispatch and are uploaded into the LRWRA and EAM databases.

## Subsection 1.O. Assessment of any Damage

Assessment of any damage to exterior/interior of public/private property: Personnel shall enter private property for purposes of estimating or determining SSO volume. If permission to enter property, Maintenance Response Crew, as well as, other Collection System Maintenance field personnel, Collection System Maintenance Manager, Safety & Risk Administrator and/or

Communications Coordinator should attempt to obtain photographs of the SSO and affected areas both before & after cleanup, as well as any affected area room measurements and flooring types. A Customer Flood Report Form should be completed if possible, and the *VOLUME of SSO* should be noted in all areas possibly affected by the SSO.

## Subsection 1.P. Customer Satisfaction

When an SSO involving either observation or evidence of human contact (OEHC), observation or evidence of environmental impact (OEEL), or evidence of fishkill (EFK) is reported, the EAM database automatically notifies the Communications Department when all SSO information is entered into the database. The Communications Department will then contact the reporting citizen(s) and discuss the actions taken and the problem resolution. Upon notification of these SSO occurrences, the Communications Department, if necessary, takes any follow up action required (i.e. notify media or residents affected – see *Section 2: Public Advisory Procedures and Section 4: Media Notification Procedure.*)

If the resident wants to make a claim for damages incurred, they are directed to the Environmental Safety & Risk Supervisor. For all SSOs where damages may possibly be incurred, Collection System Maintenance crews provide the citizen(s) with the Safety & Risk Administrator's business card with listed contact information. The crew also complete a Customer Flood Report Form which is submitted to Dispatch. Dispatch logs the Customer Flood Report information into the EAM database on the Work Request *Log* tab and also notifies the Safety & Risk Administrator of the occurrence. The Safety & Risk Administrator informs the resident of LRWRA's damage claim process and current Damage Claim Policy and handles all damage claims in entirety.

## Subsection 1.Q. Responding to Overflow Locations Where an SSO has Reoccurred Prior to the Initial SSO Being Completed

When an SSO has been confirmed to have reoccurred prior to the initial SSO reported being closed, then the initial SSO reported will be closed with associated details. (*This may happen when there are back-to-back category level rainfall events and MH location checks are still in progress for the first rain event at the time the second category level rain event takes place and causes a MH asset to overflow again before cleanup has been completed from the first overflow following the first rain event.*) The reoccurring SSO that has been confirmed will be recorded as another SSO incident with associated details.

If manhole locations listed in *Appendix A: Procedure to Track SSOs, Table A-2* of this document become inaccessible to LRWRA crews, the crew will conduct site visits daily until the site becomes accessible; crews will use an emergency call work order activity (CIEMER) to track the daily site visits/to document site conditions. If an SSO has in fact occurred once the manhole becomes

accessible, the same Work Request will be associated to the Emergency Work Order(s) (CIEMER) and to the SSO Work Order for tracking purposes. All associated work order numbers can be found associated to the same Work request number.

## Section 2: PUBLIC ADVISORY PROCEDURE

---

This section describes the actions LRWRA takes, in cooperation with the Arkansas Division of Environmental Quality (DEQ) and the Arkansas Department of Health (ADH) to limit public access to areas potentially impacted by unpermitted discharges of pollutants to surface water bodies from the water reclamation collection system. Temporary and permanent public notices will be provided as indicated below. *See Appendix F: Signage SSO Permanent & Temporary Signage – Verbiage for verbiage on both permanent & temporary public notices.*

### Subsection 2.A. Temporary public notice for polluted surface water bodies or ground surfaces that result from uncontrolled discharges from LRWRA facilities

LRWRA has the primary responsibility for determining when to post notices of polluted surface water bodies or ground surfaces that result from uncontrolled water reclamation discharges from its facilities. The postings do not necessarily prohibit use of recreational areas, unless posted otherwise, but provide a warning of potential public health risks due to sewage contamination.

*Figure 2.A.-1* (below) outlines the decision process to recommend to the Chief Operating Officer (COO) that posting of a confirmed SSO be undertaken of that there is reasonable potential for an SSO to occur, thus the need to post in advance. If posting is deemed necessary, DEQ shall be notified.



Figure 2.A-1. Decision Process to Post Temporary Signage for Polluted Surface Water Bodies or Ground Surfaces that Result from Uncontrolled Discharges from LRWRA Facilities

Reported Overflow

Step Event

- 1 Collection System Maintenance Division Manager or Response Crew confirms that the SSO that is not posted has resulted in ponded wastewater (ground surface or ditch ponding) or direct discharge to body-contact recreational waters between May 1st and September 30th.
- 2 Collection System Maintenance Manager dispatches *Investigator* to consult with CS Maintenance Division on remedial action & need/extent of posting
- 3 If Chief Operating Officer decides posting is required, Chief Operating Officer directs Collection System Maintenance Division to post warning signs & notifies the Communications Department of location & intent to post
- 4 Dispatched *Investigator* notifies Collection System Maintenance Division of assessment and makes recommendation on posting
- 5 Collection System Maintenance Manager consults Director/Chief Operating Officer (C.O.O.) for final decision on posting
- 6 If Chief Operating Officer (C.O.O.) decides posting is required, Chief Operating Officer (C.O.O.) directs Collection System Maintenance Division to post warning signs(s) & notifies the Communications Coordinator of intent to post and at which locations
- 7 Warning signs are installed by Collection System Maintenance personnel

Potential Overflow

Step	Event
1	Reasonable potential for SSO that will result in ponded wastewater (ground surface or ponding) or direct discharge to body-contact recreational waters between May 1 and September 30 <sup>th</sup> identified
2	Collection System Maintenance Superiors identifying potential SSO consults Chief Operating Officer (C.O.O.) for final decision on posting.
3	If Chief Operating Officer decides posting is required, Chief Operating Officer directs Collection System Maintenance Division to post warning signs & notifies the Communications Department of location & intent to post
4	Warning signs are installed by Collection System Maintenance personnel

## Subsection 2.B. Permanent Public Notice

LRWRA shall place a permanent notice at manholes located on City-owned property that may experience an SSOs in a twelve-month period. A list of applicable manholes has been provided in *Appendix A: Procedure to Track SSOs Table-A-1*.

## Subsection 2.C. Other Public Notification

If the Chief Operating Officer (COO) determines additional public notification is needed, the Communications Department will make said notifications under the C.O.O.'s direction.

## Section 3: REGULATORY AGENCY NOTIFICATION PLAN

---

The SSORP's Regulatory Agency Notification Plan establishes procedures that LRWRA follows to provide formal notice to DEQ as necessary in the event of SSOs. The reporting criteria that are listed below explain to whom (agencies and individuals) various forms of notification should be made and also provide those agencies/individuals to be contacted.

Agency notifications will be performed in parallel with other internal notifications. The procedures for providing notification to the media of an SSO are presented in *Section 4: SSORP Media Notification Procedure*. Internal notification and mobilization of personnel are detailed within the Overflow Response Procedure portion of the SSORP. (See *Section 1: Overflow Response Procedure*)

### Subsection 3.A. Immediate Notification

Upon data entry of a SSO event, an automated electronic event notification is sent to the Adams Fields Plant Operations Superintendent. The Adams Field Water Reclamation Facility Superintendent then notifies and reports the SSO to DEQ in compliance with LRWRA's NPDES Permits. For convenience, the AFWRF NPDES Permit reporting requirements are reprinted below.

*"Overflows that endanger health or the environment shall be orally reported to the Enforcement Branch of the Office of Water Quality by telephone **(501-682-0638)** or by email, [ssoadeq@adeq.state.ar.us](mailto:ssoadeq@adeq.state.ar.us) within 24 hours from the time the permittee becomes aware of the circumstance." At a minimum, the following information shall be reported:*

1. *Permit number and AFIN*
2. *Location of overflow (address or MH ID)*
3. *Duration of overflow (minutes)*
3. *Estimated Volume of Overflow (gallons)*
4. *Receiving Water (if applicable)*
5. *Cause of Overflow (if known)*

*A web written report of overflows shall be provided to DEQ within 5 days of the 24 hours oral report. A 5-day follow-up written report can be filled-in and submitted on the DEQ Office of Water Quality/Enforcement Branch Web page at:*

*<https://www.adeq.state.ar.us/water/enforcement/sso/submit.aspx?type=s>*

Collection System Maintenance Staff are responsible for meeting the 24-hour (oral or) online notification requirement. Per LRWRA NPDES Permit conditions, this 24-hour immediate notification to DEQ is met for all overflows with environmental impact, which are those SSOs for which the DEQ Environmental Damage codes OEEI (environmental impact/named waterway

impacted) and OEHC (human contact) are applied. In other words, for LRWRA internal reporting purposes, the 24-hour immediate notification to DEQ is required for all SSOs that are reported properly on the LRWRA **Red** SSO Report Forms.

**DEQ CONTACT(S):**

The DEQ Enforcement Analyst assigned to LRWRA is listed below, along with all contact details I am name, mailing address, e-mail address, and telephone number for LRWRA’s primary DEQ contact is provided below: (No changes for 2022 SSORP Annual Review).

Arkansas Division of Environmental Quality (DEQ) Enforcement Analyst assigned to LRWRA (2022) Contact Details:

Leslie Allen-Daniels	5301 Northshore Drive	Telephone:
<i>DEQ Enforcement Analyst</i>	North Little Rock, Arkansas 72218	501.682.0630

### Subsection 3.B. Secondary Notification

After those parties identified as requiring *Immediate Notification* have been contacted, the Chief Operating Officer (COO) will notify other federal, state, and local agencies, as well as other interested and possibly impacted parties (as directed by the COO)

## Section 4: MEDIA NOTIFICATION PROCEDURE

When an SSO has been confirmed and is a threat to public health, the following actions are taken, if necessary, to notify the media:

- Maintenance Response Crew verifies overflow & reports findings back to Dispatcher
- Dispatcher informs Communications Department, with primary contact being the Communications Coordinator (*see Table 4.A.-1. for contact information*)
- After-hours and weekend SSOs that are a threat to public health are also reported to the Communications Department at the contact numbers listed in *Table 4.A.*

**All media requests, if a request is in fact received, should be referred to the Communications Department.**

*Table 4.A-1. Little Rock Water Reclamation Media Contacts*

<b>Contact</b>	<b>Contact Name</b>	<b>Office</b>	<b>Mobile</b>
Primary	Greg Ramon, Chief Executive Officer	501.688.1404	501.529.6340
Backup	Kenetta Ridgell, Senior Communications & Outreach Manage	501.688.1470	870.818.7993

### *LRWRA Media Spokespersons*

The following LRWRA personnel are authorized to be interviewed by the media and are the designated spokespersons for LRWRA:

Chief Executive Officer (C.E.O.)
Senior Communications & Outreach Manager
Chief Operations Officer (C.O.O.)
Chief Legal Officer (C.L.O.)

## Section 5: DISTRIBUTION AND MAINTENANCE OF SSORP

Annual updates to the SSORP reflect all changes in policies and procedures as may be required to achieve its objectives.

### Subsection 5.A. Submittal and Availability of SSORP

Copies of the SSORP and any amendments are distributed to the following departments and functional positions as part of the annual SCAR (Attachment A of the SCAR):

<b><u>DEPARTMENT</u></b>	<b><u>FUNCTIONAL POSITIONS</u></b>
LEGAL SERVICES	CHIEF EXECUTIVE OFFICER, CHIEF LEGAL OFFICER
ENGINEERING	DIRECTOR, ENGINEERING
MAINTENANCE	DIRECTOR, CHIEF OPERATING OFFICER (C.O.O.)
OPERATIONS	DIRECTOR, SUPERINTENDENTS
EAD	DIRECTOR

All other personnel who may become incidentally involved in responding to overflows should also be familiarized with the SSORP.

### Subsection 5.B. Review and Update of SSORP

**Review** of the SSORP is conducted annually and amended/**updated** as appropriate.

LRWRA should:

- Update the SSORP with issuance of a revised or new NPDES permit or state waste discharge permit (NPDES Permit renewals are reviewed at least annually)
- Conduct annual SSORP Training sessions with appropriate personnel, to include at minimum all Maintenance Staff involved in SSO reporting procedures and SSO response
- Review and update, as needed, the various contact persons and associated contact details listed throughout the SSORP (reviewed at least annually)

Along with the submittal of the annual Consent Administrative Order Report (Sierra Club Annual Report or SCAR), this SSORP document will be updated and submitted as Attachment A of the entire report.

## Subsection 5.C. Practical Resources

There will be laminated guides printed and furnished to all employees that are involved with the SSO Response Plan, which will provide an overview of the procedures, as well as, essential phone numbers. There will also be a quick reference for estimating sewer overflow volumes.

## Subsection 5.D. Training

Each division will be responsible for training their own personnel. The training should include any employee who is involved in or may possibly be involved in the SSO process. These persons are provided a copy of the SSO Response Plan and said plan will be reviewed in depth with them. This training should take place annually or when revisions occur so that all personnel are brought up to date on any changes that may occur. Each division should also review their response efforts at these annual training sessions and should take suggestions to revise procedures. These suggestions will then be submitted to all divisions for review to determine if the revisions will be implemented in the next annual SSORP review.

# Appendix List

---

Appendix A: SSO Tracking Procedure

Appendix B: SSO Response Action Plan

Appendix C: Collection System Spill Contacts

Appendix D: Detecting Hazardous Atmospheres

Appendix E: SSO Signage

Appendix F: SSO Flowrate & Volume Determination

Appendix G: Flowchart Process for SSO Reporting  
(External Source)

Appendix H: Flowchart Process for SSO Reporting  
(Internal Source)



## Appendix A: Sanitary Sewer Overflow (SSOs) Tracking Procedure

### SANITARY SEWER OVERFLOWS (SSOs) Tracking Procedure

The procedure to track the frequency & location of SSOs as follows:

#### **Step 1:**

All SSOs have a EAM -generated Work Order prepared within the database

#### **Step 2:**

SSOs will be defined as of the following:

#### CAPACITY SSOs:

Asset has insufficient carrying capacity to handle inflow and/or infiltration during a storm event; Engineering shall maintain & update a list of capacity-related SSOs.

*Activity Code  
in EAM Database*

*Activity Code - Defined*

---

SOC

= Sewer Overflow – Capacity

---

SOCP

= Sewer Overflow – Capacity – Private  
(*overflow at a Privately-owned asset*)

---

NON-CAPACITY SSOs:

Overflow due to an obstruction in the main line, line failure, or equipment failures. Non-Capacity overflows also encompass private overflows at private assets and/or inside buildings, as well as ones outside of LRWRA control (due to vandalism or construction/BPU).

*Activity Code  
in EAM Database*

*Activity Code – Defined*

---

SONC	= Sewer Overflow – NON-Capacity
SONCP	= Sewer Overflow – NON-Capacity – Private <i>(SSO at a privately-owned asset or inside building)</i>
SONCO	= Sewer Overflow – NON-Capacity – Other <i>(due to vandalism or construction damage)</i>

---

**Step 3:**

The Work order will also include the asset number to identify the overflow locations, which will always be the upstream manhole number of the sewer main asset. A Work Request number will also be assigned by Dispatch for tracking all associated activities.

**Step 4:**

A Monthly Report will be prepared, providing the number of capacity & non-capacity SSOs.

**Step 5:**

In addition to Work Order data, information on all reported SSOs is maintained in an event database, called the Discharge Monitoring Report (DMR). It contains all information required for regulatory reporting and more. (total number of SSOs and total volume – gallons – per month). Reports generated from the database have the capability of pulling SSO locations based upon dates, assets, and occurrences within a time frame.

**Step 6:**

The updated annual capacity-related SSO manhole list has been developed for inclusion in the Permanent Signage phase of this SSORP. This list is maintained and annually updated as conditions and overflow mitigation efforts work to improve capacity-related deficiencies in the collection system. The following list, **Table A-1**, contains those SSO sites that are to be equipped with permanent signage.

Collection System Maintenance personnel are responsible for removing/installing any signage necessary to reflect any updates made to Table A-1 each year.

Table A-1: SSOs Eligible for Permanent Signage (2023)

**Table A-1 2023 Permanent Sign Locations**

<b>Manhole Number</b>	<b>Subbasin</b>	<b>Manhole Number</b>	<b>Subbasin</b>
-10-B008	60301	3N006	30501
-10-B009	60301	3N007	30501
14G026	10010	3N055	30400
2H018	30040	3O128	40702
2H019	30040	4B003	10090
2H074	30030	4B005	10090
2K167	30700	4L017	20030
2O002	30501	4L076	20030
2O007	40030	4N013	40030
2O018	40702	4N900	40030
2O025	30501	4N016	30400
2O026	30501	4N030	40702
2P012	40702	4N089	30501
2P013	40702	5C002	10090
2P014	40702	5C003	10090
2P015	40702	5C007	10070
2R026	40703	5L030	20030
3D108	11501	5L093	20030
3I036	30700	6C001	10090
3K058	30700	6C004	10080
3K061	30700	7C006	10080
3M002	30400	8C002	10080
3N004	30501	8D034	11000
3N005	30501	8E048	11101

**Step 7:**

A second list has been developed, and shall be maintained, by Engineering that defines each potential capacity related SSO location.

Rainfall amounts, recorded by the SCADA network at various stations throughout the collection system, are continuously reported to SCADA monitoring stations and to individual computers supported by SCADA-viewing software. A Rain Intensity Dashboard has been developed using the SCADA rainfall, and historical rainfall intensity-duration-frequency (IDF) to depict each rainfall event. Engineering and Maintenance will be responsible for monitoring rain events. Events are categorized as Under 2-year Storm and Exceeds 2-year Storm. The Rain Intensity Dashboard shall be monitored during any rainfall and will be utilized to prompt SSORP protocol.

The following list, **Table A-2**, provides the known, or suspected, SSO manholes that have the potential to discharge during wet weather events.

Collection system maintenance Crews proactively check all MH locations listed within Table A-2 upon receipt of notification from Engineering when the Rain Intensity Dashboard records a rain event, or upon receipt of an auto generated e-mail which is triggered when the recorded rainfall reaches 1-inch within a 24 hour period.

**Table A-2 2023 Checklist**

Status	Manhole	Area
Active	1B012	11502
Pending	1G008	30050
Active	1G010	30040
Active	1G087	30060
Active	1G090	30060
Pending	1G091	30060
Active	2B068	11502
Pending	2H018	30040
Active	2H019	30040
Active	2H074	30030
Active	2K142	30700
Pending	2K143	30700
Pending	2K167	30700
Active	2O002	30501
Pending	2O007	40030
Active	2O018	40702
Pending	2O025	30501
Pending	2O026	30501
Pending	2P012	40702
Active	2P013	40702
Pending	2P014	40702
Active	2P015	40702
Investigate	2P024	40702
Active	2P025	40702
Active	2Q020	40703
Active	2Q021	40703
Active	2R026	40703
Pending	3D108	11501
Pending	3I036	30700
Pending	3K058	30700
Pending	3K061	30700
Pending	3M002	30400
Pending	3N004	30501
Pending	3N005	30501
Pending	3N006	30501
Active	3N007	30501
Pending	3N055	30400
Pending	3O128	40702
Active	4B003	10090
Active	4B005	10090
Pending	4L017	20030
Pending	4L076	20030

Status	Manhole	Area
Pending	4N013	40030
Pending	4N900	40030
Pending	4N016	30400
Pending	4N030	40702
Pending	4N089	30501
Active	5C002	10090
Active	5C003	10090
Active	5C007	10070
Pending	5L030	20030
Pending	5L051	20030
Active	5L052	20030
Active	5L093	20030
Pending	6C001	10090
Pending	6C004	10080
Active	6L011	20030
Pending	6N006	40701
Active	6N008	40701
Pending	6N009	40701
Pending	6N015	40701
Active	6N016	40701
Investigate	6N077	40701
Active	7C006	10080
Pending	7N016	40600
Active	-8-A015	60200
Pending	8C002	10080
Pending	8D034	11000
Pending	8E047	11101
Pending	8E048	11101
Pending	8E114	11101
Active	8G020	10903
Pending	8I006	20902
Active	8O001	40600
Pending	-10-B009	60301
Pending	-10-B008	60301
Active	10G191	10902
Pending	10I012	10901
Active	10L013	20800
Active	13J070	20401
Pending	13J087	20401
Pending	14G026	10010
Pending	16H003	10010

**Step 8:**

An annual report will be prepared by Engineering, which shall include a review of all capacity related overflows, as well as determine updates to the two (2) tables above for permanent signage and potential capacity related SSO manholes. These updated capacity-related SSO lists shall be included for amendment to this SSORP.

## Appendix B: SSO Action Plan

### SSO ACTION PLAN

#### ***Dispatching Crews***

Dispatchers receive notification of possible SSOs from two sources:

- public (i.e. customers; guests of LR; other utility companies)
- internal crews (i.e. Maintenance Crews; Treatment Plant personnel)

#### ***Notification of Possible SSO During Working Hours***

Dispatchers receive notification of a possible SSO from the public at which time they collect all relevant information as outlined in *Subsection 1.A.(a): Possible SSO by a Member of the Public*, which at this point they dispatch one of our area Maintenance Response Crew to the site to verify if an SSO has occurred.

The Responding Maintenance Crew will report findings back to Dispatcher, who assigns a Work Request number for tracking and is used by all involved Maintenance Crews by documenting this number on all SSO-related paperwork and initiated work orders/inspections.

The Maintenance Response Crew determines if an SSO has occurred, and, if so, places warning signage at the site of the SSO (as well as at adjacent homes if required and available). The Dispatcher or Manager also verifies that the Responding Maintenance Crew has filled out a LRWRA Overflow Report Form and that all required information is on form. The Dispatcher can assist in determining if a **RED** or **BLACK** Overflow Report Form is the proper form to use when the by using GIS Arc Map mapping layers to determine if a drainage area is a named waterway; if a named waterway is impacted a **RED** form should be completed, indicating environmental impact. If the SSO occurs within a structure, a **RED** form should also be completed, indicating human contact – evidenced or observed.

Maintenance Crews at this point start cleanup and sanitize the site. When complete, the Maintenance Response Crew is to verify that the cleanup is completed, take after-cleanup photographs, and remove warning signs.

Maintenance Crews submit all SSO paperwork and any initiated Work Orders/Inspection to Maintenance Dispatchers (same day), who, at the start of the next business day, sort all SSO paperwork and work orders/inspections, ensure the SSO Report Form is completed correctly, and check to make sure the Work Request number is documented on all SSO paperwork and initiated Work Orders/Inspection, if any. Dispatchers are responsible for distributing the SSO Report Form to Dispatch this day. All Work Orders will be submitted to the Maintenance Manager, and all Inspections are provided to the Maintenance Planner.

Maintenance Crews submit all before-cleanup and after-cleanup photos to the overflows email group at [Overflows@lrwra.com](mailto:Overflows@lrwra.com) (if using a Smart Phone). If using a handheld camera, all photos are saved onto an SD Card and the card is provided to Collection System Maintenance Staff (See *Figure 1.B.-1: SSO Tracking Protocol*).

For all SSOs reported on RED Overflow Report Forms, Collection System Maintenance Staff is responsible for submitting the required 24-hour email notification to DEQ, with all required information regarding the details of the SSO occurrence. (See *Subsection 3: Regulatory Agency Notification*).

### **Notification of Possible SSO After Hours**

The After-Hours Emergency On-Call Crews (who manage all incoming phone calls after normal business hours via the On-Call cell phone, to which all incoming calls to the main LRWRA Dispatcher Office phone number are forwarded) receive notification of a possible SSO from the public at which time they collect all relevant information as outlined in *Subsection 1.A(a): Possible SSO Reported by a Member of the Public*, and then proceed to the location.

The Emergency On-Call Crew determines if an SSO has occurred, attempts to correct the problem and contain the SSO, places warning signs at the site as well as at adjacent homes if required, and takes before-cleanup photographs. The crew is to fill out a LRWRA Overflow Report Form which is submitted with their paperwork at the beginning of the next workday. All photos are submitted to the overflows email group at [overflows@lrwra.com](mailto:overflows@lrwra.com).

The Emergency On-Call Crew then starts cleanup and sanitizes the site (if possible). When cleanup is completed, the crew is to take after photographs and then remove warning signs.

If the SSO occurred within a structure, the Maintenance Manager is to verify that cleanup has been completed and all policies were followed. A site visit is to be performed no later than the first workday after the overflow occurrence. The Environmental Safety & Risk Supervisor will be informed as well to handle any damage claims.

### **Internal Notification:**

Personnel in the field who find an SSO are to contact the Dispatcher and provide the relevant information as outlined in *Subsection 1.A(a): Possible SSO Reported by a Member of the Public*. The same procedure as shown for public notification under working hours will be used – See *first part of this document, Appendix B: SSO Action Plan*.

Rain events that are one (1)-inch or greater will trigger our crews to investigate possible recurring SSO sites to verify if an overflow has occurred. These crews will be furnished with a list of possible SSO sites (See *Appendix A: SSO Tracking Protocol, Table A-2*) which has been determined as being locations that have the potential to overflow. The Maintenance Responding will follow the same procedure as outlined under public notification during working hours. When a crew has gone through their list and an SSO was found, they will return to the site to conduct proper cleanup.



## Collection System Spill Contacts

IN THE EVENT OF A KNOWN SPILL OR DISCHARGE OF HAZARDOUS MATERIAL INTO THE LITTLE ROCK SANITARY SEWER COLLECTION SYSTEM, **IMMEDIATE** CONTACT SHOULD BE MADE TO OUR 24-HOUR EMERGENCY CREW AT 223-1509

IN THE EVENT THAT A FLAMMABLE OR OTHER EXTREMELY HAZARD SUBSTANCE IS RELEASED INTO THE SANITARY SEWER SYSTEM PLEASE CALL THE **LITTLE ROCK FIRE DEPARTMENT (911)**

IN ADDITION, PLEASE CONTACT (ASAP) ONE THE STAFF MEMBERS LISTED BELOW SO A FOLLOWUP INVESTIGATION CAN BE CONDUCTED.

**Cornelius Jones**, Pretreatment/Sampling Coordinator

Work: 501-688-1530

Mobile: 501-246-2207

**Rebecca Burkman**, Director of Environmental Affairs

Work: 501-688-1486

Mobile: 501-849-4636

**Michael Kline**, Environmental, Safety & Risk Supervisor

Work: 501-688-1468

Mobile: 501-352-0513

Adams Field Water Reclamation Facility (**24 hour**)

1001 Temple Street

Operations: 501-688-1533

Mobile: 501-413-7381

Fourche Creek Water Reclamation Facility (**24 hour**)

9500 Birdwood

Operations: 501-490-5405

Mobile: 501-541-3559

*(Revised 2018)*

## Appendix D: Detecting Hazardous Atmospheres

### DETECTING HAZARDOUS ATMOSPHERES

(Chapter 9 of the LRWRA Safety Manual pg. 65)

#### Purpose

To ensure that all affected LRWRA employees are notified of potential health or safety hazards in the LRWRA collection system.

#### Procedures

The following procedures must be followed when detecting potential health or safety hazards in the LRWRA collection system:

##### Step 1

The LRWRA employee(s) or crew discovering the potential health or safety hazard must notify dispatch (223-1509) or the Environmental Health & Safety [Safety & Risk] Department (688-1468 or 688-1466) to report the potential problem.

Information included in the report:

- Name of the employee making the report
- Street address or location or potential hazard
- Manhole number (if known)
- Brief description of findings (submit verbally or via e-mail)

If the health or safety hazard was reported to dispatch: dispatch should contact the Environmental Health & Safety [Safety & Risk] Department and report the above information.

##### Step 2:

The Environmental Health & Safety [Safety & Risk] Department will then investigate the report.

##### Step 3:

If Environmental Health & Safety [Safety & Risk] Department confirms the report, the Environmental Health & Safety [Safety & Risk] Department will notify Dispatch to ALERT all affected field crews that the reported area is "Off Limits" until further notified. The Environmental Health & Safety [Safety & Risk] Department will notify ALL other affected LRWRA & CAW department supervisors of the reported area.

##### Step 4:

Dispatch will draft a notice with the location of the ALERTED areas and place a copy on all Safety News Bulletin Boards and Backdoors at the Clearwater Complex. Dispatch will also forward a copy

of the notice to the Environmental Health & Safety [Safety & Risk] Department for placement on the other Safety News Bulletin Boards throughout LRWRA.

**Step 5:**

The Environmental Health & Safety [Safety & Risk] Department will notify Central Arkansas Water dispatch of the Potential Hazardous Area.

**Step 6:**

If the investigation suspects a Natural Gas Leak, the SAFETY [Safety & Risk] Department will contact CenterPoint/Reliant Energy to report the situation.

**Step 7:**

The Environmental Health & Safety [Safety & Risk] Department will keep ALL effected LRWRA & CAW departments informed of the situation and monitor their (CenterPoint/Reliant Energy) findings.

**Step 8:**

Once the health or safety hazard has been corrected, the Environmental Health & Safety [Safety & Risk] Department will perform a follow-up investigation and when NO HAZARDOUS conditions exist, the SAFETY [Safety & Risk] Department will remove the Safety ALERT and notify all affected departments.

**Step 9:**

If gasoline, solvents, paint, or other foreign material is suspected and the hazardous area is located in an Industrial/Commercial Area, the Environmental Health & Safety [Safety & Risk] Department will contact the Environmental Assessment Department (EAD) and transfer the report for further action.

**Step 10:**

Industrial investigations resulting from explosive or toxic conditions will be performed by EAD pretreatment staff members using procedures from the pretreatment procedures manual. Findings will be provided to the Environmental Health & Safety [Safety & Risk] Department upon completion of the investigation.

**After Hours Reporting**

If a hazardous atmosphere is detected after normal working hours, the employee must report the area the next working day prior to his/her normal working hours. After this report is made, the process will begin with step one.

If a hazardous atmosphere is detected after normal working hours, that is suspected to contain gasoline, solvents, paint, or other foreign material and the hazardous area is located in an

Industrial/Commercial Area, follow the procedures (found in Chapters 9 & 16 of the LRWRA Safety Manual Collection System Spill Contacts (revised 2018) & Detecting Hazardous Atmospheres.

**TEMPORARY SSO SIGNAGE**

The following language shall be used on signs located on existing SSO sites during cleanup and on notices attached to homes adjacent to SSO sites:



**LRWRA**  
**NOTICE OF SANITARY SEWER OVERFLOW**

Please avoid contact with this sanitary sewer facility due to the possibility of adverse health effects until cleanup can be completed.

For Additional Information  
Contact 688-1490

*See SSORP Table A-2 for a list of manhole locations that Maintenance Crews will check following a rain event.*

---

**LRWRA Overflow Signage Verbiage**

**LRWRA  
NOTICE OF SANITARY SEWER  
OVERFLOWS WHICH MAY OCCUR  
AT THIS LOCATION**

Please avoid contact with this  
sanitary sewer facility during an  
overflow condition due to the  
possibility of adverse health  
effects until cleanup can be  
completed

For Additional Information  
Contact 688-1490

**PERMANENT SSO Signage**

The below language shall be used on signs for possible SSO sites that are located on publicly owned property and which have the potential to occur within a twelve (12)-month period.

*See SSORP Table A-1 for a list of manholes requiring permanent SSO signage throughout 202 that was provided by the Engineering Department*

## Appendix F: SSO Flow & Volume Determination

### SSO FLOW & VOLUME DETERMINATION

As indicated previously in this SSORP, each SSO that is actively discharging during the investigation phase of this response plan's tasks shall be evaluated for flow and ultimate total volume discharged, each of which is to be included as part of the reporting requirements. The Engineering Department has defined a three-tiered flow estimating system that is derived from the reaction of the manhole lid in relation to the flow exiting the collection system. This system is easily field estimated without the need for measuring devices, which in most instances, would fail to achieve a proper signal due to the lack of sufficient depth of flow.

It has been determined that the majority of actively discharging SSOs reported by a Response Crew would be non-capacity related. Therefore, criteria for determining flow should concentrate on these conditions for gravity sewer collection systems. **The three (3)-category rating system is outlined below:**

**\*\* GPM = Gallons Per Minute**

#### **1 – 10 GPM**

This rate covers the light discharge experienced in the upper reaches of the collection system, usually with a small number of residential connections. The **visual indicator** would be a light flow (about the rate of a standard faucet) from around the manhole lid with no visible release of debris or solids and no movement or lifting of the lid itself.

#### **11 – 100 GPM**

This rate covers the moderate discharge experience in the lower reaches of the collection system, usually along the larger collector or outfall type sewer mains (typically 10" and larger mains) and in some capacity related SSOs. The **visual indicator** would be a noticeable flow from around the manhole lid, slight debris or solids release, and a rocking or slight lifting of the manhole lid.

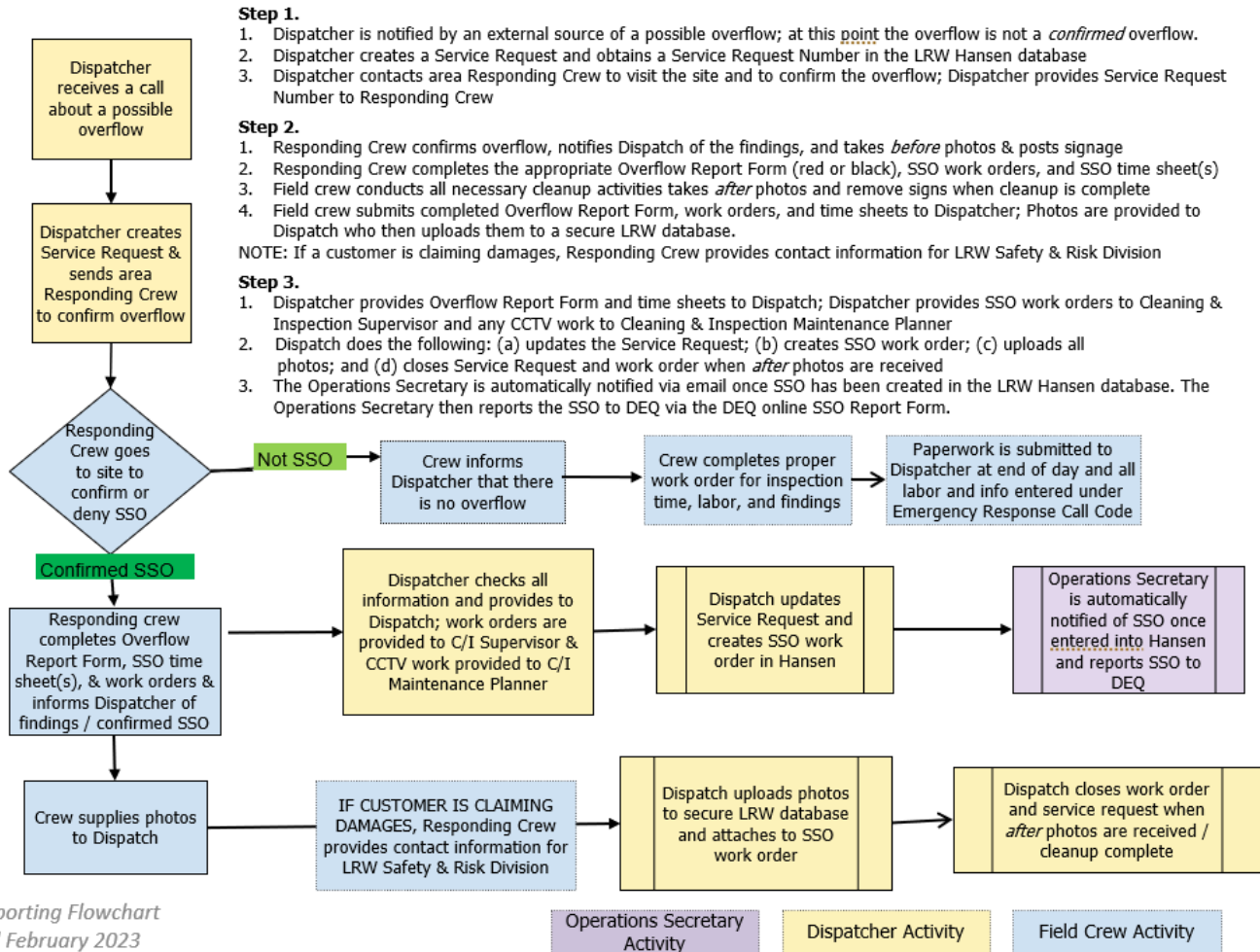
#### **> 100 GPM**

This rate covers the heavy discharge experienced along the major outfall sewers and larger capacity related SSOs. The **visual indicator** is the definite release of debris or solids, and the complete lifting or displacement of the manhole lid.

SSO volumes are derived from the above category multiplied by the duration of discharge. If the exact length of discharge is unknown, criteria for determining an estimated time have been established in the *Section 1.M(d): Completing the SSO Report Form*.

Appendix G: Flowchart Process for SSO Reporting (External Source)

**SSO Reporting Flow Chart (FOUND EXTERNALLY)**

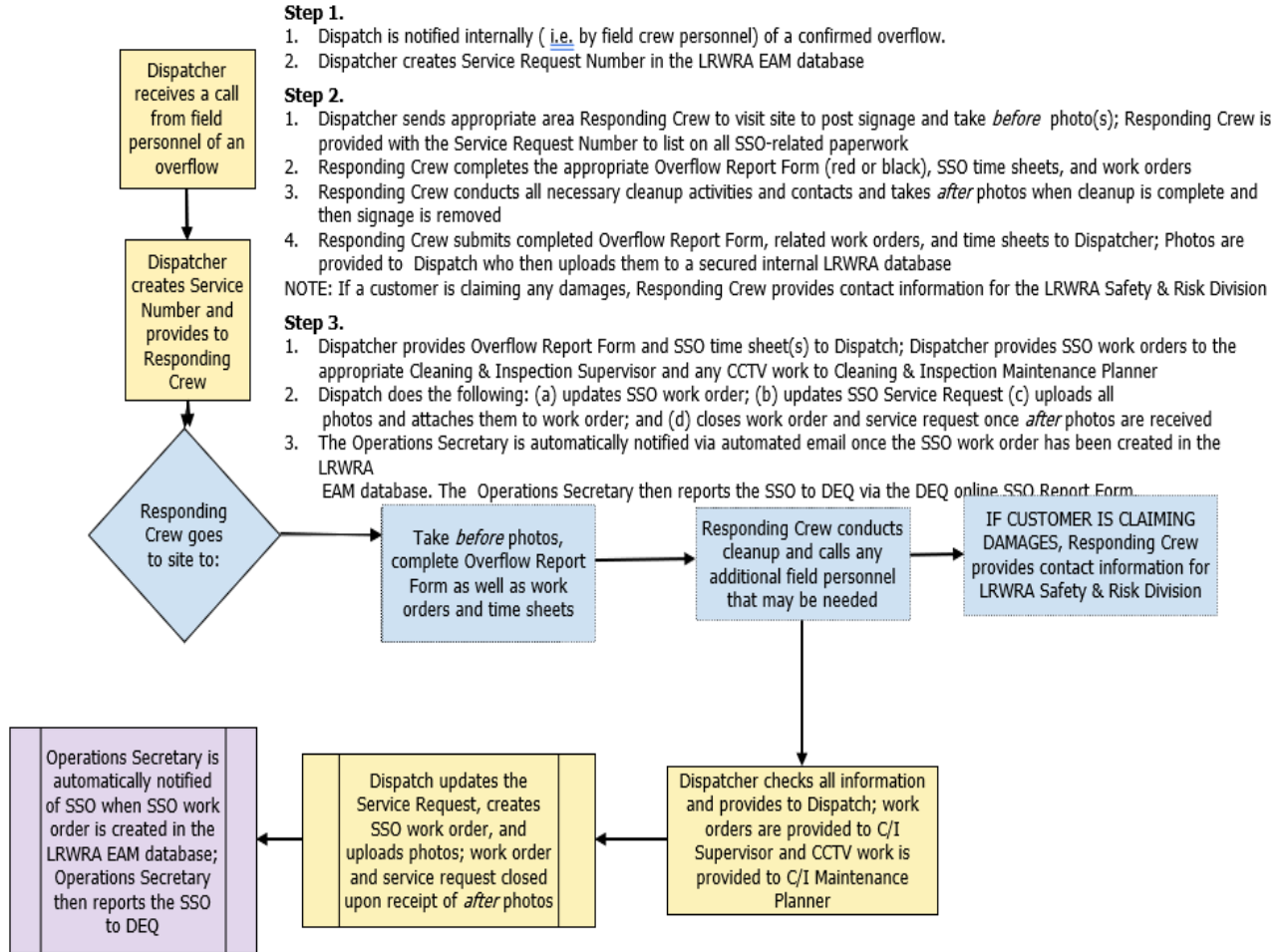


SSO Reporting Flowchart  
Revised February 2023



*Appendix H: Flowchart Process for SSO Reporting (Internal Source)*

**SSO Reporting Flow Chart (FOUND INTERNALLY)**



SSO Internal Reporting Flowchart  
Revised February 2023

Operations Secretary Activity      Dispatcher Activity      Field Crew Activity

--- End of LRWRA SSORP ---

*Revised December 31, 2021*