

# Milwaukee County

Capacity, Management, Operations, and Maintenance

## CMOM Program

## Overflow Response Plan

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## **Table of Contents**

1.0	Introduction to the Overflow Response Plan (rev. 04/22/2015).....	3
1.1.	Regulatory ORP Requirements (rev. 04/22/2015).....	3
2.0	Overflow Identification.....	4
3.0	Overflow Response.....	4
3.1.	Information Receipt.....	4
3.2.	Response Procedures (rev. 04/22/2015).....	4
3.3.	Overflow Response Review (rev. 04/22/2015).....	5
3.4.	Overflow Analysis.....	5
4.0	Overflow Notification.....	6
4.1.	Public Notification (rev. 04/22/2015).....	6
4.2.	Permit Required Notification (rev. 04/22/2015).....	7
4.2.1	Requirements for 5-day written reports: (rev. 04/22/2015).....	7
4.2.2	Requirements for annual CMAR:.....	7
4.2.3	Noncompliance Notification Requirements: (rev. 04/22/2015).....	8
5.0	Emergency Response Procedures (rev. 04/22/2015).....	8
5.1.	Regulatory Requirements.....	8
5.2.	Emergency Response Procedures.....	8
6.0	Critical Facilities Identification.....	9
6.1.	Pumping Stations (rev. 05/11/2015).....	9
6.2.	Pipes.....	10
7.0	Organizational Structure.....	10
7.1.	Staffing.....	10
7.2.	Outside and Specialized Contractors.....	12
7.3.	Local Municipalities (rev. 04/22/2015).....	13
7.4.	Equipment.....	14
8.0	Maintenance and Distribution of the ORP.....	14
8.1.	Review and Update of ORP (rev. 04/22/2015).....	14
8.2.	Distribution of ORP.....	15
9.0	Performance Measures.....	15
	APPENDIX A – EXAMPLE OF SITE SPECIFIC ORP.....	1
	APPENDIX B – INCIDENT REPORT.....	1
	APPENDIX C – EXISTING RESPONSE PROCEDURES.....	1
	APPENDIX D – EMERGENCY RESPONSE PROCEDURES.....	1

## 1.0 Introduction to the Overflow Response Plan (rev. 04/22/2015)

The overflow response plan (ORP) provides documentation of the methods that are and will be used to ensure that the District is aware of, responds to, and provides notification of all overflows of sewage from Milwaukee County facilities.

The County's Overflow Response Plan is required by the MMSD's Rules and Regulations. Chapter 3.105(1)(i) states the following:

“develop and implement overflow response and emergency response plans. The overflow response plan shall include procedures for identifying local overflows, mitigating their duration and volume, identifying their cause, determining the actions necessary to prevent their recurrence, and notifying the District. The emergency response plan shall include procedures for identifying the location and type of an emergency, notifying appropriate personnel, mitigating adverse effects, and implementing corrective action. Emergencies to be covered include, but are not limited to, basement flooding, chemical spills, and equipment failure during dry weather.”

Incorporating an Overflow Response Plan is also a requirement of NR 210.23(4)(f), which states the following:

“*Overflow emergency response plan.* An overflow emergency response plan shall identify measures to protect public health and the environment from sanitary sewer overflows and sewage treatment facility overflows and building backups caused by excessive flow or other hydraulic constraints in the sewage collection system”

The activities described in this Plan will be subject to change and refinement as the County continues implementing and gains experience with the CMOM Program.

Historically, Milwaukee County has not reported SSOs from its system and staff is not aware of unreported overflows. As a result, Milwaukee County does not appear to have operating strategies or documents that meet the intent of the CMOM regulations. Therefore, this CMOM-based ORP for Milwaukee County brings such documents in a single plan, available for review by regulatory staff and the public.

### 1.1. Regulatory ORP Requirements (rev. 04/22/2015)

The requirements of an ORP, according to NR 210.23 CMOM regulations, are as follows:

1. Responsible personnel are made aware of all overflows.
2. There is a prompt and appropriate response to, and investigation of all overflows to protect, to the extent possible, water quality, the environment, and public health.
3. There is appropriate reporting and notification as required under s. NR 210.21 (4) to (6). The overflow emergency response plan shall identify the public health and other officials who will receive notification and identify the protocols and procedures for notification of the

public who may be affected by an overflow. Whenever there is a significant or potentially significant risk to public health, public notification shall include personal contacts with persons who may be at risk from the effects of the overflow.

4. Appropriate personnel are aware of and follow the plan and are appropriately trained.
5. Emergency operations appropriate to the event are implemented.

## 2.0 Overflow Identification

A sanitary sewer overflow (SSO) is a condition whereby untreated sewage is discharged into the environment prior to reaching treatment facilities thereby escaping wastewater treatment. Since Milwaukee County has no constructed sanitary sewer or combined sewer outfalls, any overflows that would occur would be from surcharge manholes overflowing to the ground surface.

If the overflow is contained, the sewage needs to be properly disposed in a sanitary sewer and the area cleaned up. If the sewage is pumped, it needs to be pumped to a sanitary sewer.

If the sewage escapes the area and makes its way to a storm sewer system, or if the sewage is pumped to a storm sewer system, that is a reportable overflow and needs to be responded to and documented as outlined in this report.

## 3.0 Overflow Response

The response to a possible overflow includes three parts:

1. Receive and document the information and direct it to the proper personnel.
2. Respond to the possible overflow.
3. Complete an analysis of the overflow.

Each of these is discussed below.

### 3.1. Information Receipt

Sanitary sewer overflows are reported to the plumbing supervisor in each individual department. The following information is collected from the caller:

- Location and other information enabling a field crew to quickly locate the problem
- Description/Observations (e.g. water flowing out of pipe, bubbling out of manhole)
- Date and time of observation, date and time of call
- Caller's name and phone number (for providing feedback)

### 3.2. Response Procedures (rev. 04/22/2015)

After the information regarding a possible overflow is received, the plumbing supervisor or his staff investigates the overflow according to the procedure listed in Appendix A.

### 3.3. Overflow Response Review (rev. 04/22/2015)

Following the overflow event, Milwaukee County should conduct a debriefing meeting to review the response. The purpose of this meeting is to review the response, identify aspects of the response that went well, problems that arose, and to identify future action all parties should take to improve the response. Questions that the County should address at the meeting include the following:

- What lessons were learned from this overflow event?
- Are additional supplies needed?
- Are any staffing changes needed?
- Are changes needed to the ORP procedure?

After responding to an overflow, it is important to record data about the overflow and the response. A standardized internal debriefing summary form will help record the information and the County should keep the form on file. Appendix B (found at the end of this ORP) shows standard county Incident Report. This report should be completed and submitted to the Environmental Compliance Manager, who will file in the blue incident report binder in the Environmental library. Subsequently, staff should conduct an RCFA as described below. MMSD generates a substantial amount of information that may be helpful to the County for overflow event evaluation.

### 3.4. Overflow Analysis

A review may be done to determine if conditions warrant a detailed analysis of the overflow. The main issues reviewed are:

- 1) Is there a pending project to address any known problems in the area?
- 2) Is this a recurring overflow?

If there is a project pending, the analysis will focus on whether the proposed project would have eliminated the overflow. If there is not, the analysis will focus on identifying all details of the cause of the overflow and possible solutions.

The analysis, generally termed a root cause of failure analysis (RCFA), is used for overflows, possible overflows, failures and other unusual events. The analysis includes an evaluation of the overflow, system, precipitation, operations and maintenance details with the ultimate objective of preventing similar failures.

The main elements of a RCFA are as follows:

1. Locating and preserving failure data (such as duration and extent of overflow; monitored indicators, such as rainfall data, flow data, and water quality data; time of last facility inspection; and information on previous failures at the specific location).
2. Assembling a RCFA committee to analyze data and develop hypotheses for cause of failure.
3. Verifying hypotheses. The RCFA committee may verify a hypothesis by simply establishing consensus that existing data confirm a particular hypothesis. Alternatively, the RCFA may recommend methods requiring further effort, such as hydraulic modeling, for testing a hypothesis.

4. Determine underlying cause of failure (physical, mechanical, human).
5. Communicate and document RCFA results to management and/or regulating agencies, along with recommended strategies for preventing similar failures in the future.

As a result of the RCFA, the County may need to perform abatement activities to prevent the recurrence of the overflow. The nature of the overflow determines what the immediate and long-term abatement activities are, if any. Short-term steps may be as simple as jetting the sewer pipe to clean out a grease build-up, or as involved as re-routing the flow of sewage over the course of a few days in order to repair a pipe.

Long-term abatement activities imply some type of preventive maintenance (PM) on the pipeline. PM includes cleaning grease build-up from the sewers, I/I removal, clearing out tree roots, or inspecting sewers with a remote sewer camera. The County has a PM program for maintaining problem pipelines and manholes. The County should routinely review and update the list of pipes included in this program.

Milwaukee County can use this information to direct overflow correction activities and prioritize maintenance activities.

## **4.0 Overflow Notification**

The County has not experienced any reportable sanitary sewer overflows in recent history. Facility managers and staff plumbers would handle notification of a sanitary sewer overflow in the same manner that it would handle a petroleum, chemical, or other type of spill by reporting it to the county Environmental Compliance Manager. Appendix C found at the end of this ORP shows a flow chart of the existing notification procedures for spills, accidental discharges, and unidentified releases to the County's collection system. The Environmental Compliance Manager would notify the Public Works Director, Risk Management, County Executive's office, County Supervisor's office, MMSD, WDNR, affected municipalities, and public health officials of the incident.

### **4.1. Public Notification** (rev. 04/22/2015)

Public notification is a key component of the communication plan, and a requirement under the new WDNR general discharge permit, effective March 1, 2006. Also, the CMOM regulations require "notification to parties with a reasonable potential for exposure to pollutants associated with the overflow event." SSOs can include bacteria, viruses, toxic constituents, and metals. While bacteria may die within hours to days following an overflow event, viruses and toxic compounds can persist in sediments for months after the discharge. Public health concerns arise in areas where humans, animals, or fish come in contact with overflows.

Public notification often includes an overflow signage component. At this time, the County does not intend to implement a signage program for SSO events as none have been experienced in the past.

Other methods of notifying the public of overflows include media advisories following SSO events, web pages, regular newsletters, and hotline (recorded messages) programs. Milwaukee County intends to use a media advisory and web site updates to notify the public. Per WDNR requirements, the County plans to send notifications to the Journal Sentinel after an sso event.

#### 4.2. Permit Required Notification (rev. 04/22/2015)

State regulations view scheduled (typically related to construction) and unscheduled overflows differently. The County must report unscheduled overflow occurrences to the WDNR according to the newly reissued General Permit WI-0047341-04-0 (effective March 1, 2006) for bypasses and overflows from sewage collection systems. Reporting procedures and requirements for SSO include the following:

- Within 24 hours of overflow initiation, contact (fax, voicemail, e-mail) WDNR's Southeast Regional Office (Theera Ratarasarn at (414)263-8650 or by email at [theera.ratarasarn@wisconsin.gov](mailto:theera.ratarasarn@wisconsin.gov)).
- Within 24 hours of a ¾-inch 24-hour precipitation event, each permanently installed overflow structure must be inspected to look for evidence of an SSO.
- Within 5 days of conclusion of the SSO event, submit a written report to WDNR's Southeast Regional Office (WDNR Form 3400-184). See required report information below in Section A.
- An annual report is required to summarize the status of the collection system and any SSOs that occurred during the year. See required report information below in Section B.
- If the SSO potentially impacts a drinking water intake in Lake Michigan, the county must notify the owner of the intake as soon as possible.
- If monitoring determines that certain types of permit non-compliance events have occurred, then a phone call shall be made within 24 hours after becoming aware of the noncompliance to WDNR's Southeast Regional Office, followed by a written report submitted within 5 days. These procedures are discussed below.

##### 4.2.1 Requirements for 5-day written reports: (rev. 04/22/2015)

The 5-day written report should include the following information (WDNR Form 3400-184):

- Reason the SSO occurred, or explanation of other contributing circumstances that resulted in the overflow event. If the SSO is associated with wet weather, provide data on the amount and duration of the rainfall or snow melt for each separate event.
- Date the SSO occurred.
- Location where the SSO occurred.
- Duration of the SSO and estimated wastewater volume discharged.
- Steps taken or the proposed corrective action planned to prevent similar future occurrences.
- Any other relevant information.

##### 4.2.2 Requirements for annual CMAR:

A Compliance Maintenance Annual Report (CMAR) is required to be submitted on-line and includes a County Board Resolution. The CMAR describes wastewater management activities, physical conditions, as well as inspection of infrastructure that has occurred during the year. Information included in the CMAR can be found in NR 208.04(5) of the Wisconsin Administrative Code. Each section of the report is assigned a point score and grade based on information and data collected during the year. The scores are used to determine the applicable grade and response action as outlined in NR 208.05(2).

#### **4.2.3 Noncompliance Notification Requirements:** (rev. 04/22/2015)

The following types of noncompliance shall be reported by a telephone call to WDNR's Southeast Regional Office (Theera Ratarasarn at (414)263-8650) within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger public health or the environment
- any violation of an effluent limitation resulting from an unanticipated bypass
- any violation of an effluent limitation resulting from an upset
- any violation of a maximum discharge limitation for any of the pollutants listed by WDNR in the WPDES permit, either for effluent or sludge

A written report (WDNR Form 3400-184) describing the noncompliance shall also be submitted to the WDNR's Southeast Regional Office within 5 days after the county becomes aware of the noncompliance. On a case-by-case basis, the WDNR may waive the requirement for submittal of a written report within 5 days and instruct the county to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue. The required WDNR Form 3400-184 is available at the link below.

[http://dnr.wi.gov/topic/wastewater/documents/3400-184\\_ssoreportform.pdf](http://dnr.wi.gov/topic/wastewater/documents/3400-184_ssoreportform.pdf)

### **5.0 Emergency Response Procedures** (rev. 04/22/2015)

This section of the Overflow Response Plan is to outline the County's response procedures to non-overflow types of situations.

#### **5.1. Regulatory Requirements**

As mentioned in section 1.0 of this plan, this section of the ORP is required by Chapter 3.105(1)(i) of the MMSD rules.

#### **5.2. Emergency Response Procedures**

The County's emergency response procedures are very similar to the sso emergency response procedures. The County's emergency response procedures to the following situations can be seen in Appendix D of the ORP:

- Sewer Blockage or Basement Backup
- Wastewater Pump Station Alarm
- Pumping Station Failure Caused by Force-Main Break Inside the Drywell, Pump or Valve Failure
- Pumping Station Failure Caused by Force-Main Break Inside Valve Pit, Pump or Valve Failure
- Pumping Station Failure Caused by Secondary Power Failure During Power Outage
- Sewage Force-Main Break

- Sewer Main Break/Collapse

## 6.0 Critical Facilities Identification

A critical facility is any structure or component of the collection system that could allow an overflow that would result in significant impact to public health or the environment.

### 6.1. Pumping Stations (rev. 05/11/2015)

Two types of pumping stations covered by this definition are conventional and bypass pumping stations. The county has 32 conventional pumping stations and no bypass pumping stations.

Mechanical, instrumentation, power, and structural failures at a pumping station can result in basement flooding, surcharged manholes, and overflows of untreated wastewater that may directly impact public health and receiving water quality. Table 1 lists of all county sanitary pumping stations:

**Table 1. Sanitary Pumping Stations**

Location	Tributary to Structure	Indoor/Outdoor
Zoo - Dall Sheep Exhibit	MH-72	Outdoor
Doctors Park	MH-01	Outdoor
Dretzka Park	MH-11	Outdoor
McKinley Park	MH-01	Outdoor
McKinley Park	MH-09	Outdoor
McKinley Park	MH-11	Outdoor
Dineen Park	MH-05	Outdoor
Brown Deer Clubhouse	LS1	Indoor
Oakwood Park	MH-03	Outdoor
Mitchell Park	MH-16	Outdoor
South Shore Fish Cleaning Bldg	LS2	Outdoor
South Shore Yacht Club	LS1	Outdoor
South Shore Pavilion	LS3	Indoor
Bender Park	LS1	Outdoor
Grant Beach (LS Bldg)	MH-29	Indoor
Cupertino Park Comfort Bldg	LS1	Indoor
Oak Creek (Mill Pond) Skate	LS1	Indoor
Whitnall Park Area 8 Picnic Shelter	LS1	Indoor
Whitnall / Boerner Visitor Center	LS2	Indoor
GMIA - NE Corner (near hangers)	270212	Indoor
GMIA - Kraft Hanger (along College Ave)	330302	Indoor
GMIA - Midwest Bldg (Layton and Howell)	280214	Indoor
GMIA - Dog Kennels Bldg	330218	Outdoor
GMIA - Along northside of Citation Way	330216A	Outdoor

GMIA - 440 <sup>th</sup>	330314	Outdoor
GMIA - 440 <sup>th</sup>	330302	Not Verified
GMIA - North of Air Cargo Bldg	280216	Outdoor
GMIA - Inside Terminal Building	LS1	Indoor
GMIA - Inside Terminal Building	LS2	Indoor
GMIA - Inside Terminal Building	LS3	Indoor
Transit - Fond du lac	210-003	Outdoor

## 6.2. Pipes

The collection system collects and conveys the wastewater from domestic, commercial, and industrial sources to a WWTP.

Collection system deficiencies such as plugged lines, grease build up, root intrusion, flat slopes, collapsed pipe, and other hydraulic inefficiencies can cause wastewater backups, resulting in untreated wastewater discharges which can produce adverse public health and environmental impacts. The County owns approximately 38 miles of sanitary sewer collection system lateral and mains. The most critical elements of the gravity system are manholes and pipes at elevations very close to those of nearby basements.

## 7.0 Organizational Structure

Each department with sanitary sewer infrastructure is responsible for the maintenance and operation of their own sanitary sewers, manholes, pump stations, and force mains.

### 7.1. Staffing

Table 2 lists staff in each department that is responsible for sanitary sewer infrastructure and operation. These staff would also be most likely to identify, respond to, and report any sanitary sewer overflows.

**Table 2. Departmental Staffing (updated 05/02/17)**

Department	Name & Title	Phone Numbers	Years of Experience	Licensing Certifications Training
Parks	Jim Cofta Maintenance Manager	258-2322 881-6976		
	John Brillowski Plumbing Supervisor	258-2322 531-1193	15 years	Master Plumber Confined Space Entry
County Grounds	Tom Travia Facilities Manager	278-4770 254-0616		Plumber
	Mark Temple Plumbing Supervisor	278-4693 550-1414		Plumber
Airports	Matt Whitlow GMIA Plumber	747-5330 207-3359		Plumber
	Chris Lukas Maintenance Manager	747-5535		
Zoo	John Westrich Operations Coordinator	256-5413 758-0448 208-8222		Plumber
	Tony Fohey Plumbing Supervisor	262-875-0768	32 years	Master Plumber Confined Space Entry
House of Corrections	Shawn Sullivan Maintenance Supervisor	427-4717		
	Douglas Urban Plumbing Supervisor	427-4760 852-3943	14 years	Master Plumber Inspector Certs
Transit	Jamie Hinrichs Bldg & Gnds Manager	937-3237		
Highways	Derwin Pottinger Maintenance Manager	257-6566		
Transportation and Public Works	Kevin O'Brien Env. Compliance Mana.	278-4832 550-1077		Certified Hazardous Materials Manager
	Karl Stave Civil Engineer	278-4863	20 years	Professional Engineer Confined Space Entry
	Mark Sifuentes Civil Engineer	278-5138 651-4967	9 Years	

Training will include classroom sessions to review the ORP contents, conduct desktop training exercises for determining root causes of an overflow, and reviewing responsibilities for reporting SSOs to appropriate authorities. Field training may be included if resources allow.

## **7.2. Outside and Specialized Contractors**

The County has several outside contractors that can help us respond to sanitary sewer overflow events. The list of Time and Material Contractors typically includes the following:

Visu-Sewer  
W230 N4855 Betker Drive  
Pewaukee, WI 53072  
1-800-876-8478

Grunau Company  
1100 West Anderson Court  
Oak Creek, WI 53154  
216-6978

Roto-Rooter  
11030 W. Lincoln Ave.  
West Allis, WI 53227  
541-4477

Milwaukee Plumbing  
11200 W. Greenfield Ave.  
West Allis, WI 53214  
414/257-9000

Kon's Septic  
N112 W14545 Mequon Rd.  
Germantown, WI 53022  
(262) 251-1704

Roy' Plumbing  
1830 W. Hampton Ave.  
Milwaukee, WI 53209

### 7.3. Local Municipalities (rev. 04/22/2015)

The Local municipalities could make staff and equipment available for responding to a large overflow. These municipalities and their contact information are as follows:

	<b>Business Hours</b>	<b>After hours / weekends</b>
<b>Bayside</b>	414-351-8812	414-351-8800
<b>Brookfield</b>	262-782-0199	262-782-6200
<b>Brown Deer</b>	414-357-0120	414-371-2900
<b>Butler</b>	262-783-2525	262-783-2525
<b>Caledonia</b>	262-681-3900	262-939-3409
<b>Cudahy</b>	414-769-2216	414-769-2260
<b>Elm Grove</b>	262-782-6700	262-786-4141
<b>Fox Point</b>	414-351-8900	414-351-9900
<b>Franklin</b>	414-421-2613	414-425-2522
<b>Germantown</b>	262-253-7765	262-253-7780
<b>Glendale</b>	414-228-1710	414-228-1753
<b>Greendale</b>	414-423-2133	414-423-2121
<b>Greenfield</b>	414-761-5374	414-761-5300
<b>Hales Corners</b>	414-529-6161	414-529-6140
<b>Menomonee Falls</b>	262-532-4800	262-532-1700
<b>Mequon</b>	262-236-2913	262-242-3500
<b>Milwaukee</b>	414-286-2489	414-286-2489
<b>Muskego</b>	262-679-4128	262-679-4130
<b>New Berlin</b>	262-786-7086	262-782-6640
<b>Oak Creek</b>	414-570-8210	414-762-8200
<b>River Hills</b>	414-352-0080	414-247-2302
<b>St. Francis</b>	414-481-2300	414-481-2232
<b>Shorewood</b>	414-847-2650	414-351-9900
<b>Thiensville</b>	262-242-3720	262-242-2100
<b>Wauwatosa</b>	414-471-8422	414-471-8430
<b>West Allis</b>	414-302-8800	414-302-8000
<b>West Milwaukee</b>	414-645-6238	414-645-2151
<b>Whitefish Bay</b>	414-962-6690	414-351-9900

## 7.4. Equipment

Table 3 lists of portable equipment available from each department to successfully carry out an overflow response action:

**Table 3. Portable Overflow Response Equipment**

Equipment	Location	Contact Person & Phone Number	Age
Confined space trailer	Park Maintenance	John Brillowski 258-2322 531-1193	10 years Good working order
Ditch Pump	Park Maintenance	John Brillowski 258-2322 531-1193	3 years Good working order
Vacuum Truck	Zoo	John Westrich 256-5413 758-0448 208-8222	2006
	104 <sup>th</sup> & Watertown Plank		
Small Pumps	Zoo Plumbing Shop	John Westrich 256-5413 758-0448 208-8222	
Sewer Cleaning Equipment	House of Corrections	Douglas Urban 427-4760 852-3943	6 years

## 8.0 Maintenance and Distribution of the ORP

Milwaukee County will review and update, as necessary, the ORP to reflect all changes in the system, policies, and procedures in order to achieve the ORP's objectives. The County will distribute the updated ORP to all personnel who have duties and responsibilities under the ORP.

### 8.1. Review and Update of ORP (rev. 04/22/2015)

Milwaukee County will review the ORP annually and amend it as appropriate. In particular, the County's CMOM Engineer position with the Department of Administrative Services, A&E Division, who has primary responsibility for the CMOM Program will:

- Update the ORP with the issuance of a revised or new WPDES permit
- Conduct annual training sessions with appropriate personnel
- Review and update, as needed:
  - Staffing
  - Organizational Charts
  - Outside and Specialized Contractors List
  - Equipment Inventory

## 8.2. Distribution of ORP

Milwaukee County should distribute copies of the ORP and any amendments to the following organizations/functional positions:

- Wisconsin Department of Natural Resources (WDNR)
- County
  - Architecture & Engineering
  - Departments:
    - Parks
    - Zoo
    - County Grounds
    - House of Corrections
    - Airports
    - Transit
- MMSD Wisconsin Department of Natural Resources (WDNR)

All other personnel who may become incidentally involved in responding to overflows should be familiar with the ORP. Additionally, Milwaukee County should laminate and distribute copies of the appropriate ORP procedures and contact information to all sewer crews or have them available for contractors and place them in the County vehicles for reference during an overflow event.

## 9.0 Performance Measures

There are two considerations for establishing performance measures for the ORP:

1. effectiveness of the overflow response
2. annual review of the ORP

Both are important as several years may pass between SSO events, making an annual review of the ORP important for ensuring operational readiness.

Once the County has completed the ORP and trained staff on its use, the primary measurement parameters will consider the effective implementation of the ORP procedures during an overflow event. Also, as the ORP is a living document, Milwaukee County should review and update it annually to reflect changes in staff, procedures, and general information. The annual review of the ORP will be conducted by the County's CMOM Engineer position with the Public Works Department, A&E Division with input from the staff.

The County will need an evaluation process for the performance measures in order to determine if the implementation of the ORP is successful. Table 4 organizes six performance measures into topic areas related to the ORP.

**Table 4. Performance Measures for Overflow Response**

Topic	Performance Measure
1. ORP Notifications	Were the proper personnel and agencies notified?
2. Availability of Staff and Equipment	Were the necessary staff and equipment available? Were the responding crews sufficiently qualified to perform the necessary tasks? Was the equipment in proper working order?
3. Response Time and Efficiency	How quickly were the crews dispatched to the overflow area? How quickly were they able to contain, control, and mitigate the overflow?
4. Overflow Response Procedures	Were the ORPs followed by the responding staff? Were the ORPs adequate technically to contain, control, and mitigate the overflow? Were water quality samples obtained? Were overflow-specific samples taken?
5. Root Cause of Failure Analysis	Were adequate data available to determine the root cause of failure? Was the RCFA committee adequately staffed to quickly evaluate the failure? Was the underlying cause of failure determined? Were conclusions and strategies for action communicated according to the RCFA policy?
6. Annual ORP Reviews and Updates	Has County updated the communications plan to reflect changes in staff and contact information? Has County reviewed and updated the equipment inventory? Has County documented any changes in the response procedures?

# APPENDIX A

## Example of Site Specific Overflow Response Procedure

***CS-2 PROBLEM: Overflowing Sewer Manhole Resulting from Surcharged Sanitary Sewer***

**OVERFLOW RESPONSE PROCEDURES:**

Survey the Scene

Look for any water on the street, sidewalk, grass, dirt, etc. After confirming that the visible water is likely to contain sewage, look for a receiving storm drain. Follow the path of the sewage overflow to find storm drain entry. Ask for assistance as needed. Take pictures.

Communicate Findings and Request for Assistance.

Contact the Public Works Department to request assistance for additional staff, equipment, and/ or other agencies. Report findings to start notification. Call in an additional crew to set up flotation booms across streams, brooks, etc., by-pass pumping as necessary.

Set-up of Traffic and Crowd Control

If needed, use cones, barricades, and vehicle(s) to block and divert traffic around the spill and workers. If the wastewater should jeopardize a playground or park, cordon off the entire area. Close the park to the public until the issue has been remedied to the satisfaction of the local and state boards of health and the local park superintendent. If ponding should occur on the street or easement (public or private), cordon off the area.

Attempt Containment

Place rubber sheet at the entrance to storm drain. In some cases you may use two or more rubber sheets if you find that the storm drain entry is very wide.

Secure Containment in Place

Lay sand bags, sand, dirt, spill pillows or heavy objects at the corners of the rubber mat to keep it in place—thus, eliminating sewage leaks around the mat and for securing the two overlapping sheets of rubber. Take measurement for your “Field Spill Report.”

Higher Velocity Spill Flow Downhill

Use absorbent booms/socks, dirt, or sand to build a dam or berm to slow down sewage flow. Install at/or before storm drain entry.

Divert Spill Back to Sewer Line

By building a small berm to change direction of flow back to downstream sewer manhole.

Constantly Monitor Diverted Spill

Watch for berm leaks and traffic. Keep public out of area.

Divert Spill

Divert spill by pumping out containment area and return sewage to sewer. This set-up requires power source (generator) and trash (sump pump) and the setting up of traffic control.

Postpone Recovery

Capture spill for later recovery by letting it collect in a natural low area. Recover sewage as soon as time permits.

**Control Spill**

Inspect the terrain configuration. Try to find the lowest area with concrete or asphalt base. (Example: empty parking lot surrounded by curbs).

**Control: Relieve Stoppage**

Inspect the downstream manholes until a dry manhole is found and then start jetting or rodding. See standard procedures for use of combination trucks, vactor trucks, and pumped bypass (emergency power).

**Clean-up**

Gather and remove debris and organic matter from the affected area. Remove as much of the contaminant as possible. Remove containment, clean catch basin, and clean channel and creek. Disinfect the ponding areas with an industry standard disinfectant and notify the surrounding homes.

**Assess Damage to Public and Private Property**

While the crew is restoring the site, the supervisor/inspector should conduct a preliminary assessment of damage to private and public property. The focus is to resolve the problem. The supervisor/inspector should use discretion if advising or assisting the homeowner. The supervisor/inspector should take appropriate still photographs and video footage, if possible, of the outdoor area of the sewer overflow and impacted area to thoroughly document the nature and extent of the impacts.

**Complete Field Report**

Create a field report including sketches of flow path, width, length, and depth. Indicate size and number of manholes, take pictures.

<b>CS-2 Minimum Levels of Staffing (people): 2-3</b>	
<b>TOOLS AND EQUIPMENT</b>	<b>SAFETY AND OTHER CAUTIONS</b>
<ul style="list-style-type: none"> <li>• Jet flushing unit if available (sand trap)</li> <li>• Rodding machine &amp; associated cleaning/cutting attachments (sand trap)</li> <li>• Standard disinfectants</li> <li>• Safety harness and lifeline if applicable</li> <li>• Air blower with hose</li> <li>• Power vacuum</li> <li>• Portable pumps</li> <li>• Portable generators</li> <li>• Safety cones/barricades</li> <li>• Tritector — for oxygen deficient, explosive or toxic gases</li> <li>• Confined space entry tripod and associated equipment</li> </ul>	<ul style="list-style-type: none"> <li>• TV camera unit</li> <li>• Truck with hoist</li> <li>• Vactor unit</li> <li>• Power saw (circular)</li> <li>• Pipe cutter (hydraulic)</li> <li>• Caution tape</li> <li>• Sand trap</li> <li>• Floatation booms, if necessary</li> <li>• Self Contained Breathing Apparatus (SCBA)</li> </ul>

# **APPENDIX B**

## **Incident Report – Environmental Services Division**

# INCIDENT REPORT - ENVIRONMENTAL SERVICES DIVISION

<input type="checkbox"/> ASBESTOS	<input type="checkbox"/> AIR QUALITY	<input type="checkbox"/> WATER QUALITY	<input type="checkbox"/> ABANDONED BARRELS
<input type="checkbox"/> SOIL CONTAMINATION	<input type="checkbox"/> MISCELLANEOUS	<input type="checkbox"/> SANITARY SEWER OVERFLOW	

Date/Time \_\_\_\_\_ Reported By \_\_\_\_\_  
[Name, Department, Phone Number]

Location \_\_\_\_\_

Weather \_\_\_\_\_

Public Access	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Actual Release	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

**Contacted:**

Environmental Services	278-4874	.....Date	_____	Time:_____
Public Works Administration	278-4846	.....Date:	_____	Time:_____
Facilities Management, Courthouse	278-4971	.....Date:	_____	Time:_____
Emergency Management	278-4709	.....Date:	_____	Time:_____
Risk Management	278-4160	.....Date:	_____	Time:_____

Brief description of incident: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Course of action: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Work being performed by whom: \_\_\_\_\_

Expected time of completion: \_\_\_\_\_

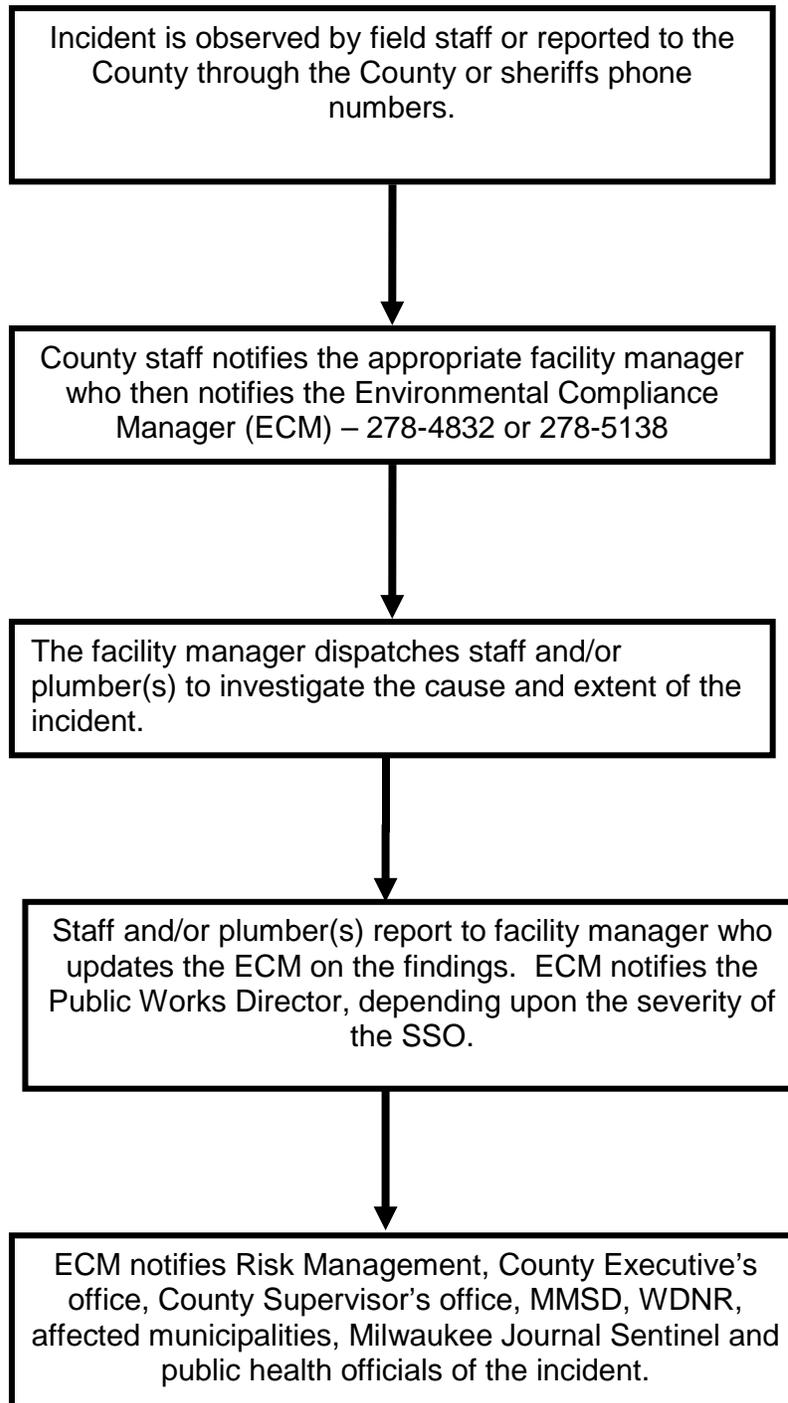
Name: \_\_\_\_\_

Signature: \_\_\_\_\_

KPO:gmp  
w:\doc\env\kpodoc\acdrpt  
**9/02**

# APPENDIX C

## Existing Response Procedures in the Event of an Overflow



# APPENDIX D

## Emergency Response Procedures

## **Sewer Blockage or Surcharging into Basement**

- County personnel receive call from maintenance staff, or building owner concerning sewage backing up into basement.
- Dispatch Wastewater Operators or on-call crew member, if after hours, to complainant address.
- Upon arrival, notify the property owner you are on the site.
- Check the flow in the upstream and downstream manholes. If the flow from both manholes is reasonable for the area, notify the property owner that the problem is in their lateral and to contact a plumber or sewer service contractor to relieve blockage.
- If the downstream manhole is flowing full, continue checking manholes downstream until a dry manhole is found. Log water level of surcharged manholes.
- Call for a pipe jetter to come to the site. Make sure truck is loaded with water. Engage the truck in the downstream manhole with the nozzle pointing upstream; ensure the proper nozzle is used.
- Install proper size collection shoe in downstream invert of manhole to capture debris. From debris collected, try to determine cause of blockage.
- Operate the high pressure hose back and forth as needed to dislodge blockage. Insure that the high pressure hose is operated slowly back and forth to dislodge and wash material away from the walls. Operator should note reel counter so that distance of the blockage can be located. Note time blockage cleared and flow normalized.
- Make out a report indicating the time of call, description of the problem, how the repair was made, personnel present and any other information related to the backup. (Include pictures of damages.)
- If sewage bypassed the collection system, inform proper agencies and fill out proper permits.
- Televisе line to aid in determining cause of backup.

## **Wastewater Pump Station Alarm**

### **EMERGENCY PROCEDURES:**

- SCADA computer senses system problem. If outside normal working hours, SCADA computer notifies auto dialer.
- Acknowledge alarm to determine scope of problem, send personnel to station to investigate alarm.
- If after hours, acknowledge alarm and send personnel to station indicating an alarm.
- NOTE: A detailed troubleshooting guide should be kept at station.
- If there is a power outage, always check with the power company. There have been instances when a power failure has occurred and it has not been reported to the power company.

### **Wetwell / Drywell Type Stations**

- Check atmosphere within drywell prior to entering with gas meter.
- Take your time entering drywell. Never enter a flooded drywell.
- Note any unusual odors or noises.
- Check telemetry equipment for proper operation.
- Lightly touch pump motors and pump bearing housing. Note any which seem unusually hot.
- Observe every piece of equipment in station. Note anything which looks out of place.
- Check all gage readings. (i.e. wetwell levels, hour meters, electrical readings, etc.)
- Check pump operation using manual position, level controls, and output by checking valve.
- Based on available information and using troubleshooting guide, troubleshoot the failure.
- Once problem is isolated, engage mechanical or electrical repair.
- Log repair data when completed.
- Reset any/all alarm feature indicator lights.

### Submersible Type Stations

- Check atmosphere within wetwell prior to working over the top with gas meter.
- Check telemetry equipment for proper operation.
- Note any unusual odors.
- Listen and note if pumps are running and for any unusual noises.
- Observe every piece of equipment in the station, especially level control system. Note anything that looks out of place.
- Check and record all gage readings from the control panel.
- Based on available information, troubleshoot the failure using the troubleshooting guide, systematically run through the system. By process of elimination, the failure will be isolated. Check level controls and pump operation using manual position and pump output by observing the check valve counterweight.
- Engage mechanical or electrical repair.
- Log all repair data.
- Reset any/all alarm feature indicator lights.

---

## **Pumping Station Failure Caused by Force-Main Break Inside the Drywell, Pump or Valve Failure. (Wetwell/Drywell Type Station)**

### **EMERGENCY PROCEDURES:**

Ensure that pumping station crews are confined space trained and are following the Confined Space SOP.

- Dispatch Wastewater Operators to the pumping station immediately.
- Upon arrival, the crew should identify if the drywell and wetwell are flooded. The pumps may be still pumping if the motor is located at floor level and the pumps are on the lower level or if drypit submersibles were installed.
- After further investigation, prior to entering the drywell, if possible, the crew should determine the nature of the failure, i.e., pump(s), valve(s) or force main(s).
- Call additional crew to bring appropriate portable pump(s) including all required lengths of suction and discharge hose, to the pumping station.
- Before entering the drywell, measure the atmospheric conditions for sufficient oxygen and the presence of explosive or toxic gases. Remove all hazards as appropriate prior to entering station (including electrical and engulfment hazards).
- Constantly monitor the atmospheric conditions while working in the drywell of the station.
- Upon arrival of the portable pump, connect the appropriate lengths of suction hose that will suspend well into the wetwell, and then connect enough discharge hose to pump into bypass connection.
- Lock out and tag out (LOTO) the main line, disconnect (if applicable).
- Set up an additional portable trash pump to pump out the drywell into the wetwell.
- Enter drywell and inspect the following facilities:
  - Lighting
  - Ventilation
  - Sump pump operation
  - Motor control system including air compressors
  - Auxiliary power systems and controls
  - Bubbler system (if applicable)
  - Pump alternator or processor
  - Control and instrument readings
  - MCC failure indicators

Temperature of pump motors

All internal piping

- Isolate the failed component by valve operation. Start the auxiliary pump and motor, if possible (after exiting the drywell). Shut down bypass operation if possible.
- Complete repairs to pipe, pump or valve as per policy. If permanent materials are not readily available, install blind flanges for temporary conditions. If auxiliary systems associated with the permanent station are in operation, LOTO prior to installing repaired components.
- Restore facilities to normal and inspect other components of the force main and pumping system for signs of similar failure.
- Shut down bypass operation. Do not disconnect hoses until repair is checked for leaks. Operate pumps to check repair under pressure and normal operating conditions.
- If no leaks are observed, return pumps to normal conditions by removing LOTO. Monitor pumps to check lead/lag operations.
- Proceed to wetwell for inspection. Before entering the wetwell, measure the atmospheric conditions for sufficient oxygen and the presence of explosive or toxic gases. Check the following as facilities:
  - Ventilation
  - Wetwell level
  - Bar rack and/or comminutor (if applicable)
  - Float controls/level sensors
  - Grease assessment
- Make out a report indicating; the time of the call, description of the problem, how the repair was made, personnel present and equipment used.
- If sewage bypassed the collection system, inform proper agencies and fill out proper notification pursuant to permit and regulatory requirements.

<b>Minimum Levels of Staffing (people): 2 - 4</b>	
<b>Minimum Emergency Equipment</b>	<b>Specialized Equipment</b>
<ul style="list-style-type: none"> <li>• Harness and lifeline</li> <li>• Flash light</li> <li>• Emergency lighting</li> <li>• Portable pumps and hoses</li> <li>• Miscellaneous tools</li> <li>• Personal protection equipment</li> <li>• Gas meter-for oxygen deficient, explosive or toxic gases</li> </ul>	<ul style="list-style-type: none"> <li>• Self Contained Breathing Apparatus (SCBA)</li> </ul>

## **Pumping Station Failure Caused by Force-Main Break Inside Valve Pit, Pump or Valve Failure (Submersible Type Application)**

### **EMERGENCY PROCEDURES:**

- Dispatch Wastewater Operators to the pumping station immediately.
- Upon arrival the crew should identify the storage capacity in the wetwell. This will give some indication of the time available for response.
- Inspect the motor control circuit looking for failure indications. Check processor to determine failure if applicable. If pump failure is determined, skip to wetwell inspection steps [Refer to appropriate SOP.]
- Inspect the valve pit. Observe all valves and force mains. If flooded, arrange to pump out the valve pit. If failure within the valvepit is detected, skip to bypass steps.
- Prior to viewing the wetwell, measure the atmospheric conditions for sufficient oxygen and the presence of explosive or toxic gases. If flooded, skip to bypass steps.
- Constantly monitor the atmospheric conditions while working in or above the wetwell. Inspect the wetwell. Check the wetwell floats or level control system, bar rack and pump volute for clogging or other problems.

### **Bypass Steps**

- If pump failure, determine if bypass pumping is necessary. If unnecessary, skip to repair procedures (see below).
- Bypass pump. Call additional crew to bring appropriate portable pump(s), including all required lengths of suction and discharge hose, to the pumping station if necessary. Upon arrival of the portable pump, connect the appropriate lengths of suction hose that will suspend well into the wetwell, and then connect enough discharge hose to pump into appropriate manhole or bypass connection (if so equipped). Go through the procedures for starting the portable pump, and begin pumping.

### **Repair Steps**

- Lock out and tag out (LOTO) the main line, disconnect (if applicable).
- If pump station valve pit is flooded, pump out the valve pit with portable trash pump as necessary to effect repairs.
- Enter valve pit or wetwell and inspect the piping and valves for cause of failure. (Monitor the atmospheric conditions for sufficient oxygen and the presence of explosive or toxic gases).
- Complete repairs to pipe, pump or valve as per policy. If permanent materials are not readily available, install temporary repairs until the permanent repairs can be completed.

- Restore facilities to normal and inspect other components of the force main and pumping system for signs of similar failure.
- Shut down bypass operation. Do not disconnect hoses until repair is checked for leaks. Operate pumps to check repair under pressure and normal operating conditions.
- If no leaks are observed, return pumps to normal conditions by removing LOTO. Monitor pumps to check lead/lag operations.
- Make out a report indicating; the time of the call, description of the problem, how the repair was made, personnel present and equipment used.
- File Bypass Notification Log and By-Pass Report Form as required by Permit.

**NOTES:**

1. If sewage bypassed the collection system, inform proper agencies and fill out proper permits.

<b>Minimum Levels of Staffing (people): 2 - 4</b>	
<b>Minimum Emergency Equipment</b>	<b>Specialized Equipment</b>
<ul style="list-style-type: none"> <li>• Harness and lifeline</li> <li>• Flash light</li> <li>• Emergency lighting</li> <li>• Portable pumps and hoses</li> <li>• Gas meter-for oxygen deficient, explosive or toxic gases</li> <li>• Personal protection equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Self Contained Breathing Apparatus (SCBA)</li> </ul>

**Pumping Station Failure Caused by Secondary Power Failure During Power Outage**

**EMERGENCY PROCEDURES:**

- Dispatch pumping station crew to the pumping station immediately. The crew needs to bring the auxiliary generator for that specific station as a backup, assuming that repair to the dedicated generator is untimely.
- Dispatcher shall request the assistance of the power company in restoring power to the station if necessary. Determine the estimated time of arrival of the power company crew and then notify the pumping station operators.
- Pumping station operators should check the overhead power lines for fuses that might have blown or down power lines as they approach the pumping station. If the operators notice a blown fuse or down power line, identify the pole number(s), and notify the dispatcher to relay to the power company the location and the pole number(s).
- Lock out and tag out (LOTO) the main line, disconnect (if applicable).
- Check all components of dedicated generator to determine failure cause. Utilize manufacturer prepared troubleshooting guide to aid in diagnosis. If un-repairable, immediately connect the portable generator to the auxiliary power connection located outside the building. Examine plug type and ensure consistency. Use adapters as necessary.
- Go through the specific procedures for starting the generator to supply power to the station.
- Obtain the services of a qualified generator repair facility to address the dedicated generator failure.
- Once fully repaired, disconnect the portable generator and reconnect the dedicated unit. Operate the dedicated unit through several pump cycles. Check unit for regular exercise.

<b>Minimum Levels of Staffing (people): 2 - 3</b>	
<b>Minimum Emergency Equipment</b>	<b>Specialized Equipment</b>
<ul style="list-style-type: none"> <li>• Harness and lifeline</li> <li>• Flash light</li> <li>• Emergency lighting</li> <li>• Portable pumps and hoses</li> <li>• Personal protection equipment</li> <li>• Gas meter-for oxygen deficient, explosive or toxic gases</li> </ul>	<ul style="list-style-type: none"> <li>• Power testing equipment</li> </ul>

## **Sewage Force-Main Break**

### **EMERGENCY PROCEDURES:**

- Dispatch Wastewater Operators to location of break.
- Call Diggers Hotline for emergency locate.
- Set up signs, barricades, and/or barrels for traffic control and public safety.
- After Diggers Hotline has located all utilities, excavate break.
- Bypass pumping from the pump station wet well to the force-main discharge manhole may be required. If bypass pumping cannot be completed, utilize a vector truck to remove water from the wet well.
- If vector truck has insufficient volume, a portable submersible pump/tanker truck combination may be needed to remove water.
- Lockout and Tag out (LOTO) the pumps at the station.
- Draw down the wet well as much as possible and maintain low level.
- Drain the force-main by first closing the gate valve on the upstream side of the discharge check valve.
- Open check valve by hand and secure it in place.
- Slowly bleed the force-main back into the wet well by slowly opening the gate valve on the discharge side of the pump, but only to the point where the force-main stops leaking and there is enough room to make repair. Constant communication must take place between crew at break and crew at pumping station.
- Close gate valve and return check valve to its normal position and then fully open gate valve.
- Repair force-main.
- After repair is complete, remove LOTO and return pumps to normal operating position.
- Run pump manually to fill force-main. Run pumps for several cycles before backfilling for proper operation.
- Make out a report of repair.
- If sewage bypassed collection system, notify proper agency and fill out proper notification requirements.

## **Sewer Main Break/Collapse**

### **EMERGENCY PROCEDURES:**

- Dispatch sewer crew to location of break/collapse immediately.
- Call Diggers Hotline for emergency locate.
- Set up signs, barricades, and/or barrels for traffic control and public safety.
- Reroute traffic as necessary.
- Deploy traffic control measures such as police or flag person as needed.
- Bypass pumping from the upstream manhole to the downstream manhole may be required. If necessary, set up bypass pumping equipment. If not necessary, prepare for repairs while the pipe is flowing.
- After Diggers Hotline has located all utilities, excavate the break/collapse and make necessary repairs. Use repair procedures consistent with policy.
- Take ties to record the location and scope of the repair.
- Upon confirmation of adequacy of the repair, backfill the excavation and restore surface conditions.
- To restore the sewer line to full capacity, remove any debris that may have entered and accumulated in the sewer line downstream and upstream from the break collapse.
- Install the proper size collection shoe in the downstream invert of the downstream manhole to trap any debris which may have accumulated in the sewer line.
- Use a high velocity jet-flushing machine to clean line.
- Make out a report indicating description of problem, how repair was made and personnel and equipment used.
- If sewage bypassed collection system, notify proper agency and fill out proper permit.

## **Chemical Spill**

- If during normal operations, a County crew comes across a chemical spill, they shall call the appropriate facility manager immediately for further guidance.
- The facility manager shall call the Environmental Compliance Manager (ECM).
- Should the ECM determine that it is necessary to contact the hazardous material response team or fire department; the County crew shall await the arrival of the hazardous material response team or fire department to take over the scene.

### **City of Milwaukee Fire Department Bureau of Special Operations**

#### **Hazardous Materials Team**

**414-286-8960**

- While waiting for the hazardous material response team or fire department, the County crew shall prohibit by-standers from entering the site.