



**Village of Shorewood**

**Capacity, Management, Operations and Maintenance  
2015 Annual Report**

This report is submitted in compliance with provisions of the Satellite Stipulation between the State of Wisconsin and the Village of Shorewood (*State of Wisconsin v. Milwaukee Metropolitan Sewerage District, et. al.* Case No. 2005-CS-000013) as well as the stipulation entered between the State of Wisconsin and the District (*Stipulation – State of Wisconsin v. Milwaukee Metropolitan Sewerage District.* Case No. 02-CS-2701).

June 2016

## **SECTION 1 PROGRAM OVERVIEW**

A Capacity, Management, Operations and Maintenance (CMOM) Plan is required to comply with the Satellite Stipulation between the State of Wisconsin and the Village of Shorewood. The overall intent of the CMOM Plan is to reduce sanitary sewer overflows (SSOs) in accordance with regulations.

### **1.1 REPORT PURPOSE**

The CMOM Program annual report provides summary descriptions of Village of Shorewood CMOM Program activities. The report serves four general purposes:

1. To provide an overview of the activities completed under the CMOM Program on an annual basis;
2. To describe and document changes to the CMOM Program documentation on an annual basis, including changes to objectives, strategies, tactics and performance measures;
3. To describe the activities that are planned or currently being undertaken under the CMOM Program; and
4. To continue compliance with the 2005 Satellite Stipulation between the State of Wisconsin and the Village of Shorewood.

### **1.2 PROGRAM SUMMARY BY PLAN**

The Village's CMOM Program includes a Management Plan, Operation and Maintenance Plan, Capacity Plan, Overflow Response Plan, Condition Assessment Plan, Communications Plan and Audit Plan. Performance measures are included in the Management Plan but are discussed separately below.

#### **Management Plan**

The Management Plan outlines the approach developed to implement the CMOM Plan. The successful implementation of a CMOM program is directly related to an organization's structure and communications. Shorewood's Management Plan describes the Village's Sewer Utility governance and the Village's collection system organizational structure; outlines legal authority; identifies asset/fiscal and data management programs; addresses design, construction and inspection standards; speaks to training and education; and introduces performance measures.

#### **Operation and Maintenance Plan**

Operation and Maintenance (O&M) Programs for the collection system are critical to properly operate and maintain the collection system and to provide recommendations for future rehabilitation and replacement projects. The Village has historically inspected and cleaned sewers and manholes on a routine basis. These inspection programs are necessary to determine structural integrity, the extent of (tree) root intrusion, illegal connection and infiltration and inflow I/I issues. Other tools and programs as noted are also utilized on an as-needed basis to maintain the system.

#### **Capacity Plan**

The Village is required to have sufficient capacity during dry weather events and to manage peak wet weather flows. The Village has an on-going inspection program to identify infiltration and inflow. Wet weather event issues and sanitary sewer overflows, should they occur, are analyzed to determine the root cause of the problem.

**Overflow Response Plan**

The Village of Shorewood's Overflow Emergency Response Plan includes written procedures for responding to a sanitary sewer overflow. The Plan incorporates the ORP as a standard operating procedure which directs the response to the SSO, outlines procedures to address investigation of overflows at specific sites, identifies processes for the notification of stakeholders and addresses root cause failure analysis.

Detailed records of emergencies and responses are to be documented with the plan regularly reviewed and revised as necessary in response to the adequacy of past emergency actions.

**Condition Assessment Plan**

A condition assessment program involves documentation and inspection of the collection system to assess the condition of infrastructure. The information gathered during the assessment is used to plan and budget for repair, rehabilitation and replacement of the assets. Recommendations for additional inspections and cleaning are made from these assessments.

**Communications Plan**

The Shorewood Sewer Utility communicates with the WDNR, the MMSD the Village Board and its customers on a regular basis through regular reporting, social media and direction communications with residents and utility customers.

**Audit Plan**

A CMOM Audit is necessary to ensure that the Plan is properly implemented, goals and objectives are met and performance measures are reviewed, evaluated and updated on a regular basis.

Key Performance Indicators

Table G-1 Village of Shorewood Performance Measures				2015 REPORTED
DESCRIPTION	GOALS			
<b>SEWERS</b>				
Total Sewer Length in Feet	158,400			
Sewers cleaned (Feet/year – ft/yr)	20%	31,000	ft/yr	16,268
Sewers inspected	14%	22,629	ft/yr	27,240
Sewer Failures/year		0	each	0
<b>MANHOLES (MH)</b>				
Number of Manholes in System	1,062			
Manholes inspected	20%	212	MH/yr	242
<b>REHABILITATION/REPLACEMENT DESCRIPTION</b>				
Numbers of manholes repaired		2	MH	0
Number of manholes replaced		0	MH	2
Sewer Rehabilitated (Lined, Grout, Point Repair)		3,000	feet	6,188
Sewer Replaced		TBD	feet	0
Lateral Rehabilitated (Lined)		TBD	Feet	1,650
<b>MAINTENANCE ACTIVITIES</b>				
Root Removal		350	feet	688
Smoke Testing		1500	feet	0
Dye Water Flooding		1500	feet	0
Flow Monitoring percent of the collection system		10	%	10
<b>COLLECTION SYSTEM PROBLEMS</b>				
Basement backups from Village sewers		0	each	0
Basement backups from Private property laterals		0	each	7
Total number of backups		0	each	7
Number of Sanitary Sewer Overflow Occurrences		0	each	2

### **1.3 Significant Activities**

The private lateral lining program recommended in the Village's 2011 Comprehensive Sewer Facility Plan continued in 2015. A total of 30 private laterals (1,650 lineal feet of pipe) were lined in Sewersheds SH5001 (Basin 1) and SH5006 (Basin 6). Additionally, a total of 6,188 lineal feet of mainline pipe of various sizes was lined throughout the system.

## **SECTION 2 MANAGEMENT PLAN IMPLEMENTATION AND ONGOING ACTIVITIES**

### **2.1 Background and Information**

The Management Plan describes the approach taken by the Village of Shorewood to implement and operate a continuous CMOM plan. Staff reviewed each of the Management Plan sections during the reporting year to reaffirm the objectives. No changes are proposed to the Management Plan.

### **2.2 Mission Statement**

There are no changes to the mission statement for this report.

### **2.3 Goals**

The goals outlined in the original plan submission have been reaffirmed.

### **2.4 Organizational Structure**

No changes to the Village's organizational structure have occurred during the reporting year.

### **2.5 Management of Assets**

During the reporting year, no significant changes were made to the Village's Asset Management Program approach.

#### ***Operation and Maintenance Programs***

No changes were made to the operations and maintenance programs identified in the plan.

#### ***Condition Assessment***

Field assessments were completed and utilized to plan future maintenance and capital programs.

#### ***Equipment Inventory***

No significant additions/deletions were made to the Village's equipment and spare parts inventory during the reporting year.

#### ***Critical Structures***

No changes are proposed to the critical infrastructure identified in the plan.

### **2.6 Customer Service**

No significant changes were made to the customer service section of the plan. Regular web updates were utilized and DPW staff participated in the Village's annual customer service training session.

### **2.7 Legal Authority**

No changes occurred during the reporting year.

## **2.8 Fiscal Programs**

The utility has been focusing efforts on replacement of major infrastructure components of our system in the last several years due to substantial flooding that occurred in 2010. We continue to replace and repair equipment on an annual basis and are not engaging in any level of capital deferral.

## **2.9 Data Management**

Sewer Utility personnel continue to add data to the Village's GIS system.

## **2.10 Standard Design, Construction and Inspection**

The Village regularly reviews its standard specifications for the development and design of sewer system improvements. No changes were made in 2015.

## **2.11 Training**

Shorewood Sewer Utility staff attended several collection system-related training sessions. Several members of the Utility staff attended the District's 2015 CMOM conference.

## **2.12 Performance Measurements**

As noted in the CMOM plan, an annual review of performance measures was completed to evaluate accomplishments and areas for improvements. Please see Section 1.2 for performance measurement data. Though not all goals were met, no changes to the standards are proposed at this time. Staff will continue to evaluate the performance measures on an annual basis.

## **SECTION 3 OPERATION AND MAINTENANCE PLANS AND ONGOING ACTIVITIES**

There are no changes proposed to the Village's O&M Programs. While the goals for the various inspections programs were not all achieved, staff will continue to evaluate the benchmarks in the future to determine if they are achievable in a typical year.

## **SECTION 4 CAPACITY PLAN AND ONGOING ACTIVITIES**

### **4.1 Background and Information**

Implementation of the recommendations from the Facility Plan, adopted in May 2011 began in 2012 and will be implemented over several years.

### **4.2 Capacity**

The Village has no dry weather capacity restrictions.

### **4.3 Field Investigation**

Field inspections were performed on a regular and as-needed basis during the reporting year.

### **4.4 Flow Modeling**

No flow modeling occurred in 2015.

#### **4.5 Flow Monitoring**

Flow monitoring continues in SH5006 (Basin 6) This data is evaluated to determine effectiveness of both public and private improvements in the area.

#### **4.6 I/I Reduction**

The Village's 2015 annual (public) I/I program included the lining of 6,188 lineal feet of mainline sewer pipe. The private I/I program included 1,650 lineal feet of private sewer lateral rehabilitation.

#### **4.7 Peak Flow Performance Standards**

The Village's performance standards were developed in consideration of the District's Peak Flow Performance Standards. Please refer to Table G-1 above.

### **SECTION 5 OVERFLOW RESPONSE PLAN AND ONGOING ACTIVITIES**

#### **5.1 Background and Information**

No significant changes are proposed for the Village's Overflow Response Plan.

#### **5.2 Procedure**

No significant changes are proposed to the Village's procedures and notifications.

#### **5.3 Overflow Structures**

No changes were made to the existing overflow structures during the reporting year.

#### **5.4 Notification**

Notification was provided for the system overflows which occurred on April 9, 2015.

#### **5.5 Weather Forecast**

The Village utilizes local and national broadcast television and cable weather channels for forecasting. All DPW employees have convenient, 24-hour access to broadcast weather reports at the PW facility.

#### **5.6 Root Cause Failure Analysis**

Overflows occurring during the reporting year were immediately field investigated following the event. In both cases a rain event in excess of the system's design capacity was determined to be the major contributing factor.

## **SECTION 6 CONDITION ASSESSMENT AND ONGOING ACTIVITIES**

### **6.1 Background Information**

The Shorewood Sewer Utility staff regularly inspects and documents the condition of the collection system infrastructure. It is, and has always been, standard practice to use the information gathered during these regular assessments to plan and budget for repair, rehabilitation and replacement of the collection system assets.

### **6.2 Condition Assessment Key Elements**

There have been no changes proposed to the Operations and Maintenance Plans as noted in Section 3.

### **6.3 Condition Assessment Recommendations**

Recommendations are made on an on-going basis to repair, rehabilitate and replace infrastructure to properly maintain all assets.

## **SECTION 7 COMMUNICATION PLAN AND ONGOING ACTIVITIES**

### **7.1 Background and Information**

Information relating to the Village's collection system operations is shared on a regular basis with the WDNR, the MMDS, the Shorewood Village Board and the residents of the Village on a regular basis.

### **7.2 Methods of Communication**

All policy issues related to finance, operations, personnel and infrastructure planning are determined by the Shorewood Village Board of Trustees based upon recommendations by the Director of Public Works/Utilities, the Village Manager and the Finance Director.

Information is shared on a regular basis with residents and Utility customers utilizing direct mailings, the Village web site, and Village newsletters (electronic and magazine form).

### **7.3 CMOM Communication**

Public discussion regarding CMOM-related topics occurred on a regular basis during the reporting year as a part of the Sewer Facility Planning discussions. Public discussion occurs on this topic each year at both the sewer utility's budget discussion and the Village's annual financial planning meeting.

### **7.4 Reporting Methods**

The Village has fulfilled its reporting requirement to the entities and regulatory agencies as outlined in the CMOM Plan.



## **SECTION 8 AUDIT PLAN AND ONGOING ACTIVITIES**

### **8.1 Background and Information**

The intent of the Audit is to ensure proper plan implementation and regular reviews and updates of performance measures.

### **8.2 Audit and Review the Plan**

Audit shall be performed every five years in accordance with the Stipulation. An audit was performed in 2015 and found no major deficiencies.

### **8.3 Monitor the Plan**

The Village of Shorewood annual reviews the goals and performance measures to evaluate the program effectiveness.

### **8.4 Provide Recommendations**

The Village's annual review and monitoring will generate necessary recommendations to revise the performance measure and update the Plan.

### **8.5 Update the CMOM Plan**

CMOM plan updates will be based upon the audit, feedback from employees and review recommendations.

## **CERTIFICATION**

I certify that the material contained in this report is, to the best of my knowledge, true, accurate and complete, and that elected officials of the Village of Shorewood have been apprised of the contents of this report.



Leeann Butschlick  
Director of Public Works  
Village of Shorewood, WI