2020 CMOM Annual Report

Capacity, Management, Operations, and Maintenance (CMOM) Program

City of Greenfield, Wisconsin

Prepared by:
Jeffrey S. Tamblyn
Environmental Engineering / GIS Technician
City of Greenfield
7325 W. Forest Home Avenue
Greenfield, Wisconsin 53220-3356

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1. PROGRAM OVERVIEW

As part of the Milwaukee Metropolitan Sewerage District's (MMSD) Capacity, Management, Operation and Maintenance (CMOM) Program, the City of Greenfield implemented a CMOM program in June, 2009. The implementation of the CMOM program was further required by Wisconsin Statute NR210.23 which became effective in August, 2013. In 2020, the Engineering Division and the Division of Public Works, working as part of the Department of Neighborhood Services, continued to oversee CMOM Program design and implementation for the City. Changes to the Program are made through recommendations by City staff, routed through these divisions and ultimately approved by the City Common Council if warranted.

The City has utilized CMOM as a means and opportunity to audit its practices and documentation, bring the documentation under one umbrella to ensure more consistent practices and improve its management of capital assets.

Total operating expenses for the City were reported at $48,425,342 for 2020 with the total operating expenses for the Greenfield sanitary sewer reported at $4,132,759 for 2020, or 8.5% of the total operating expenses for the City. The total operating expenses for the Greenfield sanitary sewer fund included fees paid to MMSD.

The CMOM Program is a method for the City to document current and proposed activities that are intended to help most efficiently and cost effectively operate and manage the sanitary sewer collection system. Through this annual reporting process, the City assesses its practices, evaluates opportunities for systematic improvements, and meets the requirements of the State of Wisconsin Stipulation Agreement with MMSD. The details of the Program changes resulting from the review are described further in the appropriate sections below.

1.1 REPORT PURPOSE

The CMOM Program Annual Report provides summary descriptions of CMOM Program activities (past and planned) and is intended to be a communication tool. The report is intended for City staff, regulatory authorities, customers, and the general public. The report serves four general purposes:

1. To provide an overview or audit 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, which may include changes to objectives, strategies, tactics, and performance measures; and
3. To describe the activities that are planned or currently being undertaken under the CMOM Program.
4. To continue compliance with the 2002 Stipulation Agreement between the City and the State of Wisconsin, which requires that "On a regular basis the City shall report to the Department on the implementation and performance of the CMOM program."

The report consists of this Program Overview section plus one section for each of the CMOM Program Plans (Management and Asset Management Plan, Overflow Response Plan, System Evaluation and Capacity Assurance Plan, and Communication and Audit Plan).

1.2 PROGRAM GOALS

The goals of the CMOM program were established as follows:

Table 1
CMOM Program Goals, Objectives, and Regulatory Expectations

Program Goal	Objectives	Regulatory Expectations
Comply with the WPDES permit concerning sanitary sewer overflows	Ensure procedures are in place to identify SSOs, report SSOs to the WDNR, and mitigate impacts from the SSOs per the WPDES permit.	Untreated wastewater discharges from the system are a violation of the WPDES permit.
Minimize the occurrence of preventable overflows	Implement projects that will have immediate impact on known operation and capacity-related overflows.	The WDNR General Permit for SSOs provides specific circumstances under which the WDNR may not take enforcement action against the discharger. These circumstances include situations where the SSO occurred to prevent loss of life, personal injury, or severe property damage.
Minimize the life cycle ownership costs of the collection system assets	Ensure preventive maintenance is performed on manholes and sewer pipes on regular intervals. Ensure that appropriate condition assessments are conducted on sewer assets. Ensure that established design, construction, and inspection standards are followed on all new construction. Establish sufficient funding streams to ensure replacements or refurbishments before asset failures occur.	State statutes require wastewater rates to include a component for equipment replacement.
Improve or maintain system reliability	Confirm the existence of any system components that do not function according to established reliability standards.	
Reduce the potential threat to human health from sewer overflows	Confirm the existence of locations where system overflows could pose a threat to human health. If such locations exist, develop response measures and investigate alternatives for eliminating the potential threat.	Overflows from the system are a violation of the WPDES permit, Clean Water Act, and Wisconsin State law.
Provide adequate capacity to convey peak flow Manage infiltration and inflow	Gain an understanding of the current system's ability to convey peak flows and what steps are necessary to address system inadequacies. Understand the current level of I/I in the system, the extent to which it poses a threat to the regional or municipal system operation, sources of I/I, and potential remedial measures. Establish a program to reduce I/I in situations where I/I results in service problems, including overflows and building sewer backups or exceeds peak flow performance standards of MMSD. Such standards may include those that would prevent I/I from increasing in the future.	Evidence that suggests the system does not possess the capacity to convey peak flows would likely cause the State to require a System Evaluation/Capacity Assurance Plan for the City. If the State or MMSD determines a SECAP is required from the City, a component of this plan will include I/I evaluation and reduction.

Table 1
CMOM Program Goals, Objectives, and Regulatory Expectations

Program Goal	Objectives	Regulatory Expectations
Protect collection system worker health and safety	Make all collection system workers aware of potential hazards, equip them with proper safety gear, and provide proper training in dealing with these hazards.	
Operate a continuous CMOM Program	Establish procedures for monitoring CMOM Program implementation and initiating program modifications.	

1.3 PROGRAM SUMMARY BY PLAN

The City's CMOM Program includes a Management and Asset Management Plan (AMP), Overflow Response Plan (ORP), and Communication and Audit Plan. Activities that took place in 2020 under each of these plans are discussed below and on the following pages. Performance measures are included in the CMOM Program under the Management Plan.

1.3.1 MANAGEMENT PLAN AND ASSET MANAGEMENT PROGRAM

The Management Plan and Asset Management Program were created as a single element as part of the City's CMOM program in 2009, and last updated in June 2018. This Management Plan describes the means and methods that the City has in place to develop and support the complete execution of a CMOM Program. Specifically, the City's Management Plan satisfies the following requirement of the Stipulation Agreement, signed with the State of Wisconsin in May 2002:

> *7.A. Management Plan.* A plan that outlines the goals of the CMOM, the organizational structure to manage it, the legal authority to control Infiltration and Inflow (I/I), design criteria, benchmarking data and performance measures to attain the goals. A significant effort associated with the Management Plan was the development of an Asset Management Program that provides for both programmed maintenance and tracking of the asset condition to enable early recognition of expansions or major rehabilitation necessary to avoid capacity limitations.

There are three objectives the Management Plan satisfies. First, it satisfies the requirements stated in the Stipulation Agreement. Second, it satisfies MMSD Rules & Regulations pertaining to CMOM Programs of all MMSD satellite municipalities. Third, it serves to achieve the larger CMOM Program goals that the City has established.

1.3.2 OVERFLOW RESPONSE PLAN

The City's Overflow Response Plan (ORP) was created in 2009 as part of the CMOM Program, and last updated in March 2018. The ORP is designed to ensure that every report of a confirmed sewage overflow is immediately dispatched to the appropriate crews so that the effects of the overflow can be minimized with respect to impacts to public health and adverse effects on beneficial uses and water quality of surface waters and customer service. The ORP further includes provisions to ensure safety pursuant to the directions provided by the City Health Department and that notification and reporting is made to the WDNR.

1.3.3 COMMUNICATION AND AUDIT PLAN

The Communication and Audits Plan was created in 2009 as part of the CMOM Program, and last updated in June 2018. The Communication and Audit Plan articulates the process for reporting to various stakeholders the implementation activities and performance of the CMOM Program. This plan states the objectives for

communications and describes a set of complementary strategies for achieving those objectives. Performance measures for communications strategy implementation are also provided in this plan. The CMOM Program will be audited on a regular basis to evaluate the program's implementation and performance. The audit covers the program's compliance with permit requirements, any identified deficiencies, and steps to be taken to address them.

1.4 KEY PERFORMANCE INDICATORS

A complete list of the performance measures and their status for 2020 is included in Attachment A. The purpose of the performance measures is to track City activities over time and gauge achievement of Greenfield objectives.

1.5 SIGNIFICANT ACTIVITIES

Included here is a discussion of some significant activities that the City has performed or initiated, arranged by the CMOM Program plan under which they fall. The City has spent considerable effort in establishing a CMOM Program per MMSD and WDNR requirements. Previous work included preparing the readiness reviews and strategic plan. The City's initial Management Plan and Asset Management Program, the Overflow Response Plan, and the Communications and Audit Plans were initially completed in 2009. A SECAP was not required.

Significant activities completed in 2020 are presented by plan below and on the following pages.

Management Plan & Asset Management Plan

Current staffing levels and on-going practices and procedures are reviewed by City staff during our CMOM reporting process to determine if changes are needed to improve system reliability and efficiency with our operations. Since 2007 when the initial CMOM Plan was implemented, the City has been able to obtain the following annual inspection, maintenance and rehabilitation averages for our public sanitary sewer system:

Sanitary sewer main		
	Cleaning	21.79% of our system
	Televising	7.82% of our system
	Rehabilitation	0.50% of our system
Sanitary manholes		
	Inspection	25.15% of its system
	Rehabilitation	6.30% of its system

The City has a Geographical Information System (GIS) based mapping system which is our primary database tool for tracking and reporting on sanitary sewer televising, inspection, cleaning, rehabilitation, replacement and system inventory activities. This GIS system is available to City staff and our consulting engineers who perform work on behalf of the City. The City also uses a third party software for interfacing with our sanitary sewer televising data and generation of PACP pipe reports when needed. Together, these systems give our staff the ability to quickly locate assets and/or query the condition of our system and provides us with a reliable consistent means of record keeping and data retrieval City wide.

Given that the City has many irregular borders, we continue to work with our neighbors to clarify ownership and maintenance responsibilities for assets in/near these multi-jurisdictional locations. The City is also working to map private sanitary sewer systems which may not have been previously mapped in our system.

The Division of Public Works has incorporated the use of a database driven work order process. While the work order database is not tied directly into our GIS, the database driven work order process allows our Division of Public Works to streamline internal operations and allows for better tracking of projects and work flows, fleet management, staffing, inventory levels and related costs.

The City follows the protocol for sanitary sewer televising and defect coding developed by the National Association of Sewer Service Companies (NASSCO), including a Pipeline Assessment Certification Program (PACP) and a Lateral Assessment and Certification Program (LACP). Manholes are inspected utilizing a City manhole assessment methodology which meets, or exceeds NASSCO Manhole Assessment and Certification Program (MACP) standards. These protocol have resulted in a system condition assessment that is consistent throughout the City's system. The City uses this information, along with other data to help determine future asset maintenance and rehabilitation efforts. Through the years, the City has had several of our Engineering and DPW staff trained through the NASSCO PACP, MACP and LACP training processes, and more recently NASSCO Inspector Training and Certification Programs for manholes and CIPP inspector training programs. Current NASSCO certifications area as follows:

PACP	2 Engineering staff & 4 DPW staff
MACP	2 Engineering staff & 4 DPW staff
LACP	2 Engineering staff & 1 DPW staff
ITCP – MH	3 Engineering staff
ITCP – CIPP	3 Engineering staff

In 2018 the City's Engineering Division developed a 5-year sanitary sewer televising plan to assist our Division of Public Works with its sanitary sewer televising efforts. This 5-year plan was proposed to be completed by the end of 2022. The City has recently bid out a cleaning and CCTV contract to supplement Public Works televising efforts. By outsourcing some televising, we will be able to complete the current televising plan cycles by the end of 2021. The reason for us to do this is twofold. First, since we use our televising processes as the primary means for grading out sewer mains, this will allows us to have more of our system graded more quickly. Second, it allow the City to begin looking at developing a new long range televising and system maintenance and rehabilitation plans for the future.

In addition to the items mentioned above, in recent years the City started to implement some addition measures to help us more quickly assess our overall system condition and to better plan for future system maintenance, rehabilitation and replacement needs. These measures include:

- In 2018, the City began implementing a pipe grading system during televising operations. As sanitary main-line sewers are televised and assessments completed, the camera operator enters a pipe grade (1=minor defect >> 5=Significant defect) into our GIS system. Once entered, our system can be queried to show the number and location of the various pipe ratings. This effort continues into 2020.

- In 2019 the City began populating a pipe "connection" rating for each section of sewer main. This rating identifies cumulative pipe connections per main, so that any point we can determine how many property connections flow through a given main. This data will be used to help up identify how critical a given sewer main is, should it fail. This effort continues into 2020.

- In 2019 the City began populating a pipe "construction" rating for each section of sewer main. This rating takes various construction components into account such as pipe depth, pipe location, site impacts, traffic control needs, etc. This data will be used to help us factor in potential construction cost impacts into our long range repair and replacement planning. This effort continues into 2020.

Additional investigations, such as flow monitoring, dye testing, smoke testing, etc. are completed on an as needed basis. Table 2 shows additional investigations worked on in 2020.

Table 2
2020 Additional Investigations

Sewer-shed ID	Type of Investigation	Date(s) of Investigation	Comments
GF6007 GF6008	Excess flow investigation / non-compliant metersheds	2009>2020	In December 2009, the City received notice from MMSD that sewersheds GF6007 and GF6008 had high peak flows and were considered non-compliant. In 2011, GF6008 had been re-classified as compliant, however GF6007 remained non-complaint. Since 2009, the City has been working to try and reduce peak flows from our portion of the non-compliant sewershed. Further analysis from MMSD may be warranted to determine the current status of the sewershed.
GF6007	PPII	2017>2020	The City conducted flow monitoring in a portion of GF6007 between September 2017 and April 2018 to assess I/I in the sewershed. Following the study, the City entered into a PPII work plan with MMSD in November 2018 for an investigation of up to 215 properties in GF6007 to further assess private property I/I sources. The City has currently investigated 67 properties and was working towards implementing a PPII rehabilitation project in GF6007 in 2020. Prior to rehabilitation starting, MMSD halted the used of CIPP lining as a lateral rehabilitation technique, citing defect concerns and has since been conducting a studying on the issue. As MMSD was the funding source for our PPII rehabilitation, the City has halted our efforts pending further MMSD guidance.
City Wide	I.D.D.E.	2020	City has an active I.D.D.E. program
City Wide	MMSD T.A.T. On-going planning	2020	MMSD T.A.T. 2020 Planning meeting attendance (staff and/or consultants).
GF2002	Sanitary Sewer Capacity Study and Alternative Sewer Analysis	2020	A study to look at routing and sizing of future sewer and/or upgrades to existing sewer with the aim of providing adequate sewer service while trying to alleviating existing capacity concerns.

Overflow Response Plan

There were no SSOs in 2020 and the City has not had an SSO in 18 years. The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.

In 2020, there were 112 complaints (approximately 0.94% of properties in the City) received by our Department of Public Works related to sanitary sewer issues. Of the 112 complaints, there were 78 basement backups due to City issues and 34 backups due to private lateral issues. It should be noted that the City experienced a significant rainfall event on August 2, 2020 that dropped approximately 4.7” of rain in a 24 hour period.
In most cases the cause of the backup is due to private lateral defects. In the event of a back-up, City crews immediately proceed to the call site and determine if any mainline sewers or manholes show evidence of backups. If the City mainline sewer is surcharged, the crews clean the main line sewer in the problem area.

Residents are notified of the findings and, if required, possible solutions suggested. City policy defines that owners are fully responsible for the lateral from the house to the main, including that portion of the lateral within the right-of-way. In some cases, the City may assist the owner with the use of our lateral push camera to help document and located the issue with the lateral.

System Evaluation and Capacity Assurance Plan

The City was not initially required to complete a SECAP. A system model as part of the MMSD 2020 Facilities Plan was completed and all pipes 12-inches or larger were modeled. The City will model sewers on an as needed basis should a question arise regarding capacity, I/I or new development.

Communication Plan

The Communication Plan articulates the process for reporting to various stakeholders the implementation activities and performance of the CMOM Program. This plan states the objectives for communications and describes a set of complementary strategies for achieving those objectives. Performance measures for communications strategy implementation are also provided in this report as part of Attachment A.

City Engineering and Public Works Division employees are aware of the various protocols for responding to citizen complaints, basement backups, and possible overflows. After hours calls regarding SSO issues are received by the Greenfield Police Departments Dispatch Center. Those employees are trained only to refer all calls to the DPW supervisor on call.

Development Design Manual / Development Review Issues

In 2010 the City completed work on a comprehensive infrastructure and development design manual. This manual provides detailed standards for the design, construction and inspection of new sanitary sewer infrastructure and refers developers to MMSD and other industry standards. This manual is available on-line or by hard copy. While not directly related, the City has also made several Municipal Code related changes to support the use of Green Infrastructure as part of development design.

As part of commercial development project review, the City provides an extra effort to evaluate and eliminate potential sources of I&I in older buildings as part of re-development and reuse of the property.

CMAR Reporting

As required, the 2020 Annual CMAR Report will be submitted to the WI DNR in 2021 by the required deadline. The City continues to maintain an "A" rating for both the Financial Management and Collection Systems portions of our annual CMAR report to the WI DNR.

Financial Management

For 2020, the City sanitary sewer fund has $16,530,382 invested in capital assets, $70,457 in restricted net position and unrestricted net position of $11,571,665. The City currently has an "Aa2" bond rating, which is considered in very strong capacity to meet its financial commitments, differing from the highest rating only in small degree.

Public Education and Outreach

The City had worked with Watts Communication to prepare and provide public education videos, including sanitary sewer operations. This information is available from the City web site (link below) and/or City public access cable TV channel as needed:

http://www.ci.greenfield.wi.us/242/Neighborhood-Services

The City continues to provide a variety of links to other public agency web sites (MMSD, WI DNR, UW Extension, etc.) from our City web site.

Private Property Inflow/Infiltration Program

With the closure of closure of our Greener Greenfield PPII Program, the City transitioned over to a new PPII program format in late 2017. This new program was in cooperation with the larger MMSD PPII program initiative to help reduce PPII. Flow metering was conducted in sewershed GF6007 from September 2017 to April 2018 to help establish flow levels. Following the flow metering, in November of 2018 the City entered into a work plan with MMSD to provide educational and informational materials to residents and to perform property and lateral investigations for up to 215 properties in sewershed GF6007. Of the 215 properties notified, 67 chose to participate in the actual investigative process. Following our investigation, the City was working towards a PPII rehabilitation project in 2020, however prior to starting any rehabilitation, MMSD halted the used of CIPP lining as a lateral rehabilitation technique, citing defect concerns and has since been conducting a studying on the issue. As MMSD was the funding source for our PPII rehabilitation program, the City has halted our efforts pending further MMSD guidance on the issue. Outside of the Greenfield PPII program, 5 properties had rehabilitation performed in 2020 at their own expense.

Capital Improvement Program (CIP) Assessment and Rehabilitation

As part of our Capital Improvement Program, the City routinely makes an effort to assess and rehabilitate sanitary assets within the limits of a given project. The City conducts pre-construction assessments of the system in the CIP project area to assure that we are working with the current system assessments. Current City practice is to place an internal / external seals (see link below) on sanitary manholes within a given CIP project limit when possible. Currently 1058 out of 3607 (29.3%) of the public manholes in our system have internal / external seals.
http://www.adaptorinc.com/internal-external-adaptor-manhole-seal.html

2. MANAGEMENT PLAN

The Management Plan and Asset Management program were completed as a single element as part of the City's CMOM Program. The Management Plan describes the goals and objectives of the City related to sanitary sewers as well as the strategies and tactics the City is employing to achieve the goals and the performance measures being used to assess attainment of the goals.

The Asset Management Plan describes the objectives, strategies, and tactics specifically related to asset management in more detail than is described in the Management Plan. These objectives are related to asset information, asset maintenance, asset rehabilitation and replacement, levels of service, and cost minimization.

Many of the City's asset management objectives related to the sanitary sewer collection system were and are being met. The City worked to implement the near-term and long-term objectives of the Asset Management Plan related to sanitary sewer system conveyance. The bulk of this work is related to asset listings and work management (preventive, predictive, and corrective maintenance work).

Defined performance measures for 2020 and an evaluation of the City's performance using the defined measures are presented in Attachment A. The review of the performance using the defined measures is intended to be an evaluation of the City's status with respect to achieving its objectives. The review then provides impetus to continue existing strategies and tactics or to modify them to better achieve the objectives.

2.1 PERFORMANCE MEASURES

There are no changes to the defined performance measures for this annual report. Performance measures were developed for each of the nine goals set in the original CMOM Management Plan. The following describes each goal, objective of the goal, and the related performance measures.

GOAL 1: Comply with the WPDES permit concerning sanitary sewer overflows

Objective of Goal 1: Ensure procedures are in place to identify SSOs, report SSOs to the WDNR, and mitigate impacts from the SSOs per the WPDES permit.

Performance Measures for GOAL 1, Comply with the WPDES permit concerning sanitary sewer overflows:

- Development of Overflow Response Plan (ORP) by October 2009
  - An ORP was developed by October 2009 and last updated in March 2018. The ORP is in use as needed.

- Development of Communication and Audit Plan by October 2009
  - A Communication and Audit Plan was developed by October 2009 and last updated in March 2018 and is currently in use as needed.

- Recording and tracking of annual number of SSO's. Tracking of SSO reporting to WDNR and MMSD (% on time).
  - There were no SSOs in 2020 and the City has not had an SSO in 18 years.
  - The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.
  - There were 112 complaints in 2020 (approximately 0.94% of properties in the City). Of the 112 complaints, there were 78 basement backups due to City issues and 34 backups due to private lateral issues.

- Recording of staff training (type and hours by each staff member) on SOP updates and additional training requirements and training date reported in CMOM annual report.
  - The City attends refresher and certification training as needed to remain in compliance.
  - Through the years, the City has had several of our Engineering and DPW staff trained through the NASSCO PACP, MACP and LACP training processes, and more recently NASSCO Inspector Training and Certification Programs for manholes and CIPP inspector training programs. Current NASSCO certifications area as follows:

PACP	2 Engineering staff & 4 DPW staff
MACP	2 Engineering staff & 4 DPW staff
LACP	2 Engineering staff & 1 DPW staff
ITCP – MH	3 Engineering staff
ITCP – CIPP	3 Engineering staff

  - The City is regularly represented at MMSD TAT meetings.
  - The City is regularly represented at the MMSD Inspection Conference.
  - In 2020, the City Plumbing Inspector attended 33 hours of continuing education to remain current with the necessary plumbing certifications as follows:
    - Master Plumber Credential.
      - Course ID # 18116: Watts Safety & Water Control Valve 3 hours
      - Course ID # 18308: Plumbing Topics 3 hours
      - Course ID # 18309: Cross Connection Control Dep. Update 3 hours
      - Course ID # 9774: Southeastern Plumbing Inspectors Mtg 3 hours
    - Cross Connection Control Tester Credential
      - Course ID # 18116: Watts Safety and Water Control Valve 3 hours
      - Course ID # 18308: Plumbing Topics 3 hours
    - Commercial Plumbing Inspector Credential
      - Course ID # 9774: Southeastern Plumbing Inspectors 3 hours
      - Course ID # 15359: Innovations in Plumbing 3 hours
      - Course ID # 18116: Watts Safety and Water Control Valve 3 hours
      - Course ID # 18308: Plumbing Topics 3 hours
      - Course ID # 18309: Cross Connection Control Dep. Update 3 hours

- Percentage of collection system televised annually. Number of manholes inspected annually.
  - 69,922 lineal feet of sewer were televised in 2020 (8.9% of system). On average, the City has been televising 7.8% of our system annually.
  - 897 manholes were inspected in 2020 (24.9% of system). On average, the City has been inspecting 25.2% of our system annually.

- Complete annual CMAR and CMOM reports.
  - As required, the initial 5-year audit report was provided to MMSD by June 30th, 2015. Separate 5-year audit reports are no longer required as routine audit data is included as part of this report.
  - As required, the 2020 Annual CMAR Report will be submitted to the WI DNR in 2021 by the required deadline. The City continues to maintain an "A" rating for both the Financial Management and Collection Systems portions of our annual CMAR report to the WI DNR.

GOAL 2: Minimize the occurrence of preventable overflows

Objective 2.1: Implement projects that will have immediate and long-term impact on known operation and capacity related overflows

Performance Measures for GOAL 2, Minimize the occurrence of preventable overflows:

- Length of sanitary sewer cleaned and televised annually
  - 201,277 lineal feet of sanitary sewer was cleaned in 2020 (25.5% of system). On average, the City has been cleaning 21.8% of our system annually.
  - 69,922 lineal feet of sanitary sewer was televised in 2020 (8.9% of system). On average, the City has been televising 7.8% of our system annually.

- Number of Manholes inspected annually
  - 897 manholes were inspected in 2020 (24.9% of the system). On average, the City has been inspecting 25.2% of our system annually.

- Annual sanitary sewer collection system expenditures
  - City sanitary sewer costs are tracked over time and the City's sanitary sewer budget is adjusted annually, as needed. Expenditures in 2020 for the City sanitary sewer collection system totaled $4,132,759 ($1,727,200 excluding the MMSD Usage Rate fee of $2,405,559).

- Length of sewer easement inspected annually
  - As part of the normal sewer cleaning maintenance Public Works crews are instructed to clear or keep clear sanitary ROW and easements and to mark off road manholes. If repairs or additional work is needed, a work order is issued and tracked. The City has approximately 85.4 acres bounded by sanitary sewer easements.

- Number of private property I/I sources removed (include both Greenfield PPII and non-Greenfield PPII properties).
  - Following a PPII investigation in sewershed GF6007, the City was working on a PPII rehabilitation project for 67 properties in 2020. Prior to starting any rehabilitation, MMSD halted the use of CIPP lining as a lateral rehabilitation technique, citing defect concerns and has since been conducting a studying on the issue. As the City was planning on using CIPP lining, and given that MMSD was the funding source for our PPII rehabilitation program, the City was forced to halt our efforts pending further MMSD guidance on the issue. To date, we have yet to receive future guidance on the use of CIPP lining. Outside of the Greenfield PPII program, 5 properties had rehabilitation performed in 2020 at their own expense.

- Amount of flow reduction for a particular sewershed
  - Although not quantified, City records indicate that rehabilitation was performed on sanitary sewer assets in 15 of the City's 42 sewersheds in 2020. Public rehabilitation included installing solid-

gasketed covers, chimney seals and other rehabilitation on chimney, cone, barrel and bench sections. Private PPII efforts are also listed in the table below.

- Flow metering and smoke testing is done on an as needed basis.

Table 3
I/I Reduction Activities

Sewer-shed ID	Cover/Gasket	Frame	Int / Ext Seal	Chimney	Other MH	PPII Sources Disconnected DS / PV / SP	PPII Sources Disconnected Lateral
GF1004	16		9	5			
GF1005	18						
GF1006	23						
GF1011	3						
GF1014	3						
GF1016	2						
GF1036	2						
GF2002	1		1				1
GF2003	1						
GF2033			1	1			
GF6007	17		26	26		1	2
GF6008	3						
GF6010	5						
GF6015							2
MI6148	3						

- Documentation of inspection and maintenance activities of the City's sanitary sewer collection system
  - 201,277 lineal feet of sanitary sewer was cleaned in 2020 (25.5% of system). On average, the City has been cleaning 21.8% of our system annually.
  - 69,922 lineal feet of sanitary sewer was televised in 2020 (8.9% of system). On average, the City has been televising 7.8% of our system annually.
  - 897 manholes were inspected in 2020 (24.9% of the system). On average, the City has been inspecting 25.2% of our system annually.

- Documented number of FOG (Fats, Oils + Grease) related maintenance activities required annually
  - Ordinance #2817 was approved in December 2014 thereby formerly establishing Chapter 34 of the Greenfield Municipal Code to establish policies related to discharges into the public sewerage collection system and our FOG program. Prior to that, our Department of Public Works had an informal FOG program in place since 2007.
  - Since 2016, the City maintains a GIS inventory of food service facilities that contain a grease trap(s) as part of their plumbing configuration. The City currently has 127 grease traps inventoried in our collection system. In 2018 the City approved Ordinance #2872 which amended Chapter 34 of the Greenfield Municipal Code further clarifying food service facility grease interceptor maintenance requirements. A copy of Chapter 34 (as last revised) was mailed to all property owners in early 2018 that were on our food service facility inventory list to make there aware of current requirements. Any new food service facility constructed in 2018 and beyond will be provided with the requirements of Chapter 34 as part of their City approval process or in

advance of their occupancy. City staff continue to work to enhance its GIS system as needed to allow the City to map, track and manage its FOG program more efficiently.
- Beginning with our annual inspection cycle (July 2018), our inspectors begin to ask to view copies of grease interceptor maintenance records when performing their annual liquor license inspections. If maintenance records can't be produced or if the records produced appear to be inadequate, the City Inspector will refer the matter to the City Plumbing Inspector for follow-up under the assumption that the grease trap facilities are not being properly maintained.
- In 2020, the City inspected 66 properties for FOG activity as part of our annual liquor license inspection process.
- The City is currently working on procedures to follow-up on FOG inspection activities for those properties that are not part of the annual liquor license inspection process. These inspections will likely be performed by the City Health and Sanitation Office who performs annual inspections of food establishments.
- A documented FOG area hot spots list was established in 2015 and is updated annually. These areas are mapped in our GIS system. Of the 56 hotspot locations in our inventory, 7 are FOG related. All hotspots are typically checked and cleaned every three months.
- City staff continue to work to enhance its GIS system as needed to allow the City to map, track and manage its FOG program efficiently.

GOAL 3: Minimize the life cycle ownership costs of the collection system assets

1. *Objective 3.1: Ensure preventive maintenance is performed on pump stations, manholes, and sewer pipes on regular intervals.*

2. *Objective 3.2: Ensure that appropriate condition assessments are conducted on sewer assets*

3. *Objective 3.3: Continue a program for documenting the standards used on each new construction project, including private sewers and building sewers*

4. *Objective 3.4: Establish sufficient funding streams to ensure replacements of refurbishments before asset failures occur.*

Performance Measures for GOAL 3: Minimize life cycle ownership costs of the collection system assets

- Updating design, construction, inspection and testing requirements as required
  - In 2010, the City completed work on a comprehensive infrastructure and development design manual. This manual provides detailed standards for the design, construction and inspection of new sanitary sewer infrastructure and refers developers to the MMSD and other industry standards. This manual is available on-line or by hard copy.

- Updating the Replacement Schedule annually
  - Sanitary sewer system asset inspections, rehabilitation and replacement activities are tracked through our GIS system. As inspections, rehabilitation and replacements are completed, the GIS system is updated.
  - The City is working to develop long range sanitary sewer plans that looks at rehabilitation and replacement needs based on several factors such as pipe age, condition, criticality, etc. As we are still working to collect accurate system condition data, this plan may take some time to fully develop.

- Updating the City's sanitary sewer collection system asset inventory and rehabilitation / replacement budget annually
  - As system facilities are added or abandoned, the GIS system is updated to provide an accurate inventory of our sanitary sewer system.
  - City sanitary sewer costs are tracked over time and the City's sanitary sewer budget is adjusted annually, as needed. Expenditures in 2020 for the City sanitary sewer collection system totaled $4,132,759 ($1,727,200 excluding the MMSD Usage Rate fee of $2,405,559).

GOAL 4: Improve or maintain system reliability

Objective 4.1: Confirm the existence of any system components that do not function according to established reliability standards.

Performance Measures for GOAL 4, Improve or maintain system reliability:

- Number and severity of wet weather SSO's
  - There were no overflows from the City's sanitary sewer system in 2020, and the City has not had an SSO in 18 years.
  - The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.

- Number and severity of basement backups
  - In 2020, there were 112 complaints (approximately 0.94% of properties in the City) received by our Department of Public Works related to sanitary sewer issues. Of the 112 complaints, there were 78 basement backups due to City issues and 34 backups due to private lateral issues.

The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.

- Number of RCFA reports filed annually
  - There were no RCFA reports filed in 2020. SSOs did not occur in 2020.

- Number of private property I/I sources removed (include both Greenfield PPII and non-Greenfield PPII properties).
  - Following a PPII investigation in sewershed GF6007, the City was working on a PPII Rehabilitation project for 67 properties in 2020. Prior to starting any rehabilitation, MMSD halted the use of CIPP lining as a lateral rehabilitation technique, citing defect concerns and has since been conducting a studying on the issue. As the City was planning on using CIPP lining, and given that MMSD was the funding source for our PPII rehabilitation program, the City was forced to halt our efforts pending further MMSD guidance on the issue. To date, we have yet to receive future guidance on the use of CIPP lining. Outside of the Greenfield PPII program, 5 properties had rehabilitation performed in 2020 at their own expense.

- Amount of flow reduction for a particular sewershed
  - Although not quantified, City records indicate that rehabilitation was performed on sanitary sewer assets in 15 of the City's 42 sewersheds in 2020. Public rehabilitation included installing solid-gasketed covers, chimney seals and other rehabilitation on chimney, cone, barrel and bench sections.

- Meet MMSD Rules, Section 3.201, for maximum allowable flows within a particular metershed.
  - MMSD had previously identified one non-compliant metershed in the City - metershed MS0607 (contains sewershed GF6007 & GF6008). Since that time, the City has been working with MMSD and the City of Milwaukee to continue to identify and remove potential sources of I/I in this metershed in an effort to bring the metershed into compliance. Since 2011, sewershed GF6008 has been re-classified as compliant. A separate report is provided annually to the MMSD to report on the specific activity in this metershed. Given the complexity of the interconnectivity of sanitary sewer mains between Greenfield and Milwaukee, it is difficult for Greenfield to evaluate the effectiveness of our measures in the metershed. Further assessment of the metershed by MMSD to determine its current status may be warranted.
  - The City is continuously working to reduce the occurrence of I/I within the sanitary sewer system. Table 3 show rehabilitation efforts from public and private I/I sources that will reduce I/I throughout Greenfield. As the City proceeds with inspections throughout the system, additional sources of I/I will be removed.

GOAL 5: Reduce the potential threat to human health from sewer overflows

Objective 5.1: Confirm the existence of locations where system overflows could pose a threat to human health.

Objective 5.2: If such locations exist, develop response measures and investigate alternatives for eliminating the potential threat.

Performance Measures for GOAL 5: Reduce the potential threat to human health from sewer overflows

- Development of Overflow Response Plan (ORP) by October 2009
  - An ORP was developed by October 2009 and last updated in March 2018. The ORP is in use as needed.

- Recording and Tracking of annual number of SSO's. Tracking of SSO reporting to WDNR and MMSD (% on time).
  - There were no SSOs in 2020 and the City has not had an SSO in over 18 years.
  - The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.

- Updating of standard City SOP's
  - The City's ORP discusses standard operating procedures in the event of an overflow. Staff has been trained on procedures and the document is reviewed on a regular basis, minimum of annually.
  - Following the preparation of each annual report, CITY staff meets to discuss updated to CITY SOP's.

- Recording of staff training (type and hours by each staff member) on SOP updates and additional training requirements and training date reported in CMOM annual report.
  - The City attends refresher and certification training as needed to remain in compliance.
  - Through the years, the City has had several of our Engineering and DPW staff trained through the NASSCO PACP, MACP and LACP training processes, and more recently NASSCO Inspector Training and Certification Programs for manholes and CIPP inspector training programs. Current NASSCO certifications area as follows:

PACP	2 Engineering staff & 4 DPW staff
MACP	2 Engineering staff & 4 DPW staff
LACP	2 Engineering staff & 1 DPW staff
ITCP – MH	3 Engineering staff
ITCP – CIPP	3 Engineering staff

  - The City is regularly represented at MMSD TAT meetings.
  - The City is regularly represented at the MMSD Inspection Conference.
  - In 2020, the City Plumbing Inspector attended 33 hours of continuing education to remain current with the necessary plumbing certifications as follows:
    - Master Plumber Credential.
      - Course ID # 18116: Watts Safety & Water Control Valve 3 hours
      - Course ID # 18308: Plumbing Topics 3 hours
      - Course ID # 18309: Cross Connection Control Dep. Update 3 hours
      - Course ID # 9774: Southeastern Plumbing Inspectors Mtg 3 hours
    - Cross Connection Control Tester Credential
      - Course ID # 18116: Watts Safety and Water Control Valve 3 hours
      - Course ID # 18308: Plumbing Topics 3 hours
    - Commercial Plumbing Inspector Credential
      - Course ID # 9774: Southeastern Plumbing Inspectors 3 hours
      - Course ID # 15359: Innovations in Plumbing 3 hours
      - Course ID # 18116: Watts Safety and Water Control Valve 3 hours
      - Course ID # 18308: Plumbing Topics 3 hours
      - Course ID # 18309: Cross Connection Control Dep. Update 3 hours

GOAL 6: Provide adequate capacity to convey peak flow

Objective 6.1: Gain an understanding of the current system's ability to convey peak flows and what steps are necessary to address system capacity inadequacies.

Performance Measures for GOAL 6: Provide adequate capacity to convey peak flow:

- Recording and tracking of annual number of SSO's. Tracking of SSO reporting to WDNR and MMSD (percent on time).
  - There were no SSOs in 2020 and the City has not had an SSO in over 18 years.
  - The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.

- Annual sanitary sewer collection system funding
  - City sanitary sewer costs are tracked over time and the City's sanitary sewer budget is adjusted annually, as needed. Expenditures in 2020 for the City sanitary sewer collection system totaled $4,132,759 ($1,727,200 excluding the MMSD Usage Rate fee of $2,405,559).

- Percentage of collection system televised annually. Number of manholes inspected annually.
  - 69,922 lineal feet of sewer were televised in 2020 (8.9% of system). On average, the City has been televising 7.8% of our system annually.
  - 897 manholes were inspected in 2020 (24.9% of system). On average, the City has been inspecting 25.2% of our system annually.

- Number and severity of wet weather SSO's
  - There were no SSOs in 2020 and the City has not had an SSO in over 18 years.
  - The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.

- Number of private property I/I sources removed (include both Greenfield PPII and non-Greenfield PPII properties).
  - Following a PPII investigation in sewershed GF6007, the City was working on a PPII Rehabilitation project for 67 properties in 2020. Prior to starting any rehabilitation, MMSD halted the use of CIPP lining as a lateral rehabilitation technique, citing defect concerns and has since been conducting a studying on the issue. As the City was planning on using CIPP lining, and given that MMSD was the funding source for our PPII rehabilitation program, the City was forced to halt our efforts pending further MMSD guidance on the issue. To date, we have yet to receive future guidance on the use of CIPP lining. Outside of the Greenfield PPII program, 5 properties had rehabilitation performed in 2020 at their own expense.

- Amount of flow reduction for a particular sewershed
  - Although not quantified, City records indicate that rehabilitation was performed on sanitary sewer assets in 15 of the City's 42 sewersheds in 2020. Public rehabilitation included installing solid-gasketed covers, chimney seals and other rehabilitation on chimney, cone, barrel and bench sections.
  - Flow metering and smoke testing is done on an as needed basis.

- Percent of the City included in the sanitary sewer model
  - Approximately 17% of pipes within the City's sanitary sewer system are 12 inches or larger and were modeled as part of the MMSD 2020 Facilities Plan. The City models sewers on an as needed basis should a question arise regarding capacity or I/I. These models are maintained should additional issues arise within the same area.

GOAL 7: Manage Infiltration and Inflow (I/I)

Objective 7.1: Understand the current level of I/I in the system, the extent to which it poses a threat to local and regional system operation, sources of I/I, and potential remedial measures.

Objective 7.2: Establish a program to reduce I/I in situations where I/I results in service problems, such as overflows, building sewer backups, and flows in excess of acceptable levels.

Performance Measures for GOAL 7, Manage Infiltration and Inflow (I/I):

- Length of sanitary sewer televised
    - 69,922 lineal feet of sewer were televised in 2020 (8.9% of system). On average, the City has been televising 7.8% of our system annually.

- Number of manholes inspected
    - 897 manholes were inspected in 2020 (24.9% of system). On average, the City has been inspecting 25.2% of our system annually.

- Number of flow meters within the City's collection system (annual basis)
    - Flow metering and smoke testing is done on an as needed basis. There were no City flow meters in our system in 2020.

- Funding for I/I removal (annual basis)
    - Funding for the removal of I/I from the public sanitary sewer system is addressed through the annual City sanitary sewer budget process.
    - Funding for the removal of I/I from the private property side is addressed by private property owners, or in conjunction with City work plans approved by the MMSD as part of their larger MMSD PPII program initiative.

- Reduction in peak flow, per sewershed (annual basis)
    - Although not quantified, City records indicate that rehabilitation was performed on sanitary sewer assets in 15 of the City's 42 sewersheds in 2020. Public rehabilitation included installing solid-gasketed covers, chimney seals and other rehabilitation on chimney, cone, barrel and bench sections.

- Dollar per gallon of peak flow removed (annual basis). This determines the cost-effectiveness of the rehabilitation / replacement methodologies implemented. This value may vary year to year, depending upon the characteristics of the individual projects implemented, but the goal is for a leveling or reduction of this figure as the understanding of the optimum technology to implement for a given situation is better understood.
    - Because peak flow reduction was not evaluated, the cost per gallon of peak flow removed was not determined.

GOAL 8: Protect collection system worker health and safety

Objective 8.1: Make all collection system workers aware of potential hazards, equip them with proper safety gear, and provide them training in dealing with these hazards.

Performance Measures for GOAL 8, Protect collection system worker health and safety

- Documentation of office and field training of sewer collection system staff
    - The City's ORP discusses standard operating procedures in the event of an overflow. Staff has been trained on procedures and the document is reviewed on a regular basis at least annually. Training on equipment use is on-going, generally by the manufacturer. Confined space entry training follows a defined SOP. Tailgate safety meetings are conducted on a regular basis.

- Recording of staff training (type and hours by each staff member) on SOP updates and additional training requirements and training date reported in CMOM annual report.
    - The City attends refresher and certification training as needed to remain in compliance.
    - Through the years, the City has had several of our Engineering and DPW staff trained through the NASSCO PACP, MACP and LACP training processes, and more recently NASSCO Inspector

Training and Certification Programs for manholes and CIPP inspector training programs. Current NASSCO certifications area as follows:

PACP	2 Engineering staff & 4 DPW staff
MACP	2 Engineering staff & 4 DPW staff
LACP	2 Engineering staff & 1 DPW staff
ITCP – MH	3 Engineering staff
ITCP – CIPP	3 Engineering staff

- The City is regularly represented at MMSD TAT meetings.
- The City is regularly represented at the MMSD Inspection Conference.
- In 2020, the City Plumbing Inspector attended 33 hours of continuing education to remain current with the necessary plumbing certifications as follows:
  - Master Plumber Credential.
    - Course ID # 18116: Watts Safety & Water Control Valve 3 hours
    - Course ID # 18308: Plumbing Topics 3 hours
    - Course ID # 18309: Cross Connection Control Dep. Update 3 hours
    - Course ID # 9774: Southeastern Plumbing Inspectors Mtg 3 hours
  - Cross Connection Control Tester Credential
    - Course ID # 18116: Watts Safety and Water Control Valve 3 hours
    - Course ID # 18308: Plumbing Topics 3 hours
  - Commercial Plumbing Inspector Credential
    - Course ID # 9774: Southeastern Plumbing Inspectors 3 hours
    - Course ID # 15359: Innovations in Plumbing 3 hours
    - Course ID # 18116: Watts Safety and Water Control Valve 3 hours
    - Course ID # 18308: Plumbing Topics 3 hours
    - Course ID # 18309: Cross Connection Control Dep. Update 3 hours

- Inventory of tools / equipment updated annually, or as required.
  - The Division of Public Works has identified and inventoried critical tools and equipment and provides a specific storage location along with access controls. The use of the tools and equipment are tracked.
  - In late 2014, our Division of Public Works upgraded its primary work order database to streamline internal operations and allow for better tracking of projects, fleet management, general activities, staffing, inventory levels and related costs.

- Contractor on-call list updated annually
  - The City's contractor on-call list is updated annually

All of the individual performance measures and the value or status for 2020 are included in Attachment A of this report. A review of these indicates that the City is continuing to meet its objectives related to overflows, system maintenance, and rehabilitation of sanitary sewer system components.

2.2 MANAGEMENT PLAN REVISION

There were no changes made to the revised City's objectives, strategies, tactics and performance measures in 2020.

The City will continue conducting asset evaluation for all City owned facilities.

The City owns one CCTV truck and televises approximately 7.8% of the sanitary sewer system annually. In addition, the City owns a pump/vacuum truck for cleaning sewers. Sewers are cleaned by sewershed and approximately 21.8% of the system is cleaned annually. Additionally, "hot spots" are cleaned more frequently. The City has developed a "hot spots" list to address known problem areas. Manholes are inspected as mainline sewers are cleaned and televised. Preconstruction inspection on mainline sewers and manholes are conducted prior to street construction projects.

The City owns one portable lateral camera system for use with our PPII program and other investigations, as needed.

When needed, flow monitoring is normally completed in metersheds that are non-compliant with MMSD rules. I/I is evaluated and rehabilitation efforts conducted to remove specific sources of clear water entry into the sanitary sewer.

3. ASSET MANAGEMENT PROGRAM

In 2009, the City's Asset Management Program was completed as part of the CMOM Management Plan. There are no revisions to the existing CMOM Program. Ongoing asset management practices include condition assessment via CCTV and manhole inspection.

The City follows the protocol for sanitary sewer televising and defect coding developed by the National Association of Sewer Service Companies (NASSCO), including a Pipeline Assessment Certification Program (PACP) and a Lateral Assessment and Certification Program (LACP). Manholes are inspected utilizing a City manhole assessment methodology which meets, or exceeds NASSCO Manhole Assessment and Certification Program (MACP) standards. These protocol have resulted in a system condition assessment that is consistent throughout the City's system. The City uses this information, along with other data to help determine future asset maintenance and rehabilitation efforts. Through the years, the City has had several of our Engineering and DPW staff trained through the NASSCO PACP, MACP and LACP training processes, and more recently NASSCO Inspector Training and Certification Programs for manholes and CIPP inspector training programs. Current NASSCO certifications area as follows:

PACP	2 Engineering staff & 4 DPW staff
MACP	2 Engineering staff & 4 DPW staff
LACP	2 Engineering staff & 1 DPW staff
ITCP – MH	3 Engineering staff
ITCP – CIPP	3 Engineering staff

Currently, the City has been able to obtain the following annual inspection and maintenance averages for our public sanitary sewer system:

Sanitary sewer main

Cleaning	21.79% of our system
Televising	7.82% of our system
Rehabilitation	0.50% of our system

Sanitary manholes

Inspection	25.15% of its system
Rehabilitation	6.30% of its system

In addition to a routine cleaning cycles, "hot spots" are cleaned more frequently. Should root evidence be observed during the cleaning operation, roots are cut and removed or are chemically controlled. Extreme roots problem areas are attended to on an annual basis. Our hot spot list was established in 2015 and currently has 56 hot spot locations.

Ordinance #2817 was approved in December 2014 thereby formerly establishing Chapter 34 of the Greenfield Municipal Code to establish policies related to discharges into the public sewerage collection system and our FOG program. Prior to that, our Department of Public Works had an informal FOG program in place since 2007. Since 2016, the City maintains a GIS inventory of food service facilities that contain a grease trap(s) as part of their plumbing configuration. The City currently has 127 grease traps inventoried in our collection system. Also, in 2018 the City approved Ordinance #2872 which amended Chapter 34 of the Greenfield Municipal Code further clarifying food service facility grease interceptor maintenance requirements. A copy of Chapter 34 (as last revised) was mailed to all property owners in early 2018 that were on our food service facility inventory list to make there aware of current requirements. Any new food service facility constructed in 2018 and beyond will be

provided with the requirements of Chapter 34 as part of their City approval process or in advance of their occupancy. City staff continue to work to enhance its GIS system as needed to allow the City to map, track and manage its FOG program more efficiently.

Additional activities such as flow monitoring, dye water flooding, and smoke testing are undertaken as needed to address and identify source of I/I entering the sanitary sewer system.

The City has in-place a Geographical Information System (GIS) based mapping system which is our primary database tool for tracking and reporting on sanitary sewer televising, inspection, cleaning, rehabilitation, replacement and system inventory activities. This GIS system is available to City staff and our consulting engineers who perform work on behalf of the City. The City also uses a third party software for interfacing with our sanitary sewer televising data and generation of PACP pipe reports when needed. Together, these systems give our staff the ability to quickly locate assets and/or query the condition of our system and provides us with a reliable consistent means of record keeping and data retrieval City wide.

Given that the City has many irregular borders, we continue to work with our neighbors to clarify ownership and maintenance responsibilities for assets in/near these multi-jurisdictional locations. The City is also working to map private sanitary sewer systems which may not have been previously mapped in our system.

The Division of Public Works has incorporated the use of a database driven work order process. While the work order database is not tied directly into our GIS, the database driven work order process allows our Division of Public Works to streamline internal operations and allows for better tracking of projects and work flows, fleet management, staffing, inventory levels and related costs.

In 2018 the City's Engineering Division developed a 5-year sanitary sewer televising plan to assist our Division of Public Works with its sanitary sewer televising efforts. This 5-year plan was proposed to be completed by the end of 2022. The City has recently bid out a cleaning and CCTV contract to supplement Public Works televising efforts. By outsourcing some televising, we will be able to complete the current televising plan cycles by the end of 2021. The reason for us to do this is twofold. First, since we use our televising processes as the primary means for grading out sewer mains, this will allows us to have more of our system graded more quickly. Second, it allow the City to begin looking at developing a new long range televising plan for the future.

In addition to the items mentioned above, in recent years the City started to implement some addition measures to help us more quickly assess our overall system condition and to better plan for future system maintenance, rehabilitation and replacement needs. These measures include:

- In 2018, the City began implementing a pipe grading system. As sanitary main-line sewers are televised and assessments completed, the camera operator enters a pipe grade (1=minor defect >> 5=Significant defect) into our GIS system. Once entered, our system can be queried to show the number and location of the various pipe ratings. This effort continues into 2020.

- In 2019 the City began populating a pipe "connection" rating for each section of sewer main. This rating identifies cumulative pipe connections per main, so that any point we can determine how many property connections flow through a given main. This data will be used to help up identify how critical a given sewer main is, should it fail. This effort continues into 2020.

- In 2019 the City began populating a pipe "construction" rating for each section of sewer main. This rating takes various construction components into account such as pipe depth, pipe location, site impacts, traffic control needs, etc. This data will be used to help us factor in potential construction cost impacts into our long range repair and replacement planning. This effort continues into 2020.

4. OVERFLOW RESPONSE PLAN IMPLEMENTATION AND ONGOING ACTIVITIES

The Overflow Response Plan describes the measures the City has put in place to be aware of, respond to, and provide notification of, overflows from the City system. The City has the equipment and personnel to be the first responder for emergencies and overflows from the conveyance system.

There were no SSOs in 2020 and the City has not had an SSO in 18 years. The City has in place an ORP which addresses procedures for tracking and reporting of SSOs.

In 2020, there were 112 complaints (approximately 0.94% of properties in the City) received by our Department of Public Works related to sanitary sewer issues. Of the 112 complaints, there were 78 basement backups due to City issues and 34 backups due to private lateral issues. It should be noted that the City experienced a significant rainfall event on August 2, 2020 that dropped approximately 4.7" of rain in a 24 hour period.

4.1 EMERGENCY CONTACT LISTS

Contact information and contact procedures with respect to notification of an SSO are as follows:

1. The Superintendent of Public Works, as appropriate, should receive and convey to appropriate parties requests for additional personnel, material, supplies, and equipment.

2. The City has an intergovernmental agreement with metropolitan Milwaukee communities to share resources on an emergency basis. If shared resources are required to contain, clean-up, or rectify the SSO contact the following:

    a. Superintendent of Public Works (414-761-5372)
    b. Working Foreman (414-761-5374)
    c. Greenfield Police Dispatch Center – after hours (414-761-5301)

3. If there are public health concerns regarding an overflow, Wheaton Franciscan Healthcare - St. Francis Hospital and West Allis Memorial Hospital are available for health concerns 24 hours a day, 7 days a week at 3237 South 16th Street, Milwaukee, WI 53215; phone: (414) 647-5000 and 8901 W. Lincoln Avenue, West Allis, WI 53227; phone: (414) 328-6000, respectively.

4. The City currently contracts for a reverse 911 telephone contact system that can be used to notify property owners in the event of sanitary sewer/health emergency.

When an overflow has been confirmed and is a threat to public health, the following actions may be taken to notify the media:

1. Sewer investigator or response crew verifies overflow and reports back to the Superintendent of Public Works.

2. The Superintendent of Public Works informs the Director of Neighborhood Services, whom shall be the "first-line" of response to the media for any overflow.

3. After hours and weekend sewer overflows are reported to the Superintendent of Public Works, if available, or the Director of Neighborhood Services at the number(s) listed on Table 3.

4. Calls received by the dispatcher from the media at any time are referred to the Director of Neighborhood Services.

5. The following personnel are authorized to be interviewed by the media and are the designated spokespersons:

    a. Superintendent of Public Works
    b. Director of Neighborhood Services

Table 4 shows the public information contacts and the appropriate phone numbers.

Table 4
Public Information Contacts:

Contact Name	Office	Direct
(Primary Contact) Superintendent of Public Works John Laskoski	414-761-5372	414-238-8278 (Mobile)
(Backup Contact) Director of Neighborhood Services Jeff Katz	414-939-8322	414-617-8344 (Mobile)

5. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN (SECAP)

The SECAP describes the actions that the City has taken and will take to determine capacity requirements, evaluate system capacity, and undertake capacity enhancement measures.

The City was not initially required to complete a SECAP. A system model as part of the MMSD 2020 Facilities Plan was completed and all pipes 12-inches or larger were modeled. In addition to the capacity studies resulting from the MMSD 2020 Facilities Plan, the City evaluates capacity requirements, as needed, in small portions of the collection system for various reasons including paving projects and system component replacement projects. The City is waiting for the completion of the 2035/2050 Facility Planning process is further along to evaluate further SECAP needs.

6. COMMUNICAITON AND AUDIT PLANS

6.1 COMMUNICATION PLAN

The Communication Plan serves to document the types and frequency of communications that will be prepared and distributed regarding the implementation of the CMOM Program. The plan articulates the process for reporting to various stakeholders the implementation activities and performance of the CMOM Program. The plan states the objectives for communications and describes a set of complementary strategies for achieving those objectives.

The recommended objectives of the Communication Plan are as follows:

- Facilitate internal reporting on CMOM Program progress to employees;
- Provide information on CMOM Program progress to stakeholders;
- Report on short-term, long-term, and cyclical CMOM Program actions;
- Satisfy CMOM regulatory requirements for program communications, including any requirements of the Stipulation Agreement.

The City conducted several activities during 2020 to communicate the status of its CMOM Program to various stakeholders. The activities included in-house discussions with City staff, presenting activities and costs to the Board of Public Works and Common Council, and coordinating I/I reduction activities with the MMSD.

The City had worked with Watts Communication to prepare and provide public education videos, including sanitary sewer operations. This information is available from the City web site (link below) and/or City public access cable TV channel as needed:

http://www.ci.greenfield.wi.us/242/Neighborhood-Services

The City continues to provide a variety of links to other public agency web sites (MMSD, WI DNR, UW Extension, etc.) from our City web site.

With the closure of closure of our Greener Greenfield PPII Program, the City transitioned over to a new PPII program format in late 2017. This new program was in cooperation with the larger MMSD PPII program initiative to help reduce PPII. Flow metering was conducted in sewershed GF6007 from September 2017 to April 2018 to help establish flow levels. Following the flow metering, in November of 2018 the City entered into a work plan with MMSD to provide educational and informational materials to residents and to perform property and lateral investigations for up to 215 properties in sewershed GF6007. Of the 215 properties notified, 67 chose to participate in the actual investigative process. Following our investigation, the City was working towards a PPII rehabilitation project in 2020, however prior to starting any rehabilitation, MMSD halted the used of CIPP lining as a lateral rehabilitation technique, citing defect concerns and has since been conducting a studying on the issue. As MMSD was the funding source for our PPII rehabilitation program, the City has halted our efforts pending further MMSD guidance on the issue. Outside of the Greenfield PPII program, 5 properties had rehabilitation performed in 2020 at their own expense.

6.2 AUDIT PLAN

The Audit Plan serves to define the method, responsibilities, timeline, and documentation that will be used to complete an audit of the City's CMOM Program.

The City completed its required initial 5-year audit report and provided the report to MMSD by June 30th, 2015. Separate 5-year audit reports are no longer required as routine audit data is included as part of this report.

An Annual Report is completed by June 30th of each year describing previous CMOM related activities. This 2020 Annual Report will be the eleventh such report.

Attachment A

Performance Measures and Status for 2020

No.	Priority	Service Area	Business Process Area	Business Practice Characteristics / Objective	2019 Status	2020 Status / Performance Measure	City Comments
1	High	Policy - Mission Statement	Mission Statement	Mission statement is current and reflects goals & practices of GF with respect to collection system	In Compliance	In Compliance	Greenfield has a mission statement: "To efficiently collect and convey all of our customers' wastewater in the most cost-effective manner while remaining in compliance with WPDES permits, Clean Water Act, Wisconsin Law, and MMSD Rules and regulations. On-going reporting identifies standards and documents status
2	High	Policy - Customer Service	Quality	GF customer service policy relating to the quality of information we provide to the customer	In Compliance	In Compliance	We provide customers with timely and accurate information necessary to make informed decisions regarding the operation of their sanitary sewer service. Health related information may also be provided when confronted with certain sanitary sewer issues. Subject to budget constraints. On-going reporting identifies standards and documents status.
3	High	Policy - Customer Service	Quantity	The depth and breadth of information relayed to the public	In Compliance	In Compliance	We provide customers with timely and accurate information necessary to make informed decisions regarding the operation of their sanitary sewer service. Health related information may also be provided when confronted with certain sanitary sewer issues. Subject to budget constraints. On-going reporting identifies standards and documents status.
4	High	Policy - Customer Service	Reliability	The reliability of the information passed on to the customer	In Compliance	In Compliance	We provide customers with timely and accurate information necessary to make informed decisions regarding the operation of their sanitary sewer service. Health related information may also be provided when confronted with certain sanitary sewer issues. Subject to budget constraints. On-going reporting identifies standards and documents status.
5	High	Policy - Customer Service	Responsiveness	Responsiveness goals for customer service	In Compliance	In Compliance	We use a variety of tools to personally inform customers regarding the status of the sanitary sewer system, including telephone, official City web site, reverse 911, press release, and personal communications. Subject to budget constraints. On-going reporting identifies standards and documents status.
6	High	Policy - Customer Service	Environmental Acceptability	Policy on environment concerns of the customer	In Compliance	In Compliance	We respect all MMSD and WI DNR rules and regulations. Subject to budget constraints. On-going reporting identifies standards and documents status.
7	High	Policy - Customer Service	Cost / User Rates	Review rates versus costs	In Compliance 2018 OC = $3,897,550 2019 = $24.40/qtr. 2019 OC = $3,464,036 2020 = $24.56/qtr.	In Compliance 2019 OC = $3,464,036 2020 = $24.56/qtr. 2020 OC = $4,132,759 2021 = $24.88/qtr.	Sanitary sewer rates become effective in April based on the budget that was passed the previous November. The budget is based on covering the cost that the City expects to incur for employees, supplies, equipment and funding for future work for sanitary sewer system operations. Historical operational costs are also reviewed during budget preparation. Subject to budget constraints. On-going reporting identifies standards and documents status.
8	High	Policy - Regulatory Compliance	Permit Requirements	Permit requirements are being met	In Compliance	In Compliance	Greenfield currently complies with all regulatory and reporting requirements. On-going reporting identifies standards and documents status.
9	High	Policy - Regulatory Compliance	CMOM Regulations	CMOM regulations are being implemented	In Compliance	In Compliance	Greenfield is working with MMSD to comply with CMOM rules, regulations and reporting requirements. On-going reporting identifies standards and documents status.
10	High	Policy - Regulatory Compliance	Compliance Orders or Decrees	Organization under an order or decree	In Compliance	In Compliance	USEPA & WI DNR required MMSD to implement CMOM. As a result, Greenfield entered into a "Stipulation Agreement" with MMSD to implement a CMOM program. On-going reporting identifies standards and documents status.
11	High	Policy-Managing Utility Assets	Conditioning	Process to monitor condition of assets	In compliance. 21.5% of mains cleaned annually. 7.7% of mains CCTV annually. 0.7% of mains rehabbed annually. 22.8% of MHs inspected annually. 6.4% of MHs rehabbed annually.	In compliance. 21.8% of mains cleaned annually. 7.8% of mains CCTV annually. 0.5% of mains rehabbed annually. 25.2% of MHs inspected annually. 6.3% of MHs rehabbed annually.	Greenfield conducts routine CCTV and inspections to assess the condition of our assets. In many cases this is done in advance of CIP projects, or as part of cleaning efforts. Assets are repaired/replaced as needed when issues are found. Condition, assessment, rehabilitation and replacement records are kept in our GIS.
12	High	Policy-Managing Utility Assets	Rehabilitation	Process to monitor asset rehabilitation	In compliance. 21.5% of mains cleaned annually. 7.7% of mains CCTV annually. 0.7% of mains rehabbed annually. 22.8% of MHs inspected annually. 6.4% of MHs rehabbed annually.	In compliance. 21.8% of mains cleaned annually. 7.8% of mains CCTV annually. 0.5% of mains rehabbed annually. 25.2% of MHs inspected annually. 6.3% of MHs rehabbed annually.	Greenfield conducts routine CCTV and inspections to assess the condition of our assets. In many cases this is done in advance of CIP projects, or as part of cleaning efforts. Assets are repaired/replaced as needed when issues are found. Condition, assessment, rehabilitation and replacement records are kept in our GIS.
13	High	Policy-Managing Utility Assets	Replacement	Process to aid in asset replacement	In compliance. 21.5% of mains cleaned annually. 7.7% of mains CCTV annually. 0.7% of mains rehabbed annually. 22.8% of MHs inspected annually. 6.4% of MHs rehabbed annually.	In compliance. 21.8% of mains cleaned annually. 7.8% of mains CCTV annually. 0.5% of mains rehabbed annually. 25.2% of MHs inspected annually. 6.3% of MHs rehabbed annually.	Greenfield conducts routine CCTV and inspections to assess the condition of our assets. In many cases this is done in advance of CIP projects, or as part of cleaning efforts. Assets are repaired/replaced as needed when issues are found. Condition, assessment, rehabilitation and replacement records are kept in our GIS.
14	High	Policy-Managing Utility Assets	Disposal	Assets are disposed in an economical manner	In Compliance	In Compliance	We work with our contract solid waste disposal company which is licensed to dispose of hazardous material. Left in place abandonment's are abandoned in accordance with State Regulations and industry standards.

No.	Priority	Service Area	Business Process Area	Business Practice Characteristics / Objective	2019 Status	2020 Status / Performance Measure	City Comments
15	High	Policy - Work Management	Efficiency	Manage productively without waste	In Compliance	In Compliance	
16	High	Policy - Work Management	Prioritization	Process to prioritize	In Compliance	In Compliance	In addition to GIS data analysis to assess asset conditions, Public Works uses it's work order database to assign maintenance priorities to assets. Larger sanitary rehabilitation efforts are often coordinated out of the Engineering Division.
17	High	Policy - Work Management	Safety	Management supports safety measures	In Compliance	In Compliance	DPW maintains an active safety committee. Contractors are expected to comply with current safety regulations.
18	High	Policy - Work Management	Quality of Life	Management recognizes needs and issues in work place	In Compliance	In Compliance	
19	High	Policy - Work Management	Proficiency	Staff is knowledgeable about their respective duties	In Compliance	In Compliance	
20	Medium	Maintenance - Corrective	Priority	Process to prioritize	In Compliance	In Compliance	The City uses it's work order database and/or GIS system to assign a priority for each corrective maintenance issue. The level of priority is determined at the time of data entry. Assets are not yet prioritized system wide.
21	Medium	Maintenance - Corrective	Backlog	Process to reduce backlog	In Compliance	In Compliance	In the event of a backlog, a priority list is established. Crews are dispatched to make an assessment of each issue. After assessments are made the priorities may change.
22	Medium	Maintenance - Gravity System Preventive	Maintenance Prioritization	Process to prioritize	In compliance - on-going	In compliance - on-going	Greenfield conducts regular CCTV and inspections to assess the condition of the sanitary system. As maintenance issues are found they are prioritized for repairs. Work orders for repair may be issued if work is done in house or repairs might be done as part of a CIP project. Assets are not yet prioritized system wide.
23	Medium	Maintenance - Gravity System Preventive	Hydraulic Cleaning	Establish cleaning program	In compliance. 21.5% of mains cleaned annually.	In compliance. 21.8% of mains cleaned annually.	A program is in place to jet clean sanitary system and remove solid debris materials when large amounts are found. Cleaning activities are tracked in our GIS system. Goal is to clean mains on a 5 year cycle (20%).
24	Medium	Maintenance - Gravity System Preventive	FOG	Establish FOG program	In compliance.	In compliance.	We have established a FOG area hot spots list and these spots are attended to every three months. City adopted a formal FOG ordinance in late 2014 and updated maintenance requirements in 2017. The City has a GIS inventory of grease trap locations and an active FOG inspection program.
25	Medium	Maintenance - Gravity System Preventive	Root Control	Root control program in place	In Compliance	In Compliance	As root growth in the sanitary system is an on going problem, DPW crews cut and remove roots or try to control them chemically when roots are confronted during regular cleaning operations. Extreme root problem areas are typically noted and attended to more frequently. Lining of sanitary mains is also helping control future root issue in the main line sewers.
26	Medium	Maintenance - Gravity System Preventive	Manholes	MH Inspection program	In compliance. 22.3% of MHs inspected annually.	In compliance. 25.2% of MHs inspected annually.	A program is in place. As part of all proposed CIP projects, sanitary manholes undergo a pre-construction inspection to identify rehabilitation needs. Following CIP and private development projects, new or affected sanitary MH's undergo a post-construction MH inspection to document changes that were made and to serve as the current MH assessment. Additionally, DPW crews perform routine MH inspections as part of their sewer cleaning and televising efforts. Goal is to inspect manholes on a 5 year cycle (20%).
27	Medium	Maintenance - R.O.W.	Prioritize	Program to prioritize	In Compliance	In Compliance	As part of the normal sewer cleaning maintenance Public Works crews are instructed to clear or keep clear sanitary easements and ROW and to mark off road manholes. If maintenance or additional work is needed a work order will be issued and tracked.
28	Medium	Maintenance - R.O.W.	Cross-country Easements and ROW	Program to maintain	In Compliance	In Compliance	As part of the normal sewer cleaning maintenance Public Works crews are instructed to clear or keep clear sanitary easements and ROW and to mark off road manholes. If maintenance or additional work is needed a work order will be issued and tracked.
29	Medium	Maintenance - R.O.W.	Residential Easements and ROW	Program to maintain	In Compliance	In Compliance	As part of the normal sewer cleaning maintenance Public Works crews are instructed to clear or keep clear sanitary easements and ROW and to mark off road manholes. If maintenance or additional work is needed a work order will be issued and tracked.
30	High	Maintenance - Emergency	Program	Program to address emergencies with system	In Compliance	In Compliance	Public Works has a confined space entry team trained to make entries to the sanitary for any maintenance or blockages which need to be performed manually. We also have a confined space rescue team which trains twice per year and is coordinated with the Greenfield Fire Department.
31	Medium	Operations - Corrosion Control	Program	Program in place to test for corrosion	In compliance. 7.7% of mains CCTV annually. 22.3% of MHs inspected annually.	In compliance. 7.8% of mains CCTV annually. 25.2% of MHs inspected annually.	A program is in place. As part of sewer televising and MH inspection efforts, the City performs a visual assessment of our assets for corrosion. Goal is to inspection mains on a 5 year cycle (20%).
32	Medium	Operations - Flow Monitoring	Gravity Systems	Flow monitoring program	In Compliance	In Compliance	Greenfield performs flow monitoring and analysis as needed.

No.	Priority	Service Area	Business Process Area	Business Practice Characteristics / Objective	2019 Status	2020 Status / Performance Measure	City Comments
33	Medium	Technical - Engineering	As-builts	As-builts kept and records updated	In Compliance	In Compliance	Prior to approval, new mains and manholes are added to GIS system. Greenfield prepares as-built drawings for all new public sanitary sewer. Sanitary sewer construction and as-built plans are kept in electronic PDF format and are available by an database index search, or by selecting a GIS map feature (pipe/MH) and accessing a link through our GIS system.
34	Medium	Technical - Engineering	Asset inventory	Complete inventory of system assets	In Compliance	In Compliance	Greenfield maintains CAD and GIS based mapping systems for our sanitary sewer system assets. Our GIS system contains detailed asset information such as age, material, size, length, etc. as well as asset condition data.
35	Medium	Technical - Engineering	System Maps	System maps are up to date	In Compliance	In Compliance	Greenfield maintains sanitary sewer system maps based on P.L.S.S Sections. Additionally, the City has extensive CAD and GIS map data containing sanitary sewer drainage areas, MMSD sewersheds and MMSD metersheds.
36	Medium	Technical - Engineering	Gravity Lines	Design done in house or by consultants	In Compliance	In Compliance	Greenfield utilizes consulting engineers to perform design, and plan review for public sanitary sewers in accordance with standard design practices and regulations. Greenfield developed a Infrastructure Design Manual to help provide useful design parameters for utilities.
37	Medium	Technical - Engineering	Construction Inspection	Perform construction inspection	In Compliance	In Compliance	Greenfield provides construction inspection for all new public sanitary sewer installation and rehabilitation. Private connections into our public system are inspected as part of our plumbing inspection program through the Building Inspectors Office.
38	Medium	Technical - Engineering	Condition Assessment Priorities	Process in place to prioritize	In compliance - on-going	In compliance - on-going	Condition assessment priorities are usually based on CCTV or inspection results, CIP work or failures. In addition to our current MH Inspection database, the City has implemented a sewermain televising database and sewermain pipe rating system.
39	Medium	Technical - Engineering	Condition Assessment Smoke Testing	Perform smoke testing	In Compliance	In Compliance	Greenfield conducts smoke testing and analysis as needed
40	Medium	Technical - Engineering	Condition Assessment - Dye Testing	Perform dye testing	In Compliance	In Compliance	Greenfield conducts dye testing and analysis as needed
41	Medium	Technical - Engineering	Condition Assessment - CCTC	Perform CCTV and assess	In compliance. 7.7% of mains CCTV annually.	In compliance. 7.8% of mains CCTV annually.	Greenfield owns CCTV equipment and performs routine and troubleshooting condition assessments. The City has implemented sewermain televising database and a pipe rating system. This data will also help staff verify service lateral locations against as-built records if/when location questions arise. Our goal is to televise all mains on a 12 year cycle (8.3%).
42	Medium	Technical - Engineering	Condition Assessment - MH Inspection	Perform MH inspections	In compliance. 22.3% of MHs inspected annually.	In compliance. 25.2% of MHs inspected annually.	As part of our MH inspection program, MH's are inspected and photographic data is entered into our WEB GIS for data storage and analysis needs. Our goal is to inspect manholes on a 5 year cycle (20%).
43	Medium	Technical - Engineering	Condition Assessment - Corrosion Identification	Perform corrosion identification	In compliance. 7.7% of mains CCTV annually. 22.3% of MHs inspected annually.	In compliance. 7.8% of mains CCTV annually. 25.2% of MHs inspected annually.	As part of sewer televising and MH inspection efforts, the City performs a visual assessment of our assets for corrosion. Our goal is to inspect all manholes on a 5 year cycle (20%) and televise/inspect all mains on a 12 year cycle (8.3%).
44	Medium	Technical - Engineering	Condition Assessment - Gravity System Defect	Analysis done by a qualified professional	In compliance. 7.7% of mains CCTV annually. 22.3% of MHs inspected annually.	In compliance. 7.8% of mains CCTV annually. 25.2% of MHs inspected annually.	Greenfield has adopted NASSCO certification standards for assessing sanitary sewer assets. Select City staff who collect and analyze sanitary sewer condition assessments are NASSCO certified. Additionally, the City may utilize consulting engineers for a more in-depth analysis of specific sewer condition assessment data when needed. Our goal is to televise/inspect all mains on a 12 year cycle(8.3%) and inspect all manholes on a 5 year cycle (20%).
45	Medium	Technical - Engineering	Rehab / Replace - Gravity Line - Criteria	Criteria for determining rehab / replace	In Compliance	In Compliance	Replacement / rehabilitation is based on CCTV or inspection results, CIP work or system failures. Greenfield has adopted NASSCO certification standards for sanitary sewer assets. The City has implemented a sewermain televising database and a pipe rating system.
46	Medium	Technical - Engineering	Rehab / Replace - Gravity Line - Methods	Methods used for rehab / replace	In Compliance	In Compliance	Greenfield uses established practices for rehabilitation and replacement including, but not limited to open trench excavation, sewer lining, injection grouting, etc.
47	Medium	Technical - Engineering	Rehab / Replace - Gravity Line - Design Specs.	Have and maintain specs. for sewer construction	In Compliance	In Compliance	Greenfield has developed an Infrastructure and Development Design Manual. A section of this manual specifies sewer design and construction specification requirements. As a general guideline, the City follows the Standard Specifications for Sewer and Water Construction in Wisconsin, as last revised.
48	Medium	Technical - Engineering	Rehab / Replace - Gravity Line - Inspection	Inspection procedures for gravity sewer construction	In Compliance	In Compliance	Greenfield has developed an Infrastructure and Development Design Manual. A section of this manual specifies sewer design and construction specification requirements. As a general guideline, the City follows the Standard Specifications for Sewer and Water Construction in Wisconsin, as last revised.
49	Medium	Technical - Engineering	Rehab / Replace - Gravity Line - Testing	Required testing criteria for sewers	In Compliance	In Compliance	Greenfield has developed an Infrastructure and Development Design Manual. A section of this manual provides Greenfield specifications for inspection and testing of sanitary sewers. It refers to State standards.
50	Medium	Technical - Engineering	Rehab / Replace - Manhole - Criteria	Required criteria for determine MH replace / rehab	In Compliance	In Compliance	Rehabilitation is typically based on inspection results as part of CCTV, sewer cleaning, CIP work or system failures. City MH inspection program utilizes a City manhole assessment methodology which meets, or exceeds NASSCO Manhole Assessment and Certification Program (MACP) standards. City MH Inspection program on GIS allows for querying to determine subject manholes.

No.	Priority	Service Area	Business Process Area	Business Practice Characteristics / Objective	2019 Status	2020 Status / Performance Measure	City Comments
51	Medium	Technical - Engineering	Rehab / Replace - Manhole - Methods	Methods used for rehab / replace	In Compliance	In Compliance	Greenfield uses established practices for rehabilitation and replacement including, but not limited to open excavation, external seals, injection grouting, etc.
52	Medium	Technical - Engineering	Rehab / Replace - Manhole - Design Specs.	Have and maintain specs. for MH construction	In Compliance	In Compliance	Greenfield has developed an Infrastructure and Development Design Manual. A section of this manual specifies sewer design and construction specification requirements. As a general guideline, the City follows the Standard Specifications for Sewer and Water Construction in Wisconsin, as last revised.
53	Medium	Technical - Engineering	Rehab / Replace - Manhole - Inspection	Inspection procedures for MH construction	In Compliance	In Compliance	As part of our MH inspection program, MH's are inspected and photographed and data is entered into our GIS for data storage and analysis needs. Manholes are inspected utilizing a City manhole assessment methodology which meets, or exceeds NASSCO Manhole Assessment and Certification Program (MACP) standards. As a general guideline, the City follows the Standard Specifications for Sewer and Water Construction in Wisconsin, as last revised.
54	Medium	Technical - Engineering	Rehab / Replace - Manhole - Testing	Required testing criteria for MH	In Compliance	In Compliance	Greenfield has developed an Infrastructure and Development Design Manual. A section of this manual provides Greenfield specifications for inspection and testing of sanitary sewer manholes. It refers to State standards. As a general guideline, the City follows the Standard Specifications for Sewer and Water Construction in Wisconsin, as last revised.
55	Medium	Technical - Engineering	Capacity Assurance - Define Adequate Capacity	Define adequate capacity	On-going	On-going	Limited SECAP done w/ MMSD 2020 Facility Plam. Development reviews completed by City engineering consultant consistent with MMSD standards.
56	Medium	Technical - Engineering	Capacity Assurance - Flow Monitoring	Program for conducting flow monitoring	On-going	On-going	Limited SECAP done w/ MMSD 2020 Facility Plam. Development reviews completed by City engineering consultant consistent with MMSD standards.
57	Medium	Technical - Engineering	Capacity Assurance - Modeling	Modeling used to evaluate capacity issues and overflows	On-going	On-going	Limited SECAP done w/ MMSD 2020 Facility Plam. Development reviews completed by City engineering consultant consistent with MMSD standards.
58	Medium	Technical - Engineering	Capacity Assurance Management - Assurance Process	Have assurances process in place	On-going	On-going	Limited SECAP done w/ MMSD 2020 Facility Plam. Development reviews completed by City engineering consultant consistent with MMSD standards.
59	Medium	Technical - Engineering	Capacity Assurance - New Construction	Program and processes in place to aid in the determination of capacity assurance	On-going	On-going	Limited SECAP done w/ MMSD 2020 Facility Plam. Development reviews completed by City engineering consultant consistent with MMSD standards.
60	Medium	Technical - Engineering	Capacity Assurance - New Services & Taps	Program and processes in place to assure capacity that allows new service & taps	On-going	On-going	Limited SECAP done w/ MMSD 2020 Facility Plam. Development reviews completed by City engineering consultant consistent with MMSD standards.
61	Medium	Technical Support - Information Management	Overflow, Reporting, Notification and Record Keeping - Regulatory Agencies	Have information management system in place to handle regulatory reporting	In Compliance	In Compliance	Per adopted overflow response plan. The City of Greenfield has procedures for reporting overflows. On-going reporting identifies standards and documents status.
62	Medium	Technical Support - Information Management	Overflow, Reporting, Notification and Record Keeping - Affected Agencies and Public	Have information management system in place to handle informing affected agencies and public	In Compliance	In Compliance	Per adopted overflow response plan. If the City of Greenfield found the need to notify the Public or other affected Agencies of a Overflow, it would be posted on the Cities Web site, reverse 911, cable access TV station, also by Email to other agencies. On-going reporting identifies standards and documents status.
63	Medium	Technical Support - Information Management	Information Management - Maintenance	System in place to track maintenance records	In Compliance	In Compliance	Greenfield tracks the maintenance to the sanitary sewer through the use of our GIS and database driven work order processes. On-going reporting identifies standards and documents status.
64	Medium	Technical Support - Information Management	Information Management - Operations	System in place to track operations records	In Compliance	In Compliance	Greenfield tracks the maintenance to the sanitary sewer through the use of our GIS and database driven work order processes. Follow up analysis is performed as needed assist with operations. On-going reporting identifies standards and documents status.
65	Medium	Technical Support - Information Management	Information Management - Complaints	System in place to track complaints	In Compliance	In Compliance	Complaint records are kept and maintained in the Public Works work order database. Public Works uses it's work order data system to track residential sewer backups and any other sanitary sewer related claims. On-going reporting identifies standards and documents status.
66	Medium	Technical Support - Information Management	Information Management - System Coordination to Support Management	System in place to support management decisions	In Compliance	In Compliance	Systems in place are as follows: Monthly financial report, Monthly Labor tacking report, Maintenance report available through GIS. On-going reporting identifies standards and documents status.
67	Medium	Technical Support - Information Management	Information Management - Financial	Information in place to track costs and budgets	In Compliance	In Compliance	Systems in place are as follows: Monthly financial report, Monthly Labor tacking report, Maintenance report available through GIS. On-going reporting identifies standards and documents status.
68	Medium	Technical Support - Contingency Planning	Planning Process - Steps & Tasks	ORP exists showing steps and tasks for response	In Compliance	In Compliance	Per adopted overflow response plan. Asset damage is handled on a case by case basis. Police reports are filed and charges issued if individuals are caught. Sewer on call crew would be the first step of this process. On-going reporting identifies standards and documents status.
69	Medium	Technical Support - Contingency Planning	Planning Process - Public Notification	ORP exists which explains procedures	In Compliance	In Compliance	Per adopted overflow response plan. Public Works has a sanitary sewer on-call crew 24-7 weekends and holidays. Calls are directed through Emergency Dispatch on the non-emergency phone number. It is show on the Cities Web page and TV access channel. On-going reporting identifies standards and documents status..

No.	Priority	Service Area	Business Process Area	Business Practice Characteristics / Objective	2019 Status	2020 Status / Performance Measure	City Comments
70	Medium	Technical Support - Contingency Planning	Planning Process - Regulatory Notification	ORP exists which states requirements and processes for reporting	In Compliance	In Compliance	Per adopted overflow response plan. Public Works has a sanitary sewer on-call crew 24-7 weekends and holidays. Calls are directed through Emergency Dispatch on the non-emergency phone number. It is show on the Cities Web page and TV access channel. On-going reporting identifies standards and documents status..
71	Medium	Technical Support - Contingency Planning	Planning Process - Emergency Flow Control	ORP exists for managing flows	In Compliance	In Compliance	Per adopted overflow response plan. City has bypass pumps available if necessary. On-going reporting identifies standards and documents status.
72	Medium	Technical Support - Contingency Planning	Planning Process - Emergency Operations & Maintenance	ORP exists for emergency O&M	In Compliance	In Compliance	Per adopted overflow response plan. Public Works has a sanitary sewer on-call crew 24-7 weekends and holidays. Calls are directed through Emergency Dispatch on the non-emergency phone number. It is show on the Cities Web page and TV access channel. On-going reporting identifies standards and documents status..
73	Medium	Technical Support - Contingency Planning	Preparedness Training	ORP exists that describes training	In Compliance	In Compliance	Per adopted overflow response plan. City of Greenfield provides managers with preparedness training for it's managers. On-going reporting identifies standards and documents status.
74	Medium	Technical Support - Contingency Planning	Planning Process - Safety Issues	ORP exists and explains safety issues during overflow response	In Compliance	In Compliance	Per adopted overflow response plan. Reviewed by DPW safety committee. On-going reporting identifies standards and documents status.
75	Medium	Technical Support - Source Control	FOG - Permitting	FOG program in place	In Compliance	In Compliance	We have established a FOG area hot spots list and these spots are attended to every three months. City adopted a formal FOG ordinance in late 2014 and updated maintenance requirements in 2017. The City has a GIS inventory of grease trap locations and an active FOG inspection program.
76	Medium	Technical Support - Source Control	FOG - Inspection	Inspections conducted on a regular basis	In Compliance	In Compliance	We have established a FOG area hot spots list and these spots are attended to every three months. City adopted a formal FOG ordinance in late 2014 and updated maintenance requirements in 2017. The City has a GIS inventory of grease trap locations and an active FOG inspection program.
77	Medium	Technical Support - Source Control	FOR - Enforcement	FOG control measures are enforced	In Compliance	In Compliance	We have established a FOG area hot spots list and these spots are attended to every three months. City adopted a formal FOG ordinance in late 2014 and updated maintenance requirements in 2017. The City has a GIS inventory of grease trap locations and an active FOG inspection program.
78	Medium	Technical Support - Source Control	FOG - Compliance Assistance	If necessary, request compliance assistance from MMSD or State	In Compliance	In Compliance	We have established a FOG area hot spots list and these spots are attended to every three months. City adopted a formal FOG ordinance in late 2014 and updated maintenance requirements in 2017. The City has a GIS inventory of grease trap locations and an active FOG inspection program.
79	Medium	Technical Support - Source Control	FOG - Public Education	Program in place to educate public on FOG control	In Compliance	In Compliance	The City uses its website and a YouTube video to educate users. Our DPW, when dealing with FOG relates maintenance issues will also work with the property owner to help educate on FOG control. The City also makes voluntary financial contributions to the Sweetwater public information campaign. In 2018, the City mailed our FOG ordinance to all properties with grease traps.
80	Medium	Technical Support - Source Control	FOG - Performance Measures	Performance measures in place for FOG control	In Compliance	In Compliance	We have established a FOG area hot spots list and these spots are attended to every three months. City adopted a formal FOG ordinance in late 2014 and updated maintenance requirements in 2017. The City has a GIS inventory of grease trap locations and an active FOG inspection program.
81		Technical Support - Legal Support	Sewer Use Ordinance	Greenfield complies with MMSD rules / regulations	In Compliance	In Compliance	Sewer use criteria established by the Greenfield Municipal Code and other local agency requirements. Additionally, Greenfield has developed an Infrastructure and Development Design Manual to specify sewer design and construction specification requirements. Collectively, these components ensure that Greenfield is complaint with required regulations and that standards are being followed and status reports are provided.
82	Medium	Technical Support - Legal Support	FOG Ordinance	Greenfield complies with MMSD rules / regulations	In Compliance	In Compliance	We have established a FOG area hot spots list and these spots are attended to every three months. City adopted a formal FOG ordinance in late 2014 and updated maintenance requirements in 2017. The City has a GIS inventory of grease trap locations and an active FOG inspection program.
83	Medium	Technical Support - Legal Support	Inter-Municipal Agreements	We have / use inter-municipal agreements	In Compliance	In Compliance	Greenfield has several existing inter-municipal agreements pertaining to a variety of issues including cost sharing, maintenance responsibility, flow rates, etc. New inter-municipal agreements are executed as needed based on project particulars. City continues to work with other agencies to address issues when they arise and are not part of an established agreement.
84		Technical Support - Legal Support	Line Location	We comply with Diggers Hotline requirements	In Compliance	In Compliance	Greenfield is an active member with the Diggers Hotline system and provides locates and/or record drawing data upon request.
85		Technical Support - Legal Support	Liquated Damages and Lawsuits	Basement back-ups are resolved in a timely manner per adopted policy	In Compliance	In Compliance	Contractors are required to carry insurance and provide performance bonds. The City carries liability insurance.
86		Administrative Support - HR	HR - Table of Organization	Up to date table of organization	In Compliance	In Compliance	Greenfield has an organizational table
87		Administrative Support - HR	HR - Position Descriptions	Up to date descriptions exist	In Compliance	In Compliance	Job description can be found in our Human Resources Office
88	Medium	Administrative Support - HR	HR - Certification Requirements	Certifications that are required are maintained	In Compliance	In Compliance	Staff are current with NASSCO certification
89	Medium	Administrative Support - HR	HR - Training - Technical	Training is available or conducted	In Compliance	In Compliance	Training funds are available, subject to fiscal restraints

No.	Priority	Service Area	Business Process Area	Business Practice Characteristics / Objective	2019 Status	2020 Status / Performance Measure	City Comments
90	Medium	Administrative Support - HR	HR - Training - Skills	Training is available or conducted	In Compliance	In Compliance	Training funds are available, subject to fiscal restraints
91	Medium	Administrative Support - HR	HR - Training - Safety	Training is available or conducted	In Compliance	In Compliance	Training funds are available, subject to fiscal restraints
92	Medium	Administrative Support - HR	HR - Training - Compensation	Compensation of workers is comparable to regional and industry standards	In Compliance	In Compliance	New state law prohibits collective bargaining by City workers except for wages. Wage rates are established when new position are created.
93		Administrative Support - HR	HR - Safety Program - Safety Authority	A safety authority exists	In Compliance	In Compliance	Greenfield DPW has an active safety committee.
94		Administrative Support - HR	HR - Safety Program - Confined Space Entry	A confined space entry program is in place and is followed	In Compliance	In Compliance	Public Works has a confined space entry team trained annually to make entries to the sanitary for any maintenance or blockages which need to be performed manually. We also have a confined space rescue team which trains annually and is coordinated with the Greenfield Fire Department.
95	Medium	Administrative Support - HR	HR - Safety Program - General Safety Procedures	General safety procedures exist and are followed	In Compliance	In Compliance	Greenfield DPW has an active safety committee.
96	Medium	Administrative Support - HR	HR - Safety Program - Traffic Management	A traffic management safety program is followed per standard operation procedures	In Compliance	In Compliance	Greenfield DPW has an active safety committee.
97	Medium	Administrative Support - HR	HR - Safety Program - Trenching	A safety program follows standard operating procedures and we have trenching equipment	In Compliance	In Compliance	Greenfield DPW has an active safety committee.
98	Medium	Administrative Support - HR	HR - Safety Program - Safety Equipment	We have all the necessary safety equipment for the job	In Compliance	In Compliance	Greenfield DPW has an active safety committee.
99	Medium	Administrative Support - HR	HR - Safety Program - Performance Measures	Performance measures are in place	In Compliance	In Compliance	Workman's compensation records used as performance measure. City closely manages its workers comp MOD
100	Medium	Administrative Support - HR	HR - Workman's Compensation	There is a downward trend in the number of lost time accidents	In Compliance	In Compliance	No City workman's compensation pattern can be correlated to sanitary sewer activities
101	Medium	Administrative Support - Procurement	Vehicle Purchase and Repair	Process in place to facilitate vehicle purchase and repair	In Compliance	In Compliance	Vehicle purchase and repair is typically reviewed doing the budget cycle, subject to budget constraints.
102	Medium	Administrative Support - Procurement	Equipment Purchase and Repair	Process in place to facilitate equipment purchase and repair	In Compliance	In Compliance	Purchase and supplies of inventory are tracked within Public Work thru the database system and kept up to date by DPW.
103	Medium	Administrative Support - Procurement	Tools Purchase and Inventory	Process / program in place to facilitate purchasing of tools including the criteria used for purchase. The whereabouts of the tools are tracked	In Compliance	In Compliance	Purchase and supplies of inventory are tracked within Public Work thru the database system and kept up to date by DPW.
104	Medium	Administrative Support - Procurement	Spare Parts Purchase and Inventory	Process / program in place to facilitate spare part purchasing including the criteria used for purchase. The whereabouts of the spare parts are tracked	In Compliance	In Compliance	Purchase and supplies of inventory are tracked within Public Work thru the database system and kept up to date by DPW.
105	Medium	Administrative Support - Procurement	Supplies Purchase and Inventory	Process / program in place to facilitate purchasing supplies including the criteria used for purchase. The whereabouts of the supplies are tracked	In Compliance	In Compliance	Purchase and supplies of inventory are tracked within Public Work thru the database system and kept up to date by DPW.
106	Medium	Administrative Support - Financial	Budgeting	Various individuals have input into the budgeting process	In Compliance	In Compliance	The Department of Neighborhood Services as a whole makes the budget determination as it related to sanitary sewers. The Department of Neighborhood Services includes the Division of Public Works, Engineering Division (includes GIS), Building Inspection and City Planning.
107	Medium	Administrative Support - Financial	Rate Analysis	Rate Analysis is performed regularly	In Compliance 2018 OC = $3,897,550 2019 = $24.40/qtr. 2019 OC = $3,464,036 2020 = $24.56/qtr.	In Compliance 2019 OC = $3,464,036 2020 = $24.56/qtr. 2020 OC = $4,132,759 2021 = $24.88/qtr.	Sanitary sewer rates become effective in April based on the budget that was passed the previous November. The budget is based on covering the cost that the City expects to incur for employees, supplies, equipment and funding for future work for sanitary sewer system operations. Historical operational costs are also reviewed during budget preparation. Subject to budget constraints.
108	Medium	Administrative Support - Financial	Cost of Operation	Previous years expenditures are taken into account	In Compliance 2018 OC = $3,897,550 2019 = $24.40/qtr. 2019 OC = $3,464,036 2020 = $24.56/qtr.	In Compliance 2019 OC = $3,464,036 2020 = $24.56/qtr. 2020 OC = $4,132,759 2021 = $24.88/qtr.	Sanitary sewer rates become effective in April based on the budget that was passed the previous November. The budget is based on covering the cost that the City expects to incur for employees, supplies, equipment and funding for future work for sanitary sewer system operations. Historical operational costs are also reviewed during budget preparation. Subject to budget constraints.
109	Medium	Administrative Support - Financial	Cost of Maintenance	Previous years expenditures are taken into account	In Compliance 2018 OC = $3,897,550 2019 = $24.40/qtr. 2019 OC = $3,464,036 2020 = $24.56/qtr.	In Compliance 2019 OC = $3,464,036 2020 = $24.56/qtr. 2020 OC = $4,132,759 2021 = $24.88/qtr.	Sanitary sewer rates become effective in April based on the budget that was passed the previous November. The budget is based on covering the cost that the City expects to incur for employees, supplies, equipment and funding for future work for sanitary sewer system operations. Historical operational costs are also reviewed during budget preparation. Subject to budget constraints.
110	Medium	Administrative Support - Financial	Capital Improvement Plan	There is a CIP that extends 5 or more years into the future	In Compliance	In Compliance	City currently has a 8 year CIP (2018-2025). This plan is typically updated annually.

No.	Priority	Service Area	Business Process Area	Business Practice Characteristics / Objective	2019 Status	2020 Status / Performance Measure	City Comments
111	Medium	Administrative Support - Financial	Cost of Management	Previous years expenditures are taken into account	In Compliance 2018 OC = $3,897,550 2019 = $24.40/qtr. 2019 OC = $3,464,036 2020 = $24.56/qtr.	In Compliance 2019 OC = $3,464,036 2020 = $24.56/qtr. 2020 OC = $4,132,759 2021 = $24.88/qtr.	Sanitary sewer rates become effective in April based on the budget that was passed the previous November. The budget is based on covering the cost that the City expects to incur for employees, supplies, equipment and funding for future work for sanitary sewer system operations. Historical operational costs are also reviewed during budget preparation. Subject to budget constraints.
112	Medium	Administrative Support - Financial	Life Cycle Cost Analysis	Life cycle cost analysis is performed	In Compliance	In Compliance	The City maps and documents the age of all sanitary sewer assets, stores original asset costs, inspects the assets, and plans for the replacement.
113	Medium	Administrative Support - Financial	Insurance	We are self-insured	In Compliance	In Compliance	The City carries general liability insurance through The League of Wisconsin Municipalities Insurance Plan.
114	Medium	Administrative Support - Customer Service	Complaint Management	Complaints are prioritized or categorized	In Compliance	In Compliance	Staffing limits interaction to a case by case basis.
115	Medium	Administrative Support - Customer Service	Public Information	Staff is knowledgeable and able to inform the public on issues that arise	In Compliance	In Compliance	Staffing limits interaction to a case by case basis. City provides various methods to inform and educate the public on sanitary sewer related issues.
116	Medium	Administrative Support - Customer Service	Public Education	Staff is knowledgeable and able to inform the public on issues that arise	In Compliance	In Compliance	Staffing limits interaction to a case by case basis. City provides various methods to inform and educate the public on sanitary sewer related issues.
117	Medium	Non-Core Business Functions	Storm Drainage	Sewer department perform O&M on the storm system without disrupting delivery of sanitary sewer services	In Compliance	In Compliance	Operations within DPW are coordinated by the Superintended of Public Works and adjusted as needed to ensure that all responsibilities are addressed. Weather and other outside factors can impact operations. Call in system in place and payroll accounting system that supports sanitary sewer operations
118	Medium	Non-Core Business Functions	Street and Highways	Staff is required to perform normal job functions (plow, pave, repair, etc.) without disrupting delivery of sanitary sewer service	In Compliance	In Compliance	Operations within DPW are coordinated by the Superintended of Public Works and adjusted as needed to ensure that all responsibilities are addressed. Weather and other outside factors can impact operations. Call in system in place and payroll accounting system that supports sanitary sewer operations
119	Medium	Non-Core Business Functions	Parks and Recreation	Staff is required to perform normal job functions without disrupting delivery of sanitary sewer service	In Compliance	In Compliance	Parks and recreation department has no training or resources to support sanitary sewer operations and is responsible for their own operations.
120	Medium	Non-Core Business Functions	Other Departments	Other departments are allowed to disrupt scheduled activities with approval, but without disrupting delivery of sanitary sewer services	In Compliance	In Compliance	Other departments have no training or resources to support sanitary sewer operations, except for reporting suspected problems to Greenfield DPW.

This document, taken with the approved CMOM program and other approved City policy documents, are the basis for the

Where provided, percentage values reflect an average value for the total time data has been collected and not a specific yearly