



2017 CMOM ANNUAL SELF-AUDIT REPORT

The annual CMOM report to the Wisconsin Department of Natural Resources (WDNR) shall include the following three components:

1. Monitor program components implementation and effectiveness.
2. Evaluate effectiveness and incorporate any necessary changes.
3. Staff training on program changes and identified goals.

PERFORMANCE MEASURES

1. NPDES PERMIT VIOLATIONS

Based on the City of Beloit's 2017 Compliance Maintenance Annual Report (CMAR) the Beloit Water Pollution Control Facility had no permit violations for this reporting year. The plant met or exceeded all reporting criteria including influent flow, biochemical oxygen demand, total suspended solids, phosphorus, ammonia and biosolids quality. **The plant received an A rating on each reportable section of the CMAR.**

2. NUMBER OF LIFTSTATION FAILURES RESULTING IN BACKUPS

City staff performs corrective and preventative maintenance on all eleven of its liftstations. In 2017, the City experienced no backups due to liftstation failure. The City owns five portable back-up gen-sets. We have the capability to run the two main stations and move the other units from one station to the other in the event we have a long power failure event. One of the units is used at Colley Road Booster station but can be at Shirland Avenue if necessary. The City will replace the current screening system at Northwest pump station with a new Vertical Bar Screening Press to remove rags. The city has also ordered two factory rebuilt-back to new specs pumps to start replacing two existing pumps in 2017.

MONTHLY AVERAGE PLANT FLOW AND CAPACITY RELATED OVERFLOWS

The maximum flow rate for the plant is 11 MGD. The chart below shows the monthly flow average rate for 2016. The plant had no capacity related overflows during the calendar year.

| Month | Influent Avg. Flow MGD |
|-----------|------------------------|
| January | |
| February | |
| March | |
| April | |
| May | |
| June | |
| July | |
| August | |
| September | |
| October | |
| November | |
| December | |

3. COMPLIANCE MAINTENANCE REPORT

The plant has a documented and implemented preventive maintenance plan for all utility equipment. The maintenance plan includes frequency of intervals, types of lubrication, and other tasks necessary for each piece of equipment. Preventative maintenance tasks and major equipment repairs are recorded so that future maintenance problems can be assessed properly by the use of a computer system called EPAC. The facility is staffed with exceptionally qualified employees committed to permit compliance with an emphasis on preventative and corrective maintenance.

4. CUSTOMER COMPLAINTS VERIFIED TO BE THE CITY'S RESPONSIBILITY

The city experienced 47 customer complaints in 2017. Six of the complaints were in the city line. Two of the city problems were due to wipes and grease and two were from construction debris.



5. NUMBER OF EMERGENCY AND NONEMERGENCY POINT REPAIRS

In 2017, the city had no emergency point repairs and two non-emergency point repair.

6. NUMBER OF FEET OF SEWER CLEANED

The City has a regular routine cleaning schedule for its sanitary sewers. Performance numbers for cleaning and televising may be found in Section 13-Performance Measures. Each year approximately 25% of the sewer system has root removal activities.

7. NUMBER OF MANHOLES INSPECTED OR REHABILITATED

The City rehabilitated or repaired thirty manholes. Crews typically inspect annually approximately 50% of the manholes during cleaning and televising events.

8. PERCENT MAPPING ON GIS

The City of Beloit has a GIS with an extensive list of sanitary sewer features that include but not limited to: manhole location, root growth, excessive I & I, and flat lines. We believe our system to be around 95% complete within our GIS and accuracy is one of our main goals. Updates are done on a monthly basis for all our GIS layers. We are always trying to improve our GIS by verifying field data with the data actually entered in our GIS. All new sanitary sewer construction is drawn in using GPS points.



9. ORGANIZATION AND NUMBER OF EMPLOYEE TRAINING EVENTS

The Water Resource Division has thirty-two full time experienced and highly qualified employees. The staff works closely with other city departments such as Public Works, Code Enforcement and Engineering. Employee training is based on need dictated by OSHA or job hazard assessment which was completed in 2017. WRD employees are trained in lockout/tagout, hazmat, confined space, respiratory protection, HAZCOM, slips/trips/falls, and personnel protective equipment to name a few. Operators and maintenance staff train in the daily aspects of safely operating and maintaining wastewater collection, treatment, and effluent discharge systems. The plant manuals focuses on specific knowledge and skills needed to operate and maintain wastewater systems as efficiently and effectively as possible.

10. GREASE TRAP PROGRAM AND NUMBER OF GREASE TRAP INSPECTIONS

The city has a very proactive grease trap inspection and enforcement program. There are 196 active grease interceptors in the City's program. Each facility with a grease interceptor is inspected at a minimum of once per year. Those facilities that do not meet program requirements are required to correct any deficiencies and are re-inspected for compliance. Failure to correct deficiencies within the timeframe specified results in enforcement activities. The number of inspections and enforcement activities may be found in the chart in Section 13-Performance. Staff has developed a public education

DVD on how interceptors work, cleaning and proper maintenance. The City also acquired a grease trap to use in demonstration and educational purposes and continues to assist other municipalities in developing a grease prevention program.

11. INDUSTRIAL PRETREATMENT PROGRAM LEGAL AUTHORITY AND ENFORCEMENT ACTIVITIES

Four full time environmental staff is responsible for program revision, implementation and enforcement. The City, through its Industrial Pretreatment Program (IPP), has very strong legal authority through its sewer use ordinance. In 2017, the City has strengthened its Spill Control Prevention Plan (SCPP) and illicit discharge ordinance. The City placed these new requirements to prevent illicit discharges in all SIU and business permits. The environmental staff is responsible for permitting 10 SIUs and approximately 800 commercial users. The aggressive grease trap program and comprehensive Spill Control Prevention Program (SCPP) has greatly reduced the number of prohibited materials to the city's sewers. All SIUs and approximately 86 commercial users are required to develop and maintain a SCPP. The city evaluates the SIU plans every year during the annual inspection and commercial SCPPs are evaluated every five years during permit renewal. In 2017, the City implemented the revised SUO and enforcement response plan (ERP). All enforcement activities may be found in the Industrial Pretreatment Program Annual Report to the DNR. The stormwater program has also revised its program to meet permit conditions including inspections and illicit discharge detection.

The City hired Strand Associates to assist the City with FOG issues at the Turtle Creek Pump Station. The City staff performed FOG sampling from September 11-18 at a number of commercial locations, certain SIUs, the pump station and the treatment plant. Staff continues to work with Hormel and Kettle to improve operation of FOG removal systems.

12. NUMBER OF PUBLIC OUTREACH EVENTS

The City participates in an average of six public outreach programs every year. In May of each year, the WRD participates with Public Works in an open house event for Public Works Week. In 2017, the event was canceled due to weather. Instead the City participated in Touch-A-Truck in July. We also participate in school events, Earth Day, Health Fair, Special Olympics, etc. The WRD demonstrates/displays the Vactor unit, toilet with non-flushable wipes, treatment plant model, groundwater model, grease programs, mercury minimization and P.W. the mascot. WRD also assists in funding the Household Hazardous Waste Program and the Drug Take Back Program.

13. PERFORMANCE MEASURES

| 2015 | 2016 | 2017 | Item |
|---------|---------|------|---|
| 0 | 0 | 0 | Number of NPDES permit violations |
| 0 | 0 | 0 | Liftstation failures |
| 0 | 0 | 0 | Sanitary Sewer Overflows or sewer pipe failures |
| 55 | 47 | | Emergency call outs |
| 1 | 2 | | City problem (roots, pipe, etc.) |
| 2 | 4 | | City problems due to illegal discharge (rags, grease, etc.) |
| 27,250 | 63,811 | | Sewer feet televised |
| 3% | 7.8% | | % televised (3% annually target sanitary) plus storm |
| NA | NA | | Feet root sawed |
| 462,465 | 415,920 | | Sewer feet cleaned |
| 56.3 | 50.8 | | % sewer cleaned |
| 1330 | 1284 | | Manhole inspections |
| 42 | 30 | | Manholes rehab |
| 195 | 195 | | Number of active grease traps |
| 208 | 225 | | Grease trap inspections |
| 126 | 269 | | FOG enforcement activities (229 NOVs, 29 citations, 11 order) |
| 10 | 12 | | Staff training activities |
| 7 | 6 | | Public education activities |
| | | | |



Television truck

14. PROPOSED PROGRAM CHANGES FOR THE COMING YEAR

The City's commitment to the CMOM program and protecting public health and the environment is evident based on the annual CMAR grading for the past several years. The City will continue its due diligence to ensure that all phases of the program continue on a progressive course. It appears that the system has reached a state of equilibrium relative to I&I.

In 2018, the City will continue the program of CIPP lining, grouting of manholes, spray-line manholes with concrete and continue efforts as lock-down casting in low-lying areas as needed.

The City will continue with its public education and outreach programs. Staff will continue with an aggressive grease trap program, Spill Control Prevention Plan and no wipes in the pipes. When the crew finds excessive disposal of wipes or other illegal discharges in the sewer, they place a lime green door hanger in the neighborhood that states “ILLEGAL DISCHARGE FOUND IN YOUR AREA” and the type of material found is noted. The door hanger expresses concern that illegal discharges may result in a line blockage that may cause a sewage backup that could potentially damage homes.

15. REMAINING WRD ACTIVITIES

1. Fats, Oils and Grease (FOG) issues in 2017 at Turtle Creek Pump Station and Iva Court. A grease study was performed in September to address these issues. The City performed a seven (7) day multi location sampling and analysis of the area feeding into the TCPS along with SIU sampling. Data will be collected and sent to Strand Associates to develop a plan to address the FOG issues. Iva Court issues are being addressed from a design standpoint by Town and Country because of the increase loading to the pump station from new construction.
2. South Beloit still has a hand full of uncollected sewer bills that have remained unpaid for several years. It is our understanding that legal services is working on an updated agreement with the City of South Beloit for some time. The goal is for the City to bill the City of South Beloit and have South Beloit collect money from its residence since the City’s avenue for collection is problematic at best.
3. Wastewater Treatment Plant Capacity Study. The City has hired Donahue and Associates to complete a capacity study on the current system. It is our belief that the current capacity limits issued by the DNR may be revised to allow higher capacity without plant expansion.
4. Digester mixing RFP.
5. Scope for cost for service for the utility-rate study. Look at rates for high commercial strength users.
6. American Water is performing a water loss study for the City of South Beloit. The City is reviewing possible ways to cost effectively meter the water transported into South Beloit.
7. Students at the UW are performing a project based on a multi-discharge variance for phosphorus that may assist the City in their phosphorus TMDL.
8. Development of a universal recordkeeping system for the utility.
9. Updating safety policies and procedures along with emergency response manuals.
10. Continue with in-house and outside training activities with OSHA Standards and job hazard assessments