

# WATER AND WASTEWATER DEPARTMENTS

## Wastewater Treatment Plant Staff



Pictured above (left to right) Front Row: Lyle Michaels, Mark O'Neill, Dan Johnston, Neil Hayward  
Back Row: Neil Traye, Tom Asmus, Curt Goodman, Chuck Paul, Bernie Stanaway

## Water Filtration Plant Staff



Supervisor  
Jim MacDonald

Operator  
Mark Spanton

Operator  
Mary Maki



Operator  
Roger Ohman



Operator  
Randy Ratari



# WATER AND WASTEWATER DEPARTMENTS

## 2012-2013 ANNUAL REPORT

**In accordance with Section 2-80 of the City Code, listed below is a summary of activities for the Water and Wastewater Departments for the 2012-13 fiscal year.**

### **Mission Statement**

The Marquette Water and Wastewater Treatment Department will be a leader in effective water pollution control, continuously evolving to reflect the ever-changing demands of our many customers at the local, regional, state, national and international levels. Protecting public health and preserving our resources through technology is our focus in achieving our goals.

### **Water Filtration Plant**

Throughout FY 2012-13, the residents of Marquette continued to receive high quality drinking water with few operational issues. All water quality standards were met during the past year. The 2012 water quality report is posted on the City website which provides detailed water quality analysis results.

- Four obsolete turbidimeters were replaced. Spare parts are no longer available.
- Two obsolete chlorine analyzers were replaced. Again, replacement parts are not available.
- Dehumidification equipment was installed as a corrosion control measure.
- To curb the past effects of the high humidity and corrosion, the pumps, plumbing, floors, interior and blistered exterior walls were re-coated. The project included abrasive blasting, scraping, pressure washing and painting of all affected equipment, walls and floors.
- The 42-inch diameter water intake pipe was evaluated for structural integrity and overall condition quality. Divers inspected and shot video of the 3,200-foot intake which revealed sections of the intake have been undermined, compromising support. An engineer will be retained in 2013 to provide a detailed technical report of solutions to correct the structural integrity of the intake.
- The City of Marquette successfully attained a \$24,000 fluoridation equipment grant through the Michigan Department of Community Health—Oral Health Program. The grant award was based on a competitive grant review process and as a result, the City of Marquette was awarded the maximum amount—the largest award in the State of Michigan. The grant will be used to recondition two fluoride bulk storage tanks and replace two fluoride pumps.
- The warranty of the filter modules are due to expire in 2014. Replacement should be considered before the need. The estimated cost is \$840,000.

## **Wastewater Plant Operations**

The Marquette Area Wastewater Treatment Plant operates under an Inter-Governmental Agreement with Marquette and Chocolay Townships. The original agreement was signed in 1979 and updated in 2008. The Marquette Area Wastewater Treatment Advisory Board meetings are held the third Thursday of the month at the Wastewater Treatment Facility.

The Marquette Wastewater Treatment Facility is regulated by the Michigan Department of Environmental Quality and Environmental Protection Agency under a National Pollution Discharge Elimination System (NPDES) permit program. Violations that occurred in the past year were for Phosphorous, PH, and Dissolved Oxygen. The cause of the violations was due to process upsets. The violations were reported to the Michigan Department of Environmental Quality as required. Operational process changes have been made to reduce the vulnerability of future NPDES violations.

## **Wastewater Treatment Plant**

A new biosolids storage facility at the Marquette Area Wastewater Treatment Plant was completed in December of 2012. The storage facility (pictured below) is the result of about a year of research and evaluation done by plant staff and the Marquette Area Wastewater Treatment Advisory Board. The City Commission approved the facility at an amount of about \$445,000. A local contractor, Premeau Construction, built the facility.



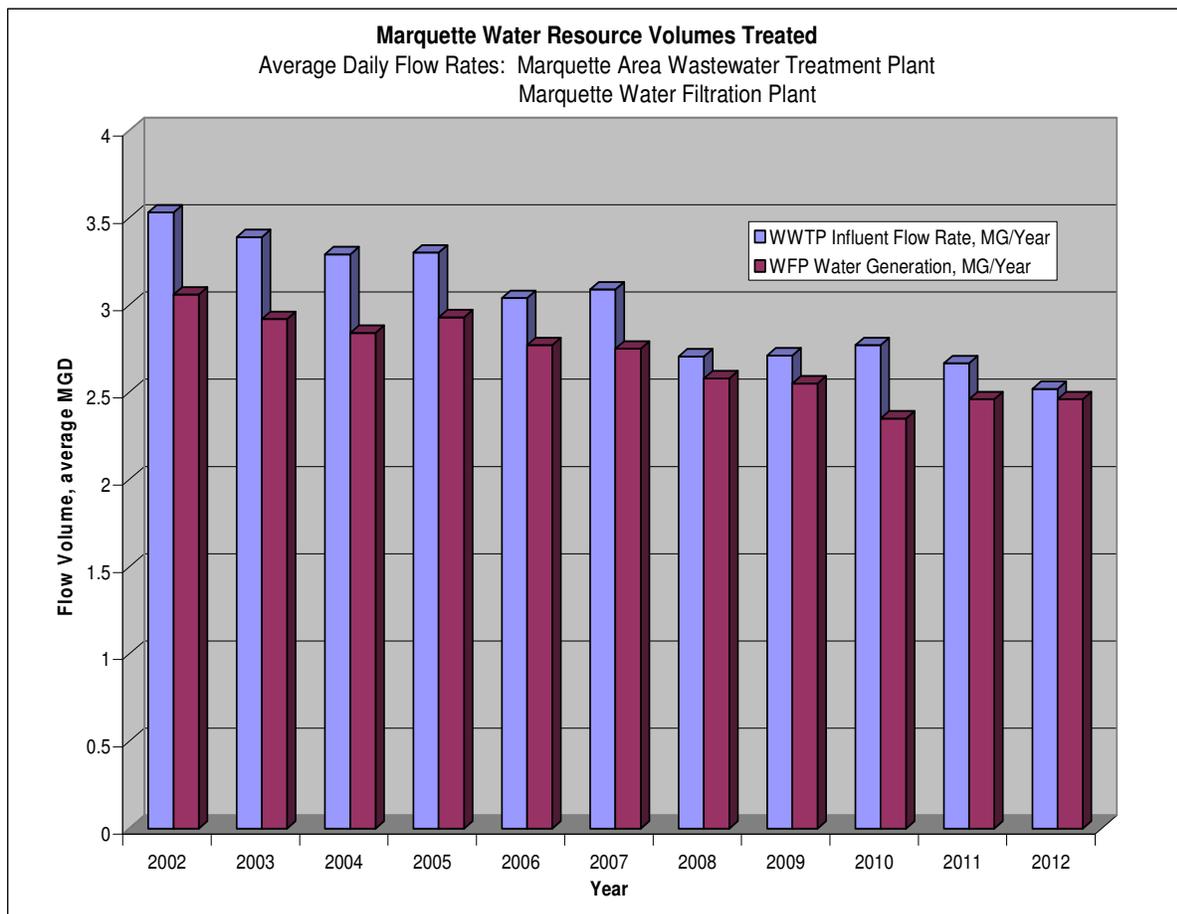
The new facility will hold about 1,200 cubic yards of biosolids. A storage facility is required to store accumulated material that is generated during the winter months when land application of this fertilizer cannot be performed.

The final destination for the stored biosolids is agricultural land or mine reclamation sites. Nutrients contained in biosolids serve as a fertilizer to supplement plant growth. An added benefit over commercially available synthetic fertilizers is that biosolids contain an organic structure which helps to stabilize new soils and add organics to existing soils.

- The acceptance of outside waste saw an increase of \$13,000 in trucked wastewater revenue.
- The Wastewater Treatment Plant staff is working on a long term biosolids marketing strategy. With the completion of the new 1,200 cubic feet biosolids storage facility, additional disposal options are available. These include composting, reclamation, agricultural and Brownfield remediation.
- Sixty-eight acres were added to the Wastewater Residual Management Program.
- The Marquette Wastewater Plant completed 61 full grease trap inspections in 2012. In addition, 25 reinspections were completed. The Wastewater Department is in the process of working with Marquette and Chocolay Township in formalizing a joint grease trap program.

### Water and Wastewater Department Statistics

The following bar chart illustrates treated water and wastewater volumes at the two City treatment facilities.



Water and Sewer Rates did not increase for FY 2013-14. A comprehensive Water and Sewer Rate Study is planned for FY 2013-14.

## **Great Lakes Restoration Initiative 2012 Progress**

### **Great Lakes Restoration Initiative – Marquette Beaches (2010- 2013)**

Between 2010-2013, the City of Marquette, in partnership with the Superior Watershed Partnership, received \$77,000 in funding from the Environmental Protection Agency - Great Lakes Restoration Initiative to work with the Michigan Department of Environmental Quality for the improvement of water quality at five public beaches in the City of Marquette. The project included increased frequency and duration of beach monitoring efforts with additional investigation and identification of sources of bacteria and pollutants impacting public beaches. Other objectives, such as increased public education, a neighborhood watershed program, a rain barrel rebate program, the use of rain gardens, and other green approaches to conserve water, reduce, capture, and treat storm water runoff all encourage Marquette residents to participate in the care of City beaches. In addition, a storm drain stenciling program to identify storm drains leading directly to Lake Superior help to reduce contamination.

### **Great Lakes Restoration Initiative – Marquette Beaches (2012-current)**

Through an Environmental Protection Agency 2012 Great Lakes Restoration Initiative Grant to Make Beaches Safer in Michigan and Wisconsin, and in partnership with the Superior Watershed Partnership, the City of Marquette was awarded \$179,700 to lower health risks and to improve water quality at two Lake Superior beaches in Marquette by using green management practices to reduce contamination. The City of Marquette, *Making Beaches Safer Project*, will reduce risks to human health and improve water quality at two beaches in the City by implementing green management practices to reduce bacteriological, algal and chemical contamination that have been identified through the use of Great Lakes beach sanitary surveys. The project will improve water quality and make beaches safer by creating 0.7 acres of native wetland and riparian buffers to intercept and infiltrate urban storm water before it reaches Lake Superior and two popular public beaches.

### **2000-2013 Beach Monitoring Program:**

The Environmental Protection Agency, in partnership with state and local governments, has provided grant funding to monitor the nation's beach water quality. As part of the program Marquette received \$11,339 in 2012 Beach Act Funds.

### **Beach Closures:**

Five beach closures occurred during 2012. This represents .04 % of beach days during the beach season.

### **Water and Wastewater Staffing and Professional Development**

Staffing at the Water and Wastewater Department has remained unchanged despite picking up additional responsibilities in the area of grease trap inspections and two new lift stations. The Wastewater Treatment Plant employs eight full-time employees.

The Water Plant employs five full-time employees and is staffed 24/7. All departmental employees hold the required regulatory certifications to operate water and wastewater operations. Four Wastewater Department employees routinely support Water Filtration Plant operation and maintenance through dual certifications. All departmental employees are cross-trained in all aspects of plant operation. With the resignation of the previous Wastewater Supervisor this past year, a Wastewater Treatment Plant operator was promoted to Wastewater Supervisor effective July 1, 2013.

<b>Current Operational Staffing Positions</b>	
<b>Wastewater Treatment Plant</b>	<b>Water Treatment Plant</b>
5 Operators	4 Operators
1 Lab Technician/Coordinator	1 Working Supervisor
1 Maintenance Mechanic	
1 Supervisor	

**Training and Professional Development Attended by Staff**

- Northern Michigan Public Service Academy Wastewater Administrative workshop
- Environmental Protection Agency Microbiology workshop
- Wisconsin Digester Foaming workshop
- Michigan Wastewater Environmental Association state conference
- American Water Works Association state conference
- Michigan Wastewater Environmental Association Section 21 annual conference
- U.P. Water Institute spring and fall conferences.



Marquette Water Filtration Plant



Marquette Area Wastewater Treatment Plant