

Water WoRDs

Updates from the Water Resources Division

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Managing Michigan's Infrastructure Assets to Protect Water Quality

We in the Water Resources Division appreciate what municipal wastewater treatment plant (WWTP) operators in Michigan accomplish every day. They are truly a first line of defense in ensuring that recreational and other uses can be achieved in our rivers and lakes. To facilitate this, it is critically important that these operators have sustainable wastewater facilities that can reliably achieve all discharge requirements and provide reliable service to customers at a reasonable price.

Governor Snyder discussed the importance of sustainable wastewater treatment infrastructure using asset management concepts in his 2011 statement on Michigan's infrastructure needs. . The

United States Environmental Protection Agency has also devoted a great deal of effort to asset management and sustainability in wastewater treatment infrastructure. In order to help achieve this expectation of sustainability, the WRD is rolling out an important new effort regarding asset management that will affect municipal WWTPs in the state of Michigan. Although many municipalities may already be implementing asset management to some degree, we believe the time is right to formalize this program.

In 2013 we are now including an asset management program requirement in reissued National Pollutant Discharge Elimination System (NPDES) permits for major municipal WWTP permits that expire on October 1, 2012 and thereafter. This requirement is based on existing state laws and rules that require proper operation and maintenance of public sewerage systems. Major permits are those that discharge an annual average flow greater than 1 million gallons of treated wastewater per day. In fact, this program requirement is currently in our first draft 2013 permit, for the Detroit WWTP, and is now on public notice through February 19, 2013. We feel it is important to start this program at our most significant municipal WWTP; one that treats roughly 50% of the total municipal wastewater flow in the state. We will continue to include this program requirement in our major municipal WWTP permits until all major municipal systems become part of the program over the next 5 years. After that, we will likely include this program requirement in NPDES permits for significant minor municipal WWTPs and Combined Sewer Overflow Treatment facilities.



Secondary or final clarifiers are critical assets at the Detroit WWTP. Detroit has 25 final clarifiers, with each clarifier 200 feet in diameter and a treatment capacity of 40.4 million gallons per day (MGD). The secondary clarifiers were constructed in stages from 1972 to 1979.

An asset in a wastewater system is a component of a facility with an independent physical and functional identity and age (e.g. pump, motor, sedimentation tank). The requirements of an Asset Management Program contain goals of effective performance, adequate funding, and adequate operator staffing and training. Asset management is a planning process that ensures gaining optimum value for each asset and providing the financial resources to rehabilitate and replace them when necessary; and typically includes five core elements which identify: the current state of the asset, the desired level of service (e.g., per the permit, or for the customer), the most critical asset(s) to sustain performance, the best life cycle cost, and the long term funding strategy to sustain service and performance. Our new permit condition requires the preparation of an Asset Management Program, and implementation of the program upon Department approval. Annual Reports summarizing program activity are also required to be submitted.



Each secondary clarifier requires a Return Activated Sludge Pump.

As with any new program, there may be justifiable questions regarding implementation costs. For asset management we are fortunate that the legislature just passed revisions to our state grant and loans programs using the remaining funds available from voter's passage of Proposal 2 of 2002. These new Public Acts (2012 PA 511 and 2012 PA 560 through 562) include opportunities to receive grants for developing asset management programs. Based on these new legislative Acts, there will be funding available starting in fiscal year 2014 (after October 1, 2014). There is currently an internal/external stakeholder group, chaired by Ms. Sonya Butler, Chief of the Revolving Loan Section in the Office of Drinking Water and Municipal Assistance, working out the process to apply for and receive these grants for asset management, among other aspects of the new Acts. The WRD encourages those with an interest in Michigan's wastewater infrastructure to keep a close eye on this work and also encourages municipalities to apply for asset management grants when they are appropriate and available.

If you have any questions regarding WRD's new asset management program please feel free to contact Mr. Matt Staron (staronm@michigan.gov) in the WRD Permits Section, or Mr. Charlie Hill, our wastewater treatment specialist, at (hillc@michigan.gov). Additional information regarding asset management, including training opportunities, webinars, etc., can be found on the [DEQ](#) and [US EPA](#) websites.

What do you do in the WRD?

Meet Phil Argioff

Phil has worked in the water pollution control program, as an environmental engineer and supervisor for over twenty five years. He spent four years in the water quality studies unit, and the next twenty years as a district engineer and supervisor in the Southeast Michigan District Office. His current position is Permits Section Chief for WRD. Phil holds a bachelor's degree in Chemical Engineering and a master's degree in Environmental Engineering, from the University of Michigan, and is a licensed professional engineer in the State of Michigan.



Phil Argioff, Chief of the WRD's Permits Section