



# Marathon City's Alternative Phosphorus Compliance Strategy

Andy Kurtz, Administrator, Clerk, Treasurer, Director of Economic Development, Director of Public Works, Zoning Administrator, and Human Resources Director, Village of Marathon City



In 2012, the village of Marathon City was among the first wastewater systems in the state to receive the ultralow phosphorus limit of .075 mg/l for its Wisconsin Pollutant Discharge Elimination System

(WPDES) permit along with an associated compliance schedule. While working to develop a cost-effective solution to phosphorus compliance, the village had to take into account significant external factors that developed concurrently to the permit's compliance schedule. Among the external factors were the Multi-Discharger Variance (MDV), the Wisconsin River Total Maximum Daily Load (TMDL), and the Site-Specific Criteria (SSC) resulting from the TMDL. As a result of these external factors, the village was faced with planning for up to four different effluent limits. Each limit variable impacted the solution's design and came with an associated cost. Essentially, Marathon City had to develop a compliance strategy to hit a moving target by the final compliance date of December 31, 2019.

The conventional wisdom at the time was to construct new processing facilities designed to reduce the total phosphorus effluent levels prior to discharge to the Big Rib River. Despite the range of potential limits, the village was advised by DNR to plan for .075 mg/l as the limit. To achieve that effluent limit, the projected cost for such a system was \$1.5M. The inside the fence solution would remove 600 pounds of phosphorus annually, which is less than 1% of the annual phosphorus load of the Big Rib River.

Given the wide range of potential effluent limits for Marathon City, the village focused on alternative compliance strategies that would provide the maximum flexibility in achieving compliance both from a limit perspective and a timing perspective. These strategies were built around Water Quality Trading (WQT). Based on analysis completed by the village, WQT could provide a lower cost per pound of phosphorus removed and would focus reduction efforts where the loading is most significant: agriculture.

Since 2016, Marathon City has been pursuing WQT and working to develop the partnerships required to make the effort successful. Initial efforts focused on engaging Marathon

County Conservation, Zoning and Planning Department to function as a trading agent. However, due to several factors the efforts fell apart and Marathon City pursued a different avenue.

In 2018, discussions began with a Concentrated Animal Feed Operation (CAFO) located in the village's watershed. The discussions focused on the CAFO's desire to implement practices on the farm to reduce their phosphorus footprint and the village's desire to purchase credits. Through analysis, it was determined that a change in their practices and rotation could produce between 5,000 and 11,000 pounds of phosphorus reduction annually which would be made available to communities for WQT purposes.

Through discussions with the Wisconsin Department of Natural Resources (WDNR), Marathon City learned of a less publicized MDV option. Wastewater facilities are provided the ability to enter into a watershed project agreement versus paying a calculated rate per pound to the county. Additionally, under the approved MDV the effluent limits stepped down over several permit cycles. Given these factors, an MDV Watershed Project approach more closely matched the desired outcome of WQT efforts of the village and became the phosphorus compliance strategy for the village of Marathon City.

The Wisconsin River TMDL was approved by the US EPA in late April 2019. This approval reduced the number of final effluent options that Marathon City needed to plan for. However, the TMDL approval resulted in the pursuit of the site-specific criteria limits within the TMDL. This meant that there were still multiple effluent limits that Marathon City would need to plan for and consider in discussions with the CAFO considering partnership in the MDV Watershed Project.

In October of 2019, Marathon City submitted an MDV application to the DNR for implementation of a watershed project with MilTrim Farms of Athens, WI. The watershed project will consist of two primary elements on the 4,700 plus acres they manage. The first is retirement of marginal producing crop land and conversion to prairie resulting in long-term phosphorus credits. Second, MilTrim Farms will

convert all cropping to a limited till method as rotation to corn occurs generating interim phosphorus credits for trading. The net result of these changes will produce thousands of pounds of total phosphorus reduction annually. The village of Marathon City will be paying \$55 per pound of phosphorus annually which is less than the interest payments on the \$1.5M needed for the facility based compliance solution.

Marathon City received conditional approval of the MDV Watershed Project application in February of 2020. The MDV interim limit of .8 will be integrated into the reissuance of the village WPDES which was released for public comment on July 21, 2020. With the approval of the SSC on July 9, 2020, the Village anticipates utilizing the MDV for one permit term and then converting the watershed project to a Water Quality Trading Agreement for future WPDES permits with the SSC limits.

Developing and implementing a phosphorus compliance strategy has been a six-year effort for the village of Marathon City. Being one of the first required to comply with the ultralow phosphorus came with multiple challenges. The MDV, the TMDL, the SSC, multiple effluent targets all influenced the ultimate strategy selected by the village. If Marathon City would have followed the conventional wisdom and implemented a facility-based solution, it would have over configured and over spent. The pursuit of the most flexible, highest impact, most cost effective compliance strategy resulted in a public/private partnership that will remove up to 30 times the phosphorus from the local watershed at a lower cost per pound versus the inside the fence solution.

About the Author:

Andy Kurtz is the Administrator, Clerk, Treasurer, Director of Economic Development, Director of Public Works, Zoning Administrator, and Human Resources Director for the village of Marathon City. Andy serves on the board of directors of the Local Government Institute and is a member of the League Lobby Team. Andy entered the public sector in 2014 after a 19-year career in the private sector as a Product Manager and Account Manager for a Wisconsin-based technology company focused on financial institutions, payment automation, and document management systems. Contact Andy at [AKurtz@marathoncity.org](mailto:AKurtz@marathoncity.org)

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LEAGUE ANNUAL CONFERENCE WORKSHOP

 **TUESDAY, OCTOBER 13, 12:00 P.M.**

**Innovative and Affordable Ways to Comply with Phosphorus Standards - EPW PDH Eligible**

Andrew Kurtz, *Village Administrator, Village of Marathon City* and Adrian Stocks, *Director of Water Quality Program, Department of Natural Resources*

The village of Marathon City has been in the forefront of trying to find ways for its wastewater treatment plant to affordably comply with the state's phosphorus water quality standards. In this workshop, Marathon City Administrator Andy Kurtz will describe the village's Multi-Discharger Variance (MDV) and a creative biosolids management approach the village is seeking to implement. Adrian Stocks, Director of DNR's Water Quality Program, will discuss adaptive management, water quality trading, and other innovative ways communities are complying with phosphorus standards around the state.