



# Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street  
Chicago, IL 60611

## Legislation Details (With Text)

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**Title:** Issue purchase order and enter into an agreement with Melching Water Solutions LLC, to use DUFLOW water quality modeling to complete final optimization plan for discretionary diversion, maximizing attainment of dissolved oxygen standards in the Chicago Area Waterway System, in an amount not to exceed \$95,200.00, Account 201-50000-612430, Requisition 1449764

**Sponsors:**

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Date	Ver.	Action By	Action	Result
2/2/2017	1	Board of Commissioners	Approved	Pass
2/2/2017	1	Committee of the Whole	Recommended	Pass

### TRANSMITTAL LETTER FOR BOARD MEETING OF FEBRUARY 2, 2017

#### COMMITTEE ON PROCUREMENT

Mr. David St. Pierre, Executive Director

Issue purchase order and enter into an agreement with Melching Water Solutions LLC, to use DUFLOW water quality modeling to complete final optimization plan for discretionary diversion, maximizing attainment of dissolved oxygen standards in the Chicago Area Waterway System, in an amount not to exceed \$95,200.00, Account 201-50000-612430, Requisition 1449764

Dear Sir:

Authorization is requested to issue a purchase order and enter into an agreement with Melching Water Solutions LLC (MWS), to complete final optimization modeling of operational rules to maximize dissolved oxygen (DO) standard attainment in the Chicago Area Waterway System (CAWS) and fulfill Illinois Department of Natural Resources (IDNR) requirements regarding the District's amended Lake Michigan diversion allocation. This project will be administered by the Environmental Monitoring and Research Division of the Monitoring and Research Department at the Lue-Hing R&D Complex. The purchase order will expire on December 31, 2017.

As an Associate Professor at Marquette University, Dr. Steve Melching of MWS began working with the District on development of the DUFLOW model to simulate flow and water quality in the CAWS under unsteady flow conditions. This model has been used by Dr. Melching and his team to support the District in its evaluation of water quality improvement technologies proposed in the Use Attainability Analysis for the CAWS, development of an integrated strategy to meet the DO standards for the CAWS proposed by the Illinois Environmental Protection Agency (IEPA) and the District, evaluation of changes in Lockport gate operations to reduce flow reversals to Lake Michigan, and evaluation of the effects of changes in navigational regulations on water quality in the CAWS (done in cooperation with the U.S. Army Corps of Engineers). Most recently, MWS

worked with the District to support its petition for modification of discretionary diversion, developing a preliminary re-allocation of the discretionary diversion from Lake Michigan and revised operation of aeration stations to better achieve applicable dissolved oxygen standards. Dr. Melching provided expert testimony for the District at IDNR hearings relative to this petition.

The IDNR issued a final administrative decision on the District's Petition for Modification of Allocation Permit on September 22, 2016. The decision modifies the District's allocation for Lake Michigan discretionary diversion to 220 cfs for water years 2018 - 2030. One of the conditions of the ruling is that the District will "complete and implement the optimization modeling and plan for discretionary diversion use" referenced in the record of the proceeding. In a previous District project (Evaluating Diversion to Manage CAWS, 2012) MWS evaluated prior Lake Michigan discretionary diversion allocation (270 cfs) and provided preliminary recommendations for operational monitoring locations in the waterways and for optimal use of diversion flows to maximize compliance with DO water quality standards. MWS also determined operational strategies for most aeration stations under the previous allocation conditions. Through this new agreement, MWS would complete the overall optimization plan for the CAWS based on the newly approved diversion allocations and prepare a report summarizing the derivation of the procedures for optimizing the use of diversion water.

Dr. Melching has extensive knowledge of the CAWS and District operations. Further, Dr. Melching has detailed familiarity with the IDNR hearings and decision regarding the District's discretionary diversion allocation permit.

This work will be done in one year by completing five tasks, including recommendation of final optimization procedures to be determined through a combination of operational rules to yield maximum attainment of the DO standards for various wet and dry weather conditions.

Melching Water Solutions LLC, the expert Provider to conduct an overall optimization of operational rules to maximize dissolved oxygen standard attainment in the CAWS, submitted pricing for the services required. Inasmuch as MWS is the expert provider for the services required, nothing would be gained by advertising for bids (Section 11.4 of the Purchasing Act).

Melching Water Solutions LLC is not registered to transact business in the State of Illinois, but has submitted a certificate of good standing from the State of Wisconsin. The Director of Monitoring and Research has given approval to move forward with the recommendation to award.

The Multi-Project Labor Agreement is not applicable due to the specialized nature of the services required.

In view of the foregoing, it is recommended that the Director of Procurement and Materials Management be authorized to issue a purchase order and enter into an agreement with MWS, in an amount not to exceed \$95,200.00.

Funds for the 2017 expenditure, in the amount of \$95,200.00 are available in Account 201-50000-612430.

Requested, Thomas Granato, Director of Maintenance and Operations, TCG:EWP:MPC:HZ:JW:KB:kq  
Recommended, Darlene A. LoCascio, Director of Procurement and Materials Management  
Respectfully Submitted, Barbara J. McGowan, Chairman Committee on Procurement  
Disposition of this agenda item will be documented in the official Regular Board Meeting Minutes of the Board of Commissioners for February 2, 2017