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## Department of Utilities

**To:** Chairman Joe Martin and Members of the Utilities Committee

**From:** Chris Stempa, Utilities Deputy Director

**cc:** Chris Shaw, Utilities Director

**Date:** May 31, 2013

**Re:** *Approval of an Engineering contract for the AWWTP Evaluation of Phosphorous Treatment Optimization and TMDL Compliance Project to CH2M HILL in the amount of \$218,355 plus a 7% contingency of \$15,285 for a total cost of \$233,640*

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### **BACKGROUND:**

On May 18, 2012, the US Environmental Protection Agency (EPA) approved the Lower Fox River Basin and Green Bay Area of Concern Total Maximum Daily Load (TMDL). The TMDL outlines phosphorus and sediment reductions needed to restore water quality in the local streams, Lower Fox River and bay of Green Bay. As a result, revisions to NR 217 regulations will lower effluent limits for phosphorus discharges of the Appleton Wastewater Treatment Plant (AWWTP). The Wisconsin Department of Natural Resources (WDNR) implements point source load allocations through permits issued under the Wisconsin Pollutant Discharge Elimination System (WPDES) program. Under the approved TMDL, the WDNR will be establishing wastewater effluent limits of 0.2 mg/l or less for point sources with WPDES permits on the Lower Fox River (LFR). This proposed limit is substantially lower than the AWWTP's current 1.0 mg/l phosphorous limit. The current treatment plant processes were not designed to remove phosphorous to these new lower limits as they have been proposed. A preliminary study estimated \$40,000,000 in a present worth analysis to meet the TMDL.

The WDNR recognizes three tools that exist to WPDES permit holders under the TMDL and existing DNR guidance documents that will determine the most effective path of compliance. They include one or a combination of the following:

1. On-site phosphorous treatment/removal (plant optimization and/or process improvements),
2. Water Quality Trading (W.Q.T.)
3. Adaptive Management (A.M.).

The AWWTP's current WPDES permit expires on September 30, 2015. The objective of this project is to formulate a critical path for decisions and recommendations ahead of the 2015

permit expiration date. Compliance opportunities must be capable of meeting the phosphorus reduction criteria set forth in the TMDL and NR 217. The final report compiled at the end of the project shall recommend next steps, time lines, design concept plans and coarse budgetary estimates to achieve regulatory compliance.

**RFP PROCESS:**

The request for proposal was distributed to five engineering firms. Representatives from each firm attended a pre-proposal meeting that defined the project, scope, and held a question and answer session. Facility tours were held to orient the engineering firms to the project location. The following table identifies the engineering firms along with their proposal score and proposal pricing:

Company	Total Score <sup>(1)</sup>	Quote Pricing	Points per Dollar Factor <sup>(2)</sup>
AECOM	273	\$242,208	11.3
CH2M HILL	508	\$218,355	23.3
Donohue	270	\$244,000	11.1
Strand	449	\$239,000	18.8
CDM Smith	DNP		

Notes:

1. “Total Score” represents the combined total from each of the four evaluation team members.
2. “Points per Dollar Factor” = Quote Pricing divided by Total Score x 10,000. The highest number is considered the greatest value.
3. DNP: Did Not Propose

An evaluation team completed their review of the submitted proposals. Firm proposals were evaluated and scored. Subsequent interviews and reference checks were completed for two of the firms. The evaluation team found that CH2M HILL had provided a proposal that best met the City’s needs. CH2M HILL demonstrated a comprehensive approach that delivered compliance options along with their respective costs, advantages, disadvantages, and associated risks. The firm had identified that optimizing plant processes through biological and chemical operations that will result in near compliance with the TMDL. In addition, the firm listed other considerations for reduction including phosphorous source reduction (e.g., water treatment polyphosphates). The firm has relevant wastewater treatment plant optimization experience with facilities of similar size and complexity. In their proposal, CH2M HILL proposed to team with McMAHON. McMAHON possesses unique insight into the LFR TMDL having worked with five LFR municipal wastewater treatment plants (i.e., AWWTP, Grand Chute-Menasha West, Neenah-Menasha, Heart of the Valley, and NEW Water (formally Green Bay Metropolitan Sewerage District)) as part of the Fox-Wolf Watershed Alliance (FWWA) adaptive management feasibility project. To meet the regulatory compliance criteria, the existing FWWA project is aiding POTWs by establishing a baseline to evaluate A.M. and W.Q.T. within the LFR TMDL. CH2M HILL and McMAHON have a record of successfully working together on other area wastewater plant

projects. Significant weight was given by evaluation team members to these firms because of familiarity with each other and their successful projects.

**RECOMMENDATION:**

I am requesting approval of an engineering contract for the Evaluation of Phosphorous Treatment Optimization and TMDL Compliance Project to CH2M HILL in the amount of \$218,355 plus a 7% contingency of \$15,285 for a total cost of \$233,640.

If you have any questions or require additional information regarding this project please contact Chris Stempa at 920-832-5945.