

**REQUEST FOR PROPOSALS
PROFESSIONAL ENGINEERING SERVICES
CHARTER TOWNSHIP OF UNION / CITY OF MT. PLEASANT
WATER SYSTEMS STUDY**

The Charter Township of Union is evaluating the most effective method of supplying softened water to Township residents. The City of Mt. Pleasant seeks to improve water pressure in the City water system, especially in the southern part of the City. The Township and City have supply wells, treatment plants, storage facilities, and distribution systems that are located near each other and wish to explore the synergistic opportunities related to sharing facilities and assets. Currently each municipality operates and maintains their own infrastructure independent of one another.

The Charter Township of Union and the City of Mt. Pleasant invite consultants to submit qualifications and proposals for the necessary engineering, technical, and financial analysis to complete a planning document outlining the Township's options to provide softened water to Township water customers and the City's options for providing increased water pressure to the City's water distribution system.

The City has the capacity available at its water treatment plant to provide softened water to the Township using existing softening facilities. The City water system includes three well fields containing seven wells, an 8MGD lime softening water treatment plant, two reservoirs, a high service pump station, two elevated storage tanks, and approximately 100 miles of water main.

The Township has three well fields containing seven wells, three iron removal plants, three elevated water storage tanks, one ground storage tank, two control valve stations, and approximately 61 miles of water main.

SCOPE OF SERVICES

The Consultant shall be responsible to review and analyze the current Charter Township of Union and City of Mt. Pleasant water system treatment plants, distribution systems components, storage facilities, pumping stations capacities, valve stations, raw water sources, raw water capacity, treated water capacity, water system pressures, water quality, fire protection pressure capacities, hydraulic analysis, production capacities, and system operations. This information shall be used as a basis for establishing existing operations, identifying deficiencies, and improvements to address treatment and pressure needs for the Township and City respectively. Applicable treatment methods, including potential locations, process types, and sizing of water softening plant operations and distribution system components for the immediate and future water softening needs of the Township and system pressure needs of the City shall be included in this evaluation. Several options are to be considered and detailed further in the RFP.

Deliverables

Determine the optimal process and design to provide water softening to the Township water users at a minimum level of 50 mg/l and maximum level of 150 mg/l total hardness. An evaluation of corrosion control, and final water quality should be included for each process presented.

The City and Township systems current reliability, operations, fire flows, domestic water flows, and corresponding pressures must be either maintained or improved when considering each of the following scenarios;

1. Treatment processes and design options to provide softened water utilizing the Township's water treatment, water sources, and distribution system as a standalone system. (Current Operation - Separate from the City). For the purpose of this study this scenario will require the assumption that the options proposed are compatible with the Township's existing water quality. Conduct a pilot study of the Township's water to test this assumption before selecting a final process. The cost analysis for this scenario needs to include a detailed cost to conduct a pilot study for the processes presented.

2. Treatment processes and design options to provide softened water from the City of Mt. Pleasant Treatment Facility to the Township's water distribution system.

- A. utilizing the City of Mt. Pleasant raw water sources only
- B. utilizing both the City and Township raw water sources

Scenarios 2.A. and 2.B. assume that the two water systems water quality would be compatible. Include a cost to conduct an analysis to determine if this assumption is correct.

An analysis and comprehensive list of Township and City water assets that will be decommissioned, and/or retained for backup purposes as a result of scenario 2A and 2B must be provided as well as the financial and operational impacts.

3. Design and operating options to address the City of Mt. Pleasant's low water pressure areas by utilizing both the Township and City water systems.

The end result should be a comprehensive feasibility study and report detailing the options, including pros and cons for the Township to plan for their long term water softening needs and the City of Mt. Pleasant to plan for their long term pressure needs. The report needs to be complete with all necessary graphs, charts, maps, exhibits, hydraulic models, flow models, pressure contour drawings, site layouts, calculations, etc., and cost estimates for each option.

Work shall include:

Water Well Evaluation-

- Discussion of the proposed project including the identification of system components, supply capacity of wells, routing and connecting recommendations for raw water transmission main, locations of control valves and booster stations if necessary, and the proposed operations and control scheme for raw water supply.

Water Treatment Plant- WTP

- Conduct a site visit of the Township WTP and the City WTP to gain an understanding of the existing plants.
- Review WTP drawings, water reliability reports, current system operations, and identify existing capacity or reliability issues.
- Estimate needed improvements and costs to convert Township WTP to include water softening for Scenarios 1 and 2 (A & B).
- Estimate needed improvements and cost at the City WTP if needed to supply water to both municipalities for Scenario 2A and 2B.
- Estimate needed improvements and cost to improve pressure within the City for Scenario 3.
- Include Presentation Drawings to illustrate improvements for all Scenario Improvements along with process flow diagrams.

Water Distribution and Transmission Evaluation-(An analysis shall be completed for the three scenarios listed in the deliverables section of the RFQ).

- Run the existing Township and City water system model at static to benchmark existing conditions in both systems. Calibration of system shall be performed (flow date provided by respective municipality)
- Merge the existing Township and City water system hydraulic models into a single new model. Update demand allocation in the new model.
- Add any proposed transmission mains to provide necessary connections/looping (City to Township, etc) to improve reliability, pressure, and/or flow.
- Evaluate raw water supply, treatment, and pumping capacity for each system independently and jointly. Define CIP for 5 and 20 years for necessary infrastructure and distribution CIP projects.
- Add new lines from elevated water storage tanks to City system to the model.
- Complete a hydraulic analysis to evaluate the minimum criteria of 35 psi operating pressure was provided for under firm capacity conditions (largest pump taken offline) to meet maximum day demands. It is proposed that this modeling scenario would be to provide 2.3 MGD (current) and 4.46 MGD (future growth) to the Township and 3.7 MGD (last 10-year maximum day) to the City, with a future capacity to meet the 20 year projected population. Run the model to determine the available fire flow to ensure the minimum residual pressure of 20 psi is maintained. Evaluate the need for improvements within each of the two systems. In accordance with the SDWA this should be completed for

existing, five, and twenty years, including capital improvements. Develop pressure and flow contour drawings for the complete system demonstrating the impact of combining systems.

- Develop schematic site plan layouts for new storage tanks, booster stations, raw water sources, and maps showing transmission main routes.
- Evaluate City's High Service Pump Capacity

Immediate and future Systems Needs and Improvements Evaluation-

- Provide a comprehensive list of upgrades, equipment needs, and operational needs for each of the three scenarios listed in the deliverables section. Upgrades and needs shall consider each municipality's systems reliability and operations (flows, pressures, etc) and ensure that neither system is compromised and are unaffected, if not improved.

Detailed Cost Analysis-

- Provide comprehensive report of consultant engineering design, permitting and construction observation / testing services, construction cost, equipment cost, and contingencies for each of the three scenarios provided in the deliverables section.
- Analysis of the impact on user rates, and water connection charges for each of the three scenarios provided in the deliverables section.
- Finance options, and grant options for each of the three scenarios provided in the deliverables section.
- Budgetary long term (5 – 20 year) replacement cost needs, and long term operation and maintenance costs for each of the three scenarios provided in the deliverables section.
- Proposed timeline for each of the three scenarios projects from design to operation.
- Provide a summary comparison for each Scenario accounting for cost, life cycle, benefit, feasibility, timeline, etc. to demonstrate advantages and disadvantages for Township and City review.

Water CAD compatible hydraulic models are available for both the City and Township systems.

Misc. Services-

- Attend two or more meetings with Township and City staff and stakeholders during the evaluation phase, and make a presentation of the final report to the Township Board of Trustees and City Commission.
- Hydraulic testing as needed.
- Attend meetings with the Michigan Department of Environmental Quality (MDEQ), as required.
- Determine what permits would be required.

- Delivery of digital copies of all documents relevant to the study, including CAD analysis and drawings, must be delivered to the Township and City in formats compatible with their respective formats

The services outlined above are representative of services the Township and City expect the successful firm to be capable of undertaking; however, not all the services may be required.

Firms will be ranked on experience, qualifications, and cost; including but not limited to: previous similar projects, key personnel qualifications, availability, ability to meet schedules, and ability to meet any federal and state requirements.

IMPORTANT INFORMATION regarding questions about this RFP!

Any questions about the scope of services must be submitted by e-mail to Kim Smith at ksmith@uniontownshipmi.com, with a copy to Stacie Tewari at stewari@mt-pleasant.org. Questions must be received by November 29, 2017. Answers will be posted on both Township and City web pages.

Please visit <http://www.uniontownshipmi.com> & www.mt-pleasant.org to receive up-to-date information regarding this RFP including answers to all questions submitted. It is the responsibility of the bidders to check the website for new questions and answers before submitting bids. The names of vendors submitting questions will not be disclosed. Personal visits and phone calls will not be allowed.

As stated below, proposals will be due by 1:30 p.m., on December 6, 2017. It is the intent of the Charter Township of Union and the City of Mt. Pleasant to interview the highest-scored firm by January 8, 2018, make a recommendation to be approved by the Township Board of Trustees and the City Commission by January 31, 2018, and develop a contract with that firm deemed most qualified by February 28, 2018. These dates are not final and may change depending on the best interests of Union Township and the City of Mt. Pleasant.

SUBMITTAL INSTRUCTIONS

Qualifications Based Selection – The Charter Township of Union and the City of Mt. Pleasant staff will review all Qualification Packages submitted for this project.

To be considered as a qualified respondent, respondent must attend mandatory pre-bid meeting being held on October 31, 2017 8 – 10 a.m. at the Union Township Hall located at 2010 South Lincoln Road Mt. Pleasant MI 48858 and attend mandatory tours of Township treatment facilities on October 31, 2018, and City Water Treatment Plant on October 31, 2018.

Submit five copies of the Proposal Package in a sealed envelope and clearly marked **RFP: PROFESSIONAL ENGINEERING SERVICES – CHARTER TOWNSHIP OF UNION / CITY OF MT. PLEASANT WATER SYSTEMS STUDY PROJECT**, and received by the Charter Township of Union at the Township Manager's Office address below by 1:30 p.m., December 6, 2017. Proposal packages must be mailed or delivered to the following address:

Mark Stuhldreher, Township Manager
Charter Township of Union
2010 S. Lincoln
Mt. Pleasant, MI 48858

Any packages received after this date and time will be deemed unresponsive. The Township and the City of Mt. Pleasant reserve the right to accept or reject any or all proposals, to re-solicit proposals, to waive any irregularities, to negotiate pricing, and to select the proposal deemed to be in the best interest of the Township and the City. Issuance of this RFP does not obligate the Township or City to award a contract nor are the Township or City liable for any costs incurred by the proponent in the preparation and submittal of the proposal. All proposals must include the following statement of qualifications in the order stated below:

1. **Letter of Transmittal**
2. **Corporate Profile**: Describe on one page the background of your company and why it is qualified to provide the requested services for the Charter Township of Union and the City of Mt. Pleasant.
3. **Understanding of the Project**: Describe in two pages or less your understanding of the project including a brief overview of your plan on accomplishing the services being requested by the Charter Township of Union and City of Mt. Pleasant.
4. **Project Team**: Describe the qualifications of the key person(s) who will be responsible for providing the requested services. Resumes for key person(s) are required. (Limit resumes to two pages for each key person listed.) Sub consultants qualifications must be included.
5. **Experience**: Provide evidence of similar, past experience that demonstrates your ability to successfully provide the services being requested in this RFP. Include names and contact information from past projects for reference purposes. Discuss experience with design of improvements and expansion to water treatment plants while maintaining continuous production to serve the customers.
6. **Approach**: Discuss the approach to completing the project.
7. **References**: References from similar projects undertaken by your firm and subconsultants with names and telephone numbers for contacts.
8. **Cost**: A fixed fee for the project to include all services proposed. Provide a separate lump sum fee for each of the services outlined in the deliverables and the scope of services with a breakdown of hours and hourly rates for each part. All or part of each proposal may be accepted for award. The parts of the projects are:

- 1) the evaluation of scope of work and cost for providing softened water to the Charter Township of Union based on scenario one (1) , two A (2 A), and two B (2 B) in deliverables (the cost to complete each scenario must have a separate and complete cost outlined in the proposal)
- 2) the scope of work and cost of work for the Charter Township of Union and City of Mt. Pleasant to share in the use of the Township's elevated water storage tanks to provide for the City's pressure needs based on scenario three (3) in deliverables.

9. **Schedule**: Include a project schedule based on the anticipated award date listed above.

10. **Miscellaneous**: Include any additional information deemed pertinent by the firm filing statement of qualifications. Collaboration between two (2) or more engineering and other professional firms will be viewed as acceptable and welcomed to accomplish the project as timely and proficiently as possible. A list of all firms collaborating on this project need to provided in the proposal.

11. **Prior Work**: Include a list of prior work performed for either the Township or the City.

FEE NEGOTIATIONS

At the time of awarding the contract to the successful firm, the Charter Township of Union and the City of Mt. Pleasant will negotiate a not-to-exceed fee for required services. The Township and City are sharing the cost of this contract; each entity may pay for certain deliverables. If the Charter Township of Union, the City of Mt. Pleasant, and the successful firm cannot agree on a firm cost, the Township and City will solicit a fee from the next highest-scored firm. The Township and City request to be billed on a monthly basis for any services provided.

INSURANCE REQUIREMENTS

The engineering firm shall not begin any work under any contract until it has obtained the required insurance, and Charter Township of Union Township and the City of Mt. Pleasant have approved such insurance. The successful firm shall not allow any sub consultant to commence work on its contract until all similar insurance required of the consultant has been so obtained and approved. Insurance requirements include:

- Workers Compensation Insurance including Employers Liability Coverage in accordance with all applicable statutes of the State of Michigan.
- Commercial General Liability Insurance on an "occurrence basis" with limits of liability not less than \$1,000,000 per occurrence and/or aggregate combined single limit, personal injury, bodily injury and property damage.
- Professional Liability Insurance for the life of the contract with limits of liability not less than \$2,000,000 per occurrence and/or aggregate combined single limits, and errors and omissions.