

July 2, 2021

Dave Gutchess
WWTP Superintendent
City of Grand Ledge
310 Greenwood Street
Grand Ledge, MI 48837

**Proposal for Professional Engineering Services
Grand Ledge WWTP Expansion and Sanitary Sewer Collection System Improvements – Alternatives Analysis**

Dear Dave:

Fishbeck is pleased to provide this proposal to analyze alternatives for the Grand Ledge Wastewater Treatment Plant (WWTP) Expansion and Sanitary Sewer Collection System Improvements project.

Background

The Grand Ledge WWTP is in need of expansion to provide additional capacity to the service area's residents, businesses, and industries. Based on results from the Basis of Design report, the WWTP facilities may need to be expanded to treat an average daily flow of 3.9 million gallons per day (MGD). This might be accomplished in one of two ways: at the existing site along the Grand River, or at a nearby location within the WWTP Fitzgerald Park property. Consideration must be given to current land use by the public and the potential construction impact to geologically sensitive areas. Collection system improvements are required to address bottlenecks and issues with inflow and infiltration (I/I).

Project Understanding

During the development of the Basis of Design, Fishbeck noted the influent waste strength to the WWTP to be higher than normally expected in a sanitary sewer system of predominantly residential sewer users. Confirmation of the influent waste strength will help to accurately size projected treatment improvements.

An analysis of alternatives will provide the City with an understanding of the available sanitary sewer improvement options. Fishbeck will work with the City to develop alternatives that can provide treatment for the flow and load identified in the Basis of Design. Fishbeck and the City will create evaluation criteria for the alternatives so the preferred improvements to meet the long-term sanitary sewer system needs are able to be determined.

The collection system analysis will be based on the existing model of the system, which was developed for the project plan submitted in 2008. The future flows developed in the previous study will be routed through the model to identify potential capacity issues and develop preliminary alternatives for addressing them. Although portions of the model have been updated, the majority of it is based on data from 2005. Depending on the results of the analysis, the City may want to consider getting new flow data in the spring of 2022 to confirm the results prior to proceeding with implementation of the project(s).

Scope of Services

Task 1: Confirmation of Influent Waste Strength

To confirm the influent loading to the WWTP, Fishbeck proposes the following scope of services:

- A. Install three flow meters and composite samplers in the collection system for a period of one month.
- B. Collect two composite samples each from the three separate locations in the collection system to confirm waste strength.
- C. Review and revise the influent loading projections according to observed waste strength.

Fishbeck will summarize the collection system sampling results in a memo that includes potential revisions to the Basis of Design.

Deliverables: Collection System Sampling Results Memo

Task 2: Alternatives

Fishbeck proposes the following scope of services to determine the preferred improvements to meet projected treatment requirements:

- A. Identify and define the treatment and collection system alternatives for improvements.
- B. Develop the alternatives evaluation criteria with the City.
- C. Analyze and determine the principal alternatives based on the evaluation criteria.
- D. Establish opinions of probable project cost for principal alternatives.
- E. Estimate operation and maintenance (O&M) costs for the principal alternatives.
- F. Use the opinions of probable project cost and the O&M cost information to develop life cycle cost analyses for the principal alternatives.
- G. Identify a recommended alternative for WWTP expansion and sanitary sewer system improvements.
- H. Summarize findings in a draft report.
- I. Identify and evaluate construction funding options.
- J. Conduct a review meeting with the City to discuss report findings and comments.
- K. Revise the report based on City review comments and issue a final report.
- L. Present the study results to City Council and outline the next steps with a conceptual timeframe for completion.

Fishbeck will summarize our findings in a WWTP Expansion and Sanitary Sewer Collection System Improvements Alternatives Analysis report. In this report we will utilize the information from the Basis of Design report along with the collection system sampling information to establish design criteria for an expanded plant and collection system improvements, define and evaluate alternatives for expansion and improvement, identify the recommended alternative, and present and evaluate potential funding sources. Work completed in this evaluation can be considered the intermediate step in the planning phase for the WWTP expansion and sanitary sewer collection system improvements.

Deliverables: Draft and Final Alternatives Analysis Report, Presentation to City Council

Fee and Schedule

We propose to provide the scope of services on an hourly plus expenses basis, for an amount not-to-exceed Forty-Five Thousand Dollars (\$45,000).

We are prepared to begin work immediately upon authorization. Based on the scheduling of meetings and the City's time for review, we anticipate the alternatives analysis to be completed within approximately three months following the start of the work.

Authorization

Attached is our Professional Services Agreement. If you concur with our scope of services, please sign in the space provided and return the executed contract to the attention of Nicole A. Curtin (nacurtin@fishbeck.com). This proposal is made subject to the attached Terms and Conditions for Professional Services. Invoices will be submitted every four weeks and payment is due upon receipt.

We appreciate this opportunity to submit our proposal and look forward to working with the City to develop the alternatives analysis for the WWTP expansion and sanitary system improvements. If you have any questions or require additional information, please contact me at 616.464.3848 or jredner@fishbeck.com.

Sincerely,



Joshua W. Redner, PE
Senior Water & Wastewater Engineer



Jeffrey J. Brown, PE
Senior Vice President

Attachments

By email

Copy: Adam Smith – City of Grand Ledge
Kurt Ristow – City of Grand Ledge
Erin H. Szczegielniak, PE – Fishbeck
John A. Willemin, PE – Fishbeck