

December 16, 2022

Mr. Stefan Higgins
Assistant City Engineer
City of Blaine
10801 Town Square Drive NE
Blaine, MN 55449

Re: Water Treatment Plant 2 Preventative Maintenance and Minor Process Improvements

Dear Mr. Higgins:

Barr Engineering (Barr) is pleased to present the City of Blaine (City) a proposal to prepare plans and specifications for preventative maintenance and minor process improvements for Water Treatment Plant 2 (WTP 2). This project was originally planned to occur several years ago but was delayed at the request of the City. The project is the first of the projects recommended in the Wholistic Review memo. This project will include the following tasks described in greater detail later in this proposal:

- Preventative maintenance improvements such as painting, replacing corroded hardware and similar items to improve plant appearance.
- Minor Process Improvements such as replacement of flow meters and valves.
- Electrical improvements related to corroded wiring.

A preliminary inspection and condition assessment of WTP2 has been performed to identify what items needed repair, maintenance, or upgrades based on aesthetics or general disrepair. This scope does not include modifications to filter performance (e.g., underdrain or media replacement). The full scope of work is further described below.

WTP 2 Preventative Maintenance and Minor Process Improvements Scope of Work

The City is planning to renovate WTP 2 in a project that will address numerous architectural, electrical, process, and appearance related elements. Major process improvements related to filter operation will be undertaken during a later project at the recommendation of the City.

Objective: Improve WTP2 interior appearance, perform maintenance upgrades on parts of the plant that are in disrepair, and replace numerous items within the plant that are at or past the end of their useful life.

Description:

The project will include several improvements identified during project planning and are included in the Conditions Assessment results table and draft report (available for review upon request). The project will include, but is not limited to, the following specific elements:

- Replace corroded and damaged door, window and cabinet hardware throughout the plant.

- Upgrade electrical wiring, switches and other electrical devices that have degraded over time due to corrosion and exposure to chlorine in the atmosphere of the plant.
- Replace all propeller style flow meters with magnetic flow meters (seven places).
- Replace all pneumatically operated butterfly valves with new valves and pneumatic actuators that include position indication and a feedback loop to the SCADA system (16 places).
- Move the chlorine addition point from the main filter room into the chlorine feed room to reduce the amount of chlorine being emitted into the filter room.
- Replace existing flow control valves with new flow control valves (five places).
- Clean, perform minor surface repairs, and paint all plant surfaces including piping, equipment, tanks, walls, and floors.
- Make other repairs and upgrades as identified and recommended in the Condition Assessment Report (November 2020).

Task 1: Project Kick-off and Pre-design

Barr will meet with Blaine staff to discuss and agree on project definition. Barr will review existing condition assessments performed at the site and develop a basis of design document to be used to guide detailed design. In addition, Barr's sub-consultants, CBS Squared and KFI, will perform a blower door study as part of an energy assessment of the building that will further inform other possible upgrades.

Task 2: Design and Bidding Assistance

Barr will use information gathered during Task 1 to guide design of the WTP2 preventative maintenance and minor process upgrades. The design will include:

- demolition plan(s) as required
- minimal building structural repairs (only if required, none identified at this time)
- hardware schedule
- valve and flow meter replacement
- chemical feed injection relocations
- replace all chemical feed flexible tubing
- painting and coatings
- electrical and security upgrades (Note: for purposes of this proposal it is assumed that any SCADA system programming required to support the project will be provided separately under the City's professional services agreement with Automatic Systems Company)

Existing WTP2 drawings backgrounds will be used to develop the design drawings necessary to identify the replacement of architectural doors and hardware, process equipment replacement, electrical system improvements, and the other scope items identified above. Notes, details, photos, and additional information will be added to the drawings to better define the improvements included in this upgrade.

This proposal includes the following design elements:

- Prepare 50-percent drawings for Blaine review
 - attend review meeting with Blaine
- Prepare 95-percent drawings and specifications for Blaine review
 - attend final review meeting with Blaine
- Prepare final drawings and bidding documents
- Attend one city council meeting for approval to go to bid
- Apply for applicable permits
 - fees paid by city
 - Minnesota Department of Health chemical feed system review by MDH district field engineer
- Prepare engineer's estimate for construction cost
- Provide bidding assistance
 - advertisement costs are paid by city
 - attend pre-bid meeting and provide bid recommendation

Deliverables:

- Meeting agendas and minutes
- Design Basis Report (draft and final)
- Draft drawings (50 percent)
- Draft drawings and technical specifications (95 percent)
- Electronic copy of bidding document for upload to QuestCDN online bidding service
- Four (4) hard copies of design drawings and specifications
- Letter recommending award to the successful bidder
- Slideshow presentation for council meeting/workshop
- Electronic copies of all completed permit applications
- Engineer's opinion of construction cost

Assumptions:

- Based on previous engineering estimates, the expected construction cost of the repairs and upgrades covered within this scope of work is approximately \$1,150,000.
- No structural engineering services are included in this proposal.
 - No new foundations or equipment pads will be required.
 - No new pipe supports will be required.
 - Existing main load-resisting structural components are in good condition and will not require any modifications.
- Existing WTP2 drawings and backgrounds will be used to the extent practical to develop the design drawings for these improvements
- Blaine will provide the front-end contracting document templates that Barr will update.
- There are no major modifications that will require building code review or bringing the building up to the current building code requirements.

- Review from Minnesota Department of Health (MDH) plan review is not required. The modification to the chemical feed injection points must be approved by Blaine’s District Field Engineer.
- A construction stormwater permit or SWPPP is not required.
- Construction assistance is not included in this proposal.
- The City will manage the bidding process on an electronic platform such as QuestCDN

Project Team

The project will be led by principal-in-charge Julie Macejkovic and project manager Bryan Pitterle. Mark Deady and Brian LeMon will provide technical support for process and treatment components of the project. Zach Nesler will provide electrical engineering services. Architectural services will be provided by Ryan Grunklee of CBS Squared and the blower door study will be performed by KFI Engineers.

Schedule

The proposed project schedule is shown below.

phase/task	duration	est. completion date
notice to proceed		January 1, 2023
Phase 1: kickoff meeting and pre-design	4 weeks	January 27, 2023
Phase 2: design and bidding assistance	8 weeks (+3 weeks bidding)	design: March 31, 2023 bidding: April 28, 2023

Barr is proposing to complete the design phase of the preventative maintenance and minor process improvements for WTP 2 in 12 weeks. Barr will prepare a 50% design submittal and review with the City staff. This review is intended to provide direction from the City and finalize the design development for the IFB package for review and issuance of the Bid Package.

Budget

We request modification of the currently approved design budget to incorporate the work amendments described above.

Task	Estimated Budget
Phase 1 – Kickoff meeting and pre-design	\$16,000
Phase 2 – Design and bidding assistance	\$64,000
Total	\$80,000

If you have any questions regarding the additional scope items, please don’t hesitate to call me for further clarification. If the terms of this proposal are acceptable, please sign the document in the appropriate

places located below and return a copy to us for our records. The work is performed according to the terms of our master services agreement. Thank you for your continued work with Barr.

Sincerely,



Julia Macejkovic, P.E.
Vice President, Sr. Civil Engineer

Accepted this ___ day of _____, 2023

CITY OF BLAINE

By _____ Michelle A. Wolfe

Its _____
City Manager

By _____ Tim Sanders

Its _____
Mayor