

ITEM #: 56
DATE: 05-14-24
DEPT: W&PC

COUNCIL ACTION FORM

SUBJECT: NUTRIENT REDUCTION MODIFICATION PHASE I

BACKGROUND:

In early 2019, Council approved the results of a Nutrient Reduction Feasibility study. The study recommended the following course of action.

“The Ames WPCF Nutrient Reduction Feasibility Study recommends an integrated strategy that ... would transition the Ames WPCF from an existing trickling filter/solids contact process to a future biological nutrient reduction process... In doing so, the Ames WPCF would provide capacity for projected flows and loadings and would progressively achieve compliance with the 2013 Iowa Nutrient Reduction Strategy. The transition would occur ... over the next 20 years to take advantage of the remaining useful life of existing facilities, most notably the trickling filters.”

Design work began on Phase 1 of the project in June 2022 with the award of a professional services agreement with Strand Associates. For nearly two years, the details of the planned modifications were developed and refined by Strand in close partnership with a cross-functional team from the Water Pollution Control Facility. During the design process, staff and Strand utilized a "value engineering" approach that looked for cost-reduction opportunities. Some examples of changes in the design that came about as a result of this approach include the following:

- De-rated the raw pump station to avoid the need to provide expensive explosion-proof motors by reworking the building ventilation
- Reconfigured the aeration basin orientation to reduce the length of pipe required
- Modified the basin drainage pumps to allow one single pump across multiple basins instead of providing a dedicated pump in each basin
- Selected a "variable refrigerant flow" HVAC option for the Administration Building that has lower up-front costs and a higher energy efficiency than conventional HVAC systems
- Adopted the use of turbo blowers for aeration that have a smaller footprint, allowing them to fit within the existing space without the need for a new or expanded building
- Adopted a large bubble mixing system over traditional prop style mixers. This requires fewer motors, higher energy efficiency, and lower construction cost

Some items were considered but were rejected based on the long-term facility needs. These include: installing ductile iron pipe versus C900 PVC pipe; placing the electrical conduits in a concrete duct bank; and utilizing a concrete building design to prioritize energy efficiency over initial construction costs.

All design work has now been completed. All permits and permissions required prior to bidding the project have been secured. A significant public comment effort around the cultural, historical, and environmental aspects of the project was completed with no negative input from the public and a “Finding of No Significant Impact” by the Iowa Department of Natural Resources. The project is now ready to transition into the bidding phase.

The action requested of Council is the issuance of a Notice to Bidders. Staff is recommending a five-week bid window due to the size and complexity of the project. With approval to proceed on May 14, the bid opening would be set for June 26, and the results would be brought to Council on July 9 for a report of bids and a potential contract award. The updated project budget is shown below. **The Engineer’s Opinion of Probable Construction Costs (OPCC) is \$44,700,000.** The "Owner's Equipment Allowance" shown in the table is for things like office furniture, window coverings, break room appliances, AV equipment, shelving in the maintenance shop, and similar expenses not included in the construction contract.

The updated budget summary for the project is as follows.

	Expense	Funding
Engineering		
Original Agreement (design and bidding)	1,675,000	
Amendment #1	763,000	
Amendment #2 (<i>separate action on this agenda</i>)	3,600,000	
Other Professional Services		
Geotechnical	16,620	
Commissioning	74,600	
Special Inspections (estimated)	75,000	
Construction (Engineer's OPCC)	44,770,000	
Owner's Equipment Allowance	275,000	
Owner's Contingency	4,040,780	
Project Funding		
FY 22/23 CIP Actual Expenses		1,000,473
FY 23/24 CIP Final Amendment		2,289,527
FY 24/25 CIP Adopted		25,760,000
FY 25/26 CIP Projected		26,240,000
TOTALS	55,290,000	55,290,000

The funding shown in the right-hand column mirrors what was included in the most recent fund balance and rate projections presented to Council. Actions related to the financing of the project through a Clean Water State Revolving Fund (CW SRF) loan will be brought to Council following the bid opening and award.

ALTERNATIVES:

1. Issue a Notice to Bidders for the Water Pollution Control Facility Nutrient Reduction Modifications Phase I Project, setting June 26 as the bid due date and July 9 as the date of public hearing and award.
2. Do not take action on the project at this time and provide staff alternate direction to comply with the Iowa Nutrient Reduction Strategy requirements of the Facility's National Pollutant Discharge Elimination System (NPDES) permit.

CITY MANAGER'S RECOMMENDED ACTION:

Design work on this project has proceeded in accordance with the City Council approved Facility Plan. The project is now ready for a Notice to Bidders to be issued. Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as noted above.