

COUNCIL ACTION FORM

**SUBJECT: ENGINEERING SERVICES FOR NUTRIENT REDUCTION
MODIFICATIONS AT WATER POLLUTION CONTROL FACILITY**

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, incorporating one of three alternative technologies; simultaneous nitrification denitrification, carbonaceous activated sludge, or granular activated sludge. 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 in three phases over the next 20 years to take advantage of the remaining useful life of existing facilities, most notably the trickling filters.”

The Feasibility Study formed the basis for developing the adopted FY 2022 – FY 2027 Capital Improvements Plan (CIP). That plan includes funds for the Phase 1 Nutrient Reduction Modifications (\$11,395,000) as well as a significant WPC Headworks Modifications (\$10,754,000) project. Because there is an important connection between the headworks and the downstream nutrient removal processes, staff has chosen to include the headworks modifications in the nutrient removal project’s Scope of Work.

On April 4, 2022, staff released a Request for Proposals for engineering services to complete the design and bidding phases of the Phase 1 Nutrient Reduction Modifications and the Headworks Modifications projects. The RFP required that the technical proposal be provided in one envelope, and the cost proposal be provided in a separate, sealed envelope.

On May 5, 2022, a total of three proposals were received. A nine-member internal team comprised of operations, maintenance, engineering/technical, and managerial staff each independently reviewed and scored each proposal. The scoring was done using a rubric that was prepared prior to the RFP being issued and that was shared with the proposing firms in advance so they could be certain of the areas that were most important to the City.

The internal nutrient team met and discussed each proposal in detail. Following that discussion, each team member revealed their individual ratings for the three proposals. The results of that ranking are shown below, reflecting the average score from all raters.

		Strand	HDR	SEH
General Firm Profile	30 pts max	26.2	24.6	21.9
Proposed Project Team	100 pts max	81.8	77.6	70.2
Specific Proposal Elements	15 pts max	12.6	12.8	11.8
Overall Impression	5 pts max	4.4	4.1	3.9
Overall Firm Score	150 pts max	125.0	119.1	107.8

The green shaded boxes indicate the firm rated highest in each of the four general rating categories (there were multiple rating factors in each category); the yellow indicates the firm ranked second; and, the orange shading indicates the firm ranked third.

Once the scores were tabulated, the cost proposal envelopes were opened for all three firms. The evaluation that next took place was to answer the question “Based on the scope of work that the highest rated firm proposed, does their fee appear to be reasonable in comparison to the other highly rated firms?” As shown in the table that follows, the highest rated proposal belonging to Strand Associates was found to be the lowest cost proposal and had an overall average rate (\$/hour) that was very competitive when compared to the other two proposals.

		Strand	HDR	SEH
Overall Firm Score	150 pts max	125.0	119.1	107.8
Proposal Fee		\$1,489,000	\$1,814,773	\$1,935,200
# of Hours		8,082	9,444	10,096
Average Hourly Rate (Fee / # of hours)		\$184.24	\$192.16	\$191.68

With the above information, staff concluded that Strand Associates was the recommended design firm for the WPC Nutrient Modifications Phase 1 project.

Members of the departmental Nutrients Team next made reference calls, talking to project managers with cities where Strand has performed similar work in the recent past. The references were all positive, and mirrored Ames staff's own experience working with Strand on the WPC Digester Improvements, Old Water Plant Demolition, and other projects.

Staff met three times with Strand to review in detail the specific elements of their Scope of Work. While the overall plan to carryout the design and bidding phase proposed by Strand was very thorough, there were additional elements that staff felt were important to be added based on the experience gained during the design of the new Water Treatment Plant. Those items include:

- The addition of a second day-long technology selection workshop with staff.
- Participation in site visits to other facilities to investigate technology and equipment alternatives.
- The development of an updated 3D site plan for the entire WPC facility that incorporates the new construction and an updated base layer of the remaining existing infrastructure.
- The addition of a \$20,000 allowance, that can be accessed only under staff's direction, in case there are unusual challenges or issues that arise when working with the Iowa DNR to obtain construction permits.
- Assisting the City in updating the headworks loading, local limits, and high strength surcharge rates to appropriately incorporate the capabilities of the new treatment

process. This is a requirement of the recently issued NPDES permit for the WPC Facility.

- Inclusion of an additional “constructability” review at the roughly 50% design complete stage.
- The addition of an additional staff workshop to prepare the operations and maintenance staff for the construction phase. It will include topics such as: work sequence; maintaining operations and compliance during construction; communication channels; and other day-to-day challenges during a construction project of this magnitude.
- More frequent updates of the 3D design models, virtual “fly through” videos, and cost estimates.
- The addition of an on-site preconstruction workshop with potential bidders.

Following those review discussions, Strand was asked to update both their formal Scope of Work and their fee proposal to incorporate the above additions requested by staff which totalled an additional \$166,000. Therefore, the updated fee for Strand Associates’ design and bidding services is a lump sum fee of \$1,655,000, plus \$20,000 hourly services for extraordinary permitting assistance as needed.

Staff and Strand have worked to define the scope as completely as possible without building in an over-abundance of contingency or “just-in-case” hours of work. Where possible, the scope calls out reasonably anticipated contingencies with funds that can only be spent at the direction of staff. However, it is important for Council to note that the Scope of Work is likely to change during the design phase as the details of the project become better defined. As an example, it is not known at this point in time if the incoming electrical service to the treatment plant will need to be upgraded as a result of the project. It won’t be until about the midway point in the design before specific equipment and the associated electrical loads are known. Staff explicitly asked Strand to not include the design effort for a new service entrance at this point. If it is later determined to be necessary, that can be added to Strand’s Scope of Work via a change order.

The initial Scope of Work being recommended to Council covers only the design and bidding phases of the project. Construction phase services will be added once the actual construction plan is finalized. Also, there will be additional technical services that will be provided under separate contracts to other firms (such as geotechnical services, special inspections, and any environmental assessments or investigations).

The CIP includes estimated engineering and technical services for this project to be \$3,578,000. That estimate includes the design and bidding services covered by this agreement, as well and the later construction phase services and those technical services mentioned in the paragraph above that will be provided under other contracts.

ALTERNATIVES:

1. Approve the professional services agreement with Strand Associates of Madison, WI, for the WPC Nutrient Modifications Phase I Project in a lump sum amount of \$1,655,000 plus on-call services at staff's direction billed on an hourly basis not to exceed \$20,000.
2. Direct staff to negotiate a different scope of work with Strand Associates.
3. Direct staff to negotiate an agreement with one of the other two proposing firms.
4. Do not award a contract at this time and provide direction to staff on the desired approach to complying with Iowa's Nutrient Reduction Strategy.

CITY MANAGER'S RECOMMENDED ACTION:

The FY 2022-2027 Capital Improvements Plan includes Phase I of the WPC Nutrient Reduction Modifications and the WPC Headworks Modifications, with funding available to start design after July 1, 2022. City staff solicited proposals for design services using a "two-envelope" process where each firm submits a technical proposal in one envelope and a cost proposal in a second, sealed envelope. Three proposals were received and were evaluated by a nine-person departmental team.

The preferred technical proposal was submitted by Strand Associates. After opening the fee proposal envelopes, Strand was also found to have the lowest fee. Staff then worked with Strand to add some tasks to the Scope of Work, and Strand provided an updated fee to incorporate staff's requests.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby approving the professional services agreement with Strand Associates to provide design and bidding phase services in a lump sum amount of \$1,655,000 plus on-call services at staff's direction billed on an hourly basis not to exceed \$20,000.