


CITY OF COOS BAY CITY COUNCIL
Agenda Staff Report

MEETING DATE	AGENDA ITEM NUMBER
September 13, 2016	

TO: Mayor Shoji and City Councilors

FROM: Jennifer Wirsing, Wastewater Project Engineer

THROUGH: Rodger Craddock, City Manager
Jim Hossley, Public Works Director 

ISSUE: Consideration of Award the Contract to Hemphill Water Engineering to Perform a Treatment Evaluation for Plant 2 Consistent with the RFP and the EPA Definition of Best Available Technology.

BACKGROUND:

On August 16, 2016, Council approved the hiring of a third party (unbiased) engineering consultant to conduct a treatment evaluation for the proposed Plant 2 project. As a result, staff prepared a Request for Proposals (RFP) and advertised the RFP the next week with the following scope of work:

The City is seeking an unbiased evaluation and comparison of Sequencing Batch Reactor (SBR) and Membrane Bioreactor (MBR) treatment. The evaluation should also provide a recommendation for the City to consider. The City will select a consultant (or team) to review the completed plans for the Coos Bay Wastewater Treatment Plant 2 SBR Design and compare construction and operation of that design to an MBR plant on the same site and operating under the same influent flows and loading and NPDES permit restrictions. The following services are anticipated:

1. *Comprise an Engineering Review Team with personnel that are proficient in wastewater design and management (particularly with Sequencing Batch Reactor and Membrane Bio-Reactor type treatment).*
2. *Review the existing CH2M design plans for an SBR and associated documentation, including the Environmental Assessment prepared by SHN, the Mutual Agreement and Order with DEQ, and the CMGC not-to-exceed budget for construction of the SBR option. Additional documentation will be provided upon request to the winning proposer.*
3. *Provide a final written report that presents the evaluation and rankings for each parameter, located in Attachment A, and a recommendation as to whether an SBR or MBR is the best for the community in terms of cost and water quality benefit and given that recommendation, whether Class A or Class B biosolids are the best fit for the community in terms of cost and water quality benefit. The report will also include a matrix table that includes the parameters in Attachment A located within this RFP. It is anticipated that there will be two matrix tables: one for the treatment comparison and one for the biosolids comparison. The table will summarize the successful proposer's evaluation and provide a valued ranking of each of the parameters. **Overall the Council wants to understand how the treated effluent (utilizing SBR or MBR technology) would affect the water quality of the bay and how much will the***

- technology cost the City's rate payers.**
4. *The report shall include cost estimates for each treatment option including capital and life cycle costs.*
 5. *Attend one kick off meeting and a City Council meeting to present the findings in the report and discuss the parameters with the Council.*

Attachment A of the RFP has been included with this Staff Report. Attachment A also utilized the Environmental Protection Agency's (EPA) definition of Best Available Technology (BAT) as one of the evaluation criteria.

Three proposals were received from the following firms: Kennedy Jenks, Keller and Associates, Hemphill Water Engineering. A work session was held on September 9, 2016 to discuss the three proposals including Mayor Shoji, Councilor Daily and Councilor Groth. The first thing that was discussed was whether or not the three proposals were responsive. Council felt that the proposal from Kennedy Jenks was non-responsive because they did not follow the format in the RFP and the firm appeared to be under the misunderstanding that the City wanted an evaluation to convert the proposed SBR plant to an MBR plant.

The two proposals that were evaluated were Keller and Associates and Hemphill Water Engineering. The council felt that both of these firms were qualified to do the job and had the appropriate staff and experience. They both accepted the aggressive timeline and submitted a proposal that was consistent with the RFP. However, Hemphill Water Engineering proposed analyzing and modeling the impact to water quality in the Bay and analyzing the impacts that the effluent has on the Bay with the model. Hemphill proposed utilizing existing studies and computer models. This firm was the only firm that emphasized the Council's concern for the Bay's water quality.

The proposal amounts are as follows:

Firm	Proposal Amount
Keller and Associates	\$46,200
Hemphill Water Engineering	\$46,419

Note, if Council awards a contract for this project, Staff has scheduled a Kick Off Meeting for September 19, 2016 at 10:00 am. Council is invited to attend.

ADVANTAGES:

Having an unbiased, third party analyze and compare an SBR and MBR and determine what type of treatment technology meets the EPA's definition of BAT will help Council determine what kind of wastewater treatment plant is best for the City of Coos Bay's rate payers and the environment. Additionally, the study will also analyze Class A and Class B biosolids and this information will also help the Councilors make decisions about solid waste.

DISADVANTAGES:

Staff sees none.

BUDGET IMPLICATIONS:

Funds for this project will come from the Wastewater Improvement Fund, Department 810,

Wastewater Emergency (29-810-530-3010). Hemphill's proposal is for a lump sum amount of \$46,419. If scope is expanded based on recommendations from Council, staff recommends including a 15% contingency to cover potential extra scoping items for a total amount of \$53,380.

ACTION REQUESTED:

If it pleases the Council, award the contract to Hemphill Water Engineering to perform a treatment evaluation for Plant 2 consistent with the RFP and the EPA definition of best available technology for a cost not to exceed \$53,380.

Attachments

Attachment A of RFP

Attachment A: Parameters to be Analyzed and Compared

TREATMENT PLANT:

For each parameter below provide an evaluation and a value ranking. Each parameter has criteria that expand on the parameter. At a minimum these criteria should be considered, however it is anticipated that the successful proposer may have additional criteria. The matrix table for the treatment evaluation shall also include each of these parameters.

Schedule

- Obtain all regulatory approvals
- Prepare planning and design/specifications
- Commence Construction
- Complete Construction
- Overall: Evaluate total time from initiation of project to substantial completion

Financial

- Life Cycle Costs for the following Items:
 - Cost for environmental permitting, predesign, value engineering and design
 - Construction Cost
 - Annual Operations Cost
 - Estimated total DEQ fine that would accrue between 11/23/16 and breaking ground given a Council decision to start the option by 10/4/2016 @ \$1,600 per day.
- Impact on rates assuming current 12,500 EDUs for calculation purposes
- Ability to obtain low interest financing or grants

Environmental and Water Quality

- Evaluate the effluent of the two treatment options with respect to:
 - Treatment effectiveness for BOD and TSS in mg/L and average annual pounds/day
 - Treatment effectiveness of Nitrogen levels
 - Treatment effectiveness of bacteria, virus and contaminant removal (Caffeine, medication, metals)
- Level of viruses, bacteria and contaminants in the sludge wasted from the plant
- Quantity of biosolids produced for a given influent loading
- Ability to meet BAT as defined by EPA

Operability

- Complexity of operation and required skill level of operators
- Ability to respond to changes in flows and incoming loads
- Longevity of major components
- Estimated required maintenance staffing level (man hours per year and minimum number of operators)
- Multiple source availability of parts
- Ability to upgrade to meet future needs

Community Impact

- Odors and Noise
- Footprint (ability to fit on current site) and profile (view obstruction)
- Traffic to and from the plant

Regulatory

- Ability to meet current permit requirements
- Ability to meet anticipated EPA effluent requirements over 20-year study period
- NPDES/MAO concerns

BIO-SOLIDS

For each parameter please provide a valued ranking for each option, SBR with Class A Biosolids, SBR with Class B Biosolids or MBR with Class A Biosolids or MBR with Class B Biosolids (Four options). Class B biosolids would be produced with the existing anaerobic digesters at WWTP 1. Class A biosolids would be analyzed based on a method selected by the review team as representative of a system suitable for a community of similar size and location. The matrix table for the biosolids evaluation shall also include each of these parameters.

Schedule

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Financial

- Life Cycle Costs for the following Items:
 - Cost for environmental permitting and design
 - Construction Cost
 - Annual Operations Cost
 - Estimated total DEQ fine that would accrue between 11/23/16 and breaking ground given a Council decision to start the option by 10/4/2016 @ \$1,600 per day.
- Impact on rates assuming current 12,500 EDUs for calculation purposes
- Ability to obtain low interest financing or grants

Environmental

- Level of viruses, bacteria and contaminants in the finished biosolids
- Ability to meet BAT as defined by EPA

Operability

- Complexity of operation and required skill level of operators
- Ability to respond to changes in loads
- Longevity of major components
- Estimated required maintenance staffing level (hours per week)
- Multiple source availability of parts
- Ability to upgrade to meet future needs
- Quantity of biosolids generated per unit of influent solids
- Ability of biosolids to be dewatered
- Ability to store and dispose of biosolids

Community Impact

- Odors and Noise
- Footprint
- Traffic to and from the plant and or disposal site
- Exposure to contaminants/viruses/bacteria at final disposal locations

Regulatory

- Ability to meet current permit requirements
- Ability to meet anticipated disposal requirements over 20-year study period