

City of Minneapolis
Request for Committee Action

To: Transportation & Public Works
Date: 10/27/2015
Referral: Ways & Means
From: Public Works Department
Prepared by: Li Zhang, Professional Engineer
Presented by: Li Zhang and Glen Gerads, Director, Water Treatment and Distribution Services
File type: Action
Subcategory: Contracts & Agreements

Subject:

Engineering Services Agreement with CH2M for Fridley Softening Plant Recarbonation System Improvements

Description:

Authorizing the proper City officials to execute an engineering services agreement with CH2M for \$640,000 for design and construction phase services for Fridley Softening Plant Recarbonation System Improvements. Also authorizing proper City officials to direct the work of this consultant.

Previous Actions:

December 10, 2014 – Council adoption of 2015 Capital Budget, including \$2,500,000 for WTR26 Fridley Softening Plant Recarbonation System Improvements.

Ward/Address:

Not Applicable

Background/Analysis:

Public Works Water Treatment and Distribution Services Division issued a Request for Proposal to select a consultant for design and construction administration services for the Fridley Softening Plant (FSP) Recarbonation System Improvements Project. The Division received proposals from three engineering firms and an internal review team unanimously selected the firm of CH2M based on their qualifications to perform the work. The engineering services agreement will include design, bid phase services, and construction services. The engineering fee for the agreement will be \$640,000.

Project Background

Lime softening is the initial treatment process after raw water is drawn from the Mississippi River, meant to partially remove mineral content from the water. In addition, approximately half of the natural organic matter from vegetation like fallen leaves, is removed by this process. Removing the organic matter helps reduce odors and reduces the potential for disinfection byproducts.

Softening raises the pH of the water, which necessitates recarbonation. Recarbonation adds carbon dioxide (CO₂) to the water, bringing it closer to neutral pH for the next stages in the treatment process. The existing CO₂ feed system and storage tanks were installed between 1947 and 1951. The existing feed system uses CO₂ inefficiently and does not provide stable pH control compared to modern systems. The storage tanks can provide only eight days of storage at average demand.

Replacement of the existing CO₂ feed and storage equipment at FSP was identified as a priority project. The City has included this project in the 5-year capital program. In 2015, a feasibility study was conducted to identify the major elements of the improvements. The study recommended installing new CO₂ feeders, installing new CO₂ storage tanks for a 30-day supply at average demand, and modifying the recarbonation basins to improve the effectiveness of the feed system. The project will achieve stable pH control, improve water quality and improve system reliability. The estimated overall project budget is \$7,000,000. Funds are available in the Capital Budget. No additional appropriation is required.

Financial Review:

No additional appropriation required, amount included in current budget.

- Future budget impact anticipated.**
- Approved by the Permanent Review Committee.**
- Meets Small and Underutilized Business Program goals.**