



**Request for City Council Committee Action
From the Department of Public Works**

Date: February 1, 2005
To: Honorable Sandra Colvin Roy, Chair Transportation & Public Works Committee
Referral to: Honorable Barbara Johnson, Chair Ways & Means/Budget Committee
Subject: **Amendment #1 to Contract with Black & Veatch for Columbia Heights Membrane Filtration Plant**

Recommendation:

1. Authorize execution of amendment to contract with Black & Veatch increasing the contract by \$648,000 for Scope Amendments 1, 2, 3, 4, and 5, for a total contract price of \$5,148,000 and extending the time period until completion. Funds are available within the project budget (Water 7400/ 950/ 9515). City agreement number C-017864.

Previous Directives:

- On November 21, 2001, the City Council authorized preparation of an agreement with Black & Veatch for engineering and architectural services for design and construction phase services for the Columbia Heights Membrane Filtration Plant for a total sum not to exceed \$4,500,000.
- On January 14, 2005, the City Council accepted the bid for a project (O.P. #6364) to construct a Water Treatment Plant Residual Lagoon, to be constructed by Landwehr Construction, Inc.

Prepared by: Dale A. Folen, P.E., Professional Engineer, Ext. 4908

Approved by: Klara A. Fabry, P.E., City Engineer, Director of Public Works

Klara A. Fabry, P.E., City Engineer, Director of Public Works

Presenters: Adam J. Kramer, P.E., Director of Water Services

Financial Impact (Check those that apply)

No financial impact - or - Action is within current department budget.
(If checked, go directly to Background/Supporting Information)

Action requires an appropriation increase to the Capital Budget

Action requires an appropriation increase to the Operating Budget

Action provides increased revenue for appropriation increase

Action requires use of contingency or reserves

Other financial impact (Explain):

Request provided to the Budget Office when provided to the Committee Coordinator

Background/Supporting Information

The Public Works Capital Improvement Plan includes building a new 70 million gallon per day Water Treatment Plant using ultrafiltration membranes as the treatment technology. This new plant, called the Columbia Heights Membrane Filtration Plant (CHMFP) will replace the existing Columbia Heights Filtration Plant, which was mostly constructed in the period from 1913 to 1919. The primary objective of the overall plan is to provide physical removal of pathogenic microorganisms and improve the quality of water delivered to the citizens of Minneapolis.

The original contract with Black & Veatch was executed for \$4,145,000, though City Council authorized preparation of a contract up to \$4,500,000.

Current Request

Several issues arose during the design and construction phases that merited project changes. Scope Amendment 1 included several changes that were determined to be needed or were improvements to the project during the design phase. The cost of Scope Amendment 1 was within the contract amount originally authorized by Council, so no additional authorization is needed for this amendment.

Scope Amendment 2 includes extra engineering time needed for review of shop drawings prepared by Ionics, Inc., the ultrafiltration equipment manufacturer for CHMFP, with a cost of \$74,000. The long list of shop drawings needed more effort to review and correct than anticipated.

Scope Amendment 3 includes engineering services for the design and construction of a new Treatment Plant Residual Lagoon. This lagoon project idea was developed during the design phase, and determined to have a project cost substantially lower than the initial and ongoing cost of sending membrane cleaning water (residuals) from CHMFP to a sanitary sewer. The majority of the Design Phase fee for this lagoon was within the contract amount originally authorized by Council. The current request is for the amount of \$138,000 to cover the construction phase engineering services fee, and remainder of the design fee.

Note: The construction and engineering costs for the Lagoon project are currently estimated at \$2,200,000. The Sewer Availability Charge (SAC) for residuals from the CHMFP alone would have been \$3,420,000. The annual usage charge for flow from CHMFP to a sewer would have been about \$185,000 per year. The overall life-cycle cost for disposal to a sanitary sewer (20-year Present Value) would have been about \$5,700,000. A similar or larger cost would also be required for the future UF plant at the Fridley water works site (FMFP). The Lagoon has been designed to accept residuals from both CHMFP and FMFP.

Scope Amendment 4 includes extra engineering time needed for a longer construction period than originally agreed to, caused by several project delays, largely due to late shipments from the equipment manufacturer, with an anticipated cost of up to \$100,000.

Scope Amendment 5 includes a computer based Operation & Maintenance (O&M) manual for the overall project, with a cost of up to \$336,000. The technology for this type of manual was not available in its current form when the City issued the Request for Proposal for the project. An earlier version of the manual was an optional task in the original proposal, but the task was held for later decision, pending a more clear understanding of the technology. The computer based O&M manual will give several benefits to those working at the treatment plant, including better security for sensitive information about the water treatment plant.

C: Shahin Rezania, P.E., Engineering Services
 Lee Larson, Contract Management