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## Capital Project #2565 – WTP – Transfer Pumping and Electrical Upgrades – Budget Adjustment

### Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

That a budget adjustment in the amount of \$3,000,000 to Capital Project #2565 – WTP – Transfer Pumping and Electrical Upgrades, funded from the Water Utility Capital Reserve, be approved.

### Topic and Purpose

The purpose of this report is to request City Council approval for a budget adjustment to Capital Project #2565 – WTP – Transfer Pumping and Electrical Upgrades.

### Report Highlights

1. The new pumping system and electrical upgrades at the Water Treatment Plant (WTP) will provide both redundant transfer pumping for ultimate capacity and improved reliability and safety.
2. A budget adjustment is being requested from the Water Utility Capital Reserve to fund Capital Project #2565 – WTP – Transfer Pumping and Electrical Upgrades.

### Strategic Goals

This report supports the Strategic Goals of Asset and Financial Sustainability and Sustainable Growth by maximizing the capacity of the existing WTP and incrementally upgrading the process areas.

### Background

The City recently commissioned the Avenue H Reservoir expansion, UV disinfection system, and new high lift pumping station. The previous high lift pumping equipment was converted to a transfer pumping system, conveying water from the WTP clear wells through the UV disinfection system and into the expanded reservoir storage volume. Use of the existing high lift pumping system was a short-term solution and was intended to be utilized for approximately three years.

### Report

The primary objective of the WTP Transfer Pumping and Electrical Upgrades project is the construction of a fully redundant transfer pumping system to convey water from the plant clear wells through the UV disinfection system and into the adjacent reservoir. The existing transfer pumping system is at the end of its life and requires upgrades to meet the WTP's long-term ultimate treatment capacity of 410 million litres per day.

An essential component of transfer pumping is electrical upgrades, including instrumentation and controls. The upgrades involve new 4160 V/600 V infrastructure which will enhance operation safety. The changes will affect all major process areas including filters, chlorine, chemical feed, control power supplies, residuals handling, clarifiers, UV disinfection, and sand separation. The critical part of the electrical upgrades is the addition of the standby power capacity which will improve entire water plant reliability and redundancy.

A tender for the construction of this project was recently issued. The lowest bid was above the initial project estimate and will require additional funding of \$3,000,000 in order to award the contract.

### **Options to the Recommendation**

An option would be to not approve the budget adjustment. This would result in the WTP maintaining operations using a temporary mid lift pumping system until the requested funds are acquired.

### **Communication Plan**

The construction process will require a full closure of 11<sup>th</sup> Street between Avenue H and Avenue I, Avenue H between 11<sup>th</sup> Street and 12<sup>th</sup> Street and a portion of Spadina Crescent south of 11<sup>th</sup> Street beginning in March.

These sections of roadway are scheduled to be permanently closed as part of the WTP Security Upgrade project later this summer. The updated timing of the Transfer Pumping and Electrical Upgrades project now precedes the Security Upgrade and Dundonald Road rehabilitation.

Signage and temporary traffic calming will be used to minimize impact of traffic on adjacent streets. Prior to the start of construction, the City will notify affected residents, the community association, and adjacent businesses of the closure with flyers and a new project webpage that will provide updates on both projects impacting traffic and access to the river in that area.

### **Financial Implications**

The project currently has \$38,366,599 in approved funding. Following completion of the tender stage, the revised total cost, including all additional internal costs, is \$41,366,114 resulting in requirement for a budget adjustment of \$3,000,000.

The Administration recommends this budget adjustment be addressed by providing the \$3,000,000 of additional funding required for Capital Project #2565 – WTP – Transfer Pumping and Electrical Upgrades from the Waterworks Capital Projects Reserve. There is sufficient funding in the reserve.

### **Environmental Implications**

The transfer pumping project will replace the old, inefficient equipment (pumps, valves, electrical, and control equipment) with the new infrastructure that meets recent

American National Standard Institute and American Water Works Association installation and efficiency standards and best practices.

The efficiencies generated by using dedicated transfer pumps, which are designed to consistently meet or exceed an 80% pumping efficiency, will allow for the elimination of the current flow and pressure control practice involving draining of the pressure reducing valves wasting approximately 4.2 GWHr per year. These upgrades are estimated to result in an operational energy savings of \$336,000 per year, as well as greenhouse gas emissions savings of 2,670 tonnes CO<sub>2e</sub> per year (or the equivalent of removing 565 vehicles from our roadways). The actual energy savings and the environmental impact will be confirmed after the installation and commissioning are completed.

**Other Considerations/Implications**

There are no policy, public and/or stakeholder engagement, privacy, or CPTED implications or considerations.

**Due Date for Follow-up and/or Project Completion**

This project has a planned construction phase of 33 months, with scheduled commissioning and completion for November 2021.

**Public Notice**

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

**Report Approval**

Written by: Krystyna Kotowski, Senior Project Management Engineer  
Reviewed by: Pamela Hamoline, Engineering Services Manager  
Reid Corbett, Director of Saskatoon Water  
Approved by: Trevor Bell, Acting General Manager, Utilities & Environment Department

Admin Report – CP 2565-WTP–Transfer Pumping\_ Electrical Upgrades – Budget Adjustment.docx