

Report to Council



Date: November 30, 2015
File: 1890-01
To: City Manager
From: Andrew Reeder, Utility Planning Manager
Subject: Cedar Creek Pump Station - Purchase and Installation of Third Pump

Recommendation:

THAT Council receives, for information, the report from the Utilities Planning Manager dated November 30, 2015 regarding the Cedar Creek Pump Station - Purchase and Installation of Third Pump;

AND THAT the 2015 Financial Plan be amended to include \$300,000 for this project, funded from the Water Quality Enhancement Reserve for the purposes of constructing a third duty pump at the Cedar Creek pump station.

Purpose:

To amend the 2015 Financial Plan in order to increase the scope of the Cedar Creek Water Supply project to include the addition of a third pump and ancillary works.

Background:

The Cedar Creek water supply project began over a decade ago to provide properties in the Mission and south slope neighbourhoods with a source of secure, high quality drinking water that would meet Canadian Drinking Water Standards and Interior Health requirements well into the future. In the long term Cedar Creek pump was expected to replace the Eldorado pump station as a source of water.

The water supply project consists of the Cedar Creek Pump Station (located at the lake), expansion of the Stellar Booster Station on Stellar Drive, completion of a dedicated large diameter pipe from the Cedar Creek Pump Station to Stellar Drive Booster Station and on to a new Water Treatment Plant at the Adam's Reservoir site.

The Cedar Creek Pump Station, the dedicated large diameter water main and the water treatment facility at Adam's Reservoir are complete.

The Cedar Creek Pump Station has two 700 horsepower pumps, and the facility has been designed and built to accommodate two more. For the last four years Utility Services has been using these large pumps. This past summer a starter motor failed due to heat buildup. Recently a pump expert was brought in to review the operation of these pumps and concluded that these pump motors cannot reliably be expected to operate at the current number of cycles (stops and starts) per day. Even with the two pumps alternating in their operation, the pump motors are cycling too many times per day and are not sufficiently cooling between the pumping cycles.

The replacement cost for these 700 hp motors is approximately \$80,000 each with a 5 to 6 month delivery period.

Should one of these pumps fail, the other pump is sized to deliver the required water for the water system. This would place a high stress on the remaining pump motor as there would be no alternation between pumps and no chance for the pump motors to cool. Operating in this fashion, the second pump motor may burn out shortly after first motor has failed. Without water from the Cedar Creek pump station, we will lose our ability to provide water for fire protection and domestic water in portions of the City.

Staff are proposing to construct the piping works for a third pump, and add a new smaller duty pump that would be sized to manage regular daily flows. In peak demand, or in the event of an emergency, the two existing pumps will assist the smaller pump.

It is expected that the proposed smaller duty pump will significantly reduce wear on the larger pump motors and will also reduce peak hour electrical costs. While the exact amount of savings on the life of the 700 hp motors is unknown, we expect that running the smaller pump will save up to \$18,000 savings per annum in electrical fees.

Staff are currently working with IHA to authorize the continued operation of the Eldorado Water Treatment Plant and pump station. While staff believe that the City will be successful in keeping Eldorado online, there are new emerging development demands that will likely require the Stellar booster station to be upgraded. We don't expect these demands to be fully realized within the next five years.

Due to the existing risk of pump motor failure, staff are recommending the installation of a duty pump as soon as possible.

Financial/Budgetary Considerations:

The 2015 Capital Financial Plan will require an addition of \$300,000 funded from the Water Quality Enhancement Reserve.

Internal Circulation:

Utility Services Manager
Divisional Director, Civic Operations
Divisional Director, Infrastructure.
Financial Planning Manager

Considerations not applicable to this report:

Legal/Statutory Authority:

Legal/Statutory Procedural Requirements:

Existing Policy:

Personnel Implications:

External Agency/Public Comments:

Communications Comments:

Alternate Recommendation:

Submitted by:

A. Reeder, Utility Planning Manager

Approved for inclusion:



A. Newcombe, Infrastructure Divisional Director

cc: Divisional Director, Civic Operations
Divisional Director, Infrastructure.
Financial Planning Manager
Utility Services Manager