



THE CORPORATION OF THE MUNICIPALITY OF KINCARDINE

Subject: Huron Terrace Sewage Pump Station Upgrades

Report Number: Public Works-2021-02

Meeting Date: Friday, January 15, 2021

Recommendation: THAT Council approve the budget increase for project H002 Huron Terrace Pump Station Upgrades from \$2,200,000 to \$3,000,000 to support the required upgrades in 2021.

Date to be considered by Council: Friday, January 15, 2021

Report Summary:

The 2020 capital budget included projects to replace the forcemain and upgrade the pump station for the Huron Terrace catchment. BMROSS has completed the preliminary design and is working towards final designs for the Huron Terrace Pumping station upgrades. The upgrades are planned for tender in the first quarter of 2021 with construction to commence soon after to support the Forcemain project upgrades. The final design solution results in a budgetary increase. The 2020 capital budget approved a project value of \$2.2 million; the final scope planned increases the budget to \$3 million inclusive of engineering. Staff are requesting Council approve the budget increase as part of the 2021 budget deliberations to enable the project to proceed with the design completed.

Origin: 2020 Approved Capital Budget

Existing Policy: n/a

Background/Analysis: The 2020 capital budget included project H002 for the necessary upgrades to the Huron Terrace Pumping Station at a projected cost of \$2.2 million. Through 2020 the design for the planned upgrade was completed, looking at a variety of solutions to provide expanded capacity and overall improvements to daily operations and operators health and safety. BMROSS put together 4 alternative solutions, of which staff reviewed with BMROSS to consider the overall pro's and con's of each scenario, with further consideration to the long term needs of the station.

The current station was constructed in 1980. This is the first known major upgrade to the site. The original plan was to use dry-pit pumps in the existing structure; with no wet-well expansion and no automatic screening. The current plans include the following: install submersible pumps, increase wet-well capacity (approximately double) and install an automatic screen. These changes contribute to the need for a separate valve/meter chamber on the site; a small new electrical building; reconfiguration of the station inlet sewer and reconstruct the station overflow sewer; and installation of a concrete liner system within the wet-well.

The submersible vs dry pit pump configuration is partially an operational preference consideration. The benefits of submersibles include for maintenance pumps are “pulled” to surface level without the need to disconnect suction or discharge piping at the bottom of a pump station building. This can save an operator time for planned maintenance or emergent repairs, as well as a health & safety benefit with the elimination of confined space entry and the potential for submersion in sewage waste while maintaining a dry pit pump. Additionally, for motor cooling, there is a greater volume of water surrounding the pump motor.

For the wet well increase the largest benefit in the event of loss of pumping capability is a greater time to respond before station overflow. This provides additional operational flexibility during significant operational events and overall reduces the impact to the environment. This also attributes to less cycling of pump on/off cycles, saving wear & tear on the pumps. This will also increase the physical space to work in during future station maintenance activities.

The recent upgrades to the Connaught sewage pump station included an auto bar screening unit. The existing stations do not include this feature, which then requires physical removal by means of confined space entry imposing a risk to the workforce involved in maintenance. Some of our sites have little capability to screen meaning items that are unrelated to sewage such as wipes, rags, needles etc. are attempted to transfer through the pumps causing clogs that require manual maintenance and safety risks to the staff and premature failure of pumps. The design includes an auto screening system to remove this spoil which will improve the overall functionality of our system and greatly reduce operational downtime and safety risks to our staff.

The elements highlighted result in a revised budget of \$3 million inclusive of engineering to complete the proposed upgrades of the site. The amended scope will provide a more well-rounded long-term solution which staff feel would defer or eliminate a future ask for the main pumping station location. Scope and subsequent budget planning for wet well upgrades can be more challenging than visualizing needs for a road reconstruction project. While the revisions result in a net value increase of over 25%, the final product delivered and long-term value with the planned design impose significant operational and health and safety improvements.

Council is being asked to support the final design and is being requested to increase the project budget as part of the 2021 budget deliberations. The project is planned for tendering in the first quarter of 2021; with construction to commence this spring to align with the forcemain upgrades already underway and to be completed in 2021.

Corporate Strategic Plan 2020-2025: Sustainable Practices - The Municipality is progressive in its efforts to maintain and build out infrastructure, its operational practices and managing finances.

Financial Implications: This project is being funded from the Sewer Reserve Fund 67, which has a projected balance of \$3.999 million for December 31, 2021. After providing for the \$800K increase in project costs, this will leave a projected balance of \$3.199 million.

Attachments: n/a