

## **Budget Adjustment Request - Capital Project #1416-16 - Land Development Trunk Sewer - Hampton Village - Glenwood Sanitary Trunk (Claypool to Gallagher)**

### **ISSUE**

Capital Project #1416-16 - Land Development Trunk Sewer - Hampton Village - Glenwood Sanitary Trunk (Claypool to Gallagher) currently has insufficient funds to proceed with Contract No. 21-0005 Hampton Business Park Sanitary Sewer Trunk due to design alterations and the planned construction methodology. The purpose of this report is to seek approval to adjust the budget by an amount of \$717,500 sourced from the Trunk Sewer Reserve.

### **RECOMMENDATION**

That the Standing Policy Committee on Finance recommend to City Council:

1. That a budget adjustment increase to Capital Project #1416-16 - Land Development Trunk Sewer - Hampton Village - Glenwood Sanitary Trunk (Claypool to Gallagher) in the amount of \$717,500 be approved; and
2. That the budget adjustment be funded from the Trunk Sewer Reserve.

### **BACKGROUND**

Capital Project #1416-16 - Land Development Trunk Sewer - Hampton Village - Glenwood Sanitary Trunk (Claypool to Gallagher) was identified as a Prepaid Land Development project several years ago. The overall purpose of this land development project is to complete all necessary trunk sewers and storm ponds for both the Hampton Village Residential and Business Park neighbourhoods. The 2020 Council Budget deliberations approved \$1,400,000 in funding for the construction of the first segment of the Glenwood Sanitary Trunk (Claypool to Gallagher). Anticipated construction for this sewer trunk was proposed for 2022; however, due to adjacent private land development planned to start in 2021, the project was moved up to 2021.

### **DISCUSSION/ANALYSIS**

#### Project Overview and Scope of Work

The first segment of the Glenwood Sanitary Trunk (Claypool to Gallagher) is situated along the future Glenwood Road alignment, within the Hampton Village Business Park Neighbourhood. The location of the segment can be seen on the attached Project Site Plans (Appendix 1 and 2). The depth of the trunk is designed to be approximately 13 metres below surface. The section of trunk sewer that will be constructed in 2021 will not be connected to the City sewer system until a future date. Connection will eventually occur following the construction of a lift station south of the site and subsequent sections leading to the site.

The decision to proceed only with this northernmost segment in 2021 is due to the private land development that is starting construction in 2021 at the corner of Claypool Drive and the future Glenwood Road. Approximately 165 metres of Glenwood Road, south of Claypool Drive, will need to be constructed and paved to accommodate development of the parcel.

The installation of the trunk sewer beneath this section of roadway prior to the roadway being constructed will avoid future removal of the roadway to install the trunk sewer.

The crossing of Claypool Drive with the trunk sewer within this phase will avoid future disruption of Glenwood Road. If the crossing of Claypool was deferred to a later date, most of the roadway along Glenwood Road would still need to be removed to accommodate the large excavation required to make a connection to the 13 metre deep trunk in order to extend it across Claypool Drive.

The overall scope of work in 2021 will consist of 214 metres of trunk sewer pipe installation by means of deep trenching. The 90 metre section of pipe which runs underneath Claypool Drive will be constructed through trenchless means to minimize disturbance to utility and roadway infrastructure and disruption to traffic on Claypool Drive.

#### Design and Construction Implications

The need for the budget adjustment is due to the unique nature of the project, specifically the increase in costs due to the design and construction constraints involved with the execution of the work.

#### Pipe Depth and Soil Conditions

Higher quality reinforced concrete pipe is needed to ensure that the buried infrastructure can handle the high soil stresses. Following a preliminary geotechnical engineering investigation of the trunk alignment, it was determined that the soil conditions require shallower trench slopes and/or the need for trench shoring to meet Occupation Health and Safety regulations. The increase in soil excavation and/or the need for deep trench shoring has increased the cost estimate for the project.

#### Crossing of Claypool Drive

Claypool Drive is a key access and egress route for the Hampton Village neighbourhood. There are also critical utilities running along Claypool Drive, including power, cable, high pressure natural gas, and storm sewer. Considering these constraints, it was decided to proceed with the trunk construction crossing Claypool Drive through trenchless methodologies. Trenchless installation has the following benefits:

- Access to Hampton Village would not be interrupted for an extended time;
- Key shallow utilities would not be exposed and undermined thus risking their integrity; and,
- All surficial features, such as sidewalks, curbs, catch basins, pavement, and streetlights would not need to be replaced and/or dismantled and reinstalled.

## **FINANCIAL IMPLICATIONS**

Capital Project #1416-16 currently has an allocation of \$1,400,000 for this segment of the Glenwood to Gallagher sanitary trunk. This amount is to cover all aspects of the project, including internal costs (design work, engineering, inspection, testing services, and administration costs), construction, contingency, and tax. Considering the aspects described above, the updated cost estimate is as follows:

Sanitary Trunk Construction	\$1,400,000
Contingency (25%)	\$ 350,000
Sub-total	\$1,750,000
GST (5%)	\$ 87,500
PST (6%)	\$ 105,000
Internal Costs (15%)	\$ 262,500
GST (5%) Rebate	\$ 87,500
Total Estimated Funding Requirement	\$2,117,500
Estimated Funding Increase from Trunk Sewer Reserve	\$ 717,500

The contingency allowance of 25% is due to the complex nature of the project and is meant to be in place to minimize any future unforeseen risk that may arise during the construction. Some of these uncertainties include but are not limited to: actual deep soil conditions, rock encounters during trenchless pipe installation, unfavourable groundwater conditions, increased safety considerations, alternative equipment considerations due to construction methods and airport land restrictions and specialized concrete pipe costs.

A revaluation of the cost of the project using conventional open trench methods across Claypool Drive was completed for comparison purposes. The cost would need to include the complete replacement of the surficial roadway infrastructure and the reinstallation of the street lighting. The base construction costs were estimated at an increase of \$280,000 over the trenchless method. The contingency factor would not change as similar soil uncertainties remain, with the addition of the premium costs, what would be applied to ensure the integrity of the utilities running along Claypool Drive, were preserved.

## **OTHER IMPLICATIONS**

### Surficial Soil Piles

A portion of the work to take place onsite will involve removing and relocating previously dumped soil piles currently spread across the trench alignment and on City of Saskatoon owned lands within the Hampton Business Park area. This removal is necessary for the trunk project to proceed, however, the cost centre for this earth work will not be from Capital Project #1416-16, but an alternative source. The soil will be relocated to other Saskatoon Land development areas that require fill material. Since

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the cost of the earth work will not be paid by Capital Project #1416-16, it was not included in the Financial Implications.

Private Development

Kahkewistahaw Economic Management Corporation will initiate the development of the parcels south of Claypool Drive between Glenwood Road and future 'Street 2' in the 2021 construction season. The parcels will undergo site grading and local water and sewer main construction, following with curb and gutter and local roadway construction. The latter work will be occurring concurrently with the sanitary trunk construction. The trunk timeline may need to be accelerated for the surficial roadwork on Glenwood Road to proceed this year.

**NEXT STEPS**

Procurement documents are being prepared for the project. If City Council approves the budget adjustment, it is anticipated the tender documents will be in place for a Request for Quotations occurring shortly after City Council approval.

**APPENDICES**

1. Project Site Plan
2. 21-0005 HBP Sanitary Sewer Trunk – Project Location

**Report Approval**

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