

Drainage Utility Spring 2017 Capital Budget Adjustment

Recommendation:

That Utility Committee recommend to City Council:

That Administration bring forward as part of the spring 2017 Supplemental Capital Budget Adjustment the proposed amendments to the 2015-2018 Drainage Utility Capital Budget as outlined in Attachments 2-10 of the April 24, 2017, City Operations report CR_4543.

Report Summary

This report summarizes the recommendations on amendments to the 2015-2018 Drainage Utility Capital Budget. These capital budget amendments are part of the Spring 2017 Supplemental Capital Budget Adjustment recommendation report (Financial and Corporate Services report CR_4496) for approval at the May 9, 2017, City Council meeting.

Report

Background

Council approved the 2015-2018 Drainage Utility Capital Budget at the Budget Council meeting held on November 26, 2014. Drainage Utility Capital Budget adjustments align with the City Capital Budget adjustment process in the spring and fall. The Supplemental Capital Budget Adjustment process provides an opportunity to adjust the capital budget in response to changing project needs, and changes in funding and priorities. The adjustments presented in this report will be presented to City Council for approval on May 9, 2017.

A financial summary sets out the Capital budget adjustments that require Council approval and is provided in Attachment 1. Attachments 2-10 provide the Business Cases for new and changing Capital Profiles. Attachment 11 provides a summary of the impact to the typical residential customer.

Drainage Utility Supplemental Capital Budget Adjustment Highlights

Attachment 1 provides the Spring 2017 Capital budget adjustments and includes both increases and decreases to funds for new and existing capital projects as follows:

2.1 New Profiles recommended for funding; 2.2 Scope Changes; 2.3 Re-costing and 2.4 Historical adjustments.

The Drainage Utility 2015 - 2018 Approved Capital Budget totals \$987 million, of which approximately \$385 million is budgeted in 2017 and 2018. The Spring 2017 Capital Budget Adjustment would result in an overall net budget increase of \$17.7 million. The proposed budget adjustments that require additional funding total \$27.6 million for three new profiles:

- trunk sewer rehabilitation work at West Jasper Place (17-23-9806) of \$24 million
- acquiring portions of land to lower and naturalize Mill Creek (17-23-9807) of \$2.3 million
- transitioning into the Project Development and Delivery Model by carrying out concept development and design work early for the next capital budget cycle (CM-99-0002) with a total budget of \$1.3 million

The preceding budget increases are offset by reductions totaling \$18.3 million.

- There are overall project reduced costs in the Mill Woods Double Barrel Replace/SESS (South Edmonton Sanitary Sewer) SA1 (08-23-9202) of \$10.0 million.
- Ekota Dry Pond and Menisa Storm Relief (16-23-9801) of \$2 million.
- Deferral of capital project work to the 2019-2022 Capital Budget:
 - Creek Erosion Protection (CM-31-9604) of \$2.6 million,
 - Sewer System Upgrading (CM-23-9703) of \$2.5 million, and
 - River for Life (CM-23-9640) of \$1.2 million.

West Jasper Place Trunk Sewer Rehabilitation (17-23-9806)

The West Jasper Place Trunk Sewer Rehabilitation (17-23-9806) project funds rehabilitation of three deep sanitary trunk sewers in the West Jasper Place neighbourhood. The original scope of work was the rehabilitation of a part of the sanitary tunnel on 99 Avenue at 151 Street, which was the result of the poor structural condition discovered at the connection of West Edmonton Sanitary Sewer Stage W13 in 2014. This was originally funded out of the High Priority Repair Composite Program (CM-23-9520); however, due to the scope of work being greater than \$5 million, a new stand-alone profile is being created.

A number of emerging issues arose after on-site inspections were carried out between 2015 and 2017 that required immediate action to ensure service is maintained. The scope of work now includes:

- the original repair at the West Edmonton Sanitary Sewer Stage W13 connection
- repair of 20 metre of tunnel
- rehabilitation of a connecting chamber downstream of the original repair
- rehabilitation of the 1500 mm trunk along 151 Street
- rehabilitation of the 1200 mm/1500 mm trunk on 99 Avenue
- rehabilitation of the 1950 mm trunk along 100 Avenue

Due to the magnitude of flows and the depth of sewers, as well as the social and construction risks, using bypass tunnels to facilitate the rehabilitation work is the most

cost-effective, safe, and durable alternative.

A new bypass tunnel is under construction along the west side of 151 Street from 99 Avenue to 100 Avenue. This approach will allow the rehabilitation work to be done safely in dry conditions; minimizing adverse impacts to residents, businesses and traffic in the area.

The rehabilitation of the 1500 mm trunk along 151 Street, the 1200 mm/1500 mm on 99 Avenue, and the 1950 mm trunk along 100 Avenue will extend the life of the sewer by at least 50 years and will allow the City to continue to provide a high level of service to its customers. It will eliminate risks that are associated with this deteriorated pipe such as flooding, loss of service, roadway collapse or property damage due to a collapsed sewer.

This profile is created to capture the required rehabilitation work as described above; the total cost of the rehabilitation is estimated to be \$24 million.

Mill Creek Stormwater Management (17-23-9807)

In the 1990's, reclamation works were proposed along Mill Creek within Edmonton in part to lower the creek and to allow storm drainage of adjacent lands by gravity. The creek was planned to be lowered at the same time as construction of the City's Meadows Community Recreation Centre, which was designed and constructed with a storm trunk that drains towards Mill Creek at lower elevations. However, the City was not successful in negotiating access to the lands at the time, and therefore was not able to lower the creek. This has resulted in the need for stormwater flows to be pumped out from the manhole into the creek, which is not a sustainable or cost-effective solution.

There is a current opportunity for the City to acquire portions of land at a cost of \$2.3 million. In order to lower and naturalize Mill Creek, it is essential that the City acquire the lands to facilitate the required construction, landscaping, and reclamation activities. In addition, the City has obtained *Water Act* approval for this project, but the construction, landscaping, and reclamation activities authorized under the approval must be completed by October 31, 2019, or the City will be non-compliant and enforcement actions may be taken by the Province. The capital budget increase requested at this time is only for the land purchase and does not include the capital budget required for construction, landscaping, and reclamation activities. The budget for the future capital work will be brought forward at a later date.

Utility, Planning and Design - Composite (CM-99-0002)

On November 22, 2016, Administration provided Executive Committee with an update regarding the development of the Project Development and Delivery Model (CR_4120). The Project Development and Delivery Model is a framework to manage capital infrastructure projects, and it aims to provide better information to make capital investment decisions by improving project schedule and budget estimates.

Successful implementation of the Project Development and Delivery Model requires early investment in concept planning and design for projects. This new profile has been created through the review of high-priority projects in Drainage Utility capital profiles and will allow the concept development and design work to be completed in advance of the upcoming capital budget cycle. This work will be completed with additional available funding from existing composite profiles. The \$1.3 million represents the funding required to complete the required early planning and design for the next capital budget cycle, and is offset from a reduction of the same amount in the next capital budget cycle.

Mill Woods Double Barrel Replace/SESS SA1 (08-23-9202)

The Mill Woods Double Barrel Replacement project involved the installation of 3.3 kilometres of new storm trunk sewers, the connection of existing storm sewers to the new trunk, and conversion of the existing double barrel into a full sanitary sewer. Tunnel construction and sewer connections are complete. The remaining work includes:

- Converting the existing double barrel pipe into a full sanitary pipe, to be completed by April 2017.
- Surface restoration (landscape, sidewalk, road), to be completed by August 2017.

As the project is near completion, a risk contingency of \$1.5 million can now be released. In addition, there is also an historical adjustment of \$8.5 million for a tunnel-boring machine and crane that were purchased between 2008 and 2010 under this profile, which should have been purchased under capital profile CM-23-6131 Utilities Infrastructure Vehicles and Equipment.

Ekota Dry Pond and Menisa Storm Relief (16-23-9801)

This project is part of the Flood Mitigation program and involves the design and construction of a dry pond in Father Ivor Daniel Park in the Ekota neighbourhood (near St. Clement's school) and storm sewer upgrades in the Menisa neighbourhood. Construction was completed in 2016, and the deficiencies identified in Construction Completion Certificate inspection reports will be addressed in the spring of 2017. At this point, the risk contingency of \$2.0 million can be released.

Creek Erosion Protection (CM-31-9604)

The Creek Erosion Protection Program has been established to solve overland drainage issues and implement creek erosion protection works throughout the city. A total profile decrease of \$2.6 million is recommended. A portion of the capital profile budget is based on requests and complaints of overland drainage issues, which vary annually, depending on rainfall patterns and associated overland drainage problems. Based on a decrease in the average volume of requests in the past two years, a budget decrease of \$2.6 million is recommended.

Sewer System Upgrading (CM-23-9703)

The Sewer Upgrading Strategy is needed to address pipe capacity issues by upgrading the pipes from their current size to a larger size to increase the sanitary, storm and combined sewer level of service. A strategic need has been identified to revisit the current levels of service due to growth and land use intensification. A study will be undertaken to provide a holistic assessment to service delivery in order to minimize local impact of construction through improved planning with other departments in the City; the study will also provide a future work plan for sewer upgrades. At this point, the scope of this capital profile is being reduced to include capital improvements which were identified in previous neighbourhood assessments and will be completed by the end of 2018. A total budget decrease of \$2.5 million is recommended.

River for Life (CM-23-9640)

River for Life is the City's 30-year water quality strategy to reduce pollutant discharge in the wastewater, stormwater and combined sewer systems. The River for Life strategy will lay the groundwork for water quality improvement projects on the 30-year horizon. Due to a scope reduction in the preliminary work in this budget cycle, and a delay to 2019 resulting from stakeholder interactions being more intensive than originally anticipated, a total budget decrease of \$1.2 million is recommended.

Historical Adjustments

This type of adjustment occurs when a change in a funding source in past years requires an adjustment to the overall budget of a profile. Historical adjustments in this supplementary capital budget adjustment will increase the capital budget by \$8.5 million. This adjustment of \$8.5 million was made in 2016. Since these costs were incurred in prior years, the adjustment has no rate impact in 2018.

Policy

Drainage Services Utility Fiscal Policy - C304D

Corporate Outcomes

This report supports the Corporate Outcomes “The City of Edmonton has a resilient financial position” and “The City of Edmonton has sustainable and accessible infrastructure” by undertaking a regular review of the 2015-2018 Capital Budget to ensure that the projects of highest need are carried out and that they have sufficient funding levels.

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score	Current Mitigations	Potential Future Mitigations
Project Management	Issues with projects such as cost and schedule overruns, reduced quality, and/or scope creep	3 - Possible	4 - Severe	12 - Medium	<ul style="list-style-type: none"> Develop, define and validate scope Manage scope Develop, monitor and control cost, schedule, and activity changes 	<ul style="list-style-type: none"> Ensure implementation of project management processes, best practices, and tools to achieve the project objectives
Public perception	Negative perception from the public regarding Drainage Services ongoing projects	4 - Likely	3 - Major	12 - Medium	<ul style="list-style-type: none"> Implement a public engagement plan to ensure that any community input is gathered, and that the community is informed throughout the life cycle of the project. 	<ul style="list-style-type: none"> Effectively manage customers' expectations through project delivery Proactive and timely communication with all public stakeholders
Contract & Procurement Management	Contractor (s) not meeting project objectives	3 - Possible	3 - Major	9 - Medium	<ul style="list-style-type: none"> Contract and procurement management that aligns with Administrative Directives and policy Regular monitoring of project and contractor performance 	<ul style="list-style-type: none"> Continued monitoring of contractor performance measures and metrics to ensure project objectives are met

					e measures and metrics	
Financial	If the Utility Budget Adjustment is not approved, the work would be funded out of the High Priorities Repairs Budget (CM-31-9520 & CM 23-9520), which would result in funding for other high priority repairs being reduced.	2 - Unlikely	4 - Severe	8 - Medium	<ul style="list-style-type: none"> Properly identify needs, prioritize and manage projects to create capital budget adjustments that are justifiable 	<ul style="list-style-type: none"> Properly identify needs; prioritize and manage projects to create capital budget adjustments that are justifiable

Public Engagement

Public engagement was not required.

Budget/Financial Implications

The financial impact of the proposed Drainage Utility Spring 2017 Supplemental Capital Budget Adjustments is a net increase to the 2015 to 2018 Approved Capital Budget of \$17.7 million. Assuming there are no other changes to the Capital or Operating Budgets, this would result in a potential increase to the current indicative 2018 monthly Drainage Utility rate of \$0.18 (0.5%) per typical residential customer as indicated in attachment 11.

Metrics, Targets and Outcomes

Metrics	Targets	Outcomes
● Percentage capital (as	● 2016 - 0.58%	● Proactive maintenance,

rehabilitation) re-invested compared to total system replacement value <ul style="list-style-type: none"> ○ 2016 - 0.45% ○ 2015 - 0.45% 	<ul style="list-style-type: none"> ● 2017 - 0.70% ● 2018 - 0.81% 	rehabilitation and replacement of assets through integrated asset management. <ul style="list-style-type: none"> ● Improved infrastructure condition
<ul style="list-style-type: none"> ● Percentage of infrastructure at or above the minimum level of condition rating <ul style="list-style-type: none"> ○ 2016 - 89% ○ 2015 - 90.8% 	<ul style="list-style-type: none"> ● 2016 - 90.0% ● 2017 - 90.0% ● 2018 - 90.0% 	<ul style="list-style-type: none"> ● Proactive maintenance, rehabilitation and replacement of assets through integrated asset management ● Improved infrastructure condition

Justification of Recommendation:

The capital budget amendments outlined in this report are part of the Spring 2017 Supplemental Capital Budget adjustment recommendation report going to City Council for approval at the May 9, 2017, City Council meeting.

Attachments

1. Financial Summary of 2017 Utility Services Capital Budget Adjustments
2. Capital Profile 17-23-9806 West Jasper Place Trunk Sewer Rehabilitation
3. Capital Profile 17-23-9807 Mill Creek Stormwater Management
4. Capital Profile CM-99-0002 Utility, Planning and Design - Composite
5. Capital Profile CM-23-6131 Utilities Infrastructure Equipment and Vehicles
6. Capital Profile 08-23-9202 Mill Woods Double Barrel Replacement/SESS SA1B
7. Capital Profile 16-23-9801 Ekota Dry Pond and Menisa Storm Relief (EK1, MN1)
8. Capital Profile CM-31-9604 Creek Erosion Protection
9. Capital Profile CM-23-9703 Sewer System Upgrading
10. Capital Profile CM-23-9640 River for Life
11. Rate Impact of SCBAs

Others Reviewing this Report

- T. Burge, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- R. G. Klassen, Deputy City Manager, Sustainable Development
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services