

Flood Control Strategy Update – Weaver Park

ISSUE

In December 2018, City Council approved implementation of the nine-year \$54 million Flood Control Strategy (FCS) to mitigate flooding in ten priority areas that experience frequent flooding. The purpose of this report is to provide an update for the strategy including the results of the Feasibility Assessment for a dry storm water pond at Weaver Park to mitigate flooding, and to request approval to proceed with the project.

RECOMMENDATION

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council that detailed design and construction of a dry storm water pond at Weaver Park proceed in 2023, to mitigate flood damage.

BACKGROUND

The FCS is based on the principles of reducing flood impacts for the maximum number of properties within the available budget while maintaining the existing quality and service levels for recreation opportunities in parks where dry storm ponds are constructed. The FCS framework for each project includes the following four phases:

- Phase One: High Level Assessment
- Phase Two: Feasibility Assessment
 - City Council to approve projects prior to proceeding to Phase Three
- Phase Three: Detailed Design and Public Engagement
- Phase Four: Construction

The first approved project constructed in 2021, was a dry storm water pond in W.W. Ashley District Park. In 2019 and 2020, a multi-purpose sports field was reconstructed at Aden Bowman Collegiate to allow the City of Saskatoon (City) to offer a continuing level of programming under a Joint Site Agreement with Saskatoon Public Schools. Photographs of Aden Bowman Field and the dry pond at W.W. Ashley Park are provided in Appendix 1. Construction of the second project, a dry storm pond in the north half of the Churchill Neighbourhood Park is currently underway with substantial completion expected to be reached in October 2022. Detailed renderings of the final landscape plan, photographs from construction completed to date, and the public engagement summary are provided in Appendix 2.

A Feasibility Assessment completed for the third project, a dry storm water pond at Weaver District Park, shows that the project is technically feasible and is expected to reduce flood risk for 26 properties in a 1-in-10-year rain event for two high risk flood areas near the following intersections:

- 1) Cascade Street/Dufferin Avenue; and
- 2) Bute Street/Dufferin Avenue.

The Feasibility Assessment for the dry pond at Weaver Park (third project) is provided in Appendix 3, which includes the design plan, a summary of the technical feasibility and estimated costs.

DISCUSSION/ANALYSIS

The proposed Weaver Park dry pond project will reduce flood risk in an area with a history of frequent flooding and expected future flooding with climate change. In 2018, the Cascade Street/Dufferin Avenue and Bute Street/Dufferin Avenue intersection area was rated highest among 30 areas based on the probability of flooding and the number of properties expected to flood during intense rain events.

FINANCIAL IMPLICATIONS

In 2019, the Government of Canada (Government) approved 40% cost sharing of the total \$54.1M estimated FCS eligible expenses to a maximum of \$21.6M through the Disaster Mitigation and Adaptation Fund (DMAF). The City approved Storm Water Utility funding of \$32.4M (60%) through previously approved increases to the Storm Water Management Charge.

The updated actual cost for the first project, W.W. Ashley Dry Pond, and related infrastructure (previously approved at \$5.7M), is \$4.7M including \$3.4M in eligible costs, and \$1.4M in ineligible costs for internal design, project management, and administrative expenses (\$0.6M), and the relocation of the multi-purpose sports field (\$0.8M) from W.W. Ashley Park to Aden Bowman Field. The sports field costs were not approved for cost sharing by the Government.

The updated estimated cost for the Churchill Park storm water project is \$6.2M (previously estimated at \$10.0M during feasibility assessment), which includes \$5.7M in eligible costs for the dry pond and underground infrastructure, and \$0.5M for ineligible internal costs. This estimate includes the tender prices for Phase I (pond excavation) and Phase II (storm sewer), as well as pre-procurement prices for Phase III (dry pond landscaping). An additional location (Flood Zone 25 Albert Avenue/Bute Street intersection) was incorporated into this project due to its proximity to the other high flood risk intersections and the Churchill Park dry pond.

The updated Feasibility Assessment estimate for the Weaver Park Dry Pond project is \$9.2M (previously estimated at \$7.9M), which includes \$8.7M in eligible construction costs and \$0.5M in ineligible costs. The cost increases are due to relocation of the dry pond to the north half of Weaver Park rather than using the south half of Weaver Park or John Lake Park which were presented in the 2018 FCS report but deemed less feasible through continued analysis and consultation between civic Departments.

The total revised eligible costs for the comprehensive FCS, including contingency and inflation, are estimated to be \$54.6M based on updated actual and estimated costs for the nine projects. In addition, internal ineligible costs including salary time for design, public engagement, project management, and Aden Bowman Field construction are estimated to be \$4.9M. The Storm Water Utility is funding the ineligible internal costs through the 2022-2023 budget and are included in the five-year capital plan. Funding for the City's portion of the FCS is available through Capital Project P.01619 - TU-Storm

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Sewer Trunk and Collection (2019 to 2027). See Table 1, FCS Project Eligible and Ineligible Costs, for details.

Table 1 - FCS Project Eligible and Ineligible Costs

Project Information			2018 DMAF Agreement Estimate (\$ in Millions)			2022 Cost Estimate Update (\$ in Millions)				
Project No.	Project Location	Const. Year	Total Eligible Costs	GoC Eligible Costs (40%)	CoS Eligible Costs (60%)	Total Eligible Costs	GoC Eligible Costs (40%)	CoS Eligible Costs (60%)	CoS Ineligible Costs	Total CoS Costs
0	DMAF Agreement (Indigenous Consultation & GHG Report) ¹	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.1	\$ 0.1
1	Aden Bowman-City Sportsfield ¹	2019/ 2020	\$ 5.7	\$ 2.3	\$ 3.4	\$ -	\$ -	\$ -	\$ 0.8	\$ 3.4
	W.W. Ashley District Park Dry Pond ¹	2021				\$ 3.4	\$ 1.4	\$ 2.0	\$ 0.6	
2	Churchill Neighbourhood Park Dry Pond ²	2022	\$ 10.4	\$ 4.2	\$ 6.2	\$ 5.7	\$ 2.3	\$ 3.4	\$ 0.5	\$ 3.9
3	Weaver District Park Dry Pond ³	2023	\$ 7.7	\$ 3.1	\$ 4.6	\$ 8.7	\$ 3.5	\$ 5.2	\$ 0.5	\$ 5.7
4	Early Dr & Tucker Cres ³	2024	\$ 7.8	\$ 3.1	\$ 4.7	\$ 7.0	\$ 2.8	\$ 4.2	\$ 0.5	\$ 4.7
5	Main St & Cumberland Ave ³	2025	\$ 3.2	\$ 1.3	\$ 1.9	\$ 4.2	\$ 1.7	\$ 2.5	\$ 0.5	\$ 3.0
6	14th St & Cumberland Ave ³	2025	\$ 3.2	\$ 1.3	\$ 1.9	\$ 5.8	\$ 2.3	\$ 3.5	\$ 0.3	\$ 3.8
7	John A MacDonald Rd & McCully Cres ³	TBD	\$ 4.4	\$ 1.8	\$ 2.7	\$ 7.1	\$ 2.8	\$ 4.2	\$ 0.5	\$ 4.7
8	21st St & Ave W ³	2026	\$ 3.2	\$ 1.3	\$ 1.9	\$ 4.4	\$ 1.8	\$ 2.6	\$ 0.5	\$ 3.1
9	24th St & 3rd Ave ³	2027	\$ 8.3	\$ 3.3	\$ 5.0	\$ 8.3	\$ 3.3	\$ 5.0	\$ 0.3	\$ 5.3
Totals:			\$ 54.1	\$ 21.6	\$ 32.4	\$ 54.6	\$ 21.8	\$ 32.7	\$ 4.9	\$ 37.6

Notes: ¹Projects are complete (confirmed costs).

²Project dry pond excavation and sewer work is awarded. Landscape construction is based on pre-procurement estimate (Class 1 Estimate).

³Projects are based on average of all bids received from Projects 1 and 2 plus contingency (Class 3 Estimate).

OTHER IMPLICATIONS

Consultations with both the Parks Department and Recreation and Community Development Department emphasized the high community value of the quality recreation and green infrastructure currently offered in Weaver Park. The dry pond design plan layout, provided in Appendix 3, is the preferred layout to maintain recreation levels of service for Weaver Park (north and south half). While constructing a dry pond in the south half of Weaver Park would be more cost effective, the field size would be reduced by 30-40%. The existing full size multi-purpose field in the south half of Weaver Park has one of the highest usage rates in the City and there are no viable options to relocate this field within the area. This south field is also a charge-facility for the City, and revenue would decrease if the dry pond was to be constructed at this location. The City will attempt to minimize the construction footprint to the extent possible for the storm sewer pipe installation that is proposed along the east boundary of the south half of Weaver Park to allow recreation to continue throughout construction.

The dry pond in the north half of Weaver Park will be designed to drain within 24 hours after a rain event. Existing neighbourhood use of the park may need to be relocated during construction in 2023 and 2024, depending on the health of the new sod for the north half of Weaver Park. A sub-drainage design will be further evaluated as an additional measure to ensure that drainage meets standards while also considering geotechnical conditions and irrigation benefits. The dry pond will be designed to

maximize the protection of trees in the park, and if trees require removal, Policy C09-11 Trees on City Property will be followed (i.e., replacement or compensation).

Further consultations will help to identify ways to maintain the quality of valued recreation and minimize risks of disrupting the current quality of life offered by Weaver Park. A Crime Prevention Through Environmental Design (CPTED) evaluation is underway to identify opportunities for the park design to minimize crime while being accessible and inviting for desired community usage.

Residents near Weaver Park were notified of the project through a letter in January 2021. These residents were also informed of this report with instructions on how to provide information or speak at the Standing Policy Committee or City Council meetings. The project team presented information regarding the project in advance of this report to the applicable Community Associations, and shared additional information to promote it through their communication streams.

NEXT STEPS

Next steps include the following:

- Public engagement with citizens and park users including sports groups, applicable schools, summer playground program representatives, SOS Trees, Avalon Community Association, and the Queen Elizabeth – Exhibition Community Association through the Engage website, flyers, and events (May 2022 to January 2023);
- Detailed design, costing, and construction plan (May to December 2022);
- Construction tender and award (December 2022 to January 2023); and
- Construction (February 2023 to November 2023).

APPENDICES

1. Aden Bowman Field and W.W. Ashley Dry Pond Photos
2. Churchill Park Dry Pond Construction Photos, Final Design Renderings, and Public Engagement Summary
3. Weaver Park Dry Pond Feasibility Assessment

Report Approval

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