

# Report to Council



**Date:** November 6, 2018

**File:** 1910-10

**To:** City Manager

**From:** Alan Newcombe, Infrastructure Divisional Director

**Subject:** 2017 Freshet Infrastructure Recovery

Report Prepared by: Lance Kayfish, Manager, Risk & Safety

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## **Recommendation:**

THAT Council receives, for information, the report from the Infrastructure Divisional Director dated November 6, 2018 with respect to the 2017 Freshet Infrastructure Recovery

AND THAT The 2017 Financial Plan be amended to include up to \$10.7 million for the 2017 Freshet Infrastructure Recovery of which up to \$7.4 million is recoverable through the provincial Disaster Financial Assistance (DFA) program;

AND THAT Council authorize the expenditure for the City's portion of costs that are not recoverable from the provincial DFA program of up to \$3.3 million;

AND THAT up to \$2.1 million of the City's portion of costs be funded from the General Fund Accumulated Surplus as prescribed by the City's approved Financial Principles & Strategies;

AND FURTHER THAT the remaining \$1.2 million of the City's portion of costs be funded through a budget transfer from the Council approved 2017 Capital Project: City Hall – Phase IV Renovations

## **Purpose:**

**To provide Council with an overview of the infrastructure recovery and associated costs resulting from the 2017 Freshet Event.**

## **Background:**

The 2017 spring freshet brought extreme flooding in early May and record high levels in Okanagan Lake that persisted from May until July resulted in damage to public and private property in Kelowna and throughout the region. Staff estimate the City of Kelowna has suffered damages that will cost

\$10,659,038 to repair or restore as part of a '2017 Freshet Flooding Recovery Program', the direct cost to the City is estimated at \$3,287,132. Included within the recovery program are drainage and channel works that are urgent in nature and should be completed before the 2018 spring freshet to mitigate the risk of further flooding and additional damage. Amendments to the City's 2017 Financial Plan are required to proceed with the work.

Funding of the recovery work can be broken into three categories for the purpose of financial planning: costs eligible for the provincial Disaster Financial Assistance program, insured infrastructure and recovery costs retained solely by the City.

Disaster Financial Assistance (DFA) is a provincial program that supports local government and private property owners to recover after catastrophic events. DFA pays 80% of eligible recovery costs to restore many types of infrastructure to pre-disaster conditions. It does not fund enhancements or upgrades that improve infrastructure or prevent future problems. Not all damage caused by a disaster is eligible for DFA – erosion, landscaping, insured assets and non-critical items are not. Enhancements over and above the pre-existing condition are at the City's expense. The recovery program budget herein includes only one enhancement item in the drainage area.

DFA has received submissions from the City for review and preapproval. No approvals have been granted yet as formal notification may take some time. After the initial preapproval from DFA each project and component of work will be looked at on its merits to determine its ultimate eligibility for DFA funding. Given the high level estimating and need to develop detailed scopes of work for each project, some elements of work in the recovery program may ultimately not be eligible. A contingency budget has been added to the program to address this uncertainty.

Insurance coverage applies to some of the City owned structural assets damaged by the flooding that will pay for flood damage suffered by 14 residential properties, the City Park Water Park mechanical system and the Manhattan Point dock. Assets covered by insurance are not included in the budget within this report as they will be funded separately as insurance claims.

### The Recovery Program:

There are 52 discrete locations or areas of damage identified within the recovery program as a repair project. In addition, many projects have multiple elements. The total recovery program is estimated to be \$10,659,038 with \$7,371,906 expected to be funded by DFA and \$3,287,132 a direct cost to the City.

Description	DFA Eligible	Not DFA Funded
Vernon Creek	\$5,070,308	
Drainage and Channels	\$1,371,550	\$160,000
Tree Removal	\$30,000	
Erosion / Landscaping (Parks)		\$736,300
Irrigation (Parks)	\$104,200	
Boardwalks, Walkways, Trails (Parks)	\$1,178,800	
Misc Park Damage (Benches, Signs, etc)	\$43,000	
Roads	\$340,500	
Dock / Bridge / Building Structures	\$544,000	
Recovery Program & DFA Claim staffing	\$532,525	
Total Estimated Damage:	\$9,214,883	\$896,300

DFA 80% / 20% split:	<u><b>\$7,371,906</b></u>	\$1,842,977
estimated City cost:		\$2,739,277
20% contingency on City costs:		<u>\$547,855</u>
Total City cost, estimated:		<u><b>\$3,287,132</b></u>

**TOTAL FRESHET 2017 RECOVERY PROGRAM:** **\$10,659,038**

Of the \$10,659,038 total recovery program budget one project accounts for \$5,070,308, the replacement of the flume on Vernon Creek. Temporary works are in place at this location but need to be replaced by a permanent solution and capacity restored prior to the 2018 freshet to avoid potential flooding and further damage to the channel itself.

Included in the drainage works above are approximately \$1,030,000 of work in Bellevue Creek and Mill Creek that is also recommended to be completed before next spring to reduce flood risk. The \$532,525 in staff time included is for one full-time project manager to oversee the recovery program, a financial analyst to track expenses and manage the resulting DFA claims and an administrative staff position to support the program, each for 24 months, 80% recoverable from DFA. These positions are needed before much of the work can get underway.

A contingency of 20% amounting to \$547,855 has been added to the estimate of the City's costs. It is intended to cover cost increases excess of estimated values, work unexpectedly not funded by DFA and additional support if needed. It is expected that as work within the recovery program is undertaken

undiscovered damages will be identified. Provide the high level of estimation to date some areas are expected to vary in terms of the actual final expenses and staff anticipate shifting approved City funding within the recovery program budget as required to complete all restoration works. If additional costs or contributions are required staff will report back to council.

### **Vernon Creek:**

High flows at peak of the freshet event on May 5 and 6, 2017 fractured and eroded major sections of a concrete flume on Upper Vernon Creek (UVC). The City took measures to mitigate the flooding impacts during the emergency by removing approximately 300 m of the flume along the eastern side of Upper Vernon Creek, from 25 m downstream of Bubna Road to the downstream property line. Several sections of the bank were armored in this area to prevent further erosion. Several breaks in the flume also occurred upstream of Bubna Road. The destruction of the flume allowed flows in the UVC to discharge directly to ground, leading to extremely high groundwater conditions. Following the freshet event, groundwater entered Holiday Park Resort. In response, the City of Kelowna engaged professional engineering consultants to provide an assessment of the ground water changes related to impacts on the watercourse during the event.

Options are being developed and evaluated for the restoration of Upper Vernon Creek and to mitigate impacts from groundwater inundation.

### **Erosion:**

Of the approximate 60 park sites that front onto or are in close proximity to Okanagan Lake, 42 sites experienced some level of damage due to severe flood waters and wave action at the exceptionally high lake levels in 2017. In addition, there are a number of linear parks associated with creek corridors that run through the city that were also impacted. Damage associated with loss of shoreline, physical property and habitat from erosion are not DFA eligible. The cost for the City to restore eroded areas is estimated at \$625,700.

The impact of lakefront erosion is the loss of some of the City's most valuable and desirable property. It is understood that the Province allows for reclaiming of land lost due to catastrophic events. However, it is expected that there will be a time limit associated with this work before it is considered as an existing state resulting from natural forces.

Typical examples of erosion damage experienced include: loss of significant amounts of sand at beach accesses; undercutting of shoreline that has resulted in steep embankments and loss of riparian habitat.

### **Internal Circulation:**

Divisional Director, Financial Services  
Divisional Director, Human Resources  
Infrastructure Operations Manager  
Infrastructure Deliver Manager  
Financial Planning Manager

**Financial/Budgetary Considerations:**

The 2017 Freshet Infrastructure Recovery in the amount of \$10.7 million is not part of the City's current financial Plan. The 2017 Financial Plan will require the addition of the 2017 Freshet Infrastructure Recovery of which \$7.4 million be recovered from the provincial Disaster Financial Assistance (DFA) program, \$3.3 million will be funded from the General Fund Accumulated Surplus up to \$2.1 million and the remaining \$1.2 million through a budget transfer from the approved 2017 Capital Project: City Hall – Phase IV Renovations. The General Fund Accumulated Surplus will be replenished through the 2017 year end process and recommended surplus allocation.

**Personnel Implications:**

There is a need for 1 Project Manager, 1 Financial Analyst and 1 Administrative Assistant to be created to support the recovery plan.

**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. Newcombe, Infrastructure Divisional Director

**Approved for inclusion:**



R. Mattiussi, City Manager

Attachments:

cc:

Divisional Director, Financial Services

Divisional Director, Corporate Strategic Services

Divisional Director, Human Resources

Financial Planning Manager