

EXPERT MANAGEMENT PANEL ON RIVER FLOOD MITIGATION QUARTERLY REPORT

EXECUTIVE SUMMARY

On 2013 July 23 The City of Calgary announced the creation of an Expert Management Panel to steer The City of Calgary's River Flood Mitigation Program, tasked with finding ways of reducing the damage due to any future river flooding. The Panel is targeting release of draft recommendations by the end of May to inform the Business Planning and Budget Coordination 4 (BPBC4) development.

This report provides an update on the activities of the River Flood Mitigation Program.

ADMINISTRATION RECOMMENDATION(S)

That Council accept this report for information

PREVIOUS COUNCIL DIRECTION / POLICY

On 2013 September 16, City Council received the 2013 Flood Recovery Task Force update (PFC2013-0646) for information.

BACKGROUND

On 2013 July 23 The City of Calgary announced the creation of an Expert Management Panel to steer The City of Calgary's River Flood Mitigation Program, tasked with finding ways of reducing the damage due to any future river flooding. The Expert Management Panel consists of Darrel Danyluk, P.Eng., Roger Gibbins, PhD, Erika Hargesheimer, PhD, MBA and Steve Hrudey, Ph.D., D.Sc.(Eng), P.Eng. Wolf Keller, PEng., was appointed to chair the panel. Attachment 1 gives a brief biography of each member.

Panel members were selected on the basis of wide experience, professional qualifications and an expressed commitment to the task. Additional details about Panel members can be found in Attachment 1. A Terms of Reference for the Panel and the Program have been developed and are included as Attachment 2.

The Panel is pleased to report that excellent progress has been made to identify work focus; on interaction with the Province; on "urgent priority projects" and on long term priorities.

Panel Scope and Governance

The Panel will be producing a report with recommendations to Council in June 2014, in line with the 2015-2018 business plan budget development timeline, which outlines recommendations on ways to reduce the impact of future river flooding in Calgary.

The Executive Sponsor for the Program is Rob Pritchard, GM of UEP who will provide direction from and liaison with Recovery Operations Centre (ROC) Steering Committee and City Council. A supporting organization has been developed which will inform the Panel's recommendations and report. Details of this organization can be found in Attachment 3.

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INVESTIGATION: ALTERNATIVES AND ANALYSIS

Progress and Priorities

The Panel has identified six Theme areas (Attachment 4) which will serve to organize the work of a number of Task Forces and their respective expert panels. The Themes have been discussed and agreed with the Province as the work to be undertaken. The Themes are:

- Changing Climate
- Watershed Management
- Event Forecasting
- Storage, Diversion, Protection
- Infrastructure and Property Resiliency
- Additional Risk Management

Each Theme area is informed by a panel of external subject matter experts supplemented as needed by City staff who will compile, evaluate and report on recommendations arising. The Themes have been grouped into three Task Forces, each led by a City Project Manager.

The Panel has developed a workplan which details the tasks to be accomplished in each Theme area. A condensed version of the workplan and progress highlights is provided in Attachment 5. At the inception of the City River Flood Mitigation Program, three key early priority projects were identified for immediate action. These are:

- Options to increase Glenmore Reservoir storage capacity including dredging;
- Solving the specific issues around the Sunnyside community and;
- Examining the functioning and impact of the temporary berm on 4th Street SW.

Progress has been made in each project. The Glenmore Reservoir study on capacity is well in hand – a new measurement of the reservoir topography is complete and work on possible ways that storage could be increased is expected to be complete early in 2014. Design work in Sunnyside is to the point of completion of a draft report which can be taken to the community for discussion early in 2014. The draft results of the 4th Street berm evaluation are expected by end of 2013

Other flood related work is underway through Water Resources such as restoration of six critical erosion sites, updates to river hydrology in preparation for updates to flood mapping and an assessment of areas where new permanent or temporary berms might be installed.

Provincial Engagement

Soon after the flood, the Province appointed a three person advisory panel chaired by Alan Markin. This group, working with a local engineering firm, developed several large scale conceptual solutions to mitigate future floods on the Elbow River, the Sheep and the Highwood. The value of projects contemplated for the Elbow was in the range of \$300 to \$400 million. In mid July, the Province announced the creation of a Provincial Flood Recovery Task Force comprised of key Assistant Deputy Ministers and headed by Chief ADM, Andre Corbould. This Task Force is the prime Provincial agency in flood recovery and mitigation and the City Expert Management Panel has established a close working relationship with the Task Force. On 2013 October 30 a workshop was held with the Provincial Task Force to specifically identify

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responsibilities for the various elements of work in the plan developed by the City Panel. The workshop clarified which party will lead and who will support the various items to be accomplished. The Panel final report will cover all aspects of the effort to ensure there is a complete picture of what has been done and what is recommended for future action.

One important development arising from the 2013 October 30 workshop was the advice from the Province that the proposed underdrain or bypass from the Glenmore Reservoir to the Bow River, being entirely within City boundaries, would be at the discretion of the City; to be evaluated and managed by The City of Calgary. The Panel is initiating a functional engineering study to examine feasibility and to better define project estimates. The Province has indicated it will fund the project, and has announced it will provide funding for the preliminary engineering work needed to determine project feasibility and a cost /benefit analysis. The Province has also announced it is pursuing a feasibility study of a “dry dam” on the upper Elbow River to intercept and store flood flows.

A second follow on from the workshop was the rapid establishment of a stakeholder advisory body to find ways of mitigating flood flows on the Bow River. This group includes among others, irrigation districts, TransAlta, The City, WaterSmart and representatives from other municipalities and is led by the Province. A broad group of stakeholders is being engaged to ensure any measures selected represent the best approach in an overall water management, watershed management context. A first workshop was held on 2013 November 14 to develop ideas and proposals for further analysis. The findings from the first workshop will be discussed with the membership of the Bow River Basin Council on December 11. Preliminary indications are that changes to the operating protocol of the TransAlta system of reservoirs can mitigate flood flows. This will need to be balanced against loss of electricity revenue and risks to water supply for downstream users.

The Provincial Task Force has requested a full listing of all flood mitigation infrastructure within Calgary for consideration in future provincial budgets. The Panel is targeting mid December to compile and forward this list to the Province.

Expert Management Panel Timeline

A further update for Council is planned in Q1 2014. The Expert Management Panel is also working to be in a position to inform the BPBC4 development and the need to set indicative utility rates in March. The Panel is targeting release of the final report in June and is expected to wind up all activities by September.

Stakeholder Engagement, Research and Communication

The Panel Chair, Program Manager and other staff have attended dozens of public forums and meetings to discuss the City's program and to hear the concerns of citizens and stakeholders. Two well attended media events were held announcing the Panel and progress to date. Citizens have been asked to contribute their ideas online through the Panel's web page on Calgary.ca. Requests for expressions of interest have been forwarded to the academic and engineering communities to find persons with specific expertise interested in contributing to the Program. Experience from other jurisdictions such as New York, Netherlands, New Orleans and others have been sought to inform the work of the Panel.

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An engagement and communications plan is in progress. The intention is to begin substantial discussions on options and alternatives in March as the findings of the various expert panels begin to emerge.

Strategic Alignment

Finding ways to mitigate the impact of future floods is essential if Calgary is to achieve its goals of providing a safe place to live and work and promoting economic growth.

The damage and losses caused by flooding disrupt The City's financial planning and service delivery goals.

There are a large number of areas where the work of the City Recovery Operations Centre (ROC) and City Business Units interface with the work of the Mitigation Program and the Provincial Task Force. All parties are working to define these interrelationships to ensure there is smooth coordination of efforts. Examples are the repair of erosions sites, removal of gravel deposits in the rivers, revised flood mapping and land development rules in flood hazard areas. These discussions have generally been led by ROC and City Business Units with involvement from the Panel.

Social, Environmental, Economic (External)

Floods cause significant damage and have disrupted the social fabric of several communities. Their impact on the riverine environment has been dramatic and while they are part of a natural cycle, within a developed city the loss of riverbanks and infrastructure can be very detrimental. Calgary strives to be a resilient city in terms of both infrastructure and public preparedness for events that disrupt our community. The City's emergency preparedness and recovery operations are "state of the art". Building on these strengths to improve the city's resilience is the key challenge for the panel.

Financial Capacity

Current and Future Operating Budget:

The Panel has been operating within Water Resources. Existing 2013 operating budget expenditures to the end of 2013 are expected to be approximately \$225,000. One time budget for 2014 for the operation of the Program has been requested in the amount of \$2.3 million.

Current and Future Capital Budget:

The Panel does not require Capital Budget but will be making recommendations for future capital expenditures for 2015 and beyond.

Risk Assessment

Current risks are: insufficient coordination among the City Mitigation Program, ROC, City Business Units and the Provincial Task Force resulting in duplication, unclear direction or gaps; insufficient time to achieve work plan. To reduce this risk, regular meetings and new communication channels have been established to maximize information sharing and to clarify roles and responsibilities.

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REASON(S) FOR RECOMMENDATION(S):

The Expert Management Panel on River Flood Mitigation wishes to update City Council on activities to date.

ATTACHMENT(S)

- Attachment 1 River Flood Mitigation Panel Biographies
- Attachment 2 River Flood Mitigation Panel Terms of Reference
- Attachment 3 River Flood Mitigation Program Organization and Communication
- Attachment 4 River Flood Mitigation Program Themes
- Attachment 5 River Flood Mitigation Program Themes, Work Plan and Progress Update