

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 guide The City of Calgary's River Flood Mitigation Program, tasked with finding ways of reducing the damage due to future river flooding. This report provides an update on the activities of the River Flood Mitigation Program throughout the first quarter of 2014, in support of the Expert Management Panel's report to be presented to Council in June 2014.

ADMINISTRATION RECOMMENDATION(S)

That Council receive this report for information.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2013 December 16, City Council received the Expert Management Panel on River Flood Mitigation Quarterly Report (2013-0732) for information.

BACKGROUND

On 2013 July 23, The City of Calgary announced the creation of an Expert Management Panel to provide oversight to The City of Calgary's River Flood Mitigation Program. Throughout the first quarter of 2014, focus has been on initiating six technical panels to address the River Flood Mitigation Program theme areas and workplan; continued dialogue with the Province and the community; and finalizing and/or initiating a number of studies to inform the Panel's recommendations to Council in June 2014.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

At the inception of The City's River Flood Mitigation Program, three key early priority projects were identified for immediate action. These are:

- a) Evaluating options to increase Glenmore Reservoir storage capacity including dredging;
- b) Examining the functioning and impact of the temporary barrier on 4th Street SW; and
- c) Solving the specific issues around the Sunnyside community.

a) Glenmore Reservoir

An independent consultant completed the evaluation of increasing reservoir storage by removing deposited sediment from the reservoir, with a final report provided to the Panel in January. Council received a memo from the Panel on 2014 March 10 sharing the findings that dredging the reservoir would have negligible flood mitigation benefits. Increased storage capacity in the reservoir would have had little impact on a flood of the same magnitude as 2013 and dredging would be a significant cost and could adversely impact drinking water quality. As a result of these findings, the Panel will not recommend this as a flood mitigation measure in its report to Council in June.

b) Temporary barrier on 4th Street SW

An independent consultant completed the Elbow River Mission Barrier Performance Evaluation, with a final report received by the Panel in February. The objective of this study was to examine the hydraulic performance of the Mission Barrier (along Elbow Dr. S.W. between 4th St. S.W. and Cliff St.) as it affected flows in the main channel of the Elbow River and along overland flow routings during the 2013 flood including: quantifying water levels, flow rates, depths, and velocities; the extent of the flood inundation; and erosion potential. Results of the evaluation

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were included in the memo to Council on 2014 March 10. The report concludes that the barrier appears to have been effective in eliminating direct overland flows from the Elbow River flowing north towards downtown. As well, depending on the location and modeling method used, the maximum water level difference was 0.16 meters (at Mission Bridge) and 0.28 meters (at 25th Avenue Bridge). The conclusions reached by the consultant show that the reduction in the severity of the flood waters flowing into Mission and the downtown core resulted in: the protection of public safety; protection of critical public infrastructure, including the roadway network for emergency vehicle access; and reduction of flood damage that the Beltline and downtown core would have experienced. Based on the findings of this report, the Panel recommends that The City continue to include the Elbow River Mission Barrier in its emergency response plans.

Both reports have been posted on the City website.

c) Sunnyside

The Panel undertook to ensure the concerns of residents in Sunnyside regarding the storm system and protective barrier continue to be given a high priority by Water Resources / Water Services. Progress has been made on the following:

- Retrofit of three storm outfall gates to allow for remote operation, with commissioning scheduled for the end of March, including additional temporary pumping at the gates to improve recovery time when gates are closed during a rain event;
- The revision to the NW Inner City Drainage Study, which includes an evaluation of both long term improvement options and interim solutions for Sunnyside, is on schedule for completion in late summer 2014; and
- The initial repair of the erosion site along Memorial Drive at 3rd Street is complete. Work will commence in May to raise the berm to 0.5 metres above the 1:100 level. The repair of the erosion site along Memorial Drive at 19th Street began in March.

Technical panels

The Expert Management Panel received approximately 80 expressions of interest to participate in technical panels to research recommendations for each of the six theme areas of the River Flood Mitigation Program. A total of 37 experts were selected, from a broad representation of academic, consultant and industry professionals from across Canada. The technical panels are in the process of prioritizing their recommendations for review by the Expert Management Panel in creation of the final report. What is emerging throughout this process is that the report in June will set a strong foundation and direction for further work and projects to improve community flood resilience.

Other developments

Other areas of note include awarding the feasibility study for the Glenmore Bypass Tunnel. The Province is funding the feasibility study and has committed to providing the funding for this project, contingent on the findings of the study. Results will be presented to Council in June along with the final report.

Evaluation of options to mitigate flood flows on the Bow River continues through the Bow Basin Flood Mitigation and Watershed Management Project initiated by WaterSmart and the Bow

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River Basin Council (BRBC). The recurring theme through the ongoing discussions is the potential for flood mitigation through the TransAlta infrastructure. TransAlta indicated its ability to mitigate flooding is dependent on the quality and timeliness of upstream monitoring from The Province and The Province appears to making good progress in improvements to monitoring and forecasting.

Stakeholder Engagement, Research and Communication

The River Flood Mitigation Program solicited public input on ideas for flood mitigation via its website From September to November 2013. In total, the Panel received 214 submissions from over 70 different communities. Fifty six per cent of the submissions came from flood impacted communities. Sixty eight per cent of the submissions (in order from most to least frequent) were in regards to building more and/or improved barriers; support for the tunnel; support for upstream dams; suggestions to restrict building in the flood hazard area; improvements to stormwater system infrastructure; dredging rivers; and dredging the Glenmore reservoir. All of the submissions were reviewed and categorized into the six theme areas for review by the respective technical panels.

The Panel continues to attend public forums and meetings, often in collaboration with the Province, to discuss progress with The City's program and solicit input and concerns of citizens and stakeholders. The Panel is also working closely with the Recovery Operations Centre (ROC) to coordinate communications. Some of the activities over the last three months included:

- Participation in three community open houses (Sunnyside, Bowness, and Elbow Park) in collaboration with the Province and ROC to hear the needs and concerns of citizens and respond to questions;
- Participation in three Water Collaborative meetings with the Province and stakeholders from across southern Alberta including High River, Medicine Hat, Lethbridge, the Calgary River Communities Action Group, which represents Calgary's flood affected communities, Bow River Basin Council, etc. This forum provides opportunities for each stakeholder to provide update on progress with flood recovery and mitigation efforts.
- A meeting with the Calgary River Communities Action Group steering committee to provide update on progress to the River Flood Mitigation Program workplan.
- A meeting with the Hillhurst-Sunnyside Flood Relief Task Force and attendance at an open house organized by the Hillhurst Sunnyside Community Association to describe the River Flood Mitigation Program and progress to date.
- Meetings with the Discovery Ridge community to discuss local flood concerns.
- Numerous one-on-one interactions with citizens.
- Three sessions with WaterSmart and the Bow River Basin Council (BRBC) as active participants in the Bow Basin Flood Mitigation and Watershed Management Project.
- Numerous public presentations sharing information on the 2013 event, the impacts and an overview of the theme areas being evaluated by the River Flood Mitigation Program.

Overall, a number of themes have emerged through dialogue with the community and other stakeholders and include: raising awareness for residents in terms of changing river conditions and advance warning of potential flooding so they can take appropriate action to prepare themselves and their community; a level of anticipation of the results of the feasibility study for

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the Glenmore Reservoir Bypass; desire by property owners to become better prepared at the homeowner and community levels to reduce the impact from future flooding; and perceived benefit of dredging rivers and the Glenmore Reservoir for flood mitigation.

Strategic Alignment

To ensure alignment with flood recovery and mitigation work at the Corporate and Provincial levels, The Chair of the Expert Management Panel, along with The Program Manager of The River Flood Mitigation Program are represented on The Corporate Recovery Operations Centre Steering Committee and Task Force respectively, and both have an ongoing working relationship with The Provincial Task Force.

Work of The River Flood Mitigation Program aligns with The Corporation's Triple Bottom Line framework, imagineCALGARY goals and the 2020 Sustainability Direction. One of the objectives within the 2020 Sustainability Direction is: "Calgary, its communities and neighbourhoods are safe, resilient and supportive: By 2020, communities will have demonstrated the resiliency to self activate to respond to natural disasters".

Social, Environmental, Economic (External)

The Panel is tasked with finding ways and means of reducing the impacts of future flood events on the city of Calgary. Floods have significant social, environmental and economic impacts. Working with the Recovery Operations Centre and engagement with the community continues to provide perspective on the extent of the social, environmental and economic impacts that continue to emerge from the 2013 event.

Financial Capacity

Current and Future Operating Budget:

The Expert Management Panel is operating within its approved one time 2014 operating budget. The final recommendations of the Panel to Council in June 2014 will inform operating budget needs for the 2015-2018 Business Plan and Budget.

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 that will inform the 2015-2018 Business Plan and Budget and requests for funds from The Province.

Risk Assessment

The focus of the River Flood Mitigation Program is to reduce the impact of future flood events on the city of Calgary and thus will contribute to improved risk management. Potential risks to the project include an aggressive timeline for final report; lack of coordination between The Corporation and the Province; and insufficient communication with the community. To mitigate these potential risks, the Panel continues to draw upon resources as required, including consultants, to ensure completion of the workplan and report for June 2014. The Panel continues to work with The Corporation and The Province to align the work and messages to the community. As the Panel began to make more significant progress on the workplan and thus had more information to share with the community, dialogue with stakeholders and communities became a significant focus throughout the first quarter of 2014 and dialogue will

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continue to final completion of the report. Responding to public expectations for engagement and managing staff workload to deliver on projects over the next three months presents a challenge. Many of the staff involved in dialogue with the community are also those responsible for delivering projects to support recovery, preparedness for this season and longer term mitigation. Efforts are being made to consolidate communication efforts across The Corporation to make more efficient use of staff time to share messages to a broader audience over dealing with individual requests.

REASON(S) FOR RECOMMENDATION(S):

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

ATTACHMENT(S)

N/A