

2013 JUNE FLOOD EMERGENCY RESPONSE AND INITIAL RECOVERY EFFORTS

EXECUTIVE SUMMARY

This report summarizes The City of Calgary's emergency response and initial recovery efforts related to the 2013 June flood. The activities outlined occurred during the 14 days when The City's second-ever State of Local Emergency (SOLE) was declared, beginning 2013 June 20 and ending on 2013 July 4.

The Calgary Emergency Management Agency (CEMA) and its agency members managed the full or partial evacuation of 32 communities, representing approximately 80,000 citizens within a 15-hour period. Citizens were safely evacuated or provided shelter-in-place instructions with one fatality reported as a result of flood. At the height of the flood, nine reception centres and four dormitories were opened. These centres registered approximately 3,800 citizens, sheltered 2,800 people and provided 68,000 meals.

Intensive recovery and business continuity efforts were started in parallel with emergency response activities. Following the initial recovery efforts that took place under the SOLE, the Flood Recovery Task Force, which reports to the Recovery Operations Centre Steering Committee, assumed responsibility for longer term community restoration and rehabilitation in the city. The Recovery Director will provide further reporting of recovery efforts to Council.

Following the flood, CEMA conducted both Corporate-wide and CEMA team debriefs. While the emergency response and early recovery efforts demonstrated the strength of CEMA's Comprehensive Emergency Management Model and supporting emergency response plans, these debriefs provided an opportunity to identify successes to leverage in the future as well as areas for improvement. One such opportunity includes the development of a Corporate Business Continuity policy to capitalize on momentum and provide a consistent approach to corporate business continuity planning and resiliency that recognizes interdependencies and areas for efficiencies. CEMA has also retained the Conference Board of Canada to conduct an independent assessment of The City's emergency management of the flood. This report will be completed in the second quarter of 2014.

ADMINISTRATION RECOMMENDATION(S)

That the Emergency Management Committee recommend that Council:

1. Receive this report for information; and
2. Direct Administration to report back to Council, through the Emergency Management Committee, with results from 2013 flood debriefs conducted by Administration, as well as the results of the Conference Board of Canada assessment, no later than 2014 June.

RECOMMENDATION OF THE EMERGENCY MANAGEMENT COMMITTEE, DATED 2013 DECEMBER 06:

That the Administration Recommendation contained in Report EMC2013-0822, be approved.

2013 JUNE FLOOD EMERGENCY RESPONSE AND INITIAL RECOVERY EFFORTS

PREVIOUS COUNCIL DIRECTION / POLICY

On 2006 February 13, Council approved report DS2006-04, "2005 Flood Policy and Procedures Changes Report" which included 74 recommendations to enhance emergency management within the city of Calgary. All of the recommendations were adopted.

On 2013 July 2, the Priorities and Finance Committee approved report PFC2013-0578, "Flood Status Update" which provided initial cost estimates for The City's emergency flood response.

On 2013 September 16, Council approved report PFC2013-0646, "2013 Flood Recovery Task Force Update Report" which outlined the framework for long-term community recovery across the city.

BACKGROUND

In 2013 June, Calgary experienced the largest flood in recent history. The Bow River reached an approximate one in 100-year return peak flow rate while the Elbow River, upstream of the Glenmore Dam, reached an approximate one in 500-year return peak flow rate. Storage in the Glenmore Reservoir mitigated downstream flow on the Elbow River to a one in 100-year return-peak flow rate. Overland flooding affected residential homes, businesses, electrical facilities and City infrastructure. CEMA coordinated The City's overall response to the floods from the municipal Emergency Operations Centre (EOC), overseeing the efforts of 29 Business Units, 12 external members, seven invited partners and approximately 7,000 City staff that assisted in emergency response and initial recovery activities (Attachment 1 provides a detailed summary of key emergency response and recovery activities).

The health and safety of Calgarians remained safeguarded as a result of The City's coordinated response, CEMA's Comprehensive Emergency Management Model, mitigation efforts undertaken following the 2005 flood and the collaborative efforts demonstrated by citizens and businesses within Calgary. Throughout the flood, Calgary's drinking water remained safe for consumption and The City's 9-1-1 telephone lines remained available to allow citizens to access emergency services. In addition, Calgary's emergency services and CEMA members managed and responded to several additional significant emergency events during the SOLE that would have normally merited an activation of the EOC on their own.

In the EOC, recovery efforts were started in parallel with emergency response activities and concentrated resources to support the resumption of normal day-to-day activities for citizens and businesses as quickly as possible. Within four days, citizens from 26 of the 32 full or partially evacuated communities, which represented approximately 50,000 people, were permitted to return to their homes to assess damages and begin clean up. Within six days, 95 per cent of residential pumping requests were completed, 85 per cent of roads in flood areas re-opened and 100 per cent of downtown roads were swept clean. Within nine days, all communities were provided re-entry, the city-wide electrical grid was restored and 300 metres of damaged road were rebuilt along Macleod Trail. Within thirteen days, millions of gallons of water were removed from LRT tunnels and 100 metres of new LRT track were laid beside the Stampede Grounds.

2013 JUNE FLOOD EMERGENCY RESPONSE AND INITIAL RECOVERY EFFORTS

Of the approximately 18,000 homes and businesses assessed by inspection teams, 29 remain structurally compromised (as of 2013 October 3). Of the 4,000 businesses directly affected by the flood, 25 remain closed with 12 not expected to reopen (as of 2013 September 19).

INVESTIGATION: ALTERNATIVES AND ANALYSIS

CEMA has undertaken efforts to evaluate The City's response to the June flood to ensure all opportunities to improve preparedness, mitigation, response and recovery in future disaster events are considered.

CEMA and Corporate Debriefs

CEMA conducted an internal review of its response and initial recovery efforts from an emergency management perspective and has identified areas of strength and opportunities for improvement. On 2013 September 19, CEMA held a Corporate-wide debrief of the flood response to identify opportunities to improve The City's coordinated response to future emergency and disaster events. About 120 staff from every City Business Unit and 16 external members and partners participated.

As a result of these debriefs, a number of preliminary actions have been identified for follow up to guide improved response for future events. One specific area for immediate action is to have formal and consistent Corporate-wide business continuity plans. During the flood, many Business Units were able to quickly and seamlessly adapt their operations to the loss of personnel and workspaces, however more work is required to ensure similar results in all Business Units and apply lessons learned. Moving forward, CEMA has identified an opportunity to engage Business Units to develop comprehensive business continuity plans that align with other Business Units using the same guidelines and templates.

Third-Party Review

CEMA has also retained the Conference Board of Canada to review The City's emergency response to the 2013 flood. The Conference Board of Canada, in consultation with The City Auditor's Office, will evaluate The City's response against emergency management best practices and standards, and provide its results and recommendations in the second quarter of 2014. These findings, along with those from the Corporate and CEMA debriefs, will be presented to Council no later than 2014 June. This report will also include recommendations for incorporating findings into the 2015-2018 Business Plan and Budget Cycle. The recommendations and direction from Council will guide future disaster planning and emergency management objectives for The City. The Recovery Operations Centre Task Force remains in place and will report directly to Council on restoration efforts.

Stakeholder Engagement, Research and Communication

Membership of CEMA is comprised of 19 City Business Units, 12 external members and a range of organizations that work in collaboration with CEMA at the invitation of the Director. These include non-governmental organizations, faith-based entities, government agencies, private companies and subject matter experts.

Regular training and mock disaster exercises throughout the year provide opportunities for members to identify potential gaps in response planning, enhance coordination, and refine

2013 JUNE FLOOD EMERGENCY RESPONSE AND INITIAL RECOVERY EFFORTS

member operations to prepare for a range of emergency scenarios. Members are also fully engaged in developing and maintaining the various emergency response plans of The City.

During the 2013 flood, Council was very supportive of the operational and communications needs of the EOC. Council members observing the emergency response in the EOC, as well as those inquiring on progress, worked to ensure their communications to constituents were aligned with, and supported, the direction and messaging being provided by the EOC.

On October 29, in response to a Calgary Police Commission request, CEMA made a presentation to the Calgary Police Commission on its Comprehensive Emergency Management Model and the pillars of emergency management. This overview included discussion of emergency management authority and legislation as set out by the Alberta Emergency Management Act, and the resulting roles and responsibilities of internal and external agency members, the Mayor and Council. As a result of the presentation and discussion, CEMA and the Calgary Police Service will be meeting to further discuss operational opportunities to work together and to clarify roles.

The Recovery Operations Committee Task Force has reviewed this report and CEMA will continue to work closely with the Task Force to share lessons learned.

Strategic Alignment

This report and The City of Calgary's response to the 2013 June flood aligns with Council's Fiscal Plan for Calgary 2012-2014: *"Ensuring every Calgarian lives in a safe community and has the opportunity to succeed."*

Social, Environmental, Economic (External)

Social

Although Calgary only had about 15 hours to conduct evacuations of areas affecting approximately 80,000 citizens, the emergency response to the 2013 flood protected the health and safety of Calgarians through a series of staged, managed and deliberate evacuations. Consideration was also provided for Calgary's most vulnerable populations, including seniors and those struggling with poverty, homelessness and addiction.

Intensive initial recovery planning and activities occurred in parallel to response efforts to support the quick and safe re-entry of citizens and businesses into their homes and communities. This closely integrated approach between response and recovery allowed citizens with damage to their homes to quickly begin remediation and restoration. Citizens with little or no damage to their homes were able to quickly resume normal activities and recommence the vital work and commerce activities in the city.

Environmental

Environmental and climate change factors are influencing the frequency and magnitude of events on a worldwide basis. The nature and scale of events expected to impact the city of Calgary are changing and expanding. CEMA's annual Hazard Identification and Risk Assessment (HIRA) is designed to identify these potential events to allow CEMA and City Business Units to incorporate mitigation activities into annual business and continuity planning.

2013 JUNE FLOOD EMERGENCY RESPONSE AND INITIAL RECOVERY EFFORTS

This type of mitigation planning, combined with additional measures undertaken since the 2005 flood, such as development of the Water Emergency Operations Centre (H2OC) and improvements to the water treatment plants, allowed The City to mitigate the flood magnitude on the Elbow River downstream of the Glenmore Dam, and maintain the safety of its drinking water during and following the flood.

Economic (External)

Due to recovery efforts being coordinated and executed with the same intensity and resources as the response efforts in the EOC, The City was able to support the timely resumption of business activity in the city, particularly within the severely affected downtown core.

Early stage business continuity planning by Business Units ensured essential services to citizens and businesses, such as applications for permits, were available and others were restored as quickly as possible.

Financial Capacity

Current and Future Operating Budget:

Costs associated with the Conference Board of Canada Report are estimated to be approximately \$50,000. There are no additional operating impacts at this time. Any further operating budget impacts as a result of the ongoing review will be identified in the 2014 June report and will be referred to the 2015-2018 business plan and budget cycle.

Current and Future Capital Budget:

There are no capital budget implications at this time. Any further capital budget impacts as a result of the ongoing review will be identified in the 2014 June report and will be referred to the 2015-2018 business plan and budget cycle.

Risk Assessment

During the 2013 flood, the Bow and Elbow rivers reached approximate one in 100-year and one in 500-year return peak flow rates, respectively. This is not intended to indicate such events will only occur once every 100 or 500 years; rather, it is an indication of the likelihood of such events occurring in a given year. The probability of a 100-year event occurring in any given year is one per cent, while the probability of a 500-year event occurring in a year is 0.2 per cent.

Environmental and climate change factors are influencing the magnitude of events on a worldwide basis. Through its annual HIRA, CEMA works to identify those events most likely to occur in Calgary and with the potential for the largest impact. Based on the flooding occurrences in 2005 and 2013, CEMA is consulting with subject matter experts to continue to assess the likelihood of these types of events in the future.

The City has directed the development of an external Expert River Flood Mitigation Advisory Panel to review flood issues and make recommendations for future mitigation strategies. Recommendations are anticipated by spring 2014 and will be integrated within the 2015-2018 Business Plan and Budget Cycle.

2013 JUNE FLOOD EMERGENCY RESPONSE AND INITIAL RECOVERY EFFORTS

REASON(S) FOR RECOMMENDATION(S):

Initiatives and actions resulting from flood debrief activities as well as an independent third-party review of the emergency response to the 2013 June flood will contribute to improved Corporate preparedness and emergency management of future large-scale emergency events.

ATTACHMENT(S)

Summary of 2013 June Flood Emergency Response and Initial Recovery Efforts