

**Utilities & Environmental Protection Report to
Strategic Meeting of Council
2019 May 13**

**ISC: UNRESTRICTED
C2019-0648**

Integrated Watershed Management

EXECUTIVE SUMMARY

On 2018 May 28, an update on Upstream Bow River Flood Mitigation was provided to Council (UCS2018-0600). At that time, Council directed Administration to facilitate a strategic meeting of Council with respect to integrated watershed management (IWM) and the Corporate Resilience Strategy. The purpose of this report is to provide an overview of the strategic meeting of Council.

As part of One Calgary, Council adopted five Directives to guide Administration's 2019-2022 business planning and priorities. One of the Directives focused on achieving future water security and a sustainable water supply, and integrating watershed management into our land use policies, plans and decisions. Accordingly, the strategic council meeting is expected to build on Council's awareness of Calgary's most pressing watershed management issues and help Administration understand what Council sees as pressing, long-term planning concerns for Calgary and the region with respect to IWM. This is part of an ongoing conversation with Council and is not meant to establish specific IWM outcomes or direction to Administration.

As part of the strategic meeting, Council will be provided an opportunity to have an in-depth discussion with external and internal subject matter experts on two important IWM topics that will be themes for today's workshop sessions: 1. Water Supply and Security, and 2. Stormwater and City-building. To ensure that any discussion around potential implications on regional planning, Administrative policy guidance, intergovernmental relations, or private businesses does not have undue influence at this preliminary stage, it is recommended that the workshop portions of the strategic meeting occur in Closed Session.

These two topics are front and centre to the Citizen Priorities of "A Healthy and Green City" and "A City of Safe and Inspiring Neighbourhoods". Furthermore, these two topics are directly linked to the One Calgary Directives to address a changing climate and will facilitate sustainable, effective watershed management (through IWM) within Calgary and the region. These directives are coupled with the growth pressures facing Calgary and the region and new governance, as related to the Calgary Metropolitan Region Board (CMRB).

On 2019 May 15, Administration will bring forward the 2018 Integrated Watershed Management Update and the 2018 Flood Resilience and Mitigation Annual Update to the Standing Policy Committee on Utilities and Corporate Services (SPC on UCS). The SPC on UCS will provide further opportunity to continue the IWM discussion with Council and the Public, with a particular focus on flood mitigation and resiliency and other aspects of the watershed annual update. The Corporate Resilience Strategy will also be presented to Council by Resilience and Infrastructure Calgary in the near future.

Integrated Watershed Management

ADMINISTRATION RECOMMENDATION:

1. That Council receive this report for information.
2. That the discussion related to the interactive exercises that are part of this meeting be in closed session of Council and remain confidential pursuant to sections 21 (disclosure harmful to intergovernmental relations), 24 (advice from officials) and 25 (disclosure harmful to economic and interests of a public body) of the *Freedom of Information and Protection of Privacy Act*.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2018 May 28, Council received an update on Upstream Bow River Flood Mitigation (UCS2018-0600). At that time, Council directed Administration to facilitate a strategic meeting of Council with respect to IWM and The City's resiliency plan no later than the fall of 2018. At the 2018 October 15 Meeting of Council, the item was deferred due to Council and Administration's focus on One Calgary discussion. Administration was directed to return to a Strategic Meeting of Council in spring 2019.

BACKGROUND

The City of Calgary (The City) is dedicated to implementing the Government of Alberta's *Water for Life Strategy* through an IWM framework. This approach helps manage the interconnection between human activities and the watershed, while considering the environment, economy and society. Increased pressure on watersheds from the impacts of growth in the region and a changing climate reinforce IWM as one of Calgary's most critical resiliency challenges. The City's IWM uses four connected goals as a framework to manage these challenges:

1. Protect our water supply
2. Use water wisely
3. Keep our rivers healthy
4. Build resiliency to flooding.

These goals ensure The City considers the interconnections among land use, natural ecosystems and the many needs of water users in our watershed.

Following Administration's update on Upstream Bow River Flood Mitigation on 2018 May 28, Council identified a need to discuss and build Council's understanding of The City's IWM approach. As a result, today's strategic meeting provides an opportunity for an in-depth discussion on IWM as it relates to Council's One Calgary Directive to achieve future water security and a sustainable water supply, as well as integrating watershed management into land use decisions. These concepts are also key components in the Corporate Resilience Strategy.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Integrated Watershed Management

The Bow River Watershed, including the Bow and Elbow rivers, is a natural system interacting with our built environment. Activities within Calgary and upstream of our city influence river flows, river health, downstream water quality, and the many users that depend on the watershed.

Integrated Watershed Management

The interconnectedness between human activities and the watershed must be considered collaboratively. This is necessary to address the impacts of local and regional city-building on watershed management and a changing climate. This is a key driver for The City's IWM approach, designed to protect water resources and ensure a resilient water future.

Building on Council's Directive on IWM, today's strategic meeting aims to build understanding and gain insights from Council on two of Calgary's most pressing long term watershed management challenges. The challenges and some considerations are as follows:

1. Water supply and security

- Continuing population and economic growth in Calgary and the region will impact our water quantity and quality.
- Closure of the South Saskatchewan River Basin to new Provincial water license applications.
- A changing climate will shift the volume, timing and quality of river flows.
- Potential major wildfires in the forested headwaters, and increased stormwater from urban growth and development are the biggest risks to our source water.
- The need to balance long term supply and demand to ensure we can accomplish the commitment made to our customers to deliver high quality water for now and generations to come.

2. Stormwater and city-building

- Stormwater management reduces flood risk, ensures public safety, and limits pollution from entering rivers.
- Controlling the volume, flow, and quality of stormwater is a shared responsibility between The City and the private sector.
- Newer communities require some stormwater quality treatment measures and generally have increased drainage capacity compared with established communities where some stormwater flows untreated through storm drains and roads, back into the rivers. This creates stormwater quality and volume challenges.

Strategic Meeting intent

Today's strategic meeting aims to:

1. Build Council's awareness of Calgary's most pressing watershed management issues, and
2. Hear what is important to Council as our city-builders.

Through two interactive exercises related to the theme areas described above, Council will have the opportunity to express what is important to them by:

1. Working through a water security scenario that considers options to manage long term water supply and demand, and
2. Experiencing the complexities of managing and building communities with stormwater as a primary consideration.

Administration will draw from this strategic discussion with Council as it continues to plan and implement sound IWM in the delivery of its services to customers. The exercises that Council will work through are attached to this report. To ensure that any discussion that may have

Integrated Watershed Management

potential implications on regional planning, Administrative policy guidance, intergovernmental relations, or private businesses does not have undue influence at this preliminary stage, it is recommended that the associated Council discussion occur in Closed Session.

Stakeholder Engagement, Research and Communication

Holistic management of shared resources and responsibility is a key principle of IWM. The Water Utility works collaboratively with other orders of government, regional municipalities, landowners, Watershed Planning and Advisory Councils, the building industry, and businesses on IWM issues. We strive to understand what is important to customers and stakeholders through engagement, research, partnerships, education and a strong presence in the community.

Strategic Alignment

The Water Utility's IWM work aligns with the Climate Resilience Strategy water management theme and the Corporate Resilience Strategy. Advancing watershed management goals aligns to the following One Calgary Council Directives under A Healthy and Green City for 2019-2022:

- IWM is essential to protect public health and the environment, while strengthening our resilience to a changing climate.
- Calgary must develop our communities with a focus on achieving future water security and a sustainable water supply.
- Watershed management must be integrated into our land use policies, plans and decisions.
- Accomplishing sustainable, effective watershed management within Calgary and the region will also require working collaboratively with other orders of government, adjacent municipalities, residents, landowners, developers, businesses, and indigenous and metis communities.

Social, Environmental, Economic (External)

Sustainable management of water is critical to long term city-building and ensuring healthy watersheds for the region now and in the future. An IWM approach to Calgary's water resources helps minimize long-term environmental risks to Calgary's water supply, ensure public health and safety, reduce risk to property from flooding, and contributes to long term economic and community resiliency.

Financial Capacity

Current and Future Operating Budget:

Operating budgets are not impacted by this strategic session. Program initiatives to achieve IWM planning goals are incorporated in the 2019-2022 Water Utility budget.

Current and Future Capital Budget:

Operating budgets are not impacted by this strategic session. Program initiatives to achieve IWM planning goals are incorporated in the 2019-2022 Water Utility budget.

Utilities & Environmental Protection Report to
Strategic Meeting of Council
2019 May 13

ISC: UNRESTRICTED
C2019-0648

Integrated Watershed Management

Risk Assessment

Sustainable management of water resources is one of Calgary's most significant community resiliency challenges. Risks to a sustainable and secure water supply include a growing population, changing climate, and upstream forest fires and land use impacts. Stormwater management is also impacted by urban growth and localized flood risk. An IWM approach helps assess, manage and mitigate risks considering the interconnectedness of watershed issues and impacts. IWM supports coordination of priorities among all water users to achieve a more secure, flexible, and resilient water future.

REASON(S) FOR RECOMMENDATION(S):

This report is provided for information as an accompaniment to the strategic meeting on IWM. To ensure that any discussion which may have potential implications on regional planning, Administrative policy guidance, intergovernmental relations, or private businesses does not have undue influence at this preliminary stage, it is recommended that the associated Council discussion occur in Closed Session.

ATTACHMENT(S)

1. Attachment 1 – Guest speaker biographies and overview of interactive exercises