

Calgary

A wide-angle photograph of a residential neighborhood. In the foreground, there is a pond surrounded by lush green grass and reeds. In the background, several modern houses with grey roofs and balconies are visible under a bright blue sky with scattered white clouds.

2024 Update

STORMWATER MANAGEMENT STRATEGY

STORMWATER STRATEGY

A FRAMEWORK FOR ACTION

Vision – The City of Calgary promotes healthy, resilient communities and waterbodies through proactive and collaborative stormwater management.

SUPPORTING PRINCIPLES

- Stormwater risks are adaptively managed to prioritize public health and safety.
- Stormwater is valued as a sustainable resource and its management is integrated within city building to contribute to vibrant neighbourhoods.
- Stormwater management protects the environment and enhances the health of receiving waterbodies.
- Stormwater services and investments maximize social, economic and environmental values, at optimal lifecycle costs.
- Stormwater management is a shared responsibility.
- The City leads by example to promote innovation and foster collaboration.
- Stormwater management is resilient to a changing climate.
- The City will partner with industry and other interested parties to align growth, development, and stormwater management practices.

TARGETS

- Decrease the percentage of properties at risk within communities at risk of pluvial flooding.
- Reduce the average annual damages (AAD) from pluvial flooding.
- Increase the area (m²) of greened stormwater practices.
- Maintain Total Suspended Solids (TSS) and Total Phosphorous (TP) loadings to the Bow River.
- Establish stormwater rate, volume and contaminant loading targets to the Bow River and tributaries.
- Increase the city-wide average riparian health score.
- Increase the Triple Bottom Line (TBL) score of stormwater infrastructure.
- Decrease the number of stormwater customer concerns.
- Increase the number of Calgarians who agree that stormwater service in their community is of good value.

CORNERSTONES TO ACHIEVE GOALS

Cornerstone 1: Making established communities more resilient.

Cornerstone 2: Proactively managing and maintaining our assets.

Cornerstone 3: Utilizing low impact development.

Cornerstone 4: Setting stormwater performance measures.

GOALS AND OUTCOMES

Create safe and vibrant neighbourhoods, while striving for equitable service for all Calgarians.

1. The livability and vibrancy of our communities, the protection of public health and safety, and the protection of natural and urban ecosystems is being positively transformed and enhanced by innovative, practical and achievable stormwater solutions.
2. Stormwater management systems are resilient to climate change.
3. The level of service among communities has been made more equitable through investment in established areas.

Share responsibilities with Calgarians and with the surrounding regions for being good stewards of our communities and environment.

4. Stormwater is managed at the sub-watershed level to enhance and protect Calgary's waterbodies.
5. Calgarians share in the responsibility of stormwater management and in the protection of the environment, and they value stormwater management solutions in the community.
6. Calgarians are empowered with the information they need to understand their impacts and take action.
7. The City is collaborating with strategic partners to leverage ideas, knowledge and expertise for the design and delivery of innovative and effective stormwater management solutions.
8. Surface water quality regulatory standards are being met or exceeded.

Promote and attain healthy and resilient watersheds.

9. The City is leading by example, investing in grey, green and natural infrastructure to reduce the risk of flooding impacts and to enhance the health of our watersheds.

Provide infrastructure and services that maximize value for Calgarians.

10. The City's planning, operation and maintenance of grey, green and natural infrastructure is more efficient and effective.
11. The City's strengthened governance and business processes overcome competing city-building priorities and support the implementation of practical, affordable, adaptative and innovative solutions.
12. Decision-making is informed by evidence-based data, including social, economic and environmental benefits with performance indicators to measure progress.

2023/24 UPDATE

SETTING THE CORNERSTONES

2023/24 was the first full year of implementing The City of Calgary's long term 2023 Stormwater Management Strategy. The Strategy is a framework for action to promote healthy, resilient communities and waterbodies through proactive and collaborative stormwater management.

Implementation was focused into four theme areas (Cornerstones) identified in the Strategy. Stormwater management is a rapidly evolving service line with new pressures and opportunities associated with rapid community growth, evolving technologies and changing climatic conditions. Working across the corporation and with external partners, The City team and newly formed Cornerstone Teams, were able to achieve valuable advancements in the first year of implementation that are foundational to Cornerstone work through this and the next business cycle.(2027-2030)

The summary below outlines the progress from late 2023 to late 2024.



Marda Loop permeable pavement installation

CITY BUILDING

- Provided policy language to the draft Calgary Plan to, once finalized, support consideration of stormwater risks and opportunities in future planning decisions in a comprehensive approach to guide Calgary's growth and evolution over the next 30 years.
- Provided initial stormwater requirements clarification into the corresponding Street Design Manual and Land Use Bylaw updates that are also underway.
- Contributed to the development of the Regional Stormwater Management Guidelines to inform development in the CSMI (Cooperative Stormwater Management Initiative) catchment area (East Belvedere in Calgary).

CORNERSTONE 1

MAKING ESTABLISHED COMMUNITIES MORE RESILIENT.

- Used the Stormwater Redevelopment Fund to enhance performance of existing projects by allowing for incremental stormwater-focused design improvements. Projects supported by this in 2024 included the installation of permeable pavement in Marda Loop, and design work for soil cells in Inglewood/ Ramsay to be installed in 2025.
- Advanced stormwater modelling that will, when completed, document the spatial extent of pluvial flooding in all established communities in Calgary for a range of events.
- Continued with the implementation of the Community Drainage Improvement program and initiated program review toward integrating program refinements.

CORNERSTONE 2

PROACTIVELY MANAGING AND MAINTAINING OUR ASSETS.

- Initiated an updated stormwater public asset lifecycle inventory and information collection to verify asset data completion and integrity.
- Outlined Strategic and Tactical Asset Management Plans to be developed for proactive stormwater asset management.
- Scoped the process for assessing stormwater asset criticality to guide prioritization.
- Secured additional budget in mid-cycle adjustment process for operational staff supporting stormwater infrastructure operation, maintenance and life cycle management.

CORNERSTONE 3

UTILIZING LOW IMPACT DEVELOPMENT.

- Initiated research and interviews to create a comprehensive picture of low impact development (LID) experiences, perceptions, challenges and successes in Calgary.
- Began development of a Triple Bottom Line (TBL) tool to review the relative benefits of various LID technologies at a site level and at a watershed scale.
- Began development of two plug and play stormwater solutions. Having designs developed will allow for an increased uptake of these options.



Capitol Hill curb inlet and naturalized swale.

CORNERSTONE 4

SETTING STORMWATER PERFORMANCE MEASURES.

- Continued the Nose Creek Low Energy Release study to inform interim guidance on analytical approaches and parameter selection city-wide including Nose Creek.

PUBLIC AWARENESS AND EDUCATION

- Initiated a 'stormwater 101' communications campaign to increase public awareness and community understanding of stormwater management, their interactions with the stormwater system, and stormwater impacts on our watershed.
- Created a partnership with The City of Calgary's Mobility team to create awareness of the stormwater benefits associated with spring street sweeping.
- Updated The City of Calgary's stormwater management web pages to provide current and comprehensive information to Calgarians: calgary.ca/stormwater

Implementation of the 2023 Stormwater Management Strategy continues through 2024 and into 2025. We are actively managing implementation challenges including key staff being diverted to critical infrastructure priorities, constraints in asset construction capacity, and dependence on a limited pool of subject matter experts.

We look forward to providing the next annual update in late 2025.