



## INTERIM RUNOFF VOLUME CONTROL

With attempts to implement runoff volume control measures over the past few years, it is now evident that the development of the methods and tools have not progressed as originally envisioned. While progress has been made to advance stormwater management practices to minimize the impact of growth on our watersheds, The City has seen examples where current limitations with policies and tools are delaying or stalling development applications because runoff volume control targets cannot be meaningfully achieved.

To support the development industry while stormwater management strategies are still maturing, The City has developed an interim approach in collaboration with BILD Calgary Region and NAIOP Calgary. The interim approach continues to be aligned with The City's customer and regulatory commitments with the intention to provide more clarity to customers, facilitate timely approvals, and the implementation of cost-effective and resilient infrastructure systems.

### Low Energy Release Concept

The City is working with BILD and NAIOP to evaluate and facilitate a proposed low energy release concept. Work will continue through 2019 to appreciate the potential risks for cumulative impacts on morphology and ecology of receiving water bodies. Initial work on the risk review is underway and preliminary coordination with Alberta Environment & Parks and watershed organizations is also anticipated. It is hoped that the low energy release concept, or other alternative approaches (e.g. automated outlet control gates on pond outlets) that may be presented, may serve as an important strategy in the overall stormwater management strategy tool box. If the overall objectives for our receiving water bodies can be met, alternative approaches like the low energy release concept may mitigate the need for stringent runoff volume control targets.

### **Interim Approaches:**

While The City advances its progress on updating the Stormwater Management Strategy and conducts other technical work, including the implementation review of the low energy release concept, the following interim measures shall be applied:

### Greenfield - Industrial, Commercial, and Institutional (ICI) Development and Multi-Family Residential:

- An average annual runoff volume of 150 (e.g., multi-family residential development) – 250 mm (e.g., commercial and industrial development). A range is being provided to account for the varying land uses, imperviousness, and soil conditions/infiltration rates across the city. **Calculations and analysis provided should demonstrate that the average annual runoff volume has been minimized to a reasonably practical extent given context and site considerations.**
- Where possible, stormwater should be directed from hard surfaces to landscaped areas within the parcel
- Examples of volume control measures that should be considered are as follows:
  - Absorbent/Resilient landscaping with 300 – 400 mm top soil;
  - Infiltration tanks/trenches with sub soil hydraulic conductivity greater than 15-20 mm/hr, and a minimum of 1 meter to the top of the ground water table;
  - Green roofs and porous pavements;
  - Rain gardens & bioretention areas;
  - Stormwater reuse for internal plumbing (eg., toilet flushing)

### Greenfield - Single Family Residential

- 300 mm topsoil for all single family lots with runoff directed from hard surfaces into a landscape area within the lots wherever feasible.

### Redevelopment Areas

- Customer applications will be reviewed and discussed at the Pre-Application or Outline Plan/Land Use stage for the potential to retain open space, reduce the potential effects of increased imperviousness, and implement green Infrastructure systems into the overall development plan.

### Stormwater Reuse for Irrigation Purposes:

Since 2016, The City has been working with Alberta Environment & Parks to advance stormwater reuse policy and guidance. Stormwater reuse for irrigation purposes is considered an important tool to help advance The City's water conservation objectives. To maximize the efficiency of The City's water license for drinking water, The City is looking to ensure the appropriate sources of water are being used for appropriate purposes. To facilitate this strategy the following should be pursued where practical and reasonable:

- Stormwater reuse for irrigation of all municipal reserve (MR and MSR) sites larger than 0.7 hectares.
- Programmable municipal reserve parcels between 0.2 and 0.7 hectares may be considered for stormwater reuse irrigation on a case-by-case basis.

Through 2019, The City will continue to collaborate internally and with the development industry to ensure that the reuse of stormwater for irrigation purpose is evaluated so that a cost-effective approach to the irrigation of public spaces is effectively realized.

For projects with irrigation system construction underway or imminent, The City will work with the developer and consulting teams on a project specific basis.

### Applicable Watersheds

The interim approaches described herein will apply to the Nose Creek and Pine Creek watersheds.

The requirements for the Western Headworks Canal Direct Discharge Area will remain as per the Interim Stormwater Targets 2014 industry bulletin (March 2014).

Runoff volume control will remain voluntary for the remaining watersheds within the City of Calgary as noted in the Stormwater Volume Control Targets Update industry bulletin (October 2015).

### Implementation:

The interim approach will be effective immediately for new applications. Water Resources will contact consultants for all impacted development applications currently in the queue to provide the option of cancelling the current review and revising and resubmitting with the new interim approach.

All previously issued approvals, with specific runoff volume control requirements will continue to apply. Water Resources is open to meeting with applicants that have existing approvals that want to resubmit under the interim approach. Each project will be reviewed on a case-by-case to understand the impacts of a change from the original approval (e.g., regulatory impacts, etc).

For more information, please contact Zhong Xiang, Acting Leader of Development Approvals at [Zhong.Xiang@calgary.ca](mailto:Zhong.Xiang@calgary.ca).