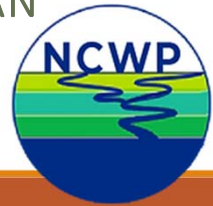


# Celebrating 25 Years of the Nose Creek Watershed Partnership

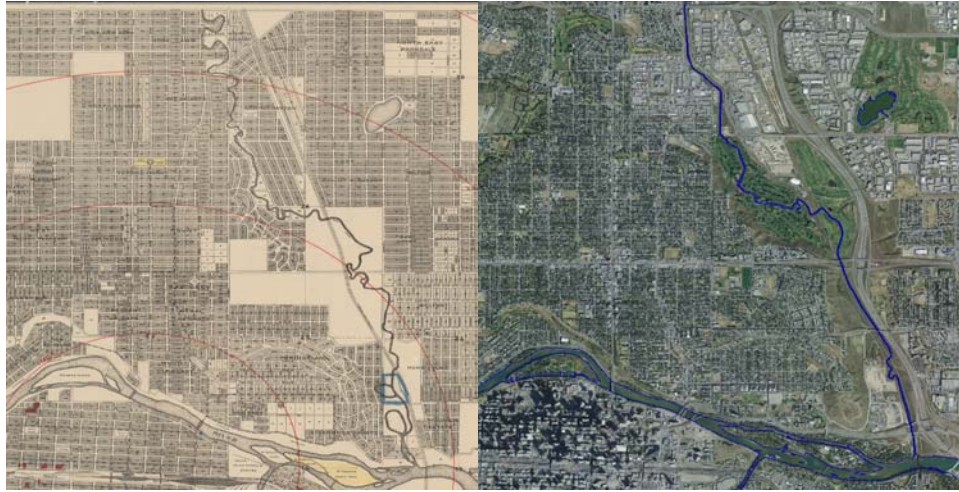
NCWP PARTNER UPDATES: NOSE CREEK PLAN  
IMPLEMENTATION



## Nose Creek Projects



## Lower Nose Creek Stability Project



ISC: Confidential

Title of presentation

3



## Nose Creek Morphology Straightening



- The channel has been shortened by 8 km resulting in theoretical downcutting of up to **6.7 m** at KM 28 which would **carry upstream indefinitely**.
- The bottom reach slope is now 0.0014, compared to an estimated original slope of 0.0009

ISC: Confidential

Title of presentation

4



## Vision for Nose Creek within City Limits

“...Nose Creek a candidate for restoration that would address current hydrologic, morphologic, water quality and ecological problems while improving aesthetics and providing enhanced recreational opportunities. Essentially, this would mean turning Nose Creek from a drainage ditch into a valuable piece of multi-functional, green infrastructure.”

- Use check structures to reconnect the creek to the flood plain (potentially use natural forms (ie beaver dams).
- Provide additional room for the creek by relocating pathways instead of armoring
- Restore historic meanders where possible
- Use bioengineering instead of hard engineering wherever possible
- Use Beaverdam Analogue or Post Assisted Debris Structures to help hold up the creek



## Hanson Ranch

[Calgary.ca/HansonRanchWetland](https://calgary.ca/HansonRanchWetland)



# Airdrie and the NCWP

[www.airdrie.ca](http://www.airdrie.ca)

**Recommendation:**

6.4.3 - a Riparian setbacks for permanent watercourses should be determined on a site specific basis as the greater of the minimum setback (i.e., 30 m or 60 m) and the 1:100 year floodplain width.

**Action:**

Airdrie established an Environmental Reserve Policy in 2019. Airdrie continues to apply the NCWWMP Recommendation and Airdrie Environmental Reserve policy to protect riparian areas along Nose Creek and intermittent tributaries with each new development application.

CITY OF AIRDRIE Dedication and Use of Environmental Reserves Policy

Effective Date: August 19, 2019 Revision Date: \_\_\_\_\_  
 Approved By: Council  
 Approved On: August 19, 2019 Resolution #: 2019-C-266

PURPOSE:

The purpose of this policy is to provide guidance regarding the City's intentions with respect to the dedication and use of environmental reserves, and environmental reserve easements pursuant to section 654.1 of the Municipal Government Act (MGA)





**Recommendation:**

6.4.3 j - Ephemeral and intermittent watercourses should be preserved in new developments, where possible, to moderate runoff volume and quality. These headwater streams (sometimes referred to as natural drainage swales) should be used to convey runoff from new developments to the receiving waters at an appropriate volume and rate so as not to alter the native vegetation community or induce soil erosion.

**Action:**

As part of the Cobblestone Creek NSP and Southwinds NSP, Airdrie has protected roughly 2 km of an intermittent creek (Dry Creek) and the riparian area. Protection measures for intermittent creeks across the City will continue to be implemented with new development.

**Recommendation:**

6.3.3 j - Development of escarpment slopes equal to or greater than 30% should be avoided by dedicating these lands as environmental reserve, applying development setbacks, or by other means.

**Action:**

As part of the Wildflower NSP and Key Ranch NSP, Airdrie has dedicated roughly 4 ha of escarpment slopes (greater than 15%) as environmental reserve containing native prairie.



**Recommendation:**

6.2.3 k - Community-scale retrofits to existing stormwater infrastructure (e.g., introduction of oil/grit separation, bioretention, storm ponds) should be made to improve water quality.

**Action:**

As part of an ongoing stormwater retrofit program, the City of Airdrie has installed four new oil and grit separators on a total catchment area of 738 hectares. Stormwater run-off in these areas was previously discharged directly to Nose Creek, without any pre-treatment.



**Recommendation:**

6.4.4 d - Integrate wetland management into urban planning. Urban development should avoid wetland loss or incorporate land use zoning to protect wetlands.

**Action:**

In 2019, Airdrie established the Airdrie Wetland Policy to protect local high value wetlands. This policy is applied to new development applications and continues to seek strategies to protect wetlands in Airdrie and the Nose Creek watershed.

CITY OF AIRDRIE POLICY MANUAL	<b>THE CITY OF AIRDRIE</b> COMMUNITY & OPPORTUNITY	POLICY NO. ENV-62-C Page 1 of 1
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CITY OF AIRDRIE  
COUNCIL POLICY  
WETLAND POLICY

Effective Date: December 2, 2019      Revision Date: \_\_\_\_\_  
 Approved By: City Council  
 Approved On: December 2, 2019      Resolution #: 2019-C-444

**PURPOSE:** To ensure wetlands and their benefits are sustained for future generations. The Wetland Policy provides direction on wetland conservation and management. The City needs to manage wetlands responsibly within the municipality in accordance with the Alberta Wetland Policy and supporting directives.

**SCOPE:** The geographical boundaries of the City of Airdrie.



**Recommendation:**

6.2.3 c - Continue to apply the 2013 runoff volume control targets. The targets should apply to all new developments without a previously approved drainage plan (for the catchment area draining to a stormwater pond or constructed wetland). ... Impacts should be addressed and opportunities for innovation pursued.



**Action:**

Airdrie continues to explore and require stormwater re-use facilities to support meeting the runoff volume control targets. Currently, two stormwater re-use stations are operational, and several others are in development.



**Recommendation:**

6.3.2 e More extensive and targeted use of LID practices and Best Management Practices (BMPs) should be used to improve stormwater quality from conditions summarized in and protect surface water quality. Each municipality should:  
iv. Locate snow storage locations away from creeks, and ephemeral/intermittent streams;



**Action:**

In 2017, Airdrie constructed a snow storage facility in the north end of the City. This facility redirects snow which was once stored near Nose Creek. In 2023, Airdrie expanded this facility to accommodate development growth in the City.





**Recommendation:**

6.4.3 e Public access to Nose Creek, West Nose Creek and associated tributaries should be maintained in a manner that will not compromise riparian function or water quality. Appropriate measures to minimize impact should include: - The use of bridges should be avoided where the stream channel is actively moving; when avoidance is not possible, bridges that span the riparian area are recommended. The use of culverts are discouraged in all cases.

**Action:**

In 2023, Airdrie is designing clear span bridge crossings of Dry Creek upstream of the location shown in the photograph. This is an effort to give more consideration to the use of bridges as opposed to culverts in Airdrie.

**Other Actions:**

- Water quality monitoring at 30+ storm ponds and 6 locations along Nose Creek.
- Implement volume control targets
- Bacteriological assessments of Nose Creek and stormwater system to help advance stormwater reuse policy.
- Installation of two continuous water quality sondes in Nose Creek.
- Installation of one continuous flow meter in Nose Creek.



## We'd love to connect

City of Airdrie  
info@airdrie.ca  
403.948.8800 (1.888.AIRDRIE)

[www.airdrie.ca](http://www.airdrie.ca)

# NCWP Rocky View County

October 12<sup>th</sup>, 2023



## How is RVC involved?

Current Co-chair

Provide support on the Technical Team

Soil Moisture Monitoring sub-committee

Water Quality sub-committee

Water Quality Sonde



## Soil Moisture Meters



## What programs help support the NCWP Water Management Plan?

- Host Environmental Farm Plan Workshops for farmers, ranchers and producers
- Host Green Acreage Workshops for hobby farms & acreage owners
- ALUS community (Alternative Land Use Services)
- Assist with Sustainable Canadian Agricultural Partnership funding

## School Presentations



 ROCKY VIEW COUNTY

## YYC Facts

- 2022 saw 14.5 million passengers use the airport
- The airport is on 5,144 acres (20.82 sq km)
- 4 main runways ranging from 1,890 m to 4,267 m



 ROCKY VIEW COUNTY

# Calgary Airport Authority

October 12, 2023

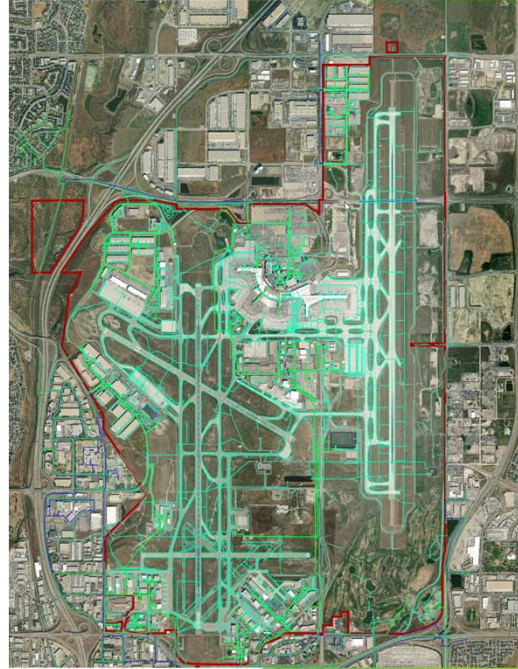
## YYC Facts

- 2022 saw 14.5 million passengers use the airport
- The airport is on 5,144 acres (20.82 sq km)
- 4 main runways ranging from 1,890 m to 4,267 m



## Airfield Drainage

- Federal regulation requires the airfield to drain quickly during and after a rain event. No pooling water is permitted on runways.
- The storm drainage system is extensive.

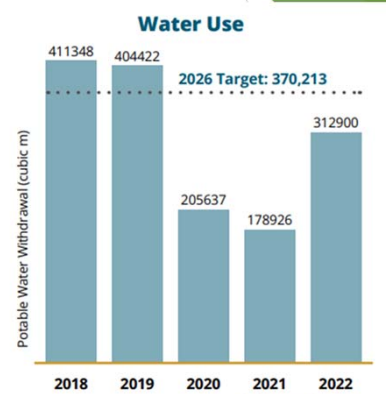


## Promote Healthy Water Quality

- Improvements to the management of large retention ponds and implementation of an aggressive stormwater maintenance program
- Real-time water quality and flow monitoring system
- As part of the Nose Creek Watershed Partnership study, we started taking water quality samples near 96 Ave N.W. and Deerfoot Trail and installed a semi-permanent water quality monitor in the creek
- Switch from PFAS to a fluorine free product for fire fighting

## Reduce Water Use

- Installed over 500 low-flow faucet aerators across the terminal (early 2023)
- Evaluating the recommissioning of rainwater capture on the International Terminal
  - continue feasibility studies and seek opportunities to reallocate water use, potentially for irrigation or toilets.



## Aircraft Deicing

- Moved to centralized de-icing operations
- In 2022, we recycled 1.32 million litres of ethylene glycol

