

COUNCIL MEETING AGENDA

July 4, 2023

1:00 pm

COUNCIL CHAMBERS

400 Main Street SE

Pages

1. CALL TO ORDER

2. CLOSED MEETING - 1:00 PM

2.1 Civic Lands Update - Section 24 (Advice from officials) Freedom of Information and Protection of Privacy Act

2.1.1 Civic Lands Update - Section 24 (Advice from officials) Freedom of information and Protection of Privacy Act

2.2 Civic Facility Lease Update - Section 16 (Disclosure harmful to business interests of a third party) Freedom of Information and Protection of Privacy Act

2.3 Council Committee Appointments - Section 29 (Information that is or will be available to the public) Freedom of Information and Protection of Privacy Act

2.4 Administration Feedback - Section 24 (Advice from officials) Freedom of Information and Protection of Privacy Act

2.5 Notes

3. PUBLIC HEARING

There are no items

4. BYLAWS - Requiring Public Hearing

There are no items

5. PUBLIC AGENDA - Immediately following the Closed Meeting

6. MINUTES

6.1 Regular Meeting of June 19, 2023

Minutes of the Airdrie public Library Board of May 30, 2023

7. CONSENT AGENDA

There are no items

8. NOTICE OF MOTION

8.1 Anti-abortion Flyers (Mayor Brown and Council)

14

Mayor Brown and Council are giving notice that a motion will be made directing Administration to amend Community Standards Bylaw No. B-09/2012 to regulate how unsolicited flyers showing or claiming to show, graphic images of fetuses can be delivered to any premises to include that they be concealed in an opaque envelope, have a graphic content warning and include the name and address of the sender, when delivered to a home and schedule a Public Input Session for the September 6, 2023 Council meeting to allow Council to hear submissions directly from residents pertaining to the proposed changes to the Community Standards Bylaw.

9. PRESENTATIONS - Items for information only

9.1 Presentation - Volunteer Airdrie Society (Dave Maffitt, Chair)

16

Council is being presented with information on Volunteer Airdrie Society's volunteer appreciation program, Seniors' Assisted Transportation program and succession planning needs and is being asked to provide municipal funds to support these programs.

9.2 Beaver Assessment and Management Plan (Phil McNeil, Team Leader Parks Operations)

52

Council is being presented with the completed North American Beaver Assessment and Management Plan prepared by EBB Environmental Consulting Inc.

9.3 2023 Municipal Census Results (Lynn Penney, Legislative Services Technician)

123

Council is being presented with the official results of the 2023 municipal census.

10. BYLAWS - Not Requiring Public Hearing

10.1 Bylaw No. B-30/2023 - New Traffic Bylaw (Brian Rayner, Team Leader Municipal Enforcement)

125

Council is being asked to give three readings to Bylaw No. B-30/2023, being the new Traffic Bylaw.

11. FINANCIAL POSITION

12. BUSINESS ARISING

- 12.1 Veteran's Memorial Project Update (Jennifer Lutz, Team Leader Community Development) 198

Council is being provided with a project approach and plan to memorialize veterans on Veterans Boulevard.

13. AGENDA REPORTS

- 13.1 Artificial Turf Field – Project Update Q2 2023 (Eugene Lund, Manager of Public Works and Parks Operations and Brad Anderson, Manager of Genesis Place and Arenas) 203

Council is being provided with information regarding the Ed Eggerer Athletic Park site suitability for an outdoor artificial turf field and potential for a seasonal air supported dome.

- 13.2 Airdrie Public Library Board Appointments Reconfirmation and Approval (Karen Jiang, Senior Legislative Officer) 214

Council is being asked to reconfirm the appointment terms of all current Citizen Members who serve on the Airdrie Public Library (APL) Board for the purposes of providing clarity of appointment terms, start and end dates.

- 13.3 New Policy - Naming City Assets Policy P-ADM-18-C (Jennifer Bayley-Atkin, Senior Legislative Officer) 217

Council is being asked to endorse the Naming City Assets Policy P-ADM-18-C which provides a process for the City of Airdrie to name and rename City-owned assets and is being asked to repeal the existing Recreation Facilities Naming Policy No. P-06/2008.

14. CORRESPONDENCE

- 14.1 Request for Proclamation - Canadian Lung Cancer Screening Initiative (Charlotte Satink, Manager of Legislative Services and IGM/City Clerk) 225

Council is being asked to proclaim the month of July 2023 as Lung Cancer Awareness month in Airdrie to raise awareness of lung cancer screening rates and help high-risk individuals get screened.

15. RESOLUTIONS ARISING

- 15.1 From Council Budget Committee

- 15.2 From Closed Meeting

16. BOARD/MEMBER REPORTS

17. REVIEW OF COUNCIL FOLLOW UP

- 17.1 Council follow up to July 4, 2023 226

18. PUBLIC QUESTION PERIOD - 4:45 PM

19. PUBLIC INPUT SESSION

There are no items

20. BUSINESS ARISING FROM PUBLIC QUESTION PERIOD AND PRESENTATIONS

21. ADJOURNMENT

COUNCIL MEETING MINUTES

June 19, 2023
COUNCIL CHAMBERS
400 Main Street SE

PRESENT

Mayor P. Brown
Deputy Mayor C. Kolson (via MS Teams)
Councillor D. Belyk
Councillor R. Chapman
Councillor A. Jones
Councillor T. Petrow
Councillor H. Spearman

STAFF

H. Galanti, CAO
C. Aragon, Manager Recreation, Culture and Social Planning
M. Labait, Manager, Revenue and Assessment Services
B. Neale, Manager of Capital Projects and Infrastructure
C. Satink, Manager of Legislative Services & IGM/City Clerk
T. Belsham, Team Leader of Legislative Services/Assistant City Clerk
J. DeVreeze, Affordable Housing Strategist, Business Unit Leader
T. Tester, Planner II
K. Spence, Council Technician
K. Rushford, Recording Technician

1. CALL TO ORDER

Mayor Brown called the meeting to order at 1:36 p.m.

2. MINUTES

1. Regular Meeting of June 5, 2023

2023-C-216

Moved By Councillor Belyk

That Council adopts the minutes of the regular meeting of Council of June 5, 2023, as presented.

Carried

2. Acknowledgement of Other Minutes

2023-C-217

Moved By Councillor Petrow

That Council acknowledges the minutes of the Airdrie Public Library Board of April 25, 2023.

Carried

3. PUBLIC HEARING - 1:00 PM

A Public Hearing is being held on Bylaw No. B-18/2023, being a bylaw to amend the C3, Regional Commercial District of Land Use Bylaw No. B-01/2016 by adding Storage Facility, Public as a Discretionary Use specific to lands legally described as Lot 3, Block 1, Plan 0512433 (2731 Main Street SW).

Mayor Brown declared the Public Hearing for Bylaw No. B-18/2023 open at 1:40 p.m.

Tracey Tester, Planner II, presented Bylaw No. B-18/2023. In response to questions, she advised that no outdoor storage of boats or vehicles will be permitted. Traffic details will be dealt with at development permit stage. The City is not a party to any of the restrictive covenants and the covenants will remain on title in perpetuity until removed by the interested party.

Mayor Brown asked if there was anyone present who wished to speak in favour of Bylaw No. B-18/2023. Mr. Grant Milhalcheon, Planner, B&A Planning, presented a PowerPoint in support of the application. Mr. Milhalcheon confirmed that there will be no outside storage of boats or cars.

Mr. Layne Gardner, StoreWest Bluebird Partners, confirmed that Walmart is in support of the application and has relaxed their height restriction for the application.

Mr. Milhalcheon advised that the building will be 90,000 square feet on 3 stories plus 8,000 square feet for the car wash. While moving trucks may occasionally come to the building, there will typically be half ton trucks or cars because of the size of the units.

In response to a question, Val Cotreau, City Assessor, Team Leader Tax and Assessment, confirmed that the tax revenue on a building like this would be comparable to a one story commercial building because of the multiple stories and the large footprint.

It was asked whether the question of traffic lights was identified in the Transportation Master Plan. T. Tester advised that it was raised during the pre-application meeting. H. Galanti, CAO, advised that the intended use will attract and generate traffic but this will be dealt with at the development permit stage. B. Neale, Manager Capital Projects and Infrastructure, advised that this intersection would not be included in the Transportation Master Plan. Administration have been monitoring this intersection for 5 years and have noted the traffic stacking.

Mayor Brown asked for a second and third time if there was anyone else present who wished to speak in favour of Bylaw No. B-18/2023. There were no responses.

Mayor Brown asked if any submissions regarding Bylaw No. B-18/2023 had been received online. The City Clerk advised that no email correspondence had been received.

Mayor Brown asked three times if there was anyone present who wished to speak in opposition to Bylaw No. B-18/2023. There were no responses.

Mr. Milhalcheon advised that 2 access points are intended for the site and approximately 4 trips per hour to and from the storage facility are anticipated.

Mayor Brown closed the public hearing for Bylaw No. B-18/2023 at 2:40 p.m.

T. Tester concluded the Staff presentation by reviewing alternatives for Council's consideration and presenting the Staff recommendation.

4. BYLAWS - Requiring Public Hearing

1. Bylaw No. B-18/2023 - Land Use Bylaw Amendment (Tracey Tester, Planner II)

2023-C-218

Moved By Councillor Belyk

That Council gives First Reading to Bylaw No. B-18/2023, being a bylaw to amend Land Use Bylaw No. B-01/2016 by revising the C3, Regional Commercial District to allow Storage Facility, Public as a discretionary use specific to land legally described as Lot 3, Block 1, Plan 0512433, as outlined and illustrated in the attached Schedule "A".

Carried by vote of 6 in favour, 1 opposed
Opposed: Deputy Mayor Kolson

2023-C-219

Moved By Deputy Mayor Kolson

That Council gives Second Reading to Bylaw No. B-18/2023.

Carried by vote of 6 in favour, 1 opposed
Opposed: Deputy Mayor Kolson

2023-C-220

Moved By Councillor Jones

That Council grants permission for Third Reading of Bylaw No. B-18/2023.

Carried Unanimously

2023-C-221

Moved By Councillor Petrow

That Council gives Third Reading to Bylaw No. B-18/2023.

Carried by vote of 6 in favour, 1 opposed
Opposed: Deputy Mayor Kolson

RECESS

Mayor Brown called a recess at 2:52 p.m. The meeting reconvened at 3:03 p.m.

5. PUBLIC AGENDA Regular Session - Immediately following Public Hearing

6. CONSENT AGENDA

There are no items.

7. PRESENTATIONS - Items for information only

1. Airdrie Francophone High School – Potential for City of Airdrie Investment in a Community Use Component (Clay Aragon, Manager Recreation, Culture and Social Planning)

Council is being asked to direct Administration to engage in exploratory conversations with Conseil scolaire Francosud on a shared community use recreation amenity within a planned high school site in Reunion and return in late 2023 with options for Council's consideration.

C. Aragon, Manager Recreation, Culture and Social Planning, provided a brief introduction and background information.

Mr. Stephan Deloof, Executive Director Facility Services, Planning and Transportation Conseil scolaire Francosud, was present via Teams.

In response to a question, Mr. Deloof advised that the money available from the Province will give the school an appropriate sized gym for their students. A larger gym with a mezzanine and bleachers, or a second gym, would be supplemental to what is required and would benefit both the school and the community at large.

A comment was made that there is naturally occurring arsenic on the site. Mr. Deloof advised that if there is an addition to the building, it will cover the naturally occurring arsenic.

2023-C-222

Moved By Councillor Chapman

That Council directs Administration to engage in exploratory conversations with Conseil scolaire Francosud on a shared community use recreation amenity within a planned high school site in Reunion and return in late 2023 with options for Council's consideration.

Carried

8. BYLAWS - Not Requiring Public Hearing

1. Bylaw No. B-29/2023 Clean Energy Improvement Program in Airdrie (Monica Labait, Manager, Revenue and Assessment Services)

2023-C-223

Moved By Councillor Spearman

That Council gives first reading to Bylaw No. B-29/2023, being the Clean Energy Improvement Bylaw.

Carried

9. FINANCIAL POSITION

There are no items.

10. BUSINESS ARISING

There are no items.

11. AGENDA REPORTS

1. 2024 – 2030 Affordable Housing Principled Action Plan and CMHC Housing Accelerator Fund (Jessica DeVreeze, Affordable Housing Strategist, Business Unit Leader)

2023-C-224

Moved By Councillor Chapman

That Council:

1. endorses the 2024 – 2030 Affordable Housing Principled Action Plan; and
2. directs Administration to investigate options for establishing and capitalizing an Affordable Housing Reserve Fund and report back to Council with the options; and
3. directs Administration to pursue an application to the CMHC Housing Accelerator Fund (HAF) that will include a Council approved HAF 7 Item Plan that is based on the 2024 – 2030 Affordable Housing Principled Action Plan.

Carried

12. CORRESPONDENCE

1. Request for Flag Raising/Illumination - Gapyeong War Memorial Unveiling Event (Charlotte Satink, Manager of Legislative Services and IGM/City Clerk)

2023-C-225

Moved By Councillor Belyk

That Council approves raising two Gapyeong flags, one in Council Chambers at City Hall and one at the cenotaph, between July 6 and July 9, 2023 and illuminates City Hall in red and blue lights on July 7 in honour of the unveiling of the gifted Korean War monument event being held on July 8 at the cenotaph site.

Carried

2. Correspondence - Alberta Culture (Charlotte Satink, Manager of Legislative Services and IGM/City Clerk)

2023-C-226

Moved By Councillor Chapman

That Council moves to file the correspondence.

Carried

13. RESOLUTIONS ARISING

1. From Council Budget Committee

2023-C-227

Moved By Deputy Mayor Kolson

That Council endorses the recommendation of the Council Budget Committee to use the General Operating Reserve to fund an Operating Budget amendment up to an amount as outlined in the staff report to better understand Airdrie's financial health and development patterns.

Carried

2. From Closed Meeting

2023-C-228

Moved By Councillor Jones

That Council moves to proceed as discussed in the Closed Meeting.

Carried

14. BOARD/MEMBER REPORTS

There were no resolutions arising from board member reports.

15. REVIEW OF COUNCIL FOLLOW UP

1. Council follow up to June 19, 2023

H. Galanti advised that Item 1 was presented today, so this can be removed from the list. Item 3 will be presented at the next Council meeting. The other items are in progress.

16. PUBLIC QUESTION PERIOD - 4:45 PM

Mr. Michael Radziwon, Bayside, had a question about group homes. There seems to be a lot of misinformation in his community about what a group home is. How can we limit the misinformation coming out about what a group home is and what can we, as citizens, do to support group homes in our community?

Mayor Brown advised that he was at Everbright's grand opening and met one of the youth that they worked with from Inuit. He has created an entire life, where before he had nothing and no future. The young person talked about the importance of the home and how it helped him to get where he needed to go.

A comment was made that there are multiple conversations out there about specific group homes and their functionality. Those conversations need to be separated out. There are wonderful benefits to group homes. It would be beneficial for Mr. Radziwon to spread the story that he has about group homes. The more people are educated with the right information, the more people will be understanding and the more advocates there will be for the group home. Council commended Mr. Radziwon for coming today and speaking about this in the public realm.

Mr. Radziwon advised that the main focus of people's concern is that this group home will become more like a halfway house. Will Council have to approve the change if it changes from a group home to a halfway house? It was noted that the City has created a website to help get information out and he is welcome to use the website.

17. PUBLIC INPUT SESSION

There are no items.

18. BUSINESS ARISING FROM PUBLIC QUESTION PERIOD AND PRESENTATIONS

There are no items.

RECESS

Mayor Brown called a recess at 4:47 p.m. The meeting reconvened at 5:05 p.m.

19. CLOSED MEETING

2023-C-229

Moved By Councillor Spearman

That Council enters the Closed Meeting at 5:05 p.m. to discuss the following items:

- 19.1 Intergovernmental Update – Sections 21 and 29 (Disclosure harmful to intergovernmental relations and information that is or will be available to the public) *Freedom of Information and Protection of Privacy Act*
- 19.2 Board Appointment – Sections 24 and 29 (Advice from officials and information that is or will be made available to the public) *Freedom of Information and Protection of Privacy Act*

With the following:

PRESENT

Mayor P. Brown
Deputy Mayor C. Kolson (via Teams)
Councillor R. Chapman
Councillor A. Jones
Councillor T. Petrow
Councillor D. Belyk
Councillor H. Spearman

The following staff members were present to provide advice to officials:

STAFF

H. Galanti, CAO,
L. Mackenzie, Manager of ME ad RCMP Support Services,
C. Satink, Manager of Legislative Services and IGM/City Clerk,
T. Belsham, Team Leader of Legislative Services/Assistant City Clerk,
S. Hope, Senior Legislative Officer,

K. Spence, Council Technician, and
K. Rushford, who recorded the meeting.

Carried

2023-C-230

Moved by Deputy Mayor Spearman

That Council leaves the Closed Session at 6:25 p.m.

Carried

20. ADJOURNMENT

Mayor Brown adjourned the meeting at 6:26 p.m.

Mayor

City Clerk

CITY OF AIRDRIE LIBRARY BOARD
May 30, 2023

Minutes of a Regular Meeting of the City of Airdrie Library Board, held in the Vincent Room, Airdrie City Hall, and online through the use of Zoom meeting software, with the following:

PRESENT:

Members

Chair Dan Nelles
Councillor D. Belyk
C. Buchanan
Via Zoom L. Cygman
Via Zoom J. Morrissey
Via Zoom Councillor T. Petrow
N. Roberts

Staff

Director: P. Medland
Operations Manager: K. Lauzon
Recording Secretary: K. Rushford

Absent with Regrets

R. Summers
S. Winger

Guest

A. Brown, Keill & Co.

Agenda Item 1

CALL TO ORDER

The Chair called the meeting to order at 6:30 p.m.

Agenda Item 2

WELCOME GUESTS

The Chair welcomed Adam Brown, Keill & Co., to the meeting.

Agenda Item 3

ADDITIONS TO AND ACCEPTANCE OF AGENDA

2023-L-037

MOTION: C. Buchanan/D. Belyk

CARRIED

That the agenda be accepted as printed.

Agenda Item 4

APPROVAL OF MINUTES FROM THE APRIL 25, 2023 BOARD MEETING

2023-L-038

MOTION: T. Petrow/N. Roberts

CARRIED

That the minutes of the April 25, 2023 Board meeting be approved as printed.

Agenda Item 5

PUBLIC QUESTION AND ANSWER PERIOD

There were no questions from the public.

Agenda Item 6

UPDATE ON THE NEW FACILITY PROJECT

The Chair advised that the Steering Committee met last week. The process is ongoing to provide more information on furnishings, fittings and equipment funding. A report is in progress. The Director requested that Daniel hold fast to Library staff taking the lead on furnishings and technology purchasing for the new library.

Agenda Item 7

IN-CAMERA SESSION

Agenda Item 7.1

Capital Campaign Update

2023-L-039

MOTION: D. Belyk/L. Cygman

CARRIED

That the Board enter In-camera at 6:38 p.m.

2023-L-040

MOTION: C. Buchanan/D. Belyk

CARRIED

That the Board exit In-camera at 6:48 p.m.

Agenda Item 8

BUSINESS ARISING

Agenda Item 8.1

Report to the Board on the Public Library Services Branch's Comments on In-camera and Online Meetings

K. Lauzon provided information to the Board on the Public Library Services Branch's comments on In-camera and Online Meetings. The Chair could preface an In-camera session with the reason for going In-camera. A comment was made that background information for the In-camera portion of a meeting should continue to be distributed prior to the meeting.

Agenda Item 8.2

2022 Audit Report – Finalized Copy

The finalized copy of the 2022 Audit Report was presented for information.

Agenda Item 9

REPORTS

Agenda Item 9.1

Financial Statements, April 2023

The Director presented the Financial Statements for April 2023 and advised that the Airdrie Library will be receiving more than budgeted due to the Provincial government using more up-to-date population figures.

A question was asked about donor appreciation gifts. The Director advised that the Board will need to discuss the expectation of gifts to donors. This will be forwarded to the finance committee.

Agenda Item 9.2

Personnel Report

The Chair advised that the executive search process is under way. An advertisement was sent out and several applications have been received. The next step is for the selection committee to look at dates for interviews.

Agenda Item 9.3

Marigold Report

N. Roberts provided a brief overview of the Marigold Value for Investment Report. This will be discussed further under agenda item 10.4.

Agenda Item 9.4

Director's Report

The Director advised that a new program director has been hired, starting July 10, 2023. The Director thanked the Board for their strong support and remarked that working as the APL Library Director has been a rewarding

experience for her.

Agenda Item 10

NEW BUSINESS

Agenda Item 10.1

2022 Report to the Community

The Director presented the 2022 Report to the Community. It was suggested that a more up-to-date photo of the Chair be taken for the Report.

Agenda Item 10.2

Notice of Motion to Approve the 2022 Report to Community

2023-L-041

MOTION: T. Petrow/D. Belyk

CARRIED

That the Board approve the 2022 Report to the Community, as amended.

Agenda Item 10.3

Report to the Board on Advocates of the Airdrie Library Re-branding

The Director presented a Report to the Board on the Advocates of the Airdrie Library re-branding. There was a discussion regarding the design congruencies of the logo. The consensus was that the Advocates' use of APL branding elements was acceptable as long as the logo itself was not used.

Agenda Item 10.4

Report to the Board on Marigold Value of Investment - Revised Format

The Director presented a Report to the Board on the revised format of the Marigold Value of Investment Report. While the new format is a big improvement, it is still not clear how Marigold arrives at their figures. It was suggested that we ask that Airdrie be able to pick and choose what Marigold has to offer. There are some things that Airdrie cannot use, for which we should not be assigned a value. A question was raised about the number of unique physical titles borrowed by our members, as that number includes all libraries across the province. N. Roberts will take the questions back to Marigold where more detail is asked for.

C. Buchanan left the meeting at 7:32 p.m.

Agenda Item 10.5

Report to the Board on Unbudgeted Expense to Replace Coin-op Machine

The Director presented a Report to the Board on an unbudgeted expense to replace the coin-op machine. There were no questions or concerns.

Agenda Item 10.6

Notice of Motion to Approve an Unbudgeted Expense to Replace the Coin-op Machine

2023-L-042

MOTION: L. Cygman/T. Petrow

CARRIED

That the Board approve an unbudgeted expense of \$9,750 for a new coin-op machine to support public printing and copying services.

J. Morrissey left the meeting at 7:34 p.m.

Agenda Item 10.7

Report to the Board on Unbudgeted Expense for a new Book Return at Genesis Place

K. Lauzon presented a Report to the Board on an unbudgeted expense for a new Book Return at Genesis Place. A question was asked about the difference

in cost between a regular book return and a book return with smart drop. P. Medland will report back with that information.

Agenda Item 10.8

Notice of Motion to Approve Unbudgeted Expense for a new Book Return at Genesis Place

2023-L-043

MOTION: D. Belyk/N. Roberts

CARRIED

That the Board approve an unbudgeted expense of \$2,973.00 for a stand-alone book return bin at Genesis Place.

Agenda Item 11

CIRCULATION

Agenda Item 11.1

Correspondence

Correspondence received since the last Board meeting was circulated for information.

Agenda Item 11.2

Marigold Newsletter – May 2023

The Marigold Newsletter for May 2023 was distributed for information.

Agenda Item 11.3

Library Link Submissions – April 2023

Library Link submissions for April 2023 were distributed for information.

Agenda Item 12

ROUND TABLE

Chair – Reminded trustees to submit their volunteer hours.

T. Petrow – In the Customer Service Statistics, why are Information Desk transactions down 58% and ME Libraries items down 51% from 2022 to 2023? The Director advised that the number of Information Desk transactions increased during pandemic closures. Regarding ME Libraries items, it could be because smaller libraries were totally closed in 2022 and Airdrie had curbside service. K. Lauzon will look into it.

L. Cygman – Thank you to Pam for your service to the Airdrie Library. Thank you to Dan for throwing your hat into the ring. You did a good job representing the value to this community.

Agenda Item 13

SUMMARY OF ACTION ITEMS FOR NEXT MEETING

- | | | |
|------------|---|-------------------------------------------------------------------------------------------------------------|
| P. Medland | - | Report back with the difference in cost between a regular book return and a book return with smart drop. |
| | - | Look into why ME Libraries items were down 51% from 2022 to 2023. |
| Finance | - | Discuss the expectation of donor appreciation gifts. |
| N. Roberts | - | Take questions back to Marigold where more detail on the Marigold Value of Investment Report was asked for. |

NEXT MEETING OF THE BOARD

The next Regular Meeting of the Board is scheduled for Tuesday, June 27 2023, at 6:30 p.m. in Vincent Room, City Hall.

The next joint meeting with Council and the Library Board is on June 26. Time and location will be forthcoming.

ADJOURNMENT

The Chair declared the meeting adjourned at 7:43 p.m.


Chairman
Recording Secretary

NOTICE OF MOTION

Submitted in accordance with Procedure Bylaw No. B-45/2022

Presented By: Mayor Peter Brown, Deputy Mayor Chapman, Councillor Kolson, Councillor Belyk, Councillor Jones, Councillor Petrow, and Councillor Spearman

TITLE: **Regulating the Distribution of Graphic Images in Airdrie Communities**

WHEREAS pursuant to sections 7 and 8 of the *Municipal Government Act*, Council may pass a bylaw to regulate or prohibit and respecting the safety, health and welfare of people and protection of people and property;

AND WHEREAS pursuant to section 3(c) of the *Municipal Government Act*, the purpose of a municipality is to develop and maintain safe and viable communities;

AND WHEREAS flyers containing graphic, alleged images of aborted fetuses have been distributed in many Airdrie communities;

AND WHEREAS when flyers with graphic imagery are left at residences in Airdrie, occupants are unable to meaningfully consent to viewing these graphic images prior to doing so;

AND WHEREAS members of Council have received correspondence from residents in Airdrie reporting the harmful and traumatizing impacts of viewing flyers with alleged images of aborted fetuses, particularly to those with experience of pregnancy loss;

AND WHEREAS children viewing graphic imagery such as the above may pre-empt certain sensitive conversations within families;

AND WHEREAS the City of Airdrie Council wish to protect its residents from being exposed to potentially disturbing images unwillingly;

AND WHEREAS the City of Airdrie Council wish to provide its residents with the ability to decide whether they want to view flyers showing graphic images;

AND WHEREAS the City of Airdrie Council wish to protect its residents from harm associated with viewing of graphic images, including in particular, protecting children and individuals who have experienced pregnancy loss;

THEREFORE BE IT RESOLVED THAT

Administration be directed to bring forward an amendment to the Community Standards Bylaw No. B-09/2012 on September 6, 2023 that regulates how unsolicited flyers showing or claiming to show, graphic images of fetuses can be delivered to any premises, to include the following:

- be concealed in an opaque envelope;
- have a graphic content warning; and
- include the name and address of the sender, when delivered to a home.

AND THAT Administration be further directed to schedule a public input session for the September 6, 2023 Council meeting to allow Council to hear submissions directly from residents pertaining to the proposed changes to the Community Standards Bylaw as noted above.

Respectfully Submitted:

The City of Airdrie Mayor and Council

From: Dave Maffitt <dave.maffitt@volunteerairdrie.ca>
Sent: Monday, June 05, 2023 12:12 PM
To: Karen Spence <Karen.Spence@airdrie.ca>
Cc: Leon Cygman <leon.cygman@volunteerairdrie.ca>
Subject: [EXTERNAL] Fw: Volunteer recognition - Council

CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE ORGANIZATION. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Hi Karen,

Would it be possible for Volunteer Airdrie to present to Airdrie City Council in late June or early July?

Thanks!

Yours in volunteering,
Dave

David W. Maffitt, P.Eng., MBA
Chair, Board of Directors
Volunteer Airdrie Society
(403) 860-1646
www.volunteerairdrie.ca



Volunteer Airdrie Update

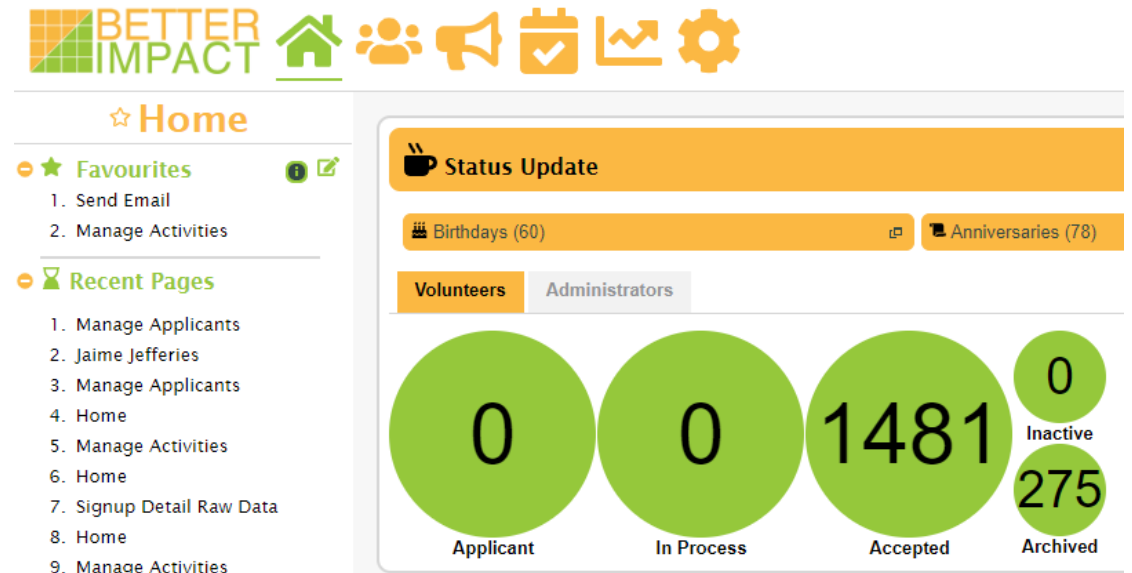
Airdrie City Council Presentation

July 4, 2023



Outline

- Volunteer Appreciation Program
- Drive Happiness Seniors Assisted Transportation Program
- Succession Planning & Need for Executive Director (Staff)



Volunteer Appreciation Program

- In 2019, VA participated in a review of the Volunteer of the Year Award Program (City program with \$24k/year budget)
- Program was redesigned based on feedback from nonprofits and a survey (see 2019 “Volunteer Program Research Briefing”)
- VA was retained to manage the program by the Community Development
- First event was hosted in December, 2019 (CrossIron Mills Movie Event)
- In 2020, COVID-19 triggered a suspension of the new program

Volunteer Appreciation Program

- Key Findings of Research
 - Over 76% of volunteers prefer to be recognized privately
 - Over 85% of volunteers prefer to be recognized in an informal setting
 - Nearly 64% of volunteers prefer to be recognized as part of a group
- Key Takeaways
 - “Authenticity” – preference for authentic engagement & recognition
 - “Group Recognition” – gathering with other volunteers to celebrate
 - “Media Announcements” – need for better communication to build awareness
 - “Impact Reporting” – address desire to know the impact of their work

Volunteer Appreciation Program

- VA requests City Council approval of \$20,000 of municipal funding in 2024 to restart the 2019 Volunteer Program:
 - Pop Up Group Lunches (2/month) = \$3,000
 - Volunteer of the Month Gift Cards = \$2,000 (Individual & Group Winners)
 - Quarterly Events (swim/bowl/skate) = \$4,000
 - Promotional & Awareness (decals, etc) = \$1,000
 - International Volunteer Day Movie = \$5,000
 - Impact Measurement & Reporting = \$2,000
 - Non-Profit Educational Workshops = \$3,000 (appreciation best practices)

Drive Happiness Airdrie SAT Program

- 153 Clients currently registered in program, 130 are 60+ years old
- 4 dialysis patients (3x/week)
- 25 volunteer drivers
- 154 trips in May (5/day average), 5,300 km, 27 seniors served
- 228 appointments booked for future rides
- Drivers receive \$8 out ever \$10 ride ticket for gasoline expense, which does not cover actual cost of a round trip to Calgary (est. \$9-10)
- No reimbursement for “wear & tear”, maintenance, insurance, etc.
- Calgary Seniors Resource Society program is free to seniors

Drive Happiness Airdrie SAT Program

- Challenge #1 – Attracting New Volunteer Drivers
 - Provide more compensation for “wear & tear” (@\$0.60/km = \$36,000/year)
 - Acquire & maintain a fleet of vehicles for drivers to use for DH trips
- Challenge #2 – Making DH Airdrie Accessible & Inclusive for All
 - Funding for Cost of Ride Tickets to Seniors (60+) and Very Low Income Clients
 - 150-200 trips per month = \$18,000-\$24,000/year
- Challenge #3 – Managing DH Airdrie Daily Operations
 - Approximately 2 hours/day to connect drivers with riders
 - Cost of Part-Time Staffing estimated at \$40/day or \$15,000/year

Drive Happiness Airdrie SAT Program

- VA requests City Council approval of \$75,000 of municipal funding in 2024 to support the Drive Happiness Seniors Assisted Transportation Program

Succession Planning & Need for Executive Director

- VA has been operating without a paid staff Executive Director since 2017
- Lack of a paid Executive Director was a factor in GoA's decision not to approve VA's ECAP 3-year funding application
- Current Chair of VA BoD has been acting as Executive Director on a volunteer basis (100+ hours/month)
- Current Chair of VA BoD is scheduled to retire in June, 2024
- Funding for an Executive Director was also recently rejected by Canadian Red Cross Community Services (Pandemic) Recovery Fund & Alberta Civil Society Fund

Succession Planning & Need for Executive Director

- VA has evolved into a much larger organization providing significant community impact since 2014
- Reliance on a volunteer “Executive Director” is not sustainable & VA risks a major setback in 2024 unless funding for staff is found
- VA requests City Council approval of \$100,000 of annual municipal funding in 2024 & 2025 to support the hiring of a full-time Executive Director

Questions?



1. **Community Garden Planting** – Saturday, June 3, 10:00-2:00 at the Ag Society land. Call/text (403) 993-5034 to sign up.
2. **Airdrie Seniors Week Kickoff Event** – Monday, June 5, 1:00-4:00 pm at 3 locations. Email info@volunteerairdrie.ca to sign up.
3. **Drive Happiness Airdrie Drivers** – Adult drivers urgently needed to transport residents to medical appointments in Airdrie and Calgary during weekdays. Email info@volunteerairdrie.ca, or call/text (403) 993-5034. Fuel reimbursement provided!
4. **A Bark in the Park Canine Olympics** – Saturday, June 10, 08:00-18:00 at Nose Creek Park. Go to <https://signup.com/go/OwTwddT> to sign up.
5. **National Indigenous Peoples Day** – Wednesday, June 21 from 5:00-9:30 pm at Nose Creek Park. Email info@volunteerairdrie.ca to sign up.
6. **Big Brothers Big Sisters** is looking for more mentors to support Airdrie's youth. Contact Jodi at jodi.mackay@bigbrothersbigsisters.ca.
7. **Bethany Seniors Care** – volunteers are needed for Mealtime Companions. Apply at <https://bit.ly/3hXfXNY>, or contact Lasina at Lasina.Jacobsen@bethanyseiors.com.
8. **Tails To Tell Cat Rescue** – needs volunteers to care for their feline guests at their Crossfield shelter. Contact Claire at volunteer@tailstotell.ca.
9. **MS Bike Airdrie to Olds Event Volunteers** – June 23-25 at TransCanada Turbines. Contact amanda.Hibbs@mscanada.ca or sign up at <https://bit.ly/45Ddm1l>.
10. **Seniors Home Support** – Help local seniors aging at home by providing home supports such as lawn care, spring cleaning, etc. Contact info@volunteerairdrie.ca for details.
11. **Canada Day Parade Route Supervisors** – Saturday, July 1 from 9:00-12:00. Breakfast & swag bag included! Go to <https://bit.ly/3vyyt> to sign up.

*Organizations/events highlighted in Green are youth-friendly opportunities.





VOLUNTEER PROGRAM

Research Briefing

Research Briefing

Research Methodology

Committee Formation: Community Development worked with core agencies that recognize and work with volunteers within the City to determine the scope of the research and the broader project. These agencies volunteer to assist in the project, and were selected because of their work with volunteers and the volume of volunteer engagement.

- Volunteer Airdrie
- Airdrie & District Victim Assistance Society
- Boys and Girls Club
- Community Links
- Big Brothers Big Sisters
- Meals on Wheels

Committee Scope: Research and develop a new volunteer program for delivery in 2019

- Survey
- Literature Review
- Best Practice Research

Objectives and Timeline:

- April-June – Committee formation scope, and project planning
- May – Survey design
- June/July – Survey intake and Review
- July – Literature Review & other research
- July/August – Committee Work – analysis and program design
- August/Sept. – Research Findings, Recommendations and Draft preparation

Survey

The Committee decided the most comprehensive means of mining data from Airdrie's Volunteer community would be via a survey. The survey was designed by the Committee in collaboration with City of Airdrie Corporate Communications. The survey work started in May and closed in June.

Four-hundred-four (404) surveys were completed and submitted (Appendix A). Compare this level of interest and participation to a recent 'Alberta Volunteers' survey, which only garnered 400 responses provincially.

The results are conclusive in terms of recognition.

What we heard

1. Private or public: 76.37% of volunteers prefer to be recognized privately opposed to 23.63% publicly.
2. Formal or informal: 85.76% of volunteers prefer to be recognized in an informal setting compared to 14.25% formally.
3. Group or individually: 63.90% of volunteers want to be recognized as a part of a group compare to 36.10% of volunteers who would like to be recognized individually.

Key Takeaways (Verbatim)

Themes identified:

- Authenticity – preference for authentic engagement and recognition
- Group recognition – gathering with other volunteers to celebrate
- Media announcements (print/online) – develop better communications
- Impact reporting – desire to know the impacts (individual and holistic)

Literature Review

The literature review was completed by staff. The scope included: Alberta wide study (Propellus); Volunteer Canada research and documentation; academic journals.

*Materials can be made available on request. Links were provided when possible.

Works Consulted

Abel Duarte Alonso & Julie Nyanjom (2016) Volunteering, paying it forward, and rural community: A study of Bridgetown, Western Australia, Community Development, 47:4, 481-495, DOI: [10.1080/15575330.2016.1185449](https://doi.org/10.1080/15575330.2016.1185449)

Guy S. MacGillivray & Robert M. Lynd-Stevenson (2013) The revised theory of planned behavior and volunteer behavior in Australia, Community Development, 44:1, 23-37, DOI: [10.1080/15575330.2012.675578](https://doi.org/10.1080/15575330.2012.675578)

William A. Maesen (1976) Evaluation and Community Volunteer Programs: Accountability and Impact, Journal of the Community Development Society, 7:2, 129-141, DOI: [10.1080/00103829.1976.10878109](https://doi.org/10.1080/00103829.1976.10878109)

Walter W. Wymer Jr. & Becky J. Starnes (2001) Conceptual Foundations and Practical Guidelines for Recruiting Volunteers to Serve in Local Nonprofit Organizations: Part I, Journal of Nonprofit & Public Sector Marketing, 9:1-2, 63-96, DOI: [10.1300/J054v09n01_05](https://doi.org/10.1300/J054v09n01_05)

Andrea Young a& Janet Rock (2019) Representing Volunteers in Alberta
[https://www.propellus.org/content/file/PROPELLUS -
Representing Volunteers in Alberta-2019.pdf](https://www.propellus.org/content/file/PROPELLUS_-_Representing_Volunteers_in_Alberta-2019.pdf)

Volunteer Canada (2013) 2013 Volunteer Recognition Study
https://volunteer.ca/vdemo/engagingvolunteers_docs/2013%20Volunteer%20Recognition%20Study.pdf

Volunteer Canada (2017) Canadian Code For Volunteer Involvement
[https://volunteer.ca/vdemo/ResearchAndResources_DOCS/Volunteer_Canada_Canadian_Code
for_Volunteer_Involvement_2017.pdf](https://volunteer.ca/vdemo/ResearchAndResources_DOCS/Volunteer_Canada_Canadian_Code_for_Volunteer_Involvement_2017.pdf)

Diane Zievinger & Frans Swint (2018) Retention of festival volunteers: Management practices and volunteer motivation, Research in Hospitality Management, 8:2, 107-114,
DOI: [10.1080/22243534.2018.1553374](https://doi.org/10.1080/22243534.2018.1553374)

Key Takeaways

- Recognition should be a key component of all volunteer programming
- The contributions of volunteers should be regularly acknowledged both formally and informally.
- The organization must communicate the value and impact of volunteer contributions to the volunteers.
 - How can you show volunteers that they've truly made a difference?
- Utilize a variety of volunteer recognition tools
- The organization should identify how volunteers want to be recognized by learning about their motivations and interests.
 - Recognition should be appropriate to the volunteer role and respects the volunteer's wishes.
- Volunteers and organizations alike have identified a need to redefine perceptions of volunteer recognition.
- Volunteers want recognition that is sincere and authentic.
- Volunteers are looking for positions they can start asap, not months from now.
- Volunteers want flexible volunteer activities on their own schedule.
- Ensure that volunteers are filling roles that are meaningful to them.

Best Practice Review

The Committee review the practice for eight municipalities, one Federal and two Provincial initiatives. The findings were that the researched jurisdictions continue to utilize an award-based event.

This type of recognition does not align with what research shows that communities desire in Airdrie, The Province of Alberta and Canada.* As such, it would be a misrepresentation to classify it as a best practice, but rather lost opportunities.

It was the hope of the Committee to find a best practice to model, and develop a new system.

As a result of posting on the Alberta Recreation Parks website inquiring about best practices from other municipalities, several municipalities have reached out to the City of Airdrie and are keenly interested in our findings.

*Calgary, Edmonton, Medicine Hat, Okotoks, Red Deer, Fort Saskatchewan, St. Albert, Lethbridge, Alberta Culture (Stars of Alberta), Canada's Volunteer Awards, Ontario Annual Municipal Awards.

Conclusion

Based on the research, the Committee has concluded that The City of Airdrie's existing volunteer program (specifically: Volunteer of the Year Awards) does not meet community expectations and desires. Additionally, it does not meet accepted Canadian Standards, Canadian Code for Volunteer Involvement.

Considerations

Based on the research findings of the Committee, Administration is presenting Four Considerations, which can help guide the future work of the City and our not-for-profits.

Consideration #1 – Impact (reporting & metrics)

Volunteers and organizations both want to know the impact of their work. Develop an annual report on the State of Volunteerism in Airdrie – measuring overall health and impact of volunteerism.

- Develop baseline
- Update annually

Consideration #2 – Tools (standards & assessment)

Tools are available. Encourage the adoption of the Canadian Code for Volunteer Involvement (CCVI), and annual assessment using the CCVI Code Audit Tool (Volunteer Canada membership required)

- Encourage all not-for-profits to adopt the CCVI
- Encourage all not-for-profits to conduct an annual assessment via the CCVI Code Audit Tool

Consideration #3 – Recognition

Recognition, based on community expectations and desires, is fundamental to volunteer programming.

- Research briefing can guide future recognition efforts

- Recognition is regular (formal and informal), acknowledges impact and is appropriate to volunteer roles.

Consideration #4 - Collaboration

Collaboration can build capacity. Organizations can leverage resources to meet goals and outcomes.

- Collaboration should be explored for:
 - Metrics collection and reporting
 - Volunteer recognition programming

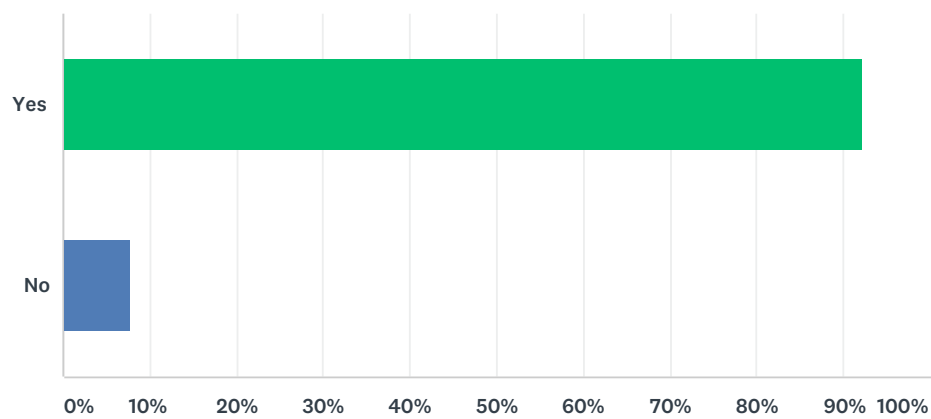
2019 Volunteer Program Guidelines *DRAFT*

The City of Airdrie and Volunteer Airdrie will work collaboratively to implement an improved, inclusive approach to volunteer recognition in Q4, 2019.

- Monthly and Quarterly recognition with City component throughout the remainder of 2019
 - City Inputs – total: \$3,000
 - Council connection – no cost
 - Letter
 - Certificate
 - Press Release – no cost
 - Gift Cards (3 months) \$600
 - Pop-up Lunch \$400
 - Quarterly Event (swim/bowl/skate) \$1,000
 - Awareness (decals, print materials, etc.) \$1,000
- A collective event on Giving Tuesday (December 3) or International Day of Volunteers (December 5). Details TBA
 - City Inputs – total: \$3,000
 - Venue rental \$2,000 (cost-shared 5,000)
 - Food \$500
 - Entertainment \$500

Q1 A basic definition of a volunteer is someone who gives time, effort and talent to a need or cause without financial gain. With this in mind, have you volunteered in the past year?

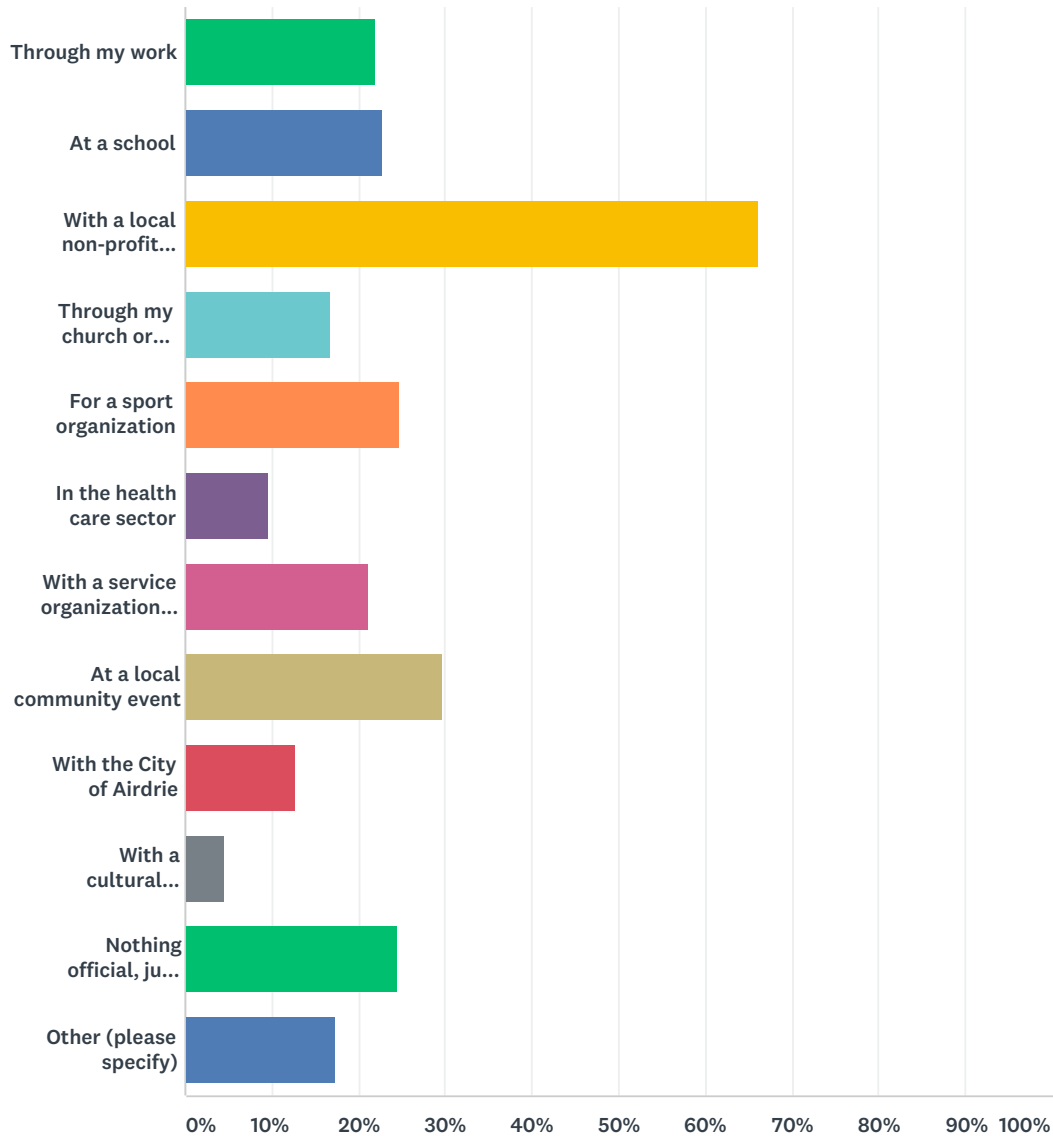
Answered: 404 Skipped: 6



ANSWER CHOICES	RESPONSES	
Yes	92.33%	373
No	7.67%	31
TOTAL		404

Q2 Where have you volunteered in the past year? Please select all that apply:

Answered: 351 Skipped: 59



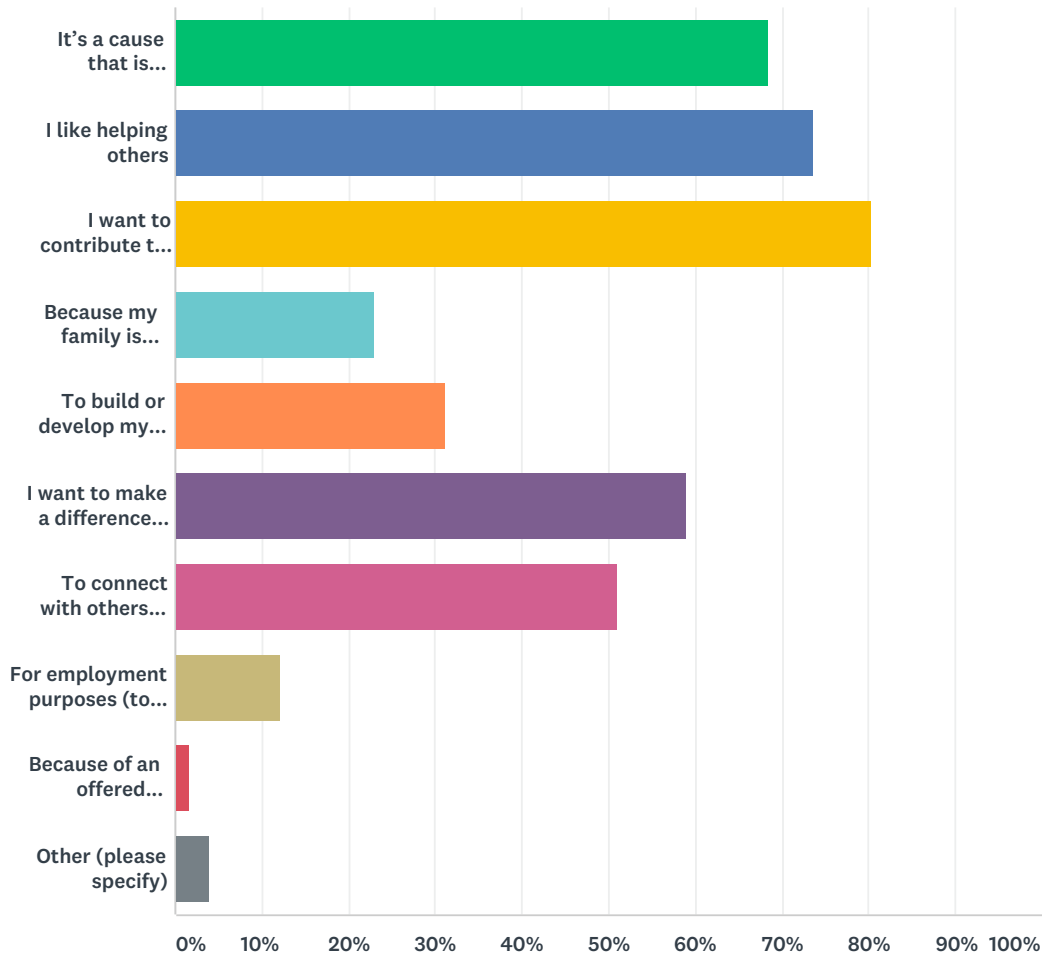
ANSWER CHOICES	RESPONSES	
Through my work	21.94%	77
At a school	22.79%	80
With a local non-profit organization	66.10%	232
Through my church or religious group	16.81%	59
For a sport organization	24.79%	87
In the health care sector	9.69%	34
With a service organization (e.g., Rotary Club, Airdrie Lioness, etc.)	21.08%	74

Volunteer Recognition

At a local community event	29.63%	104
With the City of Airdrie	12.82%	45
With a cultural association	4.56%	16
Nothing official, just helping where I can (e.g., shoveling a neighbour's sidewalk)	24.50%	86
Other (please specify)	17.38%	61
Total Respondents: 351		

Q3 Why did you decide to volunteer? Please select all that apply:

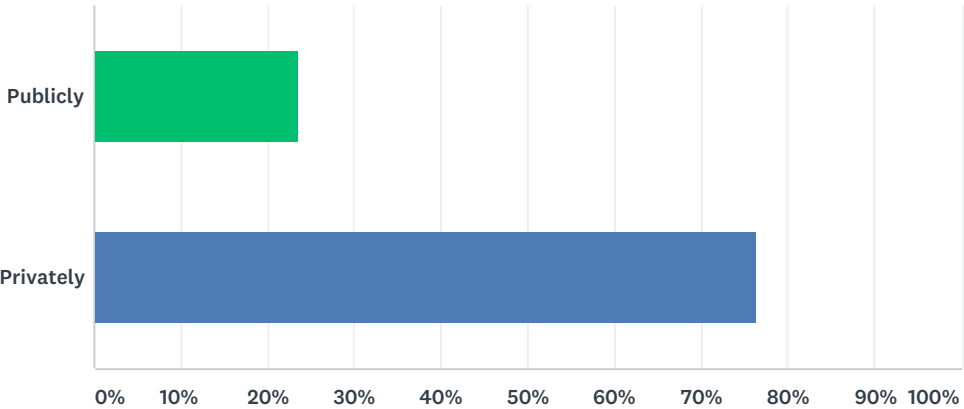
Answered: 352 Skipped: 58



ANSWER CHOICES	RESPONSES	
It's a cause that is important to me	68.47%	241
I like helping others	73.58%	259
I want to contribute to my community	80.40%	283
Because my family is involved (sports, fundraising)	23.01%	81
To build or develop my skills and/or knowledge	31.25%	110
I want to make a difference (socially, environmentally)	59.09%	208
To connect with others (networking, making friends)	51.14%	180
For employment purposes (to gain experience, to improve my résumé)	12.22%	43
Because of an offered incentive	1.70%	6
Other (please specify)	3.98%	14
Total Respondents: 352		

Q4 I prefer to be recognized:

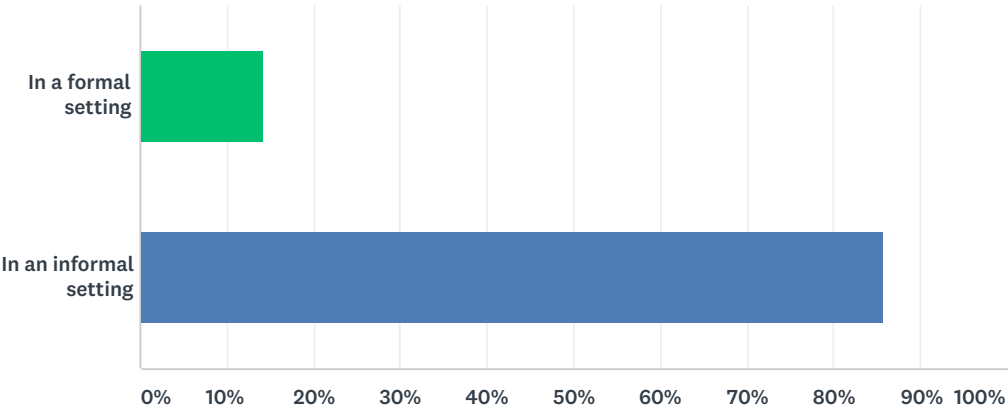
Answered: 347 Skipped: 63



ANSWER CHOICES		RESPONSES	
Publicly		23.63%	82
Privately		76.37%	265
TOTAL			347

Q5 I prefer to be recognized:

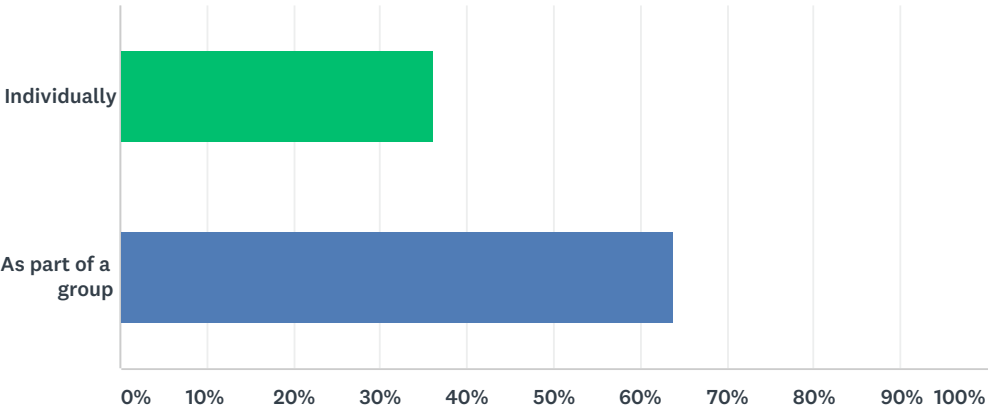
Answered: 344 Skipped: 66



ANSWER CHOICES		RESPONSES	
In a formal setting		14.24%	49
In an informal setting		85.76%	295
TOTAL			344

Q6 I prefer to be recognized:

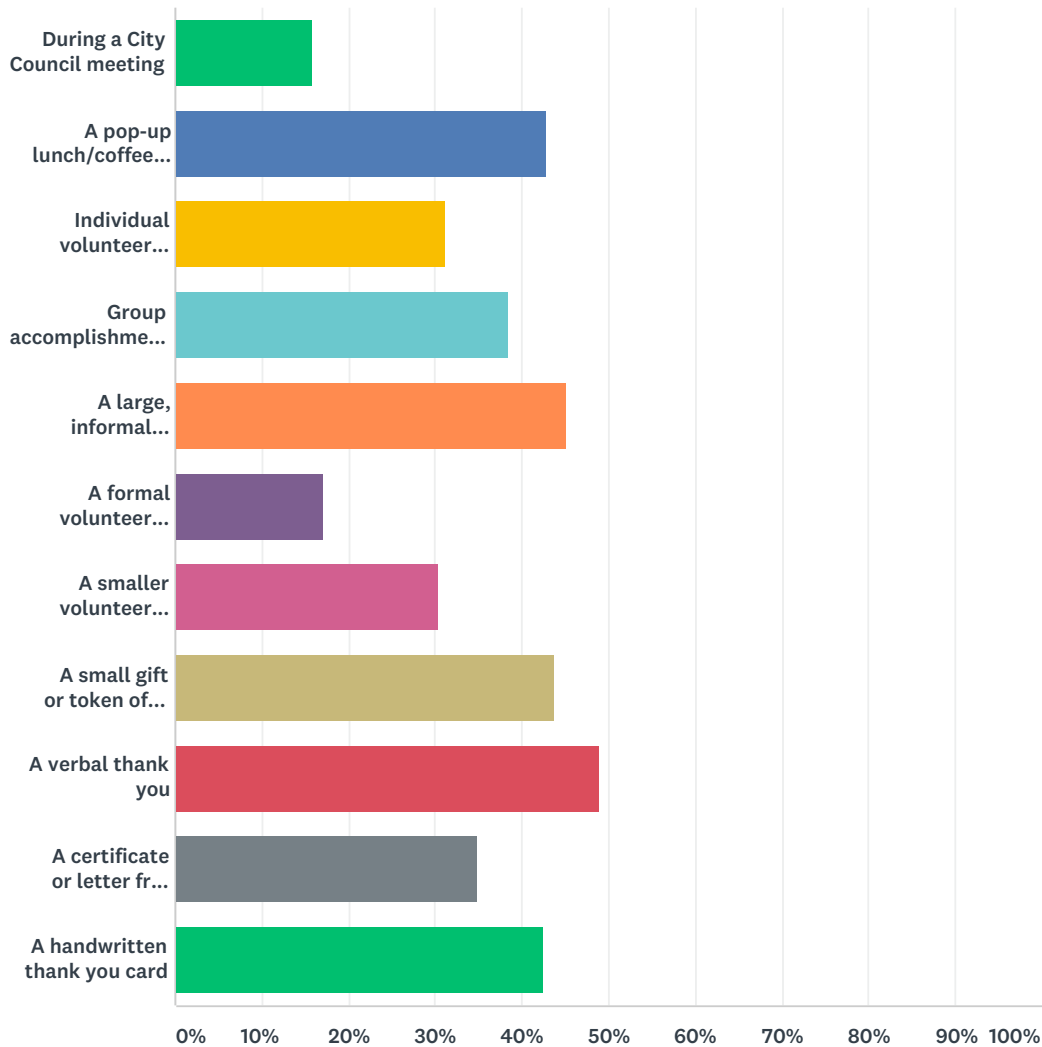
Answered: 349 Skipped: 61



ANSWER CHOICES	RESPONSES	
Individually	36.10%	126
As part of a group	63.90%	223
TOTAL		349

**Q7 Our steering committee has come up with a initial few ideas they'd like to run by you. Do any of these recognition examples appeal to you?
Please select all that apply.**

Answered: 350 Skipped: 60



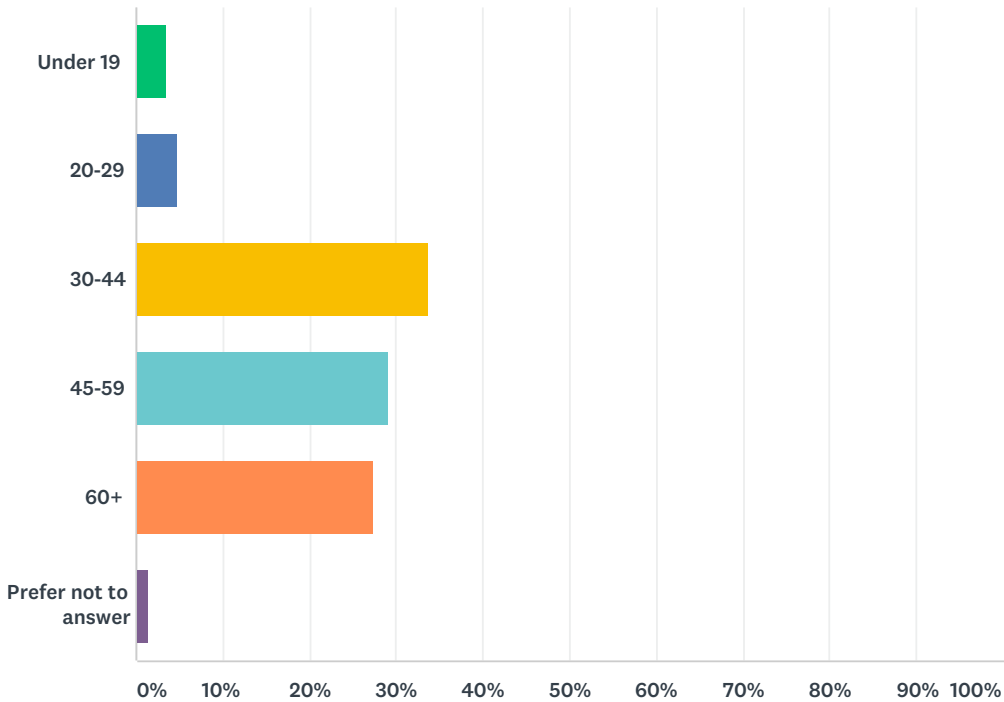
ANSWER CHOICES	RESPONSES	
During a City Council meeting	16.00%	56
A pop-up lunch/coffee stand for event volunteers	42.86%	150
Individual volunteer stories shared on the web or through social media	31.14%	109
Group accomplishments shared on the web or through social media	38.57%	135
A large, informal volunteer recognition event (e.g., a free movie, skate night, picnic, etc.)	45.14%	158
A formal volunteer recognition event	17.14%	60
A smaller volunteer appreciation afternoon tea	30.29%	106
A small gift or token of recognition (gift card, coupon, t-shirt, plaque, etc.)	43.71%	153

Volunteer Recognition

A verbal thank you	48.86%	171
A certificate or letter from City Council	34.86%	122
A handwritten thank you card	42.57%	149
Total Respondents: 350		

Q9 What is your age?

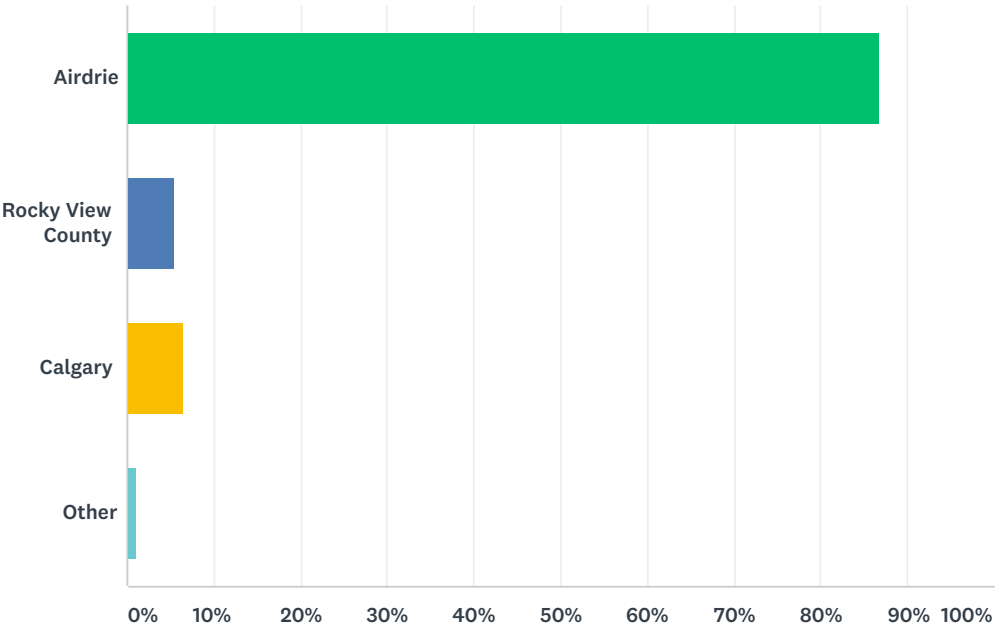
Answered: 347 Skipped: 63



ANSWER CHOICES		RESPONSES	
Under 19		3.46%	12
20-29		4.90%	17
30-44		33.72%	117
45-59		29.11%	101
60+		27.38%	95
Prefer not to answer		1.44%	5
TOTAL			347

Q10 Are you a resident of...?

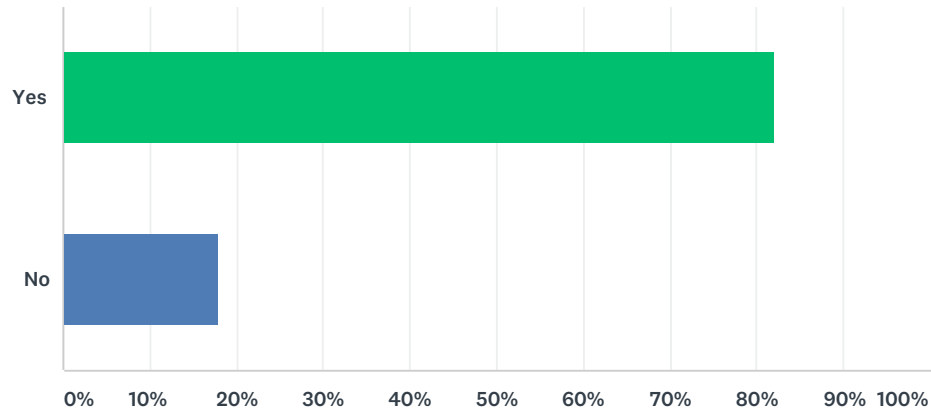
Answered: 351 Skipped: 59



ANSWER CHOICES	RESPONSES	
Airdrie	86.89%	305
Rocky View County	5.41%	19
Calgary	6.55%	23
Other	1.14%	4
TOTAL		351

Q11 I would like to be entered into a draw for a \$100 donation to be made to a local non-profit organization of my choice.

Answered: 350 Skipped: 60



ANSWER CHOICES		RESPONSES	
Yes		82.00%	287
No		18.00%	63
TOTAL			350

Those were a few of our ideas, now we'd really appreciate yours. What suggestions do you have for recognizing or showing appreciation to the volunteers in our City?
Open-Ended Response
I don't know
City could recognize work groups do with financial contributions instead of recognition events.
Planting a tree, shrub or flowers in there name
Don't need recognition events .
As mentioned before a thank you card.
Provide financial assistance to those organizations who recognize volunteers and let them do what they feel is
no other ideas
Impact Reports, VIP Parking, Service/Time Saver Auction
Teens speeding the community
A letter or card from the organization would be nice.
I think if someone really goes above and beyond they should be called out on an individual basis, otherwise a group "thank you" is sufficient. I struggle with big productions because I think while it's a nice way to show
Have a day were coordanadrer comes to a community cente and have a to have a bornercuew
Thank you note is personal That's my reccomendation
Any and every way of encouraging local business and government to support those activities that are volunteer driven with resources. It could be a space given rent free (or reduced) for an event, items given for a fundraiser,
Just a general acknowledgement. A simple thank you goes a long way! Also a way to acknowledge the money most volunteers spend personally. Perhaps offering a discount on services elsewhere for those who accumulate
I think it is done fairly well already.
Thank you's
by not acknowledging our good deeds, we are already gaining by developing skills and learning humility
Loved the free movie in past. Gift cards are nice; free coffee, 2 for 1 coupons. See if a local store/restaurant would be willing to give 10% discount to volunteers once every six months or whatever.
I don't have any, over and above your suggestions
The ways in which each organization that I volunteer with recognize their volunteers satisfies my expectations:)
I really don't volunteer for the recognition I might get. I enjoy knowing I can help make a difference. It gets me involved in the community, and truly that's enough. An informal Wine/cheese event or a gift certificate
none
Maybe publishing an article in the newspaper that kind of acknowledges all the volunteers, so that those who aren't officially recognized know that they are still appreciated.
A note posted at the city hall as a thank you for making it a better community by volunteering. Or a plaque.
I think you have covered them.
none
perennial plant that will last year after years... and remind us how volunteerism embellishes life
Verbal Thank you ☺
A sign/banner at city hall thanking volunteers and perhaps showing the total # of hours and/the monetary value
Notice in the paper.
I think if there is any kind of recognition, I personally would prefer it to be smaller, like a thank you card or verbal thank you. I also think the idea of an informal recognition event, like a free movie, is a good idea for
If someone takes the time to stop and personally acknowledges someone time and effort to the community. It's nice when someone takes time out of their day to pause and thank someone for a job well done
Nothing more than a thank you

NA
NA
I don't volunteer to get some sort of recognition. I do it to help others.
An acknowledgement from the City that we do what we do. Not even necessary to include a thank you as that would be a given. I would like to see a complete list of ALL the volunteer organizations active in Airdrie.
Discounts for local events. Wear a limited edition 'service' pin as a appreciated volunteer.
To be recognized in newspapers and or magazines.
A thanks you to Airdrie volunteers in the paper?
A personal face to face thank you and a token keepsake, (ie a t-shirt, hat, key ring etc.)
At a one on one meeting, gift cards and a thank you note, team meeting
I think all of these are great ideas.
Dependent on how much work is put in.
I can't think of anything else at the moment.
Providing a choice of rewards or coupons that can be used in the community
Same ideas as were given.
Whatever you do just make it special to show that you truly appreciate the people that take the time from their day to day lives to volunteer. "Those who can, do. Those who can do more VOLUNTEER
A gathering, games events, food and drinks. Everyone together celebrating the games
I feel that most volunteers wouldn't want a large individual recognition and group setting would be ideal.
Discount on something small like coffee or Tim Hortons gift card. A specific email thanking volunteers is also
Your suggestions are perfect. I have nothing to add.
Recognition throughout the process This is a one year commitment and there hasn't even been an email
I really think the sharing online/ via social media is a great option, it is easy fast & can be frequent
May be in a volunteer magazine, if we have one?
given for me personally is how volunteers should be recognized. That said, some volunteers give a lot of their time compared to someone who volunteers 1 or 2 x per year. I'd suggest those people who commit a lot to volunteering should be more formally recognized.
Great ideas above! Those events connect volunteers as well :)
popular ones who always seem to have to have there names in the forefront. A volunteer evening social event at the T&C would be a nice gesture, and a volunteer section in the local papers depicting groups and individual names once a year would be an idea.
acknowledge group efforts publicly
those are good
Liked the handwritten thank you card
A volunteer "brick" on a public plaza built by the City.
I like the shout outs to thank you are super nice. Volunteer teas and such are nice but I think when others outside of the event see you volunteering it may inspire them to do so as well. I belong to a ladies group and the handwritten note is always great
I get recognized from the amazing people I help.
I think that the above ideas are really good. Personally, I believe that recognizing a person's or group's specific contribution is more important than simply a blanket thank you (i.e. what exactly did they do that was
'Volunteer of the Month' award to an outstanding initiative
Showing the effects.
Let them pie peter
Thank you card, gift cards, shirt that recognizes their work
Social media shoutouts as recognition
Above covers the ideas I have.

Volunteer dinner dance party or an activity night such as skating, bowling, etc.
A lunch, incentive (gift card), letter from the city
Expand the definitions of what you give awards for and let people self recognize there contributions for awards
Honestly all of the previous ideas were perfect! Social media is a really great way
I am not sure
I feel every option on the previous page are sufficient
Even just a volunteer of the week post on social media.
Discounts at places like genesis for active registered volunteers
comment .The movie that is put on through volunteer week is great for families but for adults with no family it doesn't really work...also it doesn't allow for mingling with other people. The luncheon that Volunteer Airdrie and local organizations put on with representatives at tables to talk about their needs was a great idea .I enjoyed the opportunity to talk with other volunteers to see where everyone helps out .
Volunteer of the month
Not sure
Recognize volunteers in the moment for parades, fireworks, events. Announce the number of volunteers it took to put event in and that people need to appreciate the ones that stepped forward.
I think the city does a great job. Volunteer week was fabulous
have a volunteer free day or week or month pass to Genesis place?
Celebration event
Gift card for a coffee would be lovely.
Volunteer in Profile on city website or social media, canvas local groups for nominations for awesome volunteers
Not sure
a distinct certificate from the city or a small gift such as a Tim's gift card
I
I like all of the above ideas, and for questions 4-6 I would have picked both answers if that option was available. The most important part of recognition is the effort to make it rather than the form it takes.
The ideas in your list are great!
More advertising to allow more people to volunteer, i think a gift card for volunteers is a good use of money
something that I can share on social media - like a "badge" to share with my network
I don't have any ideas.
Gift cards
Not sure
You covered it.
a simple thank you
haven't done a lot of volunteering in Airdrie yet, except for the Airdrie Rodeo a few years ago, so not really sure
All of the previous suggestions we're great!
you can produce proof of volunteer hours or affiliation with an organization, more media coverage/information disseminated by the City about the various volunteer/non profits in our community so the public can see just how much of a difference we make and understand what we do. The City should recognize Goldenfields Girl Guides, they have over 600 members here in Airdrie and many of their adult volunteers put in hundreds of
N/A
I love the letter and better yet, the certificate idea
I have enjoyed attending the volunteer event hosted by the city but there were so few spots to be "won". An ever like that with looooooots of spots would be neat. It would bring out more people as well.
Very casual. Don't need recognition. Even just a coffee after an event is nice.
Simple thank you is good enough for me.

I am very new! First shift this evening, looking forward to that! The White Hat Volunteer office sends out via e-mail a Monday Memo, which has information regarding upcoming events. It also has a 'Kudos section'
Not sure
1. Calculating & communicating the amount of impact on the community that my time has provided. 2. Bumper stickers, rear window decal award i.e. "Elite Volunteer" 3. Tickets to a local music or theatre event similar to
Happy with what has been done
I'm happy with what is being done.
Show appreciation and support for the cause, for example I was surprised to hear that the meals on wheels program is not fully funded and the organization is heavily dependent on fund raising.
A volunteer brunch with snacks and light food :)
How about some form of discount program for local attractions or businesses - encourage volunteers to shop local & provide them with an ongoing tangible benefit, even if it's small
Recognition through the media. Local paper and radio station
A simple weekly volunteer organization acknowledgement on social media would be good. It dual serves as letting Airdrie residents know about the volunteer opportunities available.
Thank you cards are more than enough.
By being asked to come back again and help more
Thank You can be said Many ways. That initial thanks with a smile at the event is so meaningful. Your
Get together and appreciate on certain occasions
None really
I can't think of anything offhand
Maybe volunteer mayors breakfast?
Hard for me because what I do and why is private to me. I know lots like a bigger recognition than I do.
Plaque, letter from council
none to add
We have been recognized and thanked very often. I think the organization is doing great.
No suggestions as all is organized fine with me.
"thank you" will be fine
none
Not really sure as I don't do it for the recognition
Bethany gives great gifts. Bags,cups etc. They are a great thank you!,
just by realizing we are helping out
I don't volunteer to be recognized
By using thank you by the organization
I don't really need anything... maybe a private way of thanks
Bethany have given us a mug, another time a t shirt and other special gifts. They were very thoughtful. Church has a tea , always busy but it was available to all volunteers.
Maybe an afternoon tea ,and getting to meet other volunteers ,gift cards.
Stories from people that we have helped, that it mattered to them.
I think the volunteer appreciation movie in April during volunteer week is a great idea. Keeping that up is
I am thanked each time I volunteer and made to know that I make a difference - I hope that all volunteers
I really can't think of anything else...
Year round recognition by way of coffee parties with an educational/training component.
None really, i volunteer because things need to be done and I am able to do what I can
No other ideas
The organization that I volunteer for should own the responsibility for appreciation of volunteers, not the City or
Stories in local papers.

?
all your ideas seem good.
Possibly an event at either Nose Creek Park or Chinook Winds Park, a bbq, music event, a tree planting event?
Message collage from the people that have been impacted by the volunteers.
Anything
Airdrie life does features on individuals and groups. Group or individual stories on the different organizations
A certificate or letter from City Council
volunteer get together
Working with the seniors, entertaining them, helping and making suggestions for different forms they have to fill out. Just being a friend and having someone they can talk to. They City Lights News presented me with a
Just say "Thank You".
e-mail thank-you
Everything was covered for recognition
Recognizing each group of volunteers
Believe you have given enough suggestions
The volunteers who put in alot of hours and hard work should be recognized publicly
If the City carries through with these ideas it should be sufficient award for current volunteers and will probably generate more activities and benefits to the community.
Verbal thank you
I'm really not sure when I volunteered at CL. I just enjoyed going there to do what sue needed me to do and to connect with everyone there. It gave me something positive and enjoyeabl to do. I think CL. Is a neat place to
A large, informal volunteer recognition event, snacks, a chance to go as a group. But not a movie or an event
Nothing formal or large. The success of the Airdrie Curling Club is more important to me.
Nothing at this time.
is very nice .Maybe have volunteers submit their name and a few lines on where they enjoy helping and feature all bios in the local papers through Volunteer Week .It may also encourage others to volunteer if they are not aware of some of the places that need help.
An orientation or educational event to discuss the best possible ways to improve volunteering within our
Nothing additional to add
Possibly a little write up in the local newspaper
N/A
N/A
intended. Both Airdrie Food Bank and Community Links rely heavily on on line sign up for events. My appreciation is not necessary on line or in any media other than person to person contact. Too much reliance on computers to do our work for us. No personal touch!!
Gift/recognition through the city for the whole organisation. The skating club works closely with City staff
As mentioned above, I like to volunteer and personally don't feel the need for recognition.
N/A
Happy to be part of the group.
Don't really have any other ideas.
I really appreciate the short classes offered to volunteers. personal development type of classes or just general
I would like to see something outside the City Hall showing a dollar value to the Volunteer Hours donated to the City per year. If the average wage in Alberta is \$28.00/hr., then what is the dollar value to what is contributed

scope. An in-depth story...in the paper, Airdrie Life mag etc. (this info is easily obtained from the group). Perhaps a monthly expose in the paper...select a group or individual each month. Considering that most (certainly not all) are seniors, social media on websites etc, isn't always the way to go. Newspapers (the hard
Verbal thank you
As above
During council meetings
group photo in the newspaper or Facebook
Names of all Volunteers to be listed in the City's archives recognising them wit appreciation and encourage
As per above
A page ad in the local papers published during Volunteer Week A selection of volunteers pictured with the
Small gift, appreciation in the newspaper, volunteer of the month
More appreciated
List names in local paper or City magazine
n/a
I think you already have some great ideas
Social media would have been my choice

COUNCIL – AGENDA REPORT

Meeting Date: 4 July 2023

Subject: Beaver Assessment & Management Plan

Boards Routed Through: N/A

Date: N/A

Issue:

Council is being presented with the completed North American Beaver (*Castor canadensis*) Assessment and Management Plan prepared by EBB Environmental Consulting Inc.

Background:

For decades, beavers have taken up residence at several locations along the Nose Creek corridor. In 2021, a colony of beaver took up residence in a den located in the Summerhill/Waterstone which resulted in a higher level of both tree damage and tree loss to the urban forest in the vicinity of this den. In response to this, the City undertook a variety of measures to provide an increased level of protection to the urban forest in this area, but in 2022 ultimately determined that the removal of the beaver was necessary. Throughout the course of these activities, there was a very high level of increased public scrutiny of the City's beaver management practices.

Consequently, in November 2022, Council passed a motion directing Administration to conduct an assessment to determine the viability of maintaining a beaver population within the City along the nose creek corridor.

In March 2023, the City retained the services of EBB Environmental to prepare a Beaver Assessment and Management Plan. The objectives of this plan are summarized as follows:

1. Assess the Nose Creek Corridor from Yankee Valley Boulevard north to where Main Street South intersects with Nose Creek corridor and recommend whether or not this section of the Nose Creek corridor can sustain a viable beaver population; taking into account the City wishes to maintain a viable urban forest along this portion of the Nose Creek corridor and our desire to minimize the risk of damage and loss attributable to beavers on private property along this portion of the Nose Creek corridor.

2. Assess the remainder of the Nose Creek corridor within City limits to identify those areas where it is feasible to allow beaver colonies to become established and be maintained.
3. Assess the City's Stormwater management ponds and infrastructure and make recommendations on how best to manage beaver populations that take up residence in this infrastructure.
4. Provide insight as to the impacts that should be expected and make recommendations on methods or measures that can be utilized by the City to minimize the risk of human/beaver conflict along portions of the Nose-Creek corridor where it may be feasible to allow the beaver colonies.
5. Develop a balanced decision-making framework that can be utilized to guide future decisions with respect to the management of the beaver population within City limits that can be incorporated into the City's Integrated Pest Management (IPM) plan.
6. Review the proposed framework for the entirety of the Nose Creek corridor in the context of other wildlife that is at risk of conflict with humans (E.g.; coyotes and other large predators) and make recommendations that the City can utilize to minimize the risk of these conflicts occurring.

Upon review of the recommendations of the consultant's report. Parks was able to source estimated costs of implementing these co-existence strategies.

- Exclusion fencing \$85 per meter. (Fully fencing the along creek in the Waterstone community is estimated to cost \$65,000)
- Culvert fencing \$3000-\$5000.
- Flow conveyance devices \$6000-\$8000.
- Den removal \$3000-\$5000.
- Diversionary plantings \$10,000 year.
- Tree wrapping \$20 per tree.

Later this summer, as part of a successful a grant application to the 2 Billion Tree's program 10,000 trees and shrubs will be planted along Nose creek in Sierra Springs. This planting will consist of native aspen, poplar and willow species. The plantings will be in groupings and will be protected by fencing. After these plantings have become established, they could be utilized as diversionary plantings.

Next Steps:

The completion of the Assessment and Management will allow Administration to incorporate the recommendations into an update of the City's Integrated Pest Management (IPM) Plan. Once these updates are complete, it is Administration's intent to present the updated IPM to the Environmental Advisory Board, the Community Services Advisory Board and Council in September 2023, with implementation of the updated IPM plan occurring immediately thereafter.

Alignment with South Saskatchewan Regional Plan and AirdrieONE:

The Sustainable Natural Environment section of the AirdrieONE plan reads “Natural Areas along the Nose Creek watershed are particularly valued in the City and are considered to be one of the City’s greatest amenities”. The recommendations being provided in the Beaver Assessment and Management Plan are consistent with the stated goals of environmental, social, and fiscal sustainability.

Boards Routed Through:

N/A

Administration Recommendation:

That Council accepts the North American Beaver Assessment and Management Plan for information and directs Administration to incorporate its recommendations into the City’s Integrated Pest Management Plan.

Alternatives/Implications:

1. Council could choose to request additional information.

Any requests by the Council would need to be reviewed by Administration and may also require additional engagement with our consultant. The implication of this would be the additional time required to complete this work and the full incorporation of the Plan’s recommendations into the City’s IPM Plan.

2. Council could choose not to accept the plan for information.

Communications Plan:

N/A

Recommendation:

That Council accepts the North American Beaver Assessment and Management Plan for information and directs Administration to incorporate the Plan recommendations into the City's Integrated Pest Management Plan.

Phil McNeil
Park Operations Team Leader

Presenter:	Phil McNeil/Goeff Smart
Department:	Community Infrastructure
Reviewed by:	Lorne Stevens
Attachments:	#1: EBB Report
Appointment:	Click here to enter external appointment.

North American Beaver (*Castor canadensis*) Assessment and Management

Nose Creek, Airdrie, A.B.

Prepared for:
City of Airdrie
15 East Lake Hill NE
Airdrie, AB, T4A 2K3



Prepared by:
EBB Environmental
Consulting Inc.

North American Beaver (*Castor canadensis*) Assessment and Management

Nose Creek, Airdrie, A.B.

PREPARED FOR

City of Airdrie

15 East Lake Hill NE
Airdrie, AB, T4A 2K3

PREPARED BY

EBB Environmental Consulting Inc.

P.O. Box 18180 1215C 56th Street
Delta, British Columbia, V4L 2M4
Phone: 604-943-3209
Fax: 604-948-3273
Toll-Free: 1-877-943-3209
Website: www.ebbconsulting.ca
Email: enquiry@ebbconsulting.ca

PRINCIPAL CONTACT

Oliver Busby, MBA, RPBio, PAg

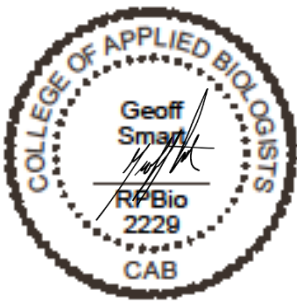
Mobile: 604-219-2412
Email: busby@ebbconsulting.ca

Page Intentionally Left Blank

Document Limitations

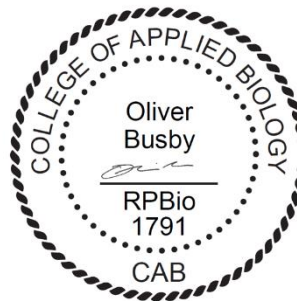
This document was prepared exclusively for the City of Airdrie, for the assessment of sustainable management and co-existence strategies beavers within the Nose Creek corridor. No aspect of this report shall be reproduced by any third-party without the express written consent of EBB Environmental Consulting Inc. (EBB). The findings, conclusions, and recommendations in this document are based on the expertise and experience of EBB personnel based on 1) information available at the time of preparation; 2) data supplied by outside sources; and 3) assumptions, conditions, and qualifications set forth in this document. While professional judgement and standard practices were used in interpreting third-party external data, EBB did not verify the accuracy and quality of externally provided data.

Respectfully submitted;



Geoff Smart, MSc, RPBio
Senior Biologist

I certify that the work described herein fulfills standards acceptable of a Professional Biologist.



Oliver Busby, MBA, RPBio, PAg
Principal

I certify that the work described herein fulfills standards acceptable of a Professional Biologist.

Table of Contents

1	INTRODUCTION.....	1
1.1	LOCATION OF ASSESSMENT	1
2	BEAVER ECOLOGY	2
2.1	POPULATION AND DISTRIBUTION.....	3
2.2	HABITAT AND HOME RANGES	3
2.2.1	<i>Habitat</i>	3
2.2.2	<i>Home Ranges</i>	4
2.2.3	<i>Colony Density</i>	4
2.3	LIFE HISTORY AND BIOLOGY.....	4
2.3.1	<i>Physiology, Lifecycle and Reproduction</i>	4
2.3.2	<i>Dispersal</i>	5
2.3.3	<i>Foraging Behaviours and Diet</i>	5
3	BEAVERS AND URBAN INTERACTIONS.....	6
3.1	BENEFICIAL INTERACTIONS.....	6
3.1.1	<i>Ecosystem Services</i>	6
3.1.2	<i>Riparian and Aquatic Health and Structure</i>	7
3.1.3	<i>Biodiversity</i>	8
3.1.4	<i>Summary of Ecological Benefits Attributed to Beaver Activities</i>	9
3.2	ADVERSE INTERACTIONS.....	11
3.3	URBAN BEAVER MANAGEMENT.....	11
3.3.1	<i>Perceptions of Beaver Management</i>	12
3.3.2	<i>Approaches to Impact Management</i>	12
4	IMPACT MANAGEMENT STRATEGIES	13
4.1	ACCEPTANCE AND MONITORING	13
4.2	PASSIVE MANAGEMENT	13
4.2.1	<i>Tree Protection</i>	14
4.2.2	<i>Exclusion Fencing</i>	14
4.2.3	<i>Barriers to Limit Burrowing</i>	15
4.2.4	<i>Vegetation Modification</i>	16
4.2.5	<i>Dam Breaching and Removal</i>	16
4.2.6	<i>Culvert Protection</i>	16
4.2.7	<i>Flow Conveyance Devices</i>	17
4.3	ACTIVE MANAGEMENT	18
4.3.1	<i>Relocation</i>	18
4.3.2	<i>Lethal Removal</i>	18
5	ASSESSMENT METHODOLOGY.....	19
5.1	DESKTOP ANALYSIS.....	19
5.1.1	<i>Beaver Occupancy Potential</i>	19
5.1.2	<i>Habitat Availability</i>	19
5.2	FIELD ASSESSMENT.....	19
5.2.1	<i>Population Viability Assessment</i>	21
5.2.2	<i>Evaluation of Existing Mitigation Strategies</i>	21
5.2.3	<i>Stormwater Infrastructure</i>	21
6	RESULTS.....	21

6.1	OCCUPANCY POTENTIAL	21
6.2	POPULATION DISTRIBUTION AND OCCUPANCY	21
6.3	WATERSTONE-SUMMERHILL AREA	23
6.3.1	Occupancy	23
6.3.2	Foraging Impacts	23
6.3.3	Damming Impacts	24
6.4	NOSE CREEK CORRIDOR – NORTH AREA	24
6.4.1	Occupancy	24
6.4.2	Foraging Impacts	24
6.4.3	Damming Impacts	24
6.5	NOSE CREEK CORRIDOR – SOUTH AREA	25
6.5.1	Occupancy	25
6.5.2	Foraging Impacts	25
6.5.3	Damming Impacts	25
6.6	STORMWATER INFRASTRUCTURE	25
6.6.1	Occupancy	25
6.6.2	Foraging Impacts	26
6.6.3	Damming Impacts	26
7	DISCUSSION	26
7.1	WATERSTONE-SUMMERHILL AREA POPULATION VIABILITY	26
7.1.1	Habitat Occupancy and Suitability	26
7.1.2	Risk to Public and Private Infrastructure	28
7.1.3	Long-term Population Viability	29
7.2	NOSE CREEK CORRIDOR – NORTH AREA POPULATION FEASIBILITY	29
7.2.1	Existing Habitat Occupancy	29
7.2.2	Habitat Suitability for Long-term Occupancy	30
7.3	NOSE CREEK CORRIDOR – SOUTH AREA POPULATION FEASIBILITY	32
7.3.1	Existing Habitat Occupancy	32
7.3.2	Habitat Suitability for Long-term Occupancy	33
7.4	BEAVER IMPACTS WITHIN THE NOSE CREEK CORRIDOR	34
7.4.1	Foraging and Tree Felling	34
7.4.2	Damming and Water Impoundment	35
7.4.3	Evaluation of Implemented Beaver Impact Mitigation Strategies	36
7.4.4	Evaluation of Existing Supplemental Feeding	38
7.4.5	Anticipated Future Impacts	39
7.4.6	Recommendations	39
7.5	MANAGEMENT OF BEAVERS WITHIN STORMWATER INFRASTRUCTURE	41
7.5.1	Overview of Management	41
7.5.2	Recommendations	42
7.6	MANAGEMENT STRATEGIES	43
7.6.1	Decision Matrix for Informed Management	43
7.6.2	Removal of Beavers	45
7.6.3	Integrated Pest Management Plan	46
7.6.4	Mitigation and other Conflict Wildlife	46
7.6.5	Recommendations	46
8	CONCLUSIONS	48
9	REFERENCES	50

List of Tables

Table 2-1.	Summary of stream geomorphological features for beaver dam site selection and habitat occupancy, adapted from Allen, 1983; Dittbrenner et al., 2018; Rosell and Campbell-Palmer, 2022; Suzuki and McComb, 1998; Swinnen et al., 2018.	4
Table 3-1.	Summary of the ecosystem benefits and services which are commonly attributed to beaver activity.	6
Table 3-2.	Summary of the influences of coarse woody debris within riverine systems, adapted from Rosell and Campbell-Palmer (2022).	7
Table 3-3.	Summary of beaver activities and the benefits to ecological functions, plants, and animals, adapted from Rosell and Campbell-Palmer (2022).	9
Table 3-4.	Identified adverse interactions and risks associated with beaver-related activities within the urban landscape.	13
Table 5-1.	Scoring criteria for the beaver intrinsic potential (BIP) model, from Dittbrenner et al. (2018).	19
Table 7-1.	Calculated area of available and preferred habitat within the primary and secondary foraging zones for beavers.	27
Table 7-2.	Assessment and suitability ranking based on professional judgement for beaver occupancy within the Northern Area of the Nose Creek corridor.	32
Table 7-3.	Assessment and suitability ranking based on professional judgement for beaver occupancy within the Southern Area of the Nose Creek corridor.	33
Table 7-4.	Summary of potential impacts, possible threshold criteria, and associated mitigative strategies.	47

List of Figures

Figure 1-1.	General boundaries of the assessed area within the City of Airdrie.	2
Figure 4-1.	Example of exclusion fencing with skirting to discourage digging (left, from Campbell-Palmer et al., 2013) and trenched fencing, prior to backfilling and installation of fence skirting (right, from https://www.sanctusltd.co.uk/)	15
Figure 4-2.	Examples of commercially available culvert protection, Beaver Stop (top-left, photo: armtec.com), Beavercone (top-right, photo: beavercone.com), beaverproof add-on (bottom-left, photo: beaverproofaddon.com) and trapezoidal culvert fencing (bottom-right, photo: beaversolution.com).....	17
Figure 4-3.	An example of a flexible pond leveller. Image from Shockey (2023).....	18
Figure 5-1.	Overview of the assessed areas within the Nose Creek corridor and peripheral stormwater infrastructure.	20
Figure 6-1.	Observed lodges along the Nose Creek corridor. Bank lodge within the Waterstone-Summerhill Area (top-left), within the Nose Creek Regional Park (top-right), and within the southern area (Sierra Springs, bottom-left).	22
Figure 6-2.	Distribution of observed lodges within the Nose Creek corridor, generally concentrated around the Waterstone-Summerhill Area.	23
Figure 6-3.	Overview photos of the rock weir structures within the Waterstone-Summerhill Area that have created deepwater pools within Nose Creek.	24
Figure 6-4.	Overview photos of the two dams observed adjacent to the observed lodge in the Nose Creek Regional Park.	25
Figure 7-1.	Overview photo of the typical habitat conditions observed within the Waterstone-Summerhill Area.....	27
Figure 7-2.	Location of areas identified with good suitability for maintaining beaver populations while limiting adverse interactions.	31
Figure 7-3.	Example of observed foraging downstream of the identified bank lodge within the Southern Area of the Nose Creek Corridor.	33
Figure 7-4.	Location of areas identified with good suitability for maintaining beaver populations while limiting adverse interactions within the southern area of the Nose Creek corridor.	34
Figure 7-5.	Overview photos of dam structures (active and failed) observed along the Nose Creek corridor, within the Nose Creek Regional Park.	36
Figure 7-6.	Examples of deficiencies observed with wire wrapped trees, including improper material and fence height (top-left), collapsed caging (top-right and bottom-left) and shorted fence height (bottom-right).	38
Figure 7-7.	Representative examples of a constructed channel restriction (left) and pool-riffle transitions which may act as an anchor point for future beaver dams.	39
Figure 7-8.	Areas within the Nose Creek corridor that exhibit suitability for diversionary planting.	41
Figure 7-9.	Example of constructed bank armouring within the Bayside Retention Ponds.	42
Figure 7-10.	Decision-matrix to guide the determination management approach for beaver-related impacts.	44

1 Introduction

EBB Environmental Consulting Inc. (EBB) was retained by the City of Airdrie to evaluate several locations within and adjacent to the Nose Creek corridor for the potential to establish and maintain viable beaver populations, to evaluate existing beaver impact mitigation and provide recommendations for improvement where warranted, to develop a high-level decision-matrix to guide beaver management within the City.

Assessments occurred within three broad areas within the Nose Creek corridor, including the Waterstone-Summerhill Area located between Yankee Boulevard and Main Street, North of Main Street (North Area) including the Edgewater, Ridgeway Downtown, Willowbrook, Silver Creek and Williamstown neighbourhoods, and south of Yankee Boulevard (South Area), including the Sierra Springs and South Point neighbourhoods.

Assessed stormwater infrastructure included:

- Bayside Stormwater Retention Ponds
- Willow Stormwater Retention Pond
- Jarvis' Stormwater Retention Pond
- King's Height Stormwater Retention Pond
- Southwinds Stormwater Retention Pond
- Chinook Stormwater Retention Pond
- Sagewood Stormwater Retention Pond
- Reunion Stormwater Retention Pond
- East Lake

1.1 Location of Assessment

The assessment of beavers within the City of Airdrie was limited to the urban boundaries of the city (Figure 1-1). While assessments did not extend into the agricultural properties to the north and south of the current urban boundaries, the principles and mitigation strategies presented in this assessment will be applicable to any future urban expansion and development.

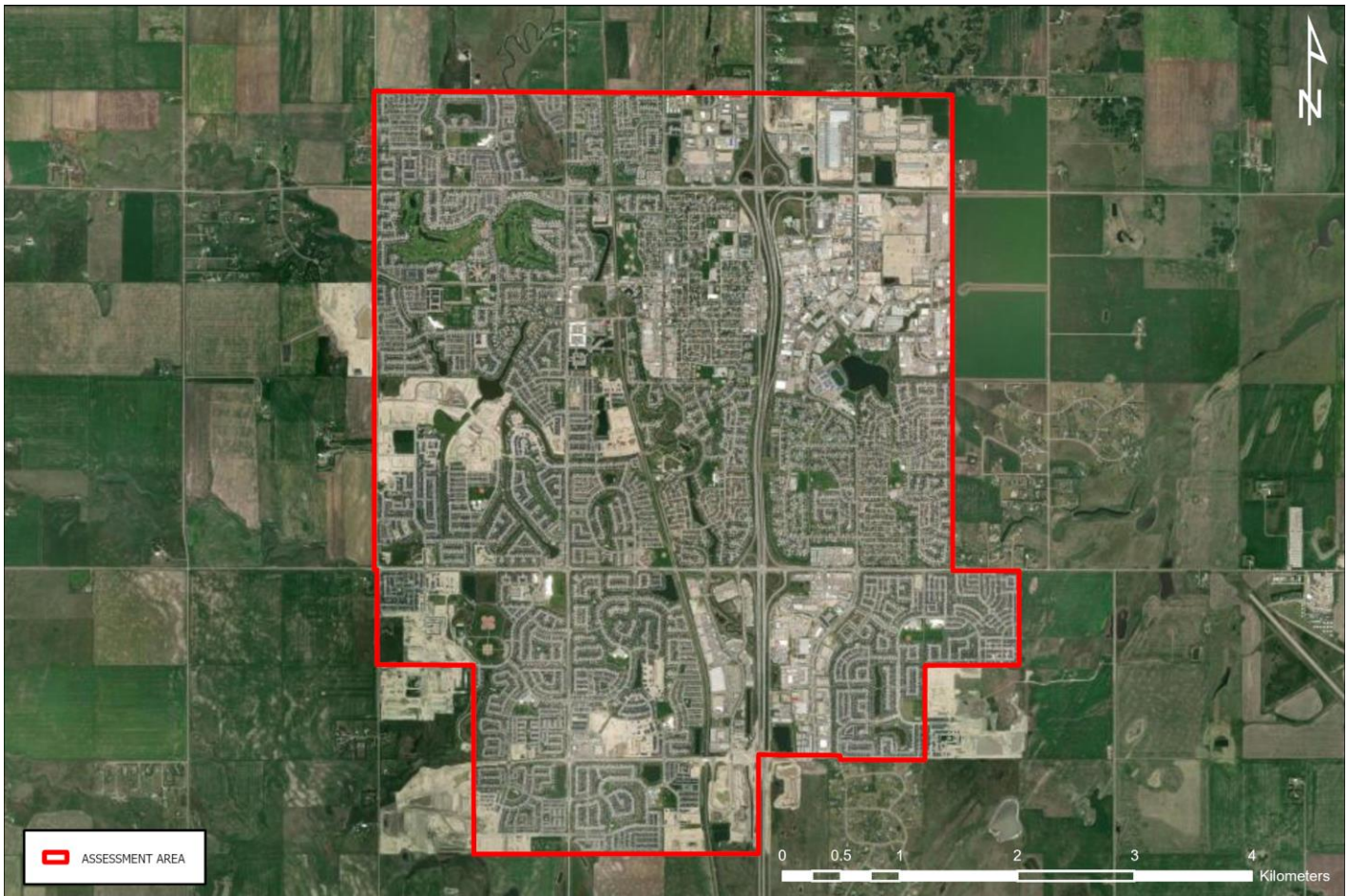


Figure 1-1. General boundaries of the assessed area within the City of Airdrie.

2 Beaver Ecology

The North American beaver, herein referred to as beaver, is the largest semi-aquatic mammal in North America (Baker and Hill, 2003) and one of two global extant beaver species, the other being the European beaver (*C. fiber* Linnaeus, 1758, Collen and Gibson, 2001). Beavers are considered to be keystone species, broadly defined as organisms with a disproportionate effect on their habitat and ecological community (Mills and Doak, 1993), and ecosystem engineers, defined as organisms that actively modify the environment to meet species ecological needs (Jones, Lawton and Shachak, 1994). As a keystone species, beavers are known for their ability to alter their environment (Naiman, Melillo and Hobbie, 1986). Beaver driven alterations of their environment can occur at magnitudes beyond their immediate food and habitat requirements (Naiman and Melillo, 1984) and can involve construction of dams on streams creating deep-water wetland complexes (Touihri et al., 2017). As ecosystem engineers beavers modify their environment to meet the species ecological needs and to increase habitat suitability (Brazier et al., 2020; Gurnell, 1998). These ecosystem engineering activities serve an immediate purpose for food and security (Baker and Hill, 2003) and creates wetland habitats (Brazier et al., 2020; Stoffyn-Egli and Willison, 2011).

2.1 Population and Distribution

Historically, beaver populations in North America have been estimated between 60 and 400 million (Seton, 1929). Estimates of the North American population are between 6 and 12 million individuals (Naiman, Johnston and Kelley, 1988); however, contemporary estimates are not available. Using published studies as a surrogate (e.g., Bailey, Dittbrenner and Yocom, 2018; Dittbrenner et al., 2018; Landholt and Genoways, 2006; Smith and Tyers, 2012), it has been suggested that beaver populations within North America are increasing, and are likely trending towards or beyond the upper threshold of the 1988 estimates.

2.2 Habitat and Home Ranges

2.2.1 *Habitat*

Beavers modify their habitats through the impoundment of water (damming), tunnelling (Baker and Hill, 2003) and foraging on herbaceous and woody vegetation (Brzyski and Schulte, 2009; Rosell et al., 2005). The impoundment of water serves to increase the safety of the individual by keeping the lodge entrance underwater, maintaining deep water conditions, permitting logs and branches to be floated, and facilitates safe travel to feeding areas (Müller-Schwarze, 2011). Beavers influence several physical characteristics of a stream, including hydrology, geomorphology, water chemistry, water temperatures, and alter plant communities through foraging behaviour and altering plant succession regimes (Rosell et al., 2005).

Habitat utilization by beavers is complex, species use of habitat depends on how the individual beaver perceives the habitat (i.e., individual habitat preferences) and the interactions between the broader landscape and local habitats (Holland et al., 2019). Habitat characteristics include geomorphological variables, food availability and composition and, anthropogenic infrastructure (Touihri et al., 2017). Beavers are semi-aquatic species, therefore, colonized habitats are dependent on the presence of a permanent source of water with a stable water depth (Allen, 1983). Colonization of a stream is also dependant on geomorphological characteristics, including stream gradients between 0 and 6 % (Allen, 1983), with a preference towards gradients between 0 and 2 % (Beier and Barrett, 1987), stream widths between 2 and 10 m, with those between 3 and 4 m preferred (Suzuki and McComb, 1998), and valley widths < 42 m (Dittbrenner et al., 2018). Beavers require a reliable supply of food (Müller-Schwarze, 2011) and will select habitats to maximize energetic inputs (Gallant et al., 2016). Optimal habitat, therefore, is the combination of preferred stream gradients and widths, valley widths, and the availability of energetically efficient and reliable forage. Alternatively, sub-optimal habitats represent habitats that do not satisfy habitat requirements and may, presumably, contribute to reduced fitness (Smith and Jenkins, 1997). Within areas exhibiting population saturation, colony establishment regularly occurs within sub-optimal conditions, including areas with narrower floodplains, steeper stream gradients, and a lower proportion of preferred forage species (Ritter, Gower and McNew, 2020).

Habitat quality is an indicator of colonization, and the presence of suitable forage species and composition, is important in establishing long-term colonies (Mumma et al., 2018). In areas where optimal habitat is occupied, beavers may need to select sub-optimal habitat to establish new colonies (Ritter, Gower and McNew, 2020), which may impact their overall fitness (Smith and Jenkins, 1997), productivity (Severud et al., 2013b) and influence a higher frequency of site abandonment (Fryxell, 2001; Ritter, Gower and McNew, 2020).

Table 2-1. Summary of stream geomorphological features for beaver dam site selection and habitat occupancy, adapted from Allen, 1983; Dittbrenner et al., 2018; Rosell and Campbell-Palmer, 2022; Suzuki and McComb, 1998; Swinnen et al., 2018.

Geomorphological Parameter	Range	Preference
Watercourse Width	2 to 10 m	3 to 4 m
Watercourse Depth	0.7 to 1.5 m	0.6 to 1.0 m
Watercourse Gradient	0 to 6 %	< 3 %
Valley Floor Width	-	> 25 m
Bank Slope (%)	< 36 %	< 32 %
Bank Height	-	< 1.8 m
Flow Velocity	-	≤ 0.12 cm/s

2.2.2 Home Ranges

Home ranges of beaver depend on several variables, including sex, age and composition of the colony, habitat conditions, and seasonal limitations (Baker and Hill, 2003). Home ranges are variable and expand and contract seasonally based on food availability (McClintic et al., 2014). Beaver abundance is related to food availability (Fryxell, 2001; Wang, McClintic and Taylor, 2019) and beavers are more likely to establish colonies with a higher proportion of riparian vegetative cover within 10 m of the wetted edge (Breck, Goldstein and Pyare, 2012).

2.2.3 Colony Density

Reports of, colony densities, expressed as the density of colonies per kilometre of stream, is varied, ranging from one colony per 480 to 800 m (Allen, 1983; Bailey, Dittbrenner and Yocom, 2018; Boyce, 1981; Havens, Crawford and Nelson, 2013; Loates and Hvenegaard, 2008; McClintic et al., 2014). Urban home ranges have been reported as one colony per 500 m of stream length (Bailey, Dittbrenner and Yocom, 2018; Loates and Hvenegaard, 2008). Colony densities within heavily managed areas, including both lethal management and extensive tree protection measures and higher urban influence tend to be lower, 0.38 colonies per kilometer, compared to unmanaged landscapes (England and Westbrook, 2021).

2.3 Life History and Biology

2.3.1 Physiology, Lifecycle and Reproduction

A North American beaver adult typically weighs between 16 and 32 kg and reaches up to 120 cm in length (Baker and Hill, 2003). The family unit (colony), size varies, though generally consist of 2 and 7 individuals (Gurnell, 1998; Mayer, Zedrosser and Rosell, 2017; Müller-Schwarze and Schulte, 1992). Colonies are typically comprised of two breeding adults, one to two yearlings, and two kits (Baker and Hill, 2003; McTaggart and Nelson, 2003). In saturated populations, beavers may delay their dispersal (Mayer, Zedrosser and Rosell, 2017), resulting in colonies with sub-adults (≥ two-year-old) (Baker and Hill, 2003). Second-year beavers typically disperse between April and June following spring breakup to establish new territories (Baker and Hill, 2003; Destefano et al., 2006). In northern latitudes, where ice breakup occurs later in the year, dispersal is commonly between mid-May and

June. New territories are typically established within 5 km of the natal colony (Sun, Müller-Schwarze and Schulte, 2000). The life expectancy of a beaver is 10 years (McTaggart and Nelson, 2003).

2.3.2 Dispersal

Beaver dispersal broadly occurs under four scenarios; (1) entire colony movement between ponds in a territory, (2) short-term movements of yearlings, (3) dispersal of two-year-olds to establish new territories, and (4) miscellaneous movements, typically associated with the loss of a mate (Bergerud and Miller, 1977). Dispersal of two-year-old beavers generally occurs between April and June (Destefano et al., 2006) and can occur upstream or downstream within a watershed or several kilometres across watersheds, with demonstrated preferences to downstream dispersal (Baker and Hill, 2003; Sun, Müller-Schwarze and Schulte, 2000). Sun, Müller-Schwarze and Schulte (2000) documented that beavers disperse upstream of their natal territory 56% of the time, at distances between 0.3 and 16.6 kilometres disperse laterally to neighbouring sites 35 % of the time. The directionality of dispersal is likely attributed to water availability, and that downstream dispersal is generally less energetically costly (Sun, Müller-Schwarze and Schulte, 2000).

2.3.3 Foraging Behaviours and Diet

Beavers are classified as generalist herbivores (Busher, 1996; Rosell et al., 2005), and their diet consists of woody, including the bark, twigs and leaves of trees and shrubs (Jenkins, 1980), terrestrial, emergent and floating aquatic vegetation (Severud et al., 2013a). Woody forage is comprised mainly of deciduous species, with aspen (*Populus* sp.), alder (*Alnus* sp.), and willow (*Salix* sp.) as preferred forage species (Doucet and Fryxell, 1993; Müller-Schwarze, 2011). Beavers prefer to forage on trees with a diameter at breast height (DBH) of < 10 cm, with stems between 2 and 5 cm (Mahoney and Stella, 2020). Foraging typically occurs between 0 and 10 m from the wetted edge of the aquatic habitat and decreases as the distance from the aquatic habitat increases (Donkor and Fryxell, 1999; Salandre et al., 2017). When foraging, trees felled by beavers are often (83 %) directionally felled towards the dam and occur between a window of 270° to 90° (Samways et al., 2004). While woody species are commonly attributed to beaver foraging, aquatic plants have been shown to play an important role in supplementing beaver diets, and can be an important source of nutrient during the winter (Bergman, Bump and Romanski, 2018).

Forage widths, measured perpendicular to the wetted edge of stream or wetland, have been reported as between 20 m to 100 m (Allen, 1983; Gallant et al., 2004; Hood, 2020; Jenkins, 1980; Johnston and Naiman, 1987; McGinley and Whitham, 1985; Salandre et al., 2017). Within this range, it has been reported that upwards of 95% of foraging occurs within a 50 m proximity of aquatic habitat (Gallant et al., 2004; Hood, 2020; Stoffyn-Egli and Willison, 2011). Tree diameters become larger the further from the edge of the habitat and preferred tree species are selected to maximize energetic input (Gallant et al., 2016; Raffel et al., 2009).

As central place foragers, beavers disperse from a central lodge to forage and construct winter food caches (Fryxell and Doucet, 1991; Johnston and Naiman, 1987; McGinley and Whitham, 1985). Forage caching is a strategy used by beavers to ensure a supply of food during the winter months; the size of cache progressively becomes smaller within the ice-free areas of its range (Smith and Jenkins, 1997), likely attributed to the increased availability of forage during the winter months.

3 Beavers and Urban Interactions

3.1 Beneficial Interactions

3.1.1 Ecosystem Services

The ecological benefits of beavers have been well established within the literature extending not only to ecological processes and biodiversity but also to the benefit of humans and built infrastructures, such as the moderation of flooding events (Nyssen, Pontzele and Billi, 2011), improvement of conditions for ranging and livestock (Charnley et al., 2020), and the provision of non-consumptive recreational and tourism opportunities (Auster, Barr and Brazier, 2020; Thompson et al., 2020). Recent monetary valuation of the ecosystem services provided by beavers within the Northern Hemisphere places the combined services at 332.6 million USD per year (Thompson et al., 2020). With urban habitat under increasing pressures, beavers can provide a high level of benefit to the urban ecosystem (Bailey, Dittbrenner and Yocom, 2018).

Table 3-1. Summary of the ecosystem benefits and services which are commonly attributed to beaver activity.

Ecosystem Service Category	Ecosystem Services of Beavers	Ecosystem Benefits of Beavers
Regulating	Moderation of flooding events	Beaver dams attenuate peak flows ^[1] and moderate the release of water (delayed transmission of peak flows), reducing the magnitude of flood events ^{[2][3]}
	Drought resiliency	Beaver damming maximizes retention of water and buffers the drying effects of drought ^[4]
	Climate resiliency	Mitigates the effect of climate change at the local scale ^[5]
	Wildfire resiliency	Protection of riparian vegetation during wildfires ^[6]
	Water quality	Moderation of stream temperature ^[7] , turbidity ^[8] , metals retention ^[9] , water chemistry ^[10]
	Moderate and protect groundwater	Increase groundwater elevations and lateral extent of the watertable ^{[11][12][13]}
Provisioning	Sediment storage	Increases the storage of sediment immediately upstream of dams ^{[14][15]}
	Carbon sequestration	Store organic carbon ^[16]
	Nutrient cycling	Retains nutrients and acts as a sink within beaver ponds ^[17]
	Surface water storage	Increases the area of water storage and slows the downstream movement of water ^{[18][19]}
		Increased water availability for livestock ^[20]

Table 2. (Con't)

Ecosystem Service Category	Ecosystem Services of Beavers	Ecosystem Benefits of Beavers
Supporting	Species diversity and richness	Increases habitat availability for fish ^[21] , amphibians ^[22] , birds ^{[23][24][34]} , mammals ^[25] , benefits aquatic biodiversity ^[26] and supports a larger and distinct species richness ^[27]
	Habitat creation and complexity	Increases instream complexity for fish ^{[28][29][30]} creation of landscape heterogeneity ^[31]
Cultural	Non-consumptive recreation	Provides opportunities for bird-watching, recreation, tourism ^{[32][33]}

^[1] Puttock et al., 2020; ^[2] Puttock et al., 2017; ^[3] Westbrook, Ronnquist and Bedard-Haughn, 2020; ^[4] Fairfax and Small, 2018; ^[5] Hood and Bayley, 2008; ^[6] Fairfax and Whittle, 2020; ^[7] Weber et al., 2017; ^[8] Błędzki et al., 2011; ^[9] Shepherd and Nairn, 2020; ^[10] Smith et al., 2020; ^[11] DeStefano and Deblinger, 2005; ^[12] Johnston and Naiman, 1987; ^[13] Westbrook, Cooper and Baker, 2006; ^[14] Janzen and Westbrook, 2011; ^[15] Butler and Malanson, 1995; ^[16] Laurel and Wohl, 2019; ^[17] Brazier et al., 2020; ^[18] Gurnell, 1998; ^[19] Wegener, Covino and Wohl, 2017; ^[20] Charnley et al., 2020; ^[21] Collen and Gibson, 2001; ^[22] Stevens, Paszkowski and Foote, 2007; ^[23] Aznar and Desrochers, 2008; ^[24] Beard, 1953; ^[25] Sundell, Liao and Nummi, 2020; ^[26] Law, McLean and Willby, 2016; ^[27] Law et al., 2019; ^[28] Dauwalter and Walrath, 2018; ^[29] Wathen et al., 2019; ^[30] Kemp et al., 2012; ^[31] Naiman, Melillo and Hobbie, 1986; ^[32] Thompson et al., 2020; ^[33] Auster, Barr and Brazier, 2020; ^[34] Nummi and Holopainen, 2014

3.1.2 Riparian and Aquatic Health and Structure

Scientific literature indicates that beavers play an important role in shaping landscape complexity and biodiversity of freshwater environments (Rosell et al., 2005). The contribution of woody materials and beaver dams within aquatic and riparian habitat provides a wide range of benefits (Table 3-2). Positive benefits of beavers on riparian and aquatic health include wetland creation and floodplain reconnection (Law et al., 2017), water storage (Gurnell, 1998; Puttock et al., 2017), erosion and sediment traps (Butler and Malanson, 1995, 2005), storm flow attenuation (Graham et al., 2022), water quality (Dewey et al., 2022; Shepherd and Nairn, 2020), nutrient cycling (Naiman, Johnston and Kelley, 1988) and regulates water temperature (Dittbrenner et al., 2022).

Table 3-2. Summary of the influences of coarse woody debris within riverine systems, adapted from Rosell and Campbell-Palmer (2022).

Influence of Coarse Woody Debris	
Wood within Channel	<ul style="list-style-type: none"> Increased hydraulic diversity and roughness.
Beaver Dams within the Channel	<ul style="list-style-type: none"> Reduces the downstream velocity of peak flows. Reduces bed and bank erosion. Enhances the storage of sediments. Enhances the retention of organic matter and nutrients, Enhances the interaction and exchange between surface water and ground water. Increases instream habitat diversity. Increases biodiversity and biomass of aquatic communities. Increase the magnitude, duration, and frequency of overbank flows.

Table 3. (Con't)

Influence of Coarse Woody Debris	
Wood within the Floodplain	<ul style="list-style-type: none"> Increases hydraulic roughness for overbank flows. Creates erosionally resistant hard points that influences the rate of floodplain turnover. Increases habitat diversity and abundance for amphibians, reptiles, birds, and small mammals, and during overbank flows, for aquatic macroinvertebrates and fish. Provides germination sites for plants.
Beaver Dams on the Floodplain	<ul style="list-style-type: none"> Reduces the velocity of overbank flows and increases floodplain sediment storage. Increases habitat abundance and diversity. Increases retention and biological uptake of nutrients. Increase biodiversity and biomass floodplain communities.

3.1.3 Biodiversity

Beaver-influenced landscapes have been well documented within scientific research, with levels of biodiversity, and biomass higher within beaver landscapes compared to where they are absent (Bashinskiy, 2020; Rosell et al., 2005). Broadly, the influence of beaver activities on biodiversity includes the creation of spatial heterogeneity and habitat complexity (Bush and Wissinger, 2016) and increased diversity of plants and animals (Little, Guntenspergen and Allen, 2012).

Foraging behaviours on riparian vegetation promotes a greater increase in plant species richness (Rosell and Campbell-Palmer, 2022) and influence plant communities, succession, and plant species composition and diversity (Rosell et al., 2005). Beaver-created wetlands can also benefit both vertebrate and invertebrate species richness and diversity, creating higher habitat diversity (Rosell and Campbell-Palmer, 2022). Notable benefits to biodiversity include increasing invertebrate richness and diversity (Bush and Wissinger, 2016), creation of overwintering habitats and forage opportunities for fish (Kemp et al., 2012; Malison et al., 2014; Pollock, Heim and Werner, 2003), increasing amphibian abundance and species richness (Romansic et al., 2021; Semlitsch and Bodie, 2003; Stevens, Paszkowski and Foote, 2007), increased reptile diversity (Russell et al., 1999), positive increases on the diversity, density, and abundance of bird species (Nummi, Arzel and Sauramo, 2021; Nummi and Holopainen, 2014; Rosell et al., 2005) and mammals (Nummi et al., 2011; Nummi et al., 2019; Tye et al., 2021).

3.1.4 Summary of Ecological Benefits Attributed to Beaver Activities

The following table provides a broad summary of the ecological benefits associated with beaver damming, foraging, and building.

Table 3-3. Summary of beaver activities and the benefits to ecological functions, plants, and animals, adapted from Rosell and Campbell-Palmer (2022).

Area	Beaver Activities		
	Burrowing/Building	Foraging	Damming
Hydrology and Biochemistry	<ul style="list-style-type: none"> Add sediment and nutrients to watercourses. Provide debris accumulation/infilling. 	<ul style="list-style-type: none"> Alters organic materials. Increases leaf litter/detritus in watercourses. Fallen wood influences nutrient cycles. Can create anerobic zones in ponds. 	<ul style="list-style-type: none"> Ponds recharge groundwater. Dams trap sediment, contaminants, and pollutants, improving water quality. Dams provide more sustained flows year-round, increasing water storage and attenuating flows. Supplement low stream flows during dry periods. Provides groundwater increase and storage and cooler groundwater released downstream of dams. Provide open-water source for other wildlife and livestock.
Wetlands	<ul style="list-style-type: none"> Create, enhance, and maintain wetland habitats, increasing complexity and biodiversity. Provide habitat for rare species. 	<ul style="list-style-type: none"> Create, enhance, and maintain wetland habitats, increasing complexity and biodiversity. 	
Plants	<ul style="list-style-type: none"> Dredged and newly exposed sediment provides new ground for colonization. 	<ul style="list-style-type: none"> Promotes growth of riparian vegetation. Creates a mosaic microhabitat structure. 	Promotes growth of aquatic, semi-emergent, and riparian vegetation.
Invertebrates	<ul style="list-style-type: none"> Additional woody debris creates shelter and feeding opportunities and increases microhabitats for higher biodiversity. 	<ul style="list-style-type: none"> Creates habitats. Generates dead wood for feeding. 	<ul style="list-style-type: none"> Ponds provide more stable habitats. Creates drought-resistant refuges.

Table 5. (Con't).

Area	Beaver Activities		
	Burrowing/Building	Foraging	Damming
Fish	<ul style="list-style-type: none"> Creates new habitats and connectivity between waterbodies. 	<ul style="list-style-type: none"> Addition of plant material into the watercourse provides biodiversity and microhabitats, including shelter and foraging opportunities. 	<ul style="list-style-type: none"> Improves habitat quality. Increases invertebrate and other prey abundance. Dams not a barrier to native fish passage. Ponds provide overwintering habitat. Downstream of dams provide sediment and free spawning habitat.
Amphibians	<ul style="list-style-type: none"> Burrowing creates spawning habitats. Lodges, dams, and burrows provide habitat for larval food production, shelter, predator avoidance and hibernation. Beaver-dug channels aid in dispersal and connectivity. 	<ul style="list-style-type: none"> Submerged vegetation and increased woody debris provide shelter and predator avoidance. Tree felling creates sunlight corridors for dispersal, reduces habitat fragmentation, and increased habitat for open-land species. 	<ul style="list-style-type: none"> Creates new ponds in previously dry areas. Increases the size, number, and diversity of lentic zones. Increases pond productivity.
Reptiles	<ul style="list-style-type: none"> Lodges, dams, and burrows provide habitat for feeding, basking, shelter, predator avoidance and hibernation. 	<ul style="list-style-type: none"> Felled trees provide habitat for feeding, basking, shelter, predator avoidance, and hibernation. Dead wood provides habitat for prey. 	<ul style="list-style-type: none"> Habitat changes provides foraging opportunities.
Birds	<ul style="list-style-type: none"> Disturbance can expose foraging opportunities. 	<ul style="list-style-type: none"> Increases plant diversity and promotes riparian communities. Increases density of breeding opportunities. Felled trees provide habitat for feeding, shelter, predator avoidance and hibernation. Dead wood provides habitat for prey. 	<ul style="list-style-type: none"> Habitat for prey. Ponds provide more stable habitats. Creates drought-resistant refuges.

Table 5. (Con't).

Area	Beaver Activities		
	Burrowing/Building	Foraging	Damming
Mammals	<ul style="list-style-type: none"> Lodges, dams, and burrows provide habitat for feeding, basking, shelter, predator avoidance and hibernation. 	<ul style="list-style-type: none"> Increases plant diversity and promotes riparian communities. Increases plant biomass. Felled trees provide habitat for feeding, shelter, predator avoidance and hibernation. Dead wood provides habitat for prey. 	<ul style="list-style-type: none"> Ponds provide more stable habitats. Creates drought-resistant refuges.

3.2 Adverse Interactions

Beavers alter their environment by constructing dams on streams (Touihri et al., 2017). While these activities provide benefits, they can also create conflict with human activities. This is especially true in urban centres, where the concentration of habitat increases the interactions with humans (Soulsbury and White, 2015). Conflicts with wildlife typically arise when there is a real or perceived impact on human infrastructure (Goodale, Parsons and Sherren, 2015), rarely occurs randomly (Nyhus, 2016), and arises where interactions with wildlife, real or perceived, threaten human safety, health, food, and property (Nyhus, 2016; Peterson et al., 2010; Treves and Santiago-Avila, 2020). For beavers, conflict is commonly associated with flooding and tree felling (Pollock et al., 2023). Within the urban environment, conflict is strongly associated with a gradient of urbanization, with the highest occurrences of conflict occurring within the suburban environments (Soulsbury and White, 2015). While there is a noted benefit of beavers to ecosystems, it is important to acknowledge that costs (i.e., impacts) are often accrued by small groups of individuals (Brazier et al., 2020; Thompson et al., 2020). Positive gains associated with beavers in the urban environment arise when the ecosystem services of beavers are integrated while the impacts are constrained (Thompson et al., 2020).

3.3 Urban Beaver Management

Urban beaver management, is a multi-faceted approach comprised of social, cultural, economic and political influences and ecological components (McCance et al., 2017). Wildlife management has been defined as “the guidance of decision-making processes and implementation of practices to influence interactions among people and between people, wildlife, and wildlife habitat, to achieve impacts valued by stakeholders” (Decker, Riley and Siemer, 2012). Within the urban environment, wildlife management, including beavers, has been viewed as the management or control of animal damage (McCance et al., 2017), and this viewpoint is pervasive in contemporary management strategies.

Urban beaver management is complicated by the secondary effects of urbanization, notably the loss of predation risk (Robins et al., 2019). Within rural and remote regions, beaver populations are predated by wolves, upwards of 42 % (Gable and Windels, 2018) and the reduction of predator pressures, including population management, can have a profound effect on beaver populations (Bailey, Dittbrenner and Yocom, 2018; DeStefano and Deblinger, 2005).

3.3.1 Perceptions of Beaver Management

The management of urban beavers becomes notably complicated in an urban environment, particularly with the shift in the public mindset towards wildlife management, from a traditional focus (i.e., population management) towards a mutualistic (i.e., coexistence) focus (Manfredo et al., 2020a; Manfredo et al., 2020b). This has generally resulted in lethal management seen as an unacceptable management approach (Morzillo and Needham, 2015; Whittaker, Vaske and Manfredo, 2006). Nevertheless, people that are impacted by beavers have a decreasing tolerance with increasing densities (Siemer, Decker and Organ, 2013). Likewise, as population management in urban areas (i.e., trapping) is reduced, beaver populations can grow exponentially (Bailey, Dittbrenner and Yocom, 2018; DeStefano and Deblinger, 2005). With the increasing pressures arising from public viewpoints and the expected potential for adverse impacts within the urban environment, there is a need to develop better proactive planning strategies and management approaches that minimize impacts and encourage a stronger balance between humans and beavers.

3.3.2 Approaches to Impact Management

Beaver activities often conflict with human infrastructure, including culverts, trails, roads, railways, aircraft runways (Curtis and Jensen, 2004; Hood, Manaloor and Dzioba, 2017; Taylor and Singleton, 2014; Touihri et al., 2017), agricultural crops, trees, and property (Baker and Hill, 2003), often necessitating management strategies. Within the urban landscape, beaver management is commonly associated with solving the problems associated with poor decision making (McCance et al., 2017), predominately associated with the design and placement of urban infrastructure. Adverse impacts associated with beaver activities are generally associated with flooding resulting from dam construction and elevated water levels and impacts to infrastructure attributed to tree felling (Table 3-4; Mckinstry, 1999; Pollock et al., 2023).

As the views of traditional wildlife management are shifting away from the acceptance of lethal management approaches and towards coexistence, many non-lethal mitigative strategies have been developed to address the impacts associated with beavers and include flow conveyance devices and fencing (Hood, Manaloor and Dzioba, 2017; Pollock et al., 2023; Taylor and Singleton, 2014).

Table 3-4. Identified adverse interactions and risks associated with beaver-related activities within the urban landscape.

Activity	Impact	Risk	Non-Lethal Mitigative Measures
Dam construction	Ponding and blocked culverts	Flooding potential of agricultural fields and infrastructure ^[1] , roads and buildings, ^[2] impede irrigation infrastructure, ^[3] impede fish access, ^[2] block culverts, ^[4] decreased capacity for stormwater detention facilities, destabilize railway ballast.	Culvert protection fencing ^{[5][6]} Pond levelling devices ^{[5][6][7]} Appropriately sized culverts ^[6]
Tree cutting and felling	Removal of ornamental and fruit orchard trees	Trees falling onto infrastructure (e.g., buildings, roads and railways) ^[8]	Wire mesh caging ^[6] Riparian fencing ^[6] Paint and sand mixture ^[6]
Digging canals and burrows	Burrowing into dikes and flood protection structures	Excavated burrows can lead to failure of flood protection works ^[9]	Buried wire mesh ^[9] Vegetation management ^[9]

^[1] Yarmey and Hood, 2020; ^[2] Collen and Gibson, 2001; ^[3] Charnley et al., 2020; ^[4] Curtis and Jensen, 2004; ^[5] Taylor and Singleton, 2014; ^[6] Pollock et al., 2023; ^[7] Hood, Manaloor and Dzioba, 2017; ^[8] Wróbel and Krysztofiak-Kaniewska, 2020; ^[9] Paşca et al., 2019

While approaches such as those identified in Table 3-4 are routinely used to mitigate the impacts of beavers and promote greater coexistence, the reality is that these continue to focus on the symptoms and not the cause of conflict within urban areas. In many ways, we are at a transitional point between the traditional guiding principles of wildlife conservation, specifically the management of populations through harvest (e.g., hunting and lethal trapping) and the protection or enhancement of habitats (McCance et al., 2017; Wittmann et al., 1998), and the sociocultural shift in values towards coexistence and mutualism (Manfredo et al., 2020a; Manfredo et al., 2020b). Shifting from a mindset of management and impact mitigation to facilitating the reintegration of beavers into the urban landscape can benefit the urban environment (Auster, Barr and Brazier, 2020) and minimize long-term management costs (Hood, Manaloor and Dzioba, 2017).

4 Impact Management Strategies

Numerous strategies are available for the management of beaver and resolving conflict within their infrastructure. Management strategies range from taking no action (acceptance and monitoring), passively management and habitat modifications, to relocation and lethal management. Each of these management strategies are briefly described in the sections below.

4.1 Acceptance and Monitoring

In areas where no adverse effects are currently observed or anticipated, beaver activities should be monitored. Activities are recorded in GIS mapping and observation logs.

4.2 Passive Management

Passive management refers to the implementation of impact management strategies to alleviate impacts associated with beaver activities, while promoting co-existence with the species.

4.2.1 Tree Protection

In areas where the felling of trees by beavers is not desired, or threatens public safety, trees and shrubs should be protect from gnawing and felling by wrapping the tree with a welded wire mesh fence around the stem of the tree or shrubs. This co-existence strategy has been used extensively throughout the Nose Creek corridor and is considered effective. The use of wire mesh to protect trees does require periodic maintenance and ongoing monitoring to ensure that the mitigation measures remain effective. For effective tree protection, caging should consist of the following:

- The gauge of the wire used to construct the fencing should be 14 gauge or heavier to balance between longevity and flexibility.
- Mesh size should be 6 x 6 inches or smaller.
- The cage should be 1 to 2 feet (30 to 60 cm) in diameter larger than the tree trunk, so that beaver is not able to contact the tree. For newly planted trees and young trees a wider 18-inch (45 cm) gap should be used.
- The cage should extend 3 to 4 feet (90 to 120 m) above the ground or, in colder climates, above the anticipated snow line.
- Wire fencing can be used to encircle multiple trees.
- Cages should be securely anchored to the ground, utilizing wooden stakes (e.g., 1x2x24 inch wood stakes woven into mesh) or t-posts.
- For clusters of shrubs, encircle priority area with single, larger diameter fence as needed.
- Cages require monitoring, maintenance, removal, and reinstallation as trees grow.

4.2.2 Exclusion Fencing

Exclusionary fencing can be utilized to prevent beavers from accessing upland areas. While designed primarily for the captive management of beavers in the U.K., Campbell-Palmer et al. (2013) have developed guidelines for the construction of exclusion fencing intended for the management of beaver access. These guidelines include the following elements:

- Fencing posts should be lengths of ~ 2 m (8 feet) or greater and placed outside (away from the water) of the fencing. Posts are to be set roughly 90 cm (3 feet) into the ground with a minimum of 1.2 m (4 feet) above the ground.
- Fencing must be constructed with two components, the above ground fencing and buried skirting to discourage burrowing.
 - The above ground fencing is to be constructed of heavy gauge (e.g., 4- or 6-gauge) wire with 2-inch mesh opening and is connected to each post to the top of the fence (~ 1.2 m).
 - The “anti-digging” skirting, constructed of 1-inch welded wire mesh, is attached at the base of the fence, with approximately 30 cm (12 inches) secured to the above ground fence, and 90 cm (3 feet) extending towards the water. This skirting can be buried into the ground or top-dressed with topsoil for better aesthetics.

In some circumstances, soils that are wet or peaty, an additional trenched fence panel can be installed to prevent beavers from burrowing under the exclusion fence. The fence is to be placed within

- Access gates can be installed as necessary along the fencing to facilitate access. These gates should be constructed with self-closing springs to ensure that gates are not inadvertently left open.



Figure 4-1. Example of exclusion fencing with skirting to discourage digging (left, from Campbell-Palmer et al., 2013) and trenched fencing, prior to backfilling and installation of fence skirting (right, from <https://www.sanctusltd.co.uk/>)

4.2.3 Barriers to Limit Burrowing

Burrowing activities associated with beavers can create weaknesses in streambanks, undermine flood control structures (i.e., dikes), can contribute to the presence of sinkholes, which can damage public and private infrastructure. Approaches to limiting the impacts of burrowing involve either the creation of a hardened surface (e.g., rip-rap) or the installation of vertical barrier to prevent upslope burrowing.

For the application of rip-rap bank protection, Rosell and Campbell-Palmer (2022) suggest the following:

- Rip-rap barriers are to be constructed of medium or coarse stone.
- The barrier is to be constructed to a depth of 400 mm.
- Galvanized welded wire mesh can be placed between the ground and the rip-rap to provide an additional layer of protection.
- The barrier must extend well below the waterline to prevent beavers from extending burrows from below the point of protection.

Where the placement of riprap is not feasible, or is incongruent with land uses, aesthetics, or aquatic habitat values, buried vertical barriers may be preferred. Paşca et al. (2019) evaluated several methods for preventing burrowing associated with beavers, including rip-rap, repellants, steel piles, buried wire mesh, vegetation

management, and electric fences, and suggests that the use of either a galvanized metal mesh fencing or fiberglass nets were effective in discouraging burrowing by beavers. Specifications for the trenched wire mesh were:

- The barrier is to be constructed of a galvanized wire mesh, with a minimum wire thickness of 13-gauge, or fiberglass nets, with a minimum thickness of 8 mm. Both the welded site and fiberglass netting is to have a mesh opening of no more than 4 x 4".
- The barrier is to be trenched to a minimum depth of 1.2 m (4 feet) below the surface of the ground, with a preference towards depth of ~1.5 to 1.7 m (5 to 6 feet).
- The excavated materials are to be carefully compacted to protect the integrity of the mesh.

4.2.4 Vegetation Modification

Where beavers are not anticipated to be an issue with infrastructure, pockets of suitable forage plants can be either maintained or established to reduce pressures within areas where beaver foraging impacts are not desired. The establishment of supplemental diversionary forage assists in preventing damage to valued trees and encourages beavers to make use of the supplemental planted materials rather than cutting down valued trees. Avoidance of planting high-valued tree species, such as aspens, which are preferred forage species for beavers will also assist in limiting the impacts of planted trees.

4.2.5 Dam Breaching and Removal

Dam breaching should occur only under two general scenarios. The first is when there is a risk of upstream flooding resulting from water impoundment behind the dam. Beavers will rapidly repair damage to dams to maintain upstream water depths, and therefore, dam breaching to alleviate upstream water impoundment should only be seen as a short-term approach to alleviate immediate risk to property or infrastructure. The second scenario is where a site has been abandoned, but the remaining dams and associated water impoundment are continuing to represent unacceptable risk to infrastructure. In these instances, dams should only be breached such that the risk to infrastructure is removed, while aiming to retain the ecological benefits associated with beaver ponds.

All beaver dam removals are to be done in manner that reduced the impact to downstream fish populations (i.e., limiting sediment plumes) and at staged high drops (e.g., 20 cm / 6-inch drop in pond height over 20 minutes). All provincial and federal legislation and guidelines, such as Fisheries and Oceans Canada's code of practice: Beaver dam breaching and removal and the provincial *Wildlife Act*, are to be followed.

4.2.6 Culvert Protection

Culverts represents a point of high probability of damming as these represent flow constructions which are easily dammed and require less energetic costs. Tremblay, Valeria and Imbeau (2017) suggest that the probability of dam presence with road crossing culverts is greater than 50%. Impacts associated with beavers and culverts can be managed through a range of different techniques including both commercially build devices (e.g., Beavercone™, Beaverstop™, and Beaver-proof addon). Culvert fencing, constructed of heavy gauge welded wire fencing can be constructed to isolate the culvert and either discourage beavers from damming, as is the

case with trapezoidal beaver fencing, where a long (≥ 12 feet, 3.6 m) exclusion fence is installed above the culvert intake to exclude beavers and discourage damming.



Figure 4-2. Examples of commercially available culvert protection, Beaver Stop (top-left, photo: armtec.com), Beavercone (top-right, photo: beavercone.com), beaverproof add-on (bottom-left, photo: beaverproofaddon.com) and trapezoidal culvert fencing (bottom-right, photo: beaversolution.com)

4.2.7 Flow Conveyance Devices

Where water impoundment arising from beaver dams are not considered a risk to infrastructure, but where pond levels should not rise above a certain threshold, flexible pond levellers can be installed. These devices consist of a pipe placed through the dam at a desired elevation and extends upstream with a wire mesh cage to protect the intake. Each pond leveller must be designed in a manner that best fits the site, but generally is constructed of the following:

- 40 feet (12 m) of 12" or 15" doublewalled HDPE pipe.
- Intake caging is constructed of 6-gauge welded wire mesh, with a 6" x 6" mesh opening or smaller.
- T-posts to anchor the pipe to the bed of the pond or stream.

Pond levellers do require bi-annual monitoring and periodic cleaning might be necessary to clear the cage of obstructions.

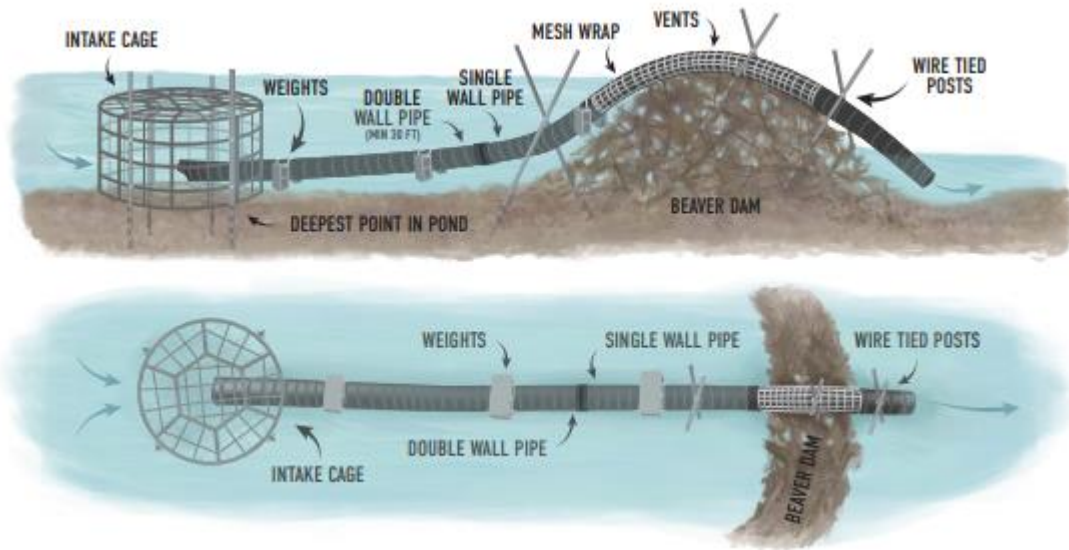


Figure 4-3. An example of a flexible pond leveller. Image from Shockey (2023).

4.3 Active Management

4.3.1 Relocation

Relocation involves the trapping and movement of beavers from the site of conflict to areas where they can be released and colonize new habitats, that are not in conflict with human uses.

Beaver relocations are not always successful, and often see beavers move from the release site, with movements off-site often occurring following release (McKinstry and Anderson, 2002; Petro, Taylor and Sanchez, 2015). Relocated beavers will routinely move some distance away from the release site, ranging from 3.3 km (Petro, Taylor and Sanchez, 2015) to distance greater than 10 km. Survival rates of released beavers have been reported at around 50 % (McKinstry and Anderson, 2002). Beaver relocations are further complicated by regulatory restrictions and may not be viewed as a feasible management strategy.

4.3.2 Lethal Removal

In instances where repeated habitat modification and management techniques have not been successful, lethal removal might be appropriate. If removed beaver are in a pipe or other item of infrastructure, use measures to prevent re-entry by other beavers, if possible.

5 Assessment Methodology

5.1 Desktop Analysis

5.1.1 Beaver Occupancy Potential

To assess the potential for beavers to colonize other areas within the Nose Creek corridor, the beaver intrinsic potential (BIP) model developed by Dittbrenner et al. (2018) was utilized to evaluate the Nose Creek Corridor for beaver occupancy potential (Table 5-1). To support the analysis of Nose Creek and its intrinsic potential for supporting beaver populations, the creek was divided into 200 m segments to provide a finer detail in areas that could have the potential to support beaver populations. Light detection and ranging (LiDAR) data captured in 2022, provided by the city was analyzed and converted into a digital elevation model (DEM) to support the determination of average slopes of Nose Creek. Channel widths associated with Nose Creek were calculated through XToolsPro 22 and averaged to apply the appropriate scoring. All spatial analysis was completed using ArcGIS Pro 3.1.1 (Environmental Systems Research Institute, Inc. (ESRI), Redland, CA).

Table 5-1. Scoring criteria for the beaver intrinsic potential (BIP) model, from Dittbrenner et al. (2018).

Stream Slope		Stream Width		Valley Width		Cumulative Score	Adjusted Score	Categories
Slope Category	Score	Average Width	Score	Average Width	Score			
< 1 %	4	< 7 m	4	> 30 m	4	11-12	3	High
< 2 %	3	< 10 m	3	< 30 m	2	10-11	2	Medium
< 4 %	2	< 18 m	2	< 20 m	0	8-10	1	Low
< 6 %	1	< 24 m	1			< 8	0	None
< 10 %	0.5	> 24 m	0					
> 10 %	0							

5.1.2 Habitat Availability

To evaluate the long-term sustainability of beavers presently residing within the Nose Creek corridor, specifically within the Summerhill and Waterstone neighbourhoods, recent (2022) aerial imagery was reviewed to determine the footprint of development and encroachment into core foraging habitats for beavers. Habitat was divided into two classes, including core habitat where the bulk of foraging typically occurs (10 m, Severud et al., 2013b) and secondary habitat within 50 m of aquatic habitat where upwards of 95% of foraging occurs (Gallant et al., 2004; Hood, 2020; Stoffyn-Egli and Willison, 2011).

5.2 Field Assessment

Field assessments were undertaken between April 19 and 22, 2023, and focussed on several areas. Within the Nose Creek corridor, assessments were undertaken within the Waterstone-Summerhill Area located between Yankee Boulevard and Main Street, North of Main Street (North Area) including the Edgewater, Ridgeway Downtown, Willowbrook, Silver Creek and Williamstown neighbourhoods, and south of Yankee Boulevard (South Area), including the Sierra Springs and South Point neighbourhoods. Assessed stormwater infrastructure included:

- Bayside Stormwater Retention Ponds

- Willow Stormwater Retention Pond
- Jarvis' Stormwater Retention Pond
- King's Height Stormwater Retention Pond
- Southwinds Stormwater Retention Pond
- Chinook Stormwater Retention Pond
- Sagewood Stormwater Retention Pond
- Reunion Stormwater Retention Pond
- East Lake



Figure 5-1. Overview of the assessed areas within the Nose Creek corridor and peripheral stormwater infrastructure.

The focus of the field assessment was to:

- (1) support the evaluation of the Waterstone-Summerhill Area and whether beaver populations can be sustained.
- (2) to identify areas within the North and South Areas of the Nose Creek corridor where beaver colonies can be established and maintained.
- (3) to assess the stormwater retention ponds to inform population and risk management.

- (4) To evaluate existing beaver mitigation strategies.

5.2.1 Population Viability Assessment

The viability of beavers within the Nose Creek corridor focussed on the availability of quality forage, the availability of upland foraging habitat, the presence of aquatic vegetation, and the inventory of lodge structures indicating activity (i.e., the presence of food caches, evidence of active dam maintenance).

5.2.2 Evaluation of Existing Mitigation Strategies

The Nose Creek corridor was visually observed to evaluate materials used and installation techniques. Observed mitigation strategies were evaluated against both best management practices (e.g.) and professional expertise.

5.2.3 Stormwater Infrastructure

The stormwater infrastructure was reviewed to assess the broad suitability of the sites to accommodate beaver populations and identify the potential risk associated with beaver occupancy. Two stormwater retention ponds were identified as priority sites, including Cooper's Crossing and the Bayside Channels.

6 Results

6.1 Occupancy Potential

Analysis of the BIP model indicates that within the Nose Creek corridor habitat was rated as having low potential (8000 m, 50%), moderate potential (4987 m, 31%) and no potential (3153 m, 19%). Overall, the Nose Creek corridor contains upwards of 81% of habitat, based on geomorphological features alone, that can support beaver occupancy.

6.2 Population Distribution and Occupancy

Field assessment of the Nose Creek corridor identified three bank lodge structures. Based on the observation of activity associated with each of the identified lodges, it is probable that two active populations are present within the Nose Creek corridor. Within the Nose Creek Regional Park, signs of lodge maintenance and repair (i.e., recent evidence of mud packing) was present. South of Yankee Boulevard, within Sierra Springs, evidence of recent forage (e.g., downed tree and clippings of sandbar willow) was observed within proximity to an existing bank lodge structure on the left bank. While no evidence of ledge maintenance was observed, the proximity of the lodge to recent foraging activities is suggestive of an active colony. Within the Waterstone-Summerhill area, a single bank lodge structure was noted on the left bank, close to Yankee Boulevard. No evidence of active foraging or lodge maintenance or repair was noted. It is likely that the lodge is not currently being utilized.

The two active lodges observed within the Nose Creek corridor are distributed across 2.6 kilometers of stream habitat, and linear separation between the three observed lodge structures are 1300 m between BL2 and BL1, and 1245 m between BL1 and BL3.



Figure 6-1. Observed lodges along the Nose Creek corridor. Bank lodge within the Waterstone-Summerhill Area (top-left), within the Nose Creek Regional Park (top-right), and within the southern area (Sierra Springs, bottom-left).

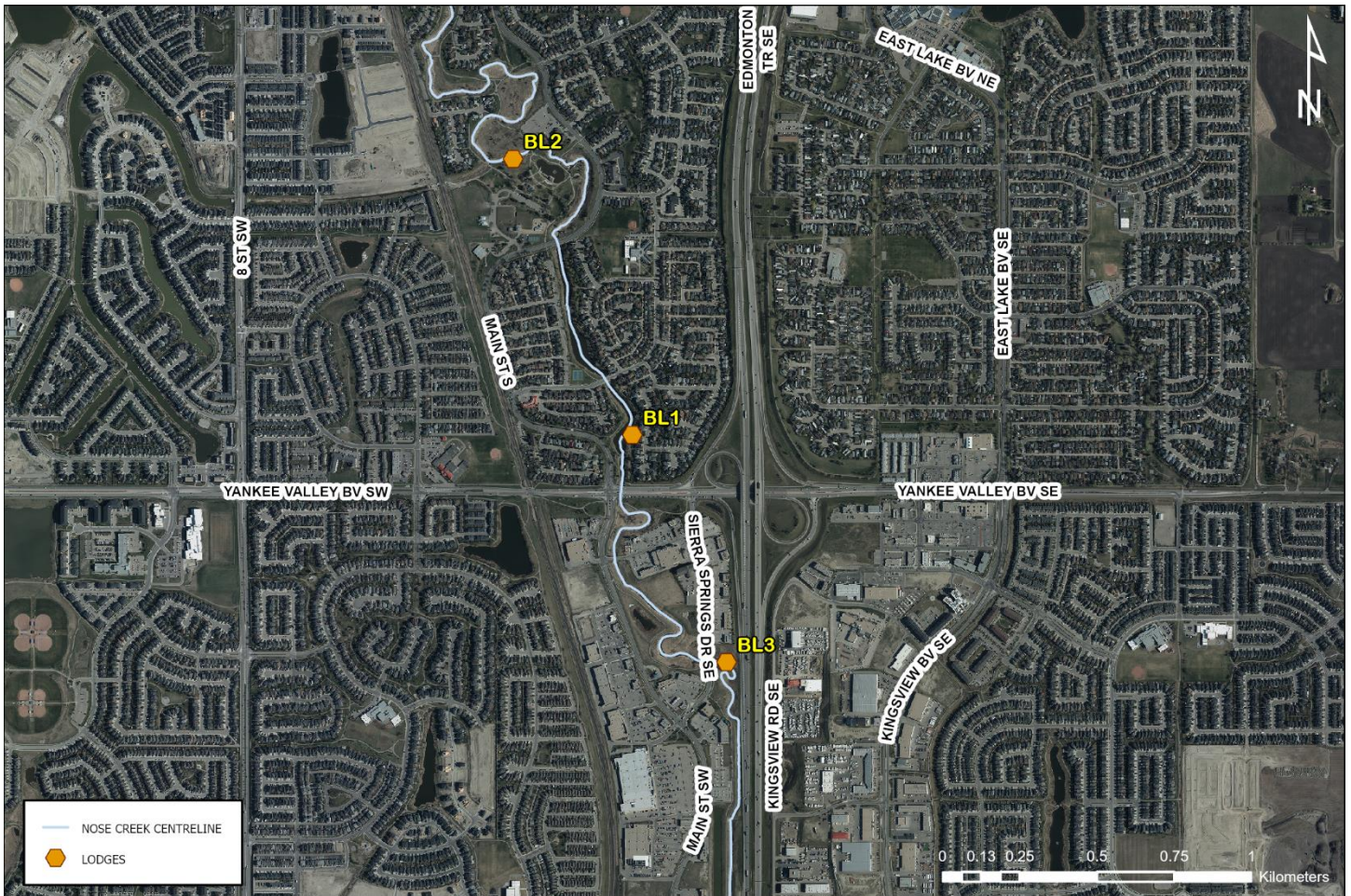


Figure 6-2. Distribution of observed lodges within the Nose Creek corridor, generally concentrated around the Waterstone-Summerhill Area.

6.3 Waterstone-Summerhill Area

6.3.1 Occupancy

As indicated within Section 6.2, field observations made do not support the current presence of beavers within the Waterstone-Summerhill Area. This assertion is based on the several variables, including the absence of active lodge maintenance, the absence of recent foraging activities and the absence of a food cache associated with the lodge structure. Notwithstanding, the presence of the lodge structure and deep-water pools are suitable for beavers, and it is probable that the area can, and will, be occupied in the future.

6.3.2 Foraging Impacts

Historic foraging impacts were noted throughout the Waterstone-Summerhill Area; however, recent foraging activities was not present during field assessments. Foraging opportunities are limit as most of the trees within the greenway are wrapped. Aquatic and emergent vegetation, which are routinely utilized as forage, were not observed in high abundance, which suggests limited foraging opportunities present within the area.

6.3.3 Damming Impacts

No evidence of damming, historical or contemporary were observed within Waterstone-Summerhill Area. However, damming within this area is restricted due to several variables, including (1) the presence of channel-spanning rock weirs which has created permanent upstream ponds with water depths expected to be greater than 0.7 m. and (2) woody material for damming is not readily available to construct dam structures.



Figure 6-3. Overview photos of the rock weir structures within the Waterstone-Summerhill Area that have created deepwater pools within Nose Creek.

6.4 Nose Creek Corridor – North Area

6.4.1 Occupancy

Beaver activity was noted within the Nose Creek Regional Park, within the vicinity of the Airdrie Pond, notably lodge repair and maintenance and intact dams. Observations of the lodge are suggestive of a burrow lodge, or a newly constructed lodge structure. Furthermore, a review of aerial imagery suggests that beaver dams have been present within the site since 2015, indicating that beaver are, and have been active within the Nose Creek Regional Park. Beyond the boundaries of the Nose Creek Regional Park no evidence of beaver occupancy was observed.

6.4.2 Foraging Impacts

No present year foraging on woody materials was observed within the entire northern area. The absence of observable forage is attributed to two factors, (1) the extensive tree wrapping that has occurred within the northern area is largely precluding forage availability and (2) beavers may be focussing foraging on aquatic plants (e.g., cattails).

6.4.3 Damming Impacts

Three minor dams were observed within the vicinity of the observed lodge structure, with two of the three dams damaged and not impounding water. Water impoundment by the one intact dam was minimal (< 50 cm) and was contained within the streambank width of Nose Creek.



Figure 6-4. Overview photos of the two dams observed adjacent to the observed lodge in the Nose Creek Regional Park.

6.5 Nose Creek Corridor – South Area

6.5.1 Occupancy

Field assessments identified the presence of beavers within the Sierra Springs neighbourhood, downstream of where Sierra Springs Drive SE crosses Nose Creek. No food cache was observed associated with the dam, which would typically indicate beaver occupancy, however, given evidence of recent foraging activities downstream of the lodge, it is believed that the lodge is active.

6.5.2 Foraging Impacts

Foraging activity within the southern area of the Nose Creek corridor exhibited the highest occurrence of recent forage. Cuttings of sandbar willow (*Salix interior*) was the most common woody species taken within the area and was generally restricted to approximately 350 m downstream of the lodge structure.

6.5.3 Damming Impacts

Observations of the Nose Creek corridor throughout the southern area failed to identify any active or historical dam structures within the creek.

6.6 Stormwater Infrastructure

6.6.1 Occupancy

A review of the assessed stormwater infrastructure did not result in the identification of any historical or contemporary evidence of beaver occupancy. Except for the Bayside Retention Ponds, none of the stormwater retention ponds assessed were hydrologically connected by surface water flows to Nose Creek. Historical observations of beavers, based on forage impacts, were noted within the Bayside Retention Ponds, however no evidence of permanent occupancy (i.e., burrows or bank lodges were observed). For the remaining stormwater

ponds, no evidence of beaver occupancy (contemporary or historical) was observed. Limited opportunities for lodge establishment were observed within any of the stormwater facilities.

6.6.2 Foraging Impacts

Foraging impacts were limited to the Bayside Retention Ponds, with some limited evidence of historical browsing notes. Tree wrapping, particularly within the new build sections of Bayside, was extensive, limiting both the potential for foraging impacts and the availability of forage for beavers.

6.6.3 Damming Impacts

No evidence of recent or historical dams were observed within any of the assessed stormwater retention ponds.

7 Discussion

7.1 Waterstone-Summerhill Area Population Viability

7.1.1 Habitat Occupancy and Suitability

Field assessments did not identify evidence of current habitat occupancy by beavers within the Waterstone-Summerhill Area; however, the occurrence of the intact bank lodge and constructed rock weirs within Nose Creek provides suitable and stable deep-water habitat for beavers. Recurring habitat occupancy is closely tied to the presence of both suitable geomorphologic features (i.e., stream width, stream depth, stream gradient, valley floor width, bank slope, bank height, and flow velocity) and forage availability. Impact mitigation strategies (tree wrapping) has been extensively employed throughout the Waterstone-Summerhill Area. While on one hand, this is a recommended method for preventing tree loss, the near complete employment of this strategy has limited the foraging opportunities and may restrict the long-term occupancy potential of the site.

The population of beavers within the Waterstone-Summerhill Area is highly influenced by anthropogenic activities, including both permanent developments and recreational uses. Settlement locations subject to high human disturbances often do not support long-term settlement of beaver colonies (Rosell and Campbell-Palmer, 2022). Beaver occupancy within the Waterstone-Summerhill Area is anticipated to be driven primarily by both (1) transient dispersers and (2) short-term colonies. This assertion is influenced by both the availability of habitat and availability of forage, discussed further below.

7.1.1.1 Habitat Availability

In undeveloped habitats, beavers typically utilize upslope habitat between 20 m to 100 m (Allen, 1983; Gallant et al., 2004; Hood, 2020; Jenkins, 1980; Johnston and Naiman, 1987; McGinley and Whitham, 1985; Salandre et al., 2017), with 95% of foraging occurs within a 50 m proximity of aquatic habitat (Gallant et al., 2004; Hood, 2020; Stoffyn-Egli and Willison, 2011).

The Waterstone-Summerhill Area is representative of a highly modified, urban landscape which has resulted in the loss of habitat available for beaver utilization. Analysis of the habitat availability suggests that within 50 m of the Nose Creek, 83% (5.8 ha) has been lost to urban infrastructure. Similarly, within the primary foraging zone (0 to 10 m), 55 % (2.1 ha) has been converted (Table 7-1). This reduction in the habitat availability is likely

contributing to wider home ranges and smaller colony densities (England and Westbrook, 2021), increased pressure on remaining forage, and increased likelihood of adverse interactions with human land uses.

Table 7-1. Calculated area of available and preferred habitat within the primary and secondary foraging zones for beavers.

Zone	Preferred Habitat	Actual Habitat Available	Difference	Percent Difference
Primary (10 m)	38361 m2	17210.2519	- 21151 m2	- 55 %
Secondary (50 m)	69741 m2	11662.02327	- 58079 m2	- 83 %

7.1.1.2 Forage Availability

Beavers require a reliable and varied source of both woody and non-woody plant species to obtain both nutritional requirements and to maintain their teeth. During spring and summer, foraging is focussed primarily on herbs, forbs, grasses and riparian and aquatic plants (Rosell and Campbell-Palmer, 2022), and shifts to woody materials during the autumn and winter where alternate food sources are not available. Within the Waterstone-Summerhill Area, suitable forage is not readily available with most woody species protected with wire fencing and smaller herbaceous plants not generally present along the banks of the creek. No evidence of substantial patches of emergent or aquatic plants were observed during field assessments.

The limited access to forage species, particularly those with high nutritional values, such as aspens (Doucet and Fryxell, 1993), will likely limit long-term suitability for sustaining a stable beaver population. It is likely that, in its present condition, the Waterstone-Summerhill Area will continue to experience occupancy by both transient dispersers and short-term occupancy, and it is likely that the area will experience higher rates of abandonment and re-colonization. Colony establishment within suboptimal habitats tend to be more dynamic, with beavers moving within the stream overtime or completely abandoning the site (František, Shaun and Vlastimil, 2010; Howard and Larson, 1985; Scrafford et al., 2018).



Figure 7-1. Overview photo of the typical habitat conditions observed within the Waterstone-Summerhill Area

7.1.2 Risk to Public and Private Infrastructure

Given the proximity of Nose Creek to residential dwellings within the Waterstone-Summerhill Area, the primary concern communicated by the City is the desire to minimize the risk of damage and loss attributable to beavers on private property.

7.1.2.1 Tree Felling

A select number of trees within the Waterstone-Summerhill Area were measured to assess the height of trees within the greenway, and to evaluate the potential risk of tree felling on private property. On average, the mature trees, including both deciduous and coniferous species, measures 15.6 m, with many of the trees occurring within 15 m of private properties. All trees observed within proximity of private properties were wrapped with wire fencing. Beavers typically directionally fall trees, with a high proportion (83%) of trees being directionally felled towards the water, within a window of 270° to 90° (Samways et al., 2004). Furthermore, the further beavers must travel to access forage, the diameter of the tree felled is often smaller (Jenkins, 1980; Mahoney and Stella, 2020; Salandre et al., 2017), likely driven by the energetic costs associated with moving larger woody materials (Fryxell and Doucet, 1991).

Another consideration is the potential for beavers to access private property and fell trees. Field observations indicated that most of the properties within the Waterstone-Summerhill Area were behind fences or retaining walls. While beavers can burrow, these activities are not typical, and not likely to routinely occur.

Considering both the higher probability of trees being felled way from and the limited availability of trees within the greenway, the risk of tree felling and damaging private property is limited. Notwithstanding, routine monitoring and maintenance of wire wrapped trees will be integral to managing risk from tree felling.

7.1.2.2 Damming and Water Impoundment

Based on field observations, the likelihood of damming and the impoundment of water is unlikely to occur. This is based on several variables, (1) the presence of the rock weirs and their associated deep-water pools maintain water depths greater than 0.7 m, which is considered the minimum depths required for beavers (Swinnen et al., 2018), (2) Nose Creek is relatively constrained within the Waterstone-Summerhill Area with wide channel widths that limit both the opportunity to establish dams and impact upslope areas, and (3) there is a general absence of both woody material and cattail stems to construct dam structures. The risk of damming and water impoundment is considered low.

7.1.2.3 Burrowing

Burrowing has been noted as a concern, particularly with concerns over the potential for destabilisation of the banks and pathway and undermining the residential structures. Underground burrows associated with bank lodge structures can range from 0.8 to 11 m (Rosell and Campbell-Palmer, 2022); however, as the extent of the bank lodge structure is limited from the top-of-bank to the wetted perimeter of Nose Creek and it is expected that the extend of the burrowing associated with the bank lodge is limited to this area. Notwithstanding, visual observations are limited, and the true extent of burrowing can only be determined through destructive investigations.

The removal of the bank lodge has been suggested as a potential option for alleviating further burrowing activities and risks associated with the lodge structure. While the removal of the lodge may discourage immediate recolonization of habitat within the Waterstone-Summerhill Area, recolonization of habitat within the area remains likely. It also remains possible that, even following the removal of the lodge structure, that a new lodge is re-established within the same footprint of the existing lodge. There also remains the possibility that the removal of the existing bank lodge will result in the establishment of a new lodge within other areas within the Waterstone-Summerhill Area, which may perpetuate issues related to beaver burrowing, as much of the Nose Creek banks are unprotected.

One option to prevent further burrowing associated with the bank lodge structure is to install a vertical barrier into the bank to prevent burrowing past a specific point (Rosell and Campbell-Palmer, 2022). Paşca et al. (2019) evaluated several methods for preventing burrowing associated with beavers, including rip-rap, repellants, steel piles, buried wire mesh, vegetation management, and electric fences, and suggests that the use of either a galvanized metal mesh fencing (minimum 13 -gauge wire thickness) or fiberglass nets (minimum 8 mm thickness) with a maximum 4 x 4" mesh opening, buried to a depth of ~1.5 to 1.7 m (5 to 6 feet) below the surface of the ground, is effective in discouraging burrowing by beavers.

Given the vulnerability of the banks along Nose Creek within the Waterstone-Summerhill Area, the use of physical barriers to deter beaver-associated burrowing is a preferred option over lodge removals.

7.1.3 Long-term Population Viability

A key component of this assessment is to determine whether the Waterstone-Summerhill Area can sustain a long-term, stable beaver population. Analysis and observations of the Waterstone-Summerhill Area suggest that the area does present several features that are likely to support beaver populations, notably existing lodge infrastructure and rock weirs that maintain stable deep-water habitats. On the other hand, habitat availability is highly constricted, and foraging opportunities are limited, particularly given the prominence of tree wrapping and the general absence of emergent and aquatic vegetation. In its present condition, it is unlikely that the Waterstone-Summerhill Area can support a long-term beaver population and is likely to experience a higher rate of colonization and abandonment. Notwithstanding, anecdotal information provided by City staff suggests that beavers have persisted within the Nose Creek corridor for several decades. Furthermore, Ritter, Gower and McNew (2020) suggests that beavers will routinely re-colonize previously occupied habitats. Therefore, it is anticipated that the Waterstone-Summerhill Area will continue to support both transient dispersers and short-term beaver populations and is expected to continue to support beaver occupancy.

7.2 Nose Creek Corridor – North Area Population Feasibility

7.2.1 Existing Habitat Occupancy

Evidence of beaver activity within the Northern Area was generally restricted to the Nose Creek Regional Park, including aquatic and riparian habitats between Ridgeway Way Southeast and Main Street. Within this area, evidence of foraging, denning, and dam structures were observed. Most of the beaver-related infrastructure was noted within the southern half of the park, within proximity to the amphitheatre. A review of historical aerial imagery suggests that these features have been present in their current location since 2015. Observation of the lodge structure suggests recent activity, with evidence of maintenance and repair observed. No evidence of current, or historical lodge structures were observed upstream of the Nose Creek Regional Park. Based on field

observations, it is likely that beaver occupancy is generally restricted to habitat within the Nose Creek Regional Park.

7.2.2 Habitat Suitability for Long-term Occupancy

Field observations identified two areas within the northern area of the Nose Creek corridor that exhibited broad suitability for beaver presence. These areas include:

- (1) Nose Creek Regional Park
- (2) Williamstown, north of 8th Avenue Northwest and Veterans Boulevard Northwest.

BIP modelling ranked habitat within these areas as containing both low and moderate habitat potential, and field observations support the identification of these areas as suitable sites for beavers (Figure 7-2). A subjective ranking, based on field observations was undertaken to evaluate the suitability of the identified sites in supporting a long-term beaver population. Rankings, and justifications for the rankings are detailed in Table 7-2.

Given the current presence of beavers within the Nose Creek Regional Park, and the presence of beaver infrastructure, it is likely that this area will continue to provide suitable habitat for beavers. Habitat upstream contained within the inside bends of Nose Creek provide opportunities to establish supplemental “food banks” for beavers, specifically the planting of aspens and sandbar willows, to supplement resident beavers and limit the potential for adverse interactions (e.g., tree felling) adjacent to private properties. Foraging pressures within the downstream Waterstone-Summerhill Area associated with any long-term beaver populations established within the Nose Creek Regional Park is likely to be limited as beavers tend to forage upstream of their main lodge, and the forage impacts may also extent further upstream as compared to downstream, as it is easier to float woody materials downstream (Boyce, 1981).



Figure 7-2. Location of areas identified with good suitability for maintaining beaver populations while limiting adverse interactions.

Table 7-2. Assessment and suitability ranking based on professional judgement for beaver occupancy within the Northern Area of the Nose Creek corridor.

ID	Area	Suitability Ranking	Justification
1	Nose Creek Regional Park	High	<ul style="list-style-type: none"> Beaver infrastructure is already present within the site, suggestive of existing geomorphic conditions that are suitable for beaver occupancy. Higher probability of re-colonization within areas that have pre-existing beaver features. Less interactions with private properties and opportunities within the inside bends of Nose Creek to provide supplemental plantings of preferred forage species that would contribute to limiting adverse interactions.
2	Williamstown, north of 8th Avenue Northwest and Veterans Boulevard Northwest.	Moderate	<ul style="list-style-type: none"> Habitat occurs within the Williamstown Nature Reserve, where setbacks between the private residential dwellings and the wetted edge of Nose Creek is wide, ranging from 75 to > 200 m. Geomorphic features (e.g., stream widths, gradient, flows) are suitable for the establishment of beaver dams. Reduced risk of flooding attributed to beaver activities due to the wider floodplain. Higher proportion of cattails which can be utilized for foraging. Limiting variables include the absence of woody materials and higher exposure to predation risk (e.g., coyotes). No evidence of historical beaver occupancy.

7.3 Nose Creek Corridor – South Area Population Feasibility

7.3.1 Existing Habitat Occupancy

Evidence of beaver activity within the Southern Area was observed within the Sierra Springs neighbourhood, downstream of Sierra Springs Drive Southeast. A bank lodge was observed along the left bank of Nose Creek, and recent foraging of sandbar willow was noted downstream of the lodge. Beaver activity was not observed downstream of where Nose Creek becomes channelized along the western easement of the southbound lanes of Highway 2. The potential for beaver occupancy of habitat within the southern reaches of Nose Creek has been impacted by capital infrastructure development, including channel re-alignment of Nose Creek and the ongoing construction of the Highway 2 Airdrie Half Interchange (40th Avenue) overpass.



Figure 7-3. Example of observed foraging downstream of the identified bank lodge within the Southern Area of the Nose Creek Corridor.

7.3.2 Habitat Suitability for Long-term Occupancy

BIP modelling ranked habitat within Sierra Springs as both low and moderate, based solely of geomorphological features. Based on both field observations and the confirmed presence of beavers within the habitat, it is likely that the habitat will continue to support beavers. Habitat within the Sierra Springs area does exhibit good potential for the long-term establishment of beavers, notably with the presence of existing beaver infrastructure and the prevalence of suitable forage, particularly within the downstream reaches.

Table 7-3. Assessment and suitability ranking based on professional judgement for beaver occupancy within the Southern Area of the Nose Creek corridor.

ID	Area	Suitability Ranking	Justification
3	Sierra Springs	High	<ul style="list-style-type: none"> Beaver infrastructure is already present within the site, suggestive of existing geomorphic conditions that are suitable for beaver occupancy. Higher probability of re-colonization within areas that have pre-existing beaver features. Less interactions with private properties and opportunities within the inside bends of Nose Creek to provide supplemental plantings of preferred forage species that would contribute to limiting adverse interactions. Potential for establishing supplemental (diversionary) planting zones to limit beaver foraging impacts on valued trees.



Figure 7-4. Location of areas identified with good suitability for maintaining beaver populations while limiting adverse interactions within the southern area of the Nose Creek corridor.

7.4 Beaver Impacts within the Nose Creek Corridor

7.4.1 Foraging and Tree Felling

Beaver-associated impacts within the Nose Creek corridor are restricted to foraging activities (i.e., tree felling and undesired loss of both native and ornamental vegetation) and damming.

Foraging impacts were concentrated within three areas, the Nose Creek Regional Park, the Waterstone-Summerhill Area, and within Sierra Springs. No evidence of recent foraging was observed outside of these areas. Tree felling is likely to remain the primary impact associated with beaver activity. Tree felling is likely to remain the primary concern and risk to adverse impacts, as tree wrapping within the greenway is extensive. This is likely contributing to beavers travelling further away from Nose Creek to access trees, similar to observations made by England and Westbrook (2021). The limited access to forage within the city-managed greenway is likely pushing beavers to access unprotected trees within the bordering private residential properties.

While upwards of 83% of felled trees fall downslope towards the water (Samways et al., 2004), there remains an increased risk of impacts to private infrastructure (i.e., upslope felling of trees into residential dwellings and outbuildings), particularly as there will be increased forage pressures on unprotected trees within private

properties. Increased pressures on trees within private properties may also be undesirable from an aesthetics and human values perspective, as many people appreciate shading and visual aesthetics of trees on their properties.

7.4.2 Damming and Water Impoundment

Beaver damming within the Nose Creek corridor was absent within the Waterstone-Summerhill Area and the South Area. While dams were noted within the North Area, these were restricted to the Nose Creek Regional Park. As woody material is generally unavailable to beavers within the Nose Creek corridor, it is expected that many of the dams will be constructed of cattails and streambed substrates. The dam constituent material controls the probability of major damage during low flood magnitudes, with dams constructed of cattail stems exhibiting the highest likelihood of failure due to higher initial buoyancy, lowest initial strength, and fastest rates of decay (Andersen and Shafroth, 2010). Intact dams observed within the Nose Creek corridor were constructed of cattail stems, and evidence of dam failures were noted during field assessments. A review of the nearby hydrometric data for Nose Creek (Nose Creek above Airdrie, 05BH014) suggests that peak flows between 2012 and 2020 averaged of 9.41 m³/s (range between 9.017 and 9.973 m³/s). Major damage to dams constructed of cattail stems have been reported at streamflow of 5 m³/s (Andersen and Shafroth, 2010), which suggests that dams within the Nose Creek corridor are unlikely to persist as they are susceptible to major damage on a yearly basis.

While some evidence of dams constructed of woody materials were observed within the Nose Creek corridor, these were generally constructed of a higher proportion of smaller diameter twigs and cattail stems with few interspersed thicker stems. In resource-limited environments, beaver dams may not be routinely maintained and are therefore less likely to persist (Rosell et al., 2005). Based on the observed dams and the general absence of suitable woody material for dam construction, long-term damming and water impoundment is unlikely to occur.

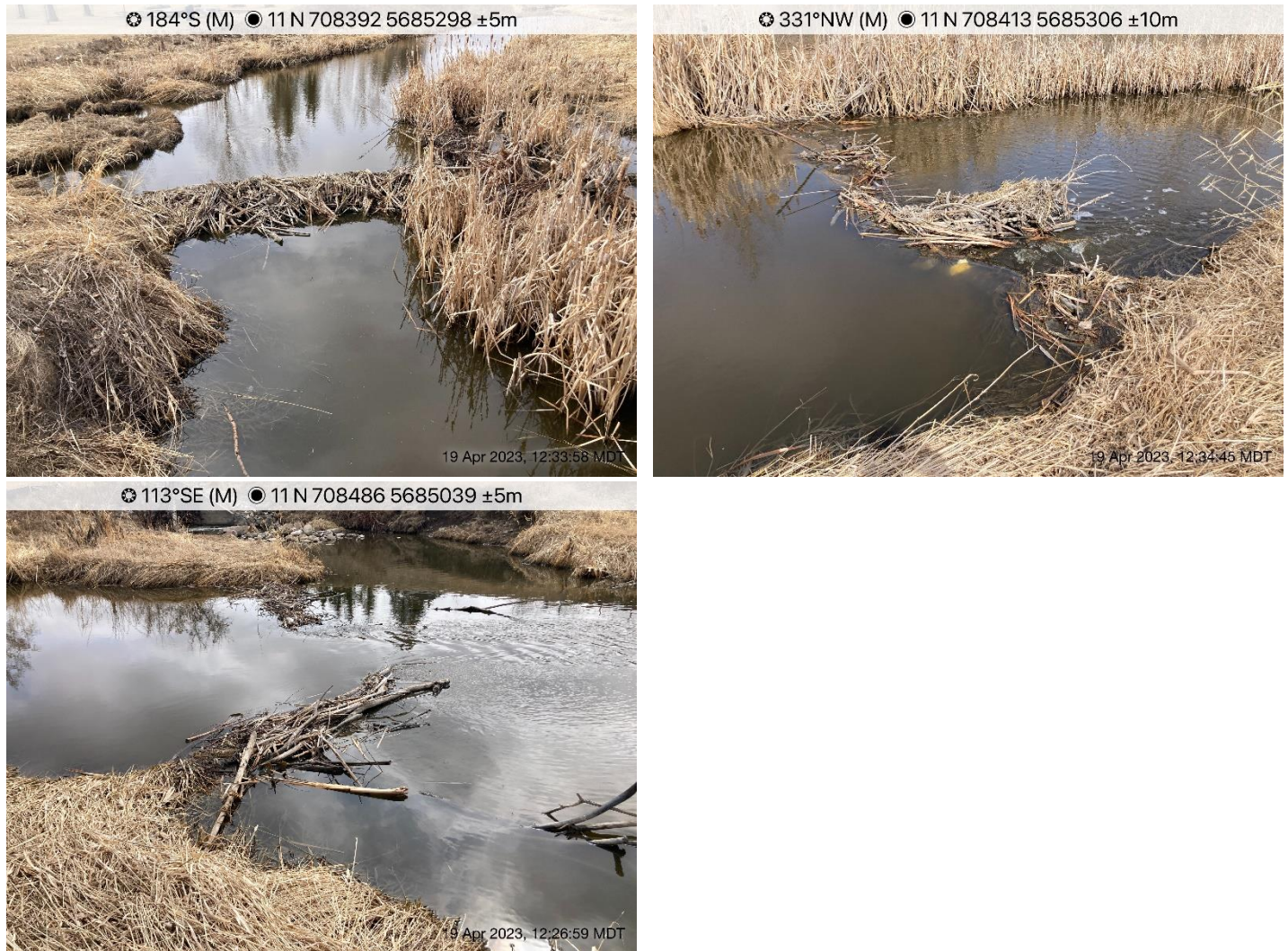


Figure 7-5. Overview photos of dam structures (active and failed) observed along the Nose Creek corridor, within the Nose Creek Regional Park.

7.4.3 Evaluation of Implemented Beaver Impact Mitigation Strategies

Beaver impact mitigation throughout the Nose Creek corridor focusses on wire wrapping valued trees. These predominately include larch, poplar, pine, spruce, and birch. Within the Waterstone-Summerhill Area, tree wrapping was extensive, with few trees within the area available for foraging. Of those that were not wrapped, the majority (40 of the 45 observed unwrapped trees) were coniferous species (larch, pine and spruce) which represent suboptimal forage.

In general, the wrapping of trees did follow best practices and utilized appropriate materials to protect the trees. These best practices, summarized by Pollock et al. (2023) include:

- Wire mesh with a reasonably heavy gauge wire (e.g., 6 gauge).
- Mesh size should be 6 x 6 inches or smaller.
- The cage should be 1 to 2 feet (30 to 60 cm) in diameter larger than the tree trunk.

- The cage should extend 3 to 4 feet (90 to 120 m) above the ground or, in colder climates, above the anticipated snow line.
- Wire fencing can be used to encircle multiple trees.

Observations of the installed wire wrapping note that most of the trees were wrapped with heavier gauge 1" x 1" galvanized welded wire fencing, 4 feet high. Additional measures to secure the caging and promote improved longevity of the mitigative measure included the use of hog rings to secure the wire fencing together and a combination of cable tethers and ground clips to anchor the caging to the ground.

A few dispersed trees were observed with finer mesh (e.g., ¼" and 2" x 4" welded wire fencing). While these were generally functional, the lighter gauge fencing may be susceptible to being compromised and the tree available to beavers. In addition to the infrequent observation of lighter gauge wire fencing, the following observations were made during the field assessments.

- Where tree branches were within 120 cm of the ground, the protective fencing was observed to be folded over. Shortening the height of the fencing may put the tree at risk of being foraged by beavers, particularly during winter and early spring where snow accumulation may allow beavers to access the upper portion of the tree trunks.
- The fencing was often wrapped close (e.g., 15 cm/6 in or less) to the trees. This can become problematic over the long-term, as it can impact the trees (e.g., trees growing into the fencing) and may not suitably exclude beavers from accessing the trees.
- Within the Sierra Springs Area, several newly planted trees were observed to be impacted by improperly supported wire fencing. Specifically, the fencing has fallen over and was preventing proper growth of the tree and the stem of the tree was accessible to beavers. To overcome this, the fencing should be supported by and secured to 2" round pencil posts or t-posts.
- Maintenance of the tree wrapping is the primary concern based on field observations, notably on trees that are multi-stemmed or that have low branches as these are readily climbable. The fencing on several trees, particularly within the Nose Creek Regional Park, were misshaped, presumably by young park users climbing the trees.



Figure 7-6. Examples of deficiencies observed with wire wrapped trees, including improper material and fence height (top-left), collapsed caging (top-right and bottom-left) and shorted fence height (bottom-right).

7.4.4 Evaluation of Existing Supplemental Feeding

Conversations with the City indicates that there is a present practice of disposing of woody material/trimmings within proximity of the beaver lodges. The continuation of this practice is dependant on the long-term objectives for beaver occupancy. As previously indicated, the Waterstone-Summerhill Area is likely to exhibit a high frequency of colonization and abandonment, and the provision of supplemental forage within this will serve to artificially prolong the presence of beavers within this area. As the Waterstone-Summerhill Area does represent an area of higher interaction between beavers and public and private infrastructure, supplemental feeding through the disposal of woody material/trimmings within this area should be discouraged.

Within the northern and southern areas, where beavers can be integrated into the landscape for long-term occupancy, the provision of supplemental woody material/trimmings can function to encourage beavers to remain within the preferred habitats, particularly if supplemental/diversionary planting has not occurred or the plants have not matured sufficiently to provide suitable forage.

7.4.5 Anticipated Future Impacts

Tree felling is expected to remain the primary impact associated with beaver activities occurring within the Nose Creek corridor. These impacts are expected to occur more within the boundaries between public and private properties given the extensive tree wrapping, notably within the Waterstone-Summerhill Area. As suggested by England and Westbrook (2021) within foraging habitat that has been extensively protected, beavers can be expected to increase forage travel distances. It is expected that beavers within the Nose Creek corridor will continue to extend foraging beyond the primary foraging zone (10 m from edge of aquatic habitat) and increase interactions along the boundary between the public greenway and private properties.

Within the South Area, several were identified as having potential to be impacted by beaver damming within the active channel of Nose Creek. Notably, several transitions between pools and riffles were observed, which do represent areas that may act as anchor points for new beaver dams. Similarly, channel realignment and instream habitat complexity features (i.e., channel restrictions) can similarly act as anchor points for new dam establishment (Figure 7-7).



Figure 7-7. Representative examples of a constructed channel restriction (left) and pool-riffle transitions which may act as an anchor point for future beaver dams.

7.4.6 Recommendations

7.4.6.1 Management of Beavers within the Waterstone-Summerhill Area

Given that beaver infrastructure is present within the Waterstone-Summerhill Area and that beavers have historically persisted within area, it is expected that beavers will persist within the area. This will likely result in increased adverse interactions within the interface between private properties and the public greenway.

- R1:** To the extent feasible, supplemental (diversionary) plantings should be established in areas where beaver activities have less potential for impacting private properties and public infrastructure. The presence of accessible and preferred plants will limit the need to encroach on the interface between private properties and the public greenway.
- R2:** Maintain and repair existing tree protection that has either been installed incorrectly or is compromised to continue to properly protect valued trees.

7.4.6.2 *Establishment of Beaver Colonies within the Northern and Southern Areas*

As with the Waterstone-Summerhill Area, beavers are expected to occupy suitable habitats within both the northern and southern areas of the Nose Creek corridor, notably within the Nose Creek Regional Park and Sierra Springs. These areas do provide an opportunity to establish beaver colonies outside of the Waterstone-Summerhill Area which will assist in precluding beaver occupancy within the residential area. Furthermore, both areas show opportunities for riparian restoration (planting) which would benefit both beavers and improve riparian health of Nose Creek.

- R3:** Consider promoting, actively or passively, beaver occupancy within the Nose Creek Regional Park and/or Sierra Springs. These areas represent habitat that have greater setback distances and will minimize adverse impacts within the interface between beavers and private properties.
- R4:** Consider integrating supplemental (diversionary) plantings within the Nose Creek Regional Park and/or Sierra Spring to reduce the impact of foraging on valued trees and focus foraging impacts within areas that are less likely to adversely impact private properties and public infrastructure.
- R5:** Consistent with the Waterstone-Summerhill Area, all existing tree protection should be routinely maintained and repaired to continue to properly protect valued trees.

A concern with promoting beaver occupancy, particularly with the provision of supplemental/diversionary forage is the potential for beaver dams to exhibit higher structural integrity with the addition of woody materials. The strength of the dam is dependant on the ability of the beavers to overcome the buoyancy of new wood (Andersen and Shafroth, 2010). The strength of the dam is dependant on how well the materials are secured to the streambed, and the weight of the material within the dam to overcome hydrostatic pressures.

An aspect of the recommended sites for potential beaver occupancy within the Northern and Southern Areas was the potential to accommodate additional water in the event of damming. Both locations exhibit an elevational difference between the surface of Nose Creek to the top-of-bank, of roughly 1 m. Any potential damming is anticipated to be restricted to the top-of-bank, and unlikely to impound any water beyond this elevation. Secondly the recommended locations are within locations that are lower than the surrounding landscape, which reduces the risk of flooding and public and private infrastructure tends to be 3 to 4 m higher. Additionally, the recommended sites represent areas that maximize the distance between Nose Creek and public and private infrastructure.

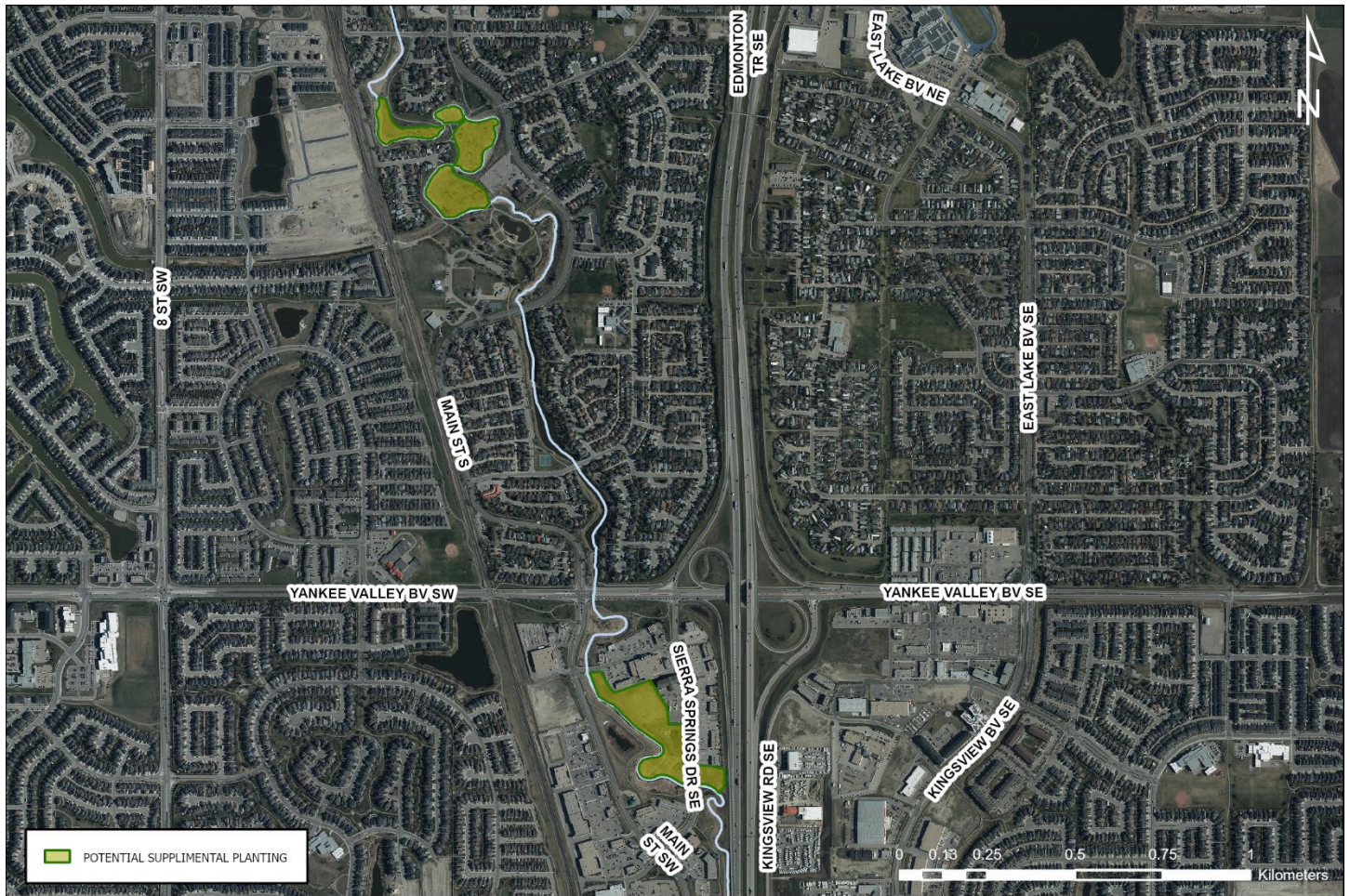


Figure 7-8. Areas within the Nose Creek corridor that exhibit suitability for diversionary planting.

7.5 Management of Beavers within Stormwater Infrastructure

7.5.1 Overview of Management

Beavers can adversely affect stormwater infrastructure, notably through blocking or damming outflow structures and the impacts on stormwater management infrastructure is a common concern associated with beaver activities and stormwater management. In reviewing the stormwater ponds, which the majority do occur within a 1.7 km distance of the Nose Creek corridor, the prevalence of transportation infrastructure (road and rail), development, and other barriers to overland migration (e.g., chainlink fences) will likely limit the potential for beavers to access the ponds. Ongoing monitoring should be undertaken to proactively identify the presence of beavers within any of the stormwater retention ponds and implement mitigation measures as necessary.

The Bayside Retention Ponds are the only hydrologically connected stormwater infrastructure that could, and have, seen beavers within the stormwater infrastructure. Potential impacts are anticipated to be limited to tree felling. Damming and lodge construction, while always possible, are unlikely given channel widths and depths, and the prevalence of armoured banks which will hinder the construction of bank lodges and burrows and limit the potential for entrances to be below water (Figure 7-9).

Figure 7-9. Example of constructed bank armoring within the Bayside Retention Ponds.



Based on information provided by the city, the inlets of the outflow pipes within both Bayside and Cooper's, and presumed throughout the city, are open pipe. These open culverts can potentially be blocked by beavers; however, the depth of the retention ponds is likely sufficiently deep and stable, such that beavers are less likely to focus on damming and blocking of the outflow pipes, and more likely to focus on overflow discharge channels.

Water level fluctuations within the city's stormwater infrastructure is typically less than 0.3 m, with peak elevations during significant storm events (i.e., 1 in 100-year storm events) increase to 1.56 m for Coopers Crossing and 0.92 m for Bayside. Ensuring that the designed storm capacity of the infrastructure is important in limiting the risk of flooding to properties draining into the stormwater infrastructure. To the extent feasible, high-flow outflow channels should be protected using culvert protection (e.g., wire fencing) to exclude beavers from damming the outflow channels and maintaining unobstructed flows.

7.5.2 Recommendations

Risks associated with the potential for flooding and reduced stormwater conveyance capacity associated with beaver activities within the stormwater infrastructure has been expressed by the City as a substantial concern, particularly with the potential for plugging culverts, which are integral to the function of the designed stormwater systems.

Where beavers can be tolerated, or the probability of colonization of limited (such as stormwater ponds not connected by surface water or greater than 2 kilometers from Nose Creek) the following are recommended:

- R6:** Monitor the stormwater retention ponds, particularly during spring/early dispersal, generally between April and June, to determine whether beavers are present (Müller-Schwarze, 2011; Rosell and Campbell-Palmer, 2022).
- R7:** Should beavers be observed within any of the stormwater retention ponds, city staff should inspect the condition of the pond and evaluate the impact associated with beaver activity. Should no adverse impacts to stormwater infrastructure be observed and there is no additional risk of localize flooding, beavers should be permitted to remain within the pond.

- R8:** Where beavers can be tolerated within stormwater retention ponds, tree wrapping, and other preventative mitigation measures, such as culvert protection, should be implemented to limit the damage to public and private infrastructure while allowing for beavers to remain.

Where impacts of beaver activities cannot be tolerated, measures to prevent access should be taken to proactively avoid potential conflicts with beaver activities, in addition to monitoring, as described in R6, above.

- R9:** For isolated stormwater ponds, such as Jervis' and Willow Pond, exclusion fencing may be installed to prevent overland access into the ponds. For the Bayside canals, upland and instream exclusion fencing may be installed within the Luxstone channel to prohibit upstream movement of beavers. Based on existing infrastructure, the CP Rail crossing is a suitable candidate site, as the existing chainlink fencing can be modified to include an "anti-digging" skirt and the instream fencing would only need to span the width of the existing box culvert.

7.6 Management Strategies

7.6.1 Decision Matrix for Informed Management

Wherever feasible, beaver management strategies should promote passive management strategies (i.e., co-existence and impact management) over active management as these strategies aim to promote long-term impact management over short-term relief. To guide the decision-making process for the City of Airdrie staff, a decision matrix has been developed. This tool is intended to provide a process for city staff to determine the best approach to managing beavers where impacts are occurring.

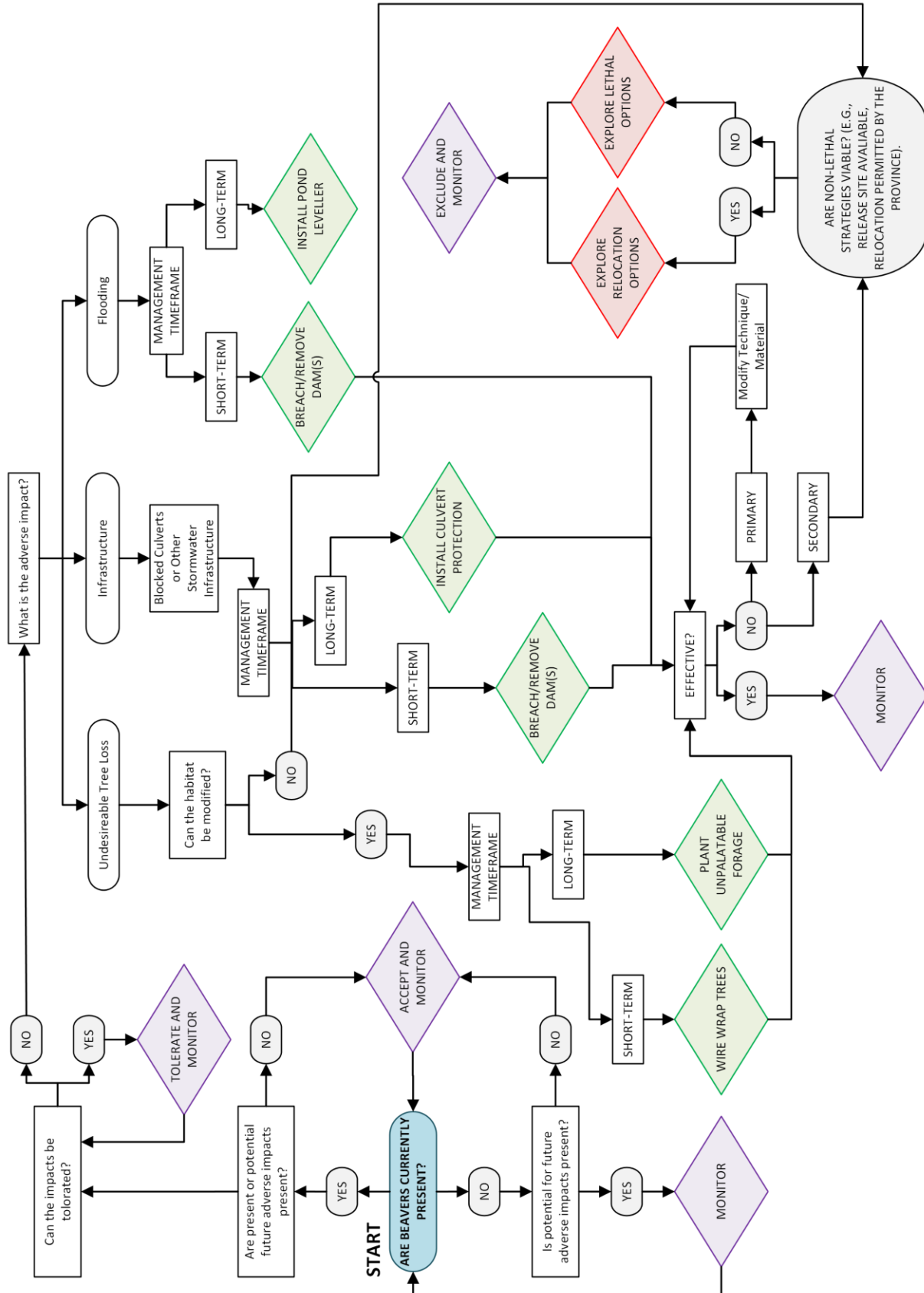


Figure 7-10. Decision-matrix to guide the determination management approach for beaver-related impacts.

7.6.2 Removal of Beavers

7.6.2.1 Relocation Strategies

Live trapping and relocation are often proposed as a viable option for resolving conflict with beaver activities. While successful relocation of beavers does occur (e.g., reintroductions of beavers within the United Kingdom, the Methow Beaver Project in Washington state), relocations are not routinely successful, and survival rates of released beavers are low (< 50%).

Within the Alberta, there is no clear policy specific to the translocation of beavers; and any proposal to relocation beavers must follow the International Union of Conservation of Nature's (IUCN) Guidelines for Reintroductions and Other Conservation Translocations. The criteria for translocation feasibility and risk assessment and monitoring translocated beavers can be extensive, and the proposed release sites not always suitable for the establishment of the colony, forcing the relocated beavers to travel away from the release site. Which has the potential to result in the increased risk of death through starvation, exposure, or territorial aggression between the relocated beaver and established colonies. Any proposal to relocate beavers must be authorized Alberta Ministry of Environment and Protected Areas.

Given the typical dispersal patterns from release site, ranging from 3.3 km to greater than 10 km, the release of beavers within the City of Airdrie is not considered a feasible management strategy as the relocated beavers will either disperse back to the Nose Creek corridor, or face increased risk of depredation. The use of relocation as a primary impact mitigation strategy is not considered an effective, long-term management strategy and efforts to discourage colony establishment in undesired area, such as vegetation management, and promote coexistence where the impacts of beavers can be effectively managed should be encouraged.

7.6.2.2 Lethal Control

It is understood that circumstances will, and do occur, where beavers and their activities result in unacceptable risk to public and private infrastructure, increased flood risk, and risks to human health. Wherever possible, strategies that promote coexistence should be implemented over lethal control strategies. However, in situations where either (1) mitigative (i.e., coexistence) strategies have not been effective in addressing the risk of impact, or (2) the risk to human health or infrastructure is immediate, lethal control may be used.

The trigger for the use of lethal control should only be used where the risk of impact is imminent or likely to occur.

Under the Alberta Trapping Regulations, beavers may be trapped using following provisions under the Agreement on International Humane Trapping Standards (AIHTS), which allows for the use of certified killing traps and underwater snares.

Where lethal control has been determined to be necessary, the following lethal control options should be implemented.

- (1) Use of certified cage (live restraint) traps, and off-site euthanasia. Any off-site euthanasia must follow appropriate methods as described under Canadian Council on Animal Care Guidelines for Wildlife.

- (2) Use of certified killing traps, placed only within water to protect park users, dogs and other wildlife, and are to be checked daily.
- (3) The use of signage is recommended to inform park users of the presence of traps to discourage adverse interactions.

Lethal control must also consider undertaken measures to discourage or prevent beavers from re-entry, otherwise, dispersing beavers will quickly re-occupy the vacant habitat.

7.6.2.3 Limitations to Beaver Removal

Regardless of how beavers are removed from a site, the removal of beavers will rarely represent a long-term solution and represents a short-term reduction in their presence. Recolonization of previously occupied habitat occurs frequently, particularly where beaver infrastructure (i.e., dams, bank burrows and bank lodges) persist. As the Nose Creek corridor does exhibit geomorphological features suitable for the establishment of dams and exhibits habitat suitability, dispersing and displaced beavers from habitats beyond the city will result in frequent occupancy and will perpetuate the ongoing removal of beavers.

7.6.3 Integrated Pest Management Plan

Under the existing Integrated Pest Management Plan (IPMP), the management framework for beavers is limited, focussing largely on the management of impacts to trees. The broad management strategies detail in Section 4 and the decision-matrix above should be integrated into the IPMP to inform decisions regarding the management of beavers within the Nose Creek corridor.

7.6.4 Mitigation and other Conflict Wildlife

In implementing co-existence strategies, city managers may be concerns about the potential for increased conflict with other wildlife species within the city, such as coyotes. Wurth, Ellington and Gehrt (2020) suggest that in urban environments, coyotes shift their diets to a higher proportion of anthropogenic food sources. Given that the Nose Creek corridor functions as a public footpath through the city, it is likely that conflict with coyotes is driven by food availability. Alteration of the aquatic and riparian habitats by beavers are unlikely to increase the risk of adverse interactions with coyotes, or other conflict wildlife species occurring within the city.

7.6.5 Recommendations

- R11:** The city should define what unacceptable damage to the natural environment and/or infrastructure related to beaver activities and establish threshold criteria that triggers decisions from each level of beaver management. In other words, what conditions would shift beaver management decisions from Acceptance and Tolerance to Passive Management and from Passive Management to Active Management.

Potential thresholds triggering the implementation of management strategies, indicating the movement from acceptance and tolerance to passive management, may include variables such as threshold surface water elevations, height of trees and their proximity to public and private infrastructure, and tolerance of beaver occupancy within stormwater infrastructure. Table 7-4 below provides a summary of potential threshold criteria.

The shift from passive management to active management should only be triggered if (1) passive mitigation strategies has failed to resolve impact following modifications or (2) the risk of impact, such as flooding of private and public infrastructure is imminent and cannot be resolved by mitigative strategies (e.g., beavers denning within manholes and impacting stormwater conveyance).

Table 7-4. Summary of potential impacts, possible threshold criteria, and associated mitigative strategies.

Potential Impact	Impact Concern	Potential Threshold Criteria	Description of Threshold Criteria	Potential Mitigation Strategies
Elevated Surface Water Levels	Flooding	Water level elevations upstream of culverts and dams.	Threshold water surface elevations should be identified for stormwater infrastructure and occupied habitat within the Nose Creek corridor to determine the acceptable elevation of water impoundment. Where a threshold criterion has been exceeded, mitigative measures can be implemented.	Pond levellers
Tree Felling	Tree Felling	Tree heights greater than linear distance to private and public infrastructure.	For tree felling and the risk of impacting private and public infrastructure, height and distance measurements can be determined to evaluate the potential risk of the tree falling onto the infrastructure. Where the tree is of a height such that it could impact infrastructure, mitigative measures can be implemented.	Tree wrapping
Plugged Culverts	Flooding	Dam or blockage not exceeding 15% of the culvert diameter.	Blockages of culverts, particularly those associated with stormwater conveyance can increase the risk of flooding damage by preventing adequate flows and discharge of stormwater. Sensitive culverts should be identified and proactively protected, or flow restrictions may not exceed determined flow capacities of the culvert (e.g., 15%).	Culvert protection
Burrowing	Burrowing	Proximity of bank lodge or burrowing to private and public infrastructure within 10 m.	As burrowing can extend upwards of 11 m from a lodge, where public or private infrastructure is within proximity of a lodge. Where lodges and evidence of burrowing (e.g., burrow collapse, bank erosion) are likely to impact private and public infrastructure, mitigative measures can be implemented.	Bank protection or barriers.

Table 10. (Con't)

Potential Impact	Impact Concern	Potential Threshold Criteria	Description of Threshold Criteria	Potential Mitigation Strategies
Sensitive Stormwater Infrastructure	Occupancy	Potential for occupancy in sensitive infrastructure.	An evaluation of the stormwater infrastructure should be undertaken by the city to determine the risk of adverse impact associated with beaver activities (e.g., flooding and tree felling) to determine where beavers may be tolerated. Where the potential for occupancy is high and risk levels are high, mitigative measures to exclude beavers can be implemented.	Exclusion fencing
	Flooding	Water levels exceed acceptable elevations	The stormwater ponds should be evaluated to determine the level of acceptable risk associated with additional beaver impoundments. Where the risk of watering being impounded at elevations that impede stormwater discharge and overflows, mitigative measures to protect culverts and overflow channels may be implemented.	Culvert protection

8 Conclusions

Historically, management of beaver impacts within the City of Airdrie have focused on the protection of valued trees and the removal of beavers where the risk of unacceptable impacts was present. While traditional approaches to beaver management (i.e., population management) is an effective tool in moderating population densities, particularly in the absence of high predation risk, the broader views of traditional wildlife management are shifting away from the acceptance of lethal management approaches and towards coexistence and the implementation of many non-lethal mitigative strategies to address the impacts associated with beavers.

Current management of beaver impacts have focussed on the management of tree felling and the removal of beavers where the risk of adverse impacts was deemed unacceptable. Field assessments and analysis of the Nose Creek corridor suggest that the primary impacts associated with beaver activity within the city is tree felling. Risks to the Nose Creek corridor associated with damming and water impoundment is low. Existing dams within the corridor have been constructed of cattail stems and are subject to yearly damage and breaching resulting from elevated streamflow within Nose Creek. The absence of available woody material further limits the risk of extensive damming and water impoundments.

Tree protection measures have been applied extensively throughout the city, such that beavers are being pushed to travel further upland to access suitable foraging materials, which places their activities within the interface between the public greenway and private properties. The establishment of supplemental planting areas (diversionary planting) will help in providing suitable food sources for beavers in manageable areas, while limiting the likelihood of felling trees within and adjacent to private properties. Ongoing monitoring and wire wrapping will continue to help in preventing tree loss.

Habitat within the Nose Creek corridor is limited with low availability of suitable forage. Furthermore, habitats within proximity to areas of high human disturbances are not expected to support long-term settlement of beaver colonies (Rosell and Campbell-Palmer, 2022), and suboptimal habitats are expected to experience more frequent cycles of colonization-abandonment. Despite this, opportunities exist within the Nose Creek corridor to encourage the establishment of long-term beaver colonies, either within the Nose Creek Regional Park, or within suitable habitat within Sierra Springs, which will likely reduce conflict with beavers within the Waterstone-Summerhill Area, notably the felling of trees within the interface between the public greenway and private property. The establishment of supplemental feeding areas will further assist in concentrating tree felling within managed areas, promote aquatic and riparian benefits, and promote coexistence with beavers.

9 References

- ALLEN, A. W. (1983). *Habitat suitability index models: beaver*. U.S. Department of the Interior, Fish and Wildlife Service. 1-20.
- ANDERSEN, D. C. and SHAFROTH, P. B. (2010). Beaver dams, hydrological thresholds, and controlled floods as a management tool in a desert riverine ecosystem, Bill Williams River, Arizona. *Ecohydrology*, **3** (3): 325-338.
- AUSTER, R. E., BARR, S. W. and BRAZIER, R. E. (2020). Wildlife Tourism in Reintroduction Projects: Exploring Social and Economic Benefits of Beaver in Local Settings. *Journal for Nature Conservation*: 125920.
- AZNAR, J.-C. and DESROCHERS, A. (2008). Building for the future: Abandoned beaver ponds promote bird diversity. *Écoscience*, **15** (2): 250-257.
- BAILEY, D. R., DITTBRENNER, B. J. and YOCOM, K. P. (2018). Reintegrating the North American beaver (*Castor canadensis*) in the urban landscape. *Wiley Interdisciplinary Reviews: Water*, **6** (1).
- BAKER, B. W. and HILL, E. P. (2003). Beaver (*Castor canadensis*). In: FELDHAMER, G. A., THOMPSON, B. C. and CHAPMAN, J. A. (Eds.) *Wild mammals of North America: biology, management and conservation*. Second Ed. Baltimore, MA: The Johns Hopkins University Press, pp. 288-310.
- BASHINSKIY, I. V. (2020). Beavers in lakes: a review of their ecosystem impact. *Aquatic Ecology*.
- BEARD, E. B. (1953). The importance of beaver in waterfowl management at the Seney National Wildlife Refuge. *The Journal of Wildlife Management*, **17** (4): 398-436.
- BEIER, P. and BARRETT, R. H. (1987). Beaver habitat use and impact in Truckee River Basin, California. *The Journal of Wildlife Management*, **51** (4): 794-799.
- BERGERUD, A. T. and MILLER, D. R. (1977). Population dynamics of Newfoundland beaver. *Canadian Journal of Zoology*, **55** (9): 1480-1492.
- BERGMAN, B. G., BUMP, J. K. and ROMANSKI, M. C. (2018). Revisiting the role of aquatic plants in beaver habitat selection. *The American Midland Naturalist*, **179** (2): 222-246.
- BŁĘDZKI, L. A., BUBIER, J. L., MOULTON, L. A. and KYKER-SNOWMAN, T. D. (2011). Downstream effects of beaver ponds on the water quality of New England first- and second-order streams. *Ecohydrology*, **4** (5): 698-707.
- BOYCE, M. S. (1981). Beaver life history responses to exploitation. *Journal of Applied Ecology*, **18** (3): 749-753.
- BRAZIER, R. E., PUTTOCK, A., GRAHAM, H. A., AUSTER, R. E., DAVIES, K. H. and BROWN, C. M. L. (2020). Beaver: Nature's ecosystem engineers. *WIREs Water*. e1494.
- BRECK, S. W., GOLDSTEIN, M. I. and PYARE, S. (2012). Site-occupancy monitoring of an ecosystem indicator: linking characteristics of riparian vegetation to beaver occurrence. *Western North American Naturalist*, **72** (4): 432-441.
- BRZYSKI, J. R. and SCHULTE, B. A. (2009). Beaver (*Castor canadensis*) impacts on herbaceous and woody vegetation in southeastern Georgia. *The American Midland Naturalist*, **162** (1): 74-86.

- BUSH, B. M. and WISSINGER, S. A. (2016). Invertebrates in Beaver-Created Wetlands and Ponds. In: BATZER, D. and BOIX, D. (Eds.) *Invertebrates in Freshwater Wetlands: An International Perspective on their Ecology*. Cham: Springer International Publishing, pp. 411-449.
- BUSHER, P. E. (1996). Food caching behavior of beavers (*Castor canadensis*) selection and use of woody species. *The American Midland Naturalist*, **135** (2).
- BUTLER, D. R. and MALANSON, G. P. (1995). Sedimentation rates and patterns in beaver ponds in a mountain environment. *Geomorphology*, **13** (1): 255-269.
- BUTLER, D. R. and MALANSON, G. P. (2005). The geomorphic influences of beaver dams and failures of beaver dams. *Geomorphology*, **71** (1-2): 48-60.
- CAMPBELL-PALMER, R., ROSELL, F., BEER, A., CAMPBELL, R., CRACKNELL, J., GAYWOOD, M., *et al.* (2013). *Captive management guidelines Eurasian beaver 2013*.
- CHARNLEY, S., GOSNELL, H., DAVEE, R. and ABRAMS, J. (2020). Ranchers and beavers: understanding the human dimensions of beaver-related stream restoration of western rangelands. *Rangeland Ecology & Management*, **73**: 712-723.
- COLLEN, P. and GIBSON, R. J. (2001). The general ecology of beavers (*Castor* spp.), as related to their influence on stream ecosystems and riparian habitats, and the subsequent effects on fish - a review. *Reviews in Fish Biology and Fisheries*, **10**: 439-461.
- CURTIS, P. D. and JENSEN, P. G. (2004). Habitat features affecting beaver occupancy along roadsides in New York State. *Journal of Wildlife Management*, **68** (2): 278-287.
- DAUWALTER, D. C. and WALRATH, J. D. (2018). Beaver dams, streamflow complexity, and the distribution of a rare minnow, *Lepidomeda copei*. *Ecology of Freshwater Fish*, **27**: 606-616.
- DECKER, D. J., RILEY, S. J. and SIEMER, W. F. (2012). Human dimensions of wildlife management. Chapter 1. In: DECKER, D. J., RILEY, S. J. and SIEMER, W. F. (Eds.) *Human Dimensions of Wildlife Management*. Baltimore, MD: Johns Hopkins University Press.
- DESTEFANO, S. and DEBLINGER, R. D. (2005). Wildlife as valuable natural resources vs. intolerable pests A suburban wildlife management model. *Urban Ecosystems*, **8**: 179-190.
- DESTEFANO, S., KOENEN, K. K. G., HENNER, C. M. and STRULES, J. (2006). Transition to independence by subadult beavers (*Castor canadensis*) in an unexploited, exponentially growing population. *Journal of Zoology*, **269** (4): 434-441.
- DEWEY, C., FOX, P. M., BOUSKILL, N. J., DWIVEDI, D., NICO, P. and FENDORF, S. (2022). Beaver dams overshadow climate extremes in controlling riparian hydrology and water quality. *Nature Communications*, **13** (1).
- DITTBRENNER, B. J., POLLOCK, M. M., SCHILLING, J. W., OLDEN, J. D., LAWLER, J. J. and TORGERSEN, C. E. (2018). Modeling intrinsic potential for beaver (*Castor canadensis*) habitat to inform restoration and climate change adaptation. *PLoS One*, **13** (2): e0192538.
- DITTBRENNER, B. J., SCHILLING, J. W., TORGERSEN, C. E. and LAWLER, J. J. (2022). Relocated beaver can increase water storage and decrease stream temperature in headwater streams. *Ecosphere*, **13** (7).

- DONKOR, N. T. and FRYXELL, J. M. (1999). Impact of beaver foraging on structure of lowland boreal forests of Algonquin Provincial Park , Ontario. *Forest Ecology and Management*, **118**: 83-92.
- DOUCET, C. M. and FRYXELL, J. M. (1993). The effect of nutritional quality on forage preference by beavers. *Oikos*, **67** (2): 201-208.
- ENGLAND, K. and WESTBROOK, C. J. (2021). Comparison of beaver density and foraging preferences between urban and rural riparian forests along the South Saskatchewan River, Canada. *Journal of Urban Ecology*, **7** (1).
- FAIRFAX, E. and SMALL, E. E. (2018). Using remote sensing to assess the impact of beaver damming on riparian evapotranspiration in an arid landscape. *Ecohydrology*, **11** (7).
- FAIRFAX, E. and WHITTLE, A. (2020). Smokey the Beaver: beaver-dammed riparian corridors stay green during wildfire throughout the western USA. *Ecological Applications*.
- FRANTIŠEK, J., SHAUN, B. and VLASTIMIL, K. (2010). Habitat selection of an expanding beaver (*Castor fiber*) population in central and upper Morava River basin. *European Journal of Wildlife Research*, **56** (4): 663-671.
- FRYXELL, J. M. (2001). Habitat suitability and source - sink dynamics of beavers. *Journal of Applied Ecology*, **70**: 7.
- FRYXELL, J. M. and DOUCET, C. M. (1991). Provisioning time and central-place foraging in beavers. *Canadian Journal of Zoology*, **69** (5): 1308-1313.
- GABLE, T. D. and WINDELS, S. K. (2018). Kill rates and predation rates of wolves on beavers. *The Journal of Wildlife Management*, **82** (2): 466-472.
- GALLANT, D., BÉRUBÉ, C. H., TREMBLAY, E. and VASSEUR, L. (2004). An extensive study of the foraging ecology of beavers (*Castor canadensis*) in relation to habitat quality. *Canadian Journal of Zoology*, **82** (6): 922-933.
- GALLANT, D., LÉGER, L., TREMBLAY, É., BERTEAUX, D., LECOMTE, N. and VASSEUR, L. (2016). Linking time budgets to habitat quality suggests that beavers (*Castor canadensis*) are energy maximizers. *Canadian Journal of Zoology*, **94**: 671-676.
- GOODALE, K., PARSONS, G. and SHERREN, K. (2015). The Nature of the Nuisance—Damage or Threat—Determines How Perceived Monetary Costs and Cultural Benefits Influence Farmer Tolerance of Wildlife. *Diversity*, **7** (3): 318-341.
- GRAHAM, H. A., PUTTOCK, A. K., ELLIOTT, M., ANDERSON, K. and BRAZIER, R. E. (2022). Exploring the dynamics of flow attenuation at a beaver dam sequence. *Hydrological Processes*.
- GURNELL, A. M. (1998). The hydrogeomorphological effects of beaver dam-building activities. *Progress in Physical Geography*, **22** (2): 167-189.
- HAVENS, R. P., CRAWFORD, J. C. and NELSON, T. A. (2013). Survival, home range, and colony reproduction of beavers in east-central Illinois, an agricultural landscape. *The American Midland Naturalist*, **169** (1): 17-29.

- HOLLAND, A. A., SCHAUBER, E. M., NEILSEN, C. K. and HELLGREN, E. C. (2019). Occupancy dynamics of semi-aquatic herbivores in riparian systems in Illinois, USA. *Ecosphere*, **10** (3): e02614.
- HOOD, G. A. (2020). Not all ponds are created equal: long-term beaver (*Castor canadensis*) lodge occupancy in a heterogeneous landscape. *Canadian Journal of Zoology*, **98** (3): 210-218.
- HOOD, G. A. and BAYLEY, S. E. (2008). Beaver (*Castor canadensis*) mitigate the effects of climate on the area of open water in boreal wetlands in western Canada. *Biological Conservation*, **141** (2): 556-567.
- HOOD, G. A., MANALLOOR, V. and DZIOBA, B. (2017). Mitigating infrastructure loss from beaver flooding: A cost-benefit analysis. *Human Dimensions of Wildlife*, **23** (2): 146-159.
- HOWARD, R. J. and LARSON, J. S. (1985). A Stream Habitat Classification System for Beaver. *The Journal of Wildlife Management*, **49** (1): 19.
- JANZEN, K. and WESTBROOK, C. J. (2011). Hyporheic Flows Along a Channelled Peatland: Influence of Beaver Dams. *Canadian Water Resources Journal / Revue canadienne des ressources hydriques*, **36** (4): 331-347.
- JENKINS, S. H. (1980). A size-distance relation in food selection by beavers. *Ecology*, **61** (4): 740-746.
- JOHNSTON, C. A. and NAIMAN, R. J. (1987). Boundary dynamics at the aquatic-terrestrial interface: The influence of beaver and geomorphology. *Landscape Ecology*, **1** (1): 47-57.
- JONES, C. G., LAWTON, J. H. and SHACHAK, M. (1994). Organisms as Ecosystem Engineers. *Oikos*, **69** (3): 373-386.
- KEMP, P. S., WORTHINGTON, T. A., LANGFORD, T. E. L., TREE, A. R. J. and GAYWOOD, M. J. (2012). Qualitative and quantitative effects of reintroduced beavers on stream fish. *Fish and Fisheries*, **13** (2): 158-181.
- LANDHOLT, L. M. and GENOWAYS, H. H. (2006). Population Trends in Furbearers in Nebraska. *Transactions of the Nebraska Academy of Sciences and Affiliated Societies*, **26**: 97-110.
- LAUREL, D. and WOHL, E. (2019). The persistence of beaver-induced geomorphic heterogeneity and organic carbon stock in river corridors. *Earth Surface Processes and Landforms*, **44** (1): 342-353.
- LAW, A., GAYWOOD, M. J., JONES, K. C., RAMSAY, P. and WILLBY, N. J. (2017). Using ecosystem engineers as tools in habitat restoration and rewilding: beaver and wetlands. *Science of The Total Environment*, **605-606**: 1021-1030.
- LAW, A., LEVANONI, O., FOSTER, G., ECKE, F. and WILLBY, N. J. (2019). Are beavers a solution to the freshwater biodiversity crisis? *Diversity and Distributions*.
- LAW, A., MCLEAN, F. and WILLBY, N. J. (2016). Habitat engineering by beaver benefits aquatic biodiversity and ecosystem processes in agricultural streams. *Freshwater Biology*, **61** (4): 486-499.
- LITTLE, A. M., GUNTENSPERGEN, G. R. and ALLEN, T. F. H. (2012). Wetland vegetation dynamics in response to beaver (*Castor canadensis*) activity at multiple scales. *Écoscience*, **19** (3): 246-257.

- LOATES, B. M. and HVENEGAARD, G. T. (2008). The density of beaver, *Castor canadensis*, activities along Camrose Creek, Alberta, with differing habitats and management intensity levels. *The Canadian Field-Naturalist*, **122** (4): 299-302.
- MAHONEY, M. J. and STELLA, J. C. (2020). Stem size selectivity is stronger than species preferences for beaver, a central place forager. *Forest Ecology and Management*, **475**: 118331.
- MALISON, R. L., LORANG, M. S., WHITED, D. C. and STANFORD, J. A. (2014). Beavers (*Castor canadensis*) influence habitat for juvenile salmon in a large Alaskan river floodplain. *Freshwater Biology*, **59** (6): 1229-1246.
- MANFREDO, M. J., TEEL, T. L., DON CARLOS, A. W., SULLIVAN, L., BRIGHT, A. D., DIETSCH, A. M., *et al.* (2020a). The changing sociocultural context of wildlife conservation. *Conservation Biology*, **34** (6): 1549-1559.
- MANFREDO, M. J., URQUIZA-HAAS, E. G., DON CARLOS, A. W., BRUSKOTTER, J. T. and DIETSCH, A. M. (2020b). How anthropomorphism is changing the social context of modern wildlife conservation. *Biological Conservation*, **241**: 108297.
- MAYER, M., ZEDROSSER, A. and ROSELL, F. (2017). Couch potatoes do better: Delayed dispersal and territory size affect the duration of territory occupancy in a monogamous mammal. *Ecol Evol*, **7** (12): 4347-4356.
- MCCANCE, E. C., DECKER, D. J., COLTURI, A. M., BAYDACK, R. K., SIEMER, W. F., CURTIS, P. D., *et al.* (2017). Importance of Urban Wildlife Management in the United States and Canada. *Mammal Study*, **42** (1): 1-16.
- MCCLINTIC, L. F., WANG, G., TAYLOR, JIMMY D. and JONES, JEANNE C. (2014). Movement characteristics of American beavers (*Castor canadensis*). *Behaviour*, **151** (9): 1249-1265.
- MCGINLEY, M. A. and WHITHAM, T. G. (1985). Central place foraging by beavers (*Castor canadensis*): a test of foraging predictions and the impact of selective feeding on the growth form of cottonwoods (*Populus fremontii*). *Oecologia*, **66**: 558-56.
- MCKINSTRY, M. and ANDERSON, S. H. (2002). Survival, fates, and success of transplanted beavers, *Castor canadensis*, in Wyoming. *Canadian Field-Naturalist*, **116**: 60-68.
- MCKINSTRY, S. H. C. A. M. (1999). Attitudes of Private- and Public-Land Managers in Wyoming, USA, Toward Beaver. *Environmental Management*, **23** (1): 95-101.
- MCTAGGART, S. T. and NELSON, T. A. (2003). Composition and demographics of beaver (*Castor canadensis*) colonies in Central Illinois. *The American Midland Naturalist*, **150** (1): 139-150.
- MILLS, L. S. and DOAK, D. F. (1993). The Keystone-Species Concept in Ecology and Conservation. *BioScience*, **43** (4): 219-224.
- MORZILLO, A. T. and NEEDHAM, M. D. (2015). Landowner Incentives and Normative Tolerances for Managing Beaver Impacts. *Human Dimensions of Wildlife*, **20** (6): 514-530.
- MÜLLER-SCHWARZE, D. (2011). *The beaver: its life and impact*. Second Ed. Ithaca, NY: Cornell University Press.

- MÜLLER-SCHWARZE, D. and SCHULTE, B. A. (1992). Behavioral and ecological characteristics of a "climax" population of beaver (*Castor canadensis*). In: BUSHER, P. E. and DZIECIOLOWSKI, R. M. (Eds.) *Beaver protection, management, and utilization in Europe and North America*. New York: Kluwer Academic/Plenum.
- MUMMA, M. A., GILLINGHAM, M. P., JOHNSON, C. J. and PARKER, K. L. (2018). Where beavers (*Castor canadensis*) build: testing the influence of habitat quality, predation risk, and anthropogenic disturbance on colony occurrence. *Canadian Journal of Zoology*, **96** (8): 897-904.
- NAIMAN, R. J., JOHNSTON, C. A. and KELLEY, J. G. (1988). Alteration of North American streams by beaver. *BioScience*, **38** (11): 753-762.
- NAIMAN, R. J. and MELILLO, J. M. (1984). Nitrogen budget of a subarctic stream altered by beaver (*Castor canadensis*). *Oecologia*, **62** (2): 150-155.
- NAIMAN, R. J., MELILLO, J. T. and HOBBIE, J. T. (1986). Ecosystem alteration of boreal forest streams by beaver (*Castor canadensis*). *Ecology*, **67** (5): 1254-1269.
- NUMMI, P., ARZEL, C. and SAURAMO, V. (2021). Populations in stable and variable habitats: Green and common sandpiper in a beaver-influenced landscape. *Global Ecology and Conservation*, **28**: e01678.
- NUMMI, P. and HOLOPAINEN, S. (2014). Whole-community facilitation by beaver: ecosystem engineer increases waterbird diversity. *Aquatic Conservation: Marine and Freshwater Ecosystems*, **24** (5): 623-633.
- NUMMI, P., KATTAINEN, S., ULANDER, P. and HAHTOLA, A. (2011). Bats benefit from beavers: a facilitative link between aquatic and terrestrial food webs. *Biodiversity and Conservation*, **20** (4): 851-859.
- NUMMI, P., LIAO, W., HUET, O., SCARPULLA, E. and SUNDELL, J. (2019). The beaver facilitates species richness and abundance of terrestrial and semi-aquatic mammals. *Global Ecology and Conservation*, **20**.
- NYHUS, P. J. (2016). Human–Wildlife Conflict and Coexistence. *Annual Review of Environment and Resources*, **41** (1): 143-171.
- NYSSSEN, J., PONTZEELE, J. and BILLI, P. (2011). Effect of beaver dams on the hydrology of small mountain streams: Example from the Chevral in the Ourthe Orientale basin, Ardennes, Belgium. *Journal of Hydrology*, **402** (1-2): 92-102.
- PAȘCA, C., POPA, M., GRIDAN, A., IONESCU, G. and VIȘAN, D. (2019). Solutions for protection of hydrotechnical dikes in the areas populated with beavers. *Revista de Silvicultură și Cinegetică*, **45**.
- PETERSON, M. N., BIRCKHEAD, J. L., LEONG, K., PETERSON, M. J. and PETERSON, T. R. (2010). Rearticulating the myth of human-wildlife conflict. *Conservation Letters*, **3** (2): 74-82.
- PETRO, V. M., TAYLOR, J. D. and SANCHEZ, D. M. (2015). Evaluating landowner-based beaver relocation as a tool to restore salmon habitat. *Global Ecology and Conservation*, **3**: 477-486.
- POLLOCK, M., HEIM, M. and WERNER, D. (2003). Hydrologic and Geomorphic Effects of Beaver Dams and Their Influence on Influence on Fishes. In.

- POLLOCK, M. M., LEWALLEN, G. M., WOODRUFF, K., JORDAN, C. E. and CASTRO, J. M. (2023). *The beaver restoration guidebook: working with beavers to restore streams, wetlands, and floodplains. Version 2.02.* UNITED STATES FISH AND WILDLIFE SERVICE Portland, OR.
- PUTTOCK, A., GRAHAM, H. A., ASHE, J., LUSCOMBE, D. J. and BRAZIER, R. E. (2020). Beaver dams attenuate flow: a multi-site study. *Hydrological Processes*.
- PUTTOCK, A., GRAHAM, H. A., CUNLIFFE, A. M., ELLIOTT, M. and BRAZIER, R. E. (2017). Eurasian beaver activity increases water storage, attenuates flow and mitigates diffuse pollution from intensively-managed grasslands. *Science of The Total Environment*, **576**: 430-443.
- RAFFEL, T. R., SMITH, N., CORTRIGHT, C. and GATZ, A. J. (2009). Central place foraging by beavers (*Castor canadensis*) in a complex lake habitat. *The American Midland Naturalist*, **162**: 62-73.
- RITTER, T. D., GOWER, C. N. and MCNEW, L. B. (2020). Habitat conditions at beaver settlement sites: implications for beaver restoration projects. *Restoration Ecology*, **28** (1): 196-205.
- ROBINS, C. W., KERTSON, B. N., FAULKNER, J. R. and WIRSING, A. J. (2019). Effects of urbanization on cougar foraging ecology along the wildland–urban gradient of western Washington. *Ecosphere*, **10** (3): e02605.
- ROMANSIC, J. M., NELSON, N. L., MOFFETT, K. B. and PIOVIA-SCOTT, J. (2021). Beaver dams are associated with enhanced amphibian diversity via lengthened hydroperiods and increased representation of slow-developing species. *Freshwater Biology*, **66** (3): 481-494.
- ROSELL, F., BOZSER, O., COLLEN, P. and PARKER, H. (2005). Ecological impact of beavers *Castor fiber* and *Castor canadensis* and their ability to modify ecosystems. *Mammal Review*, **35** (3-4): 248-276.
- ROSELL, F. and CAMPBELL-PALMER, R. (2022). *Beavers: Ecology, Behaviour, Conservation, and Management*. Oxford, UK: Oxford University Press.
- RUSSELL, K. R., MOORMAN, C. E., EDWARDS, J. K., METTS, B. S. and GUYNN, D. C. (1999). Amphibian and Reptile Communities Associated with Beaver (*Castor canadensis*) Ponds and Unimpounded Streams in the Piedmont of South Carolina. *Journal of Freshwater Ecology*, **14** (2): 149-158.
- SALANDRE, J. A., BEIL, R., LOEHR, J. A. and SUNDELL, J. (2017). Foraging decisions of North American beaver (*Castor canadensis*) are shaped by energy constraints and predation risk. *Mammal Research*, **62** (3): 229-239.
- SAMWAYS, K. M., POULIN, R. G., BRIGHAM, R. M. and MUTHS, E. (2004). Directional tree felling by beavers (*Castor canadensis*). *Northwestern Naturalist*, **85** (2): 48-52.
- SCRAFFORD, M. A., TYERS, D. B., PATTEN, D. T. and SOWELL, B. F. (2018). Beaver habitat selection for 24 Yr since reintroduction north of Yellowstone National Park. *Rangeland Ecology and Management*, **71** (2): 266-273.
- SEMLITSCH, R. D. and BODIE, J. R. (2003). Biological Criteria for Buffer Zones around Wetlands and Riparian Habitats for Amphibians and Reptiles. *Conservation Biology*, **17** (5): 1219-1228.
- SEVERUD, W. J., BELANT, J. L., WINDELS, S. K. and BRUGGINK, J. G. (2013a). Seasonal variation in assimilated diets of American beavers. *The American Midland Naturalist*, **169** (1): 30-42.

- SEVERUD, W. J., WINDELS, S. K., BELANT, J. L. and BRUGGINK, J. G. (2013b). The role of forage availability on diet choice and body condition in American beavers (*Castor canadensis*). *Mammalian Biology*, **78** (2): 87-93.
- SHEPHERD, N. L. and NAIRN, R. W. (2020). Metals retention in a net alkaline mine drainage impacted stream due to the colonization of the North American Beaver (*Castor canadensis*). *Science of The Total Environment*, **731**: 139203.
- SHOCKEY, J. (2023). *Best Management Practices for Pond Levelers and Culvert Protection Systems. Version 1.2. PROJECT BEAVER* Jacksonville, OR.
- SIEMER, W. F., DECKER, S. A. and ORGAN, J. F. (2013). Toward an understanding of beaver management as human and beaver densities increase. *Human-Wildlife Interactions*, **7** (1): 114-131.
- SMITH, A., TETZLAFF, D., GELBRECHT, J., KLEINE, L. and SOULSBY, C. (2020). Riparian wetland rehabilitation and beaver re-colonization impacts on hydrological processes and water quality in a lowland agricultural catchment. *Science of The Total Environment*, **699**: 134302.
- SMITH, D. W. and JENKINS, S. H. (1997). Seasonal change in body mass and size of tail of northern beavers. *Journal of Mammology*, **78** (3): 869-876.
- SMITH, D. W. and TYERS, D. B. (2012). The History and Current Status and Distribution of Beavers in Yellowstone National Park. *Northwest Science*, **86** (4): 276-288.
- SOULSBURY, C. D. and WHITE, P. C. L. (2015). Human-wildlife interactions in urban areas: a review of conflicts, benefits and opportunities. *Wildlife Research*, **42**: 541-553.
- STEVENS, C. E., PASZKOWSKI, C. A. and FOOTE, A. L. (2007). Beaver (*Castor canadensis*) as a surrogate species for conserving anuran amphibians on boreal streams in Alberta, Canada. *Biological Conservation*, **134** (1): 1-13.
- STOFFYN-EGLI, P. and WILLISON, J. H. M. (2011). Including wildlife habitat in the definition of riparian areas the beaver (*Castor canadensis*) as an umbrella species for riparian obligate animals. *Environmental Reviews*, **19**: 479-493.
- SUN, L., MÜLLER-SCHWARZE, D. and SCHULTE, B. A. (2000). Dispersal pattern and effective population size of the beaver. *Canadian Journal of Zoology*, **78** (3): 393-398.
- SUNDELL, J., LIAO, W. and NUMMI, P. (2020). Small mammal assemblage in beaver-modified habitats. *Mammal Research*.
- SUZUKI, N. and MCCOMB, W. C. (1998). Habitat classification models for beaver (*Castor canadensis*) in the streams of the central Oregon coast range. *Northwest Science*, **72** (2): 102-110.
- SWINNEN, K. R. R., RUTTEN, A., NYSSSEN, J. and LEIRS, H. (2018). Environmental factors influencing beaver dam locations. *The Journal of Wildlife Management*, **83** (2): 356-364.
- TAYLOR, J. D. and SINGLETON, R. D. (2014). The evolution of flow devices used to reduce flooding by beavers: A review. *Wildlife Society Bulletin*, **38** (1): 127-133.
- THOMPSON, S., VEHKAOJA, M., PELLIKKA, J. and NUMMI, P. (2020). Ecosystem services provided by beavers *Castor* spp. *Mammal Review*.

- TOUIHRI, M., LABBÉ, J., IMBEAU, L. and DARVEAU, M. (2017). North American Beaver (*Castor canadensis* Kuhl) key habitat characteristics: review of the relative effects of geomorphology, food availability and anthropogenic infrastructure. *Écoscience*, **25** (1): 9-23.
- TREMBLAY, G., VALERIA, O. and IMBEAU, L. (2017). Characterisation of beaver habitat parameters that promote the use of culverts as dam construction sites: can we limit the damage to forest roads? *Forests*, **8** (12): 494.
- TREVES, A. and SANTIAGO-AVILA, F. J. (2020). Myths and assumptions about human-wildlife conflict and coexistence. *Conserv Biol*, **34** (4): 811-818.
- TYE, S. P., GELUSO, K., HARNER, M. J., SIEPIELSKI, A. M., FORSBERG, M. L., BRINLEY BUCKLEY, E. M., *et al.* (2021). One House is a Home for Many: Temporal Partitioning of Vertebrates on an American Beaver Lodge. *American Midland Naturalist*, **185** (2): 229-240.
- WANG, G., MCCLINTIC, L. F. and TAYLOR, J. D. (2019). Habitat selection by American beaver at multiple spatial scales. *Animal Biotelemetry*, **7** (1).
- WATHEN, G., ALLGEIER, J. E., BOUWES, N., POLLOCK, M. M., SCHINDLER, D. E. and JORDAN, C. E. (2019). Beaver activity increases habitat complexity and spatial partitioning by steelhead trout. *Canadian Journal of Fisheries and Aquatic Sciences*, **76** (7): 1086-1095.
- WEBER, N., BOUWES, N., POLLOCK, M. M., VOLK, C., WHEATON, J. M., WATHEN, G., *et al.* (2017). Alteration of stream temperature by natural and artificial beaver dams. *PLoS One*, **12** (5): e0176313.
- WEGENER, P., COVINO, T. and WOHL, E. (2017). Beaver-mediated lateral hydrologic connectivity, fluvial carbon and nutrient flux, and aquatic ecosystem metabolism. *Water Resources Research*, **53** (6): 4606-4623.
- WESTBROOK, C. J., COOPER, D. J. and BAKER, B. W. (2006). Beaver dams and overbank floods influence groundwater-surface water interactions of a Rocky Mountain riparian area. *Water Resources Research*, **42** (6).
- WESTBROOK, C. J., RONNQUIST, A. and BEDARD-HAUGHN, A. (2020). Hydrological functioning of a beaver dam sequence and regional dam persistence during an extreme rainstorm. *Hydrological Processes*, **34** (18): 3726-3737.
- WHITTAKER, D., VASKE, J. J. and MANFREDO, M. J. (2006). Specificity and the cognitive hierarchy: value orientations and the acceptability of urban wildlife management actions. *Society & Natural Resources*, **19** (6): 515-530.
- WITTMANN, K., VASKE, J. J., MANFREDO, M. J. and ZINN, H. C. (1998). Standards for lethal response to problem urban wildlife. **3** (4): 29-48.
- WRÓBEL, M. and KRYSZTOFIK-KANIEWSKA, A. (2020). Long-term dynamics of and potential management strategies for the beaver (*Castor fiber*) population in Poland. *The European Zoological Journal*, **87** (1): 116-121.
- WURTH, A. M., ELLINGTON, E. H. and GEHRT, S. D. (2020). Golf Courses as Potential Habitat for Urban Coyotes. *Wildlife Society Bulletin*, **44** (2): 333-341.

YARMEY, N. T. and HOOD, G. A. (2020). Resident perceptions of human-beaver conflict in a rural landscape in Alberta, Canada. *Human–Wildlife Interactions*, **14** (3): 476-486.

COUNCIL – AGENDA REPORT

Meeting Date: 4 July 2023

Subject: 2023 Municipal Census Results

Boards Routed Through: N/A

Date: N/A

Issue:

Council is being presented with the official results of the 2023 municipal census.

Background:

A municipal census had not been conducted since 2019 due to the coronavirus pandemic. In 2020 the province's census regulation was repealed, the regulation changed to estimated population count instead of official municipal census count for allocating grant dollars.

The City of Airdrie conducted a municipal census during the period of April 1 to June 15, 2023.

The official population for the City of Airdrie is:

	2023	2023 v. 2019	2019	2019 v. 2018
Population	TBA	*%	70,564	3.63%
Dwellings	TBA	*%	26,210	3.76 %

Following the same process implemented since 2008, each household received a secure PIN/SAC (personal identification number) allowing the resident to reply online. Households who chose not to or were unable to respond online were visited by an enumerator who collected information electronically using an iPad. The online response rates were as follows.

Online Census	2023	2019	2018	2017
Prior to Door-to-Door Collection	TBA	55.68%*	51.1%	49.8%
Number of Dwellings	TBA	13,780*	13,035	12,103
Total Overall	TBA	73.22%	73.62%	67.42%
Number of Dwellings	TBA	19,012	18,595	16,376

*In 2019, the waiting time prior to door-to-door collection was reduced to 14 days (as compared to 23 to 26 days for previous years) to reduce overlap with the federal census collection.

Staff completed the required 385 quality assurance checks in May and June. The census fact sheets with the updated population and dwelling counts, together with age and gender information for each community within the City of Airdrie, will be provided at the Council meeting.

Airdrie hosted six other municipalities who requested to use the Online Census.

Alignment with South Saskatchewan Regional Plan and AirdrieONE:

N/A

Boards Routed Through:

N/A

Administration Recommendation:

That Council accepts the presentation of the 2023 Official Census results for information

Alternatives/Implications:

N/A

Communications Plan:

The official census results will be provided to the local media and posted to the City's website immediately following the census result presentation to Council.

Recommendation:

That Council accepts the presentation of the 2023 Official Census results for information.

Lynn Penney
Legislative Services Technician

Presenter:	Lynn Penney
Department:	Legislative Services
Reviewed by:	Tammy Belsham
Attachments:	N/A
Appointment:	N/A

COUNCIL – AGENDA REPORT

Meeting Date: 4 July 2023

Subject: Bylaw No. B-30/2023 - New Traffic Bylaw

Boards Routed Through: Municipal Police Advisory Board

Date: 16 June 2023

Issue:

Council is being asked to give three readings to Bylaw No. B-30/2023, being the new Traffic Bylaw.

Background:

Traffic Bylaw No. B-14/2016 was adopted by Council in 2016 to replace the antiquated Traffic Bylaw 802, which had not been updated since 1982. At the time of this extensive review, input was solicited from Transit, Municipal Enforcement, RCMP, Planning, Risk Management, Engineering, Roads, the Traffic Advisory Council and Fire. As bylaws are living documents, the current Traffic Bylaw has been amended and consolidated many times to reflect the changing needs of the community. The most recent amendment and consolidation was done May 2022 to allow for e-scooters in the community. These amendments have resulted in improper numbering, some inaccurate wording of the amendments adopted by Council and formatting issues.

Given the number of edits for renumbering, re-wording to ensure plain and consistent language and removing definitions that are currently in Provincial Statutes, it is recommended that Bylaw No. B-14/2016 be replaced by Traffic Bylaw No. B-30/2023.

The following provides an overview of the proposed changes and subsequent justifications for those changes, to the current Traffic Bylaw B-14/2016:

General Changes:

- Modified Traffic Bylaw No. B-14/2016 to adopt and use the meanings as defined in the *Municipal Government Act*, *Traffic Safety Act*, *Dangerous Goods Transportation and Handling Act* and the *City Transportation Act*. This reduced the definition section considerably, as many of these definitions were duplicated within the bylaw.

- All numbering was changed to adopt a consistent numerical format without using separate Part numbers to begin each number. Numbering now goes from 1 through 173.
- Wherever possible, used clear language for ease of reading and understanding.
- Schedule “A” Fines has been updated and amended to reflect proper bylaw numbering and violations.

Specific Changes:

CURRENT BYLAW No. B-14/2016	PROPOSED AMMENDMENT	JUSTIFICATION
Uses both “Commercial Vehicles” and “Heavy Vehicles” within the bylaw.	Use only “Commercial Vehicles”. Definition (6) states, “commercial vehicle” means a vehicle operated on a highway by or on behalf of a person for the purpose of providing transportation and includes: (a) vehicle or a combination of commercial vehicles that is registered for a gross weight of more than 4,500 kilograms; (b) tractor, grader, road building or road maintenance equipment, or construction equipment, other than truck-type vehicles, regardless of weight and that is not a bus; (c) a truck-type vehicle; or (d) a bus	Provides consistency in wording and only requires one definition. The definition of a “commercial vehicle” includes the criteria for a “heavy vehicle”, making the need for a “heavy vehicle” definition redundant.
Combined bicycles and e-scooters together under Part 5 – “BICYCLES and E-SCOOTERS”.	Remove E-Scooters from Part 5 and move to Part 9 – “Operating rules for e-scooters”.	Having a part dedicated solely to e-scooters provides the public with clearer rules for e-scooters, and it is easier to find in the bylaw. Bylaw No. B-30/2023 Part 9 was reworded into plain language and condensed to reduce redundancies.
Not in Bylaw No. B-14/2016.	Add 86.1 “A vehicle must not actively leak any fluid onto the highway.	Previously, Municipal Enforcement could only address leaking fluids from a parked car on a roadway, when those fluids flowed into sewers under the <i>Environmental Protection and Enhancement Act</i> .
11.03 “No person while operating a heavy vehicle away from the Truck Routes established by schedule “B” of this Bylaw for any of the reasons set forth in 11.04 shall exceed a speed of thirty (30) kilometers per hour.	Removed.	As written in Bylaw B-14/2016, commercial (heavy) vehicles on non-truck route roads, such as East Lake Blvd., would be required to drive at 30 Km/hr. on the roadway, which would cause more traffic issues.

Original Bylaw used persons and pedestrians interchangeably.	Use the term person when not specifically referring to someone walking “on foot”.	Pedestrian has a strict meaning of a person on foot, whereas, the use of “person” could also include roller skating, roller blading, etc.
Not in Bylaw No. B-14/2016.	Added 136, allowing school busses to park in residential areas during school days (7:00 AM to 4 PM).	This would allow bus drivers to park their vehicle at or near their residence during break times between picking up and dropping off students. All other parking rules must be adhered to.

It is believed that these specific changes will improve overall safety and convenience for the citizens of Airdrie, while the general changes will increase the citizens ability to read, understand and locate specific rules related to traffic.

The Traffic Advisory Committee (TAC) had concerns regarding school bus parking in residential neighborhoods. The concern was that parking of such vehicles may interfere with emergency vehicles and regular traffic flow in those neighborhoods. It is believed that these concerns are addressed through other parts of the Traffic Bylaw, specifically 79(1) “A person must not park a vehicle on a traffic lane” and 63(2) “the wheels closest to a curb or edge of the roadway not more than 35 centimetres from that curb or edge of the roadway”.

Alignment with South Saskatchewan Regional Plan and AirdrieONE:

N/A

Boards Routed Through:

Municipal Police Advisory Board (MPAB) also had concerns regarding school bus parking in residential neighborhoods. Again, the concern was that parking of such vehicles may interfere with emergency vehicles and regular traffic flow in those neighborhoods. It was explained that these concerns are addressed through other parts of the Traffic Bylaw, specifically 79(1) “A person must not park a vehicle on a traffic lane” and 63(2) “the wheels closest to a curb or edge of the roadway not more than 35 centimetres from that curb or edge of the roadway”.

MPAB supported recommending that Bylaw No. B-30/2023 being the new Traffic Bylaw, be given three reading by Council.

Administration Recommendation:

That Council gives three readings to Bylaw No. B-30/2023, being the new Traffic Bylaw.

Alternatives/Implications:

1. Council can choose to maintain the current Traffic bylaw as is. This will mean that numbering issues and references to certain sections in the bylaw will not be reflected properly in schedule “A” fines.

2. Council can choose to maintain the current Traffic by and direct staff to make individual changes to the bylaw. Staff will make the changes and return to Council for their approval. This will delay implementing any changes until the Fall.

Communications Plan:

N/A

Recommendation:

That Council gives three readings to Bylaw No. B-30/2023, being the new Traffic Bylaw.

Brian Rayner
Municipal Enforcement Team Lead

Presenter:	Brian Rayner, Team Leader, Municipal Enforcement
Department:	Municipal Enforcement
Reviewed by:	Lynn Mackenzie, Municipal Enforcement and RCMP Support Services
Attachments:	#1: Draft Traffic Bylaw B-30 2023 #2: Current Traffic Bylaw No. B-14 2016 June 2022 Consolidation
Appointment:	N/A

BYLAW NO. B-30/2023
CITY OF AIRDRIE
PROVINCE OF ALBERTA

BEING A BYLAW TO REGULATE TRAFFIC AND THE USE OF HIGHWAYS,
SIDEWALKS AND PUBLIC PLACES WITHIN THE CITY OF AIRDRIE.

WHEREAS the *Municipal Government Act*, RSA 2000, c M-26 (the *Municipal Government Act*) authorizes a municipality to pass bylaws respecting the safety, health, and welfare of people and the protection of people and property; activities and things in, on or near a public place or place that is open to the public; and transport and transportation systems;

AND WHEREAS the *Municipal Government Act*, RSA 2000, c M-26 provides that a municipality has the direction, control and management of all roads within the municipality;

AND WHEREAS the *Traffic Safety Act*, RSA 2000, c T-6, authorizes a municipality to pass bylaws which govern, restrict, regulate, and control vehicle, animal, and pedestrian traffic; use of highways, streets, lanes and other public places; parking of vehicles; and the use of flashing lights and a stop arm by school buses;

NOW THEREFORE the Council of the City of Airdrie enacts as follows:

Part 1 – Title

- 1 This bylaw may be cited as the “Traffic Bylaw.”

Part 2 - Interpretation

Definitions

- 2 Words used in this bylaw have the same meaning as defined in the *Alberta Municipal Government Act*, *Traffic Safety Act*, *Dangerous Goods Transportation and Handling Act*, *City Transportation Act*, including their amendments and regulations, unless defined otherwise in this bylaw.
- 3 In this bylaw,
- (1) “Act” means the *Traffic Safety Act*, RSA 2000, c T-6, as amended or substituted from time to time;
 - (2) “appeal board” means the General Appeal Board established by Council;

- (3) “City” means the municipal corporation of the City of Airdrie and the geographical area contained within the boundaries of the City;
- (4) “City Manager” means the City’s Chief Administrative Officer appointed pursuant to the *Municipal Government Act* or their delegate;
- (5) “commercial loading zone” means a portion of a street set aside adjacent to a curb designated for the exclusive use of commercial vehicles for the loading and unloading of materials and includes an area designated as such;
- (6) “commercial vehicle” means a vehicle operated on a highway by or on behalf of a person for the purpose of providing transportation and includes:
 - (a) vehicle or a combination of commercial vehicles that is registered for a gross weight of more than 4,500 kilograms;
 - (b) tractor, grader, road building or road maintenance equipment, or construction equipment, other than truck-type vehicles, regardless of weight and that is not a bus;
 - (c) a truck-type vehicle; or
 - (d) a busbut does not include a private passenger vehicle;
- (7) “Council” means the Council of the City of Airdrie;
- (8) “e-scooter” means a vehicle that:
 - (a) has a permit to operate granted by the Province of Alberta;
 - (b) has a permit or licence to operate granted by the City of Airdrie;
 - (c) has steering handlebars;
 - (d) consists of a footboard mounted on two or three wheels; and
 - (e) is capable of being propelled by muscular power, may be propelled by one or more electric motors;
- (9) “emergency vehicle” means:
 - (a) a vehicle operated as a gas disconnection unit of a public utility;

- (b) a vehicle designated by regulation as an emergency response unit; and
 - (c) a tow truck;
- (10) “holiday” means a Sunday, or public holiday as defined in the *Interpretation Act*, RSA 2000, c I-8, and a day or portion of a day proclaimed by Council as a Civic Holiday;
- (11) “Municipal Enforcement” means the City of Airdrie’s Municipal Enforcement Unit;
- (12) “occupant” means the owner or other person having lawful possession of a premises;
- (13) “officer” means a person appointed by the City to enforce the provisions of this bylaw including a Bylaw Enforcement Officer, Peace Officer, or a member of the RCMP;
- (14) “owner” means the person or persons registered as the vehicle owner at the Motor Vehicles Registry or a person renting a vehicle or having the exclusive use of a vehicle under a lease that has a term of more than 30 days or otherwise having the exclusive use of a vehicle for a period of more than 30 days;
- (15) “parade” means a procession or march organized for the purpose of entertainment of spectators, display, inspection or promotion of a cause or purpose;
- (16) “park” means, when prohibited, allowing a vehicle to remain stationary in one place, except:
 - (a) while actively engaged in loading or unloading passengers, or
 - (b) when complying with the direction of an Officer or traffic control device;
- (17) “park roadway” means a road, including parking lots for vehicles, in a park space which is set aside specifically for use by vehicles and other transportation devices;
- (18) “park space” means a public space controlled by the City and set aside as a park to be used for rest, recreation, exercise, pleasure, amusement and enjoyment, and includes:
 - (a) playgrounds, natural areas, sports fields and cemeteries; and

(b) pathways, trails and park roadways;

but does not include golf courses;

- (19) “pathway” means any multiple-use path, thoroughfare, or trail, whether of asphalt, concrete, shale, or gravel surface, which is primarily intended for the use of pedestrians, cyclists and e-scooter’s and does not include a sidewalk;
- (20) “Peace Officer” a person appointed pursuant to City of Airdrie Bylaw No. 07/97, as amended or replaced, to enforce the provisions of this bylaw and other bylaws of the City;
- (21) “permit” means a permit issued under this bylaw;
- (22) “permit parking zone” means that area of the highway in any location where a permit to park is required;
- (23) “public loading zone” means a portion of a highway set aside adjacent to a curb designated for the exclusive use of vehicles for loading or unloading;
- (24) “public place” means any City-owned, controlled, or managed space to which the public is permitted access;
- (25) “special roadway event” means an event or competition taking place in whole or in part on a roadway involving walking, running, or the use of bicycles, motorcycles, cars, or other vehicles, but does not include parades or funeral processions;
- (26) “violation ticket” means a ticket issued pursuant to Part 2 or 3 of the *Provincial Offences Procedure Act*, RSA 2000, c P-34; and
- (27) “voluntary payment tag” means a tag or similar document issued pursuant to the *Municipal Government Act*, RSA 2000, c M-26.

Application

- 4 This bylaw applies to all vehicle, pedestrian and animal traffic, the use of highways, sidewalks, pathways and public places, the parking of vehicles and the use of flashing lights and a stop arm by school buses within the City of Airdrie.

Part 3 – Traffic Regulations

Speed Limits

- 5 Unless otherwise posted,
- (1) 30 kilometres per hour is the maximum speed limit for a highway;
 - (2) 30 kilometres per hour is the maximum speed limit in a school zone or playground zone;
 - (3) 20 kilometres per hour is the maximum speed limit for a laned roadway or alley; and
 - (4) 15 kilometres per hour is the maximum speed limit for a parking lot.

School zones

- 6 School zones are in effect from 7:30 a.m. to 5:00 p.m. on any day that school is held.

Part 4 – Pedestrians

- 7 A pedestrian must not cross a roadway within one block of a traffic control signal or pedestrian corridor other than in a crosswalk.
- 8 A pedestrian must not crowd or jostle other pedestrians in a way that creates or causes discomfort, disturbance, or confusion.
- 9 (1) A pedestrian must not stand, sit, or lie on any roadway in a way that obstructs vehicle or pedestrian traffic or annoys or inconveniences other persons lawfully on the roadway.
- (2) A group of 3 or more pedestrians must not stand so near to each other on any roadway, sidewalk, or boulevard that the group obstructs the entrance to or exit from a building or obstructs or prevents other persons from using such roadway, sidewalk, or boulevard.
- (3) A person or group of 3 found to be in violation of section 9(1) or 9(2) must immediately disperse and move away from the area after an Officer requests them to do so.
- 10 A pedestrian must not stand on or walk along a roadway for the purposes of soliciting a ride from the driver of a vehicle unless the pedestrian is soliciting a ride from a transit vehicle or taxi.

- 11 Section 9 does not apply to pedestrians assembled to watch a parade or special roadway event for which a permit has been issued.
- 12 Section 9 does not prohibit the congregation or assembly of individuals to attend, participate, in or listen to public speaking so long as the individuals are peaceable and orderly and there is sufficient space is left on the highway, sidewalk, or boulevard to allow free and unimpeded movement and travel of other pedestrian and vehicle traffic.
- 13 If a congregation or assembly of individuals results in the obstructions referenced in section 9, the individuals causing the obstruction, annoyance, or inconvenience must immediately disperse and move away from the area after an officer or other authorized person requests them to do so.

Part 5 – Operating rules for bicycles

- 14 A person operating a bicycle on a highway has all the rights and is subject to all the duties that any vehicle operator has under this bylaw unless the context otherwise requires.
- 15 (1) A person must not ride a bicycle on a sidewalk except where expressly permitted by a traffic control device or by this bylaw.

(2) Section 15(1) does not apply to a person 12 years old or younger.
- 16 Unless a traffic control device otherwise prohibits, a person may ride a bicycle on any pathway or sidewalk if the bicycle is ridden in a way that does not interfere with a pedestrian lawfully using the pathway.
- 17 A person riding a bicycle or e-scooter on a sidewalk or pathway must:
 - (1) yield the right of way to slower moving persons or cyclists;
 - (2) alert a person about to be overtaken by sounding a bell with a reasonable amount of time before overtaking;
 - (3) use reasonable care when overtaking another person or passing on the left; and
 - (4) travel under control and at a reasonable rate of speed having regard to the nature, condition and use of the sidewalk or pathway including the amount of pedestrian traffic.

Part 6 – Use of Sidewalks, Pathways and Boulevards

- 18 Part 6 of this bylaw does not apply to pathways governed by *Parks Bylaw* No. B-13/2009.
- 19 A person must not:
- (1) drive, lead, or allow a hoofed animal to walk;
 - (2) drive, draw, or push any vehicle;
 - (3) ride a horse; or
 - (4) draw, push, propel, or ride a wheeled vehicle;
- on or along a sidewalk, pathway, or boulevard, unless allowed otherwise in this bylaw.
- 20 Despite section 21, a person may draw, push, propel, or ride:
- (1) a two-wheeled cart or other personal grocery carrier;
 - (2) a baby carriage, or a wheeled device for carrying a child or a disabled person;
 - (3) an e-scooter or mobility aid; or
 - (4) a child's tricycle;
- on or along a sidewalk or pathway in such a way that it does not interfere with other users of the sidewalk or pathway.
- 21 A person must not use rollerblades, scooters, two-wheeled self-balancing stand-up personal transportation devices, or skateboard on a sidewalk of the block where the City Manager has posted a traffic control device prohibiting skateboarding or rollerblades.
- 22 A person must not ice skate, rollerblade, or skateboard on a roadway.
- 23 (1) A person must not load or unload goods across a sidewalk or boulevard where there are designated loading and unloading facilities on the property.
- (2) Section 23(1) does not apply to crossing a sidewalk in a place where there is a laned roadway or prepared crossing or where permission has been granted for such purpose.

Part 7 - Parking

- 24 For the purposes of Part 7, an owner of a vehicle is liable for any offence committed by an operator of the vehicle.
- 25 The City Manager is authorized to designate a permit parking zone anywhere within the City.
- 26 Vehicles parked in a permit parking zone, including a residential parking permit zone, must clearly display a valid parking permit.

Residential parking permits

- 27 Where a residential parking permit zone is designated by installed signs, residents who reside within the residential parking permit zone may apply to Municipal Enforcement for a total of 3 permits per residence, which includes one visitor permit.
- 28 To apply for a residential parking permit, residents must present valid Alberta Vehicle Registration that shows an address within that residential parking permit zone or other information that is acceptable to the City Manager.
- 29 Residential parking permits issued under this bylaw are valid for 5 years.
- 30 A person with a residential parking permit who moves from the residence must immediately return the parking permit to Municipal Enforcement.
- 31 When a person sells or disposes of a vehicle which has a residential parking permit, the person must remove the permit from the vehicle, and either
 - (1) if the person has obtained another vehicle for which a permit may be granted pursuant to this Bylaw, transfer the permit to the new vehicle; or
 - (2) if the person has not obtained another vehicle for which a permit may be granted, the person must return the permit to Municipal Enforcement.
- 32 A person must not sell, trade, give away, dispose of, or otherwise allow a person to obtain their parking permit.

Parking in alleys

- 33 A person must not park a vehicle in an alley unless a sign otherwise permits.
- 34 Despite section 33, a person may park a vehicle in an alley:

- (1) for a maximum of 30 minutes to load or unload goods from a commercial vehicle; or
 - (2) for a maximum of 15 minutes to load or unload goods or passengers from a vehicle other than a commercial vehicle.
- 35 If a vehicle parked in an alley obstructs or prevents other vehicles or persons from passing along the alley, the owner or operator of the vehicle is guilty of an offence.

Recreational vehicles, trailers, and off-highway vehicles

- 36 A person must not park a recreational vehicle on a highway except in accordance with this bylaw.
- 37 (1) A person may park a recreational vehicle on the highway immediately adjacent to the recreational vehicle's owner or operator's residence, as shown in the motor vehicle registry, for a maximum of 72 consecutive hours.
- (2) Once the maximum time limit in section 37(1) is reached, the recreational vehicle must move to an off-highway location for at least 48 consecutive hours before it can return to the area specified in section 37(1).
- 38 An owner or operator of a recreational vehicle must not park the recreational vehicle in such a manner as to make a hazard.
- 39 Recreational vehicles, including attachments, that are parked on a front driveway or at the back of the lot adjacent to an alley:
- (1) must not extend onto the sidewalk, pathway, or curb of a highway or alley;
 - (2) must be setback at least 1.5 metres from the curb where no sidewalk or pathway exists; and
 - (3) must not extend past the property line on which the recreational vehicle is parked where no sidewalk, pathway, or curb exists.
- 40 (1) A person must not park a recreational vehicle or trailer, whether designed for occupancy by persons or for the carrying of goods or equipment, on a highway.
- (2) Despite section 40(1), a person may park a vehicle with a recreational vehicle or trailer attached to it if the recreational vehicle or trailer is attached in a way so it can be propelled or drawn.

(3) When a recreational vehicle or trailer is attached to a vehicle in a way so the recreational vehicle or trailer can be propelled or drawn, it is deemed part of the vehicle and subject to the regulations that relate to the vehicle.

- 41 A person must not park a recreational vehicle or trailer in a way that obstructs access to or exit from a highway, driveway, or adjacent highway.
- 42 A person must not park a recreational vehicle within 1.5 metres of an access to a highway.
- 43 It is an offence to occupy a recreational vehicle parked on a highway.
- 44 A person must not park a vehicle, recreational vehicle, or a vehicle with any type of trailer attached on a highway in a residential development if the overall length of the vehicle, recreational vehicle, or the vehicle with trailer is greater than 9 metres.
- 45 (1) Despite section 44, a person may park a recreational vehicle or a vehicle with a trailer attached on a highway for the purpose of cleaning or loading or unloading goods to or from premises abutting such highway provided this is completed within consecutive 24 hours.

(2) If a person is loading or unloading recreational vehicle or vehicle with a trailer attached during a period of restricted visibility, then the recreational vehicle or vehicle and its trailer must have all front and rear parking lights illuminated.
- 46 Recreational vehicles, off-highway vehicles, and trailers must be parked on gravel, concrete, or paved parking pad in a residential area.
- 47 When a vehicle parks in a time restricted parking or stopping area, an officer, or other person charged with the enforcement of parking prohibitions and restrictions, may place an erasable chalk mark on the tire tread face of the vehicle to determine how long the vehicle has been parked or stopped.
- 48 Officers cannot incur liability for placing chalk on tire tread faces pursuant to section 47.
- 49 A person who removes an erasable chalk mark placed while the vehicle remains parked or stopped in the location where it was marked is guilty of an offence.

Unauthorized parking - fire access

- 50 A person must not park a vehicle:

- (1) where the vehicle may in any way interfere with the use of a doorway intended as a fire or emergency exit from a building adjacent to a highway; or
 - (2) in the entranceway to a fire hall or the ambulance entranceway to fire hall, hospital, or urgent care centre.
- 51 An owner or operator of a vehicle must not stop, park, or permit the stopping or parking of the vehicle in a signed fire lane.
- 52 A person must not park or drive a vehicle over a fire hose laid on a highway.
- 53 Except as permitted in this bylaw, a vehicle must not stop on a highway within 5 metres of a fire hydrant.

Unauthorized parking - general

- 54 Unauthorized parking is not enforced on private property unless the unauthorized parking is in relation to fire lanes and parking within a disabled parking zone.
- 55 An owner or operator of a vehicle or e-scooter must not park in a transit zone properly marked by a traffic control device unless that vehicle is a transit vehicle.
- 56 A person must not park a vehicle on City-owned property that the City uses or permits to be used as park space unless the City Manager otherwise allows by way of a traffic control device.
- 57 A person must not park a vehicle in a parking space on City-owned property where the space is reserved for a vehicle operated by a City employee unless that person is a City employee and displays a clearly visible permit in the vehicle.
- 58 A person must not park a vehicle on any portion of a highway, including a parking lot, marked by traffic control devices as “No Parking”.
- 59 A person must not drive or park any vehicle on any sidewalk, pathway, or boulevard in the City.
- 60 Section 59 does not apply to e-scooters.
- 61 A person must not park a vehicle on a driveway or entranceway to any building so that any part of that vehicle extends across any portion of a boulevard, sidewalk, or pathway.
- 62 When parking on a two-way roadway, the operator must park the vehicle with:
- (1) the sides of the vehicle parallel to the curb or edge of the roadway; and

- (2) the right wheels thereof not more than 35 centimetres from the right curb or edge of the roadway.
- 63 When parking on a one-way highway where parking on either side of the highway is permitted, the operator must park the vehicle with:
 - (1) the sides of the vehicle parallel to the curb;
 - (2) the wheels closest to a curb or edge of the roadway not more than 35 centimetres from that curb or edge of the roadway; and
 - (3) the vehicle facing the direction of travel authorized for that highway.
- 64 A person must not park perpendicular to a curb edge in a way that causes a hazard to vehicles or pedestrians.
- 65 A person must not park next to the edge of a roadway unless marked by a sign allowing such parking.
- 66 A person must not park perpendicular to a curb edge or next to the edge of a roadway unless marked by a sign allowing such parking.
- 67 A person must not park a vehicle:
 - (1) on any portion of a highway marked by a traffic control device that prohibits stopping or parking; or
 - (2) on any portion of a highway marked by a temporary City “No Parking Sign” for the purposes of allowing City employees or contractors to repair, clear or clean the highway between the hours of 1:00 a.m. and 12:00 midnight during any days that the “No Parking Sign” is in effect.
- 68 Any vehicle parked in violation of section 67(2) may be towed or removed from the portion of the highway being cleaned, cleared, or repaired at the owner’s expense, and the vehicle may be moved to an adjacent highway.
- 69 A person must not park a vehicle:
 - (1) on a crosswalk or any part of a crosswalk; or
 - (2) within 5 metres of the near side of a marked crosswalk.
- 70 A person must not park a vehicle within 5 metres of the approach to a stop sign or yield sign.

- 71 A person must not park a vehicle:
- (1) at an intersection, within 5 metres of the projection of the curb or edge of the roadway;
 - (2) within an intersection, other than immediately next to the curb or edge of the roadway in a “T” intersection;
- unless a traffic control device otherwise permits or requires.
- 72 An owner or operator of a vehicle which:
- (1) is not equipped in accordance with the Act; or
 - (2) is not in operable condition;
- must not cause or permit such vehicle to be parked or left on a highway.
- 73 Except in the case of a breakdown or other emergency not allowing the vehicle to be moved, the owner or operator of any vehicle must not stand or park it on the highway for the purpose of servicing or repairing the vehicle.
- 74 A vehicle must not be parked on a highway identified as a disabled parking zone unless the vehicle:
- (1) displays a valid disabled placard or licence plate issued or recognized by the Registrar; and
 - (2) is being used for the transportation of a person with a disability.
- 75 Where a vehicle parking space is marked out or designated upon a highway, the operator of a vehicle making use of the parking space must park their vehicle wholly within one marked out or designated parking space.
- 76 A person must not park on the roadway side of a vehicle parked or stopped at the curb of the edge of the roadway.
- 77 A person must not park a vehicle on a roadway so that it faces in the opposite direction of the traffic flow for that side of the roadway.
- 78 Where angle parking is permitted on a highway, a person must not park a vehicle so that the front of the vehicle is more than 35 centimetres from the curb or edge of the roadway.
- 79 (1) A person must not park a vehicle on a traffic lane.

- (2) Section 79(1) does not apply where the parking is unavoidable due to mechanical failure provided the operator promptly takes measures to clear the vehicle from the highway.
- 80 (1) Where a sign restricts the parking of vehicles to a specific time, it is an offence to park a vehicle for longer than the permitted time.
- (2) After the issuance of a voluntary payment tag concerning a vehicle for the first violation of section 80(1) and vehicle remaining parked more than the time permitted on the sign for a further period then a second offence is deemed to have occurred.
- (3) Sections 80(1) and (2) do not apply on a statutory holiday in Alberta.
- 81 A vehicle that is left standing
- (1) on a highway for more than 72 consecutive hours, unless otherwise provided for in a bylaw in the case of a highway under the direction, control and management of the Council of a municipality, or
- (2) on public or private property for more than 72 consecutive hours without the consent of the owner or person in possession or control of the property,
- is deemed to have been abandoned at that location.
- 82 A person must not park equipment such as zoom booms, cranes, or any other construction equipment unattended on a City highway.
- 83 A person must not park a vehicle within 1.5 metres of a driveway where that vehicle blocks the entry or exit of that driveway.
- 84 An officer is authorized to remove or cause to be removed a vehicle or trailer:
- (1) parked in contravention of a provision of this bylaw; or
- (2) where emergency conditions may require such removal from a highway.
- 85 A vehicle removed pursuant to section 84 may be removed to a place designated by the City Manager where it will remain until claimed by the vehicle's owner or an agent of the owner.
- 86 Except for vehicles removed during emergency conditions, towing charges are deemed a debt owing to the City and may be in addition to any fine or penalty imposed in respect of any such violation, or to any payment made instead of prosecution as provided for in Part 19 of this bylaw.

86.1 A vehicle must not actively leak any fluid onto a highway.

Exemption from parking provision

- 87 The provisions in this bylaw relating to stopping or parking of vehicles do not apply to:
- (1) emergency vehicles;
 - (2) service vehicles used in conjunction with the servicing of public utilities including telephone systems, electric systems, natural gas systems and cablevision systems;
 - (3) municipal and other government public works vehicles;
 - (4) towing service vehicles; or
 - (5) a vehicle being used in work requiring that it be stopped or parked at that location.
- 88 Where the owner or operator of a vehicle stops, stands, or parks pursuant to section 82 contrary to other provisions of this bylaw, the owner or operator must take due precaution to indicate the vehicle's presence on any highway while so parked or stopped.

Part 8 - Transit zones and terminals

- 89 A person must not operate a vehicle or e-scooter such that it enters a transit zone or transit terminal unless:
- (1) that vehicle is a transit vehicle; or
 - (2) the transit zone comprises part of a travelling laned roadway.
- 90 A person must not use rollerblades, a skateboard, scooters, two-wheeled self-balancing stand-up personal transportation devices, or a non-motorized scooter in a transit zone or transit terminal.

Part 9 – Operating rules for e-scooters

- 91 A person may only operate an e-scooter on sidewalks, boulevards, pathways, crosswalks, lanes and roadways marked a maximum speed of 30 kilometres per hour or less.

- 91.1 A person must be at least 16 years old to operate an e-scooter. An e-scooter owner must not allow a person less than 16 years old to rent or operate an e-scooter.
- 92 A person riding an e-scooter on a sidewalk or pathway must:
- (1) yield the right of way to slower moving persons;
 - (2) alert a person about to be overtaken by sounding a bell with a reasonable amount of time before overtaking;
 - (3) use reasonable care when overtaking another person or passing on the left; and
 - (4) travel under control and at a reasonable rate of speed having regard to the nature, condition and use of the sidewalk or pathway including the amount of pedestrian traffic.

Part 10 - Securing loads and use of tarpaulins

- 93 All loads of earth, sand, gravel, or other loose material must be completely covered and secured by a tarpaulin or other covering.
- 94 A person must not drive a vehicle with a load on a highway unless the load has been secured to prevent the load from falling onto a highway or adjacent land or shifting within the vehicle box or trailer box.
- 95 If any part of a vehicle's load becomes loose or detached, or blows, drops, spills or falls from any vehicle onto a highway, the operator must:
- (1) immediately notify Municipal Enforcement; and
 - (2) take all reasonable precautions to safeguard traffic and to remove any materials from the highway, as soon as practicable.
- 96 Municipal Enforcement must be notified of any load that spills onto a highway.

Part 11 - Parades and special roadway events

- 97 A person must not participate in a parade or special roadway event on a highway until a permit for the parade or special roadway event is issued.
- 98 A person or organization wishing to organize a parade or special roadway event must, at least 30 days prior to the time they desire to hold the same, make application in writing to the City Manager and advise the City Manager of the

place of origin, destination, and route to be followed by such a parade or special roadway event, along with the time and date thereof.

- 99 The City Manager may waive the 30-day application period for parades and special roadways.
- 100 Unless Council determines by bylaw otherwise, a \$100.00 non-refundable fee must accompany a parade or special roadway event application.
- 101 The City Manager may approve an application for a special roadway event or parade, specifying the route to follow, the time the special roadway event or parade may take place and the type of vehicles, floats, or other displays that will be allowed to take part.
- 102 The City Manager may set conditions as the City Manager deems appropriate for the purposes of ensuring public safety and protection of private and public property.
- 103 When a permit has been granted for a parade or special roadway event:
 - (1) notwithstanding any provisions of this Bylaw, a person or persons may congregate on the sidewalks, or a portion of a highway designated for that purpose, to view the parade or special roadway event; and
 - (2) the City Manager may close all or portions of the highway along the route set out in the permit for the anticipated time of the parade or special roadway event and for such additional time as necessary to clear the highway for normal traffic.
- 104 When a permit for a parade or special roadway event has been issued, the permit holder must not permit any vehicles other than private passenger vehicles, animals, or floats to take part in the parade or special event on the highway which are not authorized by permit.
- 105 A person must not operate or bring any vehicle other than private passenger vehicles, animals, or floats onto a highway which is the subject of a parade or special roadway event permit unless the vehicle, animal, or float is authorized to be on the highway pursuant to the permit.
- 106 Unless the person who receives permission to conduct or arrange for a parade or special roadway event has received specific permission to allow animals, vehicles, or floats to take part, a person must not allow any vehicles, other than private passenger vehicles, animals, or floats over which the person has any control to participate or to be placed in the highway on the route during a parade or special roadway event.

- 107 The sponsor of a parade or special roadway event involving floats, animals, or vehicles other than private passenger vehicles must:
- (1) enter into an indemnity agreement with the City subject to the terms and conditions that are solely at the City's discretion, and may include provision for the collection of a damage deposit from the permit holder(s);
 - (2) obtain liability insurance to the satisfaction of the City.
- 108 Despite the indemnity or the insurance required by section 108, the owner, sponsor, driver or operator of a vehicle, animal, or float and all persons on such vehicle, animal, or float taking part in the parade or special roadway event must ensure that:
- (1) no part of the vehicle, animal, or float will damage the highway, electric or telephone poles or wires, streetlights, transit posts, cables or supports, traffic signal lights or signs, fire hydrants, or any other property of the City or a public utility in a highway;
 - (2) the vehicle, animal, float, or anything thereon or attached thereto will not injure any person or cause damage to any real or personal property; and
 - (3) no portion of the vehicle, animal, or float or anything erected, placed on, or attached to the vehicle, animal, or float contacts any telephone wire or any wire charged with or carrying electric current.
- 109 If there is any damage to public property, or it becomes necessary for the City to clean up any debris, garbage, or waste left on public property as a result of an approved parade or special roadway event, the permit holder must pay the costs incurred in repairing the damage or in the cleanup.
- 110 If Officers or other City staff are required to assist with the parade or special roadway event, including but not limited to controlling and directing traffic, the owner permit holder(s) must pay the costs of the assistance.
- 111 Where approval was granted for a parade or special roadway event, a person must not join or otherwise interfere with the parade or special roadway event without the permission of the permit holder.
- 112 A person who joins or otherwise interferes with a parade or special roadway event without permission must depart the immediate area of the parade or special roadway event immediately after having been directed to do so by an Officer.
- 113 A permit holder must comply with all conditions set out in the permit.

- 114 Where the permit holder fails to comply with the conditions set out by the City Manager, the City Manager may cancel the permit.

Part 12 - Truck Routes

- 115 Commercial vehicles may only operate or park on the highways specified as truck routes in Schedule "B".
- 116 If the commercial vehicle is on the most direct and practicable route between the premises or location concerned and the nearest truck route, the following is not a contravention of section 115:
- (1) taking the most direct accessible connection between the nearest truck route and the destination and then returning to the truck route using the shortest accessible connection to the truck route;
 - (2) delivering or collecting goods or merchandise to or from the premises of customers;
 - (3) moving a house for which the necessary moving permits have been issued by the City; or
 - (4) going to or from premises for the servicing or repairing of the commercial vehicles.
- 117 The following is not contravention of section 115:
- (1) driving a transit vehicle;
 - (2) driving a vehicle owned by or actually in service of the City;
 - (3) driving an emergency vehicle; and
 - (4) a commercial vehicle that has broken down.
- 118 The provisions of Part 12 do not apply to:
- (1) vehicles owned or leased by City utilities;
 - (2) emergency vehicles;
 - (3) vehicles owned or leased by other utility companies while being used for inspection, maintenance, or repair work in respect of the companies' utilities;

- (4) vehicles owned or leased by cable television companies while being used for inspection, maintenance, or repair work in respect of the companies' cable television facilities;

provided that the vehicle is responding to an emergency from which property damage or personal injury might reasonably result.

Commercial carrier permitting

- 119 The City Manager or delegate may, under circumstances which are considered to warrant a permit, issue such permit with associated fees, authorizing the single trip movement of a commercial vehicle on all highways and truck routes within the City.
- 120 Any person driving a commercial vehicle on a route authorized by a permit must produce the permit for inspection when requested by the Officer.
- 121 All permits for single-trip commercial movements, including but not limited to overweight vehicles, oversize vehicles, or off of truck route travel, must be made through the Provincial MJ TRAVIS system as per Bylaw No. B-15/2017, as amended or substituted.
- 122 In the case of multiple loads, the permit applicant under section 122 may be required to enter into a road use agreement to the satisfaction of the City.

Identification of truck routes

- 123 The City Manager may cause signs or other traffic control devices to be erected along truck routes to identify the beginning and end of a truck route.

Parking commercial vehicles

- 124 Parking commercial vehicles on City-owned property is prohibited.
- 125 A commercial vehicle, with or without a vehicle with a trailer attached, with a maximum gross weight exceeding 4500 kg must not park on a highway, except when parked on a designated truck route.
- 126 Section 125 does not apply to:
 - (1) recreational vehicles;
 - (2) emergency vehicles or vehicles transporting goods for emergency response or highway repair;
 - (3) school buses loading or unloading passengers; or

- (4) commercial vehicles with the hazard warning lamps alight and in the process of loading or unloading goods.

Part 13 – Miscellaneous Highway Regulations

- 127 A person must not wash a vehicle on or near a highway so to create mud, slush, or ice on a public sidewalk or roadway.
- 128 A person operating a business premises to which entry or exit for vehicles is made by a crossing located between the highway curb and the private property line must not allow water, mud, slush, ice, or icy or frozen snow to remain on the public sidewalk or roadway portion of such crossing.
- 129 A person operating a business premises to which entry or exit for vehicles is made by a crossing located between the highway curb is responsible to keep the same clean and clear of all such matter liquids or substances as may be or become a hazard to pedestrians.
- 130 A person must not drain any fluid associated with the operation of a vehicle upon a highway.
- 131 When requested by an officer:
 - (1) the driver or operator of a vehicle, or the person in charge of a vehicle on a highway, must correctly state their name and address, and the name and address of the owner of the vehicle;
 - (2) a pedestrian or the operator of a bicycle, who, in the opinion of the officer has committed an offence under this bylaw, must correctly state their name and address.
- 132 A person must not place any sign, notice, or object upon a highway or boulevard or upon abutting property, including sidewalks, unless authorized by the City.
- 133 The City may remove and immediately dispose of any sign, notice, or object placed on or beside a highway or boulevard or upon abutting public lands, including sidewalks, without any notice or warning to the owner.

Part 14 – Streets Regulations

- 134 A person must not operate a vehicle on a highway with:
 - (1) spikes, lugs, cleats, bands, or other items projecting from the surface of the wheel or tire; or

- (2) skids, unless using flat metal or rubberized tracks.

Part 15 – School Buses

- 135 The operator of a school bus must not, at any time, activate alternate red or yellow flashing lights and stop arms on a school bus while the school bus is loading or unloading passengers on a highway within the City except on those highways listed in Schedule “C” and mapped on Schedule “D”.
- 136 School buses may park in residential areas between 7:00 a.m. and 4:00 p.m. on school days.

Part 16 – Administration

Powers of the City Manager

- 137 Without restricting any other power, duty, or function granted by this bylaw, the City Manager, or delegate, may:
 - (1) carry out any inspections to determine compliance with this bylaw;
 - (2) take any steps or carry out any actions required to enforce this bylaw;
 - (3) take any steps or carry out any actions required to remedy a contravention of this bylaw;
 - (4) establish forms for the purposes of this bylaw;
 - (5) designate where traffic control devices are to be erected and for purposes of greater certainty, this includes traffic control devices restricting the speed of vehicles;
 - (6) designate any highway or portion thereof for one-way traffic only;
 - (7) designate any roadway as one to be divided into traffic lanes of such number as is proper;
 - (8) designate “School Zones” and “Playground Zones” as appropriate;
 - (9) designate highways or any portion thereof as passenger or commercial vehicle loading and unloading spaces including disabled and school bus loading zones for such time limits as appropriate;
 - (10) designate transit zones and school bus loading or unloading zones;
 - (11) designate portions of any highway as taxi zones;

- (12) close any existing median or divider on a highway; and
 - (13) temporarily close any highway for the purpose of construction, repairs, maintenance, or other valid reason where a hazard exists or would be created if the road were not closed.
- 138 The City Manager is a designated officer for the purposes of section 542 of the *Municipal Government Act*.

Part 17 - Permits

- 139 A person to whom a permit, other than a parade permit, has been issued pursuant to this bylaw, and any person carrying out an activity otherwise regulated, restricted, or prohibited by this bylaw pursuant to such permit, must comply with any terms or conditions forming part of the permit.
- 140 A person must not make any false or misleading statement or provide any false or misleading information to obtain a permit pursuant to this bylaw.
- 141 If any term or condition of a permit issued pursuant to this bylaw is contravened, or if a false or misleading statement or false or misleading information was provided to obtain the permit, the City Manager may immediately cancel the permit.

Proof of permit

- 142 The onus of proving a permit has been issued in relation to any activity otherwise regulated, restricted, or prohibited by this Bylaw, is on the person alleging the existence of such a permit on a balance of probabilities.

Part 18 - Owner's Liability

- 143 Where a vehicle is driven, used, parked, or left in contravention of any of the provisions of this bylaw, the owner of the vehicle is guilty of the contravention and liable to the penalty provided in this bylaw, unless the owner proves to the satisfaction of the provincial judge or justice trying the case for contravention of this bylaw that at the time of the contravention the vehicle was not driven, used, parked, or left by the owner or by another person with the owner's consent, expressed or implied.

Part 19 – Enforcement

Offence

- 144 A person who contravenes this bylaw is guilty of an offence.

- 145 Any person who contravenes any provision of this bylaw is guilty of an offence and liable on summary conviction to a fine not less than \$500 and not more than \$2,500, and if in default of payment of any fine imposed, to imprisonment for not more than 6 months.
- 146 In the case of an offence that is of a continuing nature, a contravention constitutes a separate offence in respect of each day, or part of a day, on which it continues, and a person guilty of such an offence is liable to a fine in an amount not less than that established by this bylaw for each such day.
- 147 The specified fines for an offence committed pursuant to this bylaw are set out in the attached Schedule "A."

Voluntary payment tag

- 148 An officer is authorized and empowered to issue a voluntary payment tag to any person who the officer has reasonable and probable grounds to believe has contravened any provision of this bylaw.
- 149 A voluntary payment tag must contain the following:
- (1) the date and time of the offence;
 - (2) the number and description of the violation;
 - (3) specified penalty option;
 - (4) date assigned when the voluntary payment option expires, after which a provincial ticket is issued;
 - (5) operator licence number or Motor Vehicle Identification Number (MVID) number for vehicle violations;
 - (6) instructions on where to pay a voluntary payment ticket;
 - (7) discount information detailing the number of days a discount applies; and
 - (8) contact information of Municipal Enforcement.
- 150 A municipal voluntary payment tag may be issued to such person or corporation:
- (1) either personally;
 - (2) by mailing a copy to such person at their last known address; or
 - (3) left with a person of age who shares the same residence.

- 151 (1) If an e-bike or e-scooter is involved in an offence under the bylaw, the owner of that e-bike or e-scooter, is guilty of that offence.
- (2) For section 151(1), owner includes any person or corporation issued a business licence for e-bike or e-scooter operations.
- (3) Section 151(1) does not apply if the owner of the e-bike or e-scooter proves to the satisfaction of the provincial judge or justice trying the offence that at the time that the vehicle was involved in the offence was not operated or parked with the owner's express or implied consent.
- 152 Where a contravention of this bylaw is of a continuing nature, further voluntary payment tags or summons may be issued by an officer provided that no more than one voluntary payment tag or summons is issued for each calendar day that the contravention continues.
- 153 Where any person has been issued a voluntary payment tag for a contravention of the same provision of this bylaw twice within a 12-month period, the penalty instead of prosecution or specified penalty payable in respect of the second contravention is double the amount shown in Schedule "A" of this bylaw for that provision.
- 154 Where any person has been issued a voluntary payment tag for a contravention of the same provision of this Bylaw three times within a 12-month period, the penalty instead of prosecution or specified penalty payment in respect of the third contravention is triple the amount shown in Schedule "A" of this bylaw for that provision.
- 155 Where payment of the penalty is received for the first offence occurring within one 12-month period, and the ticket issued for breach of any sections of this bylaw is paid within 5 business days from the voluntary payment tag's date of issuance, the penalty for the offence is set out in Schedule "A".
- 156 Nothing in this bylaw prevents an officer from issuing a violation ticket for the mandatory Court appearance of any person who contravenes any provision of this bylaw.

Violation tickets and penalties

- 157 Where an Officer believes that a person has contravened any provision of this bylaw, the officer may commence proceedings by issuing either:
- (1) a summons by means of a violation ticket against that person in accordance with Part 2 of *Offences Procedure Act*; or

- (2) an offence notice by means of a violation ticket against that person in accordance with Part 3 of the *Offences Procedure Act*.
- 158 Despite any other provision of this bylaw, an officer is authorized and empowered to immediately issue a violation ticket to any person who the officer has reasonable grounds to believe has contravened any provision of this bylaw.
- 159 The specified penalty payable in respect of a contravention of a provision of this bylaw is the amount shown in Schedule “A” of this bylaw.
- 160 Despite section 159, where any person has been convicted of a contravention of the same provision of this bylaw twice within a 12-month period, the penalty instead of prosecution or specified penalty payable in respect of the second conviction is double the amount shown in Schedule “A” for that provision; and
- 161 Despite section 159, where any person has been convicted of a contravention of the same provision of this bylaw 3 or more times within a 12-month period, the penalty in lieu of prosecution or the specified penalty payable in respect of the third or subsequent conviction is triple the amount shown in Schedule “A” for that provision.

Towing

- 162 An officer may cause any vehicle parked contrary to this bylaw to be towed to a different location.
- 163 In addition to towing the vehicle, any information and complaint may be laid against the owner or person in charge of the illegally parked vehicle for any violation of the provisions of this bylaw.
- 164 Instead of or in addition to towing the vehicle, an officer or any person designated by the City Manager for this purpose may place a voluntary payment tag or violation ticket on the vehicle parked in contravention of this bylaw.

Interference with duties

- 165 It is an offence to interfere, obstruct, or hinder any person authorized by the City Manager, including officers and other authorized persons, in the exercise or performance of the person’s powers pursuant to this bylaw.

Recovery of enforcement costs

- 166 The expenses and costs incurred by the City in the enforcement of this bylaw may be collected as a civil debt that is the subject of the enforcement proceedings under this bylaw.

- 167 Unless Council determines through bylaw otherwise, included in the enforcement costs of this bylaw is a minimum administration fee of \$25.00 or 10% of the total amount owing to a maximum of \$150.00, whichever is greater.

Part 20 – Miscellaneous

- 168 Nothing in this bylaw relieves a person from complying with any federal, provincial, or municipal law or regulation, other bylaw or any requirements of any lawful permit, order, consent, or other direction.
- 169 Where this bylaw refers to another act, regulation, or agency, it includes reference to any act, regulation, or agency that may be substituted.
- 170 Every provision of this bylaw is independent of all other provisions. If any provision of this bylaw is declared invalid for any reason by a court of competent jurisdiction, all other provisions of this bylaw remain valid and enforceable.
- 171 A permit required by this bylaw may be subject to a permit application fee.

Repeal of bylaws

- 172 *Traffic Bylaw* No. B-14/2016 and amendments to Bylaw B-14/2016 are repealed upon this bylaw coming into force.
- 173 This bylaw, being Traffic Bylaw No. B-30/2023, is passed and comes into force when it receives third reading and is signed by the Mayor and the City Clerk or designate, as per the *Municipal Government Act*.

Read a first time this 4th day of July, 2023.

Read a second time this 4th day of July, 2023.

Read a third time this 4th day of July, 2023.

Mayor

City Clerk

Schedule “A” – Fines

Bylaw section	First offence*	Penalty instead of prosecution	Specified penalty
7	Failing to use a crosswalk to cross a roadway	50.00	75.00
8	Crowding	50.00	75.00
9	Obstruct roadway/sidewalk/boulevard	50.00	75.00
10	Soliciting a ride	50.00	75.00
17	Control of bicycle	35.00	50.00
21	Rollerblade or skateboard where prohibited on sidewalk	35.00	50.00
22	Ice skate, rollerblade, or skateboard on roadway	35.00	75.00
26	Parking without a permit	35.00	75.00
33	Parking in alley	35.00	75.00
35	Obstructing Vehicle or pedestrian in alley	50.00	75.00
36	Parking RV on highway	75.00	100.00
38	Park RV create hazard	75.00	100.00
39(1)	RV extends over sidewalk, highway, curb	50.00	75.00
39(2)	RV 1.5 metres setback	50.00	75.00
39(3)	RV extend pass occupant's property line	50.00	75.00
40(1)	Unattached Trailer	50.00	75.00
41	RV obstruct access or exit	50.00	75.00
42	Park RV within 1.5 metres of access to highway	50.00	75.00
43	RV on highway occupied	50.00	75.00
44	Vehicle/with trailer exceeds 9 metres	75.00	100.00
50(1)	Obstruct Fire/Emergency Exit	175.00	250.00
50(2)	Obstruct entranceway to Fire Hall/Hospital	175.00	250.00
51	Park or stop in fire lane	125.00	170.00
52	Drive over fire hose	60.00	85.00
53	Park too close to fire hydrant	75.00	100.00
55	Park in transit zone	50.00	75.00

Bylaw section	First offence*	Penalty instead of prosecution	Specified penalty
56	Park on City property	50.00	75.00
57	Park in City-marked parking space	50.00	75.00
58	Park where signed No Parking	50.00	75.00
59	Drive/park on boulevard, sidewalk, or pathway	50.00	75.00
61	Vehicle extended across sidewalk	50.00	75.00
62(2)	Wheels more than 35cm from curb	50.00	75.00
66	Park perpendicular to curb edge	50.00	75.00
67(1)	Park Where Prohibited	50.00	75.00
67(2)	Park where street cleaning/repairs	50.00	75.00
69	Park on or too close to crosswalk	35.00	75.00
70	Stop/Park within 5 metres of Stop/Yield Sign	35.00	75.00
71	Park within 5 metres of intersection	50.00	75.00
72	Operating or parking vehicle not in compliance with <i>Traffic Safety Act</i>	50.00	75.00
73	Servicing vehicle on highway	50.00	75.00
74	Stop/Park in Designated Disabled Zone without Permit	175.00	250.00
75	Fail to park within marked space	50.00	75.00
76	Double park	50.00	75.00
77	Park opposite direction traffic	50.00	75.00
78	Angle park more than 35cm from curb	50.00	75.00
79	Park in traffic lane	50.00	75.00
80	Park for longer than designated time	50.00	75.00
81	Abandoned vehicles	50.00	75.00
82	Park construction equipment unattended	50.00	75.00
83	Park within 1.5 metres of a driveway	50.00	75.00
89	Operate vehicle in transit zone	50.00	75.00
90	Prohibited mode of transport in transit zone/terminal	35.00	750.00
91	Operate e-scooter where prohibited	35.00	50.00

Bylaw section	First offence*	Penalty instead of prosecution	Specified penalty
92	Control of e-scooter	35.00	50.00
94	Unsecure load	150.00	250.00
98	Hold or take part in parade without permit	75.00	100.00
114	Fail to comply with conditions of a parade permit	75.00	100.00
116	Operate commercial vehicle off truck route	175.00	250.00
126	Commercial vehicle parked where prohibited	175.00	250.00
127	Wash vehicle and deposit mud/slush/ice	35.00	75.00
128	Mud, slush or ice on sidewalk or roadway	50.00	75.00
130	Drain fluid on highway	50.00	85.00
131	Identify to Officer	175.00	250.00
133	Unauthorized sign/object on highway/City Property	75.00	100.00
134	Operate vehicle with spikes, lugs	50.00	75.00
139	Failure to comply with all permits excepting parade permit	75.00	100.00

*Subject to the provisions of the *Traffic Bylaw*,

- (1) in the event of a second offence within a 12-period, the penalty instead of prosecution and the specified penalty doubles; and
- (2) in the event of a third offence within a 12-month period, the penalty instead of prosecution and the specified penalty triple.

Year-Round and Seasonal Truck Route Road Bans

Legend:

- 100% Year-Round (Solid Purple)
- 90% Year-Round (Solid Red)
- 75% Year-Round (Dashed Red)
- 90% Seasonal (April 15 to June 15) (Solid Orange)
- 75% Seasonal (April 15 to June 15) (Dashed Orange)
- City Boundary (Solid Blue)

Map Labels:

- ROE RD 291 NE
- ROE RD 292 NE
- ROE RD 290 NE
- ROE RD 294 SE
- ROE RD 292 SE
- ROE RD 291 SE
- ROE RD 290 SE
- ROE RD 289 SE
- ROE RD 288 SE
- ROE RD 287 SE
- ROE RD 286 SE
- ROE RD 285 SE
- ROE RD 284 SE
- ROE RD 283 SE
- ROE RD 282 SE
- ROE RD 281 SE
- ROE RD 280 SE
- ROE RD 279 SE
- ROE RD 278 SE
- ROE RD 277 SE
- ROE RD 276 SE
- ROE RD 275 SE
- ROE RD 274 SE
- ROE RD 273 SE
- ROE RD 272 SE
- ROE RD 271 SE
- ROE RD 270 SE
- ROE RD 269 SE
- ROE RD 268 SE
- ROE RD 267 SE
- ROE RD 266 SE
- ROE RD 265 SE
- ROE RD 264 SE
- ROE RD 263 SE
- ROE RD 262 SE
- ROE RD 261 SE
- ROE RD 260 SE
- ROE RD 259 SE
- ROE RD 258 SE
- ROE RD 257 SE
- ROE RD 256 SE
- ROE RD 255 SE
- ROE RD 254 SE
- ROE RD 253 SE
- ROE RD 252 SE
- ROE RD 251 SE
- ROE RD 250 SE
- ROE RD 249 SE
- ROE RD 248 SE
- ROE RD 247 SE
- ROE RD 246 SE
- ROE RD 245 SE
- ROE RD 244 SE
- ROE RD 243 SE
- ROE RD 242 SE
- ROE RD 241 SE
- ROE RD 240 SE
- ROE RD 239 SE
- ROE RD 238 SE
- ROE RD 237 SE
- ROE RD 236 SE
- ROE RD 235 SE
- ROE RD 234 SE
- ROE RD 233 SE
- ROE RD 232 SE
- ROE RD 231 SE
- ROE RD 230 SE
- ROE RD 229 SE
- ROE RD 228 SE
- ROE RD 227 SE
- ROE RD 226 SE
- ROE RD 225 SE
- ROE RD 224 SE
- ROE RD 223 SE
- ROE RD 222 SE
- ROE RD 221 SE
- ROE RD 220 SE
- ROE RD 219 SE
- ROE RD 218 SE
- ROE RD 217 SE
- ROE RD 216 SE
- ROE RD 215 SE
- ROE RD 214 SE
- ROE RD 213 SE
- ROE RD 212 SE
- ROE RD 211 SE
- ROE RD 210 SE
- ROE RD 209 SE
- ROE RD 208 SE
- ROE RD 207 SE
- ROE RD 206 SE
- ROE RD 205 SE
- ROE RD 204 SE
- ROE RD 203 SE
- ROE RD 202 SE
- ROE RD 201 SE
- ROE RD 200 SE
- ROE RD 199 SE
- ROE RD 198 SE
- ROE RD 197 SE
- ROE RD 196 SE
- ROE RD 195 SE
- ROE RD 194 SE
- ROE RD 193 SE
- ROE RD 192 SE
- ROE RD 191 SE
- ROE RD 190 SE
- ROE RD 189 SE
- ROE RD 188 SE
- ROE RD 187 SE
- ROE RD 186 SE
- ROE RD 185 SE
- ROE RD 184 SE
- ROE RD 183 SE
- ROE RD 182 SE
- ROE RD 181 SE
- ROE RD 180 SE
- ROE RD 179 SE
- ROE RD 178 SE
- ROE RD 177 SE
- ROE RD 176 SE
- ROE RD 175 SE
- ROE RD 174 SE
- ROE RD 173 SE
- ROE RD 172 SE
- ROE RD 171 SE
- ROE RD 170 SE
- ROE RD 169 SE
- ROE RD 168 SE
- ROE RD 167 SE
- ROE RD 166 SE
- ROE RD 165 SE
- ROE RD 164 SE
- ROE RD 163 SE
- ROE RD 162 SE
- ROE RD 161 SE
- ROE RD 160 SE
- ROE RD 159 SE
- ROE RD 158 SE
- ROE RD 157 SE
- ROE RD 156 SE
- ROE RD 155 SE
- ROE RD 154 SE
- ROE RD 153 SE
- ROE RD 152 SE
- ROE RD 151 SE
- ROE RD 150 SE
- ROE RD 149 SE
- ROE RD 148 SE
- ROE RD 147 SE
- ROE RD 146 SE
- ROE RD 145 SE
- ROE RD 144 SE
- ROE RD 143 SE
- ROE RD 142 SE
- ROE RD 141 SE
- ROE RD 140 SE
- ROE RD 139 SE
- ROE RD 138 SE
- ROE RD 137 SE
- ROE RD 136 SE
- ROE RD 135 SE
- ROE RD 134 SE
- ROE RD 133 SE
- ROE RD 132 SE
- ROE RD 131 SE
- ROE RD 130 SE
- ROE RD 129 SE
- ROE RD 128 SE
- ROE RD 127 SE
- ROE RD 126 SE
- ROE RD 125 SE
- ROE RD 124 SE
- ROE RD 123 SE
- ROE RD 122 SE
- ROE RD 121 SE
- ROE RD 120 SE
- ROE RD 119 SE
- ROE RD 118 SE
- ROE RD 117 SE
- ROE RD 116 SE
- ROE RD 115 SE
- ROE RD 114 SE
- ROE RD 113 SE
- ROE RD 112 SE
- ROE RD 111 SE
- ROE RD 110 SE
- ROE RD 109 SE
- ROE RD 108 SE
- ROE RD 107 SE
- ROE RD 106 SE
- ROE RD 105 SE
- ROE RD 104 SE
- ROE RD 103 SE
- ROE RD 102 SE
- ROE RD 101 SE
- ROE RD 100 SE
- ROE RD 99 SE
- ROE RD 98 SE
- ROE RD 97 SE
- ROE RD 96 SE
- ROE RD 95 SE
- ROE RD 94 SE
- ROE RD 93 SE
- ROE RD 92 SE
- ROE RD 91 SE
- ROE RD 90 SE
- ROE RD 89 SE
- ROE RD 88 SE
- ROE RD 87 SE
- ROE RD 86 SE
- ROE RD 85 SE
- ROE RD 84 SE
- ROE RD 83 SE
- ROE RD 82 SE
- ROE RD 81 SE
- ROE RD 80 SE
- ROE RD 79 SE
- ROE RD 78 SE
- ROE RD 77 SE
- ROE RD 76 SE
- ROE RD 75 SE
- ROE RD 74 SE
- ROE RD 73 SE
- ROE RD 72 SE
- ROE RD 71 SE
- ROE RD 70 SE
- ROE RD 69 SE
- ROE RD 68 SE
- ROE RD 67 SE
- ROE RD 66 SE
- ROE RD 65 SE
- ROE RD 64 SE
- ROE RD 63 SE
- ROE RD 62 SE
- ROE RD 61 SE
- ROE RD 60 SE
- ROE RD 59 SE
- ROE RD 58 SE
- ROE RD 57 SE
- ROE RD 56 SE
- ROE RD 55 SE
- ROE RD 54 SE
- ROE RD 53 SE
- ROE RD 52 SE
- ROE RD 51 SE
- ROE RD 50 SE
- ROE RD 49 SE
- ROE RD 48 SE
- ROE RD 47 SE
- ROE RD 46 SE
- ROE RD 45 SE
- ROE RD 44 SE
- ROE RD 43 SE
- ROE RD 42 SE
- ROE RD 41 SE
- ROE RD 40 SE
- ROE RD 39 SE
- ROE RD 38 SE
- ROE RD 37 SE
- ROE RD 36 SE
- ROE RD 35 SE
- ROE RD 34 SE
- ROE RD 33 SE
- ROE RD 32 SE

SCHEDULE C - Permitted use of flashing school bus lights and stop arms

	Road name	From	To
1.	Secondary Road 567	East Lake Road	East City Limits
2.	Yankee Valley Boulevard	24th Street	West City Limits
3.	Range Road 292	TWP Road 270	South City Limits
4.	24th Street (Range Rd 12)	North City Limits	South City Limits
5.	Range Road 11	North end of Silvercreek	North City Limits
6.	8th Street	SE1/4 Sec.26-26-1-W5	South City Limits
7.	Dickson Stevenson Trail	North end of Stonegate	North City Limits
8.	Range Road 293	Highland Park Lane	North City Limits
9.	Range Road 292	Highland Park Lane	North City Limits
10.	Range Road 291	TWP Road 270	North City Limits
11.	TWP Road 274	Range Road 13	Highway 2
12.	TWP Road 274	Range Road 293	East City Limits
13.	Range Road 13	North City Limits	South City Limits
14.	TWP Road 272	24th Street	West City Limits
15.	TWP Road 270	Range Road 291	East City Limits
16.	TWP Road 264	Range Road 13	Highway 2
17.	Stewart Road		
18.	Pinto Lane		
19.	Mustang Lane		
20.	Appaloosa Lane		
21.	Farries Drive		
22.	Buffalo Rub Place		
23.	Hamilton Green		
24.	Croxford Estates		

**BYLAW NO. B-14/2016
OF THE CITY OF AIRDRIE
PROVINCE OF ALBERTA**

OFFICE CONSOLIDATION

Being a bylaw of the City of Airdrie to regulate pedestrian and vehicle traffic and the use of all highways, sidewalks, and public places within the corporate limits of the City of Airdrie.

WHEREAS the *Municipal Government Act*, RSA 2000, c M-26 provides that a municipality has the direction, control and management of all roads within the municipality;

AND WHEREAS the *Traffic Safety Act*, RSA 2000, c T-6, authorizes a municipality to pass bylaws which govern, restrict, regulate and control vehicle, animal and pedestrian traffic; use of highways, streets, lanes and other public places; parking of vehicles; and the use of flashing lights and a stop arm by school buses;

AND WHEREAS the *Municipal Government Act*, RSA 2000, c M-26, authorizes a municipality to pass bylaws respecting the safety, health and welfare of people and the protection of people and property; activities and things in, on or near a public place or place that is open to the public; and transport and transportation systems;

NOW THEREFORE, the Council of the City of Airdrie enacts as follows:

PART 1 – TITLE

1.01 This Bylaw may be cited as the “Traffic Bylaw.”

PART 2 - DEFINITIONS

2.01 In this Bylaw, unless the context otherwise requires:

- (a) **“Act”** means the *Traffic Safety Act*, RSA 2000, c T-6 as amended or replaced from time to time;
- (b) **“alley”** means a narrow highway intended chiefly to give access to the rear of buildings and parcels of land and is a highway for the purposes of this Bylaw;
- (c) **“Appeal Board”** means the General Appeal Board appointed by the City of Airdrie Council;
- (d) **“bicycle”** means a cycle propelled by human power on which a person can ride, regardless of the number of wheels it has, and includes a vehicle that:
 - (a) may be propelled by muscular or mechanical power;
 - (b) is fitted with pedals that are continually operable to propel it;
 - (c) weighs not more than thirty-five (35) kilograms;

- (d) has a motor that produces not more than seven hundred fifty (750) watts and that is driven by electricity or has an engine displacement of not more than fifty (50) cubic centimetres;
- (e) has no hand or foot operated clutch or gearbox driven by the motor that transfers the power to the driven wheel; and
- (f) does not have sufficient power to enable it to obtain a speed greater than thirty-five (35) kilometres per hour on level ground within a distance of two (2) kilometres from a standing start,

and excludes *mopeds*;

- (e) **“boulevard”** means that part of a highway that:
 - (a) is not a roadway, and
 - (b) is that part of a sidewalk that is not especially adapted to the use of or ordinarily used by pedestrians;
- (f) **“Bylaw Enforcement Officer”** means a person appointed pursuant to City Bylaw No. 07/97 to enforce the provisions of this Bylaw and other bylaws of the City;
- (g) **“centre line”** means:
 - (a) the centre of a roadway measured from the curbs or, in the absence of curbs, from the edges of the roadway or,
 - (b) in the case of a highway designated by traffic control devices:
 - i. as an offset centre highway, or
 - ii. as a highway having a certain number of traffic lanes for traffic moving in a certain direction at all times or at specified times, the line dividing the lanes for traffic moving in opposite directions, or
 - (c) in the case of a divided highway, that portion of the highway separating the roadways for traffic moving in opposite directions;
- (h) **“City”** means the municipal corporation of the City of Airdrie and includes the geographical area contained within the boundaries of the City, as the context so requires;
- (i) **“City Manager”** means the Chief Administrative Officer of the City of Airdrie or their designate. The City Manager is a designated officer for the purposes of section 542 of the *Municipal Government Act*, carrying out inspections and enforcement of this Bylaw;
- (j) **“commercial loading zone”** means a portion of a street set aside adjacent to a curb designated for the exclusive use of commercial vehicles for the loading and unloading of materials and includes an area designated as such;
- (k) **“commercial vehicle”** means a vehicle operated on a highway by or on behalf of a person for the purpose of providing transportation and includes:

- (a) vehicle or a combination of commercial vehicles that is registered for a gross weight of more than four thousand five hundred (4,500) kilograms; or a tractor, grader, road building or road maintenance equipment, or construction equipment, other than truck-type vehicles, regardless of weight and that is not a bus;
 - (b) a truck-type vehicle; or
 - (c) a bus,

but does not include a private passenger vehicle¹;
- (l) **“Council”** means the Council of the City of Airdrie;
- (m) **“crosswalk”** means:
 - (a) that part of a roadway at an intersection included within the connection of the lateral lines of the sidewalks on the opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the roadway; or
 - (b) that part of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by traffic control devices or by lines or other markings on the road surface;
- (n) **“curb”** means the concrete or asphalt edge of a roadway or the division point between the roadway and a boulevard or sidewalk;
- (o) **“disabled loading zone”** means a portion of a highway set aside adjacent to a curb designated for the exclusive use of vehicles for the loading or unloading of disabled passengers and includes an area designated as such;
- (p) **“disabled parking zone”** means a portion of a highway set aside for the exclusive use of disabled persons who operate or travel by motor vehicle;
- (q) **“driver”** or **“operator”** means a person who drives or is in actual physical control of a vehicle;
- (r) **“emergency condition”** means an unexpected event requiring immediate action;
- (s) **“emergency vehicle”** means:
 - (a) a vehicle operated by a police service as defined in the *Police Act*, RSA 2000, c P-17;
 - (b) a fire-fighting or other type of *vehicle* operated by the fire protection service of a municipality;
 - (c) an ambulance operated by a *person* or organization providing ambulance services;
 - (d) a vehicle operated as a gas disconnection unit of a public utility;

¹ Bylaw No. B-25/2020

- (e) a vehicle designated by regulation as an emergency response unit;
- (t) **“e-scooter”** means a motor vehicle that:
 - (a) has a permit to operate granted by the Province of Alberta;
 - (b) has a permit or licence to operate granted by the City of Airdrie;
 - (c) has steering handle bars;
 - (d) consists of a footboard mounted on two or three wheels; and
 - (e) is capable of being propelled by muscular power and may be propelled by one or more electric motors.²
- (u) **“fence”** means a vertical barrier which is used to prevent or restrict passage, to provide visual screening, sound attenuation, protection from dust or other elements, or to mark a boundary;
- (v) **“fire lane”** means an access route for fire department vehicles required by the Alberta Fire Code 2006, as amended or replaced, for firefighting purposes and marked by signage as a fire lane;
- (w) **“highway”** means any thoroughfare, street, road, trail, avenue, parkway, viaduct, lane, alley, square, bridge, causeway, trestleway or other public place and any part of them, whether publicly or privately owned, that the public is ordinarily entitled or permitted to use for the passage or parking of vehicles, and includes:
 - (a) a sidewalk (including a boulevard adjacent to the sidewalk);
 - (b) if a ditch lies adjacent to and parallel with the roadway, the ditch; and
 - (c) if a highway right-of-way is contained between fences or between a fence and on one side of the roadway, all the land between the fences, or all the land between the fence and the edge of the roadway, as the case may be;
 but does not include a place declared by Provincial regulation not to be a highway;
- (x) **“holiday”** means a Sunday, or public holiday as defined in the *Interpretation Act*, RSA 2000, c I-8, and a day or portion of a day proclaimed by Council as a civic holiday;
- (y) **“implement of husbandry”** means:
 - (a) a tractor designed and used for agricultural purposes, or
 - (b) a vehicle designed and adapted exclusively for agricultural, horticultural, aquacultural or livestock raising operations;

² Bylaw B-23/2022

- (z) **“intersection”** means the area comprised within the prolongation or connection of:
- (a) the lateral curb lines, or if none
 - (b) the exterior edged of the roadway;
- of two or more highways which join one another at an angle whether or not one highway crosses the other and includes connections with driveways and pathways;
- (aa) **“laned roadway”** means a roadway divided into two or more marked lanes for vehicles proceeding in the same direction;
- (bb) **“load”** means anything put in or on something for conveyance or transportation;
- (cc) **“loading zone”** includes a public loading zone, disabled loading zone and a commercial loading zone or any of them, as the context requires;
- (dd) **“maximum weight”** means:
- (a) the maximum weight of a *vehicle* as recorded on the Official Registration Certificate or Interim Registration Certificate for such *vehicle* issued by the Government of the Province of Alberta; or
 - (b) if there is no such Official Registration Certificate or Interim Registration Certificate for the *vehicle*, then the combined weight of the *vehicle* and the heaviest load that may be carried in accordance with the Motor Transport Board of the Province of Alberta and Regulations thereunder;
- (ee) **“mobility aid”** means a device to facilitate the transport, in a normal seated orientation, of a person with a physical disability;
- (ff) **“moped”** means a vehicle that:
- (a) is propelled by an electric motor or an engine that has a displacement of not more than fifty (50) cubic centimetres; and
 - (b) is a limited-speed motorcycle under *the Motor Vehicle Safety Regulations (Canada)* (CRC, c 1038);
- (gg) **“motor vehicle”** means
- (a) a vehicle propelled by any power other than muscular power, or
 - (b) a moped,
- but does not include a bicycle, a power bicycle, an aircraft, an implement of husbandry or a motor vehicle that runs only on rails;
- (hh) **“Municipal Enforcement”** means the City’s Municipal Enforcement Unit;
- (ii) **“occupant”** means the owner or other person having lawful possession of a premises;

- (jj) **“off-highway vehicle”** means any motorized mode of transportation built for cross-country travel on land, water, snow, ice or marsh or swamp land or on other natural terrain and, without limiting the generality of the foregoing, includes, when specifically designed for such travel,
- (a) 4-wheel drive vehicle
 - (b) low pressure tire vehicles;
 - (c) motorcycles and related 2-wheeled vehicles;
 - (d) amphibious machines;
 - (e) all terrain vehicles;
 - (f) miniature motor vehicles;
 - (g) snow vehicles;
 - (h) minibikes; and
 - (i) any other means of transportation that is propelled by any power other than muscular power or wind,
- but does not include
- (j) motor boats; or
 - (k) any other vehicle exempted from being an off-highway vehicle by regulation under the *Traffic Safety Act*;
- (kk) **“operator”** includes a person who drives or operates a vehicle as the owner thereof or as an agent, employee or servant of the owner;
- (ll) **“owner”** means the person or persons listed on the title of a parcel of Land at the Land Titles Office or in the case of a vehicle, the person registered as the vehicle owner at the Motor Vehicles Registry or a person renting a vehicle or having the exclusive use of a vehicle under a lease that has a term of more than thirty (30) days or otherwise having the exclusive use of a vehicle for a period of more than thirty (30) days;
- (mm) **“Officer”** means a person appointed by the City to enforce the provisions of this Bylaw including a Bylaw Enforcement Officer, Peace Officer, or a member of the RCMP;
- (nn) **“parade”** means a procession or march organized for the purpose of entertainment of spectators, display, inspection or promotion of a cause or purpose;
- (oo) **“park”** means, when prohibited, allowing a vehicle to remain stationary in one place, except:
- (a) while actually engaged in loading or unloading passengers, or
 - (b) when complying with the direction of a Officer or traffic control device;

- (pp) **“park roadway”** means a road, including parking lots for vehicles, in a park space which is set aside specifically for use by vehicles and bicycles;
- (qq) **“park space”** means a public space controlled by the City and set aside as a park to be used for rest, recreation, exercise, pleasure, amusement, and enjoyment, and includes:
- (a) playgrounds;
 - (b) cemeteries;
 - (c) natural areas;
 - (d) sports fields;
 - (e) pathways;
 - (f) trails; and
 - (g) park roadways;
- but does not include golf courses;
- (rr) **“pathway”** means a thoroughfare or trail greater than one point four (1.4) metres in width controlled by the City which is primarily intended for the use of pedestrians, cyclists, and e-scooters, and is improved by asphalt, shale or gravel surfaces;³
- (ss) **“pedestrian”** means
- (a) a person on foot
 - (b) a person in or on a mobility aid,
- and includes those persons designated by Provincial regulation as pedestrians;
- (tt) **“permit”** means a permit issued under this Bylaw;
- (uu) **“permit parking zone”** means that area of the highway in any location where a permit to park is required;
- (vv) **“person”** means any individual, firm, partnership, association or corporation;
- (ww) **“playground zone”** means that portion of a highway identified as a playground zone by a traffic control device;
- (xx) **“premises”** means land, including any buildings erected thereon;
- (yy) **“private driveway”** means a portion of private property used for vehicular traffic and parking;

³ Bylaw B-23/2022

- (zz) **“private passenger vehicle”** means a vehicle used solely for personal transportation,
- (a) including the carriage of goods intended of the use or enjoyment of the owner of the vehicle or members of the owner’s household, but
 - (b) not including, in respect of a person’s business, work or employment, the carriage of passengers or of goods, except for sample cases or display goods that are conveyed by a salesperson and that are not for delivery or resale;
- (aaa) **“public loading zone”** means a portion of a highway set aside adjacent to a curb designated for the exclusive use of vehicles for loading or unloading;
- (bbb) **“public place”** means any City-owned, controlled or managed space to which the public is permitted access;
- (ccc) **“recreational vehicle”** means a portable structure designed and built to provide temporary living accommodation and to be transported on its own wheels or carried by another vehicle or a vehicle designed and intended to be used for recreational purposes; examples include motor homes, campers, travel trailers, tent trailers, snowmobiles, jet skis, boats or similar types of vehicles but do not include mobile homes;
- (ddd) **“right of way”** means the right to immediate use of the roadway in priority to another vehicle or a pedestrian using or wishing to use the same highway;
- (eee) **“roadway”** means that part of a highway intended for use by vehicular traffic;
- (fff) **“school bus”** means a motor vehicle used for transporting persons to and from a school and on which are displayed the words “School Bus”;
- (ggg) **“school zone”** means that portion of a highway identified as a school zone by a traffic control device;
- (hhh) **“sidewalk”** means that part of the highway especially adapted to the use of or ordinarily used by pedestrians, and includes that part of the highway between:
- (a) the curb line, or
 - (b) where there is no curb line, the edge of the roadway,
- and the adjacent property line, whether or not it is paved or improved, and includes a pathway located within this defined area;
- (iii) **“special road event”** means an event or competition taking place in whole or in part on a roadway involving walking, running, or the use of bicycles, motorcycles, cars or other vehicles, but does not include parades or funeral processions;
- (jjj) **“stop”** means:
- (a) when required, a complete cessation of vehicular movement; and

- (b) when prohibited, any halting, even momentarily, of a vehicle whether occupied or not except when necessary to avoid conflict with other traffic or in compliance with the directions of an Officer or a traffic control device;
- (kkk) **“taxi”** means a vehicle equipped with a taximeter used to convey persons for a fee;
- (lll) **“taxi zone”** means a portion of a roadway adjacent to the curb designed for the use of taxis while waiting for fares and includes the areas set aside exclusively for the use of taxis;
- (mmm) **“traffic”** means pedestrians, animals or vehicles while using the highway for the purpose of travel;
- (nnn) **“traffic control device”** means any sign, signal, light, marking or a device marked or erected under the authority of the Act or of this Bylaw for the purpose of regulating, warning or guiding traffic;
- (ooo) **“traffic control signal”** means a traffic control device, whether manually, electrically or mechanically operated, by which traffic is directed to stop and to proceed;
- (ppp) **“traffic lane”** means a longitudinal division of a roadway into a strip of sufficient width to accommodate the passage of a single line of vehicles whether or not the division is indicated by lines on the road surface;
- (qqq) **“trailer”** means a vehicle so designed that it may be attached to or drawn by a motor vehicle and intended to transport property and includes a utility trailer but does not include machinery or equipment used in the construction or maintenance of highways;
- (rrr) **“transit terminal”** means an area designated by the City as a transit vehicle terminal within which passengers may normally transfer between transit vehicles;
- (sss) **“transit vehicle”** means a City vehicle operated solely for the purpose of providing public transit service to passengers and includes a transit service support vehicle normally operated by transit service inspectors, supervisors and maintenance personnel;
- (ttt) **“transit zone”** means a place where transit passengers are received for transportation or delivered after transportation, which place is marked by “transit zone” or “bus stop” signage and continues for twenty (20) metres from such signage along the curb against the flow of traffic;
- (uuu) **“truck route”** means a highway which has been designated as a truck route as designated in Schedule “B” of this Bylaw;
- (vvv) **“truck-type vehicle”** means a vehicle or a group of attached vehicles, which for the purposes of this definition shall be considered a single vehicle, intended for the conveyance of goods or materials of any kind and includes any assemblage of truck tractor and trailer; and mobile equipment of any kind⁴;

⁴ Bylaw No. B-25/2020

(www) “**vehicle**” means a device in, on or by which a person or thing may be transported or drawn on a highway and includes a combination of vehicles but does not include a mobility aid;

(xxx) “**violation ticket**” means a ticket issued pursuant to Part 2 or 3 of the *Provincial Offences Procedure Act*, RSA 2000, c. P-34; and

(yyy) “**voluntary payment tag**” means a tag or similar document issued pursuant to the *Municipal Government Act*, RSA 2000, Chapter M-26.

PART 3 – TRAFFIC REGULATIONS

Speed Limits

3.01 Unless otherwise posted by traffic control devices no person shall:

- (a) drive a vehicle at a speed in excess of thirty (30) kilometres per hour on any highway within the City;
- (b) shall drive a vehicle in a school zone or playground zone on any highway in excess of thirty (30) kilometres per hour;
- (c) drive a vehicle in any laned roadway or alley in the City at a speed in excess of twenty (20) kilometres per hour; or
- (d) drive a vehicle in a parking lot at a speed in excess of fifteen (15) kilometres per hour.

School Zones

3.02 The prescribed hours during which a school zone is in effect in the City pursuant to the Act are seven thirty o'clock in the morning (7:30 a.m.) to five o'clock in the afternoon (5:00 p.m.) on any day on which school is held.

PART 4 – PEDESTRIANS

4.01 A pedestrian shall not cross a roadway within one (1) block in any direction of a traffic control signal or pedestrian corridor other than in a crosswalk.

4.02 Pedestrians shall not crowd or jostle other pedestrians in such a manner as to create or cause discomfort, disturbance or confusion.

4.03

- (a) three (3) or more persons shall not stand in a group, or so near to each other on any roadway, sidewalk or boulevard as to obstruct the entrance to or exit from a building, or to obstruct or prevent other persons from using such roadway, sidewalk or boulevard;
- (b) immediately after a request has been made by an Officer to do so, persons shall disperse and move away;
- (c) no person shall stand, sit or lie on any roadway in such a manner as to obstruct vehicular or pedestrian traffic or as to annoy or inconvenience any other person lawfully upon the roadway;

- 4.04 No person shall stand upon or walk along a roadway for the purposes of soliciting a ride from the driver of any vehicle unless the person is soliciting a ride from a transit vehicle or taxi.
- 4.05 Nothing in Section 4.03(a) and/or (c) shall be construed as prohibiting the assembling of persons for the purpose of watching a parade for which a permit has been issued.
- 4.06 Nothing in section 4.03(a) or (c) shall be construed as prohibiting the congregating of assembly of individuals to attend, participate in or listen to public speaking so long as the individuals are peaceable and orderly and sufficient space is left on the highway, sidewalk or boulevard to allow free and unimpeded movement and travel of other pedestrian and vehicle traffic. In the event that any congregation or assembly of individuals results in the obstructions referenced in section 4.03(a) or (c), the individuals causing the obstruction, annoyance or inconvenience shall forthwith disperse and move away from the area upon being requested to do so by any Officer or other person duly authorized to make the request pursuant to section 4.03(b).

PART 5 – BICYCLES and E-SCOOTERS⁵

- 5.01 Unless the context otherwise requires, a person operating a bicycle on a highway has all the rights and is subject to all the duties that any vehicle operator has under this Bylaw.
- 5.02 No person shall ride a bicycle on any sidewalk except where expressly permitted by a traffic control device or by this Bylaw. Bicycles operated by persons twelve (12) years old and younger are excluded from this provision.
- 5.03 Further to Section 5.02, a person shall be permitted to ride a bicycle on any pathway or sidewalk in excess of one point four (1.4) metres providing it is ridden in a way that does not interfere with a pedestrian lawfully on or using such pathway.
- 5.04 A person riding a bicycle or e-scooter on a sidewalk or pathway, where allowed, shall:
- (a) yield the right of way to slower moving persons or cyclists;
 - (b) alert a person about to be overtaken by sounding a bell a reasonable amount of time before overtaking;
 - (c) use reasonable care when overtaking another person or passing on the left; and
 - (d) travel under control and at a reasonable rate of speed having regard to the nature, condition and use of the sidewalk or pathway including the amount of pedestrian traffic.
- 5.05 No person shall operate an e-scooter on or across any highway except on:
- (a) a sidewalk or boulevard;
 - (b) pathways;
 - (c) roadways where the speed limit is 30 kilometres per hour or less;

⁵ Bylaw B-23/2022

(d) a crosswalk; and

(e) a lane.

- 5.06 Notwithstanding section 5.05, a person may not operate an e-scooter on private property, including malls and parking lots, unless the e-scooter owner has obtained permission from the owner of the private property.
- 5.07 A person must be at least 16 years old to operate an e-scooter. An e-scooter owner must not allow a person less than 16 years old to rent or operate an e-scooter.
- 5.08 A person who is operating an e-scooter must not carry any passengers on that e-scooter.
- 5.09 A person must not operate an e-scooter in a reckless manner, having regard to the circumstances.

PART 6 – USE OF SIDEWALKS

- 6.01 This part does not apply to pathways governed by City Bylaw No. B-13/2009, The Parks Bylaw.
- 6.02 Except as otherwise provided in this part, a person shall not:
- (a) drive, lead, or allow a hoofed animal to walk;
 - (b) drive, draw, or push any motor vehicle;
 - (c) ride a horse; or
 - (d) draw, push, propel or ride a wheeled vehicle of any description other than a bicycle, e-scooter, or mobility aid,
- on or along a sidewalk, pathway, or boulevard.⁶
- 6.03 Notwithstanding the provisions of subsection 6.02, a person may draw, push, or propel:
- (a) a two wheeled cart or other personal grocery carrier; or
 - (b) a baby carriage, a wheeled device for carrying a child or an invalid; or
 - (c) an e-scooter or mobility aid; or
 - (d) a child's tricycle;
- on or along a sidewalk or pathway in such a way as to not interfere with other users of the sidewalk or pathway.⁷
- 6.04 No person shall use rollerblades, scooters, e-scooters, Segways, or a skateboard on a sidewalk if the City Manager has posted a traffic control device indicating that rollerblades, scooters, e-

⁶ Bylaw B-23/2022

⁷ Bylaw B-23/2022

scooters, Segways, or a skateboard are prohibited on the sidewalk of the block in which the traffic control device is posted.⁸

- 6.05 No person shall ice skate or rollerblade or skateboard upon a roadway.
- 6.06 No person shall load or unload goods across a sidewalk or boulevard where there are designated loading and unloading facilities on the property.
- 6.07 Subsection 6.06 does not apply to crossing a sidewalk in a place where there is a laned roadway or prepared crossing or where permission has been granted for such purpose.

PART 7 - PARKING

- 7.01 For the purposes of Part 7, an owner of a vehicle shall be liable for any offence committed by an operator of such vehicle.

Parking Permits

- 7.02 The City Manager is hereby authorized to designate a permit parking zone anywhere within the City.
- 7.03 Where a permit parking zone has been designated and signs designating the permit parking zone have been installed, residents who reside within the permit parking zone may apply to Municipal Enforcement for a total of two (2) permits per residence, which includes one (1) visitor permit. This permit will only be issued upon presentation of a valid Alberta Vehicle Registration showing an address within that permit parking zone or other information that is acceptable to the City Manager. Such permits shall be valid for a period of five (5) years.
- 7.04 A vehicle shall not be parked in a permit parking zone unless a valid and subsisting parking permit for that permit parking zone is clearly displayed on the vehicle.
- 7.05 In the event a person to whom a parking permit has been issued moves from the restricted parking area for which the permit was granted, he shall:
 - (a) remove the permit from the vehicle; and
 - (b) inform and present the parking permit to Airdrie Municipal Enforcement.
- 7.06 When a person to whom a permit has been granted sells the motor vehicle in respect of which it was granted he shall remove the permit therefrom and:
 - (a) if he has obtained another motor vehicle for which a permit may be granted pursuant to this Bylaw, transfer the permit to the new vehicle; or
 - (b) if he has not obtained another motor vehicle for which a permit may be granted he shall surrender the permit to Municipal Enforcement.
- 7.07 No person to whom a permit is granted shall sell, trade, give away or otherwise dispose of the permit or allow any other person to obtain the same.

⁸ Bylaw B-23/2022

Parking in Alleys

- 7.08 (a) Unless a sign otherwise permits, no person shall park a motor vehicle in an alley.
- (b) Parking a motor vehicle in an alley is permitted:
- i) for the purpose of loading or unloading goods from a commercial vehicle for a period not to exceed thirty (30) minutes, or
 - ii) for the purpose of loading or unloading goods or passengers from a motor vehicle other than a commercial vehicle for a period not to exceed fifteen (15) minutes.
- (c) If a motor vehicle, while loading or unloading goods or passengers as provided in this Section obstructs or prevents other motor vehicles or persons from passing along the alley the owner, or operator, of such motor vehicle shall be guilty of an offense.

Recreational Vehicles, Trailers and Off-Highway Vehicles

- 7.09 No person shall park a recreational vehicle on a highway in the City except in accordance with this Section:
- (a) recreational vehicles may only be parked on the area of highway which is immediately adjacent to the recreational vehicle's owner or operator's place of residence; and
 - (b) recreational vehicles may only be parked on the highway for a maximum of seventy-two (72) consecutive hours following which the owner or operator shall move the recreational vehicle to an off-highway location for a period of not less than forty-eight (48) consecutive hours before the recreational vehicle may be parked again in the same area of the street immediately adjoining the owner's or operator's place of residence for the allowed period of time stated in this Section.
- 5.10 No owner or operator of a recreational vehicle shall park the recreational vehicle on any highway in the City in such a manner as to constitute a hazard to other persons using the highway.
- 5.11 Recreational vehicles including attachments (e.g. hitches, bicycle carriers, etc.) that are parked on a front driveway or at the back of the lot adjacent to an alley:
- (a) shall not extend onto the sidewalk, pathway, curb or highway or alley; or
 - (b) shall be setback one and one half (1.5) meters from the curb where no sidewalk or pathway exist; or
 - (c) shall not extend past the occupant's property line where no sidewalk, pathway or curb exists.
- 5.12 No person shall park a recreational vehicle or trailer (whether designed for occupancy by persons or for the carrying of goods or equipment) upon any highway unless the said recreational vehicle or trailer is attached to a vehicle by which it may be propelled or drawn and when so attached the recreational vehicle or trailer shall be deemed part of the vehicle and subject to the regulations pertaining to the vehicle.

- 5.13 No person shall park a recreational vehicle or trailer so as to obstruct access to or exit from a highway, from any driveway, or adjacent highway.
- 5.14 No person shall park a recreational vehicle within one and one half (1.5) meters of an access to a highway.
- 5.15 A recreational vehicle parked on a highway shall not be occupied.
- 5.16 No person shall park a vehicle, recreational vehicle or any vehicle with any type of trailer attached thereto upon any highway in a residential development if the overall length of the vehicle, recreational vehicle or the vehicle with trailer exceeds nine (9) metres.
- 5.17 Section 7.16 shall not apply so as to prohibit such recreational vehicle being parked on a highway for the purpose of cleaning, unloading or loading goods to or from premises abutting such highway provided this is completed within twenty-four (24) hours. If the loading or unloading is taking place during a period of restricted visibility, then the vehicle and its trailer shall have all front and rear parking lights illuminated.
- 7.18 Recreational vehicles, off-highway vehicles and trailers must be parked on gravel, concrete or paved parking pad in a residential area when the recreational vehicle is visible to the public from the front street unless otherwise approved by a valid Development Permit.
- 7.19 In order to determine the time which a vehicle or recreational vehicle has been parked in a location where parking is restricted to a specific time, an Officer or other person charged with the enforcement of parking prohibitions and restrictions may place an erasable chalk mark on the tread face of the tire of the parked or stopped vehicle or recreational vehicle without such Officer or other person or the City incurring any liability for so doing. No person shall remove an erasable chalk mark placed while the vehicle remains parked in the location where it was marked.

Unauthorized Parking - Fire Access

- 7.20 No person shall park a vehicle for any period of time:
- (a) where the vehicle may in any way interfere with the use of a doorway intended as a fire or emergency exit from any building abutting the highway; or
 - (b) in the entranceway to any fire hall or the ambulance entranceway to any fire hall or the ambulance entranceway to any hospital or urgent care centre.
- 7.21 No owner or operator of a vehicle shall stop or park, or permit the stopping or parking of the vehicle in any signed fire lane.
- 7.22 No person shall park or drive a vehicle over a fire hose laid on a highway.
- 7.23 Except as permitted in this Section, a vehicle shall not be stopped on a highway within five (5) metres of a fire hydrant.

Unauthorized Parking - General

- 7.24 Unauthorized parking will not be enforced on private property with the exception of unauthorized parking in relation to fire lanes and parking within a disabled parking zone.

- 7.25 No person shall park a vehicle upon any highway in such a manner that any part of the vehicle is within four (4) metres of the centre line of the highway whether or not such centre line is marked on the highway provided that the foregoing shall only apply to highways where the portion thereof intended for vehicular traffic is twelve (12) metres or more in width.
- 7.26 No owner or operator of a vehicle shall park in any transit zone properly marked by a traffic control device unless that vehicle is a transit vehicle.
- 7.27 No person shall park any vehicle upon any land owned by the City which the City uses or permits to be used as park space, except on such part thereof as the City Manager may designate by a sign or signs for vehicular parking.
- 7.28 No person shall park any vehicle in any parking space upon City-owned property where such space has been reserved for a vehicle operated by an employee of the City unless that person is a City employee and displays a clearly visible permit in the vehicle.
- 7.29 No person shall park a vehicle on any portion of a highway, including a parking lot, marked by traffic control devices as "No Parking".
- 7.30 No person shall drive or park any vehicle, ex on any sidewalk, pathway or boulevard in the City.
- 7.31 No person shall park a vehicle on a driveway or entranceway to any building so that any part of that vehicle extends across any portion of a boulevard, sidewalk or pathway.
- 7.32 When parking on a roadway, a driver shall park his vehicle with the sides thereof parallel to the curb or edge of the roadway, and
- (a) with the right wheels thereof not more than thirty-five (35) centimetres from the right curb or edge of the roadway, or
 - (b) in the case of a one-way highway where parking on either side of the highway is permitted, with the wheels closest to a curb or edge of the roadway not more than thirty-five (35) centimetres from that curb or edge of the roadway, and with the vehicle facing the direction of travel authorized for that highway.
- 7.33 No person shall park perpendicular to a curb edge so as to cause a hazard to vehicles and/or pedestrians or next to the edge of a roadway unless marked by a sign allowing such parking.⁹
- 7.34 No person shall park perpendicular to a curb edge or next to the edge of a roadway unless marked by a sign allowing such parking.
- 7.35 No person shall park a vehicle:
- (a) on any portion of a highway marked by a traffic control device that prohibits stopping or parking; or
 - (b) on any portion of a highway marked by a temporary City "No Parking Sign" for the purposes of allowing City employees or contractors to repair, clear or clean the highway between the hours of one o'clock in the morning (1:00 a.m.) and twelve o'clock midnight (12:00

⁹ Bylaw No. B-03/2017

midnight) during any days that the “No Parking Sign” is in effect. Any vehicles that are parked in violation of this Section may be towed or removed from the portion of the highway being cleaned, cleared or repaired, at the owner’s expense, and the vehicles may be moved to an adjacent highway.

- 7.36 No person shall park a truck-tractor unit on any highway in a residential area whether or not a trailer is attached to it for loading or unloading.
- 7.37 A vehicle shall not be parked:
- (a) on a crosswalk or any part of a crosswalk; or
 - (b) within five (5) metres of the near side of a marked crosswalk.
- 7.38 A vehicle shall not park within five (5) metres of the approach to a stop sign or yield sign.
- 7.39 A vehicle shall not be parked:
- (a) at an intersection, within five (5) metres of the projection of the curb or edge of the roadway;
 - (b) within an intersection, other than immediately next to the curb or edge of the roadway in a “T” intersection;
- unless a traffic control device permits or requires.
- 7.40 No owner or operator of any motor vehicle which:
- (a) is not equipped in accordance with the Act; or
 - (b) is not in operable condition;
- shall cause or permit such vehicle to be parked or left on any highway.
- 7.41 Except in the case of a breakdown or other emergency not allowing the motor vehicle to be moved, the owner or operator of any motor vehicle shall not stand or park it on the highway for the purpose of servicing or repairing the vehicle.
- 7.42 A vehicle shall not be parked on a highway identified as a disabled parking zone unless the vehicle:
- (a) displays a valid disabled placard or license plate issued or recognized by the Registrar; and
 - (b) is being used for the transportation of a person with a disability.
- 7.43 Where a vehicle parking space is marked out or designated upon a highway, the operator of a vehicle making use of the parking space shall park his/her vehicle wholly within one marked out or designated parking space.
- 7.44 No person shall park on the roadway side of a motor vehicle parked or stopped at the curb of the edge of the roadway.

- 7.45 No person shall park a motor vehicle on a roadway so that it faces in the opposite direction of the traffic flow for that side of the roadway.
- 7.46 Where angle parking is permitted on a highway, no person shall park a motor vehicle so that the front of the motor vehicle is more than thirty-five (35) centimetres from the curb or edge of the roadway.
- 7.47 (a) No person shall park a vehicle on a traffic lane.
- (b) This Section shall not apply where the parking is unavoidable due to mechanical failure provided the operator promptly takes measures to clear the vehicle from the highway.
- 7.48 (a) Where a sign restricts the parking of vehicles to a specific time, it shall be an offence to park a vehicle in excess of the time so designated and marked on the sign.
- (b) After the issuance of a voluntary payment tag concerning a vehicle for the first violation of sub-section (1) hereof and vehicle remaining parked in excess of the time permitted on the sign for a further period then a second offence shall be deemed to have occurred.
- (c) The provisions of this section shall not apply on a holiday.
- 7.49 A motor vehicle that is:
- (a) left standing on a highway for more than seventy-two (72) consecutive hours, unless otherwise provided for in a bylaw in the case of a highway under the direction, control and management of the Council of a municipality, or
- (b) left standing on public or private property for more than seventy-two (72) consecutive hours without the consent of the owner or person in possession or control of the property,
- is deemed to have been abandoned at that location.¹⁰
- 7.50 No person shall park equipment such as zoom booms, cranes or any other construction equipment unattended on a City highway.¹¹
- 7.51 No parking is allowed within one and one half (1.5) metres from a driveway so as not to block the entrance or exit of said driveway.¹²
- 7.52 (a) Any Officer is hereby authorized to remove or cause to be removed any vehicle or trailer:
- (i) parked in contravention of a provision of this Bylaw; or
- (ii) where emergency conditions may require such removal from a highway.
- (b) Such vehicle may be removed to a place designated by the City Manager where it will remain until claimed by the owner thereof or his agent.

¹⁰ Bylaw No. B-25/2020

¹¹ Bylaw No. B-03/2017

¹² Bylaw No. B-03/2017

- (c) With the exception of vehicles removed during emergency conditions, towing charges will be a debt owing to the City and may be in addition to any fine or penalty imposed in respect of any such violation, or to any payment made in lieu to prosecution as provided for in Part 18.

Exemption from Parking Provisions

7.53 Notwithstanding anything elsewhere contained in this Bylaw, the provisions relating to stopping or parking of vehicles do not apply to:

- (a) emergency vehicles;
- (b) service vehicles used in conjunction with the servicing of public utilities including telephone systems, electric systems, natural gas systems and cablevision systems;
- (c) municipal and other government public works vehicles; or
- (d) towing service vehicles;

while any such vehicle is being used in work requiring that it be stopped or parked at that location.

7.54 Where the owner or operator of a vehicle stops, stands or parks pursuant to subsection 7.50 contrary to other provisions of this Bylaw, he shall take due precaution to indicate the presence of such vehicle on any highway while so parked or stopped.

PART 8 - TRANSIT ZONES/TRANSIT TERMINAL

8.01 No person shall operate a vehicle or e-scooter, such that it enters a transit zone or transit terminal unless:

- (a) that vehicle is a transit vehicle; or
- (b) the transit zone comprises part of a travelling laned roadway.

PART 9 - SECURING LOADS AND USE OF TARPAULINS

9.01 All loads of earth, sand, gravel, or other loose material shall be completely covered and secured by a tarpaulin or other covering.

9.02 No person shall drive a vehicle with a load on a highway unless the load has been secured to prevent the load from falling onto a highway or land adjacent thereto or shifting within the vehicle box or trailer box.

9.03 In the event that any part of a vehicle's load becomes loose or detached or blows, drops, spills or falls from any vehicle onto a highway, the operator shall take all reasonable precautions to safeguard traffic and to remove any materials from the highway, as soon as practicable. Municipal Enforcement must be notified of any load that spills onto a highway.

PART 10 - PARADES/SPECIAL ROADWAY EVENTS

- 10.01 No person shall participate in any parade or special roadway event of any kind on a city highway until a permit for same has been issued by the City Manager.
- 10.02 Any person or organization wishing to organize a parade or special roadway event shall, at least thirty (30) days prior to the time they desire to hold the same, make application in writing to the City Manager and advise the City Manager of the place of origin, destination, and route to be followed by such a parade or special roadway event, along with the time and date thereof. The City Manager has the discretion to waive the thirty (30) day application period. A one hundred (\$100.00) dollar non-refundable fee shall accompany any application.
- 10.03 The City Manager may approve an application for a special roadway event or parade, specifying the route to follow, the time the special roadway event or parade may take place and the type of vehicles, floats, or other displays that will be allowed to take part. Further, the City Manager may set conditions as he deems appropriate for the purposes of ensuring public safety and protection of private and public property.
- 10.04 When a permit has been granted for a parade or special roadway event:
- (a) notwithstanding any provisions of this Bylaw, a person or persons may congregate on the sidewalks or a portion of a highway designated for the purpose in order to view the parade or special roadway event; and
 - (b) the City Manager may close all or portions of the highway along the route set out in the permit for the anticipated time of the parade or special roadway event and for such additional time as necessary to clear the highway for normal traffic.
- 10.05 When a permit for a parade or special roadway event has been issued, the permit holder shall not permit any vehicles other than private passenger vehicles, animals or floats to take part in the parade or special event on the highway which are not authorized by permit. No person shall operate or bring any vehicle other than private passenger vehicles, animals or floats onto a highway which is the subject of a parade or special roadway event permit unless the vehicle, animal or float is authorized to be on the highway pursuant to the permit.
- 10.06 Unless the person who receives permission to conduct or arrange for a parade or special roadway event has received specific permission to allow animals, vehicles, or floats to take part, no person shall allow any vehicles, other than private passenger vehicles, animals, or floats over which he has any control to participate or to be placed in the highway on the route during a parade or special roadway event.
- 10.07 Where pursuant to the provisions of Subsection 10.06 permission is obtained allowing floats, animals, or vehicles other than private passenger vehicles to be placed in or on the route, the person or persons sponsoring the parade or special roadway event shall enter into an agreement satisfactory to the City to indemnify and save harmless the City from and against any and all claims for injury to any person or persons, and damage to any real or personal property arising by reason of or in any way connected with the entry, placing, or operation of the vehicle, animals, or float in the parade or special roadway event whether prior to, during, or after the parade or special roadway event and whether arising out of or directly or indirectly caused by any act, omission or negligence of the City, its employees or agents, and shall furnish a policy of liability insurance in an amount required by the City's Insurance & Risk Management Advisor naming the City as an additional insured, and the granting of the permission for allowing vehicles, animals or floats to take part in the parade or special roadway event shall be the

consideration for such indemnity. Such agreement may also include provision for the collection of a damage deposit from the permit holder(s).

- 10.08 Notwithstanding the indemnity or the insurance required by Subsection 10.07, the owner, sponsor, driver or operator of a vehicle, animal, or float and all persons on such vehicle, animal or float taking part in the parade or special roadway event shall ensure that:
- (a) no part of the vehicle, animal, or float will damage the highway, electric or telephone poles or wires, streetlights, transit posts, cables or supports, traffic signal lights or signs, fire hydrants, or any other property of the City or a public utility in a highway, and
 - (b) the vehicle, animal, float, or anything thereon or attached thereto will not injure any person or cause damage to any real or personal property, and
 - (c) no portion of the vehicle, animal, or float or anything erected, placed on or attached to the vehicle, animal, or float will come in contact with any telephone wire or any wire charged with or carrying electric current.
- 10.09 If there is any damage to public property, or it becomes necessary for the City to clean up any debris, garbage or waste left on public property as a result of an approved parade or special roadway event, then the costs incurred in repairing the damage or in the cleanup will be the responsibility of the permit holder(s).
- 10.10 Should Officers or other City staff be required to assist with the parade or special roadway event, including but not limited to controlling and directing traffic, the cost of such assistance shall be the responsibility of the permit holders(s).
- 10.11 Where approval has been granted for a parade or special roadway event, a person must not join or otherwise interfere with the parade or special roadway event without the permission of the permit holder.
- 10.12 A person who joins or otherwise interferes with a parade or special roadway event without permission must depart the immediate area of the parade or special roadway event immediately after having been directed to do so by an Officer.
- 10.13 A permit holder must comply with all conditions set out in the permit. Where the permit holder fails to comply with the conditions set out by the City Manager, the City Manager may cancel the permit.

PART 11 - TRUCK ROUTES

- 11.01 For the purposes of Part 11, heavy vehicle means:
- (a) A vehicle having a gross vehicle weight exceeding four thousand five hundred (4,500) kilograms, or
 - (b) A motor vehicle with a trailer having a gross weight exceeding four thousand five hundred (4,500) kilograms.
- 11.02 No person shall operate or park a heavy vehicle on a highway other than a highway specified in Schedule "B".

- (a) The following shall not be deemed to be operating a vehicle in contravention of section 11.02 if the vehicle was being operated on the most direct and practicable route between the premises or location concerned and the nearest truck route:
- i) Persons delivering or collecting goods or merchandise to or from the premises of bona fide customers;
 - ii) Persons going to or from business premises of the owner of the heavy vehicle concerned;
 - iii) Persons moving a house for which the necessary moving permits have been issued by the City; or
 - iv) Persons going to or from premises for the servicing or repairing of the heavy vehicles.
- (b) The following shall not be deemed to be in contravention of Section 11.02:
- i) Persons driving a transit vehicle.
 - ii) Persons driving a vehicle owned by or actually in service of the City.
 - iii) Persons driving an emergency vehicle.
 - iv) In the event that a heavy vehicle has broken down.

11.03 No person while operating a heavy vehicle away from the Truck Routes established by Schedule "B" of this Bylaw for any of the reasons set forth in 11.04 shall exceed a speed of thirty (30) kilometres per hour.¹³

Commercial Carrier Permitting

11.04 The City Manager or his designate may, under circumstances which are considered to warrant a commercial haul permit, issue such permit with associated fees, authorizing the single trip movement of a heavy truck on all highways and truck routes within the City. Any person driving a heavy truck on a route authorized by a permit shall produce the same when required to do so by an Officer.¹⁴

11.05 All commercial permits for single trip commercial movements including overweight, over dimensional, off truck route travel etc. will be made through the Provincial MJ TRAVIS system as per Bylaw No. B-15/2017. The permit will include the following:

- (a) the date authorized to move;
- (b) the proposed route of travel within the City;
- (c) any applicable weights and number of axles; and

¹³ Bylaw No. B-25/2020

¹⁴ Bylaw No. B-25/2020

(d) all rules applicable to the type of permit.¹⁵

11.06 In the case of multiple loads, the applicant may be required to enter into a Road Use Agreement to the satisfaction of the City.¹⁶

Identification of Truck Routes

11.07 The City Manager may cause signs or other traffic control devices to be erected along Truck Routes to identify the beginning and end of a Truck Route.

Truck Routes - General

11.08 No person shall drive a heavy vehicle on any highway except on the truck routes designated in Schedule "B".¹⁷

11.09 The provisions of this Part 11 shall not apply to:

- (a) vehicles owned or leased by City utilities;
- (b) emergency vehicles;
- (c) vehicles owned or leased by other utility companies while being used for inspection, maintenance or repair work in respect of the companies' utilities; or
- (d) vehicles owned or leased by cable television companies while being used for inspection, maintenance or repair work in respect of the companies' cable television facilities;

provided that the vehicle is responding to an emergency situation from which property damage or personal injury might reasonably result.

11.10

(a) A commercial vehicle, with or without a vehicle with a trailer attached, with a maximum gross weight exceeding five (5) tonnes shall not be parked on a highway:

- (i) in a location not adjoining residential property at any time after seven o'clock (7:00 p.m.) in the evening and before seven o'clock (7:00 a.m.) the next morning,

except when parked on a designated truck route.¹⁸

(b) This section does not apply if the *vehicle*:

- (i) is a *recreational vehicle*; or
- (ii) is an *emergency vehicle* or *vehicle* transporting goods for emergency response or *highway* repair; or

¹⁵ Bylaw No. B-25/2020

¹⁶ Bylaw No. B-25/2020

¹⁷ Bylaw No. B-25/2020

¹⁸ Bylaw No. B-25/2020

- (iii) is a school bus loading or unloading passengers; or
- (iv) a *commercial vehicle* with the hazard warning lamps alight and in the process of loading or unloading goods.¹⁹

PART 12 – MISCELLANEOUS HIGHWAY REGULATIONS

- 12.01 No *person* shall wash a *vehicle* upon a *highway* or so near a *highway* as to result in depositing mud or creating slush or ice upon a public sidewalk or roadway.
- 12.02 No person operating business premises to which entry or exit for vehicles is made by a crossing located between the highway curb, and the private property line shall allow water or mud, slush or ice or icy or frozen snow to remain on the public sidewalk or roadway portion of such crossing, but shall be responsible to keep the same clean and clear of all such matter liquids or substances as may be or become a hazard to pedestrians.
- 12.03 No person shall drain any fluid associated with the operation of a motor vehicle upon a highway.
- 12.04 When requested by an Officer:
- (a) the driver or operator of a vehicle, or the person in charge of a vehicle on a highway, shall correctly state his or her name and address and the name and address of the owner of the vehicle;
 - (b) a pedestrian or the operator of a bicycle, who, in the opinion of the Officer has committed an offence under this Bylaw, shall correctly state his or her name and address.
- 12.05
- (a) No person shall place any sign, notice or object upon a highway or boulevard or upon abutting property including sidewalks unless authorized by the City.
 - (b) Any sign, notice of other object placed on or beside a highway or boulevard or upon abutting public lands including sidewalks shall be liable to removal and immediate disposal by the City without any notice or warning to the owner.

PART 13 – STREETS REGULATIONS

- 13.01 No person shall operate a vehicle on a highway with:
- (a) spikes, lugs, cleats, bands or other items projecting from the surface of the wheel or tire;
or
 - (b) skids, unless using flat metal or rubberized tracks.

PART 14 – SCHOOL BUSES

- 14.01 The operator of a school bus shall not, at any time, activate alternate red or yellow flashing lights and stop arms on a school bus while the school bus is loading or unloading passengers

¹⁹ Bylaw No. B-25/2020

on a highway within the City except on those highways listed in Schedule “C” and mapped on Schedule “D”.

PART 15 – ADMINISTRATION

Powers of the City Manager

- 15.01 Without restricting any other power, duty or function granted by this Bylaw, the City Manager may:
- (a) carry out any inspections to determine compliance with this Bylaw;
 - (b) take any steps or carry out any actions required to enforce this Bylaw;
 - (c) take any steps or carry out any actions required to remedy a contravention of this Bylaw;
 - (d) establish forms for the purposes of this Bylaw;
 - (e) designate where traffic control devices are to be erected and for purposes of greater certainty, this includes traffic control devices restricting the speed of vehicles;
 - (f) designate any highway or portion thereof for one-way traffic only;
 - (g) designate any roadway as one to be divided into traffic lanes of such number as is proper;
 - (h) designate “School Zones” and “Playground Zones” as appropriate;
 - (i) designate highways or any portion thereof as passenger or commercial vehicle loading and unloading spaces including disabled and school bus loading zones for such time limits as appropriate;
 - (j) designate transit zones and school bus loading or unloading zones;
 - (k) designate portions of any highway as taxi zones;
 - (l) close any existing median or divider on a highway; and
 - (m) temporarily close any highway for the purpose of construction, repairs, maintenance or other valid reason where a hazard exist or would be created if the road were not closed.

PART 16 - PERMITS

- 16.01 A person to whom a permit other than a parade permit has been issued pursuant to this Bylaw, and any person carrying out an activity otherwise regulated, restricted or prohibited by this Bylaw pursuant to such permit, shall comply with any terms or conditions forming part of the permit.
- 16.02 A person shall not make any false or misleading statement or provide any false or misleading information to obtain a permit pursuant to this Bylaw.

- 16.03 If any term or condition of a permit issued pursuant to this Bylaw is contravened, or if a false or misleading statement or false or misleading information was provided to obtain the permit, the City Manager may immediately cancel the permit.

Proof of Permit

- 16.04 The onus of proving a permit has been issued in relation to any activity otherwise regulated, restricted or prohibited by this Bylaw, is on the person alleging the existence of such a permit on a balance of probabilities.

PART 17 - OWNER'S LIABILITY

- 17.01 Where a vehicle is driven, used, parked, or left in contravention of any of the provisions of this Bylaw, the owner of the vehicle is guilty of the contravention and liable to the penalty provided in this Bylaw, unless he proves to the satisfaction of the provincial judge or justice trying the case for contravention of this Bylaw that at the time of the contravention the vehicle was not driven, used, parked, or left by him or by any other person with his consent, expressed or implied.

PART 18 – ENFORCEMENT

Offence

- 18.01 A person who contravenes this Bylaw is guilty of an offence.
- 18.02 Any person who contravenes any provision of this Bylaw is guilty of an offence and liable on summary conviction to a fine not less than Five Hundred (\$500.00) Dollars and not more than Two Thousand Five Hundred (\$2,500.00) Dollars, and if in default of payment of any fine imposed, to imprisonment for not more than six (6) months.
- 18.03 In the case of an offence that is of a continuing nature, a contravention constitutes a separate offence in respect of each day, or part of a day, on which it continues, and a person guilty of such an offence is liable to a fine in an amount not less than that established by this Bylaw for each such day.
- 18.04 The specified fines for an offence committed pursuant to this Bylaw are set out in the attached Schedule "A."

Voluntary Payment Tag

- 18.05 An Officer is hereby authorized and empowered to issue a voluntary payment tag to any person who the Officer has reasonable and probable grounds to believe has contravened any provision of this Bylaw.
- 18.06 A voluntary payment tag shall contain the following:
- (a) the date and time of the offence;
 - (b) the contact information of the accused;
 - (c) the number and description of the violation;

- (d) specified penalty option;
- (e) date assigned when the voluntary payment option expires (after which a provincial ticket will be issued);
- (f) operator license number, MVID number for vehicle violations;
- (g) instructions on where to pay a voluntary payment ticket;
- (h) discount information detailing the number of days a discount applies; and
- (i) contact information of Municipal Enforcement.

18.07 A municipal voluntary payment tag may be issued to such person or corporation:

- (a) either personally;
- (b) by mailing a copy to such person at his last known address;
- (c) left with a person of age who shares the same residence; or
- (d) in the case of a parking ticket, leaving the the parking ticket on the vehicle.

18.08 Where a contravention of this Bylaw is of a continuing nature, further voluntary payment tags or Summons may be issued by an Officer provided that no more than one (1) voluntary payment tag or Summons shall be issued for each calendar day that the contravention continues.

18.09 Where any person has been issued a voluntary payment tag for a contravention of the same provision of this Bylaw twice within one twelve (12) month period, the penalty in lieu of prosecution or specified penalty payable in respect of the second contravention is double the amount shown in Schedule "A" of this Bylaw in respect of that provision.

18.10 Where any person has been issued a voluntary payment tag for a contravention of the same provision of this Bylaw three times within one twelve (12) month period, the penalty in lieu of prosecution or specified penalty payment in respect of the third contravention is triple the amount shown in Schedule "A" of this bylaw in respect of that provision.

18.11 Where payment of the penalty is received for the first offence occurring within one twelve (12) month period, and the ticket issued for breach of any sections of this Bylaw is paid within five (5) business days from the date of the issuance of the voluntary payment tag to a person authorized by the City to receive such payment, the penalty set out in Schedule "A" shall be as outlined in said Schedule "A".

18.12 Nothing in this Bylaw shall prevent an Officer from issuing a violation ticket for the mandatory Court appearance of any person who contravenes any provision of this Bylaw.

18.13 If an e-scooter is involved in an offence under this Bylaw, the owner of that e-scooter is guilty of that offence.²⁰

²⁰ Bylaw B-23/2022

- (a) For section 18.13, an owner includes any person or corporation issued a business license for e-scooter operations.²¹
- (b) Section 18.13 does not apply if the owner of the e-scooter satisfies the court, that at the time the e-scooter was involved in the offence, it was not operated or parked with the owner's express or implied consent.²²

Violation Tickets and Penalties

18.14

- (a) Where an Officer believes that a person has contravened any provision of this Bylaw, he may commence proceedings by issuing a Summons by means of a violation ticket against that person in accordance with Part 2 of the *Provincial Offences Procedure Act*, RSA 2000, c P-34, as amended; or
- (b) Where an Officer believes that a person has contravened any provision of this Bylaw, he may commence proceedings by issuing an Offence Notice by means of a violation ticket against that person in accordance with Part 3 of the *Provincial Offences Procedure Act*, RSA 2000, c P-34 as amended.

18.15 Notwithstanding any other provision of this Bylaw, an Officer is hereby authorized and empowered to immediately issue a violation ticket to any person who the Officer has reasonable grounds to believe has contravened any provision of this Bylaw.

18.16 The specified penalty payable in respect of a contravention of a provision of this Bylaw is the amount shown in Schedule "A" of this Bylaw.

18.17 Notwithstanding the preceding subsection:

- (a) where any person has been convicted of a contravention of the same provision of this Bylaw twice within one twelve (12) month period, the penalty in lieu of prosecution or specified penalty payable in respect of the second conviction is double the amount shown in Schedule "A" of this Bylaw in respect of that provision; and
- (b) where any person has been convicted of a contravention of the same provision of this Bylaw three (3) or more times within one twelve (12) month period, the penalty in lieu of prosecution or the specified penalty payable in respect of the third or subsequent conviction is triple the amount shown in Schedule "A" of this Bylaw in respect of that provision.

Towing

18.18 An Officer may cause any vehicle parked contrary to this Bylaw to be removed therefrom and to relocated to an adjacent highway.

²¹ Bylaw B-23/2022

²² Bylaw B-23/2022

- 18.19 In addition to towing the vehicle, any information and complaint may be laid against the owner or person in charge of the illegally parked vehicle for the violation of the provisions of this Section.
- 18.20 In lieu of or in addition to the removal of the vehicle, an Officer or any person designated by the City Manager for this purpose may place a voluntary payment tag or violation ticket upon the vehicle parked in contravention of this Section.

Interference with Duties

- 18.21 It shall be considered an offence in this Bylaw to interfere, obstruct or hinder any person authorized by the City Manager including Officers and other authorized persons in the exercise or performance of the person's powers pursuant to this Bylaw.

Recovery of Enforcement Costs

- 18.22 Pursuant to the *Municipal Government Act*, RSA 2000, c M-26, and any amendments thereto, the expenses and costs incurred by the City in the enforcement of this Bylaw may be collected as a civil debt that is the subject of the enforcement proceedings under this Bylaw. Included in the costs will be a minimum administration fee of twenty-five (\$25.00) dollars or ten percent (10%) of the total amount owing to a maximum of one hundred and fifty (\$150.00) dollars.

PART 19 – MISCELLANEOUS

- 19.01 Nothing in this Bylaw relieves a person from complying with any Federal, Provincial or Municipal law or regulation, other bylaw or any requirements of any lawful permit, order, consent or other direction.
- 19.02 Where this Bylaw refers to another Act, Regulation or agency, it includes reference to any Act, Regulation or agency that may be substituted therefor.
- 19.03 Every provision of this Bylaw is independent of all other provisions. If any provision of this Bylaw is declared invalid for any reason by a Court of competent jurisdiction, all other provisions of this Bylaw shall remain valid and enforceable.
- 19.04 The specified fees payable for a permit application as required by this Bylaw shall be those fees set by the City Manager.

Repeal of Bylaws/Policies

19.05 That Bylaw No. 803 and Bylaw No. 891 and amendments thereto are repealed upon this Bylaw coming into force.

Read a first time this 4th day of April 2016.

Read a second time this 4th day of April, 2016.

Read a third time this 4th day of April, 2016.

Executed this 4th day of April, 2016.

"Peter Brown"


Mayor

"Sharon Pollyck"

City Clerk

Consolidated as of the date evidenced
by digital signature below:

Tammy
Belsham

 Digitally signed by Tammy
Belsham
Date: 2022.06.08
12:28:40 -06'00'

Assistant City Clerk

SCHEDULE “A” – FINES

SECTION	FIRST OFFENCE*	PENALTY IN LIEU OF PROSECUTION	SPECIFIED PENALTY
4.01	Jaywalking	50.00	75.00
4.02	Not crowding	50.00	75.00
4.03	Obstruct <i>roadway/sidewalk/boulevard</i>	50.00	75.00
4.04	Hitchhiking	50.00	75.00
5.04	Control of bicycle	35.00	50.00
5.08	Carry a Passenger on an e-scooter	\$50.00	\$75.00 ²³
5.09	Operating in a reckless manner, having regard to the circumstances	\$175.00	\$250.00 ²⁴
6.04	Rollerblade or skateboard where prohibited on sidewalk	35.00	50.00
6.05	Ice skate/rollerblade or skateboard on <i>roadway</i>	35.00	75.00
7.04	Parking without a <i>permit</i>	35.00	75.00
7.08(a)	Parking in <i>alley</i>	35.00	75.00 Bylaw No. B-03/2017
7.08(c)	Obstruct <i>Vehicle</i> or <i>pedestrian</i> in <i>alley</i>	\$50.00	75.00 Bylaw No. B-03/2017
7.09	Parking of RV on <i>highway</i>	75.00	100.00
7.10	Park RV create hazard	75.00	100.00
7.11(a)	RV extend over <i>sidewalk, highway, curb</i>	50.00	75.00
7.11(b)	RV 1.5 metres setback	50.00	75.00
7.12(c)	RV extend pass <i>occupant's</i> property line	50.00	75.00
7.12	Unattached <i>Trailer</i>	50.00	75.00
7.14	RV obstruct access or exit	50.00	75.00
7.15	RV on <i>highway</i> occupied	50.00	75.00 Bylaw No. B-25/2020
7.16	<i>Vehicle</i> /with <i>trailer</i> exceeds 9 metres	75.00	100.00
7.20(a)	Obstruct Fire/Emergency Exit	175.00	250.00
7.20(b)	Obstruct entranceway to Fire Hall/Hospital	175.00	250.00
7.21	<i>Park</i> or stop in fire lane	125.00	170.00
7.22	Drive over Fire Hose	60.00	85.00

²³ Bylaw B-23/2022

²⁴ Bylaw B-23/2022

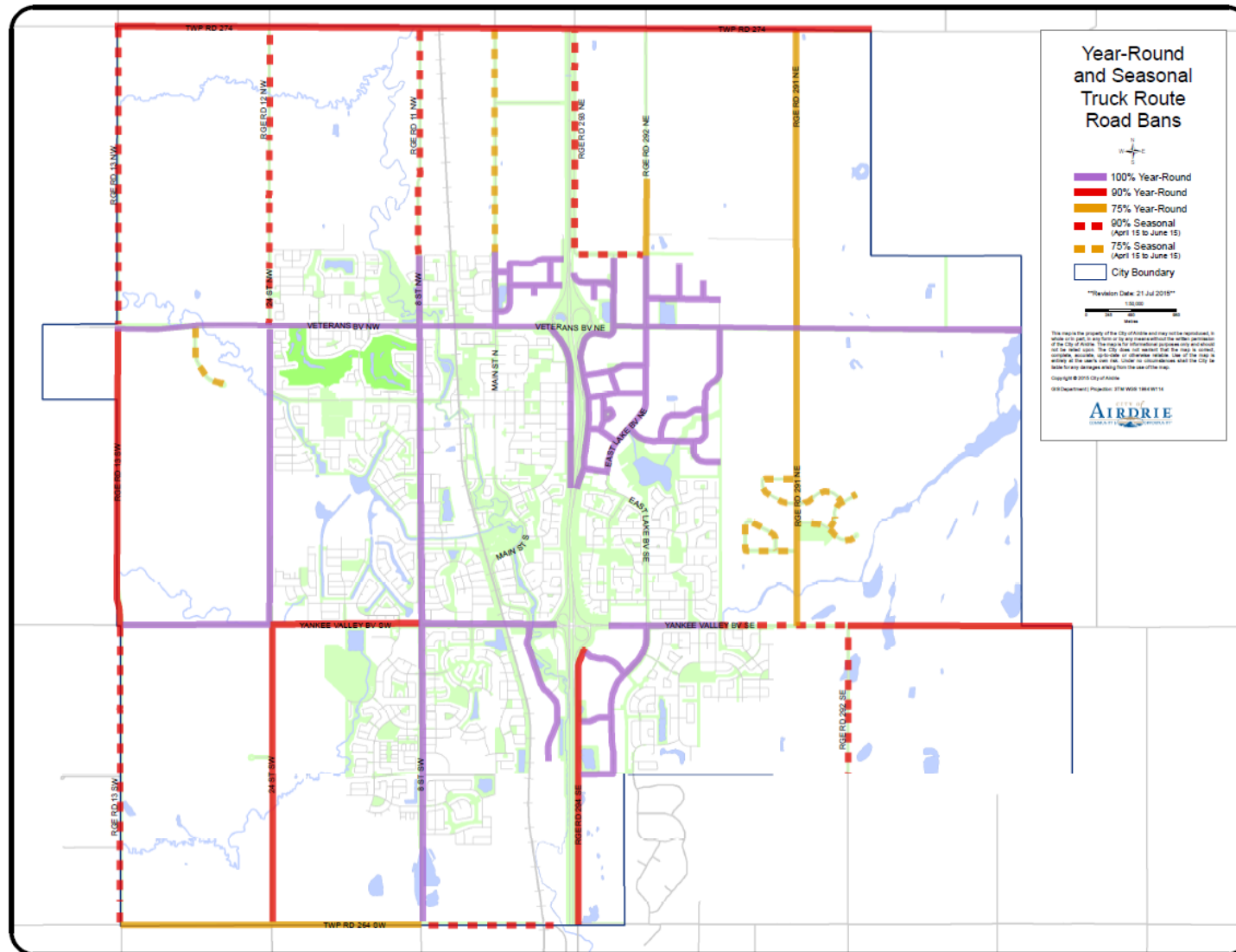
SECTION	FIRST OFFENCE*	PENALTY IN LIEU OF PROSECUTION	SPECIFIED PENALTY
7.23	<i>Park</i> too close to Fire Hydrant	75.00	100.00
7.25	<i>Park vehicle</i> on within 4 metres of <i>centre line</i>	60.00	85.00
7.26	<i>Park</i> in <i>transit zone</i>	50.00	75.00
7.27	<i>Park</i> on <i>City</i> property	50.00	75.00
7.28	<i>Park</i> in <i>City</i> Marked parking space	50.00	75.00
7.29	<i>Park</i> where signed No Parking	50.00	75.00
7.30	<i>Park</i> on <i>Boulevard</i> or <i>Sidewalk</i>	50.00	75.00
7.31	<i>Vehicle</i> extended across <i>sidewalk</i>	50.00	75.00
7.32	Wheels more than 35 cm from <i>curb</i>	50.00	75.00
7.33	<i>Park</i> perpendicular to <i>curb</i> edge	50.00	75.00
7.35a)	<i>Park</i> Where Prohibited	50.00	75.00
7.35(b)	<i>Park</i> where street cleaning/repairs	50.00	75.00
7.36	Truck Tractor in Residential Area	75.00	100.00
7.37	<i>Park</i> on or too close to <i>crosswalk</i>	35.00	75.00
7.38	<i>Stop/Park</i> within 5M of Stop/Yield Sign	35.00	75.00
7.39	<i>Park</i> within 5M of intersection	50.00	75.00
7.40	<i>Operating</i> or parking vehicle not in compliance with <i>Traffic Safety Act</i>	50.00	75.00
7.41	Servicing <i>vehicle</i> on <i>highway</i>	50.00	75.00
7.42	<i>Stop/Park</i> in Designated Disabled Zone without <i>Permit</i>	175.00	250.00
7.43	Fail to <i>park</i> within marked space	50.00	75.00
7.44	Double <i>Park</i>	50.00	75.00
7.45	<i>Park</i> opposite direction <i>traffic</i>	50.00	75.00
7.46	Angle <i>Park</i> more than 35 cm from <i>curb</i>	50.00	75.00
7.47(a)	<i>Park</i> in traffic lane	50.00	75.00
7.48(a)	<i>Park</i> in excess of designated time	50.00	75.00
7.49	Abandoned <i>Vehicles</i>	50.00	75.00 Bylaw No. B-25/2020
7.50	<i>Park</i> construction equipment unattended	50.00	75.00 Bylaw No. B-25/2020

SECTION	FIRST OFFENCE*	PENALTY IN LIEU OF PROSECUTION	SPECIFIED PENALTY
7.51	Park within 1.5 m of a driveway	50.00	75.00 Bylaw No. B-25/2020
8.01	Operate <i>vehicle</i> in <i>transit zone</i>	50.00	75.00
8.02	Rollerblade or skateboard where prohibited in <i>transit zone</i> /terminal	35.00	75.00 ²⁵
9.01	Unsecure Load	150.00	250.00
10.01	Hold or take part in parade without permit	75.00	100.00
10.13	Fail to Comply with Conditions of a <i>parade permit</i>	75.00	100.00
11.02	Operate heavy <i>vehicle</i> off truck route	175.00	250.00
11.03	Operate Heavy <i>Vehicle</i> off truck route exceed 30 km/hr	175.00	250.00
11.08	Operate truck off truck route	175.00	250.00
11.10	<i>Commercial vehicle</i> parked in residential	175.00	250.00
12.01	Wash <i>vehicle</i> & deposit mud/slush/ice	35.00	75.00
12.02	Mud, slush or ice on <i>sidewalk</i> or <i>roadway</i>	50.00	75.00
12.03	Drain fluid on <i>highway</i>	50.00	85.00
12.04	Identify to <i>Officer</i>	175.00	250.00
12.05	Unauthorized sign/object on <i>highway</i> /City Property	75.00	100.00
13.01	Operate <i>vehicle</i> with spikes, lugs	50.00	75.00
16.01	Failure to comply with all permits excepting parade permit	75.00	100.00

*In the event of a second offence within a twelve month period, the Penalty in Lieu of Prosecution and the Specified Penalty shall double. In the event of a third offence within a twelve month period, the Penalty in Lieu of Prosecution and the Specified Penalty shall triple.

²⁵ Bylaw No. B-23/2022

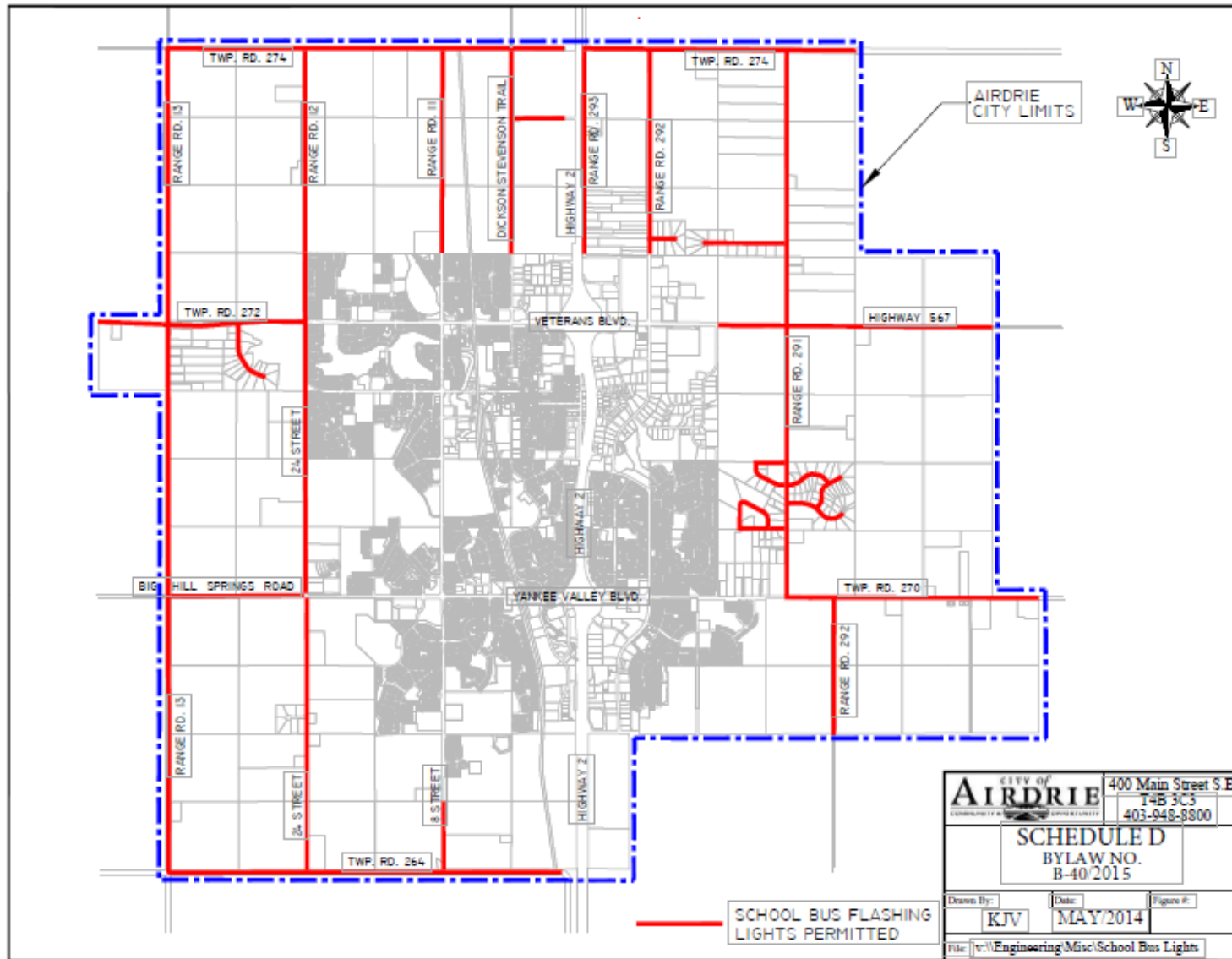
SCHEDULE "B"



SCHEDULE " C "

	<u>ROADS</u>	<u>FROM</u>	<u>TO</u>
1.	Secondary Road 567	East Lake Road	East City Limits
2.	Yankee Valley Boulevard	24 th Street	West City Limits
3.	Range Road 292	TWP Road 270	South City Limits
4.	24 th Street (Range Rd 12)	North City Limits	South City Limits
5.	Range Road 11	North end of Silvercreek	North City Limits
6.	8 th Street	SE1/4 Sec.26-26-1-W5	South City Limits
7.	Dickson Stevenson Trail	North end of Stonegate	North City Limits
8.	Range Road 293	Highland Park Lane	North City Limits
9.	Range Road 292	Highland Park Lane	North City Limits
10.	Range Road 291	TWP Road 270	North City Limits
11.	TWP Road 274	Range Road 13	Highway 2
12.	TWP Road 274	Range Road 293	East City Limits
13.	Range Road 13	North City Limits	South City Limits
14.	TWP Road 272	24 th Street	West City Limits
15.	TWP Road 270	Range Road 291	East City Limits
16.	TWP Road 264	Range Road 13	Highway 2
17.	Stewart Road		
18.	Pinto Lane		
19.	Mustang Lane		
20.	Appalousa Lane		
21.	Farries Drive		
22.	Buffalo Rub Place		
23.	Hamilton Green		
24.	Croxford Estates		

SCHEDULE "D"



COUNCIL – AGENDA REPORT

Meeting Date: 4 July 2023

Subject: Veteran's Memorial Project Update

Boards Routed Through: N/A

Date: N/A

Issue:

Council is being provided with a project approach and plan to memorialize veterans on Veterans Boulevard.

Background:

At the March 20, 2023 regular meeting, Council directed Administration to work with the Royal Canadian Legion and other veterans' groups to form a planning committee and keep Council apprised of the progress made, the location of the memorialization to remain on Veterans Boulevard, the planning committee to work with a 2024 timeline and Administration making a 2024 budget request if required.

Community Development met with the Legion and ANAVET who shared their vision and hopes for this project. The concept for Veterans Boulevard (as per Council's direction) is to provide a highly visible series of visual features that act as a reminder of the contributions of veterans as people drive by. The project is proposed to be completed in June 2024 to coincide the 80th anniversary of D-Day. With input from these groups, the following features from the overall concept for a veterans memorial project:

1. **Metal Banners on Light Poles** – the addition of 11 metal banners attached to existing light poles along each side of Veterans Boulevard from railway tracks west to 8th Street.
2. **Metal Panels on Railings** – the addition of metal silhouette panels to the existing rails along the north and south sides of Veterans Boulevard crossing at Nose Creek. The style, material and theme of the panels would complement with the metal banners on the light poles.

3. **Poppy Benches** – metal “Poppy” benches, with one of the benches having “Royal Canadian Legion 288” and the other having “ANAVETS Unit 2” inscribed on them. The placement to be determined.
4. **Life-sized Silhouette Sculptures** - installation of two metal soldiers to be placed by the poppy benches in the park areas to the north and to the south of the Veterans Boulevard crossing at Nose Creek. The free-standing silhouettes sculptures will be anchored to a concrete base with two benches. There is a planned future grade separation at this location within the next ten years that may require these sculptures to be relocated.
5. **Three-Flag Mast** – replacement of the existing flagpole location to be determined with a Three-Flag Mast (like in front of the Legion building), to raise the Provincial and Municipal flags along with the Canadian flag.

The project concept which is themed on metal artwork is durability and requires minimal on-going maintenance. The preliminary cost estimates of \$135,000 include the artwork, design, engineering, fabrication and installation. Administration will apply for the Government of Canada Community War Memorial and other applicable grant opportunities to help offset the cost of the project. There are no guarantees of receipt of grants.

Proposed Budget: \$135,000

- Metal Banners for Light Poles - \$8,000
- Metal Panels on overpass railings - \$32,500
- Two Life-Sized Silhouettes/Statues - \$58,500
- Two Poppy Benches - \$5,200
- Flag Mast for three flags - \$15,000
- Design, installation and contingency - \$15,800

Alignment with South Saskatchewan Regional Plan and AirdrieONE:

A permanent Veterans’ Memorial aligns with the following statements within City of Airdrie AirdrieONE Sustainability Plan highlighted in the following areas: Built Environment, Socially Sustainable Communities, Arts, Culture and Recreation.

Boards Routed Through:

N/A

Administration Recommendation:

That Council endorses the project concept for the permanent Veterans Memorial with a budget of \$135,000 to be considered as part of the 2024 budget deliberations.

If Council endorses this plan, the cost estimate will be included in the 2024 Budget for Council’s deliberation. It will require supports from other departments capital projects, public

works, parks and corporate communications to successfully install the memorial artwork to comply with City standards.

Alternatives/Implications:

Council could choose to reduce the scope of the project by removing elements of the project design to reduce costs which would reduce the over-all impact of the design.

Communications Plan:

N/A

Recommendation:

That Council endorses the project concept for the permanent Veterans Memorial with a budget of \$135,000 to be considered as part of the 2024 budget deliberations.

Jennifer Lutz
Community Development, Team Leader

Presenter:	Jennifer Lutz
Department:	Community Development
Reviewed by:	Clay Aragon
Attachments:	#1: Veterans Boulevard - Example Concept Design Photos
Appointment:	NA



Metal Banners



3-Flag Mast

Veterans Boulevard Proposed Enhancements



Railing Panels



Life-Sized Silhouette Sculptures

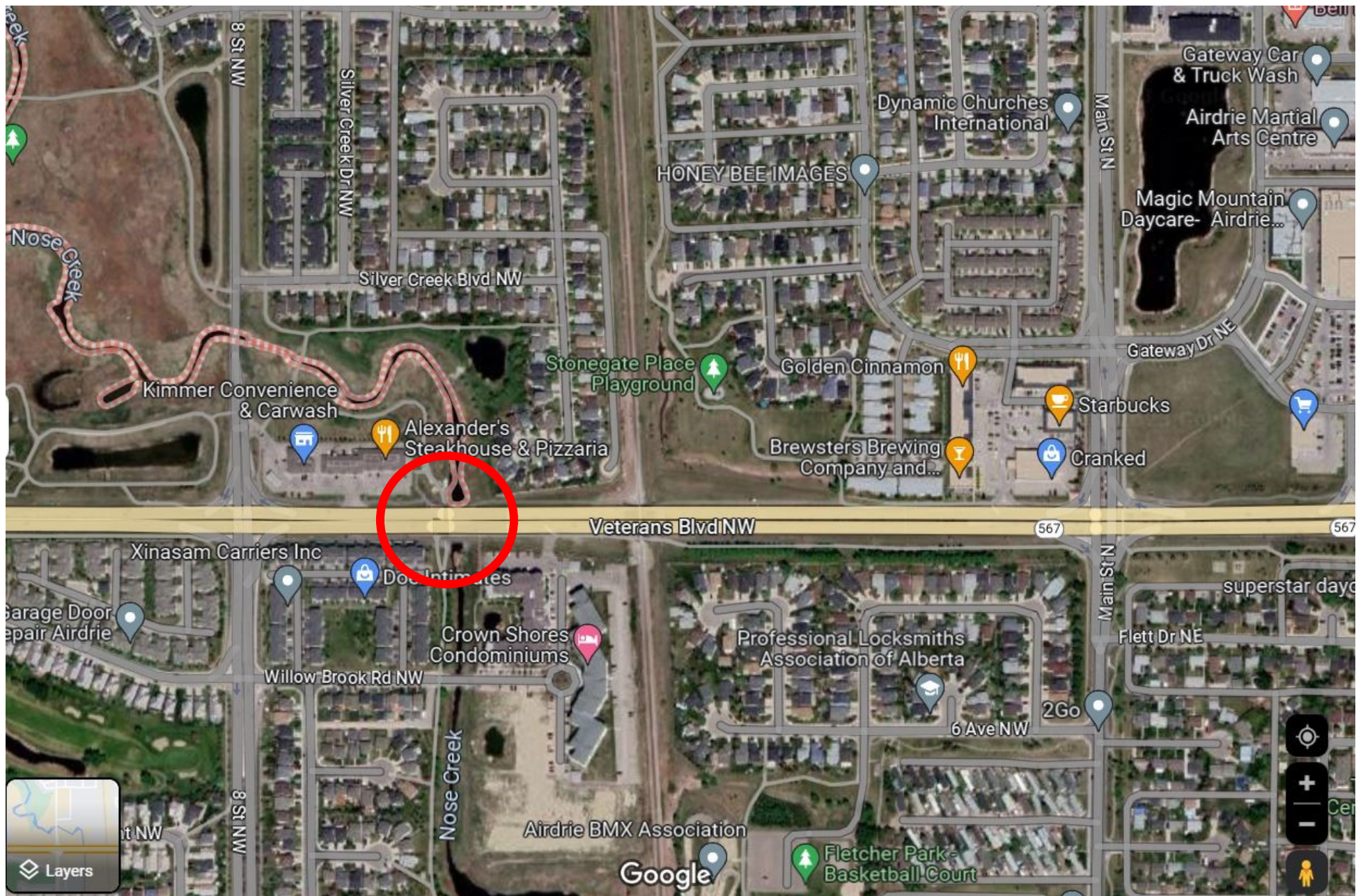


Statue: Time Stood Still by Michael Perks. 8Ft tall x 3ft wide x 3" deep



Poppy Benches

Location of Site on Veterans Boulevard



COUNCIL – AGENDA REPORT

Meeting Date: 4 July 2023

Subject: Artificial Turf Field – Project Update Q2 2023

Boards Routed Through: N/A

Date: N/A

Issue:

Council is being provided with information regarding the Ed Eggerer Athletic Park site suitability for an outdoor artificial turf field and potential for a seasonal air supported dome.

Background:

In November 2022, Council passed a motion directing Administration to take the lead on exploring the feasibility of constructing an artificial turf field (Football Canada/FIFA sanctioned) at the Ed Eggerer Athletic Park. Prior to this motion and in partnership with the Artificial Turf Field Society (ATFS), the City of Airdrie had procured an Artificial Turf Sportsfield Feasibility Study that outlined recommendations on further work that should be undertaken prior to construction commencing at the Ed Eggerer site. These recommendations included:

1. Detailed investigation of geotechnical conditions at site that impact an artificial turf installation. The study in 2021 was limited in scope, leaving the extent of civil work and associated costs unclear.
2. Specifying the suitable artificial turf typology for the site.
3. Exploring the viability of an air supported “bubble” structure that could allow for year-round use of the artificial turf.

Further geotechnical testing was completed in Q1 2023 and the City retained Catherine Eiswerth, of Binnie & Associates Ltd to complete the analysis of the aforementioned recommendations stemming from the original feasibility study. Binnie’s report, site plan and Class D cost estimates are attached to this report.

Artificial Turf Suitability at Ed Eggerer Athletic Park

Binnie noted in their report that the Ed Eggerer site is considered feasible and recommended for a synthetic turf field (Football Canada/FIFA sanctioned). The suitability for a synthetic turf field at Ed Eggerer Athletic Park includes four key considerations:

- Earthworks – The additional geotechnical report raises concerns on the types of fill and depth of ground water at the Ed Eggerer site. Stripping depth would be recommended at 1.5m – 2.3m which could fluctuate based on actual depth required during excavation. The extra cost associated with subgrade work at Ed Eggerer, compared to a ‘typical’ site, is in the order of ~\$1.2 million. While minimal, there exists a risk that the running track slumps during excavation which could require a complete replacement at an estimated cost of \$2.5 million which has not been included in the budget.
- Existing Infrastructure - While considerable earthworks is required the cost is offset by the availability of existing support infrastructure including parking, grandstand, press box, washrooms, changerooms, site access, and proximity to Genesis Place. This suite of infrastructure would be significantly higher than \$1.2 million if positioned at a new site.
- Timing - Positioning a synthetic turf field at Genesis Place gives the community a new recreational asset at a much quicker pace (expected 2024) than if positioned at an alternative site (2 to 3 years). The site and soil conditions, at any location including the SW recreation centre, remain unknown at this time and it is unclear the amount of remediation required at any site to place a turf as well as costs/time associated with bringing a field online requiring new support infrastructure.
- Protecting Options for the SW Recreation Centre Site - A synthetic turf field at Genesis Place allows for a lengthier review and analysis of what the second and third phase of the SW recreation facility should contain. As without a synthetic turf and supporting amenities the roomier site plan will allow for greater flexibility and options to address community needs into the future. Additionally, locating a synthetic turf field at Genesis Place ensures diversity of use and spread of visitation between the two recreation centre sites.

The Class D cost estimate provided by Binnie presents a total figure of \$7.8 million for design and construction of a synthetic turf field at Ed Eggerer Athletic Park, whereas the current capital budget is set at \$6.5 million. In order to proceed, Airdrie Council would need to endorse an increase in total budget as part of the 2024 Capital Budget approval. It is Administration’s opinion the risks associated with this project are very high, and as a result there may be the need for additional project budget adjustments once a Class A price estimate is secured in Q4 2023. If approved, an RFP would be developed and posted for design in 2023 and construction in 2024. Cost does not include major track restoration should significant differential settlement occur.

Viability of an Air Supported Dome at Ed Eggerer Athletic Park

Binnie has detailed in their report that the Ed Eggerer site is considered problematic and not recommended for a seasonal dome due to a number of conditions and findings. The implications were also researched across other providers who operate seasonal domes, including the City of Calgary. While there is an ability to satisfy four-season opportunities, there are four key implications and risks to the City of Airdrie:

- Running Track/Athletic Park – Air supported structure maximum widths would not be able to span both the synthetic turf and running track at Ed Eggerer Athletic Park. If the dome footprint was reduced to fit just overtop of the synthetic turf the field configurations within would not facilitate full regulation play for indoor football or soccer. The implications of these findings could be mitigated if the running track was removed, which would leave Airdrie without an athletic park.
- Setup/Takedown – The operational expenditures to setup/takedown a seasonal dome range from \$200,000-\$300,000 annually. Additionally, the service is specialized and only

a few contractors exist across Western Canada. The scheduling of the setup and takedown can fluctuate depending on the availability of the contractors as well as weather conditions. It would be expected that four to six weeks of facility booking use loss would be experienced annually which could impact the start and end of seasons, often with little notice (rainy/inclement weather).

- Snow Removal – Unlike permanent air supported structures, the base and walls of a seasonal dome must be clear of snow loads at all times. It is expected, based on conversations with other seasonal dome operators, a crew of 2-3 operators would be required to work full time on snow cleaning throughout the winter season. Further, the Ed Eggerer site is problematic in that snow clearing equipment would need to maneuver on the sensitive surface running track and the site itself is tight to relocate snow due to the bleachers.

Although unsuitable as a seasonal asset at the Ed Eggerer Athletic Park site, the City would be wise to consider the installation of a permanent air supported dome at the planned SW recreation centre as a component of a second or third phase.

Alignment with South Saskatchewan Regional Plan and AirdrieONE:

The AirdrieONE plan identifies recreational facilities as being vital to making social connections between various groups in the community and contribute to Airdrie's sense of identity, place and community. More than just entertainment, recreation provides the means for the community to express itself in a variety of ways and in a variety of formal and informal venues.

Boards Routed Through:

NA

Administration Recommendation:

That Airdrie City Council endorse the placement and budget of a synthetic turf field at Ed Eggerer Athletic Park at a Class D estimate cost of \$7.8 million.

A Class A budget update would be provided in Q4 2023 once detailed design is complete.

This option allows for a playable asset to be available to the community within a quick timeline, considers the existing support infrastructure at site, and removes the unknowns (soil, site access, construction timing) of building at the SW recreation centre site. Administration would work to procure design work in 2023 with construction commencing in 2024. An air supported structure, while not placed at Ed Eggerer Athletic Park, would be explored as part of the phasing approach at the SW recreation facility.

Alternatives/Implications:

- 1) Council could choose to endorse placement of both synthetic turf field and seasonal air supported structure at Ed Eggerer Athletic Park.

This option considers both the existing infrastructure at Genesis Place as well as providing a 4-season asset to the community, albeit with considerable required operating expenses. Council would need to detail, to facilitate this option, whether the running track is to be removed or if non-regulation sized fields were desired within the seasonal dome. Detailed operational budget impacts would be presented to Council during the 2024 budget approval process.

- 2) Council could choose the selection of an alternative site.

Airdrie City Council could choose to review in detail another suitable site for a synthetic turf field and/or air supported seasonal dome, including the planned SW recreation centre site. Although some of the site and earthworks conditions at Ed Eggerer would no longer need to be considered it is unknown what fill remediation, support infrastructure, or site access would be required at an alternative site which may actually end up requiring a larger overall budget to construct.

- 3) Council could choose to request additional information of Administration prior to selecting amenities or site.

A delay in a decision could extend the overall timeline to complete the project.

Communications Plan:

Once direction is given on a path forward for Ed Eggerer Athletic Park engagement will occur with key user groups, including the Artificial Turf Field Society, regarding detailed design and fundraising opportunities. Administration will also work with all sport groups in understanding community and stakeholder needs throughout the phasing work related to the SW recreation facility.

Recommendation:

That Council endorses the placement and budget of a synthetic turf field at Ed Eggerer Athletic Park at a Class D estimate cost of \$7.8 million – with a Class A update provided in Q4 2023. Budget considers minor running track remediation but not major restoration if extensive differential settlement occurs.

Eugene Lund | Brad Anderson
Manager, Public Works and Parks Operations | Manager, Genesis Place & Arenas

Presenter:	Eugene Lund Michelle Lock
Department:	Community Infrastructure Community Services
Reviewed by:	Lorne Stevens
Attachments:	#1: Binnie Report
Appointment:	Catherine Eiswerth - Binnie & Associates Ltd

June 27, 2023
Binnie File No. 22-0972-03

City of Airdrie
Capital Projects Office
15 East Lake Hill NE
Airdrie, AB Canada T4A 2K3

Attention: Scott Fediow, LAT, AALA, PMP.
Subject: Synthetic Turf Conversion of Ed Eggerer Field at Genesis Centre
Class D Cost Estimate & Dome Overview Report

Dear Scott,

As requested, Binnie has conducted an update of our Class D cost estimate for the conversion of the Ed Eggerer field at Genesis Centre. In addition, we have completed a high-level overview of some of the advantages and disadvantages of a seasonal air supported structure (ie. 'dome') at the site.

This letter summarizes our findings.

1 Scope of Assignment

Our scope of work for this assignment includes the following:

- Update the cost estimates included in the January 2021 report titled 'Artificial Turf Sportsfield Feasibility Study' prepared by RC Strategies with Binnie acting as a subconsultant.
- Review the findings included in the March 24, 2023 report titled 'Geotechnical Investigation – Proposed Synthetic Turf Field Sports Field at Genesis Centre' prepared by Thurber Engineering Ltd.
- Undertake high level overview of the advantages and disadvantages of a seasonal dome over the synthetic turf field.
- Participate in informal discussions with the City of Calgary and Airdrie staff to gain insight on any lessons learned from Calgary's experience with the recent construction of the seasonal dome over Encana field at Shouldice Athletic Park.

This letter with attachments summarizes our findings on the above.

2 Scope of Proposed Project Work

The proposed scope of work for the project includes the following:

For the conversion of the grass oval to synthetic turf and related work:

- Subgrade reconstruction of the oval within the existing running track including excavation and offsite disposal of an average 2.2 m thickness of unsuitable soil and replacement with import backfill.
- Infilled synthetic turf within the oval including turf, infill, shock pad, drainage and granular base.
- New high mast LED sports lighting system and related electrical work.
- Minor repair of the running track, considered to be over the construction access points only (2 areas about 10 m wide).
- Provision for alternative infill (EPDM versus crumb rubber) as optional work.



For the seasonal dome and related work:

- Seasonal air supported dome with a main footprint of 64 m x 105 m (19.8 m high at centre), including all inflation, ventilation and heating systems.
- Concrete grade beam/foundation around the perimeter of the dome. Based on our discussions with a supplier, we have considered the reinforced concrete grade beam would be in the order of 1 m wide by 3 m deep.
- Vehicle, emergency exits and primary entrance airlocks to the dome.
- Steel frame fabric covered structure with a paved floor for storage of the seasonal components of the dome.
- Pre-fabricated washroom building (total of 1,200 sq. ft) with space for either two small changerooms, storage or office space.
- Simple shelter for the dome inflation, heating, ventilation, and related equipment.
- Security monitoring and alarm system.
- Additional parking related to the dome use. We understand parking is at maximum capacity at Genesis Centre during the time the dome would be in use (October to April). As a result, we understand additional parking should be allowed for. We have based the parking requirements at 80 additional stalls which accounts for 2 stalls per 5 persons based on occupancy. For high level planning purposes, we have set the dome occupancy at 200 persons. This should be confirmed during future project stages from a fire safety and land use bylaw compliance perspective.
- Provision for drainage, sewer, water and electrical services for the washroom building, dome and storage structure.

Please refer to the attached Figure 1 – Concept Plan Dome and Synthetic Field Overlay for the layout of the main footprint of the seasonal dome structure and the proposed synthetic field.

3 Estimate of Probable Cost

A high-level review and update of the estimated construction costs was completed, taking into account the following:

- Proposed project scope of work (ie. synthetic field construction including lighting, seasonal dome construction including ancillary work such as storage building, washrooms, additional parking and potential service upgrades).
- Geotechnical recommendations for removal of the existing unsuitable soils within the existing oval.
- Allowances for unknown conditions with respect to capacity of the existing electrical and gas services to accommodate the servicing demands of a new dome.
- A 35% contingency allowance has been applied for a Class D cost estimate.
- Standard 8% allowance for consulting, testing, and administration costs.

Please refer to Attachment 1 – Class D Cost Estimate for the details of the proposed project construction costs.

As indicated on Attachment 1, the major costs are:

	Synthetic Field	Seasonal Dome	Total Field + Dome
Construction Costs	\$5,390,295	\$5,110,800	\$10,501,095
Contingency (35%)	\$1,886,603	\$1,788,780	\$3,675,383
Design/Administration (8%)	\$431,223	\$408,864	\$840,087
Grand Total (Rounded)	\$7,700,000	\$7,300,000	\$15,000,000

4 Potential Extra Costs, Risks and Considerations

Cost Risk Considerations

The following are potential cost risks that have not been included in our Class D estimate:

- We have allowed for an average stripping depth of 2.2 m, which is based on the Thurber geotechnical report findings. Thurber's report considered five bore holes within the oval, with a variation of recommended stripping depth between 1.5 m to 2.3 m. Thurber's report also found the ground water at approximately 2.2 m depth at the time of the investigation. The ground water depth fluctuates seasonally meaning it would be expected to be higher in late spring when excavation is likely to occur. Should excess de-watering be required, or if the excavation depth is deeper than estimated, the site preparation costs could be significantly higher. The magnitude is difficult to estimate, but on the high side could be up to 25% to 50% higher, depending on the variation in actual depth of excavation and ground water conditions versus the estimated conditions.
- The existing running track is in reasonably good condition. The cost estimate assumes minor restoration work arising from the oval field excavation and dome construction. However, sluffing of the inner edge of the track may occur during excavation, as indications and historical anecdotal reports indicate the track was constructed over the same poor soil as the existing oval field. While the inner one or two lanes of the track could be reconstructed should sluffing occur during construction, there would be a risk of ongoing differential settlement within the track (due to dissimilar soil conditions). To avoid differential settlement on the track, one potential solution would be to rebuild the entire track including subgrade reconstruction similar to the oval field. However, the cost associated with full track reconstruction would be significant, totaling in the order of \$2.5 M. A more cost-effective solution would be to cut back the excavation slope along the edge of the track (under the synthetic field), meaning some differential settlement of the synthetic field along the perimeter edge may be incurred, however, the turf field is more settlement tolerant than the track or dome foundation would be. Note that this solution would not likely be possible with the dome, as the dome foundation can not be founded on poor soil, and furthermore, the foundation would be constructed very close to the track edge.

- While we have made an allowance for service extensions and minor upgrades within the estimate, the capacity of the existing electrical, drainage and gas systems will need to be analyzed to confirm the exact extent of upgrades required.

Operational Considerations and Costs

- Seasonal take down and set up of the dome is reported to require about one to two weeks per session. The cost of each session is estimated to be in the order of \$100,000 to \$150,000, or about \$200,000 to \$300,000 annually. The set up and take down is typically contracted out to the dome manufacturer.
- Scheduling of set up and take down must be made well in advance, and in consideration of poor weather. Typically, this would occur in late April (take down) and early October (set up). Implications associated with the dome work itself and internal coordination could result in impact of 4 to 6 weeks of facility booking loss per year.
- Air supported structures have a maximum width for technical reasons of 76 m. The impact of this means that a dome can not span the full width of the synthetic field and running track. This has a negative impact on the operation of the dome as it is not possible to cover the full soccer or football field, meaning a reduced footprint is available within the dome. In addition, the lines and markings for the football and soccer field aren't meaningful when the dome is up. These implications could be mitigated by removal of the running track, or by locating the dome on a site where no track exists (both would allow for a full size soccer or football field within the dome footprint).
- Management of snow and frequency of snow removal has been reported as a major consideration and operational issue. On a tight site, such as Ed Eggerer, which is constrained by the bleachers and track, snow storage and space for manoeuvring of snow removal equipment is a logistical concern that must be addressed. In addition, significant additional staff resources will be required to keep the base of the dome clear of snow and ice at all times. With the proximity of the existing track to the base of the dome, this may require light equipment and/or manual snow removal to avoid damaging the track surface.

Suitability of Existing Site/Alternative Sites

- The Ed Eggerer site is considered to be feasible for a synthetic turf field. While there are additional costs required to removal and replace the underlying poor soil, these costs can be offset (as compared to a site without amenities) by the availability of existing infrastructure such as existing parking, a large grandstand, washrooms and proximity to Genesis Centre. In addition, the lighting associated with the synthetic field will allow for greater utilization of the existing running track and greater synergies for the site as a whole. We would consider the extra cost associated with the subgrade work at Ed Eggerer (as compared to a typical site) to be in the order of \$1.2M to \$1.5M.
- The site is considered to be problematic for a seasonal dome in terms of available footprint for the dome (due to the track), being a tight site for snow clearing, as well as impact on existing parking. Impact of the dome on the adjacent residences (obstruction of sight lines, etc.) should also be reviewed.

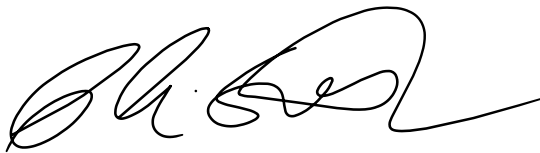
5 Closure

We trust this report meets your immediate requirements. Please contact the undersigned for any clarification or additional information.

Respectfully,

R.F. BINNIE & ASSOCIATES LTD.

Prepared by:



Catherine Eiswerth
Vice President, Sports, Recreation & Open Spaces
Senior Principal

Review by:

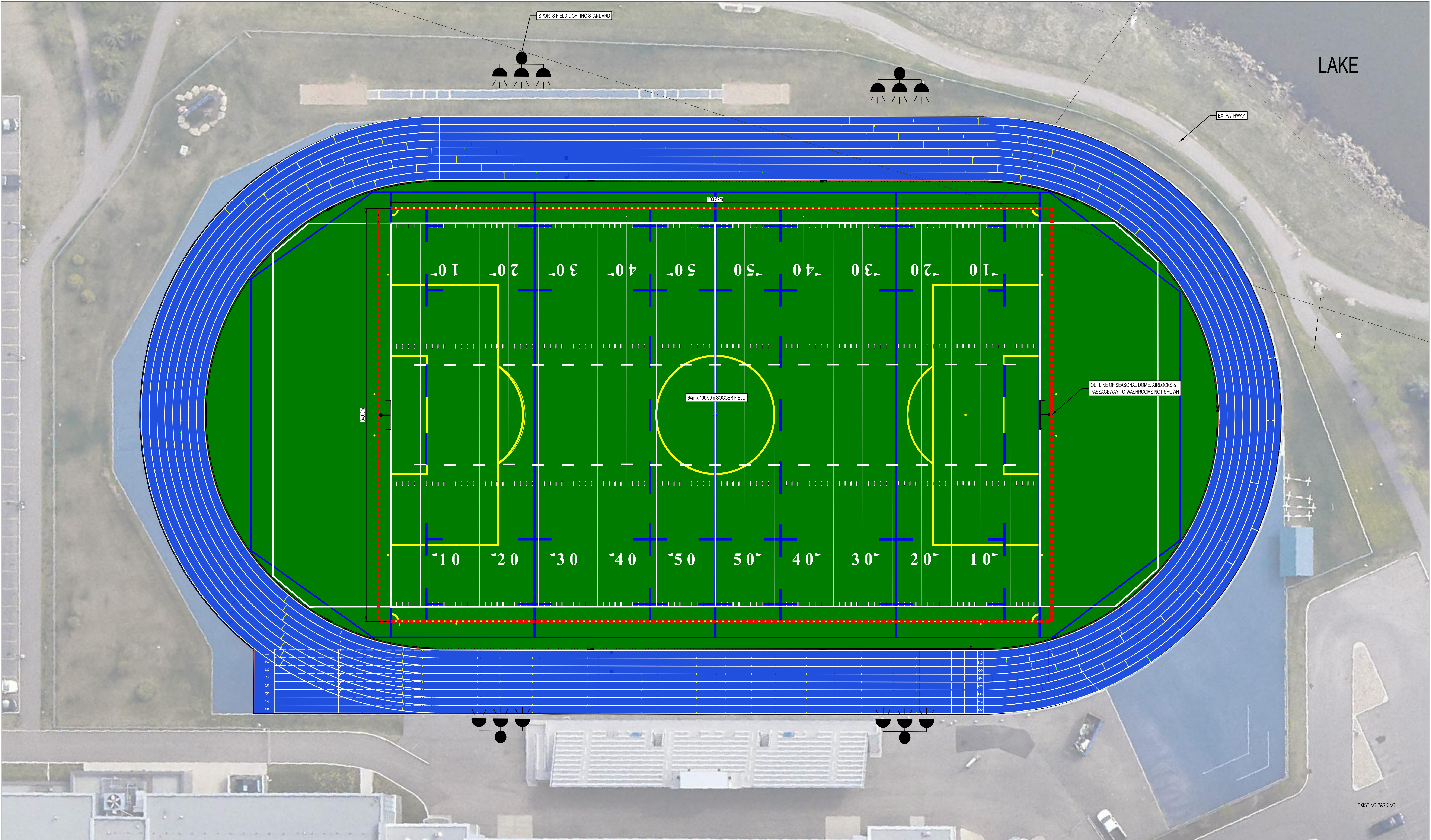
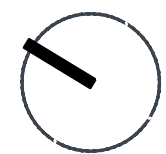


Rasool Ghodoosi Dehnavi

Rasool Ghodoosi
Senior Landscape Architect

Attachments:

- Figure 1 –Synthetic Field & Dome Overlay Plan
- Attachment 1 –Class D Cost Estimate
- Attachment 2 – Geotechnical Report



ED EGGERER FIELD AT GENESIS CENTRE

Date: JUNE 8, 2023

FIGURE 1 - SYNTHETIC FIELD & DOME OVERLAY PLAN

Item No.	Item Description	Estimated Quantity	Unit	Unit Price	Subtotal
1.0 SITE DEMOLITION, MOBILIZATION & DEMOBILIZATION					
1.1	Mobilization & Demobilization (2% of the total budget cost)	1	ls	\$110,000.00	\$110,000.00
				TOTAL SECTION	\$110,000.00
2.0 SITE EARTHWORK					
2.1	Supply and install Construction Fencing	550	l.m	\$27.00	\$14,850.00
2.2	Erosion and Sediment Control During Construction	1	ls	\$60,000.00	\$60,000.00
2.3	Removal and Disposal of Existing Unsuitable Native Material	22,660	m3	\$40.00	\$906,400.00
2.4	Supply and install Non-Frost Susceptible Structural Fill	44,187	Tonnes	\$35.00	\$1,546,545.00
2.5	Rough and fine grading required in areas of new construction	10,300	sq.m	\$8.00	\$82,400.00
				TOTAL SECTION	\$2,610,195.00
3.0 LANDSCAPING					
3.1	Supply and install Sod and 150mm of Topsoil including fine grading	500	sq.m	\$25.00	\$12,500.00
				TOTAL SECTION	\$12,500.00
4.0 SITE SERVICING					
4.1	Perforated PVC Pipe (300mm dia.) include all connections per City Stds	400	l.m	\$330.00	\$132,000.00
4.2	Ads-Drain Inlet with 150mm Light Duty Grate per detail	6	each	\$975.00	\$5,850.00
4.3	Misc. Stormwater Service Connections	1	Allowance	\$50,000.00	\$50,000.00
				TOTAL SECTION	\$187,850.00
5.0 SYNTHETIC TURF - AGGREGATE BASE					
5.1	Supply and install perimeter concrete barrier curb	395	l.m	\$390.00	\$154,050.00
5.2	Synthetic Turf Field Granular Base (250mm Thick).	5665	Tonnes	\$60.00	\$339,900.00
				TOTAL SECTION	\$493,950.00
6.0 SYNTHETIC TURF					
6.1	Synthetic Turf with Crumb Rubber Infill	10,300	sq.m	\$95.00	\$978,500.00
6.2	Pre-Manufactured Shock Pad (20 mm Thick)	10,300	sq.m	\$21.00	\$216,300.00
				TOTAL SECTION	\$1,194,800.00
7.0 SPORTS FIELD LIGHTING					
7.1	Supply and Install Sport Field Lighting Musco LED Lighting (Four Pole)	1	ls	\$575,000.00	\$575,000.00
				TOTAL SECTION	\$575,000.00
8.0 OPTIONAL WORK - ALTERNATIVE INFILL MATERIAL					
8.1	Delete Crumb Rubber and Replace with Black EPDM Infill	10,300	sq.m	\$20.00	\$206,000.00
				TOTAL SECTION	\$206,000.00
CONSTRUCTION COST TOTALS - ATF FIELD					
				SUBTOTAL (ATF Field)	\$5,390,295.00
				Contingency - 35%	\$1,886,603.25
				Design & Administration 8%	\$431,223.60
				GRAND TOTAL (ATF Field)	\$7,710,000.00
9.0 SEASONAL DOME & ASSOCIATED COSTS					
9.1	Air Supported Structure (105 m L x 64 m W x 19.8 m tall) - manufacture, deliver & erect	1	ls	\$2,500,000.00	\$2,500,000.00
9.2	Concrete for Foundation 1.0 m x 2.5 m deep)	845	c.m.	\$500.00	\$422,500.00
9.3	Foundation Formwork	1690	sq.m.	\$150.00	\$253,500.00
9.4	Mechanical Equipment Shelter	144	s.f.	\$450.00	\$64,800.00
9.5	Dome Storage (Steel Supported Fabric Bldg, Paved Floor)	1000	s.f.	\$120.00	\$120,000.00
9.6	Allowance for Gas and Electrical Service Upgrade/Extensions	1	ls	\$300,000.00	\$300,000.00
9.7	Pre-Fab Washroom/Storage Building (1,200 sqft)	1200	s.f.	\$450.00	\$540,000.00
9.8	Lit, Paved Parking (80 stalls based on 0.4 Stalls PP x 200 person occ.)	80	stall	\$9,500.00	\$760,000.00
9.9	Misc. Additional Drainage	1	Allowance	\$150,000.00	\$150,000.00
				TOTAL SECTION	\$5,110,800.00
CONSTRUCTION COST TOTALS - DOME					
				SUBTOTAL (Seasonal Dome)	\$5,110,800.00
				Contingency - 35%	\$1,788,780.00
				Design & Administration 8%	\$408,864.00
				GRAND TOTAL (Dome)	\$7,310,000.00
CONSTRUCTION COST TOTALS - SYNTHETIC FIELD & DOME					
				Subtotal Construction Costs (ATF + Dome):	\$10,501,095.00
				Contingency Allowance (35%) :	\$3,675,383.25
				Design & Administration 8%	\$840,087.60
				Total Estimated Construction Cost:	\$15,020,000.00

COUNCIL – AGENDA REPORT

Meeting Date: 4 July 2023

Subject: Airdrie Public Library Board Appointments
Reconfirmation and Approval

Boards Routed Through: N/A

Date: N/A

Issue:

Council is asked to reconfirm the appointment terms of all current Citizen Members who serve on the Airdrie Public Library (APL) Board for the purposes of providing clarity of appointment terms, start and end dates.

Background:

The *Libraries Act* indicates an appointment term for a library board member is for three years and is eligible for reappointment of two additional consecutive terms (for a total of nine consecutive years) unless Council passes a Special Resolution (a two-thirds majority vote) allowing a member to be reappointed for more than nine years.

The *Council and Committees Procedure Bylaw* indicates a Citizen Member's term begins on January 1 and ends on December 31. Where there is a Citizen Member vacancy mid-term, it is practice for Council to appoint a new Citizen Member for an interim period for the rest of the calendar year till December 31. It is on the January 1 following; the Citizen Member officially begins their three-year appointment as per the *Libraries Act*.

For administrative clarity and provincial reporting requirements of member terms by APL, Administration is recommending Council reconfirm the appointment term, start, and end dates of the Citizen Members that currently serve on the APL Board.

Alignment with South Saskatchewan Regional Plan and AirdrieONE:

N/A

Boards Routed Through:

N/A

Administration Recommendation:

That Council reconfirms and approves the reappointment of Dan Nelles to the Airdrie Public Library Board for an additional term of three (3) years starting January 1, 2023 by a Special Resolution vote.

That Council reconfirms and approves the appointments of Citizen Members on the Airdrie Public Library Board outlined in Attachment 1 and acknowledges that the appointment terms, start and end dates outlined in Attachment 1 prevail over any discrepancies from previous Council motions.

Alternatives/Implications:

Council could choose not to provide this administrative alignment regarding the appointment terms, start and end dates of current Citizen Members of the APL Board.

Risk may arise for the City and the APL if an appointee's appointment terms conflicts, or is perceived to conflict from unclear reporting by the APL to the province and the public. The likelihood and impact of this risk is mitigated by providing clear and accurate information that is approved by Council.

Communications Plan:

The City and APL websites will be updated with improved information of APL member appointment terms, start and end dates.

Recommendation:

That Council reconfirms and approves the reappointment of Dan Nelles to the Airdrie Public Library Board for an additional term of three (3) years starting January 1, 2023 by a Special Resolution vote.

That Council reconfirms and approves the appointments of Citizen Members on the Airdrie Public Library Board outlined in Attachment 1 and acknowledges that the appointment terms, start and end dates outlined in Attachment 1 prevail over any discrepancies from previous Council motions.

Karen Jiang
Senior Legislative Officer

Presenter:	Karen Jiang
Department:	Legislative Services
Reviewed by:	Charlotte Satink, Tammy Belsham
Attachments:	#1 - Citizen Members Airdrie Public Library Board Appointment Terms, Start and End Dates
Appointment:	N/A

Attachment 1
Citizen Members Airdrie Public Library Board
Appointment Terms, Start and End Dates

Daniel Nelles	Start Date	End Date
Term 1	January 1, 2014	December 31, 2016
Term 2	January 1, 2017	December 31, 2019
Term 3	January 1, 2020	December 31, 2022
Term 4	January 1, 2023	December 31, 2025

Leon Cygman	Start Date	End Date
Term 1	January 1, 2017	December 31, 2019
Term 2	January 1, 2020	December 31, 2023

Catherine Buchanan	Start Date	End Date
Term 1	January 1, 2018	December 31, 2020
Term 2	January 1, 2021	December 31, 2023

Natasha Roberts	Start Date	End Date
Interim	September 4, 2019	December 31, 2019
Term 1	January 1, 2020	December 31, 2022
Term 2	January 1, 2023	December 31, 2025

Jeanna Morrissey	Start Date	End Date
Term 1	January 1, 2021	December 31, 2023

Renee Summers	Start Date	End Date
Term 1	January 1, 2021	December 31, 2023

Sara Winger	Start Date	End Date
Interim	June 9, 2021	December 31, 2021
Term 1	January 1, 2022	December 31, 2024

COUNCIL – AGENDA REPORT

Meeting Date: 4 July 2023

Subject: New Policy - Naming City Assets Policy P-ADM-18-C

Boards Routed Through: N/A

Date: N/A

Issue:

Council is being asked to endorse the Naming City Assets policy P-ADM-18-C which provides a process for the City of Airdrie to name and rename City-owned assets and is being asked to repeal the existing Recreation Facilities Naming policy P-06/2008.

Background:

The City has named and renamed City-owned assets for many years. Naming City assets consistently and clearly communicates an asset's purpose, lets people know where they are in the City and helps people to find places.

The proposed Naming City Assets policy sets out a naming process, which also allows commemorative naming of a City asset, as a way to honour an Airdrie resident or organization for doing something of significance. This policy states that Council makes the final decision on proposals for naming of City assets, which are brought before Council.

The existing Recreation Facilities Naming policy No. P-06/2008 that was approved in 2008 sets out the naming process for recreation facilities, such as Genesis Place and was also used to rename the Ed Eggerer Athletic Park and the Ron Ebbesen Arena. The new policy will fill the policy gap and also allow Council naming and renaming of new and existing City assets, including commemorative naming.

Before drafting this new policy, Administration reviewed sponsorship policies from the five comparable Alberta municipalities as well as Calgary and Edmonton.

The naming of City-owned assets related to sponsorships provided by external parties, is not addressed in this new policy. Administration has started to draft two Council policies related to sponsorship, to present to Council in October, 2023. One policy is about sponsorships provided to the City, in exchange for naming rights or other recognition, acknowledgement or other promotional considerations. The second policy applies to financial or in-kind sponsorships given to the City, to be used for a specific City event, program or activity. Although these two policies are not yet ready for Council's review, Administration felt that the

Naming City Assets Policy was needed first. The new policy will allow Council to formally name City-owned assets, such as the Airdrie Multi-Use Facility and Library (“AMUFL”). Council could decide to rename any City-owned asset, in the future.

If Council passes this new policy, Administration will then draft procedures related to the policy. The procedures will give direction to all parties involved in the process on how to apply the policy.

The Naming City Assets policy relates to two of Council’s focus areas: “leisure, recreation and culture” and “caring community”. Naming City-owned assets may help shape Airdrie’s identity and its community, since those assets may be used for general leisure, for sporting events, for arts and culture events and for other purposes. Commemorative naming can also contribute to this. Further, the names of City-owned assets may tell visitors what is important to the community of Airdrie.

Alignment with South Saskatchewan Regional Plan and AirdrieONE:

The proposed Naming City Assets Policy follows the statement that “[t]he unique arts, cultural and recreational aspects of Airdrie contribute to its overall identity, sense of place and quality of life”, found on page 15 of the AirdrieONE Sustainability Plan (2012).

Boards Routed Through:

N/A

Administration Recommendation:

That Council endorses the new policy, Naming City Assets P-ADM-18-C, as presented, and repeals the Recreation Facilities Naming Policy No. P-06/2008.

Repealing the 2008 policy would avoid policy overlap.

Alternatives/Implications:

1. Council could choose to maintain the status quo and not endorse the Naming City Assets Policy P-ADM-18-C and continue to use the process under the Recreation Facilities Naming Policy No. P-06/2008.

In choosing this option, the current gap in policy would remain and could cause confusion if a City-owned asset that is not a recreation facility had to be named. Administration would continue to have no direction on reviewing proposed names for City-owned assets.

2. Council could choose to amend the Naming City Assets Policy P-ADM-18-C, as they wish before endorsing it.

Depending on the nature of the amendments, this could require Administration to revise the policy and return to Council with the requested amendments before Council endorses the final policy.

Communications Plan:

N/A

Recommendation:

That Council endorses the Naming City Assets Policy P-ADM-18-C, as presented, and repeals the Recreation Facilities Naming Policy No. P-06/2008.

Jennifer Bayly-Atkin
Senior Legislative Officer

Presenter:	Jennifer Bayly-Atkin
Department:	Legislative Services
Reviewed by:	Charlotte Satink
Attachments:	#1: Draft Naming City Assets Policy P-ADM-18-C
Appointment:	N/A

Policy title:	Naming City Assets	Date adopted:
Policy number:	P-ADM-18-C	Effective date:
Policy owner:		Last amended:

Purpose

- 1 This policy establishes how the City of Airdrie (the City) names City-owned assets in a consistent and clear way to communicate the asset's purpose, to help people identify and find locations and to improve municipal and emergency service delivery.

Scope

- 2 This policy applies to City-owned assets.
- 3 This policy does not apply to:
 - (1) City-owned assets where the name of the asset is a requirement of a grant agreement or of a sponsorship agreement with an external party;
 - (2) assets owned by a subsidiary of the City;
 - (3) City-owned assets that are not commonly used by the public;
 - (4) City-owned assets that can be replaced in the short term, assets that can no longer be used for their original purpose, an asset whose performance is impaired, or assets that are not significant enough to meeting naming parameters (for example shrub beds, fleet equipment); and
 - (5) City-owned assets for which the City has established another naming process, including the *Street Naming Policy* P-09/2001 and the *Memorial Policy* MED-05-C.

Accountability

- 4 This policy applies to Council, Council committees, City staff, and any person(s) or organization(s) involved in the naming process for a particular City-owned asset.
- 5 The Chief Administrative Officer (CAO) ensures potential City-owned asset names are compiled, reviewed, and recommended to Council in accordance with this policy. The CAO may delegate their authority in this policy as they deem fit.
- 6 Any Council committees responsible for compiling and recommending names for City-owned assets must follow the requirements and process of this policy.

Policy

- 7 Council approves the names of City-owned assets.
- 8 Unless Council directs otherwise, the CAO:
 - (1) compiles a list of recommended names;
 - (2) reviews naming proposals; and
 - (3) brings forward recommended names and naming proposals to Council.
- 9 Council may, by resolution:
 - (1) direct a Council committee to evaluate proposed names of City-owned assets before making recommendations to Council; and
 - (2) may establish an ad-hoc committee to evaluate and recommend names to Council for City-owned assets.

Naming Considerations

- 10 When naming a City-owned asset,
 - (1) where possible, avoid using names similar to other names used in the municipality;
 - (2) if possible, the name should reflect the region's heritage, geographical features, community spirit or another attribute that represents the City or the region; and
 - (3) wayfinding is used, if appropriate.
- 11 If an individual's name is proposed, it must be that person's surname unless that person is known mainly by their first name.
- 12 The City reviews a proposed name based on:
 - (1) the amount of space available on signage, both total characters and word count;
 - (2) the possible misuse of the name in a derogatory or profane manner; and
 - (3) results from any public engagement conducted and feedback from circulation to City departments about the name.
- 13 The following names for a City-owned asset will not be approved:
 - (1) a name referring, directly or indirectly, to an elected official currently in office;
 - (2) names that will likely cause confusion to emergency services;

- (3) names which do not meet the criteria in this policy; or
 - (4) names which are inconsistent with the City's mission, vision, or values.
- 14 Council may by resolution decide to consider, in a closed meeting, the naming a City-owned asset after an individual or an organization, including naming proposals to recognize, honour or commemorate.

Naming Proposals to Recognize, Honour or Commemorate

- 15 Based on the City's sole discretion, a City-owned asset may be named to recognize, honour, or commemorate:
- (1) a person, family, or organization who volunteers and gives extraordinary help or care to individuals, families, or groups or supports community services or humanitarian causes;
 - (2) a name that celebrates a significant historic event or moment in time;
 - (3) a person, family, or organization who demonstrates excellence, courage, or exceptional dedication to service in ways that:
 - (i) bring special credit to the City of Airdrie, to Alberta or to Canada; or
 - (ii) reflect the heritage and identity of a community in the City;
 - (4) a person who has risked their life to save or protect others;
 - (5) a person, family, or organization who has made an outstanding contribution to the City of Airdrie; and
 - (6) a person, family, or organization who achieves a deed or performs an activity in an outstanding manner or of an uncommonly high standard that brings considerable benefit or great honour to the City, to Alberta, or to Canada.
- 16 An applicant proposing to name a City-owned asset in order to recognize, honour or commemorate a person, family, or organization must submit a written proposal to the CAO that includes the following:
- (1) the applicant's name and contact information;
 - (2) the proposed name and the justification for the name under section 15;
 - (3) the relevance of the particular City-owned asset to the organization or to the person whose name is proposed;

- (4) a biography of the person whose name is proposed, including:
 - (i) their date and location of birth; and
 - (ii) highlights of their career, education, and community service;
- (5) acknowledgement of the costs incurred to name the City-owned asset;
- (6) the organization's consent or the family's consent for use of the proposed name; and
- (7) letters of support from community members or the organization, if any.

Public input

- 17 The City may advertise City-owned asset naming opportunities or seek feedback from the public on proposed names for City-owned assets.
- 18 The City advertises public input on City-owned asset naming in accordance with the *Public Notification Bylaw*, B-02/2019.
- 19 The City does not maintain a pre-approved list of names for any City-owned assets.

Roles and responsibilities

- 20 Council reviews and approves revisions to this policy.
- 21 The CAO reviews and approves any administrative policy or procedures related to this policy.
- 22 The City's departments comply with this policy and any related procedures.

Definitions

- 23 In this Council policy:
 - (1) "Chief Administrative Officer" or "CAO" means the duly appointed Chief Administrative Officer of the City of Airdrie or their delegate;
 - (2) "City of Airdrie" or "City" means the City of Airdrie as a municipal corporation and the geographical area within its jurisdictional boundaries, as the context requires;
 - (3) "City-owned asset" means City-owned infrastructure identified and deemed appropriate for naming including, but not limited to, a City facility or park, and the infrastructure within, including meeting rooms, spaces, bridges, trails, parks, playgrounds, and landmarks.

- (4) “City facility” means a building, structure or area of land owned by or under the direction and control of the City, including, but not limited to, recreation centres, sports and fitness facilities, libraries and exhibition facilities;
- (5) “Council” means the duly elected Council of the City of Airdrie;
- (6) “organization” means an organized group of people that has a particular purpose, including a business, society, or association; and
- (7) “wayfinding” is how people assess where they are and plan a route to follow.

Relevant legislation

- *Addressing Bylaw*, B-01/2000
- *Recreation Facilities Naming Policy*, P-06/2008
- *Memorial Policy*, MED-05-C and *Memorial Policy Guidelines*
- *Street Naming Policy*, P-09/2001

History

Date adopted / Motion number:

Council amendments:

Administration reviews:

Date rescinded:

PROCLAMATION

WHEREAS

lung cancer is the leading cause of cancer death among men and women in Canada accounting for more deaths than colon cancer, breast cancer, and prostate cancer combined; and

AND WHEREAS

over 20,000 Canadians are expected to die of lung and bronchus cancer in 2023. representing nearly one quarter of all cancer deaths in Canada; and

AND WHEREAS

according to research by Canadian oncologists, lung cancer is expected to be the most commonly diagnosed cancer in Canada, with over 30,000 new lung cancer cases expected in 2023; and

AND WHEREAS

the five-year survival rate for localized lung cancer is ~60%, yet only ~24% of lung cancers are diagnosed at this stage; and

AND WHEREAS

funding for lung cancer research trails far behind funding for research of many other cancers, and additional research is needed in early diagnosis, screening, and treatment for lung cancer as well as in lung cancer affecting women and lung cancer health disparities; and

AND WHEREAS

organizations working in Canada such as the Canadian Lung Cancer Screening Initiative are committed to educating about lung cancer and lung cancer screening and working to increase lung cancer screening rates;

NOW THEREFORE, I, Peter Brown, Mayor of the City of Airdrie, do hereby proclaim the month of July as

Lung Cancer Awareness Month

OUTSTANDING COUNCIL FOLLOW-UP (Updated to July 4, 2023)

	Item	Director Contact	Councillor and Date Originated	Expected Return Date	Director Update
1	Review alternatives to the current Snow and Ice Control Policy that would reflect the growth and demands of a city with a 100K population, incorporate technology and best practice options from other municipalities (including preemptive treatment options) and provide transparency on how the City can best integrate with surrounding snow removal standards for a more wholistic service.	L. Stevens	H. Spearman – Feb 6/23	August 2023	Research is underway with respect to this Council request.
2	Direct Administration to work with the Royal Canadian Legion and other veterans' groups to: form a planning committee and keep Council apprised of the progress made; the location of the memorialization to remain on Veterans Boulevard; the planning committee to work with a 2024 timeline; and Administration making a 2024 budget request if required.	M. Lock	A. Jones Mar 20/23	July 2023	Administration is developing the project approach and will be presenting a plan to Council.
3	Direct Administration to research the benefit of looking beyond the minimum requirements contained in the MGA pertaining to notification of affected parties, taking into more practical consideration the impacts of the surrounding properties that a larger or more specific catchment area may provide to all affected parties and to return with a report to Council.	K. Weinberger	DM Kolson Apr 3/23	October 2023	In 2019 and 2020, Administration provided Council with reports on Development Advertising and Notification processes. This included benchmarking against comparison municipalities. Council determined that the City's approach to advertising and notification should be maintained as is (with the exception of changes to the digital advertising on the City's website – which were implemented). A new report back to Council will provide an update to this work and suggestions for what changes can be made and implications (e.g., additional time for development process, costs for advertising, economic obstacles, etc.).
4	Direct Administration to make a secondary garage a discretionary use that is inclusive of the second driveway	K. Weinberger	DM Kolson Apr 3/23	September 2023	The Notice of Motion instructed staff to make secondary garages (inclusive with driveways) a discretionary use in the LUB. After careful consideration and review, staff will be able to return to Council with a report in September 2023. This will allow us time to conduct thorough research and analysis to ensure that any changes made to the LUB align with the best interests of the community and meet all legal requirements.

	Item	Director Contact	Councillor and Date Originated	Expected Return Date	Director Update
5	Direct Administration to hire a consultant to work with the landowners located within NE ¼ Section 15, Township 27, Range 29, W4M to create/explore/prepare a justification report for an area redevelopment plan with the justification report to be funded by the City of Airdrie	K. Weinberger	P Brown Apr 3/23	August 2023	Administration will provide a justification and recommendation on how to provide a high-level planning document and steps moving forward on this property to assist the landowners for their planning purposes.
6	Direct Administration to bring back information on zero lot line approvals to date and options on how to determine and implement appropriate thresholds for zero lot line development, with a proposed timeline to revisit these thresholds.	K. Weinberger	T Petrow – May 15/23	September 2023	Administration is gathering information and preparing a report to take back to Council in September 2023.
7.	Direct Administration to investigate options for establishing and capitalizing an Affordable Housing Reserve Fund and return to Council with the options.	S. Schindeler	R. Chapman – Jun 19/23	January 2024	Administration has begun investigating options for establishing an Affordable Housing Reserve Fund.
8.	Direct Administration to engage in exploratory conversations with Conseil scolaire Francosud on shared community use recreation amenity within a planned high school site in Reunion and return in late 2023 with options for Council's consideration.	K. Weinberger	R. Chapman - Jun 19/23	December 2023	