MUNICIPAL DISTRICT OF GREENVIEW NO. 16

REGULAR COUNCIL MEETING AGENDA

Tuesday, April 12, 2016 | 9:00 AM | Council Chambers, Administration Building

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	8.5 Canada Day Fireworks – Valleyview	226
	8.6 Request for Proposal: Aerial Photography Services 2016	232
	8.7 High Prairie Forest Resource Advisory Council	235
	8.8 Fox Creek Proposed Annexation	238
	8.9 CAO/Managers' Report	242

#9 COUNCILLORS BUSINESS & REPORTS

#10 CORRESPONDENCE

- Shady Oak North Receipt Meter Station
- Seniors Planning to Age in Place
- East Smoky Recreation Board Minutes
- Alberta Historical Resources Foundation's Heritage Awards 2016
- Arnold Viersen, MP Grand Opening Barrhead Office
- Cutbank River Lateral Loop No. 2 & Musreau Lake North Meter Station
- East Smoky Recreation Board Monthly Minutes
- Letter to Grande Cache Re: Co-ops
- NOVA Gas Transmission Ltd.
- Philip J. Currie Dinosaur Museum Thank You Letter
- Regional Partnership Initiatives
- Peace Library Board Meeting Highlights
- MD of Peace 100th Anniversary Celebration Invitation
- Simonette Lateral Loop & Simonette East Receipt Meter Station

#11 IN CAMERA

11.1 Disclosure Harmful to Intergovernmental Relations
(FOIPP; Section 21(1))

11.2 Disclosure Harmful to Intergovernmental Relations
(FOIPP; Section 21(1))

#12 ADJOURNMENT

Minutes of a
REGULAR COUNCIL MEETING
MUNICIPAL DISTRICT OF GREENVIEW NO. 16
M.D. Administration Building,
Valleyview, Alberta, on Tuesday, March 22, 2016

 # 1: CALL TO ORDER

Reeve Dale Gervais called the meeting to order at 9:00 a.m.

PRESENT

Reeve	Dale Gervais
Deputy Reeve	Tom Burton
Councillors	Dave Hay
	Roxie Rutt
	Bill Smith
	Dale Smith
	Les Urness

ATTENDING

Chief Administrative Officer	Mike Haugen
General Manager, Corporate Services	Rosemary Offrey
General Manager, Community Services	Dennis Mueller
General Manager, Infrastructure & Planning	Grant Gyurkovits
Communications Officer	Diane Carter
Recording Secretary	Silvia Braithwaite

ABSENT

Councillor	George Delorme

#2: AGENDA

MOTION: 16.03.106. Moved by: COUNCILLOR DALE SMITH
That the March 22, 2016 agenda be adopted as amended:

- Ms. Jessica Kappel's presentation is deferred
- 8.9 Oversized Loads: Greenview Roads
- 8.10 Elgin Badger Sweeper

CARRIED

#3.1 REGULAR COUNCIL MEETING MINUTES

MOTION: 16.03.107. Moved by: DEPUTY REEVE TOM BURTON
That the Minutes of the Regular Council Meeting held on Tuesday, March 08, 2016 be adopted as presented.

CARRIED

#3.2 BUSINESS ARISING FROM MINUTES

3.2 BUSINESS ARISING FROM MINUTES:

#4
PUBLIC HEARINGS

4.0 PUBLIC HEARINGS

There were no Public Hearings presented.

#7
OLD BUSINESS

7.0 OLD BUSINESS

There was no Old Business to report.

#8
NEW BUSINESS

8.0 NEW BUSINESS

8.1 ANNUAL MUTUAL AID FIRE CONTROL PLAN - 2016

ANNUAL MUTUAL AID FIRE CONTROL PLAN

MOTION: 16.03.108. Moved by: DEPUTY REEVE TOM BURTON
That Council authorize Administration to enter into a 2016 Mutual Aid Fire Control Plan Agreement between the Department of Agriculture and Forestry, Forestry Division and the Municipal District of Greenview.

CARRIED

8.2 FOX CREEK FIREFIT SPONSORSHIP

FIREFIT SPONSORSHIP

MOTION: 16.03.109. Moved by: COUNCILLOR ROXIE RUTT
That Council approve Bronze Sponsorship in the amount of $1500.00 for the Scott Safety Firefit Championship in Fox Creek, with funds to come from the 2016 Protective Services Operating Budget.

CARRIED

8.3 ALBERTA TRANSPORTATION MOTOR VEHICLE INCIDENT (MVI) FUNDING REPORT

FUNDING REPORT

MOTION: 16.03.110. Moved by: COUNCILLOR BILL SMITH
That Council receive for information the Alberta Transportation Motor Vehicle Incident (MVI) Funding Report on emergency calls implemented by the DeBolt and Grovedale Fire Departments.

CARRIED

8.4 COMMUNITY PEACE OFFICER STATUTES REPORT

COMMUNITY PEACE OFFICER

MOTION: 16.03.111. Moved by: COUNCILLOR ROXIE RUTT
That Council accept for information the report on Community Peace Officer Statutes.

CARRIED

8.5 CANADA DAY FIREWORKS - VALLEYVIEW

CANADA DAY FIREWORKS

MOTION: 16.03.112. Moved by: REEVE DALE GERVAIS
That Council table Item 8.5 Valleyview and District Recreation Department financial support request letter for fireworks at the Canada Day event and have Administration bring further budgetary information.

CARRIED

8.6 REQUEST FOR PROPOSAL: INFORMATION TECHNOLOGY SUPPORT SERVICES

RFP INFORMATION TECHNOLOGY SUPPORT SERVICES

MOTION: 16.03.113. Moved by: REEVE DALE GERVAIS
That Council authorizes Administration to enter into a five (5) year contract with HiTech from Grande Prairie, for the Greenview Information Technology Support Services at an annual cost of $105,768.00 with funds to come from the Information Systems Annual Operational Budget.

DEFEATED

MOTION: 16.03.114. Moved by: DEPUTY REEVE TOM BURTON
That Council authorizes Administration to enter into a three (3) year contract with an option for two 1-year extensions with PCIT Services Ltd., from Grande Prairie, for the Greenview Information Technology Support Services at an annual cost of $107,052.00 with funds to come from the Information Systems Annual Operational Budget

CARRIED

Reeve Dale Gervais recessed the meeting at 10:01 a.m.
Reeve Dale Gervais reconvened the meeting at 10:11 a.m.

#5 DELEGATIONS

5.0 DELEGATIONS

JESSICA KAPPEL

5.2 ENCANA CORPORATION PRESENTATION

Tyson Pylypiw, Patsy Vik, Jon Remmer, and Don Rowan presented an update on Encana's future development activities.

ENCANA

MOTION: 16.03.115. Moved by: DEPUTY REEVE TOM BURTON
That Council accept for information the presentation from Encana.

CARRIED

Reeve Dale Gervais recessed the meeting at 10:52 a.m.
Reeve Dale Gervais reconvened the meeting at 11:01 a.m.

5.3 ACCURATE ASSESSMENT

Troy Brittles, Ray Fortin, and Kent Smith made a presentation to Council regarding assessment services on all properties within Greenview.

ACCURATE ASSESSMENT

MOTION: 16.03.116. Moved by: DEPUTY REEVE TOM BURTON
That Council accept the Accurate Assessment Group's annual Greenview Property Assessment report for information.

CARRIED

Greenview Council made a cheque presentation to the Grande Prairie Regional Hospital in the amount of $100,000.00.

Rodeo competitors Kolby Sawley, Hunter Sawley, Jessie Havell and Alberta High School Rodeo District Three President Gary Havell presented a framed photo to Greenview Council in recognition of their support of $15,000.00.

Reeve Dale Gervais recessed the meeting at 11:58 a.m.
Reeve Dale Gervais reconvened the meeting at 1:10 p.m.

#6 BYLAWS

6.0 BYLAWS

6.1 BYLAW 16-761 – 2016 TAX RATE BYLAW

BYLAW 16-761 FIRST READING

MOTION: 16.03.117. Moved by: COUNCILLOR ROXIE RUTT
That Council give first reading to the 2016 Tax Rate (Property Tax) Bylaw 16-761 as presented by Administration.

CARRIED

8.7 DEBOLT ORGAN DONATION SIGN

ORGAN DOATION SIGN

MOTION: 16.03.118. Moved by: DEPUTY REEVE TOM BURTON
That Council authorize Administration to install an organ donation sign on Greenview property located within the hamlet of DeBolt.

CARRIED

8.8 ROAD ALLOWANCE LICENSE APPLICATION SE 26-66-22 W5

ROAD ALLOWANCE LICENSE

MOTION: 16.03.119. Moved by: COUNCILLOR DALE SMITH
That Council accept the Road Allowance License Application report on Twp. 664 as information.

CARRIED

8.9 OVERSIZED LOADS POLICY

POLICY 4009

MOTION: 16.03.120. Moved by: COUNCILLOR ROXIE RUTT
That Council approve Policy #4009 Oversized Loads: Greenview Roads in place of Policy #EES-15 Overload Security on Municipal Roads.

CARRIED

8.10 ELGIN BADGER SWEEPER

ELGIN BADGER MECHANICAL ROAD SWEEPER

MOTION: 16.03.121. Moved by: COUNCILLOR DALE SMITH
That Council approve to increase the Operations Equipment Fleet budget through contingency in the amount of $34,347.00 to purchase one Elgin Badger Mechanical Road Sweeper from Joe Johnson Equipment for a total of $219,347.00.

DEFEATED

8.11 CAO

CAO REPORT

MOTION: 16.03.122. Moved by: COUNCILLOR DALE SMITH
That Council accept for information the CAO reports.

CARRIED

#9 COUNCILLORS BUSINESS & REPORTS

9.1 COUNCILLORS' BUSINESS & REPORTS

9.2 MEMBERS' REPORT: Council provided an update on activities and events both attended and upcoming, including the following:

COUNCILLOR BILL SMITH
Attended the Alberta Association of Municipal Districts & Counties Spring Convention
Attended the Municipal Planning Commission Meeting
Attended the Community Futures Meeting
Attended the Grande Prairie Tourism Board Meeting

KAKWA FALLS RECREATION AREA REPORT

KAKWA FALLS RECREATION AREA REPORT

MOTION: 16.03.123. Moved by: COUNCILLOR BILL SMITH
That Council authorize Administration to prepare a report on the Kakwa Falls Recreation Area.

CARRIED

COUNCILLOR ROXIE RUTT
Attended the Alberta Association of Municipal Districts & Counties Spring Convention
Attended the Municipal Planning Commission Meeting
Attended the Grande Prairie Public Library Meeting
Attended the Little Smoky Ski Hill Tour
Attended the Grand Spirit Foundation Meeting
Attended the Peace Library Systems Meeting

COUNCILLOR DALE SMITH
Attended the Policy Review Meeting

DEPUTY REEVE TOM BURTON
Attended the Alberta Association of Municipal Districts & Counties Spring Convention
Attended the Community Planning Association of Alberta Meeting
Attended the Grande Prairie Tourism Board Meeting
Attended the Greenview Strategic Planning Session
Attended the Highway 43 Realignment Open House
Attended the Nitehawk Appreciation Meeting
Attended the Little Smoky Ski Hill Tour
Attended the DeBolt Library Board Meeting
Attended the East Smoky Recreation Board Meeting

COUNCILLOR DAVE HAY
Attended the Alberta Association of Municipal Districts & Counties Spring Convention
Attended the Sunset House Annual General Meeting
Attended the Valleyview Recreation Board Meeting
Attended the Heart River Housing Meeting
Attended the Policy Review Committee Meeting

COUNCILLOR LES URNESS
Attended the Alberta Association of Municipal Districts & Counties Spring Convention

Attended the Municipal Planning Commission Meeting
Attended the Policy Review Committee Meeting

COUNCILLOR GEORGE DELORME
Was not in attendance.

9.1 REEVE'S REPORT:

REEVE DALE GERVAIS
Attended the Alberta Association of Municipal Districts & Counties Spring Convention
Attended the Municipal Planning Commission Meeting
Attended the Little Smoky Ski Hill Tour

#10 CORRESPONDENCE

10.0 CORRESPONDENCE

MOTION: 16.03.124. Moved by: COUNCILLOR ROXIE RUTT
That Council accept for information the correspondence presented.

CARRIED

#11 IN CAMERA

11.0 IN CAMERA

There was no In Camera presented.

#12 ADJOURNMENT

12.0 ADJOURNMENT
MOTION: 16.03.125. Moved by: COUNCILLOR ROXIE RUTT
That this meeting adjourn at 2:36 p.m.

_____ _____

CHIEF ADMINISTRATIVE OFFICER REEVE

REQUEST FOR DECISION

SUBJECT:	**Chevron Canada Presentation**				
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION			
MEETING DATE:	April 12, 2016	CAO:	MH	MANAGER:	INT
DEPARTMENT:	CAO SERVICES	GM:	INT	PRESENTER:	INT
FILE NO./LEGAL:	File Number,Legal or N/A.			LEGAL/ POLICY REVIEW:	INT
STRATEGIC PLAN:				FINANCIAL REVIEW:	

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw / Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That Council accept for information the presentation from Chevron Canada.

BACKGROUND / PROPOSAL:

Chevron Canada would like to provide a brief overview of their 2016 and 2017 plans to Greenview Council. They have stated that if Council has interest in any particular topic about their development they would be happy to focus on that.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – N/A

Benefits – N/A

Disadvantages – N/A

COSTS / SOURCE OF FUNDING:

There are no perceived costs.

ATTACHMENT(S):

Chevron PowerPoint Presentation

Chevron Canada

Presentation to Communities

April 2016

Meeting Overview

- Who is Chevron?
- Chevron's focus in Canada
- Operating Principles
- Program Overview
- Economic Development
- Social Investment
- Discussion

Chevron's Vision: *To be the global energy company most admired for its people, partnership and performance*

- Second-largest North American energy company
- Active in more than 100 countries
- ~60,000 employees
- 2.6 million BOE daily net production
- 133 years in business
- More than 80 years in Canada

Chevron Canada - Overview

Investing in Canada since 1935

Focus Areas:

- Unconventional Resource Plays
- Oil Sands
- Kitimat LNG
- Atlantic Canada

Retail/Commercial:

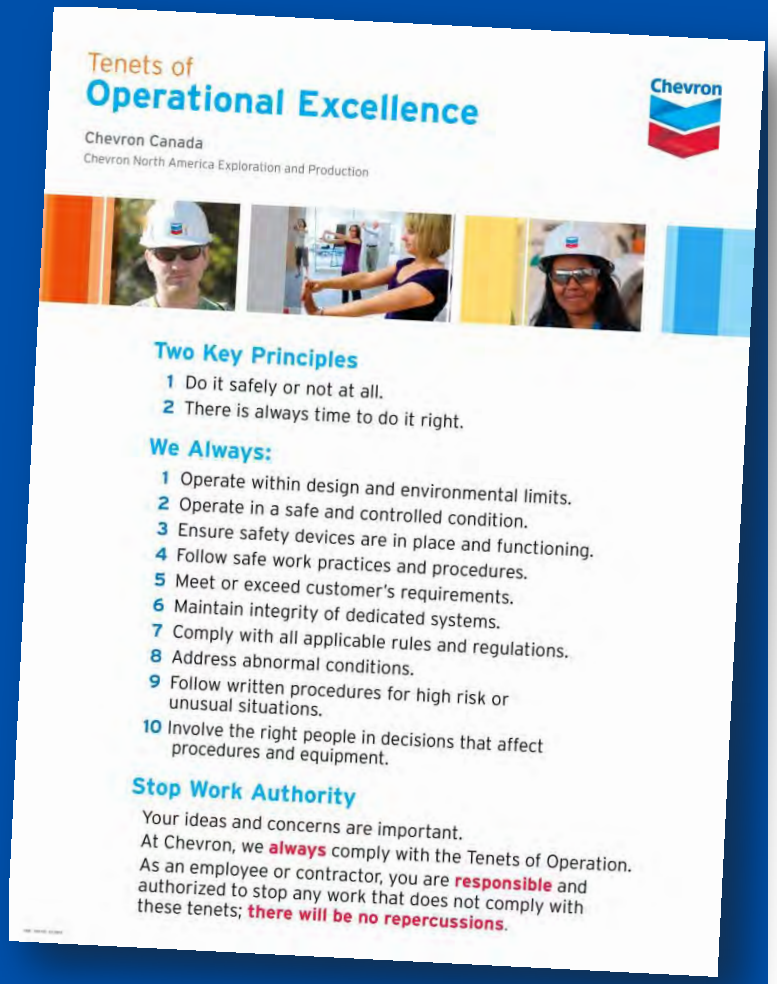
- Gas stations (BC)
- Cardlocks (AB, BC)

Downstream:

- Burnaby Refinery

Our Commitment To Strong Operating Principles

- Do it safely or not at all
- Developing resources sustainably and in an environmentally sound manner
- Manage and protect water resources
- Partner with industry and stakeholders to drive high standards
- Be transparent with the communities where we operate
- Partner with local businesses and communities to drive economic benefits



Tenets of
Operational Excellence

Chevron Canada
Chevron North America Exploration and Production

Two Key Principles

1 Do it safely or not at all.
2 There is always time to do it right.

We Always:

1 Operate within design and environmental limits.
2 Operate in a safe and controlled condition.
3 Ensure safety devices are in place and functioning.
4 Follow safe work practices and procedures.
5 Meet or exceed customer's requirements.
6 Maintain integrity of dedicated systems.
7 Comply with all applicable rules and regulations.
8 Address abnormal conditions.
9 Follow written procedures for high risk or unusual situations.
10 Involve the right people in decisions that affect procedures and equipment.

Stop Work Authority

Your ideas and concerns are important.
At Chevron, we **always** comply with the Tenets of Operation.
As an employee or contractor, you are **responsible** and authorized to stop any work that does not comply with these tenets; **there will be no repercussions.**

Kaybob Duvernay Overview

Chevron Position & Play Strategy

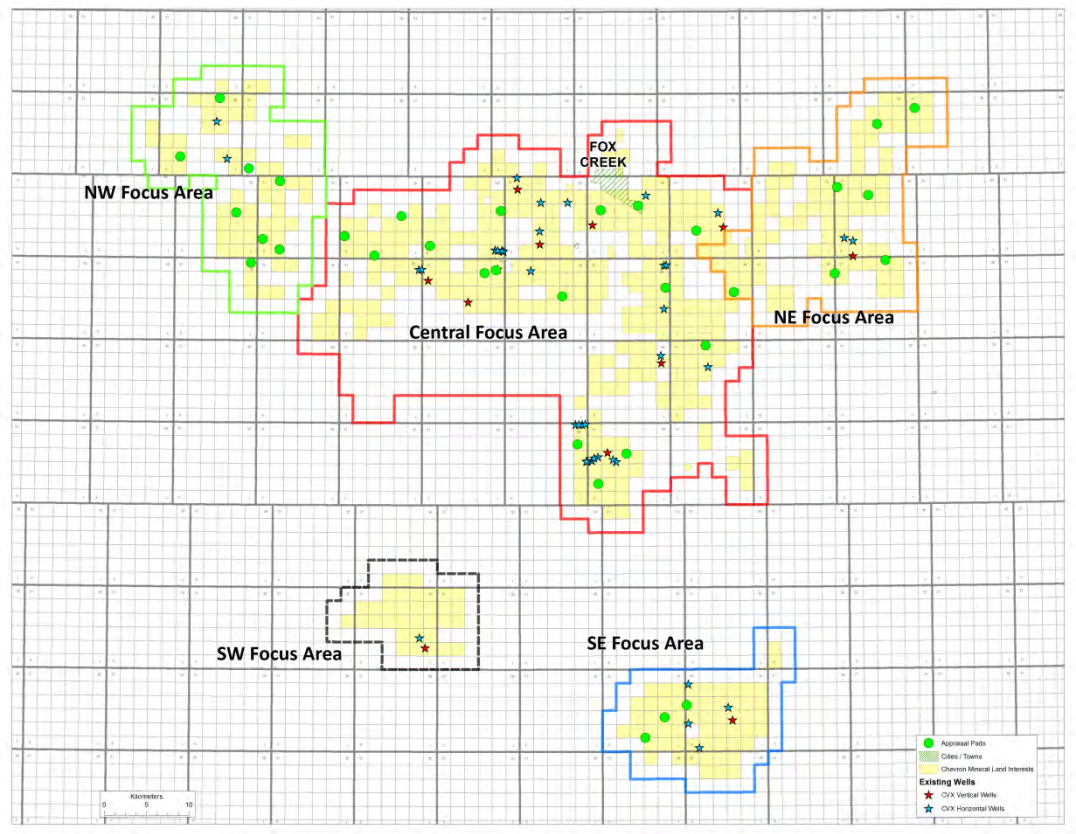
- 330,000 net acres
- 30% interest held by KUFPEC Canada

2016 Activity Summary

- Lease construction: 6-8 pads
- Lease facilities: 7 pads
- 35 - 40 km of road construction
- 20 - 24 wells to be drilled
- 18 - 20 wells to be completed
- 50 - 70km of pipelines (winter 2016/17)

Chevron Objectives

- Mineral rights retention obligations
- Demonstrate improvements in reservoir performance, cost and cycle time
- Confirm resource continuity
- Demonstrate play commerciality



Commitment to Economic Development

- People everywhere crave economic opportunities that will help them achieve stability and prosperity.
- We demonstrate our commitment to the countries and communities where we operate by creating jobs, employing and developing local workforces and sourcing from local suppliers.

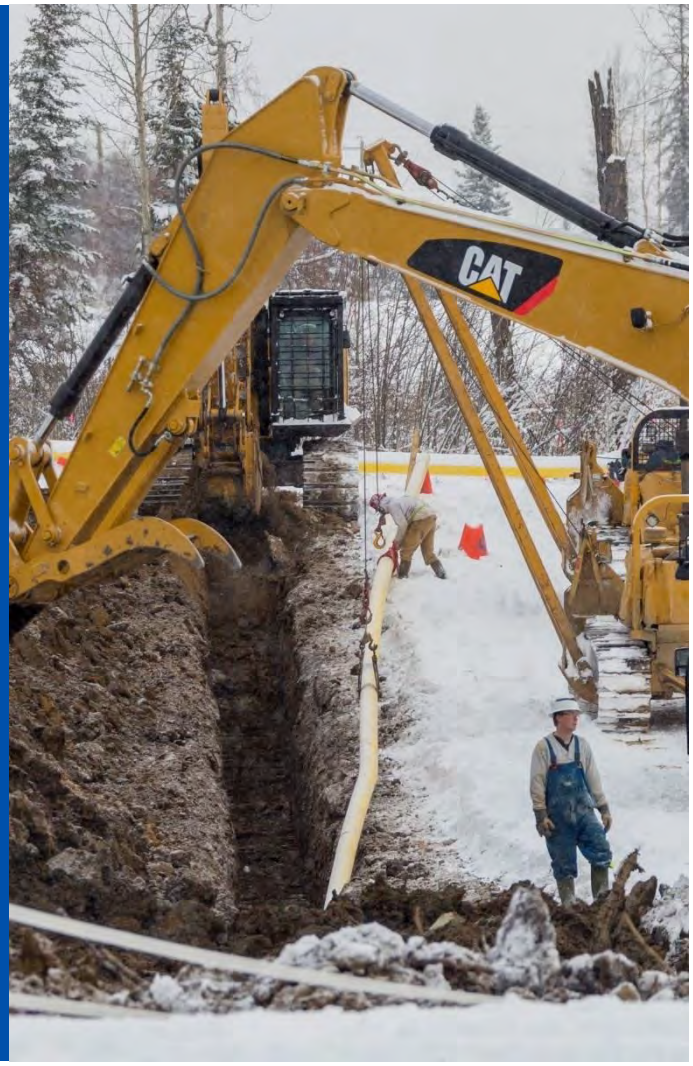
Local & First Nation Content Plan

Local and First Nations Content Plan Implementation

- Commitment to using local and First Nation businesses
- Local and First Nation content tracking
- Major contractors local and First Nation content plan and tracking

Interested Vendor List

- Local suppliers can register online
- Local businesses integrated into contracting plan



Social Investment

- Chevron Canada's focus for Social Investments are Education, Health and Economic Development
- We work with communities to determine where Chevron can make a difference
- Regularly communicate our SI work to stakeholders


Tatanka Workshop


Junior Achievement


The Banff Centre


Women Building Futures

Social Investment

- Chevron Canada's focus for Social Investments are Education, Health, Capacity Building and Economic Development
- We work with communities to determine where Chevron can make a difference
- Regularly communicate our SI work to stakeholders

Contacts:

Community Engagement

Lorelei Piotto
Team Lead Social Performance
lpiotto@chevron.com
Tel 403 234-5763

Land

Rae-Lynne Mills
Surface Landman
Rmills@chevron.com
Tel 403 234 5080
Fax 403 234 5734

Supply Chain Management

Brad Caldwell
Local and First Nation Content Advisor
brad.caldwell@chevron.com
Tel 403 234 5430
Fax 403 234 5640

Online: www.chevron.ca

Thank you

Questions

Answers

REQUEST FOR DECISION

SUBJECT:	**TransCanada Presentation**		
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	April 12, 2016	CAO: MH	MANAGER: INT
DEPARTMENT:	CAO SERVICES	GM: INT	PRESENTER: INT
FILE NO./LEGAL:	File Number,Legal or N/A.		LEGAL/ POLICY REVIEW: INT
STRATEGIC PLAN:			FINANCIAL REVIEW:

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw / Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That Council accept for information the presentation from TransCanada.

BACKGROUND / PROPOSAL:

TransCanada would like to update Council on future projects.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – N/A

Benefits – N/A

Disadvantages – N/A

COSTS / SOURCE OF FUNDING:

There are no perceived costs.

ATTACHMENT(S):

- TransCanada PowerPoint Presentation
- TransCanada Projects Map

M.D. of Greenview Council Presentation

April 12, 2016

TransCanada

Introduction

- TransCanada Overview
- NGTL System Overview
- Regulatory Process
- Proposed Project
- Working with you
- Looking Ahead

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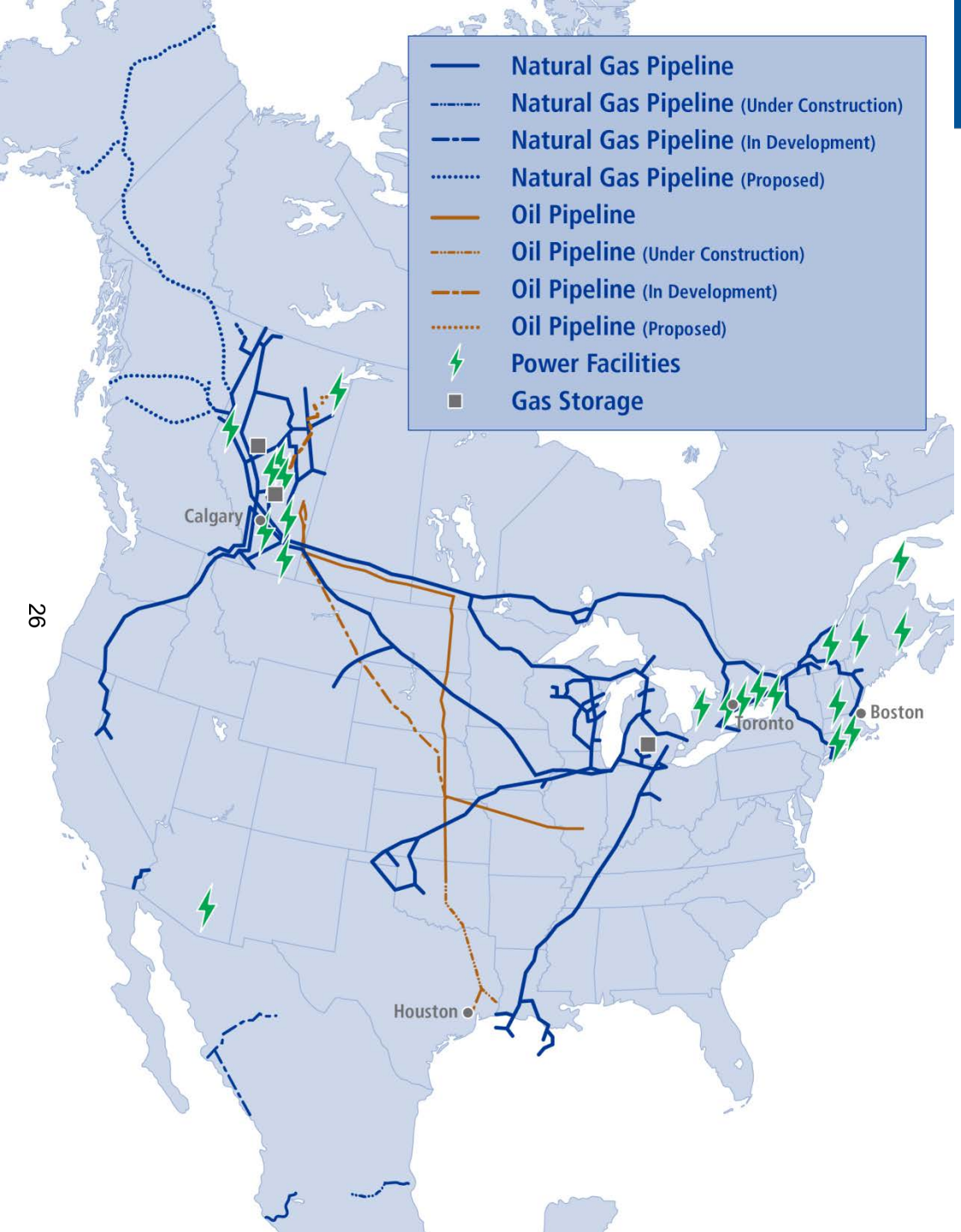
TransCanada

TransCanada Corporation (TSX/NYSE: TRP)

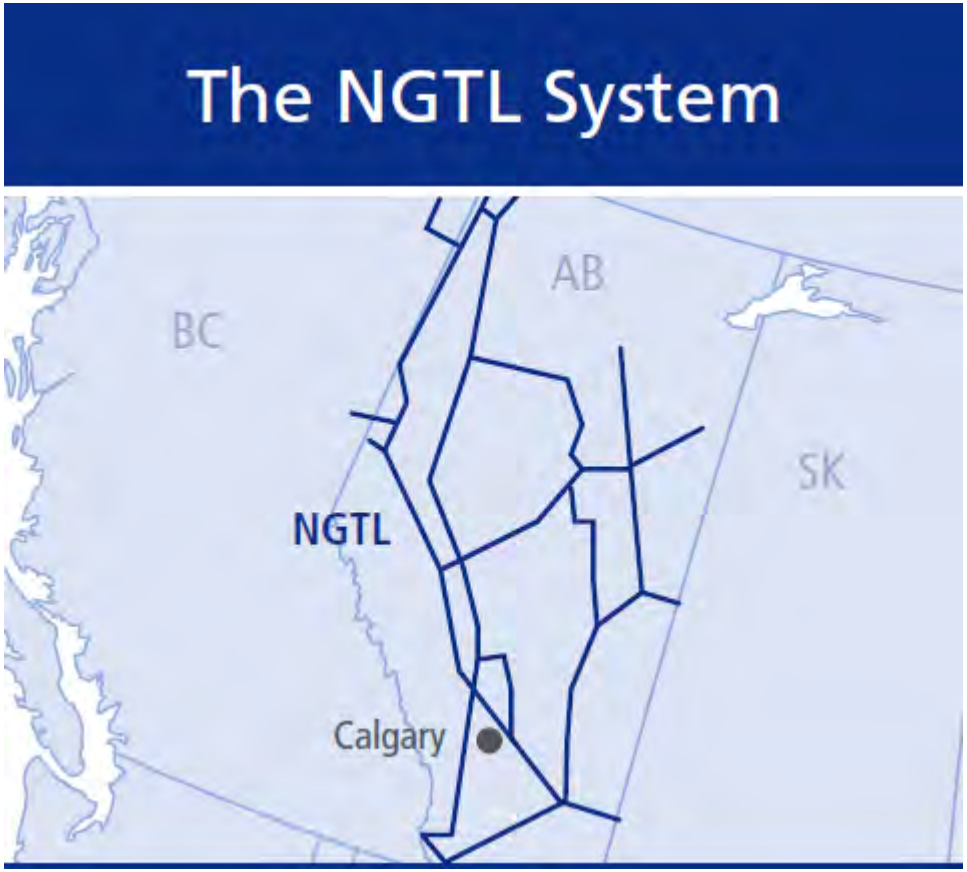


TransCanada is a leading North American energy infrastructure company with over 65 years of experience in energy transportation.

Approximately $54 billion of premium pipeline and energy assets.

The organization employs over 5,500 people in nearly 50 professions, trades and fields, located in 7 provinces, 32 US states, and Mexico.

NGTL System Overview



NOVA Gas Transmission Ltd. (NGTL), a wholly-owned subsidiary of TransCanada Pipelines Limited, became operational in the late 1950s. Since then, over 25, 000 kilometers of pipeline and associated facilities, known as the NGTL System, have been built to safely receive and deliver natural gas for use in Alberta, British Columbia, and across North America.

The NGTL System continues to build and acquire new pipelines and facilities as the demands and core markets for natural gas change and increase.

Safe, reliable operation of the NGTL System is our top priority.

Regulatory Process

- The National Energy Board (NEB) is the primary regulator of the NGTL System and acts in the Canadian public interest by ensuring safety and security, environmental protection and efficient operation of pipelines, associated facilities, as well as power transmission lines
- TransCanada applies to the NEB for an Order pursuant to the National Energy Board Act depending on the activity type
- Guidance on consultation and engagement for proposed activities is found in *Guide B* of the *NEB Filing Manual*
- NEB consultation expectations include:
  - Consultation with potentially affected groups early in project planning phases
  - Identification of potentially affected groups, their concerns and how TransCanada has addressed them
  - How input influenced the project's engagement, planning, and implementation
  - Potentially affected groups can contact the NEB with application-related concerns

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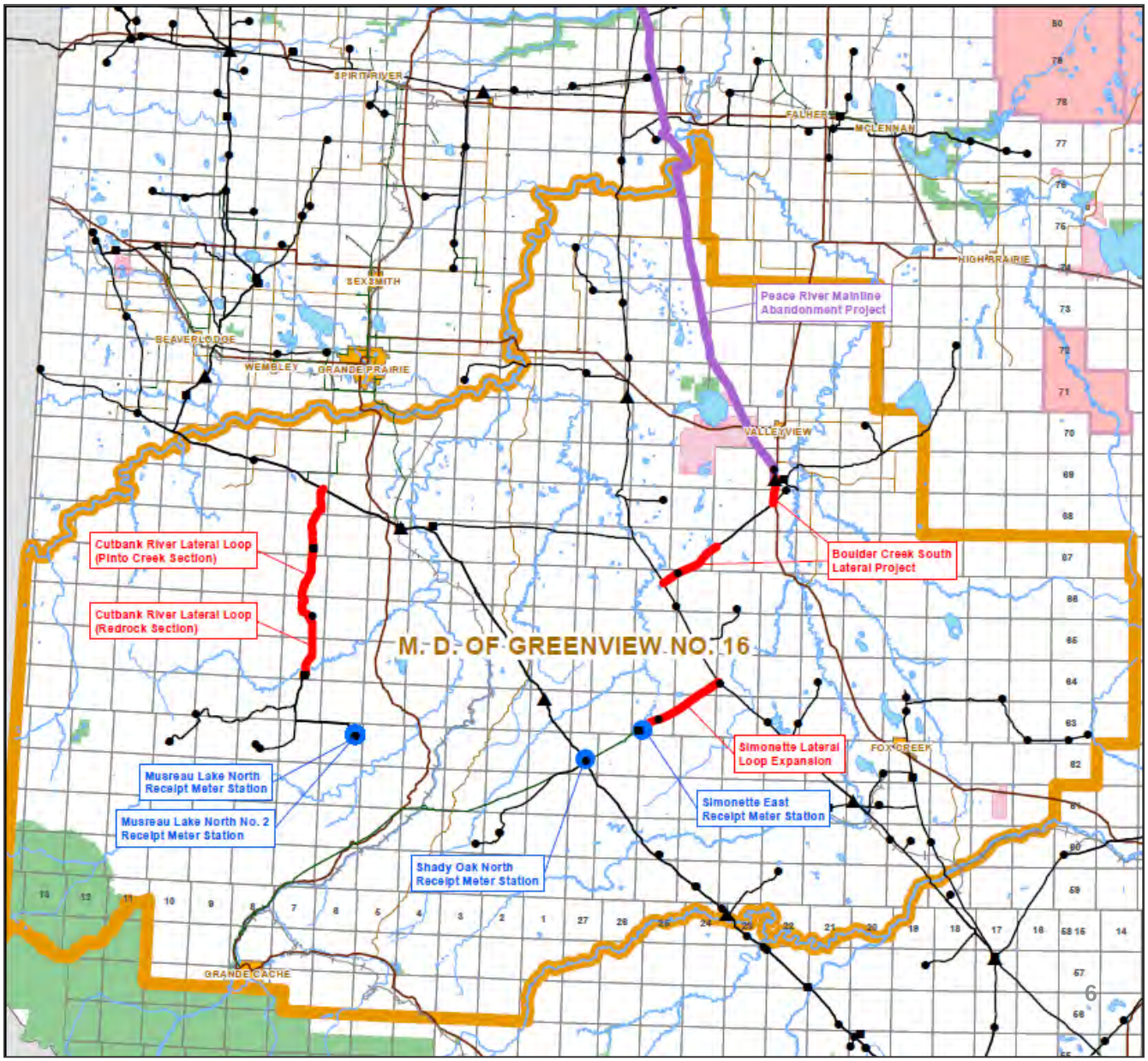
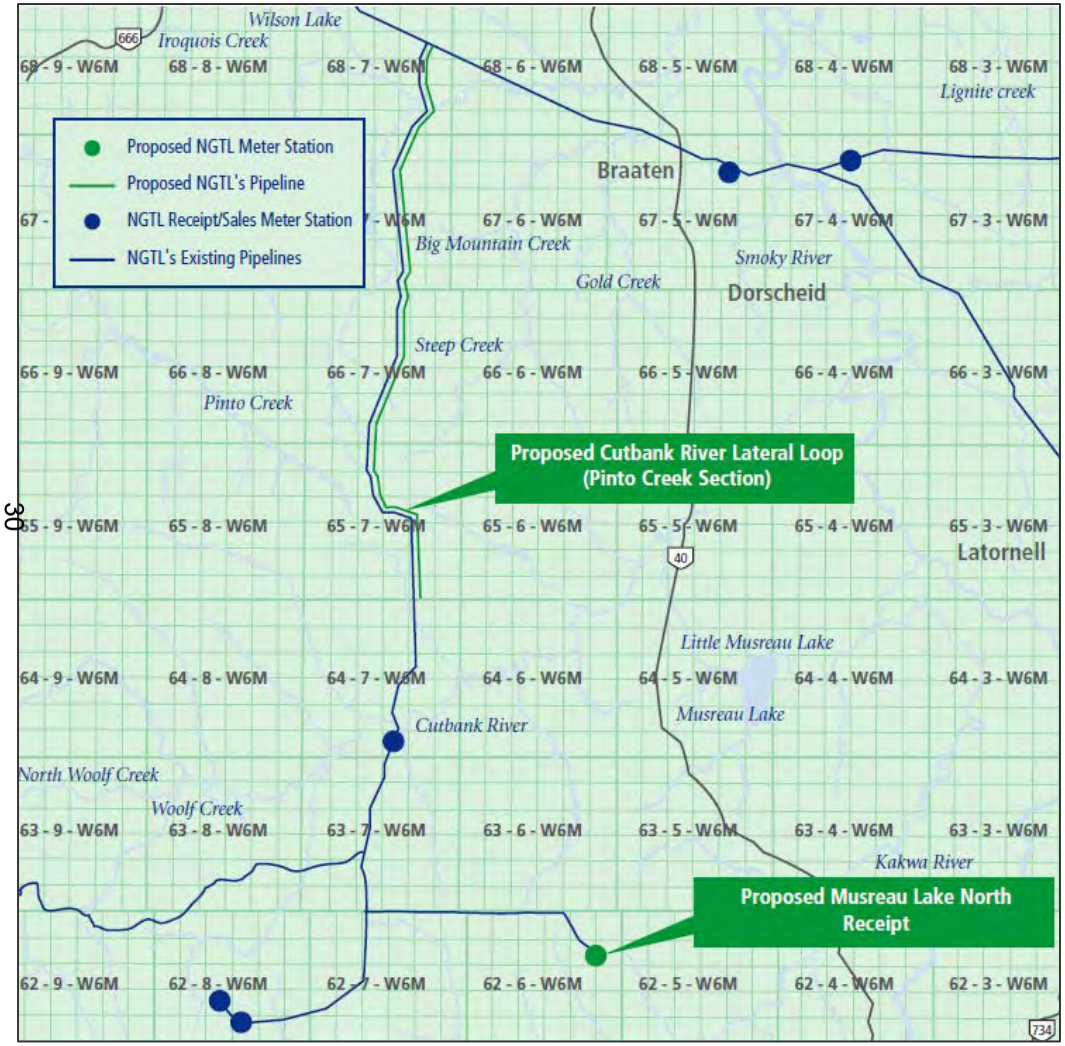
TransCanada

Current Projects in the M.D. of Greenview No. 16



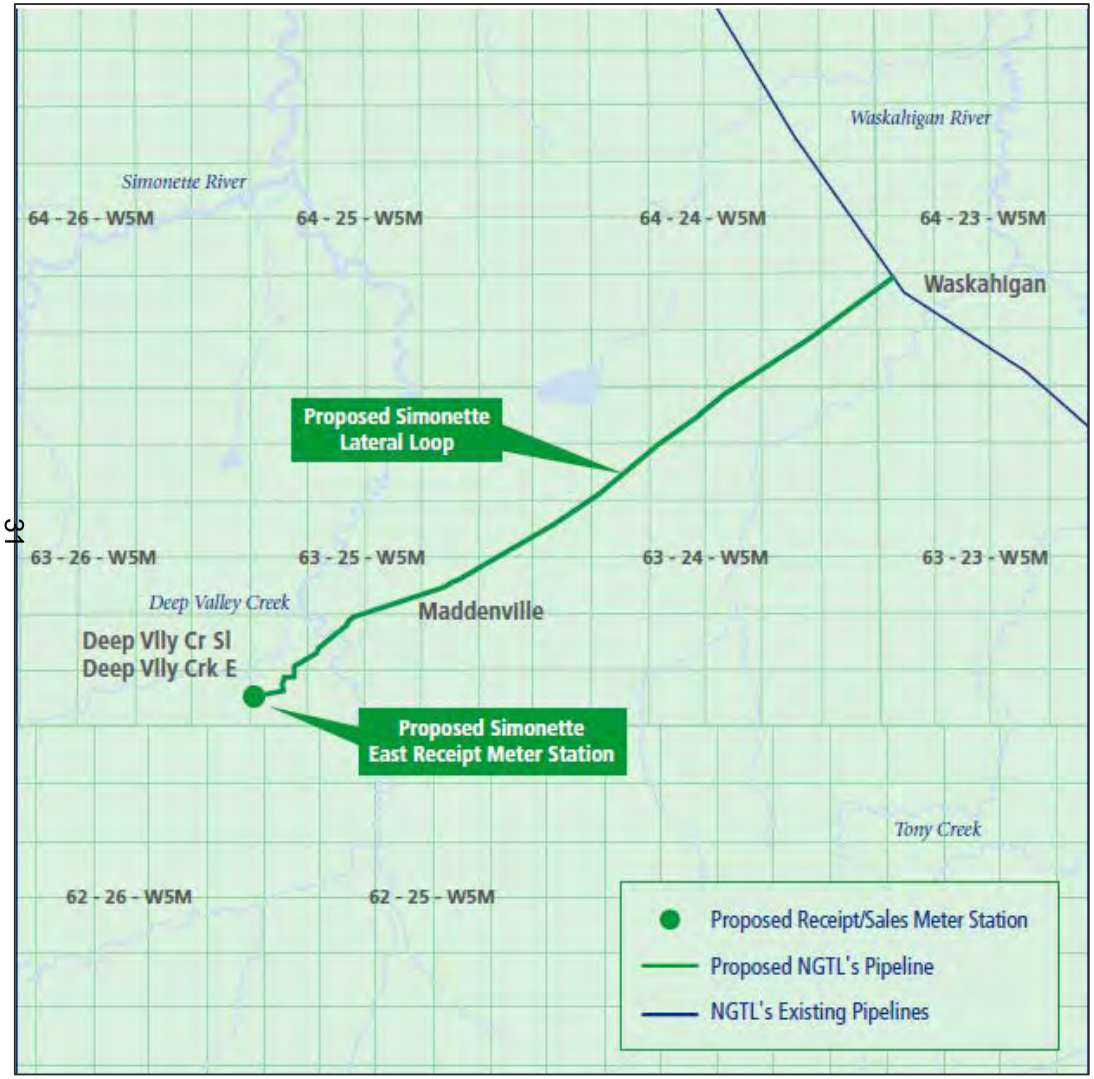
TransCanada

Cutbank River Lateral No. 2 – Pinto Creek section & Musreau Lake North Receipt Meter Station – Now Ready For Service



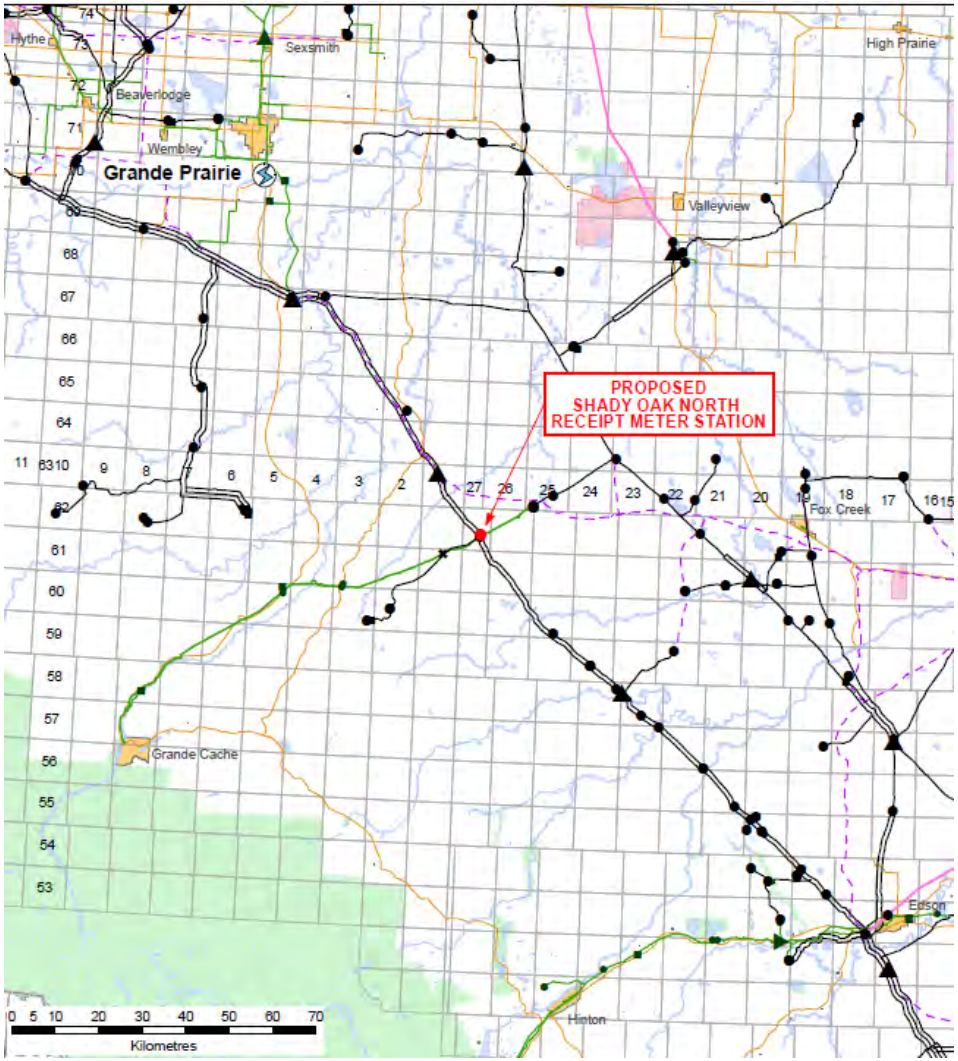
Q1/Q2 2016 – Cutbank River Lateral Loop No. 2 – Phase 4 (Pinto Creek section) (March 23, 2016) & Musreau Lake North Receipt Meter Station (April 15, 2016) transition into ready for service

Simonette Lateral Loop & Simonette East Receipt Meter Station – Now Ready For Service



Q1 2016 – Simonette Lateral Loop (March 24, 2016) & Simonette East Receipt Meter Station (March 31, 2016) now ready for service – expected tie-in to customer in Q3 2016

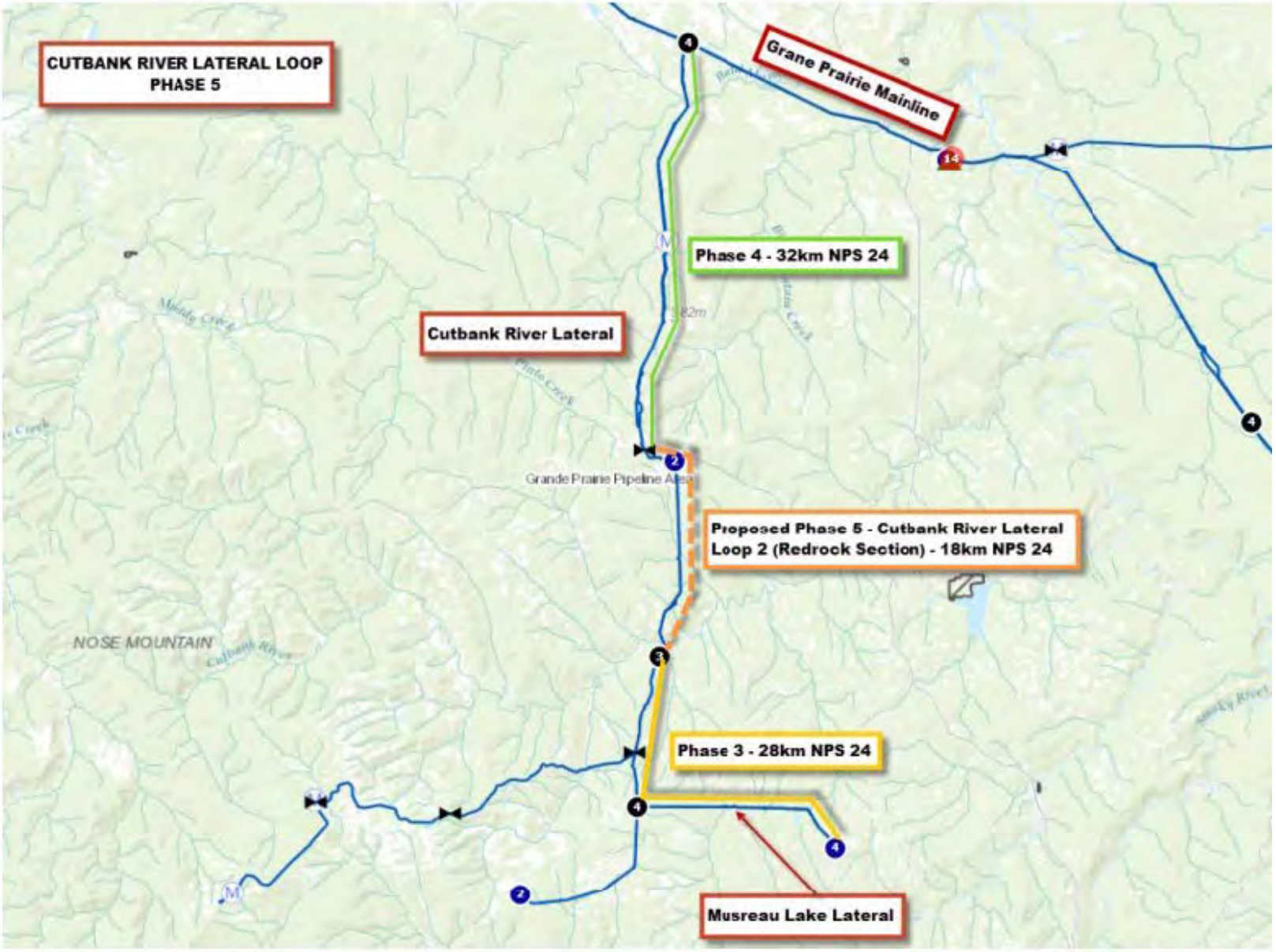
Shady Oak North Receipt Meter Station – Now In-Service



Q1 2016 – Shady Oak North Receipt Meter Station (March 3, 2016) now in-service

TransCanada

Proposed: Cutbank River Lateral – Phase 5 - Red Rock Section



Proposed: Cutbank Lateral Loop – Red Rock Section

Q2 2016 – Began stakeholder and Aboriginal engagement and consultation with communities

Q4 2016 – Application filed with the National Energy Board by NGTL for the proposed Cutbank Lateral Loop - Redrock Section

Q4 2017 – Pending regulatory approval and meeting all licensing requirements, planned start of pipeline construction

Q2 2018 – Anticipated completion of pipeline construction and facility in-service milestone

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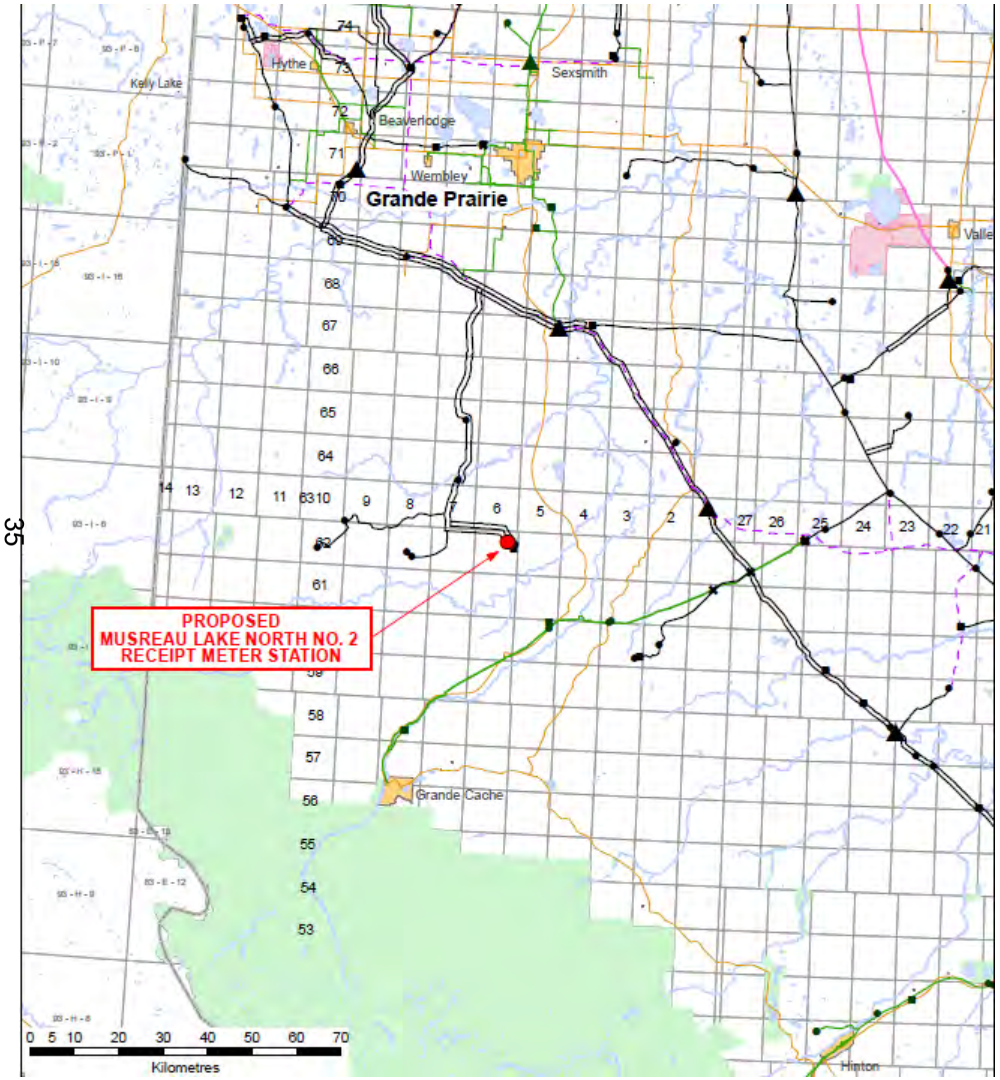
TransCanada

Proposed Musreau Lake North No. 2 Receipt Meter Station



Q4 2015 – Began Stakeholder and Aboriginal engagement

Q1 2016 – Filed application pursuant to section 58 of the *National Energy Board Act*

Q3 2015 – Anticipate regulatory approvals be obtained and construction activities to commence

Q3 2016 – Anticipate construction to be completed and facility modifications to be in-service

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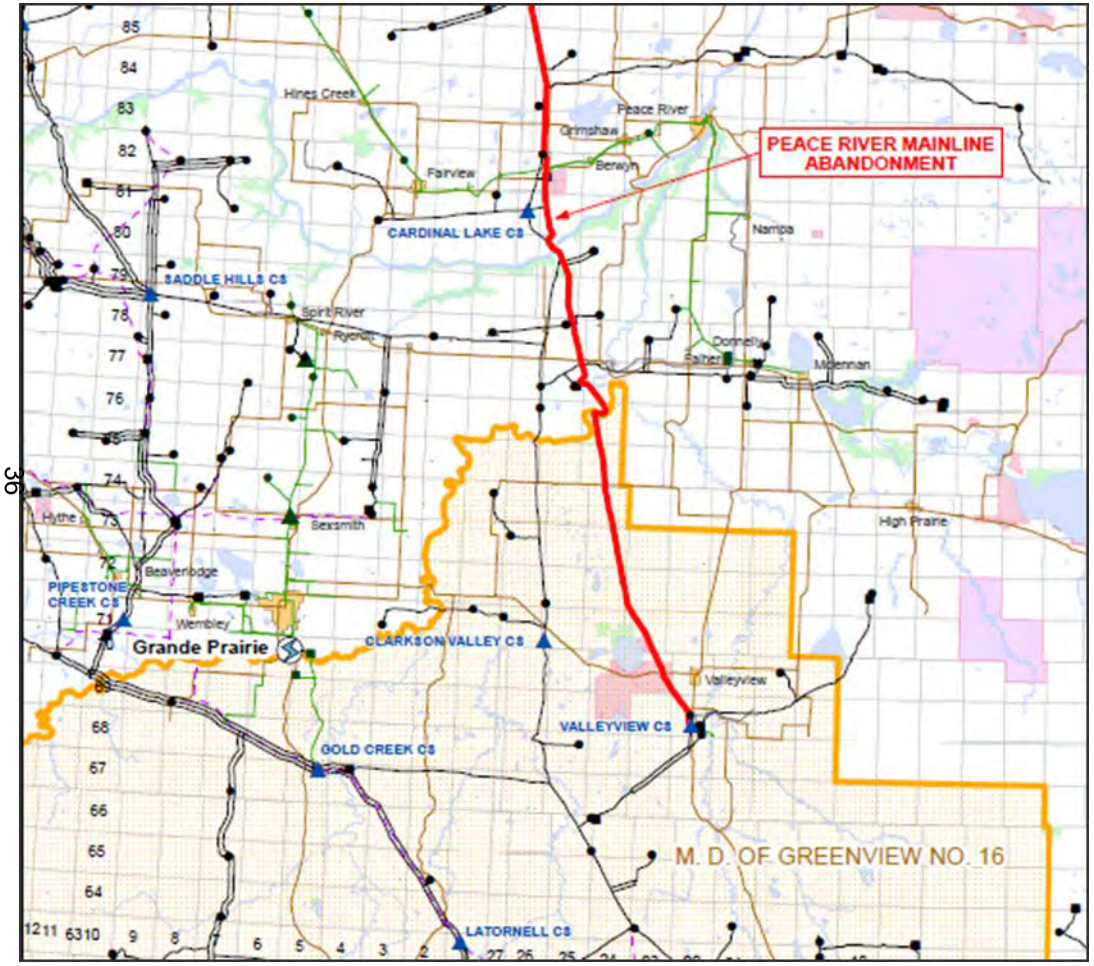
TransCanada

Proposed Abandonment - Peace River Mainline South Section

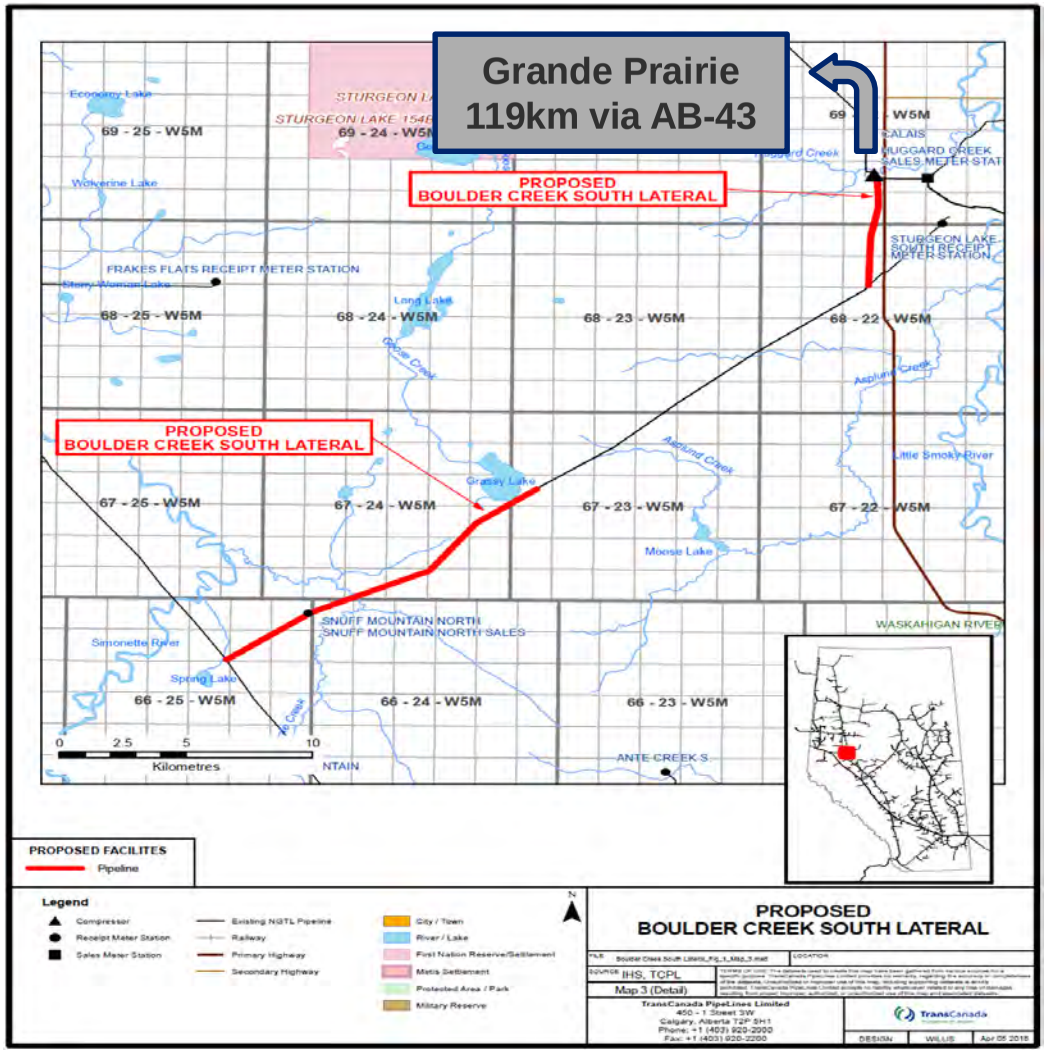


The NGTL System continues to build and acquire new pipelines and facilities as the demands and core markets for natural gas change.

Some existing assets, such as the Peace River Mainline, are no longer needed to provide continued service to customers and shippers.

Safe, reliable operation of the NGTL System is our top priority, and we will continue to provide service to customers.

Proposed Boulder Creek South Lateral Project



Two pipe sections make up this Project

- **Southern Section**: 15 km of up to 10 Nominal Pipe Size (NPS)

-Northern Section: 6 km of up to 10 NPS

Q2 2016: NEB Section 58 Application filing

Q4 2016: Anticipated construction date

Q2 2017: Anticipated In Service Date

TransCanada

Working Together

Engagement efforts are guided by our Aboriginal Relations Policy, Community Relations best practices, and feedback from the communities we work with.

TransCanada works with communities to respectfully engage in a timely manner on proposed activities and ensure municipal, landowner, Aboriginal, and regulatory participation.

Our goal is to work together to identify opportunities, to mitigate concerns, and benefit communities, where possible.

Looking Ahead

- **Proposed Project Schedules and Details**
- **Tax / Linear Assessment Changes**
- **Expected Peaks of Activity and Workforce Accommodations**
- **Continued Community Consultation Going Forward**
- **Community Investment**

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TransCanada

Questions?

TransCanada is pleased to assist with any information requests or questions you may have.

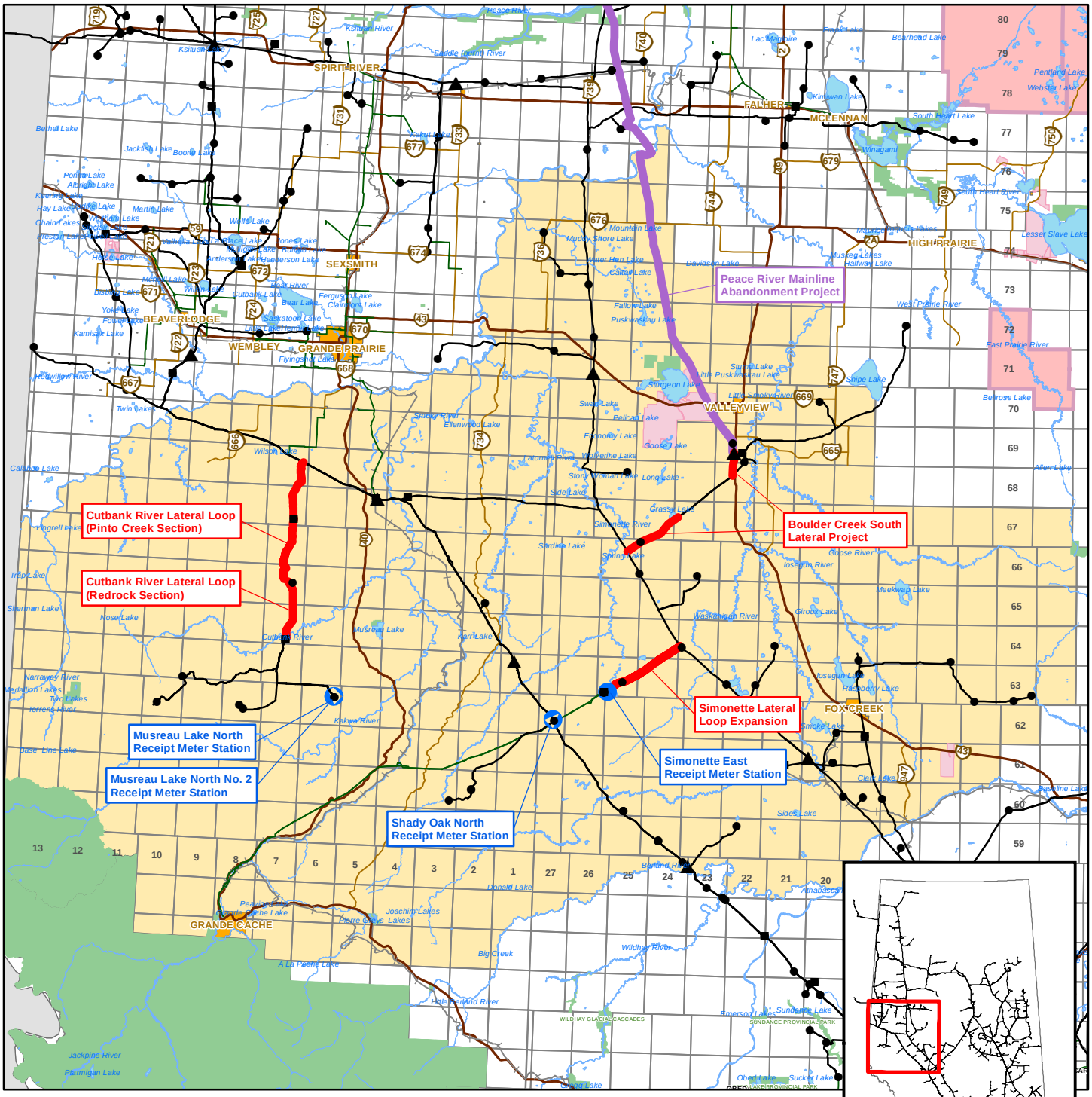
For matters directed to the National Energy Board regarding the proposed activities in the M.D. of Greenview, the regulator can be reached at:

National Energy Board
517 10 Ave S.W.
Calgary, Alberta
T2P 0X8

Toll Free: 1.800.899.1265
Website: www.neb-one.gc.ca

40

TransCanada



Legend

- Existing NGTL Pipeline
- ATCO Pipelines
- Compressor
- Receipt Meter Station
- Sales Meter Station
- Railway
- Primary Highway
- Secondary Highway
- River / Lake
- Protected Area
- City / Town
- First Nation Reserve
- First Nation Settlement
- Metis Settlement
- Department of Defence
- M.D. of Greenview
- Meter Station Projects
- Pipeline Projects
- Pipeline Abandonment Projects

NGTL PROJECTS IN M.D. OF GREENVIEW

(AS OF APRIL 2016)

FILE MD_Greenview_Projects.mxd	LOCATION M.D. of Greenview
SOURCE IHS, TCPL	
Map (Detail)	

TransCanada PipeLines Limited
450 - 1 Street SW
Calgary, Alberta T2P 5H1
Phone: +1 (403) 920-2000
Fax: +1 (403) 920-2200

TransCanada

DESIGN	LS	Apr 05 2016

REQUEST FOR DECISION

SUBJECT:	**Bylaw 16-762 - Little Smoky Utility Installation Bylaw**		
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	April 12, 2016	CAO: MH	MANAGER: GC
DEPARTMENT:	INFRASTRUCTURE & PLANNING/ENVIRONMENTAL SERVICES	GM: GG	PRESENTER: INT
FILE NO./LEGAL:	N/A		LEGAL/ POLICY REVIEW: INT
STRATEGIC PLAN:			FINANCIAL REVIEW:

RELEVANT LEGISLATION:

Provincial (cite) – *Municipal Government Act, RSA 2000*

Council Bylaw / Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That Council give First Reading to Bylaw 16-762, Little Smoky Utility Installation Bylaw, to provide installation of service lines as an incentive for the residents of the Hamlet of Little Smoky to connect to the new water distribution system being constructed in 2016.

BACKGROUND / PROPOSAL:

The Municipal District of Greenview (MDGV) is installing a water distribution system in the Hamlet of Little Smoky in 2016. Council has previously agreed to a connection fee of $12,500.00 for residents to connect to the water distribution system. The bylaw sets forth the terms and conditions under which such services will be installed in the Hamlet of Little Smoky.

A Bylaw is required to allow the MDGV to install service lines on private property in the Hamlet of Little Smoky.

Notable provisions of the Bylaw include:
- Specific to Hamlet of Little Smoky;
- The terms, conditions, rates, and charges for the installing of water services in the Hamlet are established; and,
- The timeframes within which the incentive is provided are established.

OPTIONS – BENEFITS / DISADVANTAGES:

Option 1 – That Council consider the information as presented and grant First Reading to Bylaw 16-762.

Option 2 – That Council Table Bylaw 16-762 for further discussion or information.

Option 3 - That Council consider the information presented and defeat First Reading of Bylaw 16-762

Benefits – The benefit of the Bylaw is to provide specific rules as to the installation and connection of water service lines for the residents of Little Smoky.

Disadvantages – There are no perceived disadvantages of giving first reading of Bylaw 16-762

COSTS / SOURCE OF FUNDING:

N/A

ATTACHMENT(S):

Schedule 'A' – Bylaw 16-762

BYLAW NO. 16-762
of the Municipal District of Greenview No. 16

A Bylaw of the Municipal District of Greenview No. 16, in the Province of Alberta, to regulate and manage the installation of a water utility owned by the Municipal District of Greenview No. 16 including terms, conditions, rates and charges for installation.

WHEREAS the Council of the Municipal District of Greenview No. 16 (hereinafter called Greenview) in the Province of Alberta has the authority, pursuant to the provisions of S.38 of the Municipal Government Act (Current as of March 1, 2016), where it deems necessary or desirable to provide a water system to residents in the Hamlet of Little Smoky;

THEREFORE, in accordance with Bylaw 11-664 (MD of Greenview Water Utility Bylaw) and pursuant to the provisions of S.38 of the Municipal Government Act, it is hereby enacted by the Council of Greenview, a Bylaw that:

1. Shall be called the *Little Smoky Water Utility Installation Bylaw*.

2. Sets forth the terms and conditions under which such services will be installed in the Hamlet of Little Smoky.

Part 1 – INTERPRETATION:

In this Bylaw, the following words and phrases will mean:

1. APPLICANT means property Owner or the authorized representative of the property Owner, who applies to Greenview for the supply of water services.

2. AUTHORIZED PERSON means an employee, contractor or agent of Greenview

3. CONSUMER means the property Owner who has applied for the supply of water and entered into a contract with Greenview for the provision of Private Property Service.

4. COUNCIL means the duly elected Council of Greenview.

5. MUNICIPAL GOVERNMENT ACT OR MGA means the Provincial Act that applies to all Municipalities and Improvement Districts and identifies the governing requirements of these bodies.

6. OWNER shall mean the person registered as the Owner of a property pursuant to the provisions of the Land Titles Act (Alberta) and shall include a person purchasing a property under an Agreement for Sale.

7. PRIVATE PROPERTY means any property which is not owned by Greenview.

8. PRIVATE PROPERTY SERVICE means the pipe used or intended to be used for the supply of water from the Service Curb Stop to a building.

10. SERVICE CURB STOP means the Greenview valve located at a property line.

11. SCHEDULE OF FEES means the approved Schedule of Fees, as amended from time to time, pursuant to Greenview's Bylaw duly enacted to establish rates and charges for Greenview supplied services.

12. WATER CONNECTION means a connection from the Water Main extending to the Service Curb Stop located at the property line of the Owner.

13. WATER MAIN means those pipes installed or owned by Greenview for the conveyance of water throughout Greenview to which service lines may be connected.

Part 2 - CONNECTION OF SERVICE:

1. Notwithstanding Bylaw 11-664, Consumers in the Hamlet of Little Smoky shall be provided an incentive to enter into a written agreement with Greenview to have their Private Property Service, connected to Greenview's Water Connection and Municipal Water System, by Greenview's Authorized agents, for the Little Smoky connection fee as established in the Schedule of Fees, which can be paid in full or financed over 20 years, during the installation of the Municipal Water System in the Hamlet of Little Smoky, prior to July 1,2016.

2. Applicants must apply for the aforementioned Private Property Service Connection no later than July 1, 2016.

3. Consumers wishing to connect a Private Property Service to Greenview's Water Connection and Municipal Water System beyond July 1, 2016 will enter into a written agreement with Greenview, be charged a connection fee established in the Schedule of Fees, which can be paid in full or financed over 20 years, and be required to make their own arrangements as well as pay for the installation of the Private Property Service connection to Greenview's Water Connection and Municipal Water System.

4. Where a Private Property Service is to be established for an Owner currently using a private well supply, the Owner must prove a physical disconnection from their existing well to the Municipal Water System supply, to the satisfaction of the Greenview Authorized agent prior to turning on of the Private Property Service.

5. Owners are required to pay for their structure to be connected to the Private Property Service as well as all required work in the structure.

6. Greenview will provide Owners with their first water meter at no charge.

7. Owners must allow access to Greenview agents to inspect, maintain and read the water meter, as required.

8. Service to a property Owner will be provided only on the condition that an Approved Backflow Prevention Device (where required) is installed at the Owner's cost.

9. Each service shall be provided with a pressure reducing valve at the Owner's expense, if deemed necessary by Greenview, and Greenview shall not be responsible for damages caused by non-compliance with this section.

10. The water will not be turned on at the Service Curb Stop until the Private Property Service work and structure connection are complete as well as an inside shut-off has been installed by the Owner or their agent

This Bylaw shall come into force and effect _____.

Read a first time this _____day of _____, A.D., _____.

Read a second time this _____day of_____, A.D., _____.

Read a third time and finally passed this _____day of _____, A.D., _____.

_____

REEVE

_____

CHIEF ADMINISTRATIVE OFFICER

REQUEST FOR DECISION

SUBJECT:	**Bylaw 15-757 / SE-7-71-20-W5**				
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION			
MEETING DATE:	April 12, 2016	CAO:	INT	MANAGER:	INT
DEPARTMENT:	INFRASTRUCTURE & PLANNING/PLANNING & DEVELOPMENT	GM:	INT	PRESENTER:	DP
FILE NO./LEGAL:	A15-014 / SE-7-71-20-W5			LEGAL/ POLICY REVIEW:	INT
STRATEGIC PLAN:				FINANCIAL REVIEW:	

RELEVANT LEGISLATION:

Provincial (Cite) – *Municipal Government Act, Division 12, Bylaws, Regulations, Planning Bylaws 692 (1) - (9).*

In accordance with Section 692 of the Municipal Government Act (MGA), prior to giving Second Reading to a Bylaw, Council must hold a Public Hearing. Section 606 of MGA outlines the requirements for advertising, stating that Notice of the Bylaw must be published at least once a week for two consecutive weeks in at least one newspaper or other publication circulating in the area to which the proposed bylaw relates and at least five days prior to the meeting, or mailed or delivered to every residence in the area to which the proposed Bylaw is to be held.

Council Bylaw / Policy (Cite) – *Municipal District of Greenview No. 16 Land Use Bylaw 03-396: Section 8, Amending this Bylaw; 8.1, Contents of Amendment Application; and 8.2, The Amendment Process.*

Municipal Development Plan Bylaw No. 03-397: Section 1, 1.2 Goals of the Plan, Section 3 Agriculture, and Section 4 Country Residential

Section 3.4.1 –On those lands that are not defined as better agricultural lands, or that are considered exceptions by the Municipal District to the definition of better agricultural land by virtue of slope, configuration, surrounding land use or size, the Municipal District may allow the subdivision and/or development of non-agricultural uses.

Section 4.1, Objectives – (a) To ensure that country residential developments are properly serviced and situated in appropriate locations; (b)To meet the need and demand for properly serviced country residential lots throughout the Municipal District ; (c)To ensure that country residential development does not negatively impact on surrounding land uses or on the Municipal District's infrastructure.

Section 4.2.1 – Country residential development shall not occur on better agricultural land except for farmstead separations, first parcels out, and fragmented parcels.

Section 4.2.2 – The proposed size of a country residential parcel shall be dependent upon minimum water and sewage capabilities, and other site features. Ideally, parcel sizes should range from 3 to 10 acres. Farmstead separations may occasionally be allowed to exceed the 10 acre maximum lot size if the extra land is required to accommodate improvements such as water supplies, farm buildings and shelterbelts and the like.
Section 4.2.3 – Proposals for country residential subdivisions shall not be supported in proximity to existing confined feeding operations and other intensive agricultural uses.

Section 4.2.5 – Country residential subdivisions and developments must have consideration for the following factors and may be supported if the following conditions can be met: (a) the land has low capability for agricultural use; (b) the land has a demonstrated ability to accommodate on-site water and sewer services; (c) the proposal does not conflict with existing surrounding agricultural uses; (d) the parcel offers a suitable building site; (e) significant recreational or environmental areas should not be negatively impacted; (f) the site has access to the satisfaction of the Municipal District; and (e) the proposed development does not unduly hinder future extraction of known natural resources.

RECOMMENDED ACTION:

MOTION: That Council give Second Reading to Bylaw No. 15-757, to re-designate a 5.85 hectare ± (14.7 acre) area within SE-7-71-20-W5 from Agriculture (A) District to Country Residential One (CR-1) District, as per attached Schedule 'E'.

MOTION: That Council give Third Reading to Bylaw No. 15-757, to re-designate a 5.85 hectare ± (14.7 acre) area within SE-7-71-20-W5 from Agriculture (A) District to Country Residential One (CR-1) District, as per attached Schedule 'E'.

BACKGROUND / PROPOSAL:

Land Use Amendment application A15-014 has been submitted by Danger Tech Inc. (Applicant) and is a request for the reclassification of 5.95 hectares ± (14.7 acres) of land located at SE-07-71-20-W5 (Sunset House, Ward 4) as Country Residential One (CR-1). The land is currently part of a 146.71 acre parcel that is owned by Brent and Olga Fournier (Landowners) and classified as Agriculture (A). The proposed re-designation would enable the 146.71 acre parcel to be subdivided into a 14.7 acre Country Residential lot that could be sold to the Applicant to be developed as a Farmstead and a 132.01 acre Balance of Quarter where farming activities could continue.

The Quarter Section on which the Land Use Amendment would occur has previously been subdivided via S11-010, which created a 10.0 Acre First Parcel Out that is still classified as Agriculture (A). The Balance of Quarter, First Parcel Out and Proposed Parcel all have pre-existing approaches that do not require upgrading. However, a 5.03 metre Road Widening would be required along the district road (Range Road 205) that runs along the eastern boundary of the Quarter Section.

The Land Use Amendment proposed by the Applicant could help the Municipal District of Greenview No. 16 (Greenview) meet goals and objectives stated in the Municipal Development Plan (MDP) by allowing for population growth and satisfying a local need for Country Residential lots (i.e. Section 1.2.1(C), 1.3.2(E) and 4.1(B)). As the proposed reclassification would result in the loss of Better Agricultural Land and the proposed Country Residential One parcel would be greater than 10 acres, the Application would also fail to fully comply with the MDP (i.e. Section

1.2.1(C)(i), 4.2.2 and 4.2.5(a)). With the proposed Country Residential One parcel being located in a corner of the Quarter Section that is kitty corner to the location of the Quarter Section's First Parcel Out, the Subdivisions would not be clustered as Greenview will be recommending in the next MDP. However, a dwelling unit and accessory buildings have already been permitted on the site of the proposed Farmstead and this may be considered evidence of the farmstead meeting siting requirements stated in the MDP (Sections 4.2.5(b)(d)(f)).

During the Internal and External Circulations of the Application, no concerns were raised aside from Public Works noting that a Road Widening will be required for future Subdivision.

OPTIONS – BENEFITS / DISADVANTAGES:

Option – 1. That Council consider the information from the Public Hearing and grant Second and Third Readings to Bylaw No. 15-757.

Option - 2. That Council table Bylaw No. 15-757 for further discussion or information.

Option – 3. That Council consider the information from the Public Hearing and defeat Second Reading to Bylaw No. 15-757.

Benefits – The benefits are that rezoning would allow the Landowner to increase the residential opportunities available in Greenview through a future subdivision.

Disadvantages - The disadvantages are that rural residential is an unsustainable method of housing when Council considers costs of servicing, servicing levels, as well as service delivery.

COSTS / SOURCE OF FUNDING:

The application has been endorsed by the applicant as well as the appropriate fees have been received as required.

ATTACHMENT(S):

- Schedule 'A' – Application and Sketch
- Schedule 'B' – Location Map
- Schedule 'C' – Farmland Report and Map
- Schedule 'D' – Referral Responses
- Schedule 'G' – Bylaw No. 15-757

Schedule 'A'
Application and Sketch

LAND USE AMENDMENT APPLICATION – FORM A

Municipal District of Greenview
4806 – 36 Avenue, Box 1079, Valleyview AB T0H 3N0
T 780.524.7600 F 780.524.4307 Toll Free 1.866.524.7608
www.mdgreenview.ab.ca

Rec'd Sep. 24/15 gw

FOR ADMINISTRATIVE USE

LUB MAP NO. 241	BYLAW NO.
APPLICATION NO. A15-014	
RECEIPT NO. 213879	
ROLL NO. 178961	
RFLA RATING 26 %	

Complete if Different from Applicant

NAME OF APPLICANT(S) DANGER TECH INC.		NAME OF REGISTERED LANDOWNER(S) BRENT FOURNIER	
ADDRESS Box 2215, Valleyview, AB		ADDRESS	
POSTAL CODE ~~AB~~ T0H 3N0	TELEPHONE (Res.) Harvey Gaboury cell 780-524-8749 (Bus.) 2	POSTAL CODE T0H	TELEPHONE (Res.) 780 (Bus.)

Kristi Gaboury cell - 780-552-6023

Legal description of the land affected by the proposed amendment

QTR./L.S.	SEC	TWP.	RG.	M.	OR	REGISTRATION PLAN NO.	BLOCK	LOT
SE	7	71	20	5				

Land Use Classification for Amendment Proposed:

FROM: AG	TO: CR-1

Reasons Supporting Proposed Amendment:

Subdivide off 15 acre homesite ~~for~~ from Remaining Quarter. 10 acre parcel already subdivided off Southwest corner.

Physical Characteristics: Mostly Flat.

Describe Topography: Trees / Grazing Grass	Vegetation:	Soil: Clay Topsoil

Water Services:

Existing Source: Dug-out	Proposed Water Source: no change

Sewage Services:

Existing Disposal: Holding Tank / Pump out	Proposed Disposal: no change

Approach(s) Information:

Existing: homesite has 2, farmland has 1	Proposed: no change

☒ I / We have enclosed the required Application Fee of $ 800.00.

Date: Sept. 3/15 Applicant(s): Danger Tech Inc. Shareholders Kristy Gaboury

Date: Sept. 3/15 Registered Landowner(s):

Abandoned Well Search Sep 25/15 NOTE: Registered Landowner(s) Signatures required if c

Any personal information that the Municipal District of Greenview may collect on this form is in compliance with Information and Protection of Privacy Act. The information collected is required for the purpose of carrying out an the Municipality, in particular for the purpose of our Development program. If you have any questions about the Freedom of Information and Protection of Privacy Coordinator at 780-524-7600.

need both because that way all the signatures are covered.

Schedule 'A'
Application and Sketch

WATER & SEWER SERVICE INFORMATION – FORM C

Municipal District of Greenview
4806 – 36 Avenue, Box 1079, Valleyview AB T0H 3N0
T 780.524.7600 F 780.524.4307 Toll Free 1.866.524.7608
www.mdgreenview.ab.ca

Please note below the type of water supply and sewage disposal that is either **Existing** or **Proposed** for the lots indicated on the sketch accompanying your application. *(The location of these facilities must be accurately indicated on the sketch.)*

Please indicate if the Water and Sewer Services are existing or proposed by entering the initial as follows:

E – for Existing or **P – for Proposed** in the appropriate box.

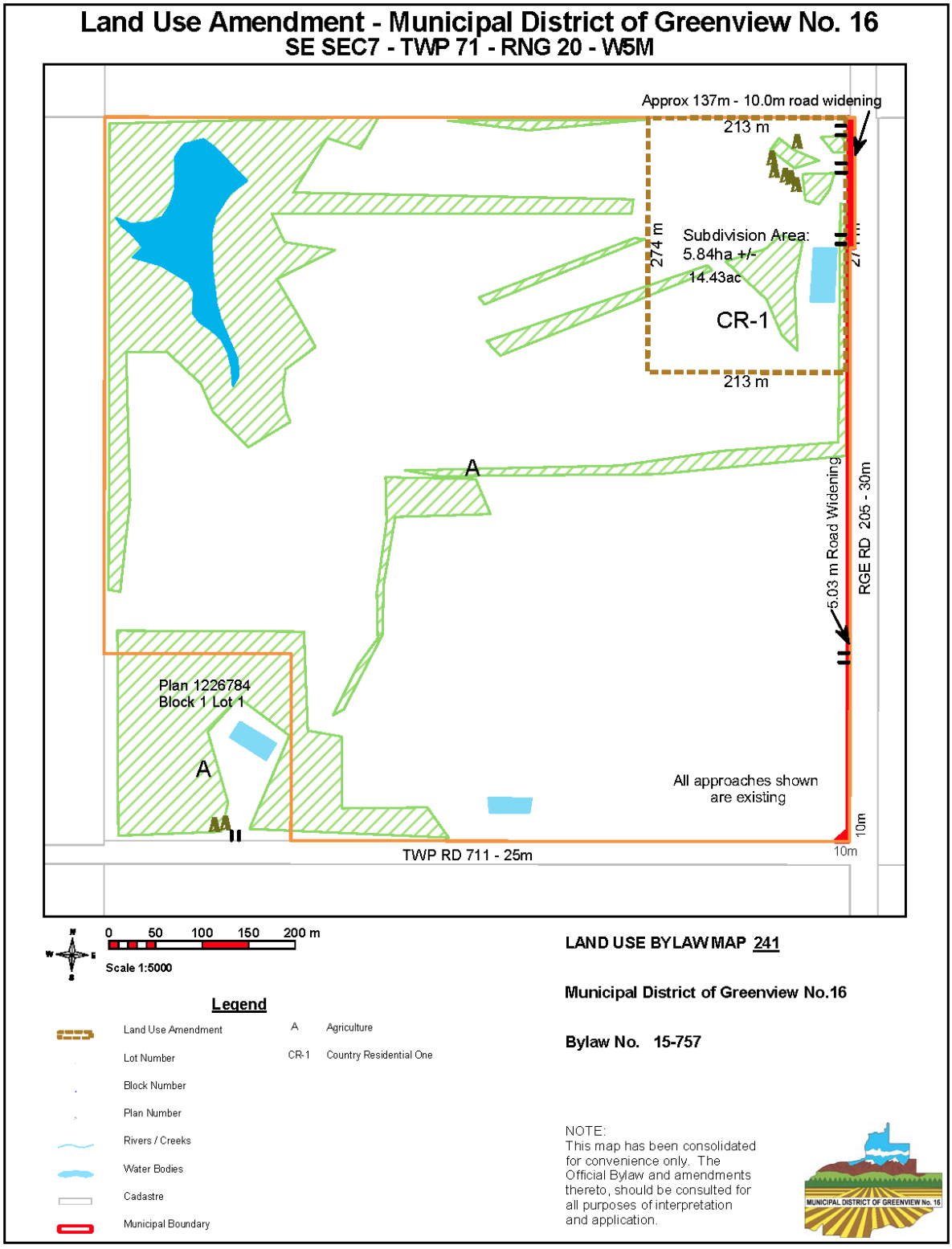
TYPE OF WATER SUPPLY	1st Parcel	2nd Parcel	Balance of Quarter
Dugout			
Well			
Cistern & Hauling	E		
Municipal Service	—		
Other *(Please Specify)*			

TYPE OF SEWAGE DISPOSAL	1st Parcel	2nd Parcel	Balance of Quarter
Open Discharge / Pump-out	E		
Septic tank / Holding Tank	E		
Tile Field / Evaporation Mound			
Sewage Lagoon			
Municipal Service			
Other *(Please Specify)*			

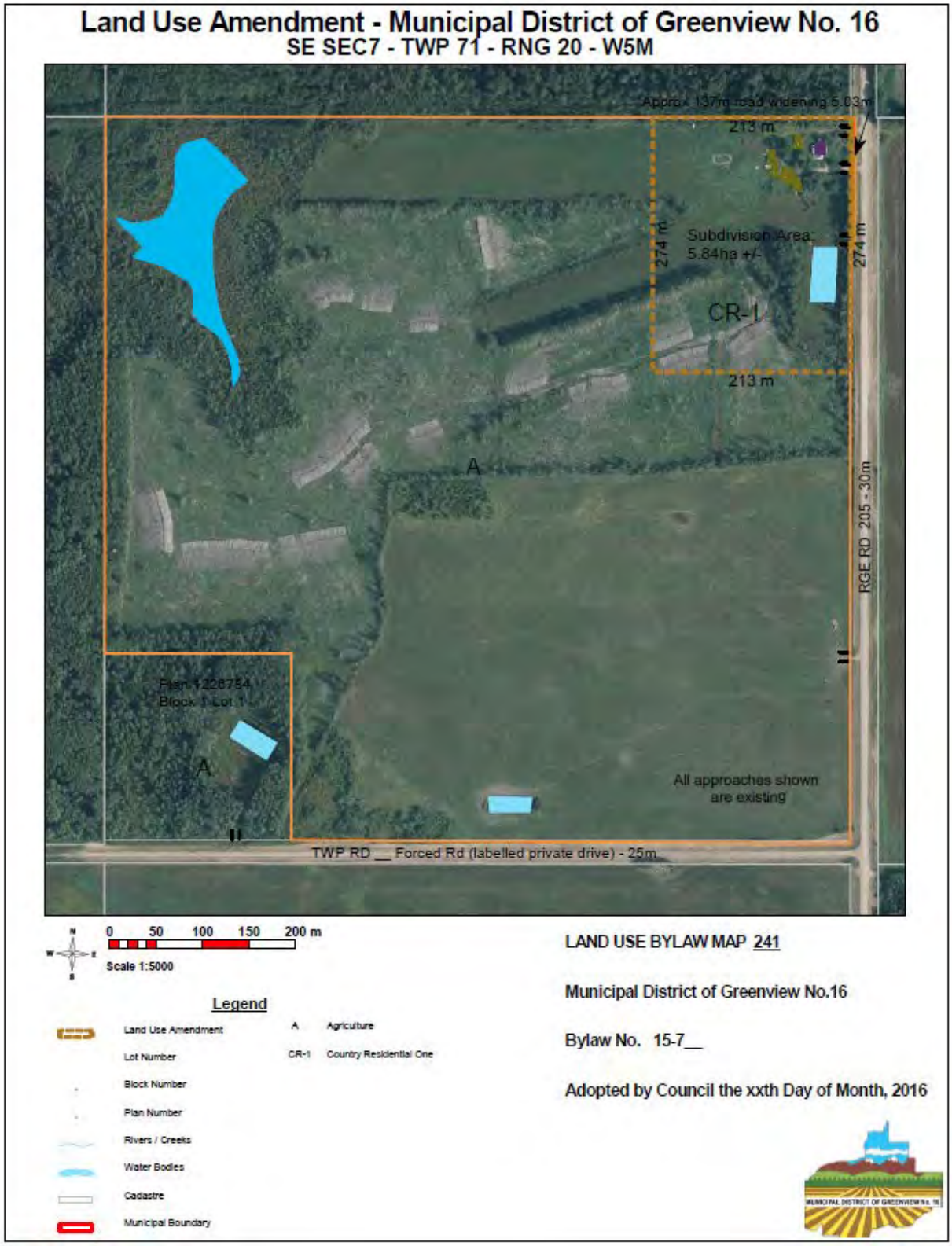
Provide Measurements in Feet/Meters

	To Proposed East Boundary	To Proposed West Boundary	To Proposed North Boundary	To Proposed South Boundary	Water Source	Sewage System
From Residence	23.5	177	29	245	N/A	21
From Water Source	N/A	—	—	—	N/A	—
From Sewage System	55	158	40	234	N/A	N/A
Any other water course	N/A					

Schedule 'A'
Application and Sketch



Schedule 'A' – Application and Sketch



Schedule 'B' – Owner Location Map

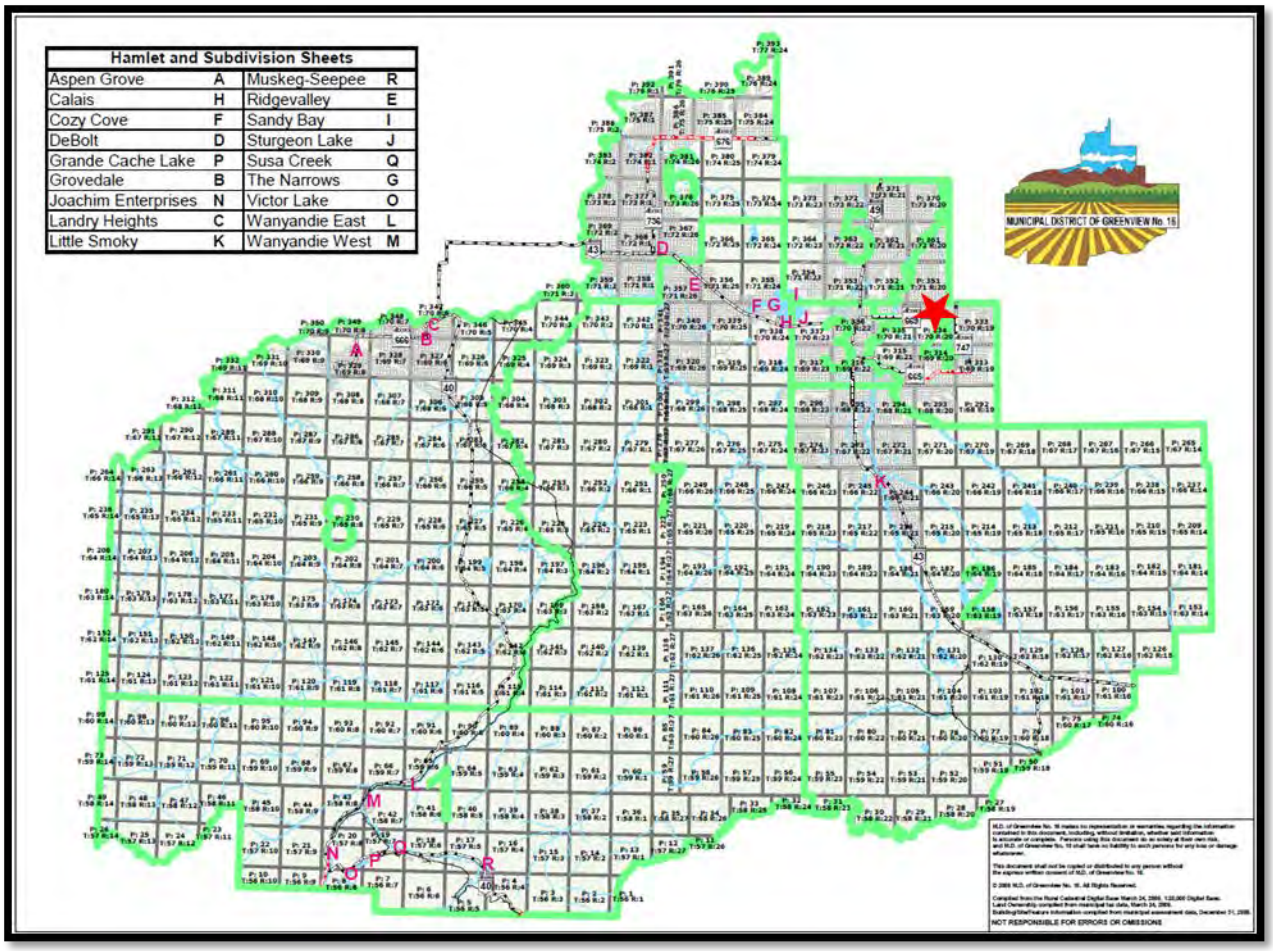
FILE NO. A15-014
APPLICANT: DANGER TECH INC.
(HARVEY GABOURY KRISTI GABOURY)

LEGAL LOCATION: SE-7-71-20-W5
LANDOWNER:OLGA FOURNIER AND BRENT FOURNIER

Township 71, Range 20

M.D. of Greenview No. 16

Schedule 'B' – Owner Location Map



Schedule 'C' – Farmland Report and Map

FILE NO. A15-014 **LEGAL LOCATION: SE-7-71-20-W5**

APPLICANT: DANGER TECH INC. **LANDOWNER:OLGA FOURNIER AND BRENT FOURNIER**

(HARVEY GABOURY KRISTI GABOURY)

Farmland Calculation Report

Year of General Assessment: 2014

Roll: 178961 Alt. Key: VALLEYVIEW 12 miles 90%
Legal: SE-7-71-20-5 Access: 100%
Agroclimatic Zone: 21 2H-PR Photo:71203 Type: Net Location: 90%

No: 1 19.70 Acres Soil: 62 GL Dryland Arable Adjusted Rating: 41.0%

%Fld			Group	Surface		Subsoil		Texture		NPR
50	DON	12 DONNELLY GL	GL 55	AP0-1	-2	C-HC	-9	SIL-L	-2	42.0
50	DON	23 DONNELLY GL	GL 55	AP1	-3	C-HC	-9	SIL	-3	40.0

Adjusted Rating: 41.0

			%Fld	NPR	ICP
71	Topography	6 U	50 100%	0.0	-1.0
72	Stone Cover	21 S0-S1 (avg)	50 100%	0.0	-1.5
73	Miscellaneous	2 Irreg. / Size	5 100%	0.0	-5.0
				0.0	-7.5

Group ID: 138038379 19.70 Acres x 350.0 Acres x 1.0000 x 33.5 % =

No: 2 30.70 Acres Soil: 42 DG Dryland Arable Adjusted Rating: 56.1%

%Fld			Group	Surface		Subsoil		Texture		NPR
44	ESH	12 ESHER DG	DG 70	AP0-1	-2	CHCS	-11	SILCL	0	57.0
33	ESH	22 ESHER DG	DG 70	AP1	-4	CHCS	-11	SILCL	0	55.0
23	SNP	21 SNIPE DG	DG 70	AP1	-4	C-HC	-6	CL-C	-4	56.0

Adjusted Rating: 56.1

			%Fld	NPR	ICP
44	Poorly Drained	1 P0-P1 (avg)	50 33%	-1.3	0.0
44	Poorly Drained	2 P1	50 9%	-0.7	0.0
44	Poorly Drained	3 P1-P2 (avg)	50 23%	-3.2	0.0
63	Frost/Grade Var.	5 GRF	50 23%	-1.6	0.0
64	Flooding	1 FD1	50 44%	-1.3	0.0
64	Flooding	2 FD2	50 33%	-2.0	0.0
64	Flooding	3 FD3	50 23%	-2.1	0.0
71	Topography	3 L-GU	50 56%	0.0	0.0
71	Topography	4 GU	50 44%	0.0	0.0
72	Stone Cover	20 S0	50 100%	0.0	0.0
73	Miscellaneous	2 Irreg. / Size	5 100%	0.0	-5.0
				-12.2	-5.0

Group ID: 138038379 30.70 Acres x 350.0 Acres x 1.0000 x 38.9 % =
Group Summary: 50.40 Acres 36.8 %

No: 3 13.00 Acres Soil: 80 Pasture Dryland Pasture

			%Fld	NPR	ICP
10	Soil Group	42 DG	50 60%	0.0	0.0
10	Soil Group	62 GL	50 40%	0.0	0.0
82	Improved	10 10 Ac/AU	50 100%	37.0	0.0
99	Description	22 Obstacles/Size	50 100%	0.0	0.0
				37.0	0.0

Group ID: 138038380 13.00 Acres x 350.0 Acres x 1.0000 x 37.0 % =

No: 4 80.31 Acres Soil: 80 Pasture Dryland Pasture

			%Fld	NPR	ICP
81	Native	60 60 Ac/AU	50 100%	6.0	0.0
99	Description	9 Trees	50 100%	0.0	0.0
				6.0	0.0

Group ID: 138038381 80.31 Acres x 350.0 Acres x 1.0000 x 6.0 % =

Areas		Asmt Code		Areas	
Parcel:	146.71	300	100%	Arable Dry:	50.40
@ F/L Rates:	143.71			Arable Irr:	0.00
				Pasture Dry:	93.31
				Pasture Irr:	0.00
				Waste:	0.00


Pasture Rating 37
Pasture Rating 6
Arable Rating 37

Schedule D' – Referral Responses

From: LandInquiries@atcoelectric.com
To: Jenny Cornelsen
Subject: AEL2015-1427/A15-014 Danger Tech Notice to Referrals
Date: November 20, 2015 3:29:44 PM

Good Afternoon:

ATCO Electric has no comments or concerns with this application. Thank you

Karen Diaz- Hernandez
Land Administrator | **Land Administration**
ATCO *Electric* Ltd. | **Distribution | Forest & Lands Management**
18th Floor Canadian Western Bank Building
10303 Jasper Ave, Edmonton AB T5J 5C3
phone: 780-509-2094 | fax: 780-509-9220
email: Karen.Diaz-Hernandez@atcoelectric.com

Schedule 'D' – Referral Responses

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

NOTICE TO REFERRAL AGENCIES

Faxed:	**October 26, 2015**	**File No.:**	**A15-014**
Legal Description:	**SE-7-71-20-W5**		
Applicant:	**DANGER TECH INC.**		

PROPOSED LAND USE AMENDMENT: AGRICULTURE - A to COUNTRY RESIDENTIAL ONE - CR-1

Please provide your comments on the **PROPOSED LAND USE AMENDMENT AND SUBSEQUENT SUBDIVISION** in the space provided below or attach any additional comments on a separate sheet. If you have any questions regarding the attached, please contact our office. Deadline for your written comments: Monday, November 2, 2015 insofar as your agency is concerned. See Sketch attached.

If no comment is received by the above-specified date, it will be deemed as 'no objection'.

If you have any questions regarding the attached, please contact Planning and Development Manager Sally Ann Rosson at 780.524.7600 or sally.rosson@mdgreenview.ab.ca.

COMMENTS: No concerns

NAME (PLEASE PRINT) Gary Couch **SIGNATURE**

Please check box for corresponding referral agency

Circulated to:

- ☐ M.D. General Manager, Infrastructure & Planning - Grant Gyurkovits: grant.gyurkovits@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Manager, Construction & Maintenance - Kevin Sklapsky: kevin.sklapsky@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Construction Project Supervisor - Chad McMillan: chad.mcmillan@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Manager, Agricultural Services - Quentin Bochar: quentin.bochar@mdgreenview.ab.ca; (780) 524-5237
- ☑ M.D. Manager, Environmental Services - Gary Couch: gary.couch@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Roads Supervisor East - Norm Patterson: Norm.Patterson@mdgreenview.ab.ca; (780) 524-5237
- ☐ Alberta Culture and Tourism (CT) - Rebecca Traquair: Historical.Lup@gov.ab.ca;
- ☐ Alberta Environment and Parks (AEP) - Jack McNaughton: Jack.McNaughton@gov.ab.ca; (780) 624-6180

Administration Office	Operations Building	Family & Community Support Services	Grovedale Sub-Office	Grande Cache Sub-Office
Box 1079, 4806-36 Ave Valleyview, AB T0H 3N0 Phone: 780.524.7600 Fax: 780.524.4307	Box 1079, 4802-36 Ave Valleyview, AB T0H 3N0 Phone: 780.524.7602 Fax: 780.524.5237	Box 1079, 4707-50th Street Valleyview, AB T0H 3N0 Phone: 780.524.7603 Fax: 780.524.4130	Box 404, Lot 9, Block 1, Plan0728786, Grovedale, AB T0H 1X0 Phone: 780.539.7337 Fax: 780.539.7711	Box 214, 10028-99st Street Grande Cache, AB T0E 0Y0 Phone: 780.827.5155 Fax: 780.827.5143

Toll Free: 1.888.524.7601 www.mdgreenview.ab.ca

Schedule 'D' – Referral Responses

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

NOTICE TO PUBLIC WORKS

File No.: A15-014
Applicant: DANGER TECH INC.
Legal Description: SE-7-71-20-W5

☑ Approach to Proposed Parcel Exists ☑ Yes ☐ No

Comments: NO UPGRADE REQUIRED

☑ Approach to Balance Exists ☑ Yes ☐ No

Comments: NO UPGRADE REQUIRED

☑ Road Widening Required ☑ Yes ☐ No

Details: ***5.03 m*** on TOWNSHIP ROAD _____ and/or RANGE ROAD 205

Comments: _____

☑ Drainage Concerns: NONE

Other: _____

FINAL COMMENTS PRIOR TO ENDORSING PLAN:

Reviewed By:

Public Works Representative Signature

Dec 2 2015
Date

NORM PATTERSON
Print Name

M.D. of Greenview No. 16
Application Number: A15-014

Page 1 of 1

Schedule 'D' – Referral Responses

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

NOTICE TO REFERRAL AGENCIES - PUBLIC HEARING

OWNER: BRENT FOURNIER AND OLGA FOURNIER
APPLICANT: DANGER TECH INC (GABOURY)
LEGAL: SE-7-71-20-W5

FILE NO. A15-014

FAXED: March 14, 2016

PROPOSED LAND USE AMENDMENT: A - AGRICULTURE District to CR-1 - COUNTRY RESIDENTIAL ONE District

Please be advised that a Public Hearing has been scheduled for the above-mentioned Land Use Bylaw ***and subsequent Subdivision***. The purpose of the application is to rezone from AGRICULTURE (A) to COUNTRY RESIDENTIAL ONE (CR-1). The Hearing is scheduled for:

10:00 a.m. on April 12, 2016,
in the Council Chambers, M.D. Administration Office, Valleyview, Alberta.

If you wish to attend the Public Hearing or have any concerns with the application, please notify me **prior to noon on April 04, 2016. Your previous comments will be reviewed at the Public Hearing.**

If you have any questions or concerns, please call Sally Ann Rosson at the number provided.

Additional Comments: No Concerns

NOTE: Comments received may be deemed public information.
NAME (PLEASE PRINT) Bill Harder **SIGNATURE**

Please check box for corresponding referral agency

Circulated to:

- ☐ M.D. General Manager, Infrastructure & Planning - Grant Gyurkovits - Fax: (780) 524-4432 - Email: grant.gyurkovits@mdgreenview.ab.ca
- ☐ M.D. Manager, Construction & Maintenance - Kevin Sklapsky - Fax: (780) 524-4432 - Email: kevin.sklapsky@mdgreenview.ab.ca
- ☐ M.D. Construction Project Supervisor - Chad McMillan - Fax: (780) 524-4432 - Email: chad.mcmillan@mdgreenview.ab.ca
- ☐ M.D. Manager, Agricultural Services - Quentin Bochar - Fax: (780) 524-5237 - Email: quentin.bochar@mdgreenview.ab.ca
- ☐ M.D. Manager, Operations - Gord Meaney - Fax: - Email: gord.meaney@mdgreenview.ab.ca
- ☐ M.D. Manager, Environmental Services - Gary Couch - Fax: (780) 524-4432 - Email: gary.couch@mdgreenview.ab.ca
- ☐ M.D. Roads Supervisor East - Norm Patterson - Fax: (780) 524-5237 - Email: Norm.Patterson@mdgreenview.ab.ca
- ☐ Alberta Culture and Tourism (CT) - Rebecca Traquair - Fax: - Email: Historical.Lup@gov.ab.ca
- ☐ Alberta Environment and Parks (AEP) - Jack McNaughton - Fax: (780) 624-6180 - Email: Jack.McNaughton@gov.ab.ca
- ☐ Alberta Environment and Parks (AEP) - James Proudfoot - Fax: (780) 538-5522 - Email: James.Proudfoot@gov.ab.ca

Administration Office	Operations Building	Family & Community Support Services	Grovedale Sub-Office	Grande Cache Sub-Office
Box 1079, 4806-36 Ave	Box 1079, 4802-36 Ave	Box 1079, 4707-50th Street	Box 404, Lot 9, Block 1, Plan 0728786,	Box 214, 10028-99st Street
Valleyview, AB T0H 3N0	Valleyview, AB T0H 3N0	Valleyview, AB T0H 3N0	Grovedale, AB T0H 1X0	Grande Cache, AB T0E 0Y0
Phone: 780.524.7600	Phone: 780.524.7602	Phone: 780.524.7603	Phone: 780.539.7337	Phone: 780.827.5155
Fax: 780.524.4307	Fax: 780.524.5237	Fax: 780.524.4130	Fax: 780.539.7711	Fax: 780.827.5143

Toll Free: 1.888.524.7601 www.mdgreenview.ab.ca

[redacted]

2016-03-23 00:24 EASTSMOKYGASCOOP 17809572S4 >> 780 524-4307 p 2/2

REQUEST FOR DECISION

SUBJECT:	**Bylaw 15-757 / SE-7-71-20-W5**				
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION			
MEETING DATE:	April 12, 2016	CAO:	INT	MANAGER:	INT
DEPARTMENT:	INFRASTRUCTURE & PLANNING/PLANNING & DEVELOPMENT	GM:	INT	PRESENTER:	DP
FILE NO./LEGAL:	A15-014 / SE-7-71-20-W5			LEGAL/ POLICY REVIEW:	INT
STRATEGIC PLAN:				FINANCIAL REVIEW:	

RELEVANT LEGISLATION:

Provincial (Cite) – *Municipal Government Act, Division 12, Bylaws, Regulations, Planning Bylaws 692 (1) - (9).*

In accordance with Section 692 of the Municipal Government Act (MGA), prior to giving Second Reading to a Bylaw, Council must hold a Public Hearing. Section 606 of MGA outlines the requirements for advertising, stating that Notice of the Bylaw must be published at least once a week for two consecutive weeks in at least one newspaper or other publication circulating in the area to which the proposed bylaw relates and at least five days prior to the meeting, or mailed or delivered to every residence in the area to which the proposed Bylaw is to be held.

Council Bylaw / Policy (Cite) – *Municipal District of Greenview No. 16 Land Use Bylaw 03-396: Section 8, Amending this Bylaw; 8.1, Contents of Amendment Application; and 8.2, The Amendment Process.*

Municipal Development Plan Bylaw No. 03-397: Section 1, 1.2 Goals of the Plan, Section 3 Agriculture, and Section 4 Country Residential

Section 3.4.1 –On those lands that are not defined as better agricultural lands, or that are considered exceptions by the Municipal District to the definition of better agricultural land by virtue of slope, configuration, surrounding land use or size, the Municipal District may allow the subdivision and/or development of non-agricultural uses.

Section 4.1, Objectives – (a) To ensure that country residential developments are properly serviced and situated in appropriate locations; (b)To meet the need and demand for properly serviced country residential lots throughout the Municipal District ; (c)To ensure that country residential development does not negatively impact on surrounding land uses or on the Municipal District's infrastructure.

Section 4.2.1 – Country residential development shall not occur on better agricultural land except for farmstead separations, first parcels out, and fragmented parcels.

Section 4.2.2 – The proposed size of a country residential parcel shall be dependent upon minimum water and sewage capabilities, and other site features. Ideally, parcel sizes should range from 3 to 10 acres. Farmstead separations may occasionally be allowed to exceed the 10 acre maximum lot size if the extra land is required to accommodate improvements such as water supplies, farm buildings and shelterbelts and the like.
Section 4.2.3 – Proposals for country residential subdivisions shall not be supported in proximity to existing confined feeding operations and other intensive agricultural uses.

Section 4.2.5 – Country residential subdivisions and developments must have consideration for the following factors and may be supported if the following conditions can be met: (a) the land has low capability for agricultural use; (b) the land has a demonstrated ability to accommodate on-site water and sewer services; (c) the proposal does not conflict with existing surrounding agricultural uses; (d) the parcel offers a suitable building site; (e) significant recreational or environmental areas should not be negatively impacted; (f) the site has access to the satisfaction of the Municipal District; and (e) the proposed development does not unduly hinder future extraction of known natural resources.

RECOMMENDED ACTION:

MOTION: That Council give Second Reading to Bylaw No. 15-757, to re-designate a 5.85 hectare ± (14.7 acre) area within SE-7-71-20-W5 from Agriculture (A) District to Country Residential One (CR-1) District, as per attached Schedule 'E'.

MOTION: That Council give Third Reading to Bylaw No. 15-757, to re-designate a 5.85 hectare ± (14.7 acre) area within SE-7-71-20-W5 from Agriculture (A) District to Country Residential One (CR-1) District, as per attached Schedule 'E'.

BACKGROUND / PROPOSAL:

Land Use Amendment application A15-014 has been submitted by Danger Tech Inc. (Applicant) and is a request for the reclassification of 5.95 hectares ± (14.7 acres) of land located at SE-07-71-20-W5 (Sunset House, Ward 4) as Country Residential One (CR-1). The land is currently part of a 146.71 acre parcel that is owned by Brent and Olga Fournier (Landowners) and classified as Agriculture (A). The proposed re-designation would enable the 146.71 acre parcel to be subdivided into a 14.7 acre Country Residential lot that could be sold to the Applicant to be developed as a Farmstead and a 132.01 acre Balance of Quarter where farming activities could continue.

The Quarter Section on which the Land Use Amendment would occur has previously been subdivided via S11-010, which created a 10.0 Acre First Parcel Out that is still classified as Agriculture (A). The Balance of Quarter, First Parcel Out and Proposed Parcel all have pre-existing approaches that do not require upgrading. However, a 5.03 metre Road Widening would be required along the district road (Range Road 205) that runs along the eastern boundary of the Quarter Section.

The Land Use Amendment proposed by the Applicant could help the Municipal District of Greenview No. 16 (Greenview) meet goals and objectives stated in the Municipal Development Plan (MDP) by allowing for population growth and satisfying a local need for Country Residential lots (i.e. Section 1.2.1(C), 1.3.2(E) and 4.1(B)). As the proposed reclassification would result in the loss of Better Agricultural Land and the proposed Country Residential One parcel would be greater than 10 acres, the Application would also fail to fully comply with the MDP (i.e. Section

1.2.1(C)(i), 4.2.2 and 4.2.5(a)). With the proposed Country Residential One parcel being located in a corner of the Quarter Section that is kitty corner to the location of the Quarter Section's First Parcel Out, the Subdivisions would not be clustered as Greenview will be recommending in the next MDP. However, a dwelling unit and accessory buildings have already been permitted on the site of the proposed Farmstead and this may be considered evidence of the farmstead meeting siting requirements stated in the MDP (Sections 4.2.5(b)(d)(f)).

During the Internal and External Circulations of the Application, no concerns were raised aside from Public Works noting that a Road Widening will be required for future Subdivision.

OPTIONS – BENEFITS / DISADVANTAGES:

Option – 1. That Council consider the information from the Public Hearing and grant Second and Third Readings to Bylaw No. 15-757.

Option - 2. That Council table Bylaw No. 15-757 for further discussion or information.

Option – 3. That Council consider the information from the Public Hearing and defeat Second Reading to Bylaw No. 15-757.

Benefits – The benefits are that rezoning would allow the Landowner to increase the residential opportunities available in Greenview through a future subdivision.

Disadvantages - The disadvantages are that rural residential is an unsustainable method of housing when Council considers costs of servicing, servicing levels, as well as service delivery.

COSTS / SOURCE OF FUNDING:

The application has been endorsed by the applicant as well as the appropriate fees have been received as required.

ATTACHMENT(S):

- Schedule 'A' – Application and Sketch
- Schedule 'B' – Location Map
- Schedule 'C' – Farmland Report and Map
- Schedule 'D' – Referral Responses
- Schedule 'G' – Bylaw No. 15-757

Schedule 'A'
Application and Sketch

LAND USE AMENDMENT APPLICATION – FORM A

Municipal District of Greenview
4806 – 36 Avenue, Box 1079, Valleyview AB T0H 3N0
T 780.524.7600 F 780.524.4307 Toll Free 1.866.524.7608
www.mdgreenview.ab.ca

Rec'd Sep. 24/15 gm

FOR ADMINISTRATIVE USE

LUB MAP NO. 241	BYLAW NO.
APPLICATION NO. A15-014	
RECEIPT NO. 213879	
ROLL NO. 178961	
RFLA RATING 26 %	

Complete if Different from Applicant

NAME OF APPLICANT(S)	NAME OF REGISTERED LANDOWNER(S)
DANGER TECH INC.	BRENT FOURNIER
ADDRESS Box 2215, Valleyview, AB	ADDRESS
POSTAL CODE T0H 3N0 / TELEPHONE (Res.) Harvey Gaboury cell 780-524-8749 (Bus.) 2 Kristi Gaboury cell - 780-552-6023	POSTAL CODE T0H / TELEPHONE (Res.) 780 (Bus.)

Legal description of the land affected by the proposed amendment

QTR./L.S.	SEC	TWP.	RG.	M.	OR	REGISTRATION PLAN NO.	BLOCK	LOT
SE	7	71	20	5				

Land Use Classification for Amendment Proposed:

FROM:	AG	TO:	CR-1

Reasons Supporting Proposed Amendment:
Subdivide off 15 acre homesite ~~for~~ from Remaining Quarter. 10 acre parcel already subdivided off Southwest corner.

Physical Characteristics: Mostly Flat.

Describe Topography: Trees + Grazing Grass	Vegetation:	Soil: Clay Topsoil

Water Services:

Existing Source: Dug-out	Proposed Water Source: no change

Sewage Services:

Existing Disposal: Holding Tank / Pump out	Proposed Disposal: no change

Approach(s) Information:

Existing: homesite has 2, farmland has 1	Proposed: no change

☒ I / We have enclosed the required Application Fee of $ 800.00.

Date: Sept. 3/15 Applicant(s) Danger Tech Inc. Shareholders Kristy Gaboury

Date: Sept. 3/15 Registered Landowner(s):

Abandoned Well Search Sep 25/15 NOTE: Registered Landowner(s) Signatures required if c

Any personal information that the Municipal District of Greenview may collect on this form is in compliance with Information and Protection of Privacy Act. The information collected is required for the purpose of carrying out an the Municipality, in particular for the purpose of our Development program. If you have any questions about the Freedom of Information and Protection of Privacy Coordinator at 780-524-7600.

need both because that way all the signatures are covered.

Schedule 'A'
Application and Sketch

WATER & SEWER SERVICE INFORMATION – FORM C

Municipal District of Greenview
4806 – 36 Avenue, Box 1079, Valleyview AB T0H 3N0
T 780.524.7600 F 780.524.4307 Toll Free 1.866.524.7608
www.mdgreenview.ab.ca

Please note below the type of water supply and sewage disposal that is either **Existing** or **Proposed** for the lots indicated on the sketch accompanying your application. *(The location of these facilities must be accurately indicated on the sketch.)*

Please indicate if the Water and Sewer Services are existing or proposed by entering the initial as follows:

E – for Existing or **P – for Proposed** in the appropriate box.

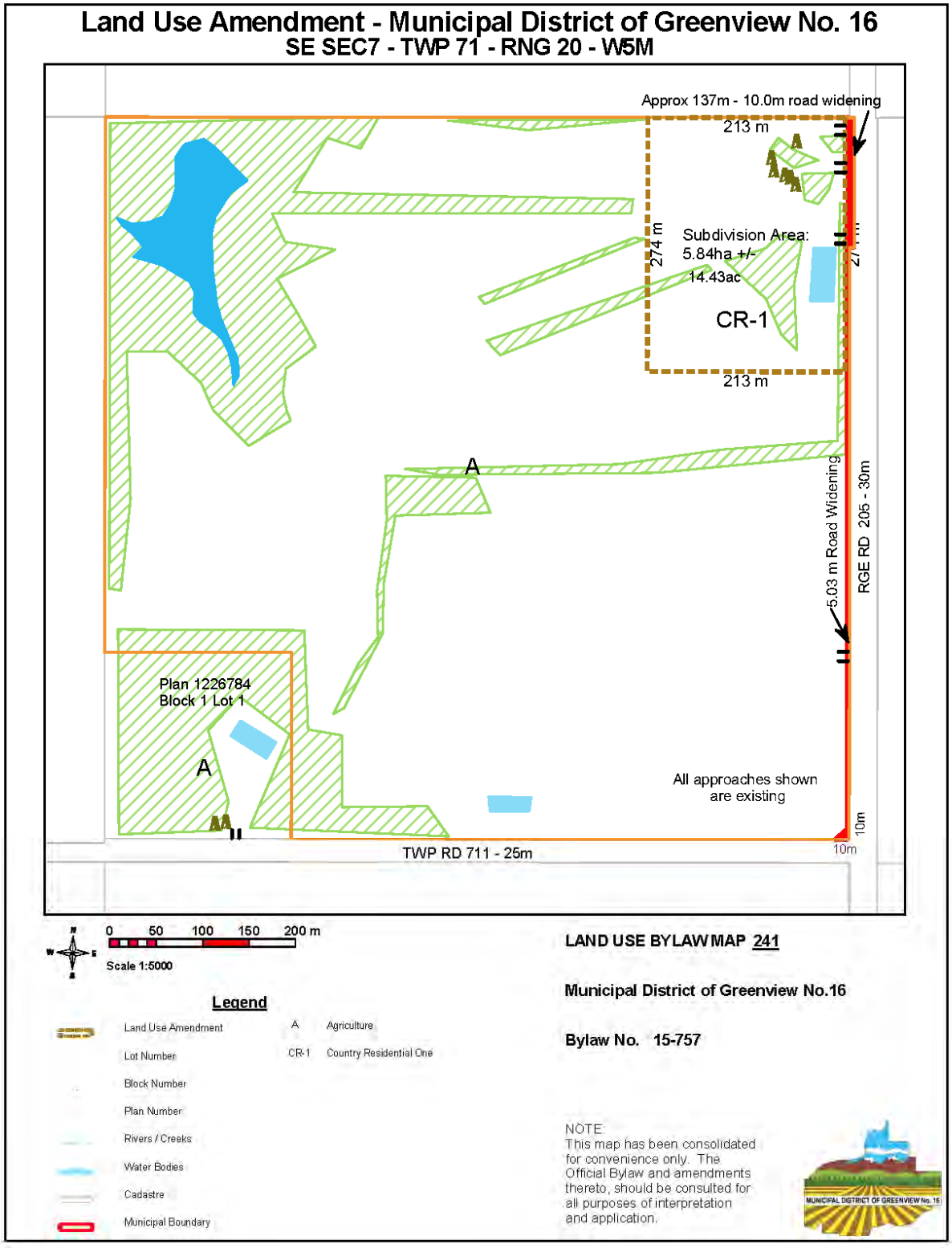
TYPE OF WATER SUPPLY	1st Parcel	2nd Parcel	Balance of Quarter
Dugout			
Well			
Cistern & Hauling	E		
Municipal Service	—		
Other *(Please Specify)*			

TYPE OF SEWAGE DISPOSAL	1st Parcel	2nd Parcel	Balance of Quarter
Open Discharge / Pump-out	E		
Septic tank / Holding Tank	E		
Tile Field / Evaporation Mound			
Sewage Lagoon			
Municipal Service			
Other *(Please Specify)*			

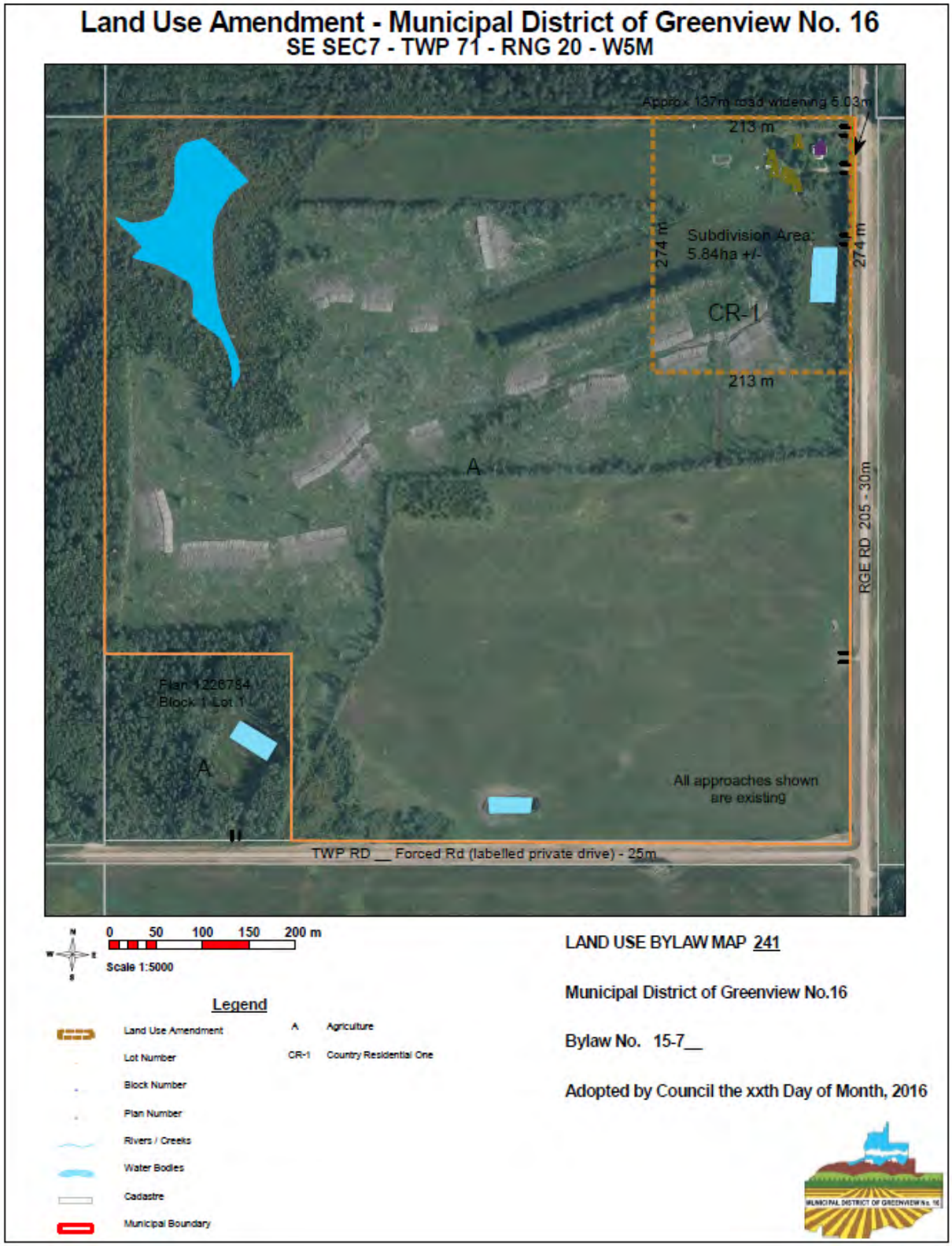
Provide Measurements in Feet/Meters

	To Proposed East Boundary	To Proposed West Boundary	To Proposed North Boundary	To Proposed South Boundary	Water Source	Sewage System
From Residence	23.5	177	29	245	N/A	21
From Water Source	N/A	—	—	—	N/A	—
From Sewage System	55	158	40	234	N/A	N/A
Any other water course	N/A					

Schedule 'A'
Application and Sketch



Schedule 'A' – Application and Sketch



MUNICIPAL DISTRICT OF GREENVIEW NO. 16

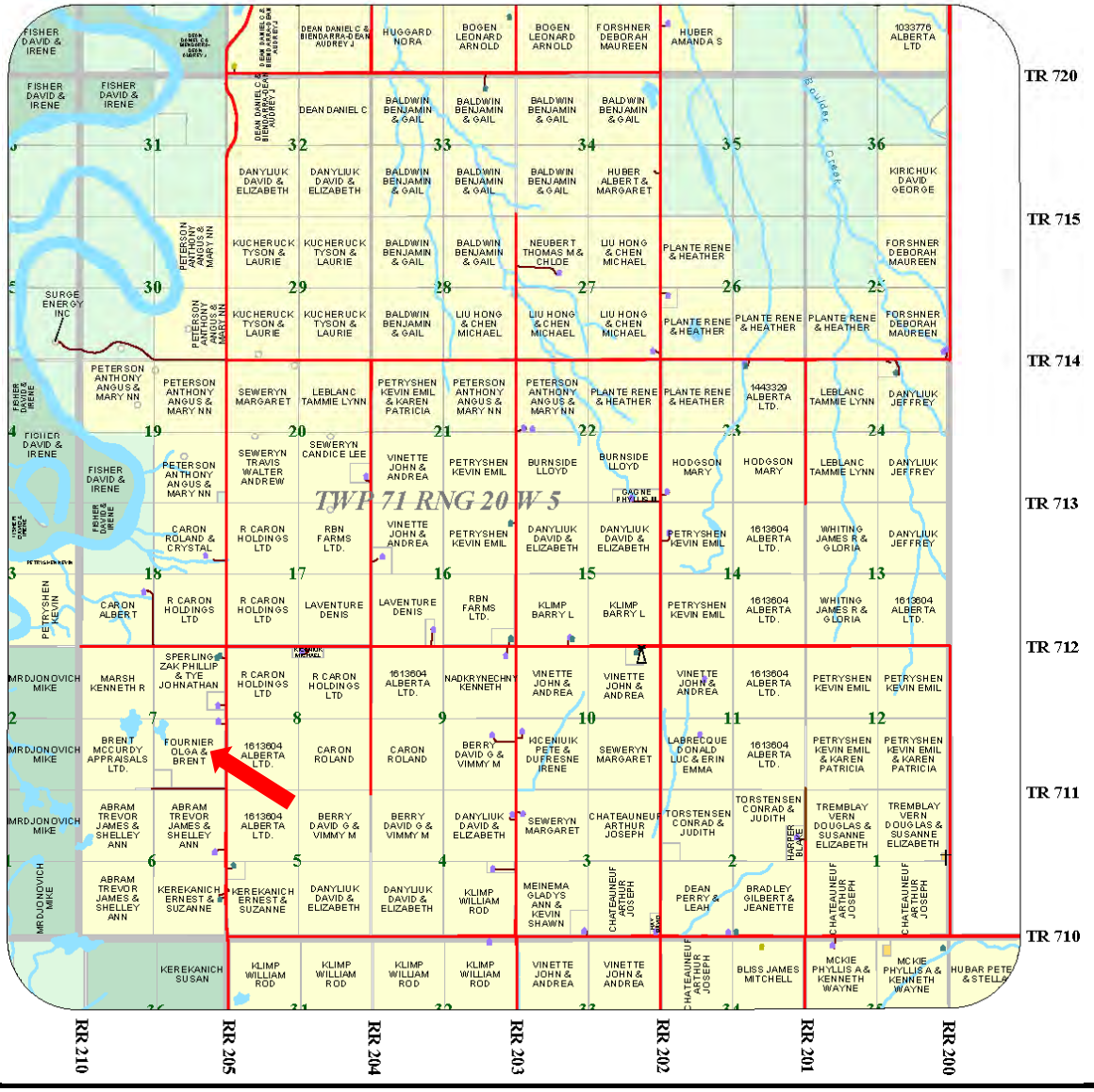
Schedule 'B' – Owner Location Map

FILE NO. A15-014
APPLICANT: DANGER TECH INC.
(HARVEY GABOURY KRISTI GABOURY)

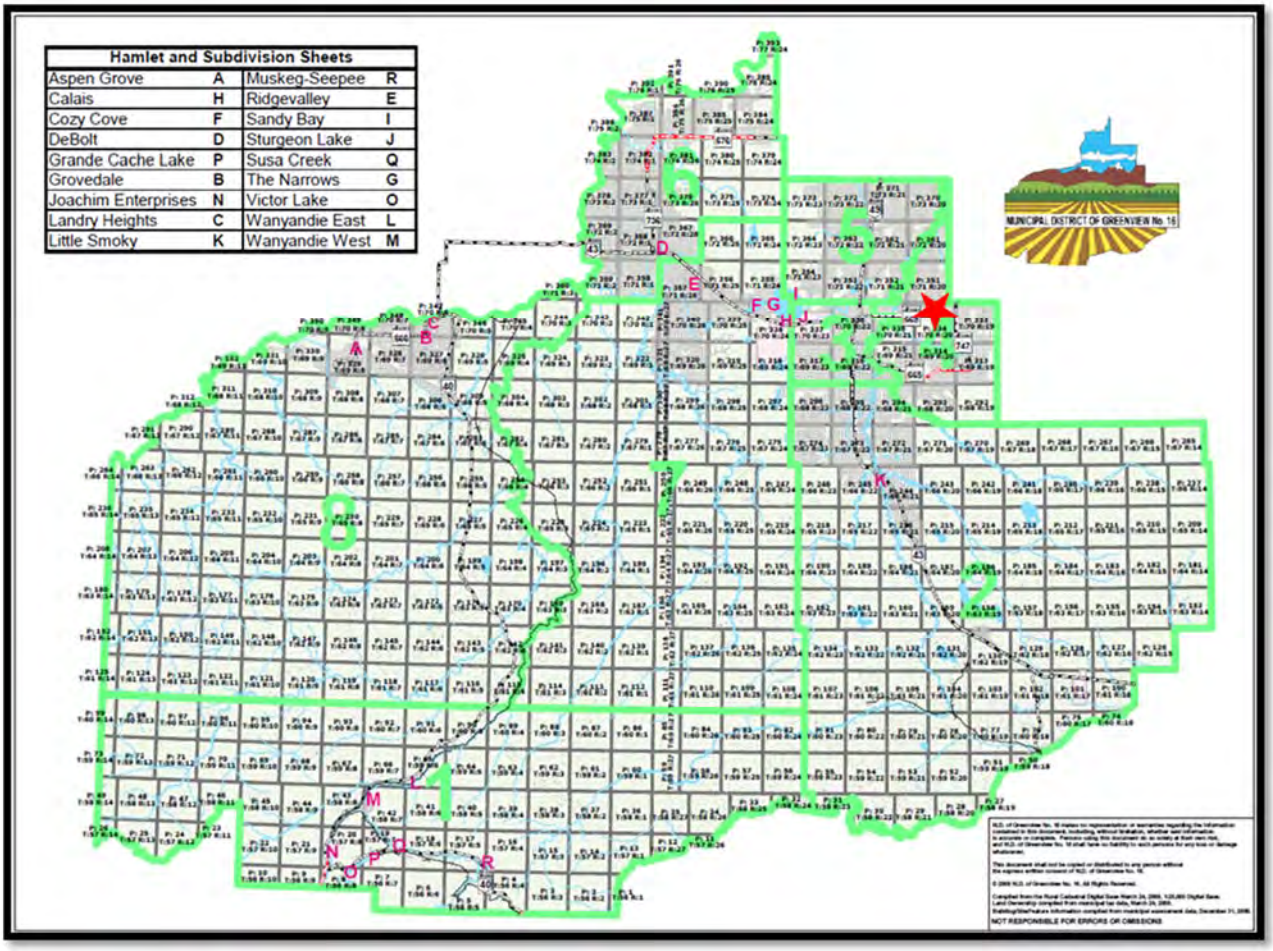
LEGAL LOCATION: SE-7-71-20-W5
LANDOWNER:OLGA FOURNIER AND BRENT FOURNIER

Township 71, Range 20

M.D. of Greenview No. 16



Schedule ‘B’ – Owner Location Map



Schedule 'C' – Farmland Report and Map

FILE NO. A15-014 **LEGAL LOCATION: SE-7-71-20-W5**

APPLICANT: DANGER TECH INC. **LANDOWNER:OLGA FOURNIER AND BRENT FOURNIER**

(HARVEY GABOURY KRISTI GABOURY)

Farmland Calculation Report

Year of General Assessment: 2014

Roll: 178961 Alt. Key: VALLEYVIEW 12 miles 90%
Legal: SE-7-71-20-5 Access: 100%
Agroclimatic Zone: 21 2H-PR Photo:71203 Type: Net Location: 90%

No: 1 19.70 Acres Soil: 62 GL Dryland Arable Adjusted Rating: 41.0%

%Fld			Group	Surface		Subsoil		Texture		NPR
50	DON	12 DONNELLY GL	GL 55	AP0-1	-2	C-HC	-9	SIL-L	-2	42.0
50	DON	23 DONNELLY GL	GL 55	AP1	-3	C-HC	-9	SIL	-3	40.0

Adjusted Rating: 41.0

			%Fld	NPR	ICP
71	Topography	6 U	50 100%	0.0	-1.0
72	Stone Cover	21 S0-S1 (avg)	50 100%	0.0	-1.5
73	Miscellaneous	2 Irreg. / Size	5 100%	0.0	-5.0
				0.0	-7.5

Group ID: 138038379 19.70 Acres x 350.0 Acres x 1.0000 x 33.5 % =

No: 2 30.70 Acres Soil: 42 DG Dryland Arable Adjusted Rating: 56.1%

%Fld			Group	Surface		Subsoil		Texture		NPR
44	ESH	12 ESHER DG	DG 70	AP0-1	-2	CHCS	-11	SILCL	0	57.0
33	ESH	22 ESHER DG	DG 70	AP1	-4	CHCS	-11	SILCL	0	55.0
23	SNP	21 SNIPE DG	DG 70	AP1	-4	C-HC	-6	CL-C	-4	56.0

Adjusted Rating: 56.1

			%Fld	NPR	ICP
44	Poorly Drained	1 P0-P1 (avg)	50 33%	-1.3	0.0
44	Poorly Drained	2 P1	50 9%	-0.7	0.0
44	Poorly Drained	3 P1-P2 (avg)	50 23%	-3.2	0.0
63	Frost/Grade Var.	5 GRF	50 23%	-1.6	0.0
64	Flooding	1 FD1	50 44%	-1.3	0.0
64	Flooding	2 FD2	50 33%	-2.0	0.0
64	Flooding	3 FD3	50 23%	-2.1	0.0
71	Topography	3 L-GU	50 56%	0.0	0.0
71	Topography	4 GU	50 44%	0.0	0.0
72	Stone Cover	20 S0	50 100%	0.0	0.0
73	Miscellaneous	2 Irreg. / Size	5 100%	0.0	-5.0
				-12.2	-5.0

Group ID: 138038379 30.70 Acres x 350.0 Acres x 1.0000 x 38.9 % =
Group Summary: 50.40 Acres 36.8 %

No: 3 13.00 Acres Soil: 80 Pasture Dryland Pasture

			%Fld	NPR	ICP
10	Soil Group	42 DG	50 60%	0.0	0.0
10	Soil Group	62 GL	50 40%	0.0	0.0
82	Improved	10 10 Ac/AU	50 100%	37.0	0.0
99	Description	22 Obstacles/Size	50 100%	0.0	0.0
				37.0	0.0

Group ID: 138038380 13.00 Acres x 350.0 Acres x 1.0000 x 37.0 % =

No: 4 80.31 Acres Soil: 80 Pasture Dryland Pasture

			%Fld	NPR	ICP
81	Native	60 60 Ac/AU	50 100%	6.0	0.0
99	Description	9 Trees	50 100%	0.0	0.0
				6.0	0.0

Group ID: 138038381 80.31 Acres x 350.0 Acres x 1.0000 x 6.0 % =

Areas		Asmt Code		Areas
Parcel:	146.71	300	100%	Arable Dry: 50.40
@ F/L Rates:	143.71			Arable Irr: 0.00
				Pasture Dry: 93.31
				Pasture Irr: 0.00
				Waste: 0.00


Pasture Rating 37
Pasture Rating 6
Arable Rating 37

Schedule D' – Referral Responses

From: LandInquiries@atcoelectric.com
To: Jenny Cornelsen
Subject: AEL2015-1427/A15-014 Danger Tech Notice to Referrals
Date: November 20, 2015 3:29:44 PM

Good Afternoon:

ATCO Electric has no comments or concerns with this application. Thank you

Karen Diaz- Hernandez
Land Administrator | **Land Administration**
ATCO *Electric* Ltd. | Distribution | Forest & Lands Management
18th Floor Canadian Western Bank Building
10303 Jasper Ave, Edmonton AB T5J 5C3
phone: 780-509-2094 | fax: 780-509-9220
email: Karen.Diaz-Hernandez@atcoelectric.com

Schedule 'D' – Referral Responses

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

NOTICE TO REFERRAL AGENCIES

Faxed: October 26, 2015 **File No.:** A15-014

Legal Description: SE-7-71-20-W5

Applicant: DANGER TECH INC.

PROPOSED LAND USE AMENDMENT: AGRICULTURE - A to COUNTRY RESIDENTIAL ONE - CR-1

Please provide your comments on the **PROPOSED LAND USE AMENDMENT AND SUBSEQUENT SUBDIVISION** in the space provided below or attach any additional comments on a separate sheet. If you have any questions regarding the attached, please contact our office. Deadline for your written comments: Monday, November 2, 2015 insofar as your agency is concerned. See Sketch attached.

If no comment is received by the above-specified date, it will be deemed as 'no objection'.

If you have any questions regarding the attached, please contact Planning and Development Manager Sally Ann Rosson at 780.524.7600 or sally.rosson@mdgreenview.ab.ca.

COMMENTS: No concerns

NAME (PLEASE PRINT) Gary Couch **SIGNATURE**

Please check box for corresponding referral agency

Circulated to:

- ☐ M.D. General Manager, Infrastructure & Planning - Grant Gyurkovits: grant.gyurkovits@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Manager, Construction & Maintenance - Kevin Sklapsky: kevin.sklapsky@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Construction Project Supervisor - Chad McMillan: chad.mcmillan@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Manager, Agricultural Services - Quentin Bochar: quentin.bochar@mdgreenview.ab.ca; (780) 524-5237
- ☑ M.D. Manager, Environmental Services - Gary Couch: gary.couch@mdgreenview.ab.ca; (780) 524-4432
- ☐ M.D. Roads Supervisor East - Norm Patterson: Norm.Patterson@mdgreenview.ab.ca; (780) 524-5237
- ☐ Alberta Culture and Tourism (CT) - Rebecca Traquair: Historical.Lup@gov.ab.ca;
- ☐ Alberta Environment and Parks (AEP) - Jack McNaughton: Jack.McNaughton@gov.ab.ca; (780) 624-6180

Administration Office	Operations Building	Family & Community Support Services	Grovedale Sub-Office	Grande Cache Sub-Office
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Toll Free: 1.888.524.7601 www.mdgreenview.ab.ca

Schedule 'D' – Referral Responses

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

NOTICE TO PUBLIC WORKS

File No.: A15-014
Applicant: DANGER TECH INC.
Legal Description: SE-7-71-20-W5

☑ Approach to Proposed Parcel Exists ☑ Yes ☐ No

Comments: NO UPGRADE REQUIRED

☑ Approach to Balance Exists ☑ Yes ☐ No

Comments: NO UPGRADE REQUIRED

☑ Road Widening Required ☑ Yes ☐ No

Details: ***5.03 m*** on TOWNSHIP ROAD _____ and/or RANGE ROAD 205

Comments: _____

☑ Drainage Concerns: NONE

Other: _____

FINAL COMMENTS PRIOR TO ENDORSING PLAN:

Reviewed By:

Public Works Representative Signature

Dec 2 2015
Date

NORM PATTERSON
Print Name

M.D. of Greenview No. 16
Application Number: A15-014

Page 1 of 1

Schedule 'D' – Referral Responses

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

NOTICE TO REFERRAL AGENCIES - PUBLIC HEARING

OWNER: BRENT FOURNIER AND OLGA FOURNIER
APPLICANT: DANGER TECH INC (GABOURY)
LEGAL: SE-7-71-20-W5

FILE NO. A15-014

FAXED: March 14, 2016

PROPOSED LAND USE AMENDMENT: A - AGRICULTURE District to CR-1 - COUNTRY RESIDENTIAL ONE District

Please be advised that a Public Hearing has been scheduled for the above-mentioned Land Use Bylaw ***and subsequent Subdivision***. The purpose of the application is to rezone from AGRICULTURE (A) to COUNTRY RESIDENTIAL ONE (CR-1). The Hearing is scheduled for:

10:00 a.m. on April 12, 2016,
in the Council Chambers, M.D. Administration Office, Valleyview, Alberta.

If you wish to attend the Public Hearing or have any concerns with the application, please notify me **prior to noon on April 04, 2016. Your previous comments will be reviewed at the Public Hearing.**

If you have any questions or concerns, please call Sally Ann Rosson at the number provided.

Additional Comments: No Concerns

NOTE: Comments received may be deemed public information.
NAME (PLEASE PRINT) Bill Harder **SIGNATURE**

Please check box for corresponding referral agency

Circulated to:

- ☐ M.D. General Manager, Infrastructure & Planning - Grant Gyurkovits - Fax: (780) 524-4432 - Email: grant.gyurkovits@mdgreenview.ab.ca
- ☐ M.D. Manager, Construction & Maintenance - Kevin Sklapsky - Fax: (780) 524-4432 - Email: kevin.sklapsky@mdgreenview.ab.ca
- ☐ M.D. Construction Project Supervisor - Chad McMillan - Fax: (780) 524-4432 - Email: chad.mcmillan@mdgreenview.ab.ca
- ☐ M.D. Manager, Agricultural Services - Quentin Bochar - Fax: (780) 524-5237 - Email: quentin.bochar@mdgreenview.ab.ca
- ☐ M.D. Manager, Operations - Gord Meaney - Fax: - Email: gord.meaney@mdgreenview.ab.ca
- ☐ M.D. Manager, Environmental Services - Gary Couch - Fax: (780) 524-4432 - Email: gary.couch@mdgreenview.ab.ca
- ☐ M.D. Roads Supervisor East - Norm Patterson - Fax: (780) 524-5237 - Email: Norm.Patterson@mdgreenview.ab.ca
- ☐ Alberta Culture and Tourism (CT) - Rebecca Traquair - Fax: - Email: Historical.Lup@gov.ab.ca
- ☐ Alberta Environment and Parks (AEP) - Jack McNaughton - Fax: (780) 624-6180 - Email: Jack.McNaughton@gov.ab.ca
- ☐ Alberta Environment and Parks (AEP) - James Proudfoot - Fax: (780) 538-5522 - Email: James.Proudfoot@gov.ab.ca

Administration Office	Operations Building	Family & Community Support Services	Grovedale Sub-Office	Grande Cache Sub-Office
Box 1079, 4806-36 Ave Valleyview, AB T0H 3N0 Phone: 780.524.7600 Fax: 780.524.4307	Box 1079, 4802-36 Ave Valleyview, AB T0H 3N0 Phone: 780.524.7602 Fax: 780.524.5237	Box 1079, 4707-50th Street Valleyview, AB T0H 3N0 Phone: 780.524.7603 Fax: 780.524.4130	Box 404, Lot 9, Block 1, Plan0728786, Grovedale, AB T0H 1X0 Phone: 780.539.7337 Fax: 780.539.7711	Box 214, 10028-99stStreet Grande Cache, AB T0E 0Y0 Phone: 780.827.5155 Fax: 780.827.5143

Toll Free: 1.888.524.7601 www.mdgreenview.ab.ca

[redacted]

BYLAW NO. 15-757
of the Municipal District of Greenview No. 16

A Bylaw of the Municipal District of Greenview No. 16, in the Province of Alberta, to amend Bylaw No. 03-396, being the Land Use Bylaw for the Municipal District of Greenview No. 16

PURSUANT TO Section 692 of the Municipal Government Act, being Chapter M-26, R.S.A. 2000, as Amended, the Council of the Municipal District of Greenview No. 16, duly assembled, enacts as follows:

1. That Map No. 241 in the Land Use Bylaw, being Bylaw No. 03-396, be added to reclassify the following area:

All that Portion of the
South East of Section Seven (7)
Within Township Seventy-One (71)
Range Twenty (20) West of the Fifth Meridian (W5M)

As identified on Schedule "A" attached.

This Bylaw shall come into force and effect upon the day of final passing.

Read a first time this 8th day of March, A.D., 2016.

Read a second time this 12th day of April, A.D., 2016.

Read a third time and passed this 12th day of April, A.D., 2016.

REEVE

CHIEF ADMINISTRATIVE OFFICER

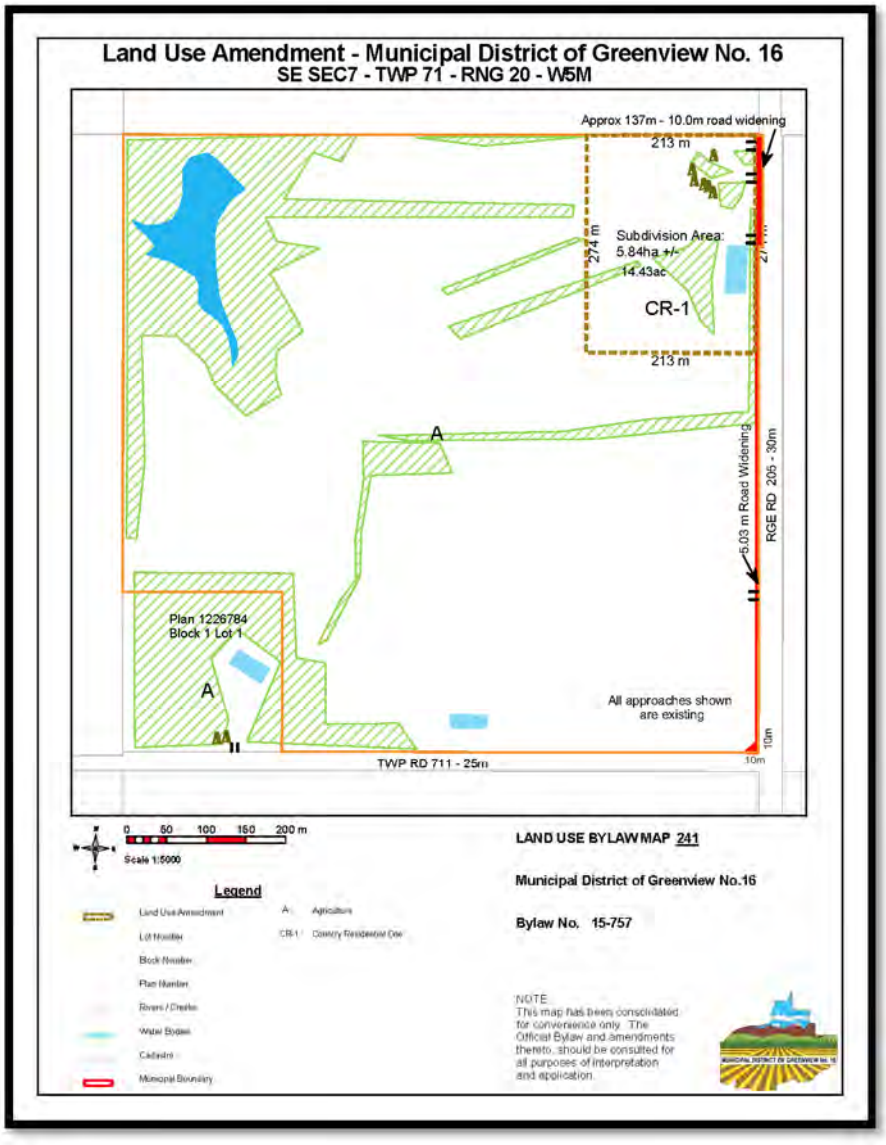
SCHEDULE "A"

To Bylaw No. 15-757

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

All that Portion of the
South East of Section Seven (7)
Within Township Seventy-One (71)
Range Twenty (20) West of the Fifth Meridian (W5M)

Is reclassified from Agriculture (A) District to Country Residential One (CR1) District as identified below:



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REEVE

CHIEF ADMINISTRATIVE OFFICER

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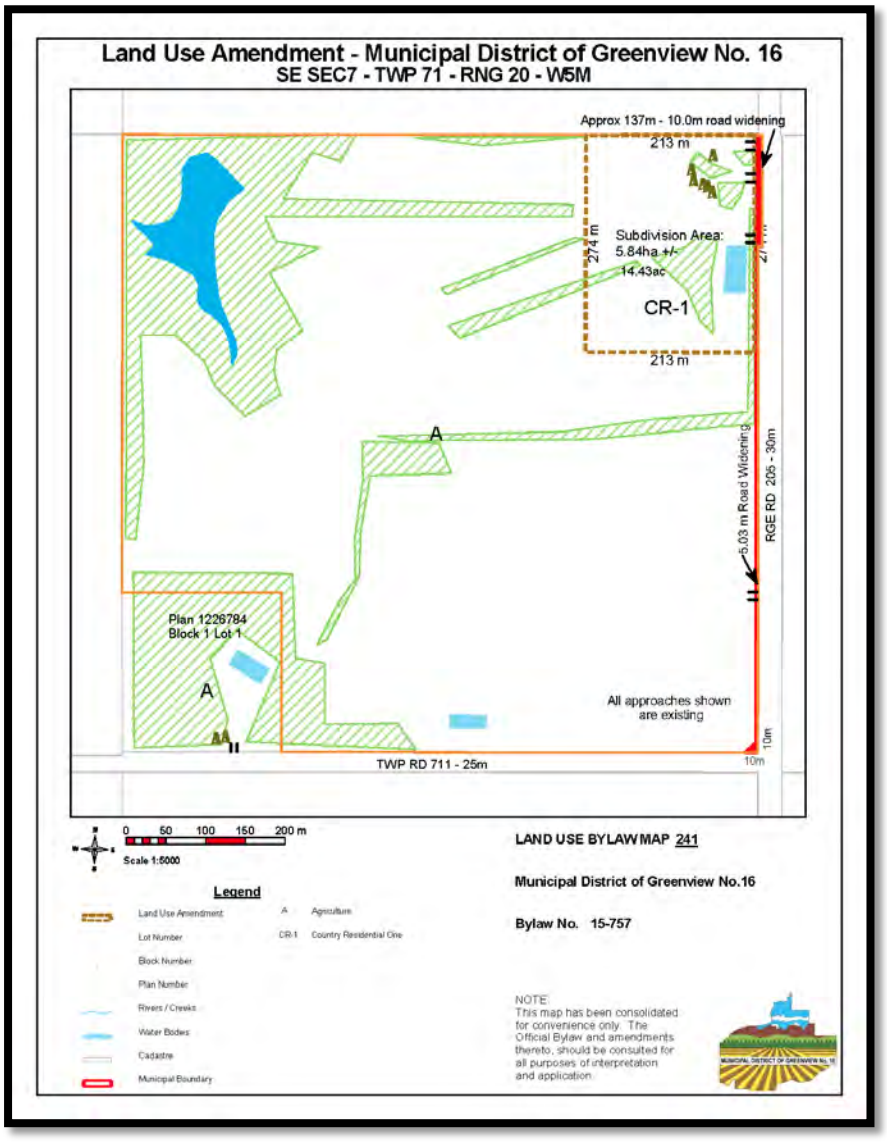


REQUEST FOR DECISION

SUBJECT:	**Iosegun Lake Base Pave Project**		
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	April 12, 2016	CAO: MH	MANAGER: INT
DEPARTMENT:	INFRASTRUCTURE & PLANNING	GM: GG	PRESENTER: GG
FILE NO./LEGAL:	File Number,Legal or N/A.		LEGAL/ POLICY REVIEW: INT
STRATEGIC PLAN:			FINANCIAL REVIEW:

RELEVANT LEGISLATION:

Provincial (cite) – *NA*

Council Bylaw / Policy (cite) – *NA*

RECOMMENDED ACTION:

MOTION: That Council authorize administration to enter into an agreement with Town of Fox Creek regarding the paving of Iosegun Lake Road and to tender a 3.0 kilometer base pave project for Iosegun Lake Road to the current northern Town boundary with an upset limit of $2,550,000 with funding to come from Road Infrastructure Reserves.

BACKGROUND / PROPOSAL:

On October 27, 2015 administration presented a report to Council on the Iosegun Lake road. Council requested administration to contact the Town of Fox Creek, (TFC) informing them that Greenview Council are willing to support TFC request to base pave 3.0km's of Iosegun Lake road to the northern Town boundary.

On March 2nd, Administration met with the CAO from TFC to discuss a request to extend the project north to the Trilogy intersection. Greenview administration discussed their request with Greenview Council and it was decided that the project length would remain at 3.0km's.

Town of Fox Creek has agreed to move forward with the project and has asked Greenview to draft an agreement for signature, stating the construction limits and the process which needs to be followed. After tender closing, administration will submit the results to Greenview Council for award. The TFC will be considered the client with Amec Foster Wheeler being the consultant onsite. Greenview will arrange for this section of Iosegun Lake road within the current Town limits be registered and transferred to the Town of Fox Creek.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – Council could postpone this project until 2017.

Benefits – Completing this project in 2016 may see respectable pricing and will help alleviate some of the Town of Fox Creek's concerns with this section of roadway.

Disadvantages – No unforeseen disadvantages.

COSTS / SOURCE OF FUNDING:

$2,550,000.00 to come from Road Infrastructure Reserves

ATTACHMENT(S):

- Iosegun Road Paving Agreement
- Iosegun Road Area Map

April 12, 2016

Iosegun Lake Road Base Pave Agreement

The following agreement is between the Municipal District of Greenview No.16 and Town of Fox Creek.

1. Greenview has agreed to fully fund 3.0 kilometers of base pave construction along Iosegun Lake road to the northern Town of Fox Creek Boundary.

2. Greenview agrees to have this portion of constructed roadway upgraded to meet Alberta Transportations construction and safety standards for and industrial road.

3. Greenview and Town Fox Creek agree to use Amec Foster Wheeler as the consultant for all aspects of this construction project.

4. Greenview and Town Fox Creek agree that the Town of Fox Creek take sole responsibility as administrator of the project during the construction period and act as a Prime Contractor or delegate Prime Contractor appropriately as per Occupational Health & Safety.

5. Greenview and Town Fox Creek agree to have Amec Foster Wheeler publicly advertise on Alberta Purchasing Connection and Road Builders.

6. Greenview and Town Fox Creek agree that Amec Foster Wheeler submit tender recommendation to Greenview administration for review, with administration to present to Greenview Council for consideration to award plus any adjusted engineering due to site occupancy.

7. Greenview and Town Fox Creek agree that Greenview will forward to the Town of Fox Creek a one-time lump sum payment to cover all project costs.

8. Any unused bid items or quantity underruns as well as any unused project funding, including contingency amounts, reported by Amec Foster Wheeler will be refunded to Greenview by the Town of Fox Creek.

9. Greenview and Town Fox Creek agree that Amec Foster Wheeler will send Greenview project updates and any scope of work changes will need to be approved by Greenview prior to proceeding with construction.

10. Greenview and Town Fox Creek agree that no additional works are to be completed outside the original scope of works for this project.

11. Greenview and Town Fox Creek agree that Greenview will arrange for this section of losegun Lake road in the Town of Fox Creek limits be registered and transferred to the Town of Fox Creek.

INDEMNITY

The Town of Fox Creek shall indemnify and save harmless Greenview from any and all losses, costs, damages, actions, causes of action, suits, claims and demands, including solicitor and client costs, resulting from anything done or omitted to be done by the Developer, its representatives, employees, contractors and subcontractors in pursuance or purported pursuance of this Agreement.

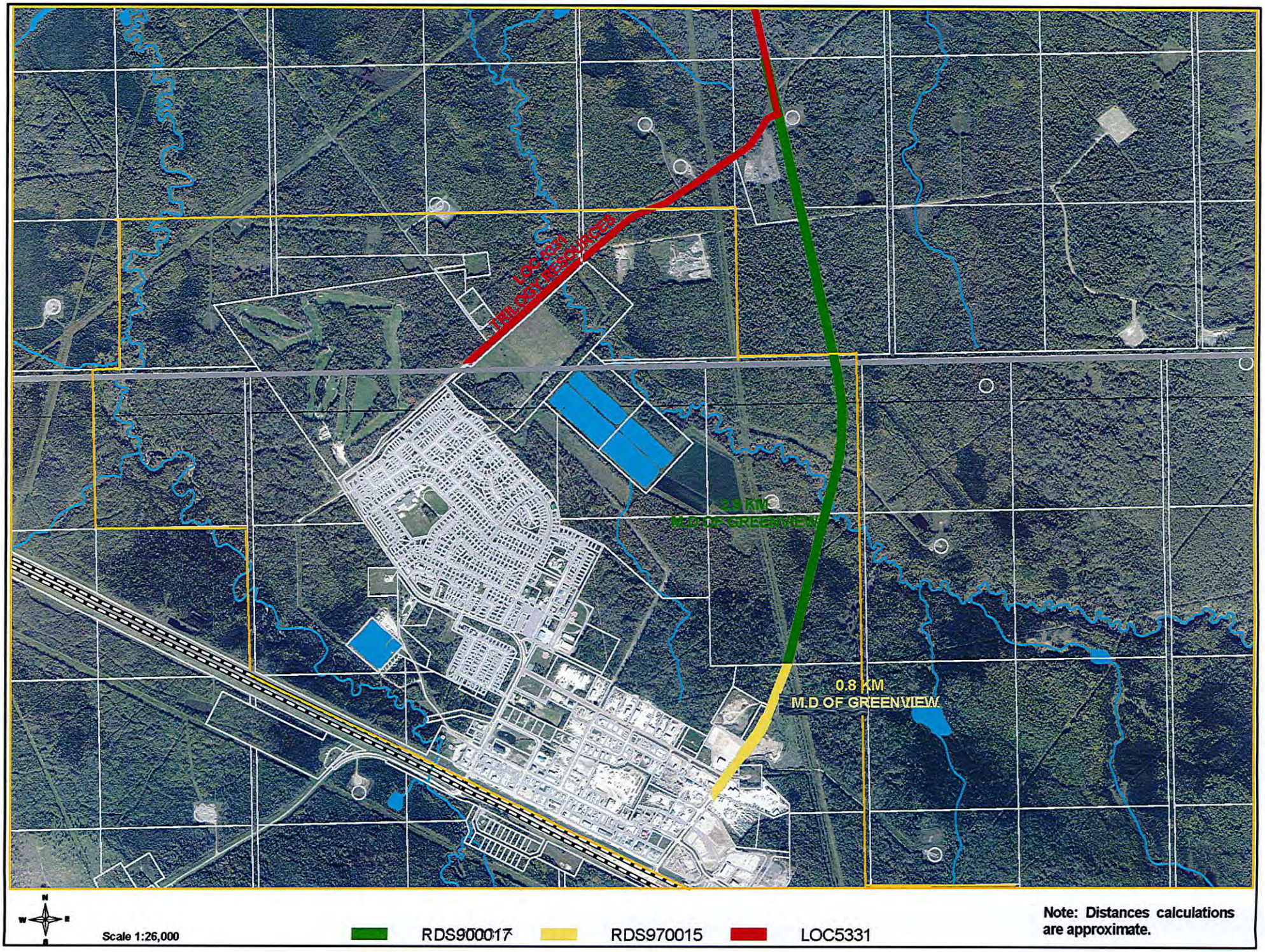
IN WITNESS WHEREOF the Parties hereto have caused their corporate seals to be hereunto affixed the day and year first above, written.

Municipal District of Greenview No. 16

Per: _____
Chief Administrative Officer (c/s)

The Town of Fox Creek

Per: _____
Chief Administrative Officer (c/s)


LOC1331
TRILOGY RESOURCES
2.9 KM
M.D OF GREENVIEW
0.8 KM
M.D OF GREENVIEW
N
W
E
S
Scale 1:26,000
RDS900017
RDS970015
LOC5331
Note: Distances calculations are approximate.

REQUEST FOR DECISION

SUBJECT:	**Northwest Alberta Regional Resource Agreement**		
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	April 12, 2016	CAO: MH	MANAGER: JF
DEPARTMENT:	COMMUNITY SERVICES/PROTECTIVE SERVICES	GM:	PRESENTER:
FILE No/LEGAL:			LEGAL/POLICY REVIEW:
STRATEGIC PLAN:			FINANCIAL REVIEW:

RELEVANT LEGISLATION:

Provincial (cite) – *Municipal Government Act-54(a)(b)*

RECOMMENDED ACTION:

MOTION: That Council authorizes Administration to enter into the Northwest Alberta Emergency Resource Agreement.

BACKGROUND / PROPOSAL:

The Northwest Alberta Emergency Resource Agreement is an agreement designed to be activated between municipalities in northwestern Alberta during a time of emergency when local resources are overwhelmed. The agreement does not override existing mutual aid agreements with our neighbours but provides a process to access needed resources from other municipalities in the northwest region. Regionally 27 municipalities will be taking this agreement forward to their councils and the Towns of Peace River and High Level along with Saddle Hills County have already become signatories. The agreement does not have an expiration date, and any participant must provide six months' notice to exit the covenant.

During the 2015 wildfire season, a number of fires came very close to High Level, the Town of High Level requested resources to protect the town. At that time when receiving the resource requests, it was found that there was no process to facilitate moving emergency resources between non-mutual aid municipalities. The Municipal District of Greenview has taken a leadership position in developing the Northwest Emergency Resource Agreement, which now clearly defines the request process, provides a rate schedule and a delegation of authority.

The agreement follows the format of a standard mutual aid agreement establishing who is in charge of an incident as well as expectations of the requesting agency regarding indemnification and liability. The main differences are that there are several signatories, the rate schedule and the ability to delegate authority. An employee of one municipality with delegated power could request resources on behalf of another in a situation such as a large-scale emergency.

This agreement provides the joining municipalities the ability to request needed resources and support each other during large-scale emergencies in a simple agreed upon process eliminating possibly costly delays in receiving help. Administration believes that it would be in Greenview's best interest to enter into the agreement.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – Council may accept or deny the Northwest Alberta Emergency Resource Agreement.

Benefits – The benefit of approving the Northwest Alberta Emergency Resource Agreement is it provides a pre-approved process of requesting resources from another municipality with which Greenview has not entered into a mutual aid agreement.

Disadvantages – None has been identified to approving the Northwest Alberta Emergency Resource Agreement.

COSTS / SOURCE OF FUNDING:

No current costs

ATTACHMENT(S):

- Northwest Alberta Emergency Resource Agreement

NORTHWEST ALBERTA EMERGENCY RESOURCE AGREEMENT

THIS AGREEMENT made this _____ day of _____ A.D. 20 ___

BETWEEN:

List of signing parties.

WHEREAS the parties to this Agreement are all Municipal Corporations or Regional Service Commissions within the Province of Alberta, incorporated pursuant to the *Municipal Government Act RSA 2000, M-26,* as amended;

AND WHEREAS the purpose of this agreement is provide to the ability for signatories to access needed resources to mitigate or support emergency response initiatives from sources outside predetermined mutual aid agreements.

AND WHEREAS each party to this Agreement provides fire protection services within their respective boundaries;

AND WHEREAS each of the parties hereto acknowledges and agrees that it is desirable and to the parties mutual benefit that from time to time, each be able to provide fire protection assistance to any or all of the other parties to this Agreement;

AND WHEREAS the parties hereto wish to enter into this Agreement to formalize the systems and procedures which can be utilized in order for the parties to request fire resources and assistance from the other party to this Agreement and to respond to such requests;

NOW THEREFORE THIS AGREEMENT WITNESSETH THAT in consideration of the mutual covenants, agreements and premises set out herein, the parties hereto hereby agree as follows:

1. In this Agreement, the following words and terms shall have the following meanings:

    a) “Assistance” shall mean firefighting, fire protection or other resources available pursuant to this Agreement. Assistance may relate to incidents which the Requesting Party does not attend or does not believe it will attend, or incidents which the Requesting Party does attend, but believes it would be prudent to require further or other forces for firefighting/protection purposes.

    b) “Claims” shall mean any and all manner of action or actions, cause or cause of action, suits, proceedings, demands, debts, dues, sums of money, costs, expenses and

damages of every nature and kind arising at law, equity, statute or otherwise which any party has, had, or may have.

c) "Effective Date" shall mean _____, 2016.

d) "Equipment" shall mean firefighting vehicles, apparatus and other equipment.

e) "Personnel" shall mean firefighters, fire officers, command and general staff.

f) "Consumables" shall mean tools, equipment and products once used cannot be recovered.

g) "Designated Officer" shall mean person whom in their scope of responsibilities can authorize the employment or deployment of equipment, personnel, consumables and delegations of authority for the provision of services.

h) "Requesting Party" shall mean a party to this Agreement which requests Assistance from another party to this Agreement.

i) "Responding Party" shall mean a party to this Agreement which responds to the request for Assistance made by a Requesting Party.

j) "Information Flow" shall mean the collection and dissemination of information in regard to signatory parties and designated officer (s)

2. If a Mutual Aid Agreement exists between the Requesting Party and Responding Party that agreement shall take precedence over this Agreement.

3. Subject to the terms and conditions of this Agreement, any party to this Agreement may request the Assistance of another party to this Agreement.

4. Subject to the terms and conditions of this Agreement, the parties to this Agreement agree that they will endeavor to provide Assistance to the other party to this Agreement, upon request. However, the parties hereto acknowledge and agree that there are and will be times and circumstances in which Assistance cannot be provided. Without restricting the generality of the forgoing, Assistance may be refused when the Responding Party or its designate or fire chief, or his or her designate, deems it imprudent or unsafe to provide such Assistance. At all times, whether or not Assistance will be provided, and the nature of the Assistance to be provided, if any, will be in the unfettered discretion of the Responding Party.

5. This Agreement shall come into force and effect upon the Effective Date, and shall remain in full force and effect until each of the parties hereto withdraws from this Agreement in accordance with the provisions of this Agreement.

6. Any one of the parties to this Agreement may withdraw from this Agreement by providing the other party with six (6) months written notice of their intention to withdraw.

7. All requests for Assistance pursuant to this Agreement shall be directed to the Designated Officer of the Responding Party. In the event that the authorized representative of the Responding Party is someone other than the Responding Party's Designated Officer, the authorized representative will confirm the request with the Responding Party's Designated Officer, or his or her designate as soon as reasonably possible. If the Responding Party's Designated Officer or designate cannot be contacted, the Responding Party may, but will not be required to, respond.

   The Requesting Party shall complete the request form "Appendix A" and forward to the manager or designate of the Responding Party at the time of request or as soon as reasonably possible.

8. The Requesting Party Designated Officer may delegate authority to another Responding Party to, request, employ or command equipment or personnel as defined. When operating under the delegation of authority the party doing so must present the delegation of authority form to any Party which is to be requested, employed or commanded.

   The delegation of authority form is provided in Appendix C of the document.

9. A Responding Party may, after responding to a request for Assistance, withdraw their Assistance in the event that the Responding Party, the Responding Party's Designated Officer, or the designate of either of them, deems it prudent or desirable to withdraw Assistance. Without restricting the generality of the forgoing, Assistance may be withdrawn if the Responding Party's Equipment or services are required elsewhere, or it is deemed to be unsafe to provide or continue providing Assistance.

10. When providing Assistance, the following command and control structure will apply:

    a. The first fire department of a Party to arrive at the scene of an incident shall assume incident command;

    b. In the event that a Responding Party is the first fire department to arrive at the scene of an incident, the Responding Party will assume incident command until such time as the Requesting Party's fire department arrives and is ready to assume incident command;

    c. The Requesting Party shall have incident command over all incidents which occur within it's geographic boundaries, provided that the Requesting Party's fire department is in attendance and does not relinquish incident command;

    d. Commands and requests of an incident commander shall be communicated in accordance with the command structure of the department to whom the commands or requests are directed;

11. In providing Assistance, a Responding Party shall not be required to provide Equipment which is not owned by the Responding Party or employees or volunteers who are not employed or usually utilized by the Responding Party.

12. It is acknowledged and agreed by the parties hereto that a Responding Party providing Assistance pursuant to this Agreement shall be entitled to bill or charge the Requesting Party for Equipment or services, or for the Assistance, being provided. However, each party to this Agreement agrees that they will, and hereby does, indemnify and save harmless any Responding Party from which they request Assistance, in accordance with the terms and provisions of this Agreement.

    A rate schedule for the purposes of billing is provided in Appendix B of the document.

13. A Requesting Party to this Agreement shall and hereby does indemnify and save harmless a Responding Party who provides Assistance to that Requesting Party from and against all Claims, of every nature and kind whatsoever including Claims arising from damaged property, or injury to persons, which arise out of, or are in anyway attributable to the provision of Assistance, except those Claims which are due to the gross negligence of any employee, volunteer or representative of the Responding Party.

14. A Requesting Party shall, and hereby does, indemnify and save harmless a Responding Party from and against all Claims relating to the injury or death to persons responding to a request for Assistance from that Requesting Party, except where caused by the gross negligence of the Responding Party.

15. Notwithstanding paragraph 10, 11 and 12 of this Agreement, the parties to this Agreement covenant and agree that a Responding Party will not in any way be liable to a Requesting Party for:

    a. Failure to respond to a request for Assistance, or failure to provide Assistance;

    b. Failure to respond to a request for Assistance within a certain period of time, or in a timely fashion;

    c. Consequential, indirect, exemplary or punitive damages;

    d. Economic loss;

    e. Any Claims that arise as a result of a party's refusal or inability to provide Assistance;

    f. Any Claim that arises or results from the manner in which a Responding Party provides or does not provide Assistance, saves and excepts Claims directly arising from the gross negligence of the Responding Party while providing Assistance.

16. The Parties hereto shall, at their own respective cost and expense, maintain in full force and effect during the term of this Agreement, general liability insurance in an amount not less than $5,000,000.00 per occurrence for personal injury and/or property damage, together with such other insurance that may be agreed to in writing by the parties hereto as being reasonable and obtainable.

17. Nothing in this Agreement, nor any of the acts of any party hereto shall be construed, implied or deemed to create a relationship of agency, partnership, joint venture, or employment as between the parties hereto, or any of them, and none of the parties have the authority to bind any other party to this Agreement to any obligation of any kind.

18. No party may assign this Agreement without the written consent of the other parties hereto.

19. The terms and conditions contained in this Agreement shall extend to and be binding upon the respective successors and permitted assigns of the parties to this Agreement.

20. In this Agreement, the singular shall mean the plural, and the masculine the feminine, and vice versa, as the context of this Agreement may require.

21. This Agreement may be executed in counterparts each of which when so executed shall be deemed to be an original and such counterparts shall constitute one in the same instrument, notwithstanding their date of execution.

22. In the event that any dispute arises pursuant to the terms of this Agreement, or the interpretation thereof, the parties hereto agree that, in the event that such a dispute cannot be resolved by mutual negotiations, they will submit the dispute to a third party arbitrator for a determination of the dispute pursuant to the *Arbitration Act of Alberta*. The costs of the arbitrator will be shared equally between the parties to any such dispute.

23. The parties hereto will notify their fire department officers of this Agreement so that they may become familiar with this Agreement, and its terms.

24. The parties hereto further acknowledge and agree that they will comply with all laws, rules, regulations, and codes applicable to the provision of firefighting services within the Province of Alberta.

25. Each party will provide a list of designated officer (s) including primary and emergency contacts to the party managing information flow.

26. It is the responsibility of each party to update the party managing information flow of adoption or changes in status on or before January 31 of each year. The party managing information flow shall disseminate signatory updates by February 28 of each year.

27. The contacts for information flow management are specified in Appendix D.

28. Signatory parties shall provide an affirmation document of the resolution in council of the adoption of this agreement. The affirmation document should provide a corporate seal and signature of those who have authority to enter into the agreement. The affirmation document shall be attached to the Northwest Emergency Resources Agreement.

APPENDIX A

Resource Request Form

Requesting Party: _____

Responding Party: _____

The Requesting Party formally requests the following resources from the Responding Party for an estimated duration of _____ days.

1: _____

2: _____

3: _____

4: _____

5: _____

6: _____

7: _____

If further resources are required attach an addition sheet.

A- The Requesting Party agrees that if personnel are to be deployed for greater the 12 (twelve) hours at a distance of greater 150 Km from home base, lodging will be supplied for a minimum of 8 (eight) hour rest period.

B- The Requesting Party agrees to ensure adequate food and lodging are supplied to Responding Party personnel if deployed greater than 24 (twenty four) hours.

C- The Requesting Party agrees to pay the Responding Party at the rates specified in Appendix B.

D- The Responding Party Designated Officer will respond Via E-mail as to what resources can be supplied.

Requesting Party Designated Officer: _____ Contact Information:

Signature: _____ Cellular Phone: _____

Date: _____ E-Mail: _____

APPENDIX B

Rate Schedule

1- Mileage - Under One Ton Current CRA Rate FOB To and from event.

2- Mileage - One Ton and Over $00.75 / Km FOB To and from event.

3- Lodging - Cost Recovery

4- Meals - Breakfast $20.00 - Lunch $20.00 - Supper $ 30.00

5- Consumables - Cost Recovery

6- Personnel Career - Cost Recovery

7- Personnel Volunteer - $25.00/ Hr. Overtime after 8 (eight) hours at 1.5 X Rate /Day

8- Personnel Paid on Call - Cost Recovery

9- Damaged Equipment - Cost Recovery of repair or replacement

10- Fire Apparatus: Based on 12 Hour Day without staffing

a. Type 1 - 2 Engines	$350.00 / Hr. to a Maximum of $4200.00/Day
b. Type 3 - 5 Engines	$250.00 / Hr. to a Maximum of $3000.00/Day
c. Type 6 - 7 Engines	$200.00 / Hr. to a Maximum of $2400.00/Day
d. Tender w/ Rated Pump	$300.00 / Hr. to a Maximum of $3600.00/Day
e. Tender wo/ Rated Pump	$250.00 / Hr. to a Maximum of $3000.00/Day
f. Ladder	$350.00 / Hr. to a Maximum of $4200.00/Day
g. ATV - UTV	$100.00 / Hr. to a Maximum of $1200.00/Day
h. Rescue Heavy	$350.00 / Hr. to a Maximum of $4200.00/Day
i. Rescue Light	$200.00 / Hr. to a Maximum of $2400.00/Day
j. Squad/Car	$ 50.00 / Hr. to a Maximum of $ 600.00/Day
k. Sprinkler Trailer	$400.00 / Day
l. Specialty Apparatus	i.e.: Hazmat; Responding Party Rate

11- Fire Apparatus: Based on 24 Hour Day without staffing

a. Command Vehicle	$100.00 / Hr. to a Maximum of $2400.00/Day
b. Command Center	$175.00 / Hr. to a Maximum of $4200.00/Day

12- Other Vehicles and Construction Equipment – Current Alberta Road Builders Rates

13- One Time Administration Fee - $250.00

14- Responding Party will provide backup data for cost recovery items

APPENDIX C

Delegation of Authority

Authority has been assigned to _____ to act on behalf of the Municipality of _____, to mitigate the _____ incident.

You have full authority to (request, employ or command) _____ equipment, personnel required. Your primary responsibility is to organize and direct your assigned or ordered resources for efficient and effective control of the incident.

You are accountable to _____ or his/her designated representative listed below.

Financial limitations will be consistent the best approach to the values at risk. Specific direction for this incident covering the management and other concerns are:

1: _____

2:_____

3:_____

4:_____

5:_____

6:_____

_____ will represent me on any occasion that I am not immediately available. This authority is effective _____.

_____ _____

Requesting Designated Officer Designated Officer Signature

_____

Date and Time

APPENDIX D

Information Flow

The **Town of High Level** has agreed to manage the information flow for all agreed parties associated with Northwest Emergency Resource Agreement.

Letters of affirmation can be sent via post or courier to:

Town of High Level
Northwest Emergency Resource Agreement
Attn: Director of Protective Services
10511 – 103 St.
High Level AB
T0H 1Z0

Updates to Status and Designated Officers lists can be sent via post or courier to:

Town of High Level
Northwest Emergency Resource Agreement
Attn: Director of Protective Services
10511 – 103 St.
High Level AB
T0H 1Z0

Alternate Contact Methods;

Fax: 780 926 2899

E-Mail rschmidt@highlevel.ca

REQUEST FOR DECISION

SUBJECT:	**Ice Cover Work Operations Policy 3009**				
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION			
MEETING DATE:	April 12, 2016	CAO:	MH	MANAGER:	INT
DEPARTMENT:	COMMUNITY SERVICES/PROTECTIVE SERVICES	GM:	DM	PRESENTER:	SG
FILE NO./LEGAL:	N/A			LEGAL/ POLICY REVIEW:	INT
STRATEGIC PLAN:				FINANCIAL REVIEW:	

RELEVANT LEGISLATION:

Provincial – *Alberta Occupational Health and Safety (OHS) Act & Code, Best Practice for Building and Working on Ice Covers in Alberta, OHS Alberta, Field Guide to Working Safely on Ice Covers, OHS Alberta*

Federal – *Criminal Code of Canada*

Council Bylaw / Policy– *General Health and Safety Policy 3000 & 3000-01*

RECOMMENDED ACTION:

MOTION: That Council approve the Ice Cover Work Operations Policy 3009 as per the recommendation from the Policy Review Committee.

BACKGROUND / PROPOSAL:

The Ice Cover Work Operations Policy specifies standards of acceptable safety practices for Greenview staff and Contractors engaged in operations on an ice surface that is floating (buoyant) on a river, lake, pond or peatland and that is capable of carrying an external load (Ice Covers). The Ice Cover Work Operations Policy was developed and accepted by workers in response to the aeration project at Swan Lake this winter. By implementing a standard to which Greenview staff and contractors shall be accountable, Greenview shows due diligence in fulfilling obligations as detailed in Part 2 of Alberta's Occupational Health and Safety (OHS) Code and Canada's Criminal Code sections 263 and 269. The employer's general duty is to "ensure as far as reasonably practicable" the health and safety of its workers. In general, the OHS Act, Regulation and Code require a risk-based approach, through hazard identification, assessment, elimination and control.

The Criminal Code of Canada states;

Duty to safeguard opening in ice

- **263 (1)** Everyone who makes or causes to be made an opening in ice that is open to or frequented by the public is under a legal duty to guard it in a manner that is adequate to prevent persons from falling in by accident and is adequate to warn them that the opening exists.
- Duty to safeguard opening in ice
- **263 (3)** Everyone who fails to perform a duty imposed by subsection (1) or (2) is guilty of

- **(a)** manslaughter, if the death of any person results therefrom;
- **(b)** an offence under section 269, if bodily harm to any person results therefrom; or
- **(c)** an offence punishable on summary conviction.

Unlawfully causing bodily harm

- **269** Every one who unlawfully causes bodily harm to any person is guilty of
- **(a)** an indictable offence and liable to imprisonment for a term not exceeding ten years; or
- **(b)** an offence punishable on summary conviction and liable to imprisonment for a term not exceeding eighteen months.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – Council has the option to approve, alter or deny the Ice Cover Operations Policy 3009 as presented.

Benefits – The benefit to implementing the Ice Cover Operations Policy 3009 is to ensure a standard system is in place to reasonably protect the health and safety of Greenview staff, contractors and the public.

Disadvantages - There are no perceived disadvantages to approving the Ice Cover Operations Policy 3009 as presented.

COSTS / SOURCE OF FUNDING:

N/A

ATTACHMENT(S):

Ice Cover Operations Policy 3009
Occupational Health and Safety Act – Section 2 & 18
Best Practice for Building and Working on Ice Covers in Alberta, OHS Alberta
Field Guide to Working Safely on Ice Covers, OHS Alberta

Obligations of employers, workers, etc.

2(1) Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,

(a) the health and safety of

(i) workers engaged in the work of that employer, and

(ii) those workers not engaged in the work of that employer but present at the work site at which that work is being carried out, and

(b) that the workers engaged in the work of that employer are aware of their responsibilities and duties under this Act, the regulations and the adopted code.

(2) Every worker shall, while engaged in an occupation,

(a) take reasonable care to protect the health and safety of the worker and of other workers present while the worker is working, and

(b) co-operate with the worker's employer for the purposes of protecting the health and safety of

(i) the worker,

(ii) other workers engaged in the work of the employer, and

(iii) other workers not engaged in the work of that employer but present at the work site at which that work is being carried out.

(b) to compel witnesses to give evidence under oath or otherwise,

(c) to compel witnesses to give evidence in person or

notify a Director of Inspection of the time, place and nature of the injury or accident as soon as possible.

(2) The injuries and accidents to be reported under subsection (1) are

(a) an injury or accident that results in death,

(b) an injury or accident that results in a worker's being admitted to a hospital for more than 2 days,

(c) an unplanned or uncontrolled explosion, fire or flood that causes a serious injury or that has the potential of causing a serious injury,

(d) the collapse or upset of a crane, derrick or hoist, or

(e) the collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.

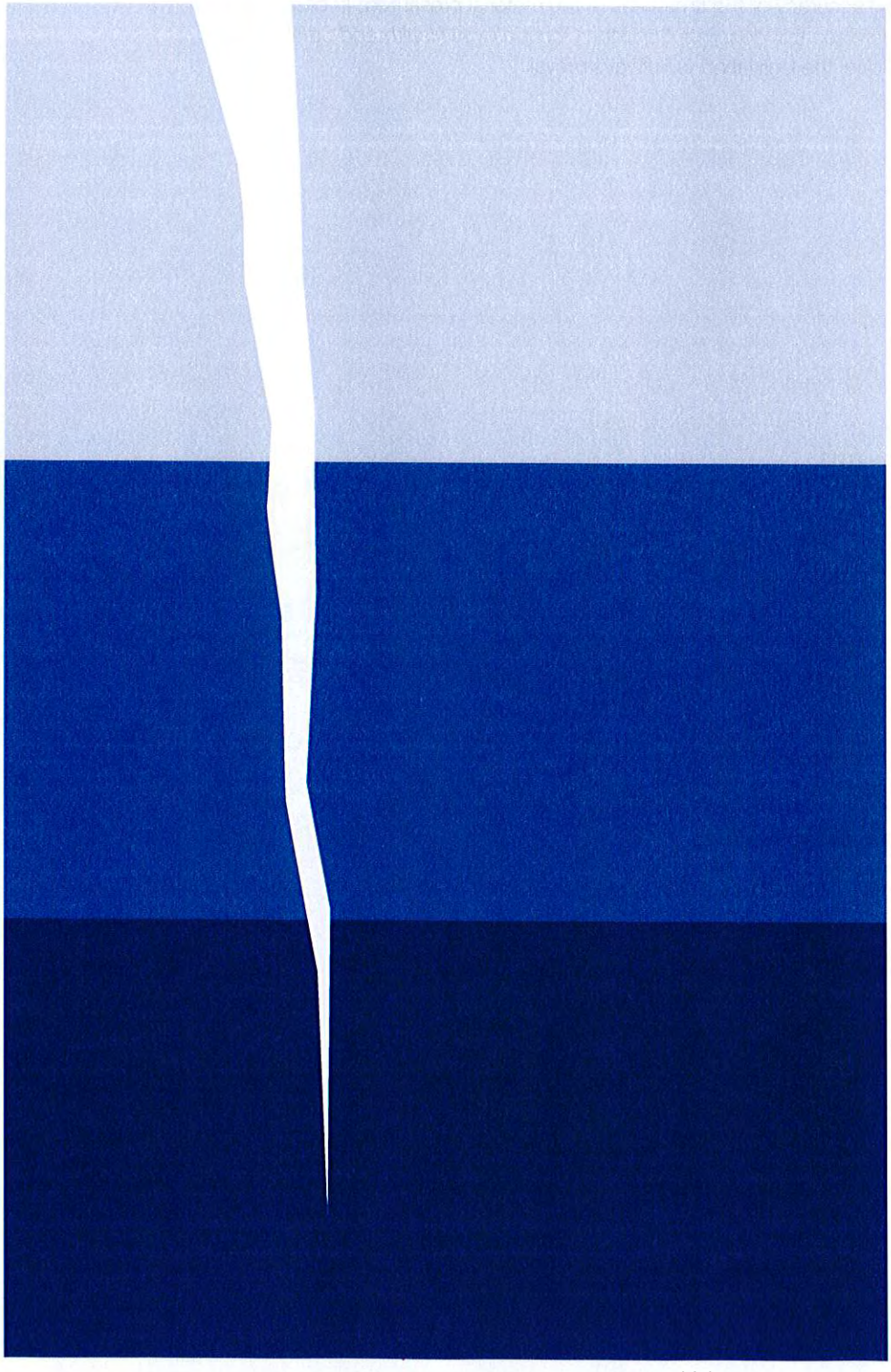
(3) If an injury or accident referred to in subsection (2) occurs at a work site or if any other serious injury or any other accident that has the potential of causing serious injury to a person occurs at a work site, the prime contractor or, if there is no prime contractor, the contractor or employer responsible for that work site shall

(a) carry out an investigation into the circumstances surrounding the serious injury or accident,

(b) prepare a report outlining the circumstances of the serious injury or accident and the corrective action, if any, undertaken to prevent a recurrence of the serious injury or accident, and

(c) ensure that a copy of the report is readily available for inspection by an officer.

BEST PRACTICE
for Building and Working Safely on Ice Covers in Alberta



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All enquiries regarding this Best Practice should be addressed to:

Occupational Health and Safety Contact Centre
Edmonton and area: 780-415-8690
Throughout Alberta: 1-866-415-8690
Deaf or hearing impaired: 1-800-232-7215

Website: www.worksafe.alberta.ca

Alberta Government

Work Safe Alberta

DEDICATION

This document is dedicated to Karl Malmquist, who broke through the ice and drowned while operating a snowcat on the Peace River on January 7, 2005. It is also dedicated to the nearly 500 people in Canada who have lost their lives over the past 10 years while crossing or working on floating ice.

> Over the period of 1991 to 2000, there were 447 deaths associated with activities on ice. Of these, 246 involved snowmobiles, 150 involved non-motorized activity and 51 motorized vehicles. Most of the deaths associated with activities on ice were related to recreational activities. (Canadian Red Cross Society 2006)

2013 UPDATE TO BEST PRACTICE FOR BUILDING AND WORKING SAFELY ON ICE COVERS IN ALBERTA

Work Safe Alberta has conducted an update to the Best Practice. The scope of this update includes the following subject areas:

Updating of Table 3 - Allowable Loads in Kgs for A-Values and Effective Ice Thickness (page 25)

Definitions of "White" Ice and Constructed Flood Ice in Table 1: Ice Types and Their Variability (page 8)

Operating Around snow banks and additional caution required around snow bank areas (pages 11 and 32)

Recommended A-Values for Construction and Ice Profiling (page 36)

Guide for GPR Ice Profiling (Appendix B)

Work Safe Alberta acknowledges the following contributors to the 2013 update of this Best Practice:

Sam Proskin, NOR-EX Ice Engineering Inc.

Al Fitzgerald, NOR-EX Ice Engineering Inc.

ACKNOWLEDGEMENTS

The 2009 Best Practice was created under the auspices of a multi-stakeholder advisory committee that drew on its experience in safety, engineering, construction and maintenance for work on ice covers.

The advisory committee included the following representatives from energy, utilities, construction, forestry and provincial and municipal governments:

Rory Ryder, Co-Chair, ATCO Electric

Ray Cislo, Co-Chair, Alberta Employment and Immigration

Sam Proskin, EBA Engineering Consultants Ltd.

Fred Baehl, Regional Municipality of Wood Buffalo

Emil Girard, Girard Enterprises

Ward Flaherty, Alberta Pacific Forest Industries

Don Hayley, EBA Engineering Consultants Ltd.

Barry Lozinsky, City of Edmonton (Parks)

Kelly McManus, LaPrairie Group Contractors Alberta Ltd.

Adele Tait, Alberta Employment and Immigration

Randall Warren, Shell Canada Energy

The committee acknowledges Don Hayley and Sam Proskin, who prepared the initial draft of the Best Practice and provided engineering input during the committee's revisions. The committee also appreciates the valuable lessons shared by Don and Sam from working with the Tibbitt to Contwoyto Winter Road Joint Venture and Nuna Winter Road Services. Through this collaboration, a series of ice road risk management practices have been developed and a number adapted for use in the Best Practice.

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GLOSSARY

APEGA	The Association of Professional Engineers and Geoscientists of Alberta.
Best Practice(s)	Widely accepted plans and methods, developed by knowledgeable bodies, that are in compliance with existing laws and regulations and that have been shown over time, through research, evaluation, and practice, to be effective at providing reasonable assurance of desired outcomes.
Circumferential crack	A crack that forms on an ice cover when it is overloaded. These are rounded cracks that are centered around the loaded area.
Deflection test	A field test that determines the load capacity of an ice cover by monitoring deflection of the ice as it is progressively loaded.
Due diligence	The level of judgment, care, prudence, determination and activity that a person would reasonably be expected to do under particular circumstances (Alberta Workplace Health and Safety 2005).
Effective ice thickness	Good quality, well-bonded, white and blue ice that is measured in an ice cover. Poor quality or poorly bonded ice should not be included in the measurement of ice thickness.
Floating fen	Muskeg or peatland consisting of organic terrain that has the water table at the surface (MacFarlane 1969).
Freeboard (of an ice cover)	The difference between the height of the water level and the top of the ice surface in a hole drilled through the ice cover. Usually the water level is below the ice surface because ice is less dense than water and it floats.
Global Positioning System (GPS)	A radio navigation system that allows land, sea and airborne users to determine their exact location, velocity and elevation 24 hours a day, in all weather conditions, anywhere in the world.
Gold's Formula	A formula developed by Dr. Lorne Gold to calculate the allowable load that can be placed on a floating ice cover.

GLOSSARY

Gross Vehicle Weight (GVW)	For the purpose of this Best Practice, this is the total weight of a road vehicle when loaded, i.e., includes the weight of the vehicle itself plus fuel, freight, passengers, attachments and equipment. Experience has shown that weighing the vehicle on a scale is the most accurate way to determine the GVW.
Ground Penetrating Radar (GPR)	A geophysical technique that uses radio frequency energy to image the earth's subsurface. It emits microwave electromagnetic radiation and then detects the reflections from land formations or objects it contacts below the surface.
Hazard	A situation, condition or thing that may be dangerous to the safety or health of workers (Occupational Health and Safety Code).
Hazard assessment	An assessment made in accordance with Part 2 of Alberta's Occupational Health and Safety Code.
Ice bridge	A constructed ice crossing over a river or stream.
Ice cover	The portion of an ice surface that is floating (buoyant) on a river, lake, pond or peatland and that is capable of carrying an external load.
Ice crossing	The portion of a floating ice cover that is used to support moving loads for the purpose of travelling from one side of a water body to the other.
Ice platform (pad)	The portion of an ice cover that is cleared or built with ice to support stationary loads.
Ice profiling	Technique used to measure the thickness of floating ice. It can be carried out with a direct physical measurement or indirectly, using GPR.
Ice road	A seasonal road built over frozen lakes or along rivers for the purpose of transportation. It usually consists of floating ice and ice that is frozen to the ground.
Industry standard	A voluntary, industry-developed document that establishes requirements for products, practices or operations.

GLOSSARY

Operating window	The time during which the ice cover is sufficiently strong to open it to vehicles hauling loads (after construction and before closure).
Professional Engineer	A professional engineer defined under the *Alberta Engineering, Geological and Geophysical Professions Act*. For the purpose of this Best Practice, the professional engineer should have demonstrated experience in ice mechanics and ice road operations.
Radial crack	A crack that forms on an ice cover when it is overloaded. It radiates away from the load area like a spoke on a bicycle wheel.
Regulation	A legislated minimum standard.
Risk	A measure of the probability and severity (consequence) of an adverse effect to the safety and health of workers, property or the environment.
Standard Operating Procedure	Written instruction detailing all steps and activities of a process or procedure to guarantee the expected outcome.
Water lens	A pocket of water in the ice.
Winter road	A seasonal road built with snow or ice over land and ice for the purposes of transportation. It will normally include ice crossings and ice bridges.

SECTION 1: INTRODUCTION

1.1 BACKGROUND

Several generations of Canadians have used river, lake and sea ice covers to travel to their destinations, to deliver freight, to fish and hunt and, more recently, to enjoy the recreational opportunities leisure time affords them. The earliest of these hardy ice travellers used foot, snowshoes, skis, dogsleds and horse and sleigh.

Pioneers like Svein Sigfusson in Manitoba in the 1940s and John Dennison in the Northwest Territories in the 1960s demonstrated that ice roads were viable alternatives for re-supplying camps and moving goods to remote communities. Today, ice roads and winter roads are constructed in most Canadian provinces and territories to provide temporary access to communities, work sites and recreational areas.

Working, travelling and parking on the frozen surface of ponds, lakes and rivers should be undertaken as a planned activity that recognizes and reasonably addresses the hazards associated with the ability of the ice cover to safely support the load.

> *In 25 years of hauling freight we lost three men through the ice—a record that might look good in cold actuarial tables but was still a hard reality that caused great lasting sadness to all who did survive. Three deaths, even among thousands of men, inevitably left a tragic tinge on the successes of our company.*
>
> *Sigfusson's Roads, Svein Sigfusson, 1992*

Dog and man watched it crawling along over the ice. Suddenly, they saw its back end drop down, as into a rut, and the gee-pole, with Hal clinging to it, jerk into the air. Mercedes scream came to their ears. They saw Charles turn and make one step to run back, and then a whole section of ice give way and dogs and humans disappear. A yawning hole was all that was to be seen. The bottom had dropped out of the trail.

Call of the Wild,
Jack London, 1903

1.2 PURPOSE AND SCOPE

This Best Practice has been developed to provide a summary of current practices for construction and operation of transportation facilities and working platforms that rely on floating ice for structural adequacy. The focus is on advice that provides effective over-ice operations while ensuring that a standard of care necessary to protect worker safety is the highest priority. The Best Practice covers the basic steps for planning, design, construction, operation and closure of an over-ice project.

This Best Practice was developed to assist employers and contractors in fulfilling their hazard assessment, elimination and control obligations as detailed in Part 2 of Alberta's Occupational Health and Safety (OHS) *Code*. The employer's general duty is to "ensure as far as reasonably practicable" the health and safety of its workers. In general, the OHS Act, Regulation and Code require a risk-based approach, through hazard identification, assessment, elimination and control. This process is identified on the following page.

1. Identify the Hazard: Identify existing and potential hazards before work begins.

2. Assess the Hazard
    i. Assess the severity of the consequence arising from the hazard in terms of harm to workers, equipment or the environment.
    ii. Assess the likelihood of the consequence arising from the hazard.
    iii. Assess and prioritize the hazards based on the risk.

3. Eliminate or Control the Hazard
    i. Eliminate the hazard.
    ii. Employ engineered controls.
        A. Design controls.
        B. Monitoring controls.
        C. Maintenance controls.
    iii. Implement administrative controls.
    iv. Establish and use personal protective equipment (PPE).

Potential hazards need to be identified and steps taken to eliminate the hazards or control them to a level that remains within normal industry standards while being easily understood and applied by the worker.

This Best Practice applies to work where short-term loads (less than two hours duration) are supported by a freshwater floating ice cover. Examples of common work on ice covers include:

- Traversing ice covers by foot or snowmobile.
- Preparing ice covers for recreational use.
- Profiling an ice crossing from a truck or tracked vehicle.
- Driving vehicles (up to 63,500 kg) over lake or river ice crossings.
- Monitoring ice crossings during winter road construction and operations or during construction of ice pads.

1.3 LIMITATIONS

This Best Practice was developed based on experience with ice covers comprising natural fresh water as well as water used to flood ice for enhanced thickening. There are field conditions that do not fit that criteria and are not covered within this Best Practice. These conditions require the expertise of a professional engineer experienced in ice mechanics and may include:

- Loads on sea ice covers or ice containing dissolved solids.
- Loads on ice covers that are floating on industrial water ponds (such as tailings ponds).
- Loads greater than highway legal Gross Vehicle Weights (GVW) for multi-axle trucks as defined by Alberta Transportation.
- Vehicles with more than eight axles or a GVW greater than 63,500 kg.
- Loads with a significant dynamic or vibrational component such as a heavy Caterpillar tractor with steel grouser bars.

1.4 HOW TO USE THIS BEST PRACTICE

Effective use of this Best Practice will improve the standard of care that is normally exercised when planning and carrying out work activities on a floating ice sheet. The safety of individual workers is of paramount importance, and it is recognized that judging safety when working on a floating ice sheet takes expertise that is not necessarily embodied in normal construction practice. The full value of the Best Practice, however, can only be achieved if it is implemented at appropriate stages within any project plan. The following commentary provides suggestions as to where it can be used most effectively.

1.4.1 USE THE BEST PRACTICE AS A PLANNING TOOL

The Best Practice should be consulted early in the planning process. It identifies those steps that must be taken for the work to be done safely and effectively. When several alternatives are being considered concerning the use of ice covers for a working platform, the Best Practice can identify what limitations the ice cover may impose on the work. These considerations may include load limitations, length of season and safety monitoring.

1.4.2 ATTACH THE BEST PRACTICE TO CONTRACTS

Contracts and sub-contracts prepared for industrial activities on floating ice should require acknowledgement of a plan to ensure the safety of workers. In some instances, that plan could include a contractual obligation to follow this Best Practice. This elevates the status of the Best Practice to a legal duty imposed on the contractors that requires them to follow a written procedure as part of their safety practices.

1.4.3 DEVELOP STANDARD OPERATING PROCEDURES

Many larger contractors, consultants and industry leaders are becoming registered users of the International Organization for Standardization's (ISO) quality assurance standards. Within that system is a requirement to document "Standard Operating Procedures." This Best Practice could form the basis for developing in-house procedures for firms that frequently carry out activities on floating ice.

1.4.4 USE THE BEST PRACTICE FOR HAZARD AWARENESS TRAINING

The Best Practice can form the basis of hazard awareness training for workers preparing for activities on floating ice. Instructional aids and materials, including this Best Practice and accompanying field guide and online eLearning module, are available to assist employers in training their workers.

1.4.5 USE THE BEST PRACTICE TO REDUCE RECREATIONAL RISK

This Best Practice has been developed primarily for employers and workers; however, it may also be helpful to recreational users who are considering travelling over ice covers or participating in activities on them, for example, ice fishing.

SECTION 2: ICE COVER HAZARDS AND FACTORS TO CONSIDER

2.1 BACKGROUND

Planning for operations over floating ice covers requires a clear understanding of how the ice sheet must function to ensure a successful and safe project. This is especially important for contractors who have no previous experience building ice covers. The following operational parameters must be identified at the outset:

- **Load duration:** The period of time that the load is stationary on the ice cover.
- **Ice cover type:** Freshwater lake ice, river ice, local flood ice, transported flood ice or peatland ice.
- **Load weights:** The number and types of vehicles and equipment and their maximum Gross Vehicle Weights (GVWs); this may also include loads imposed by foot traffic for special types of work.
- **Schedule and operating window:** Timing of the start of construction and start of work on the ice cover as well as the operating window required for the work.
- **Contractor capability:** Contractor's experience, equipment availability and worker training.
- **Hazard controls:** Controls that reduce either the consequence or the likelihood of a hazard; choice of controls depends on the risk level, degree of operator control over the use of the cover and the user's exposure.
- **Route selection constraints:** Site access, hydrology and site permits.

It is also important to consider who will be exposed to the hazards associated with the ice cover: the contractor's crew, vehicle operators and members of the public. Normally, the contractor's crew face the greatest risk because crew members go out on the ice with minimal information at the start of the season. This can be dealt with by adhering to controls implemented during the pre-construction and construction phases. Although vehicle operators may be hauling the heaviest loads, the hazards they are exposed to are minimized through use of the hazard controls.

Members of the public may be at risk if they attempt to access an ice cover when it has been closed by the operator and the operational controls are no longer in place. Consequently, it may be necessary to develop other controls to deal with hazards to the public.

2.2 ICE COVER TYPE

Ice type considers how the ice forms, a factor that affects the ice cover's strength, variability and quality. Freshwater ice, often referred to as blue ice, forms naturally on lakes and rivers and can be similar in strength across all surfaces (Figure 1). Rivers are more dynamic and subject to currents, so are consequently more variable (Figure 2). Natural flood (white) ice, which occurs when water floods the surface of natural ice, can be of lesser quality due to the presence of snow and unfrozen water (Figure 3). Constructed flood ice built by qualified personnel with good practices can generate ice that is comparable to freshwater blue ice in strength and uniformity. The ice types with the least strength and quality are frazil ice (Figure 4) and jam ice (Figure 5).

ICE TYPES (Ashton 1985)

1

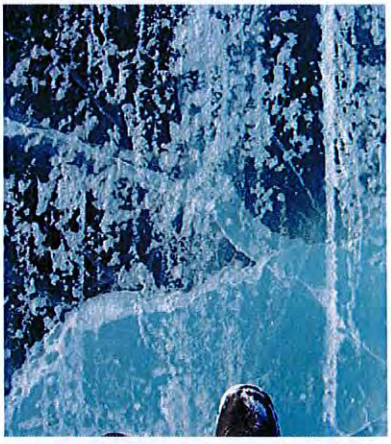


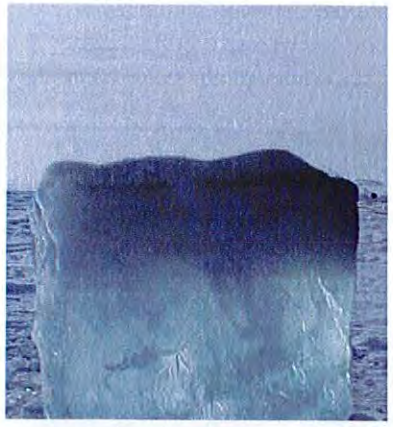
Figure 1
Clear blue lake ice

Blue ice
Ice that grows below the layer of surface ice under calm conditions. It usually forms in vertical, columnar crystals that contain few air bubbles. It appears to be blue because it's clear enough to see the water underneath it.

2

Figure 2
Clear blue river ice

3



White ice (snow ice)
Ice that forms on top of the surface ice by natural or man-made flooding of snow. It's white because it contains a significant number of air bubbles.

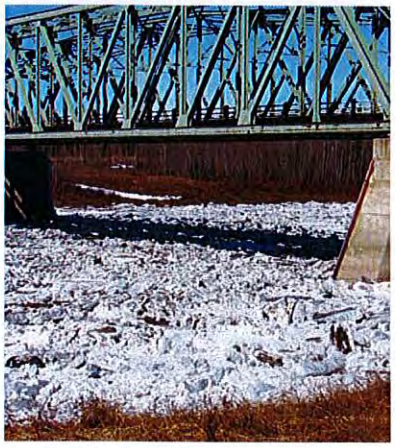
Figure 3
White (snow) ice

4

Frazil ice (slush ice)
Ice made up of disk-shaped ice particles that form and join together in agitated water. It is usually found in rivers or streams with turbulent waters.

Figure 4
Frazil ice (slush ice)

5



Jam ice
An accumulation of ice that often forms on rivers or streams. It occurs when currents move pieces of ice cover to an area where they accumulate and freeze together to form very rough and thick ice covers.

Figure 5
Jam ice

Peatland ice cover or frost depth (depth at which the peat is well bonded by ice) poses a greater risk because it can be overlooked. The depth of frost depends on the air temperature, composition/depth of peat or mineral soil, and the type of ground cover. The strength of saturated frozen peat depends on the peat's composition, water content and temperature.

The ice cover type is a key component when conducting a hazard assessment and identifying appropriate hazard management. Higher loads could be used for reliable freshwater lake ice that has good ice monitoring data and a high level of operational controls.

TABLE 1: ICE TYPES AND THEIR VARIABILITY

Ice Type	Ice Thickness	Quality and Strength
Freshwater lake (blue) ice	Low variability over an area	Uniform ice quality
		Higher strength due to low variability
River (blue) ice	Medium to high variability over an area	Fairly uniform ice quality
	More prone to losing underside ice thickness to currents	Variable strength due to variable ice thickness
Natural overflow (white) ice	High variability over an area	Overflow ice, caused by natural water overflow onto the ice surface, usually contains high air content and should not be relied upon in calculating effective ice thickness
Constructed flood ice	Good practices build uniform ice	Uniformity and quality depend on construction practices If ice is constructed using sound construction practices, which may include pumping fresh water directly onto the surface of bare ice (flooding), then this ice, once completely frozen and inspected, can be considered as having similar strength to Freshwater lake ice*
Peatland ice	High variability	Strength is highly variable due to water chemistry and temperature
		Frost depth depends on air temperature, peat composition/ thickness and ground cover
		Requires specialized analyses and investigation of ice conditions

*(Masterson, D.M., Invited Paper: State of the art of ice bearing capacity and ice construction, Cold Regions Science and Technology (2009), doi:10.1016/j.coldregions.2009.04.002)

2.3 TYPES OF ICE COVER CRACKS

Any ice cover will have cracks caused by thermal contraction or movements in the ice cover. Cracks do not necessarily indicate a loss in the load bearing capacity of the ice, except when they are wet or they are radial or circumferential cracks associated with overloading the ice.

Eight mechanisms that cause cracks in ice covers are:

- Excessive loads.
- Differences in ice thickness and buoyancy.
- Snowbanks.
- Thermal contraction of ice.
- Thermal expansion of ice.
- High winds.
- Water level fluctuations.
- Dynamic waves.

Figure 6
Plan view of radial (spoke-like) and circumferential (round) cracks forming on overloaded ice

Load-induced cracks are those caused by moving/stationary loads that are too heavy for the ice. Field studies have shown that gradually overloading the ice leads to three stages of cracking, as shown in Figure 6:

- **Radial cracks** may be observed originating from the centre of a load, like spokes on a bicycle wheel. This usually occurs at about one half of the failure load. Radial cracks are a warning that the ice is overloaded and the load should be removed immediately.
- **Circumferential cracks** are those that start forming a circle around the load Circumferential cracks circle the load like the ripples caused by a stone tossed in a pond. They are a warning that the load is about to break through the ice and personnel should be evacuated from the loaded area.
- **Circumferential cracks that connect with radial cracks** to form pie-shaped wedges indicate the ice has failed at this point and the load can fall through at any time, as experienced by the D10 Caterpillar operator in Figure 7.

Figure 7
Breakthrough of a D10 Caterpillar tractor following formation of a circumferential crack pattern

Thicker ice can provide a warning, but thinner ice can fail so rapidly that radial cracking cannot be relied on for any warning.

Figure 8
Normal longitudinal cracking caused by buoyancy of the thickened ice over the 20-metre wide travel lane

Differences in ice thickness and buoyancy cause longitudinal cracks to form along the road in the middle of the cleared lane (Figure 8). As discussed in Section 4.1.6, the thicker ice in the cleared lane rises above the ice that's depressed beneath the heavy snow banks. This causes an upward bending of the ice cover that reaches a maximum in the middle of the cleared lane. When the bending becomes severe enough, cracks form on the surface of the ice to relieve the stresses. In most cases, the cracks do not extend deep enough to create a breakthrough hazard.

Figure 9
Longitudinal cracks that have intersected and caused a block of ice to pop out

Sometimes several longitudinal cracks can intersect on the surface. Under the right conditions, a shallow piece of ice can pop out (Figure 9). These pop-outs, like potholes on regular roads, are a hazard because they can cause vehicle damage.

Figure 10
Evidence of wet cracks underneath a snow bank from water that flowed through the cracks and froze on the surface

Cracks can occur under snowbanks that are built by snow piled into windrows along the edge during snow clearing, as shown in Figure 10. These cracks form because the snow depresses and bends the ice cover underneath the snow. Cracks are also more likely to form because the ice cover is thinner here due to the insulating effect of the snow. Most of these cracks start on the bottom and extend upward but they usually do not reach the surface. However, some of these cracks extend to the top of the cover, creating a wet crack that is a hazard. These cracks should be monitored and all traffic kept clear of these areas until these flooded areas have re-frozen. Contractors should exercise great care when conducting *any* activities in the area of snow banks. Consideration should be made in the initial ice design to create enough working space on the ice sheet so that snow banks do not need to be moved once established. Additional guidance for snow clearing in the vicinity of snow banks is provided in Section 4.1.6.

Thermal contraction cracks are caused when ice shrinks due to significant cooling. These cracks are usually distributed randomly over the ice and spaced well apart. Snow removal tends to promote thermal contraction cracks because it exposes the surface to rapidly changing air temperatures. Thermal contraction cracks are usually dry but should be monitored because they can become wet cracks if they are subject to further contraction or heavy loads.

Thermal expansion can lead to pressure ridges, which are portions of the ice sheet that have moved together to form ridges that can rise up to three metres above the surface and extend for hundreds of metres (Figure 11). These ridges often occur after the formation of thermal contraction cracks that have filled with water and refrozen. If there is a sudden warming of the ice, then the ice sheet expansion is accommodated by upward movements of ice at weak (thin) locations in the ice sheet. These tend to form on larger lakes (several kilometres across) where the thermal expansion effect can accumulate over large distances. Pressure ridges can challenge operators because they can be areas of reduced bearing capacity or sources of water, or be difficult to cross. Pressure ridges can recur over several years and local knowledge may help in identifying potential pressure ridge locations.

Wind cracks often result in ridge formation that can be parallel or perpendicular to the shoreline. Ice covers should be inspected for wet cracks after experiencing sustained winds of 55 km/h or more early in the season. Wet cracks must either be repaired or avoided by relocating the activities on the ice cover.

Figure 11
Pressure ridge about two metres high and several hundred metres long that formed adjacent to a road over lake ice

Figure 12
Hinge crack that became a break along a lake shoreline when the water level dropped

Water level fluctuation cracks usually occur in rivers but can occur in lakes when lake levels change. Cracks can also occur in rivers downstream of dams that control water levels. These cracks are almost always wet, tend to follow the shoreline and occur around grounded ice features. In severe cases, the ice cover can separate completely and form a significant drop (Figure 12). It is best to avoid areas of grounded ice features that have water level fluctuation cracks around them. These cracks should be checked before permitting loads to cross them.

Figure 13
Blowout caused by speeding vehicles creating dynamic waves that release their energy at weak areas in the ice

Dynamic waves caused by vehicles travelling too quickly over the ice can cause ruptures in the ice where it is thin or weak. The most common form of rupture is the crown shaped blowout (Figure 13). These can be two to 20 metres across but tend to occur away from the thickened ice and in thinner ice areas.

2.4 TYPES OF LOADS

Load types consider the anticipated demand on the ice cover in terms of the number and weight of the loads (Figure 14). Five load types are identified:

- Foot traffic (total load less than 120 kg) such as workers carrying out initial testing of the ice.
- Snowmobiles (total load less than 500 kg) used at the beginning of the season to pioneer a trail for ice road clearing or for one-time access to a site.
- Light vehicle traffic (total load less than 5,000 kg) to move personnel and light equipment to a work site across an ice cover that has been cleared of snow to promote ice growth.
- Construction vehicles/equipment, including amphibious vehicles (total load less than 22,500 kg) used to clear snow and build ice.
- Heavy vehicle traffic (22,500 to 63,500 kg) for moving heavier equipment across an ice cover that has been cleared/built for this purpose.

Heavier and more frequent loads require greater hazard controls to offset the higher risk of ice failure.

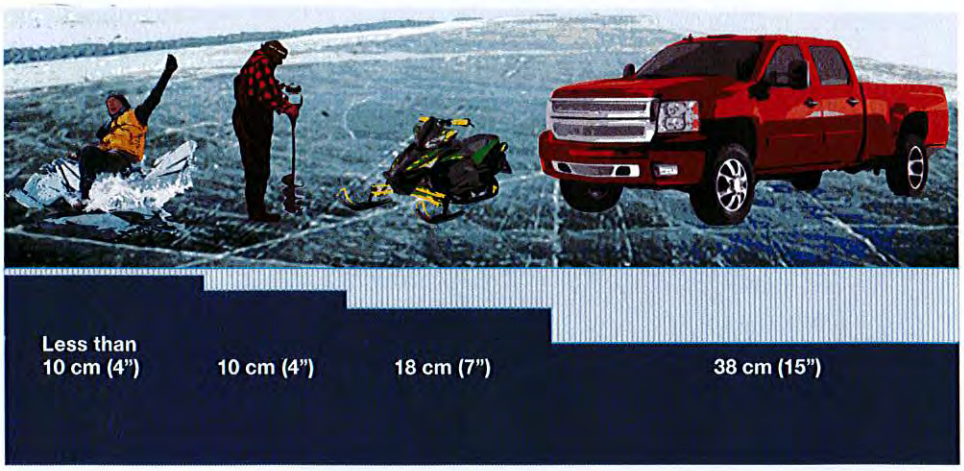


Figure 14
Recommended minimum ice thickness

2.5 LOAD DURATION

Load duration must be considered because it affects the success or failure of the ice cover and the way the carrying capacity is analyzed (Table 2). Vehicles moving across the ice cover are analyzed using a different design approach than is used for stationary (immobile/parked) loads such as a drill rig or disabled vehicle sitting on the ice cover.

TABLE 2: LOAD DURATION

Load Duration	Observed Effects	Design Options for Carrying Capacity
Slow moving loads with stops of short duration (less than two hours)	Initial cracking of the ice cover	Refer to Section 4
Stationary loads of medium duration (less than seven days)	Ice deflection that approaches freeboard	Special analyses in Section 4.1.5
Stationary loads of longer duration (more than seven days)	Excessive creep deflection — water on the ice	Professional engineer must review

Vehicle spacing is a factor that is addressed in Sections 5.2.3 and 5.2.4.

This Best Practice provides some specific recommendations for slow moving vehicles (less than 25 km/h) and short duration (less than two hours) stationary loads on ice covers. For medium-duration loads, some preliminary recommendations are provided for loads less than 5,000 kg; heavier stationary loads require recommendations from a professional engineer.

2.6 SCHEDULE AND OPERATING WINDOW

Scheduling of ice cover operations depends on ice quality and strength, weather conditions and traffic requirements.

Weather conditions usually dictate the timing of construction start-up. Air temperatures and snow cover affect the growth of the ice cover (extent of cover, thickness and stability). Climatic data and local ice conditions are important for evaluating the probable range of operating period.

Traffic requirements should be defined by traffic volume (number of crossings per season):

- Very low (<10 crossings).
- Low (10 to 50 crossings).
- Medium (51 to 100 crossings).
- High (>100 crossings).
- Very high (>1,000 crossings).

A project with a high number of vehicle crossings could require that an ice cover remain open for as many days as possible, so achieving an early start can be very important. For projects with a low number of vehicle crossings, a long ice cover season is not as critical; therefore, identifying a few weeks within a season to safely move a few heavy loads may be the priority.

A preliminary schedule needs to be established to determine what seasonal conditions or constraints exist.

2.7 CONTRACTOR CAPABILITY

Experienced contractors may take the overall responsibility for planning, preparing, designing, building and operating ice covers. The contractor's experience can therefore be critical in selecting the route, equipment and people required to build and operate a successful ice cover. Owners of the ice cover may maintain overall project control, but the contractor's role remains crucial to the successful construction and operation of the ice cover.

The following attributes should be considered when reviewing a contractor's capabilities:

- Experience in building similar ice covers.
- Experience in building ice covers in the same region.
- Experience of key staff.
- Availability of equipment for construction.
- Health and safety plan for working on ice.
- Demonstrated knowledge and understanding of this Best Practice required for the safe construction, maintenance and operation of ice covers.

2.8 ROUTE AND SITE CONDITIONS

The use of floating ice covers is most frequently associated with seasonal transportation facilities such as winter roads or ice bridges. Winter roads make use of ice covers on lakes and peatlands that will not support traffic loading unless frozen. Ice bridges are a common feature on the major rivers of northern Alberta such as the Peace and Athabasca. Winter roads and ice bridges can improve or provide access to remote communities or allow seasonal access for construction or re-supply at remote sites. Use of ice covers for seasonal transportation purposes requires route planning and recognition of certain site features that will directly influence the application of this Best Practice. Those features that must be recognized and evaluated in the planning process are discussed in this section.

2.8.1 PREVIOUS LOCAL EXPERIENCE

The first step in planning for use of an ice cover is to thoroughly evaluate previous use of ice covers along the route or at the site under consideration. Much of the technology for understanding ice behaviour has evolved from field observations and experience. Contractors with prior experience with similar ice covers at the site or at nearby sites can provide field experience that is valuable. However, caution is still advised when considering field experience because water levels, weather and ice conditions can vary from year to year. Contractors may have to alter their methods and equipment to adapt to changes in ice conditions that differ significantly from what they're accustomed to seeing.

2.8.2 LOCAL CLIMATE

Ice growth and capacity is directly linked to the climatic conditions at the site during the time of construction activities. The parameters of importance are mean daily temperature and snow cover. Local climatic variations may have to be considered when applying temperature and snowfall data from a meteorological station near to the project location.

Current and historical data for weather stations throughout Alberta is available from Environment Canada's Climate Data Online website:
http://www.climate.weatheroffice.ec.gc.ca/climateData/canada_e.html

Throughout Northern Canada, warming trends caused by climate change are affecting the function and design of seasonal infrastructure that relies on frozen conditions. The greatest changes are being documented during the winter months in the northern most part of the provinces and territories. The last published Canadian Climate Normals, a 30 year running average of climatic data to which any individual year is compared, are for the period 1971 to 2000. The last 10 years have experienced three of the warmest winters on record; therefore, it is reasonable to expect that the new Climate Normals (expected in 2011) will show a significant increase in what is considered a normal air temperature throughout northern Alberta. What may be of greater significance is the range of variability currently observed between a "warm year" and a "cold year." This variability, coupled with the substantial changes in precipitation that accumulates as snow on the early season ice surface, can impede normal ice growth.

A parameter that is useful for planning purposes and for tracking the onset of winter freeze-up is the Air Freezing Index. The months of November through March generally produce negative mean daily temperatures that represent the freezing potential as winter deepens; these mean temperatures accumulate over the number of days in the months throughout the winter and are expressed as "degree-days" (°C-days). Tracking the accumulated degree-days for a station as the winter develops provides an indication of the winter's severity, which can then be linked to ice growth. A plot of the Air Freezing Index for the station at Fort McMurray is shown in Figure 15.

Warm Winter of 2005/06 Alberta Towns Isolated after Winter Road Ice Melts

About 1,000 people in northern Alberta communities have been cut off from the world after unusually warm weather prompted officials to close the only road through the area. At least one man is trapped in an isolated community with a rental car that he can't get back to the lender. Other residents fear shortages of food and fuel.

The winter road, which is usually open from December to March, stretches about 280 km from Fort McMurray to Fort Chipewyan. Much of the road travels over frozen lakes, rivers, muskeg, mudflats and sand dunes in the Athabasca River Delta.

But temperatures in late December hovered at or above 0 C, which is 20 to 30 degrees warmer than normal. Will Fletts said he knew there was something wrong with the winter road; as he drove on a river, he could hear water flowing beneath the ice under his tires.

Excerpt from CBC News report, December 28, 2005

These annual comparisons are the only forward-looking tool for predicting trends and planning contingency measures for projects. The 2005-06 Fort McMurray data suggest the early December data was fairly indicative of the general trend for that warm winter. Such a warm winter necessitates the use of contingencies to maintain safe operations over floating ice.

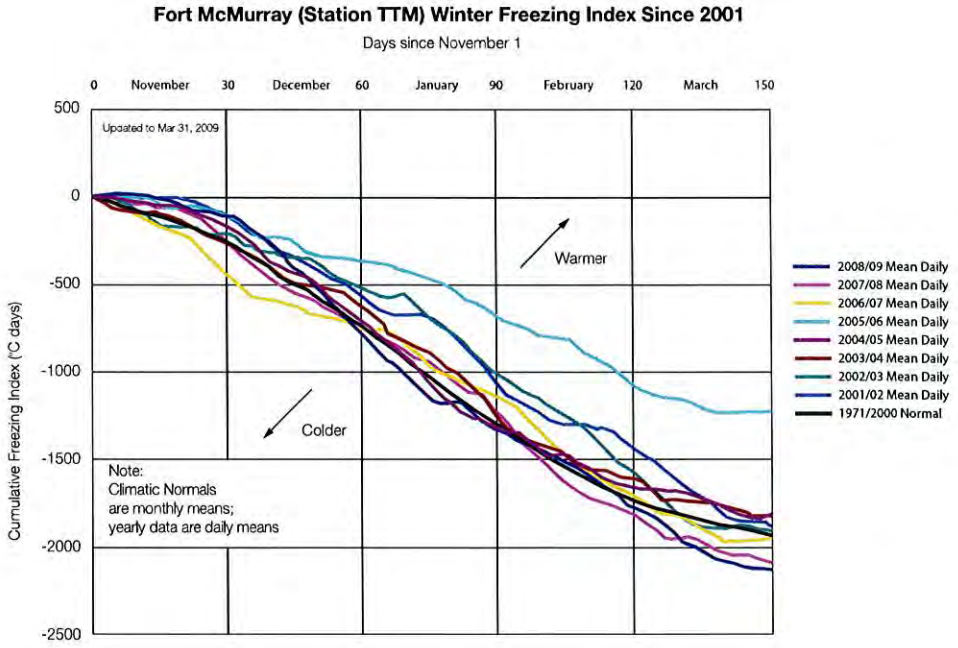


Figure 15
Fort McMurray Air Freezing Index
courtesy of EBA Engineering

2.8.3 ROUTE SELECTION OVER LAKES, PONDS AND MUSKEG TERRAIN

The following factors must be considered at the planning phase when lake ice is used in a winter road route alignment:

- **Access onto and off the lake ice surface:** This must be a technically and environmentally acceptable route. Avoid river and stream outlets/inlets as the lake ice cover near them is usually unreliable.
- **Water depth along the chosen lake crossing:** A rough bottom condition caused by unforeseen shoals and sandbars can initiate lake ice fractures and should be avoided wherever practical.
- **Overall water depth along the route:** A route that follows continuous deep water is often the most effective alternative, particularly for heavy loads that require severe speed restrictions to manage the ice deflections that occur from movement in the ice and water.

Routing a winter road across frozen peatlands can also expose workers to ice failure hazards that are often overlooked. Open peatland or muskeg terrain in northern Alberta is commonly a mosaic of bog and fen landforms, as shown in Figures 16 and 17. The fens can be ponds that are hidden by a thin layer of floating live vegetation. There are documented cases of construction equipment breaking through thin frozen peat unexpectedly, resulting in an operator fatality.

Planning winter routes over peatland requires the same caution as planning routes over rivers. A terrain assessment carried out by a geomorphologist or geotechnical engineer using stereo aerial photos will identify areas at risk. Aerial photography and summer aerial views can provide important information. This assessment should be verified by route reconnaissance, and appropriate plans should be developed to monitor the thickness of ice or frozen peat before construction equipment is deployed.

Figure 16
Right-of-way over muskeg terrain

Muskeg terrain is sensitive and there may be requirements to minimize damage from a winter road. A scar of a winter road across this type of terrain is shown in Figure 17.

Figure 17
A scar of a winter road across peatland

2.8.4 RIVER AND STREAM COVERS

River ice is less predictable than lake ice. It is affected by fluctuating water levels, under-ice currents, and bottom conditions that can shift from year to year. Specific route or site factors that must be carefully considered when planning ice bridges across rivers include:

- **Choose the best site:** Where several crossing sites are considered practical, choose the site that has the deepest water and most uniform bottom conditions. This is often the widest crossing site, unlike an appropriate crossing for a structural bridge. Be cautious of the proximity of islands because they are features that are commonly created by active erosion or deposition, signifying channel shifting and unpredictable currents.
- **Be aware of variations in ice thickness:** The presence of naturally drifting snow on river ice combined with under-ice currents can result in highly variable ice thickness. These conditions require a high degree of vigilance to confirm and monitor ice growth and variations in ice thickness. It is recommended to have ice thickness verified with accuracy by technical aids such as Ground Penetrating Radar (GPR) profiling.
- **Map the river bottom:** Sand bars and other features that determine bottom topography can affect ice cover thickness and extent. River bottom topography should be mapped with either manual water depth measurements or with geophysical methods (sonar or GPR).
- **Ensure river bank is stable:** Locations for access to and from the ice surface should be chosen where river bank stability is considered acceptable from hydrological, geotechnical and environmental perspectives.
- **Be aware of other factors:** Water level under the ice can be affected during the operating period by factors that are not common but on occasion have been known to result in unsafe conditions. For example, river estuaries near tidewater affect ice bridges on the James Bay Winter Road in Ontario. The presence of high dams, such as the Bennett Dam in British Columbia, can be a threat to water levels supporting ice bridges on the Peace River in Northern Alberta. River flow data can be obtained from the Water Survey of Canada: http://www.wsc.ec.gc.ca/index_e.cfm?cname=main_e.cfm.

Figure 18
Winter road access over a river bank

SECTION 3: ICE COVER HAZARD CONTROLS

The hazard management approach adopted in this Best Practice is shown in Figure 19 and the following example, where the risk of ice breakthrough and cold water immersion is assessed for an ice road.

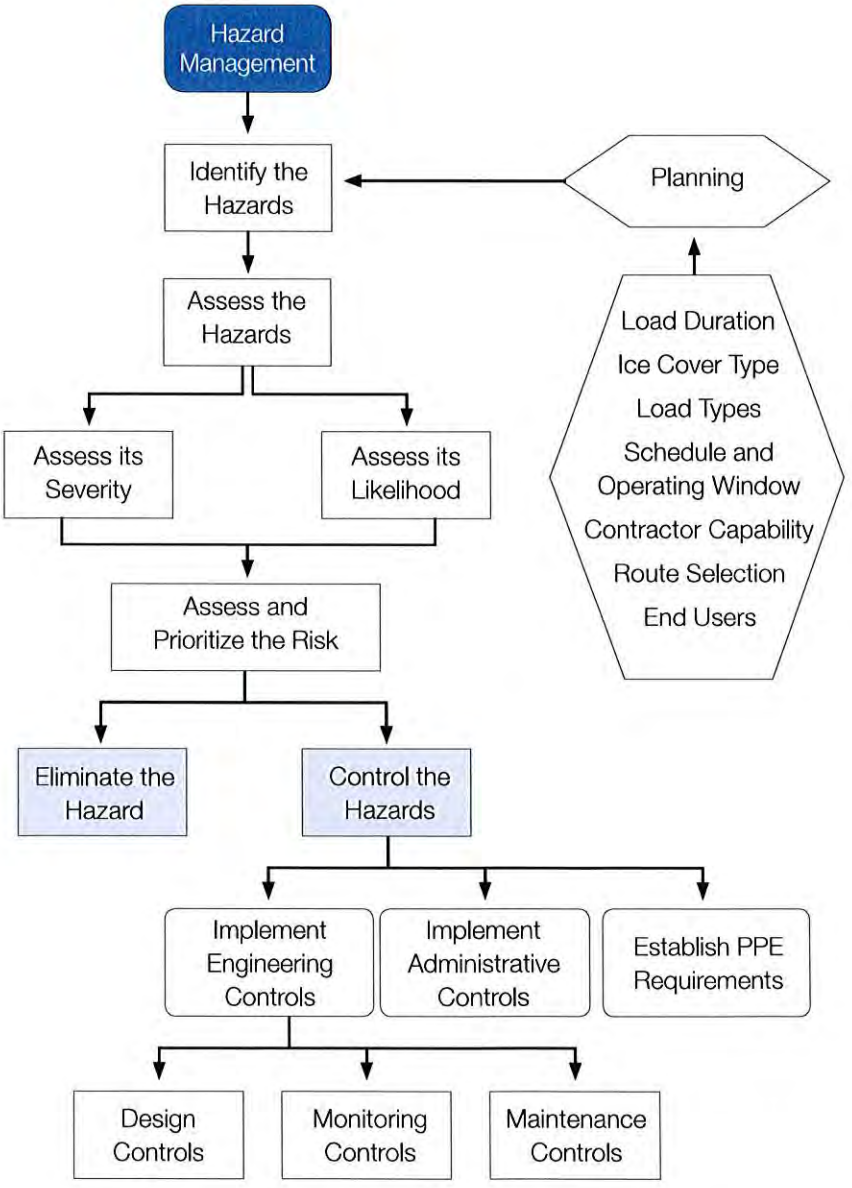


Figure 19
Flow chart for hazard assessment, elimination and control for working on floating ice covers

1. Identify the Hazard: failure of the ice cover and breakthrough of a person or vehicle.

2. Assess the Hazard
   i. Assess the severity of consequences: fatality; loss of property; short-term cover closure and repair.
   ii. Assess the likelihood of consequences: likely to remote with a potential of once in the life of the ice cover.
   iii. Assess and prioritize the hazards based on risk:
      A. Assess: classify the risk from low to substantial risk according to both severity and likelihood.
      B. Prioritize: choose a load capacity (and equivalent ice thickness) based on risk level and hazard controls that will be implemented during operations.

3. Eliminate or Control the Hazard
   i. Eliminate the hazard: choose another route that does not require an ice cover.
   ii. Implement engineering controls (Section 4)
      A. Design controls (Section 4.1)
         a. Use appropriate bearing capacity factor.
         b. Design lane widths.
         c. Adjust road alignment to control speeds.
         d. Position snow banks.
         e. Set ice performance criteria.
      B. Monitoring controls (Section 4.2)
         a. Define ice quality requirements and restrictions on ice cover use.
         b. Monitor ice conditions: thickness and ice cracking.
         c. Identify maintenance actions.
      C. Maintenance controls (Section 4.3)
         a. Flooding of thin ice.
         b. Repair of damaged ice.
         c. Close ice cover or detour road if conditions do not meet ice performance criteria.

iii. Implement Administrative Controls (Section 5)

A. Develop ice safety plan for:

a. Construction workers.

b. Authorized users.

c. Unauthorized users (public).

B. Develop and deliver training/awareness programs for:

a. Construction workers.

b. Authorized users.

c. Unauthorized users (public).

C. Develop rules of construction and operation:

a. Minimum ice thickness for equipment and workers.

b. Safe work practices.

iv. Establish personal protective equipment (PPE) requirements:

A. Identify PPE needed.

B. Mandate PPE for contractors' workers.

C. Mandate PPE for equipment operators.

Engineering design controls are discussed in Section 4.1. These are controls that are considered during the design phase so that they can be incorporated during the construction and operation of the ice cover.

Monitoring controls are discussed in Section 4.2. These controls are used in conjunction with the monitoring criteria set out during the design phase to determine when the ice cover is ready for construction or operations, or when there is a need for repairs or maintenance. They involve measuring the ice thickness and regularly observing ice cover quality (cracking).

Maintenance controls are discussed in Section 4.3. These controls are used in conjunction with the performance criteria and monitoring programs to address portions of the ice cover that may be compromised by poor ice conditions (e.g., cracking or thin areas).

Administrative controls are discussed in Section 5. These controls, documented in your Ice Safety Plan, must be explained to workers who will work on the ice, including the hazards they may encounter and the steps they need to take to reduce their exposure to the hazard.

PPE requirements for workers and their safety equipment are listed in Appendix C.

SECTION 4: ICE COVER DESIGN, MONITORING AND MAINTENANCE

4.1 DESIGN CONTROLS

4.1.1 GOLD'S FORMULA

All guidelines currently in use in Canada are based on a technical paper published by Dr. Lorne Gold in 1971 entitled "Use of Ice Covers for Transportation". Gold's Formula is

$$P = A \times h^2$$

where:

P is the allowable load in kilograms
A is a parameter that depends on the strength of the ice
h is the effective thickness of good quality ice (cm)

Gold suggested a range of A-values for lake ice that corresponds to a range of safe ice thicknesses for a given load or a range of acceptable loads for a given ice thickness. However, at higher A-values within these acceptable ranges, additional hazard controls must be implemented to reduce risk of break through to an acceptable level. Table 3 identifies allowable loads for a measured ice thickness for various A-values that are in common use together with an interpreted level of risk. Table 4 describes the hazard control procedures to be used for the A-values and interpreted level of risk.

For example, if your task is to move a load of 15,000 kg across an ice cover, you may choose A-values of 3.5, 4, 5 or 6. If you need to get the load across the ice and have a very short schedule and operating window, then you could select an A-value of 6 because it requires a minimum ice thickness (h) of 50 cm. However, this is a substantial risk that would require you to implement the hazards controls identified for substantial risk in Table 4. Alternatively, if you prefer a lesser risk, then you could select a low risk A-value of 3.5, where the minimum ice thickness (h) is 70 cm. This A-value requires the hazard controls identified for low risk in Table 4.

In between these two A-values are two other choices: A of 4 and A of 5. An A-value of 4 is tolerable risk and the minimum ice thickness for 15,000 kg is 65 cm. An A-value of 5 is moderate risk and the minimum ice thickness for 15,000 kg is 55 cm. Both require you to implement the corresponding hazard controls in Table 4 for tolerable and moderate risk.

TABLE 3: ALLOWABLE LOADS IN KGS FOR A-VALUES AND EFFECTIVE ICE THICKNESS

Low Risk ← Allowable Load (P=kg) → Substantial Risk

h=Effective Ice Thickness (cm)	A=3.5 Low Risk	A=4 Tolerable Risk	A=5 Moderate Risk	A=6 Substantial Risk
20	1400	*	*	*
25	2200	*	*	*
30	3150	*	*	*
35	4300	4900	6120	7350
40	5600	6400	8000	9600
45	7100	8100	10100	12100
50	8750	10000	12500	15000
55	10600	12100	15100	18100
60	12600	14400	18000	21600
65	14800	16900	21100	25300
70	17100	19600	24500	29400
75	19700	22500	28100	33700
80	22400	25600	32000	38400
85	25300	28900	36100	43300
90	28300	32400	40500	48600
95	31600	36100	45100	54100
100	35000	40000	50000	60000
105	38600	44100	55100	63500
110	42300	48400	60500	**
115	46300	52900	63500	**
120	50400	57600	**	**
125	54700	62500	**	**
127	56450	63500	**	**

Limitations: This table must be used in conjunction with the hazard controls identified in Table 4

* Refer to Table 5

** Seek the advice of a professional engineer

Gold's Formula has been used extensively since 1971 and forms the basis for all published ice capacity guides. However, it is not an infallible measure of the carrying capacity of an ice cover and must be combined with ice monitoring, maintenance and administrative hazard controls.

The required ice thickness for a given vehicle load must be determined in conjunction with the hazard control process outlined in Section 3. An appropriate A-value is chosen based on balancing risk level against operational controls. Those controls are usually linked to project requirements. For example, if the project requires heavy vehicle traffic and a high traffic volume, then it may not be feasible to design and build an ice cover based on a conservative (low) A-value. However, the risk posed by choosing a higher A-value can be balanced by implementing hazard controls to reduce the risk of the breakthrough hazard. Table 4 shows how A-values are used with appropriate controls to maintain the safety of the ice cover.

TABLE 4: A-VALUES AND HAZARD CONTROLS (NOT TO BE USED FOR LOADS LESS THAN 1,500 KG—USE TABLE 5)

A-value Lake Ice	A-value River Ice	Level of Risk	Hazard Controls		
			Monitoring Controls	Maintenance Controls	Administrative Controls
4	3.5	Low	Manual ice measurements and checking of ice quality	Repairs and maintenance as needed	• Ice safety plan • Orientation and instruction for workers and operators • Routine worksite observations to enforce rules of ice cover
5	4	Tolerable	• Program of regular manual ice measurements • Ice quality monitoring program	Repairs and maintenance as needed	• Ice safety plan • Orientation and instruction for workers and operators • Routine worksite observations to enforce rules of ice cover
6	5	Moderate	• Daily program of regular ice measurements or program for regular GPR ice profiling plus manual ice measurements • Ice quality monitoring program	Regular repairs and maintenance	• Ice safety plan • Orientation and training for workers and operators • Daily enforcement of rules of ice cover
7	6	Substantial – special provisions	• Program for regular GPR ice profiling and manual ice measurements. • Ice quality monitoring program – flexibility for alternate measurements	Daily program of repairs and maintenance	• Ice safety plan • Orientation and training for workers and operators • Daily enforcement of rules of ice cover

4.1.2 EFFECTIVE ICE THICKNESS

Effective ice thickness (h) as established in Table 3 is defined as the good quality, well-bonded white and blue ice that is measured in an ice cover. Poor quality or poorly bonded ice should not be included in the measurement of ice thickness. The following are examples of ice that should be excluded from the measurements if they are encountered:

- Ice layer with water lens (>5 mm diameter) with a cumulative volume greater than 10% of the total volume.
- Ice layer with visible incompletely frozen frazil (slush) ice.
- Ice layer that is poorly bonded to the adjoining layer.
- Ice layer that has been found to have a strength less than 50% of good quality blue ice (a number of specialized methods are available for determining ice strength).
- Ice that has wet cracks.

The number and coverage of the ice thickness measurements can also factor into the calculation of the allowable loads—more measurements increase the confidence of ice measurements, as does taking the measurements over a wide area. Follow the procedure described in Ice Monitoring Controls (Section 4.2) to determine the minimum ice thickness. Table 3 and Figure 20 show the calculated loads for A-values. Table 4 describes the hazard controls to be used with the A-value and interpreted level of risk.

4.1.3 RECOMMENDED SHORT-TERM WORKING LOADS ON ICE COVERS

It is important to determine the weight of the equipment or vehicles before they are placed on the ice cover. Although equipment/vehicle manuals often provide weights, these often do not include the weight of fuel, extra equipment or personnel. When in doubt, equipment or vehicles should be scaled to determine actual weight.

A professional engineer should provide recommendations for loads greater than 63,500 kg (e.g., highway legal 8 axle Super B tractor-trailers).

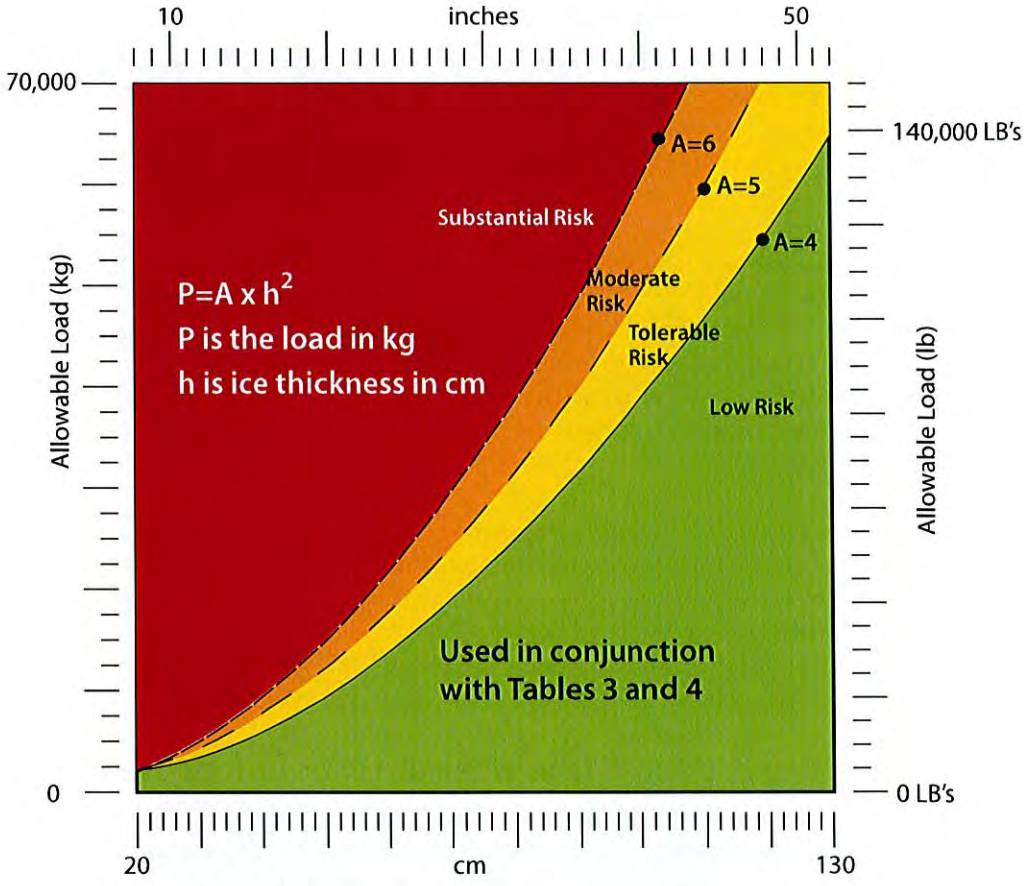


Figure 20
Ice Bearing Capacity Chart

Gold's Formula, Table 3 and Figure 20 should not be used to estimate the minimum ice thickness for loads less than 5,000 kg. Instead use Table 5.

TABLE 5: MINIMUM ICE THICKNESS FOR LIGHTER LOADS

Load / Situation (Slow Moving Loads)	Minimum Effective Thickness (cm)
Person walking (120 kg)	10
Snowmobiles (Maximum weight machine + rider <500 kg)	18
¾ ton 4x4 vehicles (Maximum GVW of 5,000 kg)	38

Limitations: must be used in conjunction with hazard controls outlined in Table 4 for A=4 for lake ice or A=3.5 for river ice.

4.1.4 EFFECT OF SUDDEN AND EXTREME TEMPERATURE CHANGES

Rapid Cooling of the Ice

Sudden temperature drops (e.g., more than 20°C over a 24-hour period) produce severe thermal stressing as ice contracts (shrinks). During ice contraction, dry cracks (Figure 21) can form or existing cracks can grow and these could become wet if they extend through the entire thickness. The ice cover should be checked for cracks that may affect load capacity; determine what, if any, steps are necessary to maintain load capacity. Snow cover on the ice may slow down thermal changes and can hide cracks.

Figure 21
Longitudinal ice contraction crack

Warming of the Ice

A warm period when the air temperature remains above freezing for 24 hours or more allows the ice to warm rapidly from the surface down. These effects are greatest on bare ice and are reduced by increasing depths of snow cover. Even though the ice may have adequate thickness, ice strength can be substantially reduced the longer it is exposed to sunlight and above freezing temperatures (Ashton 1986).

If the average air temperature exceeds 0°C for more than 48 hours, then the following steps should be taken:

1. Determine the minimum ice thickness.
2. Calculate the allowable weight for the measured ice thickness using Table 3 and reduce it by 50%.
3. Monitor ice conditions for signs of decay, cracking and water.
4. Re-evaluate the allowable weight if the average air temperature remains below 0°C for more than 24 hours and the ice conditions meet the requirements for strength and cracking.

If circumstances dictate, consult with a professional engineer to assess the load capacity of the ice cover.

Ice bearing capacity can be reduced rapidly if the ice cover is subjected to warm air temperatures in combination with the longer daylight conditions that develop in late March. Operations on the ice should be terminated well before this condition begins.

4.1.5 STATIONARY LOADS

There is a fundamental difference between the behaviour of ice under short-term loads and long-term stationary loads. Under long-term loads (more than two hours but less than seven days), the ice continues to sag or deflect until it fails. Different methods are used to estimate the required ice thickness under stationary loads. There are also differences in how the ice cover is monitored and operated under stationary loads.

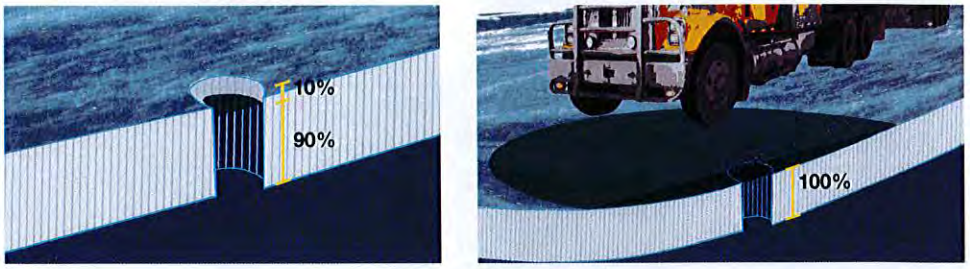


Figure 22

Left: Water level in an auger hole showing positive freeboard and no ice deflection

Right: Water level in an auger hole showing no freeboard and water is collecting on the ice because the ice has deflected under the load.

The safety risk in placing stationary loads that are heavier than 5,000 kg onto ice should be analyzed by a professional engineer. Table 6 provides recommended minimum ice thicknesses for vehicles weighing up to 5,000 kg. Under these conditions ice deflection should be acceptable. Ice deflection can be checked by drilling a hole through the ice and measuring the freeboard. Freeboard is the distance measured from the ice surface to the stationary water level in the hole below the surface, and it arises because ice is less dense than water so it floats. If freeboard is less than 10% the ice thickness (Figure 22 left), then the ice is deflecting and should be monitored while the load remains on the ice. Loads should be removed before freeboard reaches zero (Figure 22 right), to prevent water flooding the ice surface through an opening in the ice cover. Figure 23 shows a 200 metric ton bulk sampling drill rig operating on floating lake ice that was 2 metres thick. An extensive ice monitoring program was in place during the 14 days of drilling operations to determine if the ice deflection and ice quality were consistent with performance requirements.

Figure 23
Stationary load (bulk sampling drilling rig) on constructed lake ice about two metres thick

TABLE 6: MINIMUM ICE THICKNESS FOR STATIONARY/PARKED LOADS UP TO 5,000 KG (FOR MORE THAN TWO HOURS BUT LESS THAN SEVEN DAYS)

Load/Situation	Minimum Effective Thickness (cm)
Person standing	15
Snowmobiles (Maximum weight machine + rider <500 kg)	25
Loaded vehicle >500 kg but <1,000 kg	32
Loaded vehicle >1,000 but <2,000 kg	41
Vehicle >2,000 but <3,000 kg	46
¾ ton 4x4 vehicles (Maximum GVW of 5,000 kg)	55

Limitations must be used in conjunction with the low level of hazard controls identified in Table 4.

If a vehicle or equipment becomes disabled on ice that does not meet the requirements of Table 6, the occupants must be prepared with the necessary emergency kits and supplies, and be ready to abandon the vehicle within two hours. The occupants should have a communications device that enables them to contact the operator of the ice cover so help can be dispatched. Operators must then make arrangements for the workers to be evacuated immediately and for the vehicle to be moved onshore as soon as possible. Until it is moved, the disabled vehicle should be left in the driving lane of an ice cover where the ice thickness is greatest; it should not be parked next to the snowbank where ice thickness and strength is less reliable. Its position should be marked with brightly coloured or reflective pylons.

4.1.6 LANE DIMENSIONS

It is widely known by contractors that removing snow from the ice surface leads to thicker ice compared to areas that remain covered in insulating snow. Consequently, contractors must remove or tamp the snow that is on the ice and build snowbanks along the sides of the road to build a cleared lane width. However, there are two consequences when removing snow and building snow banks: (1) the thicker ice in the cleared lane rises because it is more buoyant and (2) the thinner ice under the snowbanks depresses the ice cover because of the weight of the snow. As shown in Figure 24, this can lead to longitudinal cracks on the ice surface of the upward bending ice in the cleared lane and to cracks on the ice bottom of the downward bending ice underneath the snowbanks. The cleared lane cracks do not tend to be a hazard and can be managed through repairs. However, the cracks underneath the snowbanks can be hazardous if they extend upwards to the surface (Figure 25). These cracks are discussed in more detail in Section 2.3.

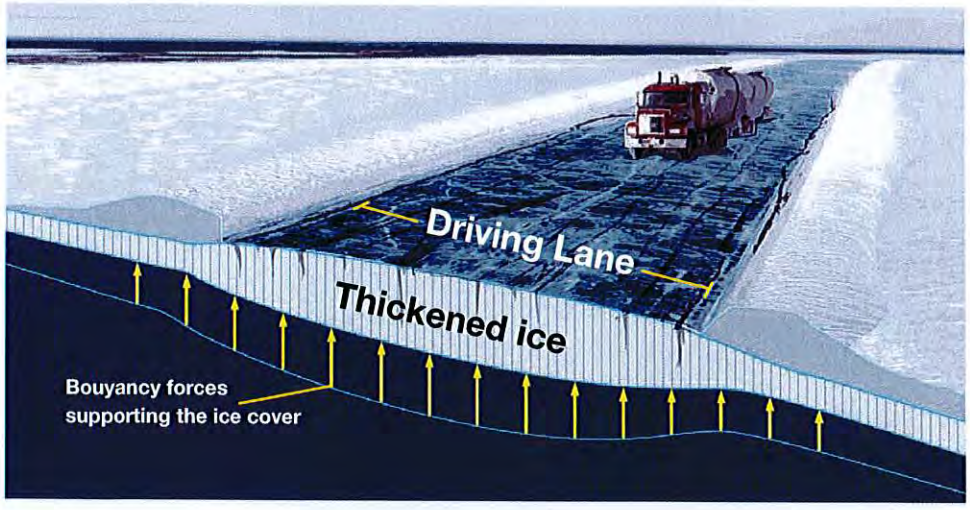


Figure 24
Effect of cleared road on ice thickness

Figure 25
Grader partially broken through thin ice beneath a snowbank

Table 7 recommends minimum dimensions for the cleared road width (bank to bank) and cleared driving lane width. In most cases these recommended dimensions should provide enough snow storage space so that snow clearing equipment can clear snow into this space without needing to move the older snow banks and travel over the thinner ice that will be beneath those snow banks.

TABLE 7:
RECOMMENDED MINIMUM ROAD DIMENSIONS

Operating Vehicles	Cleared width - bank to bank (m)	Driving lane - width (m)
Light vehicle traffic (5,000 kg)	20	10
Construction (22,500 kg)	25	15
Super B Train (63,500 kg)	30+	20

Figure 26
Haul truck on a 40-metre wide lane with low snowbanks

4.1.7 DYNAMIC EFFECTS OF VEHICLE SPEED ON ICE COVERS

When driving on floating ice, a deflection bowl moves with the vehicle, generating waves in the water below the ice. If the speed of these waves is the same as the vehicle speed, the deflection of the ice sheet is magnified and this may overstress the ice cover. The speed at which the maximum magnification of the ice deflection occurs is known as the critical speed. Field studies have shown that vehicles travelling at critical speed increase ice stresses by about 50%, which can lead to extensive cracking, blowouts in thin ice or potential breakthrough.

The critical speed for an ice cover depends on water depth below the ice and ice thickness. For example, for one metre of ice and 15 metres of water, the critical speed is approximately 50 km/h. Therefore, in this example the maximum speed should be set at half that value, 25 km/h. In shallower water, the critical speed is less.

Consequently, it is important to control vehicle speeds to reduce the chance of travelling at critical speed and cracking the ice cover. Speed limits need to be set to prevent overstressing. Speed limits depend on water depth, length of the ice crossing, hazard controls and project requirements.

Speed limits and vehicle spacing are discussed further in Section 5.2.

A slow moving vehicle causes the ice to bend and forms a deflection bowl under the vehicle

A fast moving vehicle causes the ice to bend and creates dynamic waves in the ice ahead and behind the vehicle

DYNAMIC WAVES CAUSED BY SPEEDING VEHICLES

- At low speeds, the ice deflection bowl under the vehicle moves with it.
- As speed increases, the water flows away and generates secondary waves in the ice.
- As speed increases, the ice cover stresses and deflections are increased by the waves.
- At critical speed, the full energy of the water waves is trapped under the vehicle.
- At critical speed, the risk of overstressing the ice is higher.
- The vertical deflection of the waves in the illustrations is exagerated to show the concept.

Figure 27
Dynamic waves

4.1.8 Other Load Capacity Methods

Other load capacity methods require more advanced field measurements and analysis. For example, the deflection test involves monitoring the deflection of an ice cover as it is gradually loaded, then analyzing the data to calculate the load capacity. Another example, the borehole jack test, provides a field measurement of the strength of the ice cover. Because these methods rely on field measurements of the ice properties, they can provide load capacities for specific vehicle configurations or ice conditions that cannot be accounted for using Gold's Formula.

4.2 ICE MONITORING CONTROLS

4.2.1 MEASURING AND RECORDING ICE THICKNESS

Section 195 of the Occupational Health and Safety Code, Working on Ice, indicates that if working on ice when the water beneath the ice is more than one metre deep, the ice must support the load to be placed on it. An ice test must be completed before work begins and periodically during the work to ensure the safety of workers.

Ice thickness is the primary measurement required to determine the safe working load that can be put on the ice (allowable load bearing capacity). Manual measurements are made by cutting a hole in the ice cover with an auger, a saw or an ice chisel and then directly measuring the ice thickness (Figure 28). Measurements are made in a prescribed spacing or pattern to provide sufficient coverage and verify the thickness of the ice cover (Appendix A).

Figure 28
An auger being used to drill a hole through the ice cover

It is imperative that a systematic procedure be implemented to document all ice thickness measurements. Measurement locations should be taken either with a Global Positioning System (GPS) receiver or marked with stakes, or other reliable system (Figure 30) so that these locations can be tracked in future measurements or identified for repairs. This information is a key element in the monitoring control plan. These records are vital to reconcile any ice failures that may occur.

Over the past 20 years, Ground Penetrating Radar (GPR) ice profiling has become a more common method, providing a continuous, non-destructive measurement of ice thickness over large areas or distances. GPR profiling can be combined with GPS to retrieve the data (Figure 29). GPR ice profiling should be carried out by trained personnel and the results reviewed by qualified professionals.

Figure 29
Dual channel GPR ice profiling equipment (being pulled behind a snowmobile) measuring ice thickness and water depth in a single pass

Figure 30
Marked pine trees cut and placed as reference markers along an ice road.

Pre-Construction Ice Thickness Measurements

An ice cover hazard assessment must be conducted and reviewed by field personnel before starting any ice thickness measurement. Suitable equipment and personal protective equipment (PPE) must be prescribed for the work.

Initial testing should be conducted by at least two trained crew members travelling separately over the ice. The work could be carried out by travelling:

- On foot (see Appendix A).
- By snowmobile.
- By amphibious vehicle.

The safe ice thickness limits for fully loaded vehicles must be known and followed at all times. During pre-construction ice measurements, calculate the minimum ice thickness required for fully loaded vehicles being used during pre-construction, using a conservative value of A=4 in Gold's Formula for initial use of the ice cover.

Ice thickness can be measured using either the manual method or GPR method. Amphibious vehicles such as the Swedish Hagglund have been used to transport personnel on the ice during initial measurements. Light snow machines can be used (in pairs) as long as the ice is checked ahead of them to verify that it is thick enough for safe operation.

Some projects, such as hydrotechnical measurements or water sampling, involve working on foot on thin, floating ice. A hazard assessment must be undertaken, and special training, PPE and safety protocols are required for such work. For example, working on river ice near open water requires water and ice safety training and PPE that take into account the higher risk of breakthrough and immersion. Procedures for measuring ice thickness before construction should also include the following:

- Testing should be representative of snow and non-snow covered areas.
- While testing, the crew should also be checking the ice for cracks and noting the snow load.
- If vehicles are used, two separate vehicles must be used at all times and must be separated at a safe distance unless ice conditions are known.
- Wheeled vehicles should be equipped with a winch.
- All vehicles must have two-way radios and/or satellite phones, and survival supplies.
- An agreed on call-in procedure must be followed with a safety contact in the base office.
- High visibility (orange or red) survival/flotation suits and other required PPE must be worn at all times (preferable to Personal Flotation Devices/PFDs).
- The route should be recorded on a map or with GPS coordinates; if others will follow the tested route, it should be marked so it is easily identified. Use items such as high visibility stakes or pylons, or flagging tape.
- Vehicles must be fully fuelled at the start of the profiling day and must carry enough fuel for a full day's work with a 50% reserve.
- A Standard Operating Procedure should be prepared to document these requirements.

Construction Ice Profiling

Periodic ice thickness measurements should be conducted as the ice grows, to monitor its progress and approve the use of heavier vehicles. Ice thickness measurements can be carried out using either manual or GPR methods. The choice of a profiling vehicle depends on the minimum ice thickness required for the given vehicle weight. The contractor should consider the following when carrying out ice profiling:

- Calculate the required ice thickness limits for fully loaded vehicles (maximum of 22,500 kg) using A=4 in Gold's Formula for initial use of the road, when ice is measured by manual methods as described in Appendix A.
- Calculate the required ice thickness limits for fully loaded vehicles (maximum weight of 22,500 kg) using A=5 in Gold's Formula for initial use of the road, when ice is measured by GPR method as described in Appendix B.
- Follow safe operating speed guidelines (refer to Table 8).
- Mark approved or tested lanes.
- Communicate with other personnel who have tested, travelled or worked on the ice (check prior to starting work).
- Establish a procedure for the field crew to call in to their supervisor.
- Outfit all vehicles with appropriate safety equipment (Appendix C) and fuel for a full day's work.
- Document these steps by preparing a Standard Operating Procedure.

Operational Ice Profiling

Ice profiling should continue for quality assurance purposes after the ice cover is opened to traffic or for other purposes. The ice cover would normally be open to vehicles used for patrol and reconnaissance such as heavy-duty pickup trucks. Ice covers used as work platforms and recreationally may be serviced by snow-clearing and ice-flooding vehicles. The purpose of operational ice profiling is to confirm operational load limits over time and to allow those limits to safely increase with ice growth.

For more information on ice measurements and ice profiling see Appendix A, in particular, Table A1: Recommended maximum spacing of auger test holes for measuring ice thickness, Table A2: Recommended minimum frequency of auger test hole measurements and Table A3: Ice cover profile template. See Appendix B, Guide for GPR Ice Profiling and see Table E1: Ice cover inspection template.

4.2.2 MONITORING ICE CRACKS

Surface cracks should be checked by noting their appearance, determining if they are wet or dry, and assessing their width and depth. The process for assessing ice cracks is shown in the flowchart below.

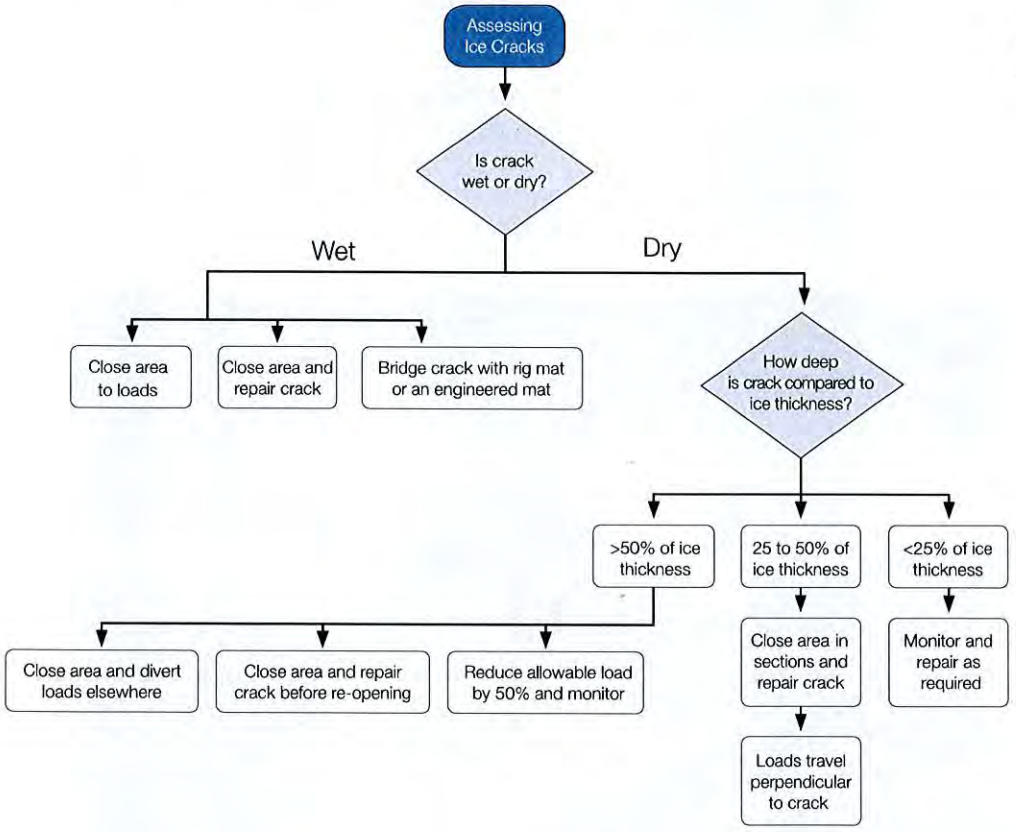


Figure 31
Assessing ice cracks

The water in wet cracks indicates that the cracks reach the bottom of the ice cover. Wet cracks that extend over the ice cover for several metres reduce the bearing capacity of ice. Theoretical studies show that the presence of one wet crack reduces the bearing capacity of the ice by 50% (Ashton 1986). Areas with wet cracks should be flagged off and workers kept away from them. These areas should also be repaired, bridged or closed off completely to people and equipment/vehicles.

Dry cracks show that they do not penetrate the ice sheet and are not an immediate problem. Dry cracks that extend more than 50% of the ice thickness should be repaired immediately or avoided. Dry cracks may be hard to detect when covered by snow and this is another reason to keep the ice cover clear of snow.

4.3 MAINTENANCE CONTROLS

Repairs and maintenance should be undertaken to address cracks, thin zones or other damaged areas that may compromise the load bearing capacity of the ice cover. Snow clearing may also be required to keep the surface clear and to promote natural ice growth. Some ice conditions may require temporary closure of the ice cover to equipment/vehicles, as indicated in Section 5.3.

All cracks that extend more than 50% of the ice thickness should be repaired or traffic diverted around them. Major cracks that have been repaired should be checked once they have re-frozen. Rig mats can be used to bridge cracks that will not heal (re-freeze) or that have a change in elevation that prevents vehicles from crossing. Detours may need to be built around severely cracked areas.

Figure 32
Flooding crew repairing an ice road

SECTION 5: DEVELOPING YOUR ICE SAFETY PLAN

5.1 ICE SAFETY PLAN

When working on ice covers, there is always a risk of ice failure and breakthrough that can result in potentially fatal consequences. As indicated in the Occupational Health and Safety Code, Part 2, Hazard Assessment Elimination and Control, employers and workers involved at a work site must conduct a hazard assessment. An Ice Safety Plan may be required.

The following sections and the appendices provide information to control ice cover hazards based on a project's specific needs: Section 3 – Ice Cover Hazard Controls; Section 4.1 – Design Controls; Section 4.2 – Ice Monitoring Controls; Section 5 – Developing Your Ice Safety Plan and Section 5.4 – Emergency Response Planning.

The Ice Safety Plan must be documented and effectively communicated to all employees affected by the ice cover hazards. The following flow chart provides guidance on how to develop an Ice Safety Plan and effectively communicate it to workers.

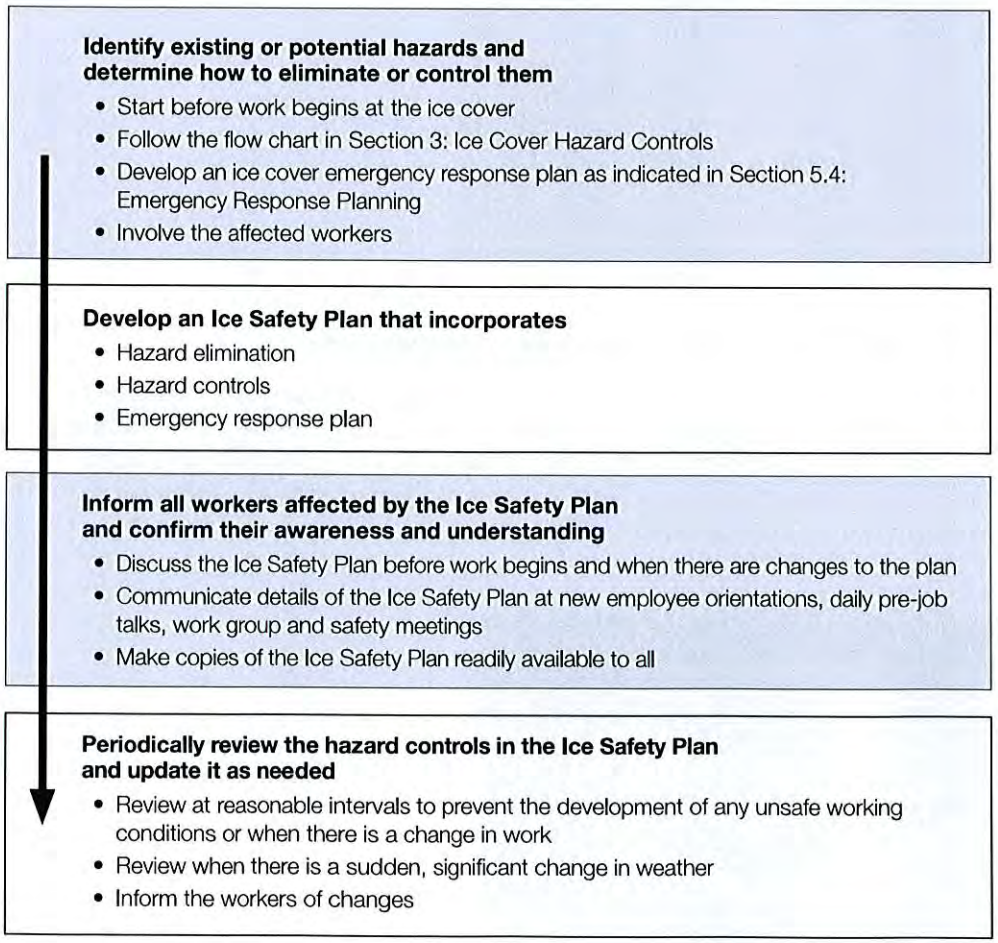


Figure 33
Develop an Ice Safety Plan and communicate it to workers

5.2 STANDARD OPERATING PROCEDURES FOR ICE COVERS

Standard Operating Procedures are an effective means of controlling hazards through administrative controls. The most important operating procedures pertaining to ice covers are discussed below.

5.2.1 APPROVED USE OF ICE COVERS

Traffic should be restricted to vehicles with a Gross Vehicle Weight that meets the requirements for bearing capacity of the current ice conditions. Furthermore, traffic should be restricted to ice covers that have been monitored and ice conditions that have been assessed, documented and approved by the owner (or their designate).

Approved traffic areas should be identified with markers such as barricades, pylons and signage.

Figure 34
Barricade markers

5.2.2 VERIFYING VEHICLE AND EQUIPMENT WEIGHTS

The Gross Vehicle Weight and the minimum ice thickness should be determined before deploying any vehicle or equipment on the ice cover. If necessary, the vehicle or equipment should be weighed with all of the components, fuel, tools and gear that will be included with it. This information should be affixed to the vehicle or equipment where the operator can read it to make sure it is safe to go on the ice.

Figure 35
Portable vehicle scale

5.2.3 STATIONARY LOADS ON ICE COVERS

Parked vehicles and equipment should be spaced no closer than two vehicle and equipment lengths for durations less than two hours. Parking for more than two hours on the ice cover should be prohibited unless the construction of the ice cover meets the requirements in Section 4.1.5. Otherwise, arrangements should be made to move disabled vehicles off the ice cover as soon as possible.

5.2.4 MINIMUM DISTANCES BETWEEN VEHICLES AND EQUIPMENT

For light vehicles (up to 5,000 kg) the distance between vehicles should be at least 200 times the thickness of the ice. For heavier vehicles (greater than 5,000 kg and up to 63,500 kg) the distance should be increased to 500 times the ice thickness. If the water body is smaller than these limits, then only one vehicle or piece of equipment must be permitted on the ice cover at a time. A loaded vehicle should never overtake and pass a moving loaded vehicle going in the same direction.

Figure 36
Sign that limits travel on the ice bridge to one vehicle at a time

5.2.5 MAXIMUM SPEED WHEN TRAVELLING ON ICE COVER

The maximum speed for loaded vehicles travelling across ice covers is 25 km/h for ideal ice and driving conditions. The speed limit when approaching shore lines is 10 km/h. Speed limits should be adjusted to local conditions by considering weather conditions, ice quality, vehicle loads, proximity of vehicles and the hazard controls in place. Speed limits must be posted and may be lowered depending on ice conditions and vehicle loads.

Gold (1971) states: "The observations showed that vehicle speed was a factor for some of the failures. Particular caution must be exercised when approaching shore, or travelling close to it, because of more severe stressing of the cover due to reflections of the hydrodynamic wave. Vehicle speeds should always be strictly controlled when operating on ice."

TABLE 8: SUGGESTED MAXIMUM SPEED LIMITS	
Vehicle/Ice Conditions	**Suggested Maximum Speed Limit (km/h)***
Vehicle profiling during construction	10
Vehicle approaching shore line	10
Vehicle passing flood crews	10
Load vehicles travelling in opposite directions	10
Meeting oncoming vehicles	10
Vehicle operating at the minimum ice thickness for its weight	25
Vehicle operating at ice conditions that are two times the minimum ice thickness for its weight	35

***Speed limits higher than these should be approved by a professional engineer.**
Heavily loaded vehicles should never pass each other.

5.3 ICE COVER CLOSURE

It may be necessary to temporarily close ice covers due to inclement weather, poor surface conditions or poor ice conditions. Inclement weather such as blizzards, whiteouts or fog, poses risks associated with visibility when travelling. Poor surface conditions due to snow drifting and natural water overflow areas also pose risks to users. Poor ice conditions associated with changes in water level, erosion of ice, extensive cracking or excessive wear due to use can increase the risk of breakthrough failure. Owners should suspend ice cover operations until these hazards can be eliminated or controlled.

Normally, ice covers are closed before spring thaw begins and the ice cover begins to decay. Decay of ice covers is affected mainly by solar radiation and by the reflecting properties of the ice surface. For example, ice decays more rapidly when its surface is bare and/or exposed to long hours of sunshine. Ice growth stops and ice decay starts before air temperatures rise above the melting point of the ice. Ice temperature and ice quality should be monitored regularly during spring thaw to determine if the ice cover has adequate bearing capacity to support ice operations.

Figure 37
Road closure sign

5.4 EMERGENCY RESPONSE PLANNING

All work sites must have an Emergency Response Plan that complies with the Occupational Health and Safety Code (OHS), Part 7, Emergency Preparedness and Response, and it must include the following components:

- Identification of potential emergencies.
- Procedures for dealing with the emergencies.
- Procedures for rescue and evacuation.
- Identification of emergency responders and evacuation workers.
- Identification, location and operational procedures for emergency equipment and PPE for rescue and evacuation workers.
- Emergency communication requirements.
- First aid requirements that comply with the OHS Code, Part 11, First Aid.
- Emergency response training requirements.

The Emergency Response Plan should be reviewed, tested and updated on a regular basis.

Figure 38
Emergency rescue drill

5.5 EMERGENCY PROCEDURES

Appendix D provides generic emergency procedures to use in the event of an incident that affects the health and safety of workers. Site-specific procedures may override these recommendations.

After the scene of an on-ice incident is deemed safe, rescue the victim and ensure that he or she receives the best available first aid treatment on site. Prepare the victim for transport. Determine the appropriate method of transport given the severity of the injury and access to the work site. Once the victim is transported, cordon off the area and post a sign or beacon at the site to warn others of the potential hazard.

SECTION 6: PERSONAL PROTECTIVE EQUIPMENT

Ice Safety Plans must also address the requirements related to personal protection equipment (PPE) as follows:

1. Clearly identify the PPE required.
2. Provide training on the inspection, use and limitations of PPE.
3. Monitor the condition and use of PPE.

A flotation suit should be worn by workers during the pre-construction and construction phases of preparing a floating ice cover. Flotation suits should also be worn by workers working in situations where the thickness and quality of the ice cover is unknown or questionable, for example, when workers are taking water samples at the edge of open water on a flowing river. The type of flotation suit needed will vary based on the conditions of use and the features required in order to perform work safely. Flotation suits help prevent hypothermia by providing a barrier against cold water and offer buoyancy much like a life jacket. Both of these features may extend the survival time of a person who has fallen into frigid water.

7.0 REFERENCES

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Shell Canada Energy
ATCO Electric
Alberta Employment and Immigration

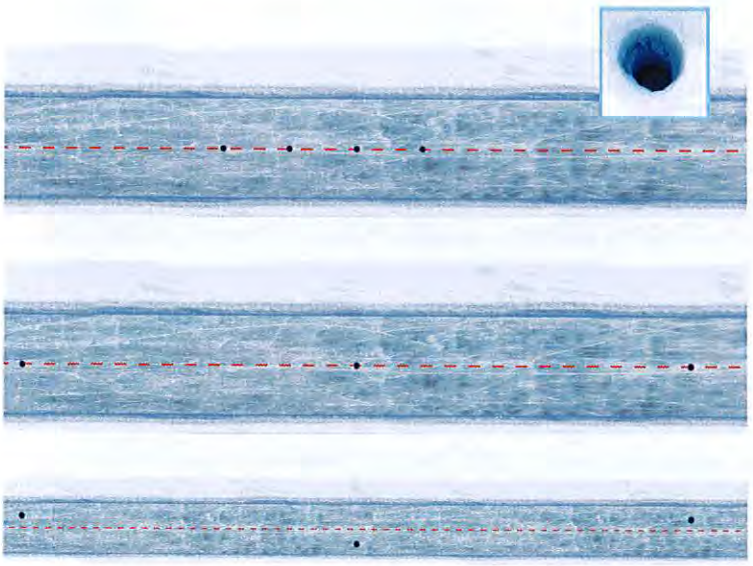
APPENDIX A USING AN AUGER TO MEASURE ICE THICKNESS WHILE ON FOOT

Field crew members must walk in pairs when carrying out pre-construction manual ice profiling. Both members should wear flotation suits and remain at least 10 metres apart. Both members should be trained in rescue and self-rescue techniques and be equipped with appropriate equipment.

An ice auger should be used. Alternately, an ice chisel or axe may be used to test ice up to 30 centimeters thick. Over unknown water or known moving water (that is, river, area of springs, etc.), the lead crew member should check for thickness in accordance with Table A1. Measurements should be taken using an ice thickness measuring stick, which has a foot to hook the underside of the ice cover. This allows for an accurate measurement of the ice cover and reduces visibility problems caused by poor lighting. The distance may be increased over known calm water and decreased for known currents or eddies. If the distance between test locations is increased, then the trailing crew member must trail further back and remain behind the previous satisfactory test hole. The locations of the test hole measurements should be recorded on a map and/or with GPS coordinates.

On lakes, the distance between test holes may be substantially increased with the trailing crew member remaining well behind. Extra caution needs to be exercised along shore, as the floating ice cover may actually be thinner near the shore. In addition, as progress is made across the lake, sampling distances will need to be shortened as the ice thickness begins to decrease. If any sample reveals clear blue ice less than 10 centimeters thick, the crew members are to leave the area immediately.

Using the above procedures, test crew members should establish a boundary for the project area. Ice thickness measurements should be taken at locations throughout the area, and the thinnest measurement of ice cover should be used as the measurement for all bearing and load bearing capacity calculations.



Pre-construction: 10-metre spacing between auger test holes along centre line

Construction: 50-metre spacing between auger test holes along road centre line

Operations: 100-metre spacing between auger test holes along alternate sides of the road centre line

Figure A-1
Example of auger test hole spacing patterns for river ice with slow moving currents.

GUIDANCE ON SPACING AND FREQUENCY OF AUGER TEST HOLES IN ICE

The number and spacing of manual auger test holes to check ice thickness depend on:

- The type of water body and the variability in ice thickness—river ice or lake ice, proximity to shore and currents.
- The level of prior knowledge of the ice conditions—the number of ice measurements available prior to and during construction, and during operations.

TABLE A1: RECOMMENDED MAXIMUM SPACING OF AUGER TEST HOLES FOR MEASURING ICE THICKNESS

Water Body Type	Pre-construction	Construction	Operations
Rivers – fast moving or high currents	5 m between test holes along centre line or a minimum of 5 holes	25 m between test holes along alternating sides of centre line	50 m between test holes along alternating sides of centre line
Rivers – slow moving and within 250 m of shore	10 m between test holes along centre line	50 m between test holes along centre line Check known thin areas	100 m between test holes along alternating sides of centre line Check known thin areas
Rivers – slow moving and more than 250 m offshore	20 m between test holes along centre line	100 m between test holes along centre line	200 m between test holes along alternating sides of centre line
Lakes – within 250 m of shore	10 m between test holes along centre line	50 m between test holes along alternating sides of centre line Check known thin areas	100 m between test holes along alternating sides of centre line Check known thin areas
Lakes – more than 250 m offshore	20 m between test holes along centre line	100 m between test holes along centre line	200 m between test holes along centre line

These are maximum spacings for ice auger measurements — additional measurements may be required to locate thin areas.

TABLE A2: RECOMMENDED MINIMUM FREQUENCY OF AUGER TEST HOLE MEASUREMENTS

Pre-Construction	Construction	Operations
Check every 2-3 days to monitor ice growth until minimum ice thickness is achieved to deploy heavier pieces of equipment	Check every 4-7 days or more frequently to monitor for specific ice requirements for construction equipment and operations	Test entire route prior to increasing load limits Monitor thin areas as recommended by ice cover supervisor (e.g., 2-4 days)

More frequent measurements may be required to monitor changes in ice conditions due to environmental effects (warming, currents) or changes in loads (heavier or more frequent loads).

TABLE A3: ICE COVER PROFILE TEMPLATE

ALL MEASUREMENTS TO BE IN CENTIMETRES

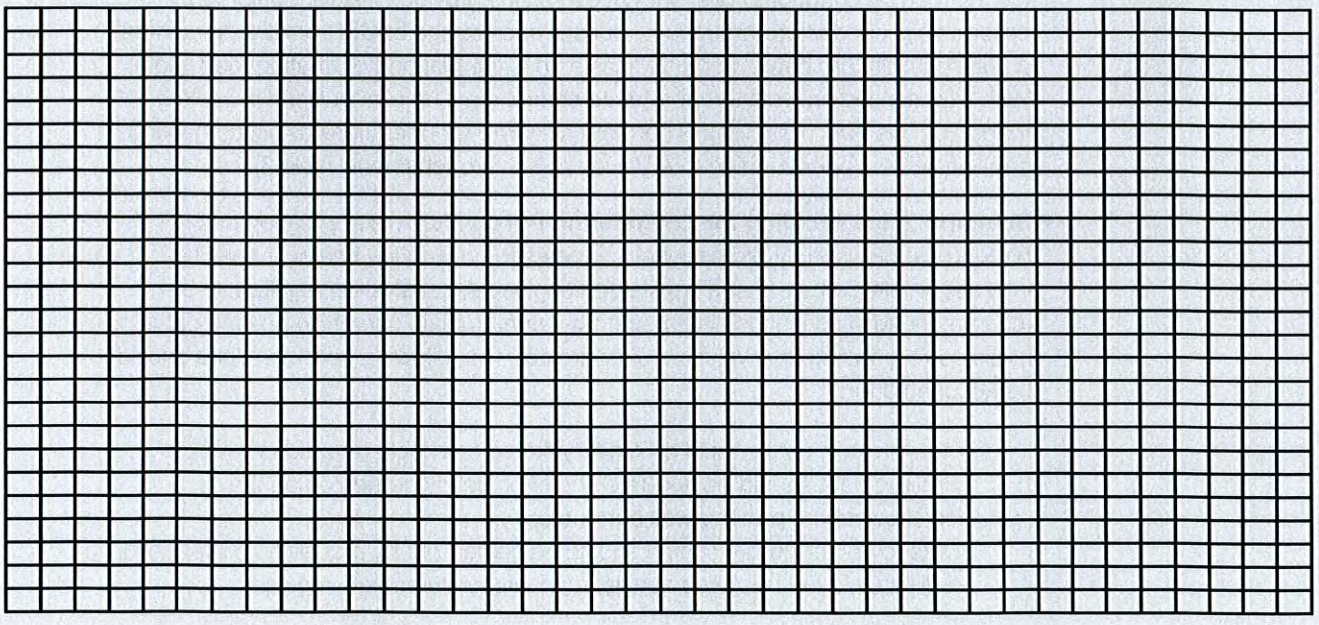
Ice Type

BLUE (TRANSPARENT OR CLEAR)	**1**
WHITE (SNOW ICE)	**2**
FRAZIL ICE (SLUSH)	**3**
JAM ICE (THICK PIECES FROZEN TOGETHER)	**4**

TEST HOLE NO.	ICE THICKNESS	SNOW THICKNESS	ICE TYPE	WATER DEPTH
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

ICE COVER PLAN

Date: _____ Location: _____ Scale: _____



Identify Flow Direction and North direction if applicable

Prepared by: _____

APPENDIX B GUIDE FOR GPR ICE PROFILING

B1 PURPOSE

The objective of this appendix is to provide guidance for the application of GPR profiling data in the determination of allowable ice bearing capacity.

Figure B1
Dual channel GPR ice profiling equipment (being pulled behind a truck) measuring ice thickness and water depth in a single pass

B2 SCOPE

GPR ice profiling data is an efficient and relatively cost effective method to provide enhanced confidence in the thickness of an ice sheet. It is often used to confirm hand measurements and can provide more detailed information on the thickness of the ice sheet.

There are generally two scenarios where GPR profiling is recommended.

- **Scenario 1: Ice Profiling for Construction and Operations.** This application of GPR profiling data is used to confirm and monitor the ice thickness during road construction and operations. It is recommended to be conducted over bare ice, but can be conducted over snow-covered ice provided regular equipment calibration is conducted throughout. Density of coverage of GPR profiling should be a maximum of 20m between profile lines across the planned or existing road width. With experienced crews and appropriate control measures as outlined in Table 3 (page 25), this level of profiling is normally sufficient for operations using ice bearing capacity levels corresponding to A Values of 3.5 through 6 (see Table 3).

- **Scenario 2: Ice Profiling for Engineering Purposes.** This application of GPR profiling data is used by professional engineers to confirm ice bearing capacity in cases where deliberate and specialized engineering analysis is required. It is recommended in scenarios where operators contemplate use of ice bearing capacity levels corresponding to A Values of 7 or greater. The following considerations should be accounted for:

    - Raw profiling data should be digitally stored to enable detailed review.
    - Profiling data should be geo-referenced or clearly delineated on the ice sheet where profiling was conducted
    - Data review or quality control should be carried out by a qualified professional.
    - GPR should be calibrated against manual measurements regularly.

The detailed mechanics of operating the ice profiling equipment and analyzing the field results is beyond the scope of this document.

B3 EQUIPMENT SPECIFICATIONS

B3.1 RADAR SYSTEM

Several different types of radar systems can be used for ice profiling. The antenna frequency typically used is either 400 or 500 MHz.

The following factors should be considered:

- Time window.
- Horizontal resolution.
- GPS capability.

B3.2 SURVEY METHOD

Survey methods will vary depending on site conditions and the equipment being used. Recommended requirements for surveys conducted under Scenario 2 (above) include:

- Keeping accurate notes.
- Selecting a GPS system that will retrieve real-time geo-referenced data
- Calibrating both the time base and the ice thickness.

APPENDIX C SAFETY EQUIPMENT FOR ICE SAFETY PLAN

C1 SUGGESTED EQUIPMENT TO BE KEPT IN THE VEHICLE

Equipment to be kept in the vehicle should include:

- Thermometer to monitor air temperature.
- First aid kit (checked and fully stocked).
- Fire extinguisher.
- Warning devices (pylons, reflectors, flags, etc.).
- Waterproof matches/lighter and material to start fires.
- Candles.
- Sleeping bag or warm blankets.
- Backup cold weather clothing.
- Metal or ceramic coffee mug.
- Flashlight.
- Snow shovel.
- Two-way radio, cell phone or satellite phone.
- Emergency rations: food (energy bars) and beverage mixes (instant coffee, tea, hot chocolate powder).

Employers should inform workers if their vehicle or equipment is equipped with special safety features that would assist them when working on ice.

C2 SUGGESTED PERSONAL PROTECTIVE EQUIPMENT AND SAFETY EQUIPMENT

Protective clothing and safety equipment should include:

- Axe or ice chisel.
- 30 m (minimum) of 10 mm buoyant polypropylene rescue rope.
- Belt or harness with D rings.
- A flotation suit.
- Ice rescue picks.
- Whistle.
- Warm clothing.
- Insulated gloves (waterproof).
- Rubber-soled felt pack boots.
- Sunglasses.

APPENDIX D EMERGENCY PROCEDURES

D1 COLD WATER IMMERSION

Dr. Gordon Giesbrecht, operator of the Laboratory for Exercise and Environmental Medicine at the University of Manitoba, has conducted hundreds of cold water immersion studies that have provided valuable information about cold stress physiology and treatment for hypothermia. Videos produced by the Discovery Channel Canada (2002) provide guidance on cold water immersion and self-rescue if a person falls through the ice. These videos can be found at either Dr. Giesbrecht's website or the Discovery Channel website:

www.umanitoba.ca/faculties/kinrec/grad_programs/about/giesbrecht.html

www.archive.org/search.php?query=subject%3A%22Dr.%20Gordon%20Giesbrecht%22

www.coldwaterbootcamp.com

Note: These downloads are for non-commercial, single-user viewing purposes only. No reproduction is permitted. If you would like to display this material to your group or are interested in purchasing copies of the Discovery Channel Canada Videos (2002), please contact Distribution Access at www.distributionaccess.com.

D2 EMERGENCY SELF-RESCUE

Contrary to popular myth, hypothermia does not occur in five to 10 minutes and it is possible for the person to achieve self-rescue. Dr. Gordon Giesbrecht, a specialist in cold water immersion at the University of Manitoba, summarizes what happens to humans in a cold water immersion situation with the expression "1 minute ... 10 minutes ... 1 hour ... 2 hours".

One minute to control your breathing

For about one minute, the person will gasp for air in reaction to contact with the cold water. After one minute, the gasping subsides, the skin numbs and the sensation of intense cold decreases.

Ten minutes of meaningful movement

The person has about 10 minutes to get out of the water.

Treading water
Do not panic and thrash about. Resist the urge to gasp, slowly tread water or grasp the edge of the ice to keep your head above the water.

Kick and pull
Keep your hands and arms on the ice and kick your feet. This brings your body to a horizontal position, parallel to the ice surface.

Horizontal kick and pull
Once horizontal, continue to kick your feet while pulling with your hands. Draw yourself up onto the ice.

Roll onto the ice
Keep your weight spread out as you roll, crawl, and slide across the ice until it will support your weight.

One hour before losing consciousness

If the person manages to hang onto the ice or stay afloat after 10 minutes, the muscles in their arms and legs will lose the strength to get them out of the water. Eventually they will lose consciousness as core body temperature decreases to about 30°C. The actual time depends on the clothing worn, energy stores and body build. If arms, beard, or other part of the body is not frozen to the ice, the person will slip below the surface and drown.

Two hours to be found

If the person stays above the surface of the water, rescue is still possible within two hours. At about two hours, death due to hypothermic cardiac arrest will occur when the body's core temperature falls below 28°C.

D3 EMERGENCY AID

When an incident on an ice cover occurs, work in teams to implement the following procedures:

- Stop your work.
- Rescue the victim if safe to do so.
- Administer first aid and CPR as needed.
- Follow procedures to prevent hypothermia (dry clothing, warm blankets, hot liquids).
- Call for help (air or road ambulance).
- Transport to nearest medical facility, if necessary.
- Clear the area/road near the incident site to enable rescue vehicles to reach the victim.
- Cordon off the incident site with brightly coloured or retroflective pylons to warn others of the potential hazards.

D4 EVACUATION PROCEDURES BY HELICOPTER

For serious incidents that require helicopter evacuations, requests can be made directly to the nearest helicopter company or through the 911 dispatcher (if one is available). If telephone contact cannot be made directly, relay a message using the radio frequencies available on site. Make sure you know what radio frequencies are used or monitored before you get on site. Communication between the ground and helicopter is vital.

When talking with the dispatcher or relaying a message, provide the following information:

- Who is calling.
- Location of incident.
- Latitude and longitude.
- Radio frequency.
- Number of casualties.
- Nature of injury(ies).
- Ambulance personnel required.
- Equipment or supplies that may be needed.

Do not mention the name of the casualty on the radio or phone.

Mark the site/position with brightly coloured or retroreflective pylons. A helicopter requires a level area approximately 30 m wide with a clear approach such as open ground, stable ice cover or a straight section of road. Ensure the landing area is clear of debris, containers, vehicles and equipment. Designate someone to monitor a two-way radio on the specified frequency in order to assist the helicopter in locating the landing site. Prepare the casualty for transport and ensure that the casualty is protected from rotor wash.

D5 EVACUATION PROCEDURES BY VEHICLE

Contact the nearest hospital through the 911 dispatcher (if one is available). If telephone (cell or satellite) contact cannot be made directly, relay a message using the radio frequencies available on site. Provide the dispatcher with information about the type of injuries and the number of people injured. If an ambulance is required, decide on the meeting location, for example, at the scene of the incident or en route to the hospital, and provide the dispatcher with the location (e.g., road system name and distance – latitude and longitude preferred) and any other necessary directions. If transporting the victim directly to the hospital, provide the dispatcher with the estimated time of arrival.

Cordon off the incident site with brightly coloured or retroflective pylons to warn others of the potential hazards.

D6 INVESTIGATIONS

An emergency evacuation will likely require an investigation under the *Occupational Health and Safety Act* – Section 18.

There are five steps that will need to be followed by the supervisor once any injured personnel have been evacuated.

1. Secure the scene of the incident to control imminent danger (if it hasn't been done already) and prevent disturbance to the scene.
2. Take pictures of the incident site.
3. Notify Government of Alberta – Workplace Health and Safety 1-866-415-8690 to report the time and place the incident occurred and its nature.
4. Investigate the circumstances surrounding the incident.
5. Write a report of your investigation.

APPENDIX E PLANNING FOR ICE COVERS

A number of factors are considered when locating an ice cover: project logistics, project layout, site access, terrain and ground conditions, ice conditions and river/lake hydraulics. Project planning is critical because of the short seasons associated with ice covers.

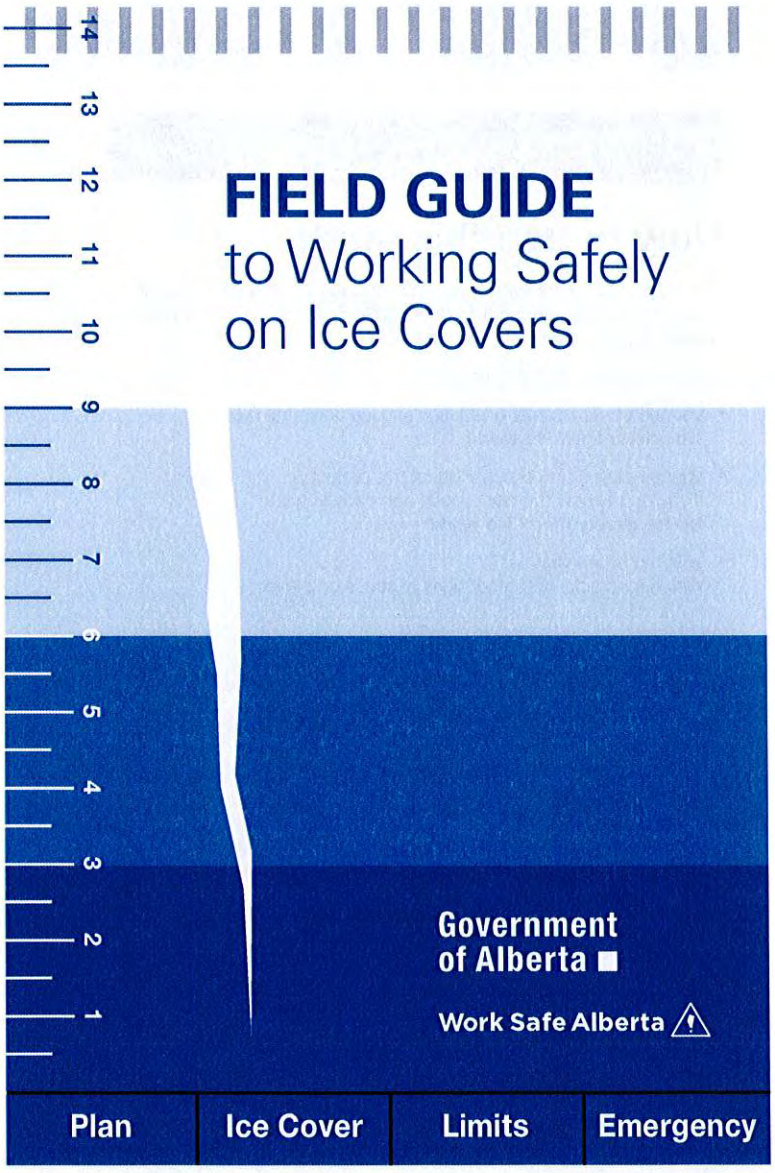
The following steps should be taken to provide background information for planning and design.

1. Check local knowledge or the previous contractor's experience regarding the historical ice conditions.
2. Check local conditions to determine if there are currents, springs or other factors that may affect the uniformity and development of the ice.
3. Review proposed ice road route and/or ice cover location by reviewing air photos or conducting an aerial survey to identify the route or use previously identified routes.
4. Review lake or river conditions.
5. Estimate the natural ice thickness and/or built ice thickness from historical or contractor information.
6. Review proposed vehicles: number, configurations (2 axle, 3 axle), Gross Vehicle Weights (GVW).
7. Estimate the ice thickness required using load weights and the crossing width.
8. Review schedule: desired start and end dates and length of time planned for working during ice season.
9. Determine if natural ice growth will meet the required ice estimated in step 7 in the time frame estimated in step 8.

TABLE E1: ICE COVER INSPECTION TEMPLATE

Date:	**Location:**
Completed by:	
Climate Condition: Calm – Snow – Rain –Wind	List Names of Workers Present 3)
Visibility Factors: Clear – Fog – Light – Dark	1) 4)
Today's Temperature:_____0 Celsius	2) 5)

Ice Measurement Data		Traffic Control Record	Yes	No	If No a corrective action is required
Hole Distances Are Measured		AB Environment River Forecast			
From the east/north to west/ south shore		Roadway is __ m - __ m width			
Test Hole #	Ice Depth	Traffic Signs In Correct Position			
#1-	cm	Traffic Signs Clean/Visible			
#2-	cm	Barricades In Correct Position			
#3-	cm	Test Holes—Staked & Numbered			
#4-	cm	Ice Surface Clear of Snow			
#5-	cm	Ice-Road Surface Visible			
#6-	cm	Vehicles Cross @ Safe Speeds			
#7-	cm	Vehicles Exceeding Load Ratings			
#8-	cm	Unusual or Deep Cracks Starting			
#9-	cm	Water Visible In Cracks			
#10-	cm	Thin Ice On/Near Roadway			
#11-	cm	Are Approach Ramps Sanded			
#12-	cm	Sand/Salt Accumulating on Road			
#13-	cm	Flooding Road Top Required			
#14-	cm	Shore Inspection: Water On Surface—Shore Ice Lifting or Bulging—Shore Ice Falling or Dropping—Shore Ice Bulging/Breaking Up Stream—Water On Surface Up Stream			
#15-	cm				
#16-	cm	Ice Road Capacity Data (As per Alberta Ice Safety Best Practice…)			
#17-	cm	Yesterday's Load Capacity Rating: _____KG			
#18-	cm				
#19-	cm	Today's Load Capacity Rating: _____KG			
#20-	cm				
#21-	cm	List Potential Problems Developing On Ice Road Or Up Stream:			
#22-	cm				
#23-	cm				
#24-	cm				
#25-	cm	List Name (s) of Persons Notified	List Time Of Notification		
#26-	cm	1) Project Manager	am/pm		
#27-	cm	2) Superintendent	am/pm		
#28-	cm	3) Supervisor	am/pm		
#29-	cm	4) AMA—Ice Road Load Capacity Changes	am/pm		
#30-	cm	5)	am/pm		


FIELD GUIDE
to Working Safely
on Ice Covers
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Government
of Alberta
Work Safe Alberta
Plan
Ice Cover
Limits
Emergency

Ice covers can be dangerous.
Not knowing what to watch out for can kill you.

How to use this guide

This guide is for people who work on freshwater floating ice covers. It is based on the Government of Alberta's *Best Practice for Building and Working Safely on Ice Covers in Alberta*.

Use it to support what you learn in:

- your employer's safety orientation and ice cover training
  No orientation? No work!
- your employer's *Ice Safety Plan* for this project
  If you don't know the plan, you're not ready to work.
  No *Ice Safety Plan*? No work!
- your own observations
  Watch for cracks and other signs of stress on the ice.

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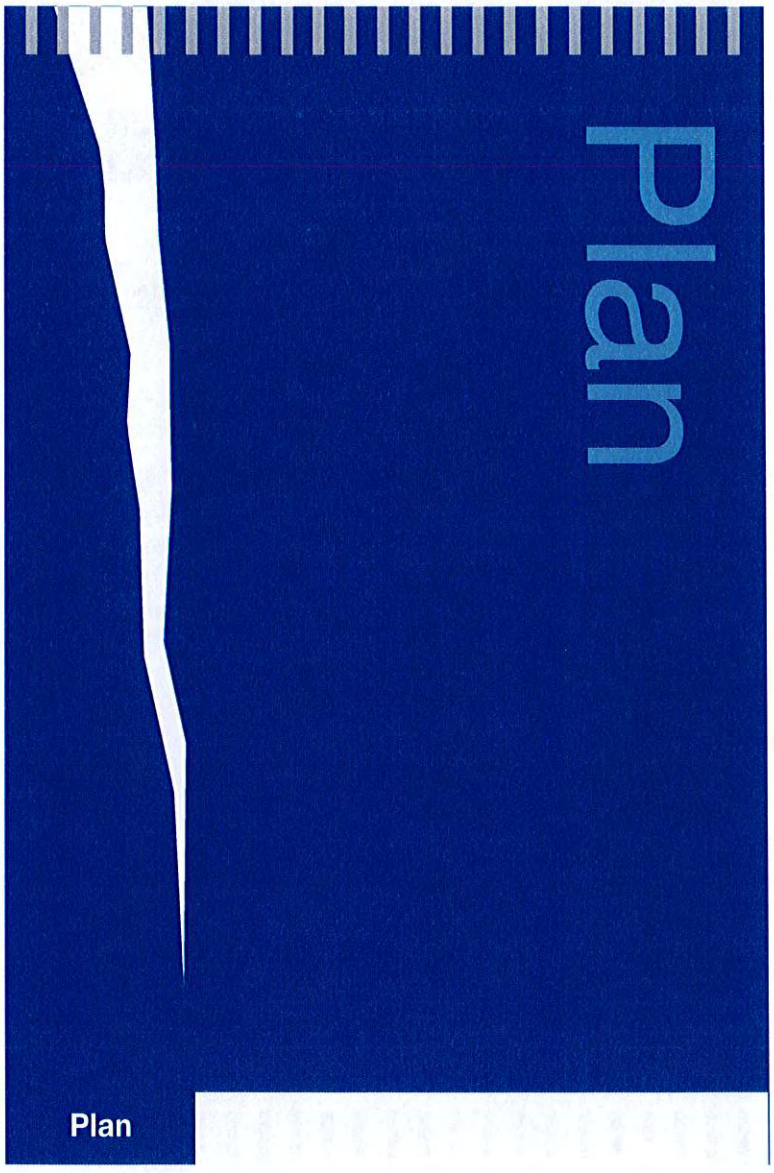
If you have questions about this safety guide, please contact:
Occupational Health and Safety Contact Centre
Throughout Alberta: 1-866-415-8690
Edmonton and area: 780-415-8690
Deaf or hearing impaired: 1-800-232-7215

Website: www.worksafely.org


Plan
Plan

Before starting work on an ice cover, know your numbers.

Know your numbers

Check the ***Ice Safety Plan*** for the ice thickness and maximum load and speed allowed on the ice cover. **If you don't know your numbers, don't go on the ice!**

Know and watch for:

- current **conditions** at the site: temperature, wind speed, ice thickness, areas under repair, thin ice
- sudden **changes** in conditions: cracks, water on the ice, extreme weather changes (±20°C in 24 hours)
- what to do and who to **call** when you need help

Record your numbers

Today's **temperature** / wind chill _____ °C

Total weight of vehicle, cargo, fuel and people (**GVW**) _____ kg

Minimum **ice thickness** for this GVW _____ cm

Check your ***Ice Safety Plan*** for these numbers:

Maximum **load** allowed on ice cover _____ kg

Maximum **speed**: in drive lane _____ km/h near shore _____ km/h

Minimum **distance** between vehicles _____ m

Maximum parking **time** on the ice cover _____ hrs

Emergency **contact** numbers / radio frequency

_____

4

You and your employer share responsibility for safety.

Plan to stay safe

The best tools for safe work are:

- your **team**
  Your supervisor and co-workers are your safety team. Always maintain **contact** by radio or phone. Know and follow the **call-in** schedule in your employer's working alone policy.
- **training** and ***Ice Safety Plan***
  Use this guide as a quick reference to support what you learn in your employer's safety orientation and ice cover training programs. Know your *Ice Safety Plan* numbers for ice thickness, GVW limits and speed limits.
- **questions**
  The only dumb question is the one you didn't ask. If you don't know, find out from someone who does.
- safety **checks**
  Check **PPE** (personal protective equipment), **emergency supplies** and **vehicle** safety equipment before you start work.

Check your equipment—and yourself

- Check your PPE and emergency equipment.
- Know your vehicle GVW and its safety equipment.
- Watch for early signs of frostbite and hypothermia.

Eyes and ears are safety tools. Pay attention to what's happening around you.

Personal safety equipment

When working on ice covers, make sure you've got the right equipment for the job and the conditions, check your *Ice Safety Plan*. Then check your PPE.

Suggested PPE	What you need it for
• warm clothing worn in layers	• to protect your face, head and neck, and maintain core body temperature
• rubber-soled, felt-pack winter boots	• to walk without slipping and keep your feet warm and dry
• insulated waterproof gloves, mittens and overmitts	• to keep your hands warm enough to work and carry out emergency tasks
• sunglasses	• to protect your eyes from snowblindness and glaring reflections off ice and snow
• whistle	• to call for help or signal others
• high visibility flotation suit	• to keep yourself afloat and warm in icy water
• 30 metres of 10-mm thick buoyant polypropylene rope	• to rescue others or be rescued if the ice fails
• ice rescue picks	• to grip and move along the ice to complete a self-rescue if the ice fails

If you don't know the GVW, weigh the loaded vehicle.

Vehicle and equipment

GVW (gross vehicle weight): equipment, cargo, people—*and* your fully fuelled vehicle. Record the GVW and date on a sticker in the vehicle and on equipment.

Safety equipment in vehicle	What you need it for
• axe or ice chisel, ice auger, and air temperature thermometer	• measure ice thickness and air temperature
• two-way radio, phone (on cellular or satellite service) or other electronic communication device	• stay in contact with your team • call for help
• warning devices (pylons, reflectors, flares, flags)	• warn others; close danger areas • attract attention in emergency
• fire extinguisher	• put out vehicle/equipment fires
• first aid kit	• treat minor injuries
• metal or ceramic coffee mug	• melt snow or ice for drinking
• emergency rations: energy bars/ food; hot beverage mixes (instant coffee, tea, hot chocolate)	• sustain energy and keep warm
• snow shovel	• remove snow if vehicle is stuck
• sleeping bag (or blankets), backup warm clothing	• keep warm and dry
• candles, flashlight • waterproof matches/lighter, material to start fires	• see what you're doing • keep warm and signal others

About 50 people die each year on ice over fresh water in Canada.

Know what you're doing on the ice

Work on ice covers starts with recognizing hazards and knowing how to handle them. Plan your work—and your safety—with the following in mind.

- **what** you plan to do, **where**, and for **how long**
  Check your *Ice Safety Plan*. Talk to your supervisor.
- **conditions** and **limits** on the ice cover
  Check your *Ice Safety Plan* for ice thickness, speed, load and time limits.
- **weight** of the load you plan to put on the ice cover
  Know your GVW.
- **sudden changes** in temperature (±20°C in 24 hours)
  Check current conditions. Look at the ice.
- **extreme cold** that affects **equipment**
  Check operator's manuals and manufacturer's product data sheets for minimum operating temperatures of the equipment and fluids used.
- **extreme cold** that affects **personal safety**
  Check yourself and your team for signs of frostbite and hypothermia, which can set in gradually, before you notice them.

River ice can be more dangerous than lake ice because currents can erode ice and create thin spots.

Setting up an ice cover (profiling)

If you are the first person on the ice, you **must** have these safety measures in place:

- an *Ice Safety Plan* for pre-construction and construction stages of building the ice cover that follows best practices
- ice safety training that includes self-rescue techniques
- a partner who knows rescue and self-rescue techniques

Walking or working on foot

Before you step on the ice, check your *Ice Safety Plan* for:

- required minimum ice **thickness**—There must be at least **10 cm of clear, good quality ice** before you can walk on it. If you plan to stand in one area for more than 2 hours, the ice cover must be at least **15 cm** thick.
- local **conditions**—Ice thickness can vary a great deal, particularly near shore, around the bend of a river, or near snowbanks. If there is open water nearby, you need specialized PPE, ice safety and rescue training.
- type of **work**—Checking ice thickness requires working and walking in pairs. Both members of the team must wear flotation suits and remain at least **10 metres** apart. They must be trained in rescue and **self-rescue techniques** and use the appropriate equipment for ice testing.
- your **team—Do not work alone** when taking initial ice thickness measurements or during initial construction of ice covers.

On an ice road, the driving lane is the safer area. Edges are danger zones. Never drive or park on the "shoulder" or near a snowbank.

Parking a vehicle or equipment

Before you park a vehicle or equipment on the ice cover, check:

- your **GVW**—Vehicle including fuel, equipment, cargo and people

Check your ***Ice Safety Plan*** for:

- maximum **time** on the ice and minimum **ice thickness**—For example, a light truck parked for more than 2 hours but less than 7 days requires at least **55 cm** of clear, good quality ice.
- **variations** in ice thickness—Ice is often thicker in a driving lane, but thinner and weaker near and under snowbanks beside driving lanes.
- **distance**—Park vehicles and equipment at least **2 lengths** apart—vehicle plus equipment lengths.

Driving a vehicle

Before driving any vehicle on the ice cover, even a snowmobile, check:

- your **GVW**—Vehicle including fuel, equipment, cargo and people

Check your ***Ice Safety Plan*** for:

- **ice thickness**—One snowmobile needs at least **18 cm** of clear, good quality ice to support GVW less than 500 kg. A light truck (GVW less than 5,000 kg) needs at least **38 cm** of ice thickness.
- **speed limits**—Always drive slower than the maximum posted speed.
- minimum **distance between vehicles** on the same route
  - > GVW **under 5,000** kg stay **200 x ice thickness** apart
  - > **heavier** vehicles stay **500 x ice thickness** apart
- special **conditions** along the route—for example, areas under repair, **thin ice** caused by river currents, snowbanks, or near islands and shores

Extreme cold is hard on vehicles, equipment—and people

Plan for cold weather

Working on ice covers means working in cold weather. Both present risks of injury.

- **frostbite:** Skin tissue freezes, looking white or waxy. Exposed skin is at greatest risk.
- **hypothermia:** Body cools faster than it can generate warmth. Signs are slower pace, fatigue, lack of coordination, vigorous shivering, personality changes: Fumbles, Stumbles, Tumbles, Mumbles, Grumbles.
- **wet clothing:** Wet clothing accelerates heat loss. Wear multiple layers and adjust them to avoid sweating, overheating. Avoid cotton—once wet, it stays wet.
- **windchill:** Wind speed of 20 km/h can make –25°C feel as if it's –37°C.

Cold weather hazards	What to do
air temperature 0°C to –20°C • at –20°C and 15 km/h wind, exposed skin is at risk of frostbite in 10–30 minutes	• avoid hypothermia with warm clothing • take regular breaks to warm up • make sure equipment is in good working order at start of shift
air temperature –20°C to –45°C • increased risk of frostbite, hypothermia • outdoor travel can be dangerous • equipment failure has serious consequences	• take breaks in a warm, heated place such as a truck cab or shelter • check self and others for frostbite and hypothermia
air temperature colder than –45°C • serious threat to health, safety • serious risk of equipment failure • gasoline freezes at –56°C	• **stop** all non-emergency work • check equipment hourly • avoid skin contact with gasoline and metal objects

Wind chill chart

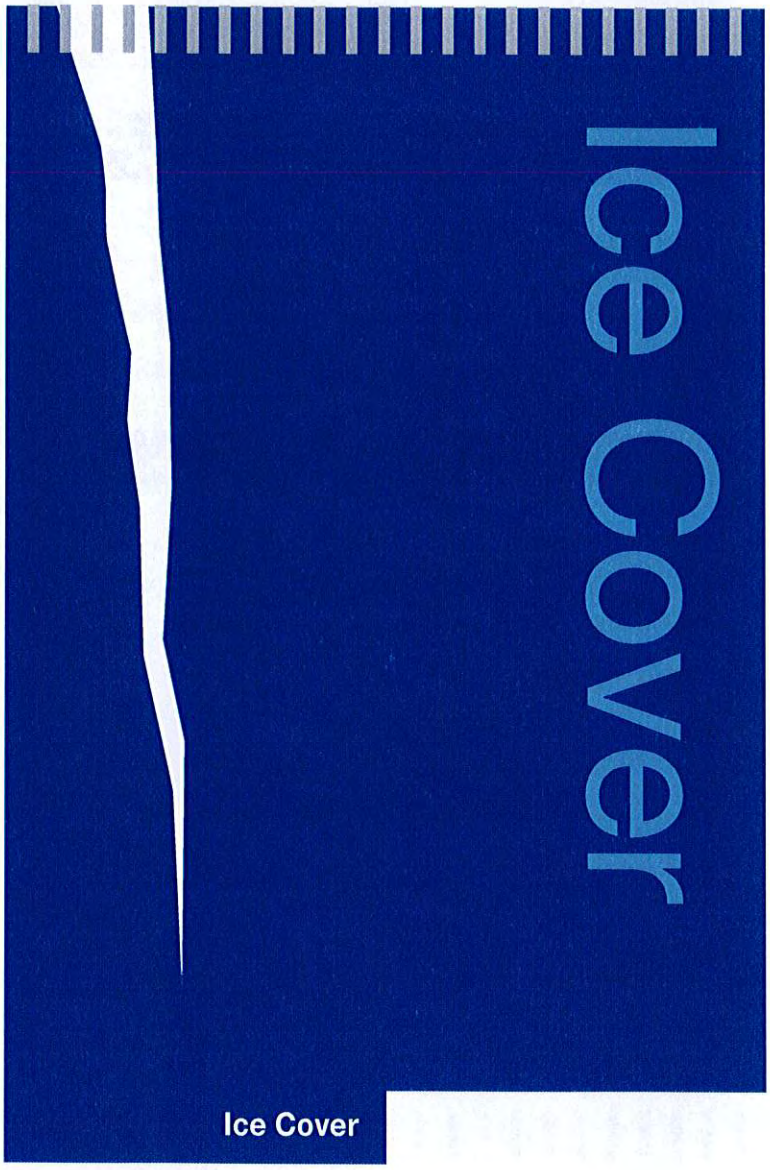
T air = air temp in °C
V_{10} = wind speed at 10 m above the ground in km/h

T air	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
V_{10}												
5	4	-2	-7	-13	-19	-24	-30	-36	-41	-47	-53	-58
10	3	-3	-9	-15	-21	-27	-33	-39	-45	-51	-57	-63
15	2	-4	-11	-17	-23	-29	-35	-41	-48	-54	-60	-66
20	1	-5	-12	-18	-24	-30	-37	-43	-49	-56	-62	-68
25	1	-6	-12	-19	-25	-32	-38	-44	-51	-57	-64	-70
30	0	-6	-13	-20	-26	-33	-39	-46	-52	-59	-65	-72
35	0	-7	-14	-20	-27	-33	-40	-47	-53	-60	-66	-73
40	-1	-7	-14	-21	-27	-34	-41	-48	-54	-61	-68	-74
45	-1	-8	-15	-21	-28	-35	-42	-48	-55	-62	-69	-75
50	-1	-8	-15	-22	-29	-35	-42	-49	-56	-63	-69	-76
55	-2	-8	-15	-22	-29	-36	-43	-50	-57	-63	-70	-77
60	-2	-9	-16	-23	-30	-36	-43	-50	-57	-64	-71	-78
65	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79
70	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-80
75	-3	-10	-17	-24	-31	-38	-45	-52	-59	-66	-73	-80
80	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81

Source: Environment Canada

Frostbite guide

- Low risk of frostbite for most people
- Increasing risk of frostbite for most people in 10 to 30 minutes of exposure
- High risk for most people in 5 to 10 minutes of exposure
- High risk for most people in 2 to 5 minutes of exposure
- High risk for most people in 2 minutes of exposure or less


Ice Cover
Ice Cover

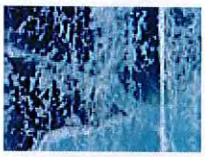
Clear, good quality ice has uniform thickness and strength.

Types of ice on an ice cover

- Clear ice is relatively free of air bubbles and vegetation.
- On any body of water, ice can be thinner and weaker around islands, shoals and shorelines.
- Water currents, heavy snowfall, high winds and sudden changes in temperature can all affect the strength of ice.

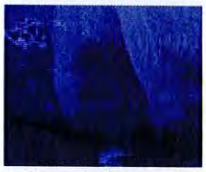
Ice type & variation in ice thickness	Ice quality and strength
Blue ice on lakes and rivers	
Freshwater lake ice (blue) • thickness **varies little** over an area	• higher strength due to uniform thickness and quality
River ice (blue) • **medium to high** variation in thickness • more prone to losing underside ice thickness due to water currents	• fairly uniform ice quality • variable load bearing due to variable ice thickness
White ice from natural or manual flooding	
Constructed flood ice (white) • good practices yield uniform thickness	• good ice quality due to uniform thickness
Natural flood or overflow ice (white) • ice thickness **varies greatly** • higher potential for water and air pockets that reduce ice thickness	• ice strength varies with variations in thickness • variation in quality due to higher air content
Ice formed over muskeg or peatland	
• **highly** variable over the entire area • surface can quickly change from frozen peat to ice floating on peat • ice cover requires special analysis (see *Best Practice*)	• strength varies due to variations in water chemistry, temperature • frost depth depends on air temperature, peat composition, its thickness and ground cover

Ice types



Clear blue lake ice

Ice that grows below the layer of surface ice under calm conditions. It usually forms in vertical, columnar crystals that contain few air bubbles. It appears to be blue because it's clear enough to see the water underneath it.



Clear blue river ice

White ice (snow ice)

Ice that forms on top of the surface ice by natural or man-made flooding of snow. It's white because it contains a significant number of air bubbles.

Frazil ice (slush ice)

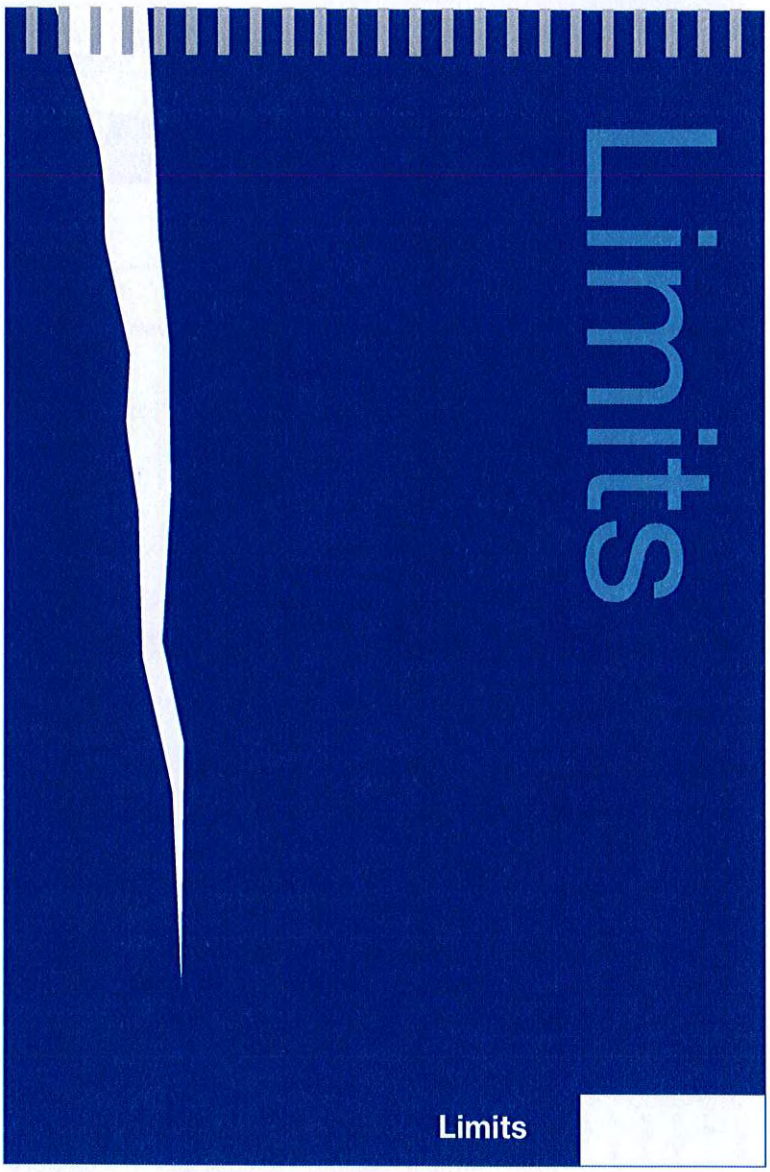
Ice made up of disk-shaped ice particles that form and gather together in agitated water. It is usually found in rivers or streams with turbulent waters.

Jam ice

Accumulation of ice on rivers or streams when currents move pieces of ice to an area where they freeze together to form very rough and thick ice covers.

Types of ice cracks on an ice cover

Type of crack & what it means	What you should do
Crack caused by change in temperature & ice thickness	
Dry cracks • do not reach bottom of ice cover • caused by ice bending due to weight of load, temperature changes	• crack through ¼ to ½ ice thickness: **flag area, monitor and repair,** record repairs • crack through >½ ice thickness: **flag and close area** • report cracks to your supervisor
Wet cracks • crack reaches bottom of ice cover, allowing water to reach the surface	• **flag and close area to others** • report cracks to your supervisor
Crack caused by overloading	
Radial cracks • look like spokes in a wheel • a warning that ice is overloaded—load may break through the ice	• **immediately** remove load from ice • report cracks to your supervisor
Circumferential cracks • form a circle around the load • a warning that ice is overloaded—load is about to break through	• **immediately** make sure everyone leaves the area • report cracks to your supervisor
EXTREME DANGER: Circumferential cracks connected with radial cracks • form pie-shaped wedges • ice has failed; if not already broken through, it can do so at any minute	• **immediately** make sure everyone leaves the area • report cracks to your supervisor


Limits
Limits

Moving vehicles stress the ice.
NEVER exceed the posted speed limit.

Know your limits

Ice cover limits

Never travel outside the boundaries of the ice cover. Travel only within the lane(s) of an ice road or bridge.

Passing limits

A loaded vehicle must **never** overtake and pass another loaded vehicle moving in the same direction.

Speed limits

- Posted limit is the **maximum** safe speed.
- Slow down in bad weather, low visibility, when passing workers or meeting vehicles coming in the other direction.

If speed limits are not posted, use these recommended maximum speeds.

Vehicle / Ice Conditions	Maximum Speed
Vehicle profiling during construction	10 km/h
Vehicle approaching shore	10 km/h
Vehicle passing flood crews	10 km/h
Load vehicles travelling in opposite directions	10 km/h
Meeting oncoming vehicles	10 km/h
Vehicle at minimum ice thickness for GVW	25 km/h
Vehicle at 2x minimum ice thickness for GVW	35 km/h

Time limits for a disabled vehicle

- Move a disabled vehicle off the ice cover as soon as possible.
- If you cannot remove it, move it to the driving lane where ice is thicker.
- Be prepared to abandon the vehicle within the time limits stated in your *Ice Safety Plan*.

The higher the GVW, the more distance needed between vehicles.

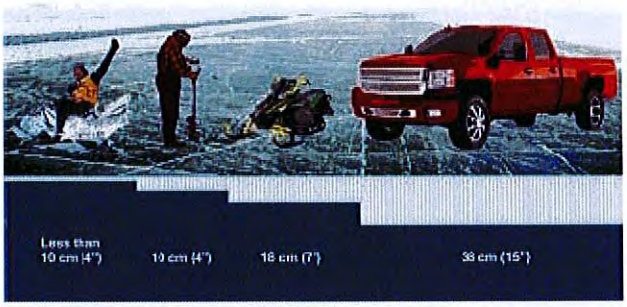
Minimum distances between vehicles

- **GVW up to 5,000 kg:** Distance between vehicles must be at least 200 *x ice thickness*, e.g., on ice 1 m thick, a 4,500 kg vehicle must be 200 m distance from the next vehicle.
- **GVW 5,000 to 63,500 kg:** Distance between vehicles must be at least 500 *x ice thickness*, e.g., a 10,000 kg vehicle on ice 1 m thick, must be 500 m distance from the next vehicle.
- Some ice covers are on bodies of water too small to allow for the minimum distance between vehicles. In that case, there should be only **one vehicle at a time** on the ice cover.
- If there are no markers to judge distance between vehicles, wait at least 2 minutes before you follow a light truck, if both vehicles are of similar weight and are travelling no more than 10 km/h. At 10 km/h, wait at least 5 minutes before you follow a heavy truck (up to 63,500 kg). In both cases, the ice must have the minimum thickness needed to support the GVW.

Minimum ice thickness for *slow* moving loads or loads parked less than 2 hours

Use this table together with the hazard controls outlined in the *Ice Safety Plan* for the ice cover you are working on.

Slow Moving Loads (maximum 10 km/h)	Minimum Ice Thickness
Person walking (120 kg)	10 cm
Snowmobile: machine & rider less than 500 kg	18 cm
3/4–ton 4x4 vehicle: GVW up to 5,000 kg	38 cm
Loads over 5,000 kg	refer to *Best Practice*



Minimum ice thicknesses for parked or slow moving loads less than 2 hours. For heavier vehicles, refer to the Best Practice and your Ice Safety Plan.

The longer a load stays in place, the greater the stress on the ice.

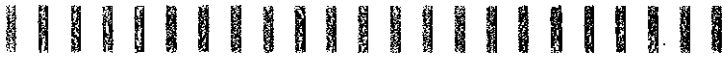
Minimum ice thickness for loads parked for more than 2 hours and less than 7 days

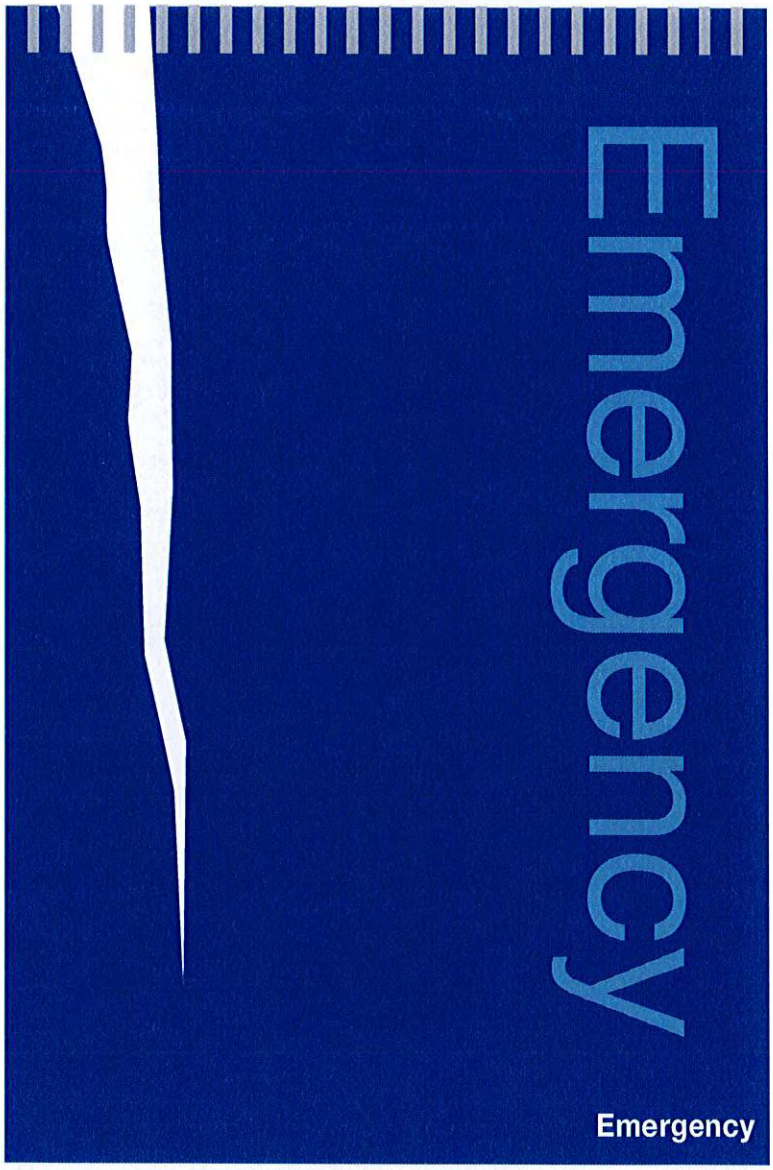
To know how long a load or vehicle can remain in one place on the ice, you need to know the GVW and ice thickness.

Load in place more than 2 hours but less than 7 days
After two hours under a load, ice begins to sag and bend, until the ice cover fails. Greater ice thickness usually means a load can be on the ice cover longer, if it's clear, good quality ice.

Load Parked or Stationary >2 hours <7 days	Minimum Ice Thickness
Person standing	15 cm
Snowmobile: machine & rider < 500 kg	25 cm
Loaded vehicle: GVW 500 to 1,000 kg	32 cm
Loaded vehicle: GVW 1,000 to 2,000 kg	41 cm
Loaded vehicle: GVW 2,000 to 3,000 kg	46 cm
3/4–ton 4x4 vehicle: GVW up to 5,000 kg	55 cm
Loads over 5,000 kg	refer to *Best Practice*

Load in place for more than 7 days must be reviewed by a professional engineer




Emergency
Emergency

Emergency procedure

When something happens on the ice cover that threatens your own or someone else's safety, work with your team to:

- **Stop** all work in the area.
- Rescue the victim if it is safe to do so.
- Provide first aid and CPR as needed.
- Take steps to **prevent** hypothermia (dry clothing, sleeping bag / blankets, sweetened hot liquids).
- **Call** for help (air or road ambulance).
- Take those in need of care to the nearest medical facility.
- Clear the area / road near the incident site to allow rescue vehicles to reach the victim.
- Mark and **close** the incident site and area with reflective pylons or flags, to warn others of potential danger.

Evacuation by helicopter or vehicle

Serious incidents may require evacuation of the victim.

- Call 911 or the nearest hospital or helicopter company.

  Tell the dispatcher:

  > Your name. _____
  > Do not say the name of an injured worker over the radio.

  > The location of the incident _____

  > Latitude & longitude _____

  > Radio frequency to use _____

  > Number of people hurt _____

  > Type of injury(ies) _____

  > Ambulance & paramedics needed _____

  > Equipment or supplies that may be needed _____

- Mark the incident site with brightly coloured or reflective pylons.
- **Evacuation by helicopter**

  > Identify a landing area about 30 metres wide, with a clear approach such as open ground, stable ice cover or a straight section of road. Make sure the landing area is clear of debris, vehicles and equipment.

  > Assign someone to monitor a two-way radio on the specified frequency, to help the helicopter find the landing site.

  > Prepare the casualty for transport, making sure to protect the casualty from rotor wash (air movement from the helicopter's blade).

The first danger is drowning, not the cold

Self-rescue in freezing water

If you fall through the ice, you have time to save yourself.

1 minute to control your breathing

For about one minute, you'll gasp for air, in reaction to the extreme cold. After one minute, the gasping gets less, the skin numbs and the feeling of intense cold lessens.

10 minutes to get out

You have about 10 minutes to get out of the water:

tread water: Don't panic and thrash about. Resist the urge to gasp. Instead, slowly tread water or grasp the edge of the ice to keep your head above water.

kick and pull: Keep your hands and arms on the ice and kick your feet. This brings your body to a horizontal position, parallel to the ice surface.

horizontal kick and pull: Once you're horizontal, continue to kick your feet, while pulling with your hands. Draw yourself up onto the ice.

roll onto the ice: Keep your weight spread out as you roll, crawl and slide to reach ice that can support your weight.

1 hour before losing consciousness

After 10 minutes your muscles will not have the strength to get you out of the water. Eventually, you will lose consciousness. If your arms or beard are not frozen to the ice, you will slip below the surface and drown.

2 hours to be found and rescued

If you stay above the surface of the water, rescue is still possible within 2 hours. At about 2 hours, your heart will stop when your core temperature drops below 28°C.

Recommended Minimum Ice Thicknesses
For heavier vehicles, refer to the Best Practice
and your *Ice Safety Plan*.

Title: Ice Cover Work Operations

Policy No:

Effective Date:

Motion Number:

Supersedes Policy No: (None)

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

"A Great Place to Live, Work and Play"

Purpose: The purpose of Ice Cover Work Operations policy is to specify standards for acceptable safety practices for Greenview staff and Contractors engaged in operations on Ice Covers.

DEFINITIONS

Ice Cover – The portion of an ice surface that is floating (buoyant) on a river, lake, pond or peatland and that is capable of carrying an external load.

Readily Available Assistance – Three factors must be assessed when determining if assistance is "readily available" in the event of an injury, illness or emergency:
(1) Awareness — will other persons capable of providing assistance be aware of the worker's needs?
(2) Willingness — is it reasonable to expect those other persons will provide helpful assistance?
(3) Timelines — will assistance be provided within a reasonable period of time?

Working Alone – Is where a worker is working by themselves and assistance, in the event of an injury, illness or emergency, is not readily available to the worker.

POLICY

1. Work, travel, and parking on Ice Covers shall be carried out as a planned work activity that recognizes and reasonably implements controls for the hazards associated with work activities.

2. Working Alone on Ice Covers is prohibited.

3. Training shall be provided to those working on Ice Covers and include emergency rescue techniques. Supervisors are responsible to schedule training and ensure an acceptable level of competence in trainees. Documentation of this training shall be sent to the Safety Officer who shall update training records and file with the Records Department and Human Resources.

4. All staff and contractors shall comply with the "Best Practice for Building and Working on Ice Covers in Alberta" and "Field Guide to Working Safely on Ice Covers".

5. All staff and contractors shall comply with Occupational Health and Safety legislation of Alberta and any applicable legislation.

6. Safe work procedures that form part of the Greenview Safety Manual shall be implemented by staff and contractors working on Ice Covers.

PROCEDURE

1. Managers shall ensure that Supervisors, contractors and staff conduct job hazard assessments and training appropriate to the Ice Cover work operations.

2. Supervisors shall ensure that Ice Safety Plans are in place prior to work commencing. Ice Safety Plans must include hazard identification, hazard controls, emergency response plans, and mandated personal protective equipment.

3. Ice Safety Plans shall be reviewed at least once daily and when there is a sudden, significant change in weather, new workers, changes in equipment, changes in work tasks, and at reasonable intervals to prevent the development of any unsafe working conditions.

REGULATIONS

1. Greenview Policy Manual
2. Greenview Health & Safety Manual
3. Occupational Health and Safety Act, Regulations, and Code
4. Best Practice for Building and Working on Ice Covers in Alberta, OHS Alberta
5. Field Guide to Working Safely on Ice Covers, OHS Alberta

Obligations of employers, workers, etc.

2(1) Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,

(a) the health and safety of

(i) workers engaged in the work of that employer, and

(ii) those workers not engaged in the work of that employer but present at the work site at which that work is being carried out, and

(b) that the workers engaged in the work of that employer are aware of their responsibilities and duties under this Act, the regulations and the adopted code.

(2) Every worker shall, while engaged in an occupation,

(a) take reasonable care to protect the health and safety of the worker and of other workers present while the worker is working, and

(b) co-operate with the worker's employer for the purposes of protecting the health and safety of

(i) the worker,

(ii) other workers engaged in the work of the employer, and

(iii) other workers not engaged in the work of that employer but present at the work site at which that work is being carried out.

(b) to compel witnesses to give evidence under oath or otherwise,

(c) to compel witnesses to give evidence in person or

notify a Director of Inspection of the time, place and nature of the injury or accident as soon as possible.

(2) The injuries and accidents to be reported under subsection (1) are

(a) an injury or accident that results in death,

(b) an injury or accident that results in a worker's being admitted to a hospital for more than 2 days,

(c) an unplanned or uncontrolled explosion, fire or flood that causes a serious injury or that has the potential of causing a serious injury,

(d) the collapse or upset of a crane, derrick or hoist, or

(e) the collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.

(3) If an injury or accident referred to in subsection (2) occurs at a work site or if any other serious injury or any other accident that has the potential of causing serious injury to a person occurs at a work site, the prime contractor or, if there is no prime contractor, the contractor or employer responsible for that work site shall

(a) carry out an investigation into the circumstances surrounding the serious injury or accident,

(b) prepare a report outlining the circumstances of the serious injury or accident and the corrective action, if any, undertaken to prevent a recurrence of the serious injury or accident, and

(c) ensure that a copy of the report is readily available for inspection by an officer.

REQUEST FOR DECISION

SUBJECT:	**Contractor Health & Safety Management Policy 3008**				
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION			
MEETING DATE:	April 12, 2016	CAO:	MH	MANAGER:	INT
DEPARTMENT:	COMMUNITY SERVICES/PROTECTIVE SERVICES	GM:	DM	PRESENTER:	SG
FILE NO./LEGAL:	N/A			LEGAL/ POLICY REVIEW:	INT
STRATEGIC PLAN:				FINANCIAL REVIEW:	

RELEVANT LEGISLATION:

Provincial – *Alberta Occupational Health and Safety (OHS) Act & Code*

Federal – *Criminal Code of Canada*

Council Bylaw / Policy– *General Health and Safety Policy 3000 & 3000-01*

RECOMMENDED ACTION:

MOTION: That Council approve the Contractor Health & Safety Management Policy 3008 as per the recommendation of the Policy Review Committee.

MOTION: That Council rescind Contracted Work Policy 2012 as identified in Greenview Health & Safety Manual as per the recommendation of the Policy Review Committee.

BACKGROUND / PROPOSAL:

The Contractor Health & Safety Policy specifies a consistent system to manage contractor safety while working on Greenview work sites. By implementing a standard to which staff and contractors shall be accountable, Greenview shows due diligence in fulfilling obligations as detailed in Part 1 & 2 of Alberta's Occupational Health and Safety (OHS) Code, OHS Act Sections 2, 3, 4 and Canada's Criminal Code sections 22.1, 22.2 & 217.1. The employer's general duty is to "ensure as far as reasonably practicable" the health and safety of its workers and others present at the work site. In general, the OHS Act, Regulation and Code require a collaborative approach between contractors, owners and prime contractors. This process is identified in the Contractor Health & Safety Management Policy 3008. The evaluation and monitoring of contractor safety systems is a proactive method to actively engage the Prime Contractor (or Contractors) in a collaborative working relationship to successfully manage OHS requirements.

The Contractor Health & Safety Management Policy 3008 shall supersede Contracted Work Policy 2012 as stated in the Greenview Health & Safety Manual.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – That Council has the option to approve, alter or deny the Contractor Health & Safety Management Policy 3008.

Benefits – The benefit to implementing the Contractor Health & Safety Management Policy 3008 is to ensure a standard system is in place to reasonably protect the health and safety of Greenview staff, contractors and the public.

Disadvantages - There are no perceived disadvantages to approving the Contractor Health & Safety Management Policy 3008 as presented.

COSTS / SOURCE OF FUNDING:

N/A

ATTACHMENT(S):

Contracted Work Policy 2012 – Health and Safety Manual Section 11
Occupational Health and Safety Act – Section 2, 3, 4
Occupational Health and Safety Code – Part 1 & 2
Criminal Code of Canada Sections 22.1, 22.2 & 217.1
Occupational Health and Safety Bulletin - LI018 — Legislation

The M.D. of Greenview shall ensure that all employees, as defined by Worker Compensation Board, adhere to our Health and Safety program as well as Occupational Health and Safety rules and regulations.

CAO

Date

"Live, Work and Play Safe!"

Revised 2012

Obligations of employers, workers, etc.

2(1) Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,

(a) the health and safety of

(i) workers engaged in the work of that employer, and

(ii) those workers not engaged in the work of that employer but present at the work site at which that work is being carried out, and

(b) that the workers engaged in the work of that employer are aware of their responsibilities and duties under this Act, the regulations and the adopted code.

(2) Every worker shall, while engaged in an occupation,

(a) take reasonable care to protect the health and safety of the worker and of other workers present while the worker is working, and

(b) co-operate with the worker's employer for the purposes of protecting the health and safety of

(i) the worker,

(ii) other workers engaged in the work of the employer, and

(iii) other workers not engaged in the work of that employer but present at the work site at which that work is being carried out.

(5) Every contractor who directs the activities of an employer involved in work at a work site shall ensure, as far as it is reasonably practicable to do so, that the employer complies with this Act, the regulations and the adopted code in respect of that work site.

Prime contractor

3(1) Every work site must have a prime contractor if there are 2 or more employers involved in work at the work site.

(2) The prime contractor for a work site is

(a) the contractor, employer or other person who enters into an agreement with the owner of the work site to be the prime contractor, or

(b) if no agreement has been made or if no agreement is in force, the owner of the work site.

(3) If a work site is required to have a prime contractor under subsection (1), the prime contractor shall ensure, as far as it is reasonably practicable to do so, that this Act, the regulations and the adopted code are complied with in respect of the work site.

(4) One of the ways in which a prime contractor of a work site may meet the obligation under subsection (3) is for the prime contractor to do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with this Act, the regulations and the adopted code in respect of the work site.

Multiple obligations

4(1) In this section, "function" means the function of prime contractor, contractor, employer, supplier or worker.

(2) If a person has 2 or more functions under this Act in respect of one work site, the person must meet the obligations of each function.

Extended application of Code

2(1) If a requirement of this Code imposes a duty on an employer with respect to the design, construction, erection or installation of equipment, and the equipment is erected or installed by or on behalf of a prime contractor, the prime contractor must comply with the requirement as if the requirement were directly imposed on the prime contractor.

(2) Subsection (1) does not relieve the employer or prime contractor from fulfilling other responsibilities under this Code.

Part 2 Hazard Assessment, Elimination and Control

7(5) A prime contractor must ensure that any employer on a work site is made aware of any existing or potential work site hazards that may affect that employer's workers.

Criminal Code

R.S.C., 1985, c. C-46

Offences of negligence — organizations

22.1 In respect of an offence that requires the prosecution to prove negligence, an organization is a party to the offence if

(a) acting within the scope of their authority

(i) one of its representatives is a party to the offence, or

(ii) two or more of its representatives engage in conduct, whether by act or omission, such that, if it had been the conduct of only one representative, that representative would have been a party to the offence; and

(b) the senior officer who is responsible for the aspect of the organization's activities that is relevant to the offence departs — or the senior officers, collectively, depart — markedly from the standard of care that, in the circumstances, could reasonably be expected to prevent a representative of the organization from being a party to the offence.

2003, c. 21, s. 2.

Other offences — organizations

22.2 In respect of an offence that requires the prosecution to prove fault — other than negligence — an organization is a party to the offence if, with the intent at least in part to benefit the organization, one of its senior officers

(a) acting within the scope of their authority, is a party to the offence;

(b) having the mental state required to be a party to the offence and acting within the scope of their authority, directs the work of other representatives of the organization so that they do the act or make the omission specified in the offence; or

(c) knowing that a representative of the organization is or is about to be a party to the offence, does not take all reasonable measures to stop them from being a party to the offence.

Duty of persons directing work

217.1 Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task.

2003, c. 21, s. 3.

Occupational Health and Safety Bulletin

WORK SAFE ALBERTA

The Prime Contractor

Avoiding confusion

It is quite common for more than one employer to be working at a work site. Each of these employers may be directing the activities of one or more other employers. With so many people at the work site, each responsible for occupational health and safety, it makes sense to have a single party coordinate the activities for the entire work site.

It makes sense to have a single party coordinate the activities for the entire work site.

Responsibilities under the law

Section 3(1) of Alberta's *Occupational Health and Safety Act* requires a prime contractor whenever two or more employers engage in work at a work site. The two employers may not be working at the same time at the site, but their activities may have a health and safety impact on each other or are interrelated. The prime contractor is responsible for coordinating potentially incompatible internal health and safety systems of multiple employers, and for coordinating effective communication in relation to health and safety at a worksite. This is necessary as different employers may all have very effective, independent health and safety systems but which might not be compatible with other employers' systems. Furthermore, a lack of effective communication and a cohesive approach to health and safety may place workers at risk. As a high level "oversight" or "auditing" function the prime contractor is expected to monitor activities to ensure that a worksite's health and safety system is functioning properly.

The Act requires a prime contractor whenever two or more employers engage in work at the same site, even if they are not working at the same time.

The general duty of the prime contractor is to do what is reasonably practicable to ensure that the OHS legislation is complied with on the work site (Section 3(3) of the *OHS Act*). One of the ways a prime contractor can meet this obligation is establishing and maintaining a system or process that ensures compliance with the OHS legislation.

Alberta Government

In addition, a prime contractor has the obligation to:

(1) ensure that, under Section 178 of the Occupational Health and Safety (OHS) Code, required first aid services, equipment and supplies the are available at the work site;

(2) ensure that, under Section 2 of the OHS Code, equipment erected or installed by or on behalf of the prime contractor complies with requirements of the OHS Code as if the prime contractor was the employer;

(3) ensure that, under Section 7(5) of the OHS Code, any employer on a work site is made aware of any existing or potential work site hazards that may affect that employer's workers.

(4) carry out, under Section 18 of the *OHS Act*, investigation of serious injury incidents;

(5) in accordance with Section 30 of the *OHS Act,* manage controlled products.

When is a prime contractor required?

A work site with only one employer does not require a prime contractor. A work site with multiple employers carrying out inter-related work activities and/or whose activities may have a health and safety impact on each other (i.e. multiple employer work sites which require coordination, communication, etc. amongst employers to ensure safety) must have a prime contractor for the site. The multiple employers and their workers do not have to be working at the same time at the site to meet the requirement. For example, a construction site involving multiple employers will require a prime contractor until the construction is fully completed.

Multiple employers carrying out inter-related work activities and/or whose activities may have a health and safety impact on each other, must have a prime contractor for the site.

Even with the appointment of a prime contractor, each employer, worker, contractor, and supplier retains responsibility for ensuring the health and safety of workers.

Who is the prime contractor?

In cases where a prime contractor is required, the owner of the work site is the prime contractor unless other arrangements have been made. In some cases, the owner may not have the knowledge or is unable to take on this responsibility. By entering into an agreement with another party, the owner can transfer the prime contractor title and responsibilities to that party (an individual or a corporate entity). A written document can provide proof that an agreement has been made between parties.

The owner of the work site is the prime contractor unless other arrangements have been made.

In entering into this agreement, it is necessary to ensure that the other party is capable of, and likely to, fulfill the prime contractor responsibilities.

A work site within a work site

Situations may arise involving work sites where there is some advantage to creating one or more smaller work sites within the boundaries of the main work site. Doing so allows the owner of the main site to transfer prime contractor responsibilities for the smaller site to someone else, yet the owner or the owner's designate continues to be responsible for the remainder of the site. Such a transfer of responsibility can form the basis of an agreement and it is good practice to have such an agreement be in writing.

When partitioning a work site it should be remembered that:

(1) The hazards at one work site should not impose or create a danger to workers at the other work site. This may mean that in some cases the perimeter of the partitioned work site will need to be clearly defined and effectively marked to prevent movement of workers, equipment and materials between sites.

(2) There should be no work-related interaction between workers of the partitioned work sites.

For example, a fenced construction area within a refinery site can be treated as a separate "work site within a work site." The fenced work site is clearly separated from the main work site and vehicular and foot traffic between the two sites is controlled. The prime contractors of two adjacent sites have the responsibility to coordinate health and safety matters within their own sites.

Fulfilling prime contractor responsibilities

Establish and maintain a system

The prime contractor has the overall responsibility for ensuring compliance with health and safety legislation at the work site.

The prime contractor has the responsibility to ensure that contractors, employers, and workers at the work site comply with OHS legislation.

One way to meet this obligation is to establish and maintain a system or process that will ensure compliance. For example, an effective health and safety plan can do this. The purpose of the system or process is to have employers cooperate with one another to ensure the health and safety of workers at the work site. Having a prime contractor also helps to make clear who is accountable for what.

The prime contractor is expected to monitor activities at the work site to ensure that the health and safety system is functioning properly.

The prime contractor is expected to monitor activities at the work site to ensure that the system is functioning properly.
Instances of non-compliance can be considered to be a breakdown of the health and safety system. The prime contractor's system will intervene, correcting the situation and altering the health and safety system if necessary.

First aid

The prime contractor must also ensure that first aid services, equipment and supplies required by the OHS Code are available at the work site. The required services, equipment and supplies vary depending on the location of the work site, the number of workers at the site and whether the work being performed is considered to be of a low, medium or high hazard. Complete details of the requirements can be found in Schedule 2 of the OHS Code.

Erecting or installing equipment

Subsection 2(1) of the OHS Code extends the prime contractor's responsibilities in cases where equipment *is erected or installed by or on behalf of the prime contractor*. In such cases the requirements in the OHS Code that have to do with the design, construction, erection or installation of that equipment apply to the prime contractor even though the requirements also apply at the same time to an "employer" This will most often occur in those situations where a prime contractor erects or installs equipment that is to be shared among multiple employers. Sharing equipment in this way may have safety, logistical and economic advantages and can avoid confusion as to who is responsible for the initial and ongoing safety of the installed equipment.

Examples of equipment that can be erected by or on behalf of a prime contractor and for which the prime contractor has responsibility include:

(a) toilet facilities – the prime contractor can have these installed for use by all employers at the site rather than having individual employers supply toilet facilities for their individual workers;
(b) scaffolds – erected by or on behalf of the prime contractor, multiple employers may then use the scaffolds throughout the lifetime of the project. Individual employers need not erect and dismantle scaffolds for use by their own workers. The prime contractor retains responsibility for inspecting and maintaining the scaffolds;
(c) guardrails – once installed by or on behalf of the prime contractor, the guardrails remain in place for the duration of the project;
(d) garbage and waste disposal – in many cases it may be more efficient if the use and removal of waste bins is coordinated through the prime contractor;

(e) propane tanks for site heating – this is a shared resource that may best be looked after by the prime contractor;
(f) entry and exit ramps (including portable ladders) – used at construction sites by workers to access the premises (or parts of it), where this is a shared resource it may best be looked after by the prime contractor; and
(g) fall protection anchors – if used by multiple employers during a project, installation of anchors by a prime contractor may be a preferred option. This approach may minimize any potential problems resulting from each employer installing his or her own anchors at the site.

Subsection 2(1) of the OHS Code does *not* require the prime contractor to erect or install this shared equipment unless the prime contractor chooses to do so.

For more information

http://humanservices.alberta.ca/documents/OHS-Act-Amended-LI031.pdf
Occupational Health and Safety Act Amended in 2012 - Highlights

http://humanservices.alberta.ca/documents/WHS-LEG_ohsc_p11.pdf
Occupational Health and Safety Code Explanation Guide – Part 11

WORK SAFE ALBERTA

Contact us:

Province-Wide Contact Centre

Edmonton & surrounding area:
(780) 415-8690

Throughout Alberta:
1-866-415-8690

Deaf or hearing impaired
- In Edmonton: **(780) 427-9999**
  or
- **1-800-232-7215**
  throughout Alberta

Web Site

www.worksafe.alberta.ca

Getting copies of OHS Act, Regulation & Code:

Queen's Printer

www.qp.gov.ab.ca

Edmonton (780) 427-4952

Occupational Health and Safety

http://humanservices.alberta.ca/working-in-alberta/295.html

Call any Government of Alberta office toll-free
Dial 310-0000, then the area code and telephone number you want to reach

Title: Contractor Health & Safety Management Policy
Policy No: 3008
Approval: Council, CAO, HSC
Effective Date: 2016
Supersedes Policy No: Health & Safety Manual Contracted Work Section 11

MUNICIPAL DISTRICT OF GREENVIEW NO. 16

"A Great Place to Live, Work and Play"

Purpose: To establish the safety related responsibilities of Contractors while working for Greenview.

DEFINITIONS

Competent - possesses adequate qualifications, suitable training and sufficient experience to safely perform work without supervision or with only a minimal degree of supervision. The employer may justify the basis on which a worker/Contractor is considered to have these characteristics.

Contractor/Subcontractor - a person, partnership or group of persons who, through a contract, an agreement or ownership, directs the activities of one or more employers involved in work at a work site

Hazard - a situation, condition or thing that may be dangerous to the safety or health of workers

Hazard Assessment - an assessment made in accordance with Sections 7 & 21 of the Alberta OHS Code; a written process to recognize existing and potential Hazards at work before they cause harm to people or property

Imminent Danger - any dangerous conditions that are not normal for a job

Owner - with respect to a work site, means the person in legal possession of the work site or, if the person in legal possession does not request the work, the person with an ownership interest in the work site who requests that the work be done

Prime Contractor – In accordance with Section 3 of the Alberta Occupational Health & Safety (OHS) Act, the Contractor, employer or any other person who enters into an agreement with the Owner of the work site can be the Prime Contractor, or if no agreement has been made, the Owner of the work site is the Prime Contractor.

POLICY

1. Greenview requires all Contractors to operate in accordance with all applicable laws, regulations, policies, bylaws, rules and standards related to the performance of work on any Greenview facility or work sites.

2. If Greenview is Prime Contractor, ensure all appropriate safety systems are in place per the Greenview Health and Safety Manual, the Contractor Health and Safety Management Policy, contract/agreement and any applicable legislation.

3. If the Contractor is Prime Contractor, the Greenview representative shall ensure the Contractor has appropriate safety systems and are in place per the Contractor Health & Safety Management Policy, contract/agreement and any applicable legislation. Monitor the Contractor regularly to ensure these systems are in place and effective.

PROCEDURE

1. Where a work site has multiple Contractors, the Prime Contractor must be discussed and established prior to work starting or entering an agreement or contract to perform work for Greenview. The two or more employers are not required to be physically present at the same time to meet the requirement.

2. If the Contractor's work area can be specifically identified and cordoned off, then the Contractor can be assigned Prime Contractor of that work area. The Contractor's safety systems will then apply in that area (this is typically the case in large capital projects where the "general conditions of construction" are referenced in the contract). If it is **NOT** otherwise agreed to in writing, Greenview is the Prime Contractor by default.

3. Where smaller work sites are designated within the boundaries of the main work site, the Owner of the main site may transfer Prime Contractor responsibilities for the smaller site to the Contractor and the Owner or their designate shall be responsible for the remainder of the site.

4. Even with the appointment of a Prime Contractor, each employer, worker, Contractor, and supplier is responsible for ensuring the health and safety of workers.

5. All Contractors working on Greenview's premises shall annually complete Greenview's Contractor Safety Orientation prior to work starting. The completed Contractor Safety Orientation shall be forwarded to the Greenview Contractor representative and sent to the Greenview Safety Officer for records. Any past or current OHS contraventions, orders or penalties incurred by the Contractor shall be immediately reported and copied to the Greenview representative and forwarded to the Greenview Safety Officer for records.

6. Contractors shall complete a site specific Safety Orientation and Hazard Assessment (to be completed by both Contractor and Greenview representative; use Greenview Multi Form OR Contractor provided). Completed documents shall be forwarded to the Greenview Contractor representative and sent to the Greenview Safety Officer for records.

RESPONSIBILITIES

OWNERS shall:

1. Make sure all the companies on the worksite understand who the Prime Contractor is and their authority. The Prime Contractor must be able to engage the Owner to solve problems, if necessary.

2. Assess the Contractor's knowledge of the Workers Compensation Act and Occupational Health and Safety legislation pertaining to worksite safety as well as their capacity and control before designating them as a Prime Contractor.

3. An Owner may notify a Contractor where the health and safety requirements are not being met, but it is the responsibility of a Contractor, not an Owner, to communicate the steps that should be taken to correct the deficiencies to a Contractor's employees.

4. Notify a Contractor of health and safety requirements which are not being met, however, it is the responsibility of the Contractor, not the Owner, to communicate the steps to be taken to correct the deficiencies to their employees.

GREENVIEW SAFETY shall:

1. Support and coordinate the Greenview Contractor Health and Safety Management Program.

2. Assist the Greenview representatives supervising Contractors to resolve health and safety issues effectively and efficiently.

3. Immediately communicate all health and safety concerns to the appropriate site supervisor or Contractor.

4. Review and file Contractor orientations, Contractor documentation (toolbox, Hazard Assessments, incident reports, etc.) as well as, annually review and recommend revisions to the Greenview Contractor Safety Management Program.

5. If required, in accordance with Section 35 of The Alberta OHS Act, stop work if conditions or concerns exist which are of an Imminent Danger.

PRIME CONTRACTORS shall:

1. Be responsible for establishing and maintaining a system or process that ensures compliance with the Occupational Health and Safety Act, Regulation and Code.

2. Complete a Greenview Contractor safety orientation; site Safety Orientation (site specific) and Hazard Assessment (to be completed by both Contractor and Greenview representative; use Greenview Multi Form OR Contractor provided).

3. Ensure that first aid services, equipment and supplies required by the Occupational Health and Safety (OHS) Code are available at the work site.

4. Ensure all equipment provided by the Contractor is maintained in safe working order in accordance with the manufacturer's specifications.

5. Ensure work procedures meet or exceed applicable legislation and/or industry best practices.

6. Provide Competent supervision at the work site and ensure Greenview is informed of the designated site contact.

7. Ensure only qualified workers, or workers working under the direct supervision of another Competent worker, are permitted to conduct work activities at the worksite.

8. Ensure all necessary personal protective equipment is worn properly and maintained in serviceable condition.

9. Investigate and resolve identified health and safety issues and concerns within their worksite as soon as reasonably possible. Copies of these reports must be forwarded to the Owner contact who must forward to the Health and Safety Officer within 24 hours of notification.

10. Implement their company's disciplinary policy for any worker who does not comply with health and safety requirements.

11. Inform the workers of the Hazards and the control measures utilized to eliminate, minimize, or, control those Hazards by way of a written Hazard Assessment. The Hazard Assessment must be available to workers at the worksite.

12. Educate all workers on their right to refuse unsafe work and how to exercise that right when appropriate.

13. Regularly complete scheduled inspections and the accompanying inspection reports must be readily available upon request.

14. Have a written Emergency Response Plan in place and available to workers at the worksite.

15. Take all necessary steps to protect all workers and third parties from injury or illness by ensuring all staff and visitors receive adequate orientation as well as ensuring that the equipment erected or installed by or on behalf of the Prime Contractor complies with the requirements of the Alberta OHS and any applicable legislation as if the Prime Contractor was the employer.

16. Possibly employ and manage one or more Subcontractors to carry out specific portions of the contract/agreement.

17. Have the expertise and experience to take full responsibility for contract/agreement completion.

18. Have Contracted truck drivers abide by the site Prime Contractors safety systems. Site Prime Contractors do not have authority or responsibility for safety while contracted trucks are off the work site. For example truck drivers contracted for gravel hauls shall be under the site Prime Contractors authority at the gravel pits but not on the public road ways off the site. Employees involved in road construction are considered on a worksite while working on the roadway.

19. Assume responsibility for health and safety considerations for the contract, thereby assuming liability for the project.

GREENVIEW CONTRACTOR REPRESENTATIVE (Greenview staff member/project manager)

1. Ensure Contractor is provided with a site specific Safety Orientation and Hazard Assessment (to be completed by both Contractor and Greenview representative; use Greenview Multi Form OR Contractor provided).

2. Energy Isolation in place prior to work starting (Safe Work Clearances, Lockout –Tagout, etc.).

3. Contractor has obtained necessary permits (excavation, hot work, electrical, etc.)

4. Define who the Prime Contractor is contractually, on the Greenview Contractor Safety Orientation and on the Greenview Multi Form (or Contractor provided form).

Regulations:

1. Greenview Policy Manual
2. Greenview Health & Safety Manual
3. Occupational Health and Safety Act, Regulations, and Code

	M. D. OF GREENVIEW NO. 16 ***Health & Safety Manual***	**Contracted Work**

The M.D. of Greenview shall ensure that all employees, as defined by Worker Compensation Board, adhere to our Health and Safety program as well as Occupational Health and Safety rules and regulations.

_____ _____

CAO Date

"Live, Work and Play Safe!" *Revised 2012*

Obligations of employers, workers, etc.

2(1) Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,

(a) the health and safety of

(i) workers engaged in the work of that employer, and

(ii) those workers not engaged in the work of that employer but present at the work site at which that work is being carried out, and

(b) that the workers engaged in the work of that employer are aware of their responsibilities and duties under this Act, the regulations and the adopted code.

(2) Every worker shall, while engaged in an occupation,

(a) take reasonable care to protect the health and safety of the worker and of other workers present while the worker is working, and

(b) co-operate with the worker's employer for the purposes of protecting the health and safety of

(i) the worker,

(ii) other workers engaged in the work of the employer, and

(iii) other workers not engaged in the work of that employer but present at the work site at which that work is being carried out.

(5) Every contractor who directs the activities of an employer involved in work at a work site shall ensure, as far as it is reasonably practicable to do so, that the employer complies with this Act, the regulations and the adopted code in respect of that work site.

Prime contractor

3(1) Every work site must have a prime contractor if there are 2 or more employers involved in work at the work site.

(2) The prime contractor for a work site is

(a) the contractor, employer or other person who enters into an agreement with the owner of the work site to be the prime contractor, or

(b) if no agreement has been made or if no agreement is in force, the owner of the work site.

(3) If a work site is required to have a prime contractor under subsection (1), the prime contractor shall ensure, as far as it is reasonably practicable to do so, that this Act, the regulations and the adopted code are complied with in respect of the work site.

(4) One of the ways in which a prime contractor of a work site may meet the obligation under subsection (3) is for the prime contractor to do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with this Act, the regulations and the adopted code in respect of the work site.

Multiple obligations

4(1) In this section, "function" means the function of prime contractor, contractor, employer, supplier or worker.

(2) If a person has 2 or more functions under this Act in respect of one work site, the person must meet the obligations of each function.

Extended application of Code

2(1) If a requirement of this Code imposes a duty on an employer with respect to the design, construction, erection or installation of equipment, and the equipment is erected or installed by or on behalf of a prime contractor, the prime contractor must comply with the requirement as if the requirement were directly imposed on the prime contractor.

(2) Subsection (1) does not relieve the employer or prime contractor from fulfilling other responsibilities under this Code.

Part 2 Hazard Assessment, Elimination and Control

7(5) A prime contractor must ensure that any employer on a work site is made aware of any existing or potential work site hazards that may affect that employer's workers.

Criminal Code

R.S.C., 1985, c. C-46

Offences of negligence — organizations

22.1 In respect of an offence that requires the prosecution to prove negligence, an organization is a party to the offence if

(a) acting within the scope of their authority

(i) one of its representatives is a party to the offence, or

(ii) two or more of its representatives engage in conduct, whether by act or omission, such that, if it had been the conduct of only one representative, that representative would have been a party to the offence; and

(b) the senior officer who is responsible for the aspect of the organization's activities that is relevant to the offence departs — or the senior officers, collectively, depart — markedly from the standard of care that, in the circumstances, could reasonably be expected to prevent a representative of the organization from being a party to the offence.

2003, c. 21, s. 2.

Other offences — organizations

22.2 In respect of an offence that requires the prosecution to prove fault — other than negligence — an organization is a party to the offence if, with the intent at least in part to benefit the organization, one of its senior officers

(a) acting within the scope of their authority, is a party to the offence;

(b) having the mental state required to be a party to the offence and acting within the scope of their authority, directs the work of other representatives of the organization so that they do the act or make the omission specified in the offence; or

(c) knowing that a representative of the organization is or is about to be a party to the offence, does not take all reasonable measures to stop them from being a party to the offence.

Duty of persons directing work

217.1 Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task.

2003, c. 21, s. 3.

REQUEST FOR DECISION

SUBJECT:	**Canada Day Fireworks – Valleyview**		
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	April 12, 2016	CAO: MH	MANAGER: INT
DEPARTMENT:	COMMUNITY SERVICES	GM: INT	PRESENTER: DM
FILE NO./LEGAL:	N/A		LEGAL/ POLICY REVIEW: INT
STRATEGIC PLAN:			FINANCIAL REVIEW:

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw / Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That Council approve $1000.00 from the Community Services Miscellaneous Grant funding for the Valleyview 2016 Canada Day Fireworks show.

BACKGROUND / PROPOSAL:

A letter was received from the Valleyview and District Recreation Department requesting financial support for the fireworks at the 2016 Canada Day festivities. On March 22nd Council tabled this request until additional information regarding the budget for the Canada Day event was acquired. Administration received correspondence from the Town of Valleyview Director of Parks, Recreation and Facilities that the Recreation board funds all aspects of the Canada Day event except for fireworks. The funds for the fireworks is attained solely through donations received, and therefore the amount collected determines the amount of fireworks purchased for the event. Over the past few years the donations received for fireworks was $5,300.00 - $5,500.00 annually, this amount includes the financial contribution they received from the Town and Greenview in the amount of $1,000.00 each.

The following funds were provided to the Valleyview and District Recreation Department for Canada Day fireworks:

- 2015 - $1,000.00
- 2014 - $1,000.00
- 2013 - $1,000.00

Greenview has not been requested to provide funds to any other Greenview Town or Hamlet for fireworks in previous years outside of Valleyview. Greenview and the Town of Valleyview have a signed recreation agreement to operate and maintain the Town of Valleyview recreation facilities and provide funds for recreational programming within Greenview. The agreement includes annual funding from Greenview in the amount of fifty percent (50%) of the previous years' operating deficit with Greenview's 2015 commitment being $321,446.70.

Administration is suggesting that the fireworks funding request could be included as part of the recreational funding provided to the Town of Valleyview on a yearly basis. Council may want to consider if providing the funding will be setting a precedent for other requests of a similar nature. As this funding has been provided in the past, this risk already exists.

Currently, as of April 11, 2016 Greenview has a balance of $194,653.29 in the Community Service Miscellaneous Grant.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – Council has the option to accept the funding request letter for information, provide grant funding separately as requested, or request that the Town of Valleyview include the fireworks expense in the recreation expenditures received by Greenview annually.

Benefits – The benefit of approving funding will be to facilitate the annual Canada Day Fireworks show as in the past.

Disadvantages – There are no perceived disadvantages other than the funding expended.

COSTS / SOURCE OF FUNDING:

$1000.00 to be funded from the Community Services Miscellaneous Grant budget.

ATTACHMENT(S):

- Canada Day – Fireworks Funding Request Letter
- Email correspondence from the Town of Valleyview Director of Parks, Recreation & Facilities

VALLEYVIEW AND DISTRICT RECREATION DEPARTMENT
Box 270
Valleyview, Alberta
T0H 3N0
Phone: 524-5158 **Fax: 524-3831**
E-mail: valprog@telus.net

March 2, 2016

Dear Local Businesses and Organizations:

With Canada Day only a few months away, the Valleyview Recreation Department is starting its campaign to raise money for the fireworks display, known to be one of the best in the area. Along with a wide variety of organized activities on July 1st, we hope to continue the tradition of spectacular evening fireworks to conclude our 2016 Canada Day festivities.

At this time, I would like to ask for your financial support to keep these fireworks going. Any donation at all would be greatly appreciated. A list of donors will be displayed at the Canada Day festivities on July 1st and all will be thanked in the Valleyview Town & County newspaper following the event.

Donations can be mailed to:

Town of Valleyview
"Fireworks"
Box 270
Valleyview, Alberta
T0H 3N0

Thank you for your time and consideration of this request. Should you have any questions, please contact myself of Pat Brothers at 780-524-5158.

Sincerely,

Michelle Richardson
Program Coordinator
Valleyview Recreation Department

Teresa Marin

From: Patrick Brothers <pbrothers@valleyview.ca>
Sent: Monday, April 04, 2016 11:31 AM
To: Teresa Marin
Subject: RE: Valleyview Fireworks

Hi Teresa

The past few years we have received around $5300.00- $5500.00 from all donations, including the $1000.00 each from the MD and the Town.

Like I said we purchase fireworks after we are aware of the donations that we have, and that determines how much fireworks we can get.

Thanks

Pat Brothers
Director of Parks, Recreation & Facilities
Town of Valleyview
T 780-524-5158
C 780-552-3734
F 780-524-3831
pbrothers@valleyview.ca

TOWN OF VALLEYVIEW
PORTAL TO THE PEACE

From: Teresa Marin [mailto:Teresa.Marin@MDGreenview.ab.ca]
Sent: April 4, 2016 11:18 AM
To: Patrick Brothers <pbrothers@valleyview.ca>
Subject: RE: Valleyview Fireworks

Hi Pat,

Do you generally receive sufficient donations for the fireworks from other providers?

Kind regards,
Teresa

From: Patrick Brothers [mailto:pbrothers@valleyview.ca]
Sent: Monday, April 04, 2016 11:14 AM
To: Teresa Marin <Teresa.Marin@MDGreenview.ab.ca>
Subject: RE: Valleyview Fireworks

Hi Teresa

The Recreation Board funds all other aspects of the Canada Day events, none of our budget for Canada Day goes for Fireworks.

The Fireworks are completely done by the donations that we receive. 100% of the donations go towards Fireworks, so the size of the fireworks display is dependant on how much donations we receive.

Hope this helps.

Thanks

Pat Brothers
Director of Parks, Recreation & Facilities
Town of Valleyview
T 780-524-5158
C 780-552-3734
F 780-524-3831
pbrothers@valleyview.ca

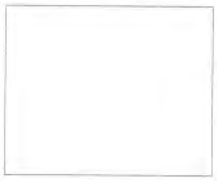
From: Teresa Marin [mailto:Teresa.Marin@MDGreenview.ab.ca]
Sent: April 4, 2016 11:05 AM
To: Patrick Brothers <pbrothers@valleyview.ca>
Subject: Valleyview Fireworks

Good Morning Pat,

Thank you for the letter in regards to the fireworks for the Canada Day festivities on July 1st. Council has a few questions in regards to the funding for the fireworks, does the Recreation board fund some of the activity, and if Greenview does not provide funding will the fireworks be cancelled? Please provide me with any other pertinent information in this regard.

Thank you.
Kind regards,

Teresa Marin
Community Services, Executive Assistant
Municipal District of Greenview No. 16 | 4806 36 Ave. Box 1079 Valleyview, Alberta T0H 3N0
Tel: 780-524-7600 | Fax: 1-780-524-4307 | Toll Free: 888-524-7601 | 24/7 Dispatch: 888-524- 7608 | Direct: 1-780-524-7347
mdgreenview.ab.ca | Follow us on Twitter @mdgreenview16



REQUEST FOR DECISION

SUBJECT:	**Request for Proposal: Aerial Photography Services 2016**				
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION			
MEETING DATE:	April 12, 2016	CAO:	MH	MANAGER:	INT
DEPARTMENT:	CORPORATE SERVICES	GM:	RO	PRESENTER:	SG
FILE NO./LEGAL:	File Number,Legal or N/A.			LEGAL/ POLICY REVIEW:	INT
STRATEGIC PLAN:				FINANCIAL REVIEW:	

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw / Policy (cite) – *Policy No. 1018 Expenditure and Disbursement Policy*

RECOMMENDED ACTION:

MOTION: That Council authorize Administration to award the proposal for Aerial Photography Services 2016 to Geodesy Group Inc. at a cost of $116,800.00, with funds to come from the Information Systems 2016 Capital Budget.

BACKGROUND / PROPOSAL:

It has been four years since Greenview's aerial photos were updated. Aerial photos are used by the Planning and Development department for development permit application approvals, by Recreation and other departments within Greenview's team.

Administration posted a Request for Proposal (RFP) for Aerial Photography Services on the Alberta Purchasing Connection and Greenview's website to invite interested parties to provide detailed proposals for the 2016 aerial photography services.

Six proposals were received, reviewed and ranked by two members of the Administration team. The proposals were weighted on a predetermined matrix to select the best proposal available to Greenview. The recommended proposal provided the lowest price and it was the highest ranking proposal that met all of the specifications set out in the comparison matrix. The matrix ranking was based on Price, Approach and Methodology, Experience, and Proposed Service.

Following Council decision regarding this RFP, Administration plans to proceed with a contract between Greenview and the successful proponent, based on a completion date of the end of November 2016. A map of the proposed coverage area has been included for Council's information.

Municipal District of Greenview No. 16
Quote Comparison Matrix

	Proposal 1	Proposal 2	Proposal 3	Proposal 4	Proposal 5	Proposal 6
Name of Supplier	GeodesyGroup Inc.	The Airbourne Sensing Corporation	KBM Resources Group	Opus Stewart Weir Ltd.	Tarin Resource Service (1994) Ltd.	Shaking Hill Ltd. AgPixel LLX
Costing Per Year	$ 116,800.00	$ 139,082.00	$ 166,857.00	$ 181,334.00	$ 202,500.00	$ 485,000.00
Resource Budget and Price Considerations (40)	40	37	34	32	29	0
Approach and Methadology (20)	19	20	20	20	20	16
Experience (20)	15	14	14	18	20	11
Proposed Service (20)	17	18	18	20	18	18
Total Score	91	89	86	90	87	45

OPTIONS – BENEFITS / DISADVANTAGES:

Options – Council has the option to accept or deny the recommended proposal.

Benefits – The benefit of authorizing Administration to award the contract to GeodesyGroup Inc. is that Greenview will have access to updated aerial photos that will provide accurate information to the user groups, at the best price.

Disadvantages – There are no perceived disadvantages.

COSTS / SOURCE OF FUNDING:

Funds to come from the Information Systems 2016 Capital Budget.

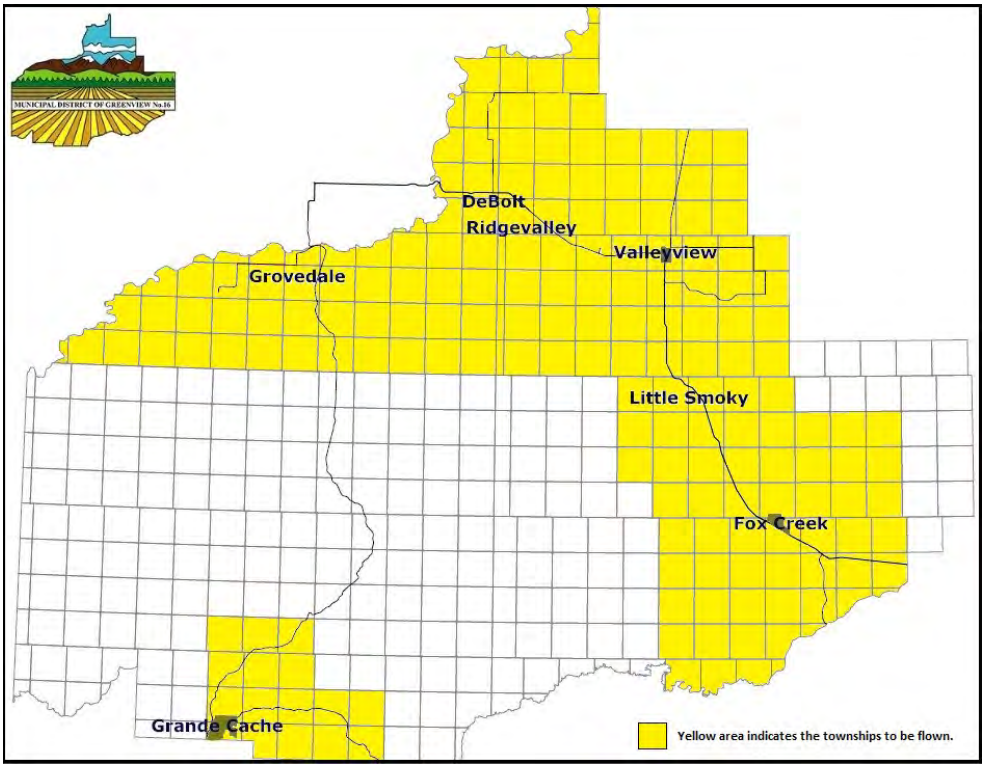
ATTACHMENT(S)

Coverage map of area and locations to be flown in Greenview.

AERIAL PHOTOGRAPHY SERVICES 2016

COVERAGE MAP

M.D. OF GREENVIEW NO.16



HAMLETS, TOWNS AND RESIDENTIAL SUB-DIVISIONS

M.D. OF GREENVIEW NO.16

Aspen Grove
Boyd's Lakeshore
Calais
Cozy Cove
Debolt
Fox Creek
Grande Cache
Grovedale
Landry Heights
Little Smoky
Ridgevalley
Sandy Bay
Sturgeon Lake
The Narrows
Valleyview

REQUEST FOR DECISION

SUBJECT:	**High Prairie Forest Resource Advisory Council**		
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	April 12, 2016	CAO: MH	MANAGER: INT
DEPARTMENT:	CAO SERVICES	GM: INT	PRESENTER: INT
FILE NO./LEGAL:	File Number,Legal or N/A.		LEGAL/ POLICY REVIEW: INT
STRATEGIC PLAN:			FINANCIAL REVIEW:

RELEVANT LEGISLATION:

Provincial (cite) – *N/A*

Council Bylaw / Policy (cite) – *N/A*

RECOMMENDED ACTION:

MOTION: That Council appoint one Councillor to the High Prairie Resource Advisory Council.

BACKGROUND / PROPOSAL:

The Forest Resource Advisory Committee (FRAC) has been inactive for the past few years, Tolko and High Prairie Forest Products (HPFP) are restarting the program.

FRAC's first meeting is scheduled for Monday June 6, 2016 from 1:30 – 3:30 p.m. at the HPFP boardroom, 1 Railroad Avenue, High Prairie. This meeting will include updating members on current operations and develop a Terms of Reference.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – Council has the option to not appoint any member to the High Prairie Resource Advisory Council.

Benefits – The benefit of appointing a member to the High Prairie Resource Advisory Council is that Greenview will be in discussions development of the Regional Detailed Forest Management Plan.

Disadvantages – There are no perceived disadvantages to appointing a Council Member to the High Prairie Resource Advisory Council.

COSTS / SOURCE OF FUNDING:

Travel costs to come from the Travel – Transportation Expense Budget.

ATTACHMENT(S):

- Request letter from High Prairie Forest Products

West Fraser
HIGH PRAIRIE FOREST PRODUCTS

PO Box 1320
1 Railroad Ave
High Prairie, AB
Canada, T0G 1E0
Phone: (780) 523-4544
Fax: (780) 523-5422
www.westfraser.com

March 24, 2016

Municipal District of Greenview
PO Box 1079
Valleyview, AB
T0H 3N0

To Whom it may concern,

Re: Invitation to join the High Prairie Forest Resource Advisory Council

High Prairie Forest Products, a division of West Fraser Mills Ltd. (HPFP) and High Prairie OSB, a division of Tolko Industries Ltd. (Tolko) would like to invite a representative from your organization to join our Forest Resource Advisory Committee (FRAC).

Since the FRAC has not been active for the past few years, HPFP and Tolko are restarting the program and look forward to seeing old and new faces. The purpose for reactivating the FRAC is to begin engaging our community and stakeholders long term as we develop our Regional Detailed Forest Management Plan (RDFMP).

The FRAC's first meeting is scheduled for Monday, June 6, 2016 from 1:30 to 3:30 pm. The meeting will be located in the boardroom at HPFP's new office. At this meeting we plan to introduce the FRAC, give an update on HPFP and Tolko, update members on current operations, and develop a Terms of Reference for the FRAC.

Please contact Jean Eagleson (780-523-4544) by April 30, 2016 if you are planning to send a representative to participate in our FRAC. HPFP and Tolko look forward to working with you to manage our forest resources sustainably.

Yours truly,

Keith Branting
Planning Superintendent
High Prairie Forest Products

Hilary Waite
Forest Superintendent
Tolko Industries Ltd.

TOLKO INDUSTRIES LTD.

Postal Bag 3000
Hwy 2 W
High Prairie, AB
Canada, T0G 1E0
Phone: (780) 523-2101
Fax: (780) 523-2204
www.tolko.com

REQUEST FOR DECISION

SUBJECT:	**Town of Fox Creek – Proposed Annexation**		
SUBMISSION TO:	REGULAR COUNCIL MEETING	REVIEWED AND APPROVED FOR SUBMISSION	
MEETING DATE:	April 12, 2016	CAO: MH	MANAGER: INT
DEPARTMENT:	CAO SERVICES	GM: INT	PRESENTER: MH
FILE NO./LEGAL:	File Number,Legal or N/A.		LEGAL/ POLICY REVIEW: INT
STRATEGIC PLAN:			FINANCIAL REVIEW:

RELEVANT LEGISLATION:

Provincial (cite) – *NA*

Council Bylaw / Policy (cite) – *1. Community Development Agreement*
2. Greenview – Fox Creek Intermunicipal Development Plan

RECOMMENDED ACTION:

MOTION: That Council endorse the proposed annexation of four quarter sections as outlined in the March 18th letter from the Town of Fox Creek and direct Administration to provide written confirmation of said endorsement to the Town of Fox Creek.

BACKGROUND / PROPOSAL:

Please see the attached letter of March 18 from the Town of Fox Creek. The letter expresses the Town's request for Greenview's endorsement for annexation of four quarter sections by the Town. The letter also contains a map of the proposed annexation and surrounding areas.

The four quarter sections are adjacent to their current boundary. All four quarters are along the Trilogy (North) road. The lands are located within the area of the Intermunicipal Development Plan (IDP). While the lands are not identified for future industrial expansion, they are a logical location for such development.

The lands in question have been purchased by the Town and the Town is currently awaiting Title. That the Town was purchasing the lands has been previously communicated to Greenview Administration and Council on several occasions. It is not believed that the Town is looking at annexing any additional lands in the foreseeable future.

Sections 8 and 9 of the Community Development Initiative Agreement are also relevant:

"8. During the term of this agreement it is agreed that annexation or dissolution shall not be pursued by the Towns unless there is mutual agreement of the Municipal District and the Town or Towns in question.

9. In the event that any of the Towns applies to the Province of Alberta for any annexation or dissolution without first obtaining the expressed written consent of the Municipal District, the agreement to provide funding to that municipality will be immediately terminated and the Town in question shall return any funding received during the current year and fifty (50%) of the previous year's funding to the Municipal District within 30 days of such an action. The amounts owed by the Town in question to the Municipal District are a debt owed to the Municipal District."

Administration has no concerns with the proposed annexation. The area encompasses a small land base and is within the existing IDP. While the Town has developable property within its current limits, this is largely suited for residential and commercial development given its location. The proposed annexation area is along a road primarily utilized by industry and would be suitable for industrial development.

OPTIONS – BENEFITS / DISADVANTAGES:

Options – Council may endorse the recommendation or choose to deny the request from Fox Creek.

Benefits – Administration believes that the request is small and reasonable, yet large enough to help the Town of Fox Creek develop a larger industrial tax base which will help the Town's overall sustainability, with little to no impact on Greenview.

Disadvantages – Following the recommendation may encourage additional requests. Administration does not believe this to be a large factor as any future requests can be judged on their own merit free of precedence.

COSTS / SOURCE OF FUNDING:

There are no monetary costs associated with this decision.

ATTACHMENT(S):

- Letter of March 18th from the Town of Fox Creek

TOWN OF Fox Creek

March 18, 2016

To: Municipal District of Greenview
Box 1079
Valleyview, AB
T0H 3N0

Letter of Intent

Attention; Mike Haugen

Re: **Annexation**

Mike,
Please be advised that the Town of Fox Creek passed Motion 121-16 that directs Administration to carry forth the annexation process of the Towns purchased lands, E3-62-19W% within the MD of Greenviews Jurisdiction.

As set out in the Community Development Initiative agreement The Town of Fox Creek would like to formally request Municipal District of Greenview's consent to the annexation as per Sections 8 and 9:

8. *During the term of this agreement it is agreed that annexation or dissolution shall not be pursued by the Towns unless there is mutual agreement of the Municipal District and the Town or Towns in question.*

9. *In the event that any of the Towns applies to the Province of Alberta for any annexation or dissolution without first obtaining the expressed written consent of the Municipal District, the agreement to provide funding to that municipality will be immediately terminated and the Town in question shall return any funding received during the current year and fifty (50%) of the previous year's funding to the Municipal District within 30 days of such an action. The amounts owed by the Town in question to the Municipal District are a debt owed to the Municipal District.*

Attached to this Letter of Intent, is an outline map showing exactly the area(s) the Town of Fox Creek is wishing to annex at this time. As you may be aware we have applied to ASRD 24 months ago for these lands and are now waiting for title to these lands, which is the reason for annexation request.

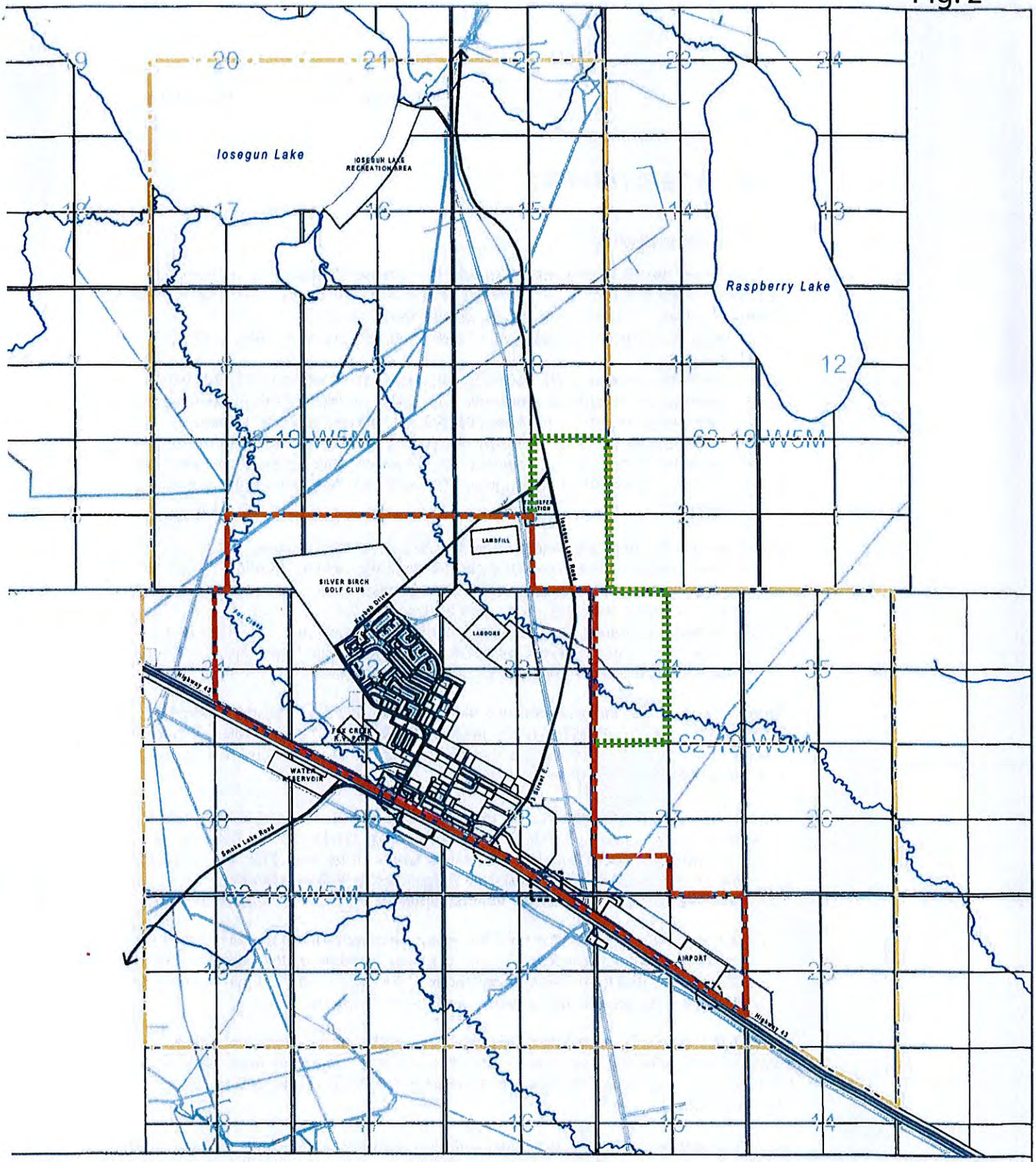
Should you require additional information or should you have further questions please contact me at your earliest convenience.

Respectfully,

Roy Dell
CAO
Town of Fox Creek

102 Kaybob Dr. Box 149, Fox Creek, AB T0H 1P0
(P) 780 622-3896 (F) 780 622-4247 (E) admin@foxcreek.ca

Fig. 2



FOX CREEK INTERMUNICIPAL DEVELOPMENT PLAN

Scale: NTS

- Town Boundary
- Plan Boundary
- Divided Highway
- Major Road
- Existing Highway Intersection
- Future Highway Interchange
- Proposed Town Boundary

MAP 1 - CONTEXT

ISL Engineering and Land Services

October, 2009

Manager's Report

Function: **Infrastructure & Planning**

Submitted by: **Grant Gyurkovits, General Manager Infrastructure & Planning**

Date: **4/12/2016**

General Manager, Infrastructure & Planning, Grant Gyurkovits

- Attended AMSA conference in Edmonton.
- Oil & gas permits
- Meeting with Shane Stoybery and associates for the widening of the service road RRD 0226781 via Big Stone.
- First quarterly budget meeting.

Manager Construction & Maintenance, Kevin Sklapsky

- Attended AMSA conference in Edmonton.
- Manage works on Forestry Trunk Road km 50-70. The road is currently in good driving condition.
- The right of way has been cleared, piled and burnt for the Economy Creek realignment at km 20 on the Forestry Trunk Road. We are ready to start the preliminary survey.
- The right of way has been cleared, piled and burnt for the Township 672 Landfill Connector Road project. We are ready to start the preliminary survey.
- Bridgeman Services started work on Bridge Maintenance Contract #72012-16 on March 29th, 2016.
- Completed an interview for the Project Technologist, checking references.

Supervisor, Facility Maintenance, Alfred Lindl

- General Maintenance items on task List.
- Snow removal and Ice care at our Facilities.
- Monthly inspection on Greenview facilities.

- Annual Check of Fire Extinguisher and First Aid Kit on all Facilities and Equipment has been completed.
- Received training from Cummins to complete monthly inspections on Generators, we will be holding a second training session in April. After the second training session Facility Maintenance staff will be responsible for monthly inspection of the Generators. In light of the training received we will be adjusting our contact contract to include semi-annual and annual inspection only.
- Normal Maintenance on all Facilities.
- All Fire Pumps and Fire Pumps Trailer have been set out for the season.

Admin Building

- We are replacing doors for the stair well to new doors with side glass in it. This has been a safety concern as you cannot see if somebody is behind the door.
- Swept and cleaned Admin FCSS and Medical Clinic parking lots.

Vet-Clinic

- Replaced at the wash sink in the big animal area

Regional Landfill

- At the request of Environmental Staff, a wall with a door and window has been installed between the front entrance and the main office area in the scale house facility. With the installation users of the site will be separated from the Office area.

Sunset House School/Community Hall

- The furnace installation project is complete, the only items left are training on the thermostats and the security system and cameras.

Manager Operation, Gord Meaney

Tenders and Quotes

A second round of Quotes have been received for the Brush Chipper and the results are as follows:

SUPPLIER	MAKE	YEAR	PRICE/UNIT	NON-COMPLIANT
Vermeer Canada Inc.	BC 1000 XL	2016	$54,899.00	does not meet spec
Arborist Supply Company	**Bandit**	**2016**	**$56,000.00**	**meets spec**
Arbor Tree Care Service Ltd.	1712 Hitachi	2016	$59,000.00	does not meet spec
Equipment Sales and Service Ltd.	MIZR	2016	$66,700.00	does not meet spec

The Arborist Supply Company quote was brought to the CAO for approval as it was $1,000.00 over budget as per the expenditure and Disbursement Policy.

As per the Expenditure and Disbursement Policy No. 1018 (sub) 2.7. *"Any capital expenditure for equipment or vehicles that exceeds Council's approved budget by less than $10,000.00 or 10% and will remain within the department's overall capital budget, may be approved by the Chief Administrative Officer. "*

The Tractor/Backhoe tender for $300,000.00 for two units was awarded to Cervus Equipment after approval was obtained from the CAO regarding the $10,000.00 overrun on budget as stated in the March 8th Managers report.

- The Skid Steer tender bids are still being reviewed and will be awarded by the first week of April.
- The Light Truck Tender will be advertised on APC during the first week of April 2016.

East Sector

- Greenview staff are researching possibilities for road sweeping equipment for spring clean-up.
- Gravel haul from Buffalo Gravel Pit to Valleyview Pit has been completed.
- Arranged to have additional salt delivered to the Valleyview shed.
- Regular winter road maintenance performed as well as spring maintenance on the gravel roads.
- Sign repairs were ongoing.
- Steaming culverts was a high priority due to mild weather.

West Sector

- Greenview staff are researching possibilities for road sweeping equipment for spring clean-up.
- Regular winter road maintenance performed as well as spring maintenance on the gravel roads.
- Sign repairs are ongoing.
- Steaming culverts was a high priority due to mild temperatures.

Shop

- The Oil Disposal contract ran out and Little Dipper Disposal has been contracted for one year to remove our used oils, plastic and used oil filters.
- Extra CVIP's are being done for the Fox Creek Fire Department.
- All three shop personnel are training to upgrade their licences from a Class 5 to a Class 1 so that equipment can be moved legally.
- All the tires had to be replaced on the L8 Volvo Loader.
- Monthly tool box meetings are ongoing.
- Continuing with training on the Snap-On Diagnostic System.
- Continuous training on Work Tech.

Manager Environmental Services, Gary Couch

Water and Distribution

- Awaiting official results from the Request for Suppliers for the new Reverse Osmosis treatment system that will be installed at Ridgevalley.

- Held a public meeting for Little Smoky residents to update them on the new water distribution system.
- Tenders will close on April 8th, 2016 on the installation of water lines for Little Smoky Distribution and Crooked Creek water transmission lines.
- Completed the drilling of a potential new water supply well for the Grovedale/Landry Heights area. We are awaiting field verification and 48 hour pump testing results from our hydrogeological consultants before moving forward on a potential second supply well if needed.
- Draft is completed for the Valleyview Rural Water Line Loop Study, will be reviewing draft for comments for the consultant.
- Our final Operator/Trainee position has been filled and our new employee will start in early May.
- The Assistant Manager has been working closely with Accounts Recievable over the past few months on the reporting of water metered accounts. We have started receiving detailed reports on unread meters, continuous leaks, zero reads, estimated use, and consumption. A number of issues have been addressed since and the reports have been very valuable.

Wastewater

- We will be starting the installation of the septage receiving station for Grovedale Sewage Lagoon in the coming months.
- Lagoon access and reporting procedures appear to be working well at Greenview's lagoons. Over 300 loads of sewage have been unloaded at Grovedale and Sturgeon Heights in the first 3 months of 2016. Last week alone there were over 60 truckloads.
- We had a force main break at the Ridgevalley lagoon last week. Repairs were made by staff promptly and Alberta Environment was notified.
- The New Industrial Lagoon design, permitting, and land acquisition is on schedule.
- Reviewing current sewer rates for hamlets as well as lagoon users.

Solid Waste

- Reviewing the newly implemented Grand Cache area solid waste agreement with the Town of Grande Cache.
- Received the Tire Marshalling Matching Grant of $30,000.00 from Alberta Recycle as part of the upgrade to the Sturgeon Heights Transfer Station.
- The new "take it or leave it" buildings are being utilized more and more at DeBolt and Sunset house with no issues.
- Cardboard recycling bins will be added to our collection areas and a couple transfer stations. This change is to test the volume of cardboard collected in those locations.
- We are moving one paper recycle bin to the Grovedale School, at their request, to further promote recycling in the community.

Manager Planning & Development, Sally Rosson

- Scheduled meeting for April 11th at 1:00 pm with Urban Systems and Greenview Council to be held in Council Chambers. Urban Systems would like to update Council on the review of the Land Use Bylaw and obtain feedback from Council on working through the review process.

- The Citizen's Panel review of proposed changes to Greenview's LUB was held all day on March 23rd, 2016, with staff in attendance. The draft document was reviewed with the Panel in detail.
- Greenview Staff met with Urban Systems the following day, for a presentation on "Condominiums from a Surveyor's Perspective", and then to further discuss the results of the Citizen's Panel meeting and answer questions to allow Urban Systems to prepare a draft copy of the LUB. 'Section 7 – Signage', drafted by staff was provided to Urban Systems.
- Municipal Development Plan review with ISL Engineering and Land Services Ltd after April 13, 2016 Municipal Planning Commission meeting.
- Grovedale Area Structure Plan - we are working with contractor to ensure a draft document will be ready for review in accordance with the contract deadlines and to meet future growth in the Grovedale area.
- Staff have completed the first draft of a proposed "Subdivision Policy" for Greenview, to update the application process to include their recommendations attained from interviews conducted by the DO's with a number of other municipalities, being the Counties of Sturgeon, Strathcona, Wood Buffalo, Grande Prairie, Brazeau, Rockyview and MD of Foothills and the City of Calgary, as well as two corporate developers.
- We will be working on the Agenda preparation for the April 13th Municipal Planning Commission Meeting.
- Since our last report that was submitted to Council as of March 31st, we have received new applications: 2 Business License Applications; 14 Development Applications; 3 Lease Referrals; and 1 Subdivision Application.

Manager's Report

Function: **Community Services**

Submitted by: **Dennis Mueller, General Manager Community Services**

Date: **4/1/2016**

General Manager Community Services, Dennis Mueller

- Prepared and submitted agreements for the proposed Fox Creek Recreation Facility and Fire Hall to the Town of Fox Creek for their review.

- A Valleyview & District Medical Clinic Meeting was held on March 24th, topics included:
    - The Alberta Rural Physician Action Plan (RPAP) correspondence in regards to the possible closure or reduction of the RPAP, as per Alberta Health's review of RPAP programs and services, was a topic reviewed by the committee members.
    - Alison Chisholm, Physician Resource Planner North Zone has indicated that two physicians have been recruited to work at the Valleyview and District Medical Clinic. The expected arrival date will be within the next 9 – 12 months. Administration is currently awaiting written confirmation from the RPAP that this recruitment will transpire.
    - The committee authorized Administration to proceed with renovations of the Valleyview and District Medical Clinic to accommodate space for the new doctors, pending doctor recruitment verification is received. The renovated space will be conducted in the former chiropractor office area to accommodate one of the doctors. The space formerly occupied by Dr. Human is available to accommodate the second doctor.

- Many community organizations have complied with the written request to provide financial statements to enable the release of the held Greenview grant funds to them. The remaining organizations that have not submitted financial statements will be contacted by phone.

- Received a call from Joanne Gardner requesting not to be sent correspondence in regards to the New Fish Creek Cemetery Committee, as she is moving from the area. Joanne had previously served as a member on the committee.

Agricultural Services Manager, Quentin Bochar

- **Capital Expenditures 2016**

  To ensure transparency in the supply of an Agricultural Plastic Bag Roller, a Request for Quotation (RFQ) was sent out to three vendors who supply this type of equipment. The RFQ contained specifications on the type of plastic roller requested. These companies are listed below:

  - Brown Bros. Manufacturing (Milestone, SK)
  - Arc Alloy (Colonsay, SK)
  - Kirchner Machine Ltd. (Lethbridge, AB)

Manufacturer	Price	Conformity
Brown Bros. Manufacturing	$10,850.00	Conformant
Kirchner Machine Ltd.	$9,250.00	Conformant
Arc Alloy	$8,600.00	Non-conformant

  In order to compare the quotations from each of the companies, a quotation comparison matrix was utilized. Based on the analysis of the two units that were conformant, the unit from Brown Bros. Manufacturing is built more rugged, and would have the capability to withstand the rigors of rental fleet use by multiple users with different experience levels. Additionally, Agriculture Administration polled municipal neighbours to determine if bag rollers were in their fleet. Clearhills County has a similar unit in their rental fleet from the same manufacturer and were pleased with the operational suitability and ruggedness of the Brown Bros. Bag Roller. Based on these factors, it was determined that Brown Bros. Manufacturing had the quotation that met most of the requirements, for the price of $10,850.00 + GST.

- **Surplus Items**

  To ensure transparency in the disposal of Greenview assets, the following pieces of equipment were sold at public auction (Ritchie Bros. March 14-15, 2016 in Grande Prairie):

Lot #	Description	S/N	Price
714	Case MX120 MFWD Tractor	JJA0104069	$39,000.00
912	Wheatheart Heavy Hitter post pounder	210574	$10,000.00
913	Wheatheart Heavy Hitter post pounder	210565	$9,000.00

- **Kakwa Report**

  The Agriculture department assisted the Recreation department in completing a recreation assessment of the Kakwa Falls area, using both equipment and expertise from the Agriculture department.

Green View Family and Community Support Services (FCSS) Manager, Lisa Hannaford

- Green View FCSS was the successful proponent for the Alberta Works contract. This contract funds the employment and income support services offered out of the Community Resource Centre, up to a maximum annual amount of $46,200.00.

- The Green View FCSS Volunteer Appreciation dinners are scheduled in Valleyview at the Memorial Hall on April 13th, and at the Grovedale Community Hall on April 14th. All volunteers and their families are invited to attend this event which takes place from 5-7 p.m.

- Building Strength, a support group for men, will be offered out the Community Resource Center beginning in April. This is the first time a support group for men will be offered out of the centre and will include topics such as dealing with difficult emotions, overcoming challenges (e.g. unemployment), loss, self-esteem, and building healthy relationships.

Protective Services Manager, Jeff Francis

- The project to implement the safety specific computer system from Joe Software is in progress. A series of project discovery sessions took place in March with the last one completed on March 2, 2016. When the draft project plan is received and reviewed it is expected that the second segment will proceed throughout April. The last segment will include testing and training on the new system followed by Greenview being online for May 2, 2016.

- A request was received from Rick Demary of the City of Grande Prairie for assistance with their external COR (certificate of recognition) in September of 2016. The City of Grande Prairie has hired the firm, Compass Health & Safety, to conduct the audit. External safety audits are required every three years and this firm also conducted Greenview's external audit in 2014. The Greenview Health and Safety Officer has accepted their invitation and will be assisting the City of Grande Prairie and Compass as a certified AMHSA (Alberta Municipal Health & Safety Association) Auditor. The Greenview Health and Safety Officer considers this a great opportunity to learn and network with local safety professionals. This is also an example of Greenview assisting other municipalities in the region.

- In relation to a workplace incident, Greenview, at the request of the Alberta Government, provided a copy of the internal investigation with the accompanying preventative measures. It was determined from the documentation that Greenview was compliant and no further action was required.

- **Grovedale Public Service Building**

  The office space at the Grovedale Public Service Building is expected to be near completion by the middle of April. Southwest Construction is hoping that Atco will be available to change the temporary power provision over to a permanent status by the end of March.

- **DeBolt Public Service Building**

  Southwest Construction has requested the sub trades to bring in extra crews to speed up work. Steel stud framing should be completed by the last week of March. Truck base concrete is anticipated to be poured at the beginning of April.

Recreation Services Coordinator, Adam Esch

- **Kakwa Falls and Wildland Report**

  Administration went on a preliminary trip to the Kakwa Falls through Kakwa Wildland Provincial Park in order to better understand how the area is being utilized. A report to Council regarding possible recreation enhancements to the area is being prepared.

- **Alberta Recreation & Parks Association (ARPA) Provincial Forum**

  Administration attended an ARPA Provincial Forum to network, discuss and learn about developing recreation and park trends both positive and negative province wide. There was great interest from the attendees to hear Greenview's recreation strategy.

- **Community Walking Trails**

  Administration received positive feedback from the general community of DeBolt regarding a concept location for a community walking trail. Administration will continue work on this concept design for Council's approval at a later date.

- **Small Recreation Developments**

  Administration is continuing to conduct stakeholder meetings surrounding potential small recreation developments. An RFD and recommendation will come forward to Council for specific project approval prior to proceeding with development.

- **Johnson Park Update**

  The application for lease is currently being reviewed by various provincial departments for a final examination of the proposal. If no further requirements are identified a decision by the province will be made regarding approval or denial of the lease application. After approval, Administration will file development permit applications for all proposed 2016 developments.

Economic Development Officer,

- The vacant Economic Development Officer position is currently open and an interview process has been conducted.

Manager's Report

Function: **Corporate Services**

Submitted by: **Rosemary Offrey, General Manager Corporate Services**

Date: **4/12/2016**

General Manager Corporate Services, Rosemary Offrey

The Corporate Services staff continue to search for and provide requested information to the auditors with the hope that the audit will be complete by April 20th. The auditors plan to attend the April 26th regular Council meeting to present the 2015 financial statements to Council.

I continue to provide updated information to Questica (budgeting software) to enable them to integrate correct information with Diamond GP and WorkTech financial data.

I have been working on the 2015, 4th quarter report which I hope to submit to Council by the middle of April. The managers have been given the 2016 1st quarter reports which some have reviewed and provided input regarding potential miscoding. Finance will make time to complete the adjusting entries to correct those errors as soon as humanly possible.

The Finance & Administration Manger, HR and I interviewed 4 applicants for the Financial Officer's position, from which we selected one person to come to Valleyview for an in person interview. We also have another interview scheduled for this position for April 18th.

The internal advertising for the Corporate Services GM – Executive Assistant have returned a couple of applications which I will review this week and provide feedback to HR regarding setting up interviews, etc.

Finance & Administration Manager, Donna Ducharme

Greenview's Finance & Administration Manager continues to work with the Audit team coordinating the 2015 Audit review. She continues to complete 2015 adjusting journal entries, 2016 batch postings and finalizing the bank reconciliations. Along with providing project reports to the Provincial Government for the use of the MSI funds

provided by the province. As well as insuring/registering any new vehicles/equipment and the normal day to day activities along with the constant requests that come up every day. She will be out of the office for the next two weeks on a long overdue vacation.

Human Resources, Sandra Rorbak

Positions filled since last report: 1) Administrative Support – Recreation/Protective Services, 2) Agricultural Services Supervisor Trainee, 3) Groundskeeper Labourer, and 4) Utility Operator Trainee. There are four positions at the offer stage. They are: 3- Weed Inspectors and the Economic Development Officer.

The open positions include: 1) Administrative Support – Agricultural Services/Fleet/Health & Safety, 2) Communications Assistant, 3) Community Coordinator – Grande Cache (interviews are in progress), 4) Engineering Technologist (interviews in progress); 5) Equipment Operator/Truck Driver – Grovedale, 6) Finance Officer, Financial Reporting (interviews in progress), 7) Problem Wildlife Officer (checking references) and 8) the Utility Operator position.

Open 2016 Seasonal positions: 1) Fire Technician, 2) FCSS Support Coordinator, 3) Outdoor Recreation Facility Maintenance, and 4) Recreation Inventory Assistant (interviews in progress).

There have been no employee exits since last report.

Information Systems, Shane Goalder

Shane completed an Aerial Photography Services RFP which was added to the Alberta Purchasing Connection and the Greenview Website. This RFP closed on March 29th and Administration has a RFD in April 12, 2016, regular council meeting agenda to seek approval to proceed with the contract for these services.

He has been busy ordering computer equipment, installing new computer monitors at the Medical Clinic reception desk, installing new leased printer/plotter/scanner at the Administration Building and moving the old plotter to FCSS, and setting up employees to access Greenview's network, and he traveled to Grande Cache, Grovedale and DeBolt to review the installation of the microwave network links for Greenview as well as the daily supports tasks he provides to the staff.

CAO's Report

Function: **CAO**

Date: **April 12, 2016**

Submitted by: **Mike Haugen**

City of Grande Prairie
Staff have been following the media items emerging from the City of Grande Prairie regarding linear assessment and amalgamation.

Staff would note for Council the February 10th letter from the Hon. Danielle Larivee to the AAMDC. The letter specifically states:

"There will be no linear redistribution of linear assessment from rural Alberta to Calgary, Edmonton, or any other city."

This letter was read out at a recent Northern Alberta Elected Leaders meeting in Slave Lake. The Minister and Mayor of Grande Prairie were present at this meeting.

Canadian Association of Petroleum Producers (CAPP)
Delegates of CAPP met with myself and Reeve Gervais. At the meeting several things were discussed regarding the general operations and philosophies of the Municipal District and various programs being done for the benefit of industry and the communities within Greenview.

The CAPP delegation once again affirmed that they had submitted feedback to the Province as part of the MGA review. The main element was suggesting a linkage rate be enshrined within the new MGA. Linkage would mean that municipal farmland/residential rates would be linked to non-residential rates within a particular range. CAPP is proposing 1:2, meaning that if approved a municipality's non-residential mill rate could not be more than double the residential rate.

Greenview currently as an approximate rate of 1:3.14. According to CAPP, the rural average is about 1:3.7. If this level of linkage were established, Greenview would have significant changes to make which could include tax increases (residential), tax decreases (non-residential), and/or service cuts. It is unknown how seriously the Province is looking at this topic.

Fox Creek Site Identification Plan
Copies of the Plan are being distributed to Council. It is anticipated that the Plan will be brought forward to the May 10th Regular Council Meeting.

Fox Creek Operators Group (FCOG)
Staff met with a delegation of the FCOG Roads Subcommittee. The delegation is requesting that Greenview look at improvements on the service road leading to the Big Stone road. Administration will look into the project and develop options for presentation to Council.

Staff Breakfasts
Staff breakfasts for 2016 are being held again. The event is intended for Staff outside the main office to interact with each other, as well as myself and the managers. The Staff outside of the main office do not always have the opportunity for this interaction and because of the nature of their positions, attendance at Social Committee events is sometimes difficult. I believe the breakfasts are appreciated by the Staff. We generally hold them monthly, alternating between Valleyview and Grovedale.

Away
I will be in Grande Cache on April 14th and 15th conducting interviews for the Grande Cache Community Coordinator.

I will away from April 25-27 inclusive attending the next module of the CMML course in Grande Prairie.

Upcoming Dates:

April 13th	Grovedale ASP Discussion
April 13th	Council MDP Review
April 20th	Joint Meeting with City of Grande Prairie
May 9th	All Staff Day
May 10th	Meeting between Fox Creek and Greenview Councils
June 2nd-5th	Federation of Canadian Municipalities
June 14th	Valleyview Community BBQ
June 21st	Grande Cache Community BBQ
June 22nd	Greenview Golf Tournament
July 19th	Grovedale Community BBQ
July 22nd	DeBolt Community BBQ