COMMUNITY RISK ASSESSMENT

FOR THE

TOWN OF FORT FRANCES

Completed by:

Wayne Riches,
Captain of Fire Prevention and Education
Fort Frances Fire and Rescue Service

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INTRODUCTION

A Community Risk Assessment allows a fire department to make informed decisions about the types and levels of fire protection services they will provide based on identified risks. Risk is defined as a measure of the probability and consequence of an adverse effect to health, property, organization, environment, or community as a result of an event, activity or operation. By identifying all fire and life safety risks in the community and prioritizing them based on the probability of occurrence and the impact they would have if they occurred the fire department is able to determine which risks to address and how best to address them. A risk assessment will assist the fire department in determining their level of service, including programs and activities for public fire safety education, fire code inspections/enforcement, and emergency response.

The *Fire Protection and Prevention Act, 1997 (FPPA)* mandates that every municipality in Ontario shall establish a program which must include public education with respect to fire safety and certain components of fire prevention and provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances. In the fire service, these elements are commonly referred to as the Three Lines of Defense:

1. Public Fire Safety Education
2. Fire Safety Standards and Enforcement
3. Emergency Response

In order to meet these obligations, municipalities need to make informed decisions with respect to the types and levels of fire protection services they provide. This requires an understanding of the risks facing the community that can be identified through a community risk assessment. Once identified, the risks can be prioritized to

assist in making informed decisions about risk treatment options and the provision of fire protection services.

Ontario Regulation 378/18: Community Risk Assessments (O. Reg. 378/18) requires that every municipality and every fire department in a territory without municipal organization complete a community risk assessment and use it to inform decisions on the provision of fire protection services. The Community Risk Assessment is an in-depth and comprehensive assessment to inform fire protection service levels and requires the identification, analysis, evaluation and prioritizing of risk, based on nine mandatory profiles. The regulation outlines a standard set of information profiles that must be considered when conducting a community risk assessment. The information and data gathered to address each of the profiles will assist in determining and prioritizing the risks to public safety in the community and determining the fire protection services to be provided by municipalities and fire departments in territories without municipal organization to address those risks.

The mandatory profiles identified in Schedule 1 of O. Reg. 378/18 were determined from examining various current industry models on risk assessment. Many of these models provide comprehensive coverage pertaining to identification of data and information relating to community risks. However, it should be noted that these risk assessment models may or may not include all of the nine mandatory profiles as identified in Schedule 1 of O. Reg. 378/18. Municipalities and fire departments in territories without municipal organization may use other tools, models or guidelines to conduct their community risk assessments provided that their final community risk assessment meets all the requirements outlined in O. Reg. 378/18., including consideration of each of the nine mandatory profiles identified in the regulation.

The Guideline provides suggestions as to how to record and analyze the data/information using the sample worksheets that are provided in the Guideline. Municipalities and fire departments in territories without municipal organization have flexibility to include any additional information (e.g., maps, charts, diagrams) they deem appropriate to best assist them in analyzing their data and information in order to make informed decisions on fire protection services.

The first step in conducting a community risk assessment is to identify the various fire and life safety risks in the community. This can be done by gathering data about the make-up of the community and the activities occurring there. O. Reg. 378/18 requires fire departments to consider the following profiles when completing their community risk assessment to ensure the risk assessment best considers all potential risks in the community:

1. Geographic Profile
2. Building Stock Profile
3. Critical Infrastructure Profile
4. Demographic Profile
5. Hazard Profile
6. Public Safety Response Profile
7. Community Services Profile
8. Economic Profile
9. Past Loss and Event History Profile

Through research, we can gather and review data and information about each of these profiles to identify the fire and life safety risks impacting the community. Working through the steps indicated in the chart below, a Risk Assessment that accurately

depicts community risks and solutions that best address those risks, can be developed and implemented.

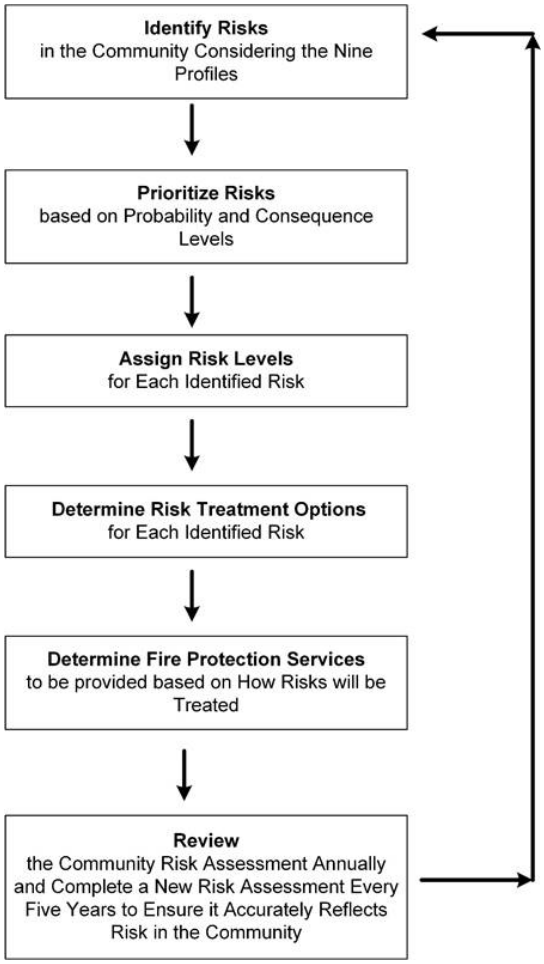

Figure 1. OFM TG-02-2019 Community Risk Assessment Guideline – Appendix D: Community Risk Assessment Flow Chart

RISK ASSESSMENT METHODOLOGY

Through the completion of a Community Risk Assessment, a Community's local needs and circumstances can be determined, therefore providing the necessary information to make informed decisions and assist with determining the level of service the local Fire Department may provide to best meet those needs and circumstances. Local needs and

circumstances are determined by first looking at 9 various profiles within a Community. Through in-depth research and assessment of data and utilizing the ***Risk Level Matrix***, we can determine the level of fire risk to a Community, based on probability and consequence.

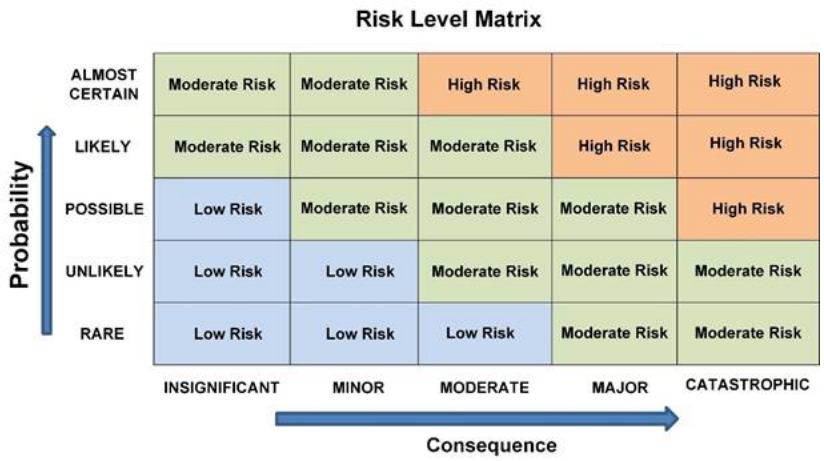

Figure 2. OFM TG-02-2019 Community Risk Assessment Guideline – Risk Level Matrix

Probability is based on past occurrences within the Community, similar Communities and the Province as a whole. It categorizes likelihood into five categories:

1. ***Rare*** – may occur, no incidents in past 25 years.
2. ***Unlikely*** – could occur, at least one incident in past 10 years.
3. ***Possible*** – might occur, occurs annually on average, with 1-5 incidents in past year.
4. ***Likely*** – will probably occur, multiple or reoccurring incidents in past year, may occur monthly with 10-50 incidents per year.
5. ***Almost Certain*** – Expected to occur, multiple or reoccurring incidents, may occur weekly or daily.

Consequence is determined based on the potential for loss or negative outcomes and takes into consideration four factors:

1. ***Life Safety*** – injury or loss of life due to exposure to fire or other situations.

2. ***Property Loss*** – dollar loss to private and public buildings, property content, assets, significant landmarks, critical infrastructure due to fire.
3. ***Economic Impact*** – dollar losses associated with property income, closure of business, reduction in tourism, tax assessments, job loss due to fire.
4. ***Environmental Impact*** – harm to people, fish/wildlife/vegetation due to decline in quality of life, resulting from environmental contamination due to fire and fire suppression activities.

Consequence levels are categorized into 5 areas and are based on severity. They range from:

Insignificant	- no life safety issues - limited value or no property loss - no impact to local economy - no impact on general living conditions
Minor	- potential risk to life safety of occupants - minor property loss - minimal disruption to business activity - minimal impact on general living conditions
Moderate	- threat to life safety of occupants - moderate property loss - poses threat to small local businesses - could pose threat to quality of the environment
Major	- potential for large loss of life - result in significant property damage - significant threat to businesses, local economy, tourism - impact to the environment, resulting in short-term, partial evacuation of resident and businesses
Catastrophic	- significant loss of life - property damage to significant portion of the Municipality and Community - long-term disruption of businesses, employment, tourism - environmental damage resulting in long-term evacuation of local residents and businesses

Both probability and consequence are assigned a numerical value ranging from 1 to

10,000. The risk level is then determined by multiplying the numerical values assigned to the category (fire risk = probability x consequence). The risk level is then attributed to the risk category, with risk being classified as low risk, moderate risk or high risk.

Risk Level Matrix

Probability	INSIGNIFICANT 1	MINOR 10	MODERATE 100	MAJOR 1,000	CATASTROPHIC 10,000
ALMOST CERTAIN 10,000	Moderate Risk 10,000	Moderate Risk 100,000	High Risk 1,000,000	High Risk 10,000,000	High Risk 100,000,000
LIKELY 1,000	Moderate Risk 1,000	Moderate Risk 10,000	Moderate Risk 100,000	High Risk 1,000,000	High Risk 10,000,000
POSSIBLE 100	Low Risk 100	Moderate Risk 1,000	Moderate Risk 10,000	Moderate Risk 100,000	High Risk 1,000,000
UNLIKELY 10	Low Risk 10	Low Risk 100	Moderate Risk 1,000	Moderate Risk 10,000	Moderate Risk 100,000
RARE 1	Low Risk 1	Low Risk 10	Low Risk 100	Moderate Risk 1,000	Moderate Risk 10,000

Consequence

Low Risk:	probability x consequence = 1; 10; or 100
Moderate Risk:	probability x consequence = 1,000; 10,000; or 100,000
High Risk:	probability x consequence = 1,000,000; 10,000,000; or 100,000,000

Figure 3. OFM TG-02-2019 Community Risk Assessment Guideline – Appendix B: Risk Level Matrix (numerical values)

Once risk levels have been assigned, fire departments can determine how to best treat each risk and what resources are required to do so. Options for treating risk include:

1. ***Avoid the Risk*** (involves implementing programs and initiatives to prevent a fire emergency from happening, i.e., public fire safety education programs)

2. ***Mitigate the Risk*** (involves the implementing of programs and initiatives to

reduce the probability and/or consequence of a fire emergency, i.e., routine fire safety inspections/enforcement, pre-planning program to develop a knowledge of building stock profile/layout/contents, etc.)

3. ***Accept the Risk*** (no specific programs/initiatives will be implemented to address the risk, fire department accepts the potential risk and will respond appropriately, i.e., fire department does not implement programs to prevent motor vehicle collisions, but responds accordingly)

4. ***Transfer the Risk*** (means the fire department transfers the impact and/or management to another organization or body)

Options for treating fire risk within a Community can be addressed using strategies from one or more of the "Three Lines of Defense". They include Public Fire Safety Education, Fire Safety Standards and Enforcement, and Emergency Response. The goal is to determine which strategy (line of defense), is most effective in dealing with the Community fire risk.

GEOGRAPHIC PROFILE

Overview

The Town of Fort Frances is a border town, situated within the Rainy River District, along the shores of Rainy Lake and Rainy River, which flow westward into Lake of the Woods. Across the river is the community of International Falls, it has a population of approximately 5800 and is positioned in the northern portion of the State of Minnesota. There are several small communities within the Rainy River District, including Couchiching First Nation that shares a north-east boundary with Fort Frances and has a population of approximately 1000 people. Fort Frances is home to some 7800 people and is situated centrally between Thunder Bay, Winnipeg, and Minneapolis to the south. The geography is unique, with the Canadian Shield immediately to the east and prairie

flat lands to the west. The Community is situated on this geographic transition. Analysis of geographical features include roadways and highways used to access the community and those areas within the community, rail lines used to transport goods and services, water body features that are used for water supply, recreation and transportation and a comprehensive wildland-urban interface around most of the Municipal boundaries. Compromising these features could pose inherent fire related risks to the community, as well as affect fire department access and response delays.

Figure 4. maps.google.com

Rail Lines

The risk potential for railway emergencies within the Municipal boundaries of Fort Frances and nearby communities within the Rainy River District is very concerning and a top priority. There have been a significant number of incidents involving train derailments and damaged rail cars within the Rainy River District in recent years. CN indicates that an average of 18-20 trains routinely pass through Fort Frances over a 24-hour period, with typical lengths ranging from 1600 – 8000 ft in length. The current maximum allowable train length is 10,000 ft (3 kilometres/2 miles). Rail cars transport commodities that range from grains to hazardous substances. One of the rail lines through the community is used to transport goods from Canada to the USA via a bridge

crossing at Rainier, Minnesota, over the mouth of Rainy River. It is the busiest border rail crossing in North America. Risks to the community include:

- Impact of potential hazardous spills
- Impact of potential large-scale fire due to ignition of flammable and combustible materials
- Requirement for a large-scale evacuation of the community
- Impact of water contamination downstream from the Rainier bridge crossing (drinking water supply & fire suppression for the Town of Fort Frances and other communities downstream)
- Impact of fire department response, derailment may split the town in half (north and south section), depending on location of a derailment. Significant delay in response, as fire department resources are all positioned on south side of rail lines

Using the risk matrix, the risk level has been determined to be high. Preferred treatment includes accepting the risk and implementing appropriate response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls. Develop a partnership with CN Rail and an understanding of their response protocols, SOG's and resources available for response. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, to respond to railway emergencies.

Water bodies/Features

Fort Frances is situated along the shores of Rainy Lake and the north side of Rainy River. These bodies of water supply potable water to Couchiching First Nation, Fort Frances, International Falls Minnesota, and multiple communities down-stream. They also serve as the Town's water supply for fire suppression efforts as well as for recreation and transportation. Risk to the community includes:

- Impact of water contamination due to emergencies such as a train derailment or hazardous spills that enter the water body.
- Impact of flooding in the community

- Impact on water rescue operations in relation to time of year.

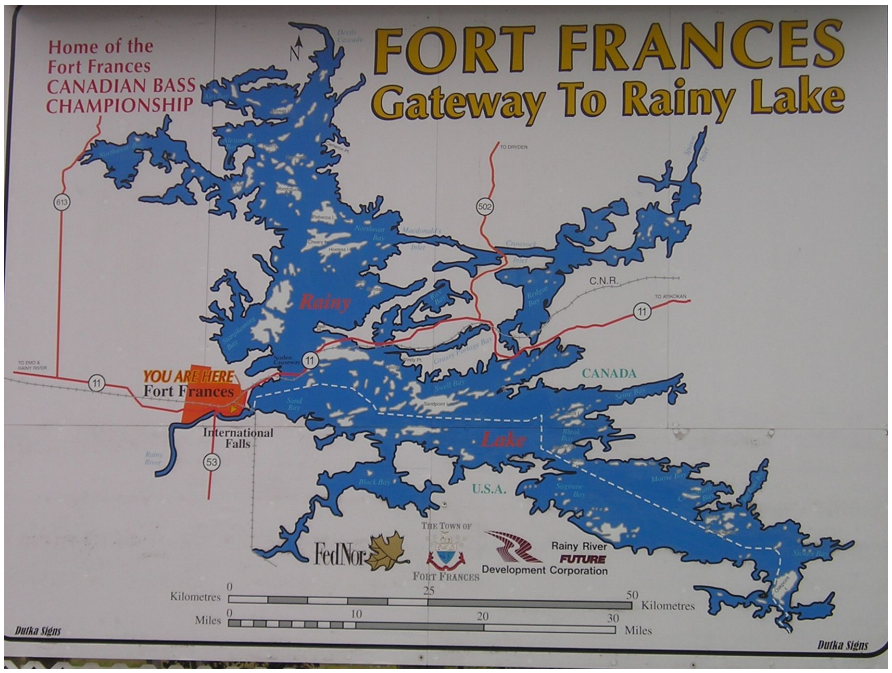

Figure 5. Town of Fort Frances and Rainy Lake

Using the risk matrix, the risk level has been determined to be high. Preferred treatment includes accepting the risk and implementing appropriate response protocols, SOG's and additional activities. Develop an understanding of water treatment plant response protocols that address possible water contamination. Work in partnership with the Town's Public Works Department to determine additional response protocols, SOG's and resources available for response. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, to respond to all water related emergencies.

Roadways/Transportation

Fort Frances is accessed by highway 11/71 that travels through the centre of the town in an east to west direction. It provides a corridor for the transportation of goods and services, emergency response and travel for residents living within other townships and

municipalities. It is a gateway to the Rainy River District to the west and Lake of the Woods and the City of Kenora to the Northwest.

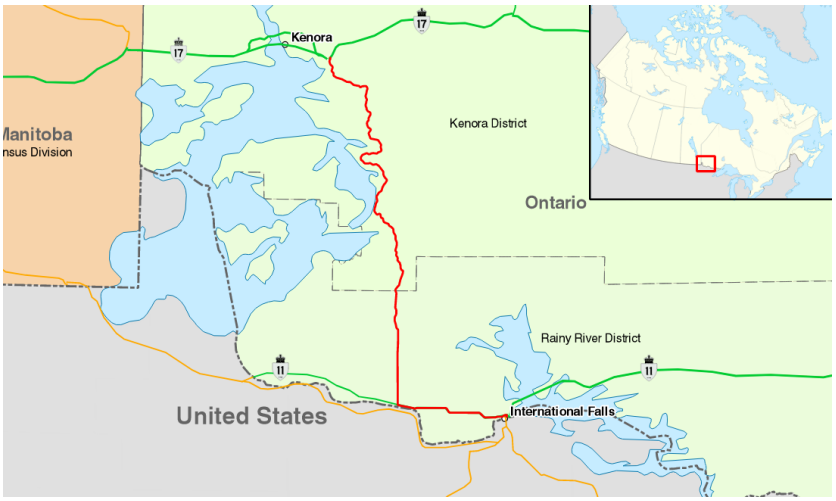

Figure 6. https://www.google.com Highway 11/71 (#11 green, #71 red)
* Fort Frances same location as International Falls

In addition, the causeway bridge is located east of Fort Frances and Couchiching First Nation and provides access to the east side of Rainy Lake. It provides the only means of crossing the water body in a vehicle. Risk to the community includes:

- Impact of road closures on the transportation of goods and services
- Impact of road closure on emergency response (MVC's, mutual aid calls, water rescue, etc.)
- Restricted access and/or delayed response within town limits
- Impact the arrival of additional resources to address emergency response, agency assist

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes accepting the risk and implementing appropriate response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls across the border. Develop a partnership with the MTO to determine their response protocols, SOG's and resources

available for response. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, strategically positioned to respond to emergencies.

Wildland-Urban Interface

The geographic positioning of Fort Frances is unique. To the east is the Canadian Shield with Great Lakes St. Lawrence and Boreal forest supporting the forest industry. To the west is flatter, mixed forest with prairie type land that supports agriculture. The east and south municipal boundaries are surrounded by water bodies (Rainy Lake and Rainy River), while the north and west boundaries show the presence of mixed forest, shrubbery, and grasslands. A significant number of residential homes have been built along these outer wildland-urban interfaces. Risk to the community includes:

- Impact of fire loss on the community
- Impact of public health hazards to residents from factors such as smoke

boreal forest photo

mixed forest photo

Figure 7. https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.thecanadianencyclopedia

Using the risk matrix, the risk level has been determined to be low. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities, including early spring fire index monitoring. Establish response agreements with other Municipal Fire Services, including the Ministry of Natural Resources, where not already organized. Build on community services partnerships to

determine their capabilities and services provided to assist in a local emergency. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, for emergency response.

BUILDING STOCK PROFILE

Overview

Part 3 of the Ontario Building Code (OBC), categorizes buildings into 6 classifications, further subdivided into specific divisions. All 6 classifications of buildings have specific fire safety expectations as defined within the Ontario Fire Code (OFC). It is the responsibility of the building owner to ensure compliance with the OFC. The Fort Frances Fire and Rescue Services monitors for continued OFC compliance through a well-established Fire Safety Inspection program that includes routine inspection and inspection upon complaint and/or request. Major occupancy classifications include:

Table 1. Building stock profile

Group	Division	Classification Description
Group A	1	Assembly occupancies intended for the purpose and viewing of the performing arts (2)
	2	Assembly occupancies not elsewhere classified in Group A (72)
	3	Assembly occupancies of the arena type (4)
	4	Assembly occupancies in which people are gathered in the open air (0)
Group B	1	Detention occupancies (3)
	2	Care and treatment occupancies (6)
	3	Care occupancies (0)
Group C	***	Residential occupancies (3603)
Group D	***	Business and Personal Services occupancies (93)

Group E	***	Mercantile occupancies (60)
Group F	1	High hazard industrial occupancies (2)
	2	Medium hazard industrial occupancies (34)
	3	Low hazard industrial occupancies (1)

All 6 building classifications can be found within the Town of Fort Frances. Further breakdown of building types has been determined to the best of the Fire Department's ability, utilizing information available from Town records and fire safety inspections. Numbers of buildings present have been categorized into group divisions and are highlighted yellow in the above table. The major occupancy type in Fort Frances is Group C residential and is comprised of all dwelling types, including single family detached, semi-detached, row housing, apartment units, hotels/motels, and fixed mobile homes. Mercantile, business and personal services, A2 assembly and medium hazard industrial make up most remaining occupancy types.

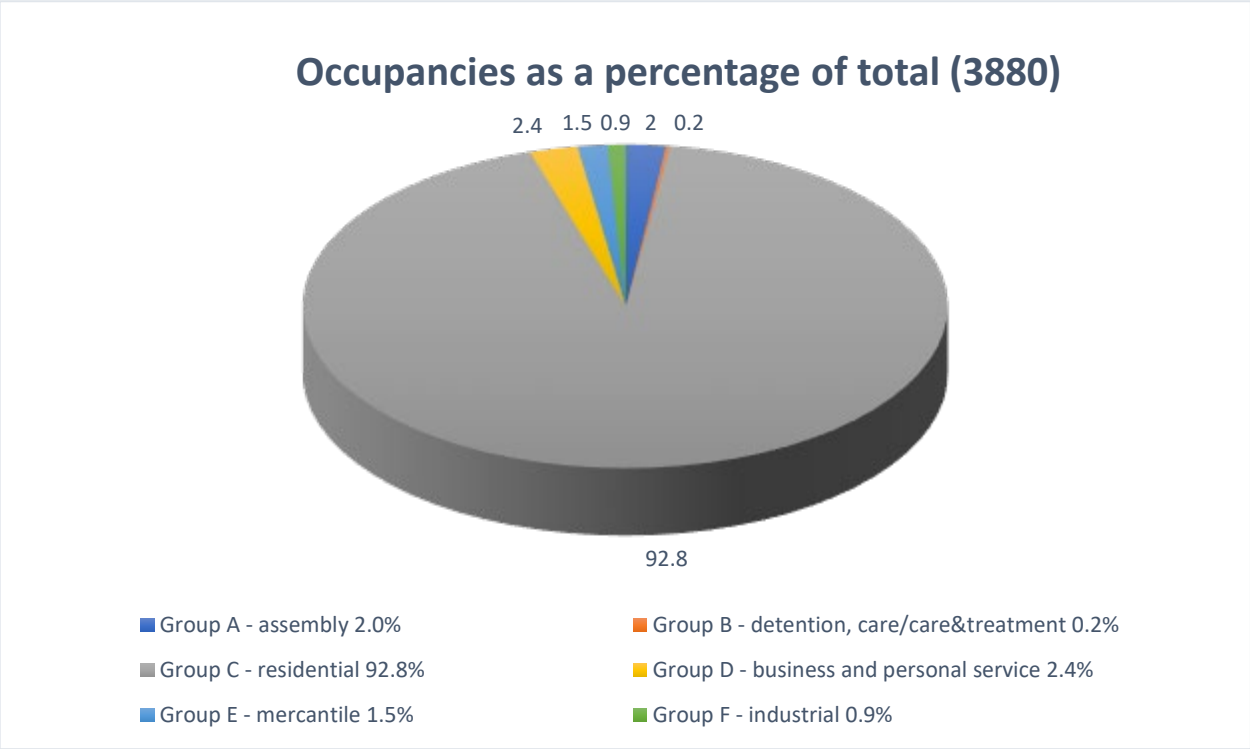

Figure 8.

Risk to the community varies with each occupancy classification type and have been individually addressed as follows:

Group D&E (Business & Personal Service, Mercantile):

Risk to community includes:

- Increased occupancy/occupant load
- Increase amounts of combustibles present
- Untrained staff – OFC requirements, fire safety plans, etc
- Blocked egress, deficient fire protection equipment
- Building size
- Building age - old construction (downtown core)
- Impact of economic loss, job loss, property loss
- Impact of disruption to supply chain

Using the risk matrix, the risk level has been determined to be high. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Conduct routine fire safety inspections with a focus on the seven principles of life safety and compliance with the Ontario Fire Code. Continue to develop and implement a pre-planning program with the Town's downtown core as a priority. Work to resolve any Retrofit requirements established in Part 9 of the OFC where applicable. Promote fire safety education by offering training sessions to business owners that includes topics such as proper fire extinguisher use.

Group C (Residential):

Risk to the community includes:

- Impact of fire on injury, loss of life, property loss, occupant displacement
- Presence of secondary units within residential units (added with/without proper permitting), unknown to firefighters
- Impact of human behaviour (careless cooking, smoking, alcohol/drug use, hoarding of combustible materials)

- Impact of not having properly working smoke alarms, fire alarms, detection, etc.

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes avoiding the risk and implementing appropriate response protocols, SOG's and additional activities. Continue to deliver public fire safety education programs with a focus on careless cooking and general fire safe behaviour in the home. Utilize community events to promote fire safety and reach a broad range of people. Continue to maintain and build upon the Fire Department's smoke alarm and CO alarm program, using local media, social media and person to person interaction. Re-establish local partnerships with community and special interest groups. Continue the routine fire safety inspections of hotels and motels and multi-unit dwellings. Inspection of single-family dwellings upon complaint or request.

Group B (Care and Detention):

Risk to the community includes:

- Impact of fire on injury, loss of life, property loss, occupant displacement
- Impact of building evacuation (large amount of people with mobility issues in care/treatment occupancies, persons under restraint in detention facilities) possibly resulting in delays
- Impact of not having enough staff and staff not properly trained
- Impact of combustible materials, furniture, etc, aiding in fire growth
- Impact of deficient fire protection equipment and life safety protection devices

Using the risk matrix, the risk level has been determined to be low for detention facilities and moderate for care and care/treatment facilities. Preferred treatment for both types of occupancies includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Continue routine fire safety inspections with a focus on the seven principles of life safety and compliance with the Ontario Fire Code. Continue to develop and implement a pre-planning program that includes Vulnerable occupancies being recognized as a priority within the community. Ensure mandatory fire

drill scenarios continue to be reviewed and approved by the Fire Department on an annual basis and fire drills are supervised by the Fire Department. Promote fire safety education by offering training sessions to staff that includes topics such as proper fire extinguisher use.

Group A (Assembly - all types):

Risk to the community includes:

- Increased occupancy/occupant load
- Occupants unfamiliar with building layout – delayed evacuation
- Untrained staff – OFC requirements, fire safety plans, etc
- Impact of deficient fire protection equipment and life safety protection devices
- Impact of increased amounts of combustible materials (furniture, decorations, other, aiding in fire growth)
- Building size
- Building age (new vs old construction)
- Impact of economic loss, job loss, property loss
- Impact of impairment due to alcohol consumptions (where applicable)

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Continue routine fire safety inspections with a focus on the seven principles of life safety and compliance with the Ontario Fire Code. Continue to develop and implement a pre-planning program that includes places of assembly. Ensure mandatory fire drills are conducted and are supervised where necessary. Promote fire safety education by offering training sessions to staff that includes topics such as fire extinguisher use and fire safety plan training.

Group F (Industrial - low, medium, high):

Risk to the community includes:

- Impact of economic loss, job loss, property loss

- Impact of disruption to supply chain
- Impact of increase amounts of combustibles present, aid in fire growth
- Environmental impacts resulting from a fire
- Increased presence of ignition sources, flammable and combustible liquids
- Insufficiently trained staff
- Impact of deficient fire protection equipment and life safety protection devices
- Building size and construction type

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Continue routine fire safety inspections with a focus on the seven principles of life safety and compliance with the Ontario Fire Code. Continue to develop and implement a pre-planning program that includes all Group F industrial occupancy types. Ensure mandatory fire drills are conducted and are supervised where necessary. Promote fire safety education by offering training sessions to staff that includes topics such as fire extinguisher use and fire safety plan training.

CRITICAL INFRASTRUCTURE PROFILE

Overview

As indicated in Ontario Regulation 378/18: Community Risk Assessment, the critical infrastructure profile refers to "*facilities or services that contribute to the connected networks, services, and systems that meet vital human needs, sustain the economy, and protect public safety and security*". By determining what critical infrastructure elements are present within the Community, we can establish how the elements are connected and the impact(s) on the Community if one or more elements becomes compromised. Critical infrastructure elements of priority within Fort Frances, include utilities (electricity, oil and gas supply), food and water, telecommunications and transportation.

Utilities (Electricity, Oil and Natural Gas)

Utilities are critical infrastructure that transport and store electricity, oil and natural gas to the community. A potential failure of utilities could be catastrophic. Hydro One transmission lines supply electricity to the Fort Frances Power Corporation, a privately owned corporation, who in turn, supply electricity to the Town of Fort Frances via their own transmission station. Much like many other northern communities, isolation presents additional challenges. The possibility of electrical grid failure for extended periods of time may be more likely, however, given that we are a smaller community, we can better prepare ourselves in the event of power grid failure. Fort Frances is serviced by 4 transmission lines: an east, west, south Minnesota and a mill (H20 Power) line. Failure in a transmission line may be addressed by re-routing power supply from another line if possible.

Natural gas is supplied to the community via a main feeder line and compressor station located on the Town's west municipal boundary. From there, smaller diameter secondary supply lines provide natural gas to businesses and residential homes. A failure in the supply line would be catastrophic to the community, especially in winter months, as natural gas is the primary heat source for many homes and businesses within the community.

Gasoline is transported to the area via tractor trailers. There are two gas stations within the community and a bulk fuel station located on McIrvine Road (western municipal boundary) and has a combined gasoline and diesel fuel capacity of approximately 340,000 litres. Risks to the community include:

Electricity

- Impact of wide-spread power grid failure due to fire (including forest fires)
- Impact of wide-spread power grid failure due to extreme weather events resulting in fire

- Geographic isolation resulting in limited staff and resources to deal with large scale incidents
- Current configuration of power grid does not guarantee alternative sources of electricity for transmission lines
- Diesel back-up generators have been established at Town evacuation centres, however, are a short-term solution only

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and activities that include additional electrical safety training and increased resources. Ensure the Fort Frances Fire and Rescue Service is familiar with FFPC operational guidelines and available resources. Involvement in table-top exercises that includes multiple agencies, would be beneficial. Establish a second power supply line from the Hydro One station to the FFPC station (Dual Electricity Supply Network – DESN) to secure a guaranteed alternate power supply to the community.

Natural Gas and Oil

- Impact of natural gas main supply line failure due to fire
- Impact of natural gas main supply line leak/increased risk of fire and/or explosion
- Need for large scale evacuation
- Source of heat – winter spike/reliance
- Impact of fire at bulk fuel station – potential for significant fire, large scale evacuation, fuel shortage in community

Using the risk matrix, the risk level has been determined to be low. Preferred treatment includes accepting the risk and implementing appropriate FD response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls Fire Department where not already established. Develop a partnership with EFG/Centra Pipelines and an understanding of their response protocols, SOG's and resources available for response. Ensure Fort Frances Fire and

Rescue Service has adequate training and resources that include equipment and staff for response to natural gas and bulk station emergencies. Involvement in table-top exercises that includes multiple agencies, would be beneficial.

Food and Water

The community of Fort Frances has its own water treatment plant, acquiring its water from the Rainy River, below the Rainier bridge. The sewage treatment plant is located to the south-west of the town, adjacent to the lower Rainy River. Groceries/sundries are primarily supplied by Walmart, Canada Safeway, The Place Fine Foods and Einers Grocery. Couchiching First Nation is a community of approximately 1000 people, who rely on these services as well to support their community. Any plant operations failures or breakdown of the food supply chain would be catastrophic to the residents of these communities. A breakdown of the food supply chain would more than likely be district wide and affect the multiple smaller communities in the area. Risks to the communities include:

Water Treatment Plant

- Impact of fire on clean drinking water supply and water for fire suppression efforts
- Toxic chemicals in plant, possible exposure to responding fire fighters and residents resulting from fire

Sewage Treatment Plant

- Impact of fire affects the ability to process raw sewage from the attached communities
- Possible environmental contamination of the lower Rainy River basin and potentially the water supply of communities located downstream.

Food Supply

- Impact of fire and its affects on the food supply chain, possible food shortages in the town and smaller communities within the district
- Effects are magnified due to additional variables such as Covid-19 pandemic (i.e., border closure limiting access to International Falls

Using the risk matrix, the risk level has been determined to be low with regards to incidents at the water and sewage treatment facilities and moderate when referring to the food supply chain. Preferred treatment for all includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Develop an understanding of water and sewage treatment plant response protocols and their resources available for response. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, to respond to all potential emergencies. Conduct routine fire safety inspections of occupancies to ensure compliance with the Ontario Fire Code, with a focus on the 7 principles of life safety.

Telecommunications

Telecommunication is considered critical infrastructure, infrastructure that transmits information via various mediums and includes coaxial cable, fibre line, free space communication towers and switches. Telecommunication providers in the region include Bell, Tbay Tel, Shaw, CRC Communications and Vianet. Emergency services rely on all aspects of this infrastructure to ensure effective communication. A failure in such infrastructure may result in delayed fire/emergency response or no response at all. Risks to the community include:

- Impact of fire involving cell towers, municipal radio towers, telephone/fibre lines with ability to communicate (paging system, portable/mobile radio, cell phone could be offline)
- Impact of fire involving a telecommunication provider's facility (wireless networks/internet offline)

- Severe weather events could result in widespread areas of district with no communications
- Impact of a power grid failure – current battery and generator backup may provide short-term solution only

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes mitigating the risk and implementing appropriate FD response protocols, SOG's and additional activities. The Town of Fort Frances has been very proactive in establishing backup power supply within the community. Two large diesel and one propane generator have been installed at the Fort Frances high school, arena and town hall. The generator at the town hall provides off grid electricity to the fire hall and keeps our communication infrastructure operational. The Fire Department has radio communications equipment located within the town's water tower. Currently the system is backed up with a battery that provides additional power for a very short time and a portable generator. A reliable long-term backup power supply should be established. The fire department has a secondary in-house paging system with the ability to page firefighters for necessary response, in the event our dispatch service is offline. Involvement in table-top exercises that includes multiple agencies may be beneficial.

Transportation

The roads network and rail lines are considered critical infrastructure. They provide a transportation corridor for the movement of goods and services, emergency response, and transportation for residents living within other townships and municipalities. It is a gateway to the Rainy River District to the west and Lake of the Woods and the City of Kenora to the Northwest. The rail line running through Fort Frances into Rainier Minnesota is the busiest border rail crossing in North America. In essence, the transportation network is the life blood that allows the area to survive. Compromising this infrastructure could have significant negative effects. Risks to the community include:

Roadways

- Impact of road closures on the transportation of goods and services
- Impact of road closure on emergency response (MVC's, mutual aid calls, water rescue, etc.)
- Restricted access and/or delayed response within town limits
- Impact arrival of additional resources for emergency response, agency assist

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes accepting the risk and implementing appropriate response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls across the border. Develop a partnership with the MTO to determine their response protocols, SOG's and resources available for response. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, strategically positioned to respond to emergencies.

Railways

- Impact of potential hazardous spills
- Impact of potential large-scale fire due to ignition of flammable and combustible materials
- Requirement for a large-scale evacuation of the community
- Impact of water contamination downstream from the Rainier bridge crossing (drinking water supply & fire suppression for the Town of Fort Frances and other communities downstream)
- Impact of fire department response, derailment may split the town into a north and south section, depending on location of a derailment. Significant delay in response, as fire department resources are all positioned on south side of rail lines
- Impact of a breakdown of the supply chain (large scale), economic loss

Using the risk matrix, the risk level has been determined to be high. Preferred treatment

includes accepting the risk and implementing appropriate response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls across the border. Develop a partnership with CN Rail and an understanding of their response protocols, SOG's and resources available for response. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, to respond to railway emergencies.

DEMOGRAPHIC PROFILE

Overview

According to the Town's official website, the community is home to 7739 residents (2016 census), ranging in age from 0 to over 100 years. People between the ages of 50-59 are the greatest contributor to the overall demographic profile, making up 15% of the population. People between the ages of 40 – 69 make up almost 40% of the total population.

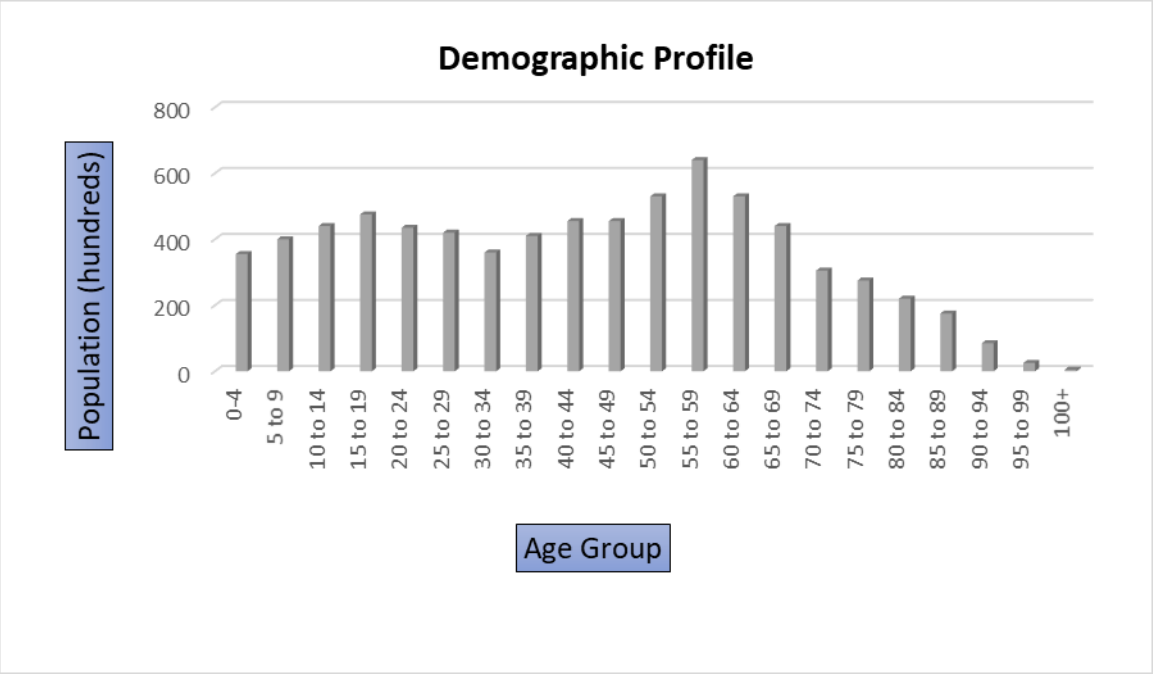

Figure 9.

The Town's population has remained relatively stable over the past 10 years, with a slight drop in overall numbers. Demographic profile is important to the fire service, as it is used to determine the community's highest risk groups and their associated populations. It has been well established within the fire service, that certain demographics are at higher risk of injury and/or death resulting from fire. Population demographics are considered by fire departments in the development and implementation of fire prevention and education programs and initiatives. The overall demographic profile breakdown for Fort Frances is as follows:

Table 2. Demographic Profile

Ages of Population	# of People	% of Total Population (*not rounded off*)
0-4	355	4.5%
5-9	400	5.1%
10-14	440	5.6%
15-19	475	6.1%
20-24	435	5.6%
25-29	420	5.4%
30-34	360	4.6%
35-39	410	5.2%
40-44	455	5.8%
45-49	455	5.8%
50-54	530	6.8%
55-59	640	8.2%
60-64	530	6.8%
65-69	440	5.6%
70-74	305	3.9%
75-79	275	3.5%
80-84	220	2.8%
85-89	175	2.2%
90-94	85	1.0%
95-99	25	.32%
100+	5	.06%

Additional factors to consider within the demographic profile of the community includes the ethnic diversity that exists. Along with a strong First Nations presence in the community, an increased number of persons from various ethnic backgrounds are making this area home. The fire service needs to take into consideration the cultural differences that exist when developing and delivering fire safety programs and initiatives. In recent years, there has been a steady increase in the amount of transient and homeless people within the community. Special consideration needs to be given to this population as well, as this presents its own unique challenges. The Fire Department must ensure that the fire and life safety needs of all people within the community are addressed.

Using the risk matrix, the risk levels have been determined to be moderate to high. This is directly associated with population age. The youth and the elderly are at the highest risk of injury and/or death resulting from fire. Youth struggle with the conceptual understandings of fire safe behaviour, while the elderly become less mobile and typically develop increased health issues. Preferred treatment includes avoiding the risk by implementing appropriate response protocols, SOG's and additional activities. Continue to deliver public fire safety education programs specific to age group with a focus on careless cooking and general fire safe behaviour in the home. Utilize community events to promote fire safety and reach a broad demographic group. Continue to promote grade specific fire safety to students in local schools, including additional activities during Fire Prevention Week. Continue to maintain and build upon the Fire Department's smoke alarm and CO alarm program, using local media, social media and person to person interaction. Re-establish local partnerships with community and special interest groups. Continue with inspections upon complaint and/or request and the routine fire safety inspections of schools, senior's homes/apartment complexes, and care occupancies. Ensure Fort Frances Fire and Rescue Service staff receive necessary training for the delivery of fire prevention and public education programs.

HAZARD PROFILE

Overview

Hazard is defined as any source of potential damage, harm or adverse health effects on something or someone *. As referenced in Ontario Regulation 378/18: Community Risk Assessment, hazard profile refers to the hazards in the community, including natural hazards, hazards caused by humans and technological hazards. Consideration of the potential hazards by the responding fire department is necessary to determine the level of risk and potential impact to the community, as well as the preferred treatment methods. Hazardous emergencies that have the potential to negatively impact the community, of which the fire department is most likely to respond to include train derailments, human health emergencies, electrical grid disruption, natural gas line and fuel disruption, and extreme weather events.

* https://www.ccohs.ca/oshanswers/hsprograms/hazard_risk.html

Train Derailment

The risk potential for railway emergencies within the Municipal boundaries of Fort Frances and nearby communities within the Rainy River District is very concerning and a top priority. There have been a significant number of incidents involving train derailments and damaged rail cars within the Rainy River District in recent years. CN indicates that an average of 18-20 trains pass through Fort Frances over a 24-hour period, with typical lengths ranging from 1600 – 8000 ft in length. The current maximum allowable train length is 10,000 ft (3 kilometres/2 miles). Rail cars transport commodities that range from grains to hazardous substances. One of the rail lines through the community is used to transport goods from Canada to the USA via a bridge crossing at Rainier, Minnesota, over the mouth of Rainy River. It is the busiest border rail crossing in North America. Risks to the community include:

- Impact of potential hazardous spills

- Impact of potential large-scale fire due to ignition of flammable and combustible materials
- Requirement for a large-scale evacuation of the community
- Impact of water contamination downstream from the Rainier bridge crossing (drinking water supply & fire suppression for the Town of Fort Frances and other communities downstream)
- Impact of fire department response, derailment may split the town into a north and south section, depending on location of a derailment. Significant delay in response, as fire department resources are all positioned on south side of rail lines

Using the risk matrix, the risk level has been determined to be high. Preferred treatment includes accepting the risk and implementing appropriate response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls across the border. Develop a partnership with CN Rail and an understanding of their response protocols, SOG's and resources available for response. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, to respond to railway emergencies.

Human Health Emergencies

Risk to human health is typically specific to the emergency event. The potential impact to human health will vary from low to extreme, based on many factors. In the fire service, typically the risk is related to fire, smoke, CO poisoning, and exposure to toxic chemicals/hazardous materials. There is an increased risk to fire fighters and other emergency responders, however the risk is addressed through specialized equipment and training. In recent months, the Covid-19 pandemic has added an additional level of risk, a biological hazard with the potential to affect many people. Risk to the community includes:

- Injury or death due to fire
- Injury or death due to exposure (smoke, CO, toxic materials)

- Increased risk of sickness or death due to biological infections

Using the risk matrix, the risk level has been determined to be high. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and activities that include additional training and resources, including specialized PPE for biological infectious spread (Covid-19). Work in partnership with other emergency services and healthcare providers. Ensure the fire department maintains a full complement of full and part-time firefighters for response.

Electrical Grid Disruption

A potential failure or compromise of the electrical grid could be catastrophic and is magnified with winter temperatures. As with many other northern communities, isolation and geographic location present unique challenges. The possibility of electrical grid failure for extended periods of time may be more likely, however, given that we are a smaller community, we are better positioned to cope with such a power grid failure. Failure in a transmission line may be addressed by re-routing power supply from another line if possible. Risks to the community include:

- Impact of wide-spread power grid failure due to fire (including forest fires)
- Impact of wide-spread power grid failure due to extreme weather resulting in fire
- Increased risk to responding firefighters (electrocution, electrical burns, etc)
- Delayed response – specific to incident/location
- Secondary fires due to electrically charged lines

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and activities that include additional electrical safety training and increased resources. Ensure the Fort Frances Fire and Rescue Service is familiar with FFPC operational guidelines and available resources, with involvement in routine table-top

exercises. Establish a second power supply line from the Hydro One station to the FFPC station (Dual Electricity Supply Network – DESN) to secure a guaranteed alternate power supply to the community.

Natural Gas Main Line Disruption

Natural gas is supplied to the community via a main feeder line and compressor station located on the Town's west municipal boundary. From there, smaller diameter secondary supply lines provide natural gas to businesses and residential homes. A failure in the supply line would be catastrophic to the community, especially in winter months, as natural gas is the primary heat source for many homes and businesses within the community.

Gasoline is transported to the area via tractor trailers. There are two gas stations within the community and a bulk fuel station located on McIrvine Road (western municipal boundary) and has a combined gasoline and diesel fuel capacity of approximately 340,000 litres. Risks to the community include:

- Impact of natural gas main supply line failure due to fire
- Impact of natural gas main supply line leak/increased risk of fire and/or explosion
- Need for large scale evacuation
- Source of heat – increased dependence in winter months (time sensitive)
- Impact of fire at bulk fuel station – potential for significant fire, environmental contamination, large scale evacuation, fuel shortage in community

Using the risk matrix, the risk level has been determined to be low. Preferred treatment includes accepting the risk and implementing appropriate FD response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls Fire Department. Develop a partnership with EFG/Centra Pipelines and an understanding of their response protocols, SOG's and resources available for response. Ensure Fort Frances Fire and Rescue Service has

adequate training and resources that include equipment and staff for response to natural gas and bulk station emergencies. Involvement in table-top exercises that includes multiple agencies, would be beneficial.

Extreme Weather Events

Extreme weather events that could pose a hazard to the community include ice storms, blizzards, flooding, severe thunderstorms (with damaging winds, hail, lighting), and tornadoes. These events have the potential for large scale damage. Risks to the community include:

- Impact of weather events resulting in structure fires
- Impact of weather events resulting in forest fires
- Weather events resulting in hazmat incidents with additional risk of exposure
- Possibility of electrocution (residents, emergency responders)
- Impact of weather resulting in compromised critical infrastructure

Severe Storms

Flooding

Ice Storms

Tornadoes

Figure 10. https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.thecanadianencyclopedia

Using the risk matrix, the risk level has been determined to be low. Preferred treatment includes mitigating and implementing appropriate FD response protocols, SOG's and additional activities. Establish response agreements with additional Municipal Fire Services, including International Falls Fire Department. Work with additional Community Services to develop an understanding of the services they provide and the extent of their capabilities. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff for response to severe weather events. Involvement in table-top exercises that includes multiple agencies may be beneficial.

PUBLIC SAFETY RESPONSE PROFILE

Overview

As referenced in Ontario Regulation 387/18: Community Risk Assessment, the community services profile refers to the agencies and organizations in the community (i.e., police, EMS, rescue) that may respond to certain types of incidents.

The fire department works closely with the other emergency services in the community. Typically, the OPP, paramedics and fire department respond to many of the same incidents. Ultimately the lead agency is responsible, however, a unified command is utilized where possible. Partnerships with district fire services have been formed and mutual aid agreements have been signed to assist each other, ensuring that additional resources are available if necessary.

Ontario Provincial Police (OPP)

Community policing is provided by the Ontario Provincial Police. Their newly built detachment (2020) is staffed by a compliment of officers 24 hours a day. Officers typically control traffic at emergency scenes. When adequate staff are available,

firefighters will also provide traffic assistance where necessary. The fire investigator and OPP may work together at a fire scene to complete an investigation and maintain scene security. The fire investigator utilizes many of the same methods of evidence gathering and preservation as the police service. The fire scene is handed over to the OPP if arson is suspected.

Paramedic Services

The Paramedic service is operated by the Rainy River District Social Services Administration Board (RRDSSAB). The Paramedic base is staffed with paramedics 24 hours a day, with two rigs operating during the day (Monday – Friday), and one rig on nights and weekends. The fire department responds to first response calls, code 4 life threatening emergencies, and provides lift assists where necessary. With the presence of Covid-19, the fire department has pulled back from medical response calls as a preventative measure to protect the firefighters from possible exposure and infection. Initially the proper PPE was not available for safe response, however the fire department has since received the necessary PPE and the intent is to return to medical response once staff are fully vaccinated for Covid-19.

Municipal Fire Departments (all Municipalities within Rainy River District)

There are multiple fire department within the Rainy River District. The closest fire departments to the community are in Alberton Township, Couchiching First Nation, and International Falls Minnesota. Mutual aid agreements have been established between multiple departments to provide additional staff and resources if needed.

CN Rail

CN rail does not have specialized teams available locally. Any incidents involving rail lines or hazardous materials, typically requires specialized response from Winnipeg.

Delays in response are inevitable.

Specialized Rescue Teams

The Fort Frances Fire Department provides limited specialized rescue. Incidents involving hazardous materials, train derailments, confined space and high angle rescue require additional agency response. Teams may be available from Thunder Bay, Winnipeg and Minneapolis, and are located approximately four hours from the community. Additional resources may respond from as far away as Toronto and may require days to arrive on scene.

COMMUNITY SERVICES PROFILE

Overview

As indicated in Ontario Regulation 387/18: Community Risk Assessment, the community services profile refers to agencies, organizations or associations that can provide services that support the fire department in the delivery of public fire safety education, Fire Code inspections and enforcement, or emergency response.

Community Services & Community Partners

The fire department has historically partnered with agencies to promote safety within the community. Typically, these agencies include the OPP, paramedic services, Ministry of Natural Resources, North Western Health Unit and the Red Cross. Some organized events also include small business and special interest groups such as the Lions Club, Kiwanis and Fort Frances Volunteer Bureau. Community safety expos have been organized in the past, with the largest event currently being the Fort Frances annual business expo, organized in partnership with the local curling club. This two-day event sees hundreds to thousands of visitors from across the district. It provides the

opportunity for the fire department to staff an information booth, providing fire safety information to people and answer questions they have. The fire department also partners with the local Canadian Tire store to organize a fire safety day in the spring and fall. Additional organizations may choose to participate in the event as well, and many do so by setting up displays and information booths. Where possible, the fire department supports additional events organized within the community. This includes the local winter carnival, spring fever days and annual parades.

ECONOMIC PROFILE

Overview

The factors driving the local economy have seen significant change over the last decade. Fort Frances has historically been a pulp and paper town, with a paper mill that employed at peak, over 850 people. The mill ceased operations in the spring of 2014 and demolition of site began in the fall of 2020, with completion anticipated in the spring of 2022. The community and surrounding areas have not seen a significant increase in unemployment levels, possibly due in part to the development and operation of a gold mine in the west-central area of the district and additional economic developments. The community is optimistic the vacant mill property will be repurposed in a way that provides additional economic prosperity through job creating and increased tax base.

The tourism industry is a significant contributor to the local and surrounding economies. Many visitors to the area include cottagers and American anglers and hunters, entering via the border crossings at Rainy River and Fort Frances.

Of the six considered largest employers for the community, two are located outside of municipal boundaries. New Gold mine employs over 800 workers from the area and West Fraser OSB mill, over 300. Both employers are located approximately 30-45 minutes west of Fort Frances. The remaining four largest employers include the Rainy

River District School Board (450), Riverside Health Care Facilities (240), the Town of Fort Frances (160) and Canada Safeway (140). * Additional big box stores and many small-scale businesses/services and industry also contribute to the local economy. *stats Canada 2016 Key risks for the major employers typically include fire, explosions and hazardous materials occurrences. The table below looks at key risks, the probability of occurrence and what the level of consequence could be.

Using the risk matrix, the risk levels range from low to high and are employer specific. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Conduct routine fire safety inspections with a focus on the seven principles of life safety and compliance with the Ontario Fire Code. Continue to develop and implement a pre-planning program that include those significant employers within the community. Assist district fire departments with fire prevention and public education resources and expertise, where key employers have established business operations. Promote fire safety education by offering training sessions to business owners that includes topics such as proper fire extinguisher use.

Table 3. Major community employers

Employer	**Key Risk**	**Probability**	**Consequence**	**Assigned Risk Level**
New Gold	Fire, explosion, haz-mat event	Possible	Major	Moderate
West Fraser Mill	Fire, explosion, haz-mat event	Likely	Major	High
Rainy River District School Board	Fire, explosion	Possible	Moderate	Moderate
Riverside Healthcare Facilities	Fire	Possible	Major	Moderate

Town of Fort Frances	Fire	Unlikely	Minor	Low
Canada Safeway	Fire	Possible	Major	Moderate
Walmart	Fire	Unlikely	Major	Moderate
Canadian Tire	Fire	Unlikely	Moderate	Moderate
CN Rail	Fire, explosion, haz-mat event	Likely	Catastrophic	High

PAST LOSS AND EVENT HISTORY PROFILE

Overview

As indicated in Ontario Regulation 387/18: Community Risk Assessment, the past loss and event history profile takes into consideration the number and types of emergency responses, injuries, deaths, and dollar loss. Fire departments can analyse this data to determine the leading causes of fires/fire behaviour resulting in fires within the community, establish fire occurrence trends and determine what fire prevention and education tools are most effective in targeting the community's fire safety concerns.

The Fort Frances Fire and Rescue Service has a variety of well-established fire prevention and education programs. The department conducts routine fire safety inspections of over 300 occupancies of all classifications, in addition to complaint and request. Public education programs include:

- Fire Safety for Older Adults

- Put a Lid on it! – Kitchen Fire Safety
- E.D.I.T.H. Exit Drills in The Home
- Home Smoke Alarms
- Fire Extinguisher Training
- Carbon Monoxide Q&A
- Fire Safety for Babysitters
- Public School Fire Safety for Students – grade specific

Past Fire Loss

Past fire loss has been determined by analysis of completed Standard Incident Report Verifications on record from the Office of the Fire Marshal for the years 2017 – 2019. The table and chart below provide further breakdown of information:

Table 4. Past fire loss (2017-2019)

Occupancy type/classification	**Year 2017**	**Year 2018**	**Year 2019**
Group A – Assembly	0	1	0
Group B – Detention/Care/Care & Treatment	0	0	0
Group C – Residential	5	2	4
Group D/E – Business & personal service/mercantile	1	0	1
Group F – Industrial	0	0	0
Other – unclassified (auto, outdoor, etc)	3	4	3
Total Fire Occurrences	9	7	8
Total Dollar Loss	1,124,500	144,200	556,000

As evident from the data, residential and unclassified fires make up most fire occurrences

within the community. Total fire occurrences are relatively consistent, however total dollar loss for 2017 was much higher than the subsequent two years.

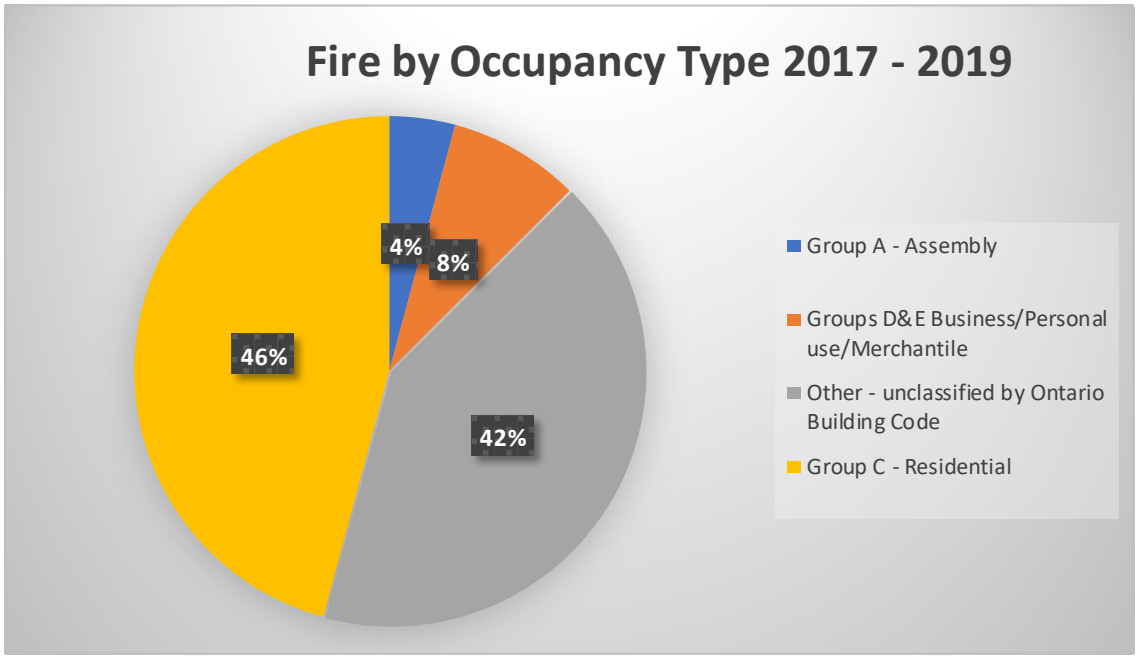

Figure 11.

Fire Loss – Occupancy Specific

Group C - Residential

Group C residential occupancies include houses, apartments, mobile homes, boarding/lodging, hotels/motels, recreational camps and shelters. Looking at a span of three years (2017 to 2019), there were 11 fires involving residential occupancies. The primary causes of these fire occurrences were a result of careless cooking and electrical overload. In addition, one fire was intentionally set and another a result of a vapour explosion.

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes avoiding the risk and implementing appropriate response protocols, SOG's and additional activities. Continue to deliver public fire safety education

programs with a focus on careless cooking and general fire safe behaviour in the home. Utilize community events to promote fire safety and reach a broad range of people. Continue to maintain and build upon the Fire Department's smoke alarm and CO alarm program, using local media, social media and person to person interaction. Re-establish local partnerships with community and special interest groups. Continue the routine fire safety inspections of hotels and motels and multi-unit dwellings. Inspection of single-family dwellings upon complaint or request

Group D&E – Business & Personal Service / Mercantile

Group D occupancies are considered business and personal use and include banks, parlours/hairdressers, medical offices, laundry mats, police stations and small appliance rental and repair shops. Group E occupancies are mercantile and include department stores, markets, restaurants with an occupant load less than 30 people and general shops and stores. Between 2017 and 2019 the Fort Frances Fire and Rescue Service responded to two fires within groups D&E occupancies. One fire was determined to be a result of careless cooking and the other was undetermined.

Using the risk matrix, the risk level has been determined to be high. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Conduct routine fire safety inspections with a focus on the seven principles of life safety and compliance with the Ontario Fire Code. Continue to develop and implement a pre-planning program with the Town's downtown core as a priority. Work to resolve any Retrofit requirements established in Part 9 of the OFC where applicable. Promote fire safety education by offering training sessions to business owners that includes topics such as proper fire extinguisher use.

Group A – Assembly

Group A assembly occupancies are further categorized into four divisions. ***Division 1***

includes theatres, opera houses and television studios. ***Division 2*** includes a broad range of buildings/facilities where people tend to congregate and include: colleges/universities, restaurants/licensed beverage establishments, community halls, court rooms, churches, auditoriums, galleries, lecture halls and museums. ***Division 3*** includes arenas, indoor swimming pools and rinks. Stadiums, grandstands, bleachers/viewing stands and amusement park structures are all classified within ***Division 4***. Between 2017 and 2019 the Fort Frances Fire and Rescue Service responded to one fire within a Group A occupancy. The fire was determined to be a result of a faulty wall heater in a building stairwell.

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes mitigating the risk and implementing appropriate response protocols, SOG's and additional activities. Continue routine fire safety inspections with a focus on the seven principles of life safety and compliance with the Ontario Fire Code. Continue to develop and implement a pre-planning program that includes places of assembly. Ensure mandatory fire drills are conducted and are supervised where necessary. Promote fire safety education by offering training sessions to staff that includes topics such as proper fire extinguisher use fire safety plan training.

Other Classifications (grouped)

Other occupancy classifications are those which do not fall into a defined major occupancy. These include incidents such as motor vehicle fires, outdoor fires and mechanical/electrical fires. Between 2017 and 2019 the Fort Frances Fire and Rescue Service responded to 10 fire occurrences that did not fall into a defined major occupancy. The primary cause of these fires was a result of mechanical failure and overloaded electrical/wiring. It was determined that some fires were intentionally set.

Using the risk matrix, the risk level has been determined to be moderate. Preferred treatment includes accepting the risk and implementing appropriate response protocols,

SOG's and additional activities. Ensure Fort Frances Fire and Rescue Service has adequate training and resources that include equipment and staff, to respond to all related emergencies.

RISK ASSESSMENT OUTCOMES / TREATMENT OPTIONS

Profile Summarizations

In summary, the potential risks to the community have been determined through utilization of the *risk level matrix*. The matrix assigns numerical values to both probability and consequence (probability of occurrence and negative loss/outcome). The risk factor is then determined by multiplying the probability and consequence numerical values. The risk level (low, moderate, high) is a reflection of the numerical outcome.

The Community Risk Assessment is comprised of nine profiles, including:

- Geographic Profile
- Building Stock Profile
- Critical Infrastructure Profile
- Demographic Profile
- Hazard Profile
- Public Safety Response Profile
- Community Services Profile
- Economic Profile
- Past Loss and Event History Profile

Each profile contains within it, varying levels of risk and unique challenges. Based on outcome of information gathered and analysed, the Fire Service has concluded there are currently five (5) high risks priorities from various profiles that exist within the community. Risks can be addressed using all three lines of defence (education, prevention, emergency response).

Table 5. Community risks/top priorities

Key Risks/Top Priorities within the Community	Risk Level	*1st Line of Defense* Public Fire Safety Education Initiatives	*2nd Line of Defense* Fire Safety Standards and Enforcement Initiatives	*3rd Line of Defense* Emergency Response Initiatives
CN Railway traffic travelling through the Community	High	- Develop Community awareness/preparedness - Develop partnership with CN - Table top exercises	- Routine fire inspections of CN buildings	- Adequate training and resources for railway emergency response - develop/revise departmental SOG's
Downtown Business Core	High	- Offer Fire specific training (fire extinguishers, fire safety plans, etc.)	- Routine fire safety inspections with the focus on the 7 principles of life safety - pre-planning of buildings	- Adequate training and resources for emergency response - develop/revise departmental SOG's
Increasing Senior Population (including Vulnerable Occupancies)	High	- Residential home inspections (where requested) - continued focus on home smoke/CO alarms program - continue with routine public education events in community (i.e., Seniors Day, Fire Safety Day) - Fire safety presentations geared to elderly – conducted in seniors' homes, places of assembly, etc.	- Routine fire safety inspections with the focus on the 7 principles of life safety - Inspection upon complaint/request - pre-planning of buildings - annual completion of vulnerable occupancy criteria from OFM	- Adequate training and resources for emergency response - develop/revise departmental SOG's
Rainy Lake Basin and the Rainy River	High	- Firefighter training/education - Work in partnership with other emergency services and agencies - Round table exercises	- Assist other agencies where required (i.e. MOE, MNR, Spills Action Centre)	- Adequate training and resources for emergency response - develop/revise departmental SOG's - Mutual aid agreements with other FD's
Human Health Emergencies	High	- Firefighter training/education - Work in partnership with other emergency services and healthcare providers	- Ensure PPE is approved for intended use	- Appropriate response protocols (SOG's), specific to the emergency - Adequate training and resources available - Specialized PPE where necessary

High Risk Priorities Summary

CN Railway/Rail Traffic:

The risk potential for railway emergencies within the Municipal boundaries of Fort Frances and nearby communities has been determined to be high and is a top priority. This is due to the increased number of incidents involving train derailments and damaged rail cars within the Rainy River District in recent years. An average of 18-20 trains travel

through Fort Frances every 24-hours, ranging from 1600 – 8000 ft in length. The current maximum allowable train length is 10,000 ft (3 kilometres/2 miles). Rail cars transport commodities that range from grains to hazardous substances. There is a dedicated rail line that travels through the community of Fort Frances and into Rainier Minnesota, at the mouth of Rainy River. It is currently the busiest border rail crossing in North America. The potential impact of fire, hazardous spills, toxic smoke, water contamination and economic loss puts this as the top risk for the community.

Treatment options utilize all three line of defence and include specialized hazardous materials response training, development of a community awareness/preparedness program in partnership with CN rail, and regular table-top exercises that include agencies having a vested interest in railway emergencies. Routine fire safety inspections of CN buildings will ensure that fire suppression equipment/resources for both small and large scale incidents remain in service and ready for use. The fire department's SOG's for railway incident response should be reviewed annually and revised, as necessary.

Downtown Business Core:

The downtown business core is considered high risk and consists primarily of group D&E occupancies (business/personal service and mercantile occupancies). Most buildings are considered as old, built primarily of combustible materials. They utilized antiquated construction methods that connect buildings via shared walls and having open floor and basement spaces. Many buildings predate the Ontario Building Code and do not fall within Ontario Fire Code requirements for retrofit, therefore little can be done to bring them up to current building and fire code standards. In addition, some of these buildings contain residential units within a second storey. The risk level for the community's downtown core is high. This is a reflection of the potential for property loss, loss of life and/or human injury, significant economic impact and permanent job loss.

Treatment options utilize all three line of defence and include providing business owners with specific fire training i.e., fire extinguisher use, general workplace fire safety and fire safety plan review. Through continued routine fire safety inspections conducted by the fire department, fire code deficiencies can be addressed and corrected to minimize the potential of fire occurrence. Pre-planning of the downtown core is underway and needs to be completed. That data can then be input into the department's Fire Pro program. Information gathered can be used when training firefighters, to assist them in making informed decisions when responding to incidents. Continued training and additional resources for emergency responders is necessary to effectively deal with the risks. The development of a SOG, specific to downtown response, needs to be developed and reviewed annually with revisions made as required.

Aging Population (including Vulnerable Occupancies):

The risk level associated with seniors is high. The fire service has determined that risk of potential injury or death due to fire is much greater in seniors, where decreased mobility and increased health issues exist. Medications can affect people's level of alertness and the ability to make decisions. Approximately 27% of the community's population is over the age of 60. When considering the demographic profile, we see that people between the ages of 40 and 59 make up an additional 27% of the population. Based on these indicators, the trend in the forceable future will be an increase in an aging population. Adding to the risk potential is the fact that many seniors have given up living in their residential homes and moved into seniors housing and apartment complexes. These occupancies become more densely populated with older adults and therefore the risk of injury or death due to fire increases. As indicated in the risk assessment, residential fires are the greatest contributor to fire occurrences within the community. Careless cooking remains the single number one cause of fires, in line with the Provincial trend. When reviewing past fire department response to residential fires, it is conclusive that a significant amount of kitchen fires occur within the community's senior's complexes. When the elderly can no longer take care of themselves, they are typically moved into

long-term care homes, where they are cared for by staff. The risk continues to be high in these occupancies, as there are generally increased health concerns and a further decreases in mobility.

Treatment options utilize all three line of defence and include completing annual fire safety inspections of senior's housing, manors, and vulnerable occupancies to minimize the potential of fire occurrence. Annual fire safety plan review and fire drills are completed for buildings, including vulnerable occupancies. Pre-planning of high risk residential occupancies is well underway, with data needing input into the department's Fire Pro program. The fire department has a well-developed public education program targeting seniors. It includes components of the fire department's CO and residential smoke alarm program. The fire department organizes fire safety days, fire safety presentations within the local senior's homes and manors and remains committed to community organized events such as Senior's Day and Community Safety Day. Continued training and additional resources for emergency responders is necessary to effectively deal with the risks associated with response. Departmental SOG's need to be developed and revised, as necessary.

Rainy Lake Basin / Rainy River System:

The potential risk for Rainy Lake and Rainy River is high. Water for drinking and fire suppression efforts for the Town of Fort Frances, International Falls, and many communities downstream is acquired from this water source. There is increased risk of contamination due to railway incidents resulting in hazardous spills, toxic chemical run-off from products of combustion and fire suppression. History has also shown the potential for large scale flooding, possibly resulting in significant property damage, large scale evacuation, compromised potable water supply and economic impact. There have been two such incidents since mid-century.

Treatment options utilize all three line of defence and include specialized hazardous

materials response training, increased resources available for response and spill containment, and continued review and revision of department SOG's to reflect response capabilities. The Fire and Rescue Service would benefit from partnerships with other agencies such as the MNR, MOE, CN and MOT, with round-table exercises conducted on a routine basis. Establish mutual aid agreements with other emergency services where not already in place.

Human Health Emergencies:

The associated risk to human health emergencies is high. There are potential health risks to residents and emergency responders of the community, resulting from fire incidents involving the storage and transportation of hazardous materials. Exposure to toxic chemicals/substances, flammable/combustible materials, and smoke inhalation from fires could have a negative impact on people's health. Biological hazards are a new consideration that all communities must be prepared for. There is no better example than the Covid-19 pandemic that has re-defined the lengths we will go to in efforts to protect ourselves from biological hazards.

Treatment options utilize all three line of defence and include the development and revision of department SOG's specific to the emergency response, required training and resources for response, and revised mutual aid agreements with other emergency services. Specialized PPE made available to responding firefighters that is approved for the intended use. Work in partnership with other emergency services and healthcare providers utilizing table-top exercises to ensure emergency preparedness.

CONCLUSION

Through the completion of this Community Risk Assessment, five key/critical areas of high risk have been determined. Effective treatment options that include the three lines of defence have been established, allowing the Fort Frances Fire and Rescue Service to

make informed decisions about the types and levels of fire protection services they will provide. An annual review of the Community Risk Assessment will ensure the Fire Rescue Service is prepared to address the ever changing risks within the Community. The information contained within this Risk Assessment can be utilized in the development of the Master Fire Plan for the Community, a strategic short and long-term plan for the Community's fire protection services.