



# COMMUNITY RISK ASSESSMENT



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## Introduction

The Office of the Fire Marshal requires that municipalities complete Community Risk Assessments using a process of identifying, analyzing, evaluating, and prioritizing risks to public safety. Once completed, the information gathered can be used to make informed decisions about the provision of fire protection services, in accordance with Ontario Regulation 378/18 and the Fire Protection and Prevention Act 1997.

*Every municipality, and every fire department in a territory without municipal organization, must,*

- (a) complete and review a community risk assessment as provided by this Regulation; and*
- (b) use its community risk assessment to inform decisions about the provision of fire protection services.*

Community risk assessments allow fire departments 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 their community and prioritizing them based on the probability of them occurring and the impact they would have if they occurred, fire departments are able to determine which risks to address and how best to address them. Risk assessments allow fire departments to ensure their levels of service, programs and activities for public fire safety education, Fire Code inspections and enforcement, and emergency response directly address the identified risks and are most effective at preventing and mitigating them.

There are nine profiles that are used to identify the risks. The resources used to gather information range from the 2021 Census Profile (Statistics Canada, 2021), Geographic Information System (Geographic Information System, n.d.), local Resource Management Systems (FirePro 2, 2023), collaboration with local municipal departments, and general knowledge.

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

## Geographic Profile Risks

Summary: The geographic profile of East Ferris impacts the delivery of fire protection services in that the bodies of water restrict access to the islands and the homes and cottages on them, as well as increasing travel times around them. Limited resources to access large wildland areas and multiple multi-use trails increase response times and reduce the ability to arrive on scene in a timely manner.

<b><u>Geographic Feature</u></b>	<b><u>Potential impact on the Delivery of Fire Protection Services</u></b>
2 large and 1 small body of water	<ul style="list-style-type: none"><li>- Impacts training, equipment for response activities</li><li>- Impacts response times/travel to calls</li><li>- Recreational/tourist activities impact public fire safety education and Fire Code Inspections and enforcement activities</li></ul>
Railway tracks	<ul style="list-style-type: none"><li>- Impacts response times and protocols</li><li>- Increases likelihood of a hazardous materials incident</li></ul>
2 Major highways	<ul style="list-style-type: none"><li>- Impacts response times/travel times to calls</li><li>- Increases likelihood of a hazardous materials incident</li></ul>
1 Secondary highway	<ul style="list-style-type: none"><li>- Impacts response times/travel times to calls</li></ul>
Large, forested area	<ul style="list-style-type: none"><li>- Chances of remote rescue increases</li><li>- A large wildland fire would strain municipal firefighting resources</li></ul>
Low-lying roadways	<ul style="list-style-type: none"><li>- Roadways may become impassable due to flooding or damage caused by excessive water, rendering entire subdivisions cut off from emergency services</li></ul>
Private laneways	<ul style="list-style-type: none"><li>- May not be passable by large apparatus, particularly in winter and spring.</li></ul>
1 Bridge (Edmond)	<ul style="list-style-type: none"><li>-If bridge becomes damaged, 2 homes on opposite side will have limited access to emergency services</li></ul>
Multiple bush walking trails	<ul style="list-style-type: none"><li>- Chances of remote rescue increases</li></ul>
Fast moving water (creek)	<ul style="list-style-type: none"><li>- Increases likelihood of rescue required in spring.</li></ul>

## Building Stock Profile Risks

Summary: The building stock profile in the Municipality of East Ferris is varied with the bulk being single family dwellings. The Care and Treatment Facility is a major consequence and returns as a moderate risk level.

<b>Occupancy Classification</b>	<b># of Buildings</b>	<b>Concerns</b>	<b>Probability</b>	<b>Consequence</b>	<b>Risk Level</b>
Group A Assembly	7	Evacuation practices, Inspections, Fire Safety Plans	Rare	Moderate	Low (100)
Group B Care and Treatment/Care	1	Evacuation practices, Inspections, Fire Safety Plan	Likely	Major	High (1,000,000)
Group C Single family	2082	Education	Likely	Moderate	Moderate (100,000)
Group C Multi unit Residential	27	Education, Evacuation practices	Possible	Moderate	Moderate (10,000)
Group D & E Business & Personal Service/Mercantile	29	Education, Inspections, HazMat Storage	Unlikely	Moderate	Moderate (1,000)
Group F Industrial	7	Education, Inspections, HazMat Storage	Possible	Moderate	Moderate (10,000)

# Critical Infrastructure Profile

Summary: A disruption in the electrical distribution system may cause issues seasonally with heat or air conditioning. It may also cause failure with personal medical equipment that requires power to function. A failure with telecommunications may render residents unable to reach emergency services for help.

<b>Identified Critical Infrastructure</b>	<b>Issues/Concerns</b>
Electricity Distribution	Hydro Lines go down
Telecommunications	Phones/Cell Towers go down
Roadways	Areas left without emergency services due to flood or washout
Pipeline	Some homes may be cut off from heat, an explosion would be a serious event

# Demographic Profile

Summary: The majority of East Ferris’s population is comprised of those aged 45-64. Age group 45-85+ make up over 54% of the population.

Age Of Population	# of People	% of Total Population
0-19	1035	21%
20-44	1235	25%
45-64	1645	33%
65-84	920	19%
85 +	115	2%
	<b>Total: 4945</b>	

## Demographic Profile Risks

Summary: The demographic profile of East Ferris identifies a large population of senior citizens. Public fire safety education, fire code inspection and enforcement must be tailored to reach and be relevant to these groups to increase the likelihood of the messages being received.

Identified Demographic Group	Issues/Concerns
Large senior population	Mobility Maintaining smoke alarms Personal Safety
Continually changing demographic of summer campers/cottagers	Difficult to reach visitors with fire safety messages Possibly less likely to know or follow local rules

## Hazard Risk Profile

Summary: The Municipality of East Ferris must consider all potential hazards that pose a significant risk to or have a significant impact on the community, and to which EFFES may be expected to respond. As indicated in the chart below, while acts of nature pose our top three greatest hazard risks, those risks cannot be mitigated by EFFES. The next two however, can be mitigated and must be considered.

Identified Hazard	Probability	Consequence	Assigned Risk Level
Storm	Almost Certain	Moderate	High (1,000,000)
Flood	Possible	Moderate	Moderate (10,000)
Wildland Fire	Likely	Moderate	Moderate (100,000)
Water Emergency/Rescue	Likely	Moderate	Moderate (100,000)
Remote Rescue	Likely	Moderate	Moderate (100,000)
Transportation Emergency	Unlikely	Moderate	Moderate (1,000)
Building Collapse	Rare	Moderate	Low (100)
Explosion/Fire	Rare	Moderate	Low (100)
Solar Farm	Rare	Moderate	Low (100)

## Public Safety Response Profile Risks

Summary: The Public Safety Response agencies listed below should be able to assist with certain types of emergencies that fall within their response parameters.

<b>Identified Public Safety Response Agency</b>	<b>Types of Incidents they Respond to</b>	<b>What is their Role in The Incident</b>	<b>Issues/Concerns</b>
Ontario Provincial Police	Motor Vehicle Collisions Fire Scene Rescue Vital Signs Absent	Scene Control Traffic Control Investigations	Delayed response
Emergency Medical Services	All Medical Calls and Motor Vehicle Collisions	Assume Responsibility for Patient Care upon Arrival	Delayed response
Mutual Aid Group	Fires Motor Vehicle Collisions	To add additional manpower or equipment requested by Incident Command	Delayed Response Training levels differ
North Bay HazMat	Hazardous Materials	Take control and mitigate HazMat incident	Working together is not common
BAY Search and Rescue	Lost Individuals	Air & Ground Search and Rescue	Weather could cause delay or inability to respond for air search Relies on Volunteers
Ministry of Natural Resources	Wildland Fires	May be invited to assist at a difficult to manage wildfire	Delayed response Cost
Urban Search and Rescue	Search & Rescue for Building Collapse	Urban Search & Rescue	Not local, delayed response
Public Works	Any emergency deemed necessary	Heavy equipment usage	Availability and training

## Community Services Profile

Summary: Listed below are several community Service agencies which may be called upon to assist EFFES in the event of an emergency. These agencies may be able to assist displaced residents with food, clothing, and temporary shelter.

<b>Community Services Agencies</b>	<b>Types of Assistance they can Provide</b>	<b>Issues/concerns</b>
Canadian Red Cross	Temporary shelter, food, clothing following an incident	Delayed response
East Ferris Santa Fund	Food and other needed items following an incident	Delayed response
Victim Services of Nipissing District	Temporary shelter, food, clothing following an incident	Delayed response
Community Paramedicine Program	Paramedical Assistance in Providing Resources in Possible Non-emergency	Delayed response
Salvation Army	Assist with providing clothing	Delayed response

## Economic Profile Risks

Summary: The Municipality of East Ferris, while not home to a large number of commercial or industrial occupancies, has several identified occupancies which are important to the economic stability of the Municipality. When prioritizing risk in the community, EFFES must consider the impact of fire and other emergencies in these occupancies to determine the type and level of fire protection services provided.

Our most significant identified occupancy is Nipissing Manor Nursing Care Center, which houses a large number of senior citizens and employs well over one hundred people.

<b>Identified Occupancy</b>	<b>Key Risk</b>	<b>Probability</b>	<b>Consequence</b>	<b>Assigned Risk Level</b>
Vulnerable Occupancies (Manor)	Fire	Likely	Major	High (1,000,000)
Public Works Garage	Fire	Possible	Major	Moderate (100,000)
Municipal Office	Fire	Rare	Moderate	Low (100)
Fire Stations	Fire	Rare	Moderate	Low (100)
Arena	Fire, Collapse, HazMat	Rare	Major	Moderate (1,000)

## Municipal Fire Losses, Deaths, Injuries and Causes

### **2022**

Occupancy Classification	# of Fires	\$ Loss	# of Injuries	# of Deaths	Causes
Group C Single Family	3	372,700.00	1	0	Fire (accidental / human error)
Group F Industrial	1	1,800,000.00	0	0	Fire (electrical)

### **2021**

Occupancy Classification	# of Fires	\$ Loss	# of Injuries	# of Deaths	Causes
Group C Single Family	4	340,896.00	0	0	Fire (accidental / human error)

### **2020**

Occupancy Classification	# of Fires	\$ Loss	# of Injuries	# of Deaths	Causes
Group C Single family	3	120,100.00	0	0	Fire (electrical / human error)
Group B Care & Treatment	1	100.00	0	0	Fire (electrical)

## Non-Fire Emergency Calls

Non-Fire Emergency Calls	<u>2022</u>		<u>2021</u>		<u>2020</u>	
	Total # of Calls	% of All Calls	Total # of Calls	% of All Calls	Total # of Calls	% of All Calls
Burning (Controlled)	1	1%	1	1%	3	4%
CO False Calls	1	1%	4	3%	5	7%
False Fire Calls	5	3%	4	3%	8	11%
Medical Calls	125	69%	106	67%	33	44%
Other Response	10	6%	17	11%	7	9%
Overpressure/ Explosion	0	0%	0	0%	0	0%
Pre-Fire cond. No Fire	8	4%	3	2%	1	1%
Public Hazard	6	3%	6	4%	4	5%
Rescue	14	8%	9	6%	6	8%
<b>Total</b>	<b>170</b>	<b>94%</b>	<b>150</b>	<b>97%</b>	<b>67</b>	<b>89%</b>

## Past Loss and Event History Profile Risks

Summary: Nipissing Manor Nursing Care Center remains the highest assigned risk level for fire based on past losses and history. Single family dwellings remain at an almost certain probability level, but the consequence is usually confined to a single family, and therefore minor with respect to the remainder of the community.

<b>Occupancy Type/Location/Risk</b>	<b>Causes</b>	<b>Probability</b>	<b>Consequence</b>	<b>Assigned Risk Level</b>
Group C – Single Family Dwelling	Fire	Almost Certain	Minor	Moderate (100,000)
Group F – Industrial	Fire	Possible	Moderate	Moderate (10,000)
Group B – Care and Treatment	Fire	Likely	Major	High Risk (1,000,000)
Burning (Controlled)	Fire	Likely	Minor	Moderate (10,000)
False CO		Almost Certain	Insignificant	Moderate (10,000)
False Fire		Almost Certain	Insignificant	Moderate (10,000)
Medical		Almost Certain	Insignificant	Moderate (10,000)
Other		Almost Certain	Insignificant	Moderate (10,000)
Pre-Fire		Almost Certain	Insignificant	Moderate (10,000)
Public Hazard		Almost Certain	Insignificant	Moderate (10,000)
Rescue		Almost Certain	Minor	Moderate (100,000)

## Identifying Treatment Options for the Top Risks in the Community

<b>Mandatory Profiles</b>	<b>Top Risk or Issues/Concerns</b>	<b>Preferred Treatment Option</b>
Geographic Profile	-Private Laneways -Large forested area -Waterways	Mitigate with education, exploring remote rescue / suppression options, and expand on level of service
Building Stock Profile	Care and Treatment (Group B)	Mitigate with education, training, and regular inspections
Critical Infrastructure Profile	Distribution of Electricity disrupted	Accept the risk
Demographic Profile	Large population of Senior Citizens	Mitigate risk through Education, such as targeted smoke alarm inspections and education
Hazard Profile	-Storm -Water emergency/rescue -Remote Rescue	Mitigate with training, SOGs, and Relevant Equipment
Public Safety Response Profile	Delayed Response	Mitigate by developing preplans and SOGs for timely call outs
Community Services Profile	Delayed response	Mitigate by developing preplans and SOGs for timely call outs
Economic Profile	Nipissing Manor	Mitigate with education, training, and regular inspections
Past Loss & Event History Profile	Nipissing Manor	Mitigate with education, training, and regular inspections

## References

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