

**The Township of Matachewan
&
Matachewan Volunteer Fire Department
Community Risk Assessment**



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1.0 Introduction

With assistance from the Matachewan Council, Matachewan Fire Department and Emergency Services, The Corporation of the Township of Matachewan conducted a Community Risk Assessment (CRA) for the Town as part of the Fire Services Master Plan process. The CRA is a process that examines public safety risks to make informed decisions on reducing or mitigating the risk to the Town. The CRA was completed as part of overall risk management for the Town and is compliant with Ontario Regulation 378/18: Community Risk Assessment (O.Reg. 378/18). The Regulation has set mandatory community profiles to review when assessing risk to public safety, which includes:

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

The evidence and analysis of the profiles contribute to developing a community plan to treat the associated public safety risk.

The CRA is a living document that must remain current and updated as circumstances change, and must be reviewed annually, at a minimum, to stay in compliant with the Regulation. Also, the entire CRA process must be complete once every five years.

1.1 Dates of Review and Updates

Year: 2025

Profile	Issues/Concerns	Treatment of Risk	Preferred Treatment Option

Year: 2026

Profile	Issues/Concerns	Treatment of Risk	Preferred Treatment Option

Year: 2027

Profile	Issues/Concerns	Treatment of Risk	Preferred Treatment Option

Year: 2028

Profile	Issues/Concerns	Treatment of Risk	Preferred Treatment Option

2.0 Geographic Profile

Matachewan is on the southwest portion of the Abitibi greenstone belt and within the Abitibi gold belt, in the District of Timiskaming. The Municipality occupies a land mass of 539.56 km², with a present population of approximately 268.

2.1 Worksheet 1: Geographic Profile Risks

Geographic Features	Potential Impact on the Delivery of Fire Protection Services
Rivers	<ul style="list-style-type: none"> • Impacts training and equipment for response service delivery • Impacts response/travel timelines to fire calls • Recreational/tourist activities impact the delivery of public fire safety messaging • Montreal River crosses the Township from the north to the south • This river and many streams are prone to flooding in the spring impacting property, infrastructure and response times
Lakes	<ul style="list-style-type: none"> • Impacts training, equipment for response service delivery • Dozens of lakes that impact and accessibility • During summer months increased risk of boating accidents/drownings as tourists are not familiar with the lakes and their risks • In the winter snowmobiles/ice fisherman may fall through the ice as they are not familiar with the thickness of the ice or water currents under the ice • Response capabilities are hampered due to lack of access points or the parties involved are not familiar with their exact location • Many of the lakes in the township are only accessible through wildland or logging roads • Only seasonal residents reside on the lakes
Highways	<ul style="list-style-type: none"> • There are 3 highways that transect Matachewan • Highway 566 is only passable from the spring to the fall, which goes to Timmins • Highway 65 is south-east of Matachewan, which goes toward Elk Lake • Highway 66 is east of Matachewan, which goes toward Kirkland Lake • There is also a high volume of heavy-duty logging, cement trucks, dump trucks, Natural Gas tanker trucks, cyanide trucks and mine workers that travel on all the road systems
Township Road System	<ul style="list-style-type: none"> • Approximately 10% of the township have roads that are gravel based

	<ul style="list-style-type: none"> • Coners in some areas are very tight and difficult to navigate • Asbestos mine road is used to get to the horseshoe island camp and cottages and is not accessible the winter, also is a very narrow road making it hard for emergency and fire services
Forest, Brush Cover and Open Fields (Wildlands)	<ul style="list-style-type: none"> • Over 80% of the Township's geography falls within this profile • Risk of fire in areas of the Municipality that are protected by the Matachewan Volunteer Fire Department or the MNRF • Township has a fire response agreement with the MNRF for the protection of some crown land • Lack of access points due in part to wilderness conditions, makes it difficult to execute the removal of injured parties and locate and attend forest fires • Lack of all terrain vehicle impedes response capabilities as more personnel are required to manually carry equipment into remote locations

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about the provision of fire protection services in their municipality/community.

3.0 Building Stock Profile

The table below presents information regarding the building stock and occupancy types, the associated fire, and other emergency issues/concerns for each. Note, the issues and concerns column take into consideration factors such as building use, density, height, and area, historical and cultural significance.

3.1 Worksheet 2: Building Stock Profile Risks

Group A Assembly (7)	Issues/Concerns	Probability	Consequence	Assigned Risk Level
Church (1)	No Issues	Rare	Moderate	Low
Service Club (1)	Older Building No sprinkler system	Rare	Moderate	Low
Recreation Hall (1)	No Issues	Rare	Moderate	Low

Young Davidson Multifunctional Complex (1)	Older Building Large Gathering of People Environmental concern of the river	Rare	Moderate	Low
Outdoor Arena (1)	No Issues	Rare	Moderate	Low
Get-Fit Gym (1)	Older Building	Rare	Moderate	Low
Group B Care & Treatment/Care (1)	Issues/Concerns	Probability	Consequence	Assigned Risk Level
Nursing Station	Older Building	Rare	Moderate	Low
Group C Residential 5456	Issues/Concerns	Probability	Consequence	Assigned Risk Level
Single-family	No Issues	Rare	Moderate	Low
Multi-Unit Residential	Older Building Large Building May require additional resources	Rare	Moderate	Low
Trailers	N/A at this time			
Group D & E Business & Personal Service/Mercantile	Issues/Concerns	Probability	Consequence	Assigned Risk Level
Service Station (1)	Older Building	Rare	Moderate	Low
Restaurant Zzz 'n' Eats Chez Dianne	Older Building Converted Mobile Trailer to Restaurant	Rare Rare	Moderate Moderate	Low Low
Post Office (1)	Older Building	Rare	Moderate	Low
Camps Horseshoe Island Camp Golden Eagle	Response Time Access to Island Response Time	Rare Major	Moderate Possible	Low Moderate
Group F Hazard Industrial	Issues/Concerns	Probability	Consequence	Assigned Risk Level
Young Davidson Mine (1)	Toxins to the environment Water access	Rare	Moderate	Low

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about the provision of fire protection in their municipalities.

4.0 Critical Infrastructure

This profile explores the capabilities and limitations of critical infrastructure, including electricity distribution, water distribution, telecommunications, transportation, fire, medical, evacuation and administration. These facilities and services contribute to the interconnected networks, services and systems that meet vital human needs, sustain the economy, and protect public safety and security. The presence/availability and capacity of infrastructure could have a significant impact on such factors as dispatch, communications, suppression operations, overall health care or transportation for the community. They may also present unique risk concerns because of their size or design. Consideration of critical infrastructure helps to set priorities, develop strategies for addressing risk concerns in the community, and develop public safety education, fire prevention and emergency response pre-planning

Information from the Township of Matachewan Emergency Plan and the Community Emergency Management Coordinator provided data for the critical infrastructure review. The table below summarizes the essential infrastructure for the community and the fire and other emergency issues/concerns relating to each.

4.1 Worksheet 3: Critical Infrastructure Profile Risks

Identified Critical Infrastructure	Issues/Concerns
Electricity Distribution	<ul style="list-style-type: none">• Hydro One is providing services throughout the area• There have been power outages in the area every year; however, their duration is short (< 48 hours)• Large transmission lines and towers for the distribution of hydro generation
Water Distribution	<ul style="list-style-type: none">• The Town has one water distribution system with two wells.• Fire hydrants located throughout the town
Telecommunications	<ul style="list-style-type: none">• Cell service is available in Town; however, there are some concerns in the rural areas• Landlines are available in the regions from northern Tel• We have two satellite phones, one at the fire department and one at the town office
Transportation	<ul style="list-style-type: none">• Ambulance Response Time• Highway Closures for accidents, fire, spills
Fire	<ul style="list-style-type: none">• Access and Response Time to remote areas
Medical	<ul style="list-style-type: none">• Access and Response Time to remote areas• Ambulance Response Time
Evacuation	<ul style="list-style-type: none">• Transportation of Evacuees• Pets• Response Time for other agencies
Administration	<ul style="list-style-type: none">• Staffing• Resources

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about provision of fire protection services in their municipality/community.

5.0 Demographic Profile

A demographic profile describes the community in terms of population size and distribution, age and gender, cultural background, level of education, and socio-economic make-up. Statistics Canada 2021 Census (2021 Census) and the Matachewan Fire and Emergency Services Department provided information and resources to develop this profile. To create public safety education and prevention program, implementation strategies, and resources, the department must consider and respect the community demographics and target audience.

5.1 Worksheet 4a: Age and Gender Distribution

Ages	Matachewan	Male	Female
0 to 14 years	35	20	15
15 to 64 years	170	85	80
65 and over	65	35	30
85 and over	0	0	0
Average Age	47.8	47.6	48.4

5.2 Worksheet 4b: Demographic Profile Risks

Identified Demographic Group	Issues/Concerns
Large senior population	Ambulance Response Time
Large population of summer residents	Ambulance Response Time

5.3 Cultural Background

Language and community culture are demographics to consider when developing services and programs. The Township of Matachewan has an overwhelmingly English-speaking population, with only 14% bilingual in both official languages. There is an 88% population of Indigenous persons in the Township of Matachewan.

5.4 Level of Education

Education Level	Matachewan
No Diploma	29.3%
High School Diploma	36.6%
Apprenticeship Diploma	14.6%
College Diploma	14.6%
University Degree	4.9%

5.5 Socio-Economic Make-Up

As noted in the 2021 Census, the average total income in the Township of Matachewan in 2020 was \$67,500.

6.0 Hazard Profile

List potential hazards in the community including but not limited to hazardous materials, spills, floods, freezing rain/ice storms, forest fires, hurricanes, tornadoes, transportation emergencies, snow storms, wind storms, extreme temperature, cyber-attacks, human health emergencies, and energy supply

6.1 Worksheet 5: Hazard Profile Risks

Identified Hazard	Probability	Consequence	Assigned Risk Level
Forest Fires	Almost Certain	Catastrophic	High Risk
Explosions/Fires	Almost Certain	Catastrophic	High Risk
Communications Failure	Almost Certain	Catastrophic	High Risk
Electric Outages	Almost Certain	Catastrophic	High Risk
Transportation Passenger Incident – Highway	Almost Certain	Minor	Moderate Risk
Extreme Cold	Almost Certain	Minor	Moderate Risk
Extreme Heat	Almost Certain	Minor	Moderate Risk
Substance Use and Overdose	Almost Certain	Minor	Moderate Risk
Water Quality Emergency	Possible	Catastrophic	High Risk
Dam Failure	Possible	Catastrophic	High Risk
Flood	Possible	Moderate	Moderate Risk
Water Disruption	Possible	Moderate	Moderate Risk
Infectious Disease Outbreak	Possible	Minor	Moderate Risk
Winter Weather	Possible	Moderate	Moderate Risk
High Winds	Possible	Moderate	Moderate Risk
Lightening	Possible	Moderate	Moderate Risk
Tornado	Possible	Moderate	Moderate Risk
Drought	Rare	Catastrophic	Moderate Risk
Thunderstorm	Rare	Catastrophic	Moderate Risk

Mine Accident	Rare	Major	Moderate Risk
Hazardous Material Transportation- Highway	Rare	Major	Moderate Risk
Chemical Release	Rare	Major	Moderate Risk
Plane or Helicopter Crash	Rare	Moderate	Low Risk
Ice Storm	Possible	Major	Moderate Risk

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about provision of fire protection services in their municipality/community.

7.0 Public Safety Response Profile

Consider other public safety response agencies that might be tasked with or able to assist in the emergencies. Also consider the types of incidents each is able to respond to and any issues or concerns that may impact fire department response

7.1 Worksheet 6: Public Safety Response Profile Risks

Identified Public Safety Response Agency	Types of Incidents They Respond To	What is Their Role at the Incident	Issues/Concerns
Ontario Provincial Police	Fires Sudden Deaths Traffic Accidents	Scene Control, Traffic Control	No Issues
EMS	Medical Emergencies	Provide Treatment Transport to Medical Facility	Response Time
Hydro One	Fire Wires Down	Isolate electrical services Repair poles and electrical distribution equipment	Response Time Lengthy outage during storms
Ontario Clean Water Agency (OCWA)	Fire Floods	Boost water supply Shut water services off Water main repairs	Response Time
Ministry of Natural Resources and Forestry	Forest Fires	Putting out Fire	Response Time

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about provision of fire protection services in their municipality/community.

8.0 Community Services Profile

Consider community service agencies, organizations or associations that provide services that support the fire department in the delivery of public fire safety education. Fire Code inspection provisions of venues for training, increased access to high-risk groups in the community, and temporary shelter for displaced residents following an incident.

8.1 Worksheet 7: Community Services Profile Risks

Community Service Agencies	Type of Assistance they can Provide	Issues/Concerns
Canadian Red Cross	Temporary Shelter, food following and incident	Response Time
Matachewan Christian Fellowship Church	Temporary Shelter, food following an incident	No Issues

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about provision of fire protection services in their municipality/community.

9.0 Economic Profile

Consider the industrial or commercial sectors that provide significant economic protection and jobs to the local economy and the impact to the community's economy if a fire or other emergency occurred in occupancies housing those sectors.

9.1 Worksheet 8: Economic Profile Risks

Identified Occupancy	Key Risk	Probability	Consequence	Assigned Risk Level
Alamos Gold	Cave Inn Fire Shut Down	Possible	Catastrophic	High Risk
Municipal Operations	Weather Event Fire Flooding Cyber Attack Campground/seasonal Lodging	Possible	Major	Moderate Risk
Dog Star	Fuel Supplies	Possible	Major	Moderate Risk

	Power Outage Fire Weather Event			
Restaurants	Power Outage Fire Weather Event	Possible	Insignificant	Low Risk
Lodging	Power Outage Fire Weather Event	Possible	Insignificant	Low Risk
Campgrounds	Power Outage Fire Weather Event	Possible	Insignificant	Low Risk

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about provision of fire protection services in their municipality/community.

10.0 Past Loss and Event History Profile

Consider previous response data to identify trends regarding the deaths, injuries, dollar loss, and causes of fire in various occupancy types. This assists in determining the leading causes of fire and high-risk locations and occupancies. In the absence of fire loss data, local knowledge may be the most reliable predictor of fire risk in your community. Also statistics can assist in determining the types of occupancies and locations where fire losses injuries and deaths most occur.

10.1 Worksheet 9a: Past Loss and Event History Profile – Fire and Emergency Calls

2021

Occupancy Class	Fires	\$ Loss	Injuries	Death	Cause
<u>Group A</u> Assembly	0	0	0	0	None
<u>Group B</u> Detention/Care & Treatment/Care	0	0	0	0	None
<u>Group C</u> Residential	0	0	0	0	None
<u>Group C</u> Trailers	0	0	0	0	None
<u>Groups D & E</u> Business & Personal Services/Mercantile	0	0	0	0	None

<u>Group F</u> Industrial	0	0	0	0	None
Other	0	0	0	0	None
Totals	0	0	0	0	

2022

Occupancy Class	Fires	\$ Loss	Injuries	Death	Cause
<u>Group A</u> Assembly	0	0	0	0	None
<u>Group B</u> Detention/Care & Treatment/Care	0	0	0	0	None
<u>Group C</u> Residential	0	0	0	0	None
<u>Group C</u> Trailers	0	0	0	0	None
<u>Groups D & E</u> Business & Personal Services/Mercantile	0	0	0	0	None
<u>Group F</u> Industrial	0	0	0	0	None
Other	0	0	0	0	None
Totals	0	0	0	0	

2023

Occupancy Class	Fires	\$ Loss	Injuries	Death	Cause
<u>Group A</u> Assembly	0	0	0	0	None
<u>Group B</u> Detention/Care & Treatment/Care	0	0	0	0	None
<u>Group C</u> Residential	1	0	0	0	Cigarette
<u>Group C</u> Trailers	0	0	0	0	None
<u>Groups D & E</u> Business & Personal Services/Mercantile	0	0	0	0	None
<u>Group F</u> Industrial	0	0	0	0	None
Other	0	0	0	0	None
Totals	1	0	0	0	

10.2 Non-Fire Emergency Calls

2023

Non-Fire Emergency Calls	Total Number of Calls	% Of all Calls
Burning (Controlled)		0
CO False Alarm	1	2.5%
False Fire Calls	2	6%
Medical/Resuscitator Calls	25	83%
Other Response	2	6%
Overpressure Rupture/Explosion		0
Pre-Fire Conditions/No Fire		0
Public Hazard	1	2.5%
Rescue		0
Total	30	100%

10.3 Worksheet 9b: Past Loss and Event History Profile Risks

Occupancy Type/Location/Risk	Causes	Probability	Consequence	Assigned Risk Level
<u>Group A</u> Assembly		Rare	Major	Moderate
<u>Group B</u> Detention/Care & Treatment/Care		Rare	Moderate	Low
<u>Group C</u> Residential	Cigarette Brush Fire	Possible	Insignificant	Low Risk
<u>Group C</u> Trailers	N/A			
<u>Groups D & E</u> Business & Personal Services/Mercantile		Rare	Moderate	Low
<u>Group F</u> Industrial		Rare	Major	Moderate

Note: The information on 9.1 should be considered in conjunction with the information on all other worksheets in 9.0 and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about the provision of fire protection services in their municipality/community.

The following table is the compilation and in-depth of the risks identified during the completion of the nine mandatory profiles mentioned. The worksheet contains the risks.

Worksheet 10: Identifying Treatment Options for the Top Risks in the Community

Mandatory Profiles	Top Risks or Issues/Concerns	Preferred Treatment Options
Geographic Profile	Body of water impacts training, equipment for response	Accept Risk Water Rescue Training periodicals, SOG's
	Body of water impacts response time	Avoid Risk Implement appropriate response periodicals
	Body of water/recreation/tourism activities	Avoid and mitigate risk Public Education
Building Stock Profile	Lightweight Construction	Public Education Inform preplanning act related to emergency responses
	Age of Buildings	Avoid Risk Implement routine fire safety inspection program
	Use of Buildings	Avoid Risk Implement routine fire safety inspection program
	Building Density	Avoid Risk Implement routine fire safety inspection program
	Height and Area	Mitigate Risk Implement routine fire safety inspection program Conduct preplanning
	Historic and Culturally significant Buildings	N/A
Critical Infrastructural Profile	Electricity	Accept Risk Wait for Hydro One
	Water Distribution	Accept Risk Wait for OCWA
	Telecommunications	Accept Risk Wait for Northern Tel
	Transportation	Accept Risk
	Fire	Avoid Risk Public Safety Education Fire Code Inspections Compliance with Ontario Fire Code
	Medical	Avoid Risk Public Safety Education
	Evacuation	Accept Risk

	Administration	N/A
Demographic Profile		Avoid Risk Public Education
Hazard Profile		Avoid Risk Public Education
Public Safety Response Profile		Accept Risk Public Education
Community Services Profile		Accept Risk
Past Loss and Event History Profile		Accept Risk Public Education

Note: The information on this worksheet should be considered in conjunction with the information on all other worksheets, and not in isolation. Worksheet 10 allows fire departments to consider all of the information on all worksheets together in order to make decisions about provision of fire protection services in their municipality/community.

Appendix A

