The Town Of
PLYMPTON-WYOMING

&

PLYMPTON-WYOMING
FIRE DEPARTMENT

COMMUNITY RISK ASSESSMENT

September 30, 2022

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Emergency Services Strategy and Solutions Inc.
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ESSSi Comments and Recommendations

ESSSi has prepared this document on behalf of the Town of Plympton-Wyoming to assist the municipality in understanding the community risks related to fire protection services. This document was created using the templates and information found in OFMEM TG-02-2019 Community Risk Assessment Guideline.

ESSSi has found it challenging to prepare an accurate CRA for the Town of Plympton-Wyoming as some of the required data is not readily available. Of particular concern is the lack of data related to fire causes and the Ontario Building Code classification for structures that have experienced fires over the past five years.

Once the Council receives this Community Risk Assessment, it is recommended that Council direct the CAO and staff to implement these recommendations immediately.

Community Risk Assessment – Recommendations

1. It is recommended that fire investigation procedures, implemented to determine the cause of all structure fires.

2. It is recommended that staff be trained to ensure that the Ontario Building Code classifications for structures that have experienced fires are recorded in the fire department records management system.

O/Reg. 217 applies to *buildings constructed* using lightweight pre-engineered floor or roof systems containing lightweight elements such as wood I-joists, cold-formed steel joists, wood truss assemblies with metal or wood plates and metal web wood joists, or lightweight floor or roof systems containing solid sawn lumber joist less than 38 mm by 235 mm, other than a *house*, and for which a permit under section 8 of the Act is issued after July 1, 2022.

3. It is recommended that the Chief Building Official provide the above information to the municipality in respect to the buildings described below, the dates the permits are issued, the address of the building, and a description of the floor or roof system.

4. It is recommended that a policy be implemented to ensure that the intent of O/Reg 217/22 is followed, and information received be used for pre-planning non-residential buildings in the municipality be implemented.

Community Risk Assessment

Introduction

CRAs allow fire departments to make informed decisions about the types and levels of fire protection services they will provide based on identified risks. This document has been prepared to meet the current requirements of Ontario Regulation 378/18. Fire departments must review and revise the community risk assessment annually to ensure it accurately reflects the mandatory profiles and fire and emergency risks. Once completed and received by the Council, the CRA allows the municipality and the fire service to make reasonable and appropriate decisions regarding the level of fire protection services offered by the municipality through the fire department.

Risk is defined as a measure of the probability of an incident occurring. The consequence is an adverse effect on health, property, organization, environment, or community due to 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, fire departments can determine which risks to address and how best to manage them. Risk assessments allow fire departments to ensure that 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.

The Emergency Management and Civil Protection Act (EMCPA) requires every municipality to conduct an all-hazards risk assessment, which informs the continuous improvement of emergency management programs and improves public safety. A completed Hazard Identification Risk Assessment (HIRA) may provide some of the information/data required to fulfill the needs of a CRA under O. Reg. 378/18. However, specific fire-related information not contained in the HIRA was gathered as part of this process. The HIRA and the CRA are separate processes but should be viewed as complementary to one another.

Identifying community fire and life safety risks and their value based on probability and consequence, including impact on the community, will help inform the plan to prevent, mitigate or accept community fire risk.

This information also informs the Council on matters to be considered when identifying the level of service, training, emergency response capability, capital and operating budgets, fire prevention/enforcement, and public fire and life safety education.

Identifying Risks – Mandatory Profiles

The first step in conducting a CRA is identifying community fire and life safety risks; this is accomplished by gathering data about the community and the activities there.

O. Reg. 378/18 requires fire departments to consider the following profiles when completing a CRA to ensure the analysis best assumes all potential risks in the community:

1. Geographic
2. Building stock
3. Critical infrastructure
4. Demographic
5. Hazard
6. Public safety response
7. Community services
8. Economic
9. Past loss and event history.

The worksheets for each profile are included in this risk assessment and form the basis for assigning risk levels and identifying resources and solutions to best treat the risk. Risks can be managed through several options.

Options for treating risks include the following:

Avoid the risk – implement programs and initiatives to prevent a fire or emergency from happening.

Mitigate the risk – implement programs and initiatives to reduce the probability and consequence of a fire or emergency.

Accept the risk – after identifying and prioritizing a risk. The fire department determines that no specific programs or initiatives will be implemented to address this risk; the fire department accepts the potential risk and will respond if it occurs.

Transfer the risk – the fire department transfers the impact and management of the risk to another organization or body. Contracting public fire safety education, fire code inspection and enforcement, or emergency response services to a neighbouring municipality or another organization are examples of transferring the management of risks to another body.

Probability and Consequence Levels

This report refers to probability levels (Table 1) and consequence levels (Table 2).

Probability

The probability or likelihood of a fire or emergency within a community is often estimated based on the frequency of previous experiences. Reviewing past events involves considering relevant historical fire-loss data, learning from other communities' experiences, and consulting community members with extensive historical knowledge. Professional judgment based on experience should also be exercised in combination

with historical information to estimate probability levels. The probability of an event can be categorized into five groups of likelihood:

Table 1: Probability levels

Description	Specifics
Rare	• may occur in exceptional circumstances • no incidents in the past 15 years
Unlikely	• could happen at some time, especially if circumstances change • 5 to 15 years since the last incident
Possible	• might occur under current circumstances • One incident in the past five years
Likely	• will probably happen at some time under current circumstances • multiple or recurring incidents in the past five years
Almost certain	• expected to occur in most cases unless circumstances change • numerous or frequent incidents in the past year

Consequence

The consequence of a fire or emergency is the potential losses or adverse outcomes associated with the event. The application of professional judgment and reviews of past occurrences are essential methods used for determining consequence levels. Estimating the consequence level of an incident or event should involve an evaluation of four components:

Life safety: Injuries or loss of life due to occupant and firefighter exposure to life-threatening fire or other situations.

Property loss: Monetary losses relating to private and public buildings, property content, irreplaceable assets, significant historic/symbolic landmarks, and critical infrastructure.

Economic impact: Monetary losses associated with property income, business closures, a downturn in tourism, loss of tax assessment value, and employee layoffs.

Environmental impact: Harm to human and non-human (i.e., wildlife, fish, and vegetation) species of life and a general decline in quality of life within the community due to air/water/soil contamination due to the incident and response activities.

The consequence of an event can be categorized into five levels based on severity:

Table 2: Consequence Levels

Description	Specifics
Insignificant	• no life-safety issue • limited valued or no property loss • no impact on the local economy, and • no effect on general living conditions
Minor	• potential risk to the life safety of occupants • minor property loss • minimal disruption to business activity, and • minimal impact on general living conditions
Moderate	• threat to the life safety of occupants • moderate property loss • poses a threat to small local businesses and • could pose a threat to the quality of the environment
Major	• potential for a large loss of life • would result in significant property damage • significant threat to large businesses, local economy, tourism, and • impact on the environment would result in a short-term, partial evacuation of residents and businesses
Catastrophic	• significant loss of life • multiple property damage to a substantial portion of the municipality • long-term disruption of businesses, local employment, tourism, or • the environmental damage that would result in the long-term evacuation of residents and businesses

Risk Summary

The following worksheet identifies the top risks to life safety and property and suggested ways to reduce or mitigate the noted risks. It is intended that the Council and the Fire Chief will use the preferred treatment options to identify areas that need to be addressed through public education, fire code enforcement, or within the level of fire service provision; these decisions will form the basis of the Plympton-Wyoming community risk reduction plan.

The plan's success will be measured in terms of fewer fires, reduced fire-related injuries, lower dollar property loss through ongoing fire-prevention initiatives, early warning and detection systems, and proactive inspections and public education, resulting in improved fire-safe behaviours.

Top risk or issues/concerns	Preferred treatment option(s)
Railway Traffic	● Ongoing training and response exercises with C.N. rail intended to understand C.N. response capabilities and scene responsibilities. Must also address F.F. safety around trains and hazards associated with rolled-over locomotives, cars, and hazardous materials frequently travelling through the community.
Specialized rescue	● Utilize mutual-aid assistance or activation of provincial teams through the OFMEM/PEOC when necessary and appropriate
Hazardous materials/dangerous goods incidents	● Maintain the current practices guided by SOGs and policies consistent with the Establishing and Regulating By-Law ● Utilize mutual-aid assistance or activation of provincial teams when necessary and appropriate
Structure fires	● Council is legally responsible for ensuring that the fire department response capability meets local needs and circumstances. ● Maintain the current practices guided by SOGs and policies consistent with the Establishing and Regulating By-Law ● Utilize mutual-aid assistance when necessary and appropriate
Fire Services	● The Fire Chief reports to the Council quarterly to ensure that Council can carry out its legal obligation to ensure that fire department response capability meets local needs and circumstances. ● The Fire Chief ensures that the Council is informed of emergency response capability issues, including inspections, pre-planning, training, staffing, and equipment maintenance and availability. ● The fire department lacks a Standard Operating Guideline or Procedure that clearly identifies the minimum number of firefighters required to form a fire attack team. The current process is dangerous for the community and unsafe for firefighters.

Fire Loss Statistics

Year	2017
Number of structure fires	8
Number of firefighter injuries	0
Number of civilian injuries and deaths	0
Total dollar loss	$ 3,906,100
Fire-cause determination	

Year	2018
Number of structure fires	4
Number of firefighter injuries	0
Number of civilian injuries and deaths	0
Total dollar loss	$ 525,000
Fire-cause determination	

Year	2019
Number of structure fires	9
Number of firefighter injuries	0
Number of civilian injuries and deaths	1
Total dollar loss	$ 565,000
Fire-cause determination	

Year	2020
Number of structure fires	4
Number of firefighter injuries	0
Number of civilian injuries and deaths	0
Total dollar loss	$ 860,000
Fire-cause determination	Human Error

Year	2021
Number of structure fires	8
Number of firefighter injuries	0
Number of civilian injuries and deaths	0
Total dollar loss	$ 1,424,00
Fire-cause determination	Human Error

Profile Worksheets
Geographic Profile

The Town of Plympton-Wyoming is located in Lambton County, in South-West Ontario. The town has an approximate population of 8000 and a land mass of 318.78 square kilometres. The population density is approximately 25 per square kilometre.

Worksheet 1: Geographic Profile

Geographic profile risks List the geographic features in your community and how they may influence the delivery of fire protection services.	
Geographic feature	**Potential impact on the delivery of fire-protection services**
Lake Huron Waterfront	• Wind-driven fires • Height of the escarpment above water level • Potential for high/low angle rescues • Potential for water rescues • Fluctuating water levels • Shoreline/property erosion Increased risk of boating accidents and drownings during the summer • Response capabilities are hampered due to the lack of access points and callers unsure of the exact location.
Railway Line	• Hazardous materials incidents • Mass casualty incidents • Blocking traffic/emergency services responses with no immediate alternate routing
Highway 402	• The high volume of truck traffic • Hazardous materials incidents • Mass casualty incidents • Blocked traffic/emergency services responses • Stranded motorists in winter storms
Flat Farmland	• Prone to flooding and whiteout conditions • Access to properties following severe weather and rain or snowstorms
Wind Turbines	• Rescue or fire at heights • Catastrophic failure/collapse

Building-Stock Profile

Building-stock profile refers to the types, numbers, uses, and ages of the various buildings within the community.

We have considered the potential fire risks in the Plympton-Wyoming communities associated with different types/classifications or uses of buildings, given their prevalence in the community and the presence of fire-safety systems and equipment at the time of construction.

Past inspection practices and frequencies may also be a factor when considering the risk associated with any building occupancy classification category. Conversely, a lack of historical inspection data about a particular occupancy classification category also should be considered when determining risk.

These building characteristics can significantly impact public fire-safety education, fire code inspection and enforcement, and emergency response activities the fire department may determine are necessary to address the risks.

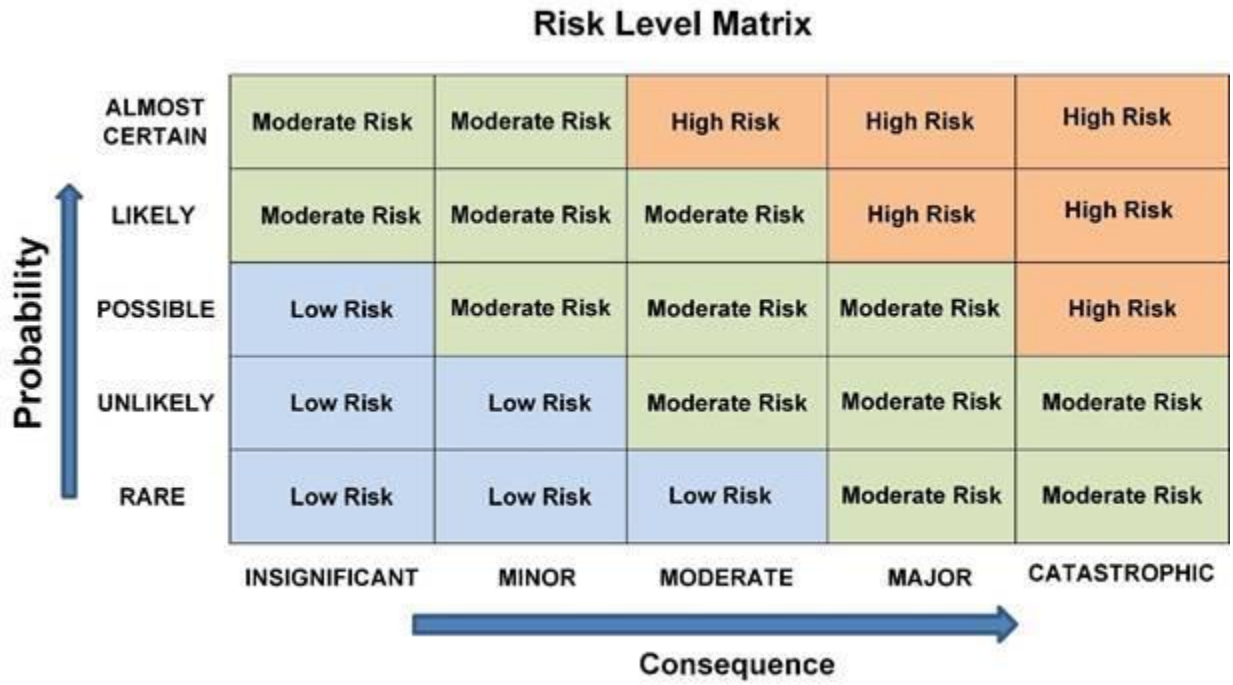
The Chief Building Official and the Fire Chief shall implement a policy to ensure that O/Reg 217/22 regarding lightweight pre-engineered floor or roof systems in non-residential buildings is implemented. Staff are appointed for pre-planning non-residential buildings in the municipality.

Assigning Risk Level

Assigning a risk level will assist the fire department in prioritizing risks, which helps to determine how to address or treat each risk. The **risk level matrix** in this section can help the fire department determine risk levels based on each identified risk's probability and consequence levels.

Risks can be assigned as low, moderate, or high. The levels for each risk can be noted in the **assigned risk level** column on the relevant worksheets in Appendix A.

The matrix below can be used to determine the assigned risk level. Plot the given probability and consequence levels on the relevant worksheets in Appendix A to set a risk level for each identified risk.



Worksheet 2: Building-Stock Profile Risks

Building occupancy classification		Issues/concerns (i.e., number of buildings; the age of buildings; use of facilities; building density, height, and area; historic and culturally significant structures; etc.)	Probability (Refer to Table 1 for suggested probability levels)	Consequence (Refer to Table 2 for recommended consequence levels)	Assigned risk level (Refer to the Risk Level Matrix for suggested risk levels)
Group A	Assembly	SIR/OBC 605, 701, 718, 731, 735, 736 (25) Schools, churches, exhibition grounds, and community hall. Small rural communities. Various ages and states of repair. Exhibition grounds and community halls are culturally significant to the identity of communities. Critical to community growth sense of community	Rare	Major	Moderate

Building occupancy classification		Issues/concerns (i.e., number of buildings; the age of buildings; use of facilities; building density, height, and area; historic and culturally significant structures; etc.)	Probability (Refer to Table 1 for suggested probability levels)	Consequence (Refer to Table 2 for recommended consequence levels)	Assigned risk level (Refer to the Risk Level Matrix for suggested risk levels)
Group B	**Detention**	0	N/A	N/A	N/A
	Care and treatment/care	0	N/A	N/A	N/A
Group C	**Single-Family**	SIR/OBC 301, 302, 303, 460 (3056) New development subdivisions – lightweight construction; close spatial separation between units; height concerns may become an issue if proposed units have rear-yard basement exposed (3 storeys) Built-up community areas, mixed construction types throughout (ordinary, balloon, platform); building services concerns – age, wiring, lack of modern early warning devices such as interconnected C.O. and smoke alarms; lack of fire separations; compartmentalization; confinement; problems of the new, open-concept design Rural farm dwellings – remote access issues; private roads; access to water supply	Possible	Major	Moderate

Building occupancy classification		Issues/concerns (i.e., number of buildings; the age of buildings; use of facilities; building density, height, and area; historic and culturally significant structures; etc.)	Probability (Refer to Table 1 for suggested probability levels)	Consequence (Refer to Table 2 for recommended consequence levels)	Assigned risk level (Refer to the Risk Level Matrix for suggested risk levels)
Group C	**Multi-unit residential**	SIR/OBC 321, 322, 323, (2) Multi-residential Dwelling Apartment buildings – lack of interconnected early warning devices C.O. and smoke alarms	Unlikely	Major	Moderate
	Other	SIR/OBC 395 Seasonal, (259) General fire access to properties may be problematic. Frequency of upkeep and general maintenance of occupancy systems. Lack of adequate/working early warning devices C.O. and smoke alarms	Possible	Major	Moderate
Group D & E	**Business and personal service/ mercantile**	Group D SIR/OBC – 400, 401, 406, 430, 432, 434 (23) Group E SIR/OBC 407, 409, 410, 411, 471 (33) Mostly 1-3 storey buildings of various ages and building construction types. Must rely on owner/operator maintenance/fire protection systems since no inspection program is in place	Unlikely	Moderate	Moderate

Building occupancy classification		Issues/concerns (i.e., number of buildings; the age of buildings; use of facilities; building density, height, and area; historic and culturally significant structures; etc.)	Probability (Refer to Table 1 for suggested probability levels)	Consequence (Refer to Table 2 for recommended consequence levels)	Assigned risk level (Refer to the Risk Level Matrix for suggested risk levels)
Group F	**Industrial**	SIR/OBC 420, 421, 520, 523, 530, 531, 540, 558, 744 (38) Mostly 1-3 storey buildings of various ages and building construction types. Must rely on owner/operator maintenance/fire protection systems since no inspection program is in place	Likely	Major	High
Other	**Occu-pancies not classified in OBC, such as farm buildings**	SIR/OBC 201, 210, 211, 220, 221, 228, 231 (510) Mostly 1-2 storeys of various ages. Primarily wood or wood frame or non-combustible construction. Lack of maintenance over time. Lack of impounded water for fire protection. General housekeeping and access for fire apparatus may be an issue.	Possible	Major	Moderate

Critical Infrastructure Profile

Critical Infrastructure profile refers to the facilities or services that contribute to the interconnected networks, services, and systems that meet vital human needs, sustain the economy, and protect public safety and security (i.e., electricity distribution, water distribution, telecommunications, hospitals, and airports).

Worksheet 3: Critical Infrastructure Profile

Identified critical infrastructure	Issues/concerns
Continuity of government	The local government is closed or unable to operate will affect the confidence of ratepayers. As technology changes, so do the causes. Causes may include severe weather, infectious/communicable disease, I.T. infrastructure attack, or electrical grid instability/failure.
Electricity transmission and distribution	Hydro failure to the municipal building or EOC Fires at transformers Sabotage
Radio/television communication	Inability to communicate with the public and outside area Inability to provide emergency information or instructions
Telecommunications	Affects most municipal field departments Affects the paging and emergency notifications of responders Affects communications with EOC or alternate comms centre
Roads	Access to emergency scenes and evacuations routes The public needs to access information from fire stations or municipal buildings.
Natural gas/propane delivery	Potential for leaks in main lines above/below ground Provider or infrastructure failures The lack of either product could place the civil population at risk during three seasons. Lack of either product could affect the mercantile, commercial, industrial and hospitality sectors.
Financial	The sector could be closed due to extreme weather, I.T. attack, unreliable power, or heating fuel. I.T. failure interferes with business and local government processing transactions.

Identified critical infrastructure	Issues/concerns
Transportation fuels	Without reliable transportation, fuel supplies, and logistical support, businesses cannot continue to operate, and residents cannot evacuate if necessary, conversely making it more difficult for the community to recover. A lack of fuels may limit the use of personal gasoline/diesel generators.
Emergency shelters	Lack of backup power supply Long-duration operations Shelter size may not accommodate the need Logistical support is required to support shelter operations, particularly long term. Requirement for sanitation, disinfection, and potable water
Food and grocery sector	Supply and access must be maintained if the civilian population is expected to remain at home. Reliable, consistent supply required for recovery operations
Access to health care/ clinic/hospital	If access to local health care is closed or unable to operate. This affects the confidence of the ratepayers, the quality of life and the corporate reputation of the community.

Demographic Profile

Demographic profile refers to the composition of the community's population, considering population size and dispersion, age, gender, cultural background, level of education, socio-economic make-up, and transient population.

Awareness of the characteristics of the population in the community helps the fire department determine if specific segments of the population are at high risk of fire. This awareness allows fire departments to identify high-risk behaviours that need to be changed and specific techniques to communicate with high-risk groups.

Fire protection services, including public fire safety education, fire code inspections, and enforcement programs, should be tailored to high-risk groups to deliver fire-safety programs in the most relevant and meaningful ways and have the most significant impact. For example, providing fire-safety messages using communications popular with specific high-risk segments of the population increases the likelihood that those segments receive messages and therefore are most effective at reducing the fire risk.

The population distribution charts may assist in identifying high-risk or vulnerable demographic groups in the community**.**

Worksheet 4a: Demographic Profile

Ages of population	**# Of people**	**% Of the total population**
0-4	425	5.5
5-9	430	4.5
10-14	495	6.3
15-19	450	5.7
20-24	440	5.6
25-29	380	4.8
30-34	370	4.7
35-39	415	5.3
40-44	420	5.3
45-49	485	6.2
50-54	610	7.8
54-59	710	9.1
60-64	645	8.2

Ages of population	# Of people	% Of the total population
65-69	590	7.5
70-74	420	5.3
75-79	235	3.0
80-84	155	1.9
85 and over	120	1.5
Total population	7795	100

*Does not include the seasonal population of approximately 750

Population Distribution

Total distribution of the population by broad age groups	100.0	Male	Female
0-14 years	17	675	685
15-64 years	63	2470	2465
65 years and over	19	765	740
85 years and over	1	45	60
The average age of the population	52.5	42.3	42.7
The median age of the population	45.6	45.2	46.1

Population By Ethnicity

Total – visible minority for the population in private households – 25% sample data	Total	Male	Female
The total visible minority population	125	60	65
South Asian	20	10	10
Chinese	20	5	20
Black	20	10	10
Filipino	10	10	5
Latin American	0	0	0
Southeast Asian	20	15	5
Visible minority not identified elsewhere	35	15	15
Not a visible minority	7650	3845	3810

Education

Total – highest certificate, diploma, or degree for the population aged 15 years and over in private households – 25% sample data	Total 6425	Male 3225	Female 3195
No certificate, diploma, or degree	855	485	370
Secondary (high) school diploma	1665	745	925
Post-secondary certificate, diploma, or degree	3900	1995	1910
Apprenticeship or trades certificate or diploma	735	600	135

Total – highest certificate, diploma, or degree for the population aged 15 years and over in private households – 25% sample data	Total 6425	Male 3225	Female 3195
Trades certificate or diploma other than a certificate of apprenticeship or certificate of qualification	250	175	75
Certificate of apprenticeship or certificate of qualification	485	420	60
College, CEGEP, or other non-university certificate or diploma	1980	880	1095
University certificate or diploma below bachelor level	85	55	25
University certificate or diploma at bachelor level or above	1100	455	645
Bachelor's degree	790	290	500
University certificate or diploma above bachelor level	100	45	55
Degree in medicine, dentistry, veterinary medicine, or optometry	25	20	0
Master's degree	180	95	80
Earned doctorate	10		

Socio-economic Summary

Total – income statistics in 2015 for the population aged 15 years and over in private households – 100% data	Total 6420	Male 3225	Female 3195
Without total income	200	85	115
With total income	6220	3140	3080
Percentage with total income	96.9	97.4	96.4
Under $10,000 (including loss)	775	260	460
$10,000 to $19,999	835	295	545
$20,000 to $29,999	720	260	460
$30,000 to $39,999	675	270	400
$40,000 to $49,999	625	310	315
$50,000 to $59,999	515	290	225
$60,000 to $69,999	450	280	170
$70,000 to $79,999	315	215	105
$80,000 to $89,999	260	160	95
$90,000 to $99,999	240	150	90
$100,000 and over	810	655	160
$100,000 to $149,999	500	400	120
$150,000 and over	290	255	35

Workforce

Total – population aged 15 years and over by labour force status - 25% sample data	Total 6420	Male 3220	Female 3195
In the labour force	4070	2175	1890
Employed	3845	2060	1785
Unemployed	220	115	110
Not in the labour force	2355	1045	1305
Participation rate	63.4	67.5	59.2
Employment rate	59.9	64	55.9
Unemployment rate	5.4	5.3	5.8

Home Ownership

Total – private households by tenure – 25% sample	3055
Owner	2700
Renter	355
Condominium	100

Consider the following questions to help identify the demographic groups within your community and the associated fire safety issues/concerns:

- Do specific age groups make up a large portion of your community? If yes, who are they?
- Are there groups whose language or cultural practices impact fire safety in your community? If yes, who are they?
- Are there transient populations in your community (e.g., post-secondary school students, migrant workers, seasonal tourists, etc.)? If yes, who are they?
- Are specific socio-economic groups or circumstances impacting fire safety in your community? If yes, who/what are they?
- Are there demographic groups within your community that have cognitive or physical disabilities served by community service agencies? If yes, who are they?

Demographic Profile

Use the answers to the questions above to list the identified demographic groups in the first column of the worksheet below.

Worksheet 4b: Demographic Profile Risks

Identified demographic group	Issues/concerns
Immigrant population	• Language barriers • Cultural traditions that present/create fire safety concerns/hazards • Of the total population of approximately 8000, only 125 were immigrants
Senior population	• There are a significant number of seniors living in the community. • Of the total population, approximately 30% are over the age of 65 • We are currently experiencing a trend where the number of seniors is increasing across the province as the baby boomer continue to retire • Some seniors will experience mobility and cognitive issues that will require increasing levels of care • One apartment building in Wyoming houses some seniors. (Not classified as a Vulnerable Occupancy-OFM) *O/Reg. 364/13)* • There are two *Vulnerable Occupancies (O/Reg. 364/13)* on Zone Street in the Wyoming fire district. The fire chief has indicated that he has ensured that these properties have been inspected and that an inspector has observed fire drills in each building on an annual basis, in accordance with the requirements of the regulation
Tourist population	• Local natural attractions bring many seasonal residents/tourists • How does the fire department reach seasonal residents with fire safety messages? • Fire and life safety messaging requires various approaches. • Many tourists/seasonal residents may not know their property identification number or street/road name if calling 911. (What Three Words Application)

Identified demographic group	Issues/concerns
Tourist population	● 259 Seasonal residences ● 750 Seasonal residents ● 6 Campgrounds within the town with a capacity for another approximately 750 visitors
Migrant worker population	● How does the fire department reach migrant workers with fire safety messages? ● Fire and life safety messaging requires various approaches. ● Many migrant workers may not know their property identification number or street/road name if calling 911. (What Three Words Application) ● There are approximately 75 migrant workers in the municipality on an annual basis.

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 to make decisions about providing fire protection services in their municipality/community.

Hazard Profile

Hazard profile refers to the hazards in the community – natural hazards, hazards caused by humans, and technological hazards, which may include but not be limited to hazardous materials spills, floods, freezing rain/ice storms, forest fires, hurricanes, tornadoes, transportation emergencies (i.e., air, rail or road), snowstorms, windstorms, extreme temperature, cyber-attacks, human health emergencies, and energy supply (i.e., pipelines, storage and terminal facilities, electricity, natural gas, and oil facilities, etc.).

Fire departments should consider all potential hazards that pose a significant risk to or may have a substantial impact on the community and to which fire departments may be expected to respond.

Worksheet 5: Hazard Profile

Identified hazard	Probability (refer to table 1 for suggested probability levels)	Consequence (refer to table 2 for suggested consequence levels	Assigned risk level (refer to the risk level matrix for suggested risk levels)
Structure conflagration	Rare	Moderate	High
Large fire	Unlikely	Minor	Low
Wildland urban interface fires*	Unlikely	Minor	Low
Hazmat incident	Possible	Major	High
Plane crash	Unlikely	Major	Moderate
Motor vehicle collisions	Almost Certain	Major	High
Transportation incident MCI	Possible	High	Major
Rail Transportation incident	Possible	High	Major
Terrorism or Sabotage	Unlikely	Major	Major
Special event – large crowds	Rare	Moderate	Low
Utility disruption	Likely	Moderate	Moderate
Pipeline Leak or Failure	Unlikely	Major	Moderate
Communications disruption	Unlikely	Moderate	Moderate
Critical infrastructure failure	Unlikely	Major	Moderate
Cyber attack/I.T. failure	Possible	Major	Moderate
High-angle rescue	Unlikely	Moderate	Moderate
Trench rescue	Unlikely	Moderate	Moderate
Ice storm*	Possible	Moderate	Moderate
Severe thunderstorm*	Possible	Moderate	Moderate
Extreme temperatures*	Likely	Moderate	Moderate
Snow/blizzard*	Likely	Moderate	Moderate
Severe wind/tornado/straight-line winds*	Likely	Major	High

Flood*	Rare	Moderate	Low
Drought*	Possible	Major	Moderate
Well water issues	Possible	Major	Moderate
Earthquake	Rare	Moderate	Low
Infectious/communicable disease – Human	Likely	Major	High
Infectious/communicable Diseases – animal	Possible	Moderate	Moderate
Invasive Species (Plant or Water*	Possible	Moderate	Moderate

***Denotes potentially changing risks associated with climate change**

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 the information on all worksheets together to make decisions about the provision of fire protection services in their municipality/community.

Public Safety Response Profile

The public safety response profile refers to the agencies and organizations in the community (police, EMS, rescue) that may respond to certain types of incidents.

The fire department should consider other public safety response agencies (police, EMS, rescue) that might be tasked with or able to respond to emergencies or mitigate the impact of emergencies. This will help the fire department prioritize community risks and to determine the level of fire protection services it provides. For example, a private fire and rescue service at a local industrial facility may influence decisions about the type and the level of fire protection services a municipal fire department may provide to that facility.

Worksheet 6: Public Safety Response Profile

Identified public safety response agency	Incident response	Lead role	Issues/concerns
Fire	• Fires • MVCs • Rescues • Medicals • HazMat • Public Education	• Suppress or extinguish fires • Perform rescues • Deliver initial patient care • Property Conservation • Cause and origin of fires	• Daytime response capability • Recruitment and retention
Ontario Provincial Police	• Collisions • Fires • Crime scenes • Large gatherings	• Scene control • Primary/initial investigation	• Staffing for major incidents
Lambton County Paramedic Services	• Medicals • MVCs • Fires	• Primary medical care provider	• Staffing for major incidents • Hospital off-loads delays
Neighbouring fire departments	• Automatic/mutual aid • Technical rescues • Hazmat	• Emergency response • Fill-in • Standby • Technical response	• Daytime response capability
OFM, including HUSAR/CBRNE	• Fire investigation criteria • Fires involving vulnerable occupancies • HUSAR response • CBRNE response	• Fire investigation lead agency supported by police • Co-ordinate CBRN/HUSAR responses	• Lengthy response/travel time • Adequate staffing for duration events

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 the information on all worksheets together to make decisions about the provision of fire protection services in their municipality/community**.**

Community Services Profile

Community service profile refers to community agencies, organizations, or associations that can provide services that support the fire department in delivering public safety education, fire code inspections, enforcement or emergency response.

Community service agencies may be able to provide services in-kind, financial support, provision of venues for training, increased access to high-risk groups in the community, or temporary shelter for displaced residents following an incident.

Worksheet 7: Community Services Profile Risks (Non-Government)

Community Service Agency	Types of assistance offered	Issues/concerns
Canadian Red Cross	Lodging, clothing, food, hygiene care, and personal assistance; family reunification; child services; emergency preparedness and training	2-hour warning notice
Victims Services	Lodging, clothing, food, hygiene care, and personal assistance; family reunification;	2-hour warning notice
Salvation Army	Lodging, clothing, food, hygiene care, and personal assistance; family reunification;	2-hour warning notice
Lambton Elderly Outreach	Lodging, clothing, food, hygiene care, and personal assistance; family reunification;	2-hour warning notice

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 the information on all worksheets together to make decisions about the provision of fire protection services in their municipality/community**.**

Economic Profile

Economic profile refers to the economic sectors affecting the community that is critical to its financial sustainability.

When prioritizing risk in the community, the fire department should consider the impact of fire and other emergencies on the industrial or commercial sectors that provide significant economic production and jobs to the local economy. This will help to determine the type and level of fire protection services offered in these sectors in the community.

Work Sheet 8: Economic Profile Risks

Identified occupancy	**Key risk**	**Probability** **(Refer to Table 1 for suggested probability levels)**	**Consequence** **(Refer to Table 2 for suggested consequence levels)**	**Assigned risk level** **(Refer to the risk level matrix for suggested risk levels)**
Senior's Housing	Fire	N/A	No Specific	Seniors housing
Senior's Housing	Weather event	N/A	No Specific	Seniors Housing
Senior's Housing	Power failure	N/A	No Specific	Seniors Housing
Seasonal accommodation	Fire	Possible	Moderate	Moderate
Seasonal accommodation	Weather event	Possible	Moderate	Moderate
Seasonal accommodation	Power Failure	Possible	Moderate	Moderate
Restaurants	Fire	Possible	Moderate	Moderate
Restaurants	Weather event	Possible	Moderate	Moderate
Restaurants	Power failure	Possible	Moderate	Moderate

Restaurants	Telecommunications/I.T. failure	Likely	Moderate	Moderate
Gas stations	Fire	Unlikely	Moderate	Low
Gas stations	Telecommunications/I.T. failure	Likely	Moderate	Moderate
Gas stations	Out of fuel	Unlikely	Major	Moderate
Grocery stores	Fire	Unlikely	Major	Moderate
Grocery stores	Weather event	Likely	Major	Moderate
Grocery stores	Power Failure/fuel disruption	Likely	Major	Moderate
Grocery stores	Telecommunications/I.T. failure	Likely	Major	Moderate
Local business	Fire	Unlikely	Major	Moderate
Local business	Weather event	Likely	Major	Moderate
Local business	Power failure	Likely	Major	Moderate
Local business	Telecommunications/I.T. failure	Likely	Major	Moderate
Financial Institutions	Fire	Unlikely	Major	Moderate
Financial Institutions	Telecommunications/I.T. failure	Likely	Major	Moderate
Municipal ops	Weather event	Likely	Major	Moderate
Municipal ops	Power failure	Likely	Major	Moderate

Municipal ops	Telecommunications/I.T. failure	Likely	Major	Moderate
Municipal ops	Fuel supply disruption	Rare	Moderate	Low
Municipal ops	Flooding	Rare	Moderate	Low
Municipal ops	Fire	Rare	Major	Moderate
Municipal ops	IT failure/attack	Likely	Major	High
Municipal ops	Seasonal reception centre – tourists	Unlikely	Moderate	Moderate
Municipal ops	Road closures – storms	Likely	Moderate	Moderate
Arena ops	Power outage	Likely	Moderate	Moderate
Arena ops	Weather event	Likely	Moderate	Moderate
Arena ops	Fuel supply disruption	Rare	Moderate	Low
Schools	Fire	Rare	Major	Moderate
Schools	Weather event	Likely	Moderate	Moderate
Schools	Power failure	Likely	Moderate	Moderate
Wide area municipal	Hazmat/TDG	Rare	Major	Moderate

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 to make decisions about the provision of fire protection services in their municipality/community**.**

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 helps to determine the leading causes of fires and high-risk locations and occupancies. In the absence of fire loss data, local knowledge may be the community's most reliable predictor of fire risk. Also, provincial statistics can help determine the types of occupancies and locations where fire losses, injuries, and deaths occur.

Worksheet 9a: Past Loss and Event History Profile

OBC classification - Annual (structure fire) response history

Occupancy	1. 2017	2. 2018	3. 2019	4. 2020	5. 2021	Total
1. Class A				01		01
2. Class B						
3. Class C Single family residence	07	08	06	01	06	27
4. Class C Multi-res.						
5. Class C Motel						
6. Class C Mobile home						
7. Class C Other – Cottages remote/island						
8. Class D&E						
9. Class F						
10. Unclassified Farm						

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 to make decisions about the provision of fire protection services in their municipality/community**.**

Past Loss and Event History Profile

List the causes for each occupancy type identified on the previous worksheet. Assign probability, consequence, and risk levels to each cause identified. NOTE: Class C –

single-family residential occupancies – has been selected due to the significant number of incidents versus all other building classifications.

Worksheet 9b: Past Loss and Event History Profile

Occupancy Type	Causes	Probability (refers to Table 1 for suggested probability levels)	Consequence (refers to Table 2 for suggested consequence levels)	Assigned risk level (refers to the risk level matrix for suggested risk levels)
Group C – Residential	Poor housekeeping	Low	Moderate	Moderate
Group C – Residential	Misuse of an ignition source	Low	Moderate	Moderate
Group C -– Residential	Careless use of smoking materials	Moderate	Moderate	Moderate
Group C – Residential	Woodstove/Fireplace appliance use or maintenance	Possible	Moderate	Moderate
Group C – Residential	Design/construction/ maintenance deficiency	Unlikely	Moderate	Moderate
Group C – Residential	Fire extending from outside of the home	Possible	Moderate	Moderate
Group C – Residential	Human Error	Possible	Moderate	Moderate

Note: The information on Worksheet 9b 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 to make decisions about the provision of fire protection services in their municipality/community.

Setting The Type and Level of Fire Protection Services

When setting the type and level of fire protection services, all three lines of defence should be considered in terms of the impact each will have on the probability or consequence of identified risks. The three lines of defence that are accepted as the foundation of public fire protection in Ontario are public education, code enforcement, and emergency response. The intention is that if the first two lines of defence are aggressively followed, there will be fewer emergency responses to major fires. Once the fire department has determined the preferred treatment option for each risk, it can plan and implement activities that address those risks. Things to consider are the fire department's current resources, staffing levels, training, equipment, and authority versus those who may be required to implement the preferred treatment options.

Risk Treatment Options

Once risk levels have been assigned, the fire department can determine how best to treat each risk and the resources required.
Options for treating risks are:

1. Avoid the risk
2. Mitigate the risk
3. Accept the risk
4. Transfer the risk

Avoid The Risk

Avoiding the risk means implementing programs and initiatives to prevent a fire or emergency from happening.

For example, public fire safety education initiatives aim to change people's behaviours so that fires may be prevented and people react appropriately when fires do occur. Fire code inspections and enforcement ensure that buildings comply with the Ontario Fire Code.

Mitigate The Risk

Mitigating the risk means implementing programs and initiatives to reduce the probability and consequence of a fire or emergency.

For example, a routine fire code inspection and enforcement program to ensure fire code compliance can reduce the probability and consequence of a fire.

A pre-planning program involving fire suppression crews allows the fire department to learn about specific community buildings and their contents, fuel load, fire protection systems, etc. This information can be provided to the fire inspection staff to ensure the building complies with the fire code. Also, pre-plans can help suppression crews plan fire suppression operations should a fire occur in a building. These activities can reduce the probability and consequence of a fire.

Accept The Risk

Accepting the risk means that after identifying and prioritizing a risk, the fire department determines that no specific programs or initiatives will be implemented to address this risk. In this option, the fire department accepts the potential risk and will respond if it occurs.

For example, typically, fire departments do not implement programs to prevent motor vehicle collisions. Yet, it is generally accepted that collisions will happen and that the fire department will respond when they do. Similarly, environmental hazards such as ice storms, and medical calls, cannot be prevented by a fire department program or initiative, yet fire departments typically respond when these emergencies occur.

When accepting risks, fire departments should consider their capacity (equipment, personnel, training, etc.) to respond.

Transfer The Risk

Transferring the risk means the fire department transfers the impact or management of the risk to another organization or body. Contracting public fire safety education, fire code inspection and enforcement, or emergency response services to a neighbouring municipality or another organization are examples of transferring the management of risks to another body.

After considering these issues, the preferred treatment option (avoid the risk, mitigate the risk, accept the risk, or transfer the risk) can be noted in the **preferred treatment option** column of worksheet 10 in Appendix A.

Fire departments should also ensure that operational policies and standard operating guidelines address the levels of service and activities required to manage each risk. This includes setting goals and objectives and determining resources, training, equipment, activities, and programs needed across the three lines of defence.

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

Mandatory profiles	Top risk or issues/concerns	Preferred treatment option
Geographic profile	Water – subject to seasonal flooding or flooding during heavy rainfall. Impacts emergency response and travel time to incidents	**Accept:** P-W Fire Services has the appropriate training, response procedures, and SOGs to address this risk.
	Water -– impacts training and equipment for emergency response	**Avoid and mitigate:** P-W Fire Services has the necessary equipment, training, and SOGs to address risk.
	Water – recreational and tourist population has increased during COVID-19. Impacts some public fire safety education, fire safety inspections, and code enforcement	**Avoid and mitigate:** P-W Fire Services should deliver adequate and appropriate public fire safety education messaging and perform inspections upon request or complaint. Continue to advertise municipal numbering systems or other emergency location identification applications.
	Water – impacts marine emergency response capability to the waterfront for all types of, incidents including fires, rescues, and medical emergencies.	**Accept:** P-W Fire Services has appropriate equipment, training, communications, response procedures, and SOGs to address this risk.
	CN Rail tracks	**Accept:** P-W Fire Services has the appropriate training, communications, response procedures, and SOGs to address this risk. Mutual/Automatic aid is also available if necessary and appropriate in the circumstances.
	Road network including Hwy 402 and 21	**Accept:** P-W Fire Services has the appropriate training, communications, response procedures, and SOGs to address this risk.
	Private roads	Accept: P-W Fire Services has the appropriate training, communications, response procedures, and SOGs to address this risk. (Private road owners/users must be aware that fire apparatus will not operate on private roads or bridges that are not engineered and maintained to carry their weight or not free of obstruction along the travel path.
	Highland Glen Conservation Area and C. J. McEwen Conservation Area.	**Avoid and mitigate:** P-W Fire Services promotes the municipal Burning Bylaw 2022-3 to establish times during which fires may be set in the open air and the precautions to be observed by persons setting out fires and implement burn bans when necessary.

Mandatory profiles	Top risk or issues/concerns	Preferred treatment option
Geographic profile	Bridges	**Accept:** The number of bridges in the municipality may limit fire department access to portions of the municipality during emergency response. P-W Fire Services has the appropriate training, communications, response procedures, and SOGs to address this risk with the general understanding that fire apparatus will not operate bridges that are not engineered and maintained to carry their weight.
Building stock profile	Fire	**Avoid and mitigate:** P-W Fire to promote public education programs related to preventative maintenance for heating appliances, chimneys, and flues and the design and construction of sound, fire-safe appliances, and practices
	Fire	**Avoid and mitigate:** P-W Fire should conduct inspections of commercial, industrial, and mercantile occupancies every two years. This will better ensure fire safety and reduce the likelihood of a fire that has an economic impact on the community. Additional public fire safety education may also help reduce the fire risk.
	Fire	**Avoid and mitigate:** Legacy buildings in the community may be at higher risk of fire due to construction type, materials used, and construction techniques. P-W fire should ensure that these buildings are inspected annually with building owners to reduce the fire risk and offer public education opportunities to the owners.
	Lightweight Construction	**Accept and mitigate:** P-W Fire recognizes the existence of lightweight construction as part of its building stock profile, especially in densely populated areas. This type of wood frame and wood truss construction is now the norm for new development areas and exists in other rural areas. P-W F.D. must train staff to implement and practice pre-planning activities to identify these buildings and trains our staff in line with industry best practices and safety standards.
	OBC Group C – Single-family occupancies	**Avoid and mitigate:** P-W Fire should deliver public education materials and programming that promote smoke alarms, carbon monoxide alarms, and home fire escape planning with families. Provide information materials and training for the use of fire extinguishers. Continue to provide public messaging regarding the need for professionally installed and maintained wood-burning appliances and the need to clean chimneys and flues before the heating season and additionally throughout the season, depending on the use.
	Poor maintenance and general housekeeping	**Avoid and mitigate:** Identify poor equipment and electrical and appliance maintenance during the inspection process. Identify and underscore the need for fire-safe housekeeping to prevent fire and the spread of fire and allow emergency egress in the event of a fire.
	Vacant farms and other rural occupancies	**Avoid:** In conjunction with the Chief Building Official, contact the property owner/occupant to determine the intended disposition of unoccupied or vacant buildings. Ensure that buildings are secured, made safe, or demolished as appropriate. Occupied properties should be inspected as necessary to promote the use of smoke alarms, the installation of fire extinguishers, and the need for fire-safe housekeeping.

Mandatory profiles	Top risk or issues/concerns	Preferred treatment option
Critical infrastructure profile	Electricity	**Accept:** The loss of the electrical utility severely impacts daily lives. The entire community relies on reliable electrical service. Encourage the use of backup generators for business-critical operations and provide public information on the safe use of generators for families and residences.
	Natural gas	**Accept:** The loss of the reliable distribution of natural gas may impact many parts of the local community. Work with the utility to ensure rapid system repair and provide the appropriate public information.
	. I.T./telecommunications	**Accept:** Anticipate loss of cell and internet service throughout the municipality. This will disable business, commerce, and continuity of some government services. The municipality should work with service providers to ensure backup power is available at all sites and explore other opportunities for reliable and redundant service.
	Continuity of government	**Avoid and mitigate:** If staff cannot work from primary or alternate locations, they must have remote access to the municipal computer and telephone networks. Municipal EOC has alternate power. Should consider working with an I.T. provider to determine if a redundant I.T. system is available
Demographic profile	Seniors	**Avoid and mitigate:** The number of seniors relocating to P-W is increasing. Seniors expect access to the public services they need and use or are interested in joining. There will be an ongoing need to provide public fire safety education to new residents through the fire department or the real estate industry.
	Seniors	**Avoid and mitigate:** Take advantage of shared opportunities such as fairs, community events and Fire Prevention Week, public fire safety education, and clinic opportunities directed at seniors, particularly as they continue to be mobile longer; education topics should continue to include smoke and C.O. alarms • developing and practicing a home escape plan for their particular residence • safe cooking practices • how to extinguish grease fires • how to operate an extinguisher • burn prevention – not moving pans or pots of burning grease
	Youth	**Avoid and mitigate:** Take advantage of opportunities such as youth group meetings to provide public fire safety education and clinic opportunities directed at youth; continue to include. • importance of smoke and C.O. alarms • developing and practicing a home escape plan for their residences • how to operate an extinguisher • burn prevention – not moving pans or pots of burning grease
	Schools	**Avoid and mitigate:** Take advantage of shared opportunities such as school visits, provide public fire safety education and clinic opportunities directed at students; continue to include • fire safe behaviour, not playing with ignition sources • participation in fire drills • importance of smoke and C.O. alarms • how to operate an extinguisher (age appropriate) • burn prevention – not moving pans or pots of burning grease • developing and practicing a home escape plan for their residences • contest for best digital media fire prevention messaging

	Top risk or issues/concerns	Preferred treatment option
Demographic Profile	Seasonal residents and tourists	**Avoid and mitigate:** Implement aggressive public education programming about smoke and carbon monoxide alarms, home/cottage escape plans, and the use of fire extinguishers. The continued reminder of the use of municipal numbers or other location-identifying applications
	Residents – public education and general information	**Avoid and mitigate:** Continuous public education/media reminders regarding burn permits, fireworks bylaw requirements, and fire department activities and operations updates. Information may also be included on the municipal website and social media accounts.

Mandatory profiles	Top risk or issues/concerns	Preferred treatment option
Hazard profile	Fire	**Avoid and mitigate:** Implement a policy to ensure that P-W Fire delivers public education programming in schools that promote smoke alarms, carbon monoxide alarms, crawling low through smoke, and home fire escape planning with children.
	Fire	**Avoid and mitigate**: P-W Fire must speak publicly about the three lines of defence so that the community will understand the need for public education programming, particularly the further the travel distance, the greater the P-W Fire response time.
	Fire	**Avoid and mitigate:** P-W Fire should meet with area builders annually to remind them of the value of residential sprinklers.
	Severe weather events/storms	**Accept:** Severe weather events, flooding, and temperature extremes can not be avoided. Many are predictable and maybe forecast ahead of time. The public relies on high-quality, accurate, timely messaging during these events.
	MVC/Mass Casualty/TDG/Haz mat incidents	**Accept:** Mass casualties, wide area destruction, and transportation route closures may occur. Wide area evacuations may be necessary. P-W Fire Services has the training, experience, and SOGs to address these incidents in conjunction with their public safety colleagues and the transportation industries.
Public safety response profile	Mutual-aid fire departments	**Accept:** Like most fire departments in Ontario, P-W Fire Services experiences a lack of firefighters during the business day. The community relies on mutual aid fire departments for assistance during major or labour intense fires.
	P-W Fire Department	**Accept:** Like most fire departments in Ontario, P-W Fire Services experiences a lack of available firefighters during the business day. The ongoing recruitment process is aimed at filling this need. If recruitment is not successful, other methods of daytime staffing must be considered.
	P-W Fire Services – training	**Avoid and mitigate**: Ensure that all firefighters receive live fire training annually to maintain professional competency.
	Ontario Provincial Police	**No Concerns**
	Lambton County Paramedic Services	**No Concerns**
	Support for ongoing recruitment programs for various community services	**Avoid and mitigate:** Continued recruitment for community services agencies ensures that they can continue supporting municipal operations during major events**.**

Mandatory profiles	Top risk or issues/concerns	Preferred treatment option
Community services profile	Electricity	**Accept:** The loss of the electrical utility severely impacts daily lives. The entire community relies on reliable electrical service. Encourage the use of backup generators for business-critical operations and provide public information on the safe use of generators for families and residences.
Economic profile	Fires	**Accept** Potential economic decline due to industrial/commercial/mercantile fires—loss of income for families in the community.
	Fires	**Avoid and mitigate:** Directed public education programs focussing on cooking practices, dangers of grease fires, and loose clothing catching fire near stoves. Identify the risks associated with unsafe housekeeping practices, the failure to maintain wood-burning appliances, and the need to clean flues and vents regularly.
Past loss and event history profile	Fires	**Avoid and Mitigate:** Directed public education programs focussing on human error. Identify the common causes of human error fires and institute public education and fire prevention programs to reduce this risk.

Review Of the Community Risk Assessment

O. Reg. 378/18 requires the fire department to complete a new community risk assessment every five years. The regulation also requires the fire department to review its community risk assessment at least once every 12 months to reflect the community and its fire and emergency risks accurately. This review aims to identify any changes in the mandatory profiles that may result in a change in risk level or a change in the type or level of fire protection services the fire department determines necessary to address the risks. This review is intended to ensure that the fire protection services provided continue to be evidence-based and linked to the identified risks.

The fire department should maintain documentation that the reviews required by O. Reg. 378/18 have been conducted. This documentation should include:

- any changes to any of the mandatory profiles
- any changes to assigned risk levels or fire protection services that occur as a result of the review, and
- Any other information the fire department deems appropriate to the review or any resultant changes to fire protection services.

If no significant changes occur in the community within 12 months, no changes are required to the profiles or fire protection services. In that case, a review could consist of documentation to that effect.

Annual Review of The Community Risk Assessment

2023

Profile type	Changes	Preferred treatment option	Clerk/CAO sign off or report to Council

2024– Notice: Community Risk Assessment Must Be Completed July 1, 2024

Profile type	Changes	Preferred treatment option	Clerk/CAO sign off or report to Council

2025Profile type	Changes	Preferred treatment option	Clerk/CAO sign off or report to Council

2026

Profile type	Changes	Preferred treatment option	Clerk/CAO sign off or report to Council

2027

Profile type	Changes	Preferred treatment option	Clerk/CAO sign off or report to Council

Setting the Level of Service

All the 'Risks' identified above have identified treatment options available to Plympton-Wyoming to consider when setting the type and level of fire protection services for the community. After considering the risks, a preferred treatment option (e.g., avoid the risk, mitigate the risk, accept the risk, or transfer the risk) must be identified. Once the municipality has determined the preferred treatment option for each risk, they can plan

and implement activities that address these risks. The Three Lines of Defence must be considered in terms of addressing each risk identified above and the impact each line will have on mitigating each of the identified risks. Currently the fire department's current resources, staffing levels, training, equipment, and authority allows for certain risks to be immediately addressed.

Many of the treatment options mentioned above require resources identified and recommended in the Master Fire Plan. A properly resourced fire service that addresses the risk and plans for the appropriate mitigation strategy will greatly reduce the danger to the residents and firefighters. Equipment, and firefighter training are required to resolve many of the risks mentioned above. A key principle of Risk Management that needs to be always considered is that most firefighter injuries and deaths occur in High Risk/Low Frequency events that are not properly resourced or not trained for. Many risks identified in the chart require annual fire inspections as an effective risk treatment strategy, coupled with robust public education programing the incidence of fire can be reduced greatly. To accomplish this fire inspection, public education resources must be added.

Conclusion

The Master Fire Plan is a companion document to this CRA, and it will aid Plympton-Wyoming as the municipality addresses the 'Level of Service' for fire protection in the community. The recommendations contained in the FMP includes setting goals and objectives, and determining resources, training, equipment, activities, and programs by using the Three Lines of Defence as a guide to effective fire protection services. The Town of Plympton-Wyoming is positioned to meet the community fire risks identified in this report providing that the recommendations found on page four are considered and implemented. The recommendations in the Master Fire Plan also address the risks identified in this report.

References

Government of Ontario, TG-02-2019 Community Risk Assessment Guideline | Ministry of the Solicitor General (gov.on.ca)

Government of Ontario, *Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4*

Government of Ontario, *Ontario Regulation 378/18: Community Risk Assessments*, May 2018

National Fire Protection Association, *NFPA 1300, Standard on Community Risk Assessment and Community Risk Reduction Plan Development*, Proposed Second Draft, January 14, 2019

Plympton-Wyoming Fire Department E+R bylaw 2019-47