The Nation Municipality

MASTER FIRE PLAN

2021-2026

Final Draft

Feb. 12, 2022

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1.0 Foreword

The Nation Municipality Fire Department was created in 2004 when the five legacy fire departments resulting from the amalgamation of the former Townships of Cambridge, Calédonia and South Plantagenet and the Village of St. Isidore were consolidated under the leadership of a single part-time Fire Chief.

In 2014, the Chief position became full-time. Today, the Department remains all volunteer with the exception of the Chief. The Department is authorized to provide fire suppression, medical response, rescue services, public education and fire prevention services.

The Fire Master Plan was initiated in 2020 to ensure that the fire services provided are appropriate, efficient, and effective. The Plan reflects both an external review as well as extensive internal collaboration with the officers and firefighters to achieve a consensus report. The Plan benchmarks the performance of the Department against both Ontario Fire Marshal (OFMEM) and National Fire Protection Association (NFPA) standards. It also reflects a comprehensive internal analysis realized through a comprehensive engagement process to determine cultural, organizational and other issues that may adversely impact efficiency and effectiveness.

The Plan describes the current state of the Department and provides recommendations to improve service delivery. It has been developed for a five-year time frame from 2021 to 2025. The Plan proposes strategic improvements that will enable the Department to continue their tradition of continuous improvement in efficiency and effectiveness of service delivery.

This Fire Master Plan was essentially complete in December, 2020, however, the completion of the final report was stayed during 2021 due to the Chief leaving the Department and the recruitment of a new Chief.

The Fire Master Plan has been updated with a new organizational model that reflects current requirements. Otherwise, the Plan remains as presented during the 2020 consultation process.

Ted Darby
TDC Group

February 12, 2022

2.0 Introduction

This Master Fire Plan will provide a framework to guide future policy, organizational, capital, and operational planning decisions for The Nation Fire Services (NFD)[1].

The Ontario Fire Marshal (OFMEM) has provided a concise summary of the objectives of a Master Plan as follows:

> "*Every fire department should be guided by a master or strategic plan. This Community Master Fire Protection Plan traditionally focused on the identification of fire hazards and planning an appropriate suppression force response. Today, hazard or risk assessment has expanded well beyond the fire problem in the community to include emergency medical incidents, hazardous materials incidents and many other emergency situations. Paradigms are being shifted to emphasize the concept of fire prevention and control systems as communities attempt to effectively reduce losses experienced. This document should include plans for human resources and program financial support as well as the many external influences that impact on the fire service. The information contained within the Community Master Fire Protection Plan should provide a clear and concise overview of the most recently adopted organizational goals and objectives, budgetary commitments, mission statements and assessments of organizational activity. The document should cover a long-range planning period of five to ten years."*[2]

The *Fire Protection and Prevention Act* ("FPPA") makes municipalities responsible for the provision of fire protection services. Section 2(1) of the FPPA requires municipalities to provide: 1) public education with respect to fire safety and fire prevention; and 2) such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.

Traditionally, many have assumed that the requirements under the FPPA can be met by simply creating a fire department. In the absence of a comprehensive hazard and risk assessment and a considered matching of service provision to needs and circumstances, this view may not address the requirement to provide fire protection services that *may be necessary in accordance with its needs and circumstances*.

Further, what may have been an appropriate response in the past may be out of date as a result of new developments, new standards, or changing legislative requirements. Thus, the determination of what "may be necessary in accordance with its needs and circumstances" is one of the key objectives of a Fire Master Plan.

[1] For the purpose of brevity, Russell Township Fire Services will be used in this document to refer to both Russell Fire Department and Embrun Fire Department.

[2] Personal Communication, Dan Koroscil, Advisor (ret.), Ontario Office of the Fire Marshal

Current challenges faced by NFD are similar to those faced by many rural/urban interface fire departments in Ontario. Increased rigour from statutory requirements related to firefighter health and safety, improved and more advanced suppression technology, increased skills and competencies required, fewer firefighters being available for workday response, and increased emphasis on prevention and public education are examples. In addition, the presence of high risk institutional and commercial occupancies, high value residential occupancies, and mutual aid requirements present unique challenges.

3.0 Methodology

A great plan is more than the production of a report. For the document to truly 'live and breathe', be inspiring, and be successfully implemented the project methodology has incorporated the following objectives:

First, the plan needs to reflect the collective energy of the team to build enthusiasm for a positive future and reflect both a shared sense of purpose (mission) and desired future (vision). As well, the plan needs to reflect and articulate shared values. Development of values is critical to achieving a clear understanding of expected behaviours both in and outside the workplace.

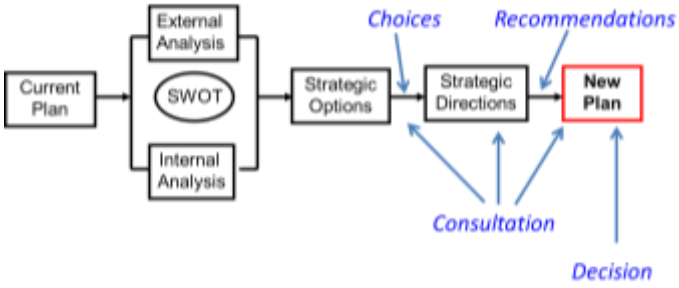
The second key objective in the development of the plan is to create a process that is inclusive, consultative and collaborative. Thus, the process has been designed to involve firefighters, officers and senior municipal leadership.

The third objective of the process is to build consensus and 'buy in' so there is enthusiasm, commitment and energy in the implementation of the plan. The process should not only lead to a robust plan, it should also assist firefighters, CAO, Council and the community to better understand and support the Department's role and priorities.

The fourth objective is to base the plan on solid, quantitative information to ensure future direction and recommendations are based on objective evidence and recognized 'best practice'.

This Plan addresses traditional strategic planning components including Mission, Vision and Values as well as multi-year strategic directions as outlined in Figure 1.

Figure 1: Fire Master Plan Strategic Planning Framework



The Plan also addresses multi-year capital requirements related to apparatus, station assessment and location as well as tactical objectives for training, suppression, public education, fire prevention, department organization and human resource planning.

The Plan development provides extensive documentation and analysis of data to fully understand the role, challenges and performance of the Department.

Hazard identification and risk analysis is a critical component of the study and provides the foundation for the multi-year plan. The risk assessment allows the determination of what is necessary with respect to response capability in accordance with needs and circumstances. The risk analysis includes analysis of specific risks, population demographics and call volume. The analysis documents and evaluates emergency response times and deployment.

The existing apparatus replacement plan was reviewed and updated.

A review of the existing fire station has been conducted including consideration of location options. The review referenced National Fire Protection Association 1720 standards, Underwriters Insurance Dwelling Protection Grade standards, and Ontario Fire Marshal guidelines.

Recommendations are presented as a summary in Appendix I. As a future step, this Appendix can be utilized to develop an "Action Plan" with timelines to facilitate multi-year planning, implementation, and budgeting.

A SWOT analysis was performed to identify the current and likely future issues relevant to NFD. This analysis utilized information from the interviews that occurred with firefighters and officers, CAO, and department heads.

Five key questions were used to guide the interviews: *What is working well today? What do you see as the key issues facing the Department? What would you like to see changed? What would you like to stay the same? Any other advice or comments?*

Recommendations and a draft report were then developed in consultation with a Steering Committee. Following further consultation with the firefighters and officers, and CAO, a final report was prepared.

4.0 Statutory, Regulatory and Policy Requirements

Fire departments in Ontario operate within a statutory and regulatory environment. A key purpose of the Master Fire Plan is to ensure compliance with legal requirements. Further, there are policy statements provided by the Ontario Fire Marshal which, although not legally mandated, are important to acknowledge and implement as part of risk management, due diligence and compliance with 'best practice'. This section will review key requirements in this regard.

4.1 *Fire Protection and Prevention Act*, 1997

The relevant legislation for the operation of a fire department in Ontario is contained within the Fire Protection and Prevention Act, 1997 (FPPA).

The FPPA recognizes the importance of implementing the *three lines of defence* to achieve an acceptable level of fire safety within communities.

The three lines of defence are:

I. ***Public Education and Prevention****: Educating residents of the community on means for them to fulfill their responsibilities for their own fire safety is a proven method of reducing the incidence of fire. Only by educating residents can fires be prevented and can those affected by fires respond properly to save lives, reduce injury and reduce the impact of fires.*

II. ***Fire Safety Standards and Enforcement:*** *Ensuring that buildings have the required fire protection systems, safety features, including fire safety plans, and that these systems are maintained, so that the severity of fires may be minimized.*

III. ***Emergency Response:*** *Providing well trained and equipped firefighters directed by capable officers to stop the spread of fires once they occur and to assist in protecting the lives and safety of residents. This is the failsafe for those times when fires occur despite prevention efforts.*

The FPPA requires each municipality in Ontario to establish fire prevention and protection services as follows:

2.(1) *Every municipality shall (a) establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention, and (b) provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.*

Further, Section 8 (1) of the FPPA provides that *"There shall be a Fire Marshal who shall be appointed by the Lieutenant Governor in Council".* FPPA specifies the duties of the Fire Marshal which include responsibilities to assist in the interpretation of the Act, to develop training and evaluation systems and enforcement of the Act and its regulations.

4.2 *Fire Code*

The Fire Code is a regulation made under the Fire Protection and Prevention Act (FPPA). It provides the minimum legal requirements and measures for the fire safety of persons and buildings, including the elimination or control of fire hazards in and around buildings, the maintenance of life safety systems in buildings, the establishment of a fire safety plan in certain buildings and the installation of smoke alarms and carbon monoxide alarms.

The owner is responsible for complying with the Fire Code. The municipal fire department enforces the Fire Code. The FPPA Part IV Section 19(1) specifies that the Fire Marshal, an assistant to the Fire Marshal or a fire chief is an inspector. Part III Section 11 (1) specifies that the fire chief of every fire department and any member of a fire prevention bureau as part of a fire department is an assistant to the Fire Marshall. Part IV, Section 21 provides the authority and criteria whereby an inspector may order the owner or occupant of the land or premises to take any measure necessary to ensure fire safety on the land and premises.

Fines for violation of the Fire Code can be quite significant. Examples under the Provincial Offenses Act Part I Fines:

- Failure to install smoke alarms - $295.00
- Failure to install carbon monoxide alarms -$295.00
- Failure to make records available to Fire Inspectors - $195.00
- Individual - Fire Code Violation – Maximum $100,000 fine + 1 year in prison
- Corporation - Fire Code Violation – Maximum $1,500,000 fine + 1 year in prison

4.3 *Public Fire Safety Guidelines*

The Ontario Fire Marshal (OFMEM) has developed Public Fire Safety Guidelines (PFSG) to assist municipalities in making informed decisions with regard to determining local "*needs and circumstances*" and achieving compliance with the FPPA. The guidelines are intended to be used to assist in the development of a municipal fire risk management program.

Relevant PFSG's to the Strategic Master Fire Plan include:

PFSG 00-00-01 "Framework for Setting Guidelines within a Provincial-Municipal Relationship"

PFSG 00-00-01 provides interpretation and advice regarding the delegation of responsibilities and relationship between the Province and municipalities regarding fire protection, suppression and public safety. The PFSG notes:

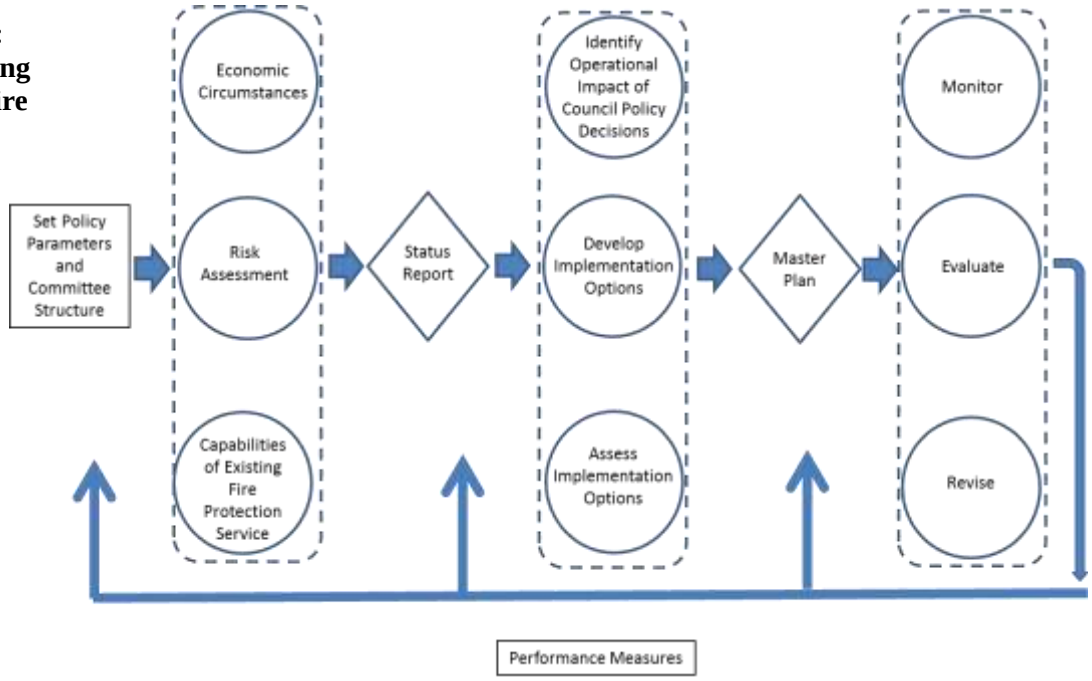
"*Municipalities are compelled to establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention. The Act also states that municipalities are responsible for arranging such other fire protection services as they determine may be necessary according to their own needs and circumstances. The relationship between the province and municipalities is based on the principle that municipalities are responsible for arranging fire protection services according to their own needs and circumstances".* [3]

The PFSG has the following objectives:

- Clarifying municipal responsibility for local fire protection, while protecting the provincial interest in public safety.
- Removing remaining legislative barriers which forestall the restructuring and reorganization of municipal fire services.
- Facilitating a shift in focus which places priority on fire prevention and public education as opposed to fire suppression.
- Providing municipalities with decision-making tools to help them provide services according to their own needs and circumstances.
- Facilitating more active involvement of the private sector and other community groups in fire prevention and public education through the Fire Marshals Public Fire Safety Council.

Figure 2 illustrates the "Optimizing Public Fire Safety" model application of the guidelines.

Figure 2: Optimizing Public Fire Safety



PFSG 04-40-03 "Selection of Appropriate Fire Prevention Programs"

[3] http://www.mcscs.jus.gov.on.ca/english/firemarshal/fireserviceresources/publicfiresafetyguidelines/00-00-01.html

PFSG 04-40-03 and 04-40-12 identify the four minimum requirements to comply with FPPA Section 2. (1) (a) *"establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention*".

The requirements include: 1) Simplified risk assessment, 2) A smoke alarm program, 3) Fire safety education material distributed to residents/occupants; and 4) Inspections upon complaint or when requested to assist with code compliance.

PFSG 04-08-10 "Operational Planning: An Official Guide to Matching Resource Deployment and Risk"

PFSG 04-08-10 provides interpretation as to the requirements under the FPPA Section 2. (1) (b) "*provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances"*.

The key concept in this PFSG is that "*Fire suppression is one aspect of the three lines of defence; the other two lines are Public Education and Prevention and Fire Safety Standards and Enforcement. A municipality needs to evaluate its existing fire suppression capabilities to ensure that it is managing all fire risk levels within the community, responding to and addressing fires that occur, and meeting public and council expectations".* [4]

PFSG 01-02-01 "Comprehensive Fire Safety Effectiveness Model"

PFSG 01-02-01 was developed to assist municipalities in evaluating their level of fire safety. It identifies eight key components, all of which impact on the fire safety of the community. The components include:

1. **Assessing Risk -** identify potential fire risk scenarios such as older buildings, high rise, commercial and industrial occupancies, vulnerable occupancies, water supply, exposure risks, and the risk which the combination of these factors pose to the occupants.
2. **Fire Prevention Program Effectiveness -** Enforcement of regulations (codes) and standards.
3. **Public Attitude -** Improve public attitudes toward the prevention of fire.
4. **Detection Capabilities -** Notify occupants to escape.
5. **Built-in Suppression Capabilities -** Automatic sprinkler protection.
6. **Intervention Time -** Fire Department intervention time is crucial in determining the consequences of a fire.

[4] http://www.mcscs.jus.gov.on.ca/english/firemarshal/fireserviceresources/publicfiresafetyguidelines/04-08-10.html

7. **Fire Ground Effectiveness -** affects the degree of damage to the environment, property loss, personal injury and death from fire.
8. **Impact of Fire - P**roperties whose loss would result in a significant financial burden to the community, significant impact of local employment, or a significant environment risk.

The components are seen as interdependent. Deficiencies in one of the components can be offset by enhancements in another component or components. For example, by developing programs and providing resources to effectively implement the first line of defence, a proactive public education and prevention program, the need for the other lines of defence can be reduced.

The model acknowledges that municipalities must manage increasing public expectations as well as budget pressures. It requires that fire departments in Ontario must critically assess their fire protection needs and identify new, innovative ways to provide the most cost-effective service. There is more to providing fire protection services than fighting fires!

The model requires that every municipality should be guided by a master or strategic plan covering a planning horizon of five to ten years. It promotes shifting from the traditional focus of fire suppression to a more comprehensive risk assessment and use of fire prevention and control systems.

PFSG 01-01-01 "Fire Protection Review Process"

Analysing local circumstances is a core component of the fire master planning process. PFSG 01-01-01 identifies the three main issues that define local circumstances including the guidelines to be utilized including:

- *PFSG 02-03-01 "Economic Circumstances,*
- *PFSG 02-02-03 "Comprehensive Community Fire Risk Assessment*" and
- *PFSG 02-04-01 "Capabilities of Existing Fire Protection Services*.

Detailed analysis of these components are included within this report to provide the background and rational to support the recommendations of this the Plan.

PFSG 04-40D-03 Inspections upon Request or Complaint

This PFSG[5] is designed to assist fire departments in developing procedures to ensure that fire safety inspections are conducted, pursuant to the Fire Code, upon request or complaint. Although building owners are responsible for carrying out the provisions of the Fire Code, Fire Services have a public safety interest in ensuring that buildings are maintained in accordance with the provisions of the Fire Code to prevent fires, protect occupants as well as firefighters should a fire occur.

[5] http://www.mcscs.jus.gov.on.ca/english/firemarshal/fireserviceresources/publicfiresafetyguidelines/04-40d-12.html

Inspections of properties must be conducted, or arranged for, by the municipality when:

- A complaint is received regarding the fire safety of a property,
- A request is made by a property owner or occupant for assistance to comply with the Fire Code where the involvement of the Chief Fire Official is required, and
- The fire department becomes aware of Fire Code violations and/or other fire hazards at a particular property. ***This clause is particularly important as it is increasingly being interpreted as rational for pro-active fire inspections of occupancies where there are known fire hazards.***

The PFSG provides interpretation regarding the following key Regulations that must be enforced by fire services in Ontario.

Ontario Regulation 365/13 – Mandatory Assessment of Complaints and Requests for Approval – requires that fire safety assessments and inspections, if necessary, be undertaken as directed by the Fire Marshal for:

(1) every building or property for which a fire safety complaint is received; and,

(2) every building or property for which a request for assistance to comply with the Fire Code is received and the involvement of the Chief Fire Official is required.

Ontario Regulation 364/13 – Mandatory Inspection – Fire Drill in Vulnerable Occupancy – Requires that fire safety inspections be undertaken, as directed by the Fire Marshal, for every care occupancy, care and treatment occupancy and retirement home for which an annual fire drill is required by Sentence 2.8.3.2.(2.1) of Division B of the Fire Code.

Further, the following directives have been created as part of this Guideline to assist municipalities in understanding and complying with their responsibilities regarding:

- Fire Marshal Directive 2014-001, Registry of Vulnerable Occupancies
- Fire Marshal Directive 2014-002, Vulnerable Occupancies – Fire Drill Scenarios, Fire Drill Observations, Fire Safety Inspections
- Fire Marshal Directive 2014-003, Inspections of All Buildings

The guideline states that the fire department's fire prevention policy and operational guidelines should contain criteria to determine how quickly and in what manner a complaint/request is addressed as well as appropriate follow-up with enforcement may be required to ensure corrective action has been taken.

The following factors should be considered when developing Fire Department Prevention Guidelines and Policies:

- The type of inspections to be conducted and the buildings to be inspected.

- The methods of inspection appropriate for the circumstance. This will have implications for the amount of time required to inspect, as more comprehensive inspections require more time.
- The classification of buildings being inspected, and the skills and knowledge required to inspect them. The more complicated the building, the more skill and knowledge required.
- Technical assistance required to assist with conducting the inspection, e.g., Electrical Safety Authority, Professional Engineer.
- The seriousness of the complaint received.
- Records management policies (Inspection history of the building including non-compliance or Inspection Orders issued).

Fire departments are expected to respond to requests to assist owners to comply with fire safety legislation in accordance with Directive 2014-003.

Conducting complaint inspections will assist communities and their fire departments to mitigate liability concerns. A complaint may be received from a number of sources including: the public, fire suppression crews, outside agencies or government ministries. Complaints are often initiated as a result of a dispute.

Therefore, it is important that the inspector must demonstrate impartiality and remain focused on the fire safety concern that has been raised. Any fire code violations or other fire and/or life safety hazards identified during the inspection must be reported to the property owner or other person having responsibility for the property.

When a fire department becomes aware of a Fire Code violation or other fire and/or life safety hazard at a property, it is necessary to conduct an inspection to confirm the violation or hazard, and take the required steps are taken to ensure the owner corrects the violation or eliminates the hazard.

When an owner is unwilling to comply with the Fire Code or correct a fire and/or life safety hazard voluntarily, the fire official should exercise their enforcement authority provided by the FPPA. ***Failure to do so could expose the municipality to potential liability for failing to exercise due diligence.***

The PFSG strongly encourages Code enforcement inspections of high-risk properties. High risk properties identified include:

- Properties where a fire would have a significant impact on the community, (employment, social, environmental impact).
- Assembly occupancies.
- Multi-unit residential occupancies.
- Industrial occupancies.
- Older buildings in downtown core.
- Care and treatment occupancies.

- Care occupancies.
- Retirement homes.

Once a community's fire risks have been identified, inspection programs which are most likely to address these risks should be implemented. Inspection priority should be based on the degree of risk. The frequency of the inspections will depend on the resources provided by the municipality or as regulated.

The following are other relevant PFSG's which are available at the OFMEM web site - http://www.mcscs.jus.gov.on.ca/.

04-38-15	Role of Assistant to the Fire Marshal
04-39-12	Fire Prevention Effectiveness Model
04-40-12 & 03	Selection of Appropriate Fire Prevention Programs
04-40A-12 & 03	Simplified Risk Assessment
04-40B-12 & 03	Smoke Alarm Program
04-40C-12 & 03	Distribution of Public Fire Safety Education Materials
04-40D-12 & 03	Inspections upon Request or Complaint (Fire Code)
04-41A-13	Community Fire Safety Program
04-45-12 & 03	Fire Prevention Policy
04-47-12	Development of Fire Prevention By-laws
04-48-12	Liaison with Building Department
04-49-12	Liaison with Other Government Agencies and Individuals
04-50-12	Fire Safety Inspection Practices
04-52-12 & 03	Fire Investigation Practices
04-60-12	Records Management
04-80-01 & 23	Fees for Services
TG-01-2012	Fire Safety Inspections and Enforcement

5.0 Community Profile, Hazard Identification and Risk Assessment

5.1 Community Profile

The Nation is a lower tier municipality located in the United Counties of Prescott and Russell in Eastern Ontario. The municipality was created in 1998 with the amalgamation of the Village of St. Isadore and townships of Caledonia, Cambridge, and South Plantagenet.

The municipality is crossed by the South Nation River. Significant natural features include the Larose Forest and Alfred Bog, a provincially significant wetland. The Prescott and Russell Recreational Trail goes through the Municipality as well as a VIA rail line and the 417 highway.

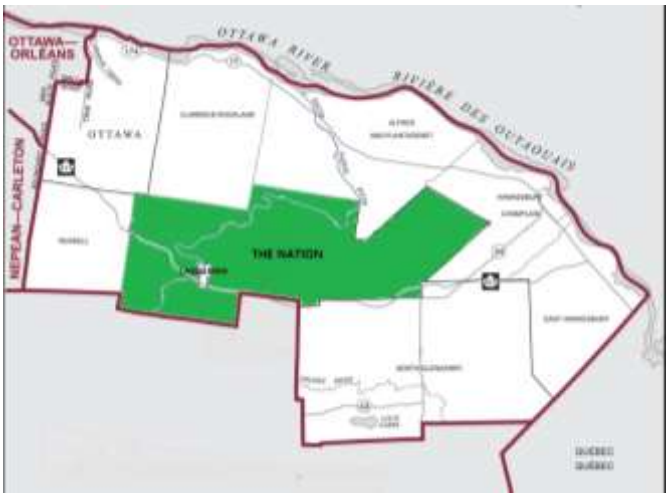


Figure 3: Map showing Geographic Location of The Nation.

The Municipality is mainly rural with the main population growth occurring in Limoges, located in the northwest corner of the Municipality. Due to the proximity to Ottawa and the 417 highway together with availability of serviced lands, the Nation expects to see additional residential development.

The Village of St. Isidore, located in the centre of the Municipality has seen significant industrial growth. Other communities include Benoit, Forest Park, Fournier, Parkers Corners, St. Albert, St. Bernardin, Cambridge Forest Estates and Seguinbourg.

The Nation has one of southern Ontario's largest land areas at 658 km^2 with a low population density of 17.7 per km^2 based on the 2016 census population of 12,808.

Surrounding municipalities include Ottawa to the north-west; Clarence Rockland, Alfred and Plagtagenet, and Champlain to the East and North Glengarry and North Stormont Township to the south. The Town of Casselman is located within The Nation Municipality.

rest

5.2 Demographic Profile

Table 1, 2 and 3 presents a demographic summary of the Municipality. The Nation experienced significant growth of 20% between 2006 and 2016. The 2016 County Official Plan projects the 2036 population of The Nation to be 14,884, however, if current growth continues, this projection may be realized by 2026

Table 1: The Nation Municipality Historic and Projected Population Growth

	1996	2006	2016	2036*
Population	10,478	10,643	12,808	14,884
% increase		2%	20%	16%

Source: Statistics Canada,* United Counties of Prescott & Russell Official Plan 2016

There are more than 4,400 dwellings In the Nation. With a land area of 658 km^2, the population density is 17.7 km^2 based on the 2016 census.

The Nation also contains one of the larger concentrations of Francophone in Ontario with 64.7% of the population identifying French as their first language with 31.7% identifying English as their first language.

As shown in Table 2, the proportion of elderly in The Nation Municipality is 13 % which is significantly lower than the Provincial average of 16.7%.

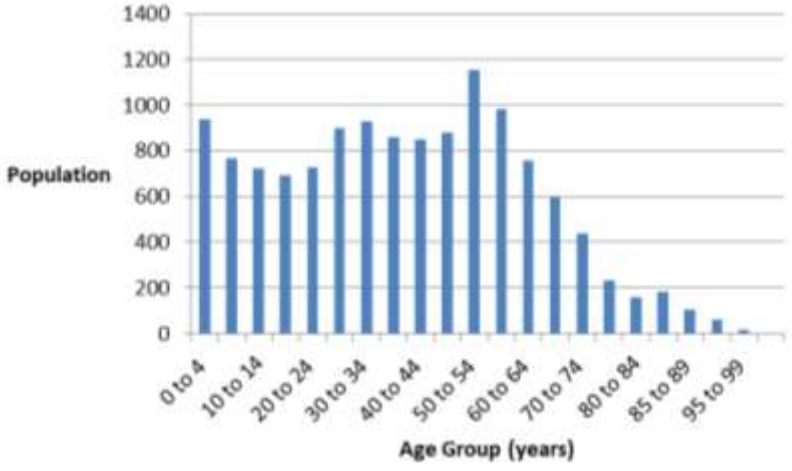
Table 2: The Nation Municipality Population Age Distribution

	The Nation 2016		Ontario
0- 14	2,440	19%	16%
15 - 64	8,750	68%	67%
65+	1,620	13%	16.7

Source: Statistics Canada

Figure 5 illustrates the population distribution by five-year age groups.

Figure 5: The Nation Municipality Population by Five-Year Age Groups



Source: Statistics Canada (2016 Census)

Table 3: The Nation Municipality Population Major Age Cohort Age Increase/Decrease

	2006	2011		2016	
0- 14	2,170	2,130	-2%	2,440	15%
15 - 64	7,495	8,320	11%	8,750	5%
65+	980	1,215	24%	1,620	33%

Source: Statistics Canada

Table 3 shows a decrease in the 0-14 age group from 2006 to 2011 but a significant reversal from 2011 to 2016. This likely is the result of The Nation being a destination for young families as illustrated by the relatively high number in the 0-4 age group shown in Figure 6.

The very significant increase in the 65+ age group that demographic The Nation is becoming a very desirable retirement destination. As this cohort ages, there will be a potential for additional health care needs that may result in increased need for fire department and paramedic response.

The Municipality is a dominantly a Francophone community with 66% of the population identifying French as their mother tongue and 43% identifying English as their mother tongue.

One of the challenges volunteer departments face is the increasing number of firefighters who no longer work in the community. The trend in many rural areas and towns is that the employed labour force often commutes considerable distances to their workplace. With fewer residents working in the community, the ability to recruit volunteer firefighters who can respond during the workday becomes an issue.

Table 4 presents a summary of commuting times for the employed labour force of The Nation. Although the majority of employed residents have a commute of greater than 15 minutes, there are a significant number (1,340) who have a commute of 15 minutes or less.

Table 4: Commuting Duration for the Nation Municipality Employed Labour Force (2016 Census)

Commuting Duration	Number of Residents	Percent
Less than 15 minutes	1,340	20%
15 minutes +	5,260	80%
Total	6,600	100%

Source: Statistics Canada

5.3 Occupancy Profile

Table 5 presents the occupancies identified by the Ontario Municipal Property Assessment Corporation (MPAC). The occupancies reflect the predominantly rural and suburban nature of the municipality with relatively few assembly, institutional or industrial occupancies. There are a relatively large number of single, detached residential occupancies which reflect the desirability of the Municipality as a place to live due to the availability of serviced land, proximity to Ottawa, bilingual nature of the community and affordability.

In addition to growth in single detached residential occupancies it can be expected that there will also be growth in low-rise multi –unit residential occupancies as seniors seek affordable, low-maintenance properties for retirement.

Table 5: The Nation Municipality MPAC Identified Properties

Occupancy	Number	Occupancy	Number
Vacant Land - Buildable	837	Commercial – Retail, Mixed Residential,	64
Open Spaces, Parks, Conservation	46	Lumber Yard	2
Farms	1,572	Campgrounds, Parking lots, Golf Courses	13
Managed Forests	53	Industrial	56
Intensive Livestock Operations	27	Institutional – LTC, Retirement Home	6
Grain Seed & Feed	8	Institutional – School, Day Care	8
Residential – Single Detached	3453	Place Of Worship	11
Residential – Multiple	682	Other Assembly (sport facilities, halls)	10
Mobile Homes	42	Amusement Park	1
Mobile Home Park	1	Post Office Police, Fire, EMS	6
Commercial - Office	11		

Source: MPAC Property Code Report, 2020.

5.4 Hazard Identification

The Nation has experienced rapid growth over the past 20 years with new residential sub-divisions. Commercial development has largely been focused within the Town of Casselman. There has been modest industrial occupancy growth in the St. Isidore area. St. Isidore and St. Albert have some 'Main Street' business occupancies with Type 3, ordinary construction (masonry exterior walls and combustible interior beams.

There are no high-rise buildings in the Municipality. There are a number of institutional occupancies including 3 schools, 3 retirement and 3 special needs homes. Care facilities such as nursing homes, retirement homes and seniors housing facilities

where residents may not be able to self-evacuate are designated as “Vulnerable Occupancies” with specific requirements under the Fire Code.

There are numerous hiking and bike trails in the Larose Forest. The South Nation River flows through the southeast, central and northwest sections of the Municipality and presents a water, flood and swift water hazard. The Alfred Bog, located in the north central area of the Municipality occasionally floods during the spring and there has been a need for high water rescues. The mining of peat, black muck and topsoil from the bog also presents a unique hazard as do significant peat fires that have occurred.

There are industrial operations that present hazards including intensive livestock operations, grain and seed storage, major propane transfer stations, lumber yards and manufacturing occupancies.

A 400 series highway (417) and VIA rail line run through the Municipality. There is a major water themed amusement park located near Limoges.

In compliance with the Emergency Management Act, The Nation Municipality has completed an identification of hazards and assessed their associated risks to determine which hazards are most likely to result in an emergency. This has resulted in creation of Hazard Identification and Risk Assessment Sheets (HIRA) which identify the type of hazard, probability of occurrence and relative consequence. Risks identified by the HIRA are noted in Table 6.

Table 6: The Nation Municipality Hazard & Risk Assessment Summary

Risk	Hazard Type	Vulnerability
1	Drought/extreme heat	3
2	Water emergencies	2
3	Forest fires, urban interface	3
4	Fog	1
5	Snowstorms/blizzards	2
6	Ice/sleet storms	2
7	Hurricanes/Windstorms	2
8	Tornadoes	2
9	Extreme cold	2
10	Earthquakes	1
11	Erosion	2
12	Landslides/mudslides	2
13	Human health emergencies and epidemics	3
14	Agriculture and food emergencies	2
15	Floods	2
16	Building/structural collapse	1
17	Explosions	2
18	Hazardous materials- fixed sites	2
19	Hazardous, materials— transportation accident	2
20	Transportation accidents (passenger, road, rail, air, marine	3
21	Critical infrastructure failure	2
22	Energy emergencies	3
23	Radiological	2
24	Space object crash	1

5.5 Historic Call Volumes

Analysis of emergency response calls over time provides a useful perspective on the type and frequency of hazards. Table 7 illustrates the type and frequency of calls between 2015 and 2019.

Table 7: The Nation Fire Department Annual Call Volume

Response Type	2015	2016	2017	2018	2019	Average
Structure Fire	39	34	36	30	28	33
Outdoor (wildland, grass) Burn	22	19	6	23	10	16
Vehicle Fire	11	9	12	11	13	11
False Alarm	53	37	38	40	41	42
CO Call	8	5	9	11	6	8
Gas Leak (Natural Gas/Propane)	3	7	7	11	9	7
Motor Vehicle Collision	59	66	71	65	64	65
Water Rescue	0	0	0	0	0	0
Medical	37	47	44	39	32	40
Power Lines down, Transformer	3	3	6	3	4	4
Other	1	0	4	3	3	2
Total	**236**	**227**	**233**	**236**	**210**	**228**

Figures 6 to 10 presents key response volumes with trend lines.

Figure 6: The Nation Fire Department Total Call Volume 2015 – 2019

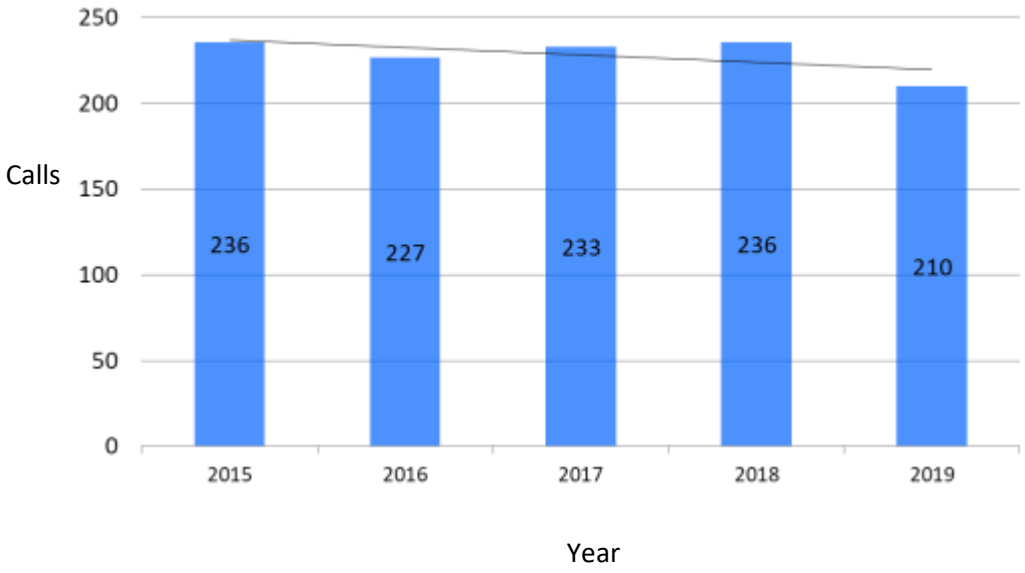


Figure 7: The Nation Fire Department Structure Fires 2015 - 2019

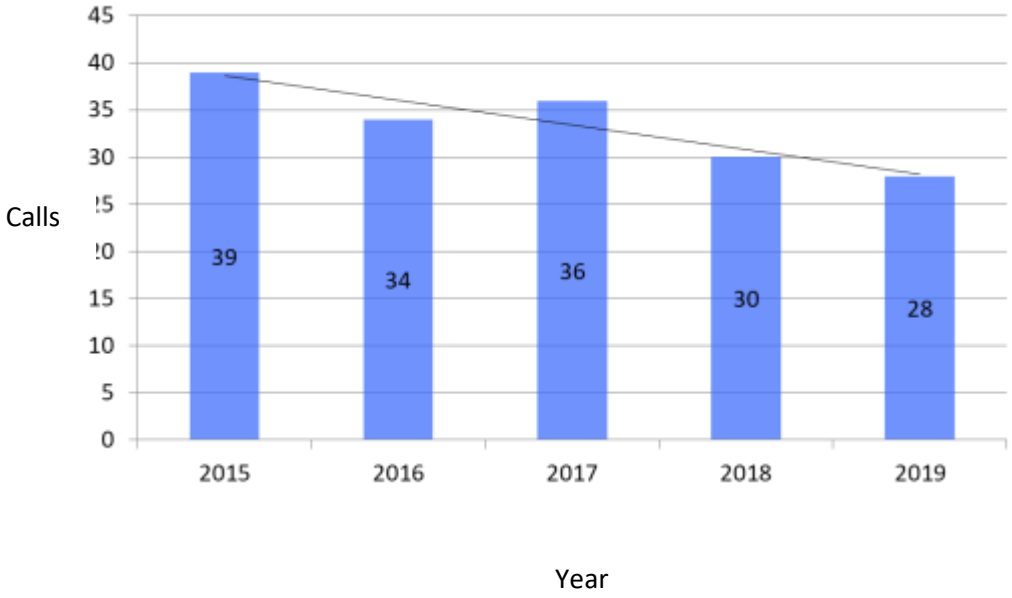


Figure 8: The Nation Fire Department Medical Calls 2015 - 2019

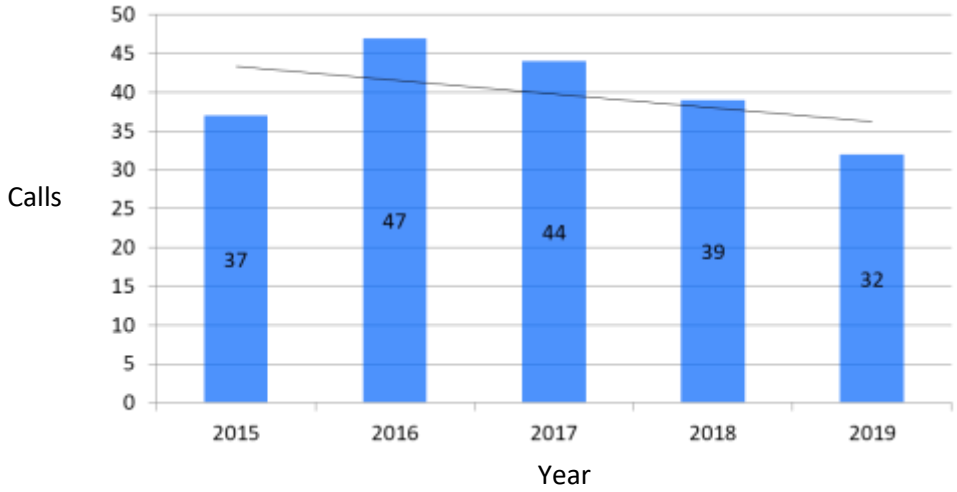


Figure 9: The Nation Fire Department Motor Vehicle Accidents 2015 - 2019

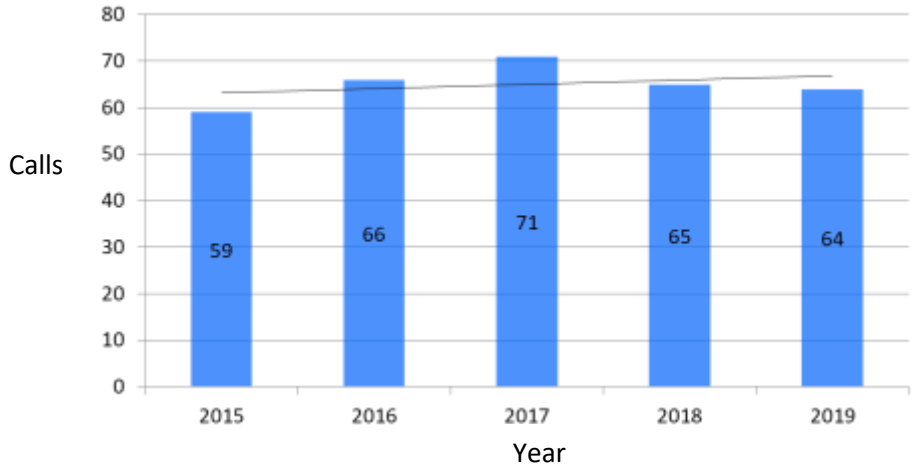
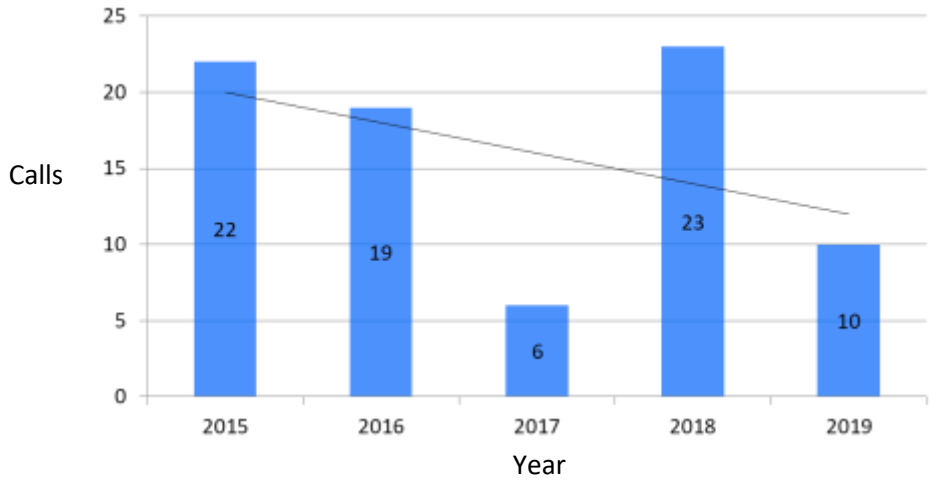


Figure 10: The Nation Fire Department Bush/Grass Fires 2015 - 2019



Over the past five years, NFD has responded to an average of 228 calls per year, with an average of 33 structure fires, 65 motor vehicle accidents, 40 medical calls, and 16 outdoor burn/grass/wildland fires.

The majority of calls are false (activated) alarms which average 42 per year. This volume of calls for false alarms can be expected to increase as the number of commercial, industrial, and institutional occupancies that are equipped with alarms increases.

The trend line for the number of calls shows a slight decrease even with continued population and occupancy growth. The number of structure fires appears be showing a decrease in frequency.

Motor vehicle accidents show significant variation from year to year which may be related to variation in severe weather events. The number of motor vehicle accidents may be increasing slightly which may reflect increased traffic volume on the 417. This trend is likely to continue as the greater Ottawa area continues to grow.

Robust fire prevention efforts can continue to decrease the number of structure fires. Fire Prevention liaison with commercial, industrial and institutional occupancies can facilitate a reduction of activated alarms.

5.6 Hazard Analysis and Risk Assessment

The hazards that have been identified that NFD may need to respond to are summarized in Table 8 below:

Table 8: Specific Hazards Relevant to the Nation Fire Department

Structure Fires:

- Residential – *Non-sprinklered Multi-Story, Multiple-units*
- Old Construction (*Crawl Spaces, Multiple Partitions, Narrow staircases*)
- New Construction (*engineered trusses, floor joists*)
- Industrial
- Institutional (*Schools, Vulnerable Occupancies*)
- Commercial (*Main Street, Future Big Box*?)
- Large Scale Agricultural Operations, Barn Fires

Wildland/Forest/River

- Larose Forest, Alfred Bog, South Nation River – Flooding, wildland fires, Off-road rescue

Propane/Natural Gas/Fuel

- Transportation
- Residential/Commercial Tanks
- Underground infrastructure
- Propane Storage/Transfer Facility

Electrical

- Lines Down, Pole Fires
- Solar Installations Commercial & Residential
- High Voltage Transmission lines & Infrastructure

MVC's

- Hwy 417/County Rds
- Multi-Casualty
- HazMat

Over the past four years, NFD has had to respond frequently (range of once per month on average or greater) to:

- Structure Fires
- Wildland and Grass Fires
- Carbon Monoxide Calls
- Motor Vehicle Accidents
- Medical Calls
- Activated / False Alarms

Over the same period, NFD occasionally (at least once per year) has had to respond to natural gas leaks and power lines down.

In the past six years, NFD has not required advanced technical rescue services such as trench, confined space or high angle rescue.

The South Nation River presents a significant water/ice hazard and, although there has not been a need for rescue in the past five years, there have been incidents in the past.

The Alfred Bog floods periodically and there has been the need for floodwater rescues. The Nation E. & R. Bylaw currently authorizes NFD to provide "go" ice and water rescue.

It is reasonable to assume that a fire department should be authorized and funded to provide services for events that occur frequently. Infrequent events require judgment depending on frequency of occurrence, risks involved, training and equipment expense and availability of specialized rescue services from nearby departments.

Specialized rescue services including water/ice rescue, trench, high angle, CBRN, HUSAR and confined space rescue are available from Ottawa Fire Services.

Medical calls, vehicle extrication, elevator rescue, propane and natural gas leaks, power lines down occur can be anticipated to occur with sufficient frequency that they could be considered as core services.

Technical rescue services such as 'Go' Water and Ice Rescue can be a challenge for small departments in terms of the training required to acquire and maintain competency as well as initial cost and ongoing maintenance costs associated with specialized equipment. With the South Nation River and the Alfred Bog, the ability to provide a 'Go' water/ice rescue service would be desirable if resources and fighter commitment is sufficient to develop the required certifications.

The presence of well-travelled county roads, proximity to Hwy 417 and VIA rail as well as potential weather-related events such as tornados create the potential for multi-casualty scenarios. Although the probability of such events is low, the consequences are significant. Thus, planning and training for multi-casualty and major environmental events should be incorporated in the training curriculum.

There are numerous trails within the Municipality that attract hikers and other recreational uses. There have been incidents requiring off-road rescue. A UTV

equipped with tracks for winter use has been purchased to facilitate off-road search and rescue. This capability should be enhanced with specialized equipment and training including low-angle rope rescue.

The documentation of building occupancies identified a number of risk concerns including vulnerable person occupancies, schools, large scale agricultural operations and industrial occupancies. It is critical that pre-plans as well as specific inspection and other fire-prevention strategies be developed for these occupancies together with specific training evolutions.

Particular attention should be given to new and existing occupancies that may have elevators. Specialized elevator rescue training may be required in the future.

Specific recommendations will be provided in the "Strategic Directions" section of the Master Plan.

5.7 All Hazards Approach

Section 5.6 illustrates that The Nation Municipality Fire Services has a much broader mandate than fighting fires. Fire departments have evolved from primarily fighting fires to becoming increasingly competent in managing a wide range of responses including emergency medical services and incidents requiring highly skilled technical rescue.

At the same time, except perhaps in the Nation's largest cities, fire departments cannot be all things to all people. Smaller municipalities simply do not have the financial resources to train and equip firefighters for every potential emergency. Fire departments must critically examine the breadth and depth of services they provide in light of risks and resources available.

The challenge that presents as a result is the paradox of, on one hand, restricting capability to those services that can be afforded and delivered safely yet, on the other hand, still providing the services that the public requires. A strategy that has emerged to meet this challenge is an integrated emergency management system known as "All-Hazards".

In Canada, the federal, provincial and territorial governments have jointly published *"An Emergency Management Framework for Canada"*[6] which establishes a common approach for collaborative emergency management.

As a core principle, the Framework supports a comprehensive approach to emergency management which is proactive, integrates risk-based measures and is all-hazards. The Framework defines the all-hazards approach as the method by which vulnerabilities exposed by both natural and human-induced hazards and disasters are addressed.

The *Emergency Framework for Canada* articulates the expectation that all emergency management partners in Canada will work in collaboration to keep

[6] (http://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/mrgnc-mngmnt-frmwrk/index-eng.aspx#a02)

Canadians safe. The Framework acknowledges that in an emergency, the first response is almost always by the local authorities as that is where incidents occur.

When required resources exceed the capacity of local responders at the municipal level to cope in an emergency or disaster, nearby municipalities should be prepared to assist. If further assistance is required, the Province will respond.

The Federal Government is prepared to respond to requests for assistance by a Provincial or Territorial government. For major disasters, the international community may also respond.

The key steps to implementing an "All Hazards Approach" are:

1) Understand the potential emergencies that could arise in the community that would require a response that exceeds local capability.
2) Develop competencies to manage the initial response.
3) Identify the resources that may be required for a major event.
4) Develop the protocols and agreements to access services that may be required for a major event.

5.8 Risk Assessment Summary

Using an "All Hazards" and considering the identification and probability of incident occurrence, the following response framework is proposed:

Table 9: Proposed Response Framework

Incident Type	**Incident**
Frequent (*What we Do*)	Structure Fires, Wildland Fires, Medical, MVC, CO, Lines Down, Water/Ice Rescue[7], Natural Gas/Propane, Low-angle rope rescue.
Infrequent (*What Others do*)	High Angle, Trench, Confined Space, HazMat, HUSAR.
Preparedness (*What we prepare for*)	Multi-Casualty Events, CBRN, Weather (floods, ice storms, etc.)

[7] *Although the need for water, floodwater and ice rescue services has been infrequent, the presence of the South Nation River and the Alfred Bog justifies response capability should staffing, training and equipment resources permit.*

6.0 Mission, Vision and Values

A compelling theme in the academic analysis of great organizations is that there is a shared understanding of the organizations purpose or mission, the organizations vision as to where it wants to be, and the values that drive service excellence. This common understanding is fundamental to a positive, constructive organizational culture where performance thrives. Clear articulation of a compelling, inspirational Mission, Vision and Values that genuinely reflects the aspirations and beliefs of the organization is fundamental to this goal.

MISSION (*What we do*)

Committed to our community, we provide service excellence in the provision of public education, fire prevention and protection of life, property and the environment.

VISION (*What we aspire to do*)

We strive to achieve excellence in the delivery of community focused Fire and Rescue services that meet the ever-changing needs of our community while ensuring a safe and secure environment for all through professional development, unity and teamwork.

VALUES (*Who we are*)

To serve our Mission and achieve our Vision, we are committed to the following Values:

Excellence:	*We are committed to delivering service excellence through rigorous adherence to professional standards, skills development and safety in all we do.*
Teamwork:	*We deliver service excellence and safety by working effectively as a team. We consistently strive to help our fellow firefighters be the best they can be.*
Community focused:	*We exist to serve our community in their time of greatest need. We are also dedicated to support efforts to make our community a better place to live.*
Leadership:	*We strive to be leaders in the fire service by being innovative and always asking the question "is there a better way". We recognize that being a leader requires a commitment to continuous learning and skills development.*
Professional:	*As professionals we are committed to upholding community values, demonstrating respect, trust and compassion for others and encouraging diversity in the workplace where all can contribute their unique skills, knowledge and experience.*
Accountability:	*As a public service, we recognize that we are accountable to the community. As a firefighter, we recognize that we are accountable to each other.*

7.0 Strategic Directions:

The following Strategic Directions have been developed to provide a framework to guide the further achievement of the NFD Vision over the next 5 years:

1) ***Safe Community – Commitment to deliver effective Public Education, Fire Prevention, Fire Inspection, Fire Suppression and Rescue Services***
2) ***Supporting a Culture of Safety***
3) ***Accountability***
4) ***Supporting Innovation***
5) ***Strategic Management***
6) ***Collaborative Relationships***

7.1 Strategic Direction #1: *Safe Community – Commitment to deliver effective Public Education, Fire Prevention, Fire Suppression and Rescue Services*

The strategic Direction "Safe Communities" recognizes the primary imperative of achieving optimal implementation of the three lines of defence as defined by the Ontario Fire Prevention and Protection Act (FPPA). Section 2 of the FPPA provides that:

> *Every municipality shall, (a) establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention; and (b) provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.*

This section of the Act refers to what is known as the three lines of defence required to keep communities safe:

I. Public Education and Prevention*:*

Educating residents of the community on means for them to fulfill their responsibilities for their own fire safety is a proven method of reducing the incidence of fire. Only by educating residents can fires be prevented and can those affected by fires respond properly to save lives, reduce injury and reduce the impact of fires;

II. Fire Safety Standards and Enforcement:

Ensuring that buildings have the required fire protection systems, safety features, including fire safety plans, and that these systems are maintained, so that the severity of fires may be minimized,

III. Emergency Response:

Providing well trained and equipped firefighters directed by capable officers to stop the spread of fires once they occur and to assist in protecting the lives and safety of residents. This is the failsafe for those times when fires occur despite prevention efforts.

In the following sections, the current status of the program elements will be discussed and opportunities for further development will be noted.

7.1.1 Current and Proposed Services.

NFD currently provides the following fire suppression, public education, fire prevention and emergency response services:

- *fire prevention and education,*
- *structural firefighting,*
- *vehicle firefighting,*
- *MVC extrication*
- *Grass, forest and wildland firefighting,*
- *medical assist,*
- *hazardous materials- awareness level,*
- *Shore based water and ice rescue,*
- *CO, Natural Gas & Propane,*
- *Flood rescue/response,*
- *Participation in the County Mutual Aid Program,*
- *Automatic aid agreements.*

Section 1(m) of By-Law 113-2018 to establish and regulate the Corporation of The Nation Municipality Fire Department (E & R Bylaw), defines the services offered by NFD as including fire suppression, rescue and emergency services, fire prevention, public fire safety education, mitigation, prevention and safety education of the risk created by unsafe levels of carbon monoxide, training of personnel involved in the provision of Fire Protection Services, and the delivery of all those services".

Appendix B of the E & R Bylaw provides very precise detail regarding the specific services to be provided. Appendix B also identifies which services that the NFD will not provide, and which will be provided through mutual aid or other agreement.

In addition to the services noted above, NFD is authorized to provide hazardous material response at the Operations Level and Water & Ice Rescue at the Technician level. Training and the required competencies and equipment are not sufficient at the present time to enable these services to be provided.

The E & R Bylaw is also specific in defining the services NFD does not provide including technical rescue services such as hazardous materials, high angle, confined space, rope rescue, confined space or trench rescue. These services are required infrequently (occurrence of incidents less than once every 5 years) and require extensive training and specialized equipment. Local or Provincial protocols should be

in place to provide these services as required.

Currently, land-based water and ice rescue is offered which permits firefighters to attempt a rescue of a victim with the use of rope throw bags, rescue rings and pike poles without entering the water or ice surface. The presence of the South Nation River that runs through the municipality presents a significant hazard that may justify controlled entry ("Go") ice and water rescue.

"Go" water and ice rescue requires competency in certain levels of rope rescue training. Currently Rope rescue is not authorized by the E&R By-law. Low-angle rope rescue should be authorized by the E & R Bylaw as part of Water & Ice Rescue and also to enable low-angle rope rescue to facilitate rescue operations in recreation areas such as the Larose forest.

The Calypso Water Theme Park may present unique water rescue and/or entrapment scenarios. As part of the pre-plan exercise for this facility, rescue scenarios should be considered to predict additional training, proficiency or protocols for external assistance that may be required.

"Go" water and ice rescue and low-angle rope rescue are specialized technical rescue operations that require a commitment of the municipality to fund, and the fire department members to obtain the required training, certification and equipment. If the funding and fire-fighter commitment can be realized, these advanced services will be of benefit to the Community. If not, protocols and agreements should be in place to access to the services from other departments.

Whether the Department offers low-angle rope rescue, or "Go" water and ice rescue directly or through a partner fire department, specific Operating Guidelines are required.

Recommendation # 1*: That the Establishing and Regulating By-Law be reviewed to list the approved range of services the Municipality is prepared to authorize and fund which may include:*

- ***Structure, vehicle, hydro pole, grass, forest and wildland fires.***
- ***Hydro lines and trees down.***
- ***Land based Water and Ice Rescue***
- ***Emergency First Responder Medical Response, Defibrillation and naloxone administration***
- ***Propane, Carbon Monoxide, and Natural Gas response.***
- ***Auto, ATV, and Snowmobile Rescue.***
- ***Farm Rescue***
- ***Public Assistance***
- ***Assistance to other agencies including police and EMS.***
- ***Fire prevention and public education***
- ***Controlled Entry Water and Ice Rescue***
- ***Low-angle rope rescue***

7.1.2 Fire Prevention and Public Education

Public Education and Prevention as well as promoting and enforcing fire safety standards are critical strategies to reducing loss of life and property due to fires. Public education regarding smoke and carbon monoxide alarms, fire prevention, reducing fire hazards and having home escape plans is a proven method of preventing fires and reducing injuries and deaths. Working collaboratively with other emergency response providers such as police, emergency medical services and hospitals can extend this approach beyond the fire service to reduce injuries, death and property loss due to motor vehicle and other accidents.

NFD has been providing some prevention and public education activities. Stations have occasionally done home smoke detector awareness visits. Fire inspection services are provided by the Chief on a by request basis. Statutory inspections and drills related to schools and vulnerable occupancies are being done. The school visits include a visit with Sparky. A social media program has begun.

NFD does have some useful equipment to support fire prevention and public education including an inflatable 'house' to assist in teaching children and adults about fire safety and how to exit a burning building as well as a trailer for transport of fire prevention and public education supplies.

The following section describes the programs and services to augment the current public education and fire prevention program:

- **School Visits:** Yearly visits to Schools should be scheduled to teach fire safety with 'Sparky' and do a Fire Drill. The school visits can include distribution of brochures and fire safety checklists to the students. Fun tasks can be assigned such as giving students 2 weeks to complete the fire safety tasks on the checklist and return it to a ballot box. At an assembly in each school one checklist is drawn and the winning student gets a $250 gift card. The school with the highest percentage of participation also gets a $500 gift card. This program can be scheduled to coincide with a door-to-door program so households with students can be reminded to complete their Checklists. The objective of this program is to have the students go home and remind their parents about fire safety matters.

  Fire Prevention week presents an additional opportunity to schedule school visits with age-appropriate presentations such as:

  - Kindergarten to Grade 1: Basics of fire safety are introduced in preparation for more intense instruction at later grades.
  - Grades 2 & 3: This group is given more knowledge-based instruction and prevention messaging.
  - Grade 4: This grade is broken up into groups of approximately 10 students and are run through a fire safety trailer for a full presentation and a test on fire safety topics.
  - Grade 5 & 6: A game show presentation which tests the student's knowledge on fire safety matters is provided. Responsibility for others is addressed as this age group are often tasked with caring for a younger sibling or they

begin babysitting.

- **Institutional Visits:** The required visits to Nursing Homes, Retirement Homes and Long-Term Care facilities to observe Fire Drills can also be opportunities encourage fire safety for both residents and staff as well as provide specific advice and consultation.
- **Social Media:** The program that has begun should be supported to spread fire prevention messages throughout the year through the newspaper and social media including Facebook, Twitter as well as the municipal and NFD's websites.
- **Smoke/CO Alarm Program**: Promote the installation and maintenance of working smoke alarms in dwelling units through awareness visits to a target number of homes in each district. The smoke alarm program can include a discussion of home escape planning.

  Regulation 194/15 to amend the Fire Code came into effect October 15, 2014. It requires carbon monoxide alarms near all sleeping areas in residential homes and in the service rooms, and adjacent sleeping areas in multi-residential units. The care and maintenance of carbon monoxide alarms can also be done should also be done as part of the smoke alarm visit program.

  Penalties for non-compliance are the same as those for failing to have a smoke detector or CO detector can result in fines of up to $50,000 for individuals and $100,000 for companies. Although it is possible to issue fines, the emphasis is on public awareness and education.

  The door-to-door smoke/CO alarm visits can also include a quick survey on matters of fire safety. The results of these surveys are used to determine which matters of fire safety need to be addressed within the community. The results of this survey together with the school Fire Safety Checklist program can help direct additional public education and fire prevention activities.

  Firefighters responding to residential emergency calls should identify and test smoke alarms and provide a smoke detector if required to ensure that there are working smoke alarms prior to their departure.
- **Test it For a Timmy's:** An example of an innovative smoke alarm program is encouraging people to test their smoke alarms during Fire Prevention Week by using social media to ask people to post photos of themselves testing their alarms and then visit Fire department staff at a Tim Horton's locations where they get a free coffee. This can be a partnership with a number of stores or other sponsors.
- **Distribution of Fire Safety Information and Public Event Participation:**

  Fire safety publications printed in both English and French are an effective way of delivering public education regarding fire prevention, safety and emergency response. Brochures can be distributed during smoke/CO home visits, school visits, boot drives and local events.

  Local events are also superb opportunities to provide fire safety demonstrations as well as distribute fire safety pamphlets and other education materials

including information regarding the installation and maintenance of smoke alarms and the preparation and practicing of a home escape plan.

Another opportunity is having a Fire Station Open House during Fire Prevention Week to hand out Fire Prevention Materials and answer questions.

Fire Prevention displays can be set up at major retail stores. Participation in parades and other special events can also provide an opportunity for public education.

Excellent resources to address specific fire safety issues related to rural properties can be found at http://www.equineguelph.ca/Tools/fireprevention.php

- **Kitchen Fire Safety Program** Kitchen fires are a leading cause of preventable fires. ***'Put a lid on it'*** is an example of a program that can focuses on the right and wrong way to manage fires in the kitchen.
- **Fire Safety Education for Seniors**: A program specifically for seniors can include a bilingual pamphlet directed towards seniors and families of seniors to promote smoke alarm use and inspection as well as how to prevent and respond to a fire occurring in their home. This program can be promoted through opportunities such as addressing senior's clubs at monthly luncheons and similar events. It can be expanded to address the fire safety concerns facing seniors and fire and falls prevention programs such as "*Remembering When*"

  Opportunities to partner with community agencies that provide support services to seniors should be sought to provide group presentations and home visits including fire and falls safety presentations and assisting with home visit inspections and smoke and carbon monoxide alarm installations.

NFD does not have an Operating Guideline that addresses fire prevention and public education. An OG should be developed to document the depth and breadth of the fire prevention and fire safety activities, roles and responsibilities including specific tasks, dates, frequency and procedures.

It is important that the OG ensure that there are specific procedures to ensure a consistent approach and program for The Nation Municipality such that all schools, homes, institutions, and other occupancies as well as the public at large have the benefit of a consistent and coherent program.

Although there is no provincial policy direction or regulatory requirement to collaborate with other local organizations concerned with community life safety, there is a clear leadership opportunity for fire departments to work collaboratively with police, EMS, and others to focus on local priorities to reduce injuries and fatalities. Collaborative programs to address ice safety, school bus safety, and not driving when using drugs or alcohol are examples of collaborative community risk reduction programs.

Another consideration for future public education priorities is rural fire safety. Farms face significant fire risk which can be devastating from both a loss of life, loss of animal life and loss of income. Numerous farm fire safety publications and videos are available from the Ministry of Agriculture, Food and Rural Affairs.
http://www.omafra.gov.on.ca/english/engineer/facts/barn_fire.htm#9

Recommendation #2: ***A comprehensive fire safety, public education and fire prevention program should be designed and implemented with specific annual targets for home visits, public event participation, school and vulnerable occupancy visits and operating guideline development.***

Recommendation #3: ***The fire safety, public education and fire prevention program should target areas of greatest risk identified through 1) risk assessment including review of fire cause analysis, 2) focus on provincial priorities including smoke and CO Alarms and 3) should address high risk populations including children and seniors.***

Recommendation #4: ***In partnership with other first responders, the Public Education/Fire Prevention Program should address public education priorities designed to reduce injury and fatalities due to motor vehicle and other accidents.***

Recommendation #5: An Operating Guideline should be developed to reflect Recommendations #1, 2 &3

7.1.3 Fire Inspection and Enforcement:

Building owners are responsible for ensuring buildings are maintained according to the requirements of the Fire Code.

By working collaboratively with building owners, NFD can create awareness, and where necessary enforce fire safety standards to ensure that buildings have the required fire protection systems and are properly maintained. In so doing, fires are prevented and resulting damage or loss of life associated with fires that do occur is reduced.

Fire Departments have a significant interest in ensuring buildings are maintained according to the Fire Code not only to ensure public safety and meet legislative requirements but also to protect the safety of their personnel who have to respond to a fire.

Fire departments are required to have a program in place to address inspections based on request or complaint or otherwise provided by specific law (schools & vulnerable occupancies). This is the current situation in The Nation. A department may, however, develop and implement additional fire safety inspections protocols to include a routine fire safety inspection program for other occupancies as determined by the community risk assessment.

OFMEM-TG-01-2012 “Fire Safety Inspections and Enforcement” provides an overview of inspection and enforcement authority under the Fire Protection and Prevention Act (FPPA) and the Provincial Offences Act (POA).

OG # 402 outlines the Fire Safety Inspection Program. The OG provides general procedures for conducting fire inspections. The OG should be reviewed to ensure that it outlines a comprehensive fire inspection program that identifies the type of

occupancies that require inspection and priority for formal inspections (required) as well as proactive "consultations"[8] .

The fire safety inspection program should reflect the community risk assessment, historic incident and fire investigation data, fire hazards that are reported by the public and other officials as well as legislated requirements.

Inspections on complaint or request basis should continue as set out in O. Reg. #365/13.

Currently, there is no specifically designated Fire Prevention Officers (FPO). The Chief assumes this role along with his other duties. Fire Prevention Officers have various enforcement options available to them such as Inspection Orders, Part I Certificates of Offence, and Part III Information and Summons. The FPO's should have the ability to use discretion when applying measures to enforce fire code requirements depending on the circumstances and in keeping with NFD policy.

The Fire Inspection OG should include policies and procedures for Fire Code inspections including procedures for:

- The requirement that a copy of an inspection order that requires repairs alterations or installations made to a building be provided to the Chief Building Official.
- A system and related processes for the management of fire prevention documents and records to be kept in a secure location and allow rapid retrieval of follow-up inspection reports and other related information that may be required.
- Follow-up inspections including a database that provides a method for tracking and highlighting due dates.
- Ongoing tracking and reporting of number and type of inspections including high-risk type occupancies, Group C multi-residential, Group B care and care and treatment, retirement homes and Group F industrial.
- Involvement of suppression staff conduct annual in-service smoke alarm checks along with home escape planning and checking for carbon monoxide alarms during the site visit.
- Development and use of Residential and Apartment Fire Safety Program tracking sheets to be completed by the suppression crews and given to the Training/Fire Prevention Officer.
- Procedure for the Fire Prevention Officer to follow- up with any occupancy that is not compliant with the Fire Code.
- Development of a home inspection program is focused on Group C residential occupancies and other high-risk occupancies identified through the Risk Assessment as representing the highest risk for loss of life and property.

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8 *There can be great resistance to cooperation on the part of property owners if there is a threat of fines or other punitive measures associated with fire inspections. Whether or not there is authority under law to undertake an inspection, compliance and good will is greatly facilitated with an approach which is based on education and "I'm here to help". Thus, the word "consultation" is used to suggest a helpful approach where inspections are voluntary, and one wishes to encourage an invitation.*

- Identifying backlog of inspections and delays in Fire Code enforcement measures.
- Communication and management of occurrences of multiple alarms at the same property.
- Assessment and determination of the need for a fire safety inspection when a complaint or request is received.
- Specific inspection (consultation) process and schedule for high-risk agricultural facilities (barns, equestrian facilities, major livestock operations).
- Specific fire safety inspection practices including content of inspection files which should include inspector's notes, building audits, fire alarm and protection, systems verifications, photographs, building plans, occupancy permits, fire safety plans, and enforcement records as applicable as per OFMEM "Technical Guideline #01-2012: Fire Safety Inspections and Enforcement".[9]

Due to the number of buildings and structures and limited resources, it is not possible to conduct proactive inspections of all buildings every year. Thus, inspections need to be priority ranked based on risk. Table 10 illustrates the occupancies that can be prioritized to support this risk-based approach. The suggested frequency of inspections is noted for each occupancy type.

Table 10: Suggested Format to Identify Target Objectives for Proactive Inspection.

Occupancy	Total Number of Occupancies	Ave. Hours for Inspection	Total Hours Required	Inspection Frequency
Group A: Assembly	22			Annual
Group B: Institutional	14			Annual
Group C: Residential (single, Detached)	3,453			N/A
Group C: Residential, Multiple	682			Every 5 Years
Group D & E: Business & Commercial	80			Bi-Annual
Group F: Industrial	64			Bi-Annual
Total Hours Required per year				

Table 10 illustrates a method to predict the time required to do inspections. This will be helpful in identifying required resources. It can be anticipated that comprehensive inspection, public education and other fire prevention activities will likely exceed what can be provided with the current volunteer Fire Prevention Officer staffing. Additional staff, therefore, will be a future budget priority.

[9] http://www.mcscs.jus.gov.on.ca/english/FireMarshal/Legislation/TechnicalGuidelinesandReports/TG-2012-01.html

In addition to the inspections noted in Table 11, opportunities to do joint inspections with the appropriate authority of occupancies such as Hydro sub-stations, solar farms and pipelines should be actively pursued

There is an excellent and close relationship with the NFD and Chief Building Official. This relationship should be supported and the FPOs and Fire Chief should continue to be involved as appropriate with building inspections and building permit applications.

Recommendation #6: ***NFD review Fire Inspection Operating Guidelines #402 to ensure that the procedure:***

- ***Fulfills the requirements of Ont. Reg 150/13, The Fire Code.***
- ***Augments the statutory requirements for fire inspection with pro-active, risk-based 'consultation' visits with annual targets established.***
- ***Includes a home visit program for residential dwelling units for installation and maintenance of smoke alarms and carbon monoxide detectors.***
- ***Specifies the appropriate involvement and role of fire prevention personnel in the examination of plans and specifications of permits for new or renovated buildings for compliance with applicable fire regulations.***

To compliant with the FPPA requirement that "*Every municipality shall, (a) establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention,* the *Municipal* Establishing and Regulating By-Law should reflect the requirement to develop an effective fire prevention, inspection and public education programs.:

Recommendation #7: ***It is recommended that the Establishing and Regulating By-Law be reviewed and revised to require the Fire Chief develop and maintain an effective fire prevention program that will:***

a) Ensure, through plan examination and inspection, that required fire protective equipment is installed and maintained within buildings,

b) ***Reduce or eliminate fire hazards,***

c) ***Ensure compliance with applicable Provincial fire prevention legislation, statutes, and codes in respect to fire safety, and***

d) ***Develop and maintain an effective public information system and educational program, with particular emphasis on school fire safety programs, and commercial, industrial and institutional staff training.***

7.1.4 Fire Origin and Cause Determination

Investigation to determination cause and origin of fires is an important component of a comprehensive fire prevention and protection strategy to achieve the following objectives:

- Compliance with Fire Marshal Directive 2015-002: "Reporting of Fires and Explosions Requiring Investigation" which requires that Assistants to the Fire Marshal must follow and complete a standard incident report for every response made by a fire department following Fire Marshal Directive 2015-001: "Standard Incident Report (SIR) Filing."
- Fire investigation information is essential to developing and setting priorities for fire safety education programs,
- Fire investigations may identify need for criminal investigation and prosecution
- Ensure that there is follow-through on identified fire safety issues from municipal and OFMEM assisted investigations, and

OG # 401 outlines the procedure for determination of Cause & Origin. OG #404 provides comprehensive procedures for conducting fire investigations to determine cause and origin including procedure to contact senior officers and the Ontario Fire Marshal. This OG should be reviewed to describe required staff training (firefighter, company officer, and senior officer), documentation requirements, secure storage for documents and scene security.

At least one designated Officer should be identified as the lead for fire investigations that will have or receive advanced training through recognized courses i.e., training in fire and explosion investigations from the National Association of Fire Investigators International (NAFI).

Recommendation #8: ***OG #404 Fire Cause Determination should be reviewed and/or augmented to address:***

- ***Required documentation and procedure for secure storage of records.***
- ***Designation of Officers as lead for fire investigations who will have or receive advanced training.***
- ***Process for review as part of ongoing development of fire prevention and public Education Strategies.***
- ***Criteria for fire investigation as well as OFM and Police notification***
- ***Consider integrating with OG #401***

7.1.5 Fire Safety Plans

Under Section 2.8 of the Fire Code, an approved fire safety plan (FSP) is required for specific buildings or premises including:

- an assembly occupancy.
- a care occupancy.
- a care and treatment occupancy.
- a detention occupancy.
- a residential occupancy where the occupant load exceeds 10,
- a retirement home.
- a business and personal services occupancy where the occupant load exceeds 300.
- a mercantile occupancy where the occupant load exceeds 300.
- a high hazard industrial occupancy where the occupant load exceeds 25.
- a medium hazard industrial occupancy where the occupant load exceeds 100.
- a low hazard industrial occupancy where the occupant load exceeds 300.
- An occupancy of 4 storeys or more.

Fire safety plans for such occupancies are required to be submitted to the fire department for evaluation and approval. Fire safety plans need to be approved by fire department officers who are authorized to do so. There should be a signed letter of designation from the fire chief designating members of the department as chief fire officials for the purpose of approving fire safety plans.

Officers approving fire safety plans for vulnerable occupancies need to have the required *"Improving Fire Safety for Vulnerable Ontarians: Training for Chief Fire Officials"* on-line course offered through the Public Service Health & Safety Association.

There should be a specific policy/operating guideline that outlines the procedure for fire safety plan review and approval which references a fire safety plan audit checklist. The policy/OG should include the requirement that Fire safety plans should be shared with fire suppression staff as part of ongoing training. The policy/OG should also reference that applicable information from the fire safety plans should be incorporated into pre-incident plans, i.e. utility shut-offs, floor plans and emergency contacts.

Recommendation #9: ***A specific operating guideline should be developed for fire safety plans which require that 1) an inventory of all occupancies in the municipality which require fire safety plans be identified as well as the frequency of inspection, and 2) sets out the requirement for reporting to Council that required occupancies have a fire safety plan in place.***

7.1.6 Pre-Planning

Pre-Planning refers to a process of identifying high-risk residential, industrial, institutional, and commercial buildings and providing information to assist potential suppression and/or rescue requirements. Information regarding access, nature of the occupancy, potential hazards, entrances and exits as well as potential water supply can be difficult to obtain during an emergency incident and should be identified in a manner that is readily accessible and useful to suppression personnel.

Pre-planning can be effectively combined with inspection activates and review of fire safety plans. Pre-Planning can provide an opportunity for firefighters and fire protection officers to work with building owners and/or management to gather information prior to an emergency. It provides an opportunity to develop familiarity with the layout of buildings, size, type of construction, number of stories, and occupants as well as the type of life safety systems, location of water shutoffs, controls, response points, road access and any hazardous materials.

There currently is not an Operating Guideline that addresses Incident Pre-Planning. An OG should be developed to ensure that there is clear assignment of organizational responsibility for developing fire pre-plans, a schedule, priorities and targets for the development, review and revision of pre-plans and provides for the incorporation of firefighters in the development and on-going review of pre-plans.

As part of their ongoing professional development, firefighters should receive training on developing pre-incident plans and receive training on the actual pre-plans during training exercises.

The pre-plan OG should refer to a pre-plan checklist that contains best practice components including:

- estimated fire flow requirements, apparatus placement, hazards present and information regarding exposures,
- processes to access additional resources through mutual aid or other agreements, an,
- utility shut-offs, floor plans, and emergency contacts.

Recommendation #10: NFD *develop an Operating Guideline for Pre-incident Planning to reflect best practice methods, target objectives for the number of pre-plans to be developed annually, organizational responsibility and require that Pre-Plan development be coordinated with suppression training to facilitate effective and safe emergency response.*

7.1.7 Formal Involvement in Building Permit Review and Building Inspections:

Although there is a close, collaborative working relationship with the Building Department, this relationship can benefit from a more formal undertaking. Written policy and procedures can help define the respective roles of building and fire officials and provide a protocol regarding the review and approval of building permits, plans and proposed developments. Kingston Fire has an excellent policy

document in this regard. This document can serve as a reference document to begin the conversation regarding a policy and procedure appropriate for The Nation Municipality Fire Services.

Recommendation #11: ***That a joint policy and procedure be developed regarding the respective roles of the NFD and Building Department with respect to building permit and planning application approvals as well as building inspections.***

7.1.8 Vulnerable Occupancies:

As of January 1, 2014, Ontario Regulation 150/13 amended the Ontario Fire Code to enhance the fire safety of occupants in care facilities such as nursing homes, retirement homes and other care occupancies where residents may not be able to self-evacuate. The new requirements include the requirement for:

- An up-to-date and approved fire safety plan.
- An annual fire drill using a scenario prepared by the occupancy owner and approved by the Chief Fire Official which will include a fire service assessment of performance targets for the drill and recording of the drill by the Chief Fire Official.
- Mandatory Inspections to ensure fire protection systems are up to date.

Under this regulation, persons responsible for implementing fire safety plans in vulnerable occupancies to have successfully completed a qualification course. Fire Officials who are responsible for approving fire safety plans must also complete a qualification course.

Fire Marshal Directive #2016-001 provides direction regarding Notification Requirements for Serious Fire Risks in Long Term Care and Retirement Homes.

Recommendation #12: ***A specific OG should be in place for the for vulnerable occupancies program which addresses:***

- ***Identification of vulnerable occupancies and registration with the OFMEM.***
- ***Review of fire safety inspections files and required updates to the Vulnerable Occupancy Registry.***
- ***Requirement that the Fire Officials who are responsible for approving a fire safety plan for a building containing a care occupancy, a care and treatment occupancy or a retirement home has successfully completed a program or course acceptable to the Fire Marshal.***
- ***Procedure for conducting spot audits.***
- ***The use and understanding of applicable legislation and Fire Marshal Directives as demonstrated through documentation and records.***
- ***Use of a Fire safety inspections checklist to conduct inspections as per Fire Marshal Directive 2014-002.***

- ***Procedures for the approval of fire drill scenarios and evaluation and approval of fire safety plans.***
- ***Monitoring compliance with new Fire Code requirements as applicable such as self-closing devices, emergency lighting sprinkler systems, automatic notification of the fire department, and smoke alarms in each suite.***

Although not required by law, expansion of the annual inspection program to multi-residential facilities or group homes which may be housing vulnerable individuals would be prudent. Further, as noted in the Hazards Identification Section, resident needs may change such that the vulnerable occupancies requirements may apply.

7.1.9 Fire Station Building Assessment

The NFD has five stations:

- Station 100 located in the village of St. Isidore. This is a two small double-bay building with an additional third drive-through bay that is used by the Public Works Department. It has recently renovated administrative offices and a large training room.

- Station 200 located proximate to the hamlet of St. Bernardin at the intersection of County Rd. 7, 22 and 23. Station 200 has two single bays.

- Station 300 is located on County Rd. 9 in the hamlet of Parkers Corners, 2.8 km from the hamlet of Fournier. It is located in the Public Works garage and has three single bays.

- Station 400 is located within the village of St Albert on County Rd. #7. It has two small single bays.

- Station 500 is located in the village of Limoges and has three double bays of which two are drive through.

A comprehensive functional assessment for each of the stations was completed as part of this study to document current facilities space and overall condition. The results of this study are presented as Appendix I. This study was not designed to provide a comprehensive building condition report which would require assessment by a team of architects and engineers. Rather, the study relied on a staff assessment of current facilities as compared to contemporary functionality.

Key functional issues that were assessed include:

- Post Disaster Code Compliance.
- Adequate space between apparatus.
- Dedicated decontamination facilities and separate storage of bunker gear.

Post-Disaster standards became a requirement in the 2006 Ontario Building Code for Fire Station, Hospitals, Police Stations and other critical facilities which need to be functional following an earthquake of other natural disaster.

With respect to clearances between apparatus, the Ontario Occupational Health and Safety Act, Industrial Establishments safety Regulations 851, requires that:

> *11. A floor or other surface used by any worker shall,*
>
> (a) *be kept free of, i. obstructions, ii. hazards, and iii. accumulations of refuse, snow or ice; and*
>
> (b) *not have any finish or protective material used on it that is likely to make the surface slippery.*
>
> *12. Clearances between a moving part of any machine or any material carried by the moving part of the machine and any other machine, structure or thing shall be adequate to ensure that the safety of any worker in the area is not endangered.*

Without enough space between the vehicles to allow for safe passage between the vehicles firefighters will be at risk of injury should a vehicle be moved without the prior knowledge of the firefighter.

The other major fire station design change that has occurred in recent years is provision of dedicated decontamination facilities and separate storage areas for bunker gear. With growing evidence of a link between cancer in firefighters to toxins that collect on firefighters' bunker gear after fighting fires, current fire station design often incorporates decontamination rooms and bunker gear storage rooms where bunker gear can be stored afterward[10].

Contemporary design enables the decontamination area to be accessed from the apparatus bay where firefighters can strip, shower, and access extractors and dryers to clean contaminated gear. Cleaned bunker gear is then stored in another room to off-gas properly. Ideally, the decon and PPE storage room should have their own separate heating, ventilating, and air conditioning and exhaust systems such that

[10] For an excellent review article regarding fire station design and decontamination see https://www.fireapparatusmagazine.com/articles/print/volume-22/issue-8/features/turnout-gear-decon-spaces-in-fire-stations.html

administrative areas have relative positive pressure and decon and gear storage areas have negative pressure.

For a volunteer department ideally the bunker gear storage area is located with an entrance to the parking lot so the firefighter can respond from the parking lot into the bunker gear space, grab their gear, and move to the apparatus bays.

Station 100 was constructed in 1986 as a combined public works garage (1 double bay), Fire Station (two double bays) and a library. In 2018, the library was renovated to provide offices, kitchen, washrooms and training room for use by the Fire Department.

The building is not post-disaster, three large apparatus (pumper, rescue, and tanker) are accommodated in two bays with minimal clearances and there are no decontamination facilities or separate area for Bunker gear storage.

Ideally Station 100 should be rebuilt in a more accessible location. However, with other priorities, new construction may need to be delayed. As an interim solution, removing the existing partition between the Public Works Bay and the Fire Department Bays and allowing the Fire Department to utilize the space now occupied by Public Works would allow the three main apparatus immediate street access, improve space between apparatus and allow some decontamination/bunker gear storage improvements.

Station 200 was constructed in 1999. This two-bay station can continue to function and be improved with a relatively modest investment if limited to two apparatus. Additional apparatus reduces clearances and removes space that could be used for improved bunker gear storage and decontamination. Further study is needed to confirm if the building would meet post disaster or if alterations to meet post-disaster requirements would be cost-effective.

Station 300 was built in 1992 as an addition to the public works garage. It has two large single bays and a small single bay. Washrooms, showers are minimal. This Station could function as a two-bay satellite, however, as noted in Section 7.1.10, this Station is not recommended to continue in operation.

Station 400 was constructed in 1976. It is located on an extremely small site with no parking available. Firefighters must park on the main street which represents a significant hazard when responding to an emergency situation. The two bays are extremely small with insufficient space to safely accommodate conventional pumpers or tankers. There is no dedicated decontamination area or bunker gear storage.

This building is no longer serviceable as a fire station and needs to be rebuilt as soon as possible. In the interim, until a new station is built, this Station must be limited to no more than two apparatus and special procedures need to be developed and implemented to address firefighter safety when parking, when present in the apparatus bay and when starting, moving or backing-in apparatus.

Station 500 was built in 2012 is the only station constructed to a post-disaster standard. It has adequate apparatus bay size to maintain safe clearances. It was built prior to the full awareness of decontamination procedures and bunker gear storage requirements now reflected in current design. The need for storage was given a priority and what would have been a third drive-through double bay, is now a dedicated storage room and single-bay.

Recommendation #13*: It is recommended that planning commence immediately to bring a design proposal for Council's Consideration to replace Station 400 with a new, two single bay satellite fire station.*

Recommendation #14*: It is recommended that the Station 100 Public Works Bay be transferred to the Fire Department and a design proposal be developed to remove the partition between the bays and any other renovations required to provide adequate decontamination and bunker gear storage for Council's consideration.*

Recommendation #15*: It is recommended that Station 200, 300, and 400 be limited immediately to no more than 2 apparatus to provide adequate clearances to protect the health and safety of firefighters.*

Recommendation #16*: It is recommended that OG procedures for starting, moving, and backing apparatus in stations be reviewed and revised as required.*

Recommendation #17*: It is recommended a specific OG procedure be developed for Station 400 to address parking as well as for starting, moving and backing apparatus recognizing the extremely limited apron space and minimal clearances between walls and apparatus bay doors.*

Recommendation #18*: It is recommended that a study be initiated with an experienced architect to consider modifications to Station 500 to provide appropriate decontamination, bunker gear storage, parking and firefighter access to avoid entrance to the building through apparatus bay doors when vehicles are departing.*

7.1.10 Fire Station Location and Role

During the five-question interview process, a constant question that was raised was if five stations are necessary and does each station need to be identical in staffing and apparatus. The five Nation Municipality Fire Stations existed prior to amalgamation when they existed as independent Departments. Although the stations have been brought together an integrated Department since 2004 under the leadership of a single Chief, a culture of autonomy and need for equal status continues.

This section will review the applicable standards and other references that can be used to determine where to locate fire stations and comment on current location in the context of the standards, current hazards and response experience.

The two primary references for response time guidelines are the National Fire Protection Association (NFPA) 1710 and 1720 standards and the Ontario Fire Marshal (OFMEM) guidelines.

While the NFPA standards generally[11] have no legal status in Canada, they are based on the collective experience of professional firefighters and technical research and are widely accepted.

The implication is that if there is litigation, NFPA standards may be used to identify the baseline against which to determine what a reasonable person would do under the circumstances.

[11] There are some specific NFPA requirements specified by Statute.

The OFMEM Fire Ground Staffing Guideline requires the arrival of 10 firefighting personnel (with appropriate apparatus) in 10 minutes total response time for 90 percent of incidents.

NFPA 1710 applies to full-time fire services and is not applicable in this circumstance. NFPA 1720 is applicable to volunteer firefighter departments. NFPA defines a volunteer fire department as one having volunteer emergency service personnel comprising 85 percent or greater of its department membership. NFPA 1720 provides response times based on population density as follows:

- Urban Zones with greater than 1000 people/sq. mi. call for 15 staff with a response time of 9 minutes, 90 percent of the time,
- Suburban Zones with 500 to 1000 people/sq. mi. call for 10 staff with a response time of 10 minutes, 80 percent of the time,
- Rural Zones with less than 500 people/sq. mi. call for 6 staff with a response time of 14 minutes, 80 percent of the time; and
- Remote Zones with a travel distance greater than or equal to 8 mi. call for 4 staff 90 percent of the time. Upon assembling the necessary resources at the emergency scene, the fire department should have the capability to safely commence an initial attack within 2 minutes 90 percent of the time.

The urban area of Limoges has a population density of more than 1,000 persons per sq. mi., so NFPA 1720 urban zone response time may apply. Thus, the performance target would be *15 staff with a response time of 9 minutes, 90 percent of the time.*

The Limoges Station (Station 500) is located within the Village and should be able to achieve the standard required. Staffing to achieve this standard is another matter and will be addressed in the section on "Staffing".

The remainder of the Municipality is rural with population density of less than 500 persons per sq., mi. The NFPA Response standard for a rural population of less than 500 persons per sq, mi. is *6 staff with a response time of 14 minutes, 80 percent of the time.*

To consider the theoretical distance stations need to be located within The Nation Municipality to achieve the applicable NFPA 1720 standard for rural areas of 6 staff with a response time of 14 minutes, 80 percent of the time the following assumptions are used:

- As specified by NFPA 1720, response times are measured starting when the call is dispatched to when crews have established the resources for initial attack.
- 4 minutes to arrive at station and leave with a minimum crew of 4 in a pumper and two in a tanker, 8 minutes to travel to the scene and 2 minutes to set up initial attack for a total of 14 minutes.
- At an average speed of 60 km per hour, the potential distance travelled in 8 minutes is 8 kms.

It is acknowledged that responding fire apparatus will respond at speeds well in excess of 60 km per hour. The speed of 60 kms per hr. is used as a conservative estimate of <u>average</u> speed recognizing stop signs, restricted speeds through hamlets

and villages, variable weather conditions, night operations and presence of gravel roads.

Utilizing the above assumptions, station location should be considered with the objective of having populated areas within 8 kms of a station.

Figure 11 illustrates the location of NFD Stations and Stations in surrounding municipalities.

Figure 12 illustrates the location of NFD Stations and Stations in surrounding municipalities and the 8 km road distances form each station.

Much of the populated area of the Nation falls within the 8 km road distance target as illustrated in Figure 13. An automatic aid agreement exists with the Village of Casselman to provide coverage in the central area. Much of the north central area of the Municipality is the Larose Forest and Alfred Bog and is sparsely populated.

Figure 12 reveals that there is significant overlap between Stations 100, 200 and 300.

Figure 13 plots the number of incident calls by location. As expected, the number of calls is directly proportional to population density with the highest number in the Limoges, central and St. Isidore areas.

Table 11 presents the number of calls per station in 2019.

Figure 11: Location of NFD Stations and nearby Fire Stations.

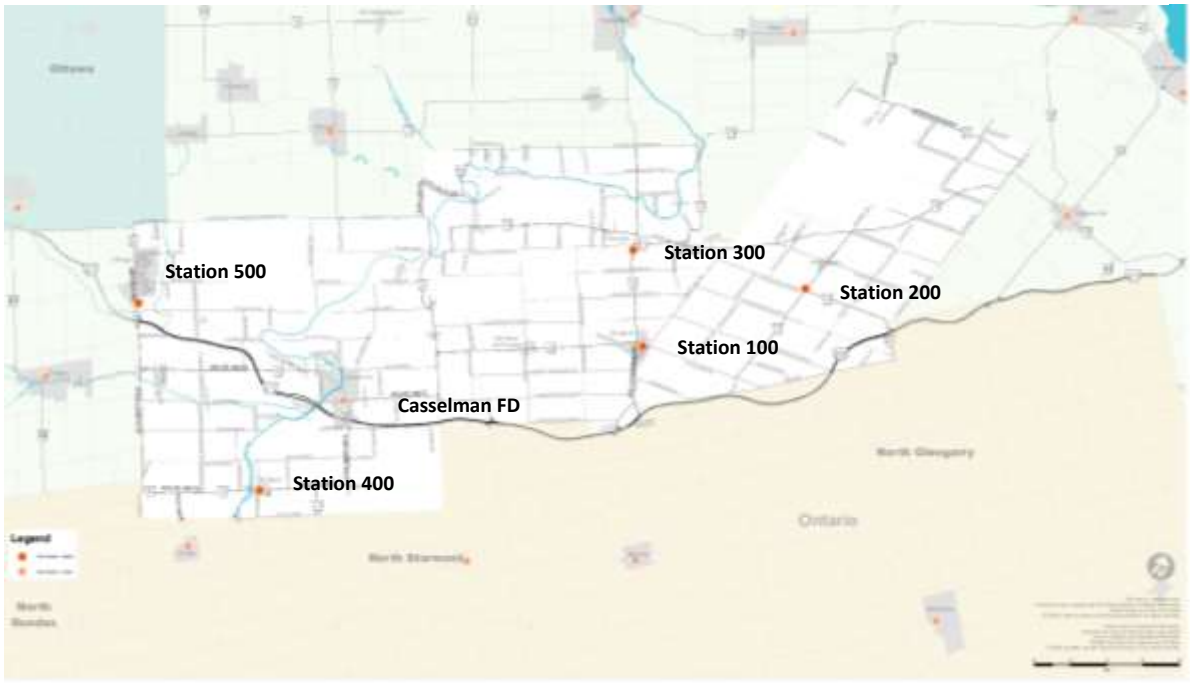


Figure 12: Location of NFD Stations and nearby Fire Stations showing 8 km road distances.

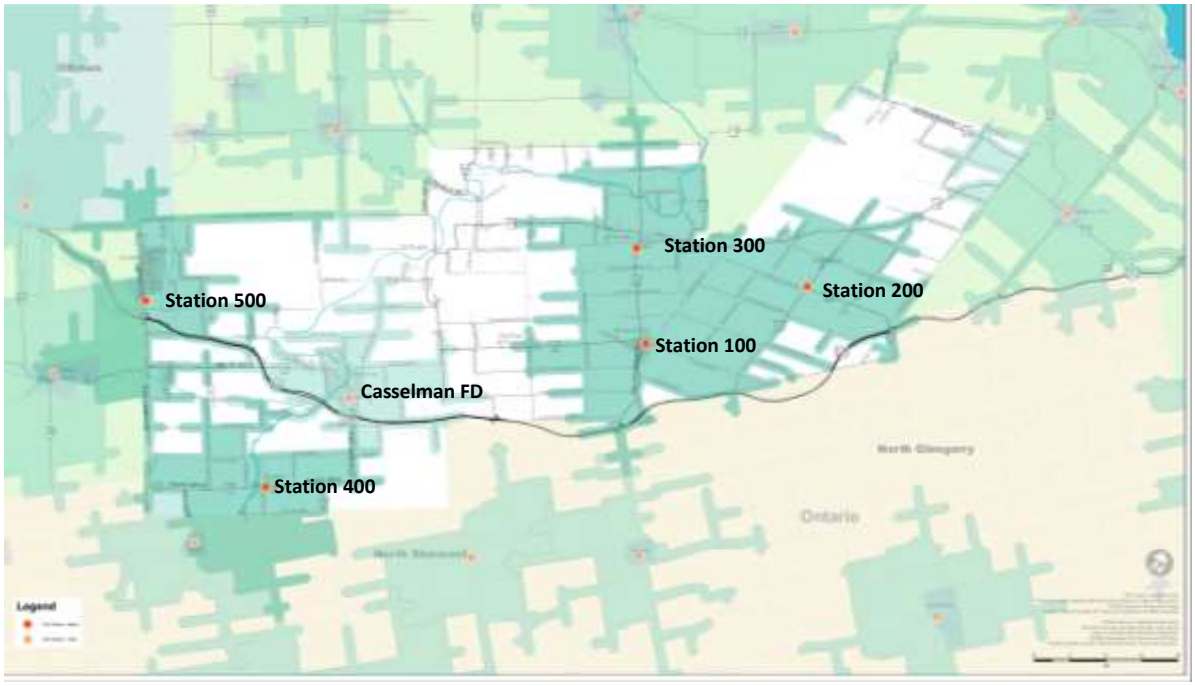


Figure 13: 2019 NFD Calls Mapped by Location

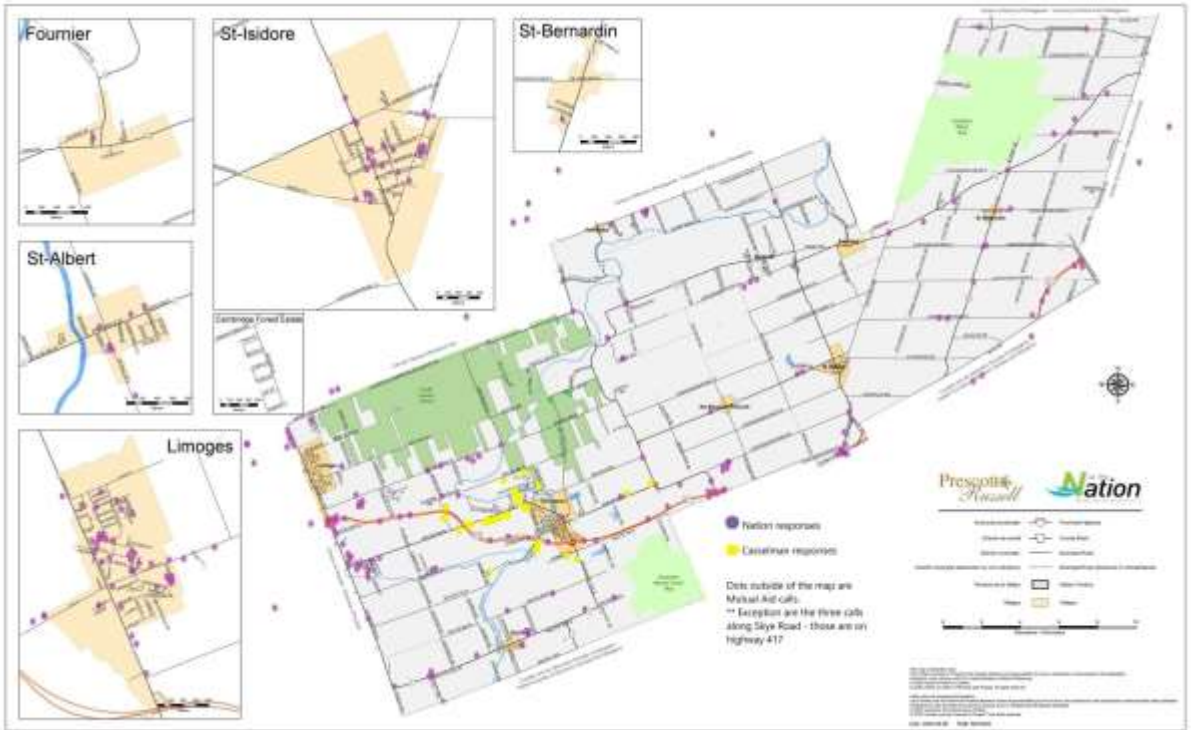


Table 11 illustrates that the majority of calls are managed by Station 100 and 500 which is to be expected given their location relative to the populated areas of the Townships and 417 highway. Station 200 and 400 respond to relatively few calls, but their location facilitates target response time targets. Station 300 responds to very few calls and significantly overlaps Station 100 and 200 response areas.

The other factor to note with respect to location of stations is impact on home insurance. The cost of insurance may vary from one property to the next, based on the community's fire insurance grade.

The system of determining fire insurance rates in personal lines insurance is the Dwelling Protection Grade (DPG) system. The system uses a scale of one to five, in which one represents the maximum possible credit for fire protection programs and five represents an unrecognized level of protection or no protection at all.

Table 11: 2019 Nation Fire Department Primary (First Paged) Calls within 8 kms of Station

Station	Calls
Station 100	33
Station 200	17
Station 300	7
Station 400	20
Station 500	73
Casselman FD	20
Outside of 8 km	20
Mutual Aid	20
Total 2019 Calls	**210**
Total Calls within 8 km	170
% within 8 km	89%

In the rural areas, NFD meets the requirements for a 3B rating. Further, NFD maintains Superior Water Shuttle Accreditation which enables additional insurance discount consideration. To achieve this accreditation, fire departments must demonstrate the ability to deliver a flow rate of not less than 950 LPM for personal lines and 1900 LPM for commercial lines within 5 minutes of arriving at a test site.

To be eligible for the benefit, the protected property must be located **within 8 km of a fire station and 5 km of an approved water supply** (Commercial Lines - 5 km of a fire station and 2.5 km of an approved water supply). The water-delivery system must be available and accessible 24 hours per day/365 days per year.

The current location of the fire stations does enable most rural residents of The Nation to be eligible for the superior water shuttle discount.

Proposed Station Location and Role

Stations 100 and 500 respond to the majority of NFD calls and are well located to respond to the main population centres of the Municipality and the 417 highway. It is proposed that they be designated as "Hub" stations with a Pumper, Heavy Rescue, and Tanker.

Station 500 is a contemporary facility and requires only relatively modest renovations to serve for decades to come.

Station 100 is not a post-disaster building and does not fully meet the functional requirements that are ideal. However, with acquisition of the 3rd bay currently used by the Public Works Department and some renovations and upgrades to remove the separation between bays, and install additional showers, decontamination and air fill area, the building may be serviceable for the short term.

Although Stations 200 and 300 respond to a smaller volume of calls, their location is of value in meeting target response times in the south-west and north-east quadrants of the Municipality. However, the call volume does not justify a heavy rescue at these stations. Stations 200 and 400 should function as 'Satellite' Stations to the 'Hub' stations and be equipped with a Pumper/Rescue and Tanker.

As noted in Section 7.1.9, Station 200 is in reasonable condition and can function as a two bay 'Satellite'.

Station 400, however, is no longer functionally suitable to operate as a fire station. It needs to be rebuilt as an immediate priority. The current site is too small to accommodate a fire station so the new station will require a new site. Moving Station 400 to the west will allow improved response times to the central area of the Municipality which is currently covered by an automatic aid agreement with the Town of Casselman.

Site criteria for the new should include:

- safe and easy access to and from a primary highway.
- Access on a height of land to afford enhanced sight distance.
- Not located within a residential community or a downtown commercial district to avoid potentially dangerous interactions between the responding Fire Service and the public.

Further study based on the actual site selected for the new Station 400, analysis of current and future firefighter response time to the new Station 400 location, and actual response time measurements will help determine the need for continuation or modification of the Casselman automatic aid agreement. However, preliminary analysis suggests that the automatic aid agreement may be no longer required or may be modified to a one-truck response only for life-threating calls.

Based on the call volume analysis and proximity to Stations 100 and 200, it is difficult to justify the cost of staffing and equipping Station 300. Station 300 was built as an addition to the Public Works Garage. The Public Works Department is in need of space to accommodate their trucks and equipment and the Station 300 bays would be well suited for that purpose. Station 300 should close, and the firefighters transferred to Stations 100 and 200.

The proposed 'Hub' and 'Satellite' station configuration will allow effective use of limited resources. Today's apparatus costs are significant with a pumper costing in the range of $650,000 to $850,000. A three double bay station built to today's standards will cost in the range of $5,000,000. Maintaining the current status of 5 stations each with 3 principal apparatus meeting required standards is simply not financially sustainable for a Municipality with the Nation's population and tax base.

Table 12 illustrates the potential redistribution of calls that could result from the proposed station role realignment.

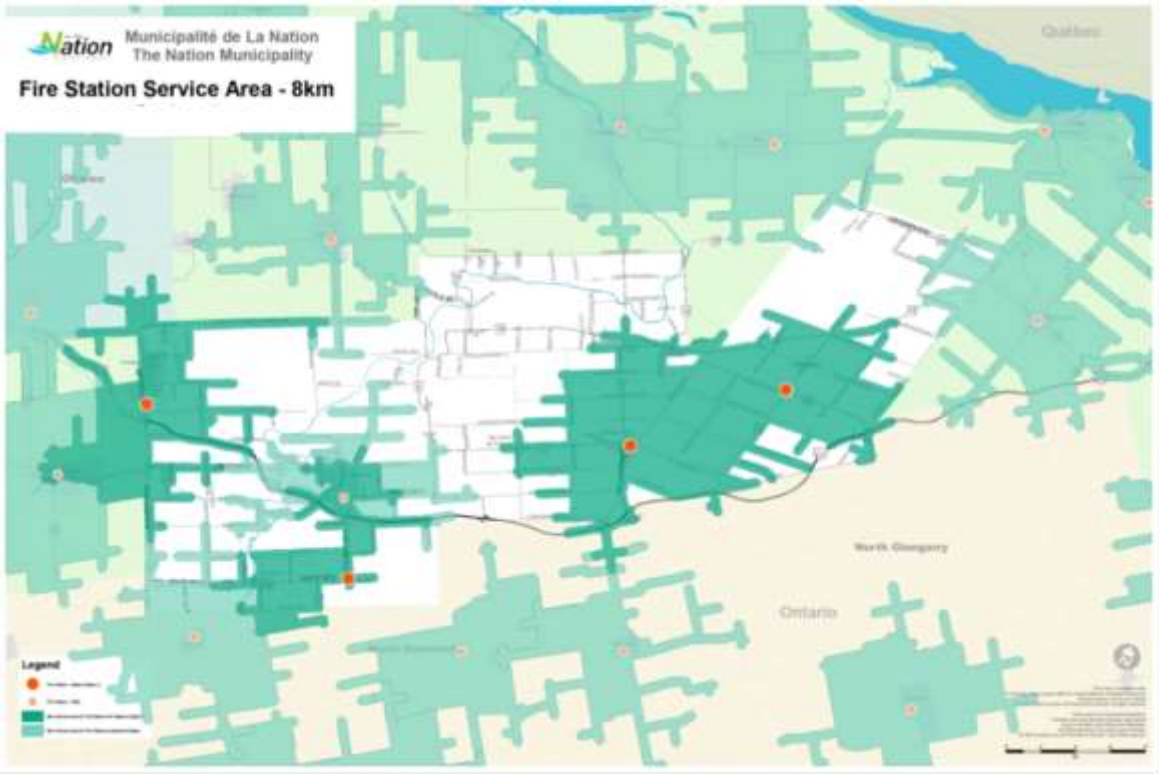
Table 12: Comparison of Existing (2019) Call Volume Distribution and with Nation Fire Department Proposed Station Realignment

Station	2019 Calls	Calls with Proposed Station Realignment*
Station 100	33	36
Station 200	17	19
Station 300	7	0
Station 400	20	34
Station 500	73	73
Casselman F.D.	20	0
Outside of 8km	20	28
Mutual Aid	20	20
Total 2019 Calls	**210**	**210**
Total Calls* within 8 km	170	162
% within 8 km	89%	85%

* *Calls with proposed station realignment based on: Station 300 calls being assumed by Stations 100 & 200 and Automatic Aid Casselman F.D. calls being managed by a relocated Station 400. The potential result of this scenario would be an additional 8 calls per year that would be beyond the ideal 8 km road distance target. Automatic Aid agreements with surrounding municipalities could potentially assist with response time issues for the few calls per year that occur that occur in the most northern and eastern areas of the Municipality.*

Figure 14 illustrates the proposed 4 station model with 8 km road distance mapped.

Figure 14: Location of NFD Stations and nearby Fire Stations showing 8 km road distances.



Staffing can also be realigned with the Hub and satellite model to facilitate an effective and effective response. It is proposed that the staffing be realigned as noted in Table 13.

Table 13: Current and Proposed Station Staffing[12]

	Current			Proposed		
	Captain	Firefighter	Total	Captain	Firefighter	Total
Station 100	3	20	23	3	21	24
Station 200	3	15	18	2	14	16
Station 300	3	15	18			
Station 400	3	15	18	2	14	16
Station 500	3	20	23	3	21	24
Total	16	85	100	10	76	86

Recommendation # 19: ***Stations 100 and 500 should be designated 'Hub' Stations and be equipped with three principal apparatus including a pumper, heavy rescue and tanker as well as specialized equipment such as an air fill station. Stations 200 and 400 should be designated as 'satellite' stations with two principal apparatus including a Rescue Pumper and Tanker.***

Recommendation 20: ***Station 300 should be closed, and the firefighters transferred to Stations 100 or 200.***

Recommendation # 21: ***Planning should commence immediately to a) relocate and rebuild Station 400 and b) renovate Station 100 to remove the partition between the Public Works and Fire Department Bays and provide appropriate bunker gear storage, air fill station, and decontamination facilities including additional showers and dedicated space for extractor/dryer equipment.***

Recommendation # 22: ***Once a site for the new Station 400 is identified, a specific analysis to project response times for the central area of The Nation should be undertaken to determine the need or modified requirements for the automatic aid agreement with the Town of Casselman.***

Recommendation # 23: ***NFD should develop an Operating Guideline that addresses procedures for documenting, recording and reporting response times excluding calls cancelled on-route or incident not found such that the average response time for the first arriving apparatus and responding personal can be determined as a percent of calls and by type of call.***

Ongoing monitoring of call volumes by geographic area and response times as well as

[12] Note: Station Chief will be discussed in Section 7.5.2. Current Staffing reflects budgeted positions.

future residential and other development will be important to ensure station number and location remains adequate.

7.1.11 Water Supply

The villages of Limoges and St. Isidore are fully serviced by a municipal water supply and sanitary sewer system. Hydrants are available in the two Villages to enable effective fire protection and fire suppression. Hydrants are also available within the Town of Casselman.

Proximity of hydrants assists fire suppression in neighbouring rural areas by providing a readily accessible water source for tanker shuttles.

Routine testing and maintenance as well as marking of hydrants to indicate flow capability are critical requirements to ensure that effective water supply will be available when required.

The Ontario Fire Code requires that municipal hydrants shall be maintained in operating condition.[13] Hydrants are to be inspected annually[14] and hydrants are to be colour-coded indicating their respective available liters/gallons/gallons-per-minute capacity.[15] NFPA requires flow testing of underground and exposed piping at least once every 5 years[16].

The Water & Sewer Department should have a policy and procedure for annual inspection, flow testing and colour coding. The policy should address: the requirement for hydrants are to be accessible and clear from snow, a procedure for inspection, a procedure for Fire Flow Testing based on AWWA M17 "Flow tests", Frequency of flow testing, a process whereby the fire service is advised of a hydrant that is out of service and when the hydrant is back in service, and documentation and reporting.

Recommendation #24*: That the NFD collaborate with the Water and Sewer Department to ensure that there is a comprehensive Policy and Procedure for the maintenance, accessibility, inspection, flow testing and colour coding of public hydrants in the Municipality.*

Senior NFD staff should meet at least annually with Water & Sewer Department staff to review flow test results as compared to the design performance expectations of the municipal hydrant system. This review should identify any areas of concern where available flow may be insufficient for the occupancies that require protection. Older sections of the built–up areas may be subject to redevelopment and may no longer have sufficient flow capacity. By identifying areas where water flow may be insufficient, contingency plans to use other hydrants, drafting from a water source or tanker shuttle can be pre-planned.

A procedure for private hydrant inspection needs to be developed and private hydrant testing should be included as part of an overall fire inspection and compliance program.

[13] Fire Code Part 6 Subsection 6.6.4
[14] Fire Code Part 6 Subsection 6.6.5
[15] Fire Code Part 6 Subsection 6.6.6.1
[16] NFPA 25, Table 7.1.1.2, 2014

Recommendation #25*: That the NFD develop a procedure for private hydrant inspection as part of the fire inspection and compliance program.*

Rural Operations are supported by designated water source locations as follows:

Dry hydrants	- St-Isidore - Levac Quarry - St-Bernardin – Conc. 9 - Casselman - Riviere Nation Road (shared with Casselman) - Limoges - Innovation Road - St-Albert - Machabee Street
Storage tank	- St-Bernardin - Conc 6
Water sources without piping	- St-Bernardin - Conc- 1 - St-Bernardin - Conc 7 - Seguinbourg - Route 400 East - Limoges - King Street - St-Albert - Richer Quarry

7.1.12 Dispatch and Radio Communication

NFD participates in the United Counties of Prescott and Russell (The County) Fire Dispatch and Radio system. Dispatch services for the County including NFD are provided by the Hawkesbury Fire Department. Emergency Calls are received by the dispatch center from the 911 Central Emergency Reporting Bureau (CERB) located in the OPP Communication Centre in North Bay. The Hawkesbury Dispatch Centre notifies the appropriate fire department of that emergency by pager.

In 2018, the County decided to proceed with a managed communications system under an agreement with Bearcom, formerly Turris Communications. The objective was to replace the old radio system with a modern, digital system that will provide seamless radio communication between all eight local fire departments including The Nation. The new system was implemented in the Spring of 2019.

The new radio system conforms to the DMR-III standard. This standard is based on a protocol established by the European Telecommunications Standards Institute. The standard has enabled a far more cost-effective solution than proprietary products. It allows interoperability across brands, so radio communications purchasers are not locked into a one-brand solution.

The DMR III standard is the 'trunked' version which allows multiple, simultaneous conversations over one frequency. The new system enables the transfer of data as well as voice and control of transmission by specific radios over a limited number of frequencies. This technology allows a selection of "talk channels" for multiple incident management without increasing the number of frequencies required, allows identification of specific radios, and improved security as unauthorized monitoring can be restricted.

A "Man Down" alarm which automatically notifies dispatch and identifies the sending radio is apparently available but has not been programmed. Adding this feature in the future should be feasible and should be considered in the future.

A common Operating Guideline for the use of the new radio system is being developed. This OG should be augmented to address specific NFD protocols as required.

There remain issues with the new radio system such as inability to communicate within a building interior and system reliability. The result has been work-arounds such as using simplex (non-recorded) channels for on-scene communication. At the time this report was written, the issues were in process of being addressed and there was confidence that with appropriate software modifications, the system will achieve the required level of functionality and reliability.

There are 14 radio units per station which should be sufficient to enable all firefighters operating at an incident to have an individual radio. Currently, the portable radios are located in charging stations in the rescue trucks with the exception of the Chief and Station Chiefs who are each provided with a radio.

Portable radios should be available in each responding trucks, so firefighters have access to a radio without remembering to access the rescue truck before leaving the station.

Recommendation #26: ***Portable Radios should be located in a charging station in each responding vehicle as follows: Pumper (5), Rescue (6), Tanker (1), Utility (4).***

The radio system contract and NFD annual budget should enable ongoing replacement of portable radios and pagers to 'evergreen' the current inventory.

Fire Dispatch Centres should follow the requirements of NFPA 1221 including the standard such that emergency calls are answered within 15 seconds for 95% of calls and within 40 seconds for 99% of the call. NFPA 1221 requires that the communications center must dispatch the emergency call to the appropriate fire department within 60 seconds.

Recommendation #27: ***NFD should ensure that Hawkesbury Fire Dispatch is compliant with NFPA 1221 as well as Ontario Fire Marshall requirements as appropriate.***

7.1.13 Apparatus

All Stations are equipped with a Pumper, Tanker and Rescue Truck. In addition, Station 1 has a Service Van, Public Education Trailer, and a training Trailer. Station 300 has a Water rescue Boat and Forestry Trailer, and Station 500 has a support mini-bus and Utility Terrain Vehicle (UTV). At the time this report was written, Station 400 had a new 'mini-rescue' on order.

Table 14 presents the current apparatus inventory of The Nation Fire Department.

Although the apparatus are well maintained and appear to be in excellent condition, a number of the apparatus are approaching or have exceeded their expected service life as an emergency response vehicle. Replacement apparatus are expensive, and it is reasonable to ask why well-maintained trucks with low kilometers and appear to be in excellent condition need to be replaced.

Table 14: Nation Fire Department Current Apparatus Inventory by Station.

	Apparatus	Built Date
Station 100	Pumper 100 - International 4900	2000
	Tanker 100 - International 7400	2009
	Rescue 100 - International 4400	2016
	Public Education Trailer	2019
	Training Trailer	2019
	Service 200 - Ford E Van	1991
Station 200	Pumper 200 - International 4400	2010
	Tanker 200 - International	2006
	Rescue 200 - Grumman	1985
Station 300	Pumper 300 - Freightliner FL80	1997
	Tanker 300 - GMC	2002
	Rescue	
	Forestry Trailer	
	Water Rescue Boat	
Station 400	Pumper 400 - International 4900	2000
	Tanker 400 - International 7400	2012
	Light Rescue –F550	2021
Station 500	Pumper 500 - International 7400	2002
	Tanker 500 - International 7400	2003
	Rescue 500 - International 4400	2016
	S-500 - Ford E-450 minibus	2001
	UTV 500 - off-road rescue	2019

Key standards that apply to fire apparatus retirement include:

- NFPA 1906: Standard for Wildland Fire Apparatus.
- NFPA 1911: Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus.
- NFPA 1912: Standard for Fire Apparatus Refurbishing.
- Sec. 21 Guidance Note 1-2 Apparatus Inspections and Maintenance Program.
- Sec. 21 Guidance Note 1-8 Safety considerations for new fire apparatus.
- Fire Underwriters Survey Insurance Grading Recognition of Used and Rebuilt Fire Apparatus.

There are no mandated timelines for apparatus retirement. Annex D of NFPA 1911, however, recommends that apparatus that is 25 years old should be retired. Annex D in NFPA 1911 is not written as a standard rather as a recommendation.[17]

[17] https://www.fireengineering.com/2017/08/01/280711/the-basics-of-apparatus-purchasing-q-a/#gref

For residents and businesses of a community to benefit from maximum possible insurance discounts, the requirements of the Fire Underwriters Survey need to be met. The Fire Underwriters Survey *Insurance Grading Recognition of Used and Rebuilt Fire Apparatus*[18] requires that:

a. Apparatus are built to applicable ULC S515 or NFPA 1901 standards.

b. Apparatus should respond to first alarms for the first 15 years. For the next 5 years, be in reserve status for use at major fires or as a temporary replacement for out-of-service first line apparatus. For medium communities such as Russell, apparatus between 16 and 20 years can be considered "second-run".

c. Be retired at 20 years of age, unless the apparatus meets the recommended annual service and acceptance level tests and has been deemed in excellent mechanical condition.

d. Testing includes; weight, road and pump performance tests.

e. Testing and maintenance only to be completed by a qualified technician.

The specific FUC service schedule for fire apparatus for fire Insurance grading purposes is presented in Table 15.

Table 15: FUC Service Schedule for Fire Apparatus for Fire Insurance

Apparatus Age	Major Cities [3]	Medium Sized Cities [4]	Small Communities [5] and Rural Centres
0 – 15 Years	First Line Duty	First Line Duty	First Line Duty
16 – 20 Years	Reserve	2nd Line Duty	First Line Duty
20 – 25 Years [1]	No Credit in Grading	No Credit in Grading *or* *Reserve* [2]	No Credit in Grading *or* *2nd Line Duty* [2]
26 – 29 Years [1]	No Credit in Grading	No Credit in Grading *or* *Reserve* [2]	No Credit in Grading *or* *Reserve* [2]
30 Years +	No Credit in Grading	No Credit in Grading	No Credit in Grading

[1] *All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition. (NFPA 1071)*

[2] *Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.*

[3] *Major Cities are defined as an incorporated or unincorporated community that has:*
- *a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND*
- *a total population of 100,000 or greater.*

[4] *Medium Communities are defined as an incorporated or unincorporated community that has:*
- *a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND/OR*
- *a total population of 1,000 or greater.*

[5] *Small Communities are defined as an incorporated or unincorporated community that has:*
- *no populated areas with densities that exceed 200 people per square kilometre; AND*
- *does not have a total population in excess of 1,000.*

In addition to considering NFPA and FUC criteria for apparatus retirement, fire departments should consider:

[18] http://www.firecomm.gov.mb.ca/docs/nfpa1911.pdf.

- The numerous important safety features and functional improvements built into new apparatus,
- As vehicles age, OEM parts become increasingly difficult to source,
- Even with extensive and frequent maintenance programs, corrosion and general wear and tear will eventually create a risk situation for both the public and firefighter safety as well as compromise operational reliability and performance, and,
- The cost of inspecting, testing, maintaining and documenting annual inspections and performance testing may become excessive.

With the proposed reduction of fire stations from 5 to 4 and realignment of apparatus assignments associated with the recommended 'Hub' and 'Satellite' model, the number of principal apparatus (Pumper, Tanker, Rescue) is reduced from 15 to 10. With the reduced fleet, population size with significant expected growth, targeting a 20-year replacement schedule based on the FUC Service Schedule appears reasonable.

New apparatus represents a major capital investment. Used apparatus will cost less and may be appropriate for a small municipality with limited resources. However, careful cost/benefit analysis is important to recognize the advantages of purchasing new apparatus including.

- Achieving a full 20-year investment benefit.
- Improved reliability as well as functional and safety benefits.
- Decreased maintenance costs.

Further, Sec. 21 Guidance Note 1-8 'Safety Considerations for New Fire Apparatus' notes that

> *"If appropriate design and construction techniques aren't followed, there is a potential of injury to the firefighters operating the apparatus.*
>
> *Some examples of potential hazards include:*
>
> - *refurbished fire apparatus may not meet appropriate safety standards*
> - *water tanks without baffles allow water movement which affects the handling of the tanker during braking or cornering*
> - *cabs that aren't designed for the fire service may not have safety features such as proper seating for firefighters, a mechanical means of latching equipment or airbag or crash enhancements*
> - *repurposed apparatus frames may not be engineered to safely withstand imposed stresses"*

Subject to The Nation's Procurement By-Law, there are tactics to consider when purchasing new apparatus that can deliver value for money including:

- Purchase of a stock truck. Manufacturers may produce apparatus that can be available at considerable savings over custom specified, built-to-order vehicles.
- Group Purchase with another Department. Sourcing two or more trucks as part of a group purchase may leverage a better price.
- Purchasing an apparatus from a vendor based on identical specifications, terms and price that another Fire Department sourced through a competitive process.
- As noted in Table 13, NFD needs to replace 3 Pumpers and 2 Tankers over the next 5 years. A single vender procurement could allow delivery dates to be staged over the 5-year period with fixed payments potentially over a longer term at a significantly lower price than would be achieved with single purchases.

The Nation Fire Department discourages the use of Apparatus to store and transport bunker gear to the scene. This represents 'best practice' and should be encouraged. Current research supports hanging bunker gear, hood, gloves and boots with adequate airflow in and around the gear. This practice allows absorbed gaseous toxic materials to release from the fabric, that is, off-gas. Ideally bunker gear should be stored on dedicated racks preferably in a dedicated room with independent ventilation.[19]

As noted in Section 7.1.10 , it is recommended that Station 100 and 500 remain with a Pumper, Tanker and Rescue, Stations 200 and 400 be assigned a Pumper/Rescue and tanker, and Station 300 be decommissioned and transferred to the Public Works Department.

Recommendation # 28: ***The Nation Fire Department develop an apparatus replacement schedule based on a 20-year replacement of apparatus, assignment of a Rescue/Pumper and Tanker to Stations 200 and 400 and closure of Station 300.***

[19] https://www.firerescue1.com/fire-products/gear-racks/articles/how-fire-station-storage-prolongs-ppe-life-AXn56izM2IYRig4K/

Table 15: Nation Fire Department Proposed Apparatus by Station.

	Apparatus	Built Date	Replacement Date	Comment
Station 100	Pumper 100 - International 4900	2000	2021	
	Tanker 100 - International 7400	2009	2029	
	Rescue 100 - International 4400	2016	2036	
	Public Education Trailer	2019	-	
	Training Trailer	2019	-	
	Service 200 - Ford E Van	1991	2021	Replace with F-550 to support air supply, rope, water & ice rescue
	C-1 Chief's Car F-150	2014	2024	
Station 200	Pumper 200 - International 4400	2010	2030	Convert to Pumper/Rescue
	Tanker 200 - International	2006	2026	
	Rescue 200 - Grumman	1985	-	Surplus
Station 300	Pumper 300 - Freightliner FL80	1997	-	Surplus
	Tanker 300 - GMC	2002	-	Surplus
	Rescue		-	Surplus
	Forestry Trailer		-	Transfer to Station 100
	Water Rescue Boat		-	Transfer to Station 100
Station 400	Pumper 400 - International 4900	2000	2002	Pumper/Rescue
	Tanker 400 - International 7400	2012	2032	
	Light Rescue – F550	2021	-	Transfer to Station 100
Station 500	Pumper 500 - International 7400	2002	2003	Consider replacement as a 'Quint' with 23m ladder.
	Tanker 500 - International 7400	2004	2024	
	Rescue 500 - International 4400	2015	2035	
	S-500 - Ford E-450 minibus	2001	-	Surplus
	UTV 500 - off-road rescue	2019	2039	
	C-2 On-Call Chief, Fire Prevention	-	2021	Replacement for S-500

7.1.14 Equipment

The Ontario Occupational Health and Safety Act (OHSA) provides that the employer as well as those in a supervisory position have a legal responsibility to ensure that staff are trained and provided with the necessary equipment needed to safely conduct the tasks they are assigned.

Personal Protective Equipment

Structural Firefighting as well as certain emergency responses such as CO calls exposes firefighters to life threatening risks. Personal Protective Equipment (PPE) such as bunker gear and self-contained breathing apparatus (SCBA) are essential to the protection of firefighters from hazards. The care and maintenance of structural firefighting personal protective equipment (PPE) is, therefore, of utmost importance.

The requirements for employers to provide firefighters who may be required to perform interior structural fire suppression duties with structural firefighting garments is set out in O. Reg. #714/94: Firefighters - Protective Equipment.

All PPE should be kept clean as soiled or dirty elements may expose firefighters to hazardous chemicals and reduce the effectiveness of the protection it is intended to provide. It is also important that soiled or contaminated PPE not be transported in a personal vehicle, taken into the firefighter's home or into the living quarters of a fire station unless in an approved gear bag or container.

There is not currently a OG that describes the policy and basic procedures regarding the minimum level of protective clothing to be worn during emergency operations and training sessions.

An OG is also required to address practices and procedures related to the issue, care, maintenance, inspection procedures, inspection frequency, inspection documentation, storage, and replacement of personal protective equipment (PPE). This operating guideline should be based on and reference O. Reg. #714/94 71, National Fire Protection Association (NFPA) 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" and Section 21 Guidance Notes including:

- 2-7: Reporting Exposures to Biological, Chemical or Physical Agents",
- 4-1: Firefighter Protective Equipment",
- 4-2: Eye Protection",
- 4-6: Firefighter Helmets",
- 4-8: Care, Maintenance, Inspection and Replacement of Structural Firefighting Personal Protective Equipment",
- 4-9: Respiratory Protection Program (SCBA)",
- 4-13: Personal Protection During Fire Investigation Operations", and
- 6-23: Safety during Salvage and Overhaul".

There should also be a specific OG that addresses the criteria and procedures related PPE for infectious diseases and opioid protocols (glove, gown, mask) including donning and doffing procedures.

The OG's noted above should include procedures for gear service or repairs including a "tag out" system and process for communications when the equipment is removed from service and when returned to service.

Stations should be equipped with racks for hanging bunker gear, hood, gloves and boots that will allow adequate airflow in and around the gear. This practice allows absorbed gaseous toxic materials to off-gas. Ideally, bunker gear should be stored in a dedicated room with independent ventilation.

The OG's should require monthly as well as 'after use' checks of personal PPE including bunker gear and SCBA facemasks as per manufacturer's directions. Each firefighter should maintain a prescribed log to document the checks of their assigned PPE. A procedure for notification of defects should also be prescribed.

This OG's should also reference the manufacturer's specific recommendations regarding use of specialized extractor type washing machines for bunker gear. Domestic washers are often specifically not recommended. NFPA Standard 1851 states that soiled protective gear should be washed in a programmable front-load washer-extractor.

A programmable washer allows fire departments to alter how they wash gear based on specific manufacturer recommendations and adapt to future innovations. Such machines allow the user to program variables of the wash process, including extraction speed in G-force, number of baths, water temperatures, water levels, cylinder rotation options, mechanical action, wash time and automatic chemical injection. With these machines, fire departments can properly clean virtually any fabric type. Once the machine is programmed, the user enters a code and presses start.

Ideally each Station should have a specialized washer/extractor. Budget issues may require Hub Stations to be equipped first.

Recommendation #29: ***Operating Guidelines should be developed to reference appropriate OHSA Sec. 21 Guidance Notes and address practices, and procedures related to the issue, care, maintenance, inspection procedures, inspection frequency, inspection documentation and replacement of personal protective equipment (PPE)including bunker gear.***

Recommendation #30: ***To maintain operational readiness when bunker gear is being washed and dried, firefighters should be issued with two sets of bunker gear.***

Use and Maintenance of Respirators; "The Respiratory Protection Program"

Firefighters will be required work in conditions where hazardous dust, mist, fumes, gas, vapour and smoke are present. To prevent exposure to such hazards, and protect firefighters when exposure cannot be prevented, it is required to have a Respiratory Protection Program that includes specific operating guidelines.

NFD has an SCBA OG (#12), and a respiratory program document based on CSA Standard Z94.4-11 *Selection, Use, and Care of Respirators* has been developed as a draft. This draft needs to be developed as a supplement to or replacement of OG#12 to ensure that the following issues are adequately addressed:

- N-95 & SCBA Fit Testing.
- Respirator Training.
- SCBA/ Face piece/ Cylinders.
    - Requirements and Use.
    - Cleaning and Sanitizing.
    - Inspection.
    - Maintenance and repairs.
    - Bench testing/Hydrostatic testing.
    - Storage.
    - Transportation.
    - Refilling/ Air Exchange.
    - Air quality.
    - Air compressor and Panel operations, maintenance and repairs.
- Integrated PASS devices inspection and maintenance.
- Use of N95 Masks and other respirators that may be used by the Department.

The Respiratory Program OG should reference and follows relevant Section 21 Guidance Notes including Guidance Note #4-9: *Respiratory Protection Program* and Guidance Note #4-8 *Care, Maintenance, Inspection and Replacement of Structural Firefighting Personal Protective Equipment.*

Relevant NFPA Standards including NFPA 1851 *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* and NFPA 1971 Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting should also be referenced in the Program.

The Respiratory Program OG should require that Breathing Apparatus Logbooks should be available at each Station recording the date, time, and use of SCBA use and that each has been inspected and returned to service.

There should be a Maintenance log to document air quality tests, filter replacement tests, repairs and overhauls, and routine scheduled service.

The Respiratory Program should have a specific procedure regarding review and updates of the program and related OGs.

Permanent workplace records should be kept for all real and suspected exposures to biological, chemical or physical agents and guidelines for exposure reporting that meets the requirements of GN 2-7 *Reporting Exposures to Biological, Chemical or Physical Agents*.

Recommendation #31: ***An Operating Guideline should be developed to document the Department's Respiratory Program that will address relevant CSA and NFPA standards, Equipment Manufacturer's instructions and Section 21 Guidance Notes. The revised OG should include a schedule for review and updates.***

Self Contained Breathing Apparatus

NFD currently uses MSA Firehawk SCBA (4,500 psi) equipment which was purchased in 2014. Expected timeframe for replacement is 15 years (2029).

Although not required to be replaced until 2029, there have been numerous technical advances in SCBA equipment. NFD should continue to monitor advances in SCBA technology as well as SCBA purchases by mutual aid partners to determine the SCBA equipment should be considered for replacement before 2029.

NFD has a compressor and related equipment to fill SCBA cylinders only in Station 500. As renovations are considered for Station 100 physical accommodation for a fill station equipment and SCBA decontamination and maintenance requirements should be considered.

During the five-question interview process, there was considerable concern regarding sharing of SCBA facemasks and the request was made that each firefighter be assigned their own personal facemask. It is self-evident that facemasks should not be shared without proper cleaning and disinfection. Proper cleaning and disinfection of facemasks is not possible at a scene and this practice should cease immediately. The Department has a total of 40 SCBA packs which should allow one pack/facemask per firefighter per incident for virtually all potential circumstances so the need for sharing facemasks should not exist.

The NFD SCBA OG #12 and the proposed Respiratory Program OG need to further address this issue. As well, the OG regarding Station response should be reviewed to ensure that all stations respond to a major incident to ensure sufficient human and equipment resources are available.

The need for individual facemasks should continue to be evaluated in light of changing standards and best practice.

Other Equipment

NFD is well equipped with equipment required for the services authorized by the E. & R. By-Law including:

- Extrication and Roof Power Saws.
- Hydraulic Extrication Equipment.
- Scene Lighting.
- Air Bags.

- Cribbing.
- Hoses & related appliances.
- Hand Tools.
- Positive Ventilation Fans.

Thermal imaging cameras are now being used extensively for scene size-up, ongoing assessment and development of foreground tactics as well as use by interior crews. The number of thermal imaging cameras available should be evaluated with the objective of equipping Command, Safety Officer, Rapid Intervention Team (RIT) and each entry team.

Recommendation #32: ***The need to acquire additional thermal imaging cameras should be evaluated in context of current and future fireground protocols.***

The use of positive pressure fans has become a recognized fire ground tactic to rapidly remove smoke from a content or structure fire and facilitate search and rescue as well as salvage and overhaul procedures. Larger positive pressure fans are beginning to be deployed more frequently particularly where big box stores, warehouses and other large structures are found.

Recommendation #33: ***NFD should evaluate the capability of the current positive pressure fans in context of emerging fire ground practice.***

7.1.15 Apparatus and Apparatus Equipment Inspection and Maintenance

For trucks, tractors or trailers, or a combination of these vehicles that have a registered gross vehicle weight of more than 4,500 kilograms, the Ontario Highway Traffic Act (HTA)[20] requires:

- A written schedule to periodically inspect and maintain vehicles.
- Documentation to ensure that inspections and maintenance are carried out in accordance with the written schedule.
- Drivers conduct daily inspections.
- Valid annual or semi-annual inspections on all applicable vehicles are maintained.

[20] Prescribed Performance Standards for the vehicle are set out in the following *Highway Traffic Act (HTA)* Regulations.

- *HTA* Regulation 199/07 (Commercial Motor Vehicle Inspections).
- *HTA* Regulation 611 (Safety Inspections) Schedule 1 and 2
- *HTA* Regulation 587 (Equipment)

For Fire Apparatus, the HTA exempts Fire Apparatus from the daily (pre-trip) inspections. However, post-trip inspections remain best practice for volunteer departments

There currently is not an OG that addresses annual commercial vehicle inspections. SOP-A-6 addresses Emergency Apparatus Safety Inspections. An OG should be developed to address these requirements and should include specific procedures for pre-trip inspections (non-emergency) and post-trip inspections (emergency response) are stated.

Recommendation #34: ***An OG should be developed to ensure that the requirements of the Ontario Highway Traffic Act related to fire apparatus are met as well as providing specific procedures for pre-trip inspections (non-emergency) and post-trip inspections (emergency response) are stated.***

Documentation should be kept in a logbook on the Apparatus floor. Having a logbook with the record of previous inspections assists in tracking deficiencies and ensures follow-up. The relevant OG should include a procedure to ensure officer notification of any deficiencies found and formal process for follow-up.

An OG should be in place for regular inspections of all apparatus equipment. Monthly inspections are common in volunteer departments as a means to provide a reasonable frequency when there are relatively few resources available, and calls are infrequent. Monthly Inspections should augment pre-and post-trip inspections by completing a comprehensive vehicle inspection, inventory of all equipment as well as testing and inspection of all equipment according to the manufacturer's recommendation. This is a time-consuming process and will often require 1 to 2 hours for a team of 4 firefighters.

It is advantageous for firefighters to do be involved in truck checks as it enables ongoing familiarization and practice in the use of the equipment and enhances knowledge of what equipment is available on what truck and in what compartment.

It is essential that firefighters can rapidly access equipment on an emergency scene. In relatively low call volume departments, certain equipment may be used infrequently. Monthly truck checks can be extremely valuable for to ensure there is an ongoing memory refresh as to where equipment is located as well as how to use it safely and efficiently.

Apparatus and equipment reporting forms that identify all equipment by compartment should be created and kept in a vehicle specific log available on the apparatus bay. There should be a formal sign off by the supervising officer and formal procedure for notification, remedy and follow –up of deficiencies.

Recommendation #35: NFD ***should establish Operating Guidelines that documents the requirements and procedures for post-trip inspections and comprehensive monthly truck and equipment inspections including logbook documentation and a procedure for Officer signoffs and defect/deficiency remediation.***

7.1.16 Medical Response

NFD responds to a significant number of medical calls even though there are proximate ambulance base stations located in Embrun, Plantagenet, and Rockland and 'waiting' stations located in St Isidore, Casselman, Bourget, and Vankleek Hill.

The current 911 protocol results in medical calls first being relayed to the Central Ambulance Coordination Centre (CACC). The CACC will dispatch local Emergency Medical Services (EMS) and, after EMS has been dispatched, will notify fire dispatch as required.

Basic First Aid and CPR is a requirement for all NFD Firefighters. Emergency First Responder (EFR) skills including CPR at the health care provider level, AED and advanced first aid is not a mandatory requirement.

The rational for firefighters being trained at an advanced level include being able to:

- Respond to life-threatening medical emergencies such as cardiac arrest when EMS may be delayed.
- Provide patient care in hazardous situations such as inside vehicles during extrication.
- Provide assistance to EMS in managing patient care including bleeding control as well as cardiac and pulmonary resuscitation.
- Provide emergency medical response on-scene to assist firefighters as well as the public.

There is a significant time commitment required to achieve EFR qualifications. It is reasonable that Firefighters entering the service at the entry level (Firefighter I) will have basic first aid and CPR, however, EFR should be mandatory for advancement to Firefighter II.

7.2 Strategic Direction #2: Supporting a Culture of Safety

7.2.1 Building a Culture of Safety

Firefighting and other emergency response presents extraordinary hazards to firefighters as well as the public. Training, routine hall maintenance, truck and equipment checks also present significant hazards. Constant vigilance and adherence to best practice safety procedures are essential to achieving the objective of "Everyone goes home safe".

NFD recognizes the importance of safety in all they do and recognize that this commitment must be reflected in their culture. It is who they are and what they do!

NFD recognizes that health and safety does not simply refer to physical health. Mental health and particularly the effects of Post Traumatic Stress Disorder (PTSD) are a major concern in the fire service.

The Ontario Occupational Health and Safety Act provides the legislative requirements that employers must follow including the general duty requirement to ensure that *everything reasonable under the circumstances is done to protect the safety of the worker.*

It important to appreciate that the commitment to safety extends to the public as well. Section 217.1 of the Canadian Criminal Code has expanded this duty to include any other person as follows: "*Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task.*"

7.2.2 Joint Occupational Health & Safety Committee

The Nation Municipality Fire Service Departments has a Joint Occupational Health and Safety Committee (JOHSC) with 3 management members and 5 firefighter members. One firefighter member is certified. The Committee was active and was meeting regularly pre-Covid.

The JOHSC should develop a schedule for routine station inspections as well as participate in the development of specific safety related training.

Recommendation # 36: ***The NFD Joint Occupational Health & Safety Sub-Committees meet at least every 3 months, and the frequency of meetings, number of workers trained, and number of station inspections be reported to Council on a quarterly basis.***

7.2.3 IMS and Personnel Accountability

OG-2-2016 provides operating guidelines regarding implementation of command procedures including Incident Management. The OG appears to provide appropriate protocols for Incident Management implementation.

OG-2-2016 describes implementation of Unified Command in context of major disasters. The procedure for response to mutual aid calls requires firefighters to seek direction form the primary department Incident Commander. It is recommended that the concept of Unified Command be considered in context of mutual and automatic aid response to ensure that a NFD supervisor maintains oversight of NFD members.

OG-2-2016 does not specifically address the role of safety officer, media relations, authorized scene pictures, documentation requirements, or rapid intervention teams. These topics can be addressed with the IMS OG or as separate OG's, but the procedures need to be defined.

A core component of Incident Management is to ensure a system of personnel accountability is in place at every incident[21]. A personnel accountability system is required to insure knowledge of the location, task and identity of all on-scene firefighters during emergency operations. A properly functioning personnel accountability system is essential to safe scene operations as it ensures that personnel are acting as directed and efficient rescue can be implemented if required.

NFD uses a two-tag system, 'Blue' indicates 'on-scene', 'Red' is used to identify a task on the Accountability Board. NFD uses the 'Case Commander' accountability board.

There is not an Accountability OG at the time this report was written. Development of a formal OG that documents the procedures for implementation of the NFD accountability system, staging, accountability officer, radio procedures including 'PAR' and entry control procedure should be a high priority.

Recommendation # 37: ***OG -2-2016 should be reviewed and revised to include to include or cross-reference Accountability and Entry Control, Rapid Intervention Teams, Safety Officer, Unified Command for Mutual and Automatic Aid Incidents and Media.***

7.2.4 Safety During Fire Suppression and Rescue Operations

For small scale incidents, Command will assume the role of Safety Officer and ensure that safety risks are identified, mitigated, and balanced against intervention benefit. For larger scale incidents a dedicated scene Safety Officer should be appointed as noted in the previous section. Specific operating procedures need to be developed and documented that address the role of Command, Safety Officer, Officers and Firefighters to identify, assess and communicate scene risk and safety issues.

The references for role and deployment criteria of the Safety Officer include NFPA 1521 *'Standard for Fire Department Safety Officer'* and Guidance Note 2-4 *'Incident Safety Officer'*.

It is recommended that NFD Officers and senior firefighters be encouraged to take specific training to be certified as a Safety Officer to provide ongoing leadership regarding the role of Safety Officer.

[21] Guidence Note 5-1, Section 2-6 of NFPA 1561 and Section 6-3 of NFPA 1500

There does not appear to be a specific OG that provides the procedures for notifying outside agencies such as Utilities, Police, or other authorities to assist with scene safety. An OG should be developed to ensure that agencies routinely contacted for structure fires such as EMS, natural gas, propane, or hydro are noted as requiring mandatory notice under certain circumstances. Although it can be assumed contact information is available through Fire Dispatch, specific contact information should be available as a back-up.

Recommendation #38: A*n OG be developed specifically to specify mandatory reporting (hydro, natural gas) as well as identify where specific contact information for outside agencies is available.*

By their nature, firefighters will do whatever is required to save lives and property even if they are not specifically trained and equipped to respond safely or authorized. Thus, it is critical to have well understood Operating Guidelines that establish the protocols for obtaining resources to respond promptly to emergencies not authorized by the Municipal E & R By-law.

Recommendation #39: ***An OG be developed to provide written protocols regarding access to specialized technical rescue teams including trench, high angle, confined space, hazmat, swift water, water/ice rescue, CBRN, and HUSAR.***

7.2.5 Firefighter Response to Station

Historically, volunteer fire departments were located in rural areas and depended on firefighters who lived on farms and small villages to respond directly to the scene. Firefighters who live near the station responded to the station and drove a truck to the scene. Pumpers in rural areas only needed a two-person cab as just one or two firefighters would respond quickly to the station.

This practice was appropriate in the days when the majority of firefighters lived on farms, the response was largely for defensive structure fire operations, and equipment and tactics were based on simply “putting the wet stuff on the hot stuff”

Today’s world is vastly different where firefighters are expected to do rescue and interior entry is expected. Safe operations require organized teams under a formal command structure before commencing suppression or rescue activities.

Further, there is increasing awareness of potential hazards of storing potentially contaminated bunker gear in vehicles. As more people who reside in rural Ontario live in or close to villages and hamlets, there is an increased likelihood of firefighters being able to respond directly to the station.

Thus, the recommended practice supported by NFPA and OFMEM standards is that it is preferable to take an extra minute or two to have a fire apparatus leave the station with a crew of four to six firefighters rather than leave with a partially filled truck and have firefighters respond directly to the scene.

NFPA 1720 *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments* requires rural areas such as the Nation to have 8 staff with a response time of 14 minutes, 80 percent of the time. Section 4.3.4 states "Upon assembling the necessary resources at the emergency scene, the fire department shall have the capability to safely commence an initial attack within 2 minutes 90 percent of the time." Section 4.3.5 of the standard states "Personnel responding to fires and other emergencies shall be organized into company units or response teams and shall have required apparatus and equipment."

The Ontario Fire Marshal Fire Ground Effectiveness Sub-Model [22] states:

- "To provide effective, efficient and safe fire protection services, the delivery system chosen must ensure a virtually simultaneous arrival of a minimum of four fire fighters".
- "The OFMEM recommends, where practical, a minimum of four persons be dispatched on the initial apparatus".
- "A total complement of no less than ten fire fighters, including supervisor(s), and, if possible, a minimum of two vehicles one of which is a triple combination pumper, must assemble at the fire ground".
- "It may be preferable to dispatch fewer vehicles with more fire fighters rather than the vice versa".

NFPA standards and OFM policy as well as best practice evidence support the rational for firefighters and officers responding to the station and leaving on apparatus as an organized crew. However, there may be specific circumstances where response directly to the scene is appropriate. Senior Officers may be provided with an emergency response vehicle so they can respond directly to the scene with their gear.

The criteria for responding directly to the scene need to be clearly defined. Actions that can and should be taken under such circumstances need to be clearly defined as well recognizing that firefighter safety is the primary concern.

Recommendation # 40: ***An Operating Guideline should be developed to require firefighters to respond directly to the station for emergency response and define the exceptions where firefighters and officers may respond directly to the incident.***

7.2.6 Safety During Salvage, Overhaul and Fire Cause and Origin Investigations.

An OG needs to be developed to provide direction for salvage and overhaul operations including PPE requirements. This OG should ensure compliance with

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http://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/ComprehensiveFireSafetyEffectivenessModel/FireGroundEffectivenessSub-Model/AssemblingFireAttackTeams/assemble_fire_attack_teams.html
Assembling Fire Attack Teams

relevant standards including Section 21 Guidance Note 6-23 *'Safety practices during Salvage and Overhaul'* and Guidance Note 4-13 *'Personal Protection During Fire Investigation Operations'.*

Recommendation # 41: ***An Operating Guideline should be developed to provide direction for salvage and overhaul operations including PPE requirements.***

7.2.7 Safety Officer

OG 105 addresses the role and deployment criteria for a Safety Officer. This OG should be reviewed to ensure NFPA 1521 *'Standard for Fire Department Safety Officer'* and Guidance Note 2-4 *'Incident Safety Officer'* are adequately reflected.

It is recommended that an NFD Officer(s) be identified to take specific training to be certified as a Safety Officer to provide ongoing leadership regarding the role of Safety Officer.

Recommendation # 42: ***OG 105 be revised to ensure NFPA 1521 'Standard for Fire Department Safety Officer' and Guidance Note 2-4 'Incident Safety Officer' are adequately reflected.***

7.2.8 Incorporating Safety in Training Lesson Plans

Safety has to be an integral component of all training. Formal Lesson/Training Plans need to be in place that includes specific safety procedures including designation of a safety officer. Training/lesson plans need to be approved by the Chief. Contracted-out training also requires formal lesson plans with designated qualified instructors approved by the Chief.

Recommendation # 43: ***An OG needs to be developed/amended to require that Lesson/Training Plans, approved by the Chief, to be in place that include specific safety procedures including incorporating a safety officer.***

7.2.9 Mental Health and Post Traumatic Stress Disorder

First Responders are required to manage situations involving death and serious injuries. The result can be Post-Traumatic Stress Disorder (PTSD), a mental health condition that is caused by witnessing or experiencing actual or threatened death, serious injury or violence. Someone with PTSD can experience nightmares, uncontrollable memories, persistent fear and severe anxiety. PTSD can lead to depression, work and marital difficulties, and suicide.

The Province has recognized the impact of PTSD on First Responders and has implemented the Supporting Ontario's First Responders Act. PTSD diagnosis for first responders and certain workers such as correctional officers, youth service workers, and emergency dispatchers is now presumed to be work-related – they no longer need to prove it to access WSIB benefits and resources.

The Act also requires employers of workers covered by this presumption to develop PTSD prevention plans and provide information about their plans to prevent PTSD in

their workplaces.

A toolkit is available to help employers prepare their PTSD prevention plans and programs.[23] NFD needs to develop a PTSD Prevention Plan as required by the Ontario Supporting Ontario's First Responders Act.

A PTSD Prevention Plan as required by the Ontario Supporting Ontario's First Responders Act. has been developed.

Recommendation # 44: ***An Operating Guideline and PTSD Prevention Plan needs to be developed to outline the procedures for PTSD identification, access to employee assistance programs, access to specialized counselling services, peer support, incident debriefs, critical incident debriefs and meet the requirements of the Ontario Supporting Ontario's First Responders Act.***

7.2.10 Issues for Further Investigation

Occupational health and safety issues should continue to be monitored to determine the need for Operating Guidelines, procedures, or policy. These issues include:

- Fall restraint system requirements i.e., loading hose on top of pumpers/tankers,
- CO removal in stations – *Is ventilation and automatic detection adequate? Should direct exhaust systems be considered?*
- Decontamination at scene and post-fire bunker gear management. There is growing evidence of skin contamination through bunker gear and need for on-scene as well as in-station decontamination. Operating Guidelines need to be developed and reviewed on an annual basis as the science is evolving rapidly. The need for on-site decontamination, post-incident showers, bunker gear cleaning procedures and other protection strategies needs to be evaluated on an annual basis or as further knowledge/directives require.

Recommendation # 45: ***Health and safety issues, policies and practices be continually monitored, reviewed, and reflected in Operating Guidelines including OFMEM communiqués and Section 21 Guidance Notes. Senior officers should be encouraged to attend the annual Ontario Association of Fire Chiefs Health & Safety Conference.***

[23] https://www.ontario.ca/page/post-traumatic-stress-disorder-prevention-plans

7.3 Strategic Direction #3: Accountability

7.3.1 Linking Mission, Vision, and Strategy to Results

Great organizations understand their purpose (mission) and desired future (vision). They understand that achieving their vision is dependent on having a clear strategy to move forward from the present to a desired future state. And they understand that they are accountable for their actions and deliverables in achieving the strategy.

The concept of accountability is particularly relevant in the public sector where funding is predominantly provided by the taxpayer. Excellence in the public sector can be defined as the concept of delivering the best possible service within the resources allocated and providing evidence that this objective is being accomplished.

Many organizations have adopted the "Balanced Scorecard"[24] as a tool to translate long-term strategy in day-to-day management through the mechanism of measurement. The Balanced Scorecard translates vision and strategy into a tool that effectively communicates strategic intent and motivates and tracks performance against tactical objectives.

Typically, organizations report on financial and activity indicators. The paradigm shift created by the Balanced Scorecard was to look at the entire organization described as four dimensions:

- *Financial Perspective* – How do we look to our funders?
- *Customer Perspective* – How do our customers see us?
- *Internal Business Perspective* – What must we excel at?
- *Innovation and Learning Perspective* – How do we continue to improve?

Within each dimension, reporting addresses relevant objectives, measurements, targets and initiatives that flow from the Strategic Directions.

It is recommended that NFD provide quarterly reporting regarding the activity of the Department during the period including the number of calls by major type, fire inspections, public education activities, training and Master Plan implementation progress.

Suggested indicators that can be reported include:

Financial:	- Quarterly actuals vs budget and forecast * - Capital expenditures actual vs budget and forecast *
Service Performance:	- Types and frequency of calls* - Response times - Public Education events vs target - Fire Inspections vs target - % of structure fires with fire investigation completed - Pre-plans completed vs target

[24] Kaplan, R.S. and Norton, D.P, the Balanced Scorecard, Measures that Drive Performance. Harvard Business Review, 1995.

Internal Processes	- % calls with Accountability System in place - % structure fires with RIT Team established - Calls with formal debrief - Number of building permits/plans reviewed - Department recruitment and attrition - Number of exit interviews completed
Growth & Development:	- YTD training hours actual vs target - Number of firefighters/officers achieving certification - Number of OGs and policies reviewed/developed

It is also recommended that an annual report be produced that provides a comprehensive overview of the previous year as well as key priorities for the next year. Priorities should be further detailed and incorporated into the annual Corporate Business Plan adopted by Council and also considered when renewing and/or amending the Municipalities Strategic Plan.

Recommendation # 46: ***That The Nation Fire Services develop and implement quarterly, and annual reporting based on the Balanced Scorecard accountability framework.***

It is important to note that measuring performance is a sizable task. It requires ongoing effort to develop and update annual objectives, develop the performance metrics, record activities, and create and maintain reports. The CriSys© system utilized by NFD will continue to be of great value in the collection, recording, and analysis of data, however, financial and staff resources will be required to develop comprehensive quarterly reporting.

In addition to reporting performance metrics, quarterly reporting will also allow Council to be apprised by the Chief of changes in legislative obligations, training requirements, best practices, and incidents of concern or other pertinent matters.

Through comprehensive and structured reporting, Council will be sufficiently informed to satisfy itself that the fire protection services being provided to the community are adequate and effective and that the NFD is meeting required standards.

7.3.2 Public Reporting

Ontario Regulation 377/18 under the Fire Protection and Prevention Act, that was to become effective January 1, 2020, required that Fire Departments provide a public report to the Municipal Council and the Fire Marshal. Although this regulation was not put into force, public reporting as originally required in the regulation would be an important contribution to the Municipality's commitment to transparency and public accountability.

The Regulation had separate reporting requirements for Volunteer and Career Departments. For Volunteer Departments such as NFD, the public report was to provide the time interval value that the fire department achieves or exceeds 90% of the time as set out in Table 6:

Table 16: Ont. Reg. 377/18 Public Reporting Requirements for Volunteer Fire Departments Effective Jan. 1, 2020

1.	**Alarm transfer time:** The time interval from the receipt of the emergency alarm at the public safety Answering Point (PSAP) until the alarm is first received at the fire department communication centre
2.	**Alarm answering time:** The time interval that begins when the alarm is received at the fire department communication centre and ends when the alarm is acknowledged at the communication centre
3.	**Alarm processing time**: The time interval from when the alarm is acknowledged at the fire department communication centre until response information begins to be transmitted to the fire department
4.	**Alarm handling time:** The time interval from the receipt of the alarm at the PSAP until the beginning of the transmittal of the response information to the fire department.
5.	**Turnout time**: The time interval that begins when the fire department notification process begins and ends at the beginning point of travel time
6.	**Travel time:** The time interval that begins when a fire department unit is en route to the incident and ends when the fire department unit arrives at the scene
7.	**Initiating action/intervention time:** The time interval from when a fire department unit arrives on the scene to the initiation of emergency mitigation
8.	**Total response time:** The time interval from the receipt of the alarm at the PSAP to when the first fire department unit is initiating action to control the incident

Recommendation # 47: ***That The Nation Municipality Fire Department develop and implement an annual public report that provides an overview of Department activity including but not limited to proposed ONT. REG. 377/18 Ont. Reg. 377/18 Public Reporting Requirements for Volunteer Fire Departments.***

7.4 Strategic Direction #4: Supporting Service Excellence and Innovation

7.4.1 The Learning Organization

Over time, many organizations lose their capacity to learn, change and adapt as structures and processes are established. When problems arise, the solutions are often short-term based on previous practice, and problems continue to re-emerge.

Expectations, methods of service delivery and technology, however, are constantly evolving. Organizations need to develop knowledge about new technologies and processes, understand what is happening in the outside environment and facilitate creative solutions using the knowledge and skills of all within the organization.

This requires co-operation, communication, and a culture of trust. It requires a fundamental attitude change that effort and energy must be dedicated to a constant review of how one does work and always asks the question: *Is there a better way*?

This concept has been reflected in the concept of a learning organization[25] which can be defined as one which facilitates the learning of its members and continuously transforms itself to best serve the customer. This process of supporting transformation is synonymous with supporting innovation.

NFD has in place many of the attributes of a Learning Organization. There is a serious commitment to learning. And, there are many examples of 'best practice' that have been adopted.

There is a clear relationship between best practice, Operating Guidelines, Training, and Performance. This relationship can be thought of as an interdependent linkage where best practice and ongoing evaluation informs OGs. OGs are the foundation for training, and training is the critical foundation for achieving service excellence.

Figure 15 illustrates this concept.

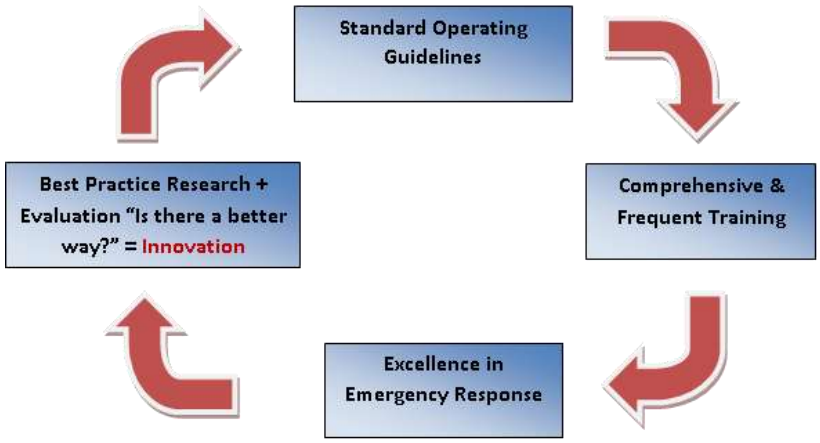


Figure 15: Relationship between Inquiry, Operating Guidelines, Training and Operational Excellence

[25] Senge, P. M. (1990) *The Fifth Discipline. The art and practice of the learning organization*, London: Random House.

7.4.2 Training Delivery

Quality training delivery is essential to build competency and teamwork to enable suppression and rescue operations to be implemented efficiently and safely. Instructors must be competent and there needs to be sufficient time and frequency of training to build and maintain skills.

Effective training is a requirement under the Ontario Occupational Health and Safety Act (OHSA). The Act prescribes that the Employer (Municipality) must ensure all members of their fire department are trained and equipped to provide the services delivered.

Section 21 of the OHSA provides that the Minister may appoint committees to provide specific advice and guidelines. Under this authority, an Ontario Fire Service Advisory Committee exists with the responsibility to advise and make recommendations on matters relating to the occupational health and safety of all firefighters in the Province of Ontario.

The Committee is also responsible for the development of a manual of Health and Safety Guidance Notes for fire services in Ontario. The manual provides policies and procedures that are recommended to be used by workers in the fire service to prevent injury or illness and will comply with the intent and provisions outlined in the Act.

To ensure due diligence with respect to fulfilling the requirements of the OHSA, each training session should have a comprehensive lesson plan developed in compliance with NFPA 1041 Standard for Fire Service Professional Qualifications. All training lesson plans should be developed with specific reference to the applicable Section 21 Guidance Notes.

Examples of specific Guidance Notes that should be referenced in the Training OG's include, GN 7-1 Health and Safety during Practical Training Sessions and GN 7-2 Training Requirements.

The Chief or designated senior officer must approve and sign-off on all lesson plans.

The training program curriculum and specific content should be based on NFPA 1410 Standard on Training for Emergency Scene Operations. The training curriculum should be reviewed and published annually including a reference calendar.

Training is a key factor in maintaining the morale and *esprit de corps* of the firefighters. Effective training needs to not only enable skill development and protect worker safety, it should also be engaging, enjoyable and embraces best practice principles of adult education.

Training should include external training opportunities at regional centres such as the Clarence Rockland Centre in Bourget as well as regular in-house training.

A program of professional development should be in place for each firefighter to plan for individual advancement in areas such as technical rescue, officer development, training, fire inspection, fire prevention and public education, fire cause determination or medical training.

Lesson plans, training safety plans and training records should be documented in the NFD Operating Guidelines. There should be specific Operating Guidelines for

records, safety in training, driver training, health & safety training and minimum attendance for training & fire calls.

Recommendation # 48: ***That NFD Training Operating Guidelines be developed to ensure that there are:***

- ***Formal lesson plans to be developed in compliance with NFPA 1041 and approved by the Chief.***
- ***All training lesson plans reference applicable Departmental Operating Guidelines, Section 21 Guidance Notes, professional literature,*** reference peer group 'best practice' ***and OFMEM directives and communiqués.***
- ***The training program curriculum and specific content should be based on NFPA 1410 Standard on Training for Emergency Scene Operations. The training curriculum should be reviewed and published annually including a reference calendar.***

The time required to plan a comprehensive training program, undertake the development of Lesson Plans and Training OG's as well as participate in program delivery should not be underestimated. (See Section 7.4.4).

It will be important to encourage, document and track the concurrent development and review OG's and their related lesson plans.

Recommendation # 49: ***A performance target regarding the number of OG's and Lesson Plans to be developed, reviewed, and updated should be identified as part of the NFD annual objectives and be monitored in the quarterly report.***

The 5-Question Interview process as well as the Planning Day discussion confirmed a clear consensus regarding the desire for the Stations to seek additional opportunities to train together and share a common curriculum. The Training OG's should reflect methods, procedures and intent to seek joint training opportunities as a Department (all stations), as a sector (Hub and Satellite) as well as an individual Station.

Every call provides a training opportunity. An opportunity for a 'debrief' after calls to reflect on what went well and 'lessons learned' should be encouraged. This 'debrief' should be a formal component of a Post-Traumatic Stress Management Program to assist in early identification of a need for potential further interventions. It can also be an opportunity to provide commentary that may be useful in the review and evaluation of OG's and training lesson plans.

Recommendation # 50: ***A process for debriefs after calls and related documentation process to identify issues, questions and 'lessons learned' should be encouraged with a formal OG.***

A challenge for fire departments that rely on volunteer firefighters is the ability to find time to provide sufficient training hours to maintain core competencies in fire suppression as well as auto extrication, medical response, officer development, pump operations, and water rescue. Upwards of 100 - 120 hours is required annually to

accomplish the objective of maintaining core competencies. Development of additional technical or professional competencies will add many more hours.

Recommendation # 51: ***To maintain and develop core competencies, the training curriculum and calendar needs to reflect a commitment of 100 to 120 training hours per annum.***

7.4.3 Documentation, Communication and Records Management

Participation in training activities as well as specific demonstration of required knowledge and competency needs to be documented with records kept organized, secure and readily accessible by authorized personnel. Comprehensive documentation is essential to the evaluation of individual performance and learning requirements as well as demonstrating that the employer has taken all reasonable actions required should litigation arise.

The requirement for training records needs to be prescribed in an OG that ensures compliance with GN 7-3 *Documentation of Training*.

Records management for documenting attendance at training & fire calls needs to be prescribed in an OG.

The method to record training content covered in training sessions needs to be prescribed in an OG.

Recommendation # 52: ***An OG needs to be developed to address training documentation and records management.***

There should be prescribed processes in place for sharing of workplace communication and information such as Fire Marshal Directives and Communiqués, and new or revised fire service operating guidelines and notices.

7.4.4 Training Leadership

To create a coherent training program that ensures service excellence, OG and Lesson Plan Development and departmental interoperability it is recommended that one senior officer be designated as Chief Training Officer for NFD. This position serves as the single point of responsibility for leadership of the training program including curriculum requirements and schedule, external liaison in supporting initiatives such as the joint recruit training program, development of OG's and lesson plans.

Recommendation # 53: ***To create a coherent training program that ensures service excellence, OG and Lesson Plan Development and departmental interoperability it is recommended that one senior officer be designated as Chief Training Officer for NFD.***

The workload associated with developing and delivering a comprehensive training program far exceeds the capability of a single person. Thus, actual preparation of lesson plans and training delivery should be delegated to the greatest extent possible.

Each Station should have at least one officer or firefighter qualified as a trainer facilitator. This individual should take a leadership role in training development and delivery and function as a member of the Department's Training Committee.

Although designated trainer facilitators should be identified, the development and delivery of training should be a team effort. Subject matter experts should be identified to assist in the development of lesson plans and assist in delivery of a common curriculum across the Department to ensure a consistent practice. This concept has the potential to considerably improve morale and learning by involving officers and firefighters directly in the learning process. *Learn, Do, Teach*!

Although in most cases, subject matter experts will be found within the NFD. In some cases, it may be appropriate to contract with another department or individual to provide the required expertise.

Recommendation #54: ***Subject matter experts/teams be identified and supported to assist in the review and development of OGs, lesson plans, and to deliver common training to each station to ensure a consistent interpretation of OGs.***

7.4.5 Transition to NFPA Standards and Certification

A key challenge for the Fire Service in Ontario is the transition from training standards, program development and delivery previously led by the Ontario Fire College and Office of the Fire Marshal to a program based on NFPA standards and certification. Examples of current certifications include:

- NFPA 1001 Firefighter Level I and II.
- NFPA 1021 Company Officer
- NFPA 1041 Fire Service Instructor
- NFPA 1031 Fire Inspector,
- NFPA 1035 Fire & Life Safety Educator

Currently there is no mandatory certification required by statute for firefighters. In May 2018, the Ontario Government announced new regulations under the Fire Protection and Prevention Act which was to mandate certification of firefighters, fire inspectors and dispatchers. The Regulations were created after recommendations from three coroner's inquests and years of pressure to increase safety standards.

However, in October 2018, the new provincial government rescinded this requirement for mandatory certification.

Nonetheless, NFD, like many progressive fire departments in Ontario, initiated mandatory certification for all new recruits and is committed to an ongoing program such that all firefighters and officers are certified.

In February 2022, a consultation draft to require compulsory certification for firefighters was released by the Provincial Government.

7.4.6 Advanced Training

NFPA 1001 provides the Standard for Firefighter Professional Qualifications. This Standard identifies the criteria for firefighter qualification at the Entrance, Firefighter I and Firefighter II levels.

NFPA Standard 1670, Standard on Operations and Training for Technical Search and Rescue Incidents describes three levels of competency for technical rescue:

- *Awareness Level* This level represents the minimum capability of organizations that provide response to technical search and rescue incidents.
- *Operations Level* This level represents the capability of organizations to respond to technical search and rescue incidents and to identify hazards, use equipment, and apply limited techniques specified in this standard to support and participate in technical search and rescue incidents.
- *Technician Level* This level represents the capability of organizations to respond to technical search and rescue incidents and to identify hazards, use equipment, and apply advanced techniques specified in this standard necessary to coordinate, perform, and supervise technical search and rescue incidents.

NFPA 1021 provides the Standard for Fire Officer Professional Qualifications.

As part of a comprehensive training program, ongoing professional development should be encouraged. Upon completion of Firefighter I and II, firefighters should be encouraged to undertake awareness level training relevant to the risk assessment profile. This will assist NFD in providing an "All Hazards" approach where the NFD can safely and competently respond to a variety of potential incidents, take initial steps to ensure scene safety, and for incidents requiring specialized resources, assist responding departments.

For firefighters who wish to continue to advance, an individualized program should be developed that match's personal interest with NFD requirements.

For specialized rescue operations as permitted by the E. & R. By-Law such as auto extrication, upon completion of awareness level courses Firefighters should be encouraged to seek additional training and certification at the operations and technician level.

During the Master Fire Plan consultation process, firefighters expressed a strong desire to continue 'Go' ice and water rescue service. However, 'Go' Ice and water rescue is extremely dangerous.

There have been several fatalities where firefighters have lost their lives in Ontario during ice water training. Following a 2010 fatality in Point Edward, the Ontario Fire College put its ice rescue program on hold in 2014 and has yet to replace it with an updated version. A second death occurred during ice rescue training on the Saugeen River near Hanover in 2015.

In 2017 an Ontario Coroner's Jury investigating both deaths recommended placing in abeyance all training exercises for ice/cold water rescue in locations where any current is deemed to be "swift" (above one knot or such other level as may be deemed to constitute "swift" water)[26].

To date, a new curriculum and training standards has not been developed or approved by the Ontario Fire College or the Ontario Fire Marshal's Office.

Private sector training courses remain available, and some Fire Departments continue to provide Go water & ice rescue training. However, specific training, certification, qualification and regulation requirements remain at the discretion *and responsibility of the Fire Chief* when a Fire Department undertakes to provide a 'Go' water & ice rescue service.

Standards that exist that are relevant to water and ice rescue operations include:

- NFPA 1006, Standard for Technical Rescue Personnel Professional Qualifications
- NFPA 1670, Standard on Operations and Training for Technical Search and Rescue Incidents.
- NFPA 1983, Standard on Life Safety Rope and Equipment for Emergency Services.
- ULC S555 for Rope and Technical Rescue Equipment,
- Transport Canada requirements for marine vessel operators as applicable (Pleasure Craft Operators Certificate or Small Vessel Operator Proficiency)

Under clause 25(2)(h) of the Ontario Health & Safety Act (OHSA), *the employer is required to take every precaution reasonable in the circumstances for the protection of a worker*. This 'general duty clause' together with other requirements contained in the OHSA creates a requirement that Fire Departments must provide an adequate training program as well as competent supervisors. Providing accredited courses and requiring demonstrated competency according to established standards is a means to demonstrate that reasonable precautions have been undertaken. Failure to do so exposes employers and supervisors to significant liability risk.

The training requirements to enable a Go Ice Water Rescue Program that would enable Firefighters to be certified at the NFPA Operations level would consist of the following components:

- Rope Rescue (Awareness & Operations) - 32 hrs (4-day course)
- Open Water Rescue (Awareness & Operations) - 32 hrs (4-day course)
- Ice Water Rescue (Awareness & Operations) - 32 hrs (4-day course)

Swift Water Rescue (Awareness & Operations) would be an additional 4-day course (32 hrs)

26 https://www.mcscs.jus.gov.on.ca/english/Deathinvestigations/Inquests/Verdictsandrecommendations/OCCInquestBruntandKendall2017.html

To provide a 7/24/365 level of service, a significant number of NFD firefighters would need to be trained. These firefighters would need to commit to initial training in the range of 96 hours.

In the 5-Question Interviews, the need for low angle rope rescue was identified to assist in off-road rescue situation in areas such as the Larose Forest. Rope rescue skills are also required for water & ice rescue as noted above.

Firefighters who wish to advance in other areas such as Company Officer, Trainer/Facilitator, Public Education, Fire Inspection and Prevention, Safety Officer or Fire Investigation should be encouraged to do so.

Table 17 presents an overview of the NFPA certifications that should be considered when planning for firefighter career development.

Table 17: Firefighter and Officer Position and Recommended NFPA Certifications

	Firefighter I	Firefighter II	Awareness	Operations	Technician I	Technician II	Fire Inspection I	First Aid/CPR	EFR /CPR - HCP	Fire Inspection II	Fire Instructor I	Fire Instructor II	Fire Investigator	Fire Officer I	Fire Officer II	Fire Officer III	Fire Officer IV
Firefighter I	X							X									
Firefighter II	X	X	X	X					X								
Trainer	X	X	X	X	X				X		X						
Captain	X	X	X	X	X				X		X			X			
Fire Prevention Officer	X	X					X		X				X				
Deputy Chief	X	X	X	X			X		X		X	X	X	X	X		
Chief	X	X	X	X			X				X	X	X	X	X	X	X

7.4.7 Fire Training Collaboration

Although the Province has indicated that NFPA certification will no longer be mandatory, there is no indication that there will be funding that was once available for Ontario Fire College programs. Thus, it appears that fire departments in Ontario are on their own in terms of determining required standards, developing, and implementing the required training curriculum to achieve the required standards and securing the required funding.

All Ontario fire departments have this challenge; however, the larger departments have the staff and financial resources to readily adapt existing training protocols to meet NFPA standards. Smaller departments will find this task daunting and will need to consider partnerships and other methods to meet this challenge with available resources.

Not having training programs in place that are based on recognized standards and not providing documentation that recognized competencies are achieved leaves fire departments in a precarious position from a risk management and safety perspective.

The general duty clause in the Ontario Occupational Health and Safety Act section 25(2) (h) provides *"that an employer shall take every precaution reasonable in the circumstances for the protection of a worker".* The definition of "*reasonable precaution*" is often based on generally accepted standards.

While the Province has chosen not to make the NFPA standards mandatory, the general adoption of NFPA standards by peer fire departments, may in effect, establishes NFPA standards as the definition of a "*reasonable standard*".

For small, rural fire departments, collaborative efforts whereby resources are pooled amongst geographically proximate departments can enable common curriculum, lesson plans and training to be implemented in a cost-effective manner to achieve certification over time.

NFD have already implemented this strategy in training new recruits. New recruits undertake joint training at the Clarence-Rockland Regional Training Centre. The recruit training is based on the International Fire Service Training Association '**Essentials of Fire Fighting**' with 70 hrs of in-class lessons and scenarios as well as 70 plus hours of at-home learning. Recruits graduate with NFPA 1001 Firefighter I certification following the required tests.

Other joint training initiatives should be encouraged.

Recommendation #55: ***The Nation Municipality Fire Department continue to support regional training initiatives including the joint recruit program.***

NFD should continue and expand this initiative to support regional training and regional availability of NFPA courses

7.4.8 Recruit Training

Before taking the Joint NFPA Firefighter I Recruit Training Program, NFD recruits are required to attend a year-long orientation program. This program is designed to provide an orientation to their home station and begin learning about fire service operations. They are issued a pager and may respond to calls but are not allowed to operate in the 'hot-zone' or wear SCBA.

The recruit program appears to be valued by the recruits and there was positive feedback during the five-question interviews in terms of the learning process including better understanding of the material provided during the formal joint recruit training.

This appears to be a unique program not in common practice. The program has some clear advantages in allowing the recruit to assess their desire to continue training and allows the Department to better assess the candidate before either party invests significantly in the formal training process.

However, there are some risk issues that need to be addressed if the program is to continue. There needs to be a clear operating guideline in place to specify exactly what the pre-service recruit can and, more importantly, cannot do. Unless properly trained, equipped, and supervised, the Pre-Service Recruit can be a significant risk to their own safety as well as others. Responding to calls potentially exposes the pre-service recruit to a high-risk situation as the environment is likely not controlled, supervision may be limited, and in emergency situations, the risk of 'freelancing' or performing tasks beyond their level of skill and ability is all too real.

Further, a core objective of contemporary, progressive fire departments is to attract a diverse workforce that brings additional skills and attributes than represented by legacy norms. NFD needs to be careful that the pre-service program does not discourage applicants or recruits if they do not "fit-in" with the traditional culture.

Recommendation # 56: ***The Nation Fire Department should formally evaluate its recruit training program in light of current best practice. If the Department continues the Program, a specific Operating Guideline needs to be developed to describe the Training Objectives, Procedures, Supervision, Required PPE, Identification, Duties, Restrictions and Limitations, and procedures to encourage and enable diversity. The OG should be reviewed by legal counsel and the Municipalities Insurer to identify any further risk issues.***

7.4.9 Fire Training Centre

To safely and effectively train for interior search and rescue as well as suppression activities, a properly engineered facility that can replicate a smoke-filled environment is required. Larger departments have such facilities and other dedicated facilities have been developed for regional use by smaller and rural departments. There are a number of regional training centres in Ontario that have been developed to address rural department needs.

Development of a regional centre for the United Counties of Russell and Prescott has been undertaken by the City of Clarence Rockland.

Recommendation # 57: ***That The Nation Fire Department support and utilize the Clarence Rockland Regional Fire Training Centre when specialized training facilities is required.***

Although it is critical to have access to specialize training resources that are best provided at a regional centre, it is also critical no have a safe and secure area for basic drills that is not located within a residential area where training activities could be disruptive. Currently, NFD does not have a suitable location for routine training. Identifying a suitable property that could be used for this purpose should be a high priority.

Recommendation # 58: ***That The Nation Municipality supports the acquisition use of an existing municipal property for use as a fire department training area.***

7.4.9 Medical Training

NFPA 1001 requires that firefighters have as a standard of entry, minimum emergency medical skills including infection control, CPR, bleeding control and shock management.

In Ontario, fire departments generally require emergency first responder certification including patient assessment, bleeding control, oral airway, nasal airway, supplemental oxygen administration, suctioning, CPR- *Health Care Provider*, use of an automated external defibrillator (AED), manual stabilization of fractures, and assisting in the administration of basic medications such as epinephrine auto-injectors, oral glucose, and inhalers. Naloxone administration has recently been authorized. As well, Ontario firefighters are often trained in packaging, moving and transporting patients. This level of training is supported by NFD, however, it is not a specific requirement.

Although NFD responds to a significant number of medical calls annually, it is a challenge to maintain medical response competency unless dedicated time is made available to train and run scenarios. This is particularly challenging with limited training hours per month that need to cover structural firefighting, auto extrication and other requirements.

Not all firefighters will be able or willing to devote extra time for ongoing medical training, however, it is likely that a number will wish to further develop and maintain their medical skills. Thus, to enhance medical and other firefighter competencies for those firefighters who wish to advance and maintain competency as NFPA Firefighter II, it is recommended that an additional optional monthly training session be implemented.

Recommendation #59: ***That The Nation Municipality Fire Department require Emergency Medical Responder or equivalent certification for all firefighter II positions and develop a specific OG and Training Plan in that regard.***

Recommendation #60: ***An optional monthly training night be considered to enhance medical and other firefighter competencies for those firefighters who wish to advance and maintain a high level of competency.***

7.4.10 Enhanced Training for Mass Casualty Events

Mass casualty events, fortunately, are not a frequent occurrence. Nonetheless, mass casualty events do occur. And, should such an event occur in or near The Nation Municipality, NFD will be one of the first responders and will be expected to play a key role to play in the immediate management of the incident.

Recommendation # 61: ***That an OG and Training Program be developed and implemented for on-scene initial management of mass casualty events such as school bus rollovers, tornadoes, long-term care facility fires, and multi-vehicle accident.***

7.5 Strategic Direction #5 – Effective Leadership and Strategic Management

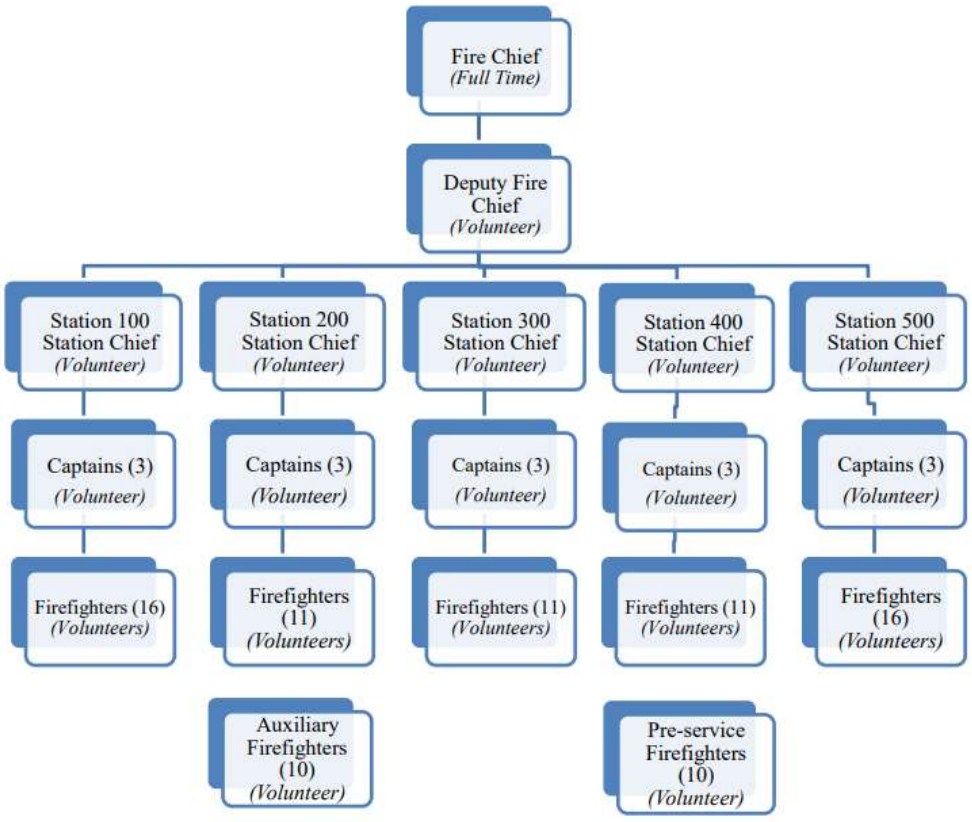
7.5.1 Current Department Organization and Staffing

The Nation Municipality has evolved from five independent departments resulting from the amalgamation of three former townships in 1998, each with their own Fire Chief and Deputy Fire Chief. Following amalgamation, there was a part-time coordinator. In 2004, the five Fire Departments were amalgamated into one Department with a single Fire Chief, a West Sector Chief, an East Sector Chief, and station chiefs. All positions were part-time (Volunteer).

In 2014, full-time Fire Chief and part-time Deputy Chief were hired. The east and west Chiefs were eliminated and the five station Chiefs remained.

The approved NFD organization chart and staffing is presented in Figure 16:

Figure 16: Current Approved* NFD Organization



***Source:** Schedule A, Fire Dept. Establishing & Regulating By-Law , 2018

The five-question interview process revealed numerous issues with the current organization:

Organizational Culture

The five stations although functioning under a Chief since 2004 have retained a high level of operational autonomy. The role of Chief has taken on more of a staff role supporting the Station. There have been instances where the authority of the Chief has been directly challenged with 'end-runs' by Station Chiefs to appeal directly to Council Members and have had operational decisions overturned.

This culture has resulted in an environment where the Chief is unable to properly organize and delegate tasks. In fact, the day-to-day activities of the Chief represent more of a delegate-up where tasks that should be delegated to others are performed by the Chief.

Separation of Task, Tactical and Strategic Responsibilities

The current organization is not supported by an administrative assistant. The result is many critical tasks are not being done or done in a minimal way. Documentation, record-keeping scheduling, assisting with the development of policies, procedures and operating guidelines are examples of administrative functions which are currently falling between the cracks.

Further, the organizational structure, position title and accompanying position descriptions needs to clearly identify responsibility and accountability. The roles of the Deputy and Station Chiefs regarding tactical and strategic decision making needs to be clear.

Span of Control and Reporting Relationships

Determining the appropriate span of control or number of employees a supervisor can effectively manage, is not a precise science. However, to balance efficiency and effectiveness, span of control of less than 3 may be questioned as inefficient and a span of greater than 10 may compromise effectiveness. In designing organizations, the challenge is to balance the structure appropriately.

The current NFD organization has a single Deputy reporting to the Chief with the five Station Chiefs reporting to the Deputy. This is a dysfunctional arrangement as it leaves the formal communication to, and supervision of, the Station Chiefs to the part-time Deputy, who in the past was also responsible for the Training program. Informally, communication and direction was through the Chief, but the organization chart did not make the situation clear.

The relationship between Station Chief and Captains is also not clear. Some Stations have a 'Platoon' system in place where a number of firefighters are specifically assigned to a Captain and the Captain reports to the Station Chief. In other Stations, the relationships are not as structured and firefighters and captains effectively all report to the Station Chief.

7.5.2 Future Organization

The future NFD Organizational Structure needs to achieve the following objectives:

1. Create a unified Department.
2. Outline a clear and coherent structure and reporting relationships that supports operational effectiveness, efficiency and performance.
3. Clearly separates the Strategic, Tactical and Task components of the Organization.
4. Anticipates future requirements of the Department and trends associated with a community that is growing and diversifying both in terms of its population and economy.

Figure 16, 17 and 18 present three potential organization scenarios for the Department that address current issues and the objectives noted above. Both incorporate the following features:

- Station 300 is no longer shown.
- Station 100 and 500 are designated Hub Stations, and Stations 200 and 400 are designated as Satellite Stations.
- The positions of Station Chiefs are eliminated.
- The Hub Stations will have a complement of 21 firefighters including 3 Captains.
- The Satellite Stations will have a complement of 14 firefighters including two Captains. Firefighters will be assigned into platoons that will report to a Captain. Captains will report to their respective Deputy/District Chief.
- One Deputy/District Chief will assume responsibility for the Training Program; one Deputy/District will assume responsibility foot the Public Education and Fire Prevention Program.
- An administrative assistant is shown as is a fire prevention officer. These are seen as future positions that will be added as the budget permits.

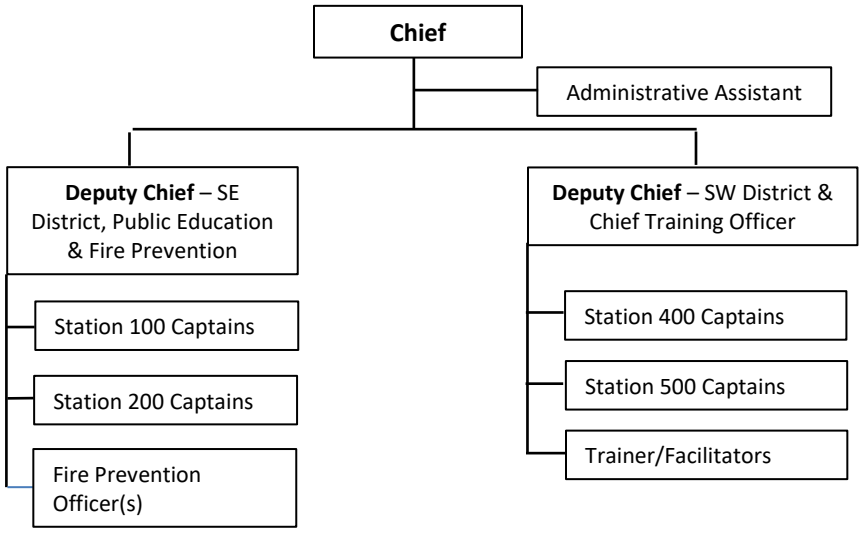
In Option ‘A’, one Deputy Chief will take responsibility for the east sector including Stations 100 and 200. The other Deputy Chief will take responsibility for the west sector including Stations 400 and 500.

One of the Deputy Chiefs will assume responsibility for the Training Program, the other Deputy Chief will assume responsibility for the Public Education and Fire Prevention Program.

Option ‘A’ achieves the functional requirement of direct responsibility for operational excellence as well as staff responsibility for service excellence in the delivery of training or Fire Prevention/Public Education. The disadvantage of this model preserves the east/west divide.

Option ‘A’ is illustrated in Figure 16.

Figure 16: Nation Fire Department Organization Chart – Option A.



Option 'B' is similar to Option 'A' except the responsibilities of the Deputy Chiefs are realigned such that one Deputy focuses on Operations and has line responsibility for the Captains and Firefighters as well as training. The other Deputy would have more of a staff role and assume responsibility for fire prevention and public education.

In Option 'B' there is clear responsibility and accountability. The east/west divide is not reinforced by the organization chart. The potential disadvantage of this model is the Operations Deputy potentially having an excessive span-of-control. Another issue is the 'operations' may be seen potentially as a 'higher status' position, and the ability of the 'staff' Deputy to take a full on-call role may be compromised

Option 'B' is illustrated in Figure 17.

Figure 17: Proposed Nation Fire Department Organization Chart – Option B.

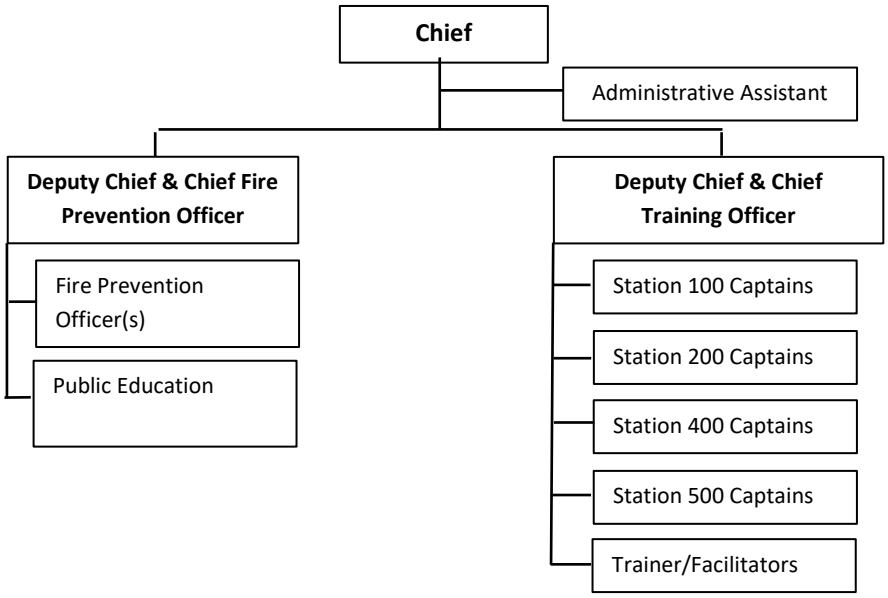
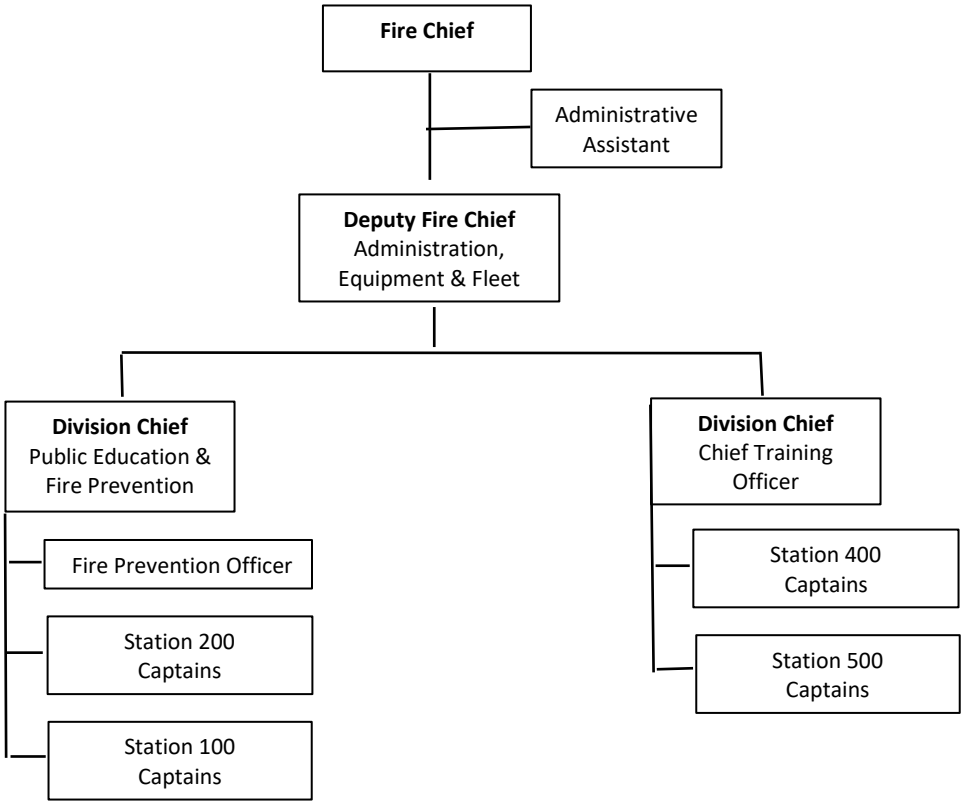


Figure 18 presents a third option with a Deputy Chief and two District Chiefs. In this model, the Deputy would have direct operational control for the Department and would also assume responsibility for equipment and fleet. The Deputy Chief would assist the Chief in policy development as well as assist the District Chiefs in their responsibilities.

The key feature of this structure is having a Deputy to support the Chief. The historic and ongoing divisive culture of the Nation Fire Department requires a Deputy position to support the Chief in forging a new, unified culture where there is loyalty to the Department not the individual station.

Figure 18: Nation Fire Department Organization Chart – Option C.



Recommendation #62: ***To enable an efficient and effective fire and emergency service delivery model that meets statutory requirements and public expectations for service excellence, it is recommended that The Nation Fire Department implement a new organizational model that retains the Chief and Deputy Chief positions, creates two District Chief positions and eliminates the four Station Chief positions.***

The Nation Municipality has experienced significant population growth as well as growth in commercial and industrial occupancies. This growth is expected to continue. As well, community expectations and legislative requirements have significantly increased expectations for compliance with standards, reporting, and comprehensive training.

As a result, many peer group municipalities in Ontario have, or are in progress of migrating from an all-volunteer department to:

- Full-Time Chief
- Full-Time Deputy
- Full-Time Administrative Assistant
- Full-Time Fire Prevention Officer(s)

The Nation Municipality has had a full-time Chief since 2014. However, the leadership and administrative responsibilities for a Department serving a municipality with the population, large geography and significant growth are such that an all-volunteer staffing is not sustainable. It is evident that the growth in number and size of commercial, industrial and multi-story, multi-resident occupancies in the Municipality will require full-time fire prevention officers to meet legislated fire inspection and prevention requirements.

The need to augment leadership and administrative support staff as an immediate priority due to not only community growth and increased volume of calls but also the workload required to develop and maintain policies and procedures (OG's), develop and maintain excellent training programs, develop and maintain excellent relationships with neighbouring fire departments and manage recruitment and other human resource issues.

The recommended staffing implementation timeline is presented in Table 18.

Table 18: Proposed NFD Staffing 2020 - 2023

Position	2020	2021	2022	2023	2024	2025
Chief (F/T)	1	1	1	1	1	1
Deputy Chief (F/T)					1	1
Deputy Chief (P/T)	1		1	1		
District Chiefs (P/T)			2	2	2	2
Station Chiefs (P/T)	5	4				
Fire Prevention Officer (F/T)						1
Fire Prevention Officer (P/T)			1	1	1	
Administrative Assistant (P/T)			1			
Administrative Assistant (F/T)				1	1	1
Captains (P/T)	15	15	10	10	10	10
Firefighters (P/T)	85	70	70	70	70	70

Augmenting current staffing with dedicated administrative support will facilitate operating guideline development as well as improved document control.

The full-time Fire Prevention Officer is necessary to provide the expertise and time to manage a robust fire inspection, enforcement, and prevention program as well as support public education.

Recommendation #61: ***To provide for appropriate staffing to meet current and future operational and management requirements, it is recommended that The Nation Municipality budget for:***

- ***Part-Time Administrative Assistant (2022)***
- ***Part-Time Deputy Chief (2022)***
- ***Two Part-Time District Chiefs (2022)***
- ***Full-Time Administrative Assistant (2023)***
- ***Full-Time Fire Prevention Officer (2025)***

A challenge for municipalities with volunteer fire departments is meeting response time performance targets during business hours, Monday to Friday. Many people who live in The Nation Municipality work in Ottawa and are not able to leave work to attend calls.

To date, workday response has not been a significant issue for NFD. Paging multiple stations for structure fires and other serious incidents can assist in achieving target response times. However, as fire department members retire and the trend towards employment outside of the Municipality continues, it can be anticipated that workday time response may become a more significant issue.

One tactic to improve workday response is to increase the number of volunteer firefighters. This may increase the probability of firefighters who can respond particularly if the process is designed to recruit those who are able to respond during the workday. It is also possible to encourage and facilitate other Nation Municipality employees to serve as Volunteer Firefighters. This is an important tactic to achieve optimal staffing and response times during the workday and should be encouraged.

The recruitment of the full-time personnel who are able to serve as a firefighter can also assist with achieving optimal staffing and response times during the workday. Specifically, the recruitment of additional FPO staff can enhance daytime staffing and improve response times.

Recommendation # 62: ***Response staffing level targets should be established and monitored to determine if additional firefighters or other strategies are required to achieve desired on-scene staffing.***

7.5.3 Organization Culture

The Five Question interview process revealed a very high level of “esprit de corps”. Morale is very positive and there is mutual respect for the NFD leadership and members. It is evident that there is a strong culture that supports teamwork, encourages participation, and nurtures innovation.

As organizational changes evolve, initiatives to enhance the existing positive culture should continue. The following questions can be useful in guiding and evaluating future decisions:

- Are we promoting an organizational culture that develops effective leadership now and for the future?
- Are we supporting clear accountability?
- Are we enhancing the power of the team?
- Are we encouraging and facilitating continuous quality and improvement initiatives?
- Are the contributions of each member respected and valued?
- Do we support the integration of various perspectives in decision making and processes for the successful completion of tasks?
- Do we build on individual and group strengths to create an environment that reinforces dedication to delivering professional and customer-oriented services?
- Do we support a positive environment that welcomes diversity of members, respects the bilingual heritage of the community, facilitates retention and recruitment, and encourages pride in being a firefighter and in being a member of the The Nation Municipality Fire Services?

Specific tactics that can be considered to accomplish a more engaged and motivated team include:

- Formal committee structure that involves firefighters in management and decision making. Potential committees could include; Apparatus & Equipment, Training, and Public Education and Fire Prevention.
- Annual performance reviews for all staff that maps out career aspirations and education opportunities.
- Extensive communication and information sharing.
- Encouraging participation in conferences and other general education opportunities.

7.5.5 Human Resources Practices and Procedures

The historic evolution of volunteer fire departments in Ontario is that they have often been more of a self-governing ‘club’ and operated at arms-length from the host municipality. Today, the term ‘volunteer’ continues to exist; however, the relationship of the firefighter and officers to the municipality is more accurately described as an employer/employee relationship with volunteer firefighters effectively being part-time employees.

Thus, it is important that the Municipality’s human resource policies and procedures are understood and followed. Officers and firefighters need to be hired and promoted in accordance with the relevant municipal policies and procedures.

Position Descriptions are critical to ensuring roles and responsibilities are understood and employees are fairly evaluated. Development of well documented position descriptions will be essential for implementation of the proposed organization as well as ensuring clear accountability for the delivery of service excellence.

Position descriptions have been in place since 2015 however it is apparent there has not been formal performance reviews or clear communication regarding performance expectations. The Captain and Deputy Chief positions will need to be updated in line with the proposed reorganization recommendations.

Corporate harassment and workplace violence policies and procedures need to be understood by all members and there should be a formal process of awareness training for all NFD personnel.

Recommendation #63: ***That the review and updating of current Position Descriptions to align with the recommended organization structure be an immediate priority of for the Department.***

Recommendation #64: ***That annual performance reviews of all NFD staff take place with status reports provided to Council as part of the Departmental quarterly report.***

Recommendation # 65: ***The NFD implement a formal awareness training program regarding harassment and workplace violence policies and procedures.***

7.5.6 Retention and Recruitment

Retention and recruitment of fire department volunteers is becoming increasing difficult. This is not simply a local issue; it is national and international in scope. Today, the expectation is that the volunteer firefighter will have the same level of training and competencies as a career firefighter. Further, the breadth and depth of training and response capability has grown significantly.

Society has changed as well. Fewer people in rural areas live and work in the same community. Thus, daytime response can be a serious issue. Work and family pressures make it a challenge to undertake the intense training required as well as to respond to calls.

Volunteer fire departments have, in the past, been able to be relatively passive regarding recruitment and retention. There were always eager candidates anxious to join and many stayed on the department for 30+ years.

Today, it's becoming increasingly difficult to recruit and retain. Today's volunteer and career firefighters have to commit significant time to develop advanced skills, respond to a wide variety of incidents at all hours and participate in fire inspection, pre-planning and public education. Firefighters need to be respected, valued, and supported.

On the fireground, it is understood and expected that "command and control" is the *modus operandi*. However, extending "command and control" as the core

management style outside of incident management can be an issue in terms of motivating staff and supporting recruitment and retention efforts.

One of the methods to promote retention and recruitment is to ensure that firefighters and officers are respected, valued, and supported by continually evaluating performance in the context of: "*Do our policies, procedures, activities, actions and decisions support a positive culture that supports innovation, continuous improvement and assists us in recruiting and retaining staff"?*

Specific questions that can be asked to evaluate efforts to support recruitment and retention include:

- *Do we have training programs that are informative, well presented, engaging and relevant? Lecture style PowerPoint presentations generally are not as helpful as a participative conversation. Hands-on doing is generally preferable to classroom teaching?*
- *Do we have fun when training or is there a culture of fear & intimidation where people are afraid to show initiative or ask questions?*
- *Do we support diversity? Do we have a culture that promotes gender and cultural diversity and eliminates harassment and other behaviours that lead to a toxic workplace?*
- *Do we use public education events at village fairs and other such events to provide information on being a volunteer firefighter?*
- *Do we actively provide training and promotional opportunities to firefighters who wish to advance?*
- *Do we have a compensation system that is fair and appropriate?*
- *Do we provide other incentives and rewards to acknowledge the contribution of firefighters?*
- *Is there a clear and supported plan for advancement?*
- *Do we consistently engage in a formal exit interview with firefighters who are leaving to identify opportunities for improvement?*

Examples of activities that can promote a positive organizational culture that supports recruitment and retention include regular 'town hall' meetings with the Chief, recognition such as provision of hats and other fire department clothing, and an annual 'awards' night.

Other suggestions that were identified during the 5 question interviews and planning day discussions:

- Performance based compensation (i.e., attend 70 % of training).
- Gym membership to support firefighters being physically fit.
- Dental & Medical Benefits.

Recommendation #66: ***That a formal Retention and Recruitment Strategy be developed using firefighter focus groups to identify issues and propose recommendations.***

Recommendation # 67: ***The NFD should continue its efforts to welcome and support diversity including active effort to recruit and support female firefighters.***

7.5.7 Compensation

In the past, being a volunteer was just that, they were a volunteer and there was no compensation. Training was minimal and calls were infrequent. Today's volunteer is expected to attend:

- Approximately 72 hours of scheduled training sessions per year and 16 hours required to cover CPR & First Aid Course every 2 years.
- Additional hours are required for driver training and specialty courses such as Company Officer, Pump Operations and NFPA courses.

This commitment is in addition to actual calls.

In reality, the commitment required is more accurately described as a part-time job than volunteer.

NFD has already adopted a compensation method of hourly reimbursement with a minimum of two hours for attending a call. This system provides a more appropriate and fair method of compensation as opposed to the traditional point system. There are also certain insured benefits provided under a group plan (loss of life, disability, etc.).

Other compensation issues were identified that could be considered including considering paid on-call for times when there may be insufficient firefighters such as holiday weekends.

7.5.8 Succession Planning and Retirement Policy

A formal succession plan should be developed to plan for development of firefighters to replace officers as they retire or leave. This plan should identify likely retirements over the next 5 years on an on-going basis and include a specific education and graduated responsibility map for individuals who wish to pursue advancement.

Clear path career advancement is an important incentive to maintain morale, engagement, and retention. Developing leadership capability and competency with senior firefighters enables calls to be well managed when Officers may not be present or are limited in numbers.

Retirement in a volunteer department may be a difficult issue as senior firefighters and officers are committed and may not wish to end their involvement at a certain age. On the other hand, there can be situations where a member's health, physical

fitness or willingness to actively learn and implement new procedures may be an issue.

NFD does have an auxiliary classification that allows a firefighter to retire from active duty but still remain involved in supporting the mission. This classification is supported by a policy that details the role and specific activities that are permitted and those activities that are not.

From a risk management perspective, there is merit in considering a means to encourage retirement at a certain age. Some departments have a by-law requirement that all firefighters over the age of 60 require an annual medical assessment to confirm that they are able to perform the tasks expected of a firefighter. Some departments impose a mandatory retirement age. Another tactic is to have annual conversations with senior firefighters and officers to discuss retirement and develop a mutually agreeable, documented plan.

Recommendation # 68: ***That a formal Succession Plan and Retirement Policy/OG be developed.***

7.5.9 Policies and Operating Guidelines

Policies and operating guidelines (OGs) are used by the fire service to ensure that services and functions are performed in a specific and routine manner. Adherence to policy and procedural operating guidelines promotes operational continuity, safety of personnel, operational effectiveness, and consistency in the delivery of fire protection services. Comprehensive and current Operational Guidelines demonstrate due diligence and reduce potential municipal liability.

A policy is a principle or rule to guide decisions and achieve rational outcomes. A guideline is a statement that prescribes a course a course of action. In the Fire Service "Guidelines" are used rather than "Procedures" to allow some degree of flexibility to adapt to specific circumstances associated with emergency events.

This Master Plan as provided numerous recommendations for additional OG development. Further, operating guidelines should be subject to detailed review annually, lesson plans should incorporate specific reference to the relevant OG, and OG's should specifically refer to source documents including Section 21 Guidance Notes and OFMEM communiqués. It is also critical that the two Departments develop and review their OGs jointly to ensure interoperability in training and on the fireground. This is essential from a Township risk management perspective.

Developing and reviewing OGs is a significant task that requires dedicated resources. For NFD which needs to provide comprehensive suppression, prevention and public education activities, it is not reasonable to expect that this activity can be accomplished with an all-volunteer department. Joint development and review of common OGs is one of the major reasons for supporting the recommendations for additional staffing previously noted.

Recommendation # 69: ***A target number of OGs to be reviewed annually be established as well as an annual target for new OG development.***

Recommendation # 70: ***That 'best practice' Fire Departments with comprehensive OGs be identified to guide a multi-year agenda for OG development.***

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7.5.10 Records and Documentation

Concurrent documentation and effective record keeping are essential to effective evaluation of individual and departmental performance, ensuring worker safety, ensuring that equipment operates when needed and as designed as well as protecting individuals and the Municipality from liability. A comprehensive records management system will:

- identify the records to be maintained,
- identify the location of records and methods of securing records,
- clearly identify the levels of authorization to access records,
- defines the back-up process to ensure business continuity in the case of an adverse event and,
- identify the retention period for records.

Fire service records are municipal records and are subject to the Municipal Act, 2001 and the Municipal Freedom of Information and Protection of Privacy Act, 1990. The Municipal Act requires that municipality shall retain and preserve the records of the municipality and its local boards in a secure and accessible manner and may establish retention periods during which the records of the municipality must be retained and preserved.

Specific OGs should be in place to require that NFD records shall be maintained systematically in written documents, computer systems, staff notebooks and other formats. Specific records should be identified that are required to meet various legislative requirements, demonstrate due diligence, and document actions taken. These documents are essential in legal proceedings and assist in planning for future needs and evaluating programs and services.

The OGs should also address:

- how record storage is secured, and access controlled,
- responsibility for management of records
- procedures for recording of vehicle and equipment logs, training, and incident records
- back-up procedures and systems for digital data,

The NFD uses CriSys© software package for document management and statistical analysis. There are comprehensive reports filled out for each call and the information is entered into CriSys©. Paper copies are kept in the Captain's Office. Personnel Files are kept in the Townships Human Resources Department and in the Chief's office. Training records for each firefighter with all the certificates/courses they have completed are kept in a secure location in the training room.

Documentation exists regarding capital equipment. Further investigation is required to determine if the capital inventory process and documentation is consistent with The Nation Municipality fixed asset policy.

Fire Inspections reports are kept in paper copy. Each inspection is filed by address.

Each vehicle has a folder with relevant documents (manuals, oil changes, safety certificates, etc.). Although there are routine inspections carried out on an annual basis, a formal preventative maintenance program should be developed based on the manufacturer's recommendations.

Firefighter hours are tracked in CriSys based on training and emergency response records.

CriSys© is a comprehensive information management tool. Excellent work has been done to utilize this capability and efforts should continue to automate as many records as possible. It is useful to maintain paper records as well for ease of access to originals and as a backup.

Fire management software such as CriSys© is continually evolving. It is important to evaluate updates as they become available. Further, software functionality should be evaluated on a continuous basis to determine if another product could offer significant additional benefits. Should upgrade or transition to another product be considered, a comprehensive risk/benefit analysis should be undertaken as software application migration can be resource intensive and potentially disruptive to operations.

There would be benefit in having an OG to document the location and system associated with both electronic and paper filing. This would facilitate identifying what records are being kept and where they are located and the retention period. This is particularly important as records and documents are often electronic and are kept in multiple data bases and locations.

From a business continuity perspective, this analysis is critical to understanding where there are risks and if there are appropriate back-up and alternative sites available should normal access be disrupted.

Recommendation #71: ***That office procedures, processes, record location and access methods be documented and reviewed to ensure that complete records are being maintained, are readily accessible and the CriSys© program is being used to its full potential.***

Recommendation # 72: ***That office procedures, processes, record location and access methods be reviewed to determine if adequate back-up and alternative measures are in place to maintain business continuity should normal access or procedures be disrupted.***

Computer tablets have the potential to improve fire inspection and pre-plans. Data can be collected on-site and uploaded in real-time eliminating delays and simplifying the documentation process. Tablets can also be used by senior officers as a communication, information sharing, and command resource tool.

Recommendation # 73: ***That electronic tools such as tablets as well as existing or enhanced capability of CriSys© be explored to better keep track of performance measures and field documentation including fire inspections.***

7.5.11 Electronic Communication and Access to Documents

Effective communication including full access to documents such as policies, reports, OGs, notices and training lesson plans is vital to keeping firefighters informed and engaged. E-mail and automated text messaging can be useful for rapid communication. An intranet access tool to facilitate secure access to documents, email, and scheduling software should be provided.

To ensure all firefighters and officers have access to a laptop and required software, an affordable employee purchase plan could be considered.

Access to the existing Township corporate intranet and employee IT purchase plan will likely facilitate achievement of both of the objectives noted above.

Recommendation #74: ***To facilitate communication and access to OGs, training materials and other documents, it is recommended that firefighters have access to the Township intranet and employee IT purchase plan.***

7.6 Strategic Direction #6 – Collaborative Relationships

No man is an island, entire of itself [27]

Few endeavours are more reliant on the assistance of others than emergency response. Effective relationships with responders within one's community as well as neighbouring communities are essential to serving the public interest in the most efficient and effective way.

Although the principle applies to even the largest and most sophisticated Fire Service, it is particularly true with volunteer services where coverage of large geographic areas and limited human and technical resources are present. The challenge is particularly compounded by the public expectation that the same level of emergency response service will be available whether you live in the city or country.

This Strategic Direction will review the formal and informal relationships that exist with neighbouring fire departments and other emergency response partners.

7.6.1 Mutual Aid Agreements.

The purpose of Mutual Aid Agreements is to enable requests for assistance from neighbouring communities support the fire department when additional resources are required.

The Nation Municipality Fire Services is an active participant in the United Counties of Prescott and Russell Mutual Aid Agreement. This formal agreement is based on

[27] John Donne ***Devotions upon emergent occasions and seuerall steps in my sicknes - Meditation XVII***, 1624

the OFMEM template and provides for a Mutual Aid Coordinator, identifies the key resources each participating Department has and outlines the protocol for activation. The purpose of the agreement is to facilitate the rapid deployment of resources from one municipality to another should they be required.

NFD participates in a number of automatic aid agreements whereby NFD or a neighbouring fire department will be automatically dispatched to respond when they are the closest department. The Nation Limoges Station will respond to calls in the western section of the village that is located in Russell Township. The Town of Casselman will respond to calls in areas of the Nation that are proximate the Town boundary.

There have been discussions to with neighbouring municipalities to expand automatic aid agreements to border areas including Champlain (Vanleek Hill Station) for the eastern side of Municipality, Clarence-Rockland for north-west and Alfred-Plantagenet for north-east. The Covid-19 situation has temporarily put these discussions on hold, but it is expected they will resume in fall of 2021.

Other agreements can be explored with North Stormont, and North Glengarry for HWY 417 coverage and their border areas where the Nation may be of assistance.

Recommendation # 75: ***NFD should continue discussions with the neighbouring municipalities to further identify automatic aid agreements which may be mutually beneficial.***

There currently does not appear to be an OG that addresses Mutual or Automatic Aid operations. OG's should be in place that document the criteria for activation as well as protocols for joint operations (Unified Command).

Recommendation # 76: ***NFD should develop OG's that document the criteria for activation as well as protocols for joint operations (Unified Command).***

NFD participates in the United Counties of Prescott and Russell Mutual Aid Association. This group appears not to have been active in recent years. Nonetheless, NFD and the Nation's representatives on County Council should continue to actively support this Association in addressing issues such as:

- Joint training initiatives.
- Improved Identification system of firefighting apparatus.
- Compatibility/interoperability of equipment (i.e., SCBA).
- Opportunity for shared purchasing to enhance interoperability and achieve purchasing efficiency.
- Opportunities to share expertise among departments.
- Continued development of common policies and operating guidelines for such subjects as: initial response, communications, and IMS integrated command protocols.
- Review of process for requesting resources.

- Continuity of coverage.
- Specific technical rescue service access protocols and related OGs - High Angle, Trench, Confined Space, Heavy Extrication, Haz Mat, and Swift Water.
- Radio technology plan.
- Development of an inventory of departmental resources.
- Regular liaison meetings with OPP and EMS to discuss first responder issues.

Recommendation # 77: NFD *should continue to actively participate in and support the United Counties of Prescott and Russell Mutual Aid Association to improve Emergency Response capability.*

7.6.2 Access to Provincial Resources.

An OG should be in place to address access to provincial resources such as Chemical, Biological, Radiological, Nuclear Explosive (CBRNE) and Heavy Urban Search and Rescue (HUSAR), Ministry of Environment and Ministry of Natural Resources as well as resources for a major disaster.

Opportunities to work with the United Counties of Prescott and Russell Mutual Aid Committee, OPP, Prescott & Russell EMS, OFMEM officials and Ottawa Fire should be sought to exercise major response capability associated with a CBRNE, HUSAR, multi-casualty or other large-scale event that requires local, regional and provincial resources.

Recommendation # 78: NFD *should seek opportunities to participate with the United Counties of Prescott and Russell Mutual Aid Committee, OPP, EMS, OFMEM officials and Ottawa Fire to exercise major response capability associated with a CBRNE, HUSAR, Multi-Casualty or other large-scale event that requires local, regional and provincial resources.*

8.0 Implementation, Ongoing Planning and Strategic Opportunism

The challenge associated with implementation of the recommendations contained in this Master Plan should not be underestimated. Change is often difficult as there are limited resources, competing priorities and inertia associated with comfort in maintaining the status quo. Nonetheless, creating momentum to achieve continuous improvement is essential to maintain a dynamic, progressive organization that provides optimal service to the community and is a source of pride to its members.

To implement the Master Plan recommendations, it is recommended that a quarterly Officers Meeting be held to:

- Translate Master Plan directions and recommendations into a three-year business plan.
- Adopt a project management framework to create an annual work plan that identifies and tracks objectives by timeline, dependencies, specific tasks, and most responsible person (MRP).
- Prepare an annual report to Council to identify specific objectives accomplished during previous year and objectives to be accomplished in the next year.

By formally monitoring the Master Plan Implementation on a monthly basis, the NFD Officers will ensure that:

- An annual training plan is produced, approved and implemented.
- Public education, prevention and enforcement objectives are included in the annual work plan as well as proposed staffing and required operating and capital investments.
- A schedule for of review for OGs and by-laws to maintain currency and distribute workload over time is developed and implemented.
- There is a review and update of position descriptions as required and annual performance reviews are completed for staff consistent with the Townships HR polices & procedures.

The annual work plan should be developed in consultation with the firefighters and opportunities to allow firefighters to take responsibility for tasks should be encouraged as a means to develop engagement and leadership skills.

Recommendation #79: ***To implement the Master Plan recommendations, it is recommended that joint quarterly officers meeting of both Departments be held to incorporate the Master Plan Directions and Recommendations into a three-year business plan, provide an annual report to Council, and monitor recommendation implementation using a project management framework.***

This Master Plan is designed to provide macro level direction for a five-year period. It is, however, prepared at a point in time based on information representing what is

known and can reasonably be assumed. Much, of course, is not known and the environment is constantly changing as technology, practice, and priorities evolve.

Thus, this Master Plan should be seen as a guide that will need to be evaluated on an ongoing basis and changes will be required as circumstances evolve. Knowing the mission, vision, values, and strategic directions of the NFD will assist in the determination of an aligned response to the challenges and opportunities ahead.

9 Appendices

Appendix I: List of Recommendations:

Recommendation # 1: *That the Establishing and Regulating By-Law be reviewed to list the approved range of services the Municipality is prepared to authorize and fund which may include:*

- *Structure, vehicle, hydro pole, grass, forest and wildland fires.*
- *Hydro lines and trees down.*
- *Land based Water and Ice Rescue*
- *Emergency First Responder Medical Response, Defibrillation and naloxone administration*
- *Propane, Carbon Monoxide, and Natural Gas response.*
- *Auto, ATV, and Snowmobile Rescue.*
- *Farm Rescue*
- *Public Assistance*
- *Assistance to other agencies including police and EMS.*
- *Fire prevention and public education*
- *Controlled Entry Water and Ice Rescue*
- *Low-angle rope rescue*

Recommendation #2: *A comprehensive fire safety, public education and fire prevention program should be designed and implemented with specific annual targets for home visits, public event participation, school and vulnerable occupancy visits and operating guideline development.*

Recommendation #3: *The fire safety, public education and fire prevention program should target areas of greatest risk identified through 1) risk assessment including review of fire cause analysis, 2) focus on provincial priorities including smoke and CO Alarms and 3) should address high risk populations including children and seniors.*

Recommendation #4: *In partnership with other first responders, the Public Education/Fire Prevention Program should address public education priorities designed to reduce injury and fatalities due to motor vehicle and other accidents.*

Recommendation #5: *An Operating Guideline should be developed to reflect Recommendations #1, 2 &3*

Recommendation #6: *NFD review Fire Inspection Operating Guidelines #402 to ensure that the procedure:*

- *Fulfills the requirements of Ont. Reg 150/13, The Fire Code.*
- *Augments the statutory requirements for fire inspection with pro-active, risk-based 'consultation' visits with annual targets established.*

- *Includes a home visit program for residential dwelling units for installation and maintenance of smoke alarms and carbon monoxide detectors.*
- *Specifies the appropriate involvement and role of fire prevention personnel in the examination of plans and specifications of permits for new or renovated buildings for compliance with applicable fire regulations.*

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- *Includes a home visit program for residential dwelling units for installation and maintenance of smoke alarms and carbon monoxide detectors.*
- *Specifies the appropriate involvement and role of fire prevention personnel in the examination of plans and specifications of permits for new or renovated buildings for compliance with applicable fire regulations.*

Recommendation #7: *It is recommended that the Establishing and Regulating By-Law be reviewed and revised to require the Fire Chief develop and maintain an effective fire prevention program that will:*

a) Ensure, through plan examination and inspection, that required fire protective equipment is installed and maintained within buildings,

b) *Reduce or eliminate fire hazards,*

c) *Ensure compliance with applicable Provincial fire prevention legislation, statutes, and codes in respect to fire safety, and*

d) *Develop and maintain an effective public information system and educational program, with particular emphasis on school fire safety programs, and commercial, industrial and institutional staff training.*

Recommendation #8: *OG #404 Fire Cause Determination should be reviewed and/or augmented to address:*

- *Required documentation and procedure for secure storage of records.*
- *Designation of Officers as lead for fire investigations who will have or receive advanced training.*
- *Process for review as part of ongoing development of fire prevention and public Education Strategies.*
- *Criteria for fire investigation as well as OFM and Police notification*
- *Consider integrating with OG #401*

Recommendation #9: *A specific operating guideline should be developed for fire safety plans which require that 1) an inventory of all occupancies in the municipality which require fire safety plans be identified as well as the frequency of inspection, and 2) sets out the requirement for reporting to Council that required occupancies have a fire safety plan in place.*

Recommendation #10: NFD *develop an Operating Guideline for Pre-incident Planning to reflect best practice methods, target objectives for the number of pre-plans to be developed annually, organizational responsibility and require that Pre-Plan development be coordinated with suppression training to facilitate effective and safe emergency response.*

Recommendation #11: *That a joint policy and procedure be developed regarding the respective roles of the NFD and Building Department with respect to building permit and planning application approvals as well as building inspections.*

Recommendation #12: *A specific OG should be in place for the for vulnerable occupancies program which addresses:*

- *Identification of vulnerable occupancies and registration with the OFMEM.*
- *Review of fire safety inspections files and required updates to the Vulnerable Occupancy Registry.*
- *Requirement that the Fire Officials who are responsible for approving a fire safety plan for a building containing a care occupancy, a care and treatment occupancy or a retirement home has successfully completed a program or course acceptable to the Fire Marshal.*
- *Procedure for conducting spot audits.*
- *The use and understanding of applicable legislation and Fire Marshal Directives as demonstrated through documentation and records.*
- *Use of a Fire safety inspections checklist to conduct inspections as per Fire Marshal Directive 2014-002.*
- *Procedures for the approval of fire drill scenarios and evaluation and approval of fire safety plans.*
- *Monitoring compliance with new Fire Code requirements as applicable such as self-closing devices, emergency lighting sprinkler systems, automatic notification of the fire department, and smoke alarms in each suite.*

Recommendation #13*: It is recommended that planning commence immediately to bring a design proposal for Council's Consideration to replace Station 400 with a new, two single bay satellite fire station.*

Recommendation #14*: It is recommended that the Station 100 Public Works Bay be transferred to the Fire Department and a design proposal be developed to remove the partition between the bays and any other renovations required to provide adequate decontamination and bunker gear storage for Council's consideration.*

Recommendation #15*: It is recommended that Station 200, 300, and 400 be limited immediately to no more than 2 apparatus to provide adequate clearances to protect the health and safety of firefighters.*

Recommendation #16*: It is recommended that OG procedures for starting, moving, and backing apparatus in stations be reviewed and revised as required.*

Recommendation #17*: It is recommended a specific OG procedure be developed for Station 400 to address parking as well as for starting, moving and backing apparatus*

recognizing the extremely limited apron space and minimal clearances between walls and apparatus bay doors.

Recommendation #18: *It is recommended that a study be initiated with an experienced architect to consider modifications to Station 500 to provide appropriate decontamination, bunker gear storage, parking and firefighter access to avoid entrance to the building through apparatus bay doors when vehicles are departing.*

Recommendation # 19: *Stations 100 and 500 should be designated 'Hub' Stations and be equipped with three principal apparatus including a pumper, heavy rescue and tanker as well as specialized equipment such as an air fill station. Stations 200 and 400 should be designated as 'satellite' stations with two principal apparatus including a Rescue Pumper and Tanker.*

Recommendation 20: *Station 300 should be closed, and the firefighters transferred to Stations 100 or 200.*

Recommendation # 21: *Planning should commence immediately to a) relocate and rebuild Station 400 and b) renovate Station 100 to remove the partition between the Public Works and Fire Department Bays and provide appropriate bunker gear storage, air fill station, and decontamination facilities including additional showers and dedicated space for extractor/dryer equipment.*

Recommendation # 22: *Once a site for the new Station 400 is identified, a specific analysis to project response times for the central area of The Nation should be undertaken to determine the need or modified requirements for the automatic aid agreement with the Town of Casselman.*

Recommendation # 23: *NFD should develop an Operating Guideline that addresses procedures for documenting, recording and reporting response times excluding calls cancelled on-route or incident not found such that the average response time for the first arriving apparatus and responding personal can be determined as a percent of calls and by type of call.*

Recommendation #24*: That the NFD collaborate with the Water and Sewer Department to ensure that there is a comprehensive Policy and Procedure for the maintenance, accessibility, inspection, flow testing and colour coding of public hydrants in the Municipality.*

Recommendation #25*: That the NFD develop a procedure for private hydrant inspection as part of the fire inspection and compliance program.*

Recommendation #26: *Portable Radios should be located in a charging station in each responding vehicle as follows: Pumper (5), Rescue (6), Tanker (1), Utility (4).*

Recommendation #27: *NFD should ensure that Hawkesbury Fire Dispatch is compliant with NFPA 1221 as well as Ontario Fire Marshall requirements as appropriate.*

Recommendation # 28: *The Nation Fire Department develop an apparatus replacement schedule based on a 20-year replacement of apparatus, assignment of a Rescue/Pumper and Tanker to Stations 200 and 400 and closure of Station 300.*

Recommendation #29: *Operating Guidelines should be developed to reference appropriate OHSA Sec. 21 Guidance Notes and address practices, and procedures*

related to the issue, care, maintenance, inspection procedures, inspection frequency, inspection documentation and replacement of personal protective equipment (PPE)including bunker gear.

Recommendation #30: *To maintain operational readiness when bunker gear is being washed and dried, firefighters should be issued with two sets of bunker gear.*

Recommendation #31: *An Operating Guideline should be developed to document the Department's Respiratory Program that will address relevant CSA and NFPA standards, Equipment Manufacturer's instructions and Section 21 Guidance Notes. The revised OG should include a schedule for review and updates.*

Recommendation #32: *The need to acquire additional thermal imaging cameras should be evaluated in context of current and future fireground protocols.*

Recommendation #33: *NFD should evaluate the capability of the current positive pressure fans in context of emerging fire ground practice.*

Recommendation #34: *An OG should be developed to ensure that the requirements of the Ontario Highway Traffic Act related to fire apparatus are met as well as providing specific procedures for pre-trip inspections (non-emergency) and post-trip inspections (emergency response) are stated.*

Recommendation #35: NFD *should establish Operating Guidelines that documents the requirements and procedures for post-trip inspections and comprehensive monthly truck and equipment inspections including logbook documentation and a procedure for Officer signoffs and defect/deficiency remediation.*

Recommendation # 36: *The NFD Joint Occupational Health & Safety Sub-Committees meet at least every 3 months, and the frequency of meetings, number of workers trained, and number of station inspections be reported to Council on a quarterly basis.*

Recommendation # 37: *OG -2-2016 should be reviewed and revised to include to include or cross-reference Accountability and Entry Control, Rapid Intervention Teams, Safety Officer, Unified Command for Mutual and Automatic Aid Incidents and Media.*

Recommendation #38: A*n OG be developed specifically to specify mandatory reporting (hydro, natural gas) as well as identify where specific contact information for outside agencies is available.*

Recommendation #39: *An OG be developed to provide written protocols regarding access to specialized technical rescue teams including trench, high angle, confined space, hazmat, swift water, water/ice rescue, CBRN, and HUSAR.*

Recommendation # 40: *An Operating Guideline should be developed to require firefighters to respond directly to the station for emergency response and define the exceptions where firefighters and officers may respond directly to the incident.*

Recommendation # 41: *An Operating Guideline should be developed to provide direction for salvage and overhaul operations including PPE requirements.*

Recommendation # 42: *OG 105 be revised to ensure NFPA 1521 'Standard for Fire Department Safety Officer' and Guidance Note 2-4 'Incident Safety Officer' are adequately reflected.*

Recommendation # 43: *An OG needs to be developed/amended to require that Lesson/Training Plans, approved by the Chief, to be in place that include specific safety procedures including incorporating a safety officer.*

Recommendation # 44: *An Operating Guideline and PTSD Prevention Plan needs to be developed to outline the procedures for PTSD identification, access to employee assistance programs, access to specialized counselling services, peer support, incident debriefs, critical incident debriefs and meet the requirements of the Ontario Supporting Ontario's First Responders Act.*

Recommendation # 45: *Health and safety issues, policies and practices be continually monitored, reviewed, and reflected in Operating Guidelines including OFMEM communiqués and Section 21 Guidance Notes. Senior officers should be encouraged to attend the annual Ontario Association of Fire Chiefs Health & Safety Conference.*

Recommendation # 46: *That The Nation Fire Services develop and implement quarterly, and annual reporting based on the Balanced Scorecard accountability framework.*

Recommendation # 47: *That The Nation Municipality Fire Department develop and implement an annual public report that provides an overview of Department activity including but not limited to proposed ONT. REG. 377/18 Ont. Reg. 377/18 Public Reporting Requirements for Volunteer Fire Departments.*

Recommendation # 48: *That NFD Training Operating Guidelines be developed to ensure that there are:*

- *Formal lesson plans to be developed in compliance with NFPA 1041 and approved by the Chief.*
- *All training lesson plans reference applicable Departmental Operating Guidelines, Section 21 Guidance Notes, professional literature,* reference peer group 'best practice' *and OFMEM directives and communiqués.*
- *The training program curriculum and specific content should be based on NFPA 1410 Standard on Training for Emergency Scene Operations. The training curriculum should be reviewed and published annually including a reference calendar.*

Recommendation # 49: *A performance target regarding the number of OG's and Lesson Plans to be developed, reviewed, and updated should be identified as part of the NFD annual objectives and be monitored in the quarterly report.*

Recommendation # 50: *A process for debriefs after calls and related documentation process to identify issues, questions and 'lessons learned' should be encouraged with a formal OG.*

Recommendation # 51: *To maintain and develop core competencies, the training curriculum and calendar needs to reflect a commitment of 100 to 120 training hours per annum.*

Recommendation # 52: *An OG needs to be developed to address training documentation and records management.*

Recommendation # 53: *To create a coherent training program that ensures service excellence, OG and Lesson Plan Development and departmental interoperability it is recommended that one senior officer be designated as Chief Training Officer for NFD.*

Recommendation #54: *Subject matter experts/teams be identified and supported to assist in the review and development of OGs, lesson plans, and to deliver common training to each station to ensure a consistent interpretation of OGs.*

Recommendation #55: *The Nation Municipality Fire Department continue to support regional training initiatives including the joint recruit program.*

Recommendation # 56: *The Nation Fire Department should formally evaluate its recruit training program in light of current best practice. If the Department continues the Program, a specific Operating Guideline needs to be developed to describe the Training Objectives, Procedures, Supervision, Required PPE, Identification, Duties, Restrictions and Limitations, and procedures to encourage and enable diversity. The OG should be reviewed by legal counsel and the Municipalities Insurer to identify any further risk issues.*

Recommendation # 57: *That The Nation Fire Department support and utilize the Clarence Rockland Regional Fire Training Centre when specialized training facilities is required.*

Recommendation # 58: *That The Nation Municipality supports the acquisition use of an existing municipal property for use as a fire department training area.*

Recommendation #59: *That The Nation Municipality Fire Department require Emergency Medical Responder or equivalent certification for all firefighter II positions and develop a specific OG and Training Plan in that regard.*

Recommendation #60: *An optional monthly training night be considered to enhance medical and other firefighter competencies for those firefighters who wish to advance and maintain a high level of competency.*

Recommendation # 61: *That an OG and Training Program be developed and implemented for on-scene initial management of mass casualty events such as school bus rollovers, tornadoes, long-term care facility fires, and multi-vehicle accident.*

Recommendation #62: *To enable an efficient and effective fire and emergency service delivery model that meets statutory requirements and public expectations for service excellence, it is recommended that The Nation Fire Department implement a new organizational model that retains the Chief and Deputy Chief positions, creates two District Chief positions and eliminates the four Station Chief positions.*

Recommendation #61: *To provide for appropriate staffing to meet current and future operational and management requirements, it is recommended that The Nation Municipality budget for:*

- *Part-Time Administrative Assistant (2022)*
- *Part-Time Deputy Chief (2022)*
- *Two Part-Time District Chiefs (2022)*
- *Full-Time Administrative Assistant (2023)*

- *Full-Time Fire Prevention Officer (2025)*

Recommendation # 62: *Response staffing level targets should be established and monitored to determine if additional firefighters or other strategies are required to achieve desired on-scene staffing.*

Recommendation #63: *That the review and updating of current Position Descriptions to align with the recommended organization structure be an immediate priority of for the Department.*

Recommendation #64: *That annual performance reviews of all NFD staff take place with status reports provided to Council as part of the Departmental quarterly report.*

Recommendation # 65: *The NFD implement a formal awareness training program regarding harassment and workplace violence policies and procedures.*

Recommendation #66: *That a formal Retention and Recruitment Strategy be developed using firefighter focus groups to identify issues and propose recommendations.*

Recommendation # 67: *The NFD should continue its efforts to welcome and support diversity including active effort to recruit and support female firefighters.*

Recommendation # 68: *That a formal Succession Plan and Retirement Policy/OG be developed.*

Recommendation # 69: *A target number of OGs to be reviewed annually be established as well as an annual target for new OG development.*

Recommendation # 70: *That 'best practice' Fire Departments with comprehensive OGs be identified to guide a multi-year agenda for OG development.*

Recommendation #71: *That office procedures, processes, record location and access methods be documented and reviewed to ensure that complete records are being maintained, are readily accessible and the CriSys© program is being used to its full potential.*

Recommendation # 72: *That office procedures, processes, record location and access methods be reviewed to determine if adequate back-up and alternative measures are in place to maintain business continuity should normally access or procedures be disrupted.*

Recommendation # 73: *That electronic tools such as tablets as well as existing or enhanced capability of CriSys© be explored to better keep track of performance measures and field documentation including fire inspections.*

Recommendation #74: *To facilitate communication and access to OGs, training materials and other documents, it is recommended that firefighters have access to the Township intranet and employee IT purchase plan.*

Recommendation # 75: *NFD should continue discussions with the neighbouring municipalities to further identify automatic aid agreements which may be mutually beneficial.*

Recommendation # 76: *NFD should develop OG's that document the criteria for activation as well as protocols for joint operations (Unified Command).*

Recommendation # 77: NFD *should continue to actively participate in and support the United Counties of Prescott and Russell Mutual Aid Association to improve Emergency Response capability.*

Recommendation # 78: NFD *should seek opportunities to participate with the United Counties of Prescott and Russell Mutual Aid Committee, OPP, EMS, OFMEM officials and Ottawa Fire to exercise major response capability associated with a CBRNE, HUSAR, Multi-Casualty or other large-scale event that requires local, regional and provincial resources.*

Recommendation #79: *To implement the Master Plan recommendations, it is recommended that joint quarterly officers meeting of both Departments be held to incorporate the Master Plan Directions and Recommendations into a three-year business plan, provide an annual report to Council, and monitor recommendation implementation using a project management framework.*

Appendix 2: Fire Station Functional Assessment

The Nation Fire Department

Fire Master Plan

Fire Station Facility Condition Report

October 27, 2020

Introduction

This document presents a functional assessment of the five Nation fire stations. The assessment is based on current fire station design versus existing conditions. Although known building deficiencies are identified, this study does not present a professional assessment of building condition or code compliance. The intent is to identify major building deficiencies which compromise continued, safe operation as a Fire Station.

In recent years, there has been a dramatic change in fire apparatus design with much larger vehicles with the resulting requirement for larger apparatus bays. The building code has changed to require structural requirements necessary to meet post-disaster functionality. Further, recognition of the impact of toxic substances on Firefighters protective gear and equipment has resulted in the need for decontamination facilities and dedicated bunker gear storage.

The station assessments have been completed using a scale as follows:

Rating Scale

Excellent Condition	Facility is new or like new condition. Meets or exceeds contemporary performance/operational requirements	
Good Condition	Facility is fully functional, minor wear, minor repairs/alterations needed	
Poor Condition	Facility is functional but does not meet current standards, requires significant investment, to maintain basic functionality. Replacement likely required within 10 years	
Immediate Replacement Required	Facility does not meet required safety or functional requirements. Renovation/expansion not cost effective.	

Station 100

The number and size of the apparatus bays will not accommodate the designated apparatus and ancillary vehicles including the rescue boat and Light Rescue Utility Truck. The location is poor as it is proximate to the arena and an intersection that can be congested. Recommend immediate replacement and relocation as a three double bay station (same as Station 500) north on Route 9.

Station 100 Element	Criteria	Assessment	Commentary
Date Built	1986 build 2018 Renovation to old library		
BGSF			- 4240 Sq. Ft.
Roof			- Shingles – Wood truss - Lose shingles every year
Structural	Post Disaster		- Not post disaster
Building Envelope			- Concrete block and tin - Blocks are deteriorating
Floor	Concrete slab		- Bay floors need refinishing and drain repla
Septic			- Municipal Sewer, Smells out of sink somet - Shared drain with P/W garage
Well			- Municipal Water

Station 100 Element	Criteria	Assessment	Commentary
Life Safety			- none
HVAC			- Furnace is new 2018. - AC is original 1986
Electrical	600 Amp service		- Many additions and transformers to suppl water tower
Apparatus Bay Exhaust	Auto Sensor		None -Small fan that comes on with garage door op
Accessible Entrance			- Not accessible
Site Parking	Space for each FF		- No specific space for FF. - Shared with Rec Center
Site Apron	Length: 55' from apparatus bay doors to property line		- 60' - Asphalt in good shape
Access to Major Road			- Faces a secondary road with two stops bef - Road leads past Rec Center/Arena front en parking area
Drive through Bays	Highly desirable – Avoid accidents backing		- No drive throw bays. - Have to block road to reverse trucks
Stand by generator	200 amp, auto start		- 20 KW, Auto start, 110/240V
Apparatus Bays	20' width, single 65' long, double 90'+, Height 18+, Bay doors 14'x14'		14' W x 72' L - door 12' W x 12'10" H 16' W x 62' L – door 12' W x 11'10" H
Decon/Shower Alcove	80 sq. ft.		none
Bunker Gear Storage	Dedicated Room, independent ventilation		None – bunker gear are the on wall at end of
			Dimensions, #
Hose Dry & Storage			None – Currently use station 200 and it does
Female WR & Showers	120 sq. ft.		2 x 6' x 8' bathroom with 3' x 6' single showe
Male WR & Showers	10 sq. ft per FF		Shared shower – unisex bathroom and showe

Station 100 Element	Criteria	Assessment	Commentary
Accessible WR	80 sq. ft.		1 x 11' x 6' bathroom – no emergency switche
SCBA decontam/fill	240 sq. ft.		none
bunker gear washer	130 sq. ft.		10' x 11' room with 2 extractors and PPE stoc
Maintenance Work area	100 sq. ft.		15' x 7' room – thin room – not functional to
Medical Supply storage	30 sq. ft.		none
Training Room	14 sq. ft. per FF		29' x 29' – Good for one station 20 FF. Not su
Offices			11' x 16' and 11' x 9'

Station 200

This building can continue to function as a two apparatus satellite station with a Pumper and a Tanker. Over time, renovations can be undertaken to improve bunker gear storage, decontamination facilities and washrooms.

Station 200 Element	Criteria	Assessment	Commentary
Date Built	1999 build 2015 Renovation – add meeting room and separate from old town hall		- Can work well for small compliment of
BGSF			- 3364 Sq. Ft.
Roof			- Tin – Wood truss - Lose shingles every year
Structural	Post Disaster		- Not post disaster
Building Envelope (			- Tin in good shape - Windows – new 2015
Floor	Concrete slab		- In good shape
Septic			- Original septic bed that is shared with r - Septic tank changed - 2019. - Drain was installed to remove excess gr eavestrough water - 2019
Well			- Drilled well. - Water has lots of minerals and clogs scr
Life Safety			- none
HVAC			- Radiant ceiling propane - Baseboard in meeting room - No A/C
Electrical			- 200 Amp service – new 2015
Apparatus Bay Exhaust	Auto Sensor		- None - Small fan – manually operated
Accessible Entrance			- Not accessible
Site Parking	Space for each FF		- Asphalt is in need of repair. - Shared with Rec Center
Site Apron	Length: 55’ from apparatus bay doors to property line		- 100’ + - Asphalt is in need of repair
Access to Major Road			- County Road 22
Drive through Bays	Highly desirable – Avoid accidents backing		- No drive throw bays.

Station 200 Element	Criteria	Assessment	Commentary
Stand by generator	200-amp, auto start		- None
Apparatus Bays	20' width, single 65' long, double 90'+, Height 18+, Bay doors 14'x14'		- 2 Doors - 19' W x 59' L - door 14' W x 1 - At this time too small for 3 apparatus
Decon/Shower Alcove	80 sq. ft.		- none
Bunker Gear Storage	Dedicated Room, independent ventilation		- None – bunker gear are on the wall at
			Dimensions, #
Hose Dry & Storage			- Issue with drainage - Tower isn't tall enough to properly dry - Ventilation isn't sufficient
Female WR & Showers	120 sq. ft.		- 6' x 7' bathroom with 3' x 3' single sho
Male WR & Showers	10 sq. ft per FF		- Shared shower – unisex bathroom and
Accessible WR	80 sq. ft.		- Not accessible
SCBA decontam/fill	240 sq. ft.		- none
bunker gear washer	130 sq. ft.		- Currently use station 100 extractors an
Maintenance Work area	100 sq. ft.		- none
Medical Supply storage	30 sq. ft.		- none
Training Room	14 sq. ft. per FF		- 25' x 17' – Good for one station 15 FF.
Offices			- 11' x 11' - Good for Satellite station

Station 300

This Building is no longer required as a Fire Station. As the building is part of the existing Public Works Garage, it is well suited for continued use for that

Station 300 Element	Criteria	Assessment	Commentary
Date Built	1992 build		- Can work well for small compliment of sta
BGSF			- 3294 Sq. Ft.
Roof			- Metal truss – flat roof - Solar panel install on roof
Structural	Post Disaster		- Not post disaster
Building Envelope			- Tin in good shape - Doors are aging
Floor	Concrete slab		- Has sank at all doors (3”)
Septic			- Original septic bed that is shared with neig
Well			- Municipal Water
Life Safety			- none
HVAC			- Radiant ceiling propane – due to be replac - Baseboard in meeting room - No A/C

Station 300 Element	Criteria	Assessment	Commentary
Electrical			- 200 Amp service
Apparatus Bay Exhaust	Auto Sensor		- None - Small fan – manually operated
Accessible Entrance			- Not accessible
Site Parking	Space for each FF		- Asphalt is deteriorating. - Shared with Rec Center
Site Apron	Length: 55’ from apparatus bay doors to property line		- 65’ - Asphalt is in need of repair
Access to Major Road			- County Road 9
Drive through Bays	Highly desirable – Avoid accidents backing		- Drive through into Public Works adjacent g
Stand by generator	200-amp, auto start		- Shared with Public Works
Apparatus Bays	20’ width, single 65’ long, double 90’+, Height 18+, Bay doors 14’x14’		- 5 Doors - 14’ W x 13’ 7” H - 1 bay – 21’ x 26’ - 2 bays – 16’ x 56’ - At this time too small for 3 apparatus
Decon/Shower Alcove	80 sq. ft.		- none
Bunker Gear Storage	Dedicated Room, independent ventilation		- None – bunker gear are on the wall at end
			Dimensions, #
Hose Dry & Storage			- none
Female WR & Showers	120 sq. ft.		- 7’ x 7’ bathroom with 3’ x 3’ single shower (Option for second bathroom same size pl
Male WR & Showers	10 sq. ft per FF		- Shared shower – unisex bathroom and sho
Accessible WR	80 sq. ft.		- Not accessible

Station 300 Element	Criteria	Assessment	Commentary
SCBA decontam/fill	240 sq. ft.		- none
bunker gear washer	130 sq. ft.		- Currently use station 100 extractors and d
Maintenance Work area	100 sq. ft.		- none
Medical Supply storage	30 sq. ft.		- none
Training Room	14 sq. ft. per FF		- 30’ x 16’ – Good for one station 15 FF. - Needs upgrades
Offices			- 16’ 6” x 10’ 6” - Good for Satellite station - Could house two desks / office spaces. - Needs updating

STATION 400

This Building is no longer functional as a Fire Station due to its small apparatus bays, lack of parking, and construction. Recommend immediate replacement and relocation as a two-bay station approximately 2 to 3 km N/E on the St. Albert Rd.

Station 400 Element	Criteria	Assessment	Commentary
Date Built	1976 build Renovation 2000 Renovation 2018		- 2000 – lifted roof and made doors larger t - 2018 – functional areas revamped to use s
BGSF			- 2124 Sq. Ft.
Roof			- Wood truss and shingles
Structural	Post Disaster		- Not post disaster
Building Envelope			- Tin and cement block - 50% of windows need to be changed
Floor	Concrete slab		- Some cracks - Slopes inward to rear of building

Station 400 Element	Criteria	Assessment	Commentary
Septic			- Municipal sewer
Well			- New 2018 - Drilled
Life Safety			- none
HVAC			- Radiant ceiling propane - Baseboard in meeting room - No A/C
Electrical			- 200 Amp service - Needs a proper cabinet / volt
Apparatus Bay Exhaust	Auto Sensor		- None
Accessible Entrance			- Not accessible
Site Parking	Space for each FF		- Side of road only
Site Apron	Length: 55' from apparatus bay doors to property line		- 28' - Asphalt needs replacing
Access to Major Road			- Principal Road
Drive through Bays	Highly desirable – Avoid accidents backing		- No
Stand by generator	200-amp, auto start		- No - Could plug in portable generator (gas)
Apparatus Bays	20' width, single 65' long, double 90'+, Height 18+, Bay doors 14'x14'		- 1 bay – 17' 6" x 35' - 1 bay – 17' x 57' - 2 Doors – 12' x 11' 10" - At this time too small for 3 apparatus
Decon/Shower Alcove	80 sq. ft.		- none
Bunker Gear Storage	Dedicated Room, independent ventilation		- None – bunker gear are on the wall at end
			Dimensions, #

Station 400 Element	Criteria	Assessment	Commentary
Hose Dry & Storage			- none
Female WR & Showers	120 sq. ft.		- 6' x 6' bathroom with 3' x 3' single showe
Male WR & Showers	10 sq. ft per FF		- Shared shower – unisex bathroom and sho
Accessible WR	80 sq. ft.		- Not accessible
SCBA decontam/fill	240 sq. ft.		- none
bunker gear washer	130 sq. ft.		- Currently use station 100 extractors and d
Maintenance Work area	100 sq. ft.		- none
Medical Supply storage	30 sq. ft.		- none
Training Room	14 sq. ft. per FF		- 21' x 28' – Newly renovate - small station 1
Offices			- Shared space with training room

Station 500

This is a contempory, 2 ½ bay, post-disaster fire station that reflects virtually all of today's best practice design criteria. With some relatively minor renovation, contempory bunker gear storage and decontamination facilities could be achieved.

Station 500 Element	Criteria	Assessment	Commentary
Date Built)	2012 build		
BGSF			- 9340 Sq. Ft.
Roof			- Steel truss - Thermoplastic Polyolefin (TPO membrane)
Structural	Post Disaster		- Post disaster build
Building Envelope			- Concrete, brick and steel
Floor	Concrete slab		- Will need to be resealed / painted soon

Station 500 Element	Criteria	Assessment	Commentary
Septic			- Municipal sewer
Well			- Municipal water
Life Safety			- Fire Alarm panel and Sprinklers
HVAC			- Roof top with A/C for offices and training r - Ceiling mount for truck bays / no A/C
Electrical			- 600 Amp service
Apparatus Bay Exhaust	Auto Sensor		- Sensor activates ceiling ventilation fan installation meets today's standard)
Accessible Entrance			- Yes
Site Parking	Space for each FF		- Yes
Site Apron	Length: 55' from apparatus bay doors to property line		- 67'
Access to Major Road			- Limoges Road
Drive through Bays	Highly desirable – Avoid accidents backing		- Yes (2 of 3 bays drive through)
Stand by generator	200-amp, auto start		- Yes
Apparatus Bays	20' width, single 65' long, double 90'+, Height 18+, Bay doors 14'x14'		- 1 bay – 20' x 51' - 2 bays – 20' x 92' - 5 doors – 14' x 14' - At this time too small for 3 apparatus
Decon/Shower Alcove	80 sq. ft.		- none
Bunker Gear Storage	Dedicated Room, independent ventilation		- Not in use at this time
			Dimensions, #
Hose Dry & Storage			- Yes

Station 500 Element	Criteria	Assessment	Commentary
Female WR & Showers	120 sq. ft.		- 13’ x 12’ (156 sq. ft.) bathroom with single
Male WR & Showers	10 sq. ft per FF		- 13’ x 36’ (468 sq. ft.) Bathroom with doubl
Accessible WR	80 sq. ft.		- 8’ x 7’ x 2 (112 sq. ft.) washrooms (1 Male
SCBA decontam/fill	240 sq. ft.		- 15’ x 30’ (450 sq. ft.) Refill Station - No Decontamination
bunker gear washer	130 sq. ft.		- 9’ x 12’ (108 sq. ft.) - Needs to be properly set up - Has 2 extractors
Maintenance Work area	100 sq. ft.		- 10’ x 15’ (150 sq. ft.)
Medical Supply storage	30 sq. ft.		- 3’ x 6’ (18 sq. ft.)
Training Room	14 sq. ft. per FF		- 47’ x 23’
Offices			- 3 offices - 2 x 9’ x 10’ - 1 x 16’ x 10’