MUNICIPALITY OF RED LAKE

Fire Service Review

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EXECUTIVE SUMMARY

This Fire Service Review (FSR) encompasses a comprehensive review of the Red Lake Fire Rescue Services (RLFRS) strengths, weaknesses, opportunities, and challenges. This FSR also consists of a review of the community (through the development of a separate Community Risk Assessment (CRA) report). Both documents identify and discuss present and future population statistics and the anticipated growth of the community. By conducting these reviews, the Emergency Management Group (EMG) was able to develop this 10-year plan for the RLFRS.

Benefits of Planning:

The benefits of planning are many, but the key advantages are:

- Having a clearer vision of what future needs are to be implemented and when,
- A guide that includes options and budgetary estimates for implementation,
- Prioritization of each project
- The ability to communicate with staff and internal and external stakeholders about the future goals of the organization, and
- Engaging key stakeholders to help move the RLFR service into the future.

The recommendations within this FSR document have been submitted to provide a set of strategies and goals for implementation that are aimed at assisting the Council in making decisions relating to the efficient allocation of RLFRS resources and staffing. The recommendations provided by EMG have been broken down into the following timelines:

- Immediate: should be addressed urgently due to legislative or health and safety requirements
- Short-term: 1 – 3 years
- Mid-term: 4 – 6 years
- Long-term: 7 – 10 years
- Future Consideration: 10 - 20 years

Ultimately, the implementation of the recommendations will depend on the direction that the Municipality Council provides, as well as the allocation of associated resources and the ability to move forward with the associated recommendations contained within the document.

Overview of Fire Service Review

The following describes the actions carried out by the EMG team in developing the FSR for the Municipality of Red Lake.

Municipal Hazards

- Development of a Comprehensive Community Risk Assessment (CRA) as the basis for determining the appropriate level of emergency response deployment to meet the Municipality's legislative responsibilities.

Staffing and Professional Qualifications

- Review of existing staffing levels (full-time and paid-on-call).
- Personnel training standards, relevant credentials, and ongoing/future training/certification requirements for each rank.
- Retention and recruitment of firefighters, including specific requirements regarding testing and background checks during recruitment drives.

Apparatus, Fire Stations, and Equipment

- Inventory and maintenance best practices, annual equipment testing, the equipment's life span, replacement criteria, and supplies.
- Communication systems and equipment.
- Consider station options presented within this report.

Legislative Mandate and Contractual Agreements

- Contractual and recommended future agreements between the Municipality and external agencies: mutual aid/automatic aid agreements, Ministry of Natural Resources and Forestry (Formerly, the Ministry of Northern Development, Mines, Natural Resources and Forestry (MDMNRF)) mitigation and response, CBRNE/Hazmat, auto extrication, rescue services, water/ice water rescue.
- Dispatch services and contractual agreements.

Administration

- Staffing, records management, software, and technology.
- Response activation processes, including methodology for calls for service and staffing levels.
- Identification of potential gaps and possible duplication of service.
- Provide a detailed Geographic Information System (GIS), risk-based analysis of services coverage, and a unique optimization calculation of an affordable, sustainable service model.
- Department operational guidelines and policies.
- By-law: establishing and regulating, cost recovery, etc.

Water Supply (Dry Hydrant)

- Municipal/private water supply, access, and year-round availability.

Summary Overview of Recommendations

Below is a summary of the recommendations within each of the key categories. Greater detail surrounding each recommendation can be found within the section from which it is derived.

Public Fire Safety Education

- Assessment by RLFRS to set realistic fire prevention and public education goals based on available resources.
- Conduct a demands analysis of the fire prevention initiatives with the development of an annual fire prevention program and report on the completion
- Consider greater utilization of volunteer firefighters for public education efforts
- Partnerships within the community to ensure fire safety education is relevant and delivered based on identified community needs (i.e., school fire safety education, seniors, new Canadians fire safety education).

Emergency Response

- Review of response data and areas for improvement
- Dispatching services review
- Vehicle life cycles and reserve apparatus

Department Facilities (fire stations)

- Fire station general assessments and needs
- Station locations and suggestions, along with possible reallocation of resources

Staff/Personnel Development

- Increase in Fire Prevention staffing efforts
- Enhanced programming to support health and wellness
- Knowledge and skills maintenance enhancement improvements to meet the Training and Certification requirements

Strategic Priorities

- By-law updates
- Development and utilization of training opportunities with partner agencies and other fire departments (where feasible, due to the distance between fire departments)

***Note: A quick reference recommendations chart entailing all the recommendations can be found in Section 9. This chart has also included brief rationale comments to assist the reader with justification for each recommendation.*

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ACRONYMS

AHJ	Authority Having Jurisdiction
ASHER	Active Shooter/Hostile Event Response [Program]
CACC	Central Ambulance Communications Centre
CAO	Chief Administrative Officer
CEMC	Community Emergency Management Coordinator
CERB	Central Emergency Reporting Bureau
CRA	Community Risk Assessment
CRRP	Community Risk Reduction Plan
CRTC	Canadian Radio-Television and Telecommunications Commission
DPG	Dwelling Protection Grade
E&R	Establishing & Regulating By-law
EAP	Employee Assistance Program
EMCPA	Emergency Management and Civil Protection Act
EMG	Emergency Management Group
EOC	Emergency Operation Centre
FESO	Fire and Emergency Services Organization
FPO	Fire Prevention Officer
FPPA	Fire Protection & Prevention Act
FSR	Fire Service Review

FUS	Fire Underwriters Survey
HFSC	Home Fire Sprinkler Coalition
HRFP	Health Related Fitness Programs
ICS	Incident Command System
IFSAC	International Fire Service Accreditation Congress
IMS	Incident Management System
JPR	Job Performance Requirement
LWC	Light Weight Construction
MERP	Municipal Emergency Response Plan
MND	Ministry of Northern Development
MNRF	Ministry of Natural Resources and Forestry
MRL	Municipality of Red Lake
MVC	Motor Vehicle Collision
NG 9-1-1	Next Generation 9-1-1
NIST	National Institute of Standards and Technology
NFPA	National Fire Protection Association
OBC	Ontario Building Code
OFC	Ontario Fire Code
OFM	Office of the Fire Marshal (Ontario)
OFMEM	Office of the Fire Marshal and Emergency Management

OHSA	Occupational Health and Safety Act
PPE	Personal Protective Equipment
PFPC	Public Fire Protection Classification
PSAP	Public Safety Answering Point
PTSD	Post-Traumatic Stress Disorder
RFP	Request for Proposal
RLFRS	Red Lake Fire Rescue Services
RTT	Real Time Texting
SCBA	Self-Contained Breathing Apparatus
SOG	Standard Operating Guideline
SOP	Standard Operating Policy
SWOT	Strength, Weakness, Opportunity, Threats
VFF	Volunteer Firefighters
WSIB	Workplace Safety & Insurance Board

INTRODUCTION

Project Methodology

The Emergency Management Group (EMG) has based its review process on the Municipality of Red Lakes initial Request for Proposal (RFP). The specific scope of work noted, in the RFP, was reviewed and included into each section of this document. The Fire Service Review (FSR) review was completed by utilizing best practices, current industry standards, and applicable legislation as the foundation for all work undertaken.

EMG also utilized quantitative and qualitative research methodologies to develop a strong understanding of current and future needs and circumstances of the community. Overall, the methodology involves a considerable amount of research, documentation review, data analysis, along with stakeholder consultation. Next comes the submission of draft reports, and related recommendations.

The final product is a living document that provides a high-level strategic direction for Municipality's Council and the Red Lake Fire Department.

To accomplish the scope of requirements, EMG has:

- Reviewed the Establishing and Regulating (E&R) by-law.
- Reviewed applicable municipal, provincial, and federal legislations.
- Reviewed planning department documents regarding community and growth projections.
- Reviewed any previous risk assessment, Council's strategic priorities and other pertinent documents.
- Prepared a Community Risk Assessment and considered the Community Risk Profile including community building stock, industry, care occupancies, transportation networks, etc.
- Reviewed current service agreements with neighbouring municipalities and any other current documents.
- Gathered information on operational requirements including past and current response statistics (call volumes/response times) to analyze for tends, staff availability/needs and response capabilities, etc.
- Reviewed service administration including staffing, organizational structure, policies and procedures, administrative support, record keeping and information management/technology, purchasing and inventory control, public and media relations and customer service.
- Toured the Municipality of Red Lake fire stations conducting a location/response analysis.
- Examined fire vehicles, apparatus and equipment including the maintenance program.
- Reviewed fire service policies, procedures and emergency response operational guidelines, training programs and records.
- Collected information on the fire prevention program including education programs, inspection reports/data, enforcement data, and investigations.
- Identified and compared industry best practices relating to fire and emergency services performance measurement.
- Reviewed current job descriptions, staff recruitment and retention practices, promotional policy, succession planning and demographics.
- Reviewed the operational and capital budgets along with reserves and current revenue generation programs within the emergency services and the Municipality (development fees).

Based on the previously noted criteria, through meetings with members of Council, the Municipality 's Senior leadership Team, firefighters, and community stakeholders, the consulting team was able to complete a thorough review of elements that are working well and areas requiring improvement within the RLFRS. Data provided by RLFRS was reviewed in relation to all the previously noted items contained in the Red Lake RFP. This review culminated in a total of 30 recommendations.

Performance Measures and Standards

This FSR has been based upon (but not limited to) key performance indicators that have been identified in national standards and safety regulations such as:

- The Fire Protection and Prevention Act
- The Office of the Fire Marshal and Emergency Management (OFMEM) Communiques
- The Ontario Occupational Health and Safety Act (OHSA), with reference to the National Institute for Occupational Safety and Health
- The Ontario Fire Service, Section 21, Advisory Committee Guidance Notes
- The National Fire Protection Association (NFPA) standards, and
- The Fire Underwriters Survey technical documents.

Project Consultants

Although several staff at EMG were involved in the collaboration and completion of this FSR, the overall review was conducted by (in order of involvement):

- Lyle Quan, Fire Service Consultant/ VP of Operations - Project Lead
- Les Karpluk, Fire Service Consultant
- Rick Monkman, Fire Service Consultant
- Darryl Culley, President

Together, the team has accumulated a considerable amount of experience in all areas of fire and emergency services program development, review, and training. The EMG team has worked on projects that range from fire service reviews, creation of strategic and master fire plans, and development of emergency response programs for clients.

SECTION 1

Community & Fire Department Overview

SECTION 1: COMMUNITY & FIRE DEPARTMENT OVERVIEW

1.1 Community Overview

The Municipality of Red Lake is in the northwest portion of the Province of Ontario. The Municipality is known for its lakes, fishing, and hunting, many summer and winter activities, and scenic curving roads.

Red Lake was founded based on the amalgamation of six municipalities. Red Lake was established in 1998 and is 535 km northwest of Thunder Bay and less than 100 km from the Manitoba border. With Red Lake in the Canadian Shield, several mines are operating that mine primarily for gold. The Red Lake Mine was the world's richest gold mine in 2004.[1]

TABLE #1: RED LAKE PERMANENT POPULATION BY YEAR

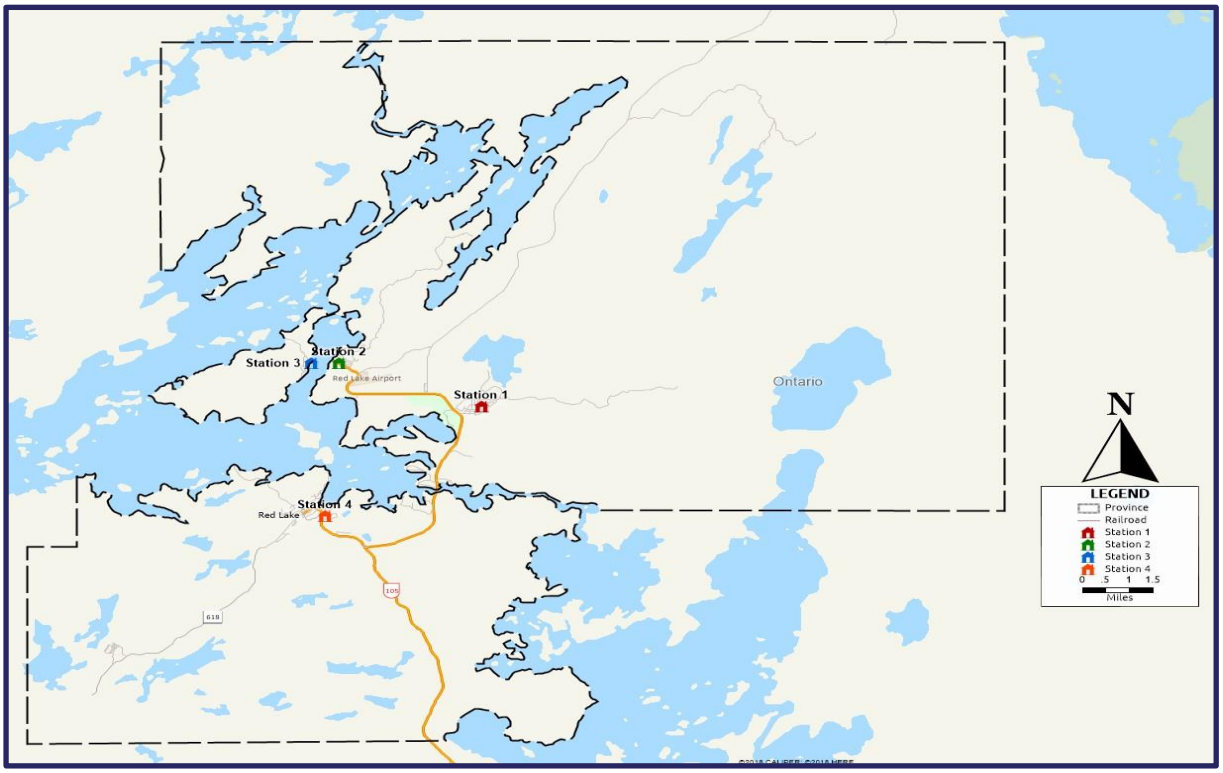
2011	2016	2021
4,168	4,078	4,385
Population Increase/Decrease since 2011	-2.2%	+7.5%

***Note:** Retrieved from Stats Canada website, June 7, 2022[2]*

[1] Red Lake, Ontario - Wikipedia, Accessed October 23, 2022, https://en.wikipedia.org/wiki/Red_Lake,_Ontario

[2] Census Profile, 2016 Census, Statistics Canada, Accessed October 23, 2022, https://www12.statcan.gc.ca/census-recensement/2016

FIGURE #1 - THE MUNICIPALITY OF RED LAKE AND FIRE STATIONS



1.2 Fire Service Overview

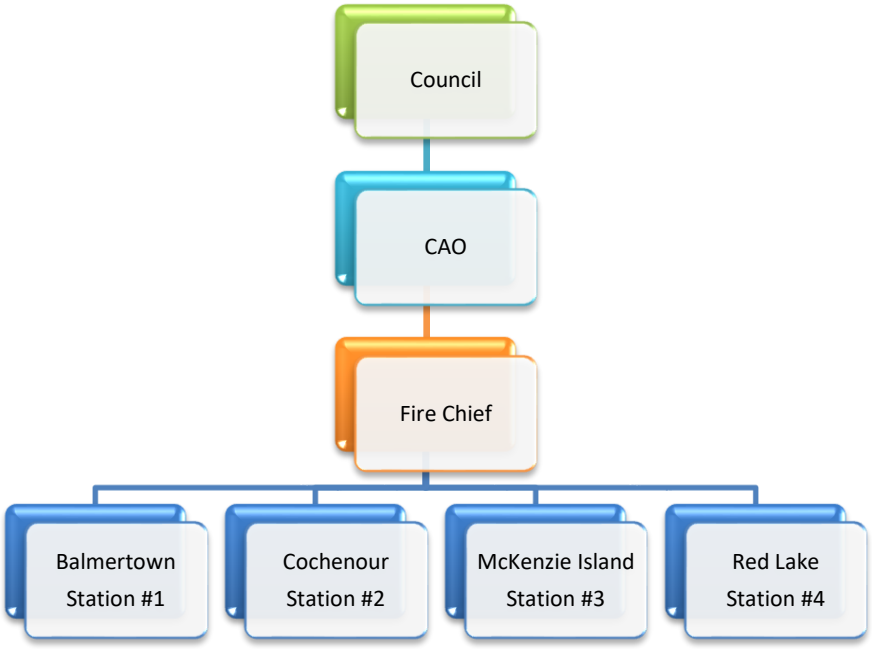
The Red Lake Fire Department (RLFRS) consists of four fire stations staffed by volunteer Firefighters (VFF) under the direction of a full-time fire chief. The RLFRS responds to approximately 60 to 70 calls for service per year. These calls range from medical assistance to fire-related incidents, and motor vehicle collisions.

As noted in figure #1, the four fire stations are in the largely populated areas of the community, which are), Balmertown (station #1), Cochenour (station #2), McKenzie Island (station #3), and Red Lake (station #4). The four fire stations are in varying level of needs, which will be covered in Section #4 of this document.

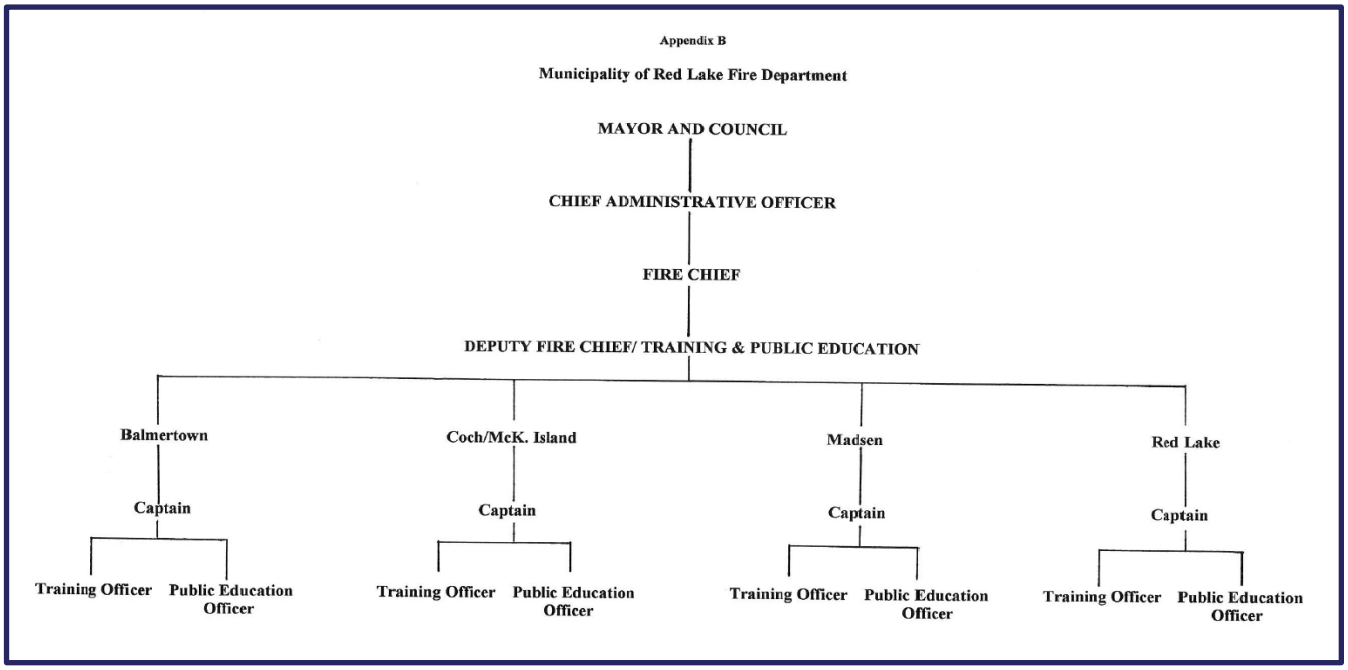
The Fire chief is presently responsible for the overall operation of the Department. He is supported by four volunteer Training Officers (plus wildland and auto extrication), and one volunteer Public Education Officer (the Fire chief is the FPO for the Department). All these noted positions are volunteer and are paid an hourly rate for the time spent on their specific duties.

The organizational chart noted in figure #2 reflects the general reporting structure within the RLFRS and that of the Fire chief to the Chief Administrative Officer (CAO) and Municipality Council.

FIGURE #2 - EMERGENCY SERVICES ORGANIZATIONAL CHART



Excerpt from the Red Lake E&R By-law notes that there is a position of deputy fire chief that is responsible for Training and Public Education. However, this position is presently vacant.



1.3 Governance and Establishing & Regulating Bylaw

To assist the Fire Administration in meeting the needs and expectations of the Council, the Establishing & Regulating (E&R) Bylaw should be reviewed and updated to identify changes in the Municipality's requirements and the fire department's overall operational needs. The Establishing and Regulating Bylaw must align with the expectations of the Fire Protection and Prevention Act of 1997.

The Establishing & Regulating Bylaw (E&R) is Council's direction to the RLFRS and prescribes what services to provide. The municipal Council is responsible for setting the level of service within a municipality; the E&R bylaw fulfills this requirement. The current E&R Bylaw (#58-00) was updated in 2000, making this a very outdated document. It is recommended that bylaws affecting fire department operations be reviewed annually or as significant changes occur in the community. Doing so will ensure that the fire department's noted service levels, expectations, and authority are correctly aligned with the community's needs.

As part of any bylaw update process, drafts should be vetted by the Town's Solicitor before the Council. The fire chief should also consider bringing the E&R bylaw forward to newly sitting Councils every four years. Doing so will allow new Council members to understand the level of service provided to the community and the Council's responsibility to fund this level of service as set by the Council.

In collaboration with the fire chief, the Council should establish an objective, definitive response time to be included in the E&R Bylaw. The NFPA recommends that assessments be completed to evaluate a baseline for a department's response time goal. This review will offer an understanding of how the department has been performing, along with identifying areas for possible improvement in station locations and vehicle and staffing distribution.

The E&R Bylaw should reflect new legislation, changes in the types and levels of response, and training expectations. Consideration should also include reference to such guidelines and standards as:

- Section 21 Firefighter Guidance Notes
- Office of the Fire Marshal and Emergency Management (OFMEM) Guidelines concerning staffing and response recommendations.
- Fire Protection and Prevention Act of 1997
- Related NFPA Standards that deal with:
    - Training
    - Fire prevention and public safety programs
    - Fire department response goals and objectives
    - Communications and dispatching

- Response times.
- Fleet and Maintenance

By incorporating these guidelines and standards, RLFRS will ensure that staffing, training programs, fire prevention, public education initiatives, and response to the community adhere to industry best practices.

While the current bylaw includes the Department's goals and objective that should be reviewed and updated to align with current fire service trends.

The updated bylaw should refer to the Office of the Fire Marshal (OFM), *Regulation 378/18*, Community Risk Assessments (CRA) which came into effect on July 1st, 2019.[3] Including the need for an annual review and a new document produced every five years. It should also identify the Community Risk Reduction Plan (CRRP) that should be initiated as part of the Community Risk Assessment (CRA).

The *Fire Protection & Prevention Act* (FPPA) requires fire departments to have a smoke alarm program. The program, including its purpose, goals, and expected outcomes, and should be included in the new document.

Other items found within the current bylaw for consideration to be changed include:

Title – Change the document's title to: "Being a Bylaw to Establish and Regulate the Red Lake Fire & Emergency Services (or the Red Lake Fire Rescue Service. Whichever is adopted and approved by Council).

Inclusion – The RLFRS should develop a Mission, Vision, and Value Statement, all to be included in the document.

Updates to the document should Include the following:

- All references to "he/she" changed to "they or them."
- All references to the "Red Lake Fire Department" changed to RLFRS the officially adopted name.
- All references to "volunteer" changed to "paid-per-call" since paragraph six refers to the members receiving a remuneration which indicates they are not volunteering for no stipend.

[3] O. Reg. 378/18: COMMUNITY RISK ASSESSMENTS (ontario.ca), Accessed November 27, 2022, https://www.ontario.ca/laws/regulation/180378

- Change the title in Appendix A from "*Primary Goals of the Fire Department"* to "*Mission Statement of the Red Lake Fire Rescue Service."*
- Change the Organizational Chart in Appendix B to the current version of the organization. The one in Appendix B has a Deputy Chief noted in the structure. Presently, there is no Deputy Chief.
- While reference to leaving the municipality is an appropriate section, many municipalities, like Red Lake, have implemented a stand-alone bylaw regarding the Fire Department's participation in that County/District's Mutual Aid Plan and Program. The Bylaw should be reviewed and updated as well.
- Should include a reference to using an outside Fire Department or third party to mitigate all technical rescues at full cost recovery. This, too, should also be in the fees Bylaw.
- Identify the level of response RLFRS is prepared to provide when attending technical rescues, along with a mitigation strategy in the event RLFRS does not have the training and resources to address the incident by themselves.
- It lacks mention of fees for services rendered. This should identify that whoever is assigned the charge is also responsible for paying the amount invoiced. Some municipalities have changed all bylaws that speak to fees and identify those responsible for paying the invoice.
- Provision should be included regarding the training of the Joint H & S Committee in Workplace Safety & Insurance Board's Certifications in Part I Basic Certification and Part II Workplace – Specific Hazard Training.
- For each officer rank within the RLFRS, reference to the level of NFPA training to be completed that includes certification to IFSAC/Pro Board requirements.
- While the firefighters are trained in HAZMAT response to meet NFPA 472 as a requirement for NFPA 1001, I and II at the operations level. RLFRS lacks the necessary response, containment, and decontamination equipment to provide that level of service. This should be included to reflect their response at the Awareness Level.
- All references to the Ministry of Natural Resources (MNR) should be changed to Ministry of Natural Resources and Forestry (MNRF). Include whether there are response agreements in place with the Ministry.
- Add a section regarding Asset Management.

- Within the section on Fire Prevention, identify the frequency of inspections that will be completed based on either request or complaint or follows either NFPA 1730 or FUS recommended frequencies.
- Add whether there is a succession planning program for promoting firefighters through the fire department ranks.
- Add that RLFRS will provide periodic inspection and testing of ancillary equipment in accordance with NFPA, Section 21 Guidance Notes and manufacturers' specifications.
- Have a section that speaks about apparatus and their replacement schedule will be in line with FUS recommendation and that they will meet NFPA 1901, *Standard for Automotive Fire Apparatus* and ULC S-515-12, *Standard for Automobile Fire Fighting Apparatus*.

1.4 Assessment of Current Fire Services Bylaws

The bylaws reviewed for this FSR include the following:

- Open Air Burning Bylaw 38-2018
- Fees and Charges Bylaw 77-2021
- Fire Dispatch Services Bylaw 74-2019 with Kenora Central Ambulance Communications Centre (CACC) *(Discussed in Section 3)*.
- Response Agreement with Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) Bylaw 1359-10 *(Discussed in Section 6)*.
- Mutual Aid Participation Bylaw 1726-13 *(Discussed in Section 6)*

1.4.1 Open Air Burning By-Law – 38-2018

The Open-Air Burning Bylaw stipulates the parameters for outdoor burning within Red Lake, which came into effect in 2018. This bylaw is four years old and should be reviewed and updated in preparation for being presented to Council for consideration.

The following needs to be considered for inclusion in the revised bylaw:

- The amended bylaw should reference the Ontario Fire Code Article 2.4.4.4.
- Should also reference O. Reg 256/14, amendments to the Ontario Fire Protection and Prevention Act.
- Bylaw should also reference Ontario Regulation 207/96, Outdoor Fires, from the Forest Fires Prevention Act.

- With the increase in residential occupancies and population, consideration about expressly prohibiting the burning leaves and grass clippings.
- Should note in the bylaw about wood-burning outdoor furnaces, which are becoming quite popular.
- It should also state that manufactured appliances cannot be placed and used on wooden surfaces such as decks and porches.

1.4.2 Fees and Charges Bylaw 77-2021

A means of fire services generating revenue to offset the operating costs of the fire department is through a Fees and Charges Bylaw for services provided. The Municipality of Red Lake is permitted to charge for services provided, as outlined in the *Municipal Act* of Ontario (2001), Part XII.

The municipality has bylaws for charging fees for several municipal services provided, primarily in the form of agreements with partner entities and agencies. During this review, it was found that the list of fees for service currently being charged should be reviewed and enhanced. Doing so will capture more invoicing opportunities for the services provided by the fire department. This means of generating revenue could be expanded by reviewing and updating the current fee schedule to meet industry trends.

Another form of revenue generation is invoicing all fire responses to the property owners' insurance companies through a third-party company specializing in these services. Many fire services in the province have implemented such means to aid in offsetting the cost of operating the fire service. Within insurance policies for vehicles and structures, there are provisions for the payment of services provided by fire departments.

The wording in Fees Bylaws is essential, and a case in point is that the Red Lake fees state that the RLFRS invoices for auto extrication calls should be changed to all motor vehicle collisions (MVC). If RLFRS were to invoice for an MVC that did not involve the performance of extrication, it could be challenged.

By exploring additional revenue generation/cost recovery opportunities, the RLFRS can ensure that the resources required to support effective and efficient fire service delivery remain available.

1.4.3 Bylaws that Red Lake Should Consider Include:

Fireworks Bylaw

Most municipalities have a stand-alone bylaw specific to selling and discharging fireworks. They include specifics regarding recreational usage, public high hazard displays, and those released during a show or music concert (pyrotechnics).

The municipal authority to control fireworks rests within the Ontario Fire Code O. Reg. 213/07, Division B, Part 5, ss 5.2.

The following needs to be considered for inclusion in a stand-alone Fireworks Bylaw:

- Referencing the federal regulation regarding the training required to set off commercial and pyrotechnic fireworks should be included in the document. Doing so will direct those who need this training and education and assist them in locating the supporting information. The bylaw should list the differentiation between the consumer, display, and pyrotechnic fireworks, as listed in the *Explosives Act, R.S. c. E-15*.
- The bylaw should include the importance of fire safety while setting off fireworks. Therefore, it would also be appropriate to have safety information on the proper method of setting off fireworks and the equipment worn by those setting off consumer fireworks. Along with this document, it will also be essential to outline the need for some form of extinguishment that should be readily available such as a pail of water and a fire extinguisher or garden hose.
- List the days on which fireworks may be detonated, and this should include the following:
    - Victoria Day
    - Canada Day
    - Religious-based celebrations and rituals
    - New Year's Eve
- The beaches are the prevalent locations for parties in the summer, and a section should discuss discharging fireworks along the beach areas year-round.
- Include a requirement that all those involved in discharging high-hazard fireworks have completed the National Fireworks Certification Program (NFCP) on discharge.
- The document should include when fireworks, such as during winds over a pre-determined speed, should not be discharged.

- A guide on how to set off "Family Fireworks" be written, i.e., use a pail of sand to place the firework in, have a charged garden hose close by or a fire extinguisher, keep children away from the discharge area, etc.
- For discharging high-hazard ordinances, the RLFRS should conduct a pre-event inspection of the site to ensure it complies with the application by a member of RLFRS that has completed the NFCP course.
- Include in the bylaw that a fire apparatus with four firefighters stands by at the site of high-hazard firework displays.
- There should be at least two post-event inspections of the area adjacent to the discharge zone to look for unexploded ordinances. One takes place the night of the display, and the second the morning of the following day during daylight hours.
- The Fees and Services Bylaw to include pre-and post-discharge inspections and the stand-by fire crew.

Registry for Accessory Apartments (also known as Second Suites) and Garden Suites Bylaw

Red Lake does not have a stand-alone bylaw on accessory apartments, also known as second suites or garden suites. The Province of Ontario's Housing Supply Action Plan supports second suites to relieve some affordable housing shortages. Second suites are an essential part of Ontario's rental housing landscape offering affordable housing solutions throughout the province. They are self-contained residential units generally allowed in single detached, semi-detached, and row houses. The Act also states that second suites may also be in ancillary structures (i.e., garage, laneway house, or garden suite).

All second suites built in Ontario must also meet health, safety, housing, and maintenance standards. These standards include but are not limited to the Ontario Building Code (OBC), the Ontario Fire Code (OFC), and municipal property standards bylaws. These changes, however, do not automatically legalize existing second suites, and they do not allow new units without a building permit.

A bylaw is required to establish a registry and license the identified living quarters, allowing the Municipality to inspect renovations or new constructions involving a second suite. Red Lake should also review opportunities to implement a means of reporting unregistered or illegally built second suites, such as an anonymous tip line.

Short-Term Accommodations Bylaw

Short-term accommodations (STA) are becoming widespread in Ontario and problematic in some areas if not monitored and controlled through enforced bylaws. Provincial legislation supports the

installation of second units and reflects local needs. However, Red Lake does not have a bylaw in place that regulates short-term accommodations.

A few points to be considered about short-term accommodations:

- An unknown number of short-term accommodations operate in Red Lake.
- An increase in housing and STAs within the municipality increases demands on the fire service.
- Detached dwellings used as lodging for multiple students with bedrooms in basements can and does occur in communities with colleges and universities.
- Tenants on restrictive budgets may locate in residences that may not meet the requirements of the OBC and OFC. Violations include not having proper exits, adequately sized basement windows, smoke alarms, CO alarms, fire extinguishers, fire escape plans, etc.).
    - May lack a direct route to the outside from the basement.
    - Windows that are too small for a person to escape through in the event of a fire.
- Property owners may not understand their responsibilities regarding fire safety and fire code.
    - RLFRS should review its Fire Prevention and Enforcement resources regarding adequate staffing to inspect all the accessory/second units and short-term accommodations in the municipality for OFC violations.
    - Due to the number of second units and short-term accommodations, RLFRS may not have the resources in place to be able to correctly complete these inspections along with the other inspection requirements of the Municipality.
    - RLFRS and the Building Department, in cooperation with Bylaw enforcement, should establish and advertise a method (reporting line) to identify possible illegal locations.
    - Inground-related dwellings (basements) must meet OBC and Ontario Fire Code standards under the *Strong Communities through Affordable Housing Act*, 2011.
    - While residential developments are in progress, some may contain second suites or become designated as short-term accommodations.
    - Unknown increase in population with the new developments in various stages of approvals.
- Most fires occur in residential units.

- Many short-term accommodations may have wood-burning appliances installed. Consideration should be given to requiring a Wood Energy Technology Transfer (WETT) inspection.

- Red Lake's Building Bylaw, 1040-08, requires a building permit to install wood-burning appliances.

With these points in mind, the Planning and Building Departments should bring forth a bylaw that regulates these units, including the licensing of these locations. The document should identify the responsibilities of the fire department.

Development Charges Bylaw 2019-133

A Development Charges Bylaw follows the Province of Ontario's Development Charges Act, S.O. 1997, c27. The Act's purpose is to allow municipalities to collect a fee for new construction to offset the costs incurred in enhancing service provision levels. The payments are allocated to fire protection, roads, recreation facilities, water and sewer systems upgrades, paramedic services, Public Works, etc.

Red Lake should consider developing and implementing a Development Charges Bylaw to aid in offsetting the expenses incurred when enhancing the community's infrastructure.

1.5 Policies, Directives, & Standard Operating Procedures

Fire department policies and guidelines have immense value for a department. They are the critical foundation of a fire department's success. The backbone of any fire service is its policies, standard operating policies (SOPs), and standard operating guidelines (SOGs), which govern and provide direction on its operations.

- Policy - high-level statement that expects consistent compliance. It is very little to no flexibility permitted with a policy.
- Guideline - standard with an acceptable level of quality or attainment. It provides direction on how to act in each situation with non-mandatory controls.
- Procedure - a requirement with an acceptable level of quality or accomplishment in a series of detailed steps to accomplish an end. There are step-by-step instructions for execution and completion.

The RLFRS has very few SOGs in place, and to ensure all the SOGs are current, they need to be reviewed and revised on an ongoing basis as circumstances change. Some fire departments review a third of their SOGs annually. Adopting this procedure provides the entire set of documents to receive a full review every three years.

Reviewing the SOGs can be an incredibly detailed and very involved process. Writing new SOGs and maintaining existing ones is a daunting task to leave to just the fire chief to look after. Station Officers and Joint Health & Safety Committee members should be required to review them. Establishing a committee that meets regularly to develop new SOGs and review older ones would relieve some of the pressures placed on the Chief Officers. The development of a structured SOG Committee that creates its Terms of Reference would be a great benefit to the RLFRS in several ways:

- Updated and current SOGs
- Staff would be more involved in the fire department operations.
- Safer environment for members to work.

The Section 21 Committee is part of the *Ontario Health and Safety Act* (OHSA) initiative for firefighter safety. A good source of information is Section 21 Guidance notes which are kept current by a provincial team of fire service personnel. The many NFPA Standards are also a good resource for developing SOGs. For a fire department to operate safely and efficiently, all members must adhere to all policies, SOGs, and SOPs, and those that fail to do so be held accountable.

Section 1: Recommendations

Rec #	Recommendations	Estimated Cost	Suggested Timeline
1	That the fire chief brings forth a revised version of the E&R By-Law for Council's approval and going forward the fire chief annually review and update, the By-Law as necessary. • And that all other by-laws noted in this document be reviewed and updated as required. All by-laws should be reviewed annually to ensure the currency of the documents.	Staff Time	Short-term (1-3 years)
2	That a Department SOG Committee be established. It is further recommended that the Department's SOGs be reviewed and regularly updated.	Staff Time	Short-term (1-3 years)

SECTION 2

Risk Assessment Profile

SECTION 2: RISK ASSESSMENT & STAKEHOLDER SURVEYS

2.1 Strengths, Weaknesses, Opportunities, and Threats (SWOT)

The strengths and weaknesses portion of a SWOT analysis are based on an internal review that identifies what is working well, along with recognizing areas for improvement. The opportunities and threats portion of the SWOT are related to external influences and how these influences affect the operations and response capabilities of an emergency service.

2.1.1 Strengths

- Red Lake benefits from having four fire stations that are arranged into four response zones. This has worked well for the Fire Department in relation to responding to calls for service within the community.
- The RLFRS has strong relationships with its partner emergency services (police and EMS), along with automatic aid agreements in place with other fire services to assist with general response needs.
- Most importantly, RLFRS has a team of dedicated VFFs that continue to share of their valuable time to ensure the safety of its community.

2.1.1 Weaknesses

- The RLFRS, as well as other volunteer fire services, depends on its team of dedicated VFFs for response to calls. This can be a challenge when it comes to having sufficient volunteer firefighters for responses.
- Due to other commitments, such as full-time jobs and family obligations, there is no guarantee the VFFs will be available or accessible to respond as required, which in turn can potentially result in low staffing levels on-scene.
- Many of the fire stations need upgrades to ensure they continue to meet the requirements in relation to equipment storage, shower facilities, and removal of firefighters' gear from diesel exhaust contamination.
- Currently, the fire chief is responsible for Administration, Training and Fire Prevention. There are VFFs who assist in ensuring training topics are being delivered at their respective fire stations. However, it is a struggle to ensure that training needs and expectations, outlined in such documents as the NFPA and the *Occupational Health and Safety Act,* are being presented and documented on a consistent basis.

- More training will be required, by all fire departments in Ontario, with the OFM implementation of the training standards and certification requirements for all positions, within the fire service.

2.1.2 Opportunities

- RLFRS should continue engaging in partnerships with the mining industry and bordering departments for such things as joint training, cross border responses, mutual aid and fire service agreements that benefit all stakeholders.
    - Continuing to build on these partnerships will improve available options in relation to meeting future training and certifications requirements.
- Recommendations are being made in this report to consider the consolidation of fire stations to reduce costs, while continuing to provide a good level of service to the community.

2.1.3 Threats/Challenges

- As the community's population continues to grow and age, any major emergencies stressing the availability and the dependency on volunteer suppression staffing resources, as well as equipment, must be considered.
- A key challenge for the Department is the age of the fleet. Some of the vehicles have exceeded the industry standards suggested life cycles.
- The threat of climate change and impact on weather patterns is increasing challenge for communities to handle inclement weather incidents, such as freezing rain/ice storms. With inclement weather becoming more common, they need to be part of the emergency response program for each community.
- These changes in climate conditions, along with subsequent frequency and severity, has established the need for a larger response component to these emergencies.

All the noted weaknesses and challenges will be addressed in this document (within the related section).

2.2 Stakeholder Surveys

As part of the SWOT, and risk assessment; to get a complete understanding of how well RLFRS is meeting the needs of the community and its volunteer firefighters, both community and staff input were requested in the form of an online survey. This input was helpful in developing

recommendations to assist Red Lake Council with future strategic decision making as it relates to the fire service.

2.2.1 External Surveys

There was a total of 32 external surveys completed. Based on the information received The following areas were extremely important to the respondents:

- How quickly the fire department responds
- Timelyness to any requests of the fire department
- Cost of the fire service
- Purchase and upkeep of equipment

Other information received, include:

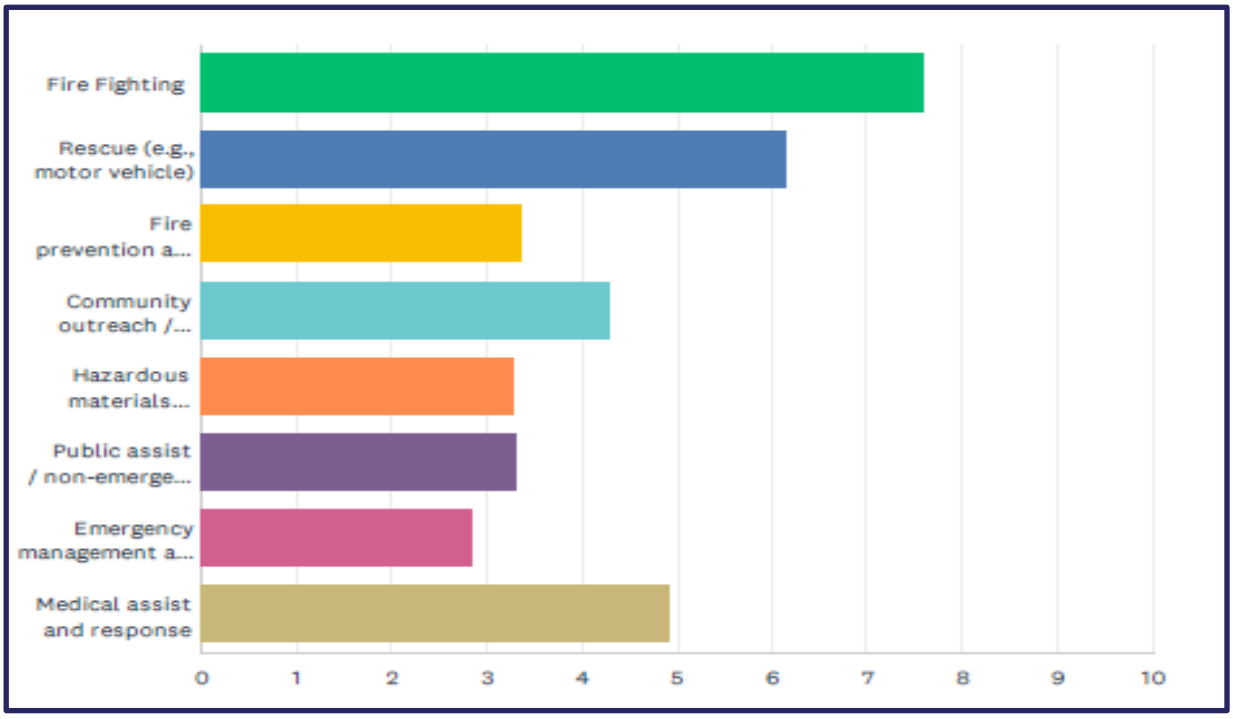
- The Fire Department is viewed as professional, “good to top notch”, and a good community partner
- Some suggestions that the external stakeholders would like to see an increase:
- More attendance at community events
- More home inspections
- More education and safety programs
- In relation to top issues/challenges:
- Cost of supplying the services to the community
- Hiring of volunteers and keeping their skills current
- Access to island and/or isolated residences
- Continue to meet the needs of a growing population

2.2.2 Internal Surveys

There was a total of 24 internal surveys completed (by the firefighters). Much of the information received from the internal surveys identified the following:

- Most of the staff are very proud of the service that they offer to the community and believe that the community feels that they are served by a professional and dedicated group of firefighters.
- Overall, the firefighters expressed a concern about some of the present emergency services facilities. There is a lack of proper space for equipment, vehicles, office and crew quarters.
- The top challenges put forward are the continued need to retain volunteer staff, ensuring properly trained and equipped staff in meeting response challenges.
- It was also noted that more community outreach and fire safety programs need to be delivered by the RLFRS.
- The question on ranking the priority of services from one to eight resulted in the following chart (from the firefighters):

FIGURE #3 – SURVEY RESULTS



The information obtained from both the community and internal surveys do confirm that the RLFRS is doing a good job in relation to meeting the needs of the community.

Internal feedback indicates that more training and upgrading of the facilities are listed at their top concerns. The main concerns noted by the internal surveys have been incorporated into this document.

2.3 Community Risk Assessment

2.3.1 Municipal Responsibilities

It is the Council that sets the level of service within the community. The *Fire Protection and Prevention Act,* 1997, S.O. 1997, c. 4 outlines the responsibilities of a municipality and provides a framework for protecting citizens from fire:

- 2 (1) Every municipality shall,
    - (a) establish a program in the municipality which must include public education concerning fire safety and specific components of fire prevention; and
    - (b) provide such other fire protection services as it determines may be necessary for accordance with its needs and circumstances.
- 5 (0.1) The council of a municipality may establish, maintain, and operate a fire department for all or any part of the municipality. 2001, c. 25, s. 475 (2)

By way of the legislation, the Municipality established a fire department as outlined by Municipal By-Law No. 58-00 (2000). The level of service to be provided is determined by the needs and circumstances of the community. The 'needs' can be defined by the type of buildings, infrastructure, and demographics of the local area, which can be extrapolated into the kinds of services offered and needed. The 'circumstances' are considered the ability to afford the level of service to be provided.

Together the needs and circumstances assist in identifying a level of service for the community. This combination meets the public's expectations for safety and the affordability of the service level provided.

The municipality is currently experiencing controlled growth. While most of this growth is residential in design, it brings commercial and industrial prospects. This increase impacts the service delivery of the RLFRS, affecting the need for service along with the population. This creates a possible risk to the community, and as such, the fire chief will need to monitor response times, including how often an entire response assignment was not amassed. This information can be utilized to identify future needs and considerations for incorporating any additional apparatus and fire stations.

RFLRS needs to focus further on the first line of defence – Public Fire Safety Education. This is the first and most effective way to reduce injuries, death, and property damage due to fire is through public education, inspections, and enforcement. The fire prevention program typically addresses these critical components of fire safety, which starts with conducting a CRA; EMG has prepared a completed CRA for Red Lake and the RLFRS as a supplementary document. The assessment was completed in compliance with The Province of Ontario, OFMEM, *Regulation 378/18.* Key summary portions of the risk assessment will be identified throughout this section.

The Red Lake CRA is a separate document from this FSR. When the fire chief has reviewed its contents and discussed it with Council and the CAO, a CRRP should be developed and implemented.

2.3.2 Provincial Community Risk Statistics

The fire chief and his staff can work with the municipal team to obtain an updated listing of building stock within the community, along with identifying other hazards such as Industry and commercial outlets, major highways, and the introduction of any high-rise structures. The first set of statistics noted is the most recent provincial data provided by the OFM compared with the most recent RLFRS statistics.

***Note:** 2022 Provincial Statistics were not available at the time of creating this report.*

Provincial - Loss fires by Property Class

From 2017 to 2021, 53,337 fires with a dollar loss were reported to the OFM.

- 73% of these fires occurred in Residential occupancies.
- 28% occurred in vehicles.
- 7% of loss fires occurred in Industrial occupancies.
- 5% occurred on structures/properties not classified by the Ontario Building code – this includes many non-structure property types – land, outdoor storage, and some structures ranging from barns to weather stations.
- 3% in assembly occupancies.
- 3% in mercantile occupancies
- 3% in business and personal services occupancies.
- 3% in occupancies classified under the National Farm Building Code,
- 1% in care and detention occupancies.

The distribution of fire occurrence across property types has been relatively unchanged.

Provincial - Loss Fires Property class: Structures only

From 2017 to 2021, 34,327 Structure fires with losses were reported to the OFM.

- Fires in residential occupancies account for 73% of structure loss fires.
- Properties not classified by the Ontario Building code – 5%
- Industrial occupancies – 7%
- Assembly occupancies – 3%
- Mercantile – 3%
- Business and Personal Services – 3%
- Occupancies classified under the National farm Building Code – 3%
- Care and Detention Occupancies – 1%

This distribution of fire incidents across structure property types has been consistent over many years.

Provincial - Structure Loss Fires: Ignition sources

Notably, 9% of the structure loss fires were suspected of arson or vandalism (intentionally set).

Between 2017 and 2021, the ignition sources in other (not intentionally set) structure loss fires were:

- 24% undetermined
- 16% cooking
- 14% open flame tools, smoker's articles
- 10% miscellaneous
- 8% electrical distribution equipment – wiring
- 7% heating equipment, chimney, etc.
- 5% other electrical, mechanical
- 4% appliances
- 4% Exposure fires
- 3% lighting - excluding candles.
- 1% processing equipment
- 0% unknown or not reported

2.3.4 Municipality of Red Lake Fire Loss Statistics

The OFM provided the following information and documents received and taken from the past reports supplied to EMG. The following data is an overview of concerns within Red Lake and from the highest to the lowest level for ease of review. This information will assist in formulating and implementing fire prevention and public safety awareness initiatives.

Municipality of Red Lake Fire Loss by Property Classification

Based on the information received, the following building classifications for property loss are listed based on the number of fires in each occupancy from 2017 to 2021:

- Group C – Residential occupancies
- Group F – Industrial
- Structures/Properties not classified by Ontario Building Code
- Group D – Business and Personal Services

There have been no fires in the past five years that occurred in the following occupancies:

- Group A – Assembly
- Group B – Care & Treatment or Detention
- Group E – Mercantile
- Properties Classified under the National Farm Code

Municipality of Red Lake Reported Fire Cause

Assessing the possible cause of the fires is essential when identifying potential trends or areas to be considered for introducing additional public education on fire prevention initiatives as part of the community fire protection plan.

The leading causes of fires were:

- Children playing
- Design/construction/maintenance deficiency
- Mechanical/electrical failure
- Misuse of ignition source/materials first ignited.
- Other unintentional
- Other
- Undetermined

Municipality of Red Lake Ignition Source Class

The leading causes of ignition sources were:

- Cooking equipment
- Exposure
- Other electrical, mechanical
- Heating equipment, chimney, etc.
- Lighting equipment
- Open flame tools, smoker's articles
- Miscellaneous
- Undetermined

2.4 Community Risk Assessment Overview

Effective July 1st, 2019, every Municipality is to complete a CRA by 2024, with renewals to occur every five years. The Municipality is required to review their document annually.

The Province of Ontario Regulation 378/18 Community Risk Assessment (CRA) states, "a community risk assessment is a process of identifying, analyzing, evaluating and prioritizing risk to public safety to inform decisions about the provision of fire protection."

By using the preferred treatment options, the fire chief will put forward strategies to address the risks, including public education and fire code enforcement, within the level of fire service provision. The Council will set the level of service. These decisions will form the basis of the Municipality of Red Lake community risk mitigation strategies.

Two basic risk categories are associated with the fire service – operational risk and organizational risk. Operational risk is the responsibility of RLFRS to determine the risks within its community and devise strategic, tactical, and task-orientated plans to mitigate incidents. Organizational risk is the function and responsibility of the Council to determine the disciplines, level of service, staffing, stations, and approval of the department's business plan based on the overall risk assessment of the municipality.

The completed CRA (that has been supplied to the Municipality) identifies gaps and areas where actual conditions vary from the desired outcomes. Data to be reviewed for each mandatory Profile include:

Demographics Profile – age, gender, educational attainment, socioeconomic makeup, vulnerable individuals or occupancies, transient population, ethnic and cultural considerations.

Critical Infrastructure Profile – the facilities and services that contribute to the interconnected networks, services and systems that meet vital human needs, sustain the economy, and protect public safety and security.

Geographic Profile – waterways, highways, canyons and other landforms, railroads, wildland-urban interface, bridges, and other specific features of the community.

Building Stock Profile – potential high-risk occupancies, whether residential, commercial, or industrial, building density, building code classifications, age of the structure(s), occupancies that could be a high life safety risk, historic buildings.

Public Safety Response Profile – how are resources distributed within the community, their deployment and usage, types of incidents responded to and the frequency of such incidents, including the seasonal variations and time of day.

Community Service Profile – existing planning and zoning committees, schools, seniors' organizations, ratepayers' associations, mental health organizations, faith-based groups, and cultural/ethnic groups.

Hazard Profile – human, technological, or natural hazards.

Economic Profile – infrastructure, local employers and industries, institutions, community's tax base, local attractions.

Past Loss/Event Profile – consideration of the impact and frequency of an event; identify significant acute events with a low frequency but a high impact or small chronic events with a high frequency with a low impact.

Only matters relevant to fire protection services are considered in the interpretation phase of the data collected for the nine profiles.

The probability or likelihood of a fire occurring within a community is estimated based on previous occurrences and the frequency of such events. This review of previous events, including the fire loss data, learning from what may have occurred in other jurisdictions, and discussions with those who may have attended the event, will assist in laying a baseline for evaluation. The judgement of professionals with such experiences must be noticed during this process and may paint a more in-depth picture of what may have occurred in the past.

The following highlights some of the top risks or issues/concerns in Red Lake.

Fire Stations – While four fire stations are listed, only three should be considered as providing service due to the lack of firefighters – the McKenzie Island station has only one active VFF. Each station's comprehensive evaluation is addressed in the companion FSR document.

Municipality of Red Lake - New residential occupancies will increase the permanent and seasonal populous. As a result, there may be an increased demand for fire inspections and public education events. The RLFRS should review the time spent and the demands placed on fire prevention needs which may require additional resources to meet the demand and current industry standards and legislated requirements.

Technical Rescues – Trench, Confined Space, High and Low Angle, Ice Water - No formal agreement exists with other fire services to mitigate some technical rescues. MRL should enter into a response agreement with another fire department or third party to mitigate trench, low-angle, and confined space rescues. Firefighters should be trained to awareness level for all technical rescues, including elevators.

Domestic Terrorism – This can occur in any community and include anything from an active shooter to sabotaging municipal infrastructure such as water treatment plants and cyber attacks, like many Ontario municipalities experienced a few years ago. Use NFPA 3000, *Standard for an Active Shooter/ Hostile Event Response (ASHER) Program* as a reference in conducting public education on the subject. As well as provide training in cooperation with the OPP Detachment.

Industries – The forestry and logging industry could be of risk to the community. With a high fire load present, in the event of a fire occurring, it may create a conflagration that becomes a wildland urban-interface fire requiring several outside resources to combat. Road access to logging operations may be limited to fire apparatus, which will delay getting resources to the location of the incident.

Demographics – The Municipality has an increasing senior demographic that may eventually reside in a senior's residence. Currently, there are a few buildings specifically for seniors. However, there could be additional buildings as the senior population increases. These occupancies require annual inspections and fire drills.

Firefighters – Recruitment and Retention – Most municipalities with paid-on-call (volunteer) firefighters are experiencing personnel shortages. The MRL and the RLFRS should develop a comprehensive recruitment and retention plan and program that may require assistance from someone specializing in people optimization (human resources).

Building Stock - With existing and new residents living in the Municipality, there could be illegal second units and apartments. Red Lake's Zoning By-Law (2015) and Official Plan authorize additional housing units in a detached dwelling and allow other residency units in an accessory building to the detached home. Secondary Dwelling Units and Garden Suites must be built to OBC and OFC requirements. MRL should require every second and garden suite to be registered and licensed with the Municipality and inspected by RLFRS Fire Prevention personnel.

- There is also an unknown number of short-term accommodations in the Municipality. No by-law regulates these accommodations, but plans are in place for developing and implementing one in 2023. Owners of these businesses must be aware that they must comply with Municipal by-laws such as Property Standards and Open-Air Burning. A Short-Term Accommodations by-law should regulate this industry which also calls for the registry of fire inspections of these locations.

Building Stock -Lightweight Construction – The OFM has identified the risks associated with occupancies using lightweight construction (LWC) practices*. Municipalities are to inventory all building stock, including LWC practices. RLFRS and the Building Department should collaborate to develop an ongoing list of all building stock based on the OBC Occupancy Classifications while highlighting those with lightweight construction.

***Note:** Failure to comply with this requirement is illegal and exposes the municipality to significant fines.*

2.5 Future Needs

Understanding the community and its needs allows the fire chief and staff to be proactive with education and enforcement programs for the community. When fires, medical or other emergencies occur within the community, the firefighters can be ready to battle the fires because they are trained in the basics of firefighting and emergency response and in understanding any unique and special hazards within the community. These hazards must be identified in a risk assessment so the fire chief can ensure preventative and mitigative programs are in place. As the community grows in population and building stock, the frequency and the need for service will grow.

2.6 Community Risk Reduction Plan

The CRA has been completed, the risks identified, and then the development of a CRRP should begin. When properly applied, the CRRP coordinates emergency operations with prevention and mitigation efforts throughout the community and at the fire station level. The involvement of fire station personnel is critical for gathering local risk data and performing activities necessary to implement the CRRP.

A CRRP improves the firefighters and emergency responders' safety and occupational health, reducing line-of-duty deaths. Aside from the primary benefits to the community, a CRRP can positively impact the fire department. Due in part to the number of fire inspections and public education events completed, enforcement of the OFC, and the reduction in the number of fires, resulting from these measures.

In addition to firefighter safety, there are several other reasons why departments should begin the process of developing a CRRP, including:

- The presence of new and emerging hazards and managed risks makes the community safer.
- Declining budgets among fire departments and local governments must improve resource allocation.
- A changing community demographics.
- Community engagement.
- May avoid potential ramifications of ignored or not fully addressed hazards.
- Better defines the fire department's purpose and value within the community beyond just fighting fires.

Completing the Community Risk Assessment and the FSR document provides the fire chief with the components needed for the Risk Reduction Plan. Utilizing the information and recommendations found within the CRA and FSR forms the foundation of the CRRP.

There are several steps in the development of a CRRP:

Identification and Prioritization – Upon completing the CRA and the risks identified, the priorities are determined, and the results are itemized for use in the remaining planning process. The document does not need to be complex or complicated but in a clear and concise format that enables the reader to understand the risks and those that should have the highest priority.

During this process, consider the following:

- Why and how the risk occurs and, sometimes, when.
- Who does the risk affect the most, and why?
- How are the community and the fire department affected by the threat?
- What about this risk ranks it higher than others?

Develop Mitigation Strategies & Tactics – This requires input from various individuals involved, including those most affected by the risk. Stakeholder involvement is paramount and should always be in the decision-making process. It will necessitate decisions to determine what tactics and strategies will be necessary to prevent and mitigate those risks with the highest priority.

Five elements to be reviewed during the development of the plan include:

Education: Determining the appropriate type and mix of educational messaging necessary to inform the public and effect behavioural change. More encompassing education through different mediums of social media.

Enforcement: Identifying whether more vigorous enforcement is necessary or if newer codes and standards need adoption. Notification of the public on successful convictions through the justice system.

Engineering: Determine whether there are engineering or technological solutions to address the identified risk(s).

Emergency Response: Changes to the emergency response protocols, SOGs, SOPs, and policies to better meet a specific risk or need. It may require additional resources such as stations, apparatus, equipment, staffing, and enhanced levels of training.

Economic Incentive: Identifying whether financial incentives will improve compliance or help increase awareness of community needs.

Prepare the CRRP – With the risks now identified and prioritized, the strategies and tactics are determined for prevention and mitigation. It will be necessary to develop a written plan.

Implementation of the CRRP – The completed CRRP usually involves several steps. The process should include timelines, which can be quick and focused or slow and methodical. The implementation may rely on the fire department, community partners, or a combination.

Monitor the Progress, Evaluate Your Findings & Modify the CRRP – The final step involves monitoring and evaluating the plan's effectiveness and adjusting, as necessary. This process will enable the organization to determine if they are achieving their desired goals and if the program is or is not impacting them. Ongoing monitoring allows for plan modifications promptly.

The CRRP is a gateway to the reinvention of the fire service culture that requires approval, buy-in from the Council, vision, as well as strong leadership to advocate the needed change and navigate the process. A successful CRRP will bring additional resources to the effort through partnerships within the fire department and the community it serves. The community-based approach increases public safety because of the collective work within the community to understand, assess, and provide inclusive solutions to community safety issues.

2.7 Next Steps

As the community grows, the frequency of calls and the need for service will grow. Based on this growth, there may be a future need for additional staff in the Fire Prevention Office, the Fire Suppression Division, and training. Supporting information relating to the staffing needs of each division can be found in the associated sections within this FSR document.

The provincial government has recently introduced updates to the *Fire Protection and Prevention Act*, which outlines the responsibilities of a community and its fire department concerning service level expectations. The updates to the *Act* are:

- Certification for firefighters, fire service instructors (training officers), and fire service inspectors (fire prevention inspectors).
- Mandatory reporting requirements.
- Mandatory community risk assessments review annually, and a new one is to be completed every five years.
- Mandatory inventory of all building stock, including identifying those with lightweight construction components.

These four additions will put an even more significant strain on fire departments to ensure proper training, reporting, and completion of CRAs.

2.8 Fire Underwriters Survey

The FUS is a national organization that provides data on public fire protection for fire insurance statistical work and underwriting purposes of subscribing insurance companies. Subscribers of FUS represent approximately 85% of the private sector property and casualty insurers in Canada.

FUS Certified Fire Protection Specialists conduct detailed field surveys of the fire risks and defences maintained in built-up communities, including incorporated and unincorporated communities across Canada. The results of these surveys will establish a Public Fire Protection Classification (PFPC) for each Municipality. Underwriters also use the PFPC to determine the amount of risk they are willing to assume in each community or section of a community. While the FUS is not involved in setting rates, the information provided through the 'fire insurance grading index' is critical in developing commercial lines property insurance rates.

The overall intent of the PFPC system is to provide a standardized measure of the ability of the protective facilities of a community to prevent and control significant fires. This process is accomplished by evaluating in detail, the adequacy, reliability, strength, and efficiency of the protective facilities and comparing the level of protection against the level of fire risk in the built environment.

The FUS also uses PFPC information to develop the Dwelling Protection Grade (DPG), used by personal lines insurers to determine property insurance rates for detached dwellings with no more than two dwelling units. The DPG is a measure of the ability of the fire services of a community to prevent and control structure fires in detached dwellings by evaluating the adequacy, reliability,

strength, and efficiency of the fire department and comparing the level of protection against the level of fire risk associated with a typical dwelling.

The fire insurance grading system does not consider past fire loss records but rather fire potential based on the physical structure and makeup of the built environment. Every insurance company has a formula for calculating its underwriting capacities and insurance rates; however, the PFPC and DPG classifications are extremely useful to insurers in determining the level of insurable risk in a community. When a community improves its PFPC or DPG, property owners may see a reduction in their insurance rates, while their underwriting capacities may increase.

A Fire Underwriters assessment provides an opportunity for a fire department to apply for its superior tanker shuttle accreditation which the RLFRS still needs to complete.

Section 2: Recommendations

Rec #	Recommendations	Estimated Cost	Suggested Timeline
3	That Red Lake develops a comprehensive CRRP that falls in line with the CRA and the FSR recommendations.	Staff Time	Short-term (1-3 years) ongoing

SECTION 3

Fire Department Divisions

SECTION 3: FIRE DEPARTMENT DIVISIONS

Within the scope of work noted in the original RFP document, staffing needs was identified as a priority in which EMG was to review the capabilities of existing staffing and identify future needs for each of the divisions including Suppression, Communications, Mechanical, Training, Prevention, and Administration.

3.1 Community Safety – Four Lines of Defence

Even though the OFM community safety model revolves around three specific lines of defence - Public Fire Safety Education, Fire Safety Standards and Enforcement, and Emergency Response. EMG views Emergency Management as the fourth, inclusive line of defence, and have added this into the overall concept of community safety.

1. Public Fire Safety Education – educating residents has proven to be the most effective means in reducing and preventing the incidences of fire and property damage. Reducing the number of fires before they start and identifying how the municipality will continue to meet the fire education needs while the municipality grows.
2. Fire Safety Standards and Enforcement – ensuring that the inspection and enforcement of fire codes occur so buildings meet the required safety standards.
3. Emergency Response – the availability of well trained and well-equipped firefighters to respond and effectively mitigate the incident is the last defence. The staff, equipment and fire station locations impact how the emergency is mitigated.
4. Emergency Management – a municipality is legislated to have an emergency preparedness program to ensure the safety of the residents of the community by having a training, education, response, and mitigation plan in place for any possible emergency the community may encounter.

Along with these four lines of defence, the following industry best practices help to inform a fire department of industry expectations. Neither the NFPA and/or the FUS are legislated requirements, and do not have to be followed, but utilizing them to improve a community's fire service is encouraged by EMG.

3.1.1 National Fire Protection Association (NFPA) 1201

The National Fire Protection Association Standard 1201 – *Standard for Providing Fire and Emergency Services to the Public* makes note of the services that should be offered and how they are to be delivered based on the composition of an emergency service.

Section 4.3.5 notes:

The Fire and Emergency Services Organization (FESO) shall provide customer service-oriented programs and procedures to accomplish the following:

- Prevent fire, injuries and deaths from emergencies and disasters.
- Mitigate fire, injuries, deaths, property damage, and environmental damage from emergencies and disasters.
- Recover from fires, emergencies, and disasters.
- Protect critical infrastructure.
- Sustain economic viability.
- Protect cultural resources.

To accomplish this, an FESO must ensure open and timely communications with the CAO and Governing Body (Council), create a masterplan for the organization. The FESO must also ensure there are mutual aid and automatic aid programs in place, along with an asset control system and maintenance program.

To provide an emergency service with a clearer focus on what the ultimate goals for emergency response criteria are, the NFPA suggests that response times should be used as a primary performance measure in emergency services. NFPA 1720 refers to goals and expectations for volunteer emergency services which have been incorporated into the evaluation of the emergency services' response and staffing needs.

3.2 Administration Division

A fire chief's role, in a large or small fire department, requires interaction with council, and senior corporate management. Responsibility for Fire Protection Services found in Part 2, section 2, paragraph 6 (3), of the *Fire Protection and Prevention Act, 1997, S.O. 1997*, states that "A fire chief is the person who is ultimately responsible to the council of a municipality that appointed him or her for the delivery of fire protection services". It is based on this provincial legislation that the fire chief needs to communicate with senior management (CAO) on issues/updates that need to be conveyed to council.

The Administration Division in the RLFRS is comprise of just the fire chief. Although the fire chief is doing an admirable job at managing the day-to-day operations of the Department there is no doubt that more resources are required. Even if that is the utilization of one of the Municipality's staff on a part-time basis.

With the OFM training and certification requirements, to meet NFPA standards for all positions within the Department (that was implemented in 2022), the training demands on all positions within the RLFRS will increase based on the services the Department supplies to the community. The additional training requirements and subsequent workload will very likely require a review of the position responsibilities and identify the following:

- The future need for a part-time Training Officer position to handle the new legislated training requirements, and
- There will be a need for administrative support or the investment and implementation of a more efficient records management system (to replace the present paper-based system) that all staff can utilize to input their training.

Currently EMG is not recommending more full-time staff, it is recommended that with the impending training and certification legislation, the fire chief will need to thoroughly monitor the present personnel's (whether full-time or volunteer) ability to manage the demands and increase in administrative record keeping.

3.3 Fire Inspections, Fire Prevention, Fire Investigations and Public Education

3.3.1 Fire Inspections

For a CRRP to be successful, ongoing fire inspections are a necessity. It is the inspections that will identify deficiencies and contraventions of the Ontario and National Fire Codes before they cause a fire. The pandemic put a halt to fire inspections, and only two fire inspections were conducted in 2020 and 2021. At the time of this initial review (November 2022), no fire inspections have been completed in 2022.

Through the utilization of the FUS Inspection Frequency Chart, the RLFRS can measure requirements to meet inspection benchmarks and develop a plan on what can be accomplished with its present staffing complement, as well as look at options to increase inspection frequency.

TABLE #2: FUS INSPECTION FREQUENCY CHART BASED ON OCCUPANCY

Occupancy Type	Benchmark
Assembly (A)	3 to 6 months
Institutional (B)	12 months
Single Family Dwellings (C)	12 months
Multi-Family Dwellings (C)	6 months
Hotel/Motel (C)	6 months
Mobile Homes & Trailers (C)	6 months
Seasonal/Rec. Dwellings (C)	6 months
Commercial (F)	12 months
Industrial (F)	3 to 6 months

The FUS suggested frequency chart can be a challenge to address for many fire departments, and the fire chief should prioritize the vulnerable occupancies (e.g., nursing homes, retirement homes, group homes, etc.), institutional buildings, assemblies, multi-residential and industrial buildings within the within the fire department's jurisdiction.

The NFPA 1730*, Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations to the Public* emphasizes the minimum criteria for addressing the effectiveness of fire prevention activities such as fire inspections, code enforcement, plan reviews, investigation and public education programs by the fire department based upon an approved community risk reduction plan. NFPA 1730 provides a valuable understanding into the following:

- *Organization*-The organization having the authority to provide fire prevention, inspection, code enforcement, plan review, investigation, and fire and life safety education.
- *Community Risk Assessment*-The development of a community risk assessment and CRRP to reduce, mitigate or eliminate the community's risk.
- *Fire Prevention Inspection and Code Enforcement*-The deployment of resources for fire prevention inspection and code enforcement for existing occupancies and the minimum frequencies for such activities.
- *Plan Review*-The inspections of and code enforcement for new construction and renovations of existing buildings with a focus on emergency vehicle access, water supply and change or addition of life safety systems.
- *Investigations*-Identifying the origin, cause and circumstances of any fire, explosion, hazardous materials incident, or other hazardous condition.
- *Public Education Programs*-To establish public education programs that reduce the community's risks, demonstrate the value of public education activities, and the implementation of appropriate prevention and intervention activities.

According to NFPA 1730, there are four classifications for fire inspection frequency:

Occupancy	NFPA 1730
High-Risk	An occupancy that has a history of high frequency of fires, high potential for loss of life or economic loss, or that has a low or moderate history of fires or loss of life, but the occupants have a high dependency on the built-in fire protection features or staff to assist in evacuation during a fire or other emergency. **High risk occupancies should be inspected annually.**
Moderate-Risk	An occupancy that has a history of moderate frequency of fires or a moderate potential for loss of life or economic loss. **Medium risk occupancies can be inspected every 2-years.**
Low-Risk	An occupancy that has a history of low frequency of fires and minimal potential for loss of life.[4] **Low risk occupancies can be inspected every 3-years.**
Critical Infrastructure	**To be determined by the Authority Having Jurisdiction (AHJ).**

[4] *NFPA 1730, Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations* 3.3.3.1-3.3.3.3

NFPA 1730, states that a Community Risk Assessment (CRA) forms the foundation for the development of fire prevention inspections and code enforcement. The CRA includes the following profiles:

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

Profile data for Red Lake will help identify risks facing the community and create the foundation for fire inspection and public safety education schedules and programs to be prioritized and developed. Fire inspections and public education are key factors in reducing risk and fires in a community. Presently, it is the fire chief who is responsible for conducting the fire inspections and is certified as an NFPA 1031*, Fire Inspector II*, and is qualified to conduct research, interpret codes, implement policy, and testify at a legal proceeding if required.

No formal inspection program exists, and currently, fire inspections and code enforcement are only conducted for vulnerable occupancies, complaints, or requests. The fire inspection program is essentially reactive in nature and isn't based upon an analysis of existing fire risks within the community. Fire Inspections are the primary way to oversee community life safety issues concerning fire code inspections and enforcement of the Fire Code.

Fire inspections of all types of occupancies are crucial to the protection of persons and property from the hazards of fire. The reduction of risks from fire and other life safety hazards is a result of regularly scheduled fire inspections where code infractions are discovered prior to an event happening. Inspections also provide assurances that fire detection equipment in buildings meets code standards, are present and operational and that firefighting equipment in buildings have been tested to the standards. Further and in addition to fire inspections, a fire inspector manages the issuing of orders, filing court documents, and carrying out re-inspections to ensure compliance.

A formal Record Management System (RMS) does not exist for fire inspections, and as of the writing of this document, the fire chief is working on retrieving past fire inspections with a few digital and hard copies of inspection reports being retrieved. The lack of a formal fire inspection program and

schedule poses some concerns as fire inspection expectations are clearly identified in *Bylaw 58, Bylaw to Regulate the Municipality of Red Lake Volunteer Fire Department.* Further to this, *The Fire Protection and Prevention Act, 1997* clearly identifies the fire chief as an inspector for the purposes of the Act.

The Ontario Fire Marshal recognizes inspections and enforcement as the second line of defence, which ensures that the inspection and enforcement of fire codes occur, so buildings meet the required fire safety standards. Inspections and enforcement are not intended to punish, rather, they are intended to prevent fires and harm to people, and property and a collaborative partnership ensures this is the goal for a community.

The fire inspection program creates the environment for safer buildings for the public and increases the attitude towards collaboration for the prevention of fire risks. Conducting fire inspections ensures safety standards are met, alarm and suppression systems are working properly and documenting such inspections will save lives.

It is recommended that the fire chief implement a fire inspection program that coincides with NFPA 1730 high-low hazard classifications and critical infrastructure with the goal of having a formal record of inspection findings, reinspection, and compliance.

3.3.2 Pre-Planning

Pre-incident planning is a proactive measure by the fire department to address the challenges faced by the fire department when responding to a structure. NFPA 1620*, Standard for Pre-Incident Planning,* identifies the process for the development of pre-incident plans that will assist fire department personnel to effectively manage an incident to protect occupants, responding fire department personnel, property, and the environment. The standard provides a foundation for the requirements for the development of a pre-incident plan, which includes but is not limited to.

- *Physical and Site Considerations* - The construction type of the building, height, age, building features, power supplies, energy sources, hazardous, etc.
- *Occupancy Consideration* - Occupancy use.
- *Water Supplies and Fire Protection Systems* - Identifying water supplies for fire suppression systems, public and private water supply sources, fire department connections and fire alarm systems.
- *Special Considerations* - Identifying any hazardous materials, flammable and combustible liquids, physical and site considerations that pose risk to the health and safety of responders, etc.

No formal pre-incident planning takes place by the RLFRS, which is not uncommon for many volunteer fire departments. The changes in building construction, occupancy or renovations that have occurred are simply too much for responding fire department personnel to remember. Pre-incident planning is about being proactive and gathering critical information to help the responding personnel so that when they arrive on the scene, critical time is not lost, trying to identify hazards, utilities, contact info and water supplies.

Pre-incident plans tend to get bumped down the priority list when resources are scarce. However, this does not diminish the importance of pre-incident plans on the high-risk occupancies within the response jurisdiction of the fire department. Smaller communities may have historic properties which pose their own set of challenges, narrow roads or back lanes, and water supply issues. These issues can be identified beforehand when completing pre-incident plans.

During research for this report, the fire chief indicated the Department was moving towards FirePro2 as their record management system.

Pre-incident plans do not have to be the responsibility of the fire chief, rather, these are better performed by a crew of firefighters. While conducting a pre-incident plan, firefighters are also getting familiar with the structure and the nuances of the building layout.

Pre-incident planning is a proactive way for fire department personnel to have key information readily available prior to arriving on the scene of an emergency. This information helps firefighters effectively manage the incident to protect occupants, other responding fire department personnel, property, and the environment.

Therefore, the RLFRS needs to create a pre-incident plan program where the priority is placed upon the vulnerable occupancies within its jurisdiction, and then move forward with pre-incident planning for high-risk occupancies. The program needs to be based on Section 21, Guidance Note 6-45, Pre-Incident Planning and NFPA 1620, *Standard for Pre-Incident Planning*.

3.3.3 Fire Investigations

NFPA 1033*, Standard for Professional Qualification for Fire Investigator*, identifies the fire investigator as the individual who has demonstrated the skills and knowledge necessary to conduct, coordinate and completes a fire investigation. The FPPA, 1997 identifies that fires are investigated to determine the origin and cause so similar incidents can be prevented in the future. Failing to properly analyze the cause of fires and identify risks may cause resources to be assigned to the wrong target audience.

The fire chief has received training as per the job performance requirements identified in NFPA 1033 and must complete an investigation and submit it for review prior to receiving full certification. At any time, the fire chief can call upon the OFM to get assistance with or have the OFM field investigators take control of the investigation. Fires must be investigated to determine the origin and cause so similar incidents can be prevented in the future.

As such, it is recommended that the fire chief continue with the NFPA 1033 certification so the origin, cause, and circumstances of each fire can be determined as per legislation. An SOG should be developed that will address fire investigations while referencing NFPA 1033, the FPPA, and Section 21, Guidance Notes 4-13, Personal Protection During Fire Investigation Operations and 5-2, Considerations for Working Alone.

3.3.4 Public Education

Public education and prevention are the first pillars of (fire safety) defence and have proven to be the most effective means of reducing fire incidents and property damage. It promotes safe behaviours for people of all ages and expands the understanding of regulations and codes that improve safety in homes and businesses. Public education is also about working with the media to get fire safety messages out to the public.

The reduction and elimination of fires before they start is beneficial to the health and safety of the community and the fire department. When fires decrease, the frequency of firefighters being put at risk is also decreased at the same time, thereby preventing injuries or death of responding firefighters. Cooking, heating equipment, as well as smoking all have been identified as the leading cause of residential fires and fire deaths within Canada. In Ontario, adults 65 years of age and older are at a higher risk of dying in a fire than any other age group. Education programs such as the *Older and Wiser* programs can be provided to seniors to educate them on the risks of fire.

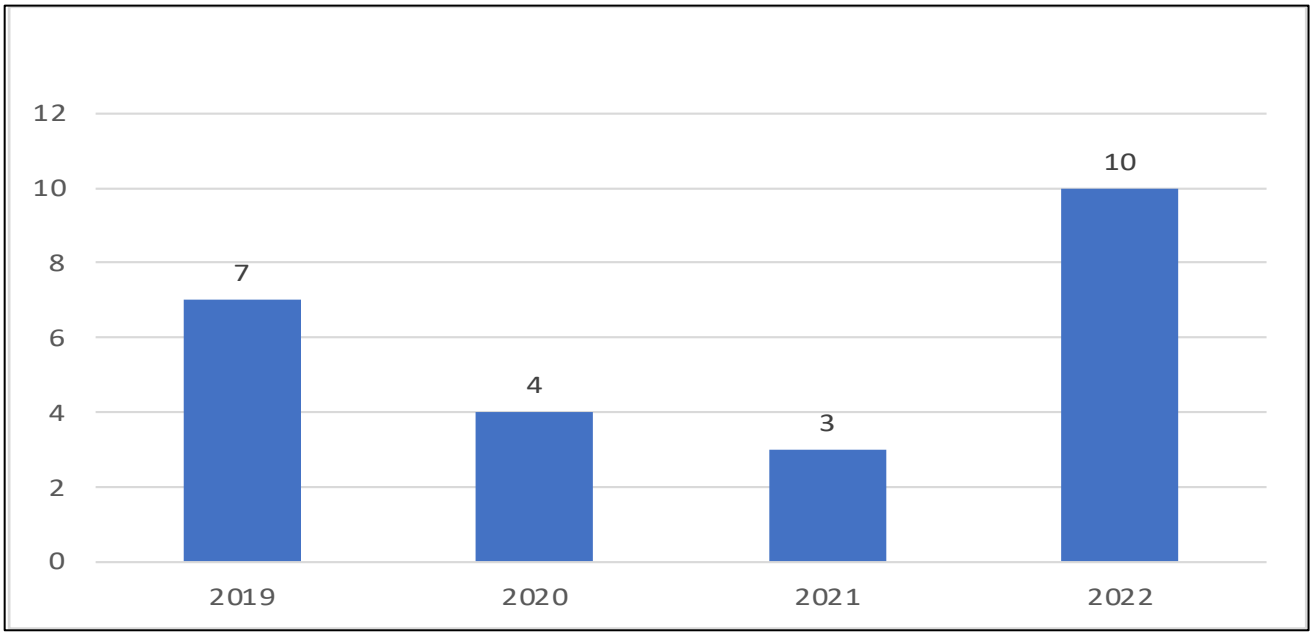
The RLFRS goal is to have a fire prevention officer (FPO) in each fire station that is responsible for coordinating and delivering public education. However, at the time of this review there was only one active FPO for the Department, and that being the fire chief. There is no formal program or guidelines established for the FPO, nor do they have formal education for their role other than five years of experience as identified in the job description. The fire chief has confirmed that formal NFPA 1035,

Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist, and Youth Firesetter Program Manager Qualifications is confirmed before year end.

The goal is for each station to have a fire prevention officer, which is a volunteer position, and they are responsible for coordinating and delivering fire prevention activities for their station. In the organizational structure, the FPO's report to the station captain and consult with the fire chief regarding prevention and promotional materials. The FPO's job description does not identify any specific qualifications other than having five years of firefighting experience and being knowledgeable about fire safety and prevention information, including best practices and applicable legislation.

A review was conducted on the public education event from 2019, and it is evident that the pandemic impacted the scheduling of these events. During research for this FSR, ten public education events have occurred thus far in 2022, and it is anticipated that more will occur before year-end.

TABLE #3: NUMBER OF PUBLIC EVENTS PER YEAR (2019 – 2022)



The goals and objectives of prevention and education programs should be identified annually by the Fire Prevention Officers and the fire chief. The objective of educational programs is to change the behaviours of individuals to prevent injury, death, and property loss due to fire. If fire prevention and education programs can demonstrate they brought a change in behaviour, then it can be speculated that there will be a reduction in fires and a decrease in fire loss and injuries. A key factor in demonstrating that programs are successful is the collection of data such as call types, fire cause,

property loss and property saved. This data must be analyzed annually to benchmark progress and or gaps in the prevention and education programs.

With the future implementation of FirePro2, the RLFRS will be able to start collecting data and identifying call types that are continually using fire department resources and causing damage to property. Long-range planning and goal setting must be a high priority for the RLFRS fire prevention and education programs by reviewing the cause of fires, identifying patterns of behaviours that need to be addressed and working with community partners to address these risks. Once data is analyzed and collected, a target program can be implemented to address specific call types and fire causes.

Public education is more than just educating children and adults or handing out pamphlets. Public education should focus on a target audience and the use of a community risk assessment that identifies at risk areas within the community. It is the most cost-effective means to prevent fires and the harm to people, property, and the environment because of fire. The RLFRS needs to ensure that all FPOs have NFPA 1035 training and IFSAC/Pro Board certification, and a formal fire prevention and education program be implemented within the next 12-18 months.

The fire chief has numerous portfolios and is focused on prioritizing training and health & safety initiatives. It will be a challenge to for the fire chief to schedule and maintain regular fire inspections along with follow up inspections for non-compliance issues.

An analysis should be conducted to determine if the FPO positions remain as volunteer positions or whether a full time FPO that focuses on fire inspections, enforcement and public education is more efficient for the RLFRS.

3.3.5 Records Management System

NFPA 1730*, Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations* identifies the importance of a management information system to maintain and support the management of the FPO by providing data that identifies the effectiveness of inspections, procedures, programs, performance outcomes and trends.

During the writing of this document, it was noted that the RLFRS does not have an effective Record Management System (RMS) for tracking, retaining, and retrieving fire inspection information. Fire departments, provincial agencies and or legal requests regularly want information, reports and data that are readily available and easy to retrieve.

A record management system is a key factor in a fire department's decision-making and strategic planning. Provincial legislation should form the foundation for records maintained by the fire

department and, at the very least, should include incident reports, fire inspections, code enforcement records, prevention activities, training and other pertinent records that are applicable to the AHJ.

Currently, the RLFRS is transitioning to FirePro2 uses a RMS, and it is projected that the transition from hard copy to digital will take some time. The immediate challenge will be the initial training and communicating to personnel the importance of entering data into the RMS. The individuals responsible for entering information must take responsibility to properly enter the information, so the information is readily available for decision-making and or legal requirements. The training of all users is critical to the successful implementation of FirePro2, and technical experts should be involved in the implementation.

The decision to move forward with a formal RMS for the Department is an appropriate one for which the fire chief should be congratulated.

When provincial agencies and legal teams request information, any reports and data from the fire department as well as Provincial legislation should form the foundation for records maintained by the fire department, which should include incident reports, fire inspections, code enforcement records, prevention activities and training records.

To ensure that all records are inputted and retained properly, all officers should receive training in FirePro2 and that each station have a computer connected to the FirePro2 network so the station officers can enter their reports.

3.4 Residential Fire Sprinklers and Monitored Fire Alarm Systems

Fire sprinklers have been around for more than a century, protecting commercial and industrial properties and public buildings. What many people do not realize is that the same life-saving technology is also available for homes, where roughly 85% of all civilian fire deaths occur.

The NFPA, along with the Ontario Association of Fire Chiefs, are strong supporters of residential sprinkler systems to reduce the risk to life and property from fire. In a recent NFPA on-line article, it was noted that because fire sprinklers react so quickly, they can dramatically reduce the heat, flames, and smoke produced in a fire. Properly installed and maintained fire sprinklers help save lives, reduce damage, and make it safer for firefighters.

Facts About Home Fire Sprinklers

Unfortunately, due to the lack of Canadian statistics, we must rely on American statistics. However, since there are so many similarities in building construction, the statistics are an accurate reflection of the Canadian experience.

Automatic sprinklers are highly effective and reliable elements of total system designs for fire protection in buildings. According to an American Housing Survey, 10% of occupied homes (including multi-unit) had sprinklers in 2010-2014, up from 4.6% in 2009.

Source: U.S. Experience with Sprinklers[5]

- 85% of all U.S. fire deaths occur in the home.
- The civilian death rate of 1.4 per 1,000 reported fires was 81% lower in homes with sprinklers.
- The civilian injury rate of 25 per 1,000 reported fires was 31% lower in homes with sprinklers. Many of the injuries occurred in fires that were too small to activate the sprinkler or in the first moments of a fire before the sprinkler operated.
- The average firefighter injury rate of 13 per 1,000 reported home fires was 79% lower where sprinklers were present.
- Where sprinklers were present, flame damage was confined to the room of origin in 97% of the fires compared to 74% of fires without sprinklers.
- In 2021 some fire safety statistics[6] were released which includes:
- Fire sprinklers reduce the risk of death in a home fire by 80%.
- The risk of property loss is reduced by 70% in homes with sprinklers.
- A sprinkler installation typically costs 1-2% of a home's total construction cost. In Canada it has been found that due to the high costs of building materials due to the pandemic and pushback from some trades, the estimated costs vary from $5 to $10 / sq. ft.
- Fire sprinklers activate on an individual basis.
- Fire sprinklers release less water than fire hoses.

The Home Fire Sprinkler Coalition (HFSC) is a leading resource for accurate, non-commercial information and materials about home fire sprinklers for consumers, the fire service, builders, and other professionals.

[5] NFPA report - U.S. Experience with Sprinklers, Accessed November 15, 2022, https://www.nfpa.org/News-and-Research/Data-research-and-tools/Suppression/US-Experience-with-Sprinklerss

[6] The Latest Fire Safety Statistics - Stay Safe in 2021 (safeatlast.co), Accessed November 15, 2022, https://safeatlast.co/blog/fire-safety/

By working with the developers and the public in promoting the installation of home sprinkler systems, the RLFRS would be demonstrating a pro-active approach to educating the public on another viable option for homeowners to help reduce the risk in the event of a fire. As such, it is recommended that RLFRS investigate this safety initiative as part of their fire prevention and public education initiatives.

Presenting a demonstration at community events would assist in educating the public on the benefits of having sprinklers in the home. A practical demonstration will provide a very graphic visual image of their effectiveness.

Another key component to saving lives and property is early fire detection and monitoring. If the residents are not at home when a fire occurs, it may be some time before it is noticed and reported to the fire department. By that time, there could be significant fire involvement resulting in high property loss. The continuous monitoring of a fire alarm system by a third party will ensure constant surveillance of alarm systems and the prompt notification of an alarm to the fire department.

3.5 Training and Development

Training is a critical component of the fire service, as firefighters must be trained properly to perform the tasks they are expected to do. Whatever services the fire department provides, training is required to teach new skills, and improve and maintain existing skills. The fire chief is responsible for ensuring that firefighters are trained to the level of services identified in the establishing and regulatory bylaw.

Regarding training and professional development, NFPA 1201 – *Providing Fire and Emergency Services to the Public* notes:

> 4.11.1 Purpose. *"The FESO shall have training and education programs and policies to ensure that personnel are trained, and that competency is maintained to effectively, efficiently, and safely, execute all responsibilities."*[7]

NFPA 1500, *Standard on Occupational Safety, Health, and Wellness Program* states that:

> *5.1.1. "a fire department shall establish and maintain a training, education, and professional development program with a goal of preventing occupational deaths, injuries, and illnesses."*[8]

[7] "Standard for Providing Fire and Emergency Services to the Public," Retrieved January 30, 2022, https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1201

[8] "Standard on Fire Department Occupational Safety, Health, and Wellness Program," Retrieved January 30, 2022, https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1500

NFPA 1500 also states that "training programs should include but not be limited to the following: community risk reduction (fire prevention, public education, investigation, etc.), health and safety, fire suppression, emergency medical, human resources (leadership, supervision, interpersonal dynamics, equal employment opportunity, etc.), incident management system, hazardous materials, technical rescue, information systems and computer technology, position-specific development (firefighter, company officer, chief officer, telecommunicator, investigator, inspector, driver/operator, etc.)."[9]

The expectations of knowledge and skill placed on today's firefighters are higher than they have ever been. Community fire protection demands a high level of training and qualification in all aspects of prevention, suppression management and administration. the decisions made at an emergency scene may literally be life or death, and the reliance on strong skillsets and situational awareness is of the utmost importance.

3.5.1 Red Lake Fire & Rescue Services Current Status

The RLFRS operates out of four stations and is tasked with ensuring that its 50 volunteers from the four stations are well-trained. Today, the training is focused on ensuring that members train according to the NFPA 1001, *Standard, Level I,* with the goal of having members complete the theoretical and practical skills by June 2023. The training was historically scheduled bi-weekly, with each station conducting its own training, but this has recently been changed to weekly training sessions where a focus is on theoretical for two training sessions and one session for practical skills. During the theoretical and practical sessions, the firefighters from all four stations train together to promote teamwork and increase the working relationship among firefighters.

The RLFRS has attempted to have four training officers, with each station, in addition, the Department has one training officer for auto extrication and one training officer for wildland urban interface firefighting. It should be noted that at the time of the review, there were only two training officers for the Department.

It was noted that there has been no formal training program, and records are kept as hard copies in each fire station. The training records did not include any Job Performance Requirements (JPR), or standards that firefighters trained to, and although the training was directed towards the NPFA 1001 Standard, there were no JPRs recorded for any of the practical skills. With no digital records management system (RMS) in place, the ability to retrieve all the training for each firefighter for this review was a challenge; however, the RLFRS is moving forward with implementing FirePro as their RMS.

[9] NFPA 1500 Annex A.5.1.1

The station training officers try to meet quarterly. However, the pandemic has impacted these meetings, and no meetings were held (during the past couple of years).

The RLFRS strives to provide interior firefighting operations as well as auto extrication and hazmat services. Technical rescue and water/ice rescue services are provided by the evolution mine surface response team if they are available. No formal agreement between the mine and the RLFRS exists, which is concerning in terms of liability and identifying the level of services to be delivered.

Based on the information gathered, it is recommended that the RLFRS investigate the feasibility of creating its own water/ice rescue team or entering into a formal agreement with the evolution mine surface rescue team. A timely response is critical and having a trained team for formal agreement is place will ensure a proper response to such incidents.

The RLFRS does not have a dedicated training facility with a pressurized water source. At present, the transfer station in Balmertown is used to practice live fire. The Department can use the Ministry of Environment burn permits for their live fire training but must apply for special permission every time they burn on a training night. The Department is planning to use the Mobile Live Training Unit from the OFM in moving forward with their live fire training.

Currently, the RLFRS does have a sea container located at the local landfill site, which is used for live fire training, but no SOG exists regarding any safety procedures or protocols for live fire. NFPA 1403, *Standard on Live Fire Training* identifies the prerequisites for live fires, and based upon research, the RLFRS does not follow the NFPA 1403 standard. Once developed the SOG needs to reference Section 21 Guidance Notes 7-1, Safe Training, 7-3 Training Plans, 7-5 Live Fire Training Considerations for Acquired Structures, and 7-6 on training centres.

As a matter of due diligence, training information must be readily available and properly entered with the name of the firefighter, date, training objectives, training topic and job performance requirements identified. To ensure proper and accurate records, it is recommended that a training officer be put in charge of entering training information into FirePro2.

It is also recommended that he fire chief, and the training officers identify a training path for members to attain certification in NFPA 1001 Level I for June 2023 and to create a training program for 2023.

NFPA 1403 identifies the minimum requirements for instructing live fire and participating in a live fire training evolution. To ensure that proper procedures are followed, it is recommended that the RLFRS implement protocols for live fire training that adhere to NFPA 1403 and Section 21 Guidance Notes.

3.5.2 SCBA Utilization

The self-contained breathing apparatus (SCBA) is not used during training sessions as RLFRS does not have a compressor to fill the cylinders. The air cylinders are filled at the Evolution mine site at their surface response team station in Balmertown, whose employees are also members of the RLFRS and have the approval to use the air compressor.

NFPA 1500, *Standard on Fire Department Occupational Safety, Health, and Wellness Program* Section 7.10.1 states;

"The fire department shall adopt and maintain a respiratory protection program that addresses the selection, care, maintenance, and use of respiratory protection equipment (RPE), medical surveillance, training in respiratory use and the assurance of air quality".

***Note:** This is also supported by Section 21 GN 4-9 Respiratory Protection Program and Ontario Regulation 833 state that any employer using respiratory equipment must have an established Respiratory Program*

In addition, Section 7.10.2 states;

"The fire department shall develop and maintain standard operating procedures that are compliant with this standard and that addresses the use of respiratory protection."

Section 7.103 states;

"Members shall be qualified at least annually in the use of RPE that they are authorized to use."

With the RLFRS striving for the provision of interior firefighting operations, it is a concern that the Department does not have a compressor for filling their SCBA cylinders. To ensure that firefighters are competent as well as confident in the use of their SCBA, it is imperative that they use the apparatus as much as possible during training sessions. This will aid in maintaining their skill set on their purpose as well as understanding the limitations of the SCBA and recognize their own physical limitations while utilizing the apparatus.

A SCBA is more than just donning and using air; it is about controlling breath while working under stress. There is also an awareness that firefighters vary in size, physical condition and use air at different amounts and levels. While working on air, it has been noted that there is a 33% increase in a firefighter's expenditure and an increase in cardiorespiratory function. As a rule, a 30-minute psi cylinder is depleted from 12-16 minutes and without proper training on-air the firefighter has no idea how long their cylinder will last.

The SCBA is the most important piece of personal protective equipment (PPE) that a firefighter uses and avoiding the use of the apparatus due to the amount of air that will be used is a risky practice. Continuous training and understanding the functions and limitations of the SCBA is critical for the health and safety of firefighters. It is essential to have an understanding of what the low air alarm means and how much airtime a firefighter has left is essential.

SCBAs are also used during salvage and overhaul procedures when exposure to carcinogens is the greatest. There are over 200 known chemicals found in smoke after a fire, and airborne carcinogens and toxins can occur at low parts per million (ppm) and have a toxic effect on the firefighter. Wearing a SCBA from the start of fire suppression to salvage and overhaul reduces exposure to carcinogens and should be the standard practice for any fire department.

The use of SCBA should be mandatory for all fire operations where a hazardous environment exists, and firefighters generally fight fire the way they practice, and if they practice without properly using their SCBA, there is a high likelihood that SCBA will not be utilized properly during an emergency. If firefighters are not utilizing their SCBA repeatedly during training sessions, they will not understand how they should react when either under high stress, lost, disorientated, or injured during a firefighting operation. A SCBA training program may consist of:

- SCBA training with goals and objectives for the firefighter. This may include donning and doffing in full PPE as per NFPA standards and wearing the SCBA until the low air alarm activates, and determining the airtime left.
- Maintaining proficiency in the use of SCBA with regular training and annual testing as per NFPA 1500.
- Implementing Mayday procedures and when and how to call a Mayday.

- Wearing SCBA in training sessions where the firefighter is required to move through an obstacle course that exposes the firefighter to entanglement hazards, confined spaces, and room in blackout conditions.
- Training firefighters in emergency breathing procedures to save air, and
- Understanding the limitations of communications while wearing SCBA and on-air.

The RLFRS should not be dependent upon a third party for the filling of their air cylinders. This minimizes the assurance that the third party is readily available 24/7 to fill their air cylinders. As such, it is recommended that the RLFRS acquire an air compressor, and have it installed in the most central location, so access is available for all fire stations.

The RLFRS must implement a SCBA training program to ensure that all firefighters are competent and confident in the use of SCBA and tested annually as per NFPA 1500. A general assumption can be made that members do not have enough time on air to be fully understand the limitations of the SCBA combined with their own physical and mental conditioning.

3.5.3 Auto Extrication

Auto extrication training occurs two to three times a year, with the JPRs from the NFPA 1006 standard being used as the baseline. The training is scheduled in the summer, fall and prior to the winter season (before the cold weather restricts the training opportunities). Upon review there were no pressing issues regarding the auto extrication training.

3.5.4 Officer Training

No formal officer training exists for the captains, health & safety officers, fire prevention officers, or the training officers. Historically officers were selected by the fire chief when a member applied to a posting for an officer vacancy. The job description for captains is vague and has no perquisites or qualifications other than being a firefighter for more than five years. It was noted that the duties and responsibilities of the captains seem to cross over into that of a chief officer for the station, and there may be justification for creating a district chief position for each station. There is an appetite for more formal education within the officer ranks, and a district chief position would require more formal training, such as NFPA 1021, *Fire Officer II* and NFPA 1521*, Safety Officer*. This new position would also assist the fire chief in the scheduling of fire inspections, preplans and training.

Identifying the minimum level of training for every position within the RLFRS is a key component for career development and succession planning. Therefore, the creation of a Training & Professional Development committee should be established to determine the level of training required for all positions within the RLFRS. The committee should also look at the feasibility of a district chief position for each station.

3.5.5 Health & Safety Officers

There is currently no job description for this position and from the research conducted, this position seems to be responsible for the monthly building inspection. The general responsibilities of the health & safety officer include but are not limited to the management of the occupational health & safety program, development, and management of the risk management plan, conducting health & safety inspections and investigations, and administering the fire department infection control program.

A Joint Health & Safety Committee should be established to determine the need for a health & safety officer position and whether this position should be eliminated or changed into a frontline officer position such as a lieutenant. Identifying the priority for a health & safety officer or a lieutenant's position will reduce any uncertainty within the Department.

It should be noted that currently the captains are equipped with white helmets, while the health & safety officers are wearing red helmets. Generally, a chief officer would wear a white helmet, while a front-line officer such as a captain or lieutenant would wear a red helmet. During an emergency event, there could be confusion with the different coloured helmets, and a standard practice should be followed where the chief officers are designated white helmets, and front-line supervisors such as captains and lieutenants are equipped with red. If the health and safety officer's position is kept, then consideration should be given to having the health and safety/incident safety officer wearing a blue helmet to lessen any uncertainties.

3.5.6 Career Development

The RLFRS is a paid-on-call/volunteer fire department, but this doesn't take away the fact that career development should occur within the Department. The best path for career development is using the job description as a guide, but as noted earlier, the job descriptions within the RFFRS are vague at best and would not be sufficient to base a proper career development path for firefighters wishing to pursue future promotional opportunities.

Career development is a key component of succession planning as it prepares firefighters for the future and provides a foundation for members to possess the knowledge, skills, and abilities to be promoted and take on formal management and leadership roles in the fire department. Not every member will want to be promoted but providing education and training opportunities for those that do wish to attain specific levels of certification is a proactive way in developing corporate competency and creating a sound succession plan that helps retain members.

As members participate in the career development program and take the education and training for their role, they should also be placed into acting positions within the Department. Having members act in the desired capacity for temporary assignments gives them the opportunity to see if the

position is a fit for them, and it gives the Department the opportunity to observe the member to see if they are the right fit and if further training is required.

A career development program is essential for the growth of individuals and sets the foundation for succession planning and can help with the retention of members. Every position within the RLFRS should have a clear job description that identifies the roles and responsibilities, education, training, and prerequisites for the position.

3.5.7 Succession Planning

As noted earlier, a career path is a critical component for succession planning as it provides opportunities for a member to grow within the department. Career development takes time and careful planning. Every firefighter has different goals and aspirations, and a career development program allows firefighters to take training in topics that interest them and fall within their desired career path. Some firefighters may want to prepare for a future management position, fire prevention officer or a training officer role. Progressive fire departments ensure that their firefighters have opportunities to learn and grow and attain formal training and certification to move forward in their careers.

A succession plan requires political and financial support to ensure that career development is available for those wanting to promote. There are two key categories for a succession plan.

Standard Succession Plan

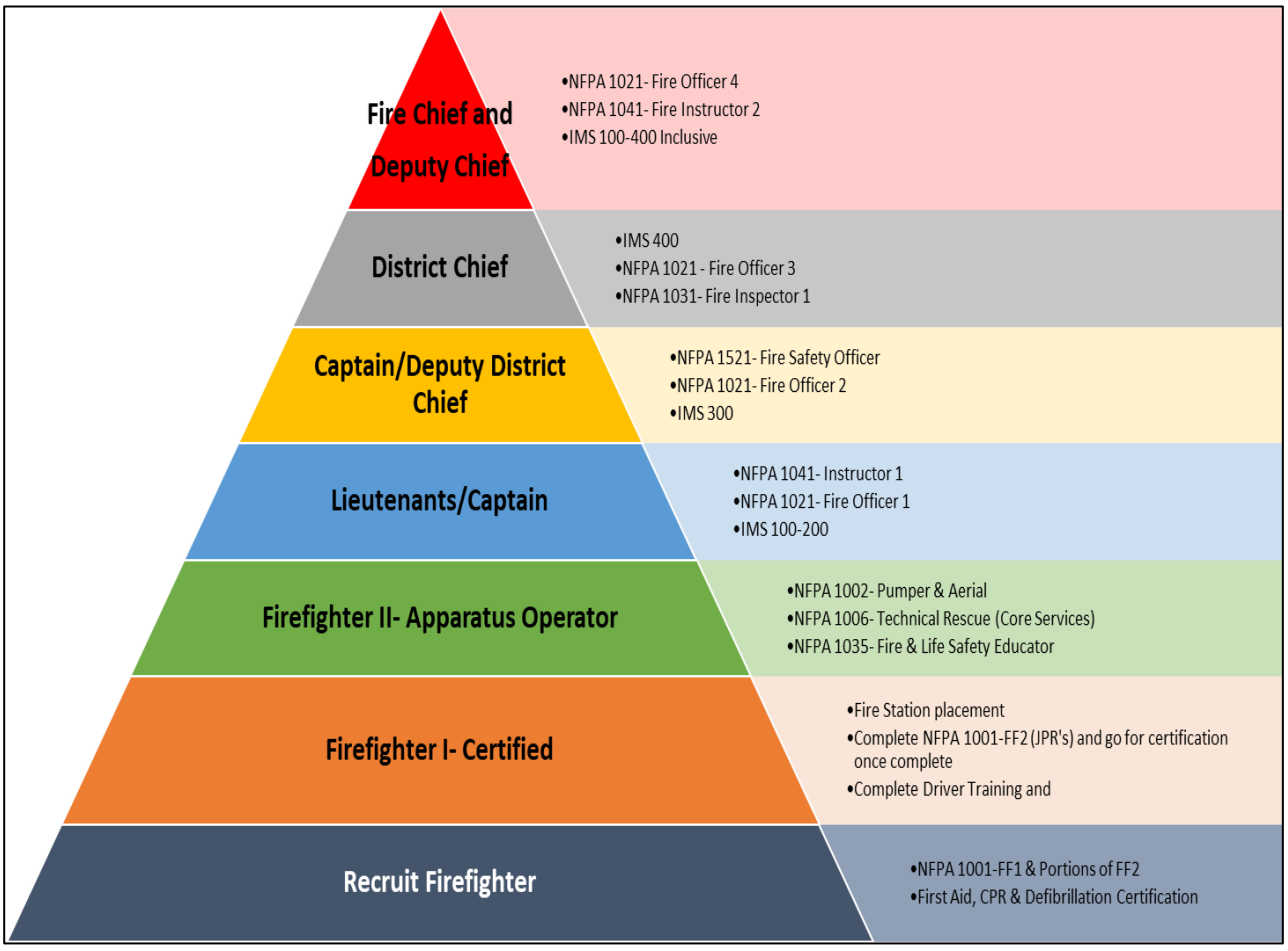
This occurs when those in key positions leave for another job or without considerable advance notice. For example, if the fire chief left the RLFRS, an immediate void would be created. An existing member with the training, education and experience could be promoted to fill the vacant spot or, at the very least, act in the capacity until a formal hiring process occurs.

Anticipatory Succession Plan

The fire chief or other officer has provided a departure date for the department. A well-thought-out training program that focuses on the required competencies and skill sets for internal promotional opportunities is a good example of succession planning and successful career development.

Whether career or volunteer, fire departments take great pride in ensuring that their members are trained and qualified. Having a well-thought-out and funded career development program is the best investment a fire department can make. The investment in the fire department's human capital increases retention, and knowledge and creates the framework for not only succession planning but a high return on investment that is measured in leadership, teamwork, corporate knowledge, and safety.

FIGURE #4 - CAREER TRAINING CONTINIUM



3.6 Fire Suppression/Emergency Response

RLFRS is a composite fire department in that it has a career and volunteer firefighters. The career contingent consists of the fire chief. The fire suppression division consists of volunteer firefighters dispersed amongst the four fire stations. For RLFRS the NFPA standard that relates to the emergency response of the Department is 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.* This NFPA standard notes the following operational goals:

Staffing and Deployment

- The fire department shall identify minimum staffing requirements to ensure that the number of members that are available to operate are able to meet the needs of the department.

- 4.3.2* Table 4.3.2 (noted here on page 76) shall be used by the AHJ to determine staffing and response time objectives for structural firefighting, based on a low-hazard occupancy such as a 2000 ft2 (186 m2), two-story, single-family home without basement and exposures and the percentage accomplishment of those objectives for reporting purposes as required in 4.4.2.

Initial Firefighting Operations

- 4.6.1 Initial firefighting operations shall be organized to ensure that at least four members are assembled before interior fire suppression operations are initiated in a hazardous area.
- 4.6.2 In the hazardous area, a minimum of two members shall work as a team.
- 4.6.3* Outside the hazardous area, a minimum of two members shall be present for assistance or rescue of the team operating in the hazardous area.

NFPA 1720 section 4.10.3 identifies other types of companies that are utilizing specialized equipment and apparatus, to assist as per the fire departments SOGs. “Special operations shall be organized to ensure that the fire department's special operations capability includes the personnel, equipment, and resources to deploy the initial arriving company and additional alarm assignments providing such services.”

The overall goal of any fire department is to arrive at the scene of the incident as quickly and as effectively as possible. If a fire truck arrives on scene in four minutes or less with a recommended crew of four or more firefighters, there is increased opportunity to contain the fire by reducing further spread to the rest of the structure. Alternatively, if the first fire attack team arrives with fewer than four firefighters on board, it is limited to what operations it can successfully attempt.

Based on studies and evaluations conducted by the National Institute of Standards and Technology (NIST) and the NFPA, no interior attack is to be made by the firefighters until sufficient personnel arrive on scene. The expectation is that a minimum of three firefighters and one officer arrive on scene to make up the initial fire suppression team. This team of four can effectively do an assessment of the scene, secure a water source (e.g., fire hydrant), ensure the fire truck is ready to receive the water and get the fire pump in gear, as well as unload and advance the fire hose in preparation for entry into the structure.

In 2010 and 2020, the National Institute of Standards and Technology in the United States conducted a study on fire crew efficiencies and the tasks that may be completed during a residential structure fire with different sized crews.

The following research questions guided the experimental design of the low-hazard residential fireground experiments documented in this report:

- How does crew size and stagger affect overall start-to-completion response timing?

- How does crew size and stagger affect the timings of task initiation, task duration and task completion for each of the 22 critical fireground tasks?
- How does crew size affect elapsed times to achieve three critical events that are known to change fire behavior or tenability within the structure?
- Entry into structure?
- Water on fire?
- Ventilation through windows (three upstairs and one back downstairs window and the burn room window).
- How does the elapsed time to achieve the national standard of assembling 16 firefighters at the scene vary between crew sizes?

The experiments were conducted in a burn prop designed to simulate a low-hazard fire in a residential structure described as typical in NFPA 1710. A low-hazard occupancy is defined in the NFPA Standard as a one, two or three-family dwelling and some small businesses. Medium hazard occupancies include apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue or firefighting forces. High-hazard occupancies include schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings and other high life hazard or large fire potential occupancies.

The study found that four-person crews were able to complete 22 essential firefighting and rescue tasks in a typical residential structure fire 30% faster than a two-person crew and 25% faster than a three-person crew.[10] Having crews of four firefighters lessens the risk of injury as more personnel are available to complete assignments.

3.6.1 National Fire Protection Association (1720)

Chapter four of the NFPA 1720 (2020) Standard identifies the number of response personnel for the deployment of volunteer firefighters:

- Section 4.3.1: "the Fire Department shall identify minimum staffing requirements to ensure that the number of members that area available to operate are able to meet the needs of the department.
- In Urban areas with a population greater than 1,000 per square mile or 2.6 km^2, there should be a minimum response of 15 staff within nine minutes, 90% of the time.

10 "Report on Residential Fireground Field Experiments," Averill, Jason D. et all, April 2010, https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=904607

- In Suburban areas with a population of 500 – 1,000 per square mile or 2.6 km^2, there should be a minimum response of ten staff within ten minutes, 80% of the time.
- In Rural areas with a population of less than 500 per square mile or 2.6 km^2, there should be a minimum response of six staff within 14 minutes, 80% of the time.
- In Remote areas with a travel distance of greater than or equal to eight miles or 12.87 km, there should be a minimum response of four staff directly dependent on travel distance, 90% of the time."

With a current permanent population of approximately 4,094 (2021) within approximately 602.93 square kilometres, RLFRS's communities fall into the rural standard with approximately 6.8 residents per square kilometer. Even with taking into consideration the approximate 20,000 seasonal residents, this would only bring the population density up to around 40 residents per square kilometre. This would require six firefighters on scene within 14 minutes 80% of the time. But some of the areas do fall within the "remote" areas, which would be four staff on scene, dependent of travel distance.

Either way, the key is to have 4-6 firefighters on scene as soon as practicable. This is a key response time to track to identify what response time objective the RLFRS is meeting or coming close to meeting on a regular basis. These response times are worth reporting to Council, so they have a firm understanding of the abilities of the fire service.

***Note: To accomplish the National Fire Protection Association Standard, a fire department should endeavour to meet the stated minimum response standards based on responding to a 2,000-sq. ft. single family dwelling. The dwelling (noted in the Standard) does not have a basement or other exposures (buildings close enough to each other to create a greater possibility for fire spread). Most homes have basements, however, and these homes are often built close enough to each other to create that "exposure" for potential fire spread, which must be considered by the fire department in its response efforts.*

Fire Response Curve:

When considering the response times and needs of a community, the fire response curve noted in the following diagram presents the reader with a general understanding of how fire can grow within a furnished residential structure over a short period of time. Depending on many factors, the rate of growth can be affected in several different ways, which can increase or suppress the burn rate through fire control measures within the structure. As an example, some older legacy homes, fire spread, and flashover may progress slower than newer homes due to the type of construction and contents. Some older homes may not witness flashover for up to 25 minutes. Whereas newer homes could incur flashover in as little as four minutes within the room or origin.

***Note: Flashover is a situation in which the entire contents of a room ignite due to the extreme high heat conditions. This situation is not survivable by unprotected occupants that may be caught in this type of situation. Even firefighters are at great risk of severe injury and/or death due to the extreme fire and heat conditions within the area of the flashover.*

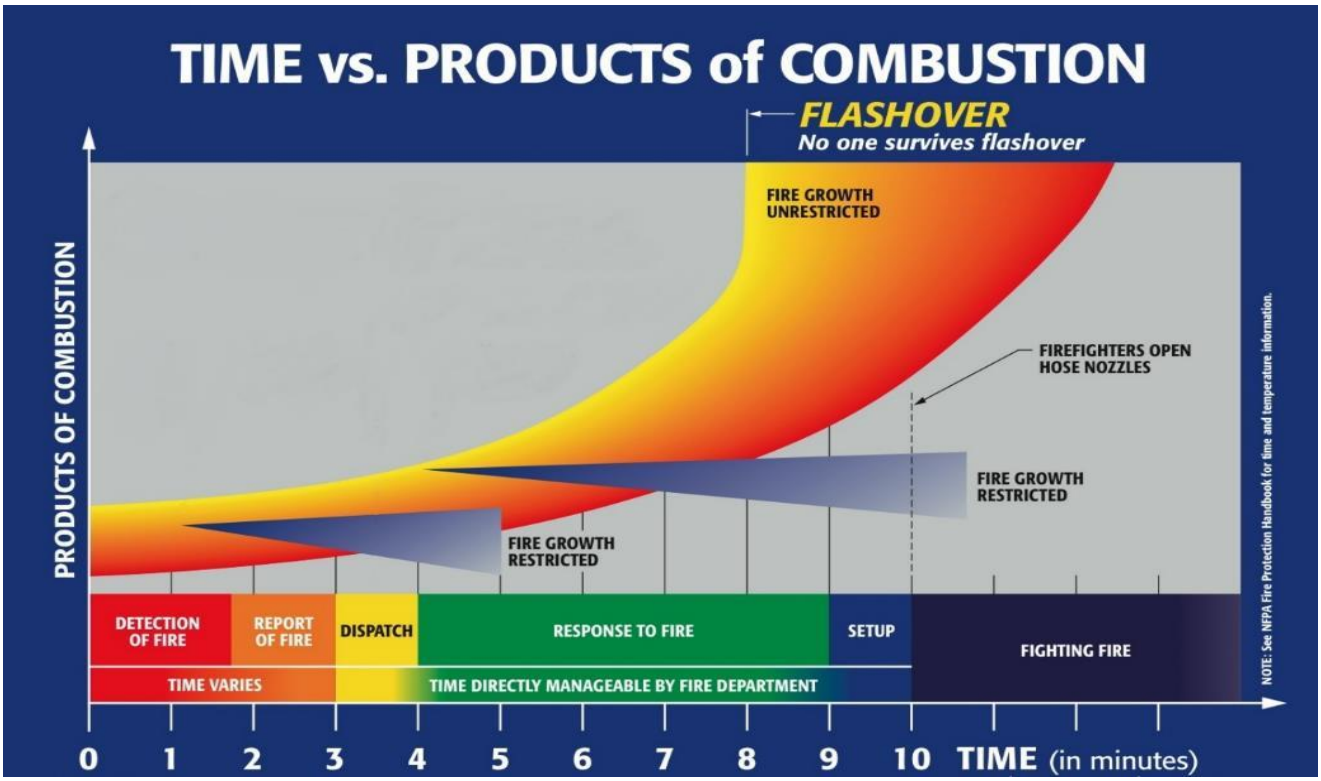
The response time of a fire department is a function of various factors including, but not limited to:

- The distance between the fire stations and response location.
- The layout of the community.
- Impediments such as weather, construction, traffic jams, lack of direct routes (rural roads).
- Notification time.
- Assembly time of the firefighters, both at the fire station and at the scene of the incident.

***Note: Assembly time includes dispatch time, turnout time to the fire station and response to the scene. It should be noted that assembly time can vary greatly due to weather and road conditions along with the time of day.*

As illustrated in the following fire propagation diagram the need for immediate initiation of fire suppression activities is critical. RLFRS responds to more than just fires; motor vehicle collisions can create a medical or fire emergency that also needs immediate response. Therefore, it is imperative to be as efficient and effective as possible in responding to calls for assistance.

FIGURE #5 - FIRE RESPONSE/PROPAGATION CURVE



The response time curve notes the following time variables:

- Detection of fire – this is when the occupant discovers that there is a fire. For the purposes of this chart, detection time is noted as being within one to one and half minutes – this could in fact be shorter or longer. The fire may be in a very early stage or could have been burning for quite some time before being detected.
- Report of fire – this is when someone has identified the fire and is calling RLFRS for help.
- Dispatch – the time it takes the dispatcher to receive the information and dispatch the appropriate resources.
- Response to the fire – response time is a combination of the following:
- Turnout time – how long it takes the career firefighters to get to the fire truck and respond or how long it takes the volunteer firefighters to get to the fire station to respond on the fire truck.
- Drive time – the time from when the crew advises dispatch that they are responding until the time that they report on scene.
- Setup time – the time it takes for the fire crews to get ready to fight the fire.
- Fighting the fire – actual time it takes to extinguish the fire on scene.

The overall goal of any fire department is to arrive at the scene of the incident as quickly and as effectively as possible. If a fire truck arrives on scene in ten minutes or less, there is increased opportunity to contain the fire by reducing further spread to the rest of the structure.

As previously noted, in relation to on scene staffing, based on studies and evaluations conducted by the National Institute of Standards and Technology (NIST) and the NFPA, no interior attack is to be made by the firefighters until sufficient personnel arrive on scene. The expectation is that a minimum of three firefighters and one officer arrive on scene to make up the initial fire suppression team. This team of four can effectively do an assessment of the scene, secure a water source (e.g., fire hydrant), ensure the fire truck is ready to receive the water and get the fire pump in gear, as well as unload and advance the fire hose in preparation for entry into the structure. A team of four also allows for adherence to the recommended "two-in, two-out" rule, referring to the presence of two firefighters inside the structure with two outside ready to go in as back-up.

The fire chief does ensure (where possible) that each station has a complement that allows for an initial full crew response to incidents. To accomplish this, a response protocol is in effect that ensures whenever a station and its firefighters are dispatched to any type of call where back-up may be required, another station is automatically dispatched to the same incident.

3.6.2 Response Data

Based on a review of the response data supplied, along with discussions with the fire chief, RLFRS is achieving a varying level of success in meeting the NFPA response criteria. By utilizing this information in conjunction with the supplied response maps created by EMG, we can see the effect of road networks on response times by emergency responders.

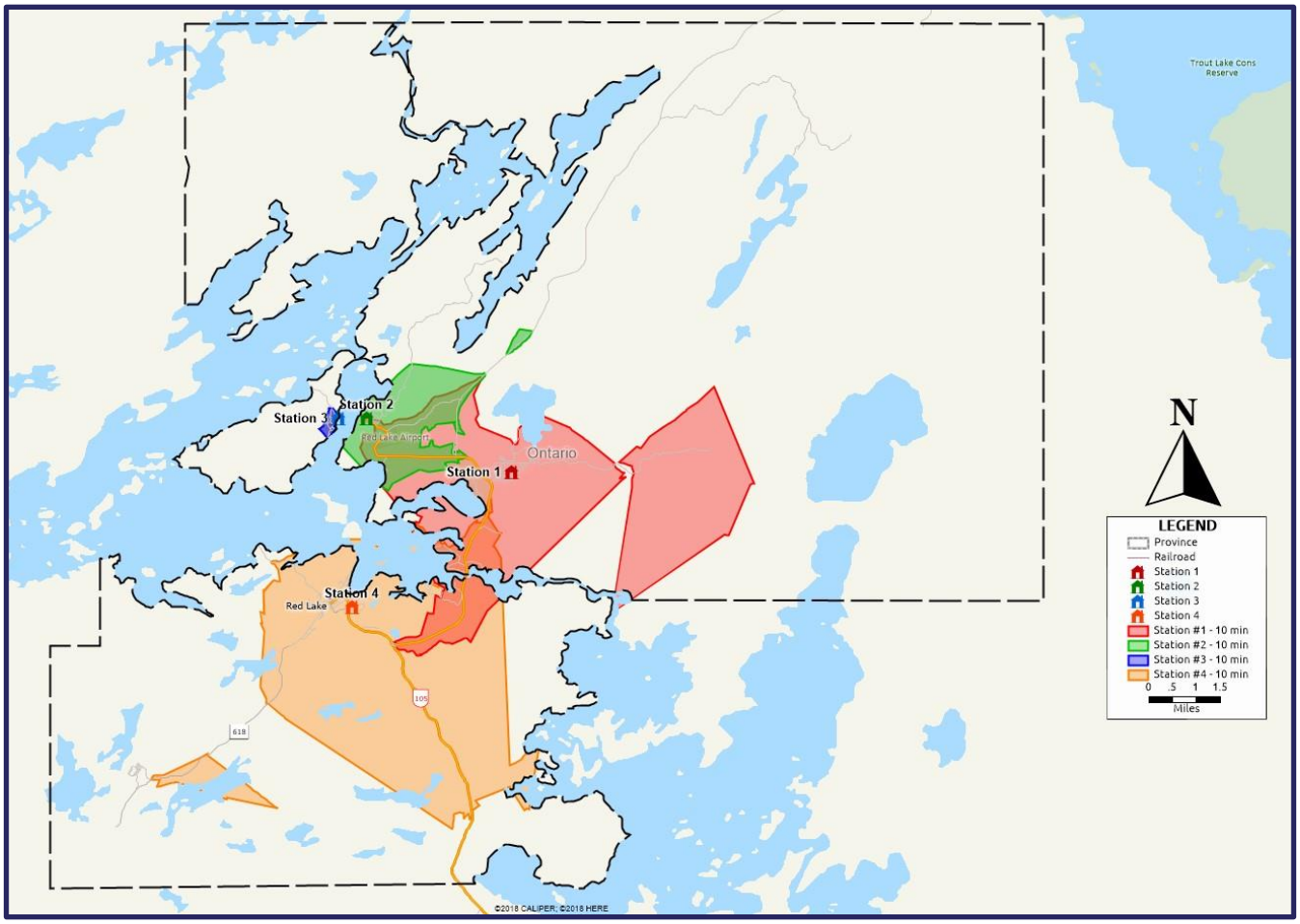
RLFRS response times should be monitored based on the NFPA 1720 standards which is from "dispatch time to time of arrival at the incident", from the time the call is received, to when the fire station tones activate, to when the firefighters get on the fire trucks and arrive at the emergency scene location.

***Note:** In monitoring time measurements, the 80th percentile criterion is the recommended practice that is endorsed by the NFPA. This data is more accurate since it is evaluating the times based on 80% of the calls as opposed to averaging the times at the 50th percentile. For example:*

- Eight out of ten times the fire department arrives on scene in ten minutes or less, which means that only 10% of the time they are above that ten-minute mark,
- as opposed to five out of ten times (average) the fire department arrives on scene in ten minutes or less, which means that 50% of the time they are above the ten-minute mark.

The travel time grids highlighted are calculated using the Geographic Information Systems software Caliper Maptitude, which uses the road network with the posted speed limits, factoring in direction of travel, traffic lights and stop lights. While the posted speed limit is used, it is understood that at times fire apparatus responding to calls may exceed the speed limit if it is safe to do so, thus reducing the response time. Correspondingly, there will be times due to weather conditions, construction, and traffic congestion that the fire apparatus will be travelling at speeds lower than the posted speed limit (even using emergency lights and sirens). Therefore, using the posted limit is a reasonable calculation in determining travel distance.

FIGURE #6 - LOCATION OF FIRE STATIONS – OUTLINING TEN MINUTE DRIVE TIME GRIDS



Deciding on where a fire station is located varies upon several factors:

- Relative fire risk values for various areas, occupancies, or properties
- Desired response times for each identified fire risk
- Information regarding the road network in the community including reasonable travel speeds, one-way streets, rail crossings, etc.
- Emergency vehicles and personnel necessary to assemble fire attack teams

With the program tailored to the specific needs of a community, many fire response factors may be analyzed including:

- Existing and proposed station locations based on desired response times
- Best and alternate emergency response routes to specific locations
- Ability of pumper, aerial, rescue, and support crews to cover all parts of the community based on desired response times
- Emergency response times for first, second and additional vehicles and personnel
- Areas for potential automatic aid responses

Fire stations should be located where they can serve the community in a timely manner by meeting NFPA Standards for response times. Although the NFPA response times are not mandated, it would be beneficial for the fire chief to have a response time goal supported by Council as a benchmark. It is recommended that the fire chief present a response time goal for the approval of Council, which may reference NFPA 1720 (2020 Edition) – the expectation of six staff in 14 minutes, 80th percentile of the time as a start.

The following chart (through the use, of the supplied data) helps to identify the types of calls that are creating the bulk of response demands.

FIGURE #7(A) - CALL TYPES FOR 2021

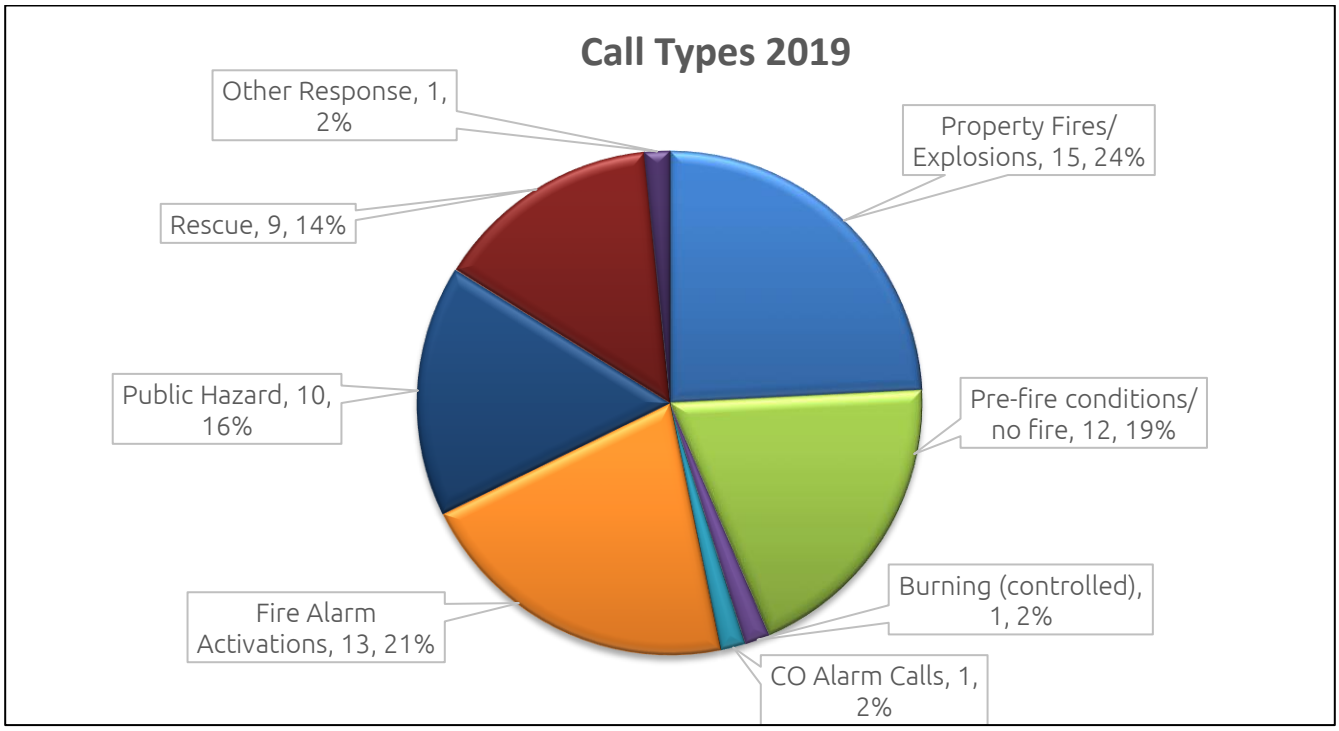
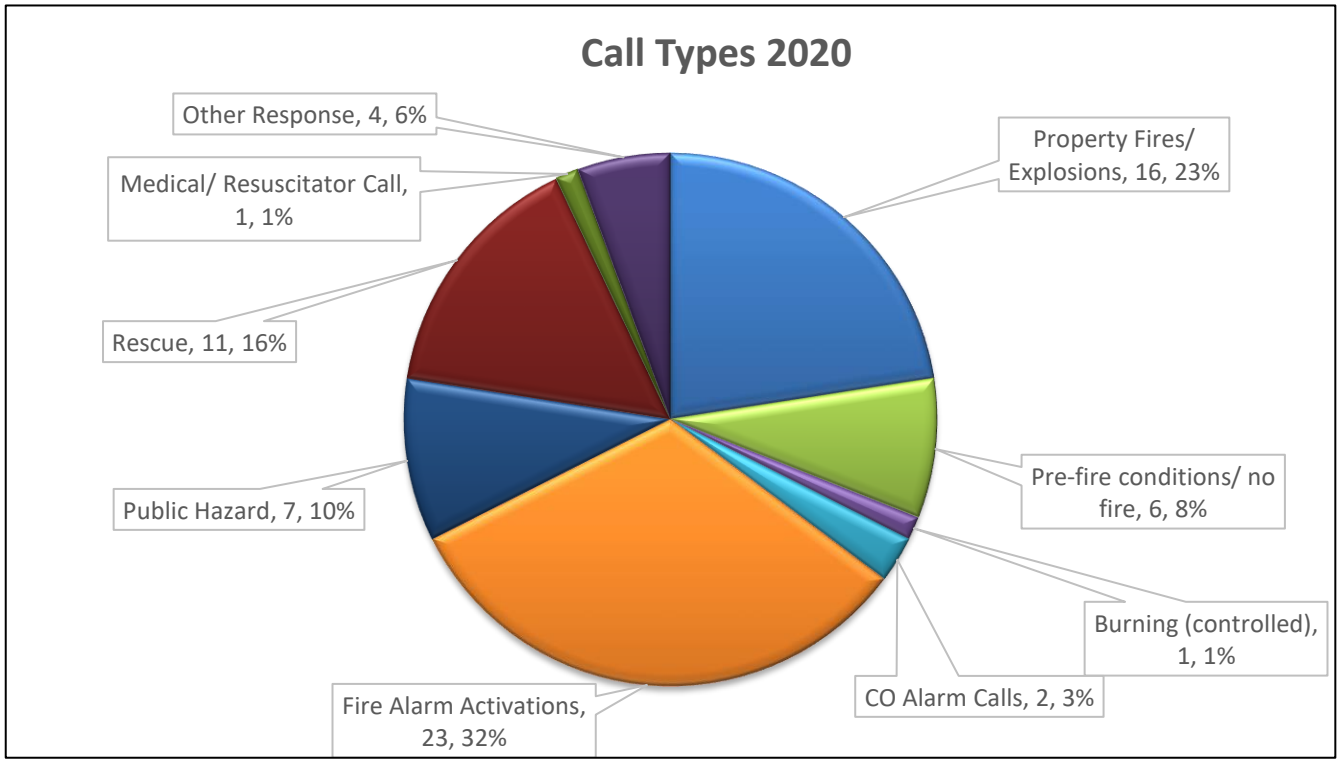


FIGURE #7(B) - CALL TYPES FOR 2020



As can be seen in the two response data chats, in both 2021 and 2020, the RLFRS responded to less than 70 calls per year.

Actual response times vary from a low of seven minutes and 50 seconds to a high of 16 minutes and 40 seconds (for 2021 and 2020). This would confirm for the most part, the RLFRS is close to or within the expected NFPA response recommendation of 14 minutes.

For the most part, much of this data was in a paper based or older style of program, which may not have supplied exact data. However, with the RLFRS moving towards a more up to date records management program, this will provide the Department with more accurate numbers in future years.

3.7 Recruitment and Retention of Volunteer Firefighters

Recruitment and retention of volunteers is becoming more of a challenge within the fire service, throughout Canada. As with many volunteer fire departments, the daytime hours from Monday to Friday are the greatest challenge for volunteer responses due to fact that many volunteer firefighters are either at work, school, or taking care of family. In some instances, members have had to leave the department to move closer to their work location, education facilities, or family needs.

And with the recent announcement by the Fire Marshal of the implementation of mandatory training and certification for firefighters. As of July 2022, all firefighters and officers will be required to meet the training/certification requirements and related timelines noted in the new regulation. Based on this, fire departments will need to conduct a full evaluation of their present training programs and implement whatever improvements are necessary to meet the new training and certification requirements. This increase in training will also add to the recruitment, and training of new recruits, along with the retention of present volunteers.

In a nationwide survey, the leading reasons why people stopped volunteering include the following:

- No time to volunteer
- Conflicts within the organization
- Organizational leadership created an adverse atmosphere
- Too much training
- Attitude of existing personnel towards newcomers
- Criticism received from officers/ older members
- Lack of camaraderie

While some issues may be uncontrollable, other issues can be mitigated such as conflicts within the organization, leadership, training, attitudes, criticism, and camaraderie.

***Note: the previously listed items are not a direct reflection on the status of the RLFRS, they have only been listed for consideration in the department's recruitment and retention initiatives.*

Retention Issues:

The issue of retention has been identified as a challenge with just about every volunteer fire service throughout Canada. There are numerous reasons for leaving, including the firefighters not feeling appreciated by the municipality, the time and effort required for both training and response to calls, firefighter's family not being recognised for "loaning" their family member to the community.

Opportunities to increase retention may include:

- Family nights at the fire station that would include a movie and activities for the children.
- Assign a seasoned member to mentor each rookie when a new member joins the department.
- Conduct a firefighter appreciation events (e.g., dinner, BBQ) where members are recognised by council for their long term, outstanding service, or something exceptional they did at a call.
- Council take time to acknowledge, the employers, of the firefighters for permitting their participation in the fire department and/or permitting them to leave work to attend fire calls.
- Survey other fire services to compare pay rates and adjust the honorarium accordingly.
- Implement a service recognition pay incentive. This might include paying extra in the form of a 5 to 10% pay increase for every five years they have been on the department; this would prevent the loss of years of experience.
- Performance pay, for those who reach high percentages of attendance at training sessions and fire calls.
- Offer benefit packages as many may not have benefits at their place of employment, and some are self employed. Such packages would include basic dental, drug, and eyewear coverage.
- Purchase a wellness benefit package for the firefighters such as mental, financial, and family counseling.
- Engage in treating Post Traumatic Stress Disorder (PTSD), which is a common illness among fire responders.
- Offer a RRSP/pension savings plan with contributions from the Town after they have been a member of the department for a predetermined length of time.
- Provide excellent training opportunities to make them want to remain a member of the fire department. Make the training sessions fun and memorable.

- Recognition and support of those who want to attend Fire College or regional courses, which sometimes requires firefighters using their vacation time from their full-time employers.
- The implementation of an "on call or platoon" program that would pay a week or weekend stipend to the volunteer firefighters s who commit to being available by signing up for weekdays and/or weekends
- Education assistance programs to support staff in their professional development.
- Maintain and improve morale by providing modern trucks, equipment, and stations.
- Endorse that each station designs their own logo for their station promoting their region of the town or the services they provide. They could include a tasteful mascot character. These could be placed on t-shirts and perhaps the apparatus as a sense of pride.
- Provide strong leadership that focusses on the Mission, Vision and Values of the department while resolving conflict resolution in a timely manner.
- Conduct exit interviews with those that leave the department to understand their reasons for leaving. While there may be simple reasons, there could be a deep-rooted issue that administration may not be aware was occurring such as taunting, bullying, harassment, a feeling of not being welcome, etc.
- Foster the history of each fire station by creating displays of pictures of past members, events, apparatus, to instill a sense of pride on how far the department has grown.

The RLFRS is already implementing some of these noted recommendations. As such, they should be commended for their retention efforts. This list is merely intended for the fire chief to review and confirm what is being done and what may still be required. Some of these suggestions may imply an expense, but the value of keeping trained personnel longer, which in the end saves on the ongoing training of new firefighters is worth the effort.

It costs the Municipality a large sum of money to train and equip new firefighters, therefore it is important that a means to retain their investment is developed and supported by council.

Another indicator for making this decision is tracking the number of volunteer firefighters that arrive at the fire station to respond. If, for example, the standard set by a fire department is that three or more volunteer firefighters must arrive at the station before the fire truck can respond, this should be monitored along with how many times the department is unable to assemble the needed personnel to effectively respond based on time of day, and day of the week. Continued monitoring of this data will assist with future fire service needs.

The Canadian Association of Fire Chiefs (CAFC) have also published a program – "Answer the Call" that is available on their website www.answerthecall.ca. It uses messaging and imagery to reflect the local challenges. Free of charges, there is a set of images that can be used as well as documentation that can be personalized to the organization. The "canned" images can, and do, reflect volunteers across all

demographics, and the local community could add additional ones specific to their department. It has received significant support and it does not require considerable time or monetary investment.

Volunteer firefighter recruitment is a challenge in virtually every jurisdiction of Canada and utilizing resources available to promote recruitment and retention is always advisable.

3.8 Use of Personal Vehicles for Response:

It was also noted that the firefighters can respond to an emergency scene in their own vehicles, which means that some of the firefighters may be carrying their firefighting gear in their vehicles (most of the gear is located on the rescue van at each station). If the gear has not been properly cleaned this can pose a health risk to the firefighters and any other occupants of their personal vehicle. Many fire departments in Ontario have ceased the practice of allowing firefighters to respond to an emergency scene in their personal vehicles. All firefighters are required to attend at the fire station, don their gear and leave as a team.

Another option that is being implemented by some fire departments is to allow the officers (captains) to attend the fire/emergency scene to assess the situation and to advise the firefighters who are responding to the fire station, what equipment will be required to mitigate the incident.

By doing this, the department accomplishes three key things; the first being that little to no contaminated gear is transported in a private vehicle. The second, is that an emergency scene is not impeded with firefighters' personal vehicles. And third, it ensures full accountability of who is responding and how many firefighters are on the scene. When firefighters respond in their personal vehicles, there is an opportunity for "freelancing", which means that firefighters are working without direct supervision and support (of other firefighters and emergency vehicles).

By having all firefighters respond to the fire station first, this creates full accountability and supervision of staff. It is true that there are advantages of having firefighters go to the scene as opposed to passing the scene to get to the fire station. But personal vehicles are not emergency vehicles and should not be used in such a manner.

The fire trucks used by RLFRS do have crew cabs and can accommodate more than two firefighters in the cab. As such, consideration needs to be given to greater use of these vehicles, while the Department moves towards reducing the practise of responding to the emergency scene with personal vehicles.

RLFRS should develop policies and procedures that reflect the following. That "soiled" structural firefighting gear (PPE) is not to be:

- Transported inside the cabs of fire department vehicles.
- Transported inside personal vehicles.

- Taken into living/shared quarters of a fire station (this should include any areas of the fire station other than the apparatus bays).
- Taken into the firefighter's home.

3.9 Suppression Staffing vs Call Volumes

The main type of staffing that RLFRS is comprised of is a volunteer/paid on call system. This type of system has proven to be a very cost-effective model for the Municipality. At present the Department responds to approximately 70 calls per year, which is an acceptable level and expectation for a volunteer fire department the size of RLFRS to handle.

Research has identified that volunteer stations that respond to more than 350-400 calls per year are on the verge of moving towards a part-time or full-time type of staffing (within a specific area or station). This could be in the form of having a minimum level of (three or four) full-time firefighters on duty five days a week, during the daytime hours, with the evenings and weekends being covered by the volunteer firefighters. As call volumes increase so will the full-time staffing requirements.

The RLFRS is not at this level of call volume per fire response district, but this does not mean that the fire chief should not be monitoring call volumes, response times and number of volunteer firefighters that are responding to these calls (as they are presently attempting to do). An increase in response times and/or decrease in the numbers of volunteer firefighters that are responding to the calls could be an indication of possible burnout of the volunteers. As such, this is something that the fire chief should continue to monitor and report to Council on an annual basis.

3.10 Communications

The fire service relies upon communications technology to receive dispatching notifications for emergencies, communicate and coordinate on-scene operations, request additional resources, and perform daily operations. The Red Lake Fire Rescue Service (RLFRS) has a five-year contract with the Kenora Central Ambulance Communications Center (CACC) as the Public Safety Answering Point (PSAP) for the provision of call-taking and alerting the RLFRS for emergency incidents. Voice recordings of telephone, radio and paging communications are stored for up to 12 months as part of the agreement.

The agreement with the CACC identifies the services provided for the RLFRS at a base level but does not include language related to the specific performance objectives that are to be met, nor is there mention of an alternate communication center that can provide services normally performed by the CACC.

The CACC operates the radio network, while the municipality is responsible for the repair and maintenance of equipment purchased by the municipality.

The Joint Steering Committee (JSC) identified in the contract with the CACC includes representatives from the Municipality, CACC and the RLFRS. The focus of the JSC is to monitor the Agreement, and the services provided within it, mediate disputes and make recommendations on any matter relevant to the Agreement. A representative from the RLFRS is to act as the sole spokesperson for the fire department and liaison with the CACC and the Municipality for the purposes of the Agreement. A formal report of the joint steering committee meetings is issued within four weeks of the meeting.

The Canadian Radio-Television and Telecommunications Commission (CRTC) regulates telecommunications providers, and the Next Generation 9-1-1 (NG 9-1-1) will provide Canadians an enhanced service where texts, videos and photos can be sent to the Public Safety Answering Point (PSAP). The CRTC has directed all telecommunications providers to update their networks for the NG 9-1-1 system, and provincial and municipal governments are required to ensure their emergency call centres are ready for the new service. The Ministry of Health is preparing for the Next Gen 9-1-1 (NG 9-1-1), and the CACC adheres to the NFPA 1225, *Standard for Emergency Services Communications, Chapters 4 and 5,* by training staff up to the Public Safety Telecommunicator II level.

The CACC is a dedicated ambulance dispatcher, and there was mention of some delayed communications as EMS calls may be prioritized over fire-based calls. There are no clear performance expectations identified in the CACC dispatching agreement that will help the RLFRS collect response times, turnout times and other response time metrics, and this should be addressed.

The RLFRS should collect data related to call volume, types, and response time metrics. A review should be undertaken to specify the department's needs in terms of response metrics and presented through the Joint Steering Committee for incorporation into the CACC agreement.

Radio System

One of the significant challenges for any fire department is keeping pace with the advancements in radio technology. The RLFRS operates on an analog system with repeaters to boost the radio signal. An analogue signal weakens as it travels further away from the radio that sent the signal and therefore requires a repeater to boost the signal.

A common theme with analog portable radios is a weak signal or reception within many structures, which raises concerns for the safety of the crews and challenges the incident commander. Within the municipality, the radio signal is adequate, but a SAT phone is available for the fire chief if they are outside of the repeater range and need communications.

Communications is essential for the health and safety of firefighters and the public. It was noted that the repeater failed twice in 2022. One cause was the failure of the backup generator to engage, and the second cause of failure was a malfunction of the repeater itself. The backup system for dispatching members to an incident is through a cell phone app and calling the CACC directly.

The ability of responders to work together during an emergency incident is based upon the ability to communicate. Having proper radio procedures, communications training and adequate radio technology is necessary for the successful mitigation of an incident and interoperability between responding agencies. Mutual Aid Plans and Programs should strive for interagency communications wherever possible.

The RLFRS currently uses a mix of Motorola portable radios for their communications. NFPA 1225, Chapter 17, Section 17.3.6 Two-Way Portable Equipment, identifies the minimum features for firefighting portable radios, which for example, describes the requirements for battery charges, spare batteries, and the ability of a firefighter to change channels and other radio functions while wearing gloves. There were concerns about the different models of radios and the age of some of the radios within the RLFRS. Different models can pose problems as members get familiar with the operations and features of one model and may struggle if using a model, they are not familiar with. During an emergency is not the time for a firefighter to be trying to figure out the operations of a portable radio.

The Who's Responding app is used as a backup and is linked to the CACC, which is then able to provide an alert through a text, email, or automated phone call for dispatching to an emergency. Communication technology is an absolute necessity for the fire service, as a failure to communicate can have a devasting impact on the health and safety of firefighters and the public.

Radio systems have many technological advancements every year, making it difficult for fire services to maintain current standards. As noted earlier, the RLFRS uses an analog radio system using a repeater to boost the radio strength for better coverage. Many fire departments are now moving towards digital radios, which have greater coverage, voice quality, battery life and are more secure for privacy. Many of the digital radios have enhanced technologies, including radio telemetry, which identifies the firefighter and their location on the fire ground. This feature is critical for the incident commander if a firefighter calls a "mayday" due to an injury, disorientation or any other factor jeopardizing the firefighter's safety.

Transitioning from an analog radio system to a digital system is based on the needs of the fire department and the financial resources available. A digital radio system comes with a great cost, and a

cost/benefit analysis should be conducted as to whether the RLFRS should move in that direction in the future.

Digital radios are more dependable and have a longer range and stronger signal than analog radios. A transition to digital radios in the future will provide a more reliable system and allow for more options for interoperability with other agencies on a digital system. As such, the RLFRS conduct an analysis of their existing analog radio system and conduct a cost/benefit analysis for a transition to a digital radio system.

3.10.1 Next-Generation Communications (NG 9-1-1)

The 9-1-1 Central Emergency Reporting Bureau (CERB) for Red Lake is in Sudbury. Emergency 9-1-1 calls are directed to the answering service and then directed to the emergency service that is required by the caller (i.e., police, ambulance, or fire).

In June of 2017, the Canadian Radio-television and Telecommunications Commission (CRTC) created regulations regarding the next-generation communications for 9-1-1 centres. This modern technology will,

"…enable Canadians to access new, enhanced, and innovative 9-1-1 services with Internet Protocol (IP)-based capabilities, referred to as next-generation 9-1-1 (NG 9-1-1) services. For example, Canadians could stream video from an emergency incident, send photos of accident damage or a fleeing suspect, or send personal medical information, including accessibility needs, which could greatly aid emergency responders."[11]

The following is an excerpt from the CRTC website regarding the program and its benefits for enhancement to public safety communications.

3.10.2 Establishment of Deadlines for Canada's Transition to NG 9-1-1

The Commission sets out determinations in relation to new deadlines and other matters for the implementation and provision of next-generation 9-1-1 (NG 9-1-1) networks and services in Canada, so that Canadians can access new, improved, and innovative emergency services with internet protocol-based capabilities. The Commission aims to maintain the NG 9-1-1 framework roadmap for the

[11] Government of Canada, Canadian Radio-television and Telecommunications Commission, "Telecom Regulatory Policy CRTC 2017-182, Next-generation 9-1-1 – Modernizing 9-1-1 networks to meet the public safety needs of Canadians", last modified June 1, 2017, https://crtc.gc.ca/eng/archive/2017/2017-182.htm

establishment of NG 9-1-1 networks and the introduction of NG 9-1-1 Voice, albeit with new, extended deadlines.

Specifically, the Commission directs NG 9-1-1 network providers, by 1 March 2022, to, among other things, establish their NG 9-1-1 networks, complete all NG 9-1-1 production onboarding activities, and be ready to provide NG 9-1-1 Voice, wherever public safety answering points (PSAPs) have been established in a particular region.

The Commission also directs telecommunications service providers (TSPs) to (i) make the necessary changes to support NG 9-1-1 Voice in their originating networks that are technically capable of supporting NG 9-1-1 Voice, including completing all NG 9-1-1 production onboarding activities and testing activities, by 1 March 2022; and (ii) begin providing, by 1 March 2022, NG 9-1-1 Voice to their customers served by networks that are technically capable of supporting NG 9-1-1 Voice, wherever PSAPs have been established in a particular region.

With respect to the implementation and provision of real-time text (RTT)-based NG 9-1-1 Text Messaging (NG 9-1-1 Text Messaging), the Commission is not establishing new deadlines as part of this decision. Instead, the Commission requests that, once standards are sufficiently advanced with respect to RTT callback and bridging, the CRTC Interconnection Steering Committee (CISC) file a report with the Commission with recommendations related to the provision of NG 9-1-1 text messaging for all stakeholders.

Further, the Commission directs, among other things, incumbent local exchange carriers (ILECs) to decommission their current 9-1-1 network components that will not form part of their NG 9-1-1 networks by 4 March 2025 or earlier if all the TSPs and PSAPs in an ILEC's operating territory have completed their transition to NG 9-1-1.[12]

3.10.3 NG 9-1-1 Considerations

- As noted in the CRTC excerpt, March 4, 2025, is the revised key date to work with. The fire chief must ensure that Red Lake is a stakeholder at the steering committee table through direct involvement or as part of the regional committee for this implementation plan.

[12] Government of Canada, Canadian Radio-television and Telecommunications Commission, "Telecom Decision CRTC, Establishment of new deadlines for Canada's transition to next-generation 9-1-1", last modified June 4, 2021, https://crtc.gc.ca/eng/archive/2021/2021-199.htm

- The municipalities must understand that there will be significant expenses for the fire dispatch to implement NG 9-1-1 and that disptach centres will likely increase fees for all fire departments it dispatches to cover these additional costs. It was evident in their invoicing that funds are already being obtained for NG 9-1-1, but for what purpose, remains unknown.
- Currently there is no firm understanding as to the costs that are going to be incurred with the implementation and annual costs of NG 9-1-1.
- Some fire services that have a communications centre have budgeted as much as $1million for the upgrades to 9-1-1. The City of Hamilton has budgetted $31 million for its upgrades to the entire 9-1-1 system.

3.11 Health, Fitness, & Wellness

Health and wellness of staff is a key focus for all municipalities and Red Lake is no exception. Due to the nature of firefighters maintaining a separate primary vocation, a focus on fitness can be overlooked. The inherit nature of firefighting is both stressful and physically demanding. During the review by EMG, it was noted that there is no fitness equipment at the fire stations to ensure that staff have the ability, to keep fit, which helps to reduce work related injuries. As such, the Fire Department should work towards purchasing and standardizing the fitness equipment at all stations and having a fitness instructor work with the volunteers to set up a proper workout program and/or at the very least demonstrate the proper and safe way to use the exercise equipment. The Department should also have SOGs relating to the proper use of the fitness equipment (where available).

Many fire departments routinely test their firefighters to meet occupational fitness tests delivered internally or by a third party. NFPA 1582 *Standard on Comprehensive Occupational Medical Program for Fire Departments* details basic expectations placed upon firefighters. RLFRS is encouraged to review these and incorporate them into both candidate testing and firefighter fitness and functionality. It is recommended that, as part of a larger commitment to firefighter health and wellness, RLFRS review the physical expectations of a firefighter for use in training and recruiting.

NFPA 1582 identifies 14 essential job tasks that detail the physical and physiological strains placed on firefighters. The standard outlines the requirements for a department medical program including certain conditions that may pose a risk to firefighting. As the core determination for the physicality of firefighting, it is important for RLFRS to understand the expectations they are placing on their personnel.

The 14 essential job tasks explained in NFPA 1582 lay the groundwork for NFPA 1583 *Standard on Health-Related Fitness Programs (HRFP) for Fire Department Members*. NFPA states that "this standard outlines a complete HRFP for members of fire department involved in emergency operations

to enhance their ability to perform occupational activities and reduce the risk of injury, disease, and premature death". The applicable portion of the standard comes from section 4.1 wherein it states:

> 4.1 Program Overview
>
> The fire department shall establish and provide a HRFP that enables members to develop and maintain a level of health and fitness to safely perform their assigned functions.

The occupational health and safety program provides direction on performing assigned functions in a safe manner. The HRFP allows members to enhance and maintain their optimum level of health and fitness throughout their tenure with the fire department. Education, one provision of a health-related fitness program, allows a means for improving health and fitness throughout the organization. The organization needs to provide the recognition and support to ensure the promotion and success of this process. Health and fitness needs, to become a value within the organization just as safety is a value.

Data suggests a correlation between the following:

- A proactive approach to health and fitness and a decrease in debilitating occupational injuries.
- A reduction in workers compensation claims and a decrease in acute and chronic health problems of firefighters.

Combining the health-related fitness program with a proactive occupational safety and health program provides a fire department with the level of quality needed for its members. It is suggested that, as part of a larger commitment to firefighter health and wellness, RLFRS review the 14 essential job tasks from NFPA 1582 as they pertain to their recruitment and testing process and seek options for offering personnel the ability to exercise and maintain fitness levels as explained in NFPA 1583.

3.11.1Post Traumatic Stress Disorder (PTSD)

In 2017, emergency services organizations were required by the Ontario, Ministry of Labour to submit a PTSD Prevention Plan. This was to coincide with PTSD and occupational stress injuries (OSI) to be considered as workplace injuries and compensable through the WSIB. The RLFRS has a package available to its members outlining what PTSD is, the dangers it presents, training, on-going support, early intervention, WSIB claims management, recovery, and return to work.

RLFRS has included all its fire department staff in the employee assistance program (EAP). Ensuring that the firefighters have full EAP coverage for all related needs is an important piece of employee wellness. The fire chief should meet with municipal staff who oversee EAP and related programs to ensure that firefighting personnel are fully aware of what benefits the EAP offers, should they need it.

This may require a more inclusive package. As an opportunity to improve retention of the volunteer firefighters, this EAP could be offered as a family package.

3.11.2 Cancer Prevention

In recent years there has been a more intensive review of cancer prevention and a correlation of the disease to firefighting. The focus has been on contamination control surrounding fire incidents. From pre-fire, incident duration, to cleaning and decontamination post-fire, all aspects of prevention are currently under review by all levels of fire service management.

Presently, the RLFRS stations do not have any decontamination equipment, such as showers (for both male and female firefighters), and there is no bunker gear cleaning (extractor) machine. However, the fire chief did note that an extractor was on order and is going to be installed at station #1.

It is suggested that, as part of a larger commitment to firefighter health and wellness, RLFRS begin work on a cancer prevention program. This may include items such as, but not limited to:

- Post-fire decontamination of personal protective equipment (PPE)
- Firefighter hygiene at fire scenes
- PPE during handling of contaminated gear/equipment
- Documenting potential exposures
- Reducing exposures to diesel exhaust
- Installation of proper shower facilities at each fire station, or at least implementing an operating guideline on decontaminating (through the use of a shower at whatever station this may be located).

Section 21 Guidance Note – Firefighters Cancer Prevention Checklist, would be a good reference in developing such a program along with Section 21 Guidance Note on Hygiene and Decontamination.

At noted, the fire stations are not equipped with “at source” diesel exhaust extraction systems (that attach to a vehicles exhaust pipe) to reduce exposure to vehicle exhaust. Diesel exhaust has been contributed to health issues when people are exposed to it over long duration. By having these systems in the station, the health concern is greatly reduced. This would be a positive feature towards cancer prevention by having a system installed in the station. Section 21 Guidance note GN 3-1 should also be referenced in relation to reducing exposure to diesel exhaust.

In reviewing the PPE program, also known as structural firefighting ensemble, it was noted a plan has been established to review PPE inventories and forecasted replacements are identified so that budgetary submissions are effectively managed. This is important to note as NFPA 1851 Standard on *Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* states in Chapter 10:

"Structural fire fighting ensembles and ensemble elements shall be retired in accordance with 10.2.1 or 10.2.2, no more than 10 years from the date the ensembles or ensemble elements were manufactured."

The appendices, to that section also references that *"…it is imperative that the protective elements be routinely inspected to ensure that they are clean, well maintained, and still safe".* RLFRS has a program that PPE is inspected and cleaned by a third-party contractor, and that there is a cache of used gear.

Cancer prevention may begin at the scene of a structure fire. The bunker gear becomes laden with contaminants and smoke, and off gas for some time after a fire. By decontaminating the firefighters at the scene of the fire and ensuring they do not wear their dirty gear back to the station or transporting it in the cab of the truck, is the step in the right direction of cancer prevention. The Department should also invest in some decontamination bags for transporting the bunker gear back to the station.

Cancer prevention does not stop at just taking off and bagging the bunker gear for cleaning at the fire station, the individuals clothing may also contain cancerous contaminants. The hygiene and decontamination program should also address the firefighters personal clothing or uniform worn in the fire. This may see the necessity of the firefighters in their personal vehicle, available for them to change into after they have a shower at the station. This clothing should also be washed at the fire station (with the extractor) and not taken to the residence to be washed as they are then introducing the contaminants to members of their family.

A fire department exposure report should be completed each time a firefighter is exposed to the products of combustion.

3.11.3 Mental Well Being

Like law enforcement, paramedics, and military personnel, firefighters are regularly exposed to critical incidents. A critical incident can be described as:

- A near miss that threatened the health and safety of a member of the Department. This can include a situation where a member of the department experienced an event that could have resulted in significant harm or was a close call where they escaped significant harm.
- The suicide or attempted suicide of a co-worker.
- The sudden death of a fellow firefighter.
- The loss of a patient after a rescue attempt.
- The death or a critical incident involving a child.
- A prolonged rescue or incident with excessive media coverage.

Being regularly exposed to horrific events can lead to critical incident stress. A critical incident can best be described as a normal reaction to an abnormal traumatic incident. Exposures to critical incidents can impact firefighters later in life and it is critical to have a formal record of critical incidents to assist a firefighter for a workplace injury if they are struggling due to post traumatic stress disorder (PTSD).

Mental health takes on a critical importance in high-stress, high-risk work settings, such as those in which first responders operate, where their own functioning has serious implications for the health, safety, and security of the public they serve. A mental health well-being plan should include:

- An introduction about the plan.
- Goals and objectives
- Prevention and education focus areas
- Screening and initial intervention focus areas
- Support, WSIB claims management, recovery and return to work focus area
- An overview of PTSD, risk factors, signs, and symptoms.
- Legal requirements of the municipality under the OH&S Regulations.
- Organizational PTSD practices (promoting good mental health).
- Organizational anti-stigma practices.
- Roles and responsibilities for prevention, intervention, recovery, and return to work.
- Training on awareness and anti-stigma, recognising the signs and symptoms and responding to signs of PTSD, postexposure education and awareness.
- Develop a handbook that identifies what PTSD is, and the signs and symptoms, for family members to reference which also includes agencies, EAP program or peer support groups that may be of assistance.
- Consider initiating a chaplaincy program for the department as another form of support for members and their families, not only for situations involving PTSD, but everyday life, and the situations that may arise.

Section 3: Recommendations

Rec #	Recommendation	Estimated Cost	Suggested Timeline	Rationale
4	RLFRS implements the position of a part-time training officer, or at the very least ensures that the vacant deputy chief position has the resources and time to implement the required training for the Department.	Staff time or creation of a part-time Training Officer	Immediate to Short-term	Red Lake must ensure that all fire department positions that require training and certification are met. The inclusion of a part-time training officer position will go a long way to meeting this training requirement.

Rec #	Recommendation	Estimated Cost	Suggested Timeline	Rationale
5	There will be a need for administrative support or the investment and implementation of a more efficient records management system (to replace the present paper-based system) that all staff can utilize to input their training and other required information.	Creation of a part-time administration person or a new records management system. Approximate cost $20,000.00 per year for admin. $5,000.00 to $20,000.00 for records management system.	Short-term (1-3 years)	The Department will need to keep more accurate and up-to-date information on their training programs, levels of completion and type of training being conducted for staff. The hiring of a part-time administrative position or the implementation of a robust records management system will meet these needs.

Rec #	Recommendation	Estimated Cost	Suggested Timeline	Rationale
6	A plan should be developed to identify what other inspections can be reasonably accomplished by the fire chief, and what options are needed to address the other fire prevention-related concerns.	Staff time	Short-term (1-3 years) ongoing	The *Fire Protection & Prevention Act*, specifically mandates public education and fire prevention inspections based on requests and demands. With only the fire chief conducting fire prevention-related functions, for the Municipality, prioritization of these required duties needs to be the focus.
7	All firefighters be offered the opportunity to become trained and qualified to the NFPA 1035 *Public Fire & Life Safety Educator Level I* as well as NFPA 1031 *Fire Prevention Officer, Level I.* • Consideration os needed to be given to resourcing public education with a part-time dedicated, fully trained and qualified staff position.	Staff time or for part-time public education officer – Approximate cost $20,000.00 per year.	Short-term (1-3 years) ongoing	Greater utilization of department resources to support fire prevention and public education initiatives will ensure that RLFRS is meeting the FPPA-mandated requirements.
8	RLFRS to work in conjunction with residential developers in promoting the advantages of installing residential fire sprinklers.	Staff time	Short-term (1-3 years) and ongoing	Sprinkler systems have been proven to save lives and property, by promoting this initiative the RLFRS is demonstrating a proactive, life-saving program.

Rec #	Recommendation	Estimated Cost	Suggested Timeline	Rationale
9	The fire chief to provide a business case to senior administration supporting either: • a fixed training facility, or • the purchase of a mobile training unit or a fixed site unit for the purposes of Live Fire Training. ***Note:** these options should be considered if the availability of the OFMs Training Trailer is not available as needed.*	$200,000 - $700,000 (Mobile training unit)	Short-term (1-3 years)	This is an option that the fire chief needs to evaluate if no other facility such as the OFMs training trailer is available for the firefighters to receive regular and ongoing hands-on training.
10	All firefighters receive live fire training annually.	Dependent on facility costs and/or the purchase of a live fire training unit.	Short-term (1-3 years) ongoing	With the introduction of the new Training and Certification Regulation, more ongoing and relevant training will be required and documented.
11	RLFRS adopts an educational progression plan. The proposed training programs and succession path for its officers should be supported for current and proposed positions. This would include fire officer one to four.	Staff time	Short-term (1-3 years) ongoing	Succession/educational planning is paramount to the future success of any organization.

Rec #	Recommendation	Estimated Cost	Suggested Timeline	Rationale
12	Develop job descriptions with a list of the minimum core job responsibilities. Further, the education and experience required for each of those positions should be outlined to chart the path for succession.	Staff time	Short-term (1-3 years)	Succession/educational planning is paramount to the future success of any organization.
13	The fire chief, review the present recruitment and retention programs and enhance them based on the information noted in this document (as required).	Staff time – minimal costs possibly incurred	Immediate to Short-term (0-3 years) ongoing	Volunteer Firefighters are the most valuable resource for the Fire Department. Ongoing recruitment and retention of the Firefighters is critical to the success of the Fire Department.
14	A full review of the Dispatching Agreement is conducted to ensure that the needs of the RLFRS are being met.	Staff time	Immediate to Short-term (0-3 years) and ongoing	Ensuring that the RLFRS has a current agreement that meets the needs of the Department is paramount to ensuring an efficient service to the community.

Rec #	Recommendation	Estimated Cost	Suggested Timeline	Rationale
15	Consideration is to be given to the transition of Firefighters responding to the emergency scene in their personal vehicles, over to responding to the fire station.	Staff time	Short-term (1-3 years)	Responding directly to the fire station enhances the accountability of responding personnel because all firefighters are on the emergency vehicles, with all their proper safety gear. This also reduces congestion at the emergency scene by the firefighter's personal vehicles.
16	RLFRS to review their health, fitness, and wellness programs to ensure that their Firefighters are receiving proper coverage in relation to PTSD, cancer prevention and mental well being.	Based on the programs required / provided.	Immediate to Short-term (0-3 years) ongoing	Firefighters are the greatest asset of any fire service, and it is imperative that their health, fitness, and wellness is addressed in a genuine, consistent, and professional manner. This may include the establishment of a PTSD prevention plan by a committee of firefighters, chief officers, and mental health professionals. The *Supporting Ontario's First Responders Act,* requires employers to have a PTSD program.

SECTION 4

Facilities, Vehicles, Equipment, & Water Supply

SECTION 4: FACILITIES, VEHICLES, EQUIPMENT & WATER SUPPLY

4.1 Fire Station Review

A review of the existing fire stations was conducted by EMG and will be addressed in this section. It should be noted that the walkthrough of the fire stations was a visual inspection; no destructive testing or engineering assessment was conducted.

Fire stations should be positioned to offer the most efficient and effective response to the community they serve. Centering them within a determined response zone that is simply based on "timed" responses is not necessarily the best option to implement. Fire station location depends on many factors such as key risks within the response zone, future growth of the community, and the response team composition (full-time vs. volunteer firefighters). Another consideration is the geographical layout of the community that can include natural barriers or divides, such as water, that may make it necessary to have some stations located within proximity of each other.

Distance and travel time may be a primary consideration; however, if a basic expectation of response time is set by the community's decision makers, then a more realistic level of service and fire station location criteria can be identified.

The following map depicts where each station is located throughout the Municipality. The zones around each station represents 10-minute drive time, not including the four-minutes for volunteers to arrive at the station and then respond in an emergency services vehicle. Even though the firefighters are allowed to respond directly to the location in their personal vehicles, actual firefighting procedures (such as extinguishment) will not occur until the fire trucks arrive. The 4-minute response to the fire station is used in overall averaging.

The response mapping and related response data supplied in this document should not be taken in isolation. A full in-depth study along with an annual report submitted to Council by the fire chief with an update on the key performance measures and expectations is required.

FIGURE #8(A) - RED LAKE FIRE STATIONS

The Red Lake Fire Rescue Service (RLFRS) responds out of four fire stations as identified in the following figure.

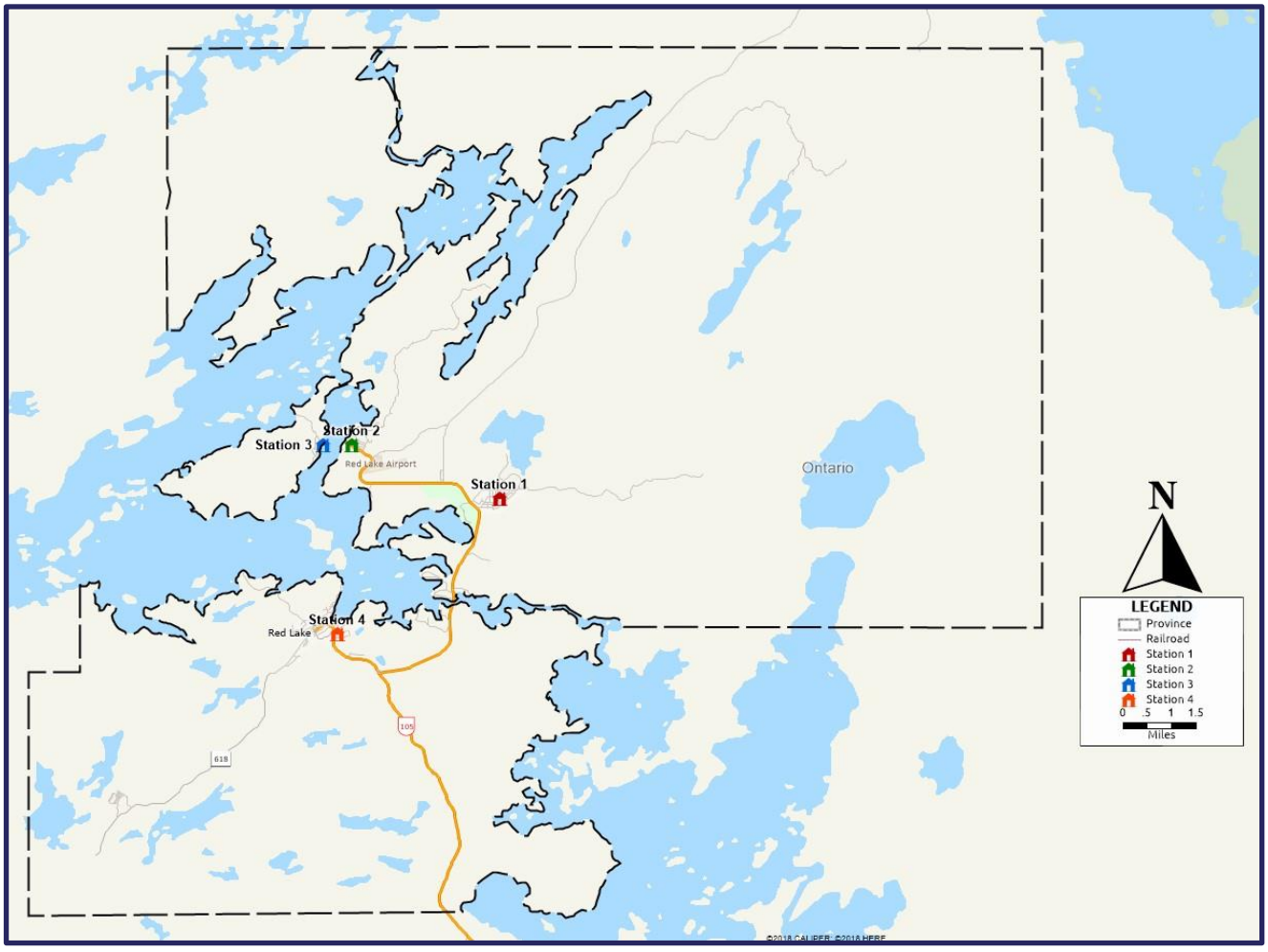
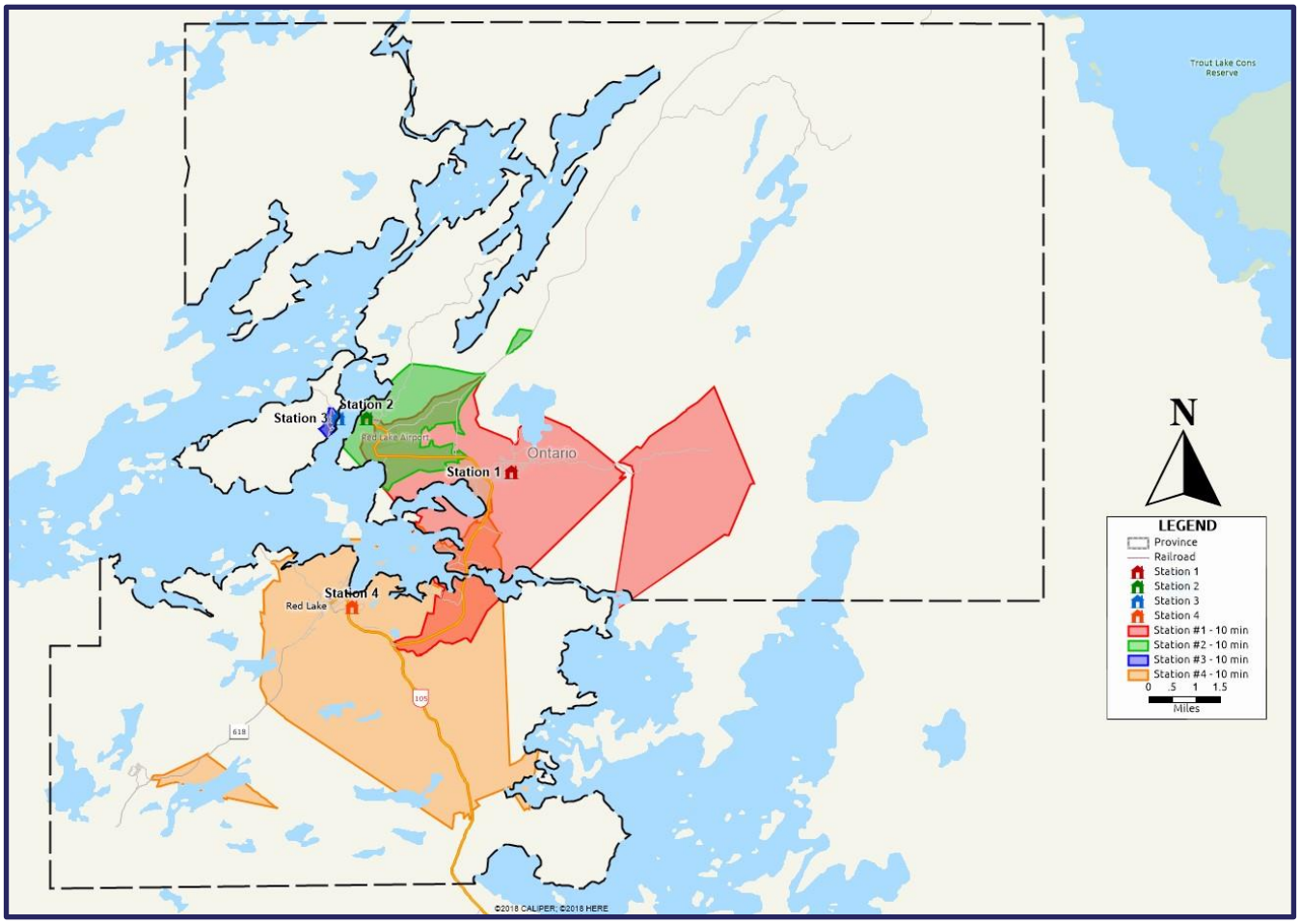


FIGURE #8(B) - APPROXIMATE EIGHT TO TEN MINUTE DRIVE TIME COVERAGE.



4.1.1 Red Lake Fire Stations

Red Lake Fire has four fire stations in its inventory. Based on the visit to these stations, the buildings range from good condition to needing varying levels of repair and/or updating. Each station will be addressed individually.

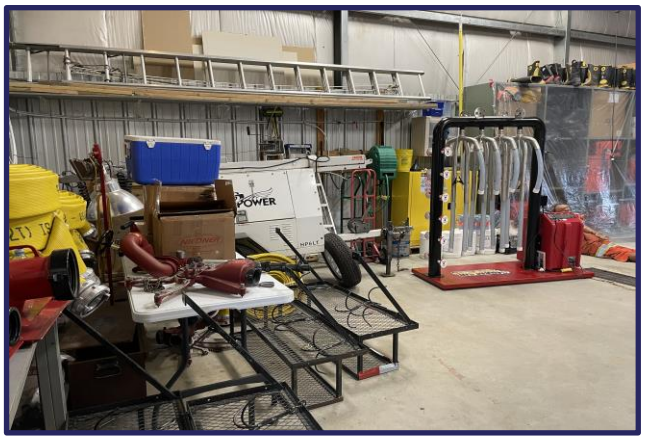
***Note:** The station reviews that have been gathered in this report are general in nature. Therefore, if more in-depth structural analysis is desired by the Municipality, then a comprehensive station/facility review should be undertaken.*

***Note:** Any health and safety related items have been bolded and italicized and a further overview of general health and safety related issues is also included at the end of this station review section.*

Station #1 – Balmertown

Station #1 has three bays for fire apparatus. This is not a drive through station. This station has a total of 17 Volunteer Firefighters.

Apparatus Bays



Training Room and Office area

Washroom – No Shower Facilities

Station #1 - Concerns:

- Lack of storage for equipment
- Firefighting gear exposed to exhaust contamination
- Floor drains do not have oil seprators in them
- There is no diesel exhaust removal system in the station

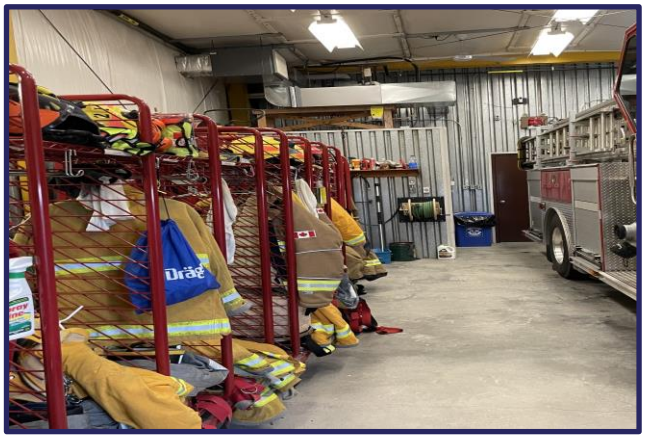
- No showers facilities

Station #2 – Cochenour

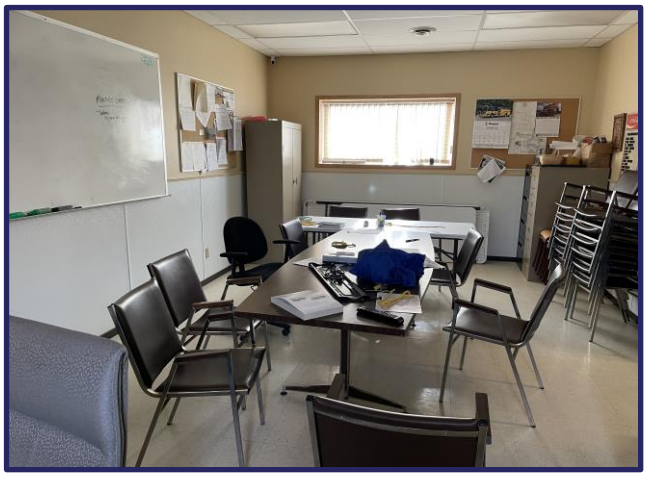
Station #2 has one bay for fire apparatus. This is not a drive through station. This station has a total of 12 Volunteer Firefighters.

Apparatus Bays

Firefighter Gear Stored in Bay



Office/Training Room



Washroom – No Shower Facilities

Station #2 - Concerns:

- Lack of storage for equipment
- Washroom facility is lacking a shower
- Floor drains do not have oil seprators on them
- There is no diesel exhaust removal system in the station
- No emergency back up power supply for station
- Station #3 – Island Station

Station #3 – McKenzie Island Station

Station #3 contains one bay for fire apparatus. This is not a drive through station. There are approximately three to four VFFs at this station.

Rear of Fire Station

Apparatus Bay

Meeting Room and Office

Washroom – No Shower Facilities

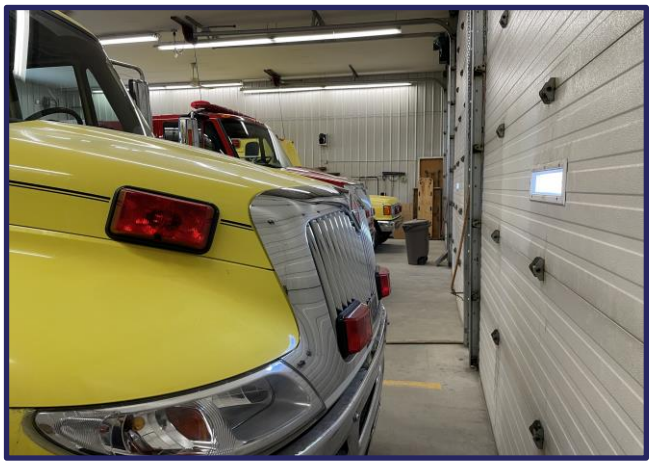
Station #3 - Concerns:

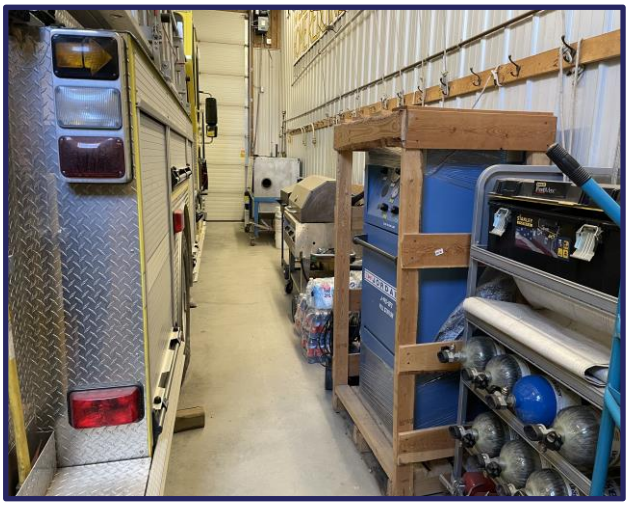
- There is indication that a flood has occurred at this station, and it is recommended that an inspection for mold or other water related damage to the structure be conducted.
- Although there is a shower stall, it is not used or designed to capture contaminates.
- Firefighting gear exposed to exhaust contamination.
- Floor drains do not have oil separators in them.
- There is no diesel exhaust removal system in the station.
- No emergency back up power supply for station.
- Lack of volunteer firefighters (VFFs) for this station – presently only one or two active VFFs on the island for response.

Station #4 – Red Lake

Station #4 contains three bays for fire apparatus. This is not a drive through station. There are approximately 22 Volunteer Firefighters at this station.

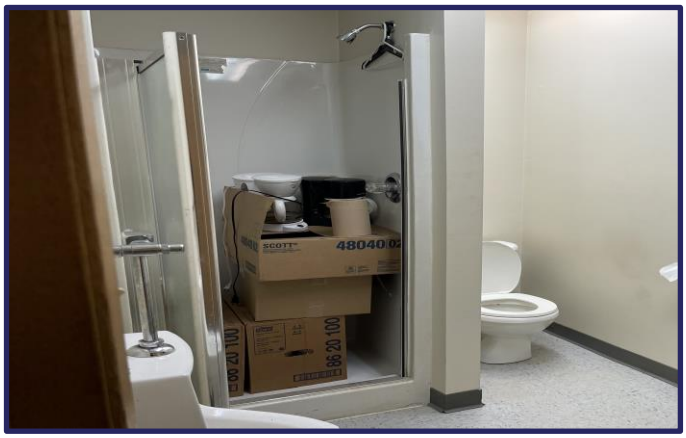
Apparatus Bays and Storage





Office and Kitchen Areas

Washroom (currently shower used for storage)



Station #3 - Concerns:

- Lack of storage for equipment
- A shower that is at this station is just utilized for storage.
- Desks/workspaces located on apparatus floor. Exposed to diesel exhaust.
- Firefighting gear stored in cube van.
- There is no diesel exhaust removal system in the station.

4.2 Fire Station Concerns

During the walk-through by EMG, it was evident that many of the Red Lake fire stations are nearing, or at maximum capacity for storage of vehicles and equipment. Overall, the concerns noted during the station visits include:

- The proximity of the firefighter's gear in relation to the vehicle exhaust. This could create an exhaust contamination issue. Firefighters' gear should be stored in a separate room that is negative pressurized, away from any exhaust contamination.
- None of the fire stations' apparatus bays have floor drains with oil separator (catchment) systems.
- All the stations appear to be at maximum capacity for vehicles and equipment storage.
- There was a notable lack of proper storage areas/facilities for the equipment. This creates a tripping/safety hazard to the staff.
- Flammable liquid cabinets for such things as gas containers and other flammable and/or hazardous liquids storage should be used (for safety reasons) instead of containers placed on the apparatus floor.
- No diesel exhaust catchment system at any of the fire stations.
- Emergency back up power is not available at all the fire stations.
- Separations from the apparatus floor and the training/living areas of the station need to be installed and maintained – some of the fire stations have either desks/workstation or kitchen facilities on the apparatus floor. These areas are susceptible to exhaust contamination.
- Washroom facilities for both male and female firefighters were also an issue at the stations and should be addressed. This can also be accomplished by making the washrooms gender neutral.
- The main concern is the lack of shower/wash up areas that need to be made available at all the stations. Firefighters must be able to decontaminate themselves from exposures to smoke, toxic gasses, chemicals, blood, and pathogens as soon as possible after a call and before going home.

Based on the Occupational Health and Safety Act:

- Workers who may encounter hazardous chemicals are to be afforded proper washing and clean up facilities.
- Space between vehicles must allow for safe and easy access between vehicles to reduce the possibility of persons becoming trapped between vehicles as they are being driven in and out of the fire station.

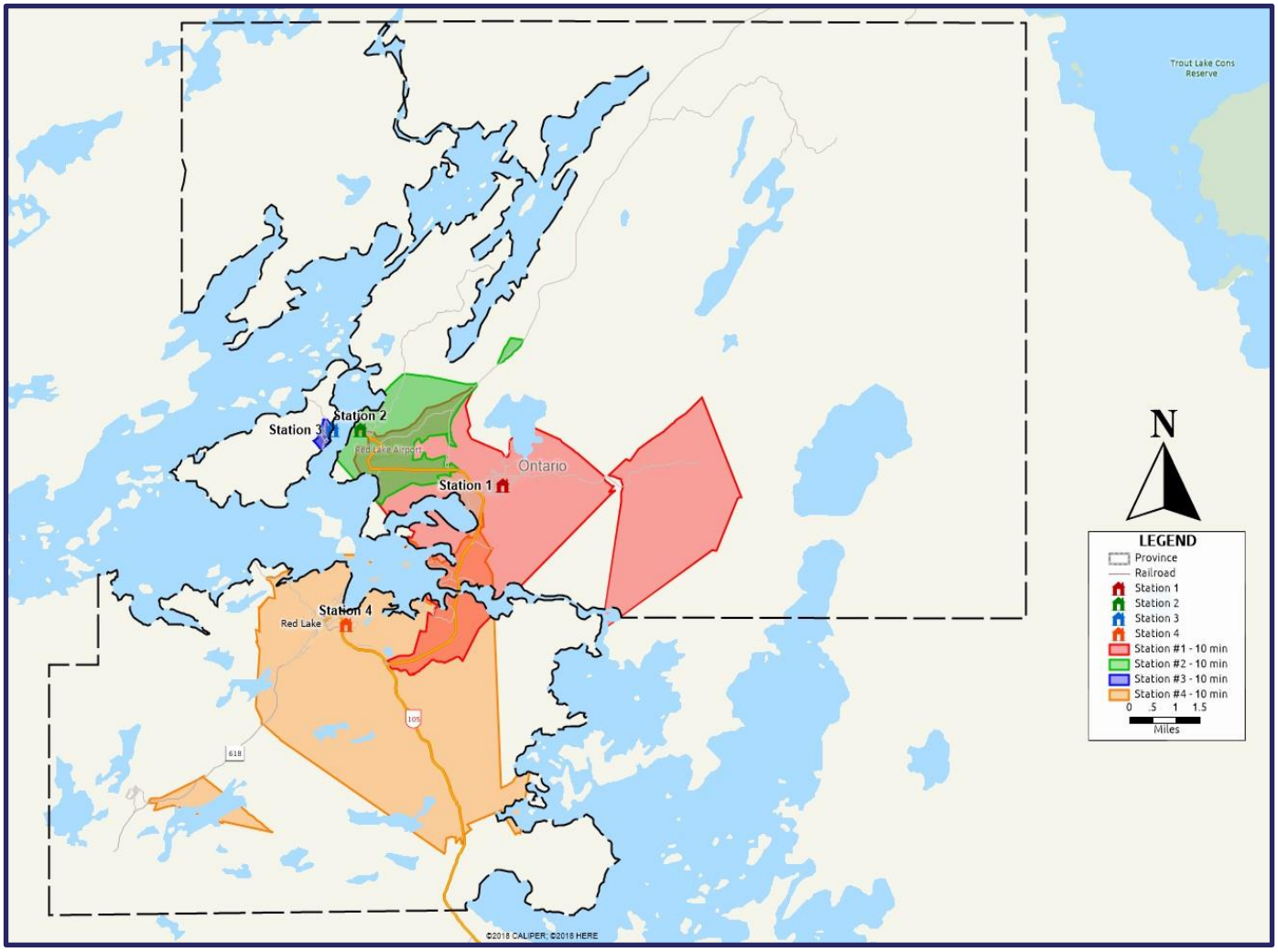
- For many of the fire stations space is at a premium, and some type of storage facility should be incorporated at many of the fire stations. Future stations should be built with this space requirement in mind.

4.3 Future Station Options

To identify opportunities for the enhancement of service to the community, while being fiscally responsible; EMG has looked at options for consideration by the Municipality.

The following map outlines the present operational four-station response coverage as noted, there is still good overlapping coverage in the south and southwest areas of the Municipality. However, the north-east section is left mainly uncovered.

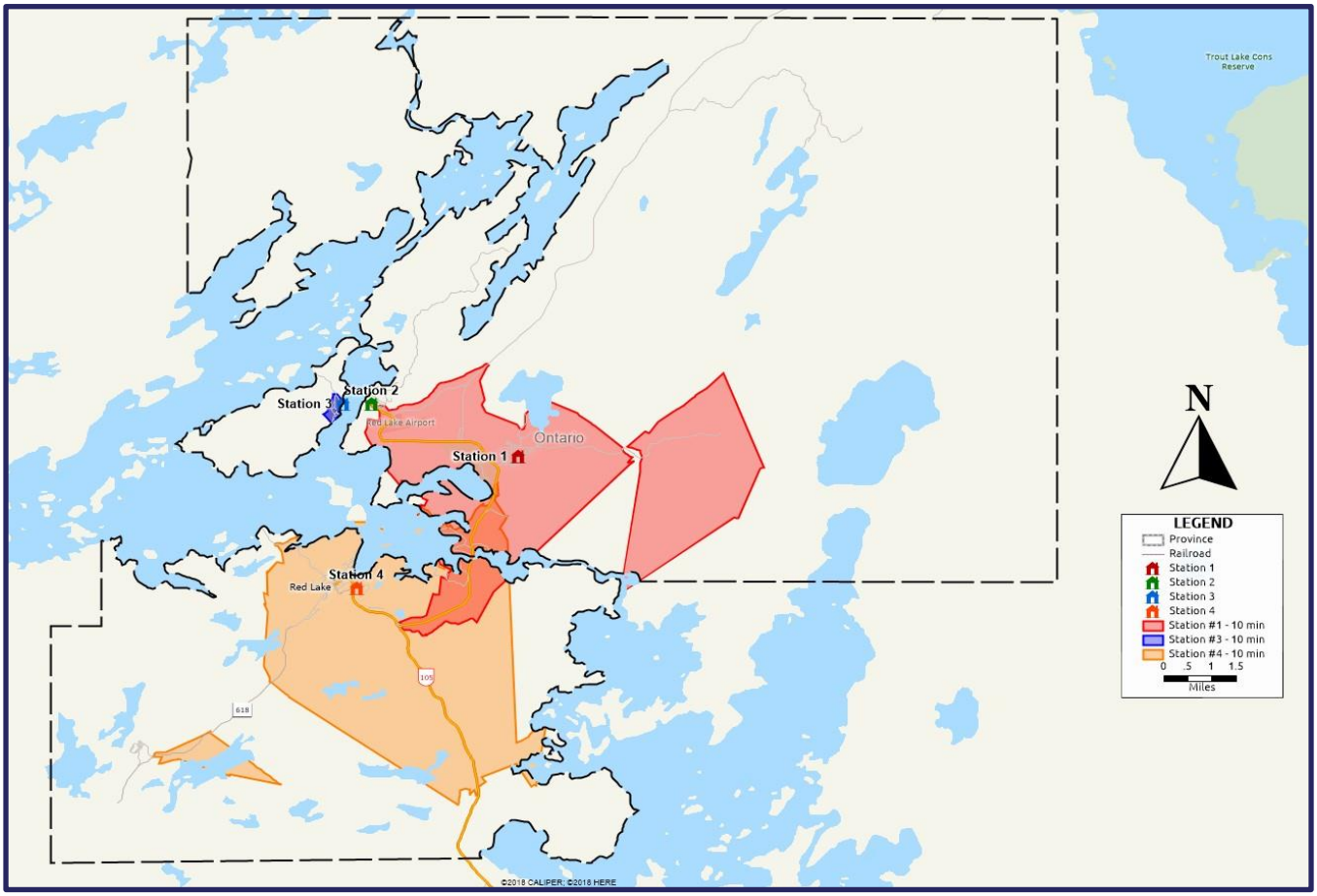
FIGURE #9(A) – PRESENT FIRE STATION SET-UP WITH RESPONSE ZONES



All four fire stations are located within a specific community. Therefore, the removal of any one of the fire stations, can create a "response gap." And due to the extreme weather conditions that Red Lake can experience, the removal of a community located station could create an extended response time for the other two fire stations – a response from the McKenzie Island station would not be part of the response equation for the three mainland fire stations.

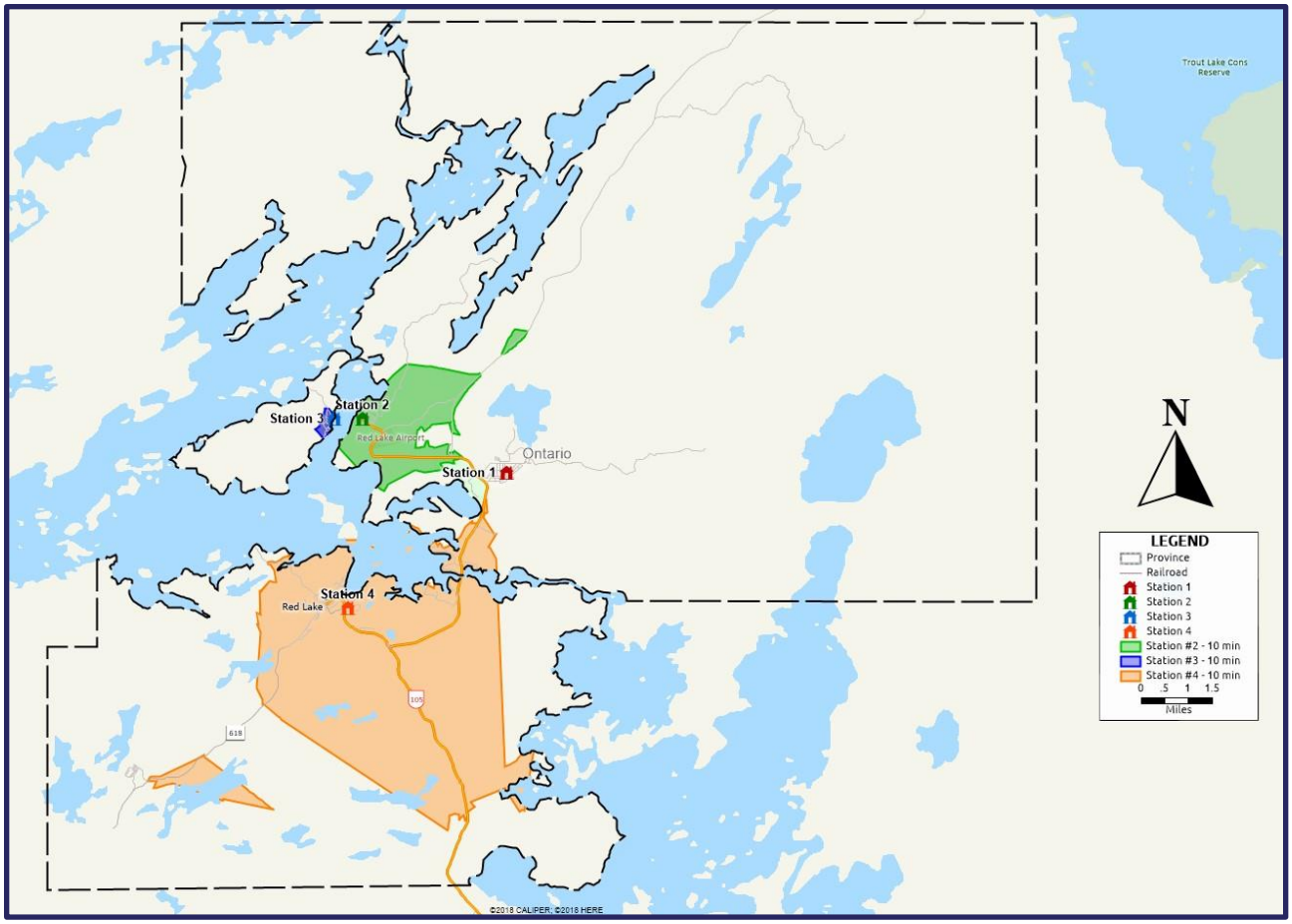
In the 2013 review by the OFM, 12 recommendations were presented. Although many of the recommendations supported the need for more staffing both in relation to full-time and part-time, along with a review of level of service that Council and the fire chief wanted to support; no mention was made in relation to the location, closing, and/or relocation of a fire station. Having observed this EMG would not be diligent concerning this report if a review of possible station closures were considered. The following set of maps along with comments is being presented.

FIGURE #9(B) - FIRE STATION RESPONSE GAPS – STATION #2 REMOVED



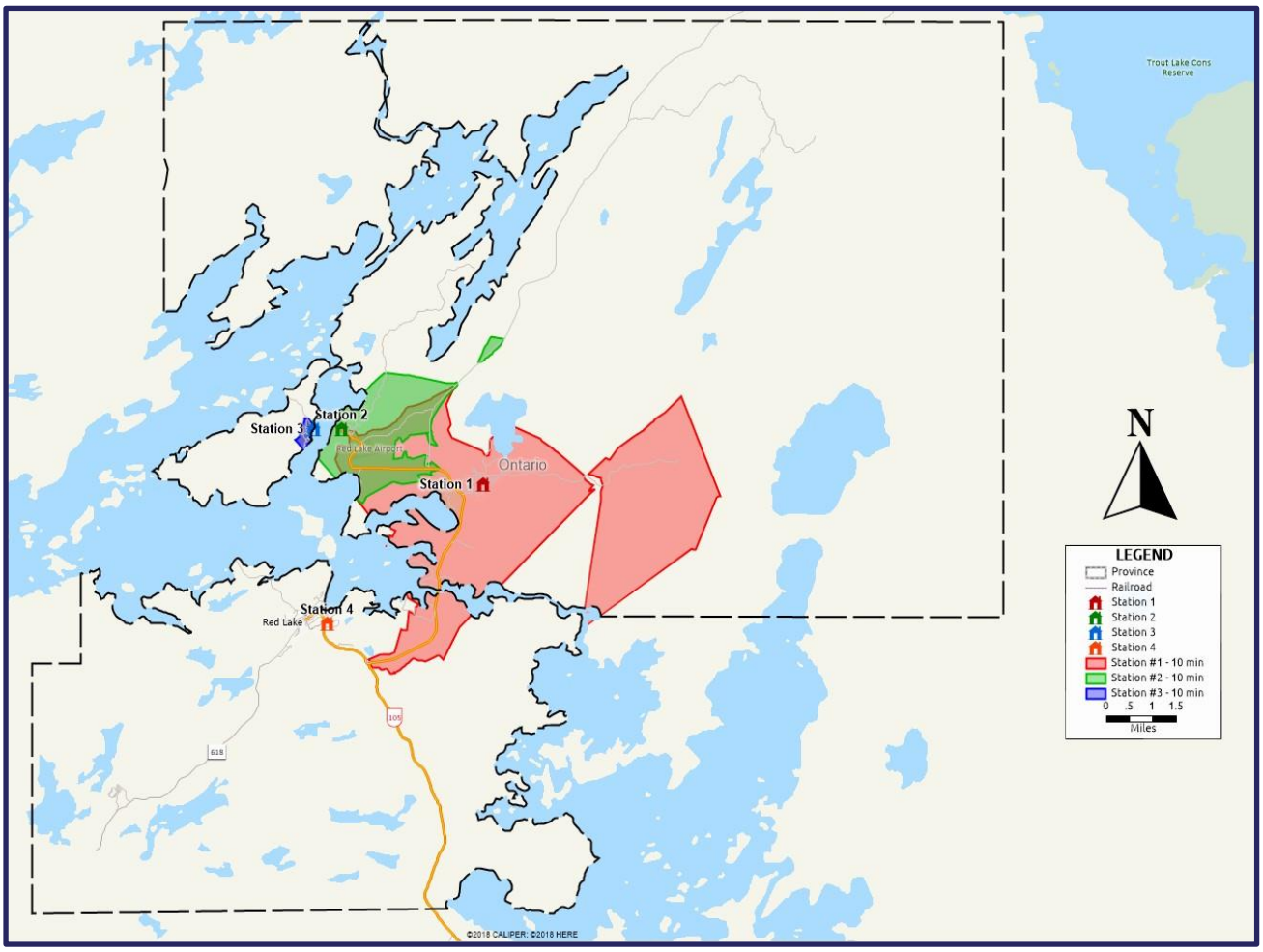
Map #1 – With Station #2, Cochenour fire station removed. As can be seen this this map, there is relatively good coverage by the Balmertown station to both Balmertown and Cochenour areas.

FIGURE #9(C) - FIRE STATION RESPONSE GAPS – STATION #1 REMOVED



Map #2 – with Station #1, Balmertown removed. The removal of this station is not recommended to the large gap in coverage to the Balmertown area.

FIGURE #9(D) - FIRE STATION RESPONSE GAPS – STATION #4 REMOVED



Map #3 – with Station #4, Red Lake removed. The removal of this station is not recommended to the large gap in coverage to the Red Lake area.

The removal of any of the three mainland fire stations does create a response gap within the community; it is the impact of these gaps that need to be considered when discussing possible station closings and/or relocation.

McKenzie Island fire station is a stand-alone facility due to the limited access during certain times of the year. Closing of the island fire station was not considered at this time. However, based on the number of calls (three to five per year) there is the option of reducing the type of equipment located at this facility. Instead of a mini pumper that can cost as much as $350,000 to $500,000. replacing this vehicle with a pickup truck that has a portable fire pump and other required equipment is worth considering. This would reduce the cost of equipment by as much as 50%.

In relation to the three mainland fire stations, EMG is presenting the following three options for consideration.

Option #1 – Status Quo

None of the fire stations are closed. Due to the travel distances between communities and the fact that inclement weather could adversely affect response times.

However, based on the data received the Cochenour fire station responds to very few calls per year whereas, both the Red Lake and Balmertown stations account for the bulk of the Fire Department's calls.

Option #2 – Closure of Cochenour Station

In figure #9(A), the Balmertown and Cochenour fire stations appear to be within proximity and overlapping of response areas. The Balmertown fire station is within eight kilometres of the Cochenour community. This falls within acceptable distances based on insurance reviews for fire protection.

Therefore, there is an opportunity to close station #2 (Cochenour) and distribute the equipment between station #1 (Balmertown) and #4 (Red Lake).

There would a savings based on facility maintenance and upkeep, along with any future structural repairs. No actual savings estimates are noted, as further review by both the building and finance departments would be required to confirm future savings.

Option #3 – Joint Partnership Facility

Within Red Lake there is ongoing growth and development. There will be an subsequent need to either build a new fire station in Red Lake or, at the very least, upgrade the present station to accommodate for this growth and an increased need for equipment.

This option is a long-term consideration that could include a partnership between the OPP, EMS, and Fire to build a tri-service facility. This option would reduce the cost for each party and would also capitalize on the use of available land (to build upon).

The cost for such an endeavour would depend on the needs of each emergency service. However, to build a new fire station to the post disaster requirements can cost as much as $2 to $5 million dollars.

4.4 Feasibility Study

There is a great deal of information to be considered with the options noted here. Before any decision is made, a full feasibility study by the Municipality or third party is recommended to understand what will be required to bring any of the noted stations up to a state that will allow them to continue to serve the community for the next ten to 20 years.

This study could be the deciding factor in what stations may in fact need to be rebuilt or even relocated. The decision by Council on what option is approved, will be the starting point for this feasibility study. As noted, Option #1 is status quo with no changes. Option #2 is the closure of the Cochenour Station. And Option #3 is the development of a joint facility between OPP, EMS, and Fire.

Option #2 offers questions that revolve around the cost of building new fire stations over the long term and the land availability for each site.

4.5 Type of Buildings and Options for Fire Stations

Traditionally, fire stations have been stand-alone structures. Municipalities have been shifting to integrating services into shared-use buildings with emergency service response stations being built into community centres, libraries, public works buildings, etc. This partnership with other community buildings is a cost-effective measure in both the use of an existing/new facility but also, sensible use of available lands.

It is common across Canada to have different emergency services co-located; this has included fire and police, fire, and paramedics, or all three in the same building. These stations normally have separate quarters within the same building, with separate entrances and facilities. This permits each service to operate independently while taking advantage of the efficiencies of a single structure.

As technology, community demographics, and operational requirements evolve, maintaining an ability to be flexible in the station design, construction, and location will benefit the community in the long-term. Leasing of a facility reduces the initial capital outlay, placing building maintenance responsibility on the landlord and allows the municipality the flexibility to move, should there be a change in community development.

The City of Barrie has leased the end unit of a commercial strip mall as a fire station *(pictured below)*. The unit was constructed by the landlord to meet the city's requirements.

EXTREME fire stations are a new concept that is a Canadian built product out of Lethbridge, Alberta. It is a modular-based building, built to seismic and building code standards, using high efficiency, energy code compliant HVAC systems and fire suppression systems; these are standard on EXTREME stations.

The positive aspects about EXTREME fire stations are that they are custom built at a factory and transported to the site where they are quickly placed onsite and ready for occupancy.

EXTREME Fire Station Assembly (On-Site)

A typical fire station has a life expectancy of approximately 50 years before the cost/benefit ratio starts to work against the municipality in terms of maintenance, basic function, and design. The EXTREME fire stations have, the ability to meet that life cycle because they are made from steel and aluminum and additional modules can also be added if the station needs to expand its footprint.

Calgary Fire Department Waldon Station

Prior to March 2021 a two-bay EXTREME fire station with appliances, diesel extraction system, exercise room and administration space, was estimated to be $2.4 million. Unfortunately, the construction industry is experiencing unprecedented spikes in building materials like wood, cement, and steel which creates challenges in projecting final price.

Joint Facilities

The City of Guelph, like many other communities identified the value and costs savings/efficiencies related to building a joint Police, EMS, and Fire facility. This not only took advantage of limited land availability, but it also provided a community focused building that included meeting space that the community can utilize. These facilities can be scalable to the emergency services and community needs.

4.6 Fire Apparatus - New and Replacement Schedules

Reliability of fire apparatus is critical to the successful operation of a fire service. Over the long-term, delaying the replacement of a vehicle is inadvisable as it will add to the overall maintenance costs of the apparatus and can influence insurance costs based on the emergency service's Fire Underwriters Survey rating.

The RLFRS is well-equipped with pumper trucks, tankers, and support vehicles required for primary response to calls within the Municipality. However, the replacement plan is for a 25-year cycle which takes all the vehicles outside of the NFPA and FUS 20- year recommendation. It was also noted that even though there is a 25-year replacement plan, some of the vehicles are older than 25 years.

RLFRS does not follow the FUS recommended replacement schedule for fire apparatus. Some apparatuses are nearing 40 years of age. Many fire departments in the United States lease their fire apparatus and trade them in after ten years, at which time they are sold at a fraction of the cost of a new vehicle. As such, the purchase of a used vehicle might be a viable option for RLFRS.

The maintenance of the apparatus is crucial, and a Maintenance Program should be developed, including annual pump testing. The device must be in a state of readiness and reliability; failing this may expose the Municipality to the risk of litigation. An emergency vehicle technician should be brought into service all the apparatus and complete an evaluation of the condition of each device.

***Note:** The rescue trucks are unsafe because of needed repairs and securing of equipment, and RLFRS needs to take corrective action as soon as possible. Consider taking them out of service until repairs are completed.*

- The rescues should be taken out of service until partitions are installed and all equipment is secured. This includes removing all loose items from the driver/passenger compartments.
- No loose equipment should be in any apparatus's driver and passenger compartments. Equipment needs to be secured, per NFPA 1901 and ULC S-515, and safety partitions between the driver compartment and the storage area. Rescues with a driver and passenger partition that include a door require the door to remain closed while the vehicle is in motion.
- Firefighters should not ride in the back of a rescue truck because the equipment needs to be secured. There may be a need for seat belts fastened to the apparatus to engineered specifications.

Failure to address these issues places the fire chief and the Municipality at risk of charges, including Section 217.1 of the Criminal Code of Canada (Bill C-45).

- Apparatus needs to be replaced based on the FUS frequency chart to ensure reliability and that there is no negative impact on insurance rates due to having aged apparatus.
- Safety partitions need to be installed in rescue apparatus that does not have a safety partition wall.
- No firefighters should ride in the back of a rescue that has unsecured equipment or lacks properly affixed seat belts.
- The RLFRS requires many of their fire apparatus to be replaced with a newer vehicle that meets NFPA 1901 and ULC S-515.
- RLFRS should explore opportunities of acquiring used apparatus from the southern United States where the chassis is not exposed to road salt.
- Consideration could be given to retaining the chief's vehicles when being replaced by assigning them to stations as support vehicles to transport firefighters and equipment.
- When an apparatus is 15 years old, the budgeting process for replacement should be implemented so that the new apparatus is built, delivered and in service when the apparatus being replaced reaches 25 years of service.
- It can take up to one year to develop the specifications, begin the bidding process, complete the evaluation process of the bids, and then issue the purchase order.
- It takes a minimum of two years for an apparatus to have the specifications developed, tendered, ordered, built, and delivered.

4.6.1 Fire Underwriters Survey – Vehicle Replacement Recommendations

When assessing an emergency service's ability to respond and meet the needs of the community, the FUS considers the age of a fire truck as one of its guidelines.

The small communities and rural centres section (outlined in blue) is the recommendation for vehicle replacement for a municipality the size of Red Lake. This allows for up to a 20-year replacement cycle, in which the fire vehicle can be utilized as 2nd line response status. It is, however, recommended that all 1st line units be replaced by a new or younger unit when it reaches 15 years of age.

TABLE #4: FUS VEHICLE REPLACEMENT RECOMMENDATIONS[13]

Apparatus Age	Major Cities [3]	Medium Sized Cities [4] or Communities Where Risk is Significant	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 a recognized testing agency on an annual basis to be eligible for grading recognition (NFPA 1071).

[2] Exceptions to age status may be considered in small to medium sized communities and rural centre 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

[13] Technical Bulletin, Fire Underwriters Survey™, A Service to Insurers and Municipalities, Insurance Grading Recognition of Used Or Rebuilt Fire Apparatus, Accessed January 31, 2022, file:///C:/Users/EmergencyLT/Downloads/FUS-TechnicalBulletin-InsuranceGradingRecognitionofUsedorRebuilt%20(1).pdf

- 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
- 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.

The FUS definition of first line duty, 2nd line duty, and reserve is:

- 1st line is the first fire truck utilized for response at the fire station
- 2nd line is the next truck to be used if the 1st line unit is tied up at a call, and
- Reserve is the vehicle kept in the fleet to be put into service if a 1st line or 2nd line vehicle is out of service.

The FUS is reviewed by insurance companies. Provided that the emergency service adheres to the recommended replacement timelines, through an approved capital replacement schedule, the department will retain its fire rating for vehicle replacement. By ensuring that the vehicles are being replaced on a regular schedule, Red Lake would be demonstrating due diligence towards ensuring a dependable response fleet for the emergency services and the community it serves through a vehicle replacement schedule.

4.6.2 National Fire Protection Association – Vehicle Replacement Recommendations

The NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus* also supports a regular replacement schedule of fire vehicles. This standard includes guidance on retirement criteria for fire apparatus. NFPA 1911 recommends that all front-run vehicles are replaced on a 15 to 20-year cycle, depending on the community size.

For emergency services that are considering refurbishing their vehicles to extend the in-service life, reference can be made to the NFPA 1912, *Standard for Apparatus Refurbishing*. It should be noted that although the FUS do take refurbishment of vehicles into consideration, a credit rating is not assigned to vehicles over 30 years of age.

4.7 Purchase of Pumper Tankers

The RLFRS is experiencing staffing issues that are currently impacting the fire stations. There is the option for the Department to reduce its tanker truck fleet by purchasing "pumper-tankers". The need for at least two tanker trucks would be required if all four fire stations are kept in the Department's inventory. By reducing the fleet to take advantage of the pumper-tanker trucks, less staff are required to drive (one vehicle now required to respond as opposed to two – the pumper and a tanker). Another option is to order pumper/tanker/rescues. This type of truck would replace the need for another tanker truck and can also reduce the need for ordering new rescue trucks.

To reduce costs, consideration should be given to the purchasing of slightly used pumper/tankers which can be bought at greatly reduced prices.

However, if the decision is made to reduce the number of stations to three, then a liquidation of all nonessential vehicles would be recommended. By keeping the latest purchased vehicle as the first step that would be undertaken by the Department. Once the nonessential station equipment has been inventoried, a decision by the fire chief about what needs to be liquidated and what should be kept would need to be presented to the CAO and Council for approval.

4.8 Maintenance

RLFRS does not have its own mechanical division, all work is handled by a third party. The standardization of what workshops are to be used by the Department along with a proper SOG in place to address repairs and other maintenance processes needs to be developed and implemented.

4.8.1 Vehicle Technology

The RLFRS should strive to advance the technological perspective on the fire apparatus through the acquisition of tablets. These units are data enabled and will allow the responding crews to obtain information about the incident they are responding to directly from the Communications Centre. This information includes mapping, responding apparatus, pre-incident plans, hydrant locations and access to the internet.

The tablets will have the capability to provide any pre-incident plans that are completed for a particular location. These plans will provide information such as a footprint of the structure, man and overhead doors, electrical panels, gas valves, hazardous materials storage area, sprinkler and fire hose connections, fire hose cabinets, etc. The incident command will use this information to direct their crews to specific areas of a structure to perform an assigned task and improve the situational data. Some data terminals can also open the overhead doors of the fire stations rather than a small remote control that can become lost.

RLFRS should initiate and develop a pre-incident plan program with the completion of plans. RLFRS currently has no pre-incident plans completed. Resources should be allocated that enable the quality and quantity required of the plans developed to be consistent and current.

Focus should be on industry, main streets with commonly joint buildings, marinas, assembly occupancies, campgrounds, fuel storage and retail such as propane and gasoline and any structures with known hazardous materials. It would aid in the completion of additional plans if an individual were to be the co-ordinator of the program and direct crews on which structures to complete. They would also be responsible for drawing the diagrams and uploading information into the computer system. All pre-incident plans should be completed in compliance with NFPA 1620, *Standard for Pre-Incident Planning*. The Municipality's Information Technology Division would be responsible for supporting the operating systems.

4.8.2 Bunker Gear

Every year, more and more firefighters are being diagnosed with cancer. A contributing factor to their illness has been proven to be the contaminants that adhere to the structural firefighting gear during fire fighting operations. After a fire the structural firefighting gear should be packaged and sent for cleaning to reduce this risk. The RLFRS fire station has a commercial extraction washing machine made specifically for this type of cleaning.

Assuring gear is clean is an essential priority after fires. While a firefighters structural firefighting gear is being cleaned, replacement gear is required to ensure proper gear is continuously accessible. Firefighters need to have access to proper fitting bunker gear during the cleaning process as this will assist the Department in meeting its decontamination and hygiene program.

When used for interior structural firefighting, bunker gear has a life span of ten years as stated in NFPA 1851*, Standard on Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*. RLFRS is following this replacement standard even when the gear is compromised in any way.

Further to contaminating the bunker gear, toxins also contaminate the firefighter's uniform/personal clothing. Each firefighter should have a clean uniform/personal clothing available to wear so that the clothing they wore into a fire is cleaned and the contaminates are not taken home with them, where others could potentially become exposed to toxins. The risk of toxin exposure is not just to firefighting personnel, full-time or volunteer, but to their at-home families as well.

RLFRS should ensure that SOGs pertaining to the cleaning, inspection of and maintenance of bunker gear is current and meet manufactures requirements. Special attention should be taken when reinstalling the drag rescue device if equipped, which may also require an SOG to provide guidance on the procedure.

4.9 New Technologies

Technology is ever evolving within the fire service, with new pieces of equipment being added to the resources used by an incident commander. One such technology which has proven to be a valuable tool is the use of drones (Transport Canada refers to these as remotely piloted aircraft systems). Police services have been using them for some time to locate missing persons or document accidents and crime scenes.

The use of drones in the fire service is a growing trend as a multi-purpose tool that can assist with large scale assessments of fireground and hazardous material incidents, enhance search and rescue functions, and be used in pre-incident planning.

Drones can cover a lot of ground thus allowing valuable fire services personnel to be utilized elsewhere. They have proven beneficial for hazardous materials incidents, forest fires, and large-scale emergencies as the drone can be quickly deployed and give the Incident Commander a live view of the incident. The reduction of risk to firefighting personnel is a significant benefit of drone technology along with the live view capabilities that provides invaluable information to the Incident Commander.

Drone pilots must follow the Canadian Aviation Regulations - Part IX-Remotely Piloted Aircraft Systems that contain the rules for drones up to 25 kilograms. Advanced operations include flying in a controlled airspace, flying over bystanders, or flying within 30 meters of bystanders.

New technologies are being developed each year to protect the firefighters; these include the use of robotics to fight fires, which are being actively used in Europe and Asia.

New SCBAs have built in telemetry systems that, like some portable radios, identify the location of the firefighter. This new technology can transmit GPS data, the amount of air in the SCBA cylinder, monitor the heart rate, level of exertion the firefighter is being exposed to, and body temperature.

As the technology progresses it is important to monitor the benefits and opportunities to integrate these devices into the fire service.

4.10 Elevated Device

Although the RLFRS would benefit from having an elevated device (aerial or tele-squirt) within its fleet. EMG is not recommending one be purchased at this time. This is due the number of present issues that the Fire Department is presently dealing with. But one will be required to meet the needs of the community and to confirm to the FUS recommendations for elevated devices.

Appendix “B” has some information on the FUS recommendations relating to the need for an elevated device. The Municipality does have some large homes and other structures that do exceed the reach

of the average (fire department) ground ladder of seven meters (approximately 24 feet). But it has not recorded a recent fire in one of the large structures. As apparatus is replaced two should be equipped with 10m (35') extensions ladders.

Once the fire stations and staffing issues have been addressed EMG is suggesting that future consideration be given to the purchase of an aerial device. There is the option of requesting one through an agreement with a bordering fire department. However, due to the extreme distance between Red Lake and its closest neighbouring fire department, this may not be a viable option.

Section 4: Recommendations

Rec #	Recommendations	Estimated Cost	Timeline	Rationale
17	The list of station concerns noted in section 4.2 of the report be addressed. ***Note:** an overview of concerns is also noted in the rationale section.*	Due to the number of upgrades required, a full assessment will be required by the facilities department to obtain an estimate of costs. These repairs could be anywhere from $100,000.00 up to over a million dollars.	Short to Mid-term (1-6 years)	During the walk-through by EMG, it was evident (as can be seen in the supplied photos) that many of the Red Lake fire stations are nearing, or at maximum capacity for storage of vehicles and equipment. Overall, the concerns noted during the station visits include: • The proximity of the firefighter's gear in relation to the vehicle exhaust. This could create an exhaust contamination issue. Firefighters' gear should be stored in a separate room away from any exhaust contamination. • None of the fire stations' apparatus bays have floor drains with oil separator (catchment) systems.

Rec #	Recommendations	Estimated Cost	Timeline	Rationale
				• All the stations appear to be at maximum capacity for vehicles and equipment storage. • There was a notable lack of proper storage areas/facilities for the equipment. This creates a tripping/safety hazard to the staff. • Most of the stations need "flammable liquid" cabinets for such things as gas containers and other flammable and/or hazardous liquids storage. • No diesel exhaust catchment system at any of the fire stations. • No emergency back up power at three of the fire stations.

Rec #	Recommendations	Estimated Cost	Timeline	Rationale
				• Separations from the apparatus floor and the training/living areas of the station need to be installed and maintained – some of the fire stations have either desks/workstation or kitchen facilities on the apparatus floor. These areas are susceptible to exhaust contamination. • Washroom facilities for both male and female firefighters were also an issue at the stations and should be addressed. This can also be accomplished by making the washrooms gender neutral.

Rec #	Recommendations	Estimated Cost	Timeline	Rationale
				• The main concern is the lack of shower/wash-up areas that need to be made available at all the stations. Firefighters must be able to decontaminate themselves from exposure to smoke, toxic gasses, chemicals, blood, and pathogens as soon as possible after a call and before going home.
18	Consideration be given to the three options provided in relation to the number of fire stations for Red Lake.	**Cost depends on what option is approved by Council.**	**Mid to Long-term (4-10 years)**	**Option #1** – Status Quo. The number of stations stays the same. **Option #2** – closure of the Cochenour station. **Option #3** – The building of a future joint Police, EMS, and ire facility in Red Lake.

Rec #	Recommendations	Estimated Cost	Timeline	Rationale
19	Based on the recommendations relating to the number of fire stations, the fire chief, CAO, and Council should consider reduction of the Fire Department's fleet through the implementation of pumper/tankers.	Assessment and recommendations to occur first before costing/saving can be determined	Short-term for decision (1-3 years)	Based on the decision by the Council on the number of fire stations, a review of what vehicles and equipment are to be kept will be required. If all four stations are kept, then an assessment of reducing the number of tanker trucks by replacing them with pumper-tankers may be required.

SECTION 5

Emergency Management

SECTION 5: EMERGENCY MANAGEMENT

5.1 Emergency Management Program Overview

The *Emergency Management and Civil Protection Act* (EMCPA) prescribes responsibilities to municipalities to develop and implement an emergency management program, which must be adopted by the council of the municipality as a by-law. Further, under EMCPA the municipality is required to formulate a Municipal Emergency Response Plan (MERP) governing the provision of necessary services during an emergency and is required to establish the procedures detailing how employees of the municipality and other persons will respond to the emergency. The council of the municipality shall by by-law adopt the emergency plan.[14] .

The EMCPA also stipulates that municipalities are to conduct training programs and exercises. The municipality conducted a tabletop exercise last year, which keeps it in line with program expectations.

The Community Emergency Management Co-ordinator (CEMC) duties have been assigned to the fire chief with the CAO as the alternate. EMG recommends that, when the vacant full-time deputy chief position is filled, the CEMC role be assigned to the deputy chief. This would allow the fire chief to maintain his operational role within the Fire Department to engage its resources as necessary in case of a declaration of emergency.

The latest version of the Emergency Management Program (Bylaw #94-2016) is dated December 19th, 2016, which makes this plan six years old. There was not documented updates noted to confirm that the plan has been reviewed and updated since 2016. It is a legislative requirement for emergency response plans to be reviewed and updated each year. Changes could be minor, not requiring a complete document update. To catalog such changes, the CEMC should insert a page at the front of the document to include the following:

- The date changes were completed.
- A brief outline of the changes and the sections involved.
- Name of individual completing the updates.
- Whether the revised document requires council approval.

The MERP identifies a primary and secondary municipal Emergency Operation Centre (EOC) which are the municipal office in Balmertown, and the alternate EOC in Red Lake. There is no record of any recent EOC tabletop or full scale/real time training sessions being conducted in the past several years.

[14] Emergency Management and Civil Protection Act

Annual exercises are a requirement under the Act. As such, the Municipality must work towards the implementation of these exercises on an annual basis.

In fact, on April 1st, 2022, the Municipality received a letter from the Ministry of the Solicitor General, noting that the community is not in compliance with the annual training/exercise requirement.

5.1.1 Incident Management System

Interagency, multi-jurisdictional, multi-government and multi-disciplinary are terms used when operating in a large-scale emergency environment. The Incident Command System (ICS) is based upon best practices in Canada and the United States and is used for both small or large emergency and non-emergency planned events. It identifies roles and responsibilities to improve resource and interagency communications for a common purpose. In the Province of Ontario, the ICS is known as the Incident Management System (IMS).

During some emergencies there is a likelihood of the IMS being expanded into a unified command. The type of incident, complexity and location of an incident may require a unified command structure. The unified command "is a management structure that brings together the Incident Commanders of all major agencies and organizations involved in the incident to coordinate an effective response while at the same time carrying out their own jurisdictional or functional responsibilities."[15]

The EOC is critical for providing coordination, resource management, communications, and critical assessments of the event with the incident commander. The strength of the IMS is in ensuring the safety of responders and other personnel are a priority and an effective use of resources or elimination of the duplication of services is achieved. Individuals that are expected to be part of the EOC, including designated alternates, should have training in IMS.

There is no minimum training identified for the EOC, however, the IMS is identified in the Municipality's Emergency Response Plan. Most incidents are routinely dealt with without activating the EOC and it must be noted that the EOC is activated when an event is expected to expand in complexity and duration, requiring an efficient coordination among departments or responding agencies.

The IMS doctrine from the MERP is designed to be consistent with the Canadian Standards Association (CSA) *Z1600 – Canadian Emergency Management and Business Continuity Program Standard*.

[15] Deal, Bettercour, Deal, et al, (2010) Beyond Initial Response, ICS, p.I-33.

5.2 Emergency Management Program Opportunities

Due to the importance of staff understanding their roles and responsibilities in the EOC, it is recommended that a policy be implemented that identifies IMS 100 for all Municipality staff, IMS 200 as the minimum standard for staff required to be in the EOC, and IMS 300 being the minimum for all department heads.

With so many acts of domestic terrorism taking place each year throughout the world, including Canada, a municipality must plan for the possibility of such events within their own community. As such, EMG recommends that the MERP should have a section dedicated to domestic terrorism. The section should include an integrated response program comparable *to* NFPA 3000*, Standard for an Active Shooter/Hostile Event Response (ASHER) Program*. Partnerships could be achieved with outside agencies such the OPP and EMS to develop and deliver a presentation to the public and include local businesses as sponsors to assist in offsetting any expenses.

Section 5: Recommendations

Rec #	Recommendation	Estimated Cost	Suggested Timeline
20	Update MERP and insert a page at the front of the document to include the following: • The date changes were completed. • A brief outline of the changes and the sections involved. • Name of individual completing the updates. • Whether the revised document requires Council approval.	Staff time	Immediate (0-1 year)
21	When the vacant full-time deputy chief position is filled, the CEMC role is assigned to the deputy chief position.	Staff time	Short-term (1-3 years) ongoing
22	Due to the importance of staff understanding their roles and responsibilities in the EOC, a policy should be implemented that identifies IMS 100 for all staff, IMS 200 as the minimum standard for staff required to be in the EOC with IMS 300 minimum for all department heads. • And that the IMS doctrine be incorporated into the annual emergency management exercises.	Staff time (Courses are offered at no charge)	Short-term (1-3 years) ongoing

Rec #	Recommendation	Estimated Cost	Suggested Timeline
23	The MERP should have a section dedicated to domestic terrorism. The section should include an integrated response program comparable to NFPA 3000, *Standard for an Active Shooter/Hostile Event Response (ASHER) Program*. • Partnerships could be achieved with outside agencies such as the OPP and EMS to develop and deliver a presentation to the public and include local businesses as sponsors to assist in offsetting any expenses.	Staff time	Short-term (1-3 years)

SECTION 6

Mutual Aid, Automatic Aid & Fire Service Agreements

6.1 Mutual Aid, Automatic Aid, & Fire Protection Agreements

SECTION 6: MUTUAL AID, AUTOMATIC AID AND FIRE SERVICE AGREEMENTS

6.1 Mutual Aid, Automatic Aid, & Fire Protection Agreements

Mutual aid, automatic aid, and fire protection agreements are programs used to:

- Support a community's fire department when local resources are exhausted.
- Offer quicker response coverage to areas closer to a bordering fire department's response area than the host department.
- Create an automatic response by bordering fire departments to properties closer to their fire stations than the host fire department.

6.1.1. Mutual & Automatic Aid

The Mutual Aid Plan is established to aid in the mitigation of any emergency that may arise and identify and provide the resources available to respond to the situation. It should be reviewed and updated annually, with the updated version forwarded to the OFM.

RLFRS is a member of the Mutual and Automatic Aid program for the District of Kenora, which includes all the district fire services by way of By-Law 1726-13 (2013). The current by-law that permits RLFRS to participate in the Mutual Aid Plan is outdated and should be reviewed and updated accordingly.

Mutual aid is a reciprocal agreement whereby one department aids another in a significant incident. Mutual aid should not be used to supplement shortcomings in fire protection. The Council of the responding fire service may serve notice that the municipality to which they are responding to has identified an exposure risk and should take appropriate action to make corrections. During the development of this FSR, the District of Kenora Mutual Aid Plan and Program document was not available for review.

Automatic aid and response agreements are an appropriate way to identify areas of the home department's response capabilities and fill in any gaps that exist. This may include responses to remote areas of a municipality or the provision of a technical rescue team. RLFRS currently has one agreement in place, and it is with the MNDMNRF (2010). This agreement, while active, is outdated and needs to be reviewed and updated. Include in the updated version the name changes of MNDMNRF to MNRF.

The remoteness of Red Lake and the distance to the closest fire service being over an hour's drive makes it difficult to enter into any response agreements. Due to this distance and the primary need

being water supply during a major fire, RLFRS should consider obtaining another tanker since the department currently has only one tanker.

During this review, it was noted that the RLFRS does not have an aerial device in its fleet of apparatus, and with future structures in the planning stages of greater height, an aerial would be a great asset to obtain. In the interim, RLFRS should consider entering into a response agreement with the closest fire department with an aerial device to respond to Red Lake, even though the travel distance could be substantial.

Section 6: Recommendations

Rec #	Recommendations	Estimated Cost	Suggested Timeline	Rationale
24	The Red Lake Fire Department should enter into response agreements with either an outside fire service or a 3rd party to provide support for technical rescues if the need arises.	Staff time	Short-term (1-3 years) ongoing	If a technical rescue call comes in that requires additional resources from outside the RLFRS, a plan will already be in place ahead of time. Also reduces the response time of these agencies if agreements are in place, in advance as pre-response approvals will not be required.

SECTION 7

Finance, Budgeting, Fees, & Cost Recovery Mechanisms

SECTION 7: FINANCE, BUDGETING, FEES, & COST RECOVERY MECHANISMS

The costs associated with supporting public safety and operating a fire department can make up a large part of municipal finances. The Municipality of Red Lake Finance Department provides a wide variety of administrative and financial services to all departments of the Municipality and to the public. The Department is responsible for coordination of the annual operating and capital budgets. The vast majority of a fire department's budget, such as with the RLFRS, is a fixed cost.

While the Municipality of Red Lake Financial Department is the primary stakeholder in managing the budget process, the RLFRS is engaged and involved in this process through participation of the fire chief. This level of engagement ensures that management and elected officials are cognizant of the public safety needs of the community and its fire department.

As is the case with the RLFRS, fire department budgets should be devised to meet the public safety needs of the community served in a sustainable manner. Research has demonstrated that if fire department resources are deployed to match the risks inherent to hazards in the community, then the community will be far less vulnerable to negative outcomes.

EMG notes that upon a review of RLFRS operating budget, there are accounts associated with RLFRS, including a fire services account, a fire services equipment account, accounts for each of the fire stations, and a bunker gear maintenance account. Overall, the accounts and the account codes do not appear to represent the true operational functions of the Fire Department effectively and efficiently. Consequently, it is difficult to evaluate the actual operating expenses of the Department to determine the actual day-to-day operations of the fire department.

During municipal budget deliberations, internal departments are competing against each other for limited and scarce budget resources. The job of the fire chief is to educate administration and elected officials explaining why these costs are necessary for the fire department to provide the service levels identified in the Emergency Services Bylaw and for the safety of staff and citizens in the community. EMG notes that the current operating budget accounts and expenditure codes are not tracked with sufficient detail to support both transparency and accountability.

EMG recommends a review of the account codes and expense codes to depict a more accurate fiscal reality of the fire department.

7.1 Operating Budget

The fire services account does not have expense codes for the Suppression Division, Prevention Division, Public Education Division as per the Fire Department organizational chart. The generalization of the expenditures into general expense codes makes it hard to fiscally monitor expenditures.

An example of accounting issue from generalist expense codes is the fire volunteer honorarium expense code. A breakdown of the expenditure showed that although district chiefs have an honorarium of $3,500.00 per year, a breakdown of the wage paid per hour shows that in 2021 one district chief hourly was greater than the hourly rate of the fire chief (Table 1).

TABLE #5: 2021 BREAKDOWN OF HONORARIUM AND HOURS WORKED FOR DISTRICT CHIEFS AND CAPTAINS

HOURLY RATE CALCULATION SUMMARY FOR 2021			
HOURLY RATE			
	Average	Low	High
Captain	$23.60	$20.76	$32.07
District Chief	$33.92	$27.71	$44.56

The wage for firefighters is $16.00 per hour. An hourly breakdown for a district chief and captain shows that they can make as much as 280% more per hour than a firefighter for the number of hours worked during a year. EMG recommends a revision of the honorarium and wage model to ensure a more equitable salary amongst all members of the Fire Department. A new model may also help transparency and accountability, not to mention morale and retention of VFFs within the Department.

Another example of issues with a generalist ledger rather than a specific ledger can be found in the review of the Fire Department fleet. RLFRS has eight apparatuses in their fleet, there is no expenditure breakdown or budget associated with maintenance of the fleet or fuel. Instead, fleet equipment/fuel is codified under each fire station (in isolation from each other). Without budgetary details, it is difficult for the fire chief to monitor expenditures or review operational needs leveraging budget allocation for budgetary prudence to meet the safety needs of the community. For instance, having an expenditure code for fleet fuel may help in evaluating fluctuating fuel costs.

7.2 Capital Budget

During the budget process the fire chief prepares a capital budget report and works closely with the Finance Department to review, revise, and update, as necessary. The request is evaluated on several factors such as, the critical nature of the request (age and/or condition of equipment), or whether it is a forced growth request that is a need based upon the ability to provide a level of service. The recommended projects are consolidated into a report for Council to deliberate and approve or deny.

With respect to fire capital trucks, each station is outfitted with either a pumper and/or a tanker apparatus. The island station is equipment with a mini pumper. This apparatus distribution is a remnant of the amalgamation of several municipalities unto the Municipality of Red Lake. EMG recommends that RLFRS considers future acquisition of pumper/tanker apparatus to replace aging pumpers at each station.

7.3 Revenues

Although the Municipality adopted a User-Fee Bylaw (2022-001 user-Fee-Bylaw). There are no revenue codes in the RLFRS Operating Budget. It is assumed that revenues are processed through a general revenues account and not generated specifically for the Fire Department. However, the fee schedule for fire related services is comprehensive, fair, and adequately represents Fire Department services within the municipality.

EMG recommends that user fees from fire services related matters be reflected in the Fire Department Operating budget.

The RLFRS is potentially looking at significant expenditures in the coming years. Staffing costs associated with provision of training to meet standards and ensure adequate service provision and interoperability with neighbouring jurisdictions should be a priority. The amount to be directed for fire protection from both the municipal operating and capital budgets should be reviewed, and opportunities for additional revenues to support an appropriately resourced fire department should be examined to lessen the impact on the tax base.

Recently, the Fire Marshal's Public Fire Safety Council announced the creation of a $750,000.00 grant to support firefighter certification in Ontario. The grant will be provided over the next three years and is open to all Ontario fire departments who can demonstrate a need for

educational materials to support training[16]. EMG recommends that RLFRS apply for a grant through the Fire Safety Council to help counter the costs associated with training.

It is worth noting that providing direct comparisons to other local jurisdictions regarding the fire department's budget as a percentage of the municipal budget can be challenging. This is primarily due to the geographically distributed nature of the Municipality and the need to deploy and support disbursed resources for efficient and effective incident response.

7.4 Fees By-Law

A means of generating revenue to offset the operating costs of the Fire Department is through a Fees By-Law for services provided. The Municipality is allowed to charge for services provided, as outlined in the *Municipal Act* of Ontario (2001), Part XII.

As mentioned in section 7.3, the Municipality has a comprehensive User-fee Bylaw (2022-001). During this review EMG notes that the list of fees for service currently charged is comprehensive and adequate. There are opportunities to capture more revenues for the services provided by the Fire Department. The opportunity of generating revenues could expand with the review and update of the current fee schedule vis-à-vis the Fire Department's prescribed levels of service.

The following are additional fire related services that can be added to the fire fee schedule:

Commercial Permits and Inspection Fees

- Single occupancy less than 20,000 ft^2
- Single occupancy greater than 20,000 ft^2
- Multi-tenant Building. Fee covers the first three units. A fee of half the current hourly rate will be charged for each additional unit.
- Fireworks & pyrotechnics display inspections

Residential Permits and Inspection Fees

- Multi-tenant (up to and including twelve units)
- Two-unit house registration ontario fire code inspection - The fee covers the cost of the initial inspection and follow-up inspection to a maximum of two working hours. If subsequent inspections are required, the current hourly rate will be billed to the applicant.

Fire Apparatus Standby

- Shows, exhibitions, demonstrations - Current overtime rates per hour for the entire time fire department is in attendance and includes all assigned apparatus at the scene. $200 per apparatus per hour. Full cost recovery for one captain and three firefighters, minimum of three hours per apparatus.
- Fire watch - Current rates per hour for the entire time fire department is in attendance and includes all assigned apparatus at the scene. $200 per apparatus per hour. Full cost recovery for one captain and three firefighters, minimum of three hours per apparatus.

Additional Expenses

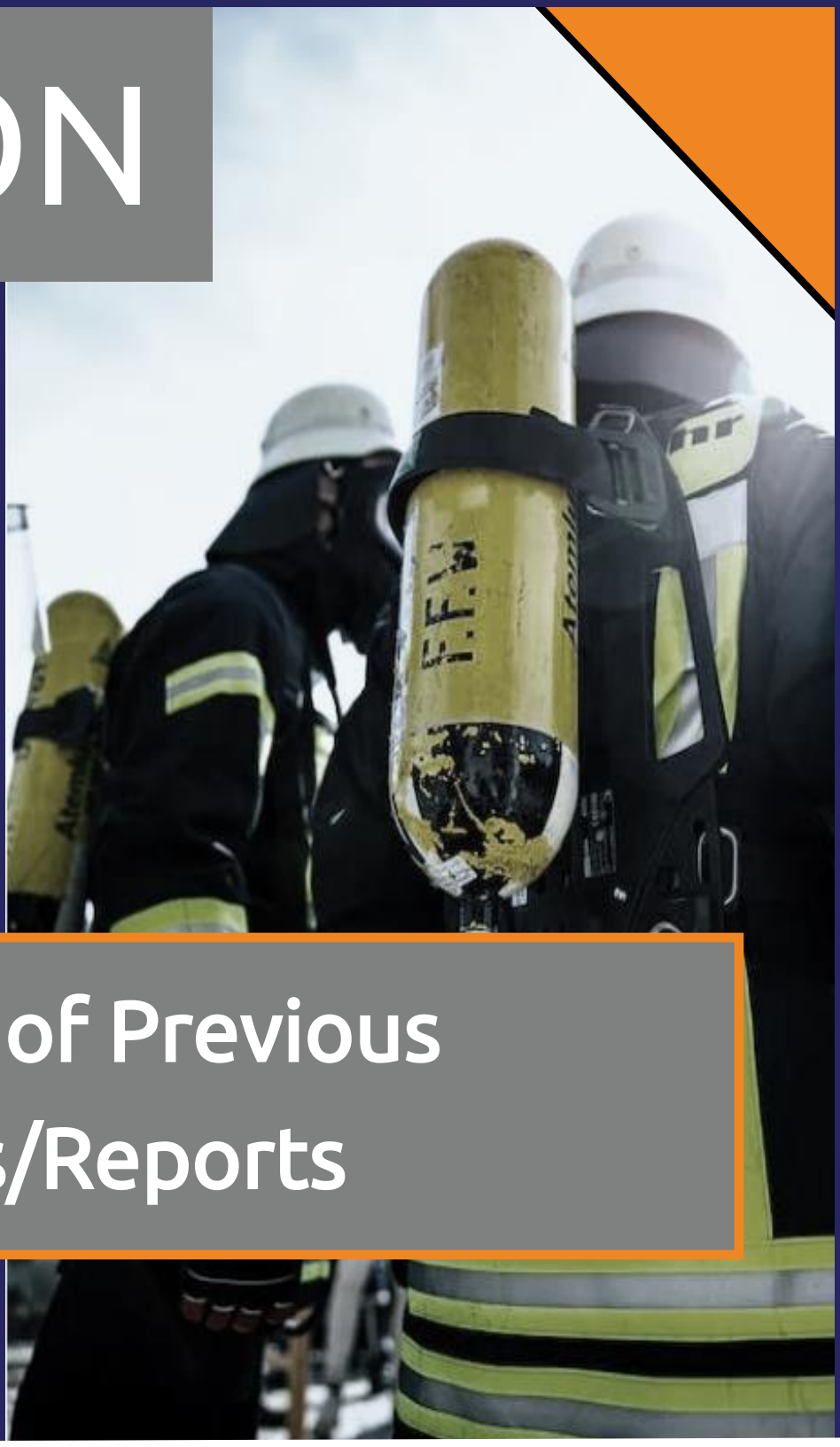
- If it is necessary to retain a private contractor, rent special equipment not normally available on a fire apparatus to determine origin and cause, suppress, or extinguish a fire, preserve property, prevent fire spread, make safe or otherwise eliminate an emergency (actual costs).
- Fees for responding to motor vehicle collisions for non-residents.
- Cost recovery for any technical rescues that are provided by the Department or a third party.

By exploring additional opportunities for revenue generation/cost recovery, the RLFRS can ensure resources required to support effective and efficient fire service delivery remain available. From the review completed by EMG, the RLFRS currently employs a sound approach to budget management, and the recommendation to investigate alternative funding sources, along with the other recommendations within this section will simply support the growth and development of this critical community service.

Section 7: Recommendations

Rec #	Recommendation	Estimated Cost	Suggested Timeline
25	EMG recommends expanding the account codes and expense codes to depict a more accurate fiscal reality of the fire department.	Staff time	Short-term (1-3 years) ongoing
26	EMG recommends the following: • A review of the honorarium and wage distribution for members of the RLFRS	Staff time	Immediate (0-1 year)
27	EMG recommends that user fees from fire services related matters be reflected in the fire department Operating budget.	Staff time	Short-term (1-3 years) ongoing
28	EMG recommends that RLFRS apply for a grant through the Fire Marshal's Public Fire Safety Council to help counter the costs associated with training.	Staff time	Immediate (0-1 year)

SECTION 8



Review of Previous Plans/Reports

SECTION 8: REVIEW OF PREVIOUS FIRE SERVICE REVIEW

8.1 Fire Underwriters Survey

The Fire Underwriters Survey (FUS) is a national organization that provides data on public fire protection for fire insurance statistical work and underwriting purposes of subscribing insurance companies. Subscribers of FUS represent approximately 90% of the private sector property and casualty insurers in Canada.

FUS Certified Fire Protection Specialists conduct detailed field surveys of the fire risks and fire defences maintained in built up communities including incorporated and unincorporated communities of all types across Canada. To complete this task, the specialists at FUS perform a detailed analysis of the overall fire protection by assessing four key areas: fire department, water supplies, fire prevention and emergency communications.

The results of these surveys are used to establish a Public Fire Protection Classification (PFPC) for each community. While the FUS is not involved in setting rates, the information provided through the Fire Insurance Grading Index is a key factor used in the development of commercial lines property insurance rates. The PFPC is also used by underwriters to determine the amount of risk they are willing to assume in each community or section of a community.

The overall intent of the PFPC system is to provide a standardized measure of the ability of the protective facilities of a community to prevent and control the major fires that may be expected to occur. This is done by evaluating, in detail, the adequacy, reliability, strength, and efficiency of the protective facilities and comparing the level of protection against the level of fire risk in the built environment.

The FUS also uses PFPC information to develop the Dwelling Protection Grade (DPG), which is used by personal lines insurers in determining property insurance rates for detached dwellings, with not more than two dwelling units. The DPG is a measure of the ability of the protective facilities of a community to prevent and control the structure fires in detached dwellings by evaluating the adequacy, reliability, strength, and efficiency of the protective facilities and comparing the level of protection against the level of fire risk associated with a typical dwelling.

The fire insurance grading system used does not consider past fire loss records, but rather fire potential based on the physical structure and makeup of the built environment. When a community improves its PFPC or DPG, insurance rates may be reduced while the underwriting capacities may increase. Every insurance company has its own formula for calculating their underwriting capacities and insurance rates; however, the PFPC and DPG classifications are

extremely useful to insurers in determining the level of insurable risk present within a community.

FUS described its grading process as follow[17]:

> *The Public Fire Protection Classification (PFPC) is a numerical grading system scaled from 1 to 10 that is used by Commercial Lines1 insurers. Class 1 represents the highest grading possible, and Class 10 indicates that little to no fire protection is in place.*
>
> *Fire Underwriters Survey also assigns a second grade for fire protection. The second grading system, entitled Dwelling Protection Grade (DPG), assesses the protection available for small buildings such as single-family dwellings and is used by Personal Lines2 insurers.*
>
> *The DPG is a numerical grading system scaled from 1 to 5. One (1) is the highest grading possible and five (5) indicates little or no fire protection is present.*

Historically, community assessments were conducted by FUS on a predetermined basis, varying from ten to 25 years. Best practice and changing industry standards suggest that moving to a grade update every five years would better reflect ongoing changes to fire protection and communities at large. The FUS has also introduced the FUS Municipal Fire Portal that would provide RLFRS the ability to access and update data relevant to RLFRS and forward updates in a timely fashion. By accessing this system regularly, the RLFRS can provide frequent updates from which FUS Specialists will analyze and publish grade updates as deemed necessary. It is recommended that once a FUS assessment is complete, that the fire chief regularly access and provide input to the FUS Municipal Fire Portal.

The RLFRS underwent a recent assessment by the FUS and received the results on October 6th, 2022. The letter identified that the Municipality of Red Lake for its Public Fire Protection Classification (PFPC) received a grade that ranges from seven to ten. Ten indicates little to no fire protection in place.

As for the Dwelling Protection Grade (DPG) review, the grades ranged from 3A to 5. Five being little to no protection. However, a score of 3A is very common for volunteer fire departments, which means that were there are fire hydrants, the municipality received a good grade.

[17] Public Fire Protection Classification, Fire Underwriters Survey, accessed December 2022, https://fireunderwriters.ca/grading/public-fire-protection-classification.html

Due to the remote geography of the community, it would be difficult to improve many of the FUS scores without increasing the number of fire stations, fire trucks and areas being supplied by fire hydrants. This would not be feasible for municipality to implement due to the present population and the forecasted population, which does not warrant this type of costly increase.

However, there is one area that is planned for industrial growth in Red Lake if the property can be purchased from the province. If that were to move forward, then the installation of fire hydrants would be recommended for that specific area because of the fire risk.

The following two tables represent the fire insurance classifications based on the assessment that was conducted in 2022.

Table 1 – Public Fire Protection Classification (PFPC) Previous Update for the Municipality of Red Lake

SUB DISTRICT(S) and (contract protection areas)	PFPC 1985	= COMMENTS
Red Lake - F.S. #1 (H.P.A)	7	Hydrant Protected – Commercial Lines insured properties within 150 m of a fire hydrant and within 5 road km of a Fire Station
Red Lake - F.S. #1 (F.P.A)	9	Fire Hall Protected Area – Commercial Lines insured properties within 5 km by road of a fire station, but not within 150 m of a fire hydrant.
Red Lake - F.S. #2 (H.P.A)	7	Hydrant Protected – Commercial Lines insured properties within 150 m of a fire hydrant and within 5 road km of a Fire Station
Red Lake - F.S. #2 (F.P.A)	9	Fire Hall Protected Area – Commercial Lines insured properties within 5 km by road of a fire station, but not within 150 m of a fire hydrant.
Red Lake - F.S. #4 (H.P.A)	7	Hydrant Protected – Commercial Lines insured properties within 150 m of a fire hydrant and within 5 road km of a Fire Station
Red Lake - F.S. #4 (F.P.A)	9	Fire Hall Protected Area – Commercial Lines insured properties within 5 km by road of a fire station, but not within 150 m of a fire hydrant.
Red Lake - F.S. #5 (H.P.A)	8	Hydrant Protected – Commercial Lines insured properties within 150 m of a fire hydrant and within 5 road km of a Fire Station
Red Lake - F.S. #5 (F.P.A)	9	Fire Hall Protected Area – Commercial Lines insured properties within 5 km by road of a fire station, but not within 150 m of a fire hydrant.
Red Lake – Rest	10	Unprotected – Commercial Lines insured properties further than 5 km by road of a fire hall.

Table 2 – Dwelling Protection Grade (DPG) Previous Update for the Municipality of Red Lake

SUB DISTRICT(S) and (contract protection areas)	DPG 1985	COMMENTS
Red Lake - F.S. #1 (H.P.A)	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Red Lake - F.S. #1 (F.P.A)	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Red Lake - F.S. #2 (H.P.A)	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Red Lake - F.S. #2 (F.P.A)	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Red Lake - F.S. #4 (H.P.A)	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Red Lake - F.S. #4 (F.P.A)	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Red Lake - F.S. #5 (H.P.A)	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Red Lake - F.S. #5 (F.P.A)	3B	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Red Lake – Rest	5	Unprotected – Personal Lines insured properties further than 8 km by road of a fire hall.

RLFRS has not incorporated best practices as outlined by FUS to achieve the Accredited Superior Tanker Shuttle Service. Although EMG believes that the RLFRS has the experience and capability to pursue better results as per the industry standards and best practices as outlined by FUS assessments. It is recommended that a review of the Fire Department's operations to improve its FUS grading in the measurement of the ability of the protective facilities of the community to prevent and control the major fires that may be expected to occur.

8.2 OFM 2013 Review

As noted earlier in this document, the OFM conducted a review of the Red Lake Fire Department. As a result of that review, 12 recommendations were made. The following chart has been created to ensure that the recommendations have either been addressed or should still be considered for implementation by the RLFRS staff.

Recommendation #1
The Council of Red Lake review the level of service for the Municipality of Red Lake to ensure they meet the needs and circumstances of the community and to review the Establishing and Regulating By-law to ensure it reflects the appropriate core services to be delivered by the fire department.
Status – Addressed within this Fire Service Review
Recommendation #2
The Council of Red Lake ensures the Red Lake Fire and Rescue Service implements a public education evaluation system that targets specific risks based on their fire risk assessment.
Status – Addressed within this Fire Service Review
Recommendation #3
The Council of Red Lake ensures the development of operational guidelines to deal with cases of non-compliance with the fire code and to support and provide direction to the fire department's public education and prevention programs.
Status – Addressed within this Fire Service Review
Recommendation #4
The Council of Red Lake should ensure that the Red Lake Fire and Rescue Service implement a proactive routine inspection program, which includes enforcement activities consistent with all available provisions of the FPPA.1F2.
Status – Addressed within this Fire Service Review
Recommendation #5
That Council of Red Lake ensure sufficient human resources from within the Red Lake Fire and Rescue Service are available to properly and effectively co-ordinate public education, fire safety standards and enforcement programs/activities.
Status – Addressed within this Fire Service Review

Recommendation #6
The Council of Red Lake and the Red Lake Fire and Rescue Service utilize the Public Fire Safety Guideline (PFSG) 04-08-10 – the Operational Planning: An Official Guide to Matching Resource Deployment and Risk2F3 or other suitable tool to assist the Municipality in determining resource needs to match the level of risk within the community.
Status – Addressed within this Fire Service Review
Recommendation #7
The Council of Red Lake should develop the position of deputy fire chief or acting fire chief, within current resources to ensure continuity of leadership and operations across the entire fire department when the fire chief is unavailable.
Status – Addressed within this Fire Service Review
Recommendation #8
The Council of Red Lake ensures that the Red Lake Fire and Rescue Service implement a centralized records management program.
Status – Addressed within this Fire Service Review
Recommendation #9
The Council of Red Lake should ensure that the Red Lake Fire and Rescue Service implements a comprehensive, documented, and consistent, annual training program to provide firefighters with consistent training for all stations necessary to meet the level of service established by Council.
Status – Addressed within this Fire Service Review
Recommendation #10
The Council of Red Lake develop the position of training coordinator within the current resources of the department to ensure consistency in training and better adherence to occupational health and safety regulations.
Status – Addressed within this Fire Service Review
Recommendation #11
That Council of Red Lake should review the budget allocations for vehicle and equipment forecasts and a policy for reserve funding is established and maintained for replacement on a schedule or as necessary.
Status – Addressed within this Fire Service Review

Recommendation #12
The Council of Red Lake should ensure that the Red Lake Fire and Rescue Service implements an operating guideline for each fire protection service that it provides to meet the level of service established by Council, and that all fire department staff are trained to the expectations as established in the guideline.
Status – Addressed within this Fire Service Review

Section 8: Recommendations

Rec #	Recommendation	Estimated Cost	Suggested Timeline
29	A review of the Fire Department operations to improve its FUS grading in the measurement of fire service operations and abilities be undertaken.	Staff time	Short-term (1-3 years)
30	That the fire chief, review the updated OFM list of recommendations to ensure that any recommendation requiring further attention are addressed.	Staff time	Shor-term or as needed. (Based on the recommendation)

SECTION 9

Recommendations, Timelines and Associated Costs

SECTION 9: RECOMMENDATIONS, TIMELINES, AND ASSOCIATED COSTS

9.1 Conclusion

During the review conducted by EMG, it was demonstrated that the full-time staff and volunteer firefighters are truly dedicated to the community they serve. The Council, Chief Administrative Officer, and fire chief are sincerely committed to ensuring the safety of the community and the firefighters.

Based on the present staffing, equipment, and fire station locations, Red Lake Fire Rescue Services is endeavoring to offer the most efficient and effective service possible, but as noted within this document, more is still required.

All costs and associated timelines noted in this report are approximate estimates that can be implemented through prioritization between the fire chief, CAO, and Council.

This FSR is a long-range planning document; however, it is recommended that annual updates be completed, along with a full review to be conducted at the five-year mark.

9.2 Recommendations, Estimated Costs and Rationale

The following chart provides a detailed overview of the recommendations found throughout this report along with any estimated costs and suggested timelines for implementation. A section has also been added to the chart identifying potential efficiencies upon implementation of the recommendations presented by EMG.

This FSR document is a culmination of 30 recommendations.

Red Lake Fire Rescue Services - Recommendations Chart

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
Section 1 – Community and Fire Department Overview				
1	That the fire chief brings forth a revised version of the Establishing & Regulating By-Law for Council's approval and going forward the fire chief annually reviews and updates, the By-Law as necessary. • And that all other by-laws noted in this document be reviewed and updated as required. All by-laws should be reviewed annually to ensure the currency of the documents.	Staff time	Short-term (1-3 years) ongoing	Having an up-to-date E&R By-Law will guide the operations of the RLFRS and identifies response guidelines, fire prevention and public education programs and levels of training.
2	That a Department SOG Committee is created. It is further recommended that the department's SOGs be reviewed and regularly updated.	Staff time	Short-term (1-3 years)	Establishing a SOG committee will aid in maintaining current guidelines while allowing participation of members of RLFRS in the operations of the Department.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
Section 2 – Risk Assessment				
3	That Red Lake develops a comprehensive CRRP that falls in line with the CRA and the FSR recommendations.	Staff time	Short-term (1-3 years) ongoing	With the risks to the Municipality identified, the CRRP will aid in prioritizing the who, what, when and how these will be lessened or mitigated.
Section 3 – Fire Department Divisions				
4	RLFRS implements the position of a part-time Training Officer, or at the very least ensures that the new Deputy Chief position has the resources and time to implement the required training for the Department.	Staff time or creation of a part-time Training Officer	Immediate to Short-term	Red Lake must ensure that all fire department positions that require training and certification are met. The inclusion of a part-time Training Officer position will go a long way to meeting this training requirement.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
5	There will be a need for administrative support or the investment and implementation of a more efficient records management system (to replace the present paper-based system) that all staff can utilize to input their training and other required information.	Creation of a part-time administration person or a new records management system. Approximate cost $20,000.00 per year for admin. $5,000.00 to $20,000.00 for records management system.	Short-term (1-3 years)	The Department will need to keep more accurate and up-to-date information on their training programs, levels of completion and type of training being conducted for staff. The hiring of a part-time administrative position or the implementation of a robust records management system will meet these needs.
6	A plan should be developed to identify what other inspections can be reasonably accomplished by the fire chief, and what options are needed to address the other fire prevention-related concerns.	Staff time	Short-term (1-3 years) ongoing	The Fire Protection & Prevention Act., specifically mandates public education and fire prevention inspections based on requests and demands. With only the fire chief conducting fire prevention-related functions, for the Municipality, prioritization of these required duties needs to be the focus.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
7	All firefighters be offered the opportunity to become trained and qualified to the NFPA 1035 *Public Fire & Life Safety Educator Level I* as well as NFPA 1031 *Fire Prevention Officer, Level I.* • And that consideration is given to resourcing public education with a part-time dedicated, fully trained and qualified staff position.	Staff time or for part-time public education officer – Approximate cost $20,000.00 per year.	Short-term (1-3 years) ongoing	Greater utilization of department resources to support fire prevention and public education initiatives will ensure that RLFRS is meeting the FPPA-mandated requirements.
8	RLFRS to work in conjunction with residential developers in promoting the advantages of installing residential fire sprinklers.	Staff time	Short-term (1-3 years) ongoing	Sprinkler systems have been proven to save lives and property, by promoting this initiative the RLFRS is demonstrating a proactive, life-saving program.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
9	The fire chief to provide a business case to senior administration supporting either: • a fixed training facility, or • the purchase of a mobile training unit or a fixed site unit for the purposes of Live Fire Training. ***Note:** these options should be considered if the availability of the OFMs training trailer is not available as needed.*	$200,000 - $700,000 (Mobile training unit)	Short-term (1-3 years)	This is an option that the fire chief needs to evaluate if no other facility such as the OFMs training trailer is available for the firefighters to receive regular and ongoing hands-on training.
10	All firefighters receive live fire training annually.	Dependent on facility costs and/or the purchase of a live fire training unit.	Short-term (1-3 years) and ongoing	With the introduction of the new Training and Certification Regulation, more ongoing and relevant training will be required and documented.
11	RLFRS adopts an educational progression plan. The proposed training programs and succession path for its officers should be supported for current and proposed positions. This would include fire officer 1 to 4.	Staff time	Short-term (1-3 years) ongoing	Succession/educational planning is paramount to the future success of any organization.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
12	Develop job descriptions with a list of the minimum core job responsibilities. Further, the education and experience required for each of those positions should be outlined to chart the path for succession.	Staff time	Short-term (1-3 years)	Succession/educational planning is paramount to the future success of any organization.
13	The fire chief, review the present recruitment and retention programs and enhance them based on the information noted in the document (as required).	Staff time, but some costs may be incurred	Immediate to Short-term (0-3 years) ongoing	Volunteer Firefighters are the most valuable resource for the Fire Department. Ongoing recruitment and retention of the Firefighters is critical to the success of the Fire Department.
14	A full review of the Dispatching Agreement is conducted to ensure that the needs of the RLFRS are being met.	Staff time	Immediate to Short-term (0-3 years) ongoing	Ensuring that the RLFRS has a current agreement that meets the needs of the Department is paramount to ensuring an efficient service to the community.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
15	Consideration is to be given to the transition of Firefighters responding to the emergency scene in their personal vehicles, over to responding to the fire station.	Staff time	Short-term (1-3 years)	Responding directly to the fire station enhances the accountability of responding personnel because all firefighters are on the emergency vehicles, with all their proper safety gear. This also reduces congestion at the emergency scene by the firefighter's personal vehicles.
16	RLFRS to review their Health, Fitness and Wellness programs to ensure that their Firefighters are receiving proper coverage in relation to PTSD, Cancer Prevention and Mental Well Being.	Based on the programs provided to the Firefighters.	Immediate to Short-term (0-3 years) ongoing	It is imperative that a firefighters Health, Fitness and Wellness is addressed in a genuine, consistent, and professional manner. This may include the establishment of a PTSD prevention plan by a committee of firefighters, chief officers, and mental health professionals. The "Supporting Ontario's First Responders Act", requires employers to have a PTSD program.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
Section 4 – Facilities, Vehicles, Equipment and Water Supply				
17	The list of station concerns noted in section the report be addressed. ***Note:** an overview of concerns is also noted in the adjoining Rationale section.*	Due to the number of upgrades required, a full assessment will be required by the facilities department to obtain an estimate of costs. These repairs could be anywhere from $100,000.00 up to over a million dollars.	Short to Mid-term (1-6 years)	During the walk-through by EMG, it was evident (as can be seen in the supplied photos) that many of the Red Lake fire stations are nearing, or at maximum capacity for storage of vehicles and equipment. Overall, the concerns noted during the station visits include: • The proximity of the firefighter's gear in relation to the vehicle exhaust. This could create an exhaust contamination issue. Firefighters' gear should be stored in a separate room away from any exhaust contamination. • None of the fire stations' apparatus bays have floor drains with oil separator (catchment) systems.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
				• All the stations appear to be at maximum capacity for vehicles and equipment storage. • There was a notable lack of proper storage areas/facilities for the equipment. This creates a tripping/safety hazard to the staff. • Most of the stations need "flammable liquid" cabinets for such things as gas containers and other flammable and/or hazardous liquids storage. • No diesel exhaust catchment system at any of the fire stations. • No emergency back up power at two of the fire stations.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
				• Separations from the apparatus floor and the training/living areas of the station need to be installed and maintained – some of the fire stations have either desks/workstation or kitchen facilities on the apparatus floor. These areas are susceptible to exhaust contamination. • Washroom facilities for both male and female firefighters were also an issue at the stations and should be addressed. This can also be accomplished by making the washrooms gender neutral.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
				• The main concern is the lack of shower/wash-up areas that need to be made available at the stations. Firefighters must be able to decontaminate themselves from exposure to smoke, toxic gasses, chemicals, blood, and pathogens as soon as possible after a call and before going home.
18	Consideration be given to the three options provided in relation to the number of fire stations for Red Lake.	Cost depends on what option is approved by Council.	Mid to Long-term (4-10 years)	**Option #1** – Status Quo. The number of stations stays the same. **Option #2** – closure of the Cochenour station. **Option #3** – The building of a future joint Police, EMS, and Fire facility in Red Lake.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
19	Based on the recommendations relating to the number of fire stations, the fire chief, CAO, and Council should consider reduction of the Fire Department's fleet through the implementation of pumper/tankers.	Assessment and recommendations to occur first before costing/savings can be determined	Short-term for decision (1-3 years)	Based on the decision by the Council on the number of fire stations, a review of what vehicles and equipment are to be kept will be required. If all four stations are kept, then an assessment of reducing the number of tanker trucks by replacing them with pumper-tankers may be required.
Section 5 – Emergency Management				
20	Update MERP and insert a page at the front of the document to include the following: • The date changes were completed. • A brief outline of the changes and the sections involved. • Name of individual completing the updates. • Whether the revised document requires Council approval.	Staff time	Immediate (0-1 year)	This will keep the document reviews up to date to ensure the currency of the document.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
21	When the vacant full-time deputy chief position is filled, the CEMC role is assigned to the deputy chief position.	Staff time	Short-term (1-3 years) ongoing	Having the fire chief and deputy in CEMC roles ensures that someone is available in the event of an emergency.
22	Due to the importance of staff understanding their roles and responsibilities in the EOC, a policy should be implemented that identifies IMS 100 for all staff, IMS 200 as the minimum standard for staff required to be in the EOC with IMS 300 minimum for all department heads. • And that annual training exercises be conducted as per the Act.	Staff time (courses are offered at no charge)	Short-term (1-3 years) ongoing	It is incumbent that all personnel involved in and emergency operation have the training and expertise to carry out their responsibilities as needed. And that they are exercised on an annual basis.

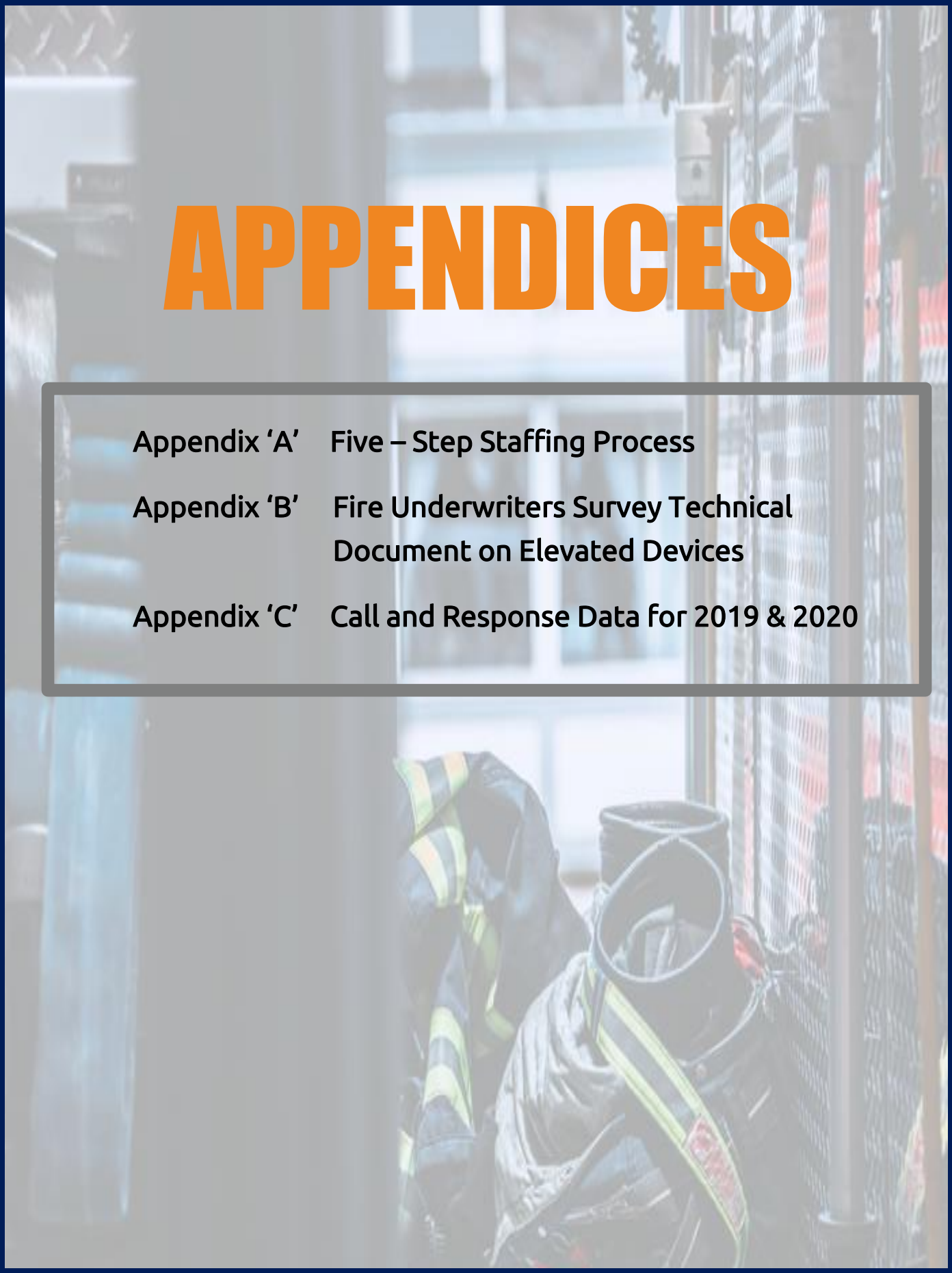
Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
23	The MERP should have a section dedicated to domestic terrorism. The section should include an integrated response program comparable to NFPA 3000, *Standard for an Active Shooter/Hostile Event Response (ASHER) Program.* • Partnerships could be achieved with outside agencies such as the OPP and EMS to develop and deliver a presentation to the public and include local businesses as sponsors to assist in offsetting any expenses.	Staff time	Short-term (1-3 years)	Even though domestic terrorism is unlikely in a community like Red Lake; there have been incidents within other small communities throughout North America that should be taken into consideration.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
Section 6 – Fire Service Agreements				
24	The Red Lake Fire Department should enter into response agreements with either an outside fire service or a 3rd party to provide support for technical rescues if the need arises.	Staff time	Short-term (1-3 years) ongoing	If a technical rescue call comes in that requires additional resources from outside the RLFRS, a plan will already be in place ahead of time. Also reduces the response time of these agencies if agreements are in place, in advance as pre-response approvals will not be required.
Section 7 – Finance, Fees, and Cost Recovery				
25	EMG recommends expanding the account codes and expense codes to depict a more accurate fiscal reality of the fire department.	Staff time	Short-term (1-3 years) ongoing	The more accurate the accounting, the better it is to identify areas requiring more funds, or less, along with the proper reallocation of those funds.
26	EMG recommends the following: • A review of the honorarium and wage distribution for members of the RLFRS	Staff time	Immediate (0-1 year)	One of the concerns noted by the VFFs is the hourly rate paid to them. This should be reviewed and adjusted as need. This will assist with retention of the VFFs.
27	EMG recommends that user fees from fire services-related matters be reflected in the Fire Department Operating budget.	Staff time	Short-term (1-3 years) ongoing	More accurate reflection of the operating budget.

Rec #	Recommendation	Estimated Costs	Suggested Timeline	Rationale
28	EMG recommends that RLFRS apply for a grant through the Fire Marshal's Public Fire Safety Council to help counter the costs associated with training.	Staff time	Immediate (0-1 year)	Possibility of receiving funding towards Fire Department improvements.
Section 8 – Survey Results and Previous Recommendations				
29	A review of the Fire Department operations to improve its FUS grading in the measurement of fire service operations and abilities be undertaken.	Staff time	Short-term (1-3 years)	This update will also provide a "roadmap" for the fire chief and Council as to what is required.
30	That the fire chief, review the updated OFM list of recommendations to ensure that any recommendation requiring further attention be addressed.	Staff time	Shor-term or as needed.	By adding the past review into this FSR document, RLFRS will be able to demonstrate to the OFM that all recommendations have been dealt with.

APPENDICES

Appendix 'A'	Five – Step Staffing Process
Appendix 'B'	Fire Underwriters Survey Technical Document on Elevated Devices
Appendix 'C'	Call and Response Data for 2019 & 2020



APPENDIX 'A': FIVE-STEP STAFFING PROCESS

Step 1: Scope of Service, Duties, and Desired Outputs

Identify the services and duties that are performed within the scope of the organization. Outputs should be specific, measurable, reproducible, and time limited. Among the elements can be the following:

- Administration
- Data collection, analysis
- Delivery
- Authority/responsibility
- Roles and responsibilities
- Local variables
- Budgetary considerations
- Impact of risk assessment

Step 2: Time Demand

Using the worksheets in Table C.2.2(a)-(d), quantify the time necessary to develop, deliver, and evaluate the various services and duties identified in Step 1, taking into account the following:

- Local nuances
- Resources that affect personnel needs

Plan Review - Refer to Plan Review Services Table A.7.9.2 of the standard to determine Time Demand.

Step 3: Required Personnel Hours

Based on step two and historical performance data, convert the demand for services to annual personnel hours required for each program *[see Table C.2.3(a) through Table C.2.3(e)]*. Add any necessary and identifiable time not already included in the total performance data, including the following:

- Development/preparation
- Service
- Evaluation
- Commute
- Prioritization

Step 4: Personnel Availability and Adjustment Factor

Average personnel availability should be calculated, taking into account the following:

- Holiday
- Jury duty
- Military leave
- Annual leave/vacation
- Training
- Sick leave
- Fatigue/delays/other

Example: Average personnel availability is calculated for holiday, annual, and sick leave per personnel member (see Table C.2.4).

Step 5: Calculate Total Personnel Required

Branch of the unassigned personnel hours by the adjustment factor will determine the amount of personnel (persons/year) required. Any fractional values can be rounded up or down to the next integer value. Rounding up provides potential reserve capital; rounding down means potential overtime or assignment of additional services conducted by personnel. (Personnel can include personnel from other agencies within the entity, community, private companies, or volunteer organizations).

Correct calculations based on the following:

- Budgetary validation
- Rounding up/down
- Determining reserve capital
- Impact of non-personnel resources (materials, equipment, vehicles) on personnel

More information on this staffing equation can be found within the National Fire Protection Association 1730 standard. The Fire Prevention should assess the previous five steps and evaluate their present level of activity and the future goals of the Branches.

APPENDIX 'B': FIRE UNDERWRITERS SURVEY TECHNICAL DOCUMENT ON ELEVATED DEVICES

Fire Underwriters Survey™

TECHNICAL BULLETIN

FIRE UNDERWRITERS SURVEY™

A Service to Insurers and Municipalities

LADDERS AND AERIALS: WHEN ARE THEY REQUIRED OR NEEDED?

Numerous standards are used to determine the need for aerial apparatus and ladder equipment within communities. This type of apparatus is typically needed to provide a reasonable level of response within a community when buildings of an increased risk profile (fire) are permitted to be constructed within the community.

Please find the following information regarding the requirements for aerial apparatus/ladder companies from the Fire Underwriters Survey Classification Standard for Public Fire Protection.

Fire Underwriters Survey

Ladder/Service company operations are normally intended to provide primary property protection operations of

1.) Forcible entry;
2.) Utility shut-off;
3.) Ladder placement;
4.) Ventilation;
5.) Salvage and Overhaul;
6.) Lighting.

Response areas with 5 buildings that are 3 stories or 10.7 metres (35 feet) or more in height, or districts that have a Basic Fire Flow greater than 15,000 LPM (3,300 IGPM), or any combination of these criteria, should have a ladder company. The height of all buildings in the community, including those protected by automatic sprinklers, is considered when determining the number of needed ladder companies.
When no individual response area/district alone needs a ladder company, at least one ladder company is needed if the sum of buildings in the fire protection area meets the above criteria."

The needed length of an aerial ladder, an elevating platform and an elevating stream device shall be determined by the height of the tallest building in the ladder/service district (fire protection area) used to determine the need for a ladder company. One storey normally equals at least 3 metres (10 feet). Building setback is not to be considered in the height determination. An allowance is built into the ladder design for normal access. The maximum height needed for grading purposes shall be 30.5 metres (100 feet).

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Western region 1-877-255-5240 fus@optaintel.ca
Central region 1-800-268-8080 fireunderwriters.ca
Eastern region 1-800-263-5361 optaintel.ca

Exception: When the height of the tallest building is 15.2 metres (50 feet) or less no credit shall be given for an aerial ladder, elevating platform or elevating stream device that has a length less than 15.2 metres (50 feet). This provision is necessary to ensure that the water stream from an elevating stream device has additional "reach" for large area, low height buildings, and the aerial ladder or elevating platform may be extended to compensate for possible topographical conditions that may exist. See Fire Underwriters Survey - Table of Effective Response (attached).

Furthermore, please find the following information regarding communities' need for aerial apparatus/ladder companies within the National Fire Protection Association.

NFPA

Response Capabilities: The fire department should be prepared to provide the necessary response of apparatus, equipment and staffing to control the anticipated routine fire load for its community.

NFPA *Fire Protection Handbook, 20th Edition* cites the following apparatus response for each designated condition:

HIGH-HAZARD OCCUPANCIES (schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings, and other high-risk or large fire potential occupancies):

*At least four pumpers, **two ladder trucks** (or combination apparatus with equivalent capabilities), two chief officers, and other specialized apparatus as may be needed to cope with the combustible involved; not fewer than 24 firefighters and two chief officers.*

MEDIUM-HAZARD OCCUPANCIES (apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue or firefighting forces):

*At least three pumpers, **one ladder truck** (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 16 firefighters and one chief officer.*

LOW-HAZARD OCCUPANCIES (one-, two-, or three-family dwellings and scattered small businesses and industrial occupancies):

At least two pumpers, one ladder truck (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 12 firefighters and one chief officer.

In addition to the previous references, the following excerpt from the 2006 BC Building Code is also important to consider when selecting the appropriate level of fire department response capacity and building design requirements with regard to built-in protection levels (passive and active fire protection systems).

Excerpt: National Building Code 2012

A-3 Application of Part 3.

In applying the requirements of this Part, it is intended that they be applied with discretion to buildings of unusual configuration that do not clearly conform to the specific requirements, or to buildings in which processes are carried out which make compliance with particular requirements in this Part impracticable. The definition of "building" as it applies to this Code is general and encompasses most structures, including those which would not normally be considered as buildings in the layman's sense. This occurs more often in industrial uses, particularly those involving manufacturing facilities and equipment that require specialized design that may make it impracticable to follow the specific requirements of this Part. Steel mills, aluminum plants, refining, power generation and liquid storage facilities are examples. A water tank or an oil refinery, for example, has no floor area, so it is obvious that requirements for exits from floor areas would not apply. Requirements for structural fire protection in large steel mills and pulp and paper mills, particularly in certain portions, may not be practicable to achieve in terms of the construction normally used and the operations for which the space is to be used. In other portions of the same building, however, it may be quite reasonable to require that the provisions of this Part be applied (e.g., the office portions). Similarly, areas of industrial occupancy which may be occupied only periodically by service staff, such as equipment penthouses, normally would not need to have the same type of exit facility as floor areas occupied on a continuing basis. It is expected that judgment will be exercised in evaluating the application of a requirement in those cases when extenuating circumstances require special consideration, provided the occupants' safety is not endangered.

The provisions in this Part for fire protection features installed in buildings are intended to provide a minimum acceptable level of public safety. It is intended that all fire protection features of a building, whether required or not, will be designed in conformance with good fire protection engineering practice and will meet the appropriate installation requirements in relevant standards. Good design is necessary to ensure that the level of public safety established by the Code requirements will not be reduced by a voluntary installation.

Firefighting Assumptions

The requirements of this Part are based on the assumption that firefighting capabilities are available in the event of a fire emergency. These firefighting capabilities may take the form of a paid or volunteer public fire department or in some cases a private fire brigade. If these firefighting capabilities are not available, additional fire safety measures may be required.

Firefighting capability can vary from municipality to municipality. Generally, larger municipalities have greater firefighting capability than smaller ones. Similarly, older, well established municipalities may have better firefighting facilities than newly formed or rapidly growing ones. The level of municipal fire protection considered to be adequate will normally depend on both the size of the municipality (i.e., the number of buildings to be protected) and the size of buildings within that municipality. Since larger buildings tend to be located in larger municipalities, they are generally, but not always, favoured with a higher level of municipal protection.

Although it is reasonable to consider that some level of municipal firefighting capability was assumed in developing the fire safety provisions in Part 3, this was not done on a consistent or defined basis. The requirements in the Code, while developed in the light of commonly prevailing municipal fire protection levels, do not attempt to relate the size of building to the level of municipal protection. **The responsibility for controlling the maximum size of building to be permitted in a municipality in relation to local firefighting capability rests with the municipality. If a proposed building is too large, either in terms of floor area or building height, to receive reasonable protection from the municipal fire department, fire protection requirements in addition to those prescribed in this Code, may be necessary to compensate for this deficiency.** Automatic sprinkler protection may be one option to be considered.

Alternatively, the municipality may, in light of its firefighting capability, elect to introduce zoning restrictions to ensure that the maximum building size is related to available municipal fire protection facilities. This is, by necessity, a somewhat arbitrary decision and should be made in consultation with the local firefighting service, who should have an appreciation of their capability to fight fires.

The requirements of Subsection 3.2.3. are intended to prevent fire spread from thermal radiation assuming there is adequate firefighting available. It has been found that periods of from 10 to 30 minutes usually elapse between the outbreak of fire in a building that is not protected with an automatic sprinkler system and the attainment of high radiation levels. During this period, the specified spatial separations should prove adequate to inhibit ignition of an exposed building face or the interior of an adjacent building by radiation. Subsequently, however, reduction of the fire intensity by firefighting and the protective wetting of the exposed building face will often be necessary as supplementary measures to inhibit fire spread.

In the case of a building that is sprinklered throughout, the automatic sprinkler system should control the fire to an extent that radiation to neighbouring buildings should be minimal. Although there will be some radiation effect on a sprinklered building from a fire in a neighbouring building, the internal sprinkler system should control any fires that might be ignited in the building and thereby minimize the possibility of the fire spreading into the exposed building. NFPA 80A, "Protection of Buildings from Exterior Fire Exposures," provides additional information on the possibility of fire spread at building exteriors.

The water supply requirements for fire protection installations depend on the requirements of any automatic sprinkler installations and also on the number of fire streams that may be needed at any fire, having regard to the length of time the streams will have to be used. Both these factors are largely influenced by the conditions at the building to be equipped, and the quantity and pressure of water needed for the protection of both the interior and exterior of the building must be ascertained before the water supply is decided upon. Acceptable water supplies may be a public waterworks system that has adequate pressure and discharge capacity, automatic fire pumps, pressure tanks, manually controlled fire pumps in combination with pressure tanks, gravity tanks, and manually controlled fire pumps operated by remote control devices at each hose station.

For further information regarding the acceptability of emergency apparatus for fire insurance grading purposes, please contact:

Western Canada	Quebec	Ontario	Atlantic Canada
Fire Underwriters Survey	Fire Underwriters Survey	Fire Underwriters Survey	Fire Underwriters Survey
3999 Henning Drive	255, boul. Crémazie E	175 Commerce Valley Drive, West	238 Brownlow Avenue, Suite 300
Burnaby, BC V5C 6P9	Montreal, Quebec H2M 1M2	Markham, Ontario L3T 7P6	Dartmouth, Nova Scotia B3B 1Y2
1-800-665-5661	1-800-263-5361	1-800- 268-8080	1-877-634-8564

APPENDIX 'C': CALL AND RESPONSE DATA FOR 2019

2019 - Yearly Comparisons of All Calls Type