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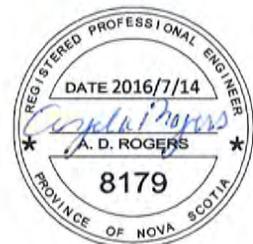
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The Municipality of the District of West Hants

**The Municipality of the District of West Hants
Hants County, NS**

Fire Services Study



16041 Sealed Fire Services Study R160714

QUALITY REVIEW FORM

RJ Bartlett Engineering Ltd

Document Verification
Page 1 of 1

Project Title		Fire Services Study for The Municipality of the District of West Hants, Hants County, NS			Project Number 16041	
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Part 1 Introduction

1.1 Introduction

The Municipality of the District of West Hants (West Hants) is comprised of six fire districts served by volunteer firefighters as follows:

- Brooklyn
- Falmouth
- Three Mile Plains
- South West Hants
- Summerville
- Walton

Each district is served by a fire station located within the boundaries of the district with the exception of Three Mile Plains which is served by a temporary sub-station operated by the Brooklyn Fire Department. This sub-station was established in October 2015.

Prior to October 2015, the Windsor Fire Department provided services to adjacent areas outside its boundaries. The areas served by the Windsor Fire Department included, among others, two major growth areas – Three Mile Plains and Falmouth.

The two primary objectives of this fire services study were as follows:

- To conduct a fire station location study for the purpose of identifying the general location(s) suitable for a new fire station(s), in place of the temporary sub-station, to deliver fire services to the two major growth areas.
- Based on an apparatus inventory of fire vehicles and equipment currently used in the West Hants, to develop a fire services capital asset management strategy for future needs of first due fire apparatus and its operational support equipment in responding to and mitigating fire incidents.

As per the project agreement, the analysis has been based upon data provided by West Hants. The analysis and subsequent recommendations are dependent upon the accuracy and completeness of this data. The analysis and recommendations are also based upon recognized industry standards and current industry best practices. The impact of recommendation on fire insurance premiums is to be assessed by the Municipality's Underwriters.

Also as per the project agreement, this report includes an executive summary and recommendations. The summary has been broken into two parts reflecting the two primary objectives (Parts 2 and 3). The fire station location summary identifies recommended fire station locations. The fire vehicles and equipment summary includes a capital asset management strategy complete with opinion of probable cost.

Additionally, Part 4 outlines a review of the Municipal Government Act and Nova Scotia Fire Safety Act to provide an overview of the authority and responsibility assumed by West Hants in the delivery of fire services.

Full scale maps are provided separately in printed form. Mapping files have also been supplied in electronic PDF and AutoCAD formats.

Part 2 Fire Station Location – Executive Summary

2.1 Scope of Study

The primary objective of this study was to conduct a fire station location analysis for the purpose of identifying the general location(s) suitable for a new fire station(s), in place of the temporary Three Mile Plains sub-station, to deliver fire services to the two major growth areas.

2.2 Standard of Service Delivery

To assess fire station locations and future needs, it is first necessary to identify the standard of service delivery to which West Hants adheres.

Policy is set by the governing elected council. Fire Chiefs implement operational guidelines and procedures that provide the requisite services and service levels as outlined in council established policy.

Due to a lack of council directed policy, the Fire Chiefs and the CAO have confirmed that a travel distance criteria of 5 km and 8 km from the first responding fire department to the fire incident was to be used for this analysis based on the Fire Services Study completed for West Hants by CGI Insurance and Business Services, Fire Underwriters Survey (CGI) in 2007

Additionally, it has been reported by CGI that a 3 km distance is to be maintained from the first responding fire department to commercial/industrial areas. As per the CGI Table of Effective Response, an aerial ladder is to be maintained within 3 km of commercial/industrial areas.

2.3 Project Data

In addition to the current service delivery by West Hants fire departments, as well as agreements and service delivery contracts, the following data was provided by West Hants and formed the basis of the analysis and recommendations regarding fire station locations:

- Existing fire department locations, including those in neighbouring communities that provide automatic or mutual aid,
- Emergency call data (October 2015 to March 2016 data for the Three Mile Plains sub-station and South West Hants, January 2015 to December 2015 data for all others) to identify the distribution of calls within the Municipality,
- Volunteer firefighter residence addresses to identify proximity of firefighters to fire station locations,

- Location of commercial and industrial zones (January 2015 data), and
- Existing and future road networks (2014 data).

2.4 Analysis

An area to be protected by a proposed station is the most important factor in determining fire station locations. Some areas in the community will contain higher risk potential than others, i.e. those containing primarily business, industrial, mercantile, institutional, and multi-family residences. In some cases it may not be desirable to locate a station in a high risk area. The station should therefore be located within a reasonable response distance on the perimeter of the high risk area.

Distribution should provide a concentration of response equipment for response into a high risk area without depleting other areas of the community (draw down) should a second incident occur.

In other areas of the community with equal risk throughout, such as residential, fire stations should be equidistant from all parts of the area. Where stations are staffed by volunteer fire fighters, consideration must be given to locating the fire stations in or near areas where those fire fighters live and work in order to facilitate quick response.

The analysis for the fire station location study consisted of preparing various mapping models to facilitate exploring options for fire station locations such that the 3 km, 5 km, and 8 km travel distances are met for the major growth areas, as well as areas beyond the growth areas where possible. The impact of historical emergency call data and volunteer firefighter residence locations were also considered.

As noted in the map legends coverage is denoted by the following:

- 3 km coverage provided to the Morison Drive area industrial park is indicated by the route highlighted in purple,
- 5 km coverage provided by each fire station is indicated by roads highlighted in green,
- 8 km coverage provided by each fire station is indicated by roads highlighted in pink, and
- Overlaps in the 8 km coverage by one fire station with the 5 km/8 km coverage by another are indicated by roads highlighted in red.

The following full-scale maps have been provided in printed form:

- Map #1 – 5 km coverage by existing West Hants fire stations including the temporary Three Mile Plains sub-station.
- Map #2 – 8 km coverage by existing West Hants fire stations including the temporary Three Mile Plains sub-station.
- Map #3 – 5 km coverage by existing West Hants fire stations plus a proposed new Three Mile Plains fire station and a proposed Option A new Falmouth fire station.

The new Three Mile Plains location was chosen based on being in close proximity to Highway 101 Exit 5 which allows for provision of:

- 3 km coverage to the Morison Drive industrial park, and
- 5 km coverage to the Three Mile Plains major growth area.

The Option A Falmouth location was chosen primarily based on being in close proximity to Highway 101 Exit 7 which allows for provision of 5 km coverage to the Falmouth major growth area.

- Map #4 – 8 km coverage by existing West Hants fire stations plus a proposed new Three Mile Plains fire station and a proposed Option A new Falmouth fire station.
- Map #5 – 5 km coverage by existing West Hants fire stations plus the previously proposed new Three Mile Plains fire station and a proposed Option B new Falmouth fire station.
- The Option B Falmouth fire station, located within the Village of Falmouth, approximately 2 km southwest of Highway 101 Exit 7, is offered as an alternative to Option A as it provides coverage to the major growth area as well as an additional area southwest of the major growth area.
- Map # 6 – 8 km coverage by existing West Hants fire stations plus the previously proposed new Three Mile Plains fire station and a proposed Option B new Falmouth fire station.
- Map #'s 7 to 12 – The same information as Map #'s 1 to 6 with the addition of coverage provided by the Windsor fire station for comparative purposes.

2.5 Recommendations

Based on the information provided in Sections 2.1 to 2.4 of this report, as well as the 3 km, 5 km and 8 km travel distance criteria, the following recommendations are offered:

1. A new fire station should be constructed in close proximity to Highway 1 Exit 5 to serve the Three Mile Plains growth area and the surrounding areas.
2. A new fire station should be constructed in one of the following locations to serve the Falmouth major growth area and surrounding areas:
 - Option A – In close proximity to Highway 101 Exit 7, or
 - Option B – Within the Village of Falmouth, approximately 2 km southwest of Highway 101 Exit 7.
3. Although the community of Ardoise was not a focus of this study, a general review was conducted. Based on the coverage that is provided by existing and newly proposed fire stations in West Hants, and based on the geographical location of Ardoise with respect to the rest of the Municipality, it is recommended that future consideration be given to locating a fire station directly within this community.
4. Fire stations are required by the National Building Code of Canada to be constructed as post-disaster facilities (i.e., there are requirements related to seismic activity, etc.) unless exempted by the Authority Having Jurisdiction (AHJ). This could have an impact on constructing a new facility versus utilizing an existing one and, as such, this should be reviewed with the AHJ.

Part 3 Fire Vehicles and Equipment – Executive Summary

3.1 Scope of Study

The primary objective of this study was to develop a fire services capital asset management strategy for future needs of first due fire apparatus and its operational support equipment in responding to and mitigating fire incidents based on an apparatus inventory of fire vehicles and equipment currently used in the West Hants.

The study focused on two key functions of a fire service:

- Suppression of fires (i.e., structure, residential, commercial, industrial, and transportation), and
- Performing rescues (i.e., motor vehicle, water, high angle, etc.).

3.2 Applicable Codes and Standards

The following Codes and Standards were reviewed for this analysis:

- Association of Public-Safety Communications Officials (APCO): *APCO/ANSI “Standard for Public Safety Communications Common Incident Types for Data Exchange”*.
- National Fire Protection Association, *“Standard for Low-, Medium-, and High-Expansion Foam”* (NFPA 11).
- National Fire Protection Association, *“Standard for Water Tanks for Private Fire Protection”* (NFPA 22).
- National Fire Protection Association, *“Standard on Water Supplies for Suburban and Rural Fire Fighting”* (NFPA 1142).
- National Fire Protection Association, *“Guide for the Use of Class A Foams in Manual Structural Fire Fighting”* (NFPA 1145).
- National Fire Protection Association, *“Standard on Foam Chemicals for Fires in Class A Fuels”* (NFPA 1150).
- National Fire Protection Association, *“Standard for Providing Fire and Emergency Services to the Public”* (NFPA 1201).
- National Fire Protection Association, *“Standard on Fire Department Occupational Safety and Health Program”* (NFPA 1500).
- National Fire Protection Association, *“Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments”* (NFPA 1720).

- National Fire Protection Association, “*Standard for Automotive Fire Apparatus*” (NFPA 1901).
- National Fire Protection Association, “*Standard for Wildland Fire Apparatus*” (NFPA 1906).
- National Fire Protection Association, “*Standard for Inspection, Maintenance Testing and Retirement of In Service Automotive Fire Apparatus*” (NFPA 1911).
- National Fire Protection Association, “*Standard for Fire Apparatus Refurbishing*” (NFPA 1912).
- Nova Scotia Forest Act, Chapter 179, Amended 2010 and Regulations.
- CAN/ULC-S515, “*Automobile Fire Fighting Apparatus*”, 2013 Edition.
- Redden, John T., “*Fire Services Study for Municipality of West Hants*”, CGI Insurance Business Services, Fire Underwriters Survey, 2007.

3.3 Factors Considered

The following factors were considered for this analysis:

- Fire department operational performance which is a function of the following:
 - Resource availability and reliability,
 - Fire department capability, and
 - Overall operational effectiveness.
- Fire service delivery objective which, for this analysis, was primarily dependent on the following:
 - Types and quantities of responding equipment,
 - Water delivery rate of first responding apparatus, and
 - Capability of the fire department to sustain operations and provide support services beyond the initial attack.
- Water supply for firefighting based on required fire flow (RFF) which is defined as the quantity of water required to control and extinguish a structure fire. RFF establishes the baseline for determining required fire apparatus quantity based on pump size and water carrying capabilities.
- Automatic aid, mutual aid and service agreements.
- Emergency call volumes and types of incidents (i.e., fire related, motor vehicle, medical and other), including simultaneous incidents and multiple station response.
- Existing apparatus inventory.

3.4 Recommendations

Based on the analysis, the following recommendations are offered. Recommended timelines are based on the Municipality's desire to enhance fire protection services, commencing with the establishment of new fire stations, in a cost effective manner. Refer to Appendix A for an illustration which summarizes equipment recommendations.

Full-scale maps have been provided separately in printed form to illustrate the existing and proposed inventories.

	Recommendation	Year	Opinion of Probable Cost (2016 Dollars)	Notes
1	Establish a Mission Statement and develop a service delivery policy for the provision of fire and emergency services as required by NFPA 1201.	2017	Not Estimated	This will assist moving forward with future budget processes and policy development for the fire services.
2.1	Amend the Municipality's " <i>Municipal Plan Strategy</i> " for future subdivision developments. Where there is no municipal public water system, any new development on or near water sources, allocate a portion of land for dry hydrant access for firefighting operations including fire department right-of-ways.	2017	Not Estimated	
2.2	Review the feasibility of establishing a fire water cistern program throughout the municipality; especially in new developments where there is no municipal water system. Install as per NFPA 22.			
3	Review Valley Communications call type classifications. Reference APCO/ANSI, " <i>Standard for Public Safety Communications Common Incident Types for Data Exchange</i> " as a baseline.	Q4 2016	Not Estimated	Missing and inconsistent data was noted.
4	Motor vehicle accidents and medical services: Establish fire department service levels and expectations and periodically review call volumes and specialized call specific equipment to insure the equipment is current as it relates to medical and rescue industry standards.	2017	Not Estimated	
5	Determine the need for Class B foam and if required, determine the supply amount and storage methodology.	2017	Not Estimated	There a number of facilities, such as gasoline service stations, highway tankers traveling throughout the Municipality and commercial/industrial occupancies that may store or use Class B products.

	Recommendation	Year	Opinion of Probable Cost (2016 Dollars)	Notes
6	Establish a committee to study the need and feasibility of implementing water-based emergency service for the Falmouth and South West Hants districts.	2017	Not Estimated	
7	Standardize pump and water capacities and foam systems.	Ongoing	Not Estimated	This should commence with the purchase of new fire apparatus. This will ease training and operational issues.
8	Find a means for the South West Hants Fire Department to make its portable pump mobile by carrying the unit on mobile equipment.	2017	Not Estimated	
9.1	Annually test all foam concentrate as per NFPA 11 and 1150.	2017	Not Estimated	
9.2	Establish a central foam storage location for West Hants and purchase in bulk (tote) to take advantage of cost savings. Foam purchased should be certified for both structural and wild land. When purchasing foam concentrates all departments will need to purchase the same type and manufacturer of foam.			
10.1	Moving forward, when purchasing large diameter hose (i.e., with new apparatus purchases and when replacing existing 100 mm (4 in) hose), purchase 15.25 m (50 ft) lengths of 125mm (5 in).	Ongoing	\$592 per 15.25 m (50 ft) length	Cost per gallon delivered is more cost effective and operationally more efficient.
10.2	Acquire a "RollnRack" efficiency system, or similar, to assist with draining, rolling and loading of large diameter hose.		\$8200 (USD)	

	Recommendation	Year	Opinion of Probable Cost (2016 Dollars)	Notes
11	Acquire two command units; one for Brooklyn and one for Hantsport - an SUV-style vehicle would be suitable. Option: Re-task current utility vehicles (Brooklyn Rescue 7/Hantsport Rescue 32) to be used as Command Vehicles.	2017	\$120,000 \$10,000	
12	Acquire a seven or nine passenger van to serve the Municipality for the transportation of firefighters and to function as an at-scene firefighter rehabilitation unit.	2018	\$65,000	
13.1	Purchase a new pumper tanker for the new Falmouth fire station as per new basic specifications.	Future	\$400,000	The purchase order for these new vehicles must be pursued at least 12 to 14 months in advance of the fire station opening date.
13.2	Purchase new quick attack/rescue unit for the new Falmouth fire station.		\$260,000	
14.1	Sell or trade Hantsport Pumper Tanker 21 for a new purchase (refer to recommendation 14.2).	Future	\$100,000 revenue	Hantsport Pumper Tanker 21 has a 12 speed manual transmission. Very few personnel are able to, or wish to, drive this vehicle. Sales in the United States suggest a retail value in the range of \$100,000 (USD). Note: This value is based upon units with automatic transmissions.
14.2	Place the new purchase at the South West Hants fire station and relocate South West Hants Pumper Tanker 14 to the Hantsport fire station.	Future	\$400,000	This needs to be planned for when Hantsport Tanker 21 is sold. Delivery dates on new fire apparatus can be 12 months or longer.

	Recommendation	Year	Opinion of Probable Cost (2016 Dollars)	Notes
15.1	Replace Brooklyn Engine 1 with Three Miles Plain Squad 9.		\$0	
15.2	Replace Three Mile Plains Squad 9 with a new quick attack rescue unit.		\$250,000	This will decrease response time and meet the required flow for the commercial/industrial area and save approximately \$140,000 in vehicle replacement costs.
15.3	Move Three Mile Plains Rescue 11 to the Falmouth station to be used as an operational support vehicle or a command unit. Other options for Rescue 11 include the possibility of replacing older utility vehicles such as the Hantsport Technical Support unit 51 or Hantsport Rescue 32 (Command).	2018	\$0	
15.4	Purchase a 23 m (75 ft) quint for the new Three Mile Plain station. Option: Assign the new 32 m (105 ft) Brooklyn Tower to the new Three Mile Plains fire station.		\$1,200,000 \$0	
16	Replace Summerville Truck 1.	2018	\$400,000	
17	Replace Hantsport Heavy Rescue 31.	2017	\$300,000	Current age is 27 years. Fire Underwriters require replacement at 20 years, NFPA 1911at 25 years.

	Recommendation	Year	Opinion of Probable Cost (2016 Dollars)	Notes
18	Refurbish/upgrade Brooklyn Pumper Tanker 2 (age 13 years) in compliance with NFPA 1901/1912.	2020	Not Estimated	Prior to costing an examination of each vehicle to be refurbished must be examined by qualified automotive technicians who have knowledge of NFPA 1901 and NFPA 1912 standards. Cost will be based upon each vehicle's upgrade and maintenance requirements.
19	Refurbish/upgrade Hantsport Pumper 11 (age 14 years) in compliance with NFPA 1901/1912.	2019	Not Estimated	
20	Refurbish/upgrade South West Hants Rescue 33 (age 15 years) in compliance with NFPA 1901/1912.	2018	Not Estimated	
21	Re-task Hantsport Operational Support 51 to become a hose tender.	2018	\$0	
22	Move South West Rescue 33 to Summerville to replace Rescue Truck 4.	2019	\$0	This provides a more efficient unit for Summerville whereas approximately 80% of their calls are MVAs and medical.
23	Purchase a new 1-quick attack unit/rescue for South West Hants to replace Rescue 33 which was transferred to Summerville.	2019	\$260,000	
24	Maintain the current status of wildland firefighting.	Ongoing	\$0	
25.1	West Hants take ownership of the following units and make them available as Municipality wide reserve units as per FUS standards: Hantsport Engine 11, Brooklyn Pumper Tanker 2, Summerville Rescue Truck 4	2016	Not Estimated	This will save the need for each district to have its own individual reserve units for pumper/tanker, rescue, and aerial.
25.2	West Hants take ownership of Three Mile Plain Rescue 11 after Squad 9 replaced with quick attack/rescue unit.	2018		

	Recommendation	Year	Opinion of Probable Cost (2016 Dollars)	Notes
26	Sign or enhance any current mutual aid agreement with the Windsor Fire Department to provide an aerial as a reserve unit for Brooklyn when their aerial is out of service	2016	Not Estimated	Fire Underwriters requires a reserve aerial. This recommendation will negate the acquisition of a reserve aerial. Wolfville in which another aerial ladder is available, beyond the distance requirement required by Fire Underwriters for grading purposes.
27.1	Complete an assessment of the current utility/rescue units to assess compliance with NFPA 1901.	2017	Not estimated	
27.2	Based upon the available call data, so as to synergize roles being provided by the many utility and rescue vehicles, replace, over time, newer quick attack/rescue units equipped as per NFPA 1901, Chapter 10 and use mutual aid fire departments when required. This will meet the current needs of West Hants.			
28	Adhere to the sample specifications outlined in Appendix B of this report for the future purchases of pumpers and tankers.	Ongoing	Not Estimated	This will lead to Municipal wide standardization and increase standard of coverage operational efficiency.
29	Develop a capital purchasing program that more equitably replaces apparatus and equipment over a period of time.	2016	Not Estimated	Many pieces of equipment are of the same age or within a year or two of each other. This places a heavy burden on municipal and departmental budgets.

Part 4 Municipality Authority and Responsibility

4.1 Applicable Acts, Regulations, and Codes

Applicable provisions from the following documents are provided in this Section to facilitate West Hants staff understanding the Municipality's authority and responsibility in the delivery of fire services:

- 1998 Municipal Government Act (amended 2014) (MGA),
- 2002 Nova Scotia Fire Safety Act (amended 2008) (NSFSA), and

Additionally, reference is made within the NSFSA to the following Codes and Regulations:

- Nova Scotia Fire Safety Regulations (NSFSR), and
- National Fire Code of Canada (NFC).

This review is related to risk management and civil liability and is not a legal interpretation.

4.2 Municipal Government Act

The MGA governs the Municipality's ability to enter into fire service delivery agreements with registered fire departments and emergency services organizations outside the Municipality.

4.2.1 Municipal Role

West Hants is permitted to maintain and provide fire and emergency services by providing the service, assisting others to provide the service, working with others to provide the service or a combination of means (MGA Section 293).

4.2.2 Registration as a Fire Department

A body corporate may apply to West Hants for registration as a fire department and West Hants is not to refuse to register a body corporate that complies with the MGA provided (MGA Section 294):

- West Hants is satisfied that the body corporate is capable of providing the services it offers to provide,
- The body corporate carries liability insurance, as required by West Hants,
- The body corporate does not provide the fire services for profit, and
- West Hants does not provide the same services for the same area.

4.2.3 Registration as an Emergency Service Provider

A body corporate may apply to West Hants for registration as an emergency services provider to provide emergency services other than fire services (MGA Subsection 295 (1)).

West Hants is not to refuse to register a body corporate that complies with the MGA provided (MGA Subsection 295 (2)):

- West Hants is satisfied that the body corporate is capable of providing the services it offers to provide,
- The body corporate carries liability insurance, as required by West Hants,
- The body corporate does not provide the emergency services for profit, and
- West Hants does not provide the same services for the same area.

4.2.4 Policies

The West Hants council is permitted to make policies respecting full-time, volunteer and composite fire departments and emergency service providers in the Municipality (MGA Subsection 296 (1)).

Policies for fire departments and emergency providers may include the following (MGA Subsection 296 (2)):

- Requirements and procedures for registration,
- Personnel policies with respect to those members who are employees of West Hants,
- The manner of accounting to the council for the use of the funds provided by West Hants,
- An annual meeting to report to the public respecting fire and emergency services, and
- Such other matters as are necessary and expedient for the provision of emergency services in West Hants.

Additionally, the council may require proof of compliance with its policies before advancing any funds (MGA Subsection 296 (3)).

4.2.5 Liability

MGA Section 300 states:

“A municipality, a village, a fire protection district, an employee of a municipality, village or fire protection district, a member of the fire department of a municipality, village or fire protection district, a registered fire department, a member of a registered fire department, a registered emergency services provider and a member of a registered emergency services provider are not liable for an act or omission in providing, or failing to provide, an emergency service, unless they are grossly negligent.”

Additionally, MGA Subsections 301 (1) and (2) state:

“(1) No action lies with respect to an act or omission in providing, or failing to provide, an emergency service against an employee of a municipality, village, or fire protection district, a member of the fire department of a municipality, village, fire protection district, registered fire department or registered emergency services provider.

(2) Notwithstanding subsection (1) and subject to Section 300, an action may lie against a municipality, village, fire protection district, registered fire department or registered emergency services provider with respect to its employee, member of its fire department or member.”

Note that these provisions do not prevent claims against the fire department and/or the municipality. Litigation against municipalities for the actions or omissions of their fire departments and emergency personnel is on the increase. Potential legal liabilities permeate every aspect of the fire service. Fire service delivery operations that present opportunities for risk are those operations surrounding inspections, emergency response and fire suppression activities.

4.3 Nova Scotia Fire Safety Act

4.3.1 Municipal By-Laws

West Hants is permitted to make and enforce by-laws relating to matters dealt with by the NSFSA, the NSFSA or the NFC, including by-laws that impose or prescribe higher or more stringent standards or requirements than those provided by the NSFSA, the NSFSA or the NFC (NSFSA Subsection 5 (1)).

Where a by-law of West Hants conflicts with the NSFSA, the NSFSA or the NFC, NSFSA and the NFC prevail to the extent of the conflict.

4.3.2 Duty to Take Fire Safety Precautions

Unless the NSFSA or NSFSA otherwise prescribe, every owner of land or premises, or a part thereof, and every person is to take every precaution that is reasonable in the circumstances to achieve fire safety and to carry out the provisions of the NSFSA, NSFSA, and the NFC (NSFSA Section 17).

4.3.3 Duties of a Municipality

West Hants is mandated to (NSFSA Subsection 19 (1)):

- Establish a system of fire-safety inspections of land and premises situate within its jurisdiction, as required by the regulations, to provide for compliance with this Act, the regulations and the Fire Code,
- Appoint a municipal fire inspector who shall carry out the inspections, and
- Ensure that the Fire Marshal is notified, in writing, of the appointment of the municipal fire inspector and the revocation of any such appointment.

West Hants is to ensure that (NSFSA Subsection 19 (2)):

- A record is made of every inspection undertaken by the municipality,
- The records are made available, on request, to the Fire Marshal or a deputy fire marshal, and
- Unless otherwise prescribed by the regulations, the records are kept for at least five years.

4.4 Recommendations

1. It is recommended that West Hants develop a risk management plan in order to reduce the likelihood of civil liability for negligence.

The risk management assessment would review items such as the following:

- Fire policies and By-Laws,
- All contracts that govern the activities of the fire department or its members,
- Equipment inspections and maintenance,
- Fire code inspections,
- Training requirements and standards,
- Operational procedures,
- OH&S compliance, and
- Record keeping and data collection procedures and practices.

Part 5 Reliance

This report has been prepared for the sole benefit of The Municipality of the District of West Hants. This report may not be used by any other person without the expressed written consent of The Municipality of the District of West Hants and RJ Bartlett Engineering Ltd. Any use which a third party makes of this report, or any reliance on decisions made based on it, is the responsibility of such third parties. RJ Bartlett Engineering Ltd accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Appendix A

Equipment Recommendations

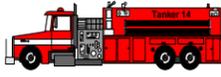
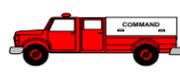
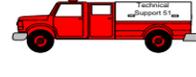
Brooklyn

	<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
 Engine 1 replaced with Squad 9 TMP	1250	625	20
 New Squad 3 on order	1500	625	20
 Pumper Tanker 4	1750	2100	20
 Pumper Tanker 2 Reserve Municipality of West Hants	840	3200	
 Rescue 5 Mid-Size Rescue			
 Rescue 7 convert to a Command Unit			

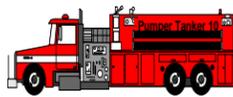
South West Hants

	<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
 New Quick Attack/Rescue	840	250	30
 New Pumper Tanker Single Axle	1250	1200	30

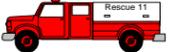
Hantsport

	<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
 Engine 11 Reserve Municipality of West Hants	1250	675	30
 Engine 12	1250	625	30
 Tanker 14 replaces Tanker 21	1250	2500	30
 Heavy Rescue 31 needs replacement			
 Rescue 32 Convert to a Command Unit			
 Technical Support 51 Re-task to a hose tender for the Municipality			

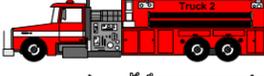
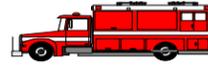
Three Mile Plains

	<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
 New Quick Attack/Rescue	840	250	30
 Pumper Tanker 10	840	2400	
 Place new Tower 6 at TMP or purchase an additional 75 ft Quint \$1.2 million	1750	300	20

Falmouth

	<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
 New Quick Attack/Rescue	840	250	30
 New Pumper Tanker Single Axle	1250	1200	
 Rescue 11 move to Falmouth from Brooklyn Support Unit or Command or use to replace older Hantsport similar unit			

Summerville

	<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
 New Pumper Tanker Single Axle Replaces 31 year old Truck #1	1250	1200	30
 Pumper Tanker Double Axle	1050	2950	
 Pumper Tanker Double Axle	1500	2350	25
 Truck 4 Rescue replaced by Mini-Rescue 33 from South West Hants			
 Rescue Truck 4 Reserve Municipality of West Hants			
 Rescue Boat			

Municipality of West Hants



Wild Land Equipment

Brooklyn



<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
250	80	5

Summerville

<u>Pump</u> (igpm)	<u>Water</u> (igallon)	<u>Foam</u> (igallon)
<u>70@10 psi or 20@125 psi</u>	75	5

Note: Picture Not Available

Appendix B
Sample Equipment
Specifications

Note: the following sample specifications have been provided for illustrative purposes only.

Basic Pumper Specifications

Basic pumper and pumper tanker replacement specifications are as follows:

- Commercial four door, five seat cab and chassis (i.e. Freightliner) single axle
- 5,683 L (1,250 gpm) single-stage pump
- 5,455 L (1,200 gal) water tank
- Integrated 136 L (30 gal) foam tank
- FoamPro 2001 Class A foam system
- 250 mm (10 in) dump valve with 900 mm (36 in) chute

Images of typical pumpers are included in Figure B1.



Figure B1: Typical Pumpers

Quick Attack/Rescue Specifications

Sample quick attack/rescue specifications are as follows:

- 2013 Ford F554 4x4 with Powerstroke 6.7L V8
- Extruded aluminum body
- Overall length – 8.3 m (27.2 ft)
- Wheel base – 5 m (200 in)
- Overall height – 2.7 m (9 ft)
- Hale 5,683 L (1,250 gpm) rear mount pump with Akron valves
- 1,364 L (300 gal) UPF water tank with 136 L (30 gal) foam cell
- Hale Foam Logix foam system
- ROM roll-up doors with LED compartment lights
- Custom vertical roll-out and swing-out tool boards
- Class 1 multiplexed electrical system
- Whelen 12 Volt LED rear scene lights and LED warning lights
- Smart power 8 kW hydraulic generator
- Command light shadow series light tower
- Oil dry hopper in wheel well
- Rear ladder storage
- 4-point receiver winch system

- Custom equipment mounting
- Equipment for special service/rescue vehicles as per NFPA 1901

Images of a sample quick attack/rescue vehicle are included in Figure B2.



Figure B2: Sample Quick Attack/Rescue Vehicle