



# Town of Essex

Community Risk Assessment &  
Fire Master Plan

April 2024 Council Presentation

# Agenda

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- 1 Community Risk Assessment: Overview and Key Findings
- 2 Fire Master Plan: Overview and Key Findings
- 3 Questions or Comments



# **Community Risk Assessment**



# Community Risk Assessment (“CRA”): Background

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- O. Reg. 378/18 came into effect on July 1, 2019.
- O. Reg. 378/18 requires all municipalities and fire departments to conduct a CRA before July 1, 2024.
- A CRA identifies and examines which threats a community is most likely to face.
- CRAs examine risks from a fire services perspective – this differs from a hazard identification and risk analysis, which is used for emergency management programs.
- CRAs provide information that municipalities can use to make decisions about the fire protection services they need.

# **Mandatory Community Profiles**

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1. Geographic Profile
2. Building Stock Profile
3. Critical Infrastructure Profile
4. Demographic Profile
5. Hazard Profile
6. Public Safety Response Entities Profile
7. Community Services Profile
8. Economic Profile
9. Past Loss and Event History Profile



## The Importance of Identifying Risks

- CRAs allow municipalities to understand which risks are most likely to occur locally and which are most likely to have serious consequences.
- In the context of a CRA, risk is determined by evaluating a threat's likelihood and consequence levels.
- After a municipality learns which fire and life safety risks it is most likely to face, it can determine how to manage those risks.

# Determining Risk Scores

## Likelihood Levels

- Rare
- Unlikely
- Probable
- Likely
- Almost Certain

## Consequence Levels

- Insignificant
- Minor
- Moderate
- Major
- Catastrophic

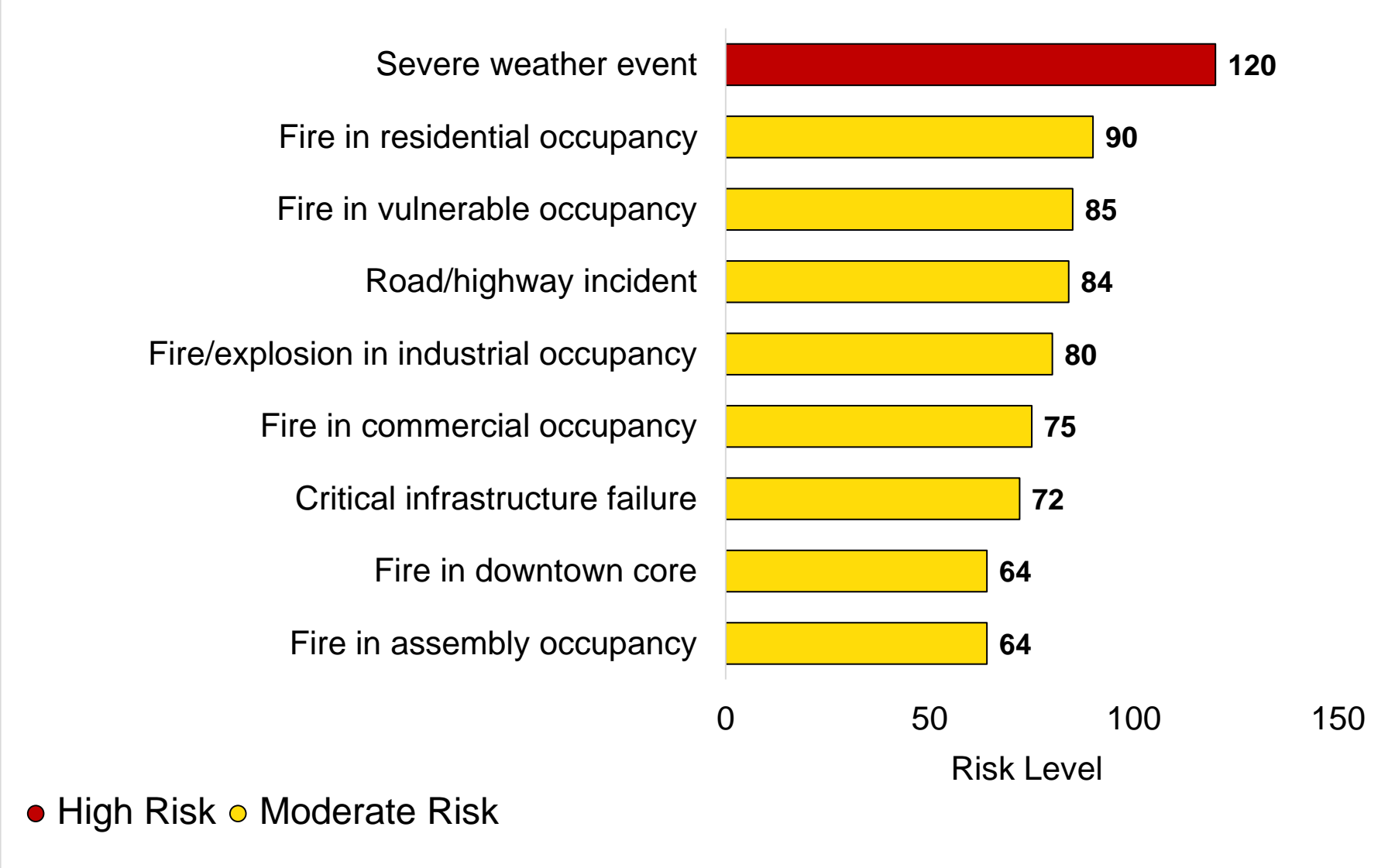


	Insignificant Consequence	Minor Consequence	Moderate Consequence	Major Consequence	Catastrophic Consequence
Almost Certain					<b>HIGH</b>
Likely					
Possible			<b>MODERATE</b>		
Unlikely					
Rare	<b>LOW</b>				

**Risk Level Matrix**



# Public Safety Risks Identified in the Town of Essex



# Risk Treatment Plans (“RTPs”)

- RTPs are developed for each identified public safety risk.
- RTPs are created by using an evidence-based approach that clearly defines the problems posed by a given risk.
- RTPs consider the potential outcomes of proposed actions, assess options, and provide recommendations for addressing a risk’s identified issues.
- RTPs may recommend training, service delivery agreements, resource allocation, or service level changes.

## RTPs cont.

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- Each RTP developed for the Town of Essex CRA recommends at least one of the following risk treatment options:
  - **Avoid:** Eliminate the hazard.
  - **Mitigate:** Reduce the likelihood or impact.
  - **Accept:** Take no action.
  - **Transfer:** Transfer the risk to another party.
  - **Share:** Share part of the risk with another party.
- After reviewing the RTPs, Essex Fire and Rescue (“the Department”) should implement programs and services accordingly.

# **Top 5 Safety Risks Identified in the Town of Essex**

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# Risk #1: Severe Weather Event

## RTP

### Mitigate

- Continue providing public education about the importance of emergency preparedness, including what to do before, during, and after an emergency.

## Resources Needed

- Implementing this RTP will require the Department's time and resources.
- Preparing and distributing public education information (such as flyers and handouts about 72-hour emergency kits) will require resources.

## Timeline

- The Department should incorporate the strategies in this RTP into its regular operations.

# Risk #2: Fire in Residential Occupancy

## RTP

### Mitigate

- The Department should conduct regular inspections of select residential occupancies in Essex, such as multi-unit dwellings and hotels/motels.
- The Department should continue delivering fire safety messages by attending community events and relaying information through various news outlets.

## Resources Needed

- Implementing this RTP will require the Department to allocate an adequate amount of time and resources to ongoing public education.

## Timeline

- The Department should incorporate the strategies in this RTP into its regular operations.

# Risk #3: Fire in Vulnerable Occupancy

## RTP

### Mitigate

- Continue completing annual inspections of the vulnerable occupancies in Essex.
- Ensure that all vulnerable occupancies in Essex have a current fire safety plan in place.
- Verify that the staff working in Essex's vulnerable occupancies understand their fire safety and emergency response obligations.
- Continue witnessing and auditing the annual fire drills at the vulnerable occupancies in Essex.
- Complete the pre-incident planning process for all vulnerable occupancies in Essex.

## Resources Needed

- Implementing this RTP will require the Department to allocate an adequate amount of time and resources to ongoing public education.

## Timeline

- The Department should incorporate the strategies in this RTP into its regular operations.

# Risk #4: Road/Highway Incident

## RTP

### Mitigate

- The Department should continue providing ongoing training to its personnel about vehicle firefighting, auto extrication/rescues, and hazardous materials responses.
- The Department should ensure that its personnel receive training about responding to incidents that involve electric vehicles.

## Resources Needed

- Implementing this RTP will require the Department's time and resources.

## Timeline

- The Department should incorporate the strategies in this RTP into its regular operations.



# Risk #5: Fire/Explosion in Industrial Occupancy

## RTP

### Mitigate

- Ensure the Department has the time and resources needed to inspect the industrial occupancies in Essex.
- The Department should complete the pre-incident planning process for the industrial occupancies in Essex.
- The Department should review the fire safety plans and the material safety data sheets (as applicable) at the industrial occupancies in Essex.

## Resources Needed

- Implementing this RTP will require the Department's time and resources.

## Timeline

- The Department should incorporate the strategies in this RTP into its regular operations.

## Next Steps

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- The CRA was used to assist with the development of the Fire Master Plan
- Review and update the CRA annually.
- Develop a process for collecting and maintaining data to keep the CRA current.
- Use the CRA to develop future strategic planning for the Department.



# Fire Master Plan



# Purpose of a Fire Master Plan (“FMP”)

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Ensure a community complies with the Fire Protection and Prevention Act and other legislation.

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Provide a clear picture of a community’s current and anticipated fire protection needs.

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Recommends strategies to protect lives and property by enhancing public education, code enforcement, and fire suppression services.

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Provide information to guide administrative, operational, and budgetary decisions.

# Approach and Methodology

Start-up Meeting



Stakeholder Engagement



Data Collection & Analysis



Draft & Final Report

# Context of the Recommendations

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- The FMP includes **24 recommendations** for Council and the Department to consider.
- The recommendations are either policy decisions (which are under Council's authority) or operational decisions (which are under the Department's authority).
- Each recommendation includes the following considerations:
  - When should the recommendation be addressed?
  - Will the recommendation have to be included in the Department's budget through the regular budgeting process?
  - Does the Council need to approve the recommendation?
  - Is the recommendation mandatory for legislative compliance?

# Number of Recommendations by Subject

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- Overview of Essex Fire and Rescue: 2
- Bylaws: 4
- Stakeholder Engagement: 2
- Emergency Management: 2
- Occupational Health and Safety: 2
- Fire Prevention: 1
- Levels of Service: 2
- Training: 4
- Performance Standards and Operational Models: 1
- Fire Stations: 1
- Water Supply: 1
- Asset Management: 2

# **List of Recommendations in the Town of Essex FMP**

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FIRE ADMINISTRATION  
STATION No.1

55 Alice Street North

# Overview of Essex Fire and Rescue

# Overview of Essex Fire and Rescue

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- Essex Fire and Rescue is a volunteer fire department that operates out of three fire stations.
- As of this FMP, the Department's full complement of 54 suppression staff includes the following members:
  - 3 chief officers
  - 3 volunteer district chiefs
  - 12 volunteer captains
  - 36 volunteer firefighters
- The Department also has a support staff of two part-time members.

# Overview of Essex Fire and Rescue Recommendations

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1. The Fire Chief should prepare a report for Council's consideration and approval to change the administrative assistant role from a part-time position to a full-time position.

**Mandatory: N | Council approval: Y | Budget impact: Y | Timeframe: Short-term**

2. The Fire Chief should prepare a report for Council's consideration and approval that recommends hiring a full-time support firefighter after the contract for the current part-time position ends.

**Mandatory: N | Council approval: Y | Budget impact: Y | Timeframe: Long-term**



# Bylaws

# Overview of Bylaws

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- Importance of bylaws
- Establishing and regulating bylaws
- Other fire protection bylaws

# Bylaw Recommendations

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1. The Fire Chief should update the Town of Essex Establishing and Regulating By-law (as needed) if the Department implements any of the recommendations in this fire master plan.

**Mandatory: Y | Council approval: Y | Budget impact: N | Timeframe: Immediately**

2. The Fire Chief should complete an annual review of the Town of Essex Establishing and Regulating By-law to verify that it remains current with all emergency and non-emergency services the Department provides.

**Mandatory: N | Council approval: Y | Budget impact: N | Timeframe: Ongoing**

3. The Fire Chief should review all fire service by-laws in the Town of Essex and update them to ensure they are current and applicable. The Fire Chief should then present all updated by-laws to Council for consideration and approval.

**Mandatory: N | Council approval: Y | Budget impact: N | Timeframe: Short-term**

## **Bylaw Recommendations cont.**

4. The Fire Chief should establish a schedule for reviewing all fire service by-laws in the Town of Essex on a regular basis.

**Mandatory: N | Council approval: N | Budget impact: N | Timeframe: Short-term**

A modern conference room with a long white table and orange leather chairs. The room is well-lit and features a bookshelf in the background. The chairs are arranged around the table, and a black telephone is visible on the table. The floor is made of light-colored wood.

# Stakeholder Engagement



# Stakeholder Engagement Sessions

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- Types of engagement:
  - one-on-one meetings
  - online public survey
  - SWOT analysis
- The purpose of the engagement sessions was to collect first-hand insights about the Department and the Essex community from applicable stakeholders.

# Public Survey

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- The FMP development process included a short online survey that was made available to residents and business owners in Essex.
- The survey included 15 questions related to the following topics:
  - Have you had any previous interactions with the Department?
  - What is your general opinion of the Department?
  - Which fire protection services offered by the Department are most important to you?

# Public Survey Results

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According to the survey respondents, the most important services provided by the Department are:

1. Fire responses (average score: 9.8 out of 10)
2. Responses to natural disasters in the community (average score: 9.3 out of 10)
3. Medical response (average score: 9.2 out of 10)
4. Vehicle collision response (average score: 8.9 out of 10)
5. Fire code enforcement (average score: 8.4 out of 10)

# Stakeholder Engagement Recommendations

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1. The Fire Chief should review the results of the public survey to identify ways the Department's services can provide more value to the Town of Essex's residents and businesses.

**Mandatory: N | Council approval: N | Budget impact: N | Timeframe: Immediately**

2. The Fire Chief should review the results of the SWOT analysis to determine whether the Department should update its operations to incorporate suggestions provided during the analysis.

**Mandatory: N | Council approval: N | Budget impact: N | Timeframe: Immediately**



# Emergency Management

# Overview of Emergency Management

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- Municipalities must meet specific requirements to receive their annual compliance recognition:
  - Emergency Management and Civil Protection Act, R.S.O. 1990
  - O. Reg. 380/04: Standards
- Municipalities are responsible for fulfilling these obligations, not fire departments.

# Emergency Management Recommendations

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1. The Town of Essex should assign an individual from outside the Department to serve as either the primary or alternate community emergency management coordinator. Ideally, the incumbent should have an administrative background.

**Mandatory: N | Council approval: Y | Budget impact: N | Timeframe: Short-term**

2. The Community Emergency Management Coordinator should continue organizing annual emergency management training and exercises for the Town of Essex Municipal Emergency Control Group. Both the training and exercises should continue to incorporate external resources in order to ensure all participants can practise fulfilling their assigned duties.

**Mandatory: N | Council approval: N | Budget impact: N | Timeframe: Ongoing**

A photograph of a fire station interior. A long row of firefighter jackets, made of tan canvas with reflective yellow and blue stripes on the sleeves, hangs from a red metal rack. The jackets are arranged in a perspective that leads towards the back of the station. In the background, a fire truck is parked, and the floor is polished concrete with a white line. The lighting is bright, coming from overhead fixtures.

# Occupational Health and Safety





# **Overview of Occupational Health and Safety**

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- Joint health and safety committee
- Personal protective equipment
- Fit testing
- Firefighter health and wellness programs
- Officer development program

# Occupational Health and Safety Recommendations

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1. The Fire Chief should form a committee to develop and manage a fitness program to complement the Department's existing wellness programs.

**Mandatory: N | Council approval: N | Budget impact: Y | Timeframe: Short-term**

2. The Fire Chief and the wellness committee should explore the possibilities of forming a partnership with local fitness facilities to provide the Department's firefighters with better access to fitness equipment.

**Mandatory: N | Council approval: Y | Budget impact: Y | Timeframe: Short-term**



# Fire Prevention

# Overview of Fire Prevention

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- The three lines of defence:
  1. Public Education
  2. Code Enforcement
  3. Fire Suppression
- Considerations:
  - Public education initiatives
  - Inspections
  - Smoke/CO alarm program
  - Investigations
  - Pre-incident planning process

# Fire Prevention Recommendations

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1. The Fire Chief should prepare a report for Council's consideration and approval that recommends appointing a full-time training/prevention officer who will dedicate half of their work hours to managing the Department's fire prevention division. The officer would also perform suppression duties during daytime hours (as needed).

**Mandatory: N | Council approval: Y | Budget impact: Y | Timeframe: Short-term**



# Levels of Service

# Overview of Levels of Service

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- Core services
- Specialized services:
  - Hazardous materials response
  - Auto extrication
  - Rope rescue
  - Water/ice rescue

# Levels of Service Recommendations

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1. The Fire Chief should review the Department's medical tiered response agreement and update it accordingly. The Fire Chief should then submit the revised agreement to Council for consideration and approval.

**Mandatory: N | Council approval: Y | Budget impact: N | Timeframe: Immediately**

2. The Fire Chief should keep track of all calls the Department receives for advanced services. If there is a significant number of calls for advanced services that the Department does not currently provide, the Fire Chief should prepare a report for Council's consideration and approval that recommends updating the Department's list of approved advanced services.

**Mandatory: Y | Council approval: Y | Budget impact: Y | Timeframe: Short-term**





**Training**

# Overview of Training

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- Legislation
- Certification
- Types of training
- Training challenges:
  - Time challenges
  - Cost challenges
  - Process challenges
  - Documentation challenges
- Training facility

# Training Recommendations

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1. The Fire Chief should develop a process for having para-trainers assist with the Department's training program.

**Mandatory: N | Council approval: N | Budget impact: N | Timeframe: Immediately**

2. The Fire Chief should establish a training committee to help plan and implement the Department's training program.

**Mandatory: N | Council approval: N | Budget impact: Y | Timeframe: Short-term**

3. The Fire Chief should explore opportunities that allow officers to complete training and obtain certifications beyond what the Department currently offers.

**Mandatory: N | Council approval: N | Budget impact: Y | Timeframe: Immediately**

## **Training Recommendations cont.**

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4. The Fire Chief should prepare a report that recommends appointing a full-time training/prevention officer who will dedicate half of their work hours to managing the Department's training and development program. The Fire Chief should then submit the report to Council for consideration and approval.

**Mandatory: N | Council approval: Y | Budget impact: Y | Timeframe: Short-term**



# Performance Standards and Operational Models

# Overview of Performance Standards

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- Importance of response times, leadership, and crew size
- Effective response force
- Response benchmarks
- Post-incident analysis and review
- Response statistics
- Deployment models

# Performance Standards Recommendations

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1. The Fire Chief should continue monitoring the Department's effective response force to determine whether the Department needs to increase its staffing levels, specifically during the daytime.

**Mandatory: Y | Council approval: N | Budget impact: N | Timeframe: Ongoing**



# Fire Stations



# Overview of Fire Stations

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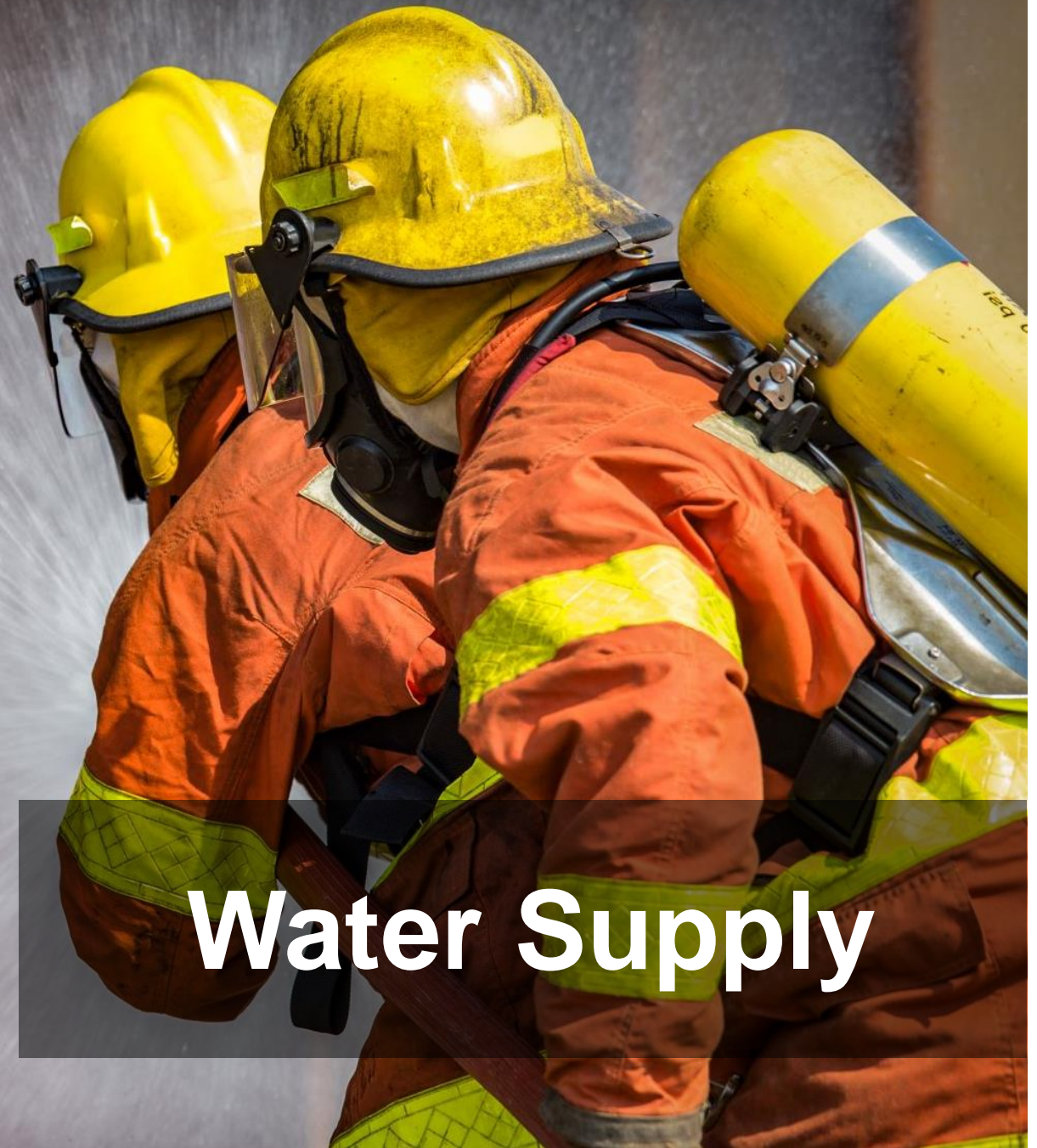
- Storage issues
- Training rooms
- Washroom/shower facilities
- Fire apparatus bay areas
- Space constraints
- New construction vs. renovation

# Fire Station Recommendations

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1. The Fire Chief should develop a report for Council that recommends replacing Station 3 – Harrow with a new fire station at 2225 Roseborough Road. The report should include a cost analysis and outline the benefits of building a new fire station at the proposed site.

**Mandatory: N | Council approval: Y | Budget impact: Y | Timeframe: Short-term**



# Water Supply



# Overview of Water Supply

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- Insert

# Water Supply Recommendations

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1. The Fire Chief should ensure that the Department's tanker shuttle service meets all applicable fire service guidelines.

**Mandatory: N | Council approval: N | Budget impact: N | Timeframe: Ongoing**



# Asset Management



# **Overview of Asset Management**

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- Fire apparatus considerations
- Fleet renewal and rationalization
- Fire equipment

# **Fleet Deployment Considerations**

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- Current fire fleet
- Type of responses
- Staffing levels
- Apparatus licensing, certifications, and qualifications
- Age of vehicles for insurance and grading purposes



# Asset Management Recommendations

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1. The Fire Chief should prepare a report for Council's consideration and approval that recommends continued investment in the Department's radio communications equipment. The report should address the state of the current radio system and indicate whether the Department should upgrade to fire-quality radios.

**Mandatory: Y | Council approval: Y | Budget impact: Y | Timeframe: Short-term**

2. The Fire Chief should attempt to form partnerships with external agencies to share the costs of radio purchases and increase interoperability.

**Mandatory: N | Council approval: N | Budget impact: Y | Timeframe: Short-term**



**Questions or  
Comments?**



# Thank you!

Feel free to reach out to us  
if you have any questions.



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