



# Port Alberni Fire Department

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## Construction/Demolition Fire Safety Plan Guideline

The following is a guideline to provide information for the development of a Construction/Demolition Fire Safety Plan that meets the requirements for Emergency Planning, Current BC Building and Fire Codes and Local Regulations. The goal is to prevent fires in and around construction/demolition sites and reduce the fire risk to life and property. The Fire Safety Plan shall be **"SITE, BUILDING & PROCESS SPECIFIC"**.

### **GENERAL GUIDELINES:**

Fire Safety Plan Binder shall:

- be a standard 8.5" x 11" three ring binder, red in colour
- have the wording "FIRE SAFETY PLAN" on the front and spine of the binder
- have the building address displayed in large font on the front of the binder
- upon review and acceptance the Fire Department will issue a letter of acceptance that shall be placed in the front of the Fire Safety Plan Binder under that Revision History Tab

Text shall be:

- All pages shall be single sided
- Headings; font size will be a minimum of 14 point throughout the plan
- Text; font size will be a minimum 12 point throughout the plan
- site plans, floor plans, reports & checklists must be single sided

### **LAYOUT:**

Title Page

Tab - Revision History

Tab - Table of Contents

Tab - Fire Department Information

Tab - Site Plan Drawings

- *Site Plan: All drawings shall be 11 X 17 inch coloured drawings in landscape format.*
- *Only site specific symbols shall be located on the drawings and contained within the legend.*

Tab - Floor Plan Drawings.

- *Floor Plans: All drawings shall be 11 X 17 inch coloured drawings in landscape format.*
- *Only site specific symbols shall be located on the drawings and contained within the legend.*

Tab – Objectives of the Fire Safety Plan

Tab - Supervisory Staff

Tab – Instructions to Occupants

Tab – Legal Basis for Fire Safety Planning

Tab – Definitions

Tab - Alternative Solutions

- *Any special information pertaining the building, Hot Works etc.*

**CONTENT REQUIREMENTS OF FIRE SAFETY PLAN:**

*Shall be Site/Building specific, all unrelated information shall be removed from templates.*

**REVISION HISTORY:**

- *Setup in a table format with the headings Date:, Notes:, By:, and Initials: or something similar and acceptable to the Port Alberni Fire Department to track changes, reviews and updates.*

Fire Safety Plan Revision History			
Date	Notes	By	Initials
25-Nov-14	existing plan reviewed by Fire Department	Randy Thoen	RT

- *Fire Department letter of acceptance inserted here.*

**TABLE OF CONTENTS:** *Setup in a format acceptable to the Port Alberni Fire Department.*

**FIRE DEPARTMENT INFORMATION:**

*This information should be site specific, if it applies to the site then include the information required for that item. If it does not apply to the site because it is not installed/will not be installed, do not include it.*

- **APPOINTMENT OF THE SUPERVISORY STAFF:**

*Identify any Fire Safety Plan supervisory positions that will be filled, at a minimum there will be a Fire Safety Director and a Deputy Fire Safety Director. There may be more than one Fire Warden assigned to represent all sub-trades.*

Appointment of Supervisory Staff		
Name:	Job Title:	Responsibilities & Duties:
Joe Bloggins	Site Superintendent	<Fire Safety Director>
<Name>	<Title>	<Deputy Fire Safety Director>
<Name>	<Title>	<Fire Warden>
<Name>	<Title>	<Fire Safety Inspections>
<Name>	<Title>	<Fire Safety Trainer>

- **EMERGENCY CONTACTS:**

*Emergency contacts list for the fire system repair and service should be filled out as it applies to the site.*

Company Contacts / Key Holders (After Hours Emergency)		
Name:	Response Time	Phone Number(s)
<Name>	<XX minutes>	<XXX-XXX-XXXX> (H) <XXX-XXX-XXXX>
<Name>	<XX minutes>	<XXX-XXX-XXXX> (H) <XXX-XXX-XXXX> [C]
<Name>	<XX minutes>	<XXX-XXX-XXXX> (H) <XXX-XXX-XXXX>

- FIREFIGHTING SERVICES: (*hydrants, fire department connections, sprinklers, standpipe*)
  - Are they installed, tested and active at start of construction (accessible)
  - Fire fighter access routes provided
  - Drawings provided to Fire Department show location of firefighting systems as they become operational
  - Site address sign visible from street to emergency crews
- FIRE EXTINGUISHERS:
  - Sufficient number and type on site      – 1A:10BC on movable equipment  
  - 4A:40BC in all other locations
  - Servicing current, mounted, proper signage, correct travel distance to hazard
  - Separate extinguishers provided for fuel operated equipment
  - Separate extinguishers provided for HOT WORKS
- FLAMMABLE/COMBUSTIBLE STORAGE:
  - Flammable/Combustible liquids properly stored, handled and used on site
  - Compressed gases properly stored, handled and used on site
  - Flammable/Combustible storage separated from combustible materials by 3 metres (10 feet)
  - Flammable/Combustible storage area secured and vented, protected from vehicular traffic
  - Current list of dangerous goods on site with MSDS
  - Flammable/Combustible storage area away from egress and access routes to the site
- ELECTRICAL/PETROLEUM GAS INSTALLATIONS:
  - Must comply with the requirements of the Safety Standards Act and pursuant regulations.
- SITE SECURITY:
  - What type of security is provided
  - Security personnel trained in their role of the site’s Fire Safety Plan, have access to locked areas
  - Effective communication system between Fire Department and Site Security Personnel






























**SITE PLAN:**

- All drawings shall be 11 X 17 inch coloured drawings in landscape format.
  - Show muster points, locations of nearest hydrants, locations of fire department connections, location of egress and access paths

**FLOOR PLANS:**

- All drawings shall be 11 X 17 inch coloured drawings in landscape format.
  - Show exit paths from each floor, locations of fire protection equipment, locations of service rooms

**DRAWING SYMBOLS:**

TEMPLATE DESIGN		Page 1 of 1
COMMON SYMBOLS		
	HAZ MAT	 FIRE ALARM PANEL
	RADIO ACTIVE	 FA ANNUNCIATOR
	SILENT FLOOR	 FIRE DEPARTMENT CONNECTION
	WOOD TRUSS	 SPRINKLER VALVE
	METAL TRUSS	 STAND PIPE CONNECTION
	COMPOSITE TRUSS	 STAND PIPE
	CITY HYDRANT	 STORM DRAIN
	PRIVATE HYDRANT	 MAIN ENTRY
	GAS SHUT OFF	 ELEVATOR
	WATER SHUT OFF	 FIRE SEPARATION
	ELECTRICAL PANEL	 EXIT
	GENERATOR	 PARKADE ENTRY
		 EMERG STOP
		 ROOF ACCESS
		 LIMITED ACCESS
		 STAIRS
		 LOCK BOX

**OBJECTIVES OF THE FIRE SAFETY PLAN:**

Fire Safety Planning achieves three objectives:

1. Fire Prevention – To prevent the occurrence of fire through the control of fire hazards and the proper maintenance of the building’s fire protection systems and facilities.
2. Occupant Safety – To establish a systematic method for safe and orderly evacuation of the building in the case of fire or other emergency.
3. Fire Control and Extinguishment – To establish procedures that will maximize the probability of controlling and extinguishing a fire in the safest and most efficient manner.

As per BC Fire Code Division B, Part 5, Section 5.6, must meet the requirements of the BC Fire Code and any applicable local regulations.

*British Columbia Fire Code 2012 Division B, Section 5.6. Construction and Demolition Sites*

**5.6.1. General**

**5.6.1.1. Application**

1) This Section applies to fire safety for buildings, parts of buildings, facilities, adjacent buildings or facilities, and associated areas undergoing construction, alteration or demolition operations.

**5.6.1.2. Protection of Adjacent Buildings**

1) Protection shall be provided for adjacent buildings and facilities that would be exposed to fire originating from buildings, parts of buildings, facilities and associated areas undergoing construction, alteration or demolition operations.

#### 5.6.1.3. Fire Safety Plan

1) Except as required in Sentence (2), prior to the commencement of construction, alteration or demolition operations, a fire safety plan shall be prepared for the site and shall include

a) the designation and organization of site personnel to carry out fire safety duties, including a fire watch service if applicable,

b) the emergency procedures to be followed in the event of a fire, including

i) initiating a fire warning,

ii) notifying the fire department,

iii) instructing site personnel on the procedures to be followed once the warning has been initiated, and

iv) confining, controlling and extinguishing the fire,

c) measures for controlling fire hazards in and around the building, and

d) a maintenance procedure for firefighting measures required in Section 5.6.

2) Where construction, alteration or demolition operations occur in an existing building that is required to have a fire safety plan conforming to Section 2.8., the fire safety plan shall take into account the changes occurring to the building.

#### 5.6.1.4. Access for Firefighting

1) Unobstructed access to fire hydrants, portable extinguishers and to fire department connections for standpipe and sprinkler systems shall be maintained.

2) A means shall be provided to allow firefighters to perform their duties on all levels of the building.

3) Provision shall be made for the use of existing elevators, hoists or lifts to assist firefighting personnel in reaching all levels of the building.

4) Access routes for fire department vehicles shall be provided and maintained to construction and demolition sites.

5) Where a construction or demolition site is fenced so as to prevent general entry, provision shall be made for access by fire department equipment and personnel.

#### 5.6.1.5. Portable Extinguishers

1) In addition to the other requirements of this Code, portable extinguishers shall be provided in unobstructed and easily accessible locations in areas

a) where hot work operations are carried out,

b) where combustibles are stored,

c) near or on any internal combustion engines,

d) where flammable liquids and combustible liquids or gases are stored or handled, and

e) where temporary fuel-fired equipment is used.

2) The extinguishers required by Sentence (1) shall have a minimum rating of

a) 2-A:10-B:C on moveable equipment, and

b) 4-A:40-B:C in all other locations.

#### 5.6.1.6. Standpipe Systems

1) Where a standpipe system is to be installed in a building under construction or alteration, the system shall be installed progressively in conformance with Subsection 3.2.5. of Division B of the British Columbia Building Code in areas permitted to be occupied.

2) Where a standpipe system is to be installed in portions of a building under construction or alteration that are not occupied, the following shall apply:

a) a permanent or temporary standpipe system is permitted in accordance with Clauses (b) and (c),

b) the standpipe system shall be provided with conspicuously marked and readily accessible fire department connections on the outside of the building at street level and shall have at least one hose outlet at each floor,

- c) the pipe size, hose valves and water supply shall conform to Subsection 3.2.5. of Division B of the British Columbia Building Code,*
- d) the standpipe system shall, as a minimum, be securely supported and restrained on alternate floors,*
- e) at least one hose valve for attaching fire department hose shall be provided at each intermediate landing or floor level in the exit stairway,*
- f) valves shall be kept closed at all times and guarded against mechanical damage,*
- g) the standpipe shall be not more than one floor below the highest forms, staging, and similar combustibles elements at all times, and*
- h) temporary standpipe systems shall remain in service until the permanent standpipe installation is complete.*

*3) Where a building being demolished floor by floor is equipped with a standpipe system, the system, together with fire department connections and valves, shall be maintained in operable condition on all storey below the one being demolished, except for the storey immediately below it.*

#### *5.6.1.7. Hot Surface Applications*

*1) Roofing operations and other surface applications that involve heat sources and hot processes shall be considered hot works and shall conform to the requirements in Sentences (2) and (3) and Section 5.2.*

*2) Bitumen kettles shall*

- a) not be located on roofs,*
- b) be provided with adequate metal covers that are close-fitting and constructed of steel having a thickness of not less than No. 14 sheet metal gauge thickness,*
- c) be under constant supervision when in operation, and*
- d) be maintained free of excessive residue.*

*3) Mops that have been used for spreading bitumen shall be kept outside the building in a safe location when not in use.*

#### *5.6.1.8. Ignition Sources*

*1) Devices capable of producing ignition, internal combustion engines, temporary heating equipment and associated devices shall be kept at a safe distance from combustible material so as not to cause ignition.*

*2) The clearance between combustible materials and temporary heating equipment, including flues, shall be in conformance with Part 6 of Division B of the British Columbia Building Code or in conformance with the minimum clearances shown on certified heating equipment.*

#### *5.6.1.9. Building Services at Demolition Sites*

*1) Except as required in Sentence (3) and except for water supplies for firefighting, building services shall be terminated at a point located outside the building or part thereof being demolished.*

*2) The service company whose service connections will be affected shall be notified before any action mentioned in Sentence (1) is taken and, if it is necessary to maintain any service, it shall be*

- a) relocated as necessary, and*
- b) protected from damage.*

*3) Temporary electrical installations shall be installed in conformance with the British Columbia Electrical Safety Regulation.*

#### *5.6.1.10. Fuel Supply Installation*

*1) Fuel supplies for heating equipment and internal combustion engines shall conform to*

- a) CAN/CSA B139-M, "Installation Code for Oil-Burning Equipment," or*
- b) the British Columbia Gas Safety Regulation.*

#### *5.6.1.11. Tank, Piping and Machinery Reservoir Safety at Demolition Sites*

*1) Tanks, piping and machinery reservoirs at a demolition site shall be taken out of service in conformance with Subsection 4.3.16.*

*2) Tanks, piping and machinery reservoirs at a demolition site that contain combustible liquids or flammable liquids or that are likely to contain flammable vapours shall be drained and, except as permitted by Sentence (3), removed prior to the demolition of the building.*

3) Where it is impracticable to remove tanks, piping or machinery reservoirs from the building prior to demolition, such equipment shall be conspicuously identified and removed as soon as conditions permit.

4) Tanks, piping and machinery reservoirs referred to in Sentences (1), (2) and (3) that once contained combustible liquids, flammable liquids or flammable gases shall be purged with inert materials prior to demolition to prevent an explosion.

#### 5.6.1.12. Fire Separations in Partly Occupied Buildings

1) Where part of a building continues to be occupied, the occupied part shall be separated from the part being demolished or constructed by a fire separation having a fire-resistance rating of not less than 1 h.

#### 5.6.1.13. Protection during Shutdown

1) Except as permitted in Sentence (2), where a fire protection system is provided, it shall remain operational throughout the construction, alteration or demolition area where reasonably practical.

2) When any portion of a fire protection system is temporarily shut down during construction, alteration or demolition operations, protection during shutdown shall comply with Article 6.1.1.4.

#### 5.6.1.14. Watch

1) A watch, with tours at intervals of not more than 1 h, shall be provided throughout demolition sites when there are occupants in the portion of the building not being demolished.

2) Except where a building is provided with a fire alarm system or similar equipment, a watch, with tours at intervals of not more than 1 h, shall be provided when a portion of the building is occupied while construction operations are taking place.

3) Facilities shall be provided to enable the watcher referred to in Sentences (1) and (2) to

a) ensure a fire warning is sounded to notify occupants, and

b) communicate with the fire department.

#### 5.6.1.15. Smoking Restrictions

1) Smoking shall be permitted only under the conditions stated in Subsection 2.4.2.

#### 5.6.1.16. Provision for Egress

1) In areas of a building where construction, alteration or demolition operations are taking place, at least one exit shall be accessible and usable at all times.

2) In buildings being demolished, at least one stairway shall be maintained in usable condition at all times.

#### 5.6.1.17. Fire Warning

1) A means shall be provided to alert site personnel of a fire and such means shall be capable of being heard throughout the building or facility.

#### 5.6.1.18. Storage and Use of Dangerous Goods

1) Combustible liquids and flammable liquids shall be stored and used in conformance with Part 4.

2) Dangerous goods shall be stored in conformance with Part 3.

3) Dangerous goods shall be used in conformance with Part 5.

#### 5.6.1.19. Temporary Enclosures

1) Fabrics and films used to temporarily enclose buildings shall be securely fastened to prevent them from being blown against heaters or other ignition sources.

#### 5.6.1.20. Disposal of Combustible Refuse

1) Combustible refuse in sufficient quantities to constitute a fire hazard shall be moved to a safe location. (See also Subsection 8.2.5. of Division B of the British Columbia Building Code.)

### 5.6.2. Excavation

#### 5.6.2.1. Services Shut-off

1) Except as provided in Article 5.6.2.2., before excavation begins, building services shall be shut off, terminated and labelled so as to be easily identifiable outside the limits of the excavation. (See also Sentence 5.6.1.9.(1).)

2) The service company whose service connections will be affected shall be notified before any action mentioned in Sentence (1) is taken and, if it is necessary to maintain any service, it shall be

a) relocated as necessary, and

*b) protected from damage.*

#### **5.6.2.2. Maintaining Existing Services**

*1) Existing gas, electrical, water, steam and other services are permitted to be left within the area of the excavation provided that*

- a) before work begins, the service company concerned has approved the proposed method of operation,*
- b) the location of the services is determined before excavation commences,*
- c) a suitable method of excavation is adopted that will ensure that the services are not damaged, and*
- d) the services are provided with suitable temporary supports*

Include the following additional information as it may apply to your property

- Information, as required by BCFC section 2.8.2.4, is included because of the building height.
- Information, as required by BCFC section 3.1.2.6, is included for dangerous goods (e.g., radioactive, explosives, compressed gases, reactive) stored or handled on site.
- Information, as required by BCFC section 3.2.1.1, is included for certain products stored indoors.
- Information, as required by BCFC section 3.3.1.1, is included for certain products stored outdoors.
- Information, as required by BCFC section 4.1.6.1(4), is included for spill control and drainage systems because flammable and combustible liquids are stored, handled, used, and/or processed in the operations.
- Information, as required by BCFC 4.3.14.5, is included for storage tanks containing flammable or combustible liquids.
- Information, as required by BCFC 5.1.5.1, is included for processes and operations involving a risk from explosion, high flammability or related conditions that create a hazard to life safety. Examples include Hot Works, Dust-Producing Processes, Special Processes involving Flammable and Combustible Liquids and Materials, and Laboratories.

#### **SUPERVISORY STAFF:**

- **ROLES & RESPONSIBILITIES**
  - *Person designated to sound the fire alarm (horn)*
  - *Person designated to notify Fire Department (9-1-1)*
  - *Person designated to account for all on-site personnel*
  - *Person designated to meet Fire Department and provide information about the issue*
- **FIRE SAFETY DUTIES:**
  - Person responsible to control combustibles on site and in building, housekeeping
  - Removal of excess pallets and other combustible materials on a regular basis
  - Maintain separation of combustibles from open flame devices
  - Unobstructed path to fire hydrants, fire department connections and fire department access routes.
  - Ensuring one exit maintained from every floor

#### **INSTRUCTIONS TO OCCUPANTS:**

- **EMERGENCY PROCEDURES:**
  - *Instructions to site personnel on procedure to follow when alarm is sounded*
  - *Exit routes and muster point clearly visible throughout site and all floors*
  - *Are personnel directed and trained to confine or control the fire*
- **TRAINING ON EVACUATION PROCEDURES**



- Site orientation provided, site fire safety meetings part of site safety meetings
- Fire Drills conducted when applicable

**LEGAL BASIS FOR FIRE SAFETY PLANNING:**

As per BC Fire Code Division C, Part 2, Section 2.2. Meet requirements of the BC Fire Code and any applicable local regulations.

*British Columbia Fire Code 2012 Division C, Part 2 — Administrative Provisions*

*Section 2.2. Administration*

*2.2.1. General*

*2.2.1.1. Responsibility*

*1) Unless otherwise specified, the owner or the owner's authorized agent shall be responsible for carrying out the provisions of this Code.*

*2.2.1.2. Records*

*1) Where this Code requires that tests, inspections, maintenance or operational procedures be performed on a fire safety system, records shall be made and the original or a copy shall be retained at the premises for examination by the authority having jurisdiction.*

*2) The initial verification or test reports for each system shall be retained throughout the life of the systems.*

*3) Records of tests, inspections, maintenance or operational procedures undertaken after the initial tests referred to in Sentence (2) shall be retained so that at least the current and the immediately preceding records are available.*

*4) Notwithstanding the conditions stated in Sentence (3), no record shall be destroyed within two years of having been prepared.*

**DEFINITIONS:**

*Shall be site specific*

*Example: **Supervisory staff** means those occupants of a building who have some delegated responsibility for the fire safety of other occupants under the fire safety plan.*

**APPENDIX:**

- Alternative Solutions (New construction) any special information pertaining to the Building & Site, Processes, etc.
- HOT WORKS OPERATIONS:
  - Information regarding pre-hot work area assessment, fire watch, final inspection by permit approving person
  - Work must be performed by trained and certified personnel, fire extinguishing equipment, ventilation (if required. Hot Surface applications like roofing and decking )
  - Hot Tar Pots on-site complete with fire extinguishers, trained personnel and away from combustible materials