

Conducting a hazard assessment after a flood | Checklist



Businesses impacted by a flood must take steps to ensure their personal safety and their employees', including a hazard assessment. Do not enter a flood-damaged location without first reviewing the risks and putting protections from potential hazards in place.

TYPE OF HAZARDS	RESPONSE / CONTROLS / COMMENTS	✓
Considerations before entering a flood-impacting building		
Is the building structurally safe to enter?	If not, do not enter. If unsure, consult a structural engineer.	
Is there any standing water in the building?	If yes, pump out water if possible before entry.	
Is there an emergency response plan to rescue workers and deal with incidents?	See our Emergency Preparedness Toolbox Talk . Take the online course Emergency Response Awareness .	
Personal protective equipment required		
Chemical, cut, and puncture-resistant gloves		
Steel-toed rubber boots		
Protective eyewear (safety glasses)		
Disposable closing/high visibility garment		
Respirator protection (dependent on present hazards)	If mould is present, workers must wear a NIOSH-approved dust respirator (i.e. N95).	
PPE for handling chemicals	If handling chemicals, follow manufacturer instructions for PPE.	
Waterproof gear and protective clothing		
Personal flotation device		
Hard Hats		
Additional PPE as required	Additional PPE may be required depending on other hazards at a workplace.	

Hazards to workers after a flood

TYPE OF HAZARDS	RESPONSE / CONTROLS / COMMENTS	✓
1 Water contaminated with sewage, biological, or chemical hazards		
Assume all floodwater is contaminated with sewage and a variety of biological and chemical contaminants.	Ensure tetanus shots are up-to-date before working with flooded water.	
	Avoid direct contact of items with water and wear appropriate PPE, including: <ul style="list-style-type: none"> • Cut-and puncture-resistant gloves that protect from chemical hazards • Rubber steel-toed boots • Protective eyewear (safety glasses) • Clothing that is easy to clean or disposable 	
	Implement good workplace hygiene practices: <ul style="list-style-type: none"> • Clean hands and face before eating, drinking, smoking, or touching clean surfaces • Properly decontaminate tools and equipment (including personal protective equipment) 	
2 Mould		
Flood conditions promote mould growth, and workers will be exposed to airborne fungi and their spores when they handle building materials 24-48 hours after.	Cleaning furnishings and building materials within 48 hours of a flood may prevent mould growth.	
	Find guidance for preventative measures to be taken based on the material (i.e. drywalls, books, furniture, carpet etc.) at the bottom of the Government of Alberta guidance document for worker safety after a flood .	
	Ensure the building is well ventilated while cleaning (i.e. open windows and doors) and proper PPE, especially respirators with particulate filters (i.e. N95) is worn. However, if mould contamination is present, minimize air movement to prevent spreading mould spores to other building areas.	
	If materials cannot be cleaned or dried within 48 hours, dispose and remove materials (i.e.-wet drywall).	
	Assess the level of mould contamination. 1 m ² of the impacted material is a small-scale project, while 10 m ² and greater than 10 m ² constitute medium-scale and large-scale projects. Seek professional guidance for large-scale remediation projects.	
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3 Damaged storage tanks (specify contents)		
<p>Damaged storage tanks can contaminate depending on chemical content (i.e., natural gas or fuel tank leak can lead to toxic and flammable air).</p>	<p>Follow evacuation procedures and contact the local fire department or hazardous materials team if possible.</p>	
	<p>Follow risk communication procedures for the public, first responders and authorities</p>	
4 Industrial cleaners (disinfectants, biocides, bleach, solvent cleaners (i.e. acetone, toluene))		
<p>Industrial cleaners commonly used during flood cleanup and at sites can have toxic health effects and can be flammable.</p> <p>Containers containing chemicals can also be dislodged by floodwater, leading to spills.</p>	<p>Protect the skin when using the product.</p>	
	<p>Always wear appropriate gloves.</p>	
	<p>Wear protective eyewear or a face shield to prevent splashes from contacting the eyes.</p>	
	<p>Know the product’s hazards and follow the recommended work procedures if there is a spill to contain the spill if safe.</p>	
	<p>For hazardous materials and chemicals (i.e. benzene), the NIOSH Emergency Response Resources provides information about health effects due to chemicals and information for emergency first responders on responding to specific chemical spills.</p>	
5 Asbestos-containing building materials		
<p>If built before 1990 (assume yes). Renovations or demolition work can lead to exposure.</p>	<p>Remove asbestos-containing material before demolitions and remove, enclose, or encapsulate asbestos-containing material before renovations.</p>	
	<p>Asbestos abatement would be regulated by WorkSafeBC OHSR Part 6.10- Part 6.32.</p>	
	<p>Information on professional asbestos abatement services is available in WorkSafeBC guidance for safe work practices for handling asbestos.</p>	
6 Lead paint		
<p>If built before 1990 (contamination is possible). Renovations or demolition work can lead to exposure to dust containing lead which is hazardous to health.</p> <p>Water can damage the painted walls causing the paint to crack and flake. Workers can inhale dust from the lead paint.</p>	<p>Lead abatement is regulated by WorkSafeBC OHSR Part 6.58- Part 6.69.</p>	
	<p>Find guidance for professional lead abatement services in WorkSafeBC guidance for safe work practices for handling lead and WorkSafeBC ECP for lead paint removal with the use of hand tools.</p>	

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7 Carbon monoxide		
Fuel-powered equipment or generators can produce carbon monoxide (i.e., fans, heaters, generators).	Only use fuel-powered equipment in well-ventilated spaces (preferably outside). If using equipment outside, ensure the exhaust does not enter the building.	
	Train all workers to recognize the signs and symptoms of carbon monoxide poisoning and controls to prevent exposure in place (i.e.-ventilation).	
	Open windows and doors.	
	Never use equipment in a confined space.	
8 Fires and explosions		
The danger of fires can increase due to disruptions such as a natural gas leak, damaged fire protection systems or leaks from storage containers such as fuel tanks.	Immediately evacuate any building with a gas leak until it is contained and the area is ventilated.	
	Ensure there is an adequate number of fire extinguishers, and that fire exits are clear of debris.	
9 Heat stress		
Workers working in excessive heat from weather or heaters for extended hours may experience elevated body temperatures and may experience heat stress.	Signs of heat stress include headache, nausea, irritability, and a body temperature as high as 100 °F.	
	To help prevent heat stress: have plenty of cool drinking water available establish a cool-down schedule to take breaks away from the heat.	
	See resources on heat-related illness for more information.	
10 Hypothermia		
Exposure to water or damp conditions and cold weather can cause hypothermia if the worker's body temperature drops below 95 ° F.	Signs of hypothermia include uncontrollable shivering, stumbling and drowsiness.	
	Wear warm, waterproof clothing and footwear when working in cold, wet areas or standing water to prevent hypothermia.	
	Change out of damp clothing.	
	Take frequent scheduled break.	
11 Exhaustion		
Working extended hours under stressful conditions can lead to exhaustion and make workers more vulnerable to stress-induced illnesses or injury (i.e.-hypothermia, heat stress).	Maintain consistent work schedules.	
	Encourage regular sleep patterns.	
	Schedule check-in sessions with workers.	

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12 Confined spaces		
<p>Train employees working in confined spaces to recognize a confined space and its potential hazards. New confined spaces may emerge after a flood. Treat all confined spaces as hazardous.</p>	<p>Test atmospheric conditions before entry and continuously monitor them during the entire entry. A person trained in the proper use of a direct-reading instrument must test for oxygen content, flammable gases and vapors, and potential toxic air contaminants, in that order.</p>	
	<p>Always maintain adequate atmospheric conditions in the spaces through proper ventilation.</p>	
	<p>Where you cannot maintain sufficient atmospheric conditions, evaluate if entry is necessary or if employees can complete work outside the confined space. When an entry is needed, assess the appropriate respirators to be worn by workers with thorough training in the use and limitations of respirators.</p>	
	<p>Ensure that an attendant is present immediately outside the space if the person in the space needs assistance and ensure that an emergency retrieval or rescue method is available. Make sure a safe form of communication is available between the person entering the space and the attendant.</p>	
	<p>Exit the space immediately if an unsafe condition develops.</p>	
	<p>Ensure that structures are sound (safe) from collapse before entering confined spaces.</p>	
	<p>Determine appropriate personal protective equipment by evaluating the hazards present in the confined space. Examples include eye/face and head and foot protection, respiratory protection, safety belts, lifelines, and harnesses. (WorkSafeBC)</p>	
	<p>Once you have identified confined spaces, post warning signs to warn other response personnel, cleanup workers, and the public.</p>	
	<p>Never enter a confined space to attempt an emergency rescue unless you have been trained in safe confined space entry and rescue procedures and have the proper tools and personal protective equipment.</p>	